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A CONTRIBUTION TO OUR KNOWLEDGE OF THE FLORA OF GAZALAND : being
an Account of Collections made by C. F. M. Swynnerton, Esq., F.L.S.
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Mr. S. MOORE, F.L.S., and Mr. A. GEPP, F.L.S. ; with Notes by
Mr. SWYNNERTON.

(PLATES 1-7.)

[Read 2nd June, 1910.]

THE collections which form the subject of this paper were made by Mr. Swynnerton chiefly in the high country which forms the boundary between Eastern Rhodesia and Portuguese territory. The following account of the district, which has been compiled from Mr. Swynnerton's notes, will give some idea of its general character and vegetation. Mr. Swynnerton also collected in the lower lying country within the Portuguese boundary, especially in the Madanda Forest and along the Buzi River, which enters the Indian Ocean opposite Beira.

We know but little of the special characters of the flora of the highlands on the Anglo-Portuguese boundary. Archdeacon Johnson collected on the Chimanimani Mountains, and some of his specimens, which are in the Kew Herbarium, are identical with plants in Mr. Swynnerton's collection.

MR. SWYNNERTON'S ACCOUNT OF HIS EXPEDITION.

The tract that we commonly call Gazaland extends roughly from some distance to the south of Delagoa Bay to the Umvumvumvu, Lusitu, and Buzi rivers, the sea bounding it on the east and the River Sabi on the west.

Quite the most varied and striking portion of the country thus defined is the Melsetter district of South-Eastern Rhodesia, with those portions of Portuguese territory which immediately adjoin it. Approaching it southwards from Umtali, and already well acquainted with other parts of Rhodesia, we were at once struck with the immense change in the appearance of the country which we found on crossing the River Umvumvumvu. For two days we tramped monotonously through a barren though picturesque wilderness of "kopjes," covered with the ubiquitous "Mutsatsa" (*Brachystegia Bragaei*, Harms), and topped invariably with the enormous granite boulders that are so universal a feature of the Rhodesian landscape. But nothing on our journey resembled in the least the great green mountains which spring into view when we reach the dividing river, with their dense short turf immensely rich in wild flowers, their heavily wooded gorges, and their rushing perennial streams in every glen. The walk into Melsetter over these mountains occupied nearly two days until, on reaching the high ridge that overhangs the little township, we came into full view of the magnificent range of the Chimanimani, with its bold peaks, precipices and chasms, towering up through the clouds and separating the Portuguese district of Shaya from the grassy mountains of Melsetter.

I visited this range in September, 1906. After a tramp chiefly downhill over the open grassy slopes separating Melsetter from the River Haroni—here a mere rivulet, but, before it joins the Lusitu, an immense torrent cutting its noisy way through the deepest and most precipitous gorge in the country—I commenced the ascent, at first over grassy but recently burnt foothills scantily clothed with open woods of *Brachystegia* or very occasionally with denser clumps of *Uapaca Kirkiana*. They culminated in a very broken steep rocky ascent, and on surmounting this I found myself forced to descend once more through a valley clothed with grass and dotted over with plants of *Syzygium cordifolium* before I could commence the first steep ascent of what still appeared to be part of the main range. This consisted of a long rugged line of towering white crags broken here and there by a chasm or densely-wooded precipitous ravine; the valley had here developed into a deep sharp gorge thickly clothed with trees. Through a steep, narrow, boulder-strewn passage flanked by towering cliffs and giving egress to a small stream that flowed from a dense forest-patch at its head, I eventually found my way to a broad turf-covered ledge near their summit, where I camped for the night beside a clump of four *Brachystegias*.

Towards morning the weather suddenly changed, and in a few minutes everything was thoroughly soaked. Nevertheless, wandering about the face of the crag in a dense Scotch mist, and clambering from one narrow ledge to another, I succeeded, in such spots as had proved inaccessible to the recent grass-fires, and especially in a deeply-cut chimney in the face of the rock, in getting together quite a number of plants, most of which were unfamiliar to me, amongst them three heaths that have since proved to be new to science. An orchid with reddish fleshy leaves, not in flower, hung everywhere from the rocks, and in some parts a small aloe (perhaps *Aloë rhodesiana*) grew on the ledges, many of which were exceedingly rich in ferns. When later in the day the mists rose, I discovered that I was standing on a grassy ridge with the highest peaks nearly as far away as ever, separated from me by a valley yet broader and more broken than the first. However, in the immediate vicinity were two dense and most attractive-looking forest-patches and a splendid wooded gorge. Nearly everything was in flower, with the result that, though my visit was brought to a speedy close by the continuance of the bad weather, I got together a very representative little collection. The "cedar," *Widdringtonia Whytei*, was decidedly the most interesting of the larger trees. It is fairly common on the edges of wooded gorges and dense forest-patches throughout the higher portions of Northern Melsetter, but never attains here the enormous size described by Whyte for those of the Milanji range. In general these mountain forests, though dense and rich and composed largely of evergreen trees, are far lower and less striking than those of Southern Melsetter. The trees average little more than forty feet in height, and the most characteristic are the large dark-leaved *Cussonia umbellifera*, *Aphloia theviformis*, *Curtisia faginea*, and two species of *Faurea*; and, on Mount Pene, a good-sized straight-growing *Mæsa* (*M. lanceolata*, a narrow-leaved form very different in appearance from *M. lanceolata* of Southern Melsetter) and large specimens of *Eugenia owariensis*. This mountain, Pene, or, as it is more commonly called, Singwekwe, is separated from the Chimanimani by the gorge of the Haroni, and with its single grassy peak, 7000 feet above sea-level, forms quite a landmark throughout the district. I visited it on the following day and again in October 1908, and have never anywhere seen such masses of colour in the form of wild flowers as I found on both occasions on its high turfy slopes. In the stonier places were numbers of a new *Anemone* (*A. peneensis*). There are clumps of fine *Strelitzias* at the heads of many of the glens, and the wood covering its eastern face is, especially towards the summit, one of the best examples of mountain forest I have seen and contains fine specimens of a large *Podocarpus* (*P. milanjiana*), of which I had already found young trees in flower on the Chimanimani. Curiously enough there appear to be no "cedars" here. The large thick-trunked

Conopharyngia Stapfiana, with handsome white flowers, is also characteristic of the higher portions of the mountain, while in a sheltered spot a few hundred feet down a number of the common Melsetter *Philippia* (*P. Simii*) attained a quite unusual size, being thirty feet or more in height. The undergrowth is rich and varied, the most noticeable species being *Cephalanthus natalensis*, with its edible raspberry-like fruit, while a handsome *Aphloia* with creamy flowers (*A. theaeformis*), beds of ferns and mosses border the streams that wind down to the Haroni and Lusitu. The actual summit of the mountain is extremely stony and partly covered with a dense growth of fleshy-leaved aloes, and it is from this point more than from any other in the district that a good general idea of the varied nature of the country can be obtained. To the east is spread out the whole rugged Chimanimani, cut off almost abruptly at its southern end by a fall of several thousand feet into the Haroni-Lusitu gorge. To the north and west are the grassy mountains of Northern Melsetter already described. To the south-west, separated from us by the deeply-cut gorge of the Lusitu, are the lower and more rolling hills of Southern Melsetter, with their long grass, dotted with stunted clumps of *Parinarium*, their occasional open woods of *Brachystegia* and many other trees of similar growth, their fine perennial streams, and, especially on the eastern border, which catches the bulk of the rainfall, occasional handsome forest-patches. The general elevation of this piece of country varies from 3000 to 4000 feet.

Turning to the south-east, we find spread out far below us the yet lower jungle-covered hills of the Mafusi and Makwiana country across the Portuguese border, a great square tract which includes the broad flat Chikambogé valley. This tract is bounded far to the south by the Buzi River, and on the east by the fine precipitous Sitatonga Hills, far lower than the Chimanimani, but by their isolation almost as striking. Their eastern face is covered with dense and fairly high forest abounding in elephants, and descends (far more gradually than on the western side) through an unusually bad tsetse-fly area into the low veldt proper. On the occasion of my visit to that portion of the lowlands in June 1900, I unfortunately did no botanising, but I remember being struck by the unusual wealth of water-lilies (of our common blue species) which filled the large pools of the Amanzimhlope water east of the Sitatonga Forest, as well as by the fineness of a few of the palms (*Hyphæne ventricosa*) of the same neighbourhood. The open woods which covered the rest of the country beyond the forest, and which at the time of my visit abounded in large game, were of much the same type as those which I shall describe for the country to the south of the River Buzi.

The Mafusi tract, except for a few of the higher hills on the Anglo-Portuguese border, contains, in addition to three or four handsome but small forest-patches, a good deal of dense bush. This is exploited annually by the

Mozambique Government for the rubber (chiefly *Landolphia Kirkii*) that it contains. In the actual grass-jungle the chief tree seen is an *Acacia*, and it is to this species and to *Markhamia lanata*, of the denser bush, that the natives of the locality go for their bark cord; for there is no *Brachystegia* to be found anywhere here excepting on the Sitatongas. Approaching Maruma through the Chikambogé valley, the country becomes hillier and the growth of thorns denser but more intermixed with other trees. Finally, having passed Mpengo and Maruma, both comparatively small but striking hills, their eastern faces clothed with high forest, and having surmounted Umtereni, itself open grass with an occasional patch of dense bush, we find ourselves, on descending its southern slopes to the Buzi, in bush of a very different type. This consists of open woods of species of *Uapaca*, *Brachystegia*, *Afzelia*, etc., commonly found throughout Rhodesia, but of quite unusually fine growth, such as I have only seen elsewhere on parts of the Chikore Hills and in a narrow strip bordering the eastern edge of the Sitatonga Forest. We now cross the Buzi, here already a river, and bordered often, as are most of the foothill streams of Mafusi, Makwiana, and the Jihu, by "Redwoods" and "Mahoganies" (*Adina microcephala* and *Khaya nyasica*) of magnificent growth. An unusually hot tramp through the Inyamadzi gorge and up its steep southern slope, covered with high grass-jungle, now brings us into full view of Chirinda and its satellite Chipete. "Chirinda," with the not inappropriate meaning of "The Great Sleep," is the name given by the natives to a virgin forest composed of enormous and mostly evergreen trees that covers roughly 12,000 acres of the higher portions of a hill 65 miles by road to the south of Melsetter. Its larger trees range in height from 80 feet in such species as *Gardenia tigrina* and a new *Croton* (*C. Swynnertonii*) and *Ehretia divaricata*, to the 130 feet or more of *Khaya nyasica*, a new *Trichilia* (*T. chirindensis*), *Strychnos mitis*, *Schefflerodendron gazense*, and several other equally magnificent species. A fallen *Lovoa* (and to judge by its trunk-diameter by no means a large one) measured 170 feet, and its smaller twigs, had they been still present, would have added at least another 15 feet to its height. Clean boles of 90 feet without a branch are by no means exceptional either in this species or in the yet commoner *Maba Mualala*, which, with its almost black bark and extraordinarily straight slender trunk branching only at the very top, is not only one of the tallest but one of the most striking trees of the forest. Parasitic figs with broad shady crowns are, from the forester's point of view, only too common, their wonderfully picturesque open-work trunks, one of which measured no less than 21 feet in diameter, usually still upholding the strangled remains of their victims. Altogether a dense canopy is formed high overhead, shading effectually the mass of mostly evergreen saplings and shrubs that form the undergrowth. They include a wild orange with highly-coloured fruits, a

pepper, the aromatic fruits of which have been found excellent for flavouring, and a coffee of fine quality, while by far the commonest species are a *Macrorungia* and an *Achyrosperrum*, each a gorgeous mass of red or crimson in its flowering-season. Underfoot is a soft carpet of mosses, various ferns, a short broad-bladed grass, and other plants peculiar to such shaded situations; and here and there amongst the undergrowth are clumps of a handsome *Draccena*, which are favourite nesting-places of the smaller forest-birds and give a thoroughly tropical appearance to the surroundings. Huge woody lianas, notably a large *Oncinotis* with a striking rough ochreous bark, add to this impression, climbing to the tops of the highest trees, hanging in festoons from branch to branch, and twisting round the tree-trunks and each other in fantastic fashion; while orchids, epiphytic ferns and mistletoe hang in picturesque masses from the moss-grown trunks and branches of the larger trees.

Chipete with an area of 40 acres, though originally doubtless part of Chirinda and separated from it now only by a grassy glen a few hundred yards in width, differs from it in the absence of many of its finer and commoner trees, such as *Khaya nyasica* and *Levoa Swynnertonii*, in the far greater abundance of *Landolphia Swynnertonii*—old hoary trunks evidently of immense age,—and of the forest coffee, which here forms the main undergrowth; it also possesses, in common with Maruma, a fine *Bosquiea* (*B. Phoberos*) which I have not found in Chirinda.

Maruma, Mpengo, and nearly all the other small forest-patches and more heavily-wooded glens of the district differ from both in lacking most of the characteristic larger trees of Chirinda, and in having frequently for their dominant species *Piptadenia Buchananii*, which is comparatively rare in Chirinda and entirely absent in Chipete and often attains an enormous height and girth. Nevertheless there are many indications that all these isolated forest-patches, reduced now in most instances to extremely small dimensions, and even single trees, surrounded by the charred remnants of their companions, may be regarded as the survivors of a great general forest which in the course of centuries has been driven back from the lower slopes by grass-fires, which doubtless obtained their original grip on the forest lands during some period of dense native population. The rich soil so frequently found on high ridges and hill-tops contrasts with the comparative poverty of the surrounding slopes and valleys, and, taken in conjunction with the actual position of the majority of the existing patches, points to a general survival of forest in such situations at a comparatively recent date; and it is probably not very long, as such periods go, since a large tract of country, comprising the south-eastern foothills and still receiving the heaviest rainfall (80 inches), was wholly clothed by an extensive forest of which only the culminating points survive. Chirinda itself still suffers considerably from

fire, and the abrupt cliff of old trees which it presents on its south-eastern faces to the prevailing winds (and consequently fires) forms a suggestive contrast to the fringe of young growth to be seen on its more sheltered edges.

The Umswirizwi River rises on Gungunyana at the foot of a high hill, Mount Marozwi, just to the north-east of Chirinda, and, flowing at first due west through grass-country and open woods, drops gradually into a deep gorge and carries us on to the heavily but openly wooded Chikore Hills. These, a little further east, culminate in the heights (4000 feet) that overlook the enormously broad Sabi Valley and command a view far across the river of the extremely broken "Kopje" country of the eastern Victoria district, famous for its Zimbabwe ruins. The Sabi is here a broad shallow sand-stream flowing at an elevation of about 1000 feet, and the flats that border it are said to be in many places magnificently wooded, in spite of a usually small rainfall.

South of Chirinda and for the most part in the Portuguese district of Mossurize, is an extensive and somewhat unique tract named the Jihu. This name, properly applied to a rich red dioritic soil and a rank grass (*Andropogon* sp.) which commonly grows on it, has in this case been transferred to a piece of country of which these are the chief characteristics. It is bounded on the west roughly by the Umswirizwi, which turns south before reaching the Chikore Hills, on the south by Mount Singuno and the other hills of the same range that suddenly fall away into the Umswirizwi flats, and on the north-west (though the Mafusi country is in reality a northward continuation of it) by the Buzi. It is watered mainly by three small rivers, the Kurumadzi, rising at Spungabera, and the Zona and Chinyika, rising in Chirinda, the first two flowing into the third. Its soil, which is immensely rich in humus, considered together with the scattered but unmistakable traces of forest destruction which I have come across, would seem to show that the whole of the Jihu was once under first-class timber. At present it boasts, I think, only three small forest remnants, themselves rapidly disappearing under the devastating effect of the annual fires. Otherwise it is covered from end to end with a tall dense growth of *Andropogon* and other rank grasses and shrubs, matted into an impenetrable jungle by *Mucuna*, *Smilax Kraussiana*, *Dioscorea*, and other tough and for the most part thorny climbers, and interspersed, sometimes thickly, but more usually somewhat sparsely, with two species of *Acacia* and other trees of some size, but especially with *Pterocarpus sericeus*, and in parts *Ormosia angolensis*. The most notable feature, however, of the actual grass-jungle is perhaps the masses of *Leonotis mollissima*, scattered throughout it and extraordinarily attractive to all kinds of birds. The grass of the moister parts is shorter and much frequented by buffaloes, and the Jihu is seldom entirely free from lions. Here and there

one meets with dense thickets of *Brachylaena*, *Conopharyngia*, *Markhamia* and other trees, but *Landolphia* is rare.

The above description, with the exception of the last sentence, would apply almost as well to the vegetation of the Chikambogé Valley and a great part of the Mafusi district. It may give a clearer idea of this type of jungle if I state that, in order to get about when I was locating a concession on the Kurumadzi, we had to cut our way everywhere with axes and hoes, and the backs of my men were often pouring with blood, the intense irritation of the "buffalo-beans" (*Mucuna coriacea*) which clustered everywhere in the tall grass and bush, forcing them to scrape themselves with sticks and sharp-edged stones as their velvety stings fell in showers on them.

At the northern edge of the Jihu, and only eight miles by path to the south-east of Chirinda, are the Spungabera forest-patches, notable for some splendid specimens of *Chrysophyllum fulvum*.

Leaving Chirinda on November 18th, I was rained up on the Kurumadzi and could do but little collecting, but on the first fine afternoon pushed on past the Chinyika river and Mount Singuno to the flats of the Umswirizwi; for the latter, which had now to be crossed, had taken yet another sharp turn, this time from west to east. It keeps this direction till it finally joins the Buzi, having meantime in its circuitous course received every water that flows from Chirinda.

The vegetation between the Chinyika and Singuno was extraordinarily rank and dense, even for the Jihu. Consequently the contrast was all the more marked when, on crossing a small stream halfway down the hill, we found its banks lined by huge *Khayas* and the typical Jihu vegetation, at that point sharply separate from that of the valley below. A little higher up I had already noted the first few *Holarrhena febrifuga* and some of the taller forms, such as *Bridelia*, continued down for a short distance, but they rapidly mingle with and give place to *Diplorhynchus mossambicensis*, a *Terminalia*, and a *Combretum*, *Securidaca*, and other forms of which I should soon see more. *Ormosia angolensis* remains, however, one of the commonest trees. The change in the grass was more abrupt and striking, for from here onward it was only 6 or 8 feet high—later still less—and free from intermixture with *Mucuna*, etc. The "Idema," a *Dolichos* (probably *D. brachypus*), much used by the natives for poisoning fish, is common, and four species of *Bauhinia* are found in the valley (*B. Galpini*, *B. reticulata*, *B. fassoglensis*, and *B. Petersiana*), where the soil, though still fertile in good rainy seasons, and supporting, twenty years ago, a large native population, is full of stones and boulders. The open bush of the valley is mostly stunted, and it was not till I reached the river that I found any good tree-growth. Here, lining the banks, were fine specimens of *Kigelia* and *Sterculia Triphaca*, *Trichilia umbrifera*, as well as many more familiar species such as *Khaya nyasica*. A steep stony

ascent now brought us to the top of the Zinyumbo Hills, which are covered with comparatively short grass and stunted scattered bush, but the *Khaya* and *Erythrina tomentosa* occurred along a dry watercourse. On once more descending towards the Mwangezi River the vegetation became far richer. The river itself is a typical African stream, with great muddy pools surrounded by rock and mud-banks and connected only by a trickle, but the banks were bright green with the dense and luscious growth of a species of *Sorghum*. From Singuno right through to Chimbuya, which is three miles east of the Mwangezi, *Diplorhynchus mossambicensis* was common and in many parts the dominant tree, but from Zinyumbo's Kraal on *Dalbergia melanoxylon* became fairly abundant, while throughout the hills *Bauhinia reticulata*, mostly stunted, and *Bauhinia Galpini* were present in considerable numbers, to say nothing of an ubiquitous *Combretum*. A palm, *Hyphæne ventricosa*, in a stunted form was first noticed on the Zinyumbo Hills, but I met with the first really good specimens with a bulge in the stem at Chimbuya.

From here on to Inyajena's Kraal the whole country was flat or slightly undulating and covered with open bush, sometimes tall, sometimes low, but never dense, and the soil was a black alluvial, lightening in the higher parts to a deep chocolate-brown with frequent outcrops throughout of reddish water-worn stone and gravel with quartz. The few dry stream-beds crossed were marked by larger and darker-green trees, not so fine however as on the Umswirizwi. On crossing the Umtefu, dry except for one or two small pools, the vegetation became more familiar, consisting chiefly of *Acacia caffra* and *Bauhinia reticulata*, with some Albizzias and a few fair-sized trees of *Peltophorum africanum*, *Kigelia*, and other species. From the Umtefu to Inyajena and on thence for a short distance, the soil is entirely of the black alluvial type, and must be very swampy in the rains. The whole country was now thoroughly parched up and the heat was intense, the scattered dry bush affording no shade whatsoever. *Acacia caffra* was on the whole the commonest tree, but a *Combretum* was present in considerable numbers. However, on reaching Chibabava we for the first time struck the Buzi River, and the vegetation at once underwent a change. *Acacia caffra* was still very common, and an occasional big baobab (*Adansonia*) was seen; but on the rich soil that extended back for some distance from the river were numbers of magnificent spreading and shady trees of *Trichilia emetica*, *Sterculia*, *Triphaca*, *Kigelia*, *Lecaniodiscus*, and other genera, while the actual steep river-bank, here in many parts about 40 feet high, was clothed sometimes with a rich growth of *Sorghum*, *Anatherum muricatum*, etc., sometimes with dense thickets of *Grewia*, a *Croton*, and other small trees and climbers. The water's edge and the small islands in the river were often covered with a growth of tall reeds and *Sesbania punctata*, the twigs of the latter thickly hung with the nests of weaver-birds (*Hyphantornis aureus*

and *nigriceps*). Amongst the commoner trees of the open bush of this neighbourhood were *Acacia caffra*, an *Albizia*, an *Odina*, *Dalbergia melanoxylon*, *Bauhinia reticulata*, *Tamarindus indicus*, a *Combretum*, *Strychnos Burtoni*, a *Millettia*, and *Lonchocarpus violaceus*. Few of them reached, I should say, more than 40 feet in height, while in many parts they were much lower, which may be taken to apply to nearly all the better-grown bush of those parts of the lowlands through which I have passed. The common shrubs included *Anona senegalensis*, *Peltophorum africanum* (perhaps better placed amongst the trees), *Vangueria edulis*, and *Flacourtia hirtiuscula*.

I also paid a short visit to the Madanda rubber-forests. The open woods, which extend with only an occasional slight break all the way from Chibabava to Arucate, the collecting station on the edge of the rubber-forests, were varied and for the most part composed of much the same species as I had met with round the former place. *Acacia caffra* and especially a *Combretum* were particularly abundant, though *Holarrhena febrifuga* also occurred in numbers, its great masses of white blossom making quite a flower-garden of the woods. However, eight or nine miles south of Bimba I was surprised to find intermixed with the commoner species of the lowlands a number of such high-veldt species as *Ormosia angolensis*, *Conopharyngia elegans*, and *Gardenia asperula*, these three all in flower. I also passed a number of *Pterocarpus angolensis*, the first seen since leaving Chirinda. Approaching Arucate the country became more broken up into hollows, likely to be swampy in the rains, and dried-up pools appeared, while the bush in general became smaller and more scattered. That immediately round the station at Arucate chiefly consists of *Brachystegia*, mingled, especially on the large ant-heaps that abound there, with a *Grewia* (*G. madandensis*), a *Vitex*, and other trees and shrubs. The soil is light grey and very sandy, both here and through a great part of the actual rubber-forests.

These forests are, at all events in Butiro's country, simply very dense bush averaging little more than 25 feet in height, and composed largely of such low-growing trees as *Crossopteryx Kotschyana* and *Erythroxyton emarginatum*, the whole being bound together with a tangle of woody climbers such as *Landolphia Kirkii*, here exceedingly abundant, *Secamone zambesiaca*, a *Landolphia*-like *Salacia*, and various Anonaceous plants. An occasional slightly larger tree, such as *Monodora Junodi*, projects above the general level. I found a coffee, probably identical with that which occurs in considerable quantity on the Juababa stream (which flows into the Umswirizwi from the south), and grows, both wild and cultivated, on portions of the coast. I was informed that, though there is a comparatively small area of larger forest in Makupi's country, what I saw was typical of the whole of these rubber-forests.

On my return to Chibabava (elevation about 400 feet) I pushed on towards Beira. A few miles out we passed some fine pools and a certain amount of

dense bush, but on the whole the trees from Chibabava to Muchukwana, 18 miles, remained much the same as those I have already enumerated. From here on to Chironda I met with a certain amount of *Hyphæne ventricosa*, but recognised little besides except *Lecaniodiscus fraxinifolia*, *Acacia caffra*, and the *Holarrhena*, *Ehretia*, and *Vangueria* already mentioned. It was a decidedly broken piece of country and inferior in point of woods to that which I had just left. At Chironda the formation is a nummulitic limestone. This is still more in evidence about Boka and the Idunda River, and supports a good deal of dense bush, largely composed of species which I did not meet with elsewhere, although there was no marked change in the character of the open woods. A *Millettia* and *Erythroxylon emarginatum* were common in the denser patches at Chironda, and I also noted several other species which I had already collected in the Madanda; but possibly the commonest and certainly the most striking shrub in flower at the time was *Pavetta saligna*, S. Moore. The journey from here was mostly downhill, and for some distance through fine, big, open bush containing a large proportion of "Mukwakwa" (*Strychnos Burtoni*), the fruits of which are extensively used by the natives as food, also a fine latex-yielding tree with handsome red fruits exactly resembling those of *Carissa grandiflora*, both in external and internal appearance and taste; it has, however, only one large seed. Curiously enough, it is known to the local natives by the same name as that which the Zulus of Natal apply to that *Carissa*—"Umtungulu."

Some of the dense bush at Boka is very attractive. I saw some fine *Khayas*, a *Millettia*, a *Croton*, and an *Oxyanthus* the foliage of which I was unable to distinguish from that of some of our Chirinda species, while the undergrowth was largely composed of an *Isoglossa* identical in general appearance with *I. mossambicensis* of Chirinda. A short distance on, we crossed a beautiful clear limestone stream, the Idunda, with quite a large volume of water, and at once entered a fine piece of forest containing, amongst various species which I did not recognise and of which I was unable to obtain the flowers, some good-sized specimens of *Khaya nyasica* and a number of very striking *Sterculias* with tall, straight, perfectly smooth greenish stems, rising to a great height before branching. From here on our path largely followed the river, which had quite changed its character since I last saw it, flowing now over a broad sandy bed and easily navigable to native dug-out canoes and probably larger craft. The trees were large, containing a fair proportion of palms, *Kigelia*, *Trichilia*, and other fine species, which grew often in clumps and gave the country a most park-like appearance. The natives here live largely by fishing, and had in many instances planted mango, cashew-nut, and Céara rubber-trees about their villages. A *Brachystegia* and *Diplorhynchus mossambicensis* were amongst other species not uncommon. A little further on, on ground that would have been swampy in the rains, I passed a large number of the *Acacia* known

on the coast as the "fever-tree," with its sickly-looking yellow bark and almost leafless twigs. Finally, after a hot tramp over comparatively barren country covered sparsely with a palm (*Hyphaene ventricosa*), mostly small *Bauhinia reticulata*, and, above all, a *Combretum* in a stunted form, I reached the Kraal of Inyamita. The river at this point is very broad and contains numerous islets, but its banks are largely inaccessible owing to dense reed-beds. A short journey through more open grass country with chiefly introduced trees such as mangoes and oranges, some of them very old and stately, brought us to the Malata rubber, coco-nut, and sugar estate, whence it was a half-day's sail in a small boat to Beira.

Here I did a little collecting; the beach itself is surprisingly rich in things which one finds commonly growing in the bush about Arucate and Chibabava. Next comes a strip of bare open grass-land, part of it more or less covered at high tide and supporting in places a dense but low growth of mangroves; but four or five miles inland real open woods commence. These are composed of an admixture of typical low-veldt species with many of our commonest trees of the highlands. Collecting here on Christmas-day, I noted amongst others an *Albizzia*, probably *A. fastigiata*, a *Parinarium*, *Vitex Cienkowskii*, *Uapaca Kirkiana*, *Acacia caffra*, *Eugenia owariensis* forma *latifolia*, two species of *Ficus*, a *Ximenia* with edible fruits, *Smilax Kraussiana*, *Landolphia Kirkii*, and *Anona senegalensis*.

Excepting for a slight shower at Zinyumbo and another at Beira, not a drop of rain had fallen during my journey and stay in the low veldt. I consequently found the country completely parched on my return journey, while in many parts swarms of larval migratory locusts were doing great damage to such low vegetation as was still green; yet the Umswirizwi, when I reached it, was in full flood. The greenness and luxuriance of the vegetation in the Jihu formed an extraordinary contrast to the bareness of the country I had just passed through. On reaching Chirinda on January 10th, I was informed that it had rained steadily ever since I left, an all-sufficient reason for the vast difference in the flora of the high veldt and the low. The grass throughout the lowlands is, I may here mention, short and very unlike that prevailing throughout Southern Masetter and the Mafusi and Jihu districts. As to temperature, I have at Chibabava seen the glass standing at 108.5° Fahr. at 4 P.M. in a particularly cool thatched hut with a breeze blowing straight through, and it must frequently have been far higher at noon. During the same two months of 1908-1909 the highest point reached in my veranda at Chirinda was 79.5° at 1.30 P.M. on December 15th, the average noon reading for that period being nearer 69° Fahr. Northern Masetter is naturally yet cooler, in fact in the winter bitterly cold, frosts being then of daily occurrence.

The collection has proved rich in novelties, especially among the Gamopetalous orders of Dicotyledons, to which belongs the one new genus, *Swynnertonia*, a member of the order Asclepiadaceæ. There are a large number of Rubiaceæ new to science, especially in the genera *Gardenia* and *Pavetta*; several new *Senecios* and *Helichrysums*; some new heaths, several new Acanthaceæ, and others. Among the new Labiatae is a magnificent *Leonotis* (*L. spectabilis*) from Chimanimani. Among the Polypetalous orders the new Meliaceæ are especially noticeable; mention of these will be made in the paragraph dealing with the trees. An *Anemone* (*A. peneensis*) from Mt. Pene, with white flowers, is a showy plant and is in some respects intermediate between the two genera *Anemone* and *Knoultonia*. A new *Polygala* from the Chimanimani Mts. is allied to the South-African *P. peduncularis*. There are also several new species of *Grewia*. The remaining novelties among the Polypetalæ are for the most part members of well-known African genera. Other interesting novelties are a new *Protea*, a new *Corrigiola* (*C. drymarioides*), and a *Leucospermum* (*L. savosum*) from the Chimanimani Mts., the first record for this well-known South-African genus within the tropics.

The Monocotyledons include several new Orchids in well-known African genera such as *Eulophia* and *Angræcum*, and a number of new Liliaceæ and other petaloid groups. Also several new grasses, including a new species of the small Madagascar genus *Pæcilostachys* and of *Craspedorhachis*, a small genus with two species confined to the Zambesi country.

As was to be expected from the geographical position, the botany of these highlands shows a strong South-African affinity, and several of the genera noted have not been hitherto recorded within the tropics. Such are the four genera of Scrophulariaceæ, *Freylinia*, *Teedia*, *Zaluzianskya*, and *Bopusia*, the first of which is represented by a new species (*F. tropica*), the remaining three by previously known South-African species. *Galopina* (in Rubiaceæ) belongs to the same category, and also the Liliaceous *Behnia*, Mr. Swynnerton having collected the well-known *B. reticulata* in several localities. A considerable number of species hitherto only known as South African occur in the collection. Many of these are natives of the Transvaal and Natal, but some are more widely distributed Cape species. Under this latter category may be enumerated *Curtisia faginea*, *Bopusia scabra*, *Halleria lucida*, *Teedia lucida*, and *Zaluzianskya capensis*. Indication of a floral connection with the more northerly highlands is found in such plants as *Cuscuta kilimanjari*, a species of dodder hitherto known only from Mt. Kilimanjaro but found by Mr. Swynnerton on Mt. Chirinda at 3800 feet, and an orchid, *Habenaria pedicellaris*, from the Upper Buzi (at 3000 feet elevation), which is also found on Mt. Kilimanjaro and in Abyssinia; *Dioscoreophyllum chirindense* has a distinct alliance with a Kilimanjaro species.

As was also to be expected, a large proportion of the plants is identical with those previously known from Nyasaland. Such, for instance, is the Milanji "cedar" (*Widdringtonia Whytei*), which apparently finds its southern limit of distribution on these highlands, where, though plentiful in places, it is a smaller tree than on Mt. Milanji. Several orchids illustrate the same distribution; such are *Lissochilus papilionaceus*, *Satyrium Buchanani*, *S. occultum*, and *Disa hamatopetala*. To the same category belong *Dioscorea Buchanani*, *Hibiscus shirensis*, *Khaya nyasica*, *Eriosema shirensis*, *Piptadenia Buchanani*, *Anthocleista zambesiaca*, *Nuxia sambesina*, and many others. A good many of the species range more or less widely over East Tropical Africa, while another element of the flora embraces South Tropical African species which do not occur north of the Zambesi.

There is also an Angolan element represented by such species as *Asparagus angolensis*, a grass, *Eragrostis Hierniana*, *Maba Mualala* (Ebenaceæ), and *Pseudolachnostylis Dekindtii* (Euphorbiaceæ), etc. An interesting novelty is *Pseudocalyx africanus*, *Pseudocalyx* being a Madagascar genus not hitherto known from Tropical Africa; and a new grass, *Pæcilostachys flaccidula*, is another example of the extension of range of distribution of a genus hitherto recorded only from Madagascar.

There are a number of very fine trees in the Gazaland forests, some of them yielding excellent and valuable timber. These belong mostly to the families Meliaceæ, Sapindaceæ, Leguminosæ, Combretaceæ, Sapotaceæ, Loganiaceæ, Euphorbiaceæ, and Urticaceæ. Among the Meliaceæ may be noted *Ekebergia Meyeri*, which is a large handsome tree reaching a height of 90 feet; *E. arborea* is a smaller tree only reaching 30 feet, but it is much used by the natives for the manufacture of pillows and bowls. *Trichilia umbrifera* is a huge tree growing on the banks of the river; *T. chirindensis* is also a huge tree attaining a height of 120 feet; *Lovoa Swynnertonii* attains the even greater height of 160 feet, and *Khaya nyasica*, allied to the well-known *K. senegalensis*, reaches 150 feet. Among the Celastrineæ may be noted the Chirinda Redwood, *Catha edulis*: it is one of the largest forest trees, with very rough bark and handsome timber. Among the Sapindaceæ are *Phialodiscus plurijugatus*, which also occurs in Angola, *Lecaniodiscus fraxinifolia*, and *Bersama Swynnertonii*, and a form of *Bersama nyassæ*. Among the Leguminosæ are *Schefflerodendron gazense*, one of the largest forest trees, with ochraceous yellow bark and very hard, heavy, whitish timber; *Sophora* (?) *zambesiaca*, a large tree with white flowers; and *Piptadenia Buchanani*, which also occurs in Nyasaland, and reaches a height of 140 feet. *Erythrina Humeana* is a large tree up to 80 feet in height, and is somewhat thorny, with smooth pale grey-green bark. Among the Combretaceæ are species of *Combretum* and *Terminalia*, and *Pтелиopsis myrtifolia*; the last-named is a large tree of the open woods,

with very dark rough bark, and is much sought after for maize stamping sticks owing to its toughness. Among the Myrtaceæ is *Syzygium cordifolium*, the water-boom of the Dutch, a large tree with shady evergreen foliage. *Adina microcephala* is a tall Rubiaceous tree growing solely on the banks of rivers; *Chrysophyllum fulvum*, reaching a height of at least 120 feet, is the chief Sapotaceous member of this tree-flora. *Maba mualala* (Ebenaceæ), *Strychnos Burtoni* and *S. mitis*—the latter one of the largest trees in the Melssetter district,—as well as *Acanthocheista zambesiaca* (Loganiaceæ), are worthy of mention here; also *Croton sylvaticus* (reaching 100 feet), *Bosqueia Phoberos* (Urticaceæ), and a new *Celtis* (*C. dioica*). From Mr. Swynnerton's notes, entered under the species to which they respectively refer, it will be seen that a fair proportion of the flora consists of economic plants, such as textiles, reputed remedies, rubber, etc. The chief rubber-plants of the district are *Landolphia florida*, *L. Kirkii*, and the new *L. Swynnertonii*. *Excœcaria sylvestris* is also mentioned as yielding a milky latex apparently containing rubber. Gutta-percha is probably present in the latex of *Mimusops sylvestris* and species of *Chrysophyllum*. *Bosqueia Phoberos* is another laticiferous tree. The Céara rubber (*Manihot Glaziovii*) is cultivated.

We gratefully acknowledge help rendered by various friends, especially members of the Kew staff. Lt.-Col. Prain, Mr. N. E. Brown, and Mr. J. Hutchinson have given much assistance with the order Euphorbiaceæ, Mr. T. A. Sprague has worked out the Loranthaceæ, and Mr. A. W. Hill the genus *Thesium*. To Dr. Stapf we are indebted for valuable suggestions as to some of the grasses and for permission to publish his MS. name for a new species of *Pæcilostachys*, and to Mr. R. A. Rolfe for similar suggestions on some of the Orchids. Mr. J. R. Drummond has helped with the genera *Nymphæa* and *Grewia*; Mr. S. T. Dunn has described a new species of *Millettia*, and Mr. W. P. Hiern a new *Diospyros*. Lastly, Mr. Swynnerton himself gave some assistance in certain genera of Polypetalous Dicotyledons, and has described several new species, also a new *Garaenia*.

The collection has been presented by Mr. Swynnerton to the British Museum, in the Herbarium of which the types and other specimens will be found. Representative sets have also been distributed to the Herbaria of the Royal Gardens, Kew, and the Royal Botanic Garden, Berlin.

DICOTYLEDONS.

POLYPETALÆ.

By EDMUND G. BAKER, F.L.S.

RANUNCULACEÆ.

The collection includes the following well-known plants:— *Clematis Wightiana*, Wall., Chirinda; *C. simensis*, Fres., Chirinda; *C. Stanleyi*, Hook., near Chirinda; *C. Kirkii*, Oliver, near Chirinda; *Thalictrum rhynchocarpum*, Dill. & Rich., Chipete.

ANEMONE PENEENSIS, *E. G. Baker*, sp. nov.

Rhizoma crassum pilis fulvis tecto radices sat robustas et rigidas copiose emittens; foliis radicalibus in specimine nostro simpliciter ternatis, petiolo basi vaginante patentim villosa, foliolis junioribus papyraceis lateralibus oblique obovatis basi cuneatis margine antice dentato-serratis leviter lobatis ciliatis petiolulis brevibus superne glabris subtus ad venas sparse villosis, foliolis intermediis suborbiculari-ovatis basi late cuneatis nervis e basi 5-6 palmatim radiantibus petiolulis quam iis foliolorum lateralium multoties longioribus; scapo erecto terete villosa basi sericeo-villosa; bracteis acute trilobatis villosis vel subintegris; inflorescentia umbelliformi; alabastris globosis extus villosis; pedicellis villosis; sepalis petaloideis (sec. cl. detectorem) albis vel pallide purpureis ambitu valde variantibus oblongo-obovatis vel anguste oblongis basi non unguiculatis venosis apice sæpissime obtusis; staminibus numerosis filamentis exterioribus brevissimis interioribus longioribus, antheris brevibus quam filamentis interioribus multoties brevioribus, connectivo conspicuo; ovarii numerosis glabris, stylo gracili quam ovario circ. $2\frac{1}{2}$ -plo longiore; toro basi glabro apicem versus hirto. Planta ob rhizoma crassum, folia simpliciter ternata foliolo intermedio petiolulo longiore suffulto, nec non inflorescentiam umbelliformem 3-5-floram memoratu digna.

Hab. Mt. Pene at 6500 ft.; n. 783; Sept.

A herb with handsome white flowers growing somewhat profusely among short grass on a steep rocky slope. Numbers of flowers were examined, and none had the green sepals of a *Knowltonia*, but always pure white or light purple.

Scapus 20-30 cm. altus. Petiolus 4-5 cm. Foliola 4-5 cm. longa, 2.5-3.0 lata. Foliolorum lateralium petiolulus 3-10 mm. Foliolorum

intermediorum petiolulus 1.5–2.5 cm. longus. Pedicelli 3.5–8.0 cm. longi. Sepala 1.0–1.8 cm. longa. Filamenta exteriora \pm 1 mm., interiora \pm 3.5 mm. longa. Antheræ 0.75–1 mm. longæ. Ovarium \pm 1 mm. longum. Stylus \pm 2.0 mm. longus. Torus \pm 3 mm. altus.

Allied to *Knowltonia transvaalensis*, Szyszyl., from which it differs by the leaves being simply ternate and the leaflets being more or less lengthily petiolulate.

Closely allied plants were collected on the Chimanimani Mts. at 7000 ft., with simply ternate leaves, n. 788, in fl. Sept. 28, and on the hills near the Haroni River at 5500 ft., n. 787.

RANUNCULUS PLEBEIUS, *R. Br. ex DC. Syst. i.* 288.

Chirinda Forest, 3700–4000 ft.; in fl. April & Oct.; n. 345. A herb with yellow flowers, growing in damp ground in the forest.

Distrib. Australia and New Zealand, Cape Colony (Schneeberg), Basutoland.

ANONACEÆ.

UVARIA GAZENSIS, *Swynerton, E. G. Baker, sp. nov.*

Frutex elatus, scandens, ramulis novellis ferrugineo-pubescentibus, ramis cortice brunneo tectis; foliis ellipticis tenuiter coriaceis, lamina supra præter costam glabrescente subtus omnino glabrescente apice breviter acuminata vel acuta vel obtusa basi cuneata nervis lateralibus 11–15 arcuatim adscendentibus supra prominulis, nervis secundariis tenuibus vix conspicuis, petiolo brevi breviter pubescente supra canaliculato; floribus solitariis vel binis pedunculatis bracteolatis, bracteola semiamplectente; sepalis extus ferrugineo-pubescentibus suborbicularibus apice subobtusis; petalis exterioribus oblongo-ovatis viridibus crassis interioribus paullo angustioribus quam sepalis fere duplo longioribus; staminibus numerosis apice dilatatis, connectivo in apicem ovoideum producto; carpellis lineari-oblongis extus pubescentibus, stylo truncato, ovulis numerosis biserialibus stigmatibus leviter dilatato glabro.

Hab. Chirinda outskirts, 3700–4000 ft.; in fl. Oct.; n. 1326. A large shrub with woody trailing branches, green thick fleshy petals, dull pink stamens, and pale Naples-yellow stigmas.

Frutex usque ad 8 m. attingens. Folia 6.0–11.0 cm. longa, 3.0–4.0 cm. lata; foliorum petiolus 3–4 mm. longus. Pedunculus sæpe 1 cm. longus. Sepala 8 mm. longa et lata. Petala exteriora 14 mm. longa, 7.5 mm. lata, interiora 14 mm. longa, 6 mm. lata. Stamina 3 mm. longa. Carpella 5 mm. longa.

Allied to *U. nyassensis*, Engler & Diels. Differs by the non-pilose branchlets and longer pedicels.

The following clavis shows the position of this plant with its nearest allies :—

A. Flowers subsessile.

* Petals 11 mm. long. Sepals 6.5 mm. long.

U. virens, N. E. Br. Delagoa Bay.

** Petals 10–15 mm. long. Sepals 10 mm. long.

U. angolensis, Welw. Angola.

B. Flowers distinctly pedicellate.

* Petals 10–12 mm. long. Sepals 6 mm. long.

U. Chamae, Beauv., var. *macrocarpa*, Engler & Diels. Guinea,
Cameroons, Senegambia.

** Petals 10 mm. long. Sepals 8 mm. long.

U. nyassensis, Engler & Diels. Nyasaland.

*** Petals 14 mm. long. Sepals 8 mm. long.

U. gazensis, Swynnerton. Gazaland.

Mr. Sim (Forest Flora of Port. East Africa, p. 8) records *U. caffra*, E. Mey., as occurring in the forests at Arenga, Bajon, and Nhamacurre, and *U. acuminata*, Oliver, from the Rovuma River.

ANONA SENEGALENSIS, *Pers. Syn.* ii. 95.

Near Chirinda, 3500 ft. ; n. 191. Amanzimbhlope, Lower Buzi, 100 ft. ; in fr. Dec. ; n. 1331. Chibabava, Lower Buzi, 400 ft. ; in fl. Dec. ; n. 1332. Chindao, "Muyembe" ; Singuni, "Umpovana" or "Impovana."

Var. CUNEATA, *Oliver, Fl. Trop. Afr.* i. 16.

Madanda Forest at about 400 ft. ; n. 1330. Chibabava, 400 ft. ; n. 1333. This is a form with shorter leaves than *Welwitsch*, n. 745, the type of this variety.

Distrib. (type) Widely spread ; (variety) Angola, Kunene Region.

POPOWIA OBOVATA, *Engler & Diels in Engler Monogr. Afr. Pfl.* vi. 44.

Inyamakinga River, Chikore, 3000 ft. ; in fl. Apr. ; n. 187. Muchukwana, Lower Buzi, 400 ft. ; n. 1329. A large shrub with slender trailing twigs common at Boka, at Chibabava, and elsewhere along the Lower Buzi River.

Distrib. Great Lake Region, Nyasaland, Zambesi, Kunene.

P. FERRUGINEA, *Engler & Diels, l. c.* 46.

Madanda Forest at about 400 ft., in fl. Dec. ; n. 1327. A woody trailing shrub, switches from which were used in the time of the chief Gungunyana to punish refractory girls. Hence the Singuni name "Mutoshay' intombi" (girl beater).

Distrib. Lake Region, Usambara, Nyasaland, Angola.

ARTABOTRYS BRACHYPETALUS, *Benth. in Trans. Linn. Soc.* xxiii. (1862) 467.
Madanda Forest at about 400 ft. ; n. 1231. A large climbing shrub ;
flowers just over and fruit.
Distrib. Zambesi to Natal.

A. MONTEIROÆ, *Oliver in Hook. Ic. Plant.* i. t. 1796.
Chimanimani Mts. at 7000 ft., undeveloped fls. Sept. ; n. 1764. Madanda
Forest at about 400 ft. ; in fl. Dec. ; n. 1183. A woody climbing shrub with
pale green flowers.
Distrib. Natal, Zululand, Delagoa Bay.

MONODOREA JUNODI, *Engler & Diels, Notizbl. K. Bot. Garten*, ii. (1899) 301.
Madanda Forest at about 400 ft. ; in fl. Dec. ; n. 1765. A small tree not
uncommon in the rubber-forests about Butiro. A form with petals not so
cordate as the type. Chindao name, "Musikosiko."
Distrib. Delagoa Bay, Lourenço Marques.

MENISPERMACEÆ.

CISSAMPELOS TORULOSA, *E. Meyer, ex Harv. & Sond. Fl. Cap.* i. 11.
Chipete Forest Patch, 3800 ft. ; in fl. Jan. ; nos. 218 & 219.
Distrib. Mozambique District, Natal & Cape.

C. PAREIRA, *Linn.*, var. MUCRONATA, *Dur. & Schinz, Consp.* i. 51.
(*C. mucronata*, Rich.)
Chipete Forest Patch, 3800 ft. ; in fl. Jan. ; n. 220. Kurumadzi, 2000 ft. ;
in fr. Dec. Boka, 100 ft. Idunda River, 100 ft. Chibabava.
Distrib. Widely distributed.

COCCULUS VILLOSUS, *DC. Syst. Veg.* i. 525.
Sabi River at 1000 ft. ; in fr. Nov. ; n. 1756A.
Distrib. Widely distributed.

TILIACORA FUNIFERA, *Oliver, Fl. Trop. Afr.* i. 44.
Mt. Maruma, 3500 ft. ; in fl. Sept. ; n. 1347. Madanda Forest, 400 ft. ;
in fr. Dec. ; n. 1232.
Distrib. Rhodesia, Zambesia.

DIOSCOREOPHYLLUM CHIRINDENSE, *Swynnerton*, sp. nov.
D. radice tuberosa \pm fusiformi intus cava ; caule volubili tenui parce piloso ;
foliorum petiolo tenui quam lamina aut longiore aut brevior, lamina
papyracea, subtus pallidior alte trilobata vel subquinelobata latiore quam
longa e basi palmatim 5-7-nervi, lobis apice acuminatis, margine subintegra
utrinque præcipue vero subtus ad nervos sparsim pilosa ; pedunculo tenui

racemum subæquante sparsim piloso; bracteis oblanceolatis dorso et ad apicem pilis longis sparsim instructis quam pedicellis glabris subduplo brevioribus; alabastris globosis; floribus ♂ in vivo læte flavis in sicco atro-brunneis; sepalis 6 biseriatis ovatis vel interdum obovatis glabris nisi subtus ad costam pilis sparse indutis subæqualibus sub anthesi reflexis; petalis 0; staminibus 6 in synandrium brevissime stipitatum hemisphæricum connatis, antheris thecis parallelis extrorsum dehiscentibus; floribus femineis ignotis.

Hab. Chirinda Forest, 3700–4000 ft.; in flower Jan. & March; nos. 100 & 100 a. A herbaceous climber with bright yellow flowers and hollow tuberous root; somewhat scarce; in fr. Dec.; n. 6521.

Caulis ad 4 m. attingens, internodiis elongatis 14–22 cm. longis. Foliorum petiolus 6·5–13 cm.; folia 7–11·5 cm. longa, 8·5–15 cm. lata; pedunculus 5–8·5 cm. longus; pedicellus 3–5·5 mm. longus, glaber. Racemi 3·5–5 cm. longi. Flores ♂: sepala 2·5–4 mm. longa, ± 1·5 lata. Synandrium ± 1–1·5 mm. altum, 2–2·5 mm. diam.

Dr. Diels in his recent Monograph of Menispermaceæ places this plant under *D. Volkensii*, Engler, but it differs from this species in the following characters:—

The leaves are deeply lobed.

The sepals of the ♀ fl. are longer and narrower.

The pedicels are at first hairy.

The fruiting pedicels are shorter than those of the true *D. Volkensii*.

ANISOCYCLA BLEPHAROSEPALA, *Diels, Menisp. in Engl. Pflanzenr.* 93 (1910). Madanda Forest; in fl. Dec.; n. 1346.

NYMPHÆACEÆ.

(J. R. DRUMMOND, F.L.S.)

NYMPHÆA sp.

Inyamadzi Valley, 2500 ft.; in fl. Sept.; n. 720. A water-lily common in this river with light blue flowers. Perhaps a form of *N. capensis*, Thunb., but differing in the lanceolate and spotted sepals.

CAPPARIDEÆ.

The collection includes the following well-known plants:—*Cleome monophylla*, Linn., Lower Buzi River; *Polanisia viscosa*, DC., Beira beach; *Gynandropsis pentaphylla*, Linn., Chimanimani Mts. and Chibabava; and *Mærua nervosa*, Oliver, from the Sabi River.

CAPPARIS ROSEA, *Oliver, Fl. Trop. Afr.* i. 99. (*Petersia rosea*, Klotzsch.)
Madanda Forest at 400 ft. ; in fr. Dec. ; n. 2164.

Distrib. Mozambique District.

C. KIRKII, *Oliver, l. c.* i. 98.

Madanda Forest at 400 ft. ; n. 1742.

Distrib. Mozambique District. No flowers or fruit found.

THYLACHIUM VERRUCOSUM, *Klotzsch in Peters Mossamb. Bot.* 162.

Sabi River at 1000 ft. ; in fr. Nov. ; n. 1206.

Distrib. Mozambique District.

COURBONIA DECUMBENS, *Brongn. in Bull. Soc. Bot. Fr.* vii. (1860) 901.

Sabi River at about 1000 ft. ; in fr. Nov. ; nos. 1207 & 1384. A small shrub ; fruits red when ripe. Chindao, "Tukwinge."

Distrib. Nile Land, Mozambique District.

VIOLACEÆ.

VIOLA ABYSSINICA, *Hochst. ex Oliver, Fl. Trop. Afr.* i. 105.

Mt. Pene, 7000 ft. ; in fl. Oct. ; n. 6203.

Distrib. Widely distributed on the mountains of Tropical Africa. Occurs also in the Transvaal and Mauritius.

IONIDIUM ENNEASPERMUM, *Vent. Jard. Malm.* sub 27.

Beira open woods, 50 ft. ; in fl. Dec. ; n. 1762.

Var. HIRTUM, *Oliver, Fl. Trop. Afr.* i. 106. (*I. hirtum*, Klotzsch in *Peters Mossamb. Bot.* 148.)

Madanda Forest at about 400 ft. ; in fr. Dec. ; n. 2041.

Distrib. (type) Widely distributed ; (var. *hirtum*) Zambesi.

ALSOEIA ILICIFOLIA, *Welw. in Trans. Linn. Soc.* xxvii. (1869) 12.

Lower Zona, Jihu, 2400 ft. ; n. 179.

Distrib. Angola, Sierra Leone, Mozambique District, Uganda, British East Africa.

Mr. Sim (Forest Flora Port. E. Afr. 11) has two species of this genus, *Rinorea elliptica* from Rovuma River, and *R. ardisiæflora* from the Lebombo Mts. and also from Natal, Pondoland, and Angola.

ALSOEIA (Petalandra) CONVALLARIOIDES, *E. G. Baker, sp. nov.*

Frutex cortice lævi instructus, ramulis tenuibus ; foliorum petiolo brevi canaliculato, lamina subcoriacea viridi ovata vel oblongo-ovata vel oblongo-elliptica utrinque obtusa margine leviter serrata nervis lateralibus utrinque 4-5 adscendentibus tenuibus cum venis reticulatis subtus prominentibus ; inflorescentiis racemosis præter petala pube brevi indutis longitudine et

numero florum valde variis; bracteis ad basin pedicellorum sitis ovatis pedicellis nunc flore brevioribus nunc longioribus, quam iis *A. natalensis*, E. G. Baker, brevioribus; sepalis ovatis margine ciliatis; petalis oblongis (sec. cl. detectorem) viridi-albis quam sepalis 4-5-plo longioribus; staminum connectivo ultra thecas in laminam petaloideam persistentem dilatato, filamentis liberis; ovario ovoideo superne in stylum circ. 5-plo longiorem et filiformem contracto; capsula coriacea glabra ovoidea extus reticulata.

Chirinda Forest; in fl. Sept., n. 2119; in fr. Oct., n. 2119 a.

A large shrub with smooth bark and greenish-white flowers, not uncommon in Chirinda. Superficially these remind one of clusters of *Convallaria*.

Folia 2.0-7.2 cm. longa, 13-35 mm. lata. Foliorum petiolus 2-3 mm. longus. Racemi 15-20 mm. longi. Bracteae ad basin pedicellorum circ. 1.5 mm. longi. Pedicelli 4-5 mm. longi. Sepala circ. 1.5 mm. longa. Petala circ. 5-6.5 mm. longa. Capsula 13-14 mm. longa, 10-11 mm. lata.

Allied to *A. natalensis* (Engler), E. G. Baker, nov. comb., and *A. elliptica*, Oliver.

* Petala circ. 5-6.5 mm. longa.

† Pedicelli circ. 1 cm. longi.

A. natalensis (Engler), E. G. Baker. Natal, Pondoland.

†† Pedicelli circ. 4-5 mm. longi.

A. convallarioides, E. G. Baker. Gazaland.

** Petala angustiora et longiora circ. 9 mm. longa.

A. elliptica, Oliver. Rovuma River.

The noticeable features of this shrub are the racemes of greenish-white flowers resembling a *Convallaria* and the free filaments of the stamens. The pedicels are pubescent, subtended at the base by bracts. N. 1110 from Chirinda Forest is probably also this species, but it is only in fruit.

ALSOIDEIA (Petalandra) GAZENSIS, E. G. Baker, sp. nov.

Frutex ramulis novellis fusco-tomentellis; foliorum petiolo mediocri, lamina chartacea oblongo-obovata apice subacuminata basi rotundata vel cuneata margine dentata costa superne impressa nervis lateralibus utrinque 11-13 prope marginem adscendentibus et connexis nervis secundariis inter primarios transversis; inflorescentia paniculata, pedunculis pedicellisque fusco-tomentellis, bracteis lanceolatis acutis; sepalis imbricatis ovatis extus fusco-pubescentibus; petalis (sec. cl. detectorem) flavis ovato-lanceolatis dorso medio puberulis basin versus angustatis et margine ciliatis quam sepalis distincte longioribus; tubo stamineo margine libero inter antheras leviter lobato; antheris filamento brevi insidentibus, connectivo ultra thecas in laminam petaloideam persistentem dilatato; ovario superne in stylo attenuato.

Hab. Chirinda Forest, 3700-4000 ft.; in fl. Oct., n. 132; in fr. Dec., n. 6500.

A common shrub, 8, 10 or sometimes 15 ft. high. Flowers yellow. Probably also n. 531 from Mt. Maruma, but the specimen is not in flower.

Foliorum lamina 13–17 cm. longa, 5·0–6·5 cm. lata; petioli 1·5–2·0 cm. longi. Sepala \pm 4·5 cm. longa. Petala \pm 6 mm. longa. Tubus stamineus \pm 1·5 mm. altus. Lamina petaloidea ultra thecas fere 2 mm. dilatata.

Allied to *Alsodeia castaneoides*, Welw.; differs by the longer petioles and by the longer petaloid lamina of the anthers.

BIXINEÆ.

ONCOBA SPINOSA, *Forsk. Fl. Ægypt.-Arab.* 103.

Kurumadzi River, Jihu, 2000 ft.; in fl. Nov.; n. 1337. Boka, Lower Buzi, 100 ft., in fl. Dec.; n. 2043.

Distrib. Upper Guinea, Nile Land, Mozambique District.

APHLOIA THEÆFORMIS, *Benn. Pl. Jav. rar.* 192 in adnot.

Chimanimani Mts., 7000 ft.; in fl. Sept.; n. 634. Mt. Pene wooded glens, 6000–6500 ft.; in fl. Sept.; in fr. Oct.; nn. 634 a & 6168. A fairly large tree.

Distrib. Nyasaland, also Madagascar, Mauritius, &c.

RAWSONIA LUCIDA, *Harvey & Sond. Fl. Cap.* i. 67.

Chirinda Forest, 3800 ft.; in fl. Oct.; n. 658. A fair-sized shrub with whitish flowers.

Distrib. Natal.

FLACOURTIA RAMONTCHI, *L'Hérit. Stirp. Nov.* 59, t. 30 & 30 bis.

Beira beach, sea-level; in fr. Dec.; n. 2044. A specimen from Madanda Forest, n. 1041, is very closely allied to, if not identical with, the Indian *F. sapida*, Roxb., which is placed in the Fl. Brit. Ind. i. 193 as subordinate to *F. Ramontchi*, L'Hérit.

Distrib. Widely distributed in Africa; also Madagascar, India, &c.

F. HIRTUSCULA, *Oliver, Fl. Trop. Afr.* i. 121.

Chibabava, Lower Buzi, 400 ft.; in fl. Dec.; n. 1410. Boka, Lower Buzi, 400 ft.; in fl. Dec.; n. 2045.

Distrib. Mozambique District.

N. 556 from Madanda Forest is probably also a species of *Flacourtia*, but it is only in fruit. It resembles *F. edulis*, Schum. & Thonn., var. *oblonga*.

ABERIA MACROCALYX, *Oliver, Fl. Trop. Afr.* i. 122.

Chirinda Forest, 3800–4000 ft.; in fr. Oct.; n. 68. An evergreen thorny diœcious shrub with edible fruit. Singuni name, "Umogolo." Natal name, "Manyibi." The following, of which there are only male flowers, is closely

allied :—Mt. Maruma, 3500 ft. ; n. 1126. A large shrub with creamy-white flowers and yellow anthers.

Distrib. Angola.

KIGGELARIA AFRICANA, *Linn. Sp. Pl.* 1037.

Chimanimani Mts.; 7000 ft. ; n. 2039. Mt. Pene Forest, 6500–7000 ft. ; in bud Sept. ; n. 2040.

Distrib. South Africa, Natal, Rhodesia.

PITTOSPOREÆ.

PITTOSPORUM VIRIDIFLORUM, *Sims, Bot. Mag.* t. 1684.

Mt. Pene Forest, 6500–7000 ft. ; in fr. Sept. ; n. 671.

Distrib. South Africa, Angola. A fairly large tree.

POLYGALACEÆ.

POLYGALA VIRGATA, *Thunb. Prod. Fl. Cap.* 120.

Grass near Chirinda ; in fl. Dec. ; n. 284. Melsetter, 6000 ft. ; in fl. Oct. ; n. 6158. Chimanimani Mts., 7000 ft. ; in fl. Sept. ; n. 2042.

Distrib. South Africa, Natal, Namaqualand, Rhodesia, Nyasaland.

P. ARENARIA, *Willd. Sp. Pl.* iii. 880.

Near Chirinda, 3800 ft. ; in fl. May ; n. 282.

Distrib. Widely distributed.

P. HOTTENTOTTA, *Presl, Bot. Bemerck.* 15.

Mt. Pene, 7000 ft. ; in fl. Dec. ; n. 6154. Melsetter at 6000 ft. ; in fl. Oct. ; n. 6157.

Distrib. Natal, Transvaal, Cape Colony.

P. abyssinica, *Fres.*, from Abyssinia is very closely allied to the above.

POLYGALA GAZENSIS, *E. G. Baker*, sp. nov.

Suffrutex caulibus teretibus virgatis cano-pubescentibus mediocriter vel subdense foliosis; foliis alternatis lineari-oblongis sessilibus supra viridibus subtus canescentibus marginibus revolutis subcoriaceis costa superne impressa subtus conspicua nervis lateralibus non conspicuis; racemis lateralibus paucifloris et patulis, pedunculis bracteatis, bracteis triangulari-lanceolatis pedicello brevioribus, pedicellis quam sepalis exterioribus longioribus; floribus (sec. cl. detectorem) pallide purpureis; sepalis exterioribus ovato-oblongis vel ovato-ellipticis margine membranaceis; alis multo majoribus unguiculatis subito in limbum leviter inæquilateralem subtriangularem dilatatis nervis numerosis a basi palmatim radiantibus; carinæ limbo galeato ejus crista multifida penicellata carinam paullo superante; petalis superioribus quam

carina $\frac{1}{2}$ brevioribus profunde sed inæquilateraliter bifidis; ovario obovato glabro, stylo in medio torto apice glochidiato. Capsula ignota.

Hab. Chimanimani Mts. at 7000 ft.; n. 632; in fl. Sept. 26th, 1906. A tall slender shrub in forests of Chimanimani. Flowers light purple.

Caules saltem 15–30 cm. longi. Folia 1.5 ad fere 3 cm. longa, 4–5 mm. lata. Sepala exteriora \pm 4 mm. longa. Alæ \pm 11 mm. longæ. Petala superiora \pm 8 mm. longa.

Allied to *P. peduncularis*, Burch., but differing by the terete stems and the upper petals not having a small tooth in the emarginate portion.

SECURIDACA LONGEPEDUNCULATA, *Fres. in Mus. Senckenb.* ii. (1837) 275.

Lower Umswirizwi, 1000 ft.; in fl. Nov.; n. 2103.

Var. PARVIFOLIA, *Oliver, Fl. Trop. Afr.* i. 134.

Madanda Forest at about 400 ft.; nos. 1032 & 1741. Chikore Hills, 3500 ft.; n. 2038. Umvumvumu River, 4000 ft.; n. 6155. S. Umtali District, 2000–3000 ft.; n. 6613. A fairly large tree with carmine flowers and fibrous bark used for cord. Judging from the figure and description, this is the plant described by Mr. Sim as *S. spinosa* in his 'Forest Flora of Portuguese East Africa.'

Distrib. (type) Widely distributed; (var. *parvifolia*) Delagoa Bay, Rhodesia, Amboland, Transvaal.

CARYOPHYLLACEÆ.

SILENE BURCHELLII, *Ottl in DC. Prod.* i. 374.

Mt. Pene, 7000 ft.; in fl. Oct.; n. 6069.

Distrib. Cape to Abyssinia.

DRYMARIA CORDATA, *Willd. ex Rœm. & Schultz, Syst.* v. 406.

Mt. Maruma, 3500 ft.; in fl. Sept.; n. 2046.

Distrib. Widely distributed in the Tropics.

POLYCARPÆA CORYMBOSA, *Lam. Illustr.* ii. 129.

Chimanimani Mts., 7000 ft.; in fl. Sept.; n. 1804.

Distrib. Widely distributed in the Tropics.

PORTULACACEÆ.

TALINUM CUNEIFOLIUM, *Willd. Sp. Pl.* ii. 864.

Lower Buzi, 400 ft.; in fr. Dec.; n. 2047.

Distrib. Widely distributed in the Tropics.

PORTULACA FOLIOSA, *Ker-Gawl. in Bot. Reg.* t. 793.

Chibabava, Lower Buzi, 400 ft.; in fl. Dec.; n. 1746.

Distrib. Widely distributed in Tropical Africa.

HYPERICINEÆ.

HYPERICUM LANCEOLATUM, *Lam. Encycl.* iv. 145.

Near Melsetter, 6000 ft.; in fl. Sept.; nos. 681 & 681 a. Mt. Pene, 7000 ft.; in fl. Oct.; n. 6091. A shrub 6–8 ft. high with handsome yellow flowers.

Distrib. Upper Guinea, Nile Land, Mozambique District, Transvaal.

H. LALANDI, *Choisy in DC. Prod.* i. 550.

Lower Umswirizi, 1000 ft.; in fr. Nov.; n. 1748. Mt. Pene, 6000 ft.; in fl. Oct.; n. 6173.

Distrib. South Africa, Lower Guinea, Mozambique District.

H. ÆTHIOPICUM, *Thunb. Prod. Fl. Cap.* 138.

Chirinda, 3800 ft.; in fl. April, n. 374; and in fl. May, n. 508. A herb with bright yellow starry flowers, low growing, often appearing as a weed in cultivated ground. A form with rather numerous short wiry stems.

Distrib. South Africa. Also in the Kew Herbarium from Manika between Umtali and Inyanga Mts., collected by the Hon. Mrs. Evelyn Cecil.

PSOROSPERMUM FEBRIFUGUM, *Spach in Ann. Sc. Nat.* ser. 2, v. (1836) 163.

Near Chirinda, 3800 ft.; in fl. Oct.; n. 195. Chindao name, "Muts-kwatsgwa." A small shrub common in the grass. A specimen from Beira in open woods is very closely allied to *P. ferrugineum*, Hook. fil., which was considered by Prof. Oliver as synonymous with the above.

Distrib. Widely distributed.

HARONGA MADAGASCARIENSIS, *Choisy, Prod. Mon. Hyper.* 34.

Kloof near Chirinda, 3800 ft.; in fl. & fr. Feb.; n. 161. A small tree common in the kloofs of the district, sap orange-yellow. Timber poor, liable to insect attack.

Distrib. Widely distributed in Tropical Africa. Also in Madagascar and Mauritius.

GUTTIFERÆ.

GARCINIA LIVINGSTONEI, *T. And. in Journ. Linn. Soc., Bot.* ix. (1870) 263.

Idunda River, Buzi, 100 ft.; in fr. Dec.; n. 1744. A small tree on limestone.

Distrib. Mozambique District.

N. 574 from the Chimanimani Mts. is also a species of *Garcinia*, but the flowers are only in bud.

DIPTEROCARPEÆ.

MONOTES HYPOLEUCUS, *Gilg in Engler Jahrb.* xxviii. (1899) 134.

Hills between Inyamadzi and Buzi, 3400 ft. ; in fl. Dec. ; n. 157. A shrub or small tree of the open woods. Hills near Upper Buzi, 3000 ft. ; in fr. Oct. ; n. 1314. Chindao name, "Chindhárara."

Distrib. Huilla.

MALVACEÆ.

The collection contains the following widely distributed species:—*Sida spinosa*, Linn., Zinzumbo Hill ; *S. longipes*, E. Meyer, Kurumadzi ; *S. cordifolia*, Linn., Chipetzana and near Chipinga and Madanda Forest ; *Abutilon intermedium*, Hochst., Umvumvumvu River ; *Hibiscus surattensis*, Linn., Chirinda ; *H. cannabinus*, Linn., Chirinda and hills overlooking Lusitu River ; *H. diversifolius*, Linn., Kurumadzi ; *H. vitifolius*, Linn., Umhlonhlo and Madanda Forest.

ABUTILON ZANZIBARICUM, *Bojer, ex Mast. in Oliver, Fl. Trop. Afr.* i. 186.

Boka Inyamita, Lower Buzi, 100 ft. ; in fl. & fr. Dec. ; n. 2048. A large herb with yellow flowers, on limestone.

Distrib. Upper and Lower Guinea, Mozambique District.

A. SONNERATIANUM, *Sweet, Hort. Brit.* i. 54.

Near Chirinda, 3800 ft. ; in fl. & fr. May ; n. 504. A fairly large herb with deep Naples-yellow flowers. Occurs in grass and cultivated ground.

Distrib. South Africa.

PAVONIA SCHIMPERIANA, *Hochst. ex Rich. Fl. Abyss.* i. 52.

Chirinda outskirts, 3700–4000 ft. ; in fl. May ; n. 523. A tall herb with pink flowers.

Distrib. Upper and Lower Guinea, Nile Land, Mozambique District, Congo Region.

P. COLUMELLA, *Cav. Diss.* 138, t. 48. f. 3.

Near Chirinda, 3800 ft. ; in fl. April ; n. 299. Melsetter, Rhodesia, 6000 ft. ; in fl. ; n. 2049. Chirinda Forest outskirts, 3800 ft. ; in fl. May ; n. 525.

Distrib. South Africa, Mozambique District.

P. ODORATA, *Willd. Sp. Pl.* iii. 837.

Madanda Forest at about 400 ft. ; in fl. Dec. ; n. 2050. A shrublet with white flowers.

Distrib. Nile Land, Mozambique District.

HIBISCUS (*Ketmia*) *SWYNNERTONII*, *E. G. Baker*, sp. nov.

Caule herbaceo \pm fusco vel cinereo-hirsuto et pilis longis et patentibus consperso; foliis longiuscule petiolatis, petiolo fusco- vel subcinereo-hirsuto, usque ad medium palmatim 5-lobatis discoloribus subtus dense cinereo-tomentosis lobis oblongis vel ellipticis margine crenatis vel crenato-serratis; floribus axillaribus, pedunculis striatis pilis longis et patentibus instructis apicem versus articulatis quam calyce 2-3-plo longioribus; involucri phyllis circ. 8 linearibus hirsutis calycis tube subæquilongis; calycis tubo quam laciniis brevior extus fusco- vel rufo-tomentoso segmentis lanceolatis striatis; petalis (sec. cl. detectorem) albis; styli ramis apice in stigmata capitata dilatatis; capsula extus hirsuta apice apiculata quam calyce paullo breviori vel eum subæquante oculis circ. 6-spermis, seminibus angulato-subreniformibus glabris.

Hab. Sabi River at about 1000 ft. A herb with white flowers trailing along the ground near the water.

Folia 3·0-3·5 cm. longa, foliorum petioli 3·0-5·0 cm. longi. Pedunculi 3·5-4·5 cm. longi. Involucri phylla 5-7 mm. longa. Calycis tubus 5 mm. longus, laciniæ 9-13 mm. longæ. Petala 3·0-3·5 cm. longa.

This plant is certainly allied to *H. Schinzii*, Gürke, from Amboland, and *H. physaloides*, Guill. & Perr., but differs in the shape of the lobes of the leaf, which are much narrower at the base and not at all triangular; and Mr. Swynnerton says the flowers are white, while those of *H. Schinzii*, Gürke, are yellow with a purple base.

H. MICRANTHUS, *Linn. fil. Suppl.* 308.

Madanda Forest at about 400 ft.; in fl. & fr. Dec.; n. 2052. Chirinda, Lower Buzi, 200 ft. (forma); in fl. & fr. Dec.; n. 2051.

Distrib. Widely distributed in the Tropics.

H. SHIRENSIS, *Sprague & Hutchinson in Kew Bull.* 1907, 47.

Kurumadzi, River Jihu, 2000 ft. Chirinda outskirts, 3700-4000 ft.; n. 298. A very tall herb with bright red flowers.

Distrib. Nyasaland.

H. GOSSYPINUS, *Thunb. Prodr. Fl. Cap.* 118.

Wooded glen near Chirinda, 3500 ft.; in fl. July; n. 2053. A very tall herb. Petals glossy white; anthers orange-yellow.

Distrib. South Africa, Mozambique District, Nyasaland.

H. NATALITIUS, *Harvey in Harvey & Sond. Fl. Cap.* ii. 587.

Madanda Forest at about 400 ft.; in fl. Dec.; n. 2054. A herb.

Distrib. Natal.

H. ÆTHIOPICUS, *Linn. Mant.* ii. 253.

Northern Melsetter, 5000-6000 ft.; in fl. Oct.; n. 6222.

Distrib. South Africa, Mozambique District, Uganda.

STERCULIACEÆ.

STERCULIA TRIPHACA, *R. Br. in Benn. Pl. Jav. Rar.* 228.

Lower Umswirizwi, 1000 ft.; n. 58. A large tree with smooth, richly coloured bark.

Distrib. Nile Land, Mozambique District.

DOMBEYA RETICULATA, *K. Schum. in Engl. Mon.* 36, vix *Masters*.

Inyamadzi Valley, 2500 ft.; in fl. Sept.; n. 1318. A tree with rough bark, round leaves, pink young foliage, and very handsome masses of flowers. Chindao name, "Siyasetu." Near Chirinda; in fl. July; n. 47.

Distrib. Central African Lake Region, Mozambique District.

D. (Eudombeya) ROSEA, *E. G. Baker*, sp. nov.

Frutex elatus, ramis florentibus teretibus \pm pilis patentibus tectis; stipulis ovatis acuminatis; foliis longiuscule petiolatis, petiolo tereti \pm piloso, ovatis sæpissime alte trilobatis apice acuminatis basi alte cordatis palmatim septem-nerviis margine sæpissime crenatis vel crenato-serratis utrinque tomentosis; inflorescentia cœtanea pedunculata sæpissime 2-7-flora; floribus graciliter pedicellatis, pedicellis subpilosis vel subtomentosis; bracteolis sub calyce ovatis acuminatis; sepalis lanceolatis cinereo-tomentosis quam petalis paullo brevioribus; petalis obovatis inæquilateris paullo longioribus quam latis (sec. cl. detectorem) pallide puniceis; staminibus mediis triadum brevissimis, staminodiis lineari-lanceolatis; stylo basi stellato-piloso, stigmatibus 5 recurvatis; ovario pentamero albo-hirto, capsula 5-loculari, seminibus 3-5 pro loculo.

Hab. Near Chirinda, 3900 ft.; n. 196; in fl. April, 1906.

A large shrub plentiful in many parts of the district in Jihu soil. Flowers pinkish white, reminding one much of the dog rose.

Frutex 2-4 m. altus. Petioli 7.0-14.0 cm. longi. Folia 10.0-16.0 cm. longa et lata. Bracteolæ sub calyce 1.5-1.8 cm. longæ. Sepala \pm 15 mm. longa. Petala \pm 1.6-2.0 cm. longa, sæpissime latiora quam longa. Antheræ 4.0-4.5 mm. longæ. Stylus \pm 6 mm. longus. Stigmata \pm 6 mm. longa.

Closely allied to *D. Burgessii*, Gerrard. Differs by the bracteoles being more acuminate at the apex and the narrower staminodia.

MELHANIA FORBESII, *Planchon in Oliver, Fl. Trop. Afr.* i. 231.

Lower Buzi, 0-400 ft.; in fl. Dec.; n. 2055.

Distrib. Mozambique District.

HERMANNIA KIRKII, *Masters in Oliver, Fl. Trop. Afr.* i. 233.

Madanda Forest at about 400 ft.; in fr. Dec.; n. 2059.

Distrib. Mozambique District, German East Africa.

WALTHERIA AMERICANA, *Linn. Sp. Pl.* 673 (1753).

Chimanimani Mts., 7000 ft.; in fl. Sept.; n. 2057. Madanda Forest, 400 ft.; in fl. Dec.; n. 2056. Chipetzana, 3000 ft.; in fl. April; n. 2058.

Distrib. Widely distributed.

TILIACEÆ.

GREWIA MADANDENSIS, *J. R. Drummond MS. in Herb. Mus. Brit.*, sp. nov.

Arbuscula, ramulis adultioribus teretibus glabris novellis cinereo-pubescentibus; foliis mediocriter petiolatis, lamina subcoriacea manifeste discolore supra glabra subtus cinereo-pubescente oblonga vel ovato-oblonga basi leviter obliqua rotundata vel leviter subcordata vel interdum cuneata apice acuta vel obtusa margine serrulata costa superne impressa basi trinervia nervis lateralibus utrinque 3-4 adscendentibus superne non prominulis; inflorescentia axillari pedunculis sæpissime quam pedicellis brevioribus 1-3-flora, alabastris oblongo-ellipticis extus cinereo-pubescentibus striatis; sepalis linearibus quam petalis paulo longioribus; petalis luteis oblongis ad $\frac{3}{4}$ longitudinem sepalorum attingentibus basi area glandulosa ad quartam partem petalorum adnata; toro inferne glabro; ovario cinereo-pubescente bilobo; fructu ignoto.

Hab. Madanda Forest at about 400 ft.; n. 1221; in fl. Dec. 6, 1906.

A small tree with yellow flowers, on the ant-heaps at Ancate. Singuni name, "Umsipana."

Folia adulta 3.0-4.0 cm. longa, 1.2-2.0 cm. lata; petioli 4.0-6.0 mm. longi. Sepala \pm 1.0 cm. longa. Petala cum area glandulosa \pm 8.0 mm. longa. Area glandulosa circ. 2.0 mm.

This species is allied to *G. grisea*, N. E. Br. (Ngamiland, *C. J. Lugard*, n. 54).

Dr. Burret in his recent Monograph of the African species places *G. grisea*, N. E. Br., among his "species dubiæ vel non visæ."

GREWIA SWYNNERTONII, *J. R. Drummond MS. in Herb. Mus. Brit.*, sp. nov.

Frutex prostratus ramulis adultis teretibus glabrescentibus florigeris pubescentibus; foliis in speciminibus nostris parvis inter minores generis breviuscule petiolatis, petiolo albo-hirto, lamina ovato-lanceolata vel oblongo-lanceolata basi subcordata obliqua apice obtusa vel subacuta margine serrata vel crenato-serrata utrinque stellato-pubescente stipulis setaceis caducis; inflorescentia axillari; pedunculis pedicellisque albo-hirtis, alabastris oblongo-ellipticis striatis; sepalis linearibus extus stellato-tomentosis; petalis oblongis vel ovato-oblongis in sicco luteis quam calyce triente brevioribus area glandulosa ad tertiam partem adnata; staminibus calyce paulo brevioribus;

toro inferne glabro superne tomentoso; ovario pilis albidis tecto biloculari.

Hab. Lower Umswirizwi River, 1000 ft.; n. 201. A trailing shrub with yellow flowers.

Folia 1.5–2.2 cm. longa, 1.0–1.2 cm. lata. Petioli 1.0–2.0 mm. longi. Sepala \pm 6 mm. longa. Petala cum area glandulosa \pm 4 mm. longa. Stylus \pm 4 mm. longus.

Allied to *G. rotundifolia*, Juss.; differs in the shape of the leaves. A specimen from Madanda Forest, alt. 400 ft., n. 1218, is probably the above. The fruit is dry and bilobed. This agrees with the specimen from Shigogo collected by Sir John Kirk, which was referred by Dr. Masters in the 'Flora of Tropical Africa,' i. 251, to *G. parvifolia*, Hochst.

GREWIA FRUTICETORUM, *J. R. Drummond MS. in Herb. Mus. Brit.*, sp. nov.

Frutex ramulis adultioribus glabris teretibus lenticellosis novellis pubescentibus; foliis chartaceis breviuscule petiolatis ellipticis vel ovato-ellipticis basi rotundatis apice obtusis mucronatis margine serrulatis superne glabris subtus præcipue in costa nervisque sparsissime stellato-pubescentibus e basi trinerviis nervis lateralibus utrinque 6–7 secundariis tenuissimis; stipulis setaceis; inflorescentia axillari, pedunculis pedicellis subæquilongis sæpe 2–3-floris; alabastris subcylindricis extus cano-pubescentibus; sepalis linearibus quam petalis longioribus; petalis (sec. cl. detectorem) luteis lineari-lanceolatis acuminatis ad basin area glandulosa ad quartam vel quintam partem adnata; toro inferne glabro superne pubescente; ovario extus pubescente 4-loculari, fructu ei *G. polypyrenæ*, Baker subsimili.

Hab. Chibabava, Lower Buzi, 400 ft.; n. 1222. In fl. Nov. 28th, 1906. A shrub forming dense thickets. Flowers yellow.

Folia 2.5–4.5 cm. longa, 1.8–2.1 cm. lata, petioli 3–4 mm. longi. Sepala 10–11 mm. longa. Petala cum area glandulosa circ. 9 mm. longa. Area glandulosa \pm 2 mm.

Allied to *G. caffra*, Meisn.; differs by the leaves being slightly broader and the pubescent portion of the torus shorter.

This shrub is closely allied to a specimen from Sabaki Melinde, collected by Sir John Kirk.

GREWIA CHIRINDÆ, *E. G. Baker*, sp. nov.

Frutex (sec. cl. detectorem) prostratus ramulis adultioribus glabris novellis fusco-vel rufo-pubescentibus; foliis mediocriter petiolatis ovatis vel ovato-lanceolatis margine crenato-serratis basi rotundatis vel leviter subcordatis et e basi trinerviis apicem versus sæpissime attenuatis apice ipso obtusis superne glabris subtus præcipue ad costam stellato-pubescentibus, nervis lateralibus utrinque 5–6 subtus prominulis; stipulis subulatis; inflorescentia axillari, pedunculis paucifloris sæpe bifloris, pedicellis pubescentibus striatis crassi-

usculis ; sepalis linearibus vel lineari-lanceolatis extus breviter cinereo-vel fusco-tomentosis apice acutis quam petalis aliquanto longioribus ; petalis (sec. cl. delectorem) roseis lineari-lanceolatis vel lineari-oblongis apice sub-acuminatis ad basin area papillosa præcipue superne villosula ; toro elongato basi angulato et glabro superne pubescente ; ovario pubescente 2-3-loculari loculis pluriovulatis ; stylo erecto glabro quam ovario 4-5-plo longiore ; drupa triloba.

Hab. Chirinda outskirts, 3700-4000 ft. ; n. 131. In fl. Nov. 1904. A trailing shrub with pink flowers.

Folia 4.5-5.5 cm. longa, 3.3-4.0 cm. lata ; petioli 8-11 mm. longi. Pedunculi 10-13 mm. longi. Pedicelli 10-11 mm. longi. Sepala \pm 18 mm. longa. Petala cum area glandulosa 13 mm. longa. Area glandulosa \pm 2 mm. longa. Stylus erectus \pm 7 mm. altus.

Allied to *G. occidentalis*, Linn., but the sepals and petals are longer and broader.

GREWIA OCCIDENTALIS, Linn. *Sp. Pl.* 964.

Chirinda outskirts, 3800 ft. ; in fl. Dec. ; n. 6628.

Distrib. South Africa, Transvaal, Delagoa Bay.

G. INÆQUILATERA, Garcke in *Peters Mossamb. Bot.* 134.

Chibabava, Lower Buzi, 400 ft. ; in fl. Dec. ; n. 1223. A small tree 25 ft. high with a 40 ft. spread of branch. Drooping twigs. Flower yellow. Chindao name, "Chisosoti."

Distrib. Mozambique District.

G. OBOVATA, K. Schum. ex Engler in *Abh. Preuss. Akad. Wiss.* (1894) 18.

Sabi River at about 1000 ft. ; in fr. Nov. ; n. 1217. A woody trailer. Chindao name, "Umtetenevigwa-wesabi."

Distrib. Zanzibar Coast Region.

Dr. Burret considers *G. obovata*, K. Schum., a variety of *G. sulcata*, Masters.

TRIUMFETTA ANNUA, Linn. *Mant.* 73.

Near Chirinda, 3800 ft. ; in fl. & fr. April, n. 272 ; in fl. May, n. 473. A herb with yellow flowers.

Distrib. Widely distributed in Tropical Africa, also Natal, Madagascar, &c.

T. EFFUSA, E. Meyer, ex Harv. in *Harvey & Sond. Fl. Cap.* i. 228 (1860).

Near Chirinda, 3800 ft. ; in fr. April ; n. 1156.

Distrib. Rhodesia, Natal.

T. PILOSA, Roth, *Nov. Pl. Sp.* 223 (1821) ; Sprague & Hutchinson in *Journ. Linn. Soc., Bot.* xxxix. (1909) 274.

Near Chirinda, 3500 ft., n. 270 ; in fl. Feb., n. 271. These come near

var. *nyasana*, Sprague & Hutchinson, *l. c.* A tall herb often occurring as a weed in cultivated ground.

Distrib. India, Tropical Africa, Transvaal, Natal.

T. morumballana, De Wild. Pl. Nov. Hort. Thenen., is hardly distinguishable from the above.

TRIUMFETTA RHOMBOIDEA, *Jacq. Enum. Pl. Carib.* 22 (1760).

Near Chirinda, 3800 ft. ; in fl. Feb., n. 270 ; in fr. May, n. 472. Also 3700–4000 ft. ; in fl. April ; n. 1157. Upper Buzi, 3000 ft. ; in fr. April ; n. 2063. Kurumadzi River, Jihu ; in fl. Nov. ; n. 2064.

Distrib. Widely distributed.

T. MASTERSII, *Bak. fl. in Trans. Linn. Soc. ser. 2, Bot.* iv. (1894) 6.

Chipetzana River, 3000 ft. ; in bud Oct. ; n. 2061. Nyahodi River, 5000 ft. ; in bud Sept. ; n. 2060. A herb. Leaves required to confirm identification.

Distrib. Mozambique District.

T. DEKINDTIANA, *Engler in Engler Jahrb.* xxxix. (1907) 580.

Umvumvumu River, 4000 ft. ; in fr. April ; n. 2062. A herb.

Distrib. Angola to Rhodesia and German East Africa.

SPARMANNIA PALMATA, *E. Meyer, ex Presl, Bot. Bemerk.* 19.

Chipete Forest Patch outskirts, 3800 ft. ; in fl. April ; n. 225. A climber with white flowers. Leaves less lobed than type.

Melsetter, 6000 ft. ; in fr. April ; n. 789. Differs from type in leaves being less deeply lobed and bristles on fruit being longer.

Distrib. of type. South Africa.

CORCHORUS TRILOCULARIS, *Linn. Mant.* 77.

Chipete Forest Patch outskirts, 3800 ft. ; in fl. & fr. May ; n. 469. Upper Buzi, 3800 ft. ; in fr. April ; n. 1480. Chipetzana River, 3000 ft. ; in fr. Apr. ; n. 1481.

Distrib. Widely distributed.

C. SERRÆFOLIUS, *Burch. Trav.* i. 537.

Lower Umswirizwi River, 1000 ft. ; in fl. Nov. ; n. 201. A common herb.

Distrib. South Africa.

GLYPHÆA GREWIOIDES, *Hook. fil. in Hook. Ic. Pl.* t. 760.

Beira open woods, 50 ft. ; in fl. Dec. ; n. 1225. A shrub with yellow flowers.

Distrib. Widely distributed.

LINACEÆ.

ERYTHROXYLON EMARGINATUM, *Thonn.*, var. *CAFFRUM*, *O. E. Schultz in Engl. Pflanzenr. Eryth.* 136.

Chipete Forest Patch, 3800 ft. ; in fl. Dec., n. 133 ; in fl. Oct., n. 692. Chirinda, Lower Buzi, 200 ft. ; in fl. Dec. ; n. 1363. Chimanimani Mts., 7000 ft. ; in bud Sept. ; nos. 1364 & 1365. Mt. Umtereni, 4000 ft. ; in fl. Oct. ; n. 1366. Mt. Maruma, 3500 ft. ; leaves only ; n. 1367.

Distrib. of var. *caffrum*. Angola, Natal, Ressano Garcia.

MALPIGHIACEÆ.

SPHEDAMNOCARPUS PRURIENS, *Szyszył. in Rozpr. Spraw. Akad. Umiej. Krak.* xviii. (1888) 2, forma.

Chirinda, 3800 ft. ; in fl. & fr. May ; n. 211. Chipete outskirts, 3800 ft. ; in fl. April ; n. 211 a. Mt. Maruma, 3500 ft. ; in fl. Sept. ; n. 1759. The leaves in the above specimens are not quite so silvery as in the type.

Distrib. Natal.

GERANIACEÆ.

GERANIUM CAFFRUM, *Eckl. & Zeyh. ex Harvey & Sond. Fl. Cap.* i. 258. Melsetter, 6000 ft. ; in fl. & fr. Sept. ; n. 790.

Distrib. South Africa.

PELARGONIUM ACONITOPHYLLUM, *Eckl. & Zeyh. ex Harvey & Sond. Fl. Cap.* i. 276.

Mt. Pene, 7000 ft. ; in fl. Oct. ; n. 6099. A tall herb with handsome white flowers. It is not the typical form.

Distrib. (of type). Natal, Caffraria, Beira.

IMPATIENS WALLERIANA, *Hook. fil. in Oliver, Fl. Trop. Afr.* i. 302.

Chirinda Forest, especially on Zona, 3700-4000 ft. ; in fl. April ; n. 344. A herb with pink flowers.

Distrib. Mozambique District.

I. ZOMBENSIS, *Baker in Kew Bull.* 1897, 247.

Chirinda Forest, especially on Zona, 3700-4000 ft. ; in fl. April ; n. 343. Flowers pink. A form of this plant with the leaves not so sharply serrate as in the type from Mt. Zomba.

Distrib. (of type). Nyasaland.

I. CECILI, *N. E. Brown in Kew Bull.* 1906, 101.

Melsetter, 6000 ft. ; in fl. Sept. ; n. 618.

Distrib. (of type). Manika District of Rhodesia.

OXALIS SEMILOBA, *Sonder in Harvey & Sond. Fl. Cap. i. 350.*

Kurumadzi River, Jihu, 2000 ft. ; n. 2064. A herb with pink flowers.

Distrib. Mozambique District, Huilla, South Africa.

O. CORNICULATA, *Linm. Sp. Pl. 435.*

Kurumadzi River, Jihu ; in fl. Nov. ; n. 2065. A herb with yellow flowers.

Distrib. Widely distributed.

RUTACEÆ.

TODDALIA ACULEATA, *Pers. Syn. i. 249.*

Chipete Forest Patch ; in fl. & fr. Nov. ; n. 213. A large woody climber with thorns and white flowers.

Kurumadzi River, Jihu, 2000 ft. ; in bud Nov. ; n. 1240.

Distrib. Widely distributed in the Tropics.

VEPRIS LANCEOLATA, *G. Don, Gen. Syst. i. 806.*

Beira beach sea-level, in bud Dec. : n. 1324.

Distrib. South Africa.

TECLEA NATALENSIS, *Engler, Pflanzenwelt Ost-Afr. C. 433.* (= *Toddalia natalensis*, Sond.)

Chimanimani Mts., 7000 ft. ; in bud Sept. ; n. 1322. A fair sized tree. Only in bud, further material desirable.

Distrib. Natal.

TECLEA SWYNNERTONII, *E. G. Baker, sp. nov.* (Pl. 2. figs. 1-5.)

Arbor mediocris, sempervirens, haud armata, ramis novellis fusco-pubescentibus adultioribus glabris ; foliis modice petiolatis ternatis, petiolo subtereti superne leviter canaliculato, foliolis coriaceis ovatis vel oblongo-ovatis basi cuneatis apicem versus attenuatis margine integris, nervis lateralibus numerosis tenuibus juxta marginem inter se anastomosantibus, supra nitidis subtus glabris, costa conspicua, breviuscule petiolulatis ; floribus unisexualibus, masculinis calyce cupuliformi brevi, petalis 4 oblongis ; staminibus 4 petalis fere duplo longioribus ; femineis petalis latioribus ovatis acutis ; carpellis 2 stigmatate peltato sessili ; fructu extus glabro glaucescente fere duplo longiore quam lato.

Hab. Melsetter District, Chirinda Forest ; n. 12. Chindao name, "Ruanziti."

A medium-sized evergreen tree with creamy white flowers.

Petiolus communis 3.0-4.5 cm. longus. Foliola 8.5-12.5 cm. longa, 4.0-6.0 cm. lata. Petioluli 4-6 mm. longi.

Fl. ♂. Petala ± 2 mm. longa. Fructus ± 1 cm. longus.

Differs from *T. nobilis*, Delile, by the longer stamens, broader leaflets, and especially the 2-locular ovary.

Dr. Engler restricts the genus *Teclea* to plants having a one-celled ovary. This plant is closely allied to *Teclea grandifolia*, Engler, which is synonymous with *Zanthoxylon Welwitschii*, Hiern.

Mr. Swynnerton states it is a large dioecious tree 60 or 70 feet in height, common, particularly in its youngest stages, in Chirinda, and found in crowded kloofs and forest-patches elsewhere at from 3000–4000 feet. The fruit is an orange-coloured berry with a netted seed and sweet strongly flavoured pulp, ripens from Sept. to Oct., and is much relished by the Kafirs, trumpeter hornbills, and baboons. Foliage dark glossy and evergreen with a rather turpentine smell when crushed. Probably the local food-plant of *Papilio dardanus*.

CLAUSENA INÆQUALIS, *Benth. in Hook. Niger Fl.* 257.

Jihu, near Spungabera, 3000 ft. ; in fl. Oct. ; n. 181. Chirinda Forest outskirts, 3700–4000 ft. ; in fl. & fr. Sept. ; n. 122. Kurumadzi River, Jihu, 2000 ft. ; in fr. Nov. ; n. 122 b. Mt. Maruma, 3500 ft. ; in fl. Sept. ; n. 122 a.

Distrib. South Africa, Nile Land, Mozambique District.

CITRUS AURANTIUM, *Linn. Sp. Pl.* 783.

Chirinda Forest, 3700–4000 ft. ; n. 672. A wild orange, occurring sparsely in Chirinda and on the upper banks of the Lusitu River. Flowers white. Fruits large and highly coloured, and scented like a tangerine, but bitter.

SIMARUBEÆ.

KIRKIA ACUMINATA, *Oliver in Hook. Ic. Plant.* t. 1036.

Chibabava, Lower Buzi, 400 ft. ; in fl. Dec. ; n. 1639. A large tree.

Distrib. Mozambique District.

OCHNACEÆ.

OCHNA LEPTOCLADA, *Oliver, Fl. Trop. Afr.* i. 318.

Chikore Hills, 3500 ft. ; in fl. Nov. ; n. 1356. A large shrub with whitish flowers. Madanda Forest at about 400 ft. ; in fr. Dec. ; n. 1361. Mt. Pene, 7000 ft. ; in fl. Oct. ; n. 6172.

N. 1356 agrees so closely upon dissection with *O. leptoclada*, Oliver, the type of which is in the Kew Herbarium, that I have referred it to this species, the only discrepancy being in the colour of the flowers, which in *O. leptoclada* are said to be gamboge-yellow.

N. 1361 I take to be the same species in leaf at a later stage. The leaves are small, glabrous and coriaceous, sometimes obovate, but generally oblong

or oblong-oblaneeolate, 2·04·0 cm. long, serrate at the margin and with rather numerous lateral veins and a very short petiole.

Distrib. Mozambique District.

OCHNA PULCHRA, *Hook. Ic. Plant.* t. 588.

Madanda Forest at about 400 ft. ; in fr. Dec. ; n. 1360. A small tree, seeds black, calyx carmine. Flowers required to confirm this identification.

Distrib. South Central Region.

OCHNA (Schizandra) CHIRINDICA, *E. G. Baker*, sp. nov.

Arbor mediocris, ramosa ; ramulis cortice cinereo-brunneo vel cinereo-nigrescente tectis ; foliis interdum cum floribus coëtaneis vel interdum post anthesin enascentibus viridibus papyraceis oblongis vel oblongo-oblaneeolatis utrinque attenuatis toto margine plus minus argute serratis apice ipso obtusis basi cuneatis nervis lateralibus arcuatim adscendentibus supra prominulis costæ subrectangulariter insidentibus, petiolo brevissimo ; floribus in apice ramorum abbreviatorum lateralium racemosis manifeste pedicellatis, pedicellis gracilibus infra partem $\frac{1}{3}$ inf. articulatis ; floribus inter minores generis ; sepalis oblongis vel ovato-oblongis striatis in sicco olivaceo-viridibus ; petalis obovatis flavis basi in unguem attenuatis ; staminibus ultra 20, antheris rimis longitudinalibus dehiscentibus ; stylo erecto apice stigmata brevia gerente ; ovario sæpissime 5-lobo, lobis extus glabris tenuiter reticulatis.

Hab. Chirinda Forest, 3700 ft. ; n. 106. In flower, 9th Oct. 1905. In leaf, May 1906.

A medium-sized deciduous tree, the yellow flowers preceding the leaves. Only one tree found.

Arbor 15–20 m. alt. Folia juniora 8·0 cm., adultiora 9·0–13·0 cm. longa, 2·5–3·3 cm. lata. Petioli 1·0–2·0 mm. longi. Pedicelli \pm 1–2·5 cm. longi. Sepala \pm 5·0 mm. longa. Petala \pm 6–7 mm. longa. Antheræ 1·5 mm. longæ. Stylus \pm 2·5 mm. longus.

The distinguishing features of this tree are the rather small flowers, racemose at the ends of short lateral branches, which are borne before the leaves, and the oblong, attenuate, distinctly papyraceous leaves with a very short petiole.

The following are also closely allied :—n. 626, a small tree gathered on Mt. Umtereni, alt. 4000 ft. ; and n. 193 from the Chipete Forest Patch, alt. 3800 ft.

O. chirindica differs from *O. Holstii*, Engler, by the flowers, which are smaller and preceding the leaves, and by the larger leaves.

O. NATALITIA, *Engler & Gilg in Engler Jahrb.* xxxiii. (1903) 236.

Madanda Forest at about 400 ft. ; in fr. Dec. ; n. 1357.

Distrib. Natal.

PLEURORIDGEA ZANGUEBARICA, *Van Tieghem in Ann. Sci. Nat.* ser. 8, xvi. (1902) 399.

Brackenridgea zanguebarica, Oliver in Hook. Ic. Plant. t. 1096.

Chirinda lower slopes, 3600 ft. ; in fr. Dec. ; n. 189. Beira open woods, sea-level ; in fr. Dec. ; n. 358. Singuni name, "Umeit-umuzi" (kraal-disperser). A large shrub or small tree. *O. alboserrata*, Engler, *Jahrb.* xvii. 75, is very closely allied to the above.

Distrib. Mozambique District.

BURSERACEÆ.

COMMIPHORA FISCHERI, *Engler, Jahrb.* xv. (1892) 97.

Sabi River, 1000 ft. ; in fl. Nov. ; nos. 1208 & 1450. A tree of the size of *Faurea saligna*, with white flowers. Chindao name, "Igwatigwati."

Distrib. Tropical East Africa. There is another species of *Commiphora* in the collection from Umhlonhlo, Lower Buzi. It is closely allied to *C. pilosa*, Engler, but further material is necessary.

MELIACEÆ.

EKEBERGIA MEYERI, *Presl, Bot. Bemerk.* 25.

Chirinda Forest, 3700-4000 ft. ; in fl. Oct. ; n. 18.

Distrib. South Africa. "A large handsome tree, height 90 ft., girth of largest measured 10 ft. 8 ins., reminding one rather of an English ash. It usually begins to branch somewhat low, and forms a fine shady spreading head of rather drooping foliage. Bark grey-brown, rather rough. It flowers early in October (Sept. 30th to Oct. 8th), and the fruits, which are very attractive to touracoes and parrots, ripen in January and continue on the trees till April. It is common along the Chirinda outskirts, and I have noted it also along the Inyamkwha forest patch."

E. ARBOREA, *Bak. fil. in Journ Bot.* xxxvii. (1899) 427.

Near Chirinda, 3700-4000 ft. ; in fl. & fr. Oct. ; n. 35.

Distrib. Rhodesia. Chindao name, "Mutomo." "A small to medium-sized tree of the open woods, height up to 30 ft., girth up to 18 ins., seldom more. The crown is usually rather uneven and seldom at all dense. Bark thick, somewhat rough, dull grey externally, red when cut into. Timber very soft white right through, there being no apparent division between sapwood and heartwood ; a central pith. It is straight-grained and much used by the natives in the manufacture of pillows and bowls. An infusion of the roots is said to be drunk by them for pains in the chest. Not uncommon in the open woods about Chirinda and Chikore."

TRICHILIA EMETICA, *Vahl, Symb. Bot.* i. 31.

Delagoa Bay, 150 ft. ; in fl. Sept. ; n. 6517.

Distrib. Nile Land, Upper Guinea and Arabia, also Natal. There is a type of this species from Forskål in the National Herbarium. In the true plant the leaves are subdensely pilose below.

N. 583 *a* from the Kurumadzi River is closely allied to the above. The Chindao name of this is "Musikini," Singuni "Umkuhlu." N. 583 *a* is a large tree with dense spreading crown of dark glossy leaves and a trunk sometimes 3 ft. or more in diameter, height up to 80 ft. Both in bark and in general growth and height it differs absolutely from *T. chirindensis*.

TRICHILIA (*Eutrichilia*) UMBRIFERA, *Swynnerton & Bak. fil.*, sp. nov.

Arbor alta et vasta; foliis petiolatis impari-pinnatis 4-5-jugis, foliolis brevissime petiolulatis oppositis vel passim alternis oblongis vel rarius ovatis terminalibus ovato-oblongis superne glabris subtus fusco-pubescentibus junioribus subtomentosis nervis lateralibus patulis utrinque 15-21 ante marginem conjunctis basi cuneatis vel late-cuneatis apice acutis; inflorescentia paniculata, floribus pedicellatis, pedicellis articulatis; bracteis oblongo-ovatis pubescentibus; calyce fere polysepalo extus pubescente lobis apice subobtusis; petalis extus adpresse hirsutis liguliformi-oblongis apice obtusis circiter 3-plo longioribus quam latis; filamentis ad $\frac{1}{2}$ altitudinis in tubum extus glabrum coalitis sursum laciniosis laciniis intus hirtis laciniarum dentibus subulatis; antheris glabris; stylo erecto præcipue inferne plus minus pilis vestito, stigmatibus crasso; ovario 3-loculari extus pilis albis vestito.

Inter species africanas hujus generis calyce fere polysepalo et foliolorum nervis numerosis recognoscenda.

Hab. Melssetter District, Lower Umswirizwi, 1000 ft.; n. 148.

Folia 20-30 cm. longa. Foliola 6.0-10 cm. longa. Calyx 4.0-4.5 mm. longus. Petala 12.0-15.5 mm. longa, \pm 4.5-5.0 mm. lata. Tubus stamineus cum laciniis \pm 9 mm. altus. Stylus \pm 8 mm. longus. Antheræ \pm 1.5 mm. longæ.

A large tree with shady foliage, growing on the banks of the river; the flowers were already dry, the tree having been caught evidently by the grass-fires when in flower; the upper branches were bearing young fruits resembling those of n. 1 (*T. chirindensis*).

A closely allied plant, n. 584, was obtained on the Sabi River at 1000 ft. on the 9th of November. It nearly agrees with the above in the structure of the flowers, but differs in having the leaflets obtuse.

Allied to *T. strigulosa*, Welw.; differs in the leaves having generally five pairs of leaflets and being subtomentose or pubescent, hardly villous, below, and in the shorter and broader petals.

TRICHILIA (*Eutrichilia*) CHIRINDENSIS, *Swynnerton & Bak. fil.*, sp. nov.

Arbor vasta et altissima, corona ampla, cortice lævi pallide griseo, ligno flavo-rubescente; foliis petiolatis 2-4-jugis, foliolis breviter petiolulatis

oblongo-ellipticis vel obovato-ellipticis vel ellipticis basi rotundatis apice sæpissime rotundatis interdum retusis utrinque præter nervos glabris nervis lateralibus foliolorum anticorum 10–13 posticorum 6–9 superne haud prominentibus subtus prominulis, rhachi tomentosa; paniculis axillaribus vel in ramis lateralibus plus minusve foliis pluries brevioribus ramulosis; floribus brevissime pedicellatis; calyce fere polysepalo, sepalis late ovatis subobtusis margine ciliatis extus adpresse fusco-hirtis lamellatis; petalis oblongis superne dense puberulis apice obtusis vel interdum truncatis; filamentis usque ad medium in tubum sursum lacinosum coalitis, tubo 10-antherifero extus inferne glabro, laciniis apice 2-denticulatis intus dense villosis extus dorso glabris; antheris glabris curvatis; ovario 3-loculari extus hirtis; stylo erecto tenuiter patenti-hirtis; stigmatibus sublobato capitatis; seminibus arillo in sicco flavo-rubro vestitis.

Hab. Chirinda Forest, alt. 3700–4000 ft.; n. 1. Native name “Umkuhlu.” One of the largest forest trees. Flowers dull white. Bark smooth, light grey, tinged with pink.

Arbor usque ad 40 m. attingens Sept.–Oct. florens. Folia 15–30 cm. longa. Foliola 10–14·0 cm. longa; foliolorum petioluli 4–5 mm. longi. Calyx ± 4 mm. longus. Petala ± 15 mm. longa, ± 4 mm. lata. Tubus stamineus cum laciniis $\pm 1\cdot 0$ cm. longus. Antheræ ± 2 mm. longæ. Stylus cum ovario vix 9 mm. longus.

This species differs from *T. vestita*, C. DC., in the nearly polysepalous calyx—the leaves, which are glabrous below—the less hairy style—the larger stigma—and the glabrous teeth of the lacinia. From *T. Stuhlmanni*, Harms, in the broader leaflets and the nearly polysepalous and larger calyx. From *T. Dreyeri*, E. Meyer, in the leaves not being acuminate at the apex. From *T. Dreyeri*, E. Meyer, β *oblonga*, Harvey, in the longer lateral leaflets.

N. 1119 from Bunda River, not in flower, is probably also a *Trichilia*. It is a tree growing in a patch of forest.

“One of our finest forest trees, and with its spreading head of dark glossy leaves it is one of the best shade trees. It is far larger than *Trichilia emetica*, Vahl, reaching in the forest a height of 120 feet or more, with a trunk diameter of as much as 7 ft. 6 in. and a spread of crown of 60 ft. or more. The timber is reddish brown in colour and easily worked, and is on this account a favourite with the natives, who display some skill in carving it into pillows, spoons, &c. The trunk usually runs up to a considerable height before branching.”

The following clavis shows the position of these novelties with regard to their allies:—

- A. Calyx ad medium vel ultra medium 5-lobatus. Foliolorum nervis secundariis 8–12.

T. Stuhlmanni, Harms. Lake Region.

- B. Calyx ultra medium vel interdum fere ad basin lobatus. Petala 12·0–15·5 mm. longa.
- α. Folia demum præter nervos fere glabra. Foliolorum nervis secundariis 10–13.
T. chirindensis, Swynnerton & Bak. fil. Gazaland.
- β. Folia subtus fusco-pubescentia. Foliolorum nervis secundariis numerosis (18–21).
T. umbriifera, Swynnerton & Bak. fil. Gazaland.
- C. Calyx obtuse 5-dentatus. Foliolorum nervis secundariis 9–12. Petala circiter 7 mm. longa (*vide* C. DC.).
T. Dregei, E. Meyer. Port Natal.
- D. Calyx profunde obtuse 5-dentatus. Folia subtus subdense pilosa. Foliolorum nervis secundariis ±12. Petala 10–13 mm. longa.
T. emetica, Vahl. Nile Land, Upper Guinea, Mozambique District, Arabia.

LOVOA SWYNNERTONII, *E. G. Baker*, sp. nov. (Pl. 3.)

Arbor excelsa ramulis cortice cinereo tectis; foliis 3–8-jugis (sæpissime 6–8), rhachi angulari tenuiter pubescente, foliolis suboppositis vel oppositis subcoriaceis inæquilateraliter oblongis apice subacuminatis apice ipso obtusis basi cuneatis in petiolulum attenuatis utrinque glabris superne nitidis nervis lateralibus numerosis supra paullulo prominulis subtus prominulis; inflorescentia paniculata in statu juvenili fusco-pubescente ramulis dichotome ramulosis, pedicellis brevibus; calyce brevi e sepalis 4 suborbicularibus imbricatis composito; petalis albis ovali-oblongis concavis; tubo stamineo extus glabro margine in crenas bifidas cum filamentis alternantibus exeunte; antheris 8 in summo tubo stamineo insertis; ovario disco intra tubum stamineum circumdato; stylo brevi, stigmate discoideo capitato; fructu capsulari columna centrali quadrangulari 4-valvi, seminibus alatis.

Hab. Chirinda Forest, 3700–4000 ft.; n. 16.

“Brown Mahogany” of settlers. The largest, excepting perhaps *Khaya nyasica*, of the Chirinda trees. Flowers white.

Arbor usque ad 50 m. alt. attingens. Folia 15–30 cm. longa. Foliola 6·5–10·0 cm. longa, foliolorum petioluli 3–7 mm. longi. Calyx 1·0–1·5 mm. longus. Petala 3·0–3·5 mm. longa, ±2·0 mm. lata. Tubus stamineus ±2·0 mm. altus. Antheræ vix 1 mm. longæ. Semina cum alis 3·5–4·5 cm. longa. Capsula ± 5 cm. longa.

The staminal tube bears at its apex 8 bifid crenations. The 8 stamens alternate with these crenations, the filaments are considerably shorter than the anthers. The 4-valved capsule has generally two perfect seeds in each cell. The seeds are long-winged above.

“A huge tree attaining occasionally a height of 160 feet, and strongly resembling *Khaya nyasica*, Stapf, in its habit of growth, its bark and general

appearance. It usually runs up straight to 90 ft. or so before commencing to branch, and never attains quite the same girth, the largest specimen I have seen measuring barely 8 ft. in diameter. Diameters of 4–6 ft. are not uncommon. Bark light grey, smooth but often much laminated, and lacking the bitter taste of *Khaya nyasica*. Red where cut. Heartwood a deep grey-brown in colour, sapwood dull whitish. The timber is handsome, but frequently cross-grained and difficult to work. It has been used a great deal locally for outdoor work, being very durable and untouched by insects. The crown of the tree is frequently not very large in proportion to its height. The foliage where exposed to sunlight is dark green and glossy, and the young leaves are pale green. The trees are in full bloom in January. So far as I know at present, the tree grows only in Chirinda, where it prefers well-drained slopes to banks of streams.”

KHAYA NYASICA, Stapf MS. in *Herb. Kew*, sp. nov.

Khaya senegalensis, A. Juss.; Oliver in Fl. Trop. Afr. i. 338, quoad plantam mossambicensem.

Arbor vasta, ligno duro rubescente (sec. cl. detectorem), ramis erecto-patulis imprimis apicem versus foliosis; foliis paripinnatis 3–5-jugis foliolis sæpissime oblongis latoribus quam in *K. senegalensis* apicem versus subito attenuatis marginibus subparallelis, petiolulis longioribus; floribus albis paniculatis; stigmatibus breviter cylindrico apice subconico; stylo brevi, tubo stamineo non constricto.

Hab. Lower Umwirizwi River and Chirinda Forest; n. 15.

Chindao name, “Muwawa.” Singuni name, “Umbaba.”

Arbor usque ad 45 m. alt. attingens, trunco ad basin sæpe ± 3 m. diam. Folia 15–32.0 cm. longa. Foliola ± 4.3 –11.5 cm. longa, 2.4–4.0 cm. lata. Calyx 1.0–1.4 mm. longus. Petala ± 3.0 –4.0 mm. longa. Tubus stamineus 3.0–3.5 mm. longus.

This species differs from the plant figured by Guillemain and Perrottet in their Fl. Seneg. t. 34, by the leaves being more generally oblong and more abruptly attenuate at the apex, the longer petiolules and shorter style. The flowers of Perrottet n. 130 will be found on dissection to differ in certain particulars from the structure of the plant as figured.

Distrib. Mozambique, Nyasaland.

“A huge tree attaining a height of 150 ft. or more, and exceptionally a diameter of 15 ft.; one that I measured in the Inyamkuwha forest patch having attained this diameter at 8 ft. from the ground just above the buttresses. Diameters of 5–8 ft. are not uncommon. The trunk is almost invariably very straight, and runs up to a considerable height before branching; the young saplings have much the appearance of young *Castilloa elastica*. Bark light grey, thick, smooth or laminated, astringent in taste, reminding one of quinine, hence the native name “Umbaba,” meaning to be bitter.

Timber red in colour with a handsome grain, hard, but fairly easily worked and weathers well above ground. It is untouched by Bostrychidæ or termites, and has a probably ill-founded reputation for durability below ground. The tree makes an enormous crown of handsome glossy foliage, and is usually to no great extent deciduous and by no means a favourite with locusts. The old trees are in full bloom at the commencement of November, and the fruits commence to ripen at the end of the following September, continuing to fall till December and littering the ground for some distance in every direction. The seeds are crushed and boiled by the natives, the resulting oil, which is said to have a bitter taste, is rubbed by them into their hair to kill vermin."

OLACINEÆ.

XIMENIA AMERICANA, *Linn. Sp. Pl.* 1193.

Open spaces near Chirinda, 3500 ft. ; in fl. Oct. ; n. 175. Beira open woods, 100 ft. ; in fr. Dec. ; n. 1128.

A specimen from S. Umtali, n. 6619, is closely allied, but is somewhat pubescent.

Distrib. Widely distributed.

APODYTES DIMIDIATA, *E. Mey. ex Bernh. in Linnæa*, xii. (1838) 136.

Kloof near Chirinda, 3800 ft. ; n. 184.

Distrib. South Africa, Lower Guinea, Nile Land.

OLAX STUHLMANNI, *Engler in Notizbl. K. Bot. Garten, Berl.* ii. 283.

Boka, Lower Buzi, 100 ft. ; in fr. Dec. ; n. 1196. A large shrub on limestone.

Distrib. Lourenço Marques.

OPILIA AMENTACEA, *Roxb. Pl. Coromandel*, ii. 31, t. 158.

Sabi River at about 1000 ft. ; in fl. Nov. ; n. 1204. A climbing shrub with yellow flowers.

Distrib. Widely distributed.

PYRENACANTHA KAMASSANA, *Baill. Adansonia*, x. (1872) 272.

Madanda Forest, 400 ft. ; in fr. Dec. ; n. 2067. A climber on the ant-heaps at Ancate.

Distrib. Mozambique District.

ILICINEÆ.

ILEX MITIS, *Radl. in Act. Congr. Bot. Anvers* (1887) 172.

Mt. Pene, 7000 ft. ; in fl. Oct. ; n. 6210.

Distrib. South Africa, Mozambique District, Madagascar.

CELASTRINEÆ.

GYMNOSPORIA SENEGALENSIS, *Loes. in Bull. Herb. Boiss.* iv. 430.

Upper Buzi at 3500 ft.; in fl. May; n. 2069. A large thorny shrub with pale greenish flowers.

Distrib. Widely distributed in Tropical Africa.

G. BUXIFOLIA, *Szyszl. in Rozpr. Spraw. Akad. Umiej. Krak.* xviii. (1888) 34.

Mt. Maruma, 3500 ft.; in fl. Sept.; n. 2068. A large thorny shrub with pale greenish flowers.

Distrib. South Africa, Mozambique District.

CELASTRUS MOSSAMBICENSIS, *Klotzsch in Peters Mossamb. Bot.* i. 112.

Chikore Hills, 3500 ft.; in fl. April; n. 185. A low plant with white flowers. N. 185 agrees with *Celastrus rubra*, Herb. Sonder, which was referred by Prof. Oliver (*Fl. Trop. Afr.* i. 362) to *Celastrus mossambicensis*, Klotzsch.

Distrib. Mozambique District.

C. CONCINNUS, *N. E. Brown in Kew Bull.* 1906, 16.

Chirinda outskirts, 3700–4000 ft.; in fl. & fr. Oct.; n. 118. A thorny shrub with white petals, pink and green sepals, and red berries.

Distrib. Natal.

CATHA EDULIS, *Forsk. Fl. Æg.-Arab.* 63.

Chipete outskirts, 3800 ft.; in fl. April; n. 102.

“Chirinda Redwood.” One of the largest forest trees, very rough-barked; timber red, handsome. Far commoner in Chipete than in Chirinda, where I know only of one of the large specimens. These flowers (white) are from young trees which have sprung up and are growing rapidly on the sheltered face of Chipete, and which, by comparison of bark, leaves and small seedlings with seeds attached, I believe to be identical with the large specimens inside Chipete.

Chirinda Forest, 3700–4000 ft.; in fl. May; n. 102. Near Chirinda, 3500 ft.; in fr. Oct.; n. 1342. A smallish tree with creamy white flowers and red durable timber. Chindao name, “Mutsawhari.”

Kurumadzi, Jihu, 2000 ft.; in fl. Aug.; n. 1341.

Distrib. Nile Land, Nyasaland, German East Africa.

PTEROCELASTRUS ROSTRATUS, *Walp. Rep.* i. 535.

Mt. Pene Forest, 6500 ft.; in fl. Sept.; n. 1301. Chimanimani Mts., 7000 ft.; in fl. Sept.; n. 1302. A tree with pale greenish or creamy flowers.

Distrib. South Africa.

ELÆODENDRON CAPENSE, *Ecklon & Zeyher, Enum.* 127.
 Chikore, 3600 ft. ; in fl. March ; n. 167. Chirinda outskirts, 3700–
 4000 ft. ; in fl. Oct. ; n. 1174.
Distrib. South Africa.

HIPPOCRATEA OBTUSIFOLIA, *Roxb. Hort. Beng.* 5.
 Sabi River at about 1000 ft. ; in fl. Nov., n. 1200 ; in fr. Nov., n. 1203.
Distrib. Widely distributed in Africa and also in India.

RHAMNACEÆ.

ZIZYPHUS MUCRONATA, *Willd. Enum. Hort. Berol.* 251.
 Bumbo, 400 ft. ; in fl. Dec. ; n. 1047. Gambadziya River, 3300 ft. ; in
 fr. May ; n. 1385. Kurumadzi ; in bud Nov. ; n. 2069 *a*. Umvumvumu
 River, 4000 ft. ; in fr. April ; n. 2070. Chindao name, "Chinanga."
Distrib. Widely distributed in Tropical and South Africa.

BERCHEMIA DISCOLOR, *Hemsley in Oliver, Fl. Trop. Afr.* i. 381.
 Chibabava, Lower Buzi, 400 ft. ; in fl. Dec., n. 1340 ; and in bud Dec.,
 n. 1409. A fairly large tree. Sabi River, 1000 ft. ; in fl. Nov. ; n. 1215.
 Chindao name, "Munye."
Distrib. Mozambique District, Amboland.

RHAMNUS PRINOIDES, *L'Hérit. Sert. Angl.* 6, t. 9.
 Chipete outskirts, 3800 ft. ; in fr. May ; n. 428. A large shrub with red
 fruits and whitish flowers.
Distrib. Nile Land, South Africa, German East Africa, Natal.

PHYLICA PANICULATA, *Willd. Sp. Pl.* i. 1112.
 Chimanimani Mts., 7000 ft. ; in fr. Sept. ; n. 632 *a*.
Distrib. South Africa, Natal.

COLUBRINA ASIATICA, *Brongn. in Ann. Sci. Nat.* sér. 1, x. (1827) 369.
 Beira beach ; in fr. Dec. ; n. 1127.
Distrib. Mozambique. Common throughout Tropical Asia, but has not
 been recorded from Natal.

HELINUS MYSTACINUS, *E. Meyer, ex Steud. Nom.* ed. II. i. 742.
 Chirinda outskirts, 3700–4000 ft. ; in fl. & fr. May ; n. 217.
Distrib. Nile Land, German East Africa, Uganda.

GOUANIA LONGISPICATA, *Engler in Pflanzenwelt Ost-Afr.* C. 256, ex
 descript.
 Chirinda Forest, 3700–4000 ft. ; in fl. April ; n. 96. A large woody
 climber with flowers very attractive to sun-birds.
Distrib. Mozambique District.

LASIODISCUS HOLTZII, *Engler, Jahrb.* xl. (1908) 551.

Chirinda Forest, 3700–4000 ft. ; in fl. & fr. Oct., n. 121 ; and in young fr. Dec., n. 6227. A shrub 7–8 ft. high. Perianth green ; anthers dull orange ; pistil and disc pale yellowish.

Boka, Lower Buzi ; in fr. Dec. ; n. 1038. A large shrub on limestone. This species is only known to me from the description ; the specimens agree except in the more glabrous character of the inflorescence.

Distrib. Zanzibar Coast Region.

AMPELIDEÆ.

AMPELOCISSUS MOSSAMBICENSIS, *Planch. in Journ. Vigne Am.* (1885) 49 ; in *DC. Monogr. Phan.* v. 392.

Jihu rise, between Zona and Kurumadzi, 2400 ft. ; n. 223. Also Jihu ; n. 1371. Madanda Forest at about 400 ft. ; n. 1372. A grape vine common in the Jihu, and hardly less so in portions of the higher veldt.

Distrib. Mozambique District.

CISSUS ROTUNDIFOLIA, *Vahl, Symb.* iii. 19.

Sabi River, 1000 ft. ; in bud Nov. ; n. 2071. Boka, Lower Buzi, 100 ft. ; in young fr. Dec. ; n. 2072. A large fleshy climber with whitish flowers.

Distrib. Arabia, Nile Land, Mozambique District.

C. INTEGRIFOLIA, *Planch. in DC. Monogr. Phan.* v. 483.

Vitis integrifolia, Baker in Oliver, *Fl. Trop. Afr.* i. 391.

Kurumadzi River, Jihu, 2000 ft. ; in bud Nov. ; n. 2073. Chibabava, Lower Buzi, 400 ft. ; n. 2075. Umswirizwi River, 1000 ft. ; in bud Nov. ; n. 2074. A climber.

Distrib. Mozambique District.

C. BUCHANANI, *Planch. in DC. Monogr. Phan.* v. 601.

Kurumadzi River, Jihu, 2000 ft. ; in fl. Nov. ; n. 1377. Chipete, 3800 ft. ; in fr. March ; n. 231. A common climber.

Distrib. Nyasaland.

C. ZOMBENSIS, *Gilg & Brandt, MS. in Herb. Kew., comb. nov.*

Vitis zombensis, Baker in *Kew Bull.* 1898, 302.

Grass veldt near Chirinda, 3500 ft. ; in fr. Sept. ; n. 194. A low up-standing plant 2–3 ft., with purple-black edible fruits, ripe in December. This is a form in which the leaves are distinctly more serrate than in the type.

Distrib. Nyasaland.

RHOICISSUS CAPENSIS, *Planch. in DC. Monogr. Phan.* v. 463.

Chirinda outskirts, 3700–4000 ft. ; in fl. Nov. ; n. 1370. Mt. Maruma, 3500 ft. ; in bud Sept. ; n. 1378. Chikore Hills, 3700–4000 ft. ; in bud Nov. ; n. 1376.

Distrib. Natal, Cape, German East Africa.

RHOICISSUS CUNEIFOLIA, *Planch. in DC. Monogr. Phan.* v. 466.

Near Chirinda, 3800 ft. ; in bud Nov. ; n. 221. Chindao name, "Chidzama-hausi."

Distrib. Natal, South Africa.

A shrub with trailing twigs and small edible fruits, common in long grass about Chirinda and noticed in the somewhat denser bush about Maruma. It occurs in the Jihu even in the dense bush, but is less common than *R. sansibarensis*, Gilg. The roots take the form of long, hard tubers, and are a great obstacle to the plough, greatly increasing the cost of cultivation when present. These roots are pounded up by the natives and mixed with meal to form a thin porridge for pains in the chest.

R. RHOMBOIDEA, *Planch. in DC. Monogr. Phan.* v. 467.

Mt. Pene Forest, 6500-7000 ft. ; n. 1382. Chimanimani Mts., 7000 ft. ; n. 1381. Chirinda Forest outskirts, 3700 ft. ; in fr. Oct. ; n. 92. A grape-vine common in forest outskirts.

Distrib. Natal.

R. SANSIBARENSIS, *Gilg in Engler, Glied. Veg. Usamb.* [*Abh. Preuss. Akad. Wiss.* (1895)] 53 ; in *Engler, Pflanzenwelt Ost-Afr.* C. 257.

Madanda Forest, 4000 ft. ; in bud Dec. ; n. 1374. Jihu rise, between Zona and Kurumadzi ; in bud Jan. ; n. 222. Lusitu River at about 3000 ft. ; in fr. April ; n. 1380. N. 1375 from Kurumadzi, and n. 1379 from Umvumvumu, are allied to the above. Chindao name, "Chidzama-hausi."

Distrib. Mozambique District. "Very common throughout Jihu even in denser bush, mostly as a dense rounded shrub with trailing branches, but when it gets the chance often throwing these trailers on to some tree stronger than itself and ascending to a height of as much as 40 ft. Flowers nearly over on Nov. 21st, a few fruits then already ripe (black), but numbers of shrubs still only in bud. Noted at Arucate on the ant-heaps and in the Inyamadzi Valley."

SAPINDACEÆ.

The collection contains *Cardiospermum Halicacabum*, Linn., from Chibabava ; *Paullinia pinnata*, Linn., from Chibabava and banks of Lower Umswirizwi ; and *Dodonaea viscosa*, Jacq., from Nyahodi River.

PHIALODISCUS PLURIJUGATUS, *Radl. in Sitz. Math.-Phys. Akad. Muench.* xx. (1890) 263.

Chibabava, Lower Buzi ; in fr. Dec., n. 582 ; and in bud Dec., n. 1037. A large shady tree with handsome clusters of bright pink fruits, making a great show at a distance. Chindao name, "Masadema."

Distrib. Angola.

ALLOPHYLLUS CHIRINDENSIS, *E. G. Baker*, sp. nov.

Arbuscula ramulis nodulosis cortice griseo tectis; foliis manifeste petiolatis, petiolo sparsissime pilosulo superne leviter canaliculato, foliolis papyraceis oblongis vel obovato-oblongis vel lateralibus oblique ovato-oblongis intermedio basin versus sensim longe cuneato-angustato apice acuminatis apice ipso obtusis lateralibus basi cuneatis omnibus in parte $\frac{4}{5}$ superiore grosse crenato-serratis utrinque glabris subtus costarum axillis pubescentibus exemptis nervis venisque utrinque æqualiter prominentibus venis reticulatis; inflorescentia pseudo-paniculata foliis sæpe semiæquali; floribus brevipedicellatis pro genere mediocribus semper in cymulas 2-5-floras pedicellatas inferne remotas superne approximatas dispositis, rhachi pedicellis calycibusque pilosulis; floribus generis; baccis (sec cl. detectorem) rubris.

Hab. Common in Chirinda Forest, 3700-4000 ft.; n. 112.

Arbuscula. Petiolus 6.0-7.5 cm. longus. Foliola lateralia 11.0-13.0 cm. longa, 4.5-5.8 cm. lata, intermedia 15.0-18.0 cm. longa. Pedicelli 1.0-2.0 mm. longi. Calyx \pm 1.5 mm. longus.

A small tree with white flowers and red berries.

Allied to *A. Welwitschii*, Gilg; differs by the cuneate base of the lateral leaflets and the large flowers.

LECANTODISCUS FRAXINIFOLIA, *Baker in Oliver, Fl. Trop. Afr. i. 429.*

Madanda Forest at about 400 ft.; in fl. Dec.; n. 524. A large shady tree. Flowers light green with pale yellow anthers. Singuni name, "Umtalala." Chibabava, Lower Buzi, 400 ft.; in fl. Nov., n. 524a; and in fl. Dec., n. 1398.

Distrib. Mozambique District.

BERSAMA SWYNNERTONII, *Bak. fl. in Journ. Bot. xlv. (1907) 14.*

Chipete Forest Patch, 3800 ft.; in fl. Dec.; n. 9. A fair sized forest tree. Flowers purplish pink.

Distrib. Melsetter.

B. NYASSÆ, *Bak. fl. l. c. 19, forma.*

Jihu, Lower Zona, in fl. Nov.; n. 40. Chindao name, "Munya Lawa." A medium sized tree of the kloofs and thickets. Jihu District, near Chinyika, 2000 ft.; in fl. Nov.; n. 1369.

Distrib. Nyasaland.

ANACARDIACEÆ.

HEERIA INSIGNIS, *O. Kuntze, Rev. Gen. 152.*

Beira Beach sea-level; in fr. Dec.; n. 554. A large shrub with milky latex.

Distrib. Widely distributed in Tropical Africa.

Var. RETICULATA, *Bak. fl. in Journ. Bot.* xxxvii. (1899) 428.

Between Mt. Pene and Haroni River, 6000 ft.; in fr. Sept.; n. 680. A shrub with milky latex and black fruits, scattered here and there in long grass.

Distrib. Rhodesia.

Dr. Engler in *Sitzb. Akad. Berlin*, ii. (1896) 891, raises this to specific rank.

RHUS TOMENTOSA, *Linn. Sp. Pl.* 266.

Melsetter, 6000 ft.; in fl. Sept.; n. 667.

Distrib. Cape, Transvaal.

R. LUCIDA, *Linn. Sp. Pl.* 267.

Chimanimani Forests, 6500 ft.; in fl. and young fr. Sept.; n. 635. A small-leaved shrub occasionally becoming a small tree, very common in Chimanimani forest patches.

Distrib. Natal, South Africa.

RHUS CHIRINDENSIS, *E. G. Baker*, sp. nov.

Frutex ramulis purpureis subfulvo- vel fusco-pubescentibus; petiolo foliola lateralia vix æquante; foliolis ovato-lanceolatis acuminatis basi late cuneatis subsessilibus vel in petiolulum brevem contractis margine integris vel undulatis nervis lateralibus tenuibus arcuatim patentibus utrinque prominulis demum glabris subtus pallidioribus costa superne prominente; paniculis axillaribus et terminalibus multiramosis cinereo- vel fusco-pubescentibus multifloris; bracteolis minutis; pedicellis tenuissimis; floribus inter minores generis; calycis segmentis ovatis obtusis; petalis quam sepalis 2-3-plo longioribus ovatis; staminibus quam petalis brevioribus; drupis subglobosis glabris.

Hab. Kloof near Chirinda, 3800 ft.; n. 168.

Foliorum petiolus 3·0-4·0 cm. longus; foliola lateralia 3·0-6·0 cm. longa, 1·8-2·5 cm. lata, intermedium 8·0-10·0 cm. longum. Sepala 0·5 mm. longa. Petala \pm 1·5 mm. longa, vix 1 mm. lata.

The distinguishing features of this shrub are the trifoliolate, ovate, acuminate leaflets and the axillary and terminal, many-branched, pubescent panicles of small flowers. Allied to *R. glutinosa*, Hochst.; it differs from it by the laxer panicle, and from *R. huillensis*, Engler, var. *acutifoliata*, Engler, by the larger leaves which are at length glabrous.

The following clavis indicates the position of this plant:—

α . Rami dense subfulvo-pubescentes. Foliola apice acuminata. Calycis segmenta \pm 0·5 mm. longa.

Rhus chirindensis, E. G. Baker.

β. *Rami glabri*. Foliola apice acuminata. Calycis segmenta vix 0·5 mm. longa.

Rhus lævigata, Linn.

γ. *Ramuli pilosi*. Foliola apice acuta vel acuminata. Calycis segmenta 1·0 mm. longa.

Rhus glutinosa, Hochst.

RHUS SONDERI, Engler in *DC. Monogr. Phan.* iv. 435.

Near Chirinda, alt. 3500 ft. ; in fl. & fr. Oct. ; n. 174. Chipete Forest Patch, alt. 3800 ft. ; in fl. Oct. ; n. 174 a. A shrub with small greenish-yellow flowers. Also perhaps specimens from Chipetzana source at 4000 ft.

Var. *PILOSA*, Engler ; Melssetter, alt. 6000 ft. ; n. 6165.

Distrib. Natal, Transvaal, Caffraria.

ODINA EDULIS, Sond. in *Harv. & Sond. Fl. Cap.* i. 503.

Near Chirinda, 3800 ft. ; in fl. and fr. Oct. ; n. 441. Madanda Forest about 400 ft. ; in fr. Dec. ; n. 1034. A somewhat large tree, growing both in dense rubber forests and in more open ant-heap bush at Ancate.

Distrib. South Africa, Natal.

O. STUHLMANNI, Engl. *Pflanzenwelt Ost-Afr.* C. 244.

Madanda Forest, 400 ft. ; in fr. Dec. ; n. 1754. Sabi River, 1000 ft. ; in fl. Nov. ; n. 1205.

Distrib. Mozambique District.

SCLEROCARYA CAFFRA, Sond. in *Linnaea*, xxiii. (1850) 26.

Sabi River ; in fr. Nov. ; n. 1210. Chindao name, "Munganu." A large tree with large edible fruits.

Distrib. Natal, Transvaal, Mozambique District, Madagascar.

CONNARACEÆ.

AGELÆA NITIDA, Solander, ex *Planch. in Linnaea*, xxiii. (1850) 437.

Maruma Forest Patch, 3500 ft. ; in fl. Oct. ; n. 640. Chirinda, 3800 ft. ; in fl. Oct., in fr. Feb. ; nn. 228 & 228 a. A large woody vine with white, sweet-scented flowers.

Distrib. Upper Guinea.

CNESTIS NATALENSIS, *Planch. & Sond. ex Harv. & Sond. Fl. Cap.* i. 528.

Maruma Forest Patch, 3700 ft. ; in fl. Oct., n. 682 ; in fr. Sept., n. 1348. Near Chirinda, 3700-4000 ft. ; in fl. Dec. ; n. 166. Chindao name, "Musunzi." A large woody climber occurring in Chirinda (outskirts), Chipete and the glens and patches of trees in the neighbourhood, also the Maruma Forest Patch.

Distrib. Natal.

LEGUMINOSÆ.

The following commoner species are in the collection:—*Argyrolobium Andrewsianum*, Steud., from Chirinda, Kurumadzi, and Melsetter; *Sesbania punctata*, DC., from Chibabava; *Zornia tetraphylla*, Michx., from Chirinda; *Desmodium latifolium*, DC., from Chirinda; *D. gangeticum*, DC., from Madanda Forest; *D. Scalpe*, DC., from Chirinda; *Pseudarthria Hookeri*, Wight & Arn., from Chirinda, &c.; *Alysicarpus rugosus*, DC., from Umtefu, Lower Buzi; *Abrus precatorius*, Linn., from Beira; *Glycine javanica*, Linn., from Chirinda; *Dumasia villosa*, DC., from Chipete Forest; *Canavalia obtusifolia*, Linn., from Beira; *C. ensiformis*, DC., from Chirinda; *Eriosema cajanooides*, Hook. fil., from Chirinda and Chikore Hills; *Swartzia madagascariensis*, Desv., from S. Umtali and Umvumvumvu; *Cassia occidentalis*, Linn., from Chibabava; *C. mimosoides*, Linn., from Chirinda and Lower Umswirizwi River; *Tamarindus indicus*, Linn., from Chibabava; *Burkea africana*, Benth., from Chirinda; *Mimosa asperata*, Linn., from Chibabava.

LOTONONIS ARISTATA, Schinz, var. GAZENSIS, E. G. Baker, var. nov.

Rami teretes erecti. Folia quam in typo minora, anguste oblonga vel anguste lanceolata, basi attenuata, apice obtusiuscula et longe aristata. Flores in racemos plurifloros dispositi vel solitarii.

Hab. Chimanimani Mts., 7000 ft.; in fl. Sept.; n. 1418. S.E. Rhodesia, Melsetter, 6000 ft.; in fl. Oct.; n. 6196.

The type was described by Dr. Schinz in Bull. Herb. Boiss. vii. (1899) 32, from Houtbosch and Barberton in the Transvaal.

Folia 10–15 mm. longa, 2·0–3·5 mm. lata.

In Medley Wood's List of the Flora of Natal, 17 species of *Lotononis* are stated to occur in that Colony.

CROTALARIA (Oliganthæ) GAZENSIS, G. E. Baker, sp. nov.

Frutex ramis ramulisque teretibus tenuiter pubescentibus; foliis medio-criter petiolatis trifoliolatis, foliolis oblanceolatis vel oblongo-oblanceolatis apice rotundatis et mucronatis basi longe cuneatis junioribus utrinque pubescentibus adultioribus demum superne glabris subtus strigoso-pubescentibus costa centrali subtus conspicua superne impressa; stipulis minimis quam petiolis multoties brevioribus; floribus apicem versus ramulorum dispositis paucis; pedicellis tenuibus pubescentibus bracteolis 2 minimis suffultis; calycis segmentis lanceolatis quam tubo longioribus; floribus (sec. cl. detectorem) luteis; vexillo quam calyce longiore basi unguiculato; alis oblongis basi unguiculatis; carina dorso rotundata apice acuta; ovario basi stipitato multiovulato; legumine extus dense pilis fulvis obtecto quam calyce 3–4-plo longiore.

Hab. Nyahodi River at about 5000 ft.; in fl. & fr. April; n. 1493.

“A small shrub with yellow flowers.”

Foliola intermedia usque ad 22 mm. longa; lateralia 10 15 mm. longa. Calyx 7–8 mm. longus, segmenta \pm 5.0 mm. longa. Vexillum \pm 1 cm. longum. Alæ \pm 1.0 cm. longæ. Carina \pm 1 cm. longa. Legumen 20–22 mm. longum.

Differs from *C. Forbesii*, Baker, by the carina being not long-rostrate at the apex.

The distinguishing characteristics of this species are the trifoliolate leaves with oblanceolate leaflets, the comparatively few flowers, the yellow petals, the keel which is about 1 cm. long and dorsally rounded with a short acute apex, and the many-seeded oblong pods.

CROTALARIA ELATA, Welw. ex Baker, in Oliver, *Fl. Trop. Afr.* ii. 29.

Near Chirinda, 3500 ft.; in fl. April; n. 373. A fair-sized shrub with yellow flowers.

Distrib. Angola, Nyasaland.

C. RECTA, Steudel, ex A. Rich. *Tent. Fl. Abyss.* i. 152.

Near Chirinda, 3800 ft.; in fl. Nov.; n. 365.

Distrib. Nile Land, Mozambique District.

C. NATALITIA, Meissn. in Hook. *Lond. Journ. Bot.* ii. (1843) 67.

Chipete Forest Patch, 3800 ft.; in fl. May; n. 478. Nyahodi River, 5000 ft.; in fl. April; n. 1494. A tall herb with yellow flowers.

C. kilimandscharica, Taubert, is synonymous with this species.

Distrib. Natal, Nyasaland, Lower Guinea, German East Africa.

C. MOSSAMBICENSIS, Klotzsch in Peters *Mossamb. Bot.* i. 60, t. 10.

Chirinda outskirts, 3700–4000 ft.; in fl. & fr. May; n. 479. A tall herb; flowers yellow with brown stripes. This is the same as Hildebrandt n. 1392, from the Island of Mombassa. Closely allied plants with longer bracts are n. 1498 from Inyamadzi Valley, 2500 ft., and n. 397 from Chirinda, 3800 ft. A small bush with yellow flowers.

Distrib. Mozambique District.

PSORALEA FOLIOSA, Oliver in *Journ. Linn. Soc., Bot.* xxi. (1885) 399; var. *GAZENSIS*, E. G. Baker, var. nov.

Caulis erectus, virgatus, cinereo- vel fusco-tomentellus, ramosus; foliis trifoliolatis foliolis oblanceolatis vel oblongo-obovatis intermediis quam iis typi majoribus; calycis lobo antico longiore et angustiore.

Melsetter District, 6000 ft.; in fl. Sept.; n. 1417.

A small shrub with purple-tinted flowers, common in Northern Melsetter.

Caulis in specimine nostro saltem 33 cm. longus. Foliola 2·0–3·5 cm. longa. Petioli 1·0–2·0 mm. longi. Calycis tubus \pm 3·0 mm. longus, lobi antici \pm 5 mm. longi. Vexillum 8·0–9·0 mm. longum. Alæ \pm 8 mm. longæ. Carina \pm 7·5 mm. longa. Semina \pm 3·5 mm. longa.

The type comes from the Leikipia Plateau, British East Africa.

INDIGOFERA PROCERA, *Schum. & Thonn. Beskr. Guin. Pl.* 365.

Chipetzana, 3000 ft. ; in fr. April ; n. 1485.

Distrib. Upper Guinea, Lower Guinea, Nyasaland.

I. HILARIS, *Ecklon & Zeyher, Enum.* 241.

Melsetter, 5000–6000 ft. ; in fl. Oct. ; n. 6187. Northern Melsetter, 5000–6000 ft. ; in fl. Oct. ; n. 6189. Near Chirinda, 3500 ft. ; in fl. May ; n. 477.

I. Wentzeliana, Harms, is either identical with this or very closely allied to it. *I. Nyassæ*, Harms, is also closely allied.

Distrib. South Africa, Natal, Transvaal, Nyasaland.

I. HEDYANTHA, *Ecklon & Zeyher, Enum.* 243.

Mt. Pene, 7000 ft. ; in fl. Sept. ; n. 2094. *I. Goetzei*, Harms, is closely allied to it.

Distrib. South Africa, mountains of Eastern Frontier, Transvaal, Nyasaland.

I. ENDECAPHYLLA, *Jacq. Ic. Rar.* t. 570.

Near Chirinda, 3800 ft. ; in fr. April, n. 371 ; in fr. May, n. 480.

Distrib. Widely distributed.

I. sangana, Harms, is closely allied to this species.

I. EMARGINELLA, *Steudel, ex Rich. Tent. Fl. Abyss.* i. 184.

Chikore Hills, 3500 ft. ; in fl. March ; n. 1471.

Distrib. Nile Land.

I. ARRECTA, *Hochst. ex Rich. Tent. Fl. Abyss.* i. 184.

Chikore Hills, 3500 ft. ; in fl. March ; n. 266. Chindao name, "Mudotasikwi."

Very fragmentary, more material necessary to confirm this.

Distrib. Widely distributed in Africa.

I. CECILI, *N. E. Brown in Kew Bull.* 1906, 101.

Near Chirinda, 3800 ft. ; in fl. & fr. Nov., n. 262 ; in fl. & fr. April, n. 263. A herb with pink flowers. Closely allied plants are n. 267 from Chikore Hills, and n. 1459 from Melsetter, 6000 ft.

Distrib. Inyanga Mts.

INDIGOFERA LYALLII, *Baker in Journ. Linn. Soc., Bot.* xx. (1883) 128.
Chimanimani Mts. at 7000 ft. ; in fr. Sept. ; n. 1458. A large shrub in
craggs.

Distrib. Madagascar, Nyasaland.

Other species of *Indigofera*, but too fragmentary for identification, are
n. 1460 from Northern Melsetter, and n. 1486 from Chipetzana River at
3000 ft.

TEPHROSIA LONGIPES, *Meissner in Hook. Lond. Journ. Bot.* ii. (1843) 87.

Beira open woods, 50 ft. ; in fl. Dec. ; n. 1445.

Distrib. South Africa, Natal.

T. GRANDIFLORA, *Persoon, Syn.* ii. 329.

Chirinda, 3800 ft. ; in fl. & fr. April ; n. 369. A herb growing in short grass.

Distrib. South Africa, Natal.

T. PURPUREA, *Persoon, Syn.* ii. 329.

Chibabava, Lower Buzi, 400 ft. ; in fr. Nov. ; n. 1444.

Distrib. Widely distributed.

T. NYASÆ, *Baker fil. in Trans. Linn. Soc. ser. 2, Bot.* iv. (1894) 9.

Chimanimani Mts. at 7000 ft. ; in fl. Sept. ; n. 1464. A large shrub in
the crags.

Distrib. Nyasaland.

MUNDULEA SUBEROSA, *Benth. in Miq. Pl. Jungh.* 248.

Beira open woods ; in fr. Dec. ; n. 1423. Sabi River, 1000 ft. ; in fl. ;
n. 1453.

Distrib. Widely distributed in Africa. Also in India.

MILLETIA STUHLMANNII, *Taub. in Engler, Pflanzenw. Ost-Afr. C.*
(1895) 212.

Arbor parva. Cortex externus, sæpe papyraceus, aurantiacus. Ramuli et
foliola primo pubescentes, mox glaberrimi. Alabastra lenticularia. Folia
20–30 cm. ; foliola 7–9, ovali-obcordata, 9–10 cm. longa, chartacea, subtus
pallida, basi obtusa vel rotundata, venis 7–10-jugis regularibus rectis,
ascendentibus subtus prominentibus, stipellis magnis petiolulos sæpe æquan-
tibus. Panicula terminalis, angusta, simplex, 20–35 cm. longa, rhachi
ramisque superne pubescentibus. Flores in ramis 3–4 cm. longis secus
rhachin laxè dispositis, ebracteolatis, singulatim racemose orti. Calyx
campanulatus, pubescens, 12 mm. longus, lobis ovatis tandem reflexis,
supremo 5 mm. longo emarginato, aliis 3 paullo minoribus, pedicello æqui-
longus ; corolla 25 mm. longa, glabra, cærulea vel dilute purpurea ; vexillum
lingulatum, ovatum, basi cordatum, auriculatum, alæ et carina æquilongæ ;
stamina diadelpia ; ovarium stipitatum, sericeum, 4–5-ovulatum. Legumen
in specimine nostro deest.

Hab. Zona River, Jihu, 2000 ft. ; fl. Nov. ; n. 146. Lower Zona ; fl. Nov. ; n. 145. Kurumadzi, Jihu ; fl. Nov. ; n. 1396. Chibabava, Lower Buzi ; 400 ft. ; n. 1428. A tree with birch-like papery bark and purplish-blue flowers.

Mr. Dunn, to whom this plant was referred, was at first inclined to regard it as an undescribed species, but subsequently, after having seen material from the Berlin Herbarium, he considers it to be *M. Stuhlmannii*, and originally described from Mozambique. We have, however, included Mr. Dunn's description as the original account is somewhat meagre.

Schefflerodendron gazense, *E. G. Baker*, sp. nov. (Pl. 2. figs. 6-7.)

Arbor altissima (sec. cl. detectorem), foliis petiolatis imparipinnatis glabris vel subglabris eglandulosis, petiolo communi tenui, foliolis 5-7 brevissime petiolulatis alternis oblongis vel oblongo-oblaneeolatis vel oblongo-ovatis apice acuminatis basi cuneatis vel rotundatis ; racemis multifloris laxis solitariis, rhachi ferrugineo-tomentosa angulata, bracteis brevibus squamiformibus, pedicellis tenuibus bracteis 3-5-plo longioribus, bracteolis ad basin calycis brevibus quam tubo calycis 3-3-plo brevioribus ; calyce ferrugineo-tomentoso dentibus 5 ; corolla calycem excedente, vexillo extus demum glabro carinæ subæquilongo, alis carinæ subæquilongis, carina basin unguiculata naviculariformi, ovario pauciovulato breviter stipitato præcipue basin versus strigoso-piloso lineari, stylo glabro ; legumine sublignoso glabro circiter 2-spermo.

Hab. Chirinda Forest, alt. 3700-4000 ft. ; n. 13. In fl. Oct. 1905.

Chindao name, "Mushamba." One of the largest forest trees, with ochraceous yellow bark and very hard, heavy, whitish timber. Flowers white, the centre of the vexillum green. Buds strongly tinged with pink. Beans probably poisonous.

Petiolus communis 5-7 cm. longus. Petioluli \pm 3 mm. longi. Foliola (antica) 60-75 mm. longa, 20-30 mm. lata, (postica) 45-55 mm. longa, 20-25 mm. lata. Racemi 6-9 cm. longi. Pedicelli 6-8 mm. longi. Bracteæ ad basin pedicelli 2.5-3.0 mm. longæ. Bracteolæ ad basin calycis \pm 2.5 mm. longæ. Calyx totus 6-7 mm. longus, tubus \pm 5 mm. longus, dentes \pm 2 mm. longi. Vexillum \pm 16-18 mm. longum. Alæ \pm 17-18 mm. longæ. Carina \pm 16-17 mm. longa.

This plant is certainly congeneric with Scheffler no. 6, from Kibwesi, distributed from Berlin as *Schefflerodendron usambarense*, Harms. It differs from Dr. Harms's description of *Schefflerodendron* in being eglandular and in the ovary being shortly and broadly stipitate, but the leaflets are alternate and the pod is \pm 2-seeded and dehisces. *Dalbergia brevicaudata*, Vatke, is also an ally, but the leaflets are broader.

In certain genera of Leguminosæ, as, for instance, *Crotalaria*, the ovary is sometimes sessile, sometimes more or less stipitate.

ÆSCHYNOMENE (*Ochopodium*) *GAZENSIS*, *E. G. Baker*, sp. nov.

Frutex ramosus, superne glandulosus; stipulis lanceolatis striatis basifixis cuspidatis petiolum 3-4-plo superantibus; foliis brevissime petiolatis, foliolis sæpissime 8-11-jugis parviusculis lineari-oblongis apice mucronatis glabris; racemis axillaribus laxis paucifloris, pedicellis gracilibus setuloso-glandulosis, floribus (sec. cl. detectorem) flavis mediocribus; bracteis parvis, prophyllis 2 ad pedicelli apicem insertis glabris oblongis acutis; calycis labio superiore glabro quam inferiore paullo brevior; vexillo calycem fere 2-plo superante ad basin unguiculato, alis oblongis basi unguiculatis, carina alis subæquante apice obtusa basi unguiculata; ovario biovulato glabro præter marginem posteriorem ciliato, stylo glabro tenui; legumine stipitato sæpissime bi-articulato rarius uniarticulato suturis superioribus incrassatis.

Hab. Melsetter District, 6000 ft., n. 1457. A shrub with yellow flowers. In flower Sept. 23. Nos. 252 & 1501 are allied plants.

Foliola \pm 3.0 mm. longa, vix 1 mm. lata. Calycis labium superum \pm 5 mm. longum, labium inferum \pm 6 mm. longum. Vexillum \pm 9 mm. longum. Alæ \pm 10 mm. longæ. Carina \pm 10 mm. longa.

Closely allied to *Æ. Ruppellii*, Baker; it differs from it by the shorter racemes, fewer flowers, and more or less tortuous and setulose-glandular pedicels; from *Æ. mimosifolia*, Vatke, it differs by the larger leaflets and larger flowers.

ÆSCHYNOMENE *NODULOSA*, *E. G. Baker*, nov. comb.

Smithia nodulosa, Baker in Oliver, Fl. Trop. Afr. ii. 153 (1871).

Æschynomene shirensis, Taubert, Pflanzenwelt Ost-Afr. C. 215 (1895).

Melsetter, Rhodesia, 6000 ft.; in fl. Sept.; n. 619. A shrub with orange-yellow flowers.

Distrib. Nyasaland.

Æ. GRANDISTIPULATA, *Harms in Fedde Rep. Sp. Nov.* viii. (1910) 355.

Chimanimani Mts., 7000 ft., n. 1499, and *W. Johnston*, n. 232.

Distrib. Chimanimani Mts.

A shrubby tree, 3 m. high, with very succulent foliage. Flowers orange with purple stripes.

SMITHIA (*Kotschya*) *THYMODORA*, *E. G. Baker*, sp. nov.

Frutex ramosus, præsertim superne hispido-viscosus (sec. cl. detectorem) odorem thymi spirans; stipulis oblique lanceolato-setaceis petiolo brevioribus; foliis \pm recurvatis, rhachi subaculeata, foliis plerumque 12-15-jugis oblique lineari-oblongis subacutis costa valde excentrica margine ciliata; racemis axillaribus subcapitatis breviter pedunculatis undique aureo-hispidis; bracteis ovatis acutis vel subacuminatis, prophyllis 2 ad apicem pedicelli insertis lanceolatis; calycis labio superiore usque ad $\frac{1}{4}$ partito, labio inferiore ad vel ultra medium trifido omnibus subcoriaceis hispidis; corolla (sec. cl. detectorem) flava calycem paullo superante, vexillo suborbiculari basi ungui-

culato ; alis anguste oblongis carinam subæquilongis basi unguiculatis ; carina apice obtusa basi unguiculata naviculariformi quam vexillo paullo brevior ; ovario distincte stipitato pilis albidis tecto, stylo tenui gracili usque ad medium pilis \pm tecto apice glabro ; legumine ignoto.

Hab. Melsetter District, 6000 ft. ; n. 655. A shrub with sticky thyme-scented foliage and yellow flowers.

Foliola 4.0–5.0 mm. longa, 1.0–1.5 mm. lata. Prophylla 3.0–3.5 mm. longa. Calycis labium superum \pm 11 mm. longum, labium inferum \pm 10 mm. longum. Vexillum \pm 14 mm. longum. Alæ 13 mm. longæ. Carina 12–13 mm. longa.

Allied to *S. Harmsiana*, De Wild.; it differs from it by the smaller leaflets and more numerous flowers. From *S. uguenensis*, Taub., it differs by the shorter leaflets.

SMITHIA STRIGOSA, *Benth. in Miq. Pl. Jungh.* 211.

Near Chirinda, 3800 ft. ; in fl. April ; n. 264. Chipetzana River, 3000 ft. ; in fl. April ; n. 1483. Mt. Pene, 7000 ft. ; in fl. Oct. ; n. 6180.

Distrib. Benguella, Nyasaland, Congo Region ; also Madagascar.

ERYTHRINA HUMEANA, *Spreng. Syst.* iii. 243.

Near Chirinda, 3500 ft. ; in fr. June ; n. 603. Mt. Maruma, 3500 ft. ; in fl. Sept. ; n. 1470. A tree up to 80 ft. in height, thorny. Chindao name, "Murungu."

Distrib. Mozambique District, South Africa.

E. TOMENTOSA, *R. Br. in Salt Abyss. App.* 65 (nomen) ; *A. Rich. Tent. Fl. Abyss.* i. 213.

Melsetter District ; in fl. & young fr., Sept., n. 154 ; in fl. Oct., n. 668. A small tree with rough furrowed bark. A spreading head of leathery leaves, thorns and red flowers, deciduous. Chindao name, "Gombati" ; Dutch, "Kafir Boom."

Distrib. Widely distributed in Africa.

MUCUNA CORIACEA, *Baker in Oliver, Fl. Trop. Afr.* ii. 187.

Near Chirinda, 3500 ft. ; in fl. May ; n. 450. Chipetzana River, 3000 ft. ; in fl. April ; n. 1487. Nyahodi River, 5000 ft. ; in fl. April ; n. 1488. Chindao name, "Oriri." "Brant-bontje" of the South African Dutch. "Buffalo-bean" of local colonists.

Distrib. Mozambique District.

VIGNA HIRTA, *Hook. Ic. Pl.* t. 637.

Near Chirinda, 3800 ft. ; in fl. April ; n. 363. Umvumvumu River at 4000 ft. ; in fl. Oct. ; n. 6191.

Distrib. Transvaal.

VIGNA LUTEOLA, *Benth. in Mart. Fl. Bras.* xv. i. 194, t. 50. f. 2.

Chimanimani Mts., 7000 ft. ; in fl. Sept. ; n. 1467. Mt. Pene, 7000 ft. ; in fl. Oct. ; n. 6192.

Distrib. Widely distributed.

SPHENOSTYLIS MARGINATA, *E. Meyer, Com. Pl. Afr. Austr.* 148.

Chirinda, 3800 ft. ; in fl. April ; n. 364. Southern Melsetter, 3500 ft. ; in fl. Oct. ; n. 6624.

Dolichos erectus, Bak. fil. in *Trans. Linn. Soc. ser. II. iii.* (1894) 10, from Nyasaland, is perhaps indistinguishable from the above.

Distrib. South Africa, Nyasaland, Rhodesia.

DOLICHOS LUPINIFLORUS, *N. E. Brown in Kew Bull.* 1906, 102.

Near Chirinda, 3500 ft. ; in fl. Nov. ; n. 1045. A tall herb or shrublet with bright purple flowers and swollen roots. "Bully beef plant," in allusion to the lean and fat appearance of the cut roots.

Distrib. The type was collected by Mrs. Evelyn Cecil, n. 23, between Beira and Massi Kessi.

D. BRACHYPUS, *Harms in Engler Jahrb.* xxvi. (1899) 323.

Jihu, near Upper Chinyika ; in fl. Nov. ; n. 368. A large shrub with purple flowers common in parts of Jihu. Also probably on the Lower Umswirizwi, 1000 ft. ; in fr. Nov. ; n. 1046. A small shrub with bluish-purple flowers and very large tuberous roots, which are pounded up and thrown into ponds to kill fish. Chindao name, "Idema."

Distrib. Koomati Poort. The above specimens differ from type in having longer petioles.

RHYNCHOSIA CYANOSPERMA, *Benth. ex Baker in Fl. Trop. Afr.* ii. 218.

Chikore Hills, 3500 ft. ; in fl. Feb. ; n. 226.

Distrib. Mozambique District. Also India.

R. ORTHODANUM, *Benth. ex Harv. & Sond. Fl. Cap.* ii. 257.

Near Chipete Forest Patch, 3800 ft. ; in fl. Oct. ; n. 1500. A small shrub with yellow flowers.

Distrib. South Africa.

R. CLIVORUM, *S. Moore in Journ. Bot.* xvi. (1878) 131.

Chimanimani Mts., 7000 ft. ; in fl. Sept. ; n. 1461. Mt. Pene, 7000 ft ; n. 6184.

A somewhat large shrub common in forest outskirts. *R. pycnantha*, Harms, is apparently synonymous. *Flemingia macrocalyx*, Bak. fil., is allied to it, but has smaller flowers and a subinflated pod.

Distrib. Transvaal, Nyasaland.

RYNCHOSIA FLAVISSIMA, *Hochst. ex Baker in Oliver, Fl. Trop. Afr.* ii. 219.

Chirinda outskirts, 3700–4000 ft.; in fl. Oct.; n. 448.

Distrib. Widely distributed in Tropical Africa.

R. MONOPHYLLA, *Schlechter in Journ. Bot.* xxxv. (1897) 297, non *Torrey & Gray*.

Chirinda, 3800 ft.; in fl. Feb.; n. 390, also n. 451. Chirinda Forest, 3700–4000 ft.; leaves only; n. 1162. Melsetter, 6000 ft.; n. 6190. Mt. Pene, 6500–7000 ft.; in fl. Sept.; n. 1466. A trailing plant with yellow flowers.

Distrib. Transvaal.

ERIOSEMA SHIRENSE, *Bak. fl. in Trans. Linn. Soc. ser. 2, Bot.* iv. (1894) 11.

Lusitu Hills, 5000 ft.; in fl. April; n. 1497.

Distrib. Nyasaland.

E. MONTANUM, *Bak. fl. in Journ. Bot.* xxxiii. (1895) 142.

Near Chirinda, 3800 ft.; in fl. April; n. 361. Not the typical form of this species.

Distrib. German East Africa, Nyasaland.

E. ELLIPTICUM, *Welw. ex Baker in Oliver, Fl. Trop. Afr.* ii. 227.

Melsetter, 6000 ft.; in fl. Sept.; n. 624.

I am unable to separate from this *Millettia monophylla*, Harms, in *Engler, Jahrb.* xxvi. 270.

Distrib. Angola, Nyasaland.

FLEMINGIA RHODOCARPA, *Baker in Oliver, Fl. Trop. Afr.* ii. 231.

Chirinda outskirts, 3700–4000 ft.; in fl. July; n. 1048. A shrub with pale greenish flowers.

Distrib. Mozambique Distr., Nyasaland, Rhodesia, Natal, Transvaal.

PTEROCARPUS ANGOLENSIS, *DC. Prodr.* ii. 419.

Open woods, Chirinda, 3300 ft.; in fl. Oct.; n. 41. Nyahodi River, 5000 ft.; n. 1439. A small to medium-sized tree of open woods. Chindao name, "Muhwangazi."

Distrib. Angola, Rhodesia.

P. SERICEUS, *Benth. in Journ. Linn. Soc., Bot.* iv. *Suppl.* (1860) 75.

Chirinda, 3500 ft.; in fl. Jan.; n. 28. A medium-sized tree with bright yellow flowers and rough bark. Chindao name, "Mumbhungu"; local Dutch, "Blink-blaarboom."

Distrib. Rhodesia.

PTEROCARPUS ABYSSINICUS, *Hochst. ex Rich. Tent. Fl. Abyss. i. 233.*

Boka, Lower Buzi, 400 ft. ; in fl. Dec. ; n. 1432. A small tree on limestone.

Distrib. Nile Land.

LONCHOCARPUS VIOLACEUS, *Oliver in Trans. Linn. Soc. xxix. (1872) 62.*

Capassa violacea, Klotzsch in Peters Mossamb. Bot. 28. t. v.

Chibabava, Lower Buzi, 400 ft. ; in fr. Dec. ; n. 592. A small tree of the open woods. Sabi River at about 1000 ft. ; in young fr. Nov. ; n. 1451. A fair-sized tree with white or bluish-white flowers. Chindao name, "Umpanda." Sabi River, at about 1000 ft., n. 1397, may also belong here.

Dr. Harms places it in the genus *Derris* (conf. Engler, Jahrb. xxxiii. 174).

Distrib. Mozambique District.

BOLUSANTHUS SPECIOSUS, *Harms in Fedde, Rep. Nov. Sp. ii. 15 (1906).*

Lonchocarpus speciosus, Bolus in Journ. Linn. Soc. xxv. (1887) 161.

Umvumvumu River, 4000 ft. ; in fl. Oct. ; n. 6167. A small to medium-sized tree with masses of handsome Wistaria-like flowers.

Distrib. Rhodesia, Delagoa Bay.

DALBERGIA SWYNNERTONII, *E. G. Baker, sp. nov.*

Frutex vel arbuscula, ramulis striatulis ; foliis petiolatis imparipinnatis sæpe 5-jugis, foliolis ellipticis vel ovato-oblongis suboppositis vel alternis junioribus rufo- vel fusco-subtomentosis, costa superne impressa, nervis lateralibus tenuibus subtus prominulis erecto-patentibus, foliolorum petiolo brevi rufo- vel ferrugineo-pubescente quam lamina multoties brevioris rhachi rufo- vel ferrugineo-pubescente ; paniculis axillaribus quam foliis brevioribus splurivel multifloris pedunculis pedicellisque ferrugineo- vel fusco-subtomentosis ; bracteolis 2 oppositis apicem pedicellorum versus dispositis angustis ; calyce extus ferrugineo-pubescente dentibus quam tubo brevioribus 2 superioribus quam aliis paullo majoribus triangularibus ; vexillo apice emarginato carinam superante ; alis oblongis basi graciliter et tenuiter unguiculatis ; carina basi unguiculata ; staminibus in 2 phalanges dispositis ; ovario distincte stipitato pubescente, stylo glabro ; legumine juniore rufo vel ferrugineo sericeo-tomentoso plano oblongo.

Hab. Nyahodi River at about 4000 ft. ; in fl. Sept. ; no. 1316. Inyamadzi Valley, 2700 ft. ; in fl. Oct. ; no. 1317.

A large shrub or small tree with white sweet-scented flowers, growing chiefly on schist, said to be infested by edible saturniid caterpillars at the time of the ripening of the seeds. Chindao name, "Mupezana."

Folia 8.0-12.0 cm. longa. Foliola 3.5-4.5 cm. longa, 13-16 mm. lata, foliolorum petioluli \pm 3 mm. longi. Calyx \pm 7 mm. longus. Vexillum \pm 1 cm. longum. Alæ cum unguibus \pm 8 mm. longæ. Carina \pm 8 mm. longa.

Differs from *D. Dekindtiana*, Harms, by the smaller leaflets and narrower wings of the flower.

DALBERGIA MELANOXYLON, *Guill. & Perr. Fl. Seneg. Tent.* i. 227.

Lower Umswirizwi River, 1000 ft.; in fl. Oct.; n. 177. A large shrub with white flowers. Sabi River at about 1000 ft.; in fl. Nov.; n. 2093. Chibabava, Lower Buzi, 400 ft. Chindao name, "Murgwiti."

Distrib. Widely distributed.

D. LACTEA, *Vatke in Oest. Bot. Zeit.* xxiv. (1879) 251.

Mt. Maruma, 3500 ft.; in fl. Oct.; n. 1469. Lusitu River, 3000 ft.; in fl. Sept.; n. 1468.

Distrib. German East Africa, Nyasaland.

There is another species of *Dalbergia*, n. 1201 from the Sabi River. It may be *D. arbutifolia*, Baker, but flowers are required for identification.

CALPURNIA LASIOGYNE, *E. Meyer, Com. Pl. Afr. Austr.* 3.

Chirinda outskirts, 3700–4000 ft.; in fl. May; n. 79. A small tree with bright yellow flowers and somewhat rough bark.

Distrib. South Africa, Angola, Nile Land, Mozambique District.

SOPHORA? ZAMBESIANA, *Baker in Oliver, Fl. Trop. Afr.* ii. 253.

Sabi River, at about 1000 ft.; in fl. Nov.; n. 1452. A large tree with white flowers. Chindao name, "Mutsha."

Distrib. Mozambique District.

ORMOSIA ANGOLENSIS, *Baker in Oliver, Fl. Trop. Afr.* ii. 255.

Jihu-Zona-Kurumadzi Watershed, 2300 ft.; in fl. & fr. Nov.; n. 29. Kurumadzi Valley, 2000 ft.; in fl. Nov.; n. 1338. Chikambogé Valley, 3000 ft.; in fr. Sept.; n. 1339. Chikore Hills, 3500 ft.; in fr. March; n. 1473. Chindao name, "Chianga" or "Chihwanga." Harms proposes the genus *Afrormosia* for this plant.

Distrib. Angola.

PELTOPHORUM AFRICANUM, *Sond. in Linnaea*, xxiii. (1850) 35.

Inyamadzi Valley, 3300 ft.; in fl. Dec.; n. 156. Near Chirinda, 3500 ft.; in fr. Jan.; n. 1020. Muchukwana, Lower Buzi, 100 ft.; in fl. Dec.; n. 1022. A large broad-crowned shrub with yellow flowers.

Distrib. South Africa, Rhodesia, Angola, Kunene, Zambesi Region.

PTEROLOBIUM LACERANS, *R. Br. in Salt Abyss., App.* 64.

North Melssetter, 2000–6000 ft.; in fr. April; n. 1044. Chindao name, "Igado."

Distrib. Widely distributed.

CASSIA ABBREVIATA, *Oliver in Fl. Trop. Afr.* ii. 271.
Chinyika River, Jihu, 2000 ft.; in fl. Nov.; n. 147. Also probably
Chikore Hills, 3500 ft.; in fl. Nov.; n. 1472.

Distrib. Mozambique District.

C. PETERSIANA, *Bolle in Peters Mossamb. Bot.* 13.
Melsetter District, 3700 ft.; in fl. April; n. 199; 6000 ft.; in fl. Sept.;
n. 673. Umvumvumvu Mts., 4000 ft.; in fl. April; n. 1155. Chindao
name, "Murembarembé."

Distrib. Nile Land, Mozambique Distr., Nyasaland. Also in Madagascar.

C. DIDYMOBOTRYA, *Fres. in Flora*, xxii. (1839) 53.
Inyamadzi Valley, 2500 ft.; in fl. Sept.; n. 1434. Near Chirinda,
3500 ft.; in fl. June; n. 1419. A tall soft-wooded shrub, with yellow flowers
greatly appreciated by small brown ants.

Distrib. Widely distributed in Tropical Africa.

BAUHINIA FASSOGLENSIS, *Kotschy, ex Schweinf. Reliq. Kotsch.* (1868) 14,
t. 12.

Foot of Mt. Singuno, 1200 ft.; in fl. Nov.; n. 1252. A trailing shrub
with light gamboge flowers. Noted also in the Madanda Forest at Ancate.

Distrib. Widely distributed.

B. PETERSIANA, *Bolle in Peters Mossamb. Bot.* 24.
Umhlonhlo, Lower Buzi, 100 ft.; in fl. Jan.; n. 1253.
Distrib. Mozambique District.

B. GALPINI, *N. E. Brown in Hook. Ic. Plant.* (1891) t. 1994.
Open woods near Chirinda, 3500 ft.; in fl. Dec.; n. 192. Umtefu, Lower
Buzi, 1000 ft.; in bud Jan.; n. 1251. Kurumadzi R., Jihu, 2000 ft.; in fl.
Nov.; n. 1249. A large trailing shrub with red flowers. Chindao name,
"Chigwedere."

Distrib. Transvaal, Beira.

B. RETICULATA, *DC. Leg. Mem.* xiii. 484.
Near Chirinda, 3600 ft.; in bud, March; n. 165. Zinzumbo Hills,
1500 ft.; in bud, Jan.; n. 1255. Chindao name, "Umsetuzi."
Distrib. Widely distributed.

PAHUDIA QUANGENSIS, *Prairie in Sci. Mem. Med. Off. Ind.* xii. 16.
Mt. Singuno, 1400 ft.; in fl. Oct.; n. 57. Lusitu River at about
2500 ft.; in bud, Sept.; n. 1447. Chindao name, "Musokosa."
Distrib. Widely distributed.

BRACHYSTEGLIA GLOBIFLORA, *Hook. Ic. Plant.* sub t. 1359.

Common throughout Melssetter; in fl. March; n. 164. Near Chirinda, 3800 ft.; in fl. Jan.; n. 6586. Native name, "Mutondo." A small to medium-sized tree.

Distrib. Nyasaland, Rhodesia.

B. BRAGAEI, *Harms in Engler Jahrb.* xxx. (1901) 82.

Melssetter District, 5000 ft.; in fl. Sept.; n. 657. Native name, "Mutsatsa." A small to medium-sized tree with handsome young foliage.

Distrib. Beira.

B. SPICÆFORMIS, *Benth. in Trans. Linn. Soc.* xxv. (1866) 312.

Inyamadzi River, 2000 ft.; in fl. Sept.; n. 1024.

Distrib. Lower Guinea, Mozambique District.

Mr. Sim (Forest Flora Portug. E. Afr.) describes two new species, *B. oblonga* and *B. pectinata*. The following short clavis indicates the difference between *B. spicæformis* and *B. Bragaei*. The genus *Brachystegia* has not been recorded for Natal.

A. Folia sæpissime 4-6-juga. Bracteolæ obovatæ. Sepala 2. Tubus stamineus usque ad 1.5-2.0 mm. longus.

B. spicæformis, Benth.

B. Folia sæpissime 5-7-juga. Bracteolæ oblongo-obovatæ. Sepalum unicum tantum evolutum, minutum. Tubus stamineus usque ad 1.0 mm. longus.

B. Bragaei, Harms.

COPAIFERA MOPANE, *Kirk, ex Benth. in Trans. Linn. Soc.* xxv. (1866) 317.

Muchukwana, Lower Buzi, 400 ft.; collected Jan.; n. 1250.

Distrib. Lower Guinea, Mozambique Distr., Kunene-Zambesi Region, Rhodesia, Hereroland.

ENTADA ABYSSINICA, *Steud. ex Rich. Fl. Abyss.* i. 234.

Chinyika R., Jihu, 2000 ft.; in fl. Nov., n. 149; in fl. Nov., n. 1051.

A large wide-branching shrub. Pod required to confirm identification. Also probably Lower Umswirizwi, 1000 ft., n. 1247, but pod required for identification.

Distrib. Nile Land, Lower Guinea.

PIPTADENIA BUCHANANI, *Baker in Kew Bull.* 1894, 354.

Upper Buzi in wooded glen, 3500 ft.; in fl. Oct.; n. 1018. A large tree.

Distrib. Nyasaland.

The following also are forms of this species: n. 1017 from Mt. Maruma, and n. 7 from Chirinda Forest.

DICHRSTACHYS NUTANS, *Benth. in Hook. Journ. Bot.* iv. (1842) 353.

Chirinda open woods, 3500 ft.; in fl. Oct.; n. 162. Chikore Hills, 3500 ft.; in fl. Nov.; n. 1015. Chirinda, 2000 ft.; in fl. Dec.; n. 1013. Southern Melsester, 2000–3500 ft.; in fl. Nov. n. 1016. Madanda Forest at 400 ft.; in fl. Dec., n. 1012; in fl. Dec., n. 1014. Lusitu River, n. 1019.

Distrib. Widely distributed.

The following have smaller leaflets, and are closely allied to *D. cinerea*, Wight & Arn.: n. 1010, from Chibabava, and n. 1011, from Chirinda. *D. major*, Sim, is said to be frequent in the thorn veld of Lourenço Marques to the Lebombes, but has broader pods. Unfortunately, Mr. Swynnerton's specimens are only in flower.

ACACIA CAFFRA, *Willd. Sp. Pl.* iv. 1078.

Chikambogé Valley, 3000 ft.; in fl. Dec.; n. 61. A common large thorn-tree with white flowers. Kurumadzi, 2000 ft.; in fl. Nov.; n. 61 a. Hode, Lower Buzi, 400 ft.; in fl. Dec.; n. 1243. A large thorn-tree. Kurumadzi, Jihu, 2000 ft.; n. 1242. Chindao name, "Iguwaha."

Distrib. Lower Guinea, South Central Region. Common in some parts of South extratropical Africa.

A. PENNATA, *Willd. Sp. Pl.* iv. 1090.

Chirinda Forest, 3700–4000 ft.; in fl. Jan.; n. 84. Madanda Forest at about 4000 ft.; in fl. Dec.; n. 1244. A large woody thorny climber. Chindao name, "Igado."

Distrib. Widely distributed.

A. HORRIDA, *Willd. Sp. Pl.* iv. 1082.

Umvumvumu R., 2000 ft.; coll. April; n. 59 a. A small tree.

Distrib. Cape Colony, Natal, Transvaal.

Flowers and pods required. There are several other specimens of *Acacia*, but pods are required for identification.

ALBIZZIA HARVEYI, *Fournier in Bull. Soc. Bot. Fr.* xii. (1865) 399.

A. hypoleuca, Oliver in Fl. Trop. Afr. ii. 356.

A. Pospischilii, Harms in Notizbl. Bot. Gart. Berl. i. (1896) 183.

Lower Umswirizwi, 1000 ft.; in fl. Nov.; n. 144. Sabi River, 1000 ft.; in bud, Nov.; n. 1216. Umtefu, Lower Buzi, 600 ft., n. 1043, is a form with leaflets not so white below as in the type; it agrees with *Busse*, n. 717. A small tree with creamy-white flowers.

Distrib. South Central Region, Mozambique District

ALBIZZIA ANTHELMINTICA, *Brongn. in Bull. Soc. Bot. Fr.* vii. (1860) 902.
Sabi R., 1000 ft. ; in fr. Nov. ; n. 1005. A fairly large tree.
Distrib. Widely distributed.

A. VERSICOLOR, *Welw. ex Oliver, Fl. Trop. Afr.* ii. 359.

Var. *MOSSAMBICENSIS*, *Schinz in Bull. Herb. Boiss.* sér. 2, ii. (1902) 946.

Jihu, Lower Zona River, 2000 ft. ; in fl. Nov. ; n. 51.

Distrib. of var. Mozambique District. *A. mossambicensis*, Sim, is closely allied.

A. ANTUNESIANA, *Harms in Engler Jahrb.* xxx. (1901) 75.

Jihu, Lower Zona, 2300 ft. ; in fl. Nov. ; n. 51. A fairly large tree, common. Chindao name, "Mubvangazi." Chirinda open woods, 3500 ft. ; in fl. Oct. ; n. 53. A small tree of the open woods. (Verified at Berlin.)

Distrib. Mozambique District.

A. FASTIGIATA, *Oliver in Fl. Trop. Afr.* ii. 361.

Var. nov. *CHIRINDENSIS*, *Swynnerton.*

Arbor parva vel mediocris, ramis adultis glabris ramulis novellis ferrugineo-tomentosis ; foliis 5-12-jugis sessilibus rhombeo-oblongis ; calycis tubo quam in typo distincte longiore ; corollæ tubo calyce fere duplo longiore ; ovario glabro ovulis \pm 6.

Hab. Chirinda Forest, 3700-4000 ft. ; in fl. Oct. ; n. 52.

Arbor 10-15 m. alta. Folia 12.5-14.0 mm. longa. Foliola 8.0-14.0 mm. longa. Calyx \pm 6.0 mm. longus. Corolla \pm 10.0 mm., lobi 2.0-3 mm. longi.

A smallish tree with dark rough bark and white flowers, differing from the type of *A. fastigiata*, Oliver, from Natal, in longer calyx, the longer corolla-tube, and in growth.

"Common on the western slopes of Mt. Mpenge and in the glens of the Mafusi District, and on the outskirts and glens of Chirinda and Maruma. The wood burns badly but splits easily, and is therefore a favourite with the natives for the doors and floors of their huts, but it is readily attacked by Bostrychidæ. Noted too in Inyamadzi Valley and on the ascent from the Buzi to Mount Umtereni itself. In glens at Maruma just commencing to come into leaf on Sept. 13th. Occurs in dense scrub of Chikambogé Valley, and on Kurumadzi in dense bush, where I found some good-sized specimens without flowers or fruit. Occurs in Madanda forests and open bush near Beira. Flowers just out on Chirinda outskirts Oct. 10th, 1905. This is very different in appearance from the low flat-topped spreading type of *A. fastigiata*, which I had the opportunity of inspecting in Durban and Delagoa Bay. It grows up with a straight clean trunk or trunks to a height of 30 or 40 feet, but seldom attains any considerable girth. It is far less

spreading than the type, and the bark, rough, blackish and deeply furrowed vertically, is absolutely different."

N. 54, from the Chirinda Forest, Chindao name, "Mundjeranshe," is a fairly large tree. It is a form of *A. fastigiata*, Oliver.

ROSACEÆ.

PARINARIUM CURATELLÆFOLIUM, *Planch. ex Benth. in Hook. Niger Fl.* 333.

Chikore Hills, 3500 ft.; in bud Nov.; n. 30. A fair-sized tree with large edible fruits. Chindao name, "Moura" or "Mumbhuni"; Mashona name, "Mushagata," "Sand Apple" or "Cork-tree." "Grys Appel" of Settlers.

Lower Jihu, 2000 ft.; in bud; n. 2076. Beira, Buzi mouth; in bud, Dec.; n. 302; Chirinda, open veldt, 3700 ft.; n. 306.

Mr. Sim records *P. Mobola*, Oliver, as the only species occurring in Portuguese East Africa.

N. 30 from the Haroni River has a more condensed inflorescence.

Distrib. Upper Guinea, Mozambique District.

P. GILLETII, *De Wild. in Ann. Mus. Congo*, ser. 5, i. 245.

Near Chirinda; in fl. Oct. n. 555, and in fl. Oct., n. 1303. A fairly large tree with greenish-white flowers, which have a slight but rather objectionable scent. In a wooded glen.

Distrib. Congo Region.

PYGEUM AFRICANUM, *Hook. fil. in Journ. Linn. Soc., Bot.* vii. (1864) 191.

Chipete Forest Patch, 4000 ft.; in fl. April; n. 1344. A very large tree in flower 14th April, with rough bark and red wood.

Chirinda outskirts, 3700–4000 ft.; in fl. April; n. 107. A small tree with whitish flowers and rough bark and red timber.

Distrib. Widely distributed in Tropical Africa. Also recorded from Zululand.

RUBUS MUNDTII, *Cham. & Schlecht. in Linnæa*, ii. (1827) 18.

Melsetter, Rhodesia; in fl. Sept.; n. 2077. A trailing shrub with pink flowers.

Distrib. South Africa.

R. RIGIDUS, *Sm. in Rees Cyclop.* xxx. no. 5, non *E. Mercier*.

Kloof near Chirinda; in fl. May; n. 454. A trailing bramble, fruit and flowers pink.

Distrib. South Africa, Angola.

LEUCOSIDEA SERICEA, *Ecklon & Zeyher, Enum.* 265.

Near Melsetter, 6000 ft.; in fl. Sept.; n. 605. A large shrub with rough dark.

Distrib. South Africa.

CLIFFORTIA LINEARIFOLIA, *Ecklon & Zeyher, Enum.* 270.

Melsetter, Rhodesia, 6000 ft.; n. 2078. A herb forming thickets along streams with minute white flowers.

Distrib. South Africa, Angola, Nyasaland.

SAXIFRAGEÆ.

CHORISTYLIS SHIRENSIS, *Bak. fil. in Trans. Linn. Soc. ser. 2, iv.* (1874) 13*.

Melsetter, 6000 ft.; in fl. Sept.; n. 607. Kloof near Chirinda, 3800 ft.; nn. 202 & 203. Mt. Maruma, 3500 ft., in fl. Sept.; n. 2079. Mt. Pene, 7000 ft., in fl. Oct.; n. 6202.

Distrib. Nyasaland.

RHIZOPHOREÆ.

WEIHEA GERRARDI, *Schinz in Bull. Herb. Boiss. v.* (1897) 867.

Mt. Pene Forest, 6500-7000 ft.; in fl. Sept.; n. 1325. A medium-sized tree.

Distrib. Natal.

COMBRETACEÆ.

COMBRETUM IMBERBE, *Wawra in Sitzungsab. Akad. Wiss. Wien, math.-naturw. Kl.* xxxviii. (1860) 557.

Boka to Omblonhlo, Lower Buzi, 100 ft.; in fl. Dec.; n. 2080. A large shrub or small tree.

Distrib. Angola, Mozambique District.

C. ERYTHROPHYLLUM, *Sond. in Harv. & Sond. Fl. Cap.* ii. 509, pro parte.

Nyahodi River, 5500 ft.; in fl. Sept.; n. 701. A large tree with smooth white bark.

Distrib. Transvaal.

C. RHODESICUM, *Bak. fil. in Journ. Bot.* xxxvii. (1899) 435.

Fifteen miles south of Umtali, Melsetter, 2000-3000 ft.; in fl. Oct.; n. 6600. A medium-sized shrub.

Distrib. Rhodesia.

C. ARBUSCULA, *Engler & Gilg in Baum. Kunene-Sambesi Exped.* 314.

Chirinda open woods, 3700 ft., in fl. Oct.; n. 43. Chindao name, "Mukomahamba." A small tree with yellow flowers.

Inyamadzi Valley; in fr. April; n. 43a. A fair-sized tree with yellow flowers, somewhat rough bark, and useless timber.

Distrib. Kunene-Zambesi Region.

* I know nothing of the species cited as *C. virescens*, Bak. fil., in *Index Kewensis*, Suppl. i. 95.

COMBRETUM APICULATUM, *Sond. in Linnæa*, xxiii. (1850) 45.

Sabi River at about 1000 ft. ; in fl. Nov. ; n. 700. A tree as large as *Uapaca Kirkiana*, with white flowers and dark green foliage.

Distrib. Zambesi Region, Transvaal, Kunene Region, Damara-Namaqua Region, Kalahari.

C. SULUENSE, *Engler & Diels, Kunene-Sambesi Exped.* 54, ex descript.

Umswirizwi Flats, 1100 ft. ; in fl. Nov. ; n. 45. A small tree.

Distrib. Swaziland.

COMBRETUM (Glabripetalæ) GAZENSE, *Swynnerton & Bak. fil.*, sp. nov.

Arbor parva, ramis cortice cinereo-brunneo tectis ; foliis sæpissime oppositis vel suboppositis majusculis, petiolo brevi cinereo-pubescente, lamina elliptica vel ovato-oblonga basi rotundata apice rotundata vel breviter mucronata adulta subcoriacea superne glabra et subnitida subtus breviter cinereo-tomentosa nervis lateralibus utrinque 8-12 arcuatim adscendentibus secundariis primariis conjungentibus ; inflorescentia paniculata ramosa e spicis composita, bracteis parvis cinereo-tomentosis ; floribus tetrameris ; receptaculo inferiore elongato-conoideo extus cinereo-pubescente superiore infundibuliformi-campiformi ; disco insigni cupuliformi margine longe piloso ; calycis segmentis æquilateraliter triangularibus apice acutis ; petalis unguiculatis glabris obreniformibus flavis ; staminibus quam stylo longioribus ; fructu ignoto.

Hab. Mt. Umterene, 3000 ft., south slopes, n. 517. In fl. Sept. 8th, 1906. Between Buzi and Mt. Umterene, n. 688.

Arbor ± 10 m. alta. Folia 11 cm.-15.0 cm. longa, 6.0-8.7 cm. lata ; foliorum petiolus 8.0-18.0 mm. longus. Receptaculum inferius 3.5-4.5 mm. longum, superius ± 4.5 mm. longum. Petala ± 2.0 -2.5 mm. longa et lata.

Allied to *C. Passargei*, Engler & Diels. It differs in the longer petioles, longer leaves, and longer lower receptacle and longer petals.

C. ZEYHERI, *Sond. in Linnæa*, xxiii. (1850) 46.

Umvumvumu River, 2000 ft. ; in fl. April ; n. 2081. A small tree.

Distrib. Transvaal.

C. Braga, Engler, is a close ally of this species.

C. PORPHYROLEPIS, *Engler & Diels, Mon.* 63.

Boka, Lower Buzi, 100 ft. ; in fl. Dec. ; n. 2082. A large shrub on limestone.

Distrib. Transvaal, Koomati Poort.

C. BORUMENSE, *Engler & Diels, Mon.* 64, ex descript.

Madanda Forest, 400 ft. ; in fl. Dec. ; n. 599. A tree growing on ant-heaps at Arucate.

Distrib. Boruma.

COMBRETUM MICROPHYLLUM, *Klotzsch in Peters Mossamb. Bot. i. 74.*

Sabi River at about 1000 ft. ; in fl. Nov. ; n. 2083. A woody climber. Flowers bright red, sucked by the natives for the honey they contain. Madanda Forest at about 400 ft. ; in fl. Dec. ; n. 589.

Distrib. Nyasaland, Zambesi Region, Zulu-Natal Region.

C. ABBREVIATUM, *Engler in Pflanzenwelt Ost-Afr. C. 292.*

Chirinda Forest ; in fl. Oct. ; n. 95. A red-flowered climbing-plant on the outskirts of forest patches. Mt. Maruma, 3500 ft. ; in fl. Sept. ; n. 95 a. A large woody climber with scarlet stamens and anthers and pink and apple-green fruits.

Distrib. Mozambique District.

C. MOSSAMBICENSE, *Engler in Pflanzenwelt Ost-Afr. C. 292.* (*Poivreia mossambicensis*, Klotzsch.)

Sabi River at about 1000 ft. ; in fl. Nov., n. 590 ; and in fruit, n. 591. A woody climber with conspicuous white flowers.

Distrib. Nyasaland, Zambesi Region.

TERMINALIA GAZENSIS, *E. G. Baker, sp. nov.*

Arbor parva, ramis cortice cinereo tectis novellis tomentellis ; foliis apicem versus ramorum subaggregatis, petiolo mediocri cinereo-tomentello, lamina subcoriacea obovata vel oblongo-obovata basin versus cuneatim angustata apice rotundata vel subacuta supra primum sparse hirsuta demum præter costam sericeo-hirsutam subglabra subtus pallidiore nervis lateralibus utrinque 5-7 subtus prominentibus nervis secundariis tenuibus primarios conjungentibus ; spicis laxifloris quam foliis brevioribus cinereo-pubescentibus ; receptaculo extus glabro inferiore fusiformi superiore late patelliformi, disco inconspicuo longissime barbato ; calycis segmentis triangularibus ; stylo subconico cum staminibus haud exsertis ; fructu ignoto.

Hab. Zinyumbo Hills, 1500 ft. ; n. 152 a. In fl. January. A small tree with yellow flowers common throughout the open veldt of the lowlands.

Arbor ad 10 m. attingens. Foliorum petiolus 10-27 mm. longus ; lamina 7.5-11.0 cm. longa, 2.5-5.0 cm. lata. Spicæ sæpe circ. 6.5 cm. longæ. Receptaculum inferius \pm 3.5-5.0 mm., superius \pm 3.5 mm. longum.

Allied to *T. Brownii*, Fres. It differs from it in the smaller flowers and the stamens scarcely exceeding the calyx, and from *T. obovata*, Sims, in the conspicuously longer petioles.

There are several specimens of *Terminalia* in the collection unfortunately not in fruit. N. 1107 from the Zinyumbo Hills is a tree with yellow flowers common throughout the open veldt of the country. It is apparently allied to *T. glaucescens*, Planch. N. 152 from Lower Umswirizwi River is closely allied to *T. Brownii*, Fres., from Abyssinia. Also n. 596 from Mt. Singuno,

and n. 596 *a* from Kurumadzi R., Jihu. Fruiting specimens are necessary for the identification of the above.

TERMINALIA SERICEA, *Burch. Cat. Geogr. Afr. Aust.* no. 2399.

Chibabava, Lower Buzi, 400 ft.; in fl. Nov.; n. 593. A small tree. Chindao name, "Mususu." Lower Umswirizwi, 1000 ft.; in fl. Nov.; n. 32. A small tree with durable timber and a bark with curious netted appearance.

The following is closely allied to var. *ANGOLENSIS*. Inyamadzi Valley, 2500 ft.; in fr. Sept.; n. 588. A small tree with fibrous-looking netted bark and durable timber.

Distrib. South Africa, Kunene-Zambesi Region, Angola, German East Africa, Nyasaland.

PTELEOPSIS MYRTIFOLIA, *Engler & Diels, Mon.* 4. (*Combretum myrtifolium*, Laws.)

Upper Inyamadzi; in fl. Dec.; n. 48. Inyamadzi Valley, 3300 ft.; in fr. April; n. 2084. A small to moderate-sized tree of the open woods. Flowers white, wood dark and rather rough. Timber fairly durable. Chindao name, "Musunganyemba."

Distrib. Mozambique District, Lourenço Marques.

QUISQUALIS INDICA, *Linn. Sp. Pl.* ed. ii. 556.

Sitatonga Hills, 2000 ft.; in fl. Nov.; n. 6501. A woody climber with handsome flowers.

Distrib. Widely distributed.

MYRTACEÆ.

EUGENIA CHIRINDENSIS, *E. G. Baker*, sp. nov.

Frutex vel arbuscula ramulis cortice cinereo tectis novellis in sicco \pm appianatis glabris; foliis oppositis ovatis vel ovato-lanceolatis mediocriter petiolatis basi cuneatis ad apicem attenuatis apice ipso obtusis utrinque glabris superne nitidis costa subtus prominula nervis lateralibus utrinque 7-9 juxta marginem inter se conjunctis nervo intramarginali tenui, petiolo superne canaliculato; floribus parvisculis; pedicellis strictis fasciculatis quam alabastris 2-3-plo longioribus, prophyllis parvis calycis tubi $\frac{1}{3}$ partem attingentibus; calycis tubo turbinato glabro sepalis ovato-suborbicularibus margine ciliatis; petalis ovatis quam sepalis subduplo longioribus.

Hab. Chirinda Forest, 3700-4000 ft.; in fl. Dec., n. 128, in fl. Oct.; n. 443. Chipete Forest Patch, 3800 ft.; in fl. Oct.; n. 1343. A shrub or small tree. Flowers white, the discs becoming pink after the falling of the petals.

Folia 5.0-6.0 cm. longa, 2.0-3.0 cm. lata; petioli 5.0-7.0 mm. longi. Pedicelli 8.0-12.0 mm. longi. Calycis tubus 1.5 mm. longus. Sepala 1.5 mm. longa. Petala \pm 4 mm. longa.

Allied to *E. oligantha*, Baker.

EUGENIA ANGOLENSIS, *Engler in Notizbl. Bot. Gart. Berlin*, ii. (1899) 288. Near Chirinda, 3800 ft.; in fl. Aug.; n. 242. A herb or shrublet about 2 ft. high, with black edible fruits. Flowers white.

Distrib. Angola.

E. CORDATA, *Laws. in Oliver, Fl. Trop. Afr.* ii. 438.

Syzygium cordifolium Klotzsch in Peters Mossamb. Bot. 63, t. 11.

Near Chirinda, 3800 ft.; in fl. Oct.; n. 25. A medium-sized tree with black edible fruit and dark rough bark. Chindao name, "Mukuti." Haroni River, 3500 ft.; in fl. Nov.; n. 1309. A small tree. Flowers white with pink calyx.

Distrib. Natal, Zululand, Angola, Lourenço Marques.

E. OWARIENSIS, *Beauv. Fl. Owar.* ii. 20, t. 70.

Chirinda, 3500 ft.; in fl. June; n. 23. Chimanimani Mts., 7000 ft.; in fl. Sept.; n. 642. Mt. Pene, 6500–7000 ft.; in fl. Sept.; n. 638. Sabi River, 1000 ft.; in fl. Nov.; n. 1311.

Forma *LATIFOLIA*, *Engler & Gilg.*

Near Chirinda, 3500 ft.; in fl. Oct.; n. 24. Chikore Hills, 3500 ft.; in fl. Nov.; n. 1304.

Distrib. (type) Widely distributed in Tropical Africa, but does not occur in Natal. (Forma *latifolia*) Lower Guinea, Mozambique District.

Mr. Swynnerton states that his n. 23 is a large and very handsome tree, height 80 ft., trunk diameter 3 ft., with tall straight trunk, smooth whitish bark, and a large crown of dense dark foliage.

MELASTOMACEÆ.

OSBECKIA SWYNNERTONII, *E. G. Baker*, sp. nov.

Suffrutex caule ramoso ramis junioribus pilis rufescentibus vel cinereis densiuscule tectis ad nodos incrassatis; foliis rigidiusculis oblongo-ovatis vel ovatis breviter petiolatis basi rotundatis vel cuneatis apice acutis utrinque pilis strigosis subdense obtectis conspicue 5-nerviis nervis marginalibus subtenuibus, petiolo pilis albidis vel rufescentibus tecto; floribus speciosis 5-meris in apice caulis ramorumque in cymas paucifloras confertas dispositis; receptaculo extus setis longiusculis et griseis dense vestito; calycis lobis cum appendicibus subulatis alternantibus lanceolatis tubo brevioribus; petalis (sec. cl. detectorem) purpureis late obovatis; staminibus 10 æqualibus vel subæqualibus connectivo antice bicalloso; stylo elongato; ovario apice setoso.

Hab. Chimanimani Mts. at 7000 ft.; n. 2085. In fl. Sept. 26th, 1906. Common amongst the crags. Rich purple flowers with bright yellow anthers.

Folia 3.0–5.0 cm. longa, 1.5–2.5 cm. lata. Petioli 4.0–6.0 mm. longi. Calycis

tubus ± 10 mm. longus, laciniae ± 6 mm. longæ. Petala ± 2.4 cm. longa, ± 2.1 cm. lata. Antheræ ± 8 mm. longæ. Stylus ± 15 mm. longus.

This plant is evidently an ally of *Dissotis Melleri*, Hook. fil., from Mt. Chiradzura, but it has ten equal stamens, and the calyx-tube is much more densely clothed with longer bristles.

ANTHEROTOMA NAUDINI, *Hook. f. in Benth. & Hook. Gen. i. 745.*

Near Chirinda, 3800 ft.; in fr. July; n. 516.

Distrib. Abyssinia, Angola, Senegal, Nyasaland, Central African Lake Region. Also Madagascar.

DISSOTIS INCANA, *Triana in Trans. Linn. Soc. xxviii. (1871) 58.*

Near Chirinda, 3800 ft.; in fl. Dec.; n. 296.

Distrib. South Africa.

D. PRINCEPS, *Triana in Trans. Linn. Soc. xxviii. (1871) 57.*

Kloof near Chirinda, 3800 ft.; in fl. May; n. 526. A very tall branching herb common near water. Petals rich purple, bases of stamens pale yellow. Anthers deep purplish blue. Style crimson.

Distrib. Nyasaland, Mozambique, Natal.

TRISTEMMA INCOMPLETUM, *R. Br. in Tuckey, Congo, App. 435.*

Beira, open woods, 50 ft.; in fr. Dec.; n. 2086. A large herb with purple flowers.

Distrib. Upper and Lower Guinea, Lower Congo Region.

OLINIACEÆ.

OLINIA VANGUEROIDES, *E. G. Baker, sp. nov.*

Arbor alta, ramulis novellis glabris cortice cinereo tectis; foliis oppositis lanceolatis vel oblongo-lanceolatis tenuiter coriaceis integris basi breviuscule petiolatis apice obtusis et sæpe mucronatis, costa superne impressa, nervis lateralibus tenuibus numerosis prope marginem conjunctis utrinque glabris; floribus ad apices ramulorum in cymas multifloras confertas dispositis; prophyllis foliis similibus nisi minoribus; receptaculo cylindræo inferne paullo attenuato glabro, ostio circa perianthii insertionem extus obscure sinuato; sepalis sub anthesi erectiusculis oblongo-spathulatis concaviusculis apice ciliatis faucibus receptaculi insertis; petalis cum sepalis alternantibus squamiformibus incurvis valvatis hirtis; antheris parvis connectivo ultra loculos producto; ovario infero imo receptaculo adnato; stylo erecto maxime compresso, ovario 5-loculari.

Hab. Umswirizwi head-waters, 3500 ft.; in fl. Dec.; n. 158. A large tree standing singly by banks of stream.

Arbor usque ad 15 m. attingens. Folia 8.0–10.0 cm. longa, 2.0–3.0 cm.

lata. Receptaculum 5·7 mm. longum. Sepala fere 2 mm. longa. Petala brevia.

Allied to *O. acuminata*, Klotzsch, but differing in the compressed style, &c. This plant has the aspect of *Vangueria lasiantha*, Sonder.

PASSIFLOREÆ.

TRYPHOSTEMMA SCHINZIANUM, *Harms in Engler & Prantl, Nat. Pflanzenfam.* iii. 6a. 72.

Kurumadzi, Jihu, 2000 ft.; in fl. Nov.; n. 2089. This agrees with the type in the Berlin Herbarium. A common fleshy climber with light greenish flowers.

Distrib. Mozambique.

TRYPHOSTEMMA (*Eutryphostemma*) PARVIFOLIUM, *E. G. Baker, sp. nov.*

Fruticulus. Rhizomate crasso; caulibus diffusis; foliis parviusculis brevissime petiolatis late ovatis vel suborbicularibus basi cordatis apice rotundatis apice ipso mucronatis glaucescentibus ad basin laminæ glandulis duabus plerumque instructis; stipulis minutis linearibus; pedunculis petiolos longe excedentibus sæpissime bifloris non in cirrhum conspicuum exeuntibus bracteis ad articulationem pedicelli sitis anguste linearibus; floribus (sec. cl. detectorum) pallide viridibus; sepalis 5 in sicco maculis purpureis notatis ellipticis vel late ovatis apice obtusis vel subacutis; corona extima cylindræa ore longe fimbriata, corona intima infundibuliformi hyalina; filamentis appianatis coronæ faciei interiore insertis; ovario ovoideo, stylis 3 filiformibus stigmata capitellata gerentibus staminibus subæquilongis, gynophoro brevi, fructu ignoto.

Hab. Hills between Lusitu and Melsester, Rhodesia, 6000 ft.; n. 1415. In fl. Sept. 20th, 1906. A small plant. Flowers pale greenish.

Folia vix 1 cm. attingentia, 8–9 mm. lata. Sepala \pm 4 mm. longa. Corona exterior \pm 2 mm. alta. Filamenta fere 2 mm. longa. Ovarium \pm 1 mm. longum. Styli 1·5 mm. longi.

Allied to *T. Stuhlmanni*, Harms, but differing in the smaller leaves and the not cirrhose peduncle.

SCHLECHTERINA MITOSTEMMATOIDES, *Harms in Engler Jahrb.* xxxiii. (1902) 148.

Madanda Forest, at about 400 ft.; in fl. Dec.; n. 1233.

There is an interesting paper by Dr. Harms on the heterophyllism of this plant in the Bericht Deutsch. Bot. Ges. xxiv. 177, t. xii.

A climber woody and handsome, with greenish-white flowers. Anthers yellow.

Distrib. Lourenço Marques.

ADENIA (*Blepharantes*) SENENSIS, *Engler, Jahrb.* xv. (1892) 573.

Jihu, Kurumadzi River, 2200 ft.; in fl. Jan.; n. 227. Lower Umswirizwi,

1000 ft. ; in fr. Nov. ; n. 2091 a. S. Umtali District, 2000–3000 ft. ; in fl. Oct. ; n. 6605. A climber common in the Jihu and found also in the neighbourhood of Chirinda.

Distrib. Mozambique District.

OPHIOCAULON CISSAMPELOIDES, *Masters in Oliver, Fl. Trop. Afr.* ii. 518.

Jihu, Kurumadzi River, 2000 ft. ; in fl. Nov. ; n. 2090. A climber.

Distrib. Upper and Lower Guinea.

CUCURBITACEÆ.

PEPONIA CHIRINDENSIS, *E. G. Baker, sp. nov.*

Caulis scandens glaber vel subglaber, foliis membranaceis mediocriter petiolatis ambitu late cordato-suborbicularibus basi sinu lato apice subacuminato vix ad medium acute 3-lobatis lobis remotis divergentibus lobo medio majore margine undulatis remote et acute dentatis dentibus acutis utrinque præter nervos levibus vel sublevibus nervis palmatim dispositis subtus prominentibus cirrhis elongatis glabris inæqualiter bifidis ; pedunculo communi masculo robusto 3–5-floro striato subglabro, pedicellis ad basin bracteatis, bracteis late ovatis apice rotundatis ; calycis tubo subcylindrico extus subglabro intus pubescente dentibus angustis patulis quam tubo 3–4-plo brevioribus ; petalis extus tomentosus (sec. cl. detectorem) citrinis ; filamentis applanatis basi dilatatis quam antherarum capitulo brevioribus cum antheris in capitulum oblongum cohærentibus ; fl. ♀ ignotis.

Hab. Chirinda outskirts, 3700–4000 ft. ; n. 2102 ; in fl. Nov. 8th, 1906. A large fleshy climber with cucumber-like fruit and yellow flowers.

Folia ± 6 –10 cm. longa, Petioli 1·5–4·0 cm. longi. Calycis tubus ± 2 ·0 cm. longus, dentes ± 6 mm. longi. Petala ± 3 ·5 cm. longa. Stamina filamenta ± 6 mm. longa, capitulum antherarum ± 13 mm. longum.

Allied to *P. Boivini*, Cogn., but differing in the larger flowers, the always bifid cirrhi, and the broader bracts.

MOMORDICA FETIDA, *Schum. & Thonn. Pl. Guin.* 426.

Chirinda Forest, 3700–4000 ft. ; in fl. Dec. ; n. 94. Kurumadzi R., Jihu, 2000 ft. ; in fl. Nov. ; n. 2087.

Distrib. Widely distributed in Tropical Africa.

CUCUMIS ZEYHERI, *Sond. in Harv. & Sond. Fl. Cap.* ii. 496.

Chirinda outskirts, 3800 ft. ; in fl. May ; n. 456.

Distrib. South Africa, Natal.

MELOTHRIA LONGEPEDUNCULATA, *Cogn. Mon.* 613 (forma).

Chirinda Forest, 3700–4000 ft. ; in fl. Jan. ; n. 232. A climber with small white flowers.

Distrib. Abyssinia, German East Africa, Arabia.

CACTACEÆ.

RHIPSALIS CASSYTHA, *Gaertn. Fruct.* i. 137, tab. 28.

Mt. Maruma, 3500 ft. ; n. 1085 ; Chirinda Forest, 3700–4000 ft. ; in fl. Nov. ; n. 1086.

Distrib. Widely distributed in Tropical Africa. Also in Ceylon, Mauritius, and Tropical America.

FICOIDEÆ.

ORYGIA DECUMBENS, *Forsk. Fl. Æg.-Arab.* 103.

Chibabava, Lower Buzi, 400 ft. ; in fr. Nov. ; n. 2095. Umtefu River, Lower Buzi, 500 ft. ; in fr. Dec. ; n. 2096. A common weed in cultivated ground. Flowers purple.

Distrib. Widely distributed in Africa, also eastward to India.

GISEKIA PHARNACEOIDES, *Linn.*, var. PEDUNCULATA, *Oliver in Fl. Trop. Afr.* ii. 594.

Madanda Forest at about 400 ft. ; in fl. Dec. ; n. 2097. Chibabava, Lower Buzi, 400 ft. ; in fl. Dec. ; n. 2158. A herb with whitish flowers.

Distrib. The species is widely distributed in Africa and also occurs in India.

UMBELLIFERÆ.

HYDROCOTYLE MOSCHATA, *Forst. f. Prod.* 22.

Chirinda Forest, 3800 ft. ; in fr. April ; n. 347.

Distrib. Upper Guinea, Mozambique District. Also Bourbon, New Zealand, &c.

ALEPIDEA AMATYMBICA, *Ecklon & Zeyher, Enum.* 339.

Near Chirinda, 3500 ft. ; n. 233.

Distrib. S. Africa.

SANICULA EUROPÆA, *Linn. Sp. Pl.* 235.

Chirinda Forest, 3700–4000 ft. ; in fl. April ; n. 346. A herb with whitish flowers.

Distrib. Mt. Kilimanjaro, Ruwenzori, Cameroons. Also Europe and Temp. Asia.

HETEROMORPHA ARBORESCENS, *Cham. & Schlecht. in Linnœa*, i. (1826) 385.

Near Chirinda, 400 ft. ; in fl. & fr. April ; no. 182. Lusitu River, 4000 ft. ; in fr. ; n. 2091.

Distrib. South Africa.

LEFEBURIA BENGUELLENSIS, *Welw. ex Engler, Hochgebirgsfl.* 322.

Near Chirinda, 3800 ft. ; in fr. May ; n. 395.

Distrib. Benguella.

PHYSOTRICHIA SWYNNERTONII, *E. G. Baker*, sp. nov.

Herba elata caule tereti glabro erecto striatulo glaucescente; foliorum petiolo brevi vaginato; foliis caulescentibus bipinnatis pennis 2-3-jugis, foliolis lateralibus oblongis vel anguste ovato-oblongis apice acutis quam iis *P. Buchanani*, Benth. multoties angustioribus viridibus sessilibus; umbellis pluriradiatis longe pedunculatis, involucri bracteis demum reflexis lanceolatis margine submembranaceis quam pedunculis brevioribus, involucellorum bracteis subsimilibus sed minoribus; petalis ovatis apicem versus angustatis inflexis (sec. cl. detectorem) albis dorso puberulis; disco crasso; stylis tenuibus erectis; fructibus hirtellis oblongis subteretibus jugis primariis prominulis.

Hab. Melsetter, alt. 6000 ft.; in fl. & young fr. Sept.; n. 649. A tall slender herb with white flowers.

Planta ex schedis cl. detectoris "8-9 ped." alta. Folia radicalia non vidi, caulescentia 9.0-11.0 cm. longa. Foliola 3.0-4.0 cm., longa, 8.0-12.0 mm. lata. Involucri bracteae 10-18 mm. longae, involucellorum bracteae 4-6 mm. longae. Pedunculi fructiferi 2.0-4.5 cm. longi. Pedicelli 4.0-10.0 mm. longi.

Differs from *P. Buchanani*, Benth., in the narrower leaflets.

PEUCEDANUM FRAXINIFOLIUM, *Hiern ex Oliver*, in *Trans. Linn. Soc.* xxix. (1873) 79, t. 42.

Lower Umswirizwi, 1000 ft.; in fr. Nov.; n. 176.

Distrib. Widely distributed in Tropical Africa.

ARALIACEÆ.

CUSSONIA UMBELLIFERA, *Sond. in Linnæa*, xxiii. (1850) 49.

Common tree of Chimanimani Forest; in fr. Sept.; n. 653 a.

Distrib. South Africa.

C. SPICATA, *Thunb. Nov. Act. Upsal.* iii. (1780) 212, t. 13.

Near Chirinda, 3800 ft.; n. 159. A small tree. Chimanimani Mts., 7000 ft.; n. 2092.

Distrib. South Africa, Mozambique District.

CORNACEÆ.

CURTISIA FAGINEA, *Aiton, Hort. Kew.* i. 162.

Chimanimani Mts., 7000 ft.; in fl. & fr. Sept.; n. 637. The commonest tree of the Chimanimani Forest and glens, with handsome glossy foliage.

Distrib. South Africa.

W. Wangerin, in his recent Monograph of Cornaceæ (*Pflanzenreich*, iv. 29. 30), does not record this tree as occurring in Tropical Africa.

GAMOPETALÆ.

By SPENCER MOORE, B.Sc., F.L.S.

RUBIACEÆ.

CEPHALANTHUS NATALENSIS, *Oliver in Hook. Ic. Pl.* t. 1331.

Heights overlooking Lusitu River, 4000 ft. ; in fl. Sept. ; n. 645.

Distrib. Natal and Transvaal.

The fruits are edible and make an excellent jam, the flavour being between that of raspberry and gooseberry.

ADINA MICROCEPHALA, *Hiern in Oliver, Fl. Trop. Afr.* iii. 40.

Upper Inyamadzi near Chirinda, 3300 ft. ; in fl. Dec. ; n. 26.

Distrib. Nubia to Nyassaland and Angola, Swaziland, Madagascar.

Chindao name, "Mowana." A handsome, tall evergreen tree with wide and straight shaft, growing exclusively along the banks of streams and rivers. Roots bitter, commonly chewed by the natives as a remedy for colic, or drunk in the form of an infusion with water.

CROSSOPTERYX KOTSCHYANA, *Fenzl in Nov. Stirp. Dec.* 45.

Madanda forests at about 400 ft. ; in fl. Dec. ; n. 1399.

Distrib. Tropical Africa.PENTAS PURPUREA, *Oliver in Trans. Linn. Soc.* xxix. (1873) 83.

Kurumadzi River, Jihu, 2000 ft. ; near Chirinda, 3800 ft. ; in fl. Feb., April, June ; nos. 274, 1152, 2143.

Distrib. Tropical East Africa.

Chindao name, "Munyamshawa." The roots are said to be crushed into a gruel for pains in the stomach.

OTOMERIA DILATATA, *Hiern in Oliver, Fl. Trop. Afr.* iii. 50.

Kurumadzi River, Jihu, 2000 ft. ; Upper Buzi, 3000 ft. ; fl. & fr. Nov., Dec. ; nn. 355, 2144.

Distrib. S.E. tropical Africa.

A fairly tall herb with red flowers, found in swamps and on the banks of streams.

PENTODON DECUMBENS, *Hochst. in Flora*, xxvii. (1844) 552.

Open woods at Beira and Boka-Inyamita, Lower Buzi ; in fl. & fr. Dec. ; nn. 758, 1893.

Distrib. Eastern tropical Africa.

OLDENLANDIA CYNANCHICA, *K. Schum. in Kuntze Rev. Gen. Plant.* iii. 121.

Melsetter at 6000 ft. ; fl. Oct. ; n. 6107.

Distrib. South Africa.

A herb common on mountain north of Melsetter.

O. CAFFRA, *Eckl. & Zeyh. Enum.* 360.

Muchukwana, Lower Buzi, 400 ft. ; in fl. & fr. Dec. ; n. 2139.

Distrib. Tropical and South Africa.

O. BOJERI, *Hiern in Oliver, Fl. Trop. Afr.* iii. 53.

In short grass near Chirinda ; Madanda forests at about 400 ft. ; open woods, Beira ; fl. & fr. May ; nn. 500, 2153, 2153 a.

Distrib. East tropical Africa and Mascarene Islands.

O. NATALENSIS, *O. Kuntze, Rev. Gen. Plant.* i. 292.

Near Chirinda, 3800 ft. ; fl. & fr. July ; n. 303.

Distrib. Natal and Zululand.

O. WELWITSCHII, *Hiern in Cat. Welw. Afr. Pl.* i. 442.

Madanda forests at about 400 ft. ; in fl. & fr. Dec. ; n. 2140.

Distrib. Angola.

Different from typical *O. Welwitschii* in the taller habit, the scattered (not rosulate) leaves, the smaller, more globular ovaries and fruits, and shorter calyx-lobes. The specimens agree fairly well in these points with Baum 599, which is referred to *O. Welwitschii* (Kunene-Sambesi Exped. p. 382). With a larger range of material to judge from this may prove a distinct species.

O. TRINERVIA, *Retz. Obs.* iv. 23.

Inyamadzi Valley, 2500 ft. ; Chimanimani Mts. at 7000 ft. ; in fl. Sept. ; nn. 1527, 1534.

Distrib. Tropical Africa, Mascarene Islands, East Indies.

O. HIRTULA, *O. Kuntze, Rev. Gen. Plant.* ii. 292.

Chimanimani Mts. at 7000 ft. ; in fl. Sept. ; n. 2152.

Distrib. Rhodesia (*Eyles* 346 in herb. Mus. Brit.) and South Africa.

The tropical specimens are nearly glabrous, otherwise they resemble the South African.

MUSSÆNDA ARCUATA, *Poir. in Lam. Encycl.* iv. 392.

Spungabera forest patch, 3700 ft., and Chirinda Forest at 3800 ft. ; fl. Dec. and March ; young fr. March ; nn. 119, 6636.

Distrib. African tropics and Mascarene Islands.

UROPHYLLUM SYMPLOCOIDES, *S. Moore*, sp. nov.

Frutex ramulis attenuatis pendulis crebre foliosis novellis summum puberulis, foliis brevipetiolatis lineari-lanceolatis acuminatis basi acutis papyraceis utrobique, costarum axillis faciei inferioris pubescentibus exemptis, glabris in sicco læte viridibus vel viridi-olivaceis nitidis subtus pallidioribus, costis secundariis utrinque 8-9 aperte arcuatis in pagina inferiore magis prominulis, stipulis parvulis e basi lata gradatim attenuatis superne subulato-acuminatis inter se liberis, floribus mediocribus solitatis (rarius 2-3) ex axillis ortis, pedicellis quam folia multo brevioribus juxta medium bibracteatis puberulis, calycis microscopice puberuli limbo quam ovarium hemisphæricum paullo longiore in lobos 5 inferne triangulares superne subulatos alte diviso, corollæ vix usque ad medium lobatæ tubo calycem breviter excedente sursum levis-sime ampliato intus villosulo lobis 5 lanceolato-oblongis obtusis, staminibus breviter exsertis, ovario 4-loculari, stylo incluso glabro quam stigma biramosum paullo longiore, bacca globosa calyce accrescente onusta puberula.

Hab. Mt. Pene Forest at 6500 ft. ; in fl. Sept. ; n. 1278. Also Nyasaland, Mt. Milanji at 6000 ft. ; *A. Whyte* (in fruit).

Ramuli subteretes, ægre 1 mm. diam. Folia 5-10 cm. long., juxta medium 8-15 mm. lat. ; petioli puberuli, 3-5 mm. long. Stipulæ sol-mniter 4 mm. long. Inflorescentiæ (flore incluso) summum 1 cm. long. Bracteæ lanceolatae \pm 1.5 mm. long. Flores lutescenti-albidi. Ovarium 1.2 mm. long., calycis limbus 2 mm. long. Corolla tota 6.5 mm. long. ; tubus 3.5 mm. long., basi 2.5 mm., ore 3 mm. lat. Filamenta 1 mm. long., antheræ totidem. Stylus 1.5 mm., stigmatis rami 0.8 mm. long. Bacca viridis, in sicco 1 cm. diam., calyx coronans 4 mm. long., 4.5 mm. lat.

Known among other features by the narrow leaves, the very short inflorescences even when the flowers are not solitary, and the subulate lobes of the calyx.

HEINSIA JASMINIFLORA, *DC. Prodr.* iv. 390.

Open woods at Beira; Madanda forests at about 400 ft. ; Jihu, Mt. Singuno at 1500 ft. ; Chirinda Forest, 3700 ft. ; in fl. Nov., Dec. ; nn. 134, 1139, 1257, 1258.

Distrib. Tropical Africa generally.

LEPTACTINIA HEINSIOIDES, *Hiern in Oliver, Fl. Trop. Afr.* iii. 88.

Open woods at Beira and Madanda forests at about 4000 ft. ; fl. & fr. Dec. ; nos. 1266, 1267.

Distrib. S.E. tropical Africa.

ENTEROSPERMUM LITTORALE, *Hiern in Oliver, Fl. Trop. Afr.* iii. 93.

Beira beach ; in fl. Dec. ; n. 1265.

Distrib. Shore of East tropical Africa.

RANDIA SWYNNERTONII, *S. Moore*, sp. nov.

Frutex ramosus, spinosus, ramis sat tenuibus teretibus cito glabris ultimis solummodo foliosis perbrevibus sub spinis ortis squamulis arcte obductis, foliis pro rata parvis brevipetiolatis oblanceolatis vel oblongo-obovatis obtusissimis basi attenuatis firme membranaceis glabris vel minute pubescentibus, stipulis parvulis e basi lata subulato-setaceis puberulis, floribus ex axillis ramulorum juvenilium solitatem ortis raro binis brevipedunculatis, pedunculis tomentellis, ovario subhemisphærico tomentello quam calyx brevior, calycis campanulati tomentelli ultra medium divisi lobis rotundato-obovatis obtusissimis basi contractis, corollæ extus pubescentis tubo quam calyx brevior intus juxta medium annulatim barbato lobis tubo æquilongis late obovatis obtusissimis margine leviter undulatis, staminibus paullo infra os insertis, stylo incrassato sursum contracto quam stigma ovideo-oblongum longitrossum sulcatum paullulum longiore.

Hab. Lower Umswirizwi River, 1000 ft. ; in fl. Nov. ; n. 1910.

Rami ascendentes rarius subpatuli. Spinæ quam eæ *R. nilotica*, Stapf, debiliores, patentes, \pm 1 cm. long. Folia 1.5–4 cm. long., 6–20 mm. lat., in sicco aliquanto castanea ; costæ secundariæ utrinque 3–4, tenerrimæ ; petioli 3–7 mm. long. Stipulæ circa 2 mm. long. Pedunculi \pm 5 mm. long. Flores albi. Ovarium ægre 3 mm. long. et lat. Calycis limbus 3 mm. long., dentibus interpositis minimis nonnunquam obsoletis ; lobi 5 mm. long., 3.5 mm. lat. Corollæ tubus 5 mm. long., 3 mm. lat. ; lobi 5 mm. long. Antheræ subsessiles, oblongæ, obtusæ, 3.5–4 mm. long. Stylus 4.5 mm. long., inferne 1 mm. sub stigmate 0.5 mm. lat. ; stigma 3×2 mm.

Near *R. nilotica*, Stapf, and *R. Lachnosiphonium*, Hochst., and more like the latter in habit, but the branches are always spinous. From both it is distinguished by the shortly peduncled flowers, the tomentose calyces, and small corollas.

GARDENIA NEUBERIA, *Eckl. & Zeyh. Enum.* 360.

Umvumvumu River, 4000 ft. ; Madanda forests, 400 ft. ; in fl. April, Dec. ; nos. 1401, 2149.

Distrib. South Africa.

GARDENIA NORÆ, *Swynnerton*, sp. nov.

Fruticosa, elata, deinde valide spinosa, ramis cortice griseo-albido obductis, ramulis juvenilibus cinereis glabris ad nodos tumidis, foliis brevipetiolatis lanceolatis vel oblongo-lanceolatis acutis interdum aliquanto acuminatis costis lateralibus utrinque 4–6 arcuatim ascendentibus papyraceis glabris pallide nitidis, stipulis e basi lata abbreviatis subulatis, floribus in axillis superioribus solitariis oppositis pendentibus pro rata majusculis, pedunculis glabris calyce 2–3-plo longioribus, calyce parvo campanulato glabro tubo (ovario) quam limbus in lobos 5 triangulati-subulatos alte divisus longiore, corolla cam-

panulata (inferne anguste cylindrico-infundibuliformi) albo-virescente lobis 5 quam tubus multo brevioribus oblongo-ovatis acutiuseulis patentibus, antheris sessilibus infra fauces æqualite insertis, stylo incluso, stigmatate fusiformi apice bilobo lobis subrotundatis obtusissimis, bacca coriacea globosa prominenter costata dilute viridi, seminibus pluribus complanatis vel rotundis.

Hab. Chirinda Forest, 3700-4000 ft. ; in fl. Jan. ; n. 11.

Frutex 6-8 m. altus. Spinæ (monente cl. detectore) arrectæ, 10-30 mm. long. Folia 6.5-10 cm. \times 2-3.5 cm., viva saturate viridia, sicca olivacea; pagina inferiore paullo pallidiora; petioli crassiusculi, 3-10 mm. long. Stipularum 14 mm. long. pars dilatata 2 mm. long. Pedunculi 10-14 mm. long., sub fructu incrassati et 22 mm. attingentes. Ovarium circa 4 mm. long. Calycis limbus totus 5 mm. long., ejus lobi 3.5 mm. Corollæ tubus 6.4 cm. long., ima basi 5 mm., juxta medium 2 cm., faucibus 3.3 cm. diam. Antheræ 15 mm. long. Stylus circa 4.8 cm. long.; stigma 16 \times 6 mm., lobi 2.5 mm. long. Bacca 2.5 \times 2.5 cm. Semina circa 11 \times 11 mm., sordide alba.

Outwardly very like *G. konguensis*, Hiern, but the leaves are smaller and relatively broader, and the corolla is narrowed from near the middle to the base instead of narrowing suddenly. The insertion of the stamens is also different in the two cases.

A large, handsome shrub with glossy evergreen foliage and drooping branches. The bark is smooth and grey, and studded with blunt thorns.

GARDENIA POSOQUEROIDES, *S. Moore*, sp. nov.

Frutex elatus, glaber, ramulis juvenilibus subtetragonis mox cortice sordido longitrorsum rimoso circumdatis, foliis oppositis ternisve oblongis vel ovato-oblongis vel anguste oblongo-obovatis apice cuspidato-acuminatis basi in petiolum brevem attenuatis tenuiter coriaceis nitidis facie inferiore aliquanto pallidis costis secundariis utrinque 8-10 ascendenti-patulis marginem versus arcuato-undulatis, stipulis ovatis vel ovato-triangularibus obtusis obtusissimisve unilateraliter connatis membranaceis, floribus magnis hexameris terminalibus solitariis breviter pedunculatis, calycis tubo (ovario) cylindrico-fusiformi in longitudinem sulcato limbo usque ad $\frac{2}{3}$ in lobos lineares obtuse acutos diviso, corollæ hypocrateriformis tubo calycem multo excedente sursum leviter amplificato lobis late oblongis obtusissimis tubum vix semiæquantibus, staminibus faucibus insertis, filamentis brevibus antheris elongatis linearibus, ovario 1-loculari placentis 3 induto, stigmatate brevissime exserto.

Hab. Chirinda Forest, 3700-4000 ft. ; in fl. Nov., Jan. ; nos. 71, 6504.

Folia sæpe 10-14 cm. long., 4.5-6 cm. lat.; accedunt interdum alia ex eodem nodo orta circa 7 \times 3 cm. vel etiam minora; petioli 0.5-1 cm. long. Stipulæ 1-1.5 cm. long. Pedunculus incrassatus, summum 8 mm. long. Ovarium 1.5 cm. long., basi 4 mm., sursum 5 mm. lat. Calycis limbus 1.5 cm. long.; lobi 3-3.5 cm. long., humectati adusque 2 mm. lat. Corollæ albæ tubus 11 cm. long., inferne 0.5 cm., juxta fauces piloso-villosulas 1 cm.

diam. ; lobi basi appresse piloso-pubescentes, 5×2 cm. Filamenta gracilia, 2·2 mm. long. ; antheræ maxima pro parte inclusæ, circa 2 cm. long. Stylus piloso-puberulus, 10 cm. long. Stigma late clavatum, sulcatum, apice breviter lobatum, 1·3 cm. long. Fructus fusiformis, calyce persistente coronatus, coriaceus, viridis, costis 6 maxime eminentibus spongiosis indutus, 6×2 cm. Semina numerosa, $8 \times 4\cdot5$ mm.

A plant in the style of *G. assimilis*, Afz., but different in many respects.

GARDENIA TIGRINA, *Welw. ex Hiern, Cat. Welw. Pl. i. 462.*

Chirinda Forest, 3700–4000 ft. ; Mt. Maruma Forest, 3500 ft. ; in fl. Oct., fr. Feb. ; n. 10.

Distrib. Angola.

Chindao name, “Mutambawebungu.” One of the commonest trees in Chirinda, reaching 80 ft. in height. The large, glossy, fusiform green fruits are great favourites with the forest monkeys (*Cercopithecus albigularis*).

G. ASPERULA, *Stapf & Hutch. in Journ. Linn. Soc. xxxviii. (1909) 423.*

Melsetter, 3500 ft. ; Chikore Hills, 3500 ft. ; in fl. Oct., Nov. ; nos. 56, 56 a.

Distrib. Zambesia and Nyasaland.

Singuni name, “Isivalesang weni” (kraal-door). Used by the natives for its thorns and toughness to close kraal-gates against lions.

G. SPATULIFOLIA, *Stapf & Hutch. in Journ. Linn. Soc. xxxviii. (1909) 424.*

Sabi River at about 1000 ft. ; in fl. Nov. ; n. 715.

Distrib. Angola to Rhodesia.

OXYANTHUS MONTEIROÆ, *N. E. Br. in Kew Bull. 1892, 125.*

O. Schlechteri, K. Schum.

Madanda forests at about 400 ft. ; fl. & fr. Dec. ; n. 579.

Distrib. Portuguese East Africa.

A large shrub with white flowers.

O. GERRARDI, *Sond. in Harv. Fl. Cap. iii. 31.*

Chirinda Forest, 3700–4000 ft. ; fl. & fr. Jan., Feb. ; n. 116.

Distrib. Mozambique and Natal.

The specimens bear ripe fruits and also flowers in an early stage. The flowers not being matured some doubt must rest upon this identification.

OXYANTHUS SWYNNERTONII, *S. Moore, sp. nov.*

Fruticosus, ramis complanatis deinde subteretibus glabris, foliis ellipticis vel elliptico-oblongis sursum cuspidato-acuminatis apice obtusiusculis basi obtusis petiolis brevibus canaliculatis insidentibus tenuiter coriaceis supra

glabris subtus scabridis costis secundariis utrinque circa 8 ascendenti-patulis marginem versus aperte arcuatis, stipulis lanceolato-linearibus longe acuminatis, floribus majusculis brevipedicellatis in corymbos breves axillares bracteatos paucifloros digestis, bracteis parvulis cymbiformibus a latere visis subulatis acuminatis margine ciliolatis, ovario quam calyx brevior anguste ovoideo-oblongo longitrorsum costato 2-loculari, calycis limbo late cylindrico lobis lineari-lanceolatis acuminatis æquilongis, corollæ tubo lobos suos magnopere superante extus glabro intus inferne piloso-pubescente lobis oblongis obtusis basin versus leviter angustatis, antheris sessilibus linearibus apice apiculatis basi sagittulatis, stigmatibus exserto fusiformi bifido, bacca anguste ellipsoidea basi apiceque obtusa.

Hab. Chirinda Forest, 3700-4000 ft., and Boka, Lower Buzi River; fl. Oct.-Dec., fr. Dec.; nos. 76, 135, 580, 6637.

Folia 10-12 cm. long., 3.5-4.7 cm. lat., supra nitidula subtus pallida, in sicco griseo-vel brunneo-viridia; petioli circa 5 mm. long. Stipulæ sæpissime 1.5-2.5 cm. long. Racemi floribus exemptis \pm 1 cm. long. Bracteæ 6-8 mm. long. Pedicelli \pm 4 mm. long. Flores albi. Ovarium 4 mm., calycis limbus 4 mm., ejus lobi 3-4 mm. long. Corollæ tubus 8-9 cm. long., humectatus 2.5 mm. lat.; lobi 2-2.5 cm. long. Antheræ 4.5 mm. long. Stylus 11 cm. long.; stigma 6.5 mm. long., summum vix 1 mm. lat. Bacca 4-4.5 \times 1.5-2 cm., in sicco longitrorsum striata. Semina fusca, 4 \times 3 mm.

Near *O. speciosus*, DC., but different in bracts, flowers, and fruit. The fruits emit a strong and unpleasant musky smell.

Var. BREVIFLORUS, *S. Moore*, var. nov. Corollæ solummodo 5.5 cm. longa; ceteroquin ut typus.

Hab. Chirinda Forest; in fl. Nov.; n. 76 a.

TRICALYSIA MYRTIFOLIA, *S. Moore*, sp. nov.

Frutex elatus, diffusus, ramulis subteretibus nudis cortice cinereo circumdatis ultimis attenuatis foliosis minute pubescentibus, foliis anguste oblongo-ob lanceolatis obtusis vel obtusissimis in petiolum perbreve gradatim angustatis tenuiter coriaceis supra glabris subtus præsertim in costa centrali valde eminente obscure puberulis costis secundariis utrinque 6-8 haud perspicuis, stipulis parvulis lineari-lanceolatis acuminatis extus puberulis, cymis sessilibus plurifloris, calyculo simplici ore dentato ut calycis limbus dentatus cinereo-sericeo, calycis tubo (ovario) turbinato glabro quam limbus brevior, corollæ tubo calycem breviter excedente extus glabro lobis 6 oblongis obtusis limbo æquilongis extus sericeis intus apicem versus puberulis ceterum glabris, staminibus 6 filamentis brevibus antheris oblongis obtusis, stylo piloso-puberulo ramis incrassatis, ovulis quove in loculo 2 collateralibus.

Hab. Mt. Maruma, 3500 ft.; Upper Inyamadzi Valley, 3000 ft.; hills overlooking Upper Buzi River at 3500 ft.; in fl. April, Sept., Oct.; nos. 684, 1133, 1283.

Folia solemniter 4–5 cm. long., 1.5–2 cm. lat., in sicco læte viridia, costulæ reticulatæ parum vero aspectabiles; petioli ad summum 2 mm. long. Stipulæ 3 mm long. Cymæ corollis exemptis 5 × 8 mm. Calyculus 2.5 mm. long. Flores dilute virescentes. Ovarium 1 mm. long., calycis limbus 2 mm. Corollæ tubus ut lobi 3.5 mm. long., ille 1.5 mm. diam. faucibus pilosis, hi cito reflexi. Filamenta 1.5 mm., antheræ 3.25 mm. long. Stylus 3 mm. long., ejus rami 3 mm.

The affinity is with *T. pallens*, Hiern, which has larger elliptical leaves, truncate stipules, a pubescent calyculus and calyx, &c.

TRICALYSIA LIGUSTRINA, *S. Moore*, sp. nov.

Frutex ultrametralis, ramulis ascendentibus gracilibus subteretibus sparsim foliosis puberulis cito glabris, foliis parvis lanceolatis sæpius equidem lineari-lanceolatis acutis basi obtusis tenuiter coriaceis supra et subtus glabris costis secundariis utrinque 4–6 facile aspectabilibus etsi tenuibus, stipulis inferne latis subito in aristam rigidam fuscam iis fere æquilongam exeuntibus extus puberulis, cymis abbreviatis paucifloris nonnunquam ad florem unicum redactis, calyculo simplici (inflorescentiarum uniflorarum duplici) quam calycis limbus brevior ore truncato, ovario turbinato glabro calycis limbo brevior, calycis limbo dentato ut calyculus appresse sericeo-pubescente, corollæ tubo calycem longe excedente extus puberulo lobis anguste oblongo-ovatis obtusis marginibus revolutis extus pubescentibus intus glabris, staminibus 6 filamentis abbreviatis antheris oblongis obtusis, stylo breviter exserto glabro quam rami sui crassiusculi longior, ovulis quove in loculo 2 collateralibus.

Hab. On schistose hills near the Upper Buzi at 3000 ft.; in fl. Sept., Oct.; nos. 685, 1284.

Foliorum limbus 4–5 cm. long., 1–1.5 cm. (raro 2 cm.) lat., in sicco brunneo-viridis; costulæ ægre aspectabiles; petioli lati, canaliculati, puberuli, 2 mm. long. Stipulæ 2.5–3.5 mm. long. Cymæ corollis exemptis 4 mm. long. Calyculus 1.2 mm. long. Flores albi. Ovarium 1 mm. long. Calycis limbus tandem irregulariter ruptus, 2 mm. long. Corollæ tubus sursum leviter gradatim ampliatus, 6.5–7.5 mm. long., inferne 0.6 mm superne 1.2 mm. lat.; lobi 4 mm. long. Filamenta 1 mm., antheræ 4 mm. long. Stylus 6.5 mm., rami 2.5 mm. long.

Nearest *T. crassifolia*, Benth. & Hook. fil., but distinguished from it *inter alia* by the leaves and the corollas with long tube and lobes markedly shorter than the tube.

N. 1287 from Madanda forests on ant-heaps may belong here, but the specimens are without flowers.

TRICALYSIA PACHYSTIGMA, K. Schum. in *Engl. Jahrb.* xxxiii. (1903) 347.
Chimanimani crags, 6500 ft. ; Mt. Pene, 6500–7000 ft. ; in fl. Sept., Oct. ;
nos. 641, 1134 & 6068.

Distrib. Nyasaland, Rhodesia.

HEINSENIA SYLVESTRIS, S. Moore, sp. nov. (Pl. 4.)

Arbuscula ramulis sat gracilibus cito glabris et cortice sordido longitrorsum rimoso præditis, foliis brevipetiolatis lanceolato-obovatis apice obtusis interdum cuspidatis vel caudato-acuminatis basin versus cuneatim coartatis supra glabris subtus secus nervos appresse puberulis, stipulis abbreviatis e basi lata triangulari-subulatis caducis, floribus pedicellatis in paniculas breves paucifloras copiose bracteatas pubescentes ramulis valde redactis terminalibus suffultas dispositis, bracteis parvulis ovatis breviter acuminatis appresse pubescentibus, calycis appresse puberuli tubo (ovario) late turbinato quam limbus fere adusque medium lobatus brevior lobis e basi lata subulatis inter se sæpe inæqualibus, corollæ campanulatæ puberulæ tubo sursum dilatato calycem 5-plo excedente lobis obovatis obtusissimis tubo brevioribus, antheris elongatis linearibus subinclusis, styli ramis lineari-oblongis obtusis.

Hab. Chirinda Forest, 3700–4000 ft. ; in fl. Oct. ; nos. 576 & 689.

Folia 7–10 cm. long., juxta medium 4–5 cm. lat., firme membranacea, in sicco brunnescentia, subtus paullo pallidiora ; costæ secundariæ utrinque 4, arcuatim ascendentes, facie superiore impressa inferiore eminentes ; petioli circa 1 cm. long., supra canaliculati, dorso puberuli. Stipulæ summum 5 mm. long. Panicula (floribus haud exemptis) 1.5–3 cm. long. Pedunculus i. e. ramus suffulciens adusque 3.5 mm. long., glaber. Bracteæ 1.5–2 mm. long., persistentes. Pedicelli graciles, appresse puberuli, 2–6 mm. long. Flores albi intus purpureo-maculati. Ovarium 2 mm., calycis limbus totus 4 mm. long., hujus lobi 1.4 mm. longi vel breviores. Corollæ tubus fere 1 cm. long., basi 2 mm. diam. subito ad 3 mm. dilatatus, inde usque ad fauces 9 mm. diam. gradatim ampliatus ; lobi 6 × 5 mm., conspicue nervosi. Filamenta juxta medium tubum inserta ; antheræ 6 mm. long. Stylus glaber, 5.5 mm. long. ; rami crassiusculi, 5 mm. long. Bacca subglobosa, 5 × 4.5 mm., puberula.

From *H. diervilloides*, K. Schum., the present plant differs in shape of leaf, in the much larger calyx with lobes often unequal, the corolla-tube broader at base and suddenly, not gradually, expanded, &c. The flowers are white with crimson specks, and look like those of *Gardenia tigrina* in miniature.

Schumann described the style of *H. diervilloides* as undivided and pluricostate, and this appears to be the case with *H. sylvestris* on superficial examination. I find, however, the swollen upper part of the style, after a couple of days in water, to divide easily into two stigmatic arms as described, a division which can be brought about even by gently rolling the style between thumb and forefinger.

An oversight of greater importance relates to the ovules of this genus

Both Schumann (Engl. Bot. Jahrb. xxiii. 453) and De Wildeman describe and the latter (Pl. Nov. Hort. Then. i. t. 3) figures the ovule as solitary. On opening a cell of the ovary is seen a biscuit-shaped body—apparently a single ovule—hanging from the top of the cell. The width of this body in relation to its length, however, made me suspect its homogeneity; accordingly it was examined under a low power of the compound microscope, when, as shown in Pl. 4. fig. 5, a couple of sharp points were seen projecting from either angle at the upper end. Sectioning showed each of these points to be the free portion of an ovule, the rest lying buried in the placental tissue just as, for instance, is the case with the ovule of *Myrsineæ*. Fig. 6 represents semidiagrammatically the placenta with its two ovules; in this the integument and the pyriform nucellus are well shown. There being only dried material to hand, no further details concerning these ovules are discoverable. One would much like to know how this singular body behaves in maturation; possibly the second ovule at length aborts, and the food-stuff accumulated in its tissues and in that of the placenta serves to nourish the survivor.

The result of this discovery is that *Heinsenina* must be removed from the *Alberteæ*, where Schumann placed it, to the *Gardenieæ*, next to *Empogona*.

[The genus is also represented in Uganda, whence Mr. E. Brown has recently sent specimens to the British Museum of the following:—

HEINSENIA BROWNII, *S. Moore*, sp. nov.

Fruticosa, ramulis distanter foliosis cito glabris novellis pubescentibus, foliis brevipetiolatis oblongo-ellipticis obtusis basi acutis membranaceis utrobique nervis paginæ inferioris appresse puberulis exemptis glabris, cymis axillaribus subsessilibus plurifloris, bracteis parvulis ovatis dense sericeis, floribus subsessilibus, calycis campanulati sericei limbo quam ovarium plane longiore tandem fisso lobis acuminatis, corolla campanulata extus sericea triente superiore divisa lobis late ovatis obtusis, antheris linearibus inclusis apice acutis, styli ramis complanatis clavellatis.

Hab. Mabira Forest; *E. Brown*, 429.

Folia 8–10 × 3–4.5 cm., in sicco griseo-viridia; costæ ordinis secundi utrinque 6, ascendentes; interdum levissime arcuati; petioli 5–10 mm. long. Cymæ (corollis inclusis) circa 1.5 × 2 cm. Pedunculus summum 3 mm. long., sæpius 1–2 mm. Bracteæ circa 2 mm. long. Flores albi. Ovarium turbinatum, sericeum, 1.25 mm. long. Calycis limbus 3.5 mm. long.; hujus lobi 1 mm. long. Corolla 1 cm. long.; tubus cylindricus, inferne 2 mm. lat., inde dilatatus, ore 8 mm. lat.; lobi 4 × 3–3.5 mm. Antheræ 5 mm. long. Stylus 5 mm. long., hujus rami ægre totidem.

Differs from *H. Lujæ*, De Wild., known to me only by figure and description, in the sessile or almost sessile cymes, the acuminate lobes of the calyx, of which the tube is ultimately split down one or both sides, as occurs with

Tricalysia, and the markedly shorter and broader corolla with shorter and broader lobes.]

The species may thus be distinguished :—

Corolla at most puberulous outside.

Calyx-lobes as long as tube. Narrow base of corolla
3 mm. long., 5 mm. broad. *H. diervilloides*, K. Schum.

Calyx-lobes much shorter than tube. Narrow base
of corolla 2 mm. long., 1.2 mm broad *H. sylvestris*, S. Moore.

Corolla silky outside.

Flowers on pedicels 4-6 mm. long. Calyx-lobes
acute. Corolla infundibuliform *H. Lajæ*, De Wild.

Flowers sessile or almost so. Calyx-lobes acuminate.
Corolla campanulate *H. Brownii*, S. Moore.

CREMASPORA AFRICANA, *Benth. in Hook. Niger Fl.* 412.

Mt. Maruma, 3500 ft. ; Chirinda Forest, 3700-4000 ft. ; in fl. & fr. Sept.,
Dec. ; nos. 73, 73 a, 1285.

Distrib. Tropical Africa.

POLYSPHÆRIA PEDUNCULATA, *K. Schum. in De Wild. Fl. Katanga*, 226
(ex descript.).

Bank of Lower Umswirizwi River, 1000 ft. ; Umtefu River, Lower Buzi,
500 ft. ; in fl. Jan., Feb. ; nos. 74, 1269.

Distrib. Congo Free State.

P. LANCEOLATA, *Hiern, in Oliver, Fl. Trop. Afr.* iii. 128.

Lower Umswirizwi River, 1000 ft. ; Boka, Lower Buzi, 100 ft. ; open
woods at Beira ; in fl. Nov., Dec., in fr. Dec. ; nos. 1272, 1274, 1274 a, 1277.

Distrib. Mozambique, Nyasaland.

PENTANISIA VARIABILIS, *Harv. in Hook. Lond. Journ. Bot.* i. (1842) 22.
Var. INTERMEDIA, *Sond. in Harv. Fl. Cap.* iii. 24. In short grass near
Chirinda, 3800 ft. ; n. 423.

Distrib. Mozambique, Nyasaland, South Africa.

P. SCHWEINFURTHII, *Hiern, in Oliver, Fl. Trop. Afr.* iii. 128.

Melsetter at 6000 ft. ; Mt. Pene, 7000 ft. ; Northern Melsetter, 5000-
6000 ft. ; in fl. April, Oct. ; nos. 2146, 6103, 6104, 6213.

Distrib. Central Lake region to Rhodesia.

CANTHIUM MICROCODON, *S. Moore*, sp. nov.

Frutex effusus, verisimiliter inermis, ramulis gracilibus ultimis foliosis
divaricatis appresse pubescentibus subinde puberulis, foliis brevissime petio-
latis parvulis anguste ovato-oblongis acutis basi obtusis subrotundatisve
membranaceis supra puberulis subtus præsertim in nervis subpubescentibus

novellis dense et appresse strigoso-pubescentibus costis secundariis utrinque 3-4 paullulum arcuatis facie superiore fere evanidis, stipulis parvulis basi latis inferne connatis subito in acumen breve rigidum exeuntibus extus strigoso-pubescentibus intus glabris, floribus 5-meris pro rata minimis paucis (nonnunquam usque ad 5) ex axillis fasciculatim ortis, pedicellis gracilibus calycem excedentibus pubescentibus, ovario depresso globoso hispidulo calycis limbo campanulato triente inferiore indiviso brevior, calycis lobis anguste lineari-oblongis obtusiusculis, corollæ campanulatæ lobis deltoideis acutiusculis extus pilosis tubo glabro æquilongis, staminibus corollæ faucibus villosis insertis subinclusis antheris ambitu ellipticis apice mucronulatis, stylo subincluso glabro, stigmate subgloboso utrinque truncato longitrorsum sulcato.

Hab. Portuguese East Africa, Madanda forests, at about 400 ft. ; in fl. Dec. ; n. 552.

Folia 2-3.5 cm. long., 1-2 cm. lat. ; petioli 1-2 mm. long. Stipulæ 3 mm. long. Pedicelli summum 3 mm. long. Flores lutescenti-virides. Ovarium 0.6 mm. long. Calycis limbus totus 1.2 mm. long., lobi 0.9 mm. long. Corolla in toto 3 mm. long. ; tubus 1.5 mm. long., circa 2 mm. lat. ; lobi 1.5 mm. long. Antheræ subsessiles, 0.75 mm. long. Stylus fere 2 mm. long. Stigma 0.5 × 0.7 mm.

Close to *C. telidosma*, S. Moore (*Plectronia telidosma*, K. Schum.), known to me by description alone : this has still smaller leaves, subulate stipules, solitary flowers with even smaller corollas divided only one-third of the way down, and exserted stamens.

CANTHIUM LIVIDUM, *Hiern*, in *Oliver, Fl. Trop. Afr.* iii. 144.

Madanda forests at about 400 ft. ; in fl. Dec. ; n. 2154.

Distrib. Zambesia.

A large shrub with trailing branches.

CANTHIUM SWYNNERTONII, *S. Moore*, sp. nov.

Frutex vel arbuscula spinis (anne semper?) alternis patentibus sat validis onustus, ramulis divaricatis subteretibus juvenilibus summum obscure puberulis, foliis petiolatis lanceolatis obtusis basi gradatim angustatis membranaceis utraque facie glabris costis secundariis utrinque 4-5 ad medium vix dichotomis inde cum finitimis arcum valde latum referentibus, stipulis inferne connatis e basi lata subito in acumen breve exeuntibus extus glabris intus basi villosulis, floribus 5-meris parvulis in fasciculis axillaribus paucifloris ordinatis raro pedunculo communi perbrevis suffultis, pedicellis flores excedentibus minute puberulis, ovario subgloboso microscopice puberulo calycis limbum glabrum fere adusque basin in lobos late deltoideos obtusos vel acutiusculos partitum excedente, corollæ faucibus villosis exemptis glabræ tubo urceolari quam lobi lanceolato-oblongi obtusi paullo longiore, staminibus

subexsertis filamentis brevibus antheris ovatis sursum breviter extenuatis, stylo exserto glabro, stigmatе mitriformi.

Hab. Chirinda Forest, 3700-4000 ft. ; in fl. Nov. ; n. 546.

Rami ad nodos compressi aliter subteretes, cortice cinereo circumdati. Spinæ 1- fere 2 cm. long. Folia 4·5-7 cm. long., 1·8-2·5 cm. lat., in sicco facie superiore brunneo- facie inferiore griseo-viridia ; petioli 3-6 mm. long. Flores virides. Ovarium 1 mm. long. ; calycis limbus 0·4 mm. Corolla tota 4 mm. long. ; tubus 2·2 mm. long., inferne 2 mm. faucibus 1·6 mm. lat. ; lobi 1·8 mm. long. Filamenta 0·2 mm., antheræ 1 mm. long. Stylus vix 3 mm. long. ; stigma 0·5 mm. long., 1 mm. lat.

This has much the look of the South African *Plectronia spinosa*, Klotzsch, among other points of difference being the lanceolate leaves, the smaller ovary and corolla hairy at the throat. From spinous forms of *P. ventosa*, Linn., which it still more closely resembles, it can be easily told by the fasciculate (not corymbose) inflorescences and the smaller flowers with exserted stigma.

CANTHIUM GUEINZII, *Sond. in Linnaea*, xxiii. (1850) 54.

Chipete Forest Patch, Mt. Pene, 7000 ft. ; in fl. & fr. April, Oct. ; nos. 170, 6101.

Distrib. Natal, Nyasaland, Portuguese East Africa.

Singuni name, "Umhlalele ingonyama" (Await the lion). The slightly astringent black berries are eaten by natives.

CANTHIUM FRANGULA, *S. Moore*, sp. nov.

Frutex grandis, spinis mediocribus armatus, ramis sat validis cortice cinereo obductis ramulos perbreves etsi validos cicatricibus foliorum dilapsorum onustos copiose gignentibus, foliis sub apice ramulorum sitis parvulis petiolis gracilibus fultis ovato-oblongis obtusis sæpe breviter cuspidulatis membranaceis utraque pagina glabris costis secundariis utrinque 4-5 delicatulis arcuato-ascendentibus juxta marginem dichotomis, stipulis caducis inferne connatis lineari-lanceolatis sursum longe acuminatis extus glabris intus basi villosulis, floribus pro rata minimis 5-meris in dichasium simplex abbreviatum racemiforme pauciflorum gracillimum minute puberulum digestis, pedicellis gracillimis ovario turbinato-ovoideo longioribus, calycis limbo quam ovarium brevior in lobos triangulares acutos alte partito glabro, corollæ extus minute puberulæ ultra medium divisæ tubo late cylindrico intus ad os villosa ceteroquin glabro lobis lanceolato-oblongis apice brevissime acuminatis, staminibus corollæ ori insertis antheris sessilibus breviter exsertis oblongis obtusis, stylo incluso glabro, stigmatе mitriformi.

Hab. Madanda forests at about 400 ft. ; in fl. Dec. ; nos. 1403, 1894.

Rami summum 4 mm. diam., ramuli abbreviati circa 1 cm. long. Folia 1·5-3 cm. long., 8-13 mm. lat., in sicco olivacea vel castaneo-brunnea nec glauca. Stipulæ 2·5 mm. long. Dichasii ramus uterque 8 mm. long. ;

circa 4-florus. Pedicelli 1-3 mm. long. Flores luteo-virides. Ovarium 1.2 mm. long., calycis limbus 0.5 mm. Corolla tota 3 mm. long.; tubus 1.15 mm., lobi 1.85 mm. long., ille 2 mm. lat. Antheræ 0.8 mm. long. Stylus 1 mm. long.; stigma 0.4 × 0.6 mm.

To be placed next *C. glaucum*, Hiern, the chief differences being the not glaucous leaves, the simple inflorescences, longer ovary, larger calyx-lobes, corolla with shorter tube and longer and relatively narrower lobes not obtuse at the end, larger anthers and shorter style.

CANTHIUM MUNDTIANUM, *Cham. & Schlecht. in Linnæa*, iv. (1829) 131.

Mt. Umtereni, 4000 ft.; in fl. Sept.; n. 644. Chindao name, "Mugarandjerere" (Kite's perch).

Distrib. Natal, Transvaal.

A small tree with a straight sapling-like growth. The wood is extremely durable and resists white ants and borers.

CANTHIUM RACEMULOSUM, *S. Moore*, sp. nov.

Frutex amplus, inermis ramulis divaricatis subteretibus cortice cinereo obductis ultimis foliosis glabris, foliis petiolatis obovatis acutis breviterve cuspidulato-acuminatis basi rotundatis vel obtusis membranaceis supra glabris subtus minutissime puberulis costis secundariis utrinque 5-6 juxta marginem irregulariter arcuatis, stipulis cito dehiscentibus inferne connatis e basi lata sensim angustatis sursum linearibus extus glabris intus basi fulvo-vel stramineo-villosis, floribus parvis 5-meris in paniculas sessiles breviterve pedunculatas quam folia multo breviores e racemulis paucis compositas leviterque puberulas digestis, ovario ovoideo quam calycis limbus brevissimus subtruncatus longiore, corollæ extus microscopice puberulæ tubo late cylindrico intus ad os ipsum villosio lobis triangulari-oblongis apice acutis necnon brevissime barbellatis tubo æquilongis, antheris corollæ ori affixis subsessilibus subinclusis ovato-oblongis obtusis, disco puberulo, stylo breviter exserto, stigmate mitriformi longitrorsum sulcato.

Hab. Madanda forests at about 400 ft.; in fl. & fr. Dec.; n. 541.

Folia 4-8 cm. long., 2.5-4.5 cm. lat., in sicco castanea; petioli circa 5 mm. long., facie superiore canaliculati. Stipulæ 7-11 mm. long., harum basis 2.5-3 mm., pars linearis 4.5-8 cm. long. Flores virides. Pedicelli 1-2 mm. long., puberuli. Ovarium 1.25 mm., calycis limbus 0.25 mm. long. Corolla tota 5 mm. long. Antheræ 1.25 mm. long. Stylus 3 mm. long. Stigma 0.75 × 0.6 mm. Bacca cruda e coccis duobus sæpissime imparibus sistens, siccitate nigrescens, 3 × 2.5-3 mm.

Differs from *C. gracile*, Hiern, for which it might be mistaken on a first view, chiefly in the broader leaves, the smaller flowers with corollas hairy at the mouth itself instead of a short way down the tube, the smaller obtuse anthers, and the shorter style.

CANTHIUM VENTOSUM, *S. Moore*, comb. nov.

Plectronia ventosa, Linn. Mant. 52.

In open, short grass-veld on Mt. Pene at 6500 ft. ; in fl. Sept. ; n. 547.

Distrib. South Africa.

VANGUERIA INFAUSTA, *Burch. Trav.* ii. 258.

Near Chirinda; Chikore Hills; Madanda forests; Umhlonhlo, Lower Buzi ; in fl. Oct.–Dec. ; nos. 63, 1290, 1291, 1292. Chindao name, “Munjiro.”

Distrib. Tropical and S. Africa.

V. EDULIS, *Vahl, Symb.* iii. (1794) 36.

Chibabava, Lower Buzi ; in fl. Dec. ; n. 540. Chindao name, “Munjiro.”

Distrib. Tropical Africa, Madagascar ; also East Indies, where probably introduced.

VANGUERIA ESCULENTA, *S. Moore*, sp. nov.

Frutex elatus vel arbuscula ramulis sat attenuatis patentibus rigidis cortice subfusco obductis ultimis paucifoliatis diutule pubescentibus, foliis parvulis brevipetiolatis lanceolatis vel lanceolato-ovatis sursum attenuatis apice obtusis basi rotundatis membranaceis utraque facie præsertim vero in nervis fulvo-pubescentibus costis secundariis utrinque circa 6 aperte arcuatis, stipulis e basi lata linearibus acutis pubescentibus, floribus pro rata mediocribus in cymas paucifloras sat longas præcipue ex axillis jam defoliatis ortis digestis, calycis tubo (ovario) hemisphærico puberulo limbo æquilongo limbo in lobos 4 vel 5 triangulares obtusos acutosve alte diviso obscure puberulo, corollæ tubo calycem plane excedente etsi brevi cylindrico sub limbo puberulo ore villosulo lobis 4 vel 5 tubo brevioribus oblongis acutis extus puberulis, antheris ori corollæ affixis breviter exsertis apice acutis, ovario 4–5-loculari, stylo breviter exserto, stigmathe cylindræo-capitato.

Hab. Chirinda Forest, 3700–4000 ft. ; fl. Sept., Oct. ; n. 65.

Folia 3–4 (raro 5) cm. long., 1·2–2 (raro 2·5) cm. lat., in sicco viridia, subtus parum pallidiora ; petioli 4–5 mm. long., fulvo-pubescentes. Stipulæ circa 4 mm. long. Cymæ sæpissime 1–1·5 cm. long., pubescentes. Bracteæ ovatæ, circa 1·5 mm. long. Ovarium 1·2 mm. long., calycis lobi 1 mm. Corollæ tubus humectatus 4 mm. long., vix totidem lat. ; lobi 3 mm. long. Filamenta 0·5 mm., antheræ 1·75 mm. long. Discus maxime eminens. Stylus compressus, superne angustatus, glaber, 6 mm. long. ; stigma 0·6 mm. long.

Near *V. edulis*, Vahl, and *V. infausta*, Burch., but different from both in foliage and various floral details. The fruit, which is edible, is known as the “Chirinda Medlar.” This is the common “Munjiro” of the forest ; the bright gamboge fruits fall from the trees in March and April.

Var. *GLABRA*, *S. Moore*, var. nov. Folia glabra. Cymæ summum puberulæ.

Hab. Chirinda Forest ; in fl. Dec. ; n. 1307.

VANGUERIA MUNJIRO, *S. Moore*, sp. nov.

Frutex grandis, inermis, ramulos sat validos nudos juveniles breviores foliosos dense pubescentes emittens, foliis brevipetiolatis oblongo-obovatis obtusis vel obtusissimis basi cuneatim angustatis membranaceis utrobique sed præsertim subtus molliter pubescentibus (novellis fulvo-tomentellis) costis secundariis utrinque 8 patule ascendentibus aperte arcuatis, stipulis linearibus pubescentibus diutule persistentibus, floribus mediocribus in cymulas paniculatas brevipedunculatas quam folia breviores pubescentes digestis, ovario depresso globoso quam pedicelli nunc longiore nunc brevior ut limbus in lobos 5 triangulares obtusos obtusiusculosve alte partitus dense pubescente, corollæ pubescentis tubo late cylindrico quam lobi 5 oblongo-lanceolati apice acuminati paullulum brevior faucibus villosis, staminibus subinclusis filamentis faucibus insertis quam antheræ apice apiculatæ paullo brevioribus, stylo breviter exserto crassiusculo superne paullulum attenuato puberulo, stigmate pileato.

Hab. Kurumadzi River, Jihu, at 2000 ft. ; fl. Nov. ; n. 1293.

Folia majora 9-10 × 4.5-5 cm., minora 3.5-6 × 2-3 cm., basi sæpe parum obliqua ; costæ supra planæ subtus leviter prominulæ ; petioli circa 5 mm. long., dense pubescentes. Stipulæ circa 6 mm. long. Paniculæ 3-4 cm. long., 3-6 cm. diam. Flores virides. Ovarium 1.5 mm., calycis limbus 1 mm. long. Corolla 7.5 mm. long. ; tubus 3.5 mm. long., 2.5 mm. diam. ; lobi 4 mm. long., mox reflexi. Filamenta 1 mm. long., antheræ 1.6 mm. Stylus ægre 5 mm. long., stigma 0.13 mm.

A plant of familiar appearance, which I have been unable to match either from specimens or descriptions. Small-leaved forms of *V. infausta*, Burch., might be mistaken for it, but the acuminate corolla-lobes of *V. Munjiro* afford an easy means of discriminating between the two. *V. Volkensii*, K. Schum., with much the same foliage has different stipules and larger corollas with a glabrous tube and still more acuminate lobes.

This is the common "Munjiro" of the Jihu. There is another specimen of it in the British Museum from Victoria, Rhodesia (*Monro*, 605 A).

VANGUERIA SPARSIFOLIA, *S. Moore*, sp. nov.

Frutex elatus, inermis, copiose ramulosus, glaber, ramulis attenuatis maxime divaricatis infra apicem solummodo foliosis, foliis parvis anguste ovato-oblongis raro anguste obovatis sursum gradatim attenuatis apice obtusis vel obtusissimis nonnunquam emarginatis basi in petiolum brevem angustatis membranaceis costarum axillis pubescentibus exemptis glabris costis secundariis utrinque 4 ascendentibus parum perspicuis, stipulis ima basi latis ibique connatis necnon intus villosulis inde subito in appendicem linearem glabram exeuntibus, floribus 5-meris parvulis in cymas umbelliformes breviter pedunculatas 2-4-floras glabras dispositis, pedicellis ovarium excedentibus, ovario subgloboso calycis limbum brevem dentatum excedente 3-4-loculari, corollæ tubo cylindrico quam lobi lanceolato-oblongi obtusi plane

breviore intus ore villosa ceterum glabra, staminibus ori insertis antheris breviter exsertis subsessilibus ovatis apice apiculatis basi sagittulatis, stylo inferne crassiusculo sursum attenuato glabra, stigmatibus subexserto cylindrico utrinque truncato longitrorsum sulcato.

Hab. Madanda forests at about 400 ft. ; fl. Dec. ; n. 551.

Folia 2·5–4 (raro 5) cm. long., 1·2–2 cm. lat., in sicco utrinsecus præsertim vero pagina superiore viridia ; petioli circa 2 mm. long. Stipulæ circa 3 mm. long. Pedunculi 1–3 mm. long. Pedicelli filiformes, 2–4 mm. long. Flores lutescenti-virides. Ovarium 1·5 mm., calycis limbus 5 mm. long. Corolla in toto 5·5 mm. long. ; tubus 2 mm., lobi 3·5 mm. long. Antheræ 1·8–2 mm. long. Stylus 2·5 mm. long. ; stigma 1 mm. long.

The affinity of this is with *V. canthioides*, Benth., which has larger leaves, hairy pedicels and calyx, a corolla with a tube longer than the lobes, different anthers and a longer style.

VANGUERIA APICULATA, *K. Schum. in Engl. Pflanzenw. Ost-Afr.* C. 384.

Common in long grass on the outskirts of Chirinda Forest ; in fl. Dec. ; n. 64. "Small wild Medlar" ; Chindao name, "Munjiro."

Distrib. Tropical East Africa, northwards to Uganda.

VANGUERIA DRYADUM, *S. Moore*, sp. nov.

Frutex scandens, ramis gracilibus foliis jam orbis teretibus ut ramuli patentissimi foliosi pubescentibus deinde glabris et cortice fusco-purpureo obductis novellis dense pubescentibus, foliis parvulis brevipetiolatis ovato-vel lanceolato-oblongis obtusis obtusissimisve basi obtusis nonnunquam subrotundatis subcoriaceis utrinque velutinis, stipulis minutis lineari-subulatis pubescentibus brunneis, floribus mediocribus in foliorum axillis ramulorum brevium ultimorum solitariis pedunculis sat longis suffultis, ovario subgloboso ut pedunculi et calyx alte 5-partitus dense subfulvide sericeo 5-loculari, calycis lobis oblongo-oblancoatis obtusis ovarium multo excedentibus, corollæ extus pubescentis tubo calyce paullo breviori subcylindrico (medio paullulum ampliato) ore villosa intus infra medium pilorum annulo onusto lobis 5 lineari-lanceolatis acuminatis tubum leviter excedentibus, staminibus faucibus affixis breviter exsertis antheris anguste ovoideo-oblongis acutis, stylo exserto superne attenuato glabra, stigmatibus cylindræo apice convexo basi truncato 5-sulcato.

Hab. Madanda forests at about 400 ft. ; fl. Dec. ; n. 1030.

Folia vulgo 1·5–2·5 cm. long. (raro 2·5 cm.), 7–12 mm. lat., pagina inferiore grisea, pagina superiore griseo-olivacea ; costæ secundariæ utrinque 2–3, teneræ. Stipulæ circa 2 mm. long. Pedunculi 1·5 cm. attingentes, sæpe vero breviores. Flores dilute virides. Ovarium 2·5 × 2·5 mm. Calycis lobi 9–10 mm. long., sursum 4 mm. lat. Corollæ tubus 6 × 3 mm. ; lobi 7 mm. long. Filamenta tenuia, 1 mm. long., antheræ 1·5 mm. Stylus 1·25 cm. long.

In foliage much like *V. macrocalyx*, Sond., but in habit more slender than that, with much longer pedicels to the flowers, broader calyx-lobes, corolla with the lobes longer and differently shaped, &c.

FADOGIA CIENKOWSKII, *Schweinf. Rel. Kotsch.* 47.

Chirinda Forest and Mt. Pene; in fl. Sept., Oct., Dec.; nos. 241, 6122, 6502. Flowers very attractive to sun-birds (*Cyanomitra olivacea*) and to butterflies, especially *Papilio polixenes* and *P. angolensis*.

Distrib. African tropics, Transvaal.

CRATERISPERMUM LAURINUM, *Benth. in Hook. Niger Fl.* 411.

Near Chirinda; Mt. Umterani at 4000 ft.; open woods at Beira; in fl. Oct., fr. Dec.; nos. 183, 1069, 1070.

Distrib. West and South tropical Africa.

COFFEA (§ Exsertæ: Perennes) LIGUSTROIDES, *S. Moore*, sp. nov.

Fruticosa, glabra, novellis aliquanto resinosis, ramulis gracilibus leviter compressiusculis mox teretibus crebro foliosis, foliis oblongo-lanceolatis sæpissime cuspidulatis apice obtusis basin versus in petiolum brevem attenuatis tenuiter coriaceis costis secundariis utrinque circa 8 patulis parum arcuatis, stipulis a basi lata in acumen sat longum sensim abeuntibus, floribus in axillis solitariis pedunculis quam ovarium plane longioribus fultis, calyculo duplici a flore subremoto ore lobato vel subtruncato, ovario anguste ovoideo, calycis limbo obsolete, corollæ 4-meræ tubo infundibulari lobis ovato-oblongis obtusis quam tubus paullulum longioribus, staminibus 4 filamentis brevibus antheris exsertis lineari-oblongis obtusis, styli exserti ramis linearibus, ovulo medio septo affixo, bacca oblonga exsucca 1-sperma.

Hab. Chipete Forest Patch, 3800 ft.; in fl. Dec., ripe fr. July; n. 67.

Foliorum limbus glandulis pellucidis minutissimis copiosissime præditus, solemniter 5-7 cm. long. et 1.5-2 cm. lat., facie superiore in sicco olivaceo-fuscus, facie inferiore viridis; costæ superne subplanæ inferne eminentes. Stipulæ circa 4-5 mm. long. Pedunculi adusque 4 mm. long. Flores albi. Ovarium 1.5 mm. long. Corollæ tubus 5 mm. long., basi 1.5 mm. faucibus 3 mm. diam.; lobi 6 mm. long. Filamenta crassiuscula, 1 mm. long., antheræ 4 mm. Stylus 7 mm. long., ejus rami capitulati, 2 mm. long. Bacca ex schedis cl. detectoris flava, circa 1 cm. long. et 7 mm. lat. Semina 7.5 mm. long.

Known readily from allied species by the small leaves and tetramerous flowers.

“This is the shrub yielding Chirinda coffee; it forms the main undergrowth of the Chipete Forest Patch. The crop is always small though heavier in alternate years, the dense shade under which most of it grows being prejudicial to heavy cropping. The berries are greatly eaten by the forest bulbuls and robins as well as by baboons. The larvæ of a large white and brown longicorn beetle (*Anthores leuconotus*) destroy this shrub, entering

just above the ground and completely eating out the root and base of the trunk."

COFFEA (§ Exsertæ : Perennes) SWYNNERTONII, *S. Moore*, sp. nov.

Frutex ramulis superne foliosis teretibus cito fere glabris (novellis viscidis) cortice cinereo transversim rupto circumdatis, foliis parvis oblongis vel oblongo-lanceolatis obtusis basi in petiolum brevem attenuatis tenuiter coriaceis utrobique fere omnino glabris costis secundariis utrinque 4-5 inferioribus ascendenti-arcuatis superioribus patentibus costa marginali a margine satis distante anfractuoso, stipulis a basi lata subulatis rigidis, floribus iisdem temporibus ac folia genitis in axillis sæpius 2-4 breviter pedunculatis, calyculo simplici pedunculo inserto ore dentato, ovario ut calyculus calyxque secremento viscido obducto hemisphærico, calycis limbo brevissimo obscure denticulato, corollæ glabræ tubo infundibulari lobis 8-9 anguste ovato-oblongis obtusis quam tubus paullo longioribus, staminibus 8-9 exsertis filamentis quam antheræ fere 4-plo brevioribus antheris oblongis obtusis, styli exserti ramis elongatis linearibus, bacca anguste ovoideo-oblonga exsucca disperma.

Hab. Near Chirinda under cultivation at 3000 ft. ; Madanda forests at about 400 ft. ; fl. Oct., fr. Dec. ; nos. 578, 2133.

Folia summum 3.5 × 1.2 cm., modica 2.5 × 1 cm., pag. sup. punctis albis microscopicis copiosissime induta, in sicco supra subolivacea vel brunnea, subtus pallidiora ; petioli circa 2 mm. long. Stipulæ 2-2.5 mm. long. Pedunculi 1.5-2 mm. long. Calyculus vix 1 mm. long. Flores albi. Ovarium 1 mm. long. Calycis limbus 0.3 mm. long. Corollæ tubus 7 mm. long., basi 1.5 mm., faucibus 4.5 mm. lat. ; lobi summum 9 mm. long. Filamenta 1.5 mm., antheræ 5-6 mm. long. Stylus 11 mm. long. ; stigmatis rami 5 mm. Bacca 9 mm. long., 6.5 mm. lat. Semina 5.5 mm. long., fusco-grisea.

To be inserted next *C. stenophylla*, G. Don, from which it differs chiefly in the much smaller not caudate-acuminate leaves, the short stipules, the short-toothed calyculus, and the smaller berries and seeds.

N. 2133 is the plant in flower ; n. 578 is surmised by Mr. Swynnerton, and I believe correctly, to be the fruiting state. N. 579 (in fruit) from Malata near the mouth of the Buzi (the "Inyambane coffee" of settlers) may perhaps be a form of the same with somewhat larger leaves (up to 4.5 × 2 cm.).

"This coffee grows wild in quantities on the Juababa River, Portuguese E. Africa, at about 1000 ft. Seed brought thence a few years ago." The coffee yielded by these berries is said to be of excellent quality.

PAVETTA GRACILLIMA, *S. Moore*, sp. nov.

Fruticulus ramis tenuibus teretibus nudis cortice albo circumdatis ramulos gracillimos apice foliosos minute puberulos dein glabros gignentibus,

foliis parvulis oblanceolatis vel oblanceolato-oblongis apice obtusis obtusissimisve nunc brevissime cuspidulatis inferne in petiolum brevem sensim contractis tenuiter membranaceis supra scabriusculis subtus præsertim in nervis puberulis costis secundariis utrinque 5-6 ascendentibus juxta marginem ipsum solummodo arcuatis utraque facie parum aspectabilibus, stipulis inna basi connatis parvulis deorsum latis sursum in acumen breve rigidum exeuntibus intus villosulis diutius persistentibus, floribus submediocribus 4-meris in paniculis terminalibus perbrevibus subumbellatis griseo-pubescentibus plurifloris dispositis, pedicellis calyces subæquantibus, ovario calycis limbo breviori oblongo-ovoideo griseo-pubescente, calycis pubescentis limbo in lobos 4 anguste lineari-lanceolatos acuminatos alte partito, corollæ tubo calycis limbum triplo excedente extus glabro intus juxta fauces pilosulo lobis oblongo-lanceolatis acutis quam tubus manifeste brevioribus, staminibus exsertis corollæ ori affixis, stylo longe exserto sursum minutissime puberulo, stigmate clavellato integro papilloso.

Hab. Madanda forests at about 400 ft. ; in fl. Dec. ; n. 1260 *a*.

Folia 3.5-4 cm. long., 1.3-2 cm. lat., in sicco griseo-viridia ; petioli summum 5 mm. long. sed plerumque breviores ; stipulæ circa 2-3 mm. long. Inflorescentiæ circa 3 cm. diam., floribus exemptis summum 5 mm. long. sed plerumque breviores. Pedicelli plerique 3-4 mm. long. Flores albi. Ovarium 1.2 mm. long., calycis limbus 4.5 mm. Corollæ tubus 1.3 cm. long., humectatus inferne 0.7 mm. superne 1.3 mm. lat. ; lobi 5 mm. long. Antheræ anguste lineares, acutæ, 4 mm. long. Stylus 2.8 cm., stigma 2 mm. long.

Differs from *P. Klotzschiana*, K. Schum., chiefly in the longer pedicels, the smaller and narrower lobes of the calyx, and the slender tube of the corolla.

PAVETTA KLOTZSCHIANA, *K. Schum. in Engl. Pflanzenw. Ost-Afr. C.* 388.

Madanda forests at about 400 ft. ; Lower Buzi ; in fl. Dec. ; nos. 1259, 1260. Shrub with white flowers ; on limestone.

Distrib. Nyasaland and Mozambique.

PAVETTA BUZICA, *S. Moore*, sp. nov.

Fruticosa, glabra, ramulis gracillimis cortice albido mox obductis apice foliosis, foliis parvulis subsessilibus oblanceolatis apice ipso acutis vel obtusiusculis nonnunquam brevissime cuspidulatis inferne gradatim extenuatis tenuiter membranaceis in sicco griseo-viridibus costis secundariis utrinque 4-5 ascendentibus, stipulis parvulis connatis ovatis acuminatis apice rigidis intus villosulis, floribus 4-meris ad normam generis parvis in paniculas terminales abbreviatas dispositis, pedicellis calycem circa semiæquantibus, ovario subgloboso quam calycis limbus in lobos 4 anguste lineari-lanceolatos acuminatos alte partitus multo breviori, corollæ tubo calycis limbum plus quam duplo superante lobis lanceolato-oblongis acutis tubum fere semiæquantibus,

staminibus exsertis corollæ ori affixis antheris anguste linearibus apiculatis, stylo longe exserto apice clavellato.

Hab. Umhlonblo, Lower Buzi ; in fl. Jan. ; n. 1259 a.

Folia 2·5–5 × 5–1·8 cm. ; petioli summum 3 mm. long., sæpe vero breviores nisi evanidi. Stipulæ 2–4 mm. long. Inflorescentiæ circa 1·5 cm. diam., corollis exclusis modo 5 mm. long. Flores albi. Pedicelli ± 2 mm. long. Ovarium 0·65 mm., calycis limbus vix 4 mm. long. Corollæ tubus inferne intus puberulus 9 mm. long., inferne 0·6 mm. superne 1 mm. lat. ; lobi 4 mm. long. Antheræ subsessiles 4 mm. long. Stylus 2 cm. long., stigma 1·5 mm.

Near *P. gracillima*, described above, from which it differs in the absence of a hairy covering, in the somewhat smaller leaves, the shorter pedicels, globose ovary, and corollas with a shorter tube and shorter and narrower lobes.

PAVETTA STIPULOPALLIUM, *K. Schum. in Warb. Kunene-Samb. Exped.* 393. Nyahodi River at 5000 ft. ; in fl. April ; n. 2147.

Distrib. Angola, Rhodesia.

P. SCHUMANNIANA, *K. Hoffm. ex K. Schum. in Pflanzenw. Ost-Afr.* C. 389.

Chikore Hills, 3500 ft. ; in fl. Nov. ; n. 1212.

Distrib. Angola to Eastern tropical Africa.

PAVETTA ALBICAULIS, *S. Moore*, sp. nov.

Fruticosa, ramis validis nodosis stipularum diu persistentium reliquiis onustis glabratis albis novellis griseo-velutinis, foliis apicem versus ramulorum juniorum congestis obovato-oblongis sursum angustatis obtusis basi in petiolum brevem gradatim desinentibus firme membranaceis supra hispidulo-pubescentibus subtus griseo-velutinis costis secundariis utrinque circa 12 patentibus leviter arcuatis, stipulis basi vaginatim connatis ovatis caudato-acuminatis extus griseo-velutinis, floribus mediocribus pedicellatis in axillis ramorum jam foliis orborum dense cymosis tetrameris, ovario subsphæroideo ut pedicelli calycisque limbus pubescente, calycis parvuli limbo circa medium usque in lobos triangulares obtusos diviso, corollæ tubo calycem multoties excedente superne amplificato glabro (intus vix omnino glabro) lobis oblongis obtusissimis tubo multo brevioribus, stylo longe exserto apice clavellato.

Hab. Open woods at Beira ; in fl. Dec. ; n. 1261.

Rami florigeri 3–4 mm. diam., cortice coriaceo albo nullo negotio separabili circumdati ; internodia solemniter circa 2 cm. long. Folia ± 6 cm. long., 2–3 cm. lat. ; petioli 5 mm. long., vel etiam minus. Stipulæ 7 mm. long. Cymæ sessiles, multifloræ. Pedicelli circa 7 mm. long., pubescentes. Flores albi. Ovarium 1·2 mm. long., calyx totidem. Corollæ tubus 15 mm. long.,

inferne 0·75 mm., superne 1·5 mm. diam.; lobi 4·5 mm. long. Stylus 30 mm. long.

Allied to *P. Schumanniana*, F. Hoffm., but different in the long pedicels and in the corolla.

PAVETTA COMOSTYLA, *S. Moore*, sp. nov.

Fruticosa, ramis defoliatis cortice dilute brunneo obductis ramulos breves foliosos glabros apicem versus emittentibus, foliis ovatis obovatisve breviter cuspidatis apice obtusis basi in petiolum manifestum cuneatim angustatis membranaceis utraque facie glabris margine obscure denticulatis denticulis ciliolatis in sicco nigrescentibus subtus lividis costis secundariis utrinque circa 8 ascendentibus paullulum arcuatis; stipulis late ovatis acutis intus hirsutis diuscule persistentibus, floribus in corymbum brevem glabrum foliis brevioribus congestis, bracteis minutis setaceis, floribus 4-meris, calycis tubo (ovario) pedicello brevioris hemisphærico limbo tubum bene excedente alte lobato lobis linearibus acutis extus puberulis, corollæ tubo gracili calycem magnopere superante extus glabro intus piloso lobis tubo triplo brevioribus, antheris sessilibus exsertis, stylo longissimo glabro, stigmatibus parum incrassato integro.

Hab. Chirinda Forest, 3700–4000 ft.; in fl. Jan.; n. 75.

A large shrub not uncommon in Chirinda, where its masses of white panicles make a great show during January.

Foliorum limbus 7–9 × 4–5·5 cm.; petioli circa 1 cm. long. Stipulæ 5 mm. long. Corymbi 4 × 6 cm. Pedicelli ± 3 mm. long. Flores albi. Calycis tubus 1·2 mm., limbus 5 mm. long., hujus lobi 4 mm. Corollæ tubus 1·8–2 cm. long., inferne 1·5 mm. superne 2 mm. diam.; lobi anguste oblongo-obovati, acutiusculi, 6 mm. long., crassiusculi. Antheræ 5·5 mm. long. Stylus modo non 5 cm. long.; stigma 2 mm. long.

This has some resemblance to *P. angolense*, Hiern, but among other features its leaves are smaller and differently shaped, and the calyx-lobes are shorter and not setaceous.

PAVETTA SALIGNA, *S. Moore*, sp. nov.

Frutex grandis, crebro ramulosus, glaber, ramulis tenuibus cito cortice cinereo circumdatis ad nodos aliquantulum tumidis, foliis lineari-vel oblongo-lanceolatis sursum gradatim extenuatis apice obtusis basi in petiolum brevem cuneatim coartatis tenuiter coriaceis in sicco olivaceo-fuscescentibus supra nitidulis costis secundariis utrinque 6–7 ascendentibus marginem versus dichotomis, stipulis parvulis diu persistentibus ovatis obtusiusculis firmis extus glabris intus appresse pubescentibus, floribus 4-meris pro rata parvis in paniculas terminales paucifloras a foliis superatas digestis, pedicellis ovarium longe excedentibus, ovario turbinato quam calycis limbus cupuliformis ore denticulatus paullulum brevioribus, corollæ tubo calycis limbum duplo

excedente stricte cylindrico quam lobi ovato-oblongi obtusi vel emarginati brevior intus faucibus villosis, staminibus exsertis antheris lineari-oblongis breviter apiculatis, stylo subincluso sursum incrassato ibidemque villosulo stigmati anguste fusiformi acuto obscure puberulo æquilongo.

Hab. Lower Buzi, Chironda and Boka; in fl. Dec.; nos. 1262, 1263.

Folia solemniter 5–10 cm. long., 1–2.7 cm. lat.; costularum rete sablaxum, modice perspicuum; petioli sat validi, 3–6 mm. long. Stipulæ 2 mm. long. Corymbi 3–4 cm. long., et totidem diam. Pedicelli circa 1 cm. long. Flores albi. Ovarium 1.5 mm. long., calycis limbus 2 mm. Corolla in toto 1 cm. long.; tubus 4 mm. long., 1.3 mm. diam.; lobi 6 mm. long. Stylus 5.5 mm. long., stigma 5.5 mm.

Near *P. neurophylla*, S. Moore, but, among other features, the leaves are shorter in the petiole and in texture thinner; the cupular calyx is quite different, and the tube of the corolla much shorter and broader.

PAVETTA SWYNNERTONII, S. Moore, sp. nov.

Arbuscula vel frutex elatus, ramulis subteretibus ultimis foliosis una cum novellis glabris, foliis lanceolatis vel oblanceolato-oblongis sæpius cuspidato-vel caudato-acuminatis apice obtusis basi in petiolum sat longum gradatim attenuatis utrinque glabris tenuiter coriaceis in sicco nigrescentibus nitidis costis secundariis 7–8 parum arcuatis supra impressis subtus eminentibus utrinque percursis, stipulis e basi lata rigida subulato-setaceis diu persistentibus extus glabris intus pubescentibus, corymbis breviusculis plurifloris terminalibus necnon ex axillis summis oriundis foliis æquilongis vel brevioribus, bracteis subulatis quam pedicelli pubescentes brevioribus, floribus 5-meris, calycis tubo (ovario) parvo subhemisphærico limbo brevi ad $\frac{1}{2}$ lobato pubescente hujas lobis triangularibus obtusis, corollæ extus glabræ intus pubescentis tubo calycis limbum 5-plo excedente limbo tubum æquante lobis oblongis obtusissimis, antheris subsessilibus exsertis, stylo exserto inferne filiformi et glabro in medio incrassato et pubescente, stigmatate clavato integro.

Hab. Chirinda Forest, at 3700–4000 feet; in fl. Jan.; n. 117.

Folia 8–14 cm. long., 3–5 cm. lat., summa minora, e. g. 5 × 2.5 cm.; petioli 1–2 cm. long. Stipulæ 6 mm. long. Corymbi 6–8 cm. long., circiter totidem diam. Bracteæ ultimæ 1 mm., pedicelli circa 2 mm. long. Flores albi. Ovarium 1.2 mm. long. Calycis limbus in toto 1.2 mm., lobi 0.5 mm. long. Corollæ tubus 6 mm. long., humectatus 1.5–1.8 mm. diam.; limbi lobi crassiusculi, 2 mm. lat. Antheræ apice mucronulatæ, 5 mm. long. Stylus vix 1 cm., stigma 3 mm. long. Baccæ nitentes, glabræ, 5 mm. diam.

This also is near *P. neurophylla*, but the leaves and calyces are quite different.

PSYCHOTRIA BUZICA, *S. Moore*, sp. nov.

Frutex altitudinis mediocris, ramulis teretibus cortice aloïdo obductis novellis compressis puberulis mox glabris, foliis oppositis vel ternis lanceolato-oblongis vel anguste oblongo-obovatis obtusis basin versus in petiolum brevem angustatis papyraceis glabris vel summum leviter puberulis plus minus præsertim pagina inferiore griseo-viridibus costis secundariis utrinque 5 late arcuatis facie inferiore solum prominulis, stipulis ima basi connatis ovatis sursum bifidis extus puberulis intus pubescentibus segmentis aristiformibus sæpe leviter recurvis, floribus pro rata mediocribus 5-6-meris heterostylis in umbellas terminales pedunculatas paucifloras digestis, pedunculis gracilibus quam folia brevioribus puberulis vel glabris, bracteis perpaucis parvulis, pedicellis floribus subæquilongis brevioribusve, calycis tubo (ovario) subhemisphærico limbo cyathiformi ore denticulato æquilongo, corollæ paullo ultra medium divisæ extus glabræ tubo cylindrico faucibus villosis lobis oblongis obtusis apice incrassatis dein reflexis, staminibus paullulum infra loborum sinus insertis nunc inclusis nunc exsertis filamentis florum macrostylorum valde abbreviatis, antheris lineari oblongis obtusis, stylo incluso vel exserto superne incrassato ramis 2 obovatis obtusissimis terminato.

Hab. Madanda forests at about 400 ft. ; Boka, Lower Buzi, 100 ft. ; in fl. Dec. ; nos. 562, 562 *a*.

Folia pleraque 5-6 cm. long., 2-3 cm. lat. ; petioli summum 5 mm. long. Stipulæ circa 3-4.5 mm. long., harum segmenta 1.5-2 mm. long., omnes membrana intermedia tenui albida instructæ. Pedunculi usque ad 3.5 cm. long., sæpe vero breviores. Pedicelli \pm 3 mm. long. Flores albi. Ovarium 1.25 mm. long. Corolla 6.5 mm. long. ; tubus 3 mm., lobi 3.5 mm. long. Filamenta florum aliorum 0.4 mm. long., aliorum 2 mm. ; antheræ 1.5 mm. long. Stylus nunc 6 mm. long., nunc ad 3 mm. redactus ; rami 0.6 mm. long.

To be inserted near *P. pumila*, Hiern, which has broader leaves, longer stipules, ebracteate umbels on short peduncles, ovate corolla-lobes, a bidentate style, &c. Probably to be referred here, though the leaves are more hairy (the flowers are still in bud), is another Madanda specimen (n. 1899).

PSYCHOTRIA MADANDENSIS, *S. Moore*, sp. nov.

Fruticosa ramis teretibus cortice albo circumdatis ad nodos prominenter cicacitriferis novellis sub lente puberulis, foliis 2-4-nis petiolatis oblanceolatis vel lanceolato-linearibus acutis basi sensim coartatis papyraceis costarum axillis facie inferiore pubescentibus exemptis glabris in sicco olivaceis subtus pallidioribus costis secundariis utrinque 5 ascendenti-arcuatis, stipulis connatis parvulis ovatis bifidis segmentis aristiformibus, floribus submediocribus in paniculas terminales pedunculatas abbreviatas perpauciramosas obscure bracteatis dispositis sæpe ad merum umbellum redactis, pedunculis gracilibus quam folia manifeste brevioribus, pedicellis crassiusculis quam flores brevioribus, calycis tubo (ovario) oblongo-turbinato limbo cupulari ore minute denticulato

æquilongo, corollæ 5-meræ extus glabræ tubo cylindrico inferne costato faucibus villosis lobos oblongos acutos paullulum excedente, staminibus exsertis filamentis juxta medium tubum insertis antheris oblongis obtusis, stylo incluso sursum levissime incrassato glabro ramis obovatis cristulatis coronato.

Hab. Madanda forests, at about 400 ft. ; in fl. Dec. ; n. 561.

Folia 5·5–7 cm. long., 1·5–2·8 cm. lat. ; petioli 2–7 mm. long. Stipulæ 2 mm. long. Pedunculi 2 cm. attingentes, sed sæpe breviores. Pedicelli 1·5 mm. long. Ovarium 1 mm., calycis limbus 1 mm. long. Flores albi. Corolla in toto 4·5 mm. long. ; tubus 2·5 mm. long. Filamenta 1·7 mm. long. Stylus ægre 1·5 mm. long., hujus rami 0·6 mm. long. Bacca ovoidea, in sicco 9 × 5 mm.

Near the last, from which it differs in the leaves, the small stipules, the often paniculate inflorescences, and various details of the smaller flowers. Judging from the description and figure in *Ann. Mus. Congo*, ii. 180, t. xlii., the affinity is also with *P. Butayei*, De Wild.

GRUMILEA PUNICEA, *S. Moore*, sp. nov.

Frutex grandis, ramulis subtetragonis crebro foliosis inferne cicatricibus foliorum dilapsorum prominentibus ornatis ab initio glabris, foliis oblongo-oblancoelatis vel oblongo-ovatis obovatisve apice obtusis basi in petiolum brevem cuneatim angustatis coriaceis utrobique glabris vel pagina inferiore in nervis nervulisque piloso-puberulis costis secundariis utrinque 9–10 costæ centrali varie insertis leviter arcuatis axillis domatiis parvis instructis, stipulis mox dehiscentibus parvis inter se liberis ovatis superne angustatis bifidis apicibus acuminatis extus fere omnino glabris intus appresse fulvo-villosis, cymis foliis brevioribus sæpissime trifurcatis plurifloris puberulis, bracteis brevissimis necnon obtusissimis pilis aliquanto subramentaceis fulvis indutis, floribus sessilibus extus leviter puberulis, calycis tubo (ovario) obovoideo-turbinato quam limbus undulatus 5-lobatusve longiore, corollæ adusque $\frac{1}{3}$ divisæ tubo superne leviter ampliata intus dimidio superiore villosa limbi lobis ovato-oblongis obtusiusculis subinde reflexis, staminibus breviter exsertis, stylo incluso glabro, bacca nondum matura subsphæroidea obscure puberula.

Hab. Chimanimani Mountains at 7000 ft. ; in fl. and fr. (unripe) Sept. ; n. 563.

Folia 5–10 cm. long., 2·5–3·5 cm. raro adusque 6·5 cm. lat., in sicco plus minus brunneo-olivaceo-viridia ; costæ supra planæ, subtus eminentes ; rete videre vix potuimus ; petioli 0·5–1·5 cm. long., crassiusculi. Stipulæ 4–5 mm. long. Cymæ evolutæ circa 2·5 cm. long. ; pedunculus communis tandem 2·5 cm. long. Flores albi. Ovarium 2 mm. long. ; calycis limbus 1·2 mm. long. ; lobi dum adsint deltoidei, obtusi, summum 0·8 mm. long. Corollæ tubus 4·5 mm. long., basi 2 mm. faucibus 3 mm. lat. ; lobi 2·25 mm. long. Filamenta juxta medium tubum inserta, ægre 2 mm. long. ; antheræ 0·8 mm. long. Discus 1·5 mm. alt., crassus. Stylus 2·5 mm. long., hujus rami 1 mm.

Bacca sicca 5×5.2 mm., calycis reliquiis fere evanidis coronata, punicea. Seminum albumen ruminatum.

Nearest *G. oblanceolatum*, K. Schum., which, among other features, has narrower leaves, entire stipules, and smaller yellow flowers. One of the specimens, numbered as above, has larger and broader leaves, puberulous on the nerves of the underside, but there seems no reason for considering it specifically different from the others.

GEOPHILA UNIFLORA, Hiern, in *Fl. Trop. Afr.* iii. 221.

Forming a carpet in many parts of Chirinda Forest, 3700–4000 ft.; in fl. March; n. 350.

Distrib. Tropical Africa.

OTIOPHORA INYANGANA, N. E. Br. in *Kew Bull.* 1906, 107.

Near and on Mt. Pene, in open short-grass veldt 7000 ft.; in fl. Sept., Oct.; nos. 2007, 6146.

Distrib. Rhodesia.

GALOPINA CIRCEOIDES, Thunb. *Nor. Gen.* i. 3.

Near Chirinda; in fl. & fr. April; n. 317.

Distrib. South Africa.

Apparently not hitherto recorded as tropical; but there is at Kew a specimen from Mafusi, Mozambique, collected recently by Archdeacon Johnson.

ANTHOSPERMUM LANCEOLATUM, Thunb. *Prod. Fl. Cap.* 32.

Mount Maruma, 3500 ft.; in fl. & fr. Sept.; n. 2148.

Distrib. Uganda to South Africa.

ANTHOSPERMUM AMMANIOIDES, S. Moore, sp. nov.

Fruticulus caule erecto satis valido superne ramuloso ut ramuli hispidulo-pubescente demum glabro, foliis ternatis sessilibus lineari-lanceolatis acuminatis supra scabriusculis subtus hispidulo-pubescentibus verticillis junioribus approximatis senioribus satis distantibus, stipulis integris a basi lata subulato-filiformibus sparsim hispidulis, floribus masculis in axillis fasciculatis breviter pedicellatis tetrameris, calycis limbo subobsoleto, corollæ lobis tubum excedentibus ovato-oblongis obtusiusculis revolutis, floribus femineis ignotis.

Hab. Melsetter, 6000 ft.; in fl. April; n. 2156.

Folia profecto evoluta 2–3 cm. long., juniora ± 1 cm., 2–4 mm. lat., firme membranacea, supra fusca, subtus grisea. Stipulæ 2–3 mm. long. Pedicelli addito ovarii rudimento vix ab iis secernendo 0.75 mm. long. Corollæ tubus 1 mm., lobi 2 mm. long. Stamina exserta; filamenta tenuissima, fere 3 mm., antheræ 1.75 mm. long.

Known by its indumentum, entire stipules, ternate leaves, and fascicled flowers. The affinity is with *A. hispidulum*, E. Mey.

ANTHOSPERMUM VALLICOLUM, *S. Moore*, sp. nov.

Fruticulus ramosus ramulis patenti-ascendentibus crebro foliosis subteretibus minutissime puberulis, foliis verticillatis linearibus apice mucronulatis ima basi inter se necnon cum stipulis vaginatim connatis margine revolutis subtus microscopicè puberulis, stipulis parvulis integris subulatis, floribus masculis ignotis, floribus femineis in axillis ramulorum perbrevium axillarium parvifoliorum fasciculatis, calycis lobis 4 deltoideis acutis vel acuminatis, corolla ignota, coccis plano-convexis glabris.

Hab. Chimanimani Mts. at 7000 ft., forming thickets in the glens; in fl. Sept.; n. 2155.

Folia adulta usque ad 4 cm. long., 1-3 mm. lat. (ramulorum fertilium 1 cm. long.), membranacea, in sicco grisea. Stipulæ ± 1 mm. long. Fructuum calycis lobi persistentes ± 1 mm. long. Cocci exsiccati ægre 2 mm. long.

Recognized by the long and narrow leaves, with the very short fertile branches crowded with small leaves in their axils. The affinity appears to be with *A. pachyrrhizum*, Hiern.

RICHARDSONIA BRASILIENSIS, *Hayne*, *Arzn. Gew.* viii. t. 21.

Near Chirinda, 3700 ft.; in fl. & fr. Nov.; n. 2134.

Distrib. Zambesia to Natal. Also in Tropical America.

BORRERIA NATALENSIS, *K. Schum.* MS.

Spermacoce natalensis, Hochst. in *Flora*, xxvii. (1844) 555.

Near Chirinda; in fl. May; nos. 376, 518.

Distrib. Natal to Mozambique.

RUBIA CORDIFOLIA, *Lim.* *Syst.* 229.

Near Chirinda, 3800 ft.; in fl. April; n. 216.

Distrib. Tropical and South Africa, East Asia and Malaya.

GALIUM STENOPHYLLUM, *Baker*, in *Kew Bull.* 1895, 69.

Near Chipete Forest Patch, 3800 ft.; in fl. & fr. July; n. 2141.

Distrib. Uganda to Nyasaland.

DIPSACEÆ.

SCABIOSA COLUMBARIA, *Linn. Sp. Pl.* 99.

Near Chirinda and Mt. Pene; in fl. April, Sept.; nos. 278, 1143.

Distrib. Throughout Africa; also in Europe and the Orient.

COMPOSITÆ.

The following weeds are in the collection:—*Ethulia conyzoides*, Linn. fl., *Vernonia cinerea*, Less., *Mikania scandens*, Willd., *Ageratum conyzoides*, Linn., *Adenostemma viscosum*, Forst., *Conyza agyptiaca*, Ait., *Erigeron*

canadense, Linn., *Dichrocephala latifolia*, DC., *Pluchea dioscoridis*, DC., *Blumea lacera*, DC., *Eclipta alba*, Linn., *Siegesbeckia orientalis*, Linn., *Bidens pilosa*, Linn., *Spilanthes Acnella*, Linn., *Gynura cernua*, Benth., and *crepidioides*, Benth., *Emilia sagittata*, DC., and *Sonchus oleraceus*, Linn.

ERLANGEA LONGIPES, *S. Moore*, in *Journ. Linn. Soc., Bot.* xxxv. (1902) 313.
Near Chiriinda; Melsetter and Upper Buzi; in fl. April, Sept.; nos. 391, 1809, 1809 a.

Distrib. Central Lake Region to Rhodesia.

VERNONIA BAINESII, *Oliver & Hiern*, in *Oliver, Fl. Trop. Afr.* iii. 272.
Source of Chipetzana, 4000 ft.; hills between Lusitu and Nyahodi rivers, 5000 ft.; in fl. April; nos. 1903, 1903 a.

Distrib. Northern Transvaal.

V. POSKEANA, *Vatke & Hildebr.* in *Oest. Bot. Zeitschr.* xxv. (1875) 324.
Var. CHLOROLEPIS, *O. Hoffm.* in *Bol. Soc. Brot.* x. 171. Madanda forests at about 400 ft.; Chipetzana River at 3000 ft.; in fl. April, Dec.; nos. 1828, 1828 a.

Distrib. (of var.). Tropical East Africa to Angola.

V. HOLSTII, *O. Hoffm.* in *Engl. Bot. Jahrb.* xx. (1894) 220.
Outskirts of Chiriinda, 3700-4000 ft.; in fl. June; n. 523 a.
Distrib. Tropical East Africa.

VERNONIA (§ *Lepidella*) ACUMINATISSIMA, *S. Moore*, sp. nov.

Herbacea caule erecto rariramoso ut rami fulvo- vel griseo-hirsuto-pubescente, foliis sessilibus oblanceolatis vel oblanceolato-oblongis obtusis vel pungenti-mucronatis basin versus leviter angustatis integris denticulatisve membranaceis utrinque sed præsertim pagina inferiore appresse hirsuto-pubescentibus, capitulis submediocribus circa 50-flosculos paniculam sub-corymbosam folia magnopere excedentem laxè paucicephalam bracteata hirsuto-pubescentem referentibus, bracteis lineari-lanceolatis superioribus linearibus apicè pungenti-acuminatis hirsuto-pubescentibus, involucri late campanulati hirsuto-pubescentis 4-serialis phyllis exterioribus angustissime linearibus quam interiora lineari-lanceolata plane brevioribus sæpè recurvis phyllis omnibus sursum spinuloso-acuminatis, flosculis breviter exsertis purpureis, achæniis cylindricis 5-costatis inter costas pilis strigillosis appressis onustis, pappi squamis linearibus acutiusculis quam setæ uniserialibus scabridæ sordide albæ vel dilute stramineæ multo brevioribus.

Hab. Upper Buzi River, at 3500 ft., open woods at Beira; in fl. May, Dec.; nos. 1906, 1907.

Folia 3-8 cm. long., 8-20 mm. lat., in sicco pagina superiore olivacea, inferiore grisea diluteve fulva. Inflorescentia 10 cm. long., vel ultra.

Bracteæ inferiores circa 1 cm. long., superiores usque ad 5-7 mm. imminutæ, hæc acumine nigro gaudientes. Pedunculi proprii sæpissime 1-3 cm. long. Involucra 1×1.5 cm.; phylla exteriora 5 mm. long., intermedia circa 7 mm., interiora 9 mm. long., hæc 1.5-2 mm. lat., trinervia. Corollæ tubus sursum leviter ampliatus extus sparsim papillosus, 7-8 mm. long.; lobi anguste lineari-oblongi, acuti, 3 mm. long. Styli rami 3.5 mm. long. Achænia 2 mm., pappi squamæ 0.4 mm., setæ 6-6.5 mm. long.

Besides the specimens mentioned above, *V. acuminatissima* is represented at the British Museum by one collected in East Tropical Africa (probably at Mombasa or in that neighbourhood) by Rev. W. E. Taylor, as also by others at Kew sent from Inhambane by Mr. L. Scott. The affinity is with *V. demulans*, Vatke, from which it can be distinguished on sight by the larger heads with narrower and more lengthily acuminate involucral leaves, the larger florets, and the long pappus.

VERNONIA CISTIFOLIA, *O. Hoffm. in Engl. Pflanzenw. Ost-Afr. C. 404.*
 Var. ROSEA, *O. Hoffm. l. c.* Near Chirinda, 3800 ft.; in fl. May; n. 496.

Distrib. German East Africa, Nyassaland.

VERNONIA (§ *Lepidella*) GRACILIPES, *S. Moore, sp. nov.*

Herbacea caule ascendente pluristriato cito glabrescente novellis fulvo-pubescentibus, foliis brevipetiolatis oblongo- vel lineari-lanceolatis sursum gradatim attenuatis apice breviter acuminatis basi acutis margine late dentato-serratis papyraceis cito glabris vel fere glabris glandulis immersis crebro instructis in siccio læte viridibus, capitulis parvis circa 21-flosculosis in paniculas corymbosas terminales laxas pleiocephalas folia circiter æquantes appresse pubescentes dispositis, involucri campanulati 4-serialis pubescentis phyllis intus gradatim longioribus exterioribus (seriebus 1-3) lineari-lanceolatis breviter acuminatis intimis oblongis acutis vel acutiusculis, flosculis exsertis purpureis, corollæ extus glandulis minimis lucentibus sparsim inspersæ tubo superne sensim dilatato, achæniis cylindricis obscure costatis appresse setulosis, pappi squamis angustissime linearibus quam setæ albidæ scabridæ pluries brevioribus.

Hab. Chimanimani Mountains at 7000 ft.; Mt. Pene at 6500-7000 ft.; in fl. Sept., Oct.; nos. 1830, 1830 a, 6126, 6127.

Folia vulgo 7-9 cm. long., 2.3-3.7 cm. lat. (nonnumquam $4.5-6 \times 5-1$ cm.), pagina inferiore pallidiora; petioli sæpissime 5-8 mm. long. Paniculæ 8-12 cm. long. (raro solummodo 3 cm.) et 6-12 cm. lat., harum ramuli divaricati; pedunculi proprii attenuati, sæpius 6-20 mm. long. Involucra 5×6 mm.; phylla extima 1 mm., intermedia 1.5-2 mm., intima 4.2 mm. long. Corollæ tubus 4.5 mm. long.; lobi lineares, acuti, 3.5 mm. long. Styli rami 2 mm. long. Achænia 1.75 mm. long.; pappi squamæ vix 1 mm., setæ 5.5 mm. long.

Var. MINOR. Folia ovato-oblonga, utrinque obtusa, supra scabriuscula, subtus sparsim pubescentia, modo 2-4 cm. long., 1.2-2.5 cm. lat. Capitula circa 15-flosculosa.

Hab. Chimanimani Mountains, 7000 ft. ; in fl. Sept. ; n. 1909.

This is a near ally of *V. Wollastonii*, S. Moore, differing, among other points, in the deeper toothing of the leaves, and the short involucre with relatively broader and blunter leaves.

VERNONIA KRAUSSII, *Sch. Bip. in Walp. Rep. ii.* 947.

Mt. Pene, 6000-7000 ft., Umvumvumu River at 4000 ft. ; in fl. Sept., Oct. ; nos. 1827, 6002, 6141, 6142.

Distrib. Rhodesia, Nyasaland, South Africa.

V. NATALENSIS, *Sch. Bip. in Walp. Rep. ii.* 947.

In grass near Chirinda, 3800 ft. ; Mt. Pene, 7000 ft. ; in fl. Oct. ; nos. 275, 6145.

Distrib. Ukamba, Mozambique and Nyasaland to Angola ; also in South Africa.

Chindao name, "Tshiwonika" ; "bush-tea" of settlers. A common herb sometimes infused in water by the white settler and used to induce perspiration in fever ; it forms a good substitute for tea and coffee.

V. HIRSUTA, *Sch. Bip. in Walp. Rep. ii.* 947.

Northern Melsetter at 5000-6000 ft. ; in fl. Oct. ; nos. 6116, 6138.

Distrib. South Africa.

V. MONOCEPHALA, *Harr. Fl. Cap. iii.* 53.

Melsetter at 6000 ft. ; Chimanimani Mts. at 7000 ft. ; in fl. Sept., Oct. ; nos. 1829, 6144.

Distrib. South Africa.

V. GERBERÆFORMIS, *Oliver & Hiern, in Fl. Trop. Afr. iii.* 285.

Melsetter at 6000 ft. ; Mt. Pene, 6500-7000 ft. ; in fl. Sept., Oct. ; nos. 1900, 6112.

Distrib. Central Lake Region to Rhodesia.

V. GLABRA, *Vatke, in Oesterr. Bot. Zeitschr. xxvii.* (1877) 194.

Near Chirinda at 3500 ft. ; Chipetzana River at 3000 ft. ; open woods at Beira ; in fl. April, Aug., Dec. ; nos. 1814, 1831, 1831 a.

Distrib. British East Africa to Nyasaland and Rhodesia.

V. WOODII, *O. Hoffm. in Engl. Bot. Jahrb. xxxviii.* (1906) 198.

Melsetter, 6000 ft. ; near Chipinga, Upper Buzi, 3000 ft. ; in fl. April, May ; nos. 1824, 1824 a.

Distrib. Natal.

A tall herb very common in the grassier glens about Chirinda and in old abandoned fields and grass-jungles generally. Flowers white with purple centre.

VERNONIA (§ Stengelia) SWYNNERTONII, *S. Moore*, sp. nov.

Herbacea, erecta, caule tereti longitrorsum sulcato sursum sparsim ramoso modice folioso ut rami griseo-tomentello dein pubescente, foliis sessilibus comparate elongatis linearibus obtusis vel obtuse acutis integris vel rarissime minute denticulatis firme membranaceis supra pubescentibus subtus griseo-tomentellis, capitulis mediocribus multiflosculosis in corymbum terminalem laxum pauci-(vulgo 3-)cephalum bracteatum tomentellum digestis, involucri late campanulati araneoso-pubescentis circa 8-serialis phyllis exterioribus abbreviatis lanceolato- vel ovato-oblongis apice nigro-mucronatis coriaceis quam interiora gradatim accrescentia oblonga appendice oblonga apice nigro-mucronata in sicco brunnea onusta multo brevioribus, corollæ tubo superne gradatim amplificato glabro, achæniis subcylindricis compressiusculis 12-costatis appresse albo-hirsutulis, pappi setis breviter barbellatis cinereis quam exteriora squamiformia abbreviata barbellata pluries longioribus.

Hab. Lower Buzi River, up to 400 ft.; in fl. Dec.; n. 1908.

Folia solemniter 6–10 cm. long., 4–7 mm. lat. Corymbi 10 cm. long., vel etiam ultra. Pedunculi proprii 6–10 cm. long. Bracteæ inferiores lineares, circa 1 cm. long., superiores gradatim imminutæ. Involucra 1.5 cm. long., 2 cm. (tandem 2.5 cm.) diam. Phylla exteriora 2.5–4 mm. long., intermedia 5–8 mm., intima 12–13 mm. long. Corollæ tubus 6 mm. long., inferne 0.4 mm., superne 0.8–1 mm. diam.; lobi lineares, 3 mm. long. Achænia 2.2 mm. long.; pappi squamæ vix 1 mm., setæ 4.5–5 mm. long.

Near *V. Grantii*, Oliver, but entirely different in leaf, the lax inflorescences, the narrow involucreal leaves, the pappus, &c.

V. LIVINGSTONIANA, *Oliver & Hiern*, in *Fl. Trop. Afr.* iii. 295.

Kurumadzi River, Jihu, 2000 ft.; in fl. Nov.; n. 126.

Distrib. Zambesia, Nyasaland.

V. PODOCOMA, *Sch. Bip. ex Schweinf. & Aschers. Enum.* 287.

Chirinda Forest; Mt. Maruma, 3800 ft.; in fl. Sept.; nos. 113, 113 a.

Distrib. Abyssinia to Angola and Rhodesia.

Chindao name, "Idambasese." Exceedingly plentiful along the outskirts of Chirinda, where in some places it almost forms a hedge. Attractive to Lepidoptera. Bark of roots very bitter, chewed for pains in the chest; a good cure, it is said.

MICROGLOSSA VOLUBILIS, *DC. Prod.* v. 320.

Mt. Umtereni, 4000 ft.; in fl. Sept.; n. 1801.

Distrib. Tropical Africa, Madagascar, East Indies.

NIDORELLA MICROCEPHALA, *Steetz, in Peters, Mossamb. Bot.* 406.

Near Chirinda, 3700–4000 ft. ; Lower Umswirizwi River, 1000 ft. ; Madanda forests at about 400 ft. ; Chibabava, Lower Buzi ; in fl. May, June, Nov., Dec. ; nos. 287, 287 a, 314, 1860, 1860 a.

Distrib. Tropical East Africa.

CONYZA PERSICÆFOLIA, *Oliver & Hiern, in Fl. Trop. Afr.* iii. 312.

Outskirts of Chirinda, 3700–4000 ft. ; in fl. June ; nos. 2065, 2065 a.

Distrib. Tropical Africa.

The leaves, when crushed, smell somewhat unpleasantly of *Conium maculatum*.

C. VARIEGATA, *Sch. Bip. ex A. Rich. Tent. Fl. Abyss.* i. 339.

Melsetter at 6000 ft. ; in fl. Oct. ; n. 6128.

Distrib. Abyssinia to Rhodesia.

LAGGERA ALATA, *Sch. Bip. ex Oliver, in Trans. Linn. Soc.* xxix. (1873) 94.

Near Chirinda, 3800 ft. ; in fl. May ; n. 498.

Distrib. Tropical Africa, Mascarene Islands, East Indies.

L. BREVIPES, *Oliver & Hiern, in Fl. Trop. Afr.* iii. 327.

Near Chirinda, 3500 ft. ; in fl. July ; n. 2066.

Distrib. Angola to Zambesia.

EPALTES GARIEPINA, *Steetz, in Peters, Mossamb. Bot.* 451.

Chipete Forest Patch, 3800 ft. ; Northern Melsetter, 200–600 ft. ; in fl. April ; nos. 198, 1819.

Distrib. Tropical and South Africa.

BRACHYLÆNA RHODESIANA, *S. Moore, in Journ. Linn. Soc., Bot.* xxxvii. (1906) 448.

Madanda forests at about 400 ft. ; Kurumadzi River, 2000 ft. ; Inyamadzi Valley, 3000 ft. ; Chipetzana River, 3000 ft. ; Delagoa Bay ; in fl. Aug.–Oct. ; nos. 1854, 1855, 1856, 1857, 6515.

Distrib. Confined to Rhodesia so far as known.

HELICHRYSUM ARGYROSPHÆRUM, *DC. Prod.* vi. 174.

Near Chirinda, 3700 ft. ; in fl. Aug. ; n. 1806.

Distrib. South tropical Africa and South Africa.

H. ADENOCARPUM, *DC. Prod.* vi. 180.

Near Chirinda ; Chipetzana River ; Nyahodi River ; in fl. April, May ; nos. 1842, 1843, 1843 a, 1843 b.

Distrib. East tropical Africa from German East Africa southward ; also in South Africa.

HELICHRYSUM BUCHANANI, *Engl. in Abhandl. Preuss. Akad. Wiss.* 1891 (1892) 429.

Melsetter at 6000 ft. ; in fl. Sept. ; n. 1905.

Distrib. Nyasaland.

H. SETOSUM, *Harv. Fl. Cap.* iii. 231.

Near Chirinda ; Melsetter at 6000 ft. ; in fl. April ; nos. 279, 279 a, 281.

Distrib. East Africa from Uganda southwards ; also in South Africa.

H. NITENS, *Oliver & Hiern, in Fl. Trop. Afr.* iii. 350.

Near Chirinda, Chimanmani Mountains ; Mt. Pene, 6500–7000 ft. ; Melsetter, 6000 ft. ; in fl. Aug.–Oct. ; nos. 280, 1836, 1839, 1840, 6111.

Distrib. Usambara to Rhodesia.

HELICHRYSUM (*Chrysolepidea*, *Xerochlæna*) *SWYNNERTONII*, *S. Moore*, sp. nov.

Herbaceum, perenne, caulibus e rhizomate lignoso valido ascendentibus griseo-tomentosis inferne dense foliosis superne foliis imminutis sparsim instructis, foliis sessilibus oblongo-lanceolatis rarius ovato-oblongis obtusis haud decurrentibus utrinque tela griseo-tomentosa arcte intricata indutis membranaceis, capitulis solitariis majusculis campanulatis multiflosculis homogamis, involucri circa 9-serialis glabri phyllis ovatis vel ovato-oblongis obtusis firme scariosis dilute albido-fulvis tandem radiantibus, corollis inclusis superne leviter ampliatis limbi lobis parvis triangularibus, antherarum caudis subsimplicibus, achæniis cylindricis sparsim papillois, pappi setis pluribus ima basi connatis glabris albis.

Hab. Melsetter at 6000 ft. ; in fl. Oct. ; n. 6110.

Planta semispithamea vel ultra. Folia vulgo 3·5–5 cm. long., 1–1·5 cm. lat., trinervia, summa ± 1 cm. long. Capitula circa 17 × 24 mm. Involucri phylla extima 5–6 mm., intermedia 11 mm., intima 14 mm. long. Corollæ 11 mm. long., inferne 0·25 mm., ore ægre 1 mm. long. Achænia 1·25 mm., pappus 12 mm. long.

To be inserted in the genus close to *H. squamosum*, Thunb., from which it can be distinguished on sight by the stouter habit, the broad leaves and pale involucre.

HELICHRYSUM (*Chrysolepidea* § *Stæchadina*) *ACERVATUM*, *S. Moore*, sp. nov.

Herbacea, caule simplici vel perpauciramoso usque ad apicem crebro folioso ut folia tela araneosa dense obsito, foliis sessilibus oblongo-obovatis apice latis ipso subito obtuse acutis basi leviter angustatis vix amplexicaulibus breviter decurrentibus, capitulis homogamis 3-flosculis in glomerulos paucos subsessiles brevipedunculatosve ad apicem caulis confertos et bracteis involucri phylla mentientibus intermixtos dispositis, involucri anguste cylindrici 3-serialis phyllis oblongis apice truncatis ibidemque denticulatis haud radiantibus extimis ut pedunculi et bractæ inferne araneosis intimis quam reliqua paullulum brevioribus omnibus citrinis extimis sæpe sursum dilute

roseis, corollis omnimodo glabris, antherarum caudis simplicibus, achæniis (hucusque valde crudis) cylindricis glabris, pappi setis 4 corollas excedentibus fere a basi paullo dilatatis leviter scabriusculis albis.

Hab. Chimanimani Mountains at 7000 ft. ; in fl. Sept. ; n. 1845.

Planta saltem ultraspithamea. Folia radicalia desunt ; caulina 1·5–3 cm. long., 7–15 mm. lat., juniora gradatim imminuta summa vero in bracteas haud transeuntia. Glomerulorum fasciculi 1·5–2·5–3 cm. ; horum pedunculi 2–5 mm. long. Bracteæ ± 6 mm. long. Involuceri phylla 5 mm. long. (intima 4·7 mm.). Corollæ 2 mm. long. Achænia 0·4 mm., pappi setæ 3 mm. long.

To be placed near *H. subglomeratum*, Less., from which it differs in so many points as to render details unnecessary. It is still nearer the recently published *H. alticolum*, Bolus, which, among other features, has the stem leafless in its upper part and bearing larger leaves below, 4–5 floscules to the capitulum, acute or subobtusely involucreal leaves, papillose corolla-lobes, and barbellate pappus-hairs.

HELICHRYSUM LATIFOLIUM, Less. *Syn.* 297.

Near Chirinda ; in fl. May ; n. 510.

Distrib. Nyasaland, Rhodesia and South Africa.

H. LEIOPODIUM, DC. *Prod.* vi. 200.

Near Chirinda, 3800 ft. ; Lusitu River at about 4000 ft. ; Mt. Pene, 6500–7000 ft. ; in fl. April, May, Sept. ; nos. 307, 502, 1837, 1852.

Distrib. Tropical and South Africa.

H. APPENDICULATUM, Less. *Syn.* 308.

Near Chirinda, 3700 ft. ; Upper Buzi, 3500 ft. ; in fl. May, Nov. ; nos. 1851, 1851 a.

Distrib. A South African plant.

H. STENOPTERUM, DC. *Prod.* vi. 201. Var. *CITRINUM*, S. Moore, in *Journ. Bot.* xlv. (1908) 41. Melsetter and near Chirinda ; in fl. June, Sept. ; nos. 1841, 1841 a.

Distrib. (of type) South Africa ; (of var.) Rhodesia.

H. KRAUSSII, Sch. Bip. in *Flora*, xxvii. (1844) 679.

Melsetter ; near Chipinge, Upper Buzi, at 3600 ft. ; Beira beach ; in fl. May, Sept., Dec. ; nos. 1835, 1835 a, 1850.

Distrib. Rhodesia, South Africa.

HELICHRYSUM (Lepicline § Aptera) *GAZENSE*, S. Moore, sp. nov.

Suffrutex ascendens, pauciramosus, usque ad apicem crebro foliosus, ramis tela araneosa persistente arcte circumdatis, foliis sat longipetiolatis oblongo-

spathulatis vel spathulato-obovatis obtusis basi nec auriculatis nec decurrentibus supra araneosis subtus dense cinereo-tomentosis, capitulis parvis 15-flosculosis homogamis in corymbos terminales subconfertos bracteatos polycephalos dense tomentosos digestis, involucri campanulati circa 4-serialis phyllis erectis ovato-oblongis vel ovato-lanceolatis obtusis obtusissimisve interioribus gradatim longioribus exterioribus ima basi laxe araneosis omnibus stramineis nitidisque, corollis inclusis superne manifeste amplificatis, antherarum caudis simplicibus, achæniis maturis angustissime fusiformibus glabris, pappi setis paucis levibus albis.

Hab. Melsester at 6000 ft. ; in fl. Sept. ; n. 1853.

Planta verisimiliter circa spithanea. Foliorum limbus 10-17 mm. long., 5-11 mm. lat. ; hujus costæ sub tela omnino obsconditæ ; petioli usque ad 10 mm. long., plerumque vero breviores, satis lati, dense araneosi. Corymbi 2.5-3 × 4-4.5 cm. ; horum bracteæ ultimæ 3-5 mm. long., inferiores in folia transeuntes. Pedunculi proprii vulgo 2-3 mm. long. Involucria 5 × 4 mm. : phylla extima 2.5 mm., interiora circa 3.5 mm., intima 4 mm. long. Receptaculi paleæ ovatæ vel oblongæ, obtusæ, stramineæ, 0.5-0.75 mm. long. Corollæ 3 mm. long., inferne 0.2 mm., superne 0.5 mm. lat. ; lobi 5, parvuli, triangulares, acuti. Achænia 1.25 mm. long. ; pappi setæ 3-4 mm.

On a first view this looks somewhat like *H. crispum*, Less., but its stalked leaves bring it still nearer to *H. petiolatum*, DC. From the latter it differs, *inter alia*, in the apparently lowlier habit, narrower leaves, smaller heads with straw-coloured (not milk-white) involucries, and the fewer florets, with their corollas markedly enlarged in the upper half.

HELICHRYSUM (Lepicline § Aptera) BRUNIOIDES, *S. Moore*, sp. nov.

Suffruticosum, ascendens, crebro ramosum, ramis attenuatis subteretibus usque ad apicem foliosis araneoso-tomentosis, foliis parvulis anguste linearilanceolatis leviter amplexicaulibus apice mucronulatis haud decurrentibus in sicco planis revolutisve membranaceis utrinsecus sed precipue pagina inferiore albo-araneosis, capitulis parvulis heterogamis 9-11-flosculosis araneoso-puberulis cymam ramos terminantem abbreviatam oligocephalam subconfertam bracteatum araneosam efformantibus, involucri anguste ovoidei phyllis 3-serialibus oblongis extimis quam cetera paullulum brevioribus dilute brunneis omnibus appendice parvula oblonga obtusa ut præter apicem sordide albam concolore præditis, flosculis inclusis cujusque capituli 2 femineis, corollæ florum hermaphroditorum tubo cylindrico faucibus ipsis subito amplificatis limbo sat amplo lobis 5 triangulari-deltaideis acutis, antherarum caudis simplicibus, achæniis subcylindricis compressiusculis vix omnino glabris, pappi setis paucis scabriusculis albis.

Hab. Chimanimani Mountains at 7000 ft. ; in fl. Sept. ; n. 1847.

Folia ± 5 mm. long., juxta basin circa 1.5-3 mm. lat., medium versus 1-2 mm., uninervia ; costa media subtus prominens ; folia summa anguste

linearia, longe acuminata, in bracteas sensim transeuntia. Cymæ 5 mm. long., 8–10 mm. diam.; harum bracteæ summæ 1·5 mm. long., vel etiam minus. Pedunculi proprii involucris suis sæpissime breviores. Involucra 2×1 mm. vel paullulum ultra; phylla extima 1·5 mm., interiora 1·8 mm. long. Corollæ tubi pars attenuata 1 mm. long., fauces 0·2 mm., illa 0·15 mm. hæ 0·5 mm. lat.

A plant with much the look of *H. Dregeanum*, Sond. & Harv., which has longer and narrower coriaceous leaves, larger heads, each with 20–25 florets, broader very obtuse involucral leaves, &c.

HELICHRYSUM AURICULATUM, Less. *Syn.* 311.

Near Chirinda, 3700 ft.; in fl. June; n. 1838.

Distrib. South tropical Africa and South Africa.

HUMEA AFRICANA, S. Moore, sp. nov. (Pl. 5. figs. 1–3.)

Suffrutex ramosus ramis subteretibus superne crebro foliosis ut folia tomento cinereo-albo obtectis, foliis sessilibus oblongo-ovatis obtusis basin versus aliquanto angustatis levissime decurrentibus utrobique cinereo-tomentosis trinerviis, capitulis parvulis florem unicum hermaphroditum includentibus in cymas breviter pedunculatas polycephalas confertas bracteatas tomentosas ordinatis, involucri angustissime cylindrici 5-serialis phyllis erectis exterioribus satis abbreviatis rotundatis obtusissimis vel emarginatis intermediis ovatis interioribus ovato-oblongis obtusis omnibus dilute citrinis, corollæ ex involuero breviter eminentis tubo stricte cylindrico lobis 5 triangularibus acutis, antherarum caudis simplicibus, achæniis adhuc crudis ovoideo-oblongis compressiusculis glabris ad normam generis omnino calvis.

Hab. Chimanimani Mountains at 7000 ft.; in fl. Sept.; n. 1849.

Folia 1–1·5 cm. long., 5–8 mm. lat. Inflorescentiæ $2 \times 3\cdot5$ – $4\cdot5$ cm.; harum bracteæ foliis similes nisi (summæ insigniter) minores. Pedunculi proprii brevissimi vel 0. Involucra 2·75 mm. long., 0·5–0·75 mm. lat.; phylla extima 1 mm. long., intermedia 1·5 mm., intima adusque 2·5 mm. Corollæ flavæ, 2·5 mm. long. Styli rami aliquanto appianati, truncati, penicillati, 0·6 mm. long. Achænia 0·4 mm. long.

Humea is a genus hitherto supposed to be restricted to Australia, and if it is to be retained as distinct from *Helichrysum*, I fail to see how the plant under notice can be excluded from *Humea*. A second African species is *H. infausta* (*Helichrysum infaustum*, Wood & Evans); a third *H. epapposa* (*Helichrysum epapposum*, Bolus), and there are one or two more. They make up the § *Infausta* of Moeser (*Engl. Bot. Jahrb.* xliii. (1909) 458).

ATHRIXIA OBLONGA, S. Moore, sp. nov.

Herbacea caule erecto subtereti araneoso dense folioso, foliis sessilibus (raro subsessilibus) oblongis vel anguste oblongo-lanceolatis apice pungentibus basi obtusis margine distanter serrato-dentatis undulatisve dentibus pungentibus trinerviis coriaceis supra araneosis subtus griseo-araneoso-tomentosis,

capitulis pro rata mediocribus radiatis in corymbum foliatum pluricephalum sat elongatum araneosum dispositis; pedunculis propriis quam capitula sæpius brevioribus bracteis parvis interdum onustis, involucri hemisphærici araneosi phyllis pluriseriatis lineari-lanceolatis breviter spinoso-acuminatis apice sphacelatis necnon sæpe recurvis intimis manifeste longioribus, ligulis pluribus ex involucri bene eminentibus, antherarum caudis maxime attenuatis, styli ramis complanatis apice truncatis, achæniis cylindricis 5-costatis basi villosulis alibi microscopice puberulis, pappi setis sordide albis scabridis.

Hab. Near Chirinda at 3800 ft. ; in grass ; in fl. Oct. ; n. 276.

Folia \pm 3.0 cm. long., 0.6–0.8 (raro 1.0) cm. lat., pagina superiore pallidissime nitescens et eleganter reticulata, inf. (costa centrali perspicua exempta) fere enervosa. Corymbus summum 10 cm. long., et 6 cm. diam. ; hujus bracteæ lineares vel lineari-lanceolatæ, \pm 0.8 cm. long. Capitula 1.0 cm. diam. Involucri 0.6 cm. long., et latitudine propemodum æqualia ; phylla extima vix 0.3 cm., intermedia 0.4 cm., intima 0.5 cm. long. Ligulæ oblongæ, apice 3-denticulatæ, 0.5 cm. long., puniceæ. Disci corollæ sursum leviter ac gradatim dilatata, 0.5 cm. long. Achænia valde cruda 0.1 cm., pappi setæ 0.45 cm. long.

A very distinct species, with *A. phylloides*, DC., for its nearest ally. From this it can be readily distinguished by the longer oblong, often toothed leaves and the hemispherical heads. According to Mr. Swynnerton, it is a common herb in the grass.

ATHRIXIA FOLIOSA, *S. Moore*, sp. nov.

Herbacea, caule ramulisque sat attenuatis ascendentibus crebro foliosis hispide pubescentibus, foliis lineari- vel oblongo-lanceolatis acutis apice mucronatis basi rotundatis necnon levissime amplexicaulibus margine leviter revolutis membranaceis supra scaberrimis subtus araneoso-tomentellis, capitulis mediocribus radiatis in corymbos ramulos coronantes breves oligocephalos bracteatos hispidulos digestis, involucri campanulati laxè araneosi 5-serialis phyllis anguste lineari-lanceolatis breviter acuminatis exterioribus saltem in sicco sæpissime sursum recurvis patentibusve, ligulis circa 12 longe exsertis oblongis obtusis dilute lavandulaceis, styli ramis appianatis truncatis, achæniis cylindricis obscure costatis basi tantum villosulis, pappi setis apicem versus scabriusculis albis setulis maxime abbreviatis intermixtis.

Hab. Melsetter, 6000 ft. ; in fl. July ; n. 1820.

Folia vulgo 2–4 cm. long., 4–10 mm. lat., supra sublæte-subtus griseo-viridia ; costa media subtus eminens tegmine araneoso fere orbata. Corymbi 2–4 \times 3–4 cm. Bracteæ lineares, ultimæ 1–3 mm. long. Pedunculi proprii 3–10 mm. long. Involucri 7.5 \times 8 mm. ; phylla exteriora 2–4 mm., intermedia 5–6 mm., intima 7 mm. long., omnia sursum aliquanto sphacelata. Ligulæ 7 \times 2.2 mm. Achænia 1.2 mm., pappi setæ 5 mm., setulæ 0.2 mm. long.

Distinguished *inter alia* by the broad leaves and the pappus.

ATHRIXIA ROSMARINIFOLIA, *Oliver & Hiern, in Fl. Trop. Afr.* iii. 355.
Northern Melsetter at 5000–6000 ft.; Umvumvumu at 4000 ft.; in fl.
Oct.; nos. 6135, 6137, 6137 a, 6219.
Distrib. East Tropical Africa.

INULA ACERVATA, *S. Moore, in Journ. Linn. Soc., Bot.* xxxv. (1902) 340.
Near Chirinda, 3800 ft.; in fl. May; n. 460.
Distrib. Nyasaland.

GEIGERIA RHODESIANA, *S. Moore, in Journ. Bot.* xlv. (1908) 41.
In short grass near Chirinda, 3800 ft.; Nyahodi River at about 5000 ft.;
Chipetzana River at 3000 ft.; in fl. April, May; nos. 490, 1817, 1823.
Distrib. Rhodesia.

SPHACOPHYLLUM SPARSUM, *S. Moore, sp. nov.*

Herba erecta, ramis ascenduntibus paucifoliis piloso-hirtulis, foliis parvulis
petiolatis ovato-oblongis obtusis basi truncatis subrotundatisve margine
serrato-dentatis dentibus induratis utrinque piloso-hirtulis, capitulis medio-
cribus ∞ -flosculosis longipedunculatis corymbum paucicephalum bracteatum
referentibus, receptaculi paleis cymbiformibus acuminatis, involucri 4–5-
serialis phyllis exterioribus late oblongo-ovatis ovatisve acutiusculis vel
obtusiusculis interioribus longioribus oblongo-lanceolatis acutis omnibus
margine ciliatis trinerviis, ligulis ultra 20 ex involucri bene eminentibus,
antherarum caudis attenuatis, achæniis hucusque maxime crudis oblongis
compressis glabris, pappo cupulari subevanido.

Hab. Lusitu River at 3000 ft.; in fl. April; n. 1867.

Planta saltē trispithamea. Foliorum limbus 1.5–2 cm. long., 6–10 mm.
lat., firme membranaceus; petioli tenues, piloso-hirtuli, 5–10 mm. long.
Cymæ ultraspithameæ. Pedunculi proprii vulgò 8–12 cm. long., erecto-
ascendentes. Bracteæ spathulatæ, \pm 1 cm. long. Involucri phylla exteriora
2–3.5 mm., interiora 4.5–5 mm. long.; illa 1.6–2 mm. lat., hæc 1.5 mm.
Receptaculi paleæ 3.5–4 mm. long. Ligulæ angustissime ovato-oblongæ,
subobsolete 3-dentatæ, 4-nerves, 6 \times 1.75 mm. Disci corollæ 4 mm. long.
Styli rami 0.5 mm. long. Achænia longit. 1 mm. paullulum excedentia.

Near *S. candelabrum*, O. Hoffm. but laxer in habit, with smaller leaves
and different involucries.

S. FLEXUOSUM, *Hutch. in Kew Bull.* 1906, 249.
Chimanimani Mts. at 7000 ft.; in fl. Sept.; n. 1866.
Distrib. Nyasaland.

WEDELIA MENOTRICHE, *Oliver & Hiern, in Fl. Trop. Afr.* iii. 377.
Lower Umswirizwi River, 1000 ft.; in fl. Nov.; n. 316 a.
Distrib. East Tropical Africa.

ASPILIA BRACHYPHYLLA, *S. Moore*, sp. nov.

Herbacea, caule ascendente sursum ramoso scabrido-pubescente dein scabriusculo, foliis ad normam generis parvis brevipetiolatis oblongo-ovatis acutis basi obtusissimis nisi rotundatis margine distanter serrulatis firme membranaceis supra pilis strigillosis scaberrimis subtus scabridis, capitulis medio-cribus ad apicem ramulorum paucis (sæpissime 2-3) corymbum brevem constituentibus, pedunculis propriis hispidulo-scaberrimis involucrum manifeste excedentibus, involucri 3-serialis quam discus brevioris phyllis inter se subæqualibus oblongo-lanceolatis acutis pagina utraque scaberrimis superne herbaceis, receptaculi paleis anguste obovato-oblongis sursum subito cuspidato-acuminatis apice acutis juxta cuspidem ciliolato-erosulis superne scabriusculis, ligulis circa 10 anguste oblongo-obovatis apice bilobis flavis, achæniis compressiusculis fere omnino epunctatis superne sericeo-puberulis cupula setis orba ore ciliato-terminata.

Hab. Chirinda, a common weed in cultivated ground ; in fl. May ; nos. 292, 495.

Foliorum adutorum limbus vulgo 2-3.5 cm. long., 1-2 cm. lat., trinervis, in sicco supra fuscus subtus olivaceus ; petioli circa 2 mm. long. Corymbi summum 3 cm. long. Capitula paucis 2 cm. diam. Involucrum 10 × 12 mm. ; phylla 9 mm. long., 2.5-3 mm. lat., perpauca intima membranacea. Receptaculi paleæ papyraceæ, multinerves, 9 mm. long. Ligula (lamina) vix 1 cm. long. Disci flosculi usque ad 7 mm. long. Achænia 4 × 2 mm., griseola ; pappus 0.75 mm. long.

To be placed next the West African *A. Smithiana*, Oliv. & Hiern, which it greatly resembles. The chief differences are the larger heads of the plant just described, its longer and broader involucral leaves, and the cuspidate-acuminate receptacular paleæ.

A. ASPILIOIDES, *S. Moore*, comb. nov.

Coreopsis aspilioides, Baker, in Kew Bull. 1898, 153.

Lower Umswirizwi River, 1000 ft. ; in fl. Nov. ; n. 316.

Distrib. Nyasaland.

MELANTHERA SWYNNERTONII, *S. Moore*, sp. nov.

Herba diffusa caule tetragono scabrido dein scabriusculo, foliis petiolatis lanceolatis vel lanceolato-oblongis nonnunquam ima basi lobulatis sursum attenuatis apice acutis basi obtusis truncatisve margine serratis papyraceis utrinque scabris, capitulis ∞-flosculosis corymbum brevem oligocephalum formantibus, pedunculis propriis capitula multo excedentibus gracilibus scabridis, involucri 3-serialis scaberrimi phyllis seriei I. & II. ovato-oblongis vel ovato-lanceolatis acutis breviterve acuminatis coriaceis sursum herbaceis quam illa seriei III. tenuia oblongo-obovata acuta plane longioribus. receptaculi paleis oblongis apice late triangularibus ipso breviter mucronatis superne

scaberrimis, radii flosculis ♀, ligulis circiter 15 involucrum longe excedentibus anguste ovato-oblongis apice subobsolete denticulatis, achæniis crudis abbreviatis cylindrico-turbinatis margine apicali sericea exempta glabris, pappi paleis 15–16 scabridis caducis.

Hab. Chibabava, Lower Buzi, 400 ft. ; fl. Nov. ; n. 1882.

Foliorum limbus usque ad 13 cm. long., 3 cm. lat. (exstant vero folia alia præsertim juvenilia multo minora), trinervis, in sicco pagina superiore olivaceus, inferiore pallidior ; petioli 8–15 mm. long., scaberrimi. Corymbus unicus nobis obvius e capitulis tribus sistens, a basi ramosus ; pedunculi proprii 3·5–4·5 cm. long. Involucri phylla longiora vix adusque 6 mm. long. ; intima 4 mm. Receptaculi paleæ 5 mm. long. Ligulæ 12 × 5·5 mm., flavæ. Disci corollæ 4 mm. long. Achænia paullulum ultra 1 mm. long. ; pappi paleæ inter se inæquales, sordide albi, 0·5–2·5 mm. long.

Can be easily distinguished from *M. Brownei*, Sch. Bip., by the long and narrow leaves, the shortly pointed paleæ of the receptacle, and the pappus.

MELANTHERA BROWNEI, *Sch. Bip. in Flora*, xxvii. (1844) 673.

Near Chirinda, at 3500 ft. ; fl. Oct. ; nos. 293, 294.

Distrib. Tropical Africa and Northern South Africa.

GUIZOTIA EYLESII, *S. Moore, in Journ. Bot.* xlvii. (1908) 43.

Near Chirinda, 3800 ft. ; Lower Umswirizwi River, 1000 ft. ; Kurumadzi River, Jihu, 2000 ft. ; in fl. May, Aug., Nov. ; nos. 295, 489, 1883, 1945.

Distrib. Rhodesia.

BIDENS PROLIXUS, *S. Moore, sp. nov.*

Herba fere metralis caule ascendente deorsum simplici paucifolioso quadrangulari glabro, ramulis sat gracilibus pilosis, foliis parvis plane petiolatis vel sessilibus pinnatisectis segmentis pinnatifidis ambitu lanceolatis vel lanceolato-ovatis margine serrato-dentatis pilosis vel fere omnino glabris, capitulis parvis in corymbum folia longe excedentem oligocephalum laxum dispositis, pedunculis propriis elongatis attenuatis pilosis, involucris phyllis exterioribus linearibus obtusis superne herbaceis quam interiora ovato-oblonga obtusa paullo brevioribus omnibus dorso strigoso-scabridis, ligulis circa 8 bene exertis oblongis obtusissimis, achæniis angustis compressis apice ipso levissime contractis striatis scabridis vel scabriusculis setis 2 brevibus retrorsum aculeolatis coronatis.

Hab. Melssetter 200–600 ft. ; in fl. & fr. April ; n. 1884.

Folia 2–5 cm. long. ; segmenta usque ad 2·5 cm. long., sæpissime vero breviora et 3–6 mm. lat., glandulis fuscis majusculis inspersa ; petioli 2–30 mm. long., plus minus pilosi. Corymbi sæpius 12–15 cm. long. ; pedunculi proprii vulgo 4–7 cm. long. Capitula pansa 1·5 cm. diam. Involucrum basi crassiusculum, pilis strigosis brevibus munitum ; phylla

exteriora 2·5 mm. long., interiora 4 mm. long. Ligulæ 1 cm. long., 2·25 mm. lat., multinerves. Disci flosculi 3·5 mm. long. Achænia nunc brevia nunc longa, illa 4–5 mm., hæc 7 mm. long., omnia 1 mm. lat., liventia.

Differs from *B. Schimperi*, Sch. Bip., in its slender habit with long-stalked scattered heads, its smaller leaves with narrower lobes, its smaller heads, shorter involucre, and narrower ligules.

HYPERICOPHYLLUM ELATUM, *N. E. Br. in Journ. Linn. Soc.* xxxv. (1902) 122. Chipetzana River, 3000 ft. ; in fl. April ; n. 1816.

Distrib. Tropical East Africa from Zanzibar southward.

SCHISTOSTEPHIUM HEPTALOBUM, *Benth. & Hook. f. ex Oliver & Hiern, in Fl. Trop. Afr.* iii. 399.

Near Chirinda, 3500 ft. ; Melsetter, 6000 ft. ; in fl. May, Sept. ; nos. 491, 1808.

Distrib. Zambesia, South Africa.

SCHISTOSTEPHIUM OXYLOBUM, *S. Moore*, sp. nov.

Fruticulus ramis crebro foliosis gracilibus rigidis subteretibus pubescentibus deinde glabrescentibus, foliis circuito obovatis vel obovato-oblongis pinnatisectis segmentis solemniter 3–4-jugis lineari-oblongis integris vel apice 2–3-dentatis segmento terminali majore oblongo-obovato dentibus sæpissime 3–5 apicalibus induto (dentibus omnibus acutis) puberulis novellis albo-pubescentibus, capitulis mediocribus homogamis circa 40-flosculosis corymbosatis abbreviatis bracteatis nunc oligo- nunc pleiocephalos referentibus, involucri subhemisphærici appresse sericeo-pubescentis phyllis 4-serialibus exterioribus oblongo-lanceolatis acutis vel acutiusculis quam anteriora oblongo-spathulata obtusa apice piloso-ciliata brevioribus omnibus margine anguste scariosis, receptaculo convexiusculo nudo, flosculis levissime exsertis, corollis 4-lobis, achæniis haud maturis compressis tricostatis glabris cupula fere obsoleta onustis.

Hab. Chimanimani Mountains at 7000 ft., Mt. Pene, 7000 ft. ; in fl. Sept., Oct. ; nos. 1871, 6132.

Folia profecto evoluta usque ad 2·5 cm. long. et 1·0–1·5 cm. lat., subtus glandulis fuscis creberrime inspersa, in sicco olivaceo-fusca ; lobi vulgo 7–10 mm. long., summum circa 3 mm. lat., dentes triangulares, 1–1·5 mm. alt. ; petioli attenuati, 3–4 mm. long. Corymbi superiores 3 × 3·5 cm., depauperati interdum capitula modo 5 includentes 1·5 × 1·5 cm. Bracteæ inferiores foliis subsimiles nisi multo minores, summæ maxime imminutæ, filiformes, 2–3 m. long. Pedunculi proprii solemniter 5–7 mm. long. Capitula ægre 6 mm. diam. Involucri phylla exteriora 1·5–2 mm., interiora 2·5 mm. long. Receptaculum 2·2 mm. diam. Corollæ 2 mm. long. ; lobi

0·6 mm. Styli rami 0·3 mm. long. Achænia 1·6–1·9 mm. long., sæpe aliquanto curvata.

Easily distinguished from the preceding by the peculiar lobing of the leaves.

MATRICARIA HISPIDA, *Vatke*, in *Oest. Bot. Zeitschr.* xxvii. (1877) 194, ex descript.

Open woods at Beira ; fl. Dec. ; n. 1872.

Distrib. East African tropical coast-region.

ARTEMISIA AFRA, *Jacq. Hort. Schænb.* iv. 34.

Near Chirinda, 3700 ft.; Melsetter at 6000 ft.; Lusitu and Nyahodi Rivers; in fl. July ; nos. 446, 646, 646 a, 646 b, 1822.

Distrib. East and South tropical Africa and South Africa.

LOPHOLENA BRICKELLIODES, *S. Moore*, sp. nov.

Frutex grandis, glaber, ramulis ascendentibus teretibus striatis, foliis dispersis petiolatis oblongo-ovatis lateve obovato-oblongis obtusissimis basi nunc truncate-rotundatis nunc in petiolum sensim desinentibus crassiusculis uninervis, capitulis pro rata parvis 7-flosculis in paniculam sat magnam polycephalam bracteatam dispositis, involucri tandem campanulato-cylindrici phyllis oblongo-linearibus acutis margine scariosis dorso haud appendiculatis cito disjunctis sed ima basi paullo incrassatis ibique connatis, flosculis exsertis, antheris basi brevissime sagittulatis, styli ramis elongatis oblongo-linearibus obtusiusculis dorso hirtulis, achæniis obscure 5-gonis 5–6-costatis sericeo-hirtellis, pappi setis permultis scabridis albis.

Hab. In crags of the Chimanimani Mountains, 7000 ft.; Mt. Pene, 7000 ft.; in fl. Sept., Oct. ; nos. 1802, 6133.

Foliorum limbus in sicco olivaceus, 4–8 cm. long., 2·5–5 cm. lat. (folia summa vero in bracteas gradatim transeuntia), apice nonnunquam retusus ; costa centralis solum perspicua, foliorum vetustiorum petioli 2–3·5 cm. long. Panicula adusque 20 × 14 cm. ; hujus bracteæ ambitu foliis similes vulgo 1–2·5 cm. long., summæ equidem minores. Pedunculi proprii 0·3 mm. long. Involucra 1 cm. long., primo 4 mm. deinde usque ad 8 mm. lat. ; phylla 1·2–1·7 mm. (raro 2·2 mm.) lat., omnino plana leviterve carinulata. Flosculi dilute purpurei. Corolla in toto 9 mm. long. ; tubus inferne 0·6 mm., parte intermedia 0·3 mm., superne ægre 1 mm. diam. Styli rami exserti, fere 2 mm. long. Achænia 5 × 1·2–1·5 mm., pallidissime lutescentia, basi fulvida. Pappi setæ 6–8 mm. long.

A very distinct plant with leaves, except for their being stalked, much like those of *L. platyphylla*, Benth., and thus quite different from the two species (*L. cneorifolia* and *L. dolichopappa*) with heads of small size.

SENECIO PROPIOR, *S. Moore*, sp. nov.

Herbacea verisimiliter 1½–2-spithamea caule ascendente simplici vel rare ramoso in longitudinem eximie costato glabro vel leviter araneoso, foliis

radicalibus paucis longe ac graciliter petiolatis ut caulina sessilia nonnunquam basi auriculata et breviter amplexicaulia linearibus (superioribus anguste linearibus) apicem versus attenuatis apice ipso obtusis margine revolutis integris subobsoleteve calloso-denticulatis coriaceis glabris vel obscure araneosis, capitulis submediocribus heterogamis radiatis multiflosculis in corymbum brevem bracteatum oligocephalum laxe araneosum digestis, pedunculis propriis plerumque involucri æquantibus vel superantibus, involucri campanulati phyllis 15-19 subbiseriis oblongis sursum triangularibus apice acutis margine membranaceis leviter araneosis nisi glabris, calyculi phyllis circa 10 sat longis anguste linearibus acutis, ligulis circa 8 luteis bene ex involucri eminentibus, disci flosculis circiter 40 breviter exsertis, styli ramis truncatis penicillatis, achæniis hucusque crudis cylindricis striatis sericeo-puberulis, pappi setis scabriusculis albis.

Hab. Chimanimani Mountains at 7000 ft. ; fl. Sept. ; n. 1879.

Folia radicalia circa 10 cm. long., 5 mm. lat. ; horum petiolus 6 cm. long. ; folia caulina solemniter 7-15 cm. long., 3-7 mm. lat., juniora vero imminuta in corymbi bracteas transeunt, auriculæ dum adsint margine denticulatæ. Corymbi modice 10 cm. long., 5-7 cm. diam. Capitula pansa 7 x 13 mm. Involucri phylla 7 mm. long., calyculi 4-5 mm. Ligulæ angustissime ovato-oblongæ, tridenticulatæ, 7-nerves, 6.5 mm. long. Disci corollæ 5 mm., styli rami 1.2 mm., achænia 1.2 mm., pappi setæ usque ad 5 mm. long.

Very close to *S. albanensis*, DC., from which it can be distinguished chiefly by the leaves which are sometimes auricled at the base, the more closely arranged smaller heads and the silky-puberulous (not glabrous) achenes.

SENECIO LATIFOLIUS, DC. *Prod.* vi. 387.

Near Chirinda at 4000 ft. ; in fl. Nov. ; nos. 1876, 1944.

Distrib. South Africa extending to Nyasaland and Angola.

SENECIO TRIACTINUS, *S. Moore*, sp. nov.

Herbaceous, verisimiliter aliquanto elatus, caule erecto folioso striato minute puberulo dein glabro, foliis radicalibus ignotis caulinis subsessilibus anguste ovato-oblongis apice mucronatis basi obtusis vel subrotundatis margine dentato-serrulatis serraturis mucronatis obscurissime trinerviis papyraceis pagina utraque glabris, capitulis parvis heterogamis radiatis circa 17-flosculis paniculam elongatam corymbiformem pleiocephalam bracteatum laxiusculam piloso-puberulam referentibus, involucri campanulati phyllis 8 oblongis superne deltoideis apice obtusis vel acutis margine membranaceis glabris, calyculi phyllis perpaucis abbreviatis subulatis, ligulis 3 albis ut disci flosculi plane exsertis, styli ramis truncatis penicillatis, achæniis hucusque crudissimis cylindricis piloso-puberulis, pappi setis scabriusculis albis.

Hab. Jihu, Kurumadzi River, 2000 ft. ; in fl. Nov. ; n. 1878.

Folia 6–7 cm. long., 2–2.5 cm. lat., in sicco griseola; costa media utrinque prominens etsi tenuis, ordinis secundi costarum jugum basale erecto-ascendens, costæ ceteræ patulæ; reticulum paginæ inferioris eximie aspectabile; petioli summum 2 mm. long. fere totidem lat. Bracteæ inferiores lanceolatæ vel lineares, ± 2.5 cm. long., superiores adusque 2 mm. gradatim diminutæ. Capitula pansa 1 cm. diam. Involuceri phylla 3.5–4 mm. long., calyculi 1.2 mm. Panicula 20–30 cm. long., 15–20 cm. diam.; pedunculi partiales erecto-ascendentes, gracillimi, modice 2 cm. long.; pedunculi proprii ± 1 cm. long. Ligulæ anguste oblongo-obovatæ, apice brevissime denticulatæ, 6–8-nerves, 4 mm. long.; disci corollæ 4.5 mm. long. Genitalia breviter exserta. Styli rami 1 mm. long. Achænia 1.5 mm., pappi setæ 4.5 mm. long.

The affinity is with *S. crenatus*, Thunb., which has stalked leaves different in shape and venation, shorter and more crowded panicles, larger heads with broader involucral leaves, 4–5 yellow ray-florets, &c. *S. colensoensis*, O. Hoffm., I know only by the description, which is that of a plant with differently shaped leaves, 12 involucral leaves and 5 white florets of the ray.

SENECIO HOMOPLASTICUS, *S. Moore*, sp. nov.

Herba elata caule erecto pluristriato saltem superne crebro folioso primo subobsolete araneoso novellis albo-araneosis, foliis radicalibus—caulinis subsessilibus anguste ovato-lanceolatis vel oblongo-ovatis acutis apice mucronatis basi rotundatis margine serratis serraturis mucronatis membranaceis cito glabris, capitulis parvis heterogamis radiatis circa 33-flosculosis paniculam corymbosam satis elongatam pleiocephalam bracteatam plus minus araneosam mox puberulam efformantibus, pedunculis propriis gracilibus involucra sæpissime saltem æquantibus, involucri campanulati phyllis 10–12 subbiserialibus oblongis acutis margine membranaceis calyculi phyllis paucissimis subulatis quam involucrum multo brevioribus, ligulis 5 flavis exsertis, disci flosculis ita exsertis circiter 28, styli ramis truncatis penicillatis, achæniis valde immaturis cylindrico-turbinatis pubescentibus, pappi setis scabriusculis albis.

Hab. Near Chirinda, 3500 ft.; in fl. Oct.; n. 288.

Folia 4.5–6 cm. long., circiter totidem lat., in sicco olivaceo-brunnea, basi levissime trinervia; costa media utrobique eminens, reticulum elegantulum pagina inferiore solummodo visum; petioli 2 mm. long. et lat. Panicula 8–14 cm. long., circiter totidem lat.; pedunculi partiales inferiores summum fere 10 cm. long.; pedunculi proprii plurimi 4–14 mm. long. Bracteæ vetustiores ± 1.5 cm. long., juniores 2.5–5 mm. Capitula pansa circiter 1 cm. diam. Involucra 4.5 \times 5 mm.; calyculi phylla 2.5 mm. long. Ligulæ late oblongæ, apice 2–3-denticulatæ, 6–8-nerves, 5 mm. long. Disci corollæ 5.5 mm. long. Achænia 1.25 mm., pappi setæ 4.5 mm. long.

Homoplastic with the foregoing, but the panicles are shorter and denser, the involucre has a greater number of longer leaves, and each head has 5 yellow ligules and about double as many disc-florets as the other.

Var. *TOMENTELLUS*, *S. Moore*, var. nov. A typo discrepat caulibus necnon paniculis fulvo-tomentellis. With the type form at Chirinda ; n. 288 a.

The ligules appear to be deeper in colour than those of the type specimens.

SENECIO ACERVATUS, *S. Moore*, sp. nov.

Frutex altus vel arbuscula ramulis incrassatis verisimiliter solummodo foliosis in sicco longitrorsum sulcatis puberulis mox glabris, foliis oblongo-lanceolatis obtusis basi in petiolum longe attenuatis margine calloso-dentatis crassiusculis supra glabris subtus brunneo-pubescentibus cito puberulis, capitulis parvis homogamis discoideis 8-11-flosculosis in paniculas terminales sat elongatas pedunculatas subthyrsoides pleistocephalas bracteatas primo dense brunneo-pubescentes digestis, pedunculis propriis involucri sæpius circiter æquantibus pubescentibus, involucri late cylindrici phyllis 6-7 oblongis apice deltoideis ipso obtusis acutisve omnimodo glabris margine membranaceis adjectis calyculi phyllis perpaucis parvulis setaceis, flosculis plane exsertis luteis, styli ramis truncatis penicillatis, achæniis maxime crudis subcylindricis ipso apice dilatatis puberulis, pappi setis scabriusculis albis.

Hab. Chirinda Forest, 3700-4000 ft. ; in fl. Oct. ; n. 665.

Folia 8-14 cm. long., 2.5-3 cm. lat., in sicco fuscescentia ; costæ ordinis secundi numerosæ, sæpissime ad angulum fere rectum costæ centrali crassæ insertæ ; petioli solemniter 2-4 cm. long., crassiusculi, puberuli. Panicula summum 20 cm. long. ; pedunculus communis 4-7 cm., pedunculi partiales inferiores 3.5-7 cm., pedunculi proprii ± 3.5 mm. long. Bracteæ ± 2 mm. long., ultimæ in calyculi phylla circiter 1 mm. long. transeuntes. Capitula 6 x 2.5 mm. Involucri phylla 4 mm. long, 1.3-2 mm. lat., in medio fusca marginibus stramineis. Corollæ dimidio superiore leviter amplificatæ, 5 mm. long. Styli rami 1 mm. long. Achænia ægre 1 mm. long., pappi setæ 4-5 mm.

Nearly allied to *S. multicorymbosus*, Klatt, from which it can be distinguished at first sight by its much smaller fewer-flosculed heads with only 6-7 shorter and broader leaves to their involucries.

SENECIO GAZENSIS, *S. Moore*, sp. nov.

Herbacea, perennis, caule simplici erecto rigido satis gracili quadrangulari inferne albo-pubescente superne leviter arancoso, foliis arrectis primo confertis sessilibus anguste linearibus acutis pungentibus nonnunquam uncinulatis subplanis integris rarius sub apice minute denticulatis paucis summis imminutis in calyculi phylla transeuntibus, capitulis parvis heterogamis radiatis 20-flosculosis in corymbum oligocephalum folia plane excedentem dispositis, involucri campanulati phyllis 8 anguste ovato-oblongis superne coartatis apice obtusis vel obtuse acutis margine membranaceis fere omnino glabris additis calyculi phyllis perpaucis parvulis lineari-subulatis quam involucrium multo brevioribus, ligulis circa 4 ex involucrio eminentibus luteis, disci flosculis exsertis, styli

ramis truncatis penicillatis, achæniis subcylindricis 6-costatis glabris, pappi setis scabridis albis.

Hab. Melsetter at 6000 ft. ; in fl. Oct. ; n. 6143.

Folia solemniter 8–12 mm. long., circa 1 mm. lat., (ultima modo 2·5–4 mm. long.), dorso carinata vel carinulata facie leviter excavata subplanave. Corymbus exemplaris unici nobis obvii 7-cephalus, 4·5 × 3 cm. ; pedunculi proprii inferiores ±15 mm., superiores 5 mm. long. ; calyculi phylla 2 mm. long. Involucri 4 mm. long. phylla coriacea, dorso microscopice puberula, apice leviter barbellata. Ligulæ anguste ovato-oblongæ, apice tridentatæ, 4 mm. long. Disci florum corollæ 4 mm. long. Achænia 2 mm., pappus 4 mm. long.

The position of this is in the § *Leptophylli* near *S. jilifolius*, Harv., from which it differs in leaf, inflorescence, involucre, &c.

The specimen is not a very satisfactory one, and some doubt attaches to the number of ligules until further material comes to hand.

SENECIO TAMOIDES, *DC. Prod.* vi. 403.

Chipete Forest Patch, 3800 ft. ; n. 1877.

Distrib. Natal.

S. DELTOIDEUS, *Less. Syn.* 392.

Chirinda, 3700–4000 ft. ; Chipete Forest Patch, 3800 ft. ; Mts. Maruma and Pene ; fl. Feb., June, Sept., Oct. ; nos. 288, 288 a, 1873, 6131.

Distrib. Nyasaland, S. Africa.

S. OXYRILÆFOLIUS, *DC. Prod.* vi. 405.

Chimanimani Mts. at 7000 ft. ; in fl. Sept. ; n. 1946.

Distrib. S. Africa.

S. ERUBESCENS, *Ait. Hort. Kew.* ed. 1, iii. 190.

Chirinda at 3700–4000 ft. ; fl. Nov. ; n. 1812.

Distrib. Africa from Angola and Nyasaland southward.

CINERARIA LOBATA, *L'Hérit. Sert. Angl.* 26.

Melsetter, 6000 ft. ; in fl. Sept. ; n. 1875.

Distrib. A South-African plant reaching northward to Nyasaland.

HAPLOCARPA SCAPOSA, *Harv. Fl. Cap.* iii. 465.

Mt. Maruma, 3500 ft. ; in fl. Sept. ; n. 1811.

Distrib. South Africa and on to Nyasaland and Angola.

GAZANIA KREBSIANA, *Less. Syn.* 44. Var. *HISPIDULA*, *Harv. Fl. Cap.* iii. 476. Mt. Pene ; fl. Oct. ; n. 6115.

Distrib. Rhodesia and South Africa.

BERKHEYA SETIFERA, *DC. Prod.* vi. 507. Var. TROPICA, var. nov.

A typo abhorrens ob folia obovato-oblaneeolata, dentato-lobulata vel pinnatifida, usque ad 19 × 4·5 cm. long., ovaria angustiora (vix 0·5 mm. lat.), pappi setas pauciores et leves.

Hab. Hills overlooking Lusitu River at 5000 ft. ; in fl. Sept. ; n. 1869.

Distrib. (of type). S. Africa.

B. ZEYHERI, *Oliver & Hiern, in Fl. Trop. Afr.* iii. 429.

Hills near Haroni River, 5600 ft. ; Melsetter, 6000 ft. ; fl. Sept., Oct. ; nos. 1868, 6114.

Distrib. A South-African plant ranging northward to Nyasaland.

TRIPTERIS MONOCEPHALA, *Oliver & Hiern, in Fl. Trop. Afr.* iii. 424.

Mt. Pene at 7000 ft. ; fl. Oct. ; n. 6161.

Distrib. Nyasaland and Zambesia.

T. AMPLEXICAULIS, *Less. Syn.* 90.

Mt. Pene at 6500–7000 ft. ; in fl. Sept. ; n. 1859.

Distrib. Angola, Rhodesia, and South Africa.

OSTEOSPERMUM MONILIFERUM, *Linn. Sp. Pl.* 923.

Melsetter, 6000 ft. ; near Chirinda, 3500 ft. ; Mt. Pene ; hills near Haroni River at 5000 ft. ; fl. May, Sept., Oct. ; nos. 497, 1858, 1858 *a*, 6130.

Distrib. A South-African plant extending into the tropic as far as German East Africa.

ERYTHROCEPHALUM ZAMBESIANUM, *Oliver & Hiern, in Fl. Trop. Afr.* iii. 441.

Open woods near Chirinda, Kurumadzi River, Jihu, 2000 ft. ; in fl. Oct., Nov. ; nos. 236, 1825.

Distrib. Nyasaland and Zambesia.

DICOMA ANOMALA, *Sond. in Linnæa*, xxiii. (1850) 71.

Northern Melsetter ; fl. April ; n. 1818.

Distrib. Tropical East Africa, South Africa.

D. KIRKII, *Harv. Fl. Cap.* iii. 518. Var. ANGUSTIFOLIA, *S. Moore*, var. nov.

A typo non discrepat nisi foliis adusque 5–10 mm. angustata.

A tall herb found near Chirinda, 3800 ft. ; fl. May ; n. 444.

Distrib. (of type). Zambesia.

Monro's 413 and 1100 C from Victoria, Rhodesia, are referable to this variety.

GERBERA ABYSSINICA, *Sch. Bip. ex Hochst. in Flora*, xxiv. (1841) 27.

Mt. Pene, 6500–7000 ft. ; fl. Sept., Oct. ; nos. 1821, 6113.

Distrib. East and South tropical Africa.

GERBERA PILOSELLOIDES, *Cass. in Dict. Sc. Nat.* xviii. 461.

Near Chirinda, 4500 ft. ; fl. Nov. ; n. 1870.

Distrib. East and South tropical Africa, South Africa, Madagascar, East Indies.

SONCHUS BIPONTINI, *Aschers. in Schweinf. Beitr. Fl. Æthiop.* 160. Var PINNATIFIDUS, *Oliver & Hiern, in Fl. Trop. Afr.* iii. 458.

Near Chirinda, 3800 ft. ; fl. May ; n. 1886.

Distrib. East tropical Africa.

CAMPANULACEÆ.

LOBELIA DECIPIENS, *Sond. in Fl. Cap.* iii. 540.

Mt. Pene at 6000 ft. ; fl. Oct. ; n. 6081.

Distrib. Rhodesia, South Africa.

LOBELIA (§ Holopogon) COBALTICA, *S. Moore*, sp. nov.

Herbacea, saltem hispithamea, ramis tenuibus hispidulis superne nudis, foliis alternis parvis ambitu nunc suborbicularibus nunc obovatis basi truncatis argute lobulato-crenatis lobulis mucronulatis petiolis alatis sat longis insidentibus utrinque sed præsertim pagina inferiore hispidis, racemis distanter paucifloris hispidulis, bracteis setaceis ut pedicelli eas ipsas paullulum excedentes hispidulis, ovario subhemisphærico hispido, calycis segmentis ovario plane longioribus subulato-setaceis sparsim hispidulis, corollis mediocribus calycem longe superantibus lobis anticis late obovatis obtusissimis dorso breviter hispidulis quam postici lineari-oblongi longioribus.

Hab. In crags of the Chimanimani Mountains at 7000 ft. ; in fl. Sept. ; n. 2036.

Foliorum limbus nunc 8×10 mm. nunc $8 \times 6-7$ mm. ; petioli laminam semiæquantes, hispidi. Inflorescentia adjecta ramuli suffulcientis parte superiori nuda 10-20 cm. long. Pedicelli ± 5 mm., bracteæ summum 4 mm. long. Flores vivide cærulei. Ovarium vix 2 mm. long. Calycis segmenta 4-5 mm. long. Corollæ pars tubularis 9 mm. long. ; labii 11 mm. long. lobus intermedius 6 mm., lobi laterales 5.5 mm. long. ; lobi postici 5 mm. Tubus stamineus 6 mm. long., antheræ longiores 2.5 mm., breviores ægre 2 mm. long. Capsula —.

This has to some extent the look of *L. hirsuta*, Linn., but its leaves are different in several respects ; the flowers stand upon longer pedicels and the calyx-lobes are setaceous.

L. FERVENS, *Thunb. Fl. Cap.* 183.

Cultivated ground near Chirinda, 3800 ft. ; fl. May ; n. 513.

Distrib. East and South tropical Africa, South Africa.

LOBELIA (§ Hemipogon) JUGOSA, *S. Moore*, sp. nov.

Herba spithamea vel infra caulibus pluribus paucifoliatis puberulis, foliis radicalibus vel subradicalibus obovatis-oblongis obtusis basi in petiolum cuneatim angustatis margine dentatis basin versus integris præsertim in nervis puberulis foliis caulinis distantibus sessilibus lineari-oblongis margine denticulatis, racemis elongatis distanter paucifloris gracilibus glabris, bracteis anguste linearibus quam pedicelli teneri multo brevioribus, ovario ovoideo 6-nervoso glabro, calycis segmentis subulatis acutis glabris ovario æquilongis, corollæ parvæ glabræ parte tubulari limbum breviter excedente limbî lobis anticis obovatis obtusissimis posticis oblongis æquilongis.

Hab. Hills between the Lusitu and Nyahodi Rivers at 5000 ft.; in fl. Sept.; n. 2037.

Folia radicalia ± 13 mm. long., 5–6 mm. lat.; petioli circa 5 mm. long.; caulina circa 10×1.5 mm., juniora imminuta. Racemi ± 10 cm. long. Bracteæ ± 3 mm. long. Pedicelli tandem 15 mm. long. vel ultra. Flores cærulei. Ovarium 2 mm., calycis segmenta 2 mm. long. Corollæ pars tubularis 4 mm. long.; limbus 3 mm. long., hujus lobi antici 2×1.75 mm., postici $2 \times$ fere 1 mm. Tubus stamineus vix 3 mm. long.; antheræ longiores dorso puberulæ, 1.75 mm. long., breviores apice dense barbatae 1.5 mm. Capsula adhuc cruda cylindrica, 6 mm. long., 2.5 mm. lat.

To be compared with *L. benguellensis*, Hiern, and *L. rosulata*, *S. Moore*, which also have a rosette of radical leaves, but are both somewhat different in foliage and flower.

N. 6085 from Mount Pene appears referable to this species. It is a small specimen with but three flowers at the top of the slender single stem. Also n. 6080 may perhaps be a taller more matured state from which the radical leaves have fallen.

LIGHTFOOTIA ABYSSINICA, *Hochst. ex A. Rich. Fl. Abyss. ii. 1.*

Near Chirinda, 3800 ft.; fl. May; n. 515.

Distrib. Uganda to Rhodesia.

WAHLENBERGIA VIRGATA, *Engl. Pflanzenw. Ost-Afr. C. 400.*

Melsetter; Mt. Pene, 6500–7000 ft.; fl. April, Sept.; nos. 2020, 2021.

Distrib. Tropical East Africa.

W. RHODESIANA, *S. Moore*, sp. nov.

Herbacea, verisimiliter annua, semispithamea, copiose ramosa caule ascendente gracili ramos patentes ascendentesve emittente, ramulis gracillimis sparsim foliosis minute scabriusculo-puberulis, foliis sparsis alternis parvulis sessilibus filiformibus obtusis integris, floribus parvis partim terminalibus partim foliorum ex axillis oriundis cymam paucifloram laxam efficientibus, pedicellis filiformibus folia sæpissime subæquantibus, ovario campanulato-globoso fere omnino glabro, calycis lobis lineari-subulatis ovario

longioribus, corolla campanulata calycem bene excedente circa adusque medium divisa lobis oblongo-ovatis obtusis quam tubus paullo brevioribus, stylo leviter exserto, stigmatibus 3 brevibus, capsula subglobosa 3-valvi.

Hab. Melsetter, 5000–6000 ft.; in fl. & fr. Oct.; n. 6225.

Folia \pm 3 mm. long., solemniter circa 3 mm. Pedicelli vulgo 2–3 mm. long. Ovarium 1–1.5 mm., calycis lobi 2–2.5 mm., corolla 4.5 mm. long. Stylus 3.5 mm. long.; stigmata linearia, 0.6 mm. long. Capsula semisupera, 2 mm. long., 2.25 mm. diam.

A plant with the habit and much the appearance of *W. exilis*, A. DC. Its nearest affinity is with *W. mashonica*, N. E. Br., which, among other characters, is of taller and coarser growth, more sparingly branched, and has its flowers borne on longer pedicels. Flowers apparently white.

ERICACEÆ.

ERICA (Euerica § Ceramia) THRYPTOMENOIDES, *S. Moore*, sp. nov.

Suffruticosa caule ascendente lignoso subterete piloso-hispidulo ramulos sæpe dense foliosos piloso-hispidulos emittente, foliis solemniter ternis parvulis sessilibus ovatis acutis basi rotundatis marginibus sæpe leviter revolutis crassiusculis utrobique glabris, floribus parvis ad apicem ramulorum paucis umbellulatis, pedicellis attenuatis plerumque patentibus vel recurvis corollas excedentibus vel saltem æquantibus hispidulis, calycis 4-partiti segmentis triangulari-oblongis obtusiusculis margine sparsim ciliolatis, corollæ campanulato-urceolatæ albæ glabræ tubo quam lobi rotundati 4-plo longiore, staminibus 8 disco insertis filamentis breviter exsertis antheris paullo supra basin dorsifixis basi calvis poris loculos semiaquantibus, ovario pubescente, stylo corollam excedente attenuato glabro.

Hab. Chimanimani Mountains at 7000 ft.; in fl. Sept.; n. 647.

Folia \pm 2 mm. long. et 1.5 mm. lat., pagina inferiore quam superiore paullo pallidiora; costa media subtus prominens. Pedicelli sæpissime 2.5–3.5 mm. long.; bractææ circa 1 mm. long. Calycis segmenta 1 mm. long. Corollæ tubus 3 mm. long., summum 2.7 mm. lat.; lobi 0.75 mm. long. Filamenta 3.2 mm. long., antheræ circa 1 mm. Ovarium vix 1 mm. diam. Stylus 4.5 mm. long.

Differs from *E. thymifolia*, Wendl., chiefly in the more compact habit, and the shape and colour of the corollas and their smaller lobes.

ERICA (Euerica § Ceramia) LANCEOLIFERA, *S. Moore*, sp. nov.

Caule verisimiliter plus minus procumbente sat tenui piloso-hirtulo tandem fere glabro ramulos breves tenerimos foliatis piloso-hirtulos crebro gignente, foliis parvulis sæpissime 3–4-nis sessilibus oblongo-lanceolatis acutis vel obtusis margine revolutis coriaceis supra piloso-hispidulis subtus griseis, floribus parvis ex axillis ramulorum summis oriundis in inflorescentiam

umbellato-capitatam subconfertis, pedicellis tenuibus corollas circa æquantibus bractea angustissime lineari juxta medium donatis pilosis, calycis 4-partiti segmentis corollis semiaquilongis lanceolatis acutis margine ciliatis, corollæ campanulato-urceolaris glabræ puniceæ lobis brevibus deltoideis obtusis erectis tandem leviter recurvis, staminibus florum a nobis scrutatorum 6-7 disco insertis antheris breviter exsertis paullulum supra basin dorsifixis oblongis appendicibus lanceolatis acutis cristulatis onustis, ovario depresso globoso puberulo, stylo sat longe exserto compressiusculo glabro.

Hab. Chimanimani Mountains at 7000 ft. ; in fl. Sept. ; n. 1288.

Folia circa 3 mm. long., in sicco 1 mm. lat. vel paullulum ultra, facie superiore olivacea, levissime nitida. Inflorescentiæ solemniter 1 cm. diam. Pedicelli 1.5-2 mm. long. ; horum bracteæ 1 mm. long. Calycis segmenta vix ultra 1 mm. long. Corolla 2 mm. long., deorsum 1.7 mm., faucibus 1.5 mm. diam. ; lobi 0.75 mm. long. Filamenta usque ad 2 mm. long. ; antherarum loculi 1 mm. long. ; appendices 0.4 mm. ; pori 0.6 mm. long. Ovarium 1 × 1.2 mm. ; stylus fere 4 mm.

In a letter received from Dr. Bolus, who was good enough to examine the heaths of the collection, the differences between this plant and *E. planifolia*, Linn., are summed up as follows :—(1) The umbellate-capitate inflorescence and shorter pedicels. (2) The clothing of longer non-glandular hairs. (3) The often 4-nate leaves. (4) The ovate-lanceolate acute (not setaceo-acuminate) sepals. (5) The smaller campanulate-urceolate (not cyathiform) corolla. (6) The anthers not or very slightly tapering to the base, and provided with narrow-cristate (not subulate-aristate) appendages.

ERICA (Euerica § Ceramia) PLEIOTRICA, *S. Moore*, sp. nov.

Suffruticosa, crebro ramosa, ramis ramulisque sat attenuatis etsi rigidis glanduloso-hispidulis his copiose foliosis, foliis parvulis sæpissime ternis brevissime petiolatis ambitu oblongo-ovatis sed ob dimidia dua revoluta et appropinquantia convenientiave linearibus vel summum anguste lineari-lanceolatis acutis crassiusculis marginibus glanduloso-hispidulis exemptis glabris, floribus solitariis in axillis foliorum summorum ex ramulis ultimis ortorum positis, pedicellis gracilibus corollis circa æquilongis glanduloso-hispidulis, bracteis vulgo approximatis foliis similibus nisi minoribus, calycis 4-partiti segmentis lanceolatis acutis glanduloso-ciliatis erectis, corollæ urceolatæ calycem bene excedentis glabræ dilute puniceæ lobis abbreviatis tandem recurvis deltoideo-rotundatis obtusissimis, staminibus 8 disco insertis antheris ex corolla breviter eminentibus levissime scabriusculis juxta basin dorsifixis aristis necnon poris longitudine dimidium loculi circa æquantibus, ovario piloso-pubescente, stylo exserto crassiusculo fere omnino glabro.

Hab. Chimanimani Mountains at 7000 ft. ; in fl. Sept. ; n. 648 a.

Folia 1.5-2 mm. long., circa 0.5 mm. lat. (explanata summum 1.5 mm.), subnitida, in sicco læte virentia. Bracteæ circa 1 mm. long. Pedicelli

plerique 2-3 mm. long. Calycis segmenta 1 mm. long., dilute punicea, apice viridia. Corolla 2.8 × 3 mm.; lobi ægre 1 mm. long. Filamenta 1.5 mm. long., antherarum loculi 0.75 mm. Ovarium 1 × 1 mm.; stylus 2.5 mm. long., ima basi leviter puberulus.

Near *E. trichoclada*, Guthrie & Bolus, from which it differs chiefly in the slenderer habit, hispidulous (not hispid) indumentum, shorter usually revolute leaves, corollas with relatively shorter and much broader lobes and exerted stamens.

ERICA (*Euerica* § *Hermes*) *SWYNNERTONII*, *S. Moore*, sp. nov.

Frutex ascendens glaber ramis prolixis rigidis ramulis dense foliosis filiformibus, foliis sparsis vel 2-3-nis angustissime lineari-lanceolatis sursum acicularibus dorso sulcatis in sicco griseo-viridibus, floribus ex axillis ramulorum superioribus solitatis ortis, pedicellis corollas plane excedentibus mox decurvis, bracteis juxta medium pedunculum 2 oppositis vel suboppositis linearibus acutis, calycis 4-partiti segmentis ovatis acuminatis margine obscure ciliolatis cito reflexis, corollæ calycem facile excedentis urceolatæ lobis ovatis obtusis, staminibus 8 disco insertis antheris inclusis oblongis basi dorsifixis poris loculis suis semiæquilongis cristis aristæformibus quam loculi 4-plo brevioribus, ovario glabro, stylo leviter exserto, stigmatate capitato.

Hab. Melsetter, growing in the centre of a stream amongst rocks at 6000 ft.; hills between Lusitu and Nyahodi Rivers at 5000 ft.; Chimanimani Mts. at 7000 ft.; in fl. April, Sept.; nos. 648, 1063, 1064, 1065.

Planta saltem metralis. Folia sæpissime 1-1.2 cm. long., in sicco 0.5-0.7 mm. lat. Pedicelli graciles, colorati, ± 8 mm. long. Bractæ 3-4 mm. long. Flores vivide punicei. Calycis segmenta 2 mm. long. Corolla 4 × 3.5 mm.; lobi 1.25 mm. long. Filamenta 2.5 mm. long.; antheræ ægre 1 mm. long., harum cristæ 0.2 mm. long. Ovarium globosum, 1.75 mm. long.; stylus 3 mm. long.

Close to *E. Whyteana*, Britten, which it much resembles on a first view; the leaves, however, are longer and the pedicels markedly so, the calyxlobes are broader, the corollas larger with somewhat larger lobes, and the anthers, while longer and different in shape, have awn-like instead of broad appendages.

PHILIPPIA SIMII, *S. Moore*, sp. nov.

Arbusecula, ramulis ultimis gracilibus apice foliosis alibi saltem in sicco nudis nodulosisque glabris, foliis imbricatis solemniter 3-natis verticillatis lineari-oblongis obtusis dorso sulcatis margine obscure ciliato-denticulatis crassiusculis glabris in sicco læte viridibus, umbellis terminalibus sessilibus 2-3-floris, pedicellis calycem æquantibus vel paullo excedentibus glabris, calycis 4-fidi glabri lobis inter se subæqualibus ovatis obtusiusculis margine

microscopice ciliolatis crassiusculis, corollæ circa usque ad medium partitæ tetrameræ calycem excedentis lobis late ovatis obtusissimis, staminibus 8 antheris oblongis bifidis subinclusis, ovario subgloboso glabro 4-loculo, stylo bene exserto, stigmatate peltato, ovulis quoque in loculo paucis.

Hab. Melsetter at 6000 ft.; fl. Oct.; n. 612. [Also Portuguese East Africa, abundant on wet sandy flats near Bajon Magenja da Costa; *Sim in hb. Bolus*, 5688.]

Ramuli ultimi modo 0.2 mm. diam. Folia (incluso petiolo 0.2 mm. long.) 1.5–2 mm. long., 0.5 mm. lat. Pedicelli plerique 1–2 mm. long. Calyx 1 mm., corollæ 1.5 mm. long. Filamenta complanata, 0.4 mm. long.; antheræ 1 mm., lobi 0.25 mm. long. Ovarium fere 1 × 1 mm. Stylus vix 1.5 mm. long. Stigma ægre 1 mm. diam.

Nearest *P. milanjiensis*, Britt. & Rendle, from which it can be distinguished by the leaves and exserted style.

This is one of the two common trees on the wind-swept slopes of the higher hills overlooking Melsetter, where it attains to about 15 feet.

PHILIPPIA HEXANDRA, *S. Moore*, sp. nov.

Arbuscula ramis sat validis cortice rubiginoso-cinereo rimoso obducto, ramulis tenuibus dense foliosis pubescentibus, foliis plerumque 3–5-natis verticillatis linearibus obtusis dorso alte sulcatis crassiusculis pubescentibus, floribus parvis in umbellas terminales sessiles paucifloras digestis, pedicellis calyce sæpissime brevioribus pubescentibus, calyce 4-fido pubescente lobo unico ovato sursum angustato quam reliqui late oblongi majore lobis omnibus pubescentibus necnon marginibus ciliatis, corolla calycis lobos minores excedente breviter 4-loba lobis subrotundatis obtusissimis, staminibus 6 antheris oblongis bifidis paullulum exsertis, ovario subgloboso incanotomentoso 4-loculo, stylo sat gracili ovario paullulum longiore glabro, stigmatate peltato obscure lobulato, ovulis quoque in loculo 3.

Hab. Melsetter and Northern Melsetter, 5000–6500 ft.; fl. Oct.; nn. 1147, 6072.

A small tree 30 feet high. Rami ultimi circa 0.4 cm. diam., ramuli 0.04 cm. Folia deorsum paullo ampliata, 2.5 mm. long., 0.75 mm. lat., in sicco olivacea, verticillis approximatis ita folia sat arcte imbricata. Pedicelli ± 0.5 mm. long. Calyx 0.8 mm. long.; lobus major 1.4 mm. long. Corolla tota 1.2 mm. long.; lobi circa 0.3 mm. Filamenta complanata, 0.6 mm. long.; antheræ 0.75 mm. long., harum lobi circa 0.2 mm. long. Ovarium 0.7 × 0.5 mm.; stylus 0.75 mm. long.; stigma 0.5 mm. diam. Capsula subglobosa, 2.5 × 2.25 mm.

Easily distinguished from *P. milanjiensis*, Britten & Rendle, by the longer hairy leaves, the hexandrous flowers, small stamens, and longer slender style.

PRIMULACEÆ.

ANAGALLIS HANNINGTONII, *Baker in Kew Bull.* 1901, 127.

Chipetzana River, 3000 ft. ; in fl. & fr. Dec. ; n. 357.

Distrib. South-East tropical Africa.

MYRSINÆÆ.

MÆSA LANCEOLATA, *Forsk. Fl. Ægypt.-Arab.* p. cvi.

Near Chirinda, 3500 ft., Northern Melsetter, 5000–6000 ft. ; in fl. & fr. April, Sept., Oct. ; nn. 142, 172, 669, 6074.

Distrib. North and Tropical Africa, Madagascar, Arabia.

Chindao name, "Ndwatwa." Roots and leaves said to be boiled and the infusion drank for colic and other pains.

N. 669 is the narrow-leaved form of this very variable species ; from its general features Mr. Swynnerton thinks this cannot be conspecific with broad-leaved forms.

EMBELIA NYASSANA, *Gilg in Engl. Bot. Jahrb.* xxx. (1901) 96.

Near Chirinda, 3700 ft. ; n. 120.

Distrib. Nyasaland.

MYRSINE AFRICANA, *Linn. Sp. Pl.* 196.

Melsetter at 6000 ft. ; Mt. Pene, 7000 ft. ; Chimanmani Mts. at 7000 ft. ; in fl. Sept. ; nn. 633, 6153 a, 6154 a.

Distrib. Azores, Tropical and South Africa, Arabia to China.

RAPANEA UMBRATILIS, *S. Moore*, sp. nov.

Arbuscula ramis superne foliosis inferne ramulorum florigerorum cicatricibus frequenter instructis cortice griseo-brunneo longitrorsum rimoso circumdatis, foliis pro rata parvis oblongo-oblongeolatis obtusissimis raro obtusis basi in petiolum manifestum prima juventute ferrugineum cuneatim angustatis pergamaceis utrinsecus glabris punctis resinosis sparsis indutis, inflorescentiis umbellatis sæpissime 1–3-floris ex ramulis brevissimis ortis, pedicellis incrassatis calyce sæpissime longioribus juxta basin microscopice ferrugineis, calycis fere omnino glabri segmentis obovatis obtusissimis, corollæ adusque $\frac{2}{3}$ divisæ lobis oblongis obtusis patentibus, antheris sessilibus quam petala paullo brevioribus, stigmate comparate magno cylindrico-pileato.

Hab. Melsetter, in a densely wooded glen at 6000 ft. ; in fl. Oct. ; n. 6163.

Folia sæpius 3·5–4 cm. long., haud raro 4·5 cm. rarissime 5 cm. attingentia, 1·3–1·8 cm. lat., in sicco grisea ; costa media supra impressa subtus optime eminens ; costulæ utrinque 8–10, parum aspectabiles ; petioli crassi,

circa 5 mm. long., raro paullulum longiores. Ramuli floriferi circa 1·5 mm. long., pedicelli summum 2 mm. Calyx 1·5 mm. long., lobi interdum microscopice ciliolati. Corollæ tubus 1·2 mm., lobi 2·5 mm. long. Antheræ oblongæ, 2 mm. long. Ovarium ovoideo-conicum, 1 mm. long. Stigma fere 1 mm. long., 0·5 mm. lat.

The affinity of this seems to be with *R. ulugurensis*, Mez, of which the flowers are unknown, but its leaves are different from those of the parent plant.

SAPOTACEÆ.

CHRYSOPHYLLUM NATALENSE, *Sond. in Linnæa*, xxiii. (1850) 72.

Chipete Forest Patch ; in fl. Dec. ; n. 21.

Distrib. Pondoland to Mozambique.

Singuni name, "Umhlanhwa"; in Chindao, "Muchanza." The bark yields a milky latex.

C. ARGYROPHYLLUM, *Hiern, Cat. Welw. Pl.* i. 641.

Mt. Maruma, 3700 ft. ; Zona River, Jihu, 2000 ft. ; Chimaniunani Mts., at 7000 ft. ; fl. Sept., Nov. ; nn. 22, 22 *a*, 22 *b*.

Distrib. Angola to Rhodesia.

Chindao name, "Muchanza"; Singuni, "Umhlanhwa." Usually a small tree. Fruit said by natives to be excellent eating, and to contain a single white seed. Wood used for making bows.

CHRYSOPHYLLUM (§ Gambeya) FULVUM, *S. Moore*, sp. nov.

Arbor elata ramulis ultimis copiose foliosis teretibus novellis ferrugineis, foliis lanceolato-oblongis vel oblongo-oblanco-latis apice cuspidulato-acuminatis ipso obtusis basi longiuscule cuneatis petiolo quam lamina 8–10-plo breviora coriaceis facie superiore glaberrimis inferiore arcte fulvo-vel ferrugineo-sericeo-tomentosis costis secundariis utrinque solemniter 12–16 intervallis 0·5–0·7 cm. raro 1·0 cm. longis interjectis supra leviter impressis parum perspicuis subtus eminentibus, floribus in axillis glomeratis brevipedicellatis, calycis segmentis ovatis obtusis vel obtusissimis exterioribus coriaceis ferrugineo-tomentellis interioribus membranaceis dilute fulvis tenuiter sericeis necnon margine ciliatis, corollæ calycem paullulum excedentis tubo lobos ovatos vel subrotundatos plane superante, filamentis in dimidio inferiore corollæ tubo adnatis quam antheræ subsagittatæ longioribus, ovario spherico dense hirsuto quam stylus glaber apice truncatus paullo longiore, fructu spherico sericeo 4–5-spermo, seminibus ovoideo-oblongis basi attenuatis.

Hab. Chirinda Forest, 3700–4000 ft. ; in fl. & fr. Dec. ; n. 19.

Folia solemniter 8–10 cm. long., \pm 3 cm. lat. ; costæ secundariæ patentés, juxta marginem arcuatæ ; costulæ arcissime reticulatæ, facie superiore sub lente valde perspicuæ ; petioli \pm 1 cm. long. Folia ramulorum haud

florigerorum adusque 20 cm. long. et 6 cm. lat., papyracea, subtus albide sericeo-tomentella. Pedicelli iacassati, ferruginei, 1.5 mm. long. Flores albi. Calycis segmenta 3.5 mm. long. Corolla tota 4 mm. long.; tubus 2.5 mm. long.; lobi dense ciliato-barbellati, $1.5 \times \pm 1.5$ mm. Filamentorum pars libera 1.2 mm., antheræ 0.5 mm. long. Ovarium 1.5 mm., stylus 1.2 mm. long. Fructus minute sericei, vix 2.5 cm. diam. Semina 1.8×1.0 cm., saturate brunnea, mox pallescentia.

A plant at first sight recalling *C. megalismontana*, Sond., which, on account of the different venation, is placed by Engler in another section of the genus. The nearest affinity is with *C. africanum*, A. DC., but the leaves of *C. fulvum* are smaller, more drawn out at the base, and have a much closer reticulum, the pedicels are distinctly shorter, the corolla larger, the filaments are longer than the anthers, the ovary is larger and differently shaped (this pointing to differences in the fruit), and the style is shorter than the ovary instead of being twice as long.

According to Mr. Swynnerton this is one of the largest trees of the Chirinda Forest, reaching the height of at least 120 feet. He also notes that a milky latex is especially abundant in the fruits. The larger leaves of the barren branches are white below.

MIMUSOPS (§ Quaternaria) SYLVESTRIS, *S. Moore*, sp. nov.

Arbor vel frutex elatus ramulis brevibus superne raro omnimodo foliosis ut novelli ferrugineis cito glabrescentibus, foliis obovato-oblongis obtusis obtusissimisve nonnunquam retusis basi cuneatis pergamaceis glabris costis secundariis utrinque 7–10 teneris pagina inferiore magis perspicuis petiolis limbo 5–7-plobrevioribus glabris fultis, pedicellis in axillis summis maxime approximatis solitariis binisve calycem multo excedentibus ferrugineis, calycis segmentis 8 oblongo-lanceolatis obtusiusculis extus ferrugineis margine griseis, corollæ segmentis 8 oblongo-lanceolatis obtusis quam appendices paullo longioribus, staminibus corollæ segmentis brevioribus antheris lanceolatis obtusiusculis quam filamenta plane brevioribus, staminodiis antheris æquilongis lineari-lanceolatis acuminatis sericeo-pilosis, ovario depresso subgloboso tomentoso, stylo elongato glabro.

Hab. Madanda forests at about 400 ft.; in fl. Dec.; n. 570.

Folia 4.5–7 cm. long., 2–3 cm. lat., plus minus griseo-viridia, supra leviter nitida subtus opaca; costæ secundariæ marginem versus dichotomæ ramis optime arcuatis cum costæ præcedentis sequentisque ramo anastomosantibus; reticulum densum, pagina inferiore difficile aspectabile; petioli circa 5 mm. long., late canaliculati. Pedicelli 1.5–2 cm. long. Calycis segmenta exteriora 7 mm. long., 3 mm. lat., interiora 5.5×2 mm., illa intus minute griseo-tomentella, hæc intus glabra. Corollæ segment 7 mm. long., horum appendices vix 6 mm. Filamenta 1.5 mm., antheræ vix 4 mm., staminodia circa 4 mm. long. Ovarium 1.5×2 mm.; stylus 6 mm. long.

Allied to *M. marginata*, N. E. Br., which has coriaceous leaves, larger flowers on longer pedicels, and among other features different staminodes.

Chindao name, "Munyewa." Yields a milky latex. Fruits said to be edible.

SIDEROXYLON INERME, *Linn. Sp. Pl.* 192. Var. SCHLECHTERI, *Engl. Monogr. Afr. Sapot.* 27. Beira beach; in fl. Dec.; n. 572.

Distrib. (of type) South Africa; (of var.) Lourenço Marques. Now first announced as a tropical plant.

PACHYSTELA CINEREA, *Pierre ex Engl. l. c.* 36.

Inyamadzi and Chikambogé valleys, 2500–3000 ft.; open woods at Beira; nn. 571, 571 a, 573.

Distrib. West Africa, Nyasaland.

The specimens being without flowers, some doubt must attach to this identification.

EBENACEÆ.

MABA MUALALA, *Welw. ex Hiern, Monogr. Eben.* 111.

Chirinda Forest, 3700–4000 ft.; in fl. Jan.; n. 3.

Distrib. Angola.

The flowers of *M. Mualala* being unknown, there is some doubt about this identification; but the foliage agrees so closely with that of Welwitsch's specimens as to leave no justification for considering Mr. Swynnerton's plant a new species, and in this opinion Mr. Hiern agrees. A description of the flowers is herewith given.

Flores masculi 2–4-ni. Calycis 3-lobi lobi ovato-rotundati, obtusi, limbo subæquales, circa 1 mm. long. Corollæ 4·5 mm. long. lobi obovati, obtusi, 3 mm. long. Stamina 12, calycis tubo affixa; filamenta circa 1·5 mm. long.; antheræ filamentis æquilongæ, apice puberulæ.

Flores feminei solitarii vel 2-ni. Calycis 3–4-lobi tubus 1·5 mm. long.; lobi rotundati, obtusissimi, 3–5 mm. long. et lat. Corollæ tubus 2 mm. long.; lobi 3–4, ovato-oblongi, obtusissimi vel emarginati, 4·5 mm. long. Staminodia 3, clavata, circa 2 mm. long. Ovarium 6-loculare, oblongo-ovoideum, sursum angustatum, 3·5 mm. long. Stylus 1·5 mm. long.

This is one of the tallest trees of the Chirinda Forest. It is called "Black-Bark" by settlers; Chindao name, "Munyamkungu."

Besides the above, which has milk-white flowers, Mr. Swynnerton collected what appears to be a form or variety of it having yellow flowers. These flowers, besides their colour, differ in the somewhat smaller size of the calyx and corolla and the slightly larger stamens. This also was found in the Chirinda Forest (n. 2), and passes under the same popular name as the type.

MABA NATALENSIS, *Harr. Thes. Cap.* ii. 7, t. 110.

Madanda forests at about 400 ft. ; in fl. Dec. ; n. 1738.

Distrib. Eastern South Africa ; recently reported from Mozambique.

ROYENA PALLENS, *Thunb. Prod. Fl. Cap.* 80.

Near Chirinda, 3800 ft. ; Mt. Pene, 7000 ft. ; fl. Oct. ; nn. 62, 6070.

Distrib. South Africa and northwards to Angola and Nyasaland.

EUCLEA LANCEOLATA, *E. Mey. in Drège, Zwei Pflanz. Doc.* 184.

Near Chirinda, 3500 ft. ; Chipete Forest Patch ; Umvumvumvu River at 2000 ft. ; Mt. Umtereni, 4000 ft. ; in fl. April, Sept. ; nn. 743, 1298, 1305, 1306.

Distrib. Rhodesia to Angola, South Africa.

E. NATALENSIS, *A. DC. in DC. Prod.* viii. 218.

Beira beach ; in fl. Dec. ; n. 1181.

Distrib. Natal.

DIOSPYROS MESPILIFORMIS, *Hochst. ex A. DC. in DC. Prod.* viii. 672.

South Umtali district at 2000–3000 ft. ; Umvumvumvu River at 4000 ft. ; in fr. Oct., in fl. Dec. ; nn. 6071, 6622.

Distrib. Tropical Africa.

D. SENENSIS, *Klotzsch in Peters Mossamb. Bot.* 183.

On limestone, Boka, Lower Buzi, 100 ft. ; in fl. Dec. ; n. 2024.

Distrib. Mozambique, Nigeria.

D. SHIRENSIS, *Hiern in Journ. Bot.* xxxiii. (1895) 179.

Lower Umswirizwi River, 1000 ft. ; Chibabava, Lower Buzi, 400 ft. ; Madanda forests at about 400 ft. ; Boka, Lower Buzi ; in fl. Nov., Dec. ; nn. 2024 a, 2025, 2026, 2027, 2028, 2029.

Distrib. Nyasaland.

D. LOUREIRIANA, *G. Don, Gen. Syst.* iv. 39.

Chibabava, Lower Buzi, 400 ft. ; Madanda forests ; Zinqumbo hills, 1500 ft. ; in fl. Nov., Dec. ; nn. 1189, 1190, 1190 a, 1194.

Distrib. Mozambique to Angola.

DIOSPYROS SABIENSIS, *Hiern, sp. nov.*

Arbor dioica satis ramulosa ut videtur sempervirens, ramulis alternis tenuibus patenti-erectis mox glabris, internodiis superioribus quam folia brevioribus, foliis alternis ovali-oblongis apice obtusis basi rotundis vel obtuse contractis patulis papyraceo-coriariis supra lucidis subter paulum pallidioribus primum puberulis subinde costa excepta glabratissimis integerrimis planis vel vix margine undulatis 2.5–9 cm. longis 1–2.7 cm. latis nervis et reticulo simul infirmis, petiolo puberulo firmo 3–6 mm. longo ; cymis masculis trichotomis

crebris vix laxiusculis pubescentibus vel puberulis axillaribus quam folia brevioribus, pedicellis ultimis brevibus, bracteolis linearibus parvis dorso puberalis, floribus masculis numerosis tetrameris extra dense pubescentibus 5-6 mm. longis, calyce campanulato-hemispherico utrinque pubescente 4.5 mm. longo lobis deltoideo-ovatis 2.5 mm. longis, corolla breviter lobata crassiuscula extra basi excepta pubescente intus glabra lobis ovatis obtusis concavis patulis 1.5 mm. longis in æstivatione sinistrorse (deorsum visis) contortis tubo campanulato 3-4 mm. longo, staminibus 11-12 glabris receptaculo vel paucis basi corollæ insertis 2-2.5 mm. longis antheris lanceolato-linearibus obtusis 2 mm. longis filamentis gracilibus 0-0.5 mm. longis, ovario minimo rudimentario pubescenti-hispido.

Hab. Sabi River, at about 1000 ft. ; in fl. Nov. ; n. 1209.

Chindao name, "Mushuma."

OLEACEÆ.

JASMINUM STENOLOBUM, *Rolfe in Oates, Matabel*. ed. 2, 403.

Sabi River at about 1000 ft. ; in fl. Nov. ; n. 2034.

Distrib. Rhodesia. The Nyasaland plant usually referred here seems to me to be different.

JASMINUM SWYNNERTONII, *S. Moore*, sp. nov.

Ramulis gracilibus scandentibus foliosis pubescentibus, foliis oppositis raro suboppositis simplicibus brevipetiolatis ovatis vel ovato-lanceolatis apicem versus attenuatis apice apiculatis basi plus minus rotundatis membranaceis supra obscure puberulis subtus in nervis pubescentibus, floribus terminalibus 2-3-nis pedicellis pubescentibus quam calyces longioribus insidentibus, bracteis parvulis subulatis a pedicellis magnopere superatis, calycis subhemisphærici puberuli lobis limbo duplo longioribus lineari-subulatis acutis, corollæ glabræ tubo calycem 8-10-plo excedente lobis 7 (an semper?) quam tubus paullulum brevioribus anguste oblongis acutis, antherarum connectivo mucronato, stylo breviter exserto claviformi apice biramoso, ovulis in loculis solitariis.

Hab. Kurumadzi River, Jihu, and near Spungabera ; n. 180, 180 a.

Folia 2.5-5 cm. long., 1.2-2.3 cm. lat. ; costæ secundariæ utrinque 3-5 ; petioli 2-3 mm. long., pubescentes. Cymæ (floribus inclusis) adusque 3.5 cm. long. Pedicelli 7-9 mm. long., graciles. Bracteæ 2 mm. long. Flores albi. Calycis limbus 2-2.5 mm. long. ; lobi 4 mm. Alabastra acuminata. Corollæ tubus 2 cm. long., inferne 1.5 mm., faucibus 2.5 mm. diam. ; lobi 1.9 cm. long. Filamenta ægre 5 mm. long. Stylus 1.2 cm. long., apice 1 mm. lat. ; rami late subulati, acuti, vix 2 mm. long.

Nearest *J. tomentosum*, Knobl., from which its chief differences are the ternate long-pedicelled flowers, the shorter and broader calyx-lobes, and the corollas with lobes nearly twice as long.

JASMINUM MAURITIANUM, *Bojer, Hort. Maur.* 204.

Bank of Umswirizwi River, 1000 ft.; Chibabava, Lower Buzi, 400 ft.; Sabi River at about 1000 ft.; fl. Nov.; nn. 206, 206 a, 2033.

Distrib. Tropical Africa, Mascarene Islands.

DEKINDTIA AFRICANA, *Gilg in Engl. Bot. Jahrb.* xxxii. (1902) 139.

Kloof near Chirinda, 3800 ft.; in fl. Oct.; n. 171.

Distrib. Nyasaland, Angola. A medium-sized tree.

OLEA WOODIANA, *Knobl. in Engl. Bot. Jahrb.* xvii. (1893) 532.

Chimanimani Mts. at 7000 ft.; in bud Sept.; n. 1281.

Distrib. Natal.

Though the flowers are not mature, I have little doubt about this identification. A species not previously recorded from the tropics.

APOCYNEÆ.

LANDOLPHIA (§ *Jasminochyla*) SWYNNERTONII, *S. Moore*, sp. nov.

Frutex scandens cirris sat validis raris ex furcis ramulorum ortis onustus, ramulis ultimis patentibus teretibus pubescentibus deinde glabrescentibus, foliis brevipetiolatis oblongo-lanceolatis apicem versus sæpe cuspidato-attenuatis apice ipso obtusis basi plus minus rotundatis pergamaceis costa media facie inferiore prominula sæpe piloso-puberula exempta glabris in sicco viridibus vel griseo-olivaceis costis secundariis utrinque 12-15 parum aspectabilibus patentibus rectis vel fere rectis juxta marginem subito arcuatis, corymbis abbreviatis sc. a foliis longe superatis pedunculis brevibus fultis paucifloris pubescentibus, bracteis quam pedicelli brevioribus ovato-oblongis lanceolatisve pubescentibus, calycis pubescentis puberulisve lobis ovatis obtusis margine tenuibus necnon ciliolatis, corollæ glabræ vel fere glabræ tubo paullulum infra medium dilatato quam lobi oblongi obtusi paullo brevioris, staminibus infra medium tubum insertis antheris lanceolatis obtusiusculis, ovario ovoideo-oblongo glabro stylo abbreviato longiore, bacca sphæroidea albo-maculata eduli.

Hab. Chirinda Forest, 3700-4000 ft.; in fl. Nov.; n. 82.

Cirri unici mera basis mihi obvia. Foliorum limbus solemniter 5-7 cm. long., 1.8-2.5 cm. lat., facie inferiore sæpe pallidior; costa media supra excavata; costulæ supra planæ subtus leviter prominulæ; petioli late canaliculati, pubescentes, circa 3 mm. long. Flores pro corymbo sæpissime 6-8. Pedunculi \pm 5 mm. long., rarius adusque 1.5 cm. Bracteæ circa 1.5 mm., pedicelli 2 mm. long. Flores albi, odorem *Jasmini officinalis* spirantes. Calyx 2.5 mm. long. Corollæ tubus 7 mm. long., basi 1.5 mm. lat., paullo supra basin adusque 2.5 mm. dilatatus, superne 2 mm. lat.; lobi 8 x 2.2 mm. Antheræ ad 2.75 mm. supra basin tubi insertæ, 1.75 mm. long. Ovarium

1.25 mm. \times 1 mm. ; stylus vix 1 mm. long. ; stigma bifidum. *Bacca juvenilis* fere 2.5 cm. diam.

To be inserted next *L. Cameronis*, Stapf ; the chief points of difference being its pubescent inflorescences, shorter corolla-tube with shorter and narrower lobes, the shorter and narrower anthers inserted lower down upon the corolla-tube, and the short style.

“A large woody climber yielding a milky latex and excellent rubber, scantier than in *L. Kirkii*. Bark smooth, light grey. Stems deeply fluted. Young shoots pink. Flowers white, strongly jessamine-scented ; petals tinged below with light reddish-brown. Fruit spherical, large, edible and making an excellent conserve. Chindao names, ‘Munugu’ or ‘Mubungu.’”

LANDOLPHIA FLORIDA, *Benth. in Hook. Niger Fl.* 444.

Unswirizwi River, Lower Buzi, 500 ft. ; in fl. Nov. ; n. 1081.

Distrib. Tropical Africa, also Madagascar and Comoro Islands.

Chindao name, “Mukonja” ; Singuni name, “Umkonza.” A very large woody climber, one that was measured being 5 ft. 6 in. in circumference at 3 ft. from the base.

L. KIRKII, *Dyer in Kew Gard. Rep.* 1880, 39.

Madanda forests at about 400 ft. ; kloof near Chirinda, 3800 ft. ; in fl. Oct.–Dec. ; nn. 81, 81 a. Chindao name, “Mubungu.”

Distrib. Tropical East Africa.

L. LUCIDA, *K. Schum. in Notizbl. K. Bot. Gart. Berlin*, i. (1895) 24.

Chirinda Forest, 3700 ft. ; Spungabera forest patch, 3500 ft. ; fl. Feb., young fr. April ; nn. 83, 83 a.

Distrib. Congo Free State, Cameroons.

This identification is somewhat doubtful as I have not seen the flowers of the type : the leaves of both specimens are smaller than those of an unsatisfactory specimen without flowers from the Cameroons (*Zenker*, 2459 a) in the British Museum.

Chindao name, “Chiwhongororo.” A very large woody climber, reaching the tops of the trees. Milky latex apparently destitute of rubber. Fruit smooth, sweetish, bright orange, eaten by natives.

CARISSA EDULIS, *Vahl, Symb.* i. 22. *Var. TOMENTOSA*, *Stapf, in Fl. Trop. Afr.* iv. i. 90.

Near Chirinda, 3800 ft. ; South Umtali District, 2000–3000 ft. ; fl. Oct., Nov., Dec. ; nn. 70, 6621, 6623.

Distrib. Tropical Africa.

CARISSA ARDUINA, *Lam. Encycl.* i. 555.

Chirinda Forest 3700–4000 ft.; Chikambogé Valley 3000 ft.; Mt. Pene 7000 ft.; Umhlonho, Lower Buzi 100 ft.; open woods at Beira; in fl. Sept., Oct., Dec., in fr. Oct.

Distrib. Nyasaland, Rhodesia, South Africa.

Chindao name, "Murowa-ngombe"; Singuni, "Umblab' inkunzi."

PLEIOCARPA SWYNNERTONII, *S. Moore*, sp. nov.

Arbor elata, glaber, foliis oppositis rarius ternatis lanceolatis vel oblanceolatis vel lanceolato-oblongis apice obtusis sæpe breviter cuspidatis in petiolum crassiusculum desinentibus tenuiter coriaceis costis secundariis pluribus (utrinque ultra 20) facie superiore nitente valde perspicuis, cymis axillaribus raro pseudoterminalibus solitariis oppositisve sessilibus paucifloris, calycis crassiusculi lobis suborbicularibus tubum excedentibus, corollæ tubo calycem 4-plo excedente sursum levissime amplificato quam lobi obovati obtusissimi haud duplo longiore, staminibus paullo infra fauces insertis antheris ovato-oblongis, carpellis 2 oblongo-ovoideis glabris, ovulis quoque in loculo 4, baccis 1- (nonnunquam 2-3-) spermis.

Hab. Chirinda Forest; in fl. Sept., in fr. Dec.; nn. 14, 6503.

Foliorum lamina 8-11 cm. long., 3-5 cm. lat., in sicco viridis vel viridigrisea, pagina inferiore pallidior; costa media subtus valde prominens; petioli late excavati, 1-2 cm. long. Cymæ pansæ circa 1.5 cm. diam. Flores albi. Calyx 2.2 mm. long.; tubus 0.7 mm., lobi 1.5 mm. long. Corollæ tubus intus pilosus, 8 mm. long., juxta medium 1.5 mm., faucibus 2 mm. lat.; lobi 5 mm. long. Filamenta 0.5 mm., antheræ 1.2 long. connectivo excurrente haud exempto. Carpella 1 mm. long. Stylus glaber, ægre 1 cm. long.; stigma 7.5 mm. long. Baccæ ovoideæ, in sicco rugosæ, circa 1.5 cm. long.; semina compressa, 12 × 7 mm.

Very like *P. Bagshawei*, S. Moore, and to be inserted next it in the genus. The tree-like habit, the at most ternate leaves, the broad lobes of the calyx, the shorter corolla-tube, and the 4-ovuled carpels are the chief distinguishing features of the new species.

Mr. Swynnerton informs me that this tree sometimes reaches a height of 80 feet, with the trunk more than 2 feet wide at its base. In a recent letter he says that the berries are glossy green outside with firm white flesh, while the seeds, usually single, but sometimes two or even three to each berry, are salmon-pink and have the appearance of a haricot-bean.

DIPLORHYNCHUS MOSSAMBICENSIS, *Benth. in Hook. Ic. Pl.* t. 1355.

Chibabava, Lower Buzi 400 ft.; Umswirizwi flats 1100 ft.; Inyamadzi Valley 2500 ft.; Chikore Hills 3500 ft. (fruit only); in fl. Nov., Dec.; fr. April, Sept.; nn. 39, 39 a, 2101.

Distrib. East, Central, and South tropical Africa.

Chindao name, "Mutowa." A small to medium-sized tree, 30 ft. high. Yields a white milky latex, which is smeared over broken fingers spliced with bark-fibre, and is used to fix arrow-heads in their sockets.

RAUWOLFIA INEBRIANS, *K. Schum. in Engl. Pflanzenw. Ost-Afr. C.* 318.

Chirinda Forest, 3700-4000 ft. ; Kurunadzi River, 2000 ft. ; Inyamadzi Valley, 3000 ft. ; in fl. Sept.-Nov. ; nn. 6, 6 a, 602.

Distrib. German East Africa.

Singuni name, "Umkadhwa." "A handsome tree, 80 feet high. Bark ochreous yellow and somewhat rough, that of the thinner branches yielding a milky latex. Timber yellowish white and very easily worked : it has been tried lately by one or two settlers in house-building and found useful for windows and doors. Termites and *Bostrychidae* do not attack it. Thousands of seedlings spring up with the late rain, but those exposed to the sun on the outskirts of the forest usually die off during the ensuing dry season. Owing to its rapid and symmetrical growth and the beauty of its foliage, it is being planted by settlers as a shade tree."

CALlichILIA ORIENTALIS, *S. Moore, sp. nov.*

Fruticosa, glabra, ramulis ascendentibus gracilibus sursum foliosis cortice sordide albo longitrorsum rimoso lenticellifero mox circumdati, foliis pro rata parvis lanceolatis lanceolato-oblongisve superne gradatim extenuatis apice obtusis basi in petiolum manifestum breviter angustatis margine leviter undulatis papyraceis costis secundariis utrinque 7-9, floribus pro rata parvis in cymas terminales racemiformes pedunculatas paucifloras a foliis sæpius superatas dispositis, bracteis parvis quam pedicelli pluries brevioribus, calycis campanulati exigui segmentis inter se inæqualibus late oblongis obtusissimis, corollæ comparate parvæ calycem fere triplo excedente tubo inferne angusto paullo infra apicem cylindrico-dilatato intus fere glabro lobis suborbicularibus tubo plane brevioribus, staminibus 5 mm. infra os corollæ tubo insertis.

Hab. Boka, Lower Buzi River, on limestone in a wooded glen ; in fl. Dec. ; n. 1148.

Folia vulgo 4.5-9 cm. long., 2-2.7 cm. lat., in sicco utrobique (subtus dilutius) viridia ; costa media supra impressa, subtus optime prominens ; ordinis secundi costæ teneræ ; supra planæ, subtus eminentes ; reticulum laxum ; petiolus canaliculatus, circa 5 mm. long. Stipulæ subulatæ, 2 mm. long. Pedunculus \pm 10 mm. long., pedicelli 7-20 mm., bracteæ circa 2 mm. Calycis segmenta 4-7 mm. long., 3-4 mm. lat., intus basi glandulis parvulis numerosis instructa. Corollæ tubus 17 mm. long., deorsum 1.5 mm. sursum 3 mm. lat. ; lobi 10 mm. long. Antheræ 3 mm. long. Carpella 1.5 mm., stylus 2.5 mm. long.

The species of *Callichilia* hitherto known are large-leaved West-African shrubs with flowers bigger than those of their new congener. Nevertheless the inclusion of this plant in the genus seems advisable, at least for the

present, and Dr. Stapf, who was good enough to look at the specimens, confirms me in this view. At the same time it may possibly prove the type of a new genus when its fruits come to hand.

CONOPHARYNGIA STAPFIANA, *Stapf in Fl. Trop. Afr.* iv. i. 147.

Mt. Pene, 7000 ft.; in fl. Oct.; n. 6148.

Distrib. Nyasaland.

N. 560 from the same locality, said to bear fruits 5 inches in diameter, should probably be referred here. There are no flowers.

C. ELEGANS, *Stapf in Fl. Trop. Afr.* iv. i. 149.

Jihu, 2300 ft.; Zona-Kurumadzi watershed, Kurumadzi River, 2000 ft.; in fl. Nov.; nn. 38, 2035.

Distrib. East tropical Africa.

Chindao name, "Ruchene." A shrub up to 20 feet high, and 6 or 8 inches in diameter of trunk. The abundant milky latex is regarded as a powerful remedy for the vomiting of milk by infants, being placed in a hollow reed and hung round the neck as a charm.

C. USAMBARENSIS, *Stapf in Fl. Trop. Afr.* iv. i. 148.

Chirinda Forest, 3700-4000 ft.; in fl. and young fr. Oct.; nn. 37, 37 a.

Distrib. East tropical Africa.

Chindao name, "Ruchene." A shrubby tree reaching 25 ft., with diameter of trunk 8 in. Yields somewhat abundant milky latex, but apparently no rubber.

VOACANGA LUTESCENS, *Stapf in Fl. Trop. Afr.* iv. i. 157.

Chibabava and Umhlohlo, Lower Buzi; in fl. Nov., fr. Jan.; n. 559.

Distrib. East tropical Africa.

A small tree 25 feet high, with scanty latex and white flowers. Chindao name, "Ruchene." The bast is said to be used for cord.

HOLARRHENA FEBRIFUGA, *Klotzsch in Peters Mossamb. Bot.* 277.

Sitatonga Range, Middle Buzi; near Chibabava, Lower Buzi, 400 ft.; Mount Singuno at 1500 ft.; in fl. & fr. Nov., Dec.; nn. 209, 209 a, 209 b.

Distrib. Nyasaland, Zambesia.

MASCARENHASIA VARIEGATA, *Britt. & Rendle in Trans. Linn. Soc., Bot.* ser. 2, iv. (1894) 26.

Beira, in open woods about 6 miles up the railway; in fl. Dec.; n. 558.

Distrib. Nyasaland.

Follicles in the dry state greyish-brown, longitudinally striated, about 8 cm. long, and when opened 2 cm. across, with a polished inner surface; the linear brown seeds are 1 cm. long and are crowned by a rich brown coma nearly $2\frac{1}{2}$ times their length.

ALAFIA SWYNNERTONII, *S. Moore*, sp. nov.

Sarmentosa, ramis frequenter ramulosis ramulis ultimis brevibus foliosis, foliis breviter petiolatis oblongo-ovatis sæpissime cuspidulatis apice obtusis basi cuneatis raro subrotundatis pergamaceis glabris costis secundariis utrinque numerosis, floribus majusculis in pseudoumbellas terminales subsessiles paucifloras dispositis, pedicellis gracilibus calyces longe excedentibus, calycis segmentis lanceolato-oblongis obtusis glabris, corollæ tubo calycem triplo excedente extus glabro intus juxta staminum insertionem pubescente lobis oblongo-obovatis obtusis tubum facile excedentibus extus puberulis, antherarum cono incluso.

Hab. Madanda forests at about 400 ft. ; in fl. Dec. ; n. 1178.

Foliorum limbus vulgo 5-6.5 cm. long., 2.3-3 cm. lat., in sicco pallide nitidus, griseo- vel brunneo-viridis ; costæ secundariæ utrinque circa 10-12 (interjectis aliis ordinis tertii paullo minus perspicuis), supra planæ leviterve impressæ, subtus eminentes ; reticulum laxum ; petioli 2-4 mm. long. Pedunculi 1-2 mm. long., pedicelli summum 8 mm. sed sæpius breviores. Calyx totus vix 2 mm. long. ; hujus lobi 1.25 mm. Corollæ tubus ægre 6 mm. long., prope medium 3.5 mm. ore 2 mm. lat. ; lobi 11 mm. long., summum 4 mm. lat. Antheræ 3 mm. long., dorso pubescentes. Ovarium puberulum, vix 2 mm. long.

To be inserted next *A. microstylis*, K. Schum., a plant imperfectly known in this country till recently and, as a specimen now in the Kew Herbarium shows, identical with my subsequently described *A. clusoides*. The chief points of distinction about *A. Swynnertonii* are the shape and consistence of the leaves and the subsessile inflorescences.

ONCINOTIS CHIRINDICA, *S. Moore*, sp. nov.

Scandens ramulis teretibus glabrescentibus juvenilibus gracilibus necnon minute pubescentibus, foliis breviter petiolatis lanceolato-oblongis vel oblongo-oblanceolatis cuspidatis vel breviter acuminatis basi obtusis tenuiter coriaceis supra glabris subtus minutissime furfuraceis costis secundariis utrinque 4 adscendenti-arcuatis facie superiore leviter impressis inf. eminentibus, paniculis axillaribus gracilibus laxis plurifloris foliis fere æquilongis minute ferrugineis, pedicellis calycem plerumque paullo excedentibus, calycis glandulosi lobis oblongo-lanceolatis obtusis minute ferrugineis, corollæ tubo calycem excedente extus minutissime ferrugineo lobis tubo longioribus linearibus acutis, disco 5-partito.

Hab. Chirinda Forest, 3700-4000 ft. ; in fl. & fr. Oct. ; n. 87.

Foliorum limbus 7-10 cm. long., 2.5-3.5 cm. lat., in sicco plerumque brunneo-olivaceus ; petioli 5-10 mm. long., supra late canaliculati, minute puberuli. Paniculæ 4.5-9 cm. long., hujus rami tenues, apertissimi ; bractæe lineari-subulatæ, caducæ, \pm 2 mm. long. Flores virides. Pedicelli profecto evoluti solemniter 4-5 mm. long., graciles, minute ferruginei. Calycis pars

indivisa circa 0·75 mm. long.; lobi ægre 3 mm. Corollæ tubus adusque 4·5 mm. long., juxta medium 2·25 mm. diam.; squamæ 0·4 mm., lobi 6 mm. long. Antheræ 2 mm. long. Disci lobi quadrati, 0·75 mm. long. Ovarii carpella 1·25 mm. long. Folliculus 12·5–15 cm. long., summum fere 1 cm. diam., minutissime tomentella. Semina anguste oblongo-lineararia, sursum attenuata, 1·4 cm. long.; coma circa 3·5 cm. long.

Differs from *O. inandensis*, Wood & Evans, which it much resembles, chiefly in the longer pedicels, the larger calyx with longer and relatively narrower lobes, and the larger longer-lobed corollas.

A large woody vine with very rough and thick yellow bark, and a milky latex. Sometimes near the base it is 15 or 18 inches in diameter.

ADENIUM MULTIFLORUM, *Klotzsch in Peters Mossamb. Bot.* 279.

Sabi River at about 1000 ft.; in fr. Nov.; n. 557.

Distrib. Nyasaland, Zambesia.

ASCLEPIADEÆ.

CRYPTOLEPIS OBLONGIFOLIA, *Schlechter in Journ. Bot.* xxxiv. (1896) 315.

In grass near Chirinda; in fl. & fr. Oct.; n. 243.

Distrib. Uganda, Mozambique.

Yields milky latex and good fibre.

SECAMONE ALPINI, *Schult. in Rœm. & Schult. Syst. Veg.* vi. 125.

Outskirts of Chirinda, 3700–4000 ft.; in fl. Dec.; n. 88.

Distrib. Nyasaland.

S. ZAMBESIACA, *Schlechter in Journ. Bot.* xxxiii. (1895) 303.

Umhlonho, Lower Buzi; Madanda forests; in fl. Dec.; nn. 1921, 1921 a.

Distrib. Nyasaland.

XYSMALOBIUM RETICULATUM, *N. E. Br. in Kew Bull.* 1895, 251.

Near Chirinda, 3800 ft.; Lower Umswirizwi River, 1000 ft.; in fl. Oct., Nov.; nn. 247, 247 a.

Distrib. Uganda to Rhodesia.

ASCLEPIAS SWYNNERTONII, *S. Moore*, sp. nov.

Verisimiliter circa spithamea caule erecto omnimodo folioso crassiusculo bifariatim piloso hispidulove, foliis satis approximatis brevipetiolatis ovato-oblongis obtusis vel obtuse acutis basi rotundatis leviterve cordatis margine obscure revolutis utrinque fere omnino glabris margine microscopice serrulato-ciliatis membranaceis, umbellis ex axillis foliorum superiorum ortis corymbosis, pedunculis piloso-pubescentibus inferioribus quam superiores longioribus et

foliis brevioribus, bracteis anguste linearibus quam pedicelli pilosi manifeste brevioribus, calycis puberuli segmentis lanceolato-oblongis obtusiusculis, corollæ rotatæ lobis late ovato-oblongis obtusis demum reflexis, coronæ phyllis paullulum ex columnæ stamineæ basi enatis ipsi columnæ æquialtis inferne leviter cucullatis superne complicatis dorso carinatis intus inappendiculatis glabrisque lobis lateralibus brevibus triangularibus acutis lobum centralem truncatum haud superantibus, antherarum appendicibus sursum inflexis.

Hab. Mt. Pene, 7000 ft.; Melsetter at 6000 ft.; in fl. Oct.; nn. 6092, 6093.

Folia vulgo 4-4.5 × 2.2-2.8 cm., subglauca; petioli 2-3 mm. long. Pedunculi summum 2.5 cm. long. Bracteæ circa 6 mm., pedicelli solemniter 1-2 cm. long. Flores luteo-virides. Calycis segmenta 5 mm. long. Corollæ lobi 7 mm. long. Coronæ phylla ægre 3 mm. long., sub apice 2.5 mm. lat.; lobi laterales circa 0.8 mm. long. Antherarum appendices ovati, 1 mm. long. Pollinia oblongo-pyriformia, 1.2 mm. long.; glandula 0.25 mm., caudicula 0.1 mm. long.

In general appearance this reminds one somewhat of *A. glaucophylla*, Schlechter, but the stalked leaves are not so large and the flowers much smaller and otherwise different. The position in the genus is next *A. modesta*, N. E. Br.

ASCLEPIAS FULVA, *N. E. Br. in Kew Bull.* 1895, 254.

Near Chirinda, 3600 ft.; in fl. Jan.; n. 1914.

Distrib. Uganda, German East Africa.

A. LINEOLATA, *Schlechter in Journ. Bot.* xxxiii. (1895) 336.

Hills north of the Upper Buzi, 3200 ft.; Lower Umswirizwi River, 1000 ft.; in fl. Nov., Dec.; nn. 245, 1920.

Distrib. Tropical Africa.

A. COARTATA, *S. Moore in Journ. Bot.* xlvi. (1908) 297.

Chibabava, Lower Buzi, 400 ft.; Lower Umswirizwi River, 1000 ft.; in fl. Nov., Dec.; nn. 248, 1895.

Distrib. Endemic.

A. SCABRIFOLIA, *S. Moore, l. c.*

Mt. Pene, 7000 ft.; Chimanimani Mts. at 7000 ft.; in fl. Sept., Oct.; nn. 1915, 6094, 6140.

Distrib. Endemic.

A. REFLEXA, *Britt. & Rendle in Trans. Linn. Soc., Bot.* ser. 2, iv. (1894) 28.

Open woods at Beira; fl. Dec.; n. 1918.

Distrib. Tropical East Africa.

SCHIZOGLOSSUM CHIRINDENSE, *S. Moore in Journ. Bot.* xlvi. (1908) 295.

Near Chirinda, 3800 ft.; Mt. Pene, 7000 ft.; in fl. Sept., Oct.; nn. 246, 6095.

Distrib. Endemic.

MARGARETTA WHYTEI, *K. Schum. in Engl. Pflanzenu. Ost-Afr.* C. 323.

Near Chirinda, 3800 ft.; Lower Umswirizwi River; in fl. Oct., Nov.; nn. 1912, 1913.

Distrib. Nyasaland, Zambesia, Rhodesia.

CYNANCHUM CHIRINDENSE, *S. Moore in Journ. Bot.* xlvi. (1908) 305.

Chirinda Forest, 3900 ft.; in fl. Feb.; n. 137.

Distrib. Endemic.

MARSDENIA ZAMBESIACA, *Schlechter in Journ. Bot.* xxxiii. (1895) 338.

Boka, Lower Buzi; in fl. Dec.; n. 1917.

Distrib. Angola to Zambesia.

M. GAZENSIS, *S. Moore in Journ. Bot.* xlvi. (1908) 306.

Kurumadzi River, Jihu; in fl. Jan.; n. 224.

Distrib. Endemic.

SWYNNERTONIA CARDINEA, *S. Moore, l. c.* 308, t. 495.

Chirinda Forest, 3700–4000 ft.; in fl. Oct., Dec.; nn. 1080, 6518.

Distrib. Endemic.

After the publication of this interesting plant, Mr. Swynnerton sent me a number of notes made with the living object before him, notes which show one or two inaccuracies in the original description and figure. The chief of these relates to the inner corona, which I described as adnate to the staminal column without noticing, or directing Mr. Highley's attention to, the fact of each of the inner coronal leaves being produced at the base into a short spur free from the column, just as is the case with *Dæmia*. In fig. 4 of Plate 5, a copy of one of Mr. Swynnerton's sketches, the structure of the corona is well shown. The diagnosis of the corona, therefore, needs a slight alteration and should read thus:—

“Corona duplex ex apice columnæ stamineæ orta; phylla exteriora 5, corollæ lobis opposita, comparate parva, phylla interiora quam exteriora longiora, columnæ stamineæ impendentia, quodque more *Dæmiarum* basi in calcare libero brevi productum.”

An examination of the figure will show that the outer coronal leaves are not emarginate as before described, such emargination being the effect of drying under pressure. The hairiness of these organs should also be noticed; this has been omitted from the figures previously published, and indeed is difficult to see in the dried state except when the flower has been very well pressed.

In habit, it may be added, *Swynnertonia* is much like Schlechter's recently described *Neoschumannia* from West Africa. Schlechter refers this to the *Ceropegiinæ*, his drawing (Engler, *Bot. Jahrb.* xxxviii. (1895) p. 39, fig. 4) showing pollinia with at most but a faint trace of caudicles. But any suspicion that Schlechter's plant and the one under notice might be congeneric is dispelled by the fact of the former's corona being triple, with an outer series of long reflexed lobes, which series is unrepresented in *Swynnertonia*.

CEROPEGIA HISPIDIPIPES, *S. Moore in Journ. Bot.* xlv. (1908) 309.

Near Chirinda, 3800 ft. ; in fl. Feb. ; n. 1137.

Distrib. Endemic.

RIOCREUXIA PROFUSA, *N. E. Br. in Kew Bull.* 1895, 260.

Chikore Hills, 3500 ft. ; in fl. April ; n. 205.

Distrib. Nyasaland.

LOGANIACEÆ.

MOSTUEA WALLERI, *Bak. in Kew Bull.* 1895, 96.

Chirinda Forest at 3800 ft. ; in fl. Dec. ; n. 6511.

Distrib. Zambesia.

BUDDLEIA SALVIFOLIA, *Lam. Encycl.* i. 513.

Melsetter, 6000 ft. ; Mt. Pene at 6500-7000 ft. ; in fl. Sept., Oct. ; nn. 609, 675, 6090.

Distrib. A South-African plant extending to Nyasaland and Angola.

NUXIA SAMBESINA, *Gilg in Engl. Pflanzenw. Ost-Afr. C.* 312.

Melsetter, 6000 ft. ; in fl. Sept. ; n. 606.

Distrib. Nyasaland.

N. HOLSTII, *Gilg in Engl. Pflanzenw. Ost-Afr. C.* 312.

Melsetter ; in fl. April ; n. 1902.

Distrib. Usambara, Nyasaland.

N. DENTATA, *R. Br. in Salt Abyss., App.* 63.

Lower Umswirizwi River, 160 ft. ; Lusitu River at 3000 ft. ; in fl. Sept., Nov. ; nn. 1179, 1294.

Distrib. From Arabia and Abyssinia to East Africa and Angola ; also in Eastern South Africa.

STRYCHNOS FLORIBUNDA, *Gilg in Engl. Bot. Jahrb.* xvii. (1893) 566.

Madanda forests at about 400 ft. ; in fl. Dec. ; nn. 1071, 1073.

Distrib. Congo Free State.

A large shrub with white flowers and gamboge-yellow fruit.

STRYCHNOS (§ Intermediæ) MICANS, *S. Moore*, sp. nov.

Frutex erectus vel arbor parva ramulis gracillimis teretibus ad nodos tumidis cortice cinereo vel fusco obductis, foliis pro rata parvis petiolatis lanceolatis vel lanceolato-ovatis longiuscule cuspidato-acuminatis basi obtusis tenuiter coriaceis glabris supra nitidis in sicco olivaceis subtus olivaceo-viridibus 5-nervibus jugo proximali debili fere a basi frequentissime arcuato-anfractuoso apicem fere attingente jugo distali ad 2-4 mm. a basi costæ centrali inserto quam jugum proximale validiore etsi tenui, cymis brevibus axillaribus laxis paucifloris, bracteis parvis subulatis acutis rigidis, floribus pedicellatis 4-meris, calycis minuti lobis ovatis obtusis vel obtusiusculis microscopicè ciliolatis, corollæ tubo calyci æquilongo late cylindrico faucibus albo-villosis lobis tubum excedentibus oblongis obtusis dorso minute fulvo-pubescentibus, filamentis complanatis antheris ovatis æquilongis, ovario oblongo-ovoideo in stylum paulo longiorem attenuato.

Hab. Chirinda Forest, 3700-4000 ft. ; in fl. Dec. ; n. 125.

Ramuli nudo 1-1.5 mm. diam. Folia solemniter 4-5 × 1.7-2 cm. ; petioli 5 mm. long., transversim rugulosi. Cymæ usque ad 8 mm. long., circa 6 mm. diam. Pedunculus 2-3 mm. long. ; pedicelli vulgo circa 2 mm. long. Bracteæ 1-2 mm. long. Calyx ægre 1 mm. long. Corollæ tubus 1.2 mm. long., 1.5 mm. lat. ; lobi vix 2 mm. long. Filamenta necnon antheræ 0.6 mm. long. Ovarium 1 mm., stylus 1.25 mm. long.

In appearance this somewhat resembles *S. Welwitschii*, Gilg, one of the climbing species. The affinity seems to be with *S. Marquesii*, Bak., and *S. pungens*, Soler., but from both it differs in leaf as well as flower.

STRYCHNOS (§ Intermediæ) MITIS, *S. Moore*, sp. nov.

Arbor excelsa cortice badio levi obducta, ramulis teretibus ad nodos tumidis crebro foliosis cinereis, foliis oblanceolato-oblongis nunc obtusis nunc acutiusculis vel cuspidato-acuminatis basi in petiolum brevem angustatis sub anthesi tenuiter sub fructescentia rigide coriaceis supra nitentibus subtus pallidioribus necnon opacis glabris 5-nervibus jugo proximali tenui ad apicem usque fere perveniente jugo distali a basi satis remoto jugarum costis sæpe costæ centrali alternatim affixis, cymis axillaribus pedunculo communi per brevi fultis laxiusculis plurifloris fulvo-pubescentibus, bracteis rotundato-ovatis obtusis vel obtusissimis ut calyx puberulis margineque ciliatis, floribus sessilibus 5-meris, calycis lobis late ovatis obtusissimis, corollæ tubo calyci æquilongo late cylindrico faucibus albo-villosis lobis oblongo-ovatis acutis tubum æquantibus, filamentis complanatis quam antheræ oblongo-ovatae basi sagittulatae barbataeque brevioribus, ovario ovoideo in stylum crassum æquilongum desinente, bacca parva subsphæroidea levi monosperma, semine oblongo-ovoideo dorso ventroque aliquanto complanato albumine corneo.

Hab. Chirinda Forest 3700-4000 ft. ; in fl. Jan., fr. Oct. ; nos. 17, 17 a.

Folia vulgo 5·5–8 cm. long., 2–3 cm. lat., raro 10 × 4 cm. attingentia ; jugum proximale triente inferiore ad 2–3 mm. a margine percurrans, superne crebro arcuato-anfractuosum ; jugum distale ad 1–1·8 cm. a basi insertum primo rectum deinde arcuatum et cum ordinis secundi costis circa 5–6 costulisque numerosis anastomosantibus ; costularum rete utrinsecus prominens sed foliorum vetustiorum pagina superiore sæpe minus aspectabile. Flores flavi. Calyx 1·5 mm. long. Corollæ 3 mm. long. ; tubus 1·5 mm. long., ægre 2 mm. lat. ; lobi 1·5 × 1·2 mm. Filamenta 0·5 mm., antheræ vix 1 mm. long. Ovarium 0·9 mm. long. Bacca viva flava, in sicco 1·3–1·4 cm. long., 1·2–1·3 cm. diam. Semina fusca vel fusco-rubra, 9 × 7 mm.

Mr. Swynnerton notes this as one of the largest trees of the Melsetter district. The yellow fruits are eaten by birds, squirrels and monkeys. Flowers a creamy Naples yellow in colour. The forest Touracos (*Turacus livingstonii*) are particularly fond of the berries, which are borne very abundantly.

STRYCHNOS (§ Intermediæ) MELLODORA, *S. Moore*, sp. nov.

Arbor mediocri altitudine ramulis ascendentibus validis crebro foliosis cito glabris cortice brunneo-rubescente nitido obductis, foliis oblongo-oblanceolatis apicem versus sæpe cuspidato-attenuatis apice obtusis basi in petiolum brevem cuneatim coartatis tenuiter coriaceis glabris basi ipsa jugo proximali tenui adjecto trinervibus jugo distali validiore ad 5–10 mm. supra basin costæ centrali inserto costis secundariis reliquis utriusque 4–6 primo ascendentibus marginem versus late arcuatis necnon leviter anfractuosis, floribus in cymas paniculatas axillares pedunculatas multifloras fulvo-pubescentes dispositis, bracteis ovatis obtusis pedicellis brevioribus, floribus tetrameris, calycis lobis rotundato-ovatis obtusissimis margine ciliolatis, corollæ tubo abbreviato sc. calyce brevioris limbi lobis anguste ovato-oblongis obtusis tubum 4-plo excedentibus intus albo-villosulis, filamentis complanatis corollæ lobos semiæquantibus, ovario glabro stylo crassiusculo longiore, bacca —.

Hab. Chirinda Forest, 3700–4000 ft. ; in fl. Oct. ; n. 101.

Folia sæpius 8–10 × 3–4 cm., in sicco plus minus castanea, pag. sup. nitida ; jugum proximale nullo negotio aspectabile etsi tenue, apicem versus evanescens ; costularum rete laxiusculum, utrinque satis prominens. Cymæ solemniter 2·5–3·5 cm. long., 3–3·5 cm. diam. Pedunculus communis 7–12 mm. long. ; pedd. partiales vulgo 5–10 mm., raro usque ad 15 mm. ; pedicelli 1–2 mm. long. Bracteæ circa 1 mm. long. Flores albi, mellis odorem spargentes. Calyx 1 mm. long. Corollæ tubus 0·6 mm. long., 1·25 mm. lat. ; lobi 2·5 mm. long. Filamenta 1·2 mm. long. ; antheræ oblongæ 0·7 mm. long. Ovarium fere 1 mm. long., stylus 0·4 mm.

Near *S. alnifolia*, Baker, but different in habit, form and nervation of the leaf, and the short tube of the corolla.

STRYCHNOS BURTONI, *Bak. in Kew Bull.* 1895, 98.

Chirinda, Chibabava and Boka ; in fl. Dec. ; nn. 1959, 1960, 1961.

Distrib. Tropical East Africa from Zanzibar southward.

A large tree with edible fruits. Chindao name, "Mukwakwa."

Gilg (*Engl. Bot. Jahrb.* xxxvi. 93) considers *S. Burtoni* conspecific with *S. dysophylla*, Benth. He cannot have seen the types in the Kew Herbarium, there being too many points of difference to leave any doubts as to the distinctness of *S. Burtoni*.

S. SPINOSA, *Lam. Ill.* ii. 38.

Near Chirinda, 3800 ft. ; in fl. Oct. ; nn. 55, 55 a.

Distrib. Tropical and South Africa, Mascarene Islands.

This is the Kafir Orange. Chindao name, "Mutamba."

ANTHOCLEISTA ZAMBESIACA, *Bak. in Kew Bull.* 1895, 99.

Mt. Maruma, 3500 ft. ; in fl. Dec. ; n. 27.

Distrib. Nyasaland.

A large and particularly striking tree not uncommon in wooded glens ; flowers white. Chindao name, "Muzama."

GENTIANEÆ.

SEBÆA LEIOSTYLA, *Gilg in Engl. Bot. Jahrb.* xxvi. (1898) 97.

Melsetter, 6000 ft. ; in fl. April ; n. 1898.

Distrib. Nyasaland.

BELMONTIA GRANDIS, *E. Mey. Comm.* ii. 183.

Source of Chipetzana, 4000 ft. ; in fl. April ; n. 2031.

Distrib. S. Africa and northward to Uganda.

CHIRONIA TRANSVAALENSIS, *Gilg in Engl. Bot. Jahrb.* xxvi. (1898) 106.

Zinqumbo Hills at 1500 ft. ; in fl. Nov. ; n. 1891.

Distrib. Northern South Africa extending to Rhodesia and C'ongo Free State.

CHIRONIA (§ *Plocandra*) *GRATISSIMA*, *S. Moore*, sp. nov.

Glabra, caule erecto ramoso affatim foliifero, foliis quam internodia sæpissime brevioribus oblongo-lanceolatis rarius ovato-oblongis juxta apicem sæpissime attenuatis apice ipso obtusis nonnunquam obtusissimis basi levissime amplexicaulibus trinerviis, floribus pro rata magnis in cymis laxis paucifloris bracteis lanceolatis acutis onustis digestis, calycis plane ultra medium divisæ lobis lineari-lanceolatis acutis dorso parum carinatis, corollæ tubo calycem paullulum excedente lobis tubum 3-plo excedentibus anguste oblongo-obovatis obtusis, antheris late oblongis a basi spiraliter tortis, ovario ovoideo-oblongo apice coartato, stylo crasso superne fere recto stigmatibus bilobo terminato.

Hab. Melsetter, 6000 ft.; Northern Melsetter at 5000–6000 ft.; in fl. Sept., Oct.; nn. 1892, 6162.

Planta saltem bispithamea. Internodia solemniter 5–7 cm. long. Folia radicalia desunt; caulina vulgo 3–4 cm. long., 10–17 mm. lat., perpauca summa immunita, nec in bracteas non transeuntia. Cymæ 12–15 × 10–12 cm.; pedunculus communis circa 6 cm. long., pedunculi partiales 2–5 cm. Flores saturate purpurei. Calycis pars indivisa 2 mm., lobi 6 mm. long. Corolla profecto pansa 3·5 cm. diam.; tubus 6 × 5 mm.; lobi ægre 18 mm. long., apicem versus margine leviter crispuli. Filamenta 3 mm. long.; antheræ inter sese paullulum inæquales, 6·5–7·5 mm. long. Ovarium 1 cm. long.; stylus vix totidem; stigma in toto 1·75 mm. long., hujus lobi 1·2 mm.

This fine plant has its nearest affinity in *C. laxiflora*, Bak., which is of more slender habit, and bears smaller ovate leaves and smaller flowers with the lobes of the calyx lengthily acuminate and strongly keeled on the back.

ENICOSTEMA LITTORALE, *Blume, Bijdr.* 848.

Lower Umswirizwi River, 1000 ft.; in fl. Nov.; n. 2032.

Distrib. Tropical and South Africa, East Indies.

SWERTIA STELLARIOIDES, *Ficalho, Pl. Uteis*, 225.

Melsetter, 6000 ft.; in fl. April; n. 1919.

Distrib. Transvaal, Rhodesia, Angola.

LIMNANTHEMUM THUNBERGIANUM, *Griseb. Gen. & Sp. Gent.* 345.

Upper Umswirizwi, near Chirinda, 2589 ft.; in fl. & fr. Oct.; n. 393.

Distrib. S. Africa and northward to Mozambique and Angola.

BORAGINEÆ.

The collection includes specimens of *Heliotropium indicum*, Linn., a common weed in the tropics of both hemispheres, also of *H. zeylanicum*, Lam., and *Cynoglossum lanceolatum*, Forsk., both widely distributed in the Old World.

EHRETIA DIVARICATA, *Bak. in Kew Bull.* 1894, 28.

Chirinda Forest, 3700–4000 ft., Chikambogé Valley, 3000 ft.; in fl. & fr. Sept., Oct.; nn. 8, 1416.

Distrib. Nyasaland.

E. STUHLMANNI, *Gürke in Engl. Pflanzenw. Ost-Afr.* C. 336.

Chibabava and Boka, Lower Buzi; in fl. & fr. Dec.; nn. 1412, 1412 a.

Distrib. Tropical East Africa.

TRICHODESMA ZEYLANICUM, *R. Br. Prod.* 496.

Chibabava, Lower Buzi, 400 ft.; in fl. Nov.; n. 1942.

Distrib. Tropical Africa and Mascarene Islands: also in East Indies and Australia.

TRICHODESMA PHYSALOIDES, *A. DC. in DC. Prod.* x. 173.

Umvumvumu River and Nyahodi Valley, at 4000 ft.; in fl. Oct.;
nn. 2112, 6003.

Distrib. Tropical and South Africa.

CONVOLVULACEÆ. (Dr. RENDLE.)

HEWITIA BICOLOR, *Wight in Madras Journ. Sc.* ser. 1, v. (1837) 22.

Outskirts of Chirinda, 3700–4000 ft.; Kurumadzi River, Jihu, 2000 ft.;
in fl. June, Nov.; nn. 1187, 1797.

Distrib. Tropical Africa and Natal; also Tropical Asia.

CONVOLVULUS SAGITTATUS, *Thunb.*, var. ABYSSINICUS, *Hall. fl. in Bull. Herb. Boiss.* vi. 533.

Near Chirinda, 3500 ft.; in fl. June; n. 1798. A climbing herb with
small pinkish-white flowers.

Distrib. East tropical Africa, Angola.

ASTROCHLÆNA MALVACEA, *Hall. fl. in Engl. Bot. Jahrb.* xviii. (1894) 321.

Near Chirinda, 3800 ft.; Chikambogé Valley, 3000 ft.; in fl. Sept., Dec.;
nos. 300, 1799.

Distrib. South-East tropical Africa; South Africa.

Var. EPEDUNCULATA, *Rendle in Fl. Trop. Afr.* iv. Sect. 2, 122.

South Umtali District, Melsetter Road, at 2000–3000 ft.; in fl. Oct.;
n. 6603.

Distrib. Rhodesia.

IPOMEA GRACILIOR, *Rendle in Journ. Bot.* xlvi. (1908) 180.

Swampy ground, Mt. Maruma, 3500 ft.; in fl. Sept.; n. 782.

Distrib. Uganda Protectorate.

I. CALYSTEGIOIDES, *E. Mey. in Drège, Zwei Pflanz. Doc.* 195.

Lower Umswirizwi, 1000 ft.; in fl. Nov.; n. 312.

Distrib. South Africa.

I. WIGHTII, *Choisy in Mém. Soc. Phys. Genève.* vi. (1833) 470.

Outskirts of Chirinda, 3800 ft.; Melsetter at 6000 ft.; in fl. April, June;
nn. 783, 1165.

Distrib. East tropical Africa, South Africa, Madagascar; Tropical Asia.

I. WELWITSCHII, *Vatke ex Hallier f. in Engl. Jahrb.* xviii. (1894) 146.

Near Chirinda, 3500 ft.; in fl. Nov.; n. 301.

Distrib. South tropical Africa.

CUSCUTA KILIMANJARI, *Oliver in Trans. Linn. Soc.* ser. 2, *Bot.* ii. (1887)
343.

Chirinda, 3800 ft.; in fl. May; n. 453.

Distrib. Mt. Kilimanjaro.

SOLANACEÆ.

SOLANUM BIFURCUM, *Hochst. in Flora*, xxiv. 1. (1841) *Intell.* 24.

Chirinda Forest, 3700 ft. ; in fl. Oct. ; n. 86.

Distrib. Abyssinia to Angola and Mozambique ; also in South Africa.

S. PANDURÆFORME, *E. Mey. in Drège, Zwei Pflanz. Doc.* 147.

Chibabava, Lower Buzi, 400 ft. ; Kurumadzi River, Jihu, 2000 ft. ; in long grass near Chirinda, 3800 ft. ; fl. Nov. ; nn. 387, 1792, 1793. N. 1793 is almost or quite spineless.

Distrib. Uganda to Angola and Rhodesia.

S. NODIFLORUM, *Jacq. Ic. Pl. Rar.* ii. 11, t. 326.

Melsetter, 6000 ft. ; Chirinda Forest, 3800 ft. ; cultivated ground near Chirinda ; in fl. & fr. April, May ; nn. 342, 481, 1794.

Distrib. Tropical Africa.

S. INDICUM, *Linn. Sp. Pl.* 187.

Cultivated ground near Chirinda, 3800 ft. ; in fl. Oct., in fr. May ; nn. 388, 482.

Distrib. Tropical Africa, Transvaal, Mascarene Islands ; widely distributed in Asia.

S. ACANTHOCALYX, *Klotzsch in Peters Mossamb. Bot.* 232.

Chirinda Forest, 3700-4000 ft. ; in fl. Nov. ; n. 93.

Distrib. Nyasaland, Mozambique, Madagascar.

S. ACULEASTRUM, *Dun. in DC. Prod.* xiii. 1. 366.

A single specimen without number or locality.

Distrib. Uganda to Nyasaland, South Africa.

WITHANIA SOMNIFERA, *Dun. in DC. Prod.* xiii. 1. 453.

Kurumadzi River, Jihu, 2000 ft. ; in fl. & fr. Nov. ; n. 1791.

Distrib. Tropical South Africa and Canaries to India.

SCROPHULARIACEÆ.

Torenia parviflora, Ham., a common tropical weed, was collected by Mr. Swynnerton at Beira.

HALLERIA LUCIDA, *Linn. Sp. Pl.* 625.

Chirinda Forest, 3700-4000 ft. ; Melsetter, 6000 ft. ; in fl. Sept., Dec. ; nn. 124, 1138.

Distrib. South Africa and northward to Abyssinia.

TEEDIA LUCIDA, *Rud. in Schrad. Journ.* ii. (1799) 228.

Crags of the Chimanimani Mts. at 7000 ft. ; in fl. Sept. ; n. 785.

Distrib. S. Africa.

The genus has not hitherto been recorded as tropical.

FREYLINIA TROPICA, *S. Moore*, sp. nov.

Ramis ramulisque tetraquetris cito glabris novellis viscidis, foliis breviter petiolatis oblongo-oblongatis obtusis vel obtusiusculis basi attenuatis margine sæpius ultra medium pauci- vel perpaucidentulatis coriaceis utrobique glabris, cymis 2-5-floris viscidis, bracteis parvulis quam pedicelli sæpissime brevioribus linearibus obtusis, calyce pedicellum vulgo breviter excedente viscido, corollæ extus glanduloso-puberulæ intus glabræ tubo calycem triplo excedente superne leviter amplificato lobis suborbicularibus, antheris ovatis obtusis, ovario oblongo-ovoideo ut stylus crassiusculus glabro.

Hab. Melsetter, 6000 ft. ; in fl. Sept. ; n. 608.

Folia 1.5-3 cm. long., 6-9 mm. lat., in sicco viridia vel viridi-grisea, pagina inferiore pallidiora; costa media supra impressa, subtus optime emineas; costæ ordinis secundi utrinque 2-3, parum aspectabiles; petioli 2-3 mm. long. Cymæ floribus haud exemptis 1-1.5 cm. long.; bracteæ ± 1.5 mm., pedicelli vulgo 1.5-2.5 mm. long. Calyx 3-4 mm. long. Corollæ tubus 10-11 mm. long., inferne 2 mm. ore 3.5 mm. lat.; lobi circiter 5 × 5.5 mm. Staminum altiorum filamenta fere 2 mm. long., reliquorum fere 3 mm.; antheræ 1 mm. long. Discus 0.5 mm. alt. Ovarium ægre 2 × 0.8 mm.; stylus 9 mm. long.

This was at first supposed to be the type of a new genus allied to *Capraria*, but I now think there can be no doubt as to its place being in *Freylinia*, as Miss Kensit suggested to me. The reason for my former view was that *F. tropica* certainly has the æstivation of *Digitaleæ*, not of *Cheloneæ*, and I naturally accepted the statement that the æstivation of *Freylinia* is that of *Cheloneæ*. However, examination has led me to doubt the accuracy of that statement, and it seems to me that the proper place for *Freylinia* is in *Digitaleæ* near *Capraria*, though the point, it must be admitted, is difficult to decide from dried material alone.

As the trivial name implies, this South African genus has not hitherto been recorded as tropical.

ZALUZIANSKYA CAPENSIS, *Walp. Rep.* iii. 387.

Melsetter, 6000 ft. ; in fl. Sept. ; n. 1981.

Distrib. South Africa.

The first tropical record for the genus.

SUTERA CARVALHOI, *Skon in Fl. Trop. Afr.* iv. Sect. 2, 307.

Melsetter, 6000 ft.; Northern Melsetter at 5000-6000 ft.; in fl. Sept., Oct.; nn. 1980, 6228.

Distrib. Mozambique, Rhodesia.

SUTERA FLORIBUNDA, *O. Kuntze, Rev. Gen. Pl.* ii. 467.

Melsetter and Northern Melsetter, 5000–6000 ft.; fl. Sept., Oct.; nn. 1996, 6149.

Distrib. South Africa.

An addition to the Tropical African flora.

LINDERNIA FLAVA, *S. Moore*, sp. nov.

Verisimiliter annua, glabra, caule ascendente sursum ramoso anguste tetraptero, foliis omnibus oppositis sessilibus ovatis acutis obtusive basi cordato-amplexicaulibus margine distanter dentatis dentibus induratis 5-nerviis, floribus axillaribus solitariis pedunculis quam calyx sæpe brevioribus suffultis, calycis anguste campanulati tubo quam lobi anguste lineari-lanceolati acuminati juxta basin ciliolati paullo brevioris, corollæ tubo calyce brevioris cylindrico labio postico obovato breviter bilobo quam anticum manifeste brevioris extus pubescente labii antici lobis obovatis obtusissimis margine crispulis, staminibus posticis subinclusis anticorum appendice abbreviata incurva crassiuscula antherum loculis haud confluentibus.

Hab. Mt. Maruma, 3500 ft., in swamp; near Chirinda, 3700 ft.; in fl. June, Sept.; nn. 1922, 1966.

Folia summum 1.3 × 1.2 cm., sed sæpissime minora, e. g. 7 × 5 mm., ima basi ciliolata, in sicco haud decoloria, membranacea, glandulis immersis satis copiose prædita. Pedunculi sæpius circa 5 mm. long. Flores saturate flavi. Calyx in toto 7 mm. long.; tubus 3 mm. long., superne 2 mm. lat., inter costas 5 eminentes pallescens; lobi 4 mm. long. Corollæ tubus 4 mm. long.; labium posticum 2 mm., anticum 4 mm. long. Ovarium ovoideo-oblongum, apice attenuatum, 2 mm. long.; stylus ægre 5.5 mm., stigmatis lobi deltoidei, ciliolati, 0.75 mm. long.

Remarkably like *L. Gossweileri*, *S. Moore*, for which, on a hasty view, it might easily be mistaken; but that plant's calyx is divided to the base and, among other points, its corollas are larger and have a longer tube, while the upper lip is but little shorter than the lower, instead of being only half as long.

ALECTRA COMMUNIS, *Hemsl. in Fl. Trop. Afr.* iv. Sect. 2, 372.

Outskirts of Chirinda, 3700–4000 ft.; in fl. June; n. 1975.

Distrib. Nigeria and Uganda to Nyasaland.

BUCHNERA HENRIQUESII, *Engl. Bot. Jahrb.* xviii. (1894) 69.

Near Chirinda, 3800 ft.; Melsetter, 6000 ft.; Kurumadzi River, Jihu, 2000 ft.; Upper Buzi at 3500 ft.; Mt. Pene, 7000 ft.; in fl. May, July, Oct., Nov.; nn. 303 a, 1982, 1983, 6106, 6109.

Distrib. Angola to Rhodesia.

BUCHNERA LASTII, *Engl. Pflanzenw. Ost-Afr.* C. 359.
Mt. Pene, 7000 ft. ; in fl. Oct., Nov. ; nn. 6105, 6150.
Distrib. Nyasaland.

CYCNIUM ADOENSE, *E. Mey. ex Benth. in Hook. Comp. Bot. Mag.* i. (1835) 368.

Near Chipete forest patch, 3800 ft. ; Melsetter at 6000 ft. ; in fl. April, Oct. ; nn. 234, 6076.

Distrib. Tropical East Africa from Uganda southward.

RHAMPHICARPA TUBULOSA, *Benth. l. c.*

Open woods at Beira ; in fl. Dec. ; n. 1984.

Distrib. Uganda and British East Africa to Amboland and Rhodesia. Also in South Africa.

STRIGA OROBANCHIOIDES, *Benth. l. c.* 371.

Chibabava, Lower Buzi, 400 ft. ; in fl. Jan. ; n. 1413.

Distrib. Tropical and South Africa, Arabia, India.

S. LUTEA, *Lour. Fl. Cochinch.* 22.

Upper Buzi, 3000 ft. ; Umswirizwi River at 1000 ft. ; in fl. & fr. Apr., Nov. ; nn. 1985, 2137.

Distrib. Tropical and South Africa, Mascarene Islands, Tropical Asia.

S. FORBESII, *Benth. in Hook. Comp. Bot. Mag.* i. (1835) 364.

Umswirizwi River at 1000 ft. ; in fl. Nov. ; n. 1986.

Distrib. Tropical and South Africa, Madagascar.

S. PUBIFLORA, *Klotzsch in Peters Mossamb. Bot.* 227.

Beira ; in fl. Dec. ; nn. 1451 a, 1951.

Distrib. Tropical East Africa from British East Africa to Nyasaland and Rhodesia.

SOPUBEA RAMOSA, *Hochst. in Flora*, xxvii. (1844) 27.

Near Chirinda, 3800 ft. ; Chipetzana and Upper Buzi Rivers, at 3000 ft. ; fl. & fr. Apr., June ; nn. 389, 2125, 2126.

Distrib. Tropical Africa.

S. SIMPLEX, *Hochst. l. c.*

Mt. Pene, 6500-7000 ft. ; in fl. Sept., Oct. ; nn. 1976, 6209.

Distrib. Tropical and South Africa.

BOPUSIA SCABRA, *Presl in Abhandl. Böhm. Gesell. Wiss.* iii. (1846) 521.

Mt. Pene, 6500-7000 ft. ; hills near Haroni River at 5500 ft. ; in fl. Sept., Oct. ; nn. 1977, 1978, 6077.

Distrib. South Africa.

Another addition to the Tropical African flora, genus as well as species.

BIGNONIACEÆ.

PODRANEA BRYCEI, *Sprague in Fl. Trop. Afr.* iv. Sect. 1, 515.

Common in wooded kloofs, Chipete Forest Patch, 3800 ft.; in fl. May; n. 429.

Distrib. Rhodesia.

STEREOSPERMUM KUNTHIANUM, *Cham. in Linnæa*, vii. (1832) 721.

Boka, Lower Buzi, 100 ft.; in fl. Dec.; n. 1130.

Distrib. Tropical Africa.

MARKHAMIA ACUMINATA, *K. Schum in Engl. Pflanzenw. Ost-Afr.* C. 363.

Boka and Chibabava, Lower Buzi; in fl. Dec.; nn. 1475, 1475 a.

Distrib. Mozambique to Bechuanaland.

A somewhat small tree with deep brownish-purple flowers and a durable timber used for rafters, &c. Chindao name, "Musiramyaati."

M. LANATA, *K. Schum. in Engl. & Prantl, Pflanzenfam.* iv. 3 B, 242.

Upper Buzi at 3000 ft.; in fl. Dec.; n. 33.

Distrib. German East Africa, Congo Free State, Nyasaland.

Chindao name, "Mubfeya." A smallish tree, usually 25 feet high. The wood is a favourite with native bowyers. Roots said to be used, cooked, for fever and colic. Bark employed as a substitute for rope.

KIGELIA PINNATA, *DC. Prod.* ix. 247.

Delagoa Bay; n. 6516.

Distrib. Mozambique, Nyasaland, Rhodesia.

Owing to insufficiency of material some doubt rests upon this identification. N. 1132, from Sabi River at about 1000 ft., should most probably be referred here.

PEDALINEÆ.

SESAMUM INDICUM, *Linn. Sp. Pl.* 634.

Cultivated ground near Chirinda, 3800 ft.; Upper Buzi at 3000 ft.; in fl. April, May; nn. 251, 2000.

Distrib. Tropical Africa, and generally cultivated in the tropics.

S. ALATUM, *Thonn. in Schum. & Thonn. Beskr. Guin. Pl.* 284.

Madanda forests at about 400 ft.; in fl. Dec.; n. 1890.

Distrib. Tropical Africa.

CERATOTHECA TRILOBA, *E. Mey. ex Bernh. in Linnæa*, xvi. (1842) 29.

Northern Melssetter, 5000-6000 ft.; in fl. Oct.; n. 6221.

Distrib. A South African plant ranging northward to Rhodesia.

ACANTHACEÆ.

PSEUDOCALYX AFRICANUS, *S. Moore*, sp. nov.

Scandens, ramis robustis subteretibus fulvo-tomentosis dein glabris, foliis petiolatis oblongo-ovatis breviter cuspidulatis et obtusis vel apice obtusissimis basi rotundatis margine undulatis vel obscure denticulatis coriaceis supra pilis stellatis scabriusculis subtus præsertim secus nervos stellato-pubescentibus, racemis terminalibus folia excedentibus multifloris validis fulvo-tomentosis folia floralia normalibus consimilia nisi minora gerentibus, pedicellis quam bracteolæ paullo brevioribus reflexis, bracteolis inferne connatis subrotundatis obtusissimis ut pedicelli persistenter arcute ferrugineo-tomentosis intus strigoso-puberulis, calyce cupuliformi longitudine ovarium semiaequante extus fulvo-tomentoso intus glabro nitenteque, corollæ extus dense stellato-fulvo-pubescentis tubo calycem subæquante superne parum amplificato limbi lobis 2 posticis obovatis obtusissimis quam antici inter se fere æquales plane majoribus, antheris juxta medium tubum insertis subinclusis subsessilibus longitrorsum hispidulis, pollinis granis normalibus, ovario ambitu rotundo compresso fulvo-tomentoso, stylo exserto glabro, stigmatis lobis lineari-oblongis parum excavatis, fructu ignoto.

Hab. Chirinda Forest at 3800 ft. ; in fl. May ; n. 97.

Foliorum limbus 8-14 cm. long., 5-8 cm. lat. ; costæ secundariæ utrinque circa 6, apertissime arcuatæ, ut costulæ utrobique præsertim vero pagina inferiore perspicuæ, supra in sicco olivaceo-brunneus subtus pallidior ; folia floralia ætate juvenili utrinque fulvo-tomentosa, 0.5-5 cm. long. Pedicelli summum 1.2 cm. long. Bracteolæ 1.5 cm. long., ægre totidem lat., pars connata 6 mm. long. Flores extus dilute puniceæ intus sordide albescentes. Calyx 2 mm. alt. Corollæ tubus circa 1.4 cm. long., ima basi 0.6 cm., faucibus 1.1 cm. diam., intus superne ut lobi facie interiore pilis hispidulis decurvis copiose munitus ; lobi postici 1.3 x 1.3 cm., antici 6 x 4-5 mm. Filamenta crassiuscula, 1.5 mm. long. ; antherarum loculi inter se æquales, 9 mm. long., juxta apicem parum attenuati. Ovarium 4 x 4 mm. ; stylus 1.8-2 cm., stigmatis lobi 2 mm. long.

Closely allied to the only species hitherto known, viz. *P. saccatus*, Radlk., a native of Madagascar, thus marking an interesting extension of the genus to the African continent. From *P. saccatus* it can be distinguished, among other features, by the relatively broader leaves, the long terminal racemes, the broader bracteoles, and the much smaller corolla.

THUNBERGIA ALATA, *Boj. ex Sims, Bot. Mag. t. 2591.*

Outskirts of Chirinda, 3700-4000 ft. ; Chipete forest patch, 3800 ft. ; in fl. Jan., May ; nn. 353, 452.

Distrib. Tropical Africa, Natal.

THUNBERGIA RANDII, *S. Moore in Journ. Bot.* xxxviii. (1900) 201.

Umvuvuvu River at 4000 ft.; Mt. Pene, 7000 ft.; in fl. Oct.;
nn. 6098, 6216.

Distrib. Rhodesia.

T. LANCIFOLIA, *T. And. in Journ. Linn. Soc.* vii. (1864) 19.

Nyahodi River at 5000 ft.; in fl. Sept.; n. 1925.

Distrib. Angola to Rhodesia and German East Africa.

THUNBERGIA SWYNNERTONII, *S. Moore*, sp. nov.

Verisimiliter scandens caule sat gracili erecto puberulo dein glabro nodis aliquanto tumidis barbatis, foliis longipetiolatis amplis late ovato-lanceolatis acuminatis basi cordatis 3- vel 5-nervibus basin versus undulato-denticulatis ceteroquin integris tenuiter membranaceis utrinque fere omnino glabris in sicco læte viridibus, floribus mediocribus in racemos breves terminales bracteatos dispositis vel solitariis et axillaribus, bracteis foliaceis subsessilibus lanceolatis, pedicellis bracteolas multo excedentibus glabris, bracteolis oblongo-lanceolatis acutis pilis glandulosis longiusculis albis hirsutulis decoloribus costulis viridibus reticulatis percursis, floribus albis, calycis parvi arcute minutissime sericei ore breviter 6-8-dentato, corollæ tubo bracteolas faciliter superante inferne comparate attenuato superne amplificato limbi lobis corollæ tubum semiæquantibus, antherarum unius staminum (floris a me scrutati) loculo altero basi incurvo-calcarato altero brevissime calcarato alterius paris loculis ambobus muticis vel basi solummodo mucronulatis, ovario late ovoideo compresso minutissime sericeo, stigmatate lato infundibulari triangulari ad angulos anticos barbellato, capsula parva sat longirostrata sericea rostro sæpe plus minus curvato.

Hab. Chirinda Forest at 3700-4000 ft.; *Swynnerton*, 339.

Internodia sæpissime 3-6 cm. long. Foliorum limbus 9-12 × 4-5.5 cm. (accedunt revera folia pauca in bracteas transeuntia circa 5 cm. long.), pagina superiore pilis sparsis strigosis appressis instructus, pagina inferiore scabriusculus; petioli 6 cm. long. vel minus. Racemi circa 4 cm. long. Bracteæ 0.3-3 cm. long., sc. summæ valde imminutæ. Pedicelli tandem 2.5-3.5 cm. long. Bracteolæ 1.5-2.5 cm. long., 8 mm. lat. Calyx 1 mm. alt. Corollæ tubus circa 3 cm. long., superne 1 cm. diam.; limbi lobi circa 1-1.5 cm. long. Filamenta complanata, 6-8 mm. long.; connectivus acuminatus; antherarum loculi subquadrati, secus suturam ciliati, 2 mm. long. Ovarium 1.5 mm. long., 1.25 mm. lat.; stylus vix 1.5 cm. long.; stigma fere 5 mm. long., circa 4 mm. lat. Capsula inferne 6 × 8 mm., rostrum 1.1-1.2 cm. long. Semina compressa, ventre plana, foveolata, brunnea, 4.5 × 3.2 mm.

A difficult plant to place in any of Lindau's four sections. The stigma is that of § *Thunbergiopsis*, but the flowers of that section are always axillary, while in § *Pseudheteracentris*, with the same stigma, the flowers are usually

borne on small axillary branches. The difficulty is emphasised by the fact of one of the specimens—a fruiting one—having its flowers solitary and axillary. This tends to show that the inflorescence does not yield a good sectional character for *Thunbergia*.

Var. *CORDATA*, *S. Moore*, var. nov. Folia eximie cordata, juxta basin utrinque 3-lobulata, ceteroquin integra vel repanda, petiolis adusque 10–11 cm. long. fulta. Bracteolæ circa 15 × 6 mm.

Portuguese E. Africa, Kurumadzi River, Jihu, at 2000 ft. ; nn. 1924, 1926. N. 1924 is a form with blue flowers ; the flowers of 1926 are white.

BRILLANTAISIA GRANDIDENTATA, *S. Moore in Journ. Bot.* xlv. (1907) 331. Mt. Pene, 6500–7000 ft. ; in fl. Sept. ; nn. 336, 1145.

Distrib. Uganda.

RUELLIA OVATA, *Thunb. Prod.* 104.

Near Chirinda, 3500 ft. ; in fl. Nov. ; n. 1931.

Distrib. South Africa.

This is an addition to the flora of Tropical Africa.

MELLERA LOBULATA, *S. Moore in Journ. Bot.* xvii. (1879) 225.

Outskirts of Chirinda, 3700–4000 ft. ; Mt. Maruma, 3500 ft. ; in fl. June, Sept. ; nn. 1141, 1923.

Distrib. Uganda to Nyasaland.

CHÆTACANTHUS PERSOONII, *Nees in Linnæa*, xv. (1841) 357.

Chirinda, 3800 ft. ; in fl. April ; n. 377.

Distrib. A South African plant now known to range as far northward as Uganda.

PHAYLOPSIS PARVIFLORA, *Willd. Sp. Pl.* iii. 342.

Kurumadzi River, Jihu, 2000 ft. ; Inyamadzi Valley, 2500 ft. ; in fl. Aug., Sept. ; nn. 1927, 1928.

Distrib. Tropical Africa.

P. LONGIFOLIA, *T. Thoms. in Speke Journ. Append.* 643.

Melsetter, 6000 ft. ; outskirts of Chirinda, 3700–4000 ft. ; in fl. June, Sept. ; nn. 1929, 1930.

Distrib. Tropical Africa.

BLEPHARIS MADANDENSIS, *S. Moore*, sp. nov.

Ramis teretibus frequenter foliosis griseo-pubescentibus, foliis in pseudoverticillos 4-natos plerumque dispositis quorum 2 cetera plane excedunt linearibus vel anguste lineari-lanceolatis foliis abbreviatis late oblongis oblongo-ovatisve omnibus spinuloso-acuminatis basi obtusis margine dentibus

spinulosis paucis instructis nonnunquam fere integris subcoriaceis supra scabridis subtus griseo-pubescentibus, inflorescentiis griseo-pubescentibus capitula brevica globosa levissimeve cylindracea pluriflora referentibus, bracteis sterilibus lineari-lanceolatis spinuloso-acuminatis ut bractea fertilis bracteolæque oblongæ pubescentes illas multo excedentes margine spinuloso-dentatis, calycis pubescentis lobis anticis anguste ovato-oblongis sat alte connatis sub apicibus spinoso-acuminatis unidentatis lobo postico anticis plane superante lanceolato superne attenuato spinoso-acuminato lobis lateralibus lineari-lanceolatis longe acuminatis lobi postici dimidium excedentibus, corollis cæruleis limbi pubescentis 3-lobi lobo intermedio lanceolato obtuso quam laterales ovato-oblongi obtusissimi manifeste minore, capsula oblongo-ovoidea compressiuscula obtusa 2-sperma.

Hab. Madanda forests at about 400 ft. ; in fr. Dec. ; n. 1952. [Also at Kew, Maconi, Madanda ; *Archdeacon Johnson*, 98.]

Folia majora 5-9 cm. long., 5-9 mm. lat. ; minora 5-20 × 3-5 mm. Capitula 2.5-3 cm. long., 3-3.5 cm. lat. Bracteæ steriles ± 1 cm. long. Bracteæ fertiles necnon bracteolæ 2.2 cm. long. Calycis lobi antici 2.5 cm. long. ; horum pars libera 6.5 mm. long. ; lobi laterales 2.2 cm. long. ; lobus posticus 3 cm. long. Corollæ tubus 7 mm. long. ; limbus 3.2 cm. long., juxta apicem 1.8 cm. lat., lobus intermedius 5 × 4.5-5 mm. Filamenta 9-10 mm. long. ; antica ægre 4 mm. lat. ; antheræ 7.5 mm. long. Capsula 1 cm. long., 6 mm. lat., brunnea, perspicue nigro-lineata, polita. Semina 7 × 5 mm.

Among other features this differs from *B. panduriformis*, Lindau, in the indumentum, the short and compact heads of flowers, the small fertile bract, the large oblong (not small and linear) bracteoles, the longer lanceolate (not ovate-oblong) hinder lobe of the calyx, and the larger corollas.

Mr. Swynnerton's specimens being in fruit, the flowers have been described from that of Archdeacon Johnson.

SCLEROCHITON KIRKII, *C. B. Clarke in Fl. Trop. Afr.* v. 110.

Madanda forests at about 400 ft. ; in fl. Dec. ; n. 575.

Distrib. Zambesia.

S. HARVEYANUS, *Nees in DC. Prodr.* xi. 279.

Chirinda Forest, 3700-3800 ft. ; Mt. Pene ; in fl. May, Oct., Dec. ; nn. 424, 455, 6119, 6638.

Distrib. South Africa.

This, which is another addition to the tropical flora, Mr. Swynnerton notes as a shrub exceedingly plentiful in parts of the forest.

S. CÆRULEUS, *S. Moore*, comb. nov.

Pseudoblepharis cærulea, Lindau in *Engl. Bot. Jahrb.* xxx. (1901) 111.

Madanda forests, on ant-heaps at about 400 ft. ; in fl. Dec. ; n. 1144.

Distrib. Mozambique.

CRABBEA NANA, *Nees in DC. Prod.* xi. 162.

In short grass near Chirinda, 3800 ft. ; in fl. April ; n. 304.

Distrib. Zambesia, Nyasaland, South Africa.

C. VELUTINA, *S. Moore in Journ. Bot.* xxxii. (1894) 135.

Madanda forests at about 400 ft. ; in fl. Dec. ; n. 1142.

Distrib. Tropical East Africa.

ASYSTASIA COROMANDELIANA, *Nees in Wall. Pl. Asiat. Rar.* iii. 89.

Var. *LINEARIFOLIA*, *S. Moore*, var. nov. Folia anguste oblongo-linearibus, obtusa, basi acuta, vulgo 4-5.5 cm. long., 5-6 mm. lat. ; petioli 4-5 mm. long. Corollæ tubus 1 cm. long.

Open woods at Beira ; in fl. Dec. ; n. 1949.

Distrib. (of type). Tropical Asia and Africa.

BARLERIA (§ *Acanthoidea*) *SWYNNERTONII*, *S. Moore*, sp. nov.

Fruticosa, ramosa, ramulis ultimis satis abbreviatis pubescentibus tandem glabrescentibus novellis appresse hirsutulis, foliis brevipetiolatis parvulis ovato-oblongis vel oblongo-obovatis obtusis vel obtuse acutis basi obtusis firme membranaceis utrobique præcipue ad nervos puberulis cito glabris, floribus ad apicem ramulorum solitariis perpaucisve, bracteis quam calyx multo brevioribus lineari-subulatis acutis sæpius paullulum recurvis puberulis debiliter spinosis in sicco fuscis, calycis ad nervos appresse puberuli lobo antico postico subsimili ovato obtuso basi rotundatissimo margine undulato lobis lateralibus diminutis lineari-lanceolatis acuminatis, corollæ verisimiliter dilute purpureæ tubo a medio gradatim dilatato lobis obovatis obtusissimis quam tubus brevioribus, staminibus 2 breviter exsertis staminodiis —, ovario oblongo glabro, stylo superne incrassato glabro apice truncato, capsula oblonga sub apice subito constricta obtusa.

Hab. Open woods at Beira ; in fl. & fr. Dec. ; n. 1958.

Folia sæpissime 1.3-2.3 cm. long., 7-10 mm. lat. ; petioli 2-3 mm. long. Bracteæ 2.5-4 mm. long. Calycis lobi exteriores herbacei, leviter marcescentes, deinde decolores, eleganter plurinervi, sub flore 1.5-1.7 × 1.1-1.2 cm., deinde usque ad 2.4 × 1.3 cm., pallidissime nitentes, paullo post floritionem papyracei et brunnei ; lobi laterales circa 5 mm. long. Corolla tota 4 cm. long. ; tubus inferne 2.5 mm. diam., superne adusque 12 mm. ; limbus 13 mm. long. Antheræ 3 mm. long. Ovarium 2.75 mm. long. ; stylus 2.7 cm. long., apice 0.75 mm. crass. Capsula 12 × 4.5 mm. Semina 2-2.5 × 2 mm.

This has much the appearance of *B. querimbensis*, Klotzsch, a species without spiny bracts, and on this account placed in a different part of the genus. Besides this, it is easily distinguished from *B. querimbensis*, which has considerably larger, distinctly cordate outer calyx-lobes. The nearest affinity seems to be with *B. grandicalyx*, Lindau.

ERANTHEMUM SUBVISCOSUM, *C. B. Clarke in Fl. Trop. Afr.* v. 173.

Chirinda Forest, 3700–4000 ft. ; in fl. Oct. ; n. 130.

Distrib. Nyasaland, Mozambique.

A common flowering plant of the forest, 2–3 feet in height.

JUSTICIA BETONICA, *Linn. Sp. Pl.* 21.

Chirinda ; Chimanimani Mts., 7000 ft. ; Mt. Pene, 7000 ft. ; in fl. June, July, Sept., Oct. ; nn. 136, 1121, 1987, 6120.

Distrib. Tropical Africa and Asia.

J. MELAMPYRUM, *S. Moore in Trans. Linn. Soc. ser. 2, Bot.* iv. (1894) 32.

Outskirts of Chirinda, 3700–4000 ft. ; Madanda forests, 400 ft. ; in fl. May, Dec. ; nn. 505, 506, 1950.

Distrib. Uganda to Angola and Rhodesia.

J. MATAMMENSIS, *Oliver in Trans. Linn. Soc.* xxix. (1875) 130.

Mutshukwana, Lower Buzi, 400 ft. ; in fl. Dec. ; n. 1934.

Distrib. Abyssinia to Amboland and Rhodesia.

ADHATODA BAGSHAWEI, *S. Moore in Journ. Bot.* xlv. (1907) 333.

Chirinda Forest, 3700–4000 ft. ; in fl. & fr. Oct. ; nn. 127, 127 a.

Distrib. Uganda.

ISOGLOSSA MOSSAMBICENSIS, *Lindau in Engl. Pflanzenw. Ost-Afr.* C. 372 (ex descript.).

Chirinda Forest, 3700–4000 ft. ; in fl. May ; nn. 248 a, 1146.

Distrib. Mozambique.

A very tall herb forming thickets in some portions of the forest.

There are some small differences between Lindau's description and the specimens here dealt with : the bracts of the upper flower of every spikelet are not ovate but spathulate, the lips of the corolla are rather shorter, and the anthers, in *I. mossambicensis* 2·5 mm. long., here do not exceed 1·5–2 mm. ; the former measurement being that of the lower, the latter that of the upper anther of each stamen.

HYPOESTES ARISTATA, *R. Br. Prod.* 474.

Near Chirinda, 3800 ft. ; in fl. May ; n. 105.

Distrib. Tropical East Africa and South Africa.

H. VERTICILLARIS, *R. Br. Prod.* 474.

Upper Buzi at 3000 ft. ; Upper Jihu at 3300 ft. ; in fl. April. July ; nn. 1932, 1933.

Distrib. Tropical and South Africa, and Arabia.

MACRORUNGIA PUBINERVIS, *C. B. Clarke in Fl. Trop. Afr.* v. 255.

Chirinda Forest, 3700–4000 ft. ; in fl. May, Oct. ; nn. 77, 77 a.

Distrib. Nyasaland, German East Africa.

The commonest shrub of the undergrowth. Crimson flowers, very attractive to two species of sunbirds (*Cinnyris olivacina* and *Anthothreptes zambesiana*).

RHINACANTHUS COMMUNIS, *Nees in Wall. Plant. Asiat. Rar.* iii. 109.

Lower Umwirizwi River, 1000 ft. ; in fl. Nov. ; n. 2131.

Distrib. Tropical and South Africa, Mascarene Islands, Tropical Asia.

DICLIPTERA CEPHALANTHA, *S. Moore*, sp. nov.

Herba caule sat elato ascendente gracili inferne ramoso tetragono pilis albidis hispidulo, foliis subsessilibus breviter petiolatis oblongo-linearibus apice pungentibus basi obtusis utrinque pilis appressis puberulis, spiculis 2-floris in glomerulum oblongum vel oblongo-ovoideum quam folia breviora congestis, bracteis lineari-subulatis longe spinuloso-acuminatis dorso scabridis et glandulosis margine longe ciliatis sursum vero ciliolatis subcoriaceis in sicco viridibus, bracteis interioribus anguste lineari-lanceolatis longe spinuloso-acuminatis piloso-pubescentibus margine usque ad medium ciliatis, calycis lobis quam bracteae interiores paullo brevioribus linearibus superne longe acuminatis margine ciliatis, corollae mediocris tubo faucibus parum dilatato limbo æquilongum extus piloso-puberulo, filamentis exsertis, capsula ima basi contracta anguste ovoideo-oblonga puberula.

Hab. Cultivated ground near Chirinda at 3800 ft. ; in fl. May ; n. 514.

Folia 2–4.5 × 0.4–0.5 cm., firme membranacea, in sicco fusco-olivacea ; petioli sæpissime 2 mm., raro 5 mm. long. Glomeruli rite evoluti 3–3.5 × 1.5–2 cm. Bracteae sæpissime circa 5 mm. long. Bracteola externa altera 8–10 mm. long., altera 6–8 mm. ; internae 5–6 mm. Flores dilutissime purpurei. Corollae tubus 6.5 mm. long., interne 1.5 mm., juxta medium 1 mm., faucibus 2 mm. diam. ; labium posticum late obovatum, integrum ; anticum obovatum, breviter 3-dentatum. Filamenta puberula, fere 9 mm. long. ; antherarum loculi quadrati, 0.75 mm. diam. Ovarium circa 1 mm., stylus exsertus et glaber, 1.5 cm. long. Capsula 6 mm. long., 4-sperma. Semina lævia, humectata 1.5 × 2 mm.

Differs from *D. Carvalhoi*, Lindau, among other features, in the narrow subsessile leaves, and the aggregated spikelets with shorter and relatively broader outer bracteoles.

The second flower of all the spikelets opened was more or less rudimentary

DICLIPTERA EXTENTA, *S. Moore*, sp. nov.

Herba caule gracili superne folioso puberulo, foliis lanceolato-oblongis ellipticisve obtusis basi in petiolum tenuem sat longum gradatim angustatis.

tenuiter membranaceis cito fere omnimodo glabris, spiculis 3-floris longi-pedunculatis paucis ex axillis superioribus ortis inter se satis distantibus, bracteis exterioribus 0 interioribus imparibus obovatis sursum rotundatissimis apice ipso subito breviterque spinuloso-acuminatis margine sparsim ciliatis ceteroquin glabris in sicco læte viridibus, bracteolis calyce longioribus angustissime lineari-lanceolatis acutis, calycis minute pubescentis lobis tubum plane excedentibus angustissime lineari-lanceolatis acutis, corollæ tubo superne levissime dilatato limbo tubum breviter excedente labio antico late oblongo trilobo lobo intermedio quam laterales multo majore lobis postico oblongo-ovato integro, filamentis labium fere æquantibus antherarum loculis superpositis muticis.

Hab. Mt. Maruma, 3500 ft. ; in fl. Sept. ; n. 1937.

Folia petiolo exempto 5-6 cm. long., 1.8-2.5 cm. lat. ; petioli 1.2-2.25 cm. long. Folia floralia lineari-subulata, patentia, 4-6 mm. long. Spicularum pedunculi rite evoluti 2-4.5 cm. long. ; pedicelli aliquantulum divergentes, 5-15 mm. long. Bractea altera 16 x 9 mm., altera 12 x 7 mm., ambæ eleganter nervosæ, basin versus aliquanto decolores. Bracteolæ circa 9 mm. long. Calycis tubus 1.5 mm., lobi piloso-ciliati 5.5 mm. long. Flores albi purpureo-tincti. Corollæ tubus 1 cm. long. ; labium anticum 1.3 cm., posticum 1.2 cm. long. Filamenta ad 1 cm. ex tubo eminentia ; antherarum loculi oblongo-ovoidei, 1.25 mm. long. Ovarium 1.7 mm., stylus 2 cm. long.

Easily distinguished from *D. maculata*, Nees, by the more effuse spikelets and the obovate bracts.

DICLIPTERA SWYNNERTONII, *S. Moore*, sp. nov.

Herba ramosa, ascendens, caule sat attenuato in nodis aliquanto tumido subtiliter pubescente dein puberulo, foliis comparate elongatis anguste lineari-lanceolatis lineari-oblongisve obtusis basi in petiolum sæpissime brevem leviter attenuatis firme membranaceis utrinque costa centrali appresse strigillosa exempta fere glabris, spiculis 1-2-floris in axillis subcongestis, bracteis exterioribus sæpissime subulatis acuminatis rigidiusculis interioribus majusculis late ovatis spinuloso-acuminatis utrobique piloso-pubescentibus margine usque ad basin ciliatis membranaceis in sicco saturate dilutiusve viridibus, bracteolis parvulis lineari-subulatis acuminatis, calycis puberuli bracteolas paullulum excedentis lobis lineari-setaceis acutis tubum duplo excedentibus, corollæ tubo superne parum dilatato limbo quam tubus paullo brevior extus puberulo, filamentis exsertis.

Hab. Chirinda Forest, 3700-4000 ft. ; in fl. May, June, July ; nn. 528, 528 a, 528 b.

Folia exemplarium aliorum 6-8.5 cm. long., et modo 5-8 (rare 10) mm. lat., aliorum 3-5 cm. x 6-8 mm., omnium margines repandæ vel fere integerrimæ, in sicco vive viridia ; petioli sæpissime 3-5 mm. long., raro adusque 2 cm. Pedicelli pubescentes. Bracteæ exteriores \pm 4 mm. long. ; interiores

inæquales, 8–12 mm. long., 6–8 mm. lat. Bracteolæ circa 2 mm. long. Flores punicei. Calyx 3 mm. long.; lobi 2 mm. long. Corolla in toto 1·3 cm. long.; tubus 8 mm. long., basi 0·8 mm. superne 1·2 mm. lat.; labium posticum obovatum, integrum, antico obovato-oblongo tridentato æquilongum. Filamenta glabra, 6 mm. long.; antherarum loculi oblongo-ovoidei, 1 mm. long. Ovarium 1 mm., stylus 1·25 cm. long.

The affinity is with *D. heterostegia*, Presl, from which it can easily be recognised by the more hairy bracts, the small bracteoles, calyx and corolla, and especially by the narrow leaves usually borne on short petioles. Even when the petioles are larger, the blade always ends acutely, never being broadly rounded as is the case with *D. heterostegia*.

DICLIPTERA NOBILIS, *S. Moore*, sp. nov.

Herba elata caule erecto superne ramuloso quadrangulari minute puberulo, foliis longipetiolatis ovatis apicem versus attenuatis apice obtuse acutis basi rotundatis membranaceis utrobique præsertim ad costas puberulis, spiculis 2-floris in axillis approximatis vel caulis ramulorumve apicibus insidentibus, pedicellis quam bracteæ multo brevioribus, bracteis exterioribus lineari-subulatis longe acuminatis bracteas interiores semiaquantibus, bracteis interioribus inter se inæqualibus ovatis utrinque sed præcipue apicem versus attenuatis breviter spinuloso-acuminatis puberulis margine piloso-ciliatis, bracteolis calyces excedentibus oblongo-oblaceolatis longe acuminatis, calycis puberuli lobis inter se imparibus angustissime lineari-lanceolatis acuminatis, corollæ magnæ extus puberulæ tubo sursum levissime amplificato limbo tubum excedente labio antico lineari-oblongo subæqualiter tridentato labio postico anticum paullulum excedente ovato-oblongo integro, filamentis labio antico subæquialtis, antherarum loculis superpositis muticis.

Hab. Near Chirinda, 3500 ft.; Melsetter, 6000 ft.; in fl. June, Sept.; nn. 1935, 1936.

Folia 6–10 × 3–4·3 cm., petiolo puberulo 1·5–2·2 cm. long. exempto, sæpe vero exstant minora, sc. 3–3·5 × 1–1·3 cm. petiolo circiter 5 mm. long. fulta. Bracteæ exteriores adusque 7 mm. long.; interiores 13–15 × 6–8 mm. Bracteolæ cymbiformes, fusco-uninerves, longitudine 1 cm. paullulum excedentes. Flores vivide purpurei. Calycis tubus vix 2 mm. long.; lobi 5·5 mm. Corolla 2·9–3·1 cm. long., tubus 1·3 cm., basi 2·5 mm., faucibus 3·5 mm. lat.; labium anticum 14–16 × 3 mm.; posticum 16–18 × 7 mm., illius dentes 1 mm. long. Filamenta 1·5 cm. long., antherarum loculi subquadrati 1 mm. Stylus puberulus, 2·5 cm. long.

Near *D. Clinopodia*, Nees, and *D. Leonotis*, Dalz. Differing on sight from both in the broad leaves with rotund base, the broad bracts, and long corollas.

SELAGINEÆ.

HEBENSTREITIA DENTATA, *Linn. Sp. Pl.* 629.

Nyahodi River, at 5000 ft. ; in fl. April ; n. 1888.

Distrib. Abyssinia to Angola and Nyasaland ; also South Africa.

H. ELONGATA, *Bolus ex Rolfe in Fl. Cap.* v. Sect. 1, 99.

Mt. Pene, 6500–7000 ft. ; in fl. Sept. ; n. 1887.

Distrib. Natal and Transvaal.

Not hitherto reported as a tropical plant.

WALAFRIDA SWYNNERTONII, *S. Moore*, sp. nov.

Perennis, ultraspathamea, caulibus erectis tenuibus ut ramuli foliaque minute scabriusculo-pubescentibus demum glabris vel fere glabris, ramulis ascendentibus tenuibus crebro foliosis, foliis nunc alternis nunc fasciculatis anguste linearibus obtusis, spicis abbreviatis ovatis paucifloris in paniculas subluxas ramulos terminantes dispositis, bracteis cymbiformibus ovato-oblongis obtusis, calycis ad medium usque divisi segmentis 3 inter se subæqualibus lineari-oblongis obtusiusculis ut bracteæ margine ciliatis necnon dorso minute hispidulis, corollæ tubo bracteam plane excedente superne leviter amplificato inferne minutissime puberulo limbo subæqualiter 5-lobo (lobis posticis quam ceteri paullo minoribus) lobis tubo brevioribus ovato-oblongis obtusis, staminibus 2 juxta medium tubum 2 sub faucibus insertis, fructibus subreniformibus in cocos 2 secedentibus.

Hab. Nyahodi River, 5000 ft. ; in fl. & fr. April ; n. 2135.

Folia 3–5 mm. long., circa 0·3 mm. lat. Spicæ circa 5 × 4 mm. Bracteæ 2 mm. long. Flores albi. Calyx 1·75 mm. long. ; hujus lobi circiter 0·8 mm. long. Corollæ tubus vix 3 mm. long., deorsum 0·75 mm. sursum 1 mm. diam. ; lobi postici 0·75 mm., ceteri 1 mm. long. Stamina superiora breviter exserta, inferiora inclusa, illorum filamenta 1 mm. horum 0·75 mm. long. Stylus pilosus, vix 4 mm. long. Fructus 1·2 × 1·2 mm. ; pericarpium crustaceum.

This has much the appearance of *W. paniculata*, Rolfe, but its flowers are very different.

VERBENACEÆ.

LANTANA SALVIFOLIA, *Jacq. Hort. Schœnb.* iii. 18.

Melsetter 6000 ft. ; Chirinda 3700–4000 ft. ; fl. April, Dec. ; nn. 259, 1161, 2002.

Distrib. Tropical and South Africa, East Indies.

Chindao name, "Mushani."

LIPPIA WILMSII, *H. H. W. Pears. in Fl. Cap.* v. pt. 1, 196.

Near Chirinda ; in fl. May, Dec. ; nn. 258, 474.

Distrib. Transvaal and Tropical East Africa.

LIPPIA ASPERIFOLIA, *Rich. Cat. Hort. Med. Paris*, 67.

Near Chirinda 3800 ft. ; Melsetter 6000 ft. ; in fl. April, May, Dec. ; nn. 260, 475, 475 a, 1160, 2003.

Distrib. Tropical and South Africa ; also in Tropical America.

The Chindao name of the Lippias is also "Mushani," that of *L. asperifolia* being "Mushani omkulu" (=large *Lippia*). The leaves of all the Mushanis are used as a remedy for indigestion, being chewed or ground, mixed with water and drunk by the natives. They are also used as a disinfectant after the handling of infected or decaying substances.

BOUCHEA WILMSII, *Gürke in Notizbl. K. bot. Gart. Berlin*, iii. (1900) 74.

Lower Umswirizwi River, 1000 ft. ; in fl. Nov. ; n. 1938.

Distrib. Transvaal.

Of this, now first recorded as tropical, there is another tropical specimen at the British Museum from Bulawayo ; *E. C. Chubb*, 102.

PRIVA LEPTOSTACHYA, *Juss. in Ann. Mus. Paris*, vii. (1806) 70.

Near Chirinda, 3800 ft. ; in fl. May, June ; nn. 269, 517.

Distrib. Tropical East Africa, East Indies.

PREMNA SERRATIFOLIA, *Linn. Mant.* ii. 253.

Beira beach ; in fl. Dec. ; n. 1943.

Distrib. Tropical East Africa, Mascarene Islands, East Indies.

CLERODENDRON (§ Siphonanthus) SWYNNERTONII, *S. Moore*, sp. nov.

Frutex scandens ramulis ultimis foliosis puberulis mox glabris, foliis petiolatis oblongo-ovatis vel obovato-oblongis sæpius cuspidato-acuminatis apice mucronulatis basi rotundatis levissimeve cordatis tenuiter membranaceis utrinsecus glabris basi trinerviis costis secundariis utrinque 3-4 apertissime arcuatis, floribus majusculis in cymas pseudoterminales pedunculatas subcongestas paucifloras dispositis, bracteis obovatis obtusis vel acutis pedicellos excedentibus, calyce campanulato usque ad medium diviso glabro lobis ovatis subito acutatis, corollæ puberulæ tubo calycem 6-plo excedente ipsis sub faucibus dilatato lobis inter se subæqualibus ovato-oblongis obtusis, staminibus longe exsertis, drupa obovoidea leviter 4-loba exocarpio succoso tenui endocarpio crustaceo.

Hab. Common in the Chirinda Forest, 3700-4000 ft. ; in fl. & fr. May ; n. 85.

Folia solemniter 8-12 cm. long., 4-5.5 (rarius 6) cm. lat., in sicco læte-virentia, utrinque nitida ; petioli tenues, puberuli, sæpissime 1-2 cm. long. Cymarum pedunculi 1-2 cm. long., puberuli ; pedicelli circa 3-4 mm., bractea 5-7 mm. long. Flores albi. Calyx in sicco virescens 8 mm. long., humectatus totidem lat. Corollæ tubus 5 cm. long, fere 1-5 mm. lat., sub faucibus vix 3 mm. ; lobi 8.5 mm. long., 4.5-5 mm. lat. Antheræ ovoideæ, 2.5 mm. long. Stylus 7 cm. long. Drupa nigra, 1 cm. long.

Known by the leaves and the few-flowered cymes, and among neighbouring species by the small calyces.

CLERODENDRON MYRICOIDES, *R. Br. in Salt. Abyss., App.* lxx.

Near Chirinda 3500 ft.; Mt. Umtereni 4000 ft.; Mt. Pene 7000 ft.; Haroni River at 5000 ft.; Kurumadzi River 2000 ft.; Madanda forests at about 400 ft.; in fl. Sept.–Dec.; nn. 173, 1295, 1296, 1297, 2005, 6089.

Distrib. Tropical Africa, Natal, Transvaal.

CLERODENDRON (§ Cyclonema) AMPLIFOLIUM, *S. Moore*, sp. nov.

Frutex elatus ramis sursum foliosis compressiusculis dense ac subtiliter pubescentibus deinde subteretibus et cortice dilute brunneo glabro obductis. foliis oppositis amplis ovatis cuspidato-acuminatis apicē mucronatis basi rotundatis in petiolum manifestum subito angustatis margine satis grosse serrato-crenatis crassiusculo-membranaceis utrinsecus in nervis pubescentibus alibi puberulis, floribus pro rata majusculis in cymas pedunculatas laxas plurifloras pubescentes digestis, bracteis linearibus vel lineari-oblongis obtusiusculis puberulis, pedicellis calycem æquantibus vel excedentibus puberulis, calyce campanulato ad medium usque diviso lobis ovato-oblongis obtusis intus minutissime lepidotis, corollæ tubo lato quam calyx fere duplo longiore faucibus levissime contracto limbi lobis anguste obovato-oblongis obtusissimis tubum leviter excedentibus, staminibus longe exsertis.

Hab. Chirinda Forest, 3700–4000 ft.; in fl. April; n. 335.

Foliorum lamina apicem versus integra, 12–15 cm. long., juxta medium 7–8 cm. lat. (speciminis alterius 9–11 × 6·7 cm.), paullo supra basin vix 1 cm. metiens, ima basi modo 5 mm., in sicco aliquanto olivacea subtus griseola; costæ secundariæ utrinque circa 8, inferiores patulæ, amplissime arcuatæ superiores ascendentes; crenellæ 1–1·5 mm. alt., 4–8 (rar. 11) mm. long.; petioli lati, pubescentes, ± 1 cm. long. Cyma corollis exemptis adusque 8 cm. long.; pedunculus 4·5 cm. long.; bracteæ ± 8 mm. long., verisimiliter purpureæ. Pedicelli 5–25 mm. long., prope medium bracteolis 2 parvis linearibus onusti. Calyx 7·5 mm. long., tubus 4 mm., lobi 3·5 × ± 3 mm. Corollæ tubus 11 mm. long., ima basi 3·5 mm., paullo supra basin 5 mm., faucibus 4 mm. lat.; lobi 12–14 mm. long., 5–6·5 mm. lat. Filamenta inferne glanduloso-villosula, fere 3 cm. ex tubo eminentia; antheræ oblongæ, 2 mm. long. Ovarium ovoideum, 3 mm. long. Stylus circa 3·5 cm. long.; stigmatis rami inter se inæquales, alter 2 mm. alter 2·5 mm. long.

Allied to *C. myricoides*, *R. Br.*, but different from all the recently described species with this affinity. The large, very broad crenate leaves enable one to distinguish it on sight.

C. lanceolatum, *Gürke in Engl. Bot. Jahrb.* xviii. (1893) 181.

Hargwe River, Jihu, 2000 ft.; in fl. Jan.; n. 315.

Distrib. Tropical East Africa.

CLERODENDRON HIRSUTUM, *H. H. W. Pears, in Fl. Cap. v. pt. i. 221.*
Chimanimani Mts. at 7000 ft. ; Mt. Pene 7000 ft. ; in fl. Sept., Oct. ;
nn. 2004, 6086.

Distrib. South Africa.

VITEX BUCHANANI, *Bak. ex Gürke in Engl. Pflanzenw. Ost-Afr. C. 339.*
Boka to Umhlonhlo, Lower Buzi, 100 ft. ; in fl. Dec. ; n. 1053.

Distrib. Nyasaland.

V. EYLESII, *S. Moore, in Journ. Bot. xlv. (1907) 154.*

Near Chirinda 3500 ft. ; Madanda forests at about 400 ft. ; Chikore Hills
3500 ft. ; Kurumadzi River 2000 ft. ; in fl. April, Nov., Dec. ; in fr. May,
June ; nn. 34, 34 b, 1059, 1060, 1061.

Distrib. Rhodesia.

Singuni name, "Umbindoio" ; Chindao name, "Mukubvu." A smallish
tree with black edible fruit. Leaves dried, pulverized and scorched are used
by natives as a snuff in cases of sore throat or cold in the head.

V. CIENKOWSKII, *Kot. & Peyr. Pl. Tinn. 27, t. 12.*

Kurumadzi River ; in fl. Nov. ; n. 1058.

Distrib. Tropical Africa.

Singuni name, "Umbindoio."

VITEX SWYNNERTONII, *S. Moore, sp. nov.*

Frutex grandis, ramis sæpe prostratis ramulis sursum foliatis fulvo-
pubescentibus deinde glabrescentibus, foliis oppositis longe graciliterque
petiolatis sæpissime 5-foliolatis foliolis mediocribus vel parvis anguste ovato-
oblongis vel oblongo-obovatis apice rotundatis vel obtusis ipso pulvinatis vel
barbatis basi in petiolum manifestum cuneatim angustatis margine integris
leviterve undulatis tenuiter membranaceis supra glabris subtus pubescentibus,
cymis axillaribus brevibus pedunculatis paucifloris fulvo-sericeis, bracteis
linearibus vel lineari-oblongis pedicellos excedentibus, calycis campanulati
dense fulvo-sericei lobis deltoideis acutis vel obtusis quam tubus plane brevi-
oribus, corollæ extus pubescentis tubo calycem duplo superante superne
incurvo leviterque ampliato lobis posticis abbreviatis ovatis obtusis later-
alibus latissime ovato-oblongis obtusissimis quam anticus paullo brevioribus,
antheris breviter exsertis harum loculis subparallelis.

Hab. Madanda forests at about 400 ft. ; in fl. Dec. ; n. 1054.

Foliola modice 2.5-6 cm. long., 1-3 cm. lat., basalia quam cetera sæpe
multo minora, pagina superiore in sicco olivaceo-castanea, pagina inferiore
griseo-brunnea ; petiolus ad 6.5 cm. usque, sæpe vero brevior ; foliorum
basalium petioluli circa 2 mm. long., folioli terminalis \pm 7 mm. ; costæ

secundariæ utrinque circa 10, parum aspectabiles. Cymæ circa 1.5 × 1.5–2 cm. Pedunculi 1 cm. long. vel minus. Bracteæ pubescentes, ± 4 mm. long. Pedicelli 1–2 mm. long. Flores albi. Calyx 3 mm. long., lobi vix 1 mm. Corollæ tubus 6 mm. long., ima basi 2.2 mm., ore 4.2 mm. lat.; lobi postici 2.5 mm. long., laterales 4 mm., anticus ægre 5 mm. long. Stamina summum 2.5 mm. ex tubo corollæ eminentia; antheræ 0.8 mm. long. Ovarium superne attenuatum setosumque, 2.5 mm. long.; stylus glaber, 6.5 mm. long. Bacca ignota.

Near *V. Welwitschii*, Gürke, from which it can be distinguished on sight by its differently shaped leaflets on longer petiolules.

VITEX DRYADUM, *S. Moore*, sp. nov.

Frutex grandis, ramis sæpe prostratis ramulis deorsum nudis fulvo-pubescentibus dein glabrescentibus, foliis petiolis longis gracilibus breviter pubescentibus insidentibus sæpissime 5-foliolis foliolis sat longè petiolulatis lanceolatis vel lanceolato- vel oblanceolato-oblongis caudato-acuminatis basin versus angustatis basi obtusis vel acutis margine ad medium integris abhinc serrato-crenatis tenuiter membranaceis supra glabris subtus præsertim in costis costisque puberulis, cymis axillaribus abbreviatis pedunculatis paucifloris fulvo-sericeis, bracteis linearibus pedicellos excedentibus, calyce campanulato fulvo-sericeo quam lobi triangulares obtusi longiore, corollæ tubo extus puberulo calycem bene excedente superne amplificato juxta medium valde curvato lobis extus fulvo-pubescentibus posticis lateralibusque ovatis obtusissimis his quam illi duplo longioribus lobo antico magno subquadrato patentissimo, staminibus exsertis antheris subparallelis.

Hab. Open woods at Beira; in fl. Dec.; n. 1062.

Ramuli nudi circa 2 mm. diam., ad nodos cicatricosi. Foliorum petioli 5.5–7.5 cm. long.; foliola basalia solemniter 2–3 cm. long., 1.2–1.5 cm. lat., folium terminale 8–11 × 2.5–3.5 cm., foliola in sicco pagina superiore olivacea pagina inferiore griseo-viridia; costæ secundariæ utrinque 9–12, ut reticulum delicatulum faciliter aspectabiles; foliorum basaliu petioluli 2–4 mm. long., foliorum intermediorum 4–10 mm., folii terminalis 1.5–2 cm. long. Cymæ circa 2 × 1.5 cm. Pedunculi circa 1 cm. long., bracteæ ± 4 mm., pedicelli 1.2 mm. Calyx 3 mm. long., lobi ægre 1 mm. Corollæ tubus 8 mm. long., basi fere 2 mm., ore vix 5 mm. lat.; lobi postici 3 mm. long., laterales 5 mm., anticus 7 mm. Stamina longiora 4 mm. ex tubo corollæ eminentia; antheræ 0.5 mm. long. Ovarium ovideum, setosum, vix 2 mm. long. Stylus glaber, 1 cm. long., sub stigmatè leviter incrassatus. Baccæ non suppetunt.

Differs from the last in the shape and tothing of the leaflets, and in several floral details.

LABIATÆ.

The collection includes *Leucas martinicensis*, R. Br., a tropical weed.

OCIMUM SUAVE, Willd. *Enum. Hort. Berol.* 629.

Near Chirinda Forest, 3700–4000 ft. ; in fl. Aug. ; nn. 384, 466.

Distrib. Tropical Africa and Asia.

O. KNYANUM, Vatke, in *Linnaea*, xxxvii. (1871–73) 315.

A common herb in the grass-veld and in cultivated ground near Chirinda ; Southern Melsetter, 2000–3500 ft. ; in fl. Feb., May, Nov. ; nn. 277, 468, 1988.

Distrib. Tropical Africa.

OCIMUM (§ *Hierocimum*) *ODONTOSEPALUM*, *S. Moore*, sp. nov.

Humile (semispithameum) caule erecto ramulos perpaucos juxta solum gignente aliter simplici griseo-piloso pubescente, foliis paucis præcipue ramulorum apicem versus confertis oblongis vel anguste oblongo-obovatis obtusis margine crenatis crenulatisve dense hirsutulo-pubescentibus, spicastro rite evolutis folia longe excedentibus pilis retrorsis pubescentibus, verticillastris demum sat distantibus vulgo 4–6-floris basi glandulis duabus poculiformibus perspicuis instructis, floribus pro rata majusculis pedicellatis, bracteis parvulis ovatis obtusis fugaceis, calycis sub anthesi campanulati sparsim piloso-pubescentis lobo postico decurrente suborbiculari margine obscure denticulato purpureo lobis lateralibus magnis rotundato-quadratis margine pluridentatis dentibus acuminatis lobis anticis triangulari-subulatis quam laterales brevioribus, corollæ glanduloso-puberulæ tubo calyce plane longiore superne ampliato labio antico obovato quam posticus paullo longiore, filamentis longe exsertis.

Hab. Melsetter, 6000 ft. ; in fl. Oct. ; nn. 6087, 6088.

Folia 1–2 cm. long., 4–6 mm. lat. Spicastra tandem fere 10 cm. long. Verticillastra distantia inter se summum 2 cm. Bracteæ circa 2.5 mm. long., extus pilosulæ. Pedicelli 1.2 mm. long. Calyx sub anthesi 5–6 mm. long. ; lobus posticus 4 mm. long., vix totidem lat. ; lobi laterales 4 × 3.5 mm., lobi antici 2.5 mm. long. Calyx fructescens 8 mm. long., 5 mm. lat. ; hirtulo-puberulus, eleganter nervosus, subnitidus. Corollæ tubus fere 1 cm. long., basi 2 mm. ore 7 mm. lat. ; labium anticum 6 mm. long. ; labii postici 5 mm. long., lobi laterales oblongo-ovati, obtusissimi, 2 mm. long., lobi antici 2 mm. long., suborbiculares, margine crispuli. Filamenta circa 1.5 cm. ex corolla eminentia.

This can at once be distinguished by the large toothed lateral lobes of the calyx.

ACROCEPHALUS CALLIANTHUS, *Briq. in Engl. Bot. Jahrb.* xix. (1894) 169.

Lusitu River at 5000 ft. ; in fl. April ; n. 1955.

Distrib. Mozambique and Nyasaland.

ACROCEPHALUS (§ *Holochili*) CHIRINDENSIS, *S. Moore*, sp. nov.

Herbaceus, perennis, caule stricto sursum ramoso fere omnimodo folioso griseo-pubescente dein puberulo, foliis anguste oblongo- vel lineari-lanceolatis basi apiceque obtusis sessilibus brevissimeve petiolatis margine integris vel subevanide denticulatis firme membranaceis pagina superiore fere glabris inferiore pilis strigillosis appressis præcipue ad costas costulasque onustis foliis summis in bracteas transeuntibus apicem versus sæpissime coloratis, capitulis parvis globosis pedunculis pubescentibus insidentibus in cymas breves oligocephales caulem ramulosque summos coronantes dispositis, bracteis late ovatis sursum attenuatis apice obtusiusculis extus breviter appresse strigillosis sursum cyaneis, calycis tubo hirsuto labio postico subrotundo quam anticum leviter retusum manifeste latiore, corollæ tubo calycem excedente dimidio superiore ampliato labii postici lobo intermedio obovato bifido lobis lateralibus oblongis obtusis lobis antico ovato-oblongo obtuso posticum æquante, stylo sat longe exserto crassiusculo.

Hab. Near Chirinda and near the source of the Hargwe river, Jihu ; in fl. April, May ; nn. 313, 379, 501.

Folia solemniter 3-5 cm. long., 6-13 mm. lat., summa in bracteas transeuntia \pm 8 mm. long. Bracteæ exteriores \pm 7 mm. long., interiores circa 5 mm. long., basi 4 mm. lat. Flores albi, atropurpureotincti. Calycis tubus 0.75 mm. long. ; labium anticum 0.8 mm., posticum 1 mm. long. Corollæ tubus 2.2 cm. ex calyce eminens, inferne 0.6 mm., superne 1.25 mm. lat. ; labii postici lobi laterales 1.5 mm. long., lobus intermedius 1.8 \times 1.5 mm. ; labium anticum 1.8 mm. long. Stylus 6.5 mm. long., stigmatis rami 0.3 mm.

This looks much like *A. minor*, Briq., which has green bracts, a smaller calyx and corolla and a different lower lip.

ACROCEPHALUS (§ *Holochili*) PICTURATUS, *S. Moore*, sp. nov.

Suffrutex, caule gracili dissite folioso hispidulo-piloso, foliis oblongo-lanceolatis raro lanceolato-ovatis acutis basin versus integris et in petiolum manifestum coartatis alibi serrulato-crenulatis rarius serrato-crenatis membranaceis utrobique pilis sparsis strigillosis appressis onustis, capitulis parvis globosis ad apicem ramulorum corymbum brevem tricephalum referentibus, bracteis exterioribus sæpe elongatis lineari-lanceolatis acutis margine crenulatis subintegrisve appresse strigilloso-puberulis basi albis nonnunquam dilutissime cæruleis ceterum viridibus, bracteis interioribus flores amplectantibus ovato-rotundatis acutis, calycis florescentis hirsutulo-pilosi labiis integris rotundatis postico quam anticum plane longiore, corollæ tubo calycem excedente superne gradatim dilatato labii postici trilobi lobis ovatis lateralibus obtusis intermedio integro obtusissimo, labio antico ovato-oblongo quam posticum longiore.

Hab. Common in good soil near Chirinda ; n. 257.

Folia solemniter 6-8 cm. long., 1.7-2 cm. lat. (raro 2.5 cm.), in sicco viridia,

pagina inferiore pallidius colorata ; ordinis secundi costæ utrinque circa 10, mediocriter prominulæ ; serrulæ modice 0·5–1 mm. alt., 1–2·5 mm. (raro ad 3·5 mm. usque) long. ; petioli \pm 1 cm. long., piloso-hispiduli. Corymbi griseo-raro cæruleo-pubescentes, 1·5–2·5 \times 2–4 cm. Capitula humectata 6·5–9 mm. diam. Bracteæ exteriores longiores 3·5–4 cm. long., breviores 1·5–2 cm., illæ fere 10 mm. lat., hæ \pm 6 mm. Bracteæ interiores dorso hispidulo-pilosæ, modice circa 5 \times 4·5 mm. Calyx florescens fere 2 mm. long. ; labium posticum 1·25 mm., anticum 0·35 mm. long. Calyx fructescens 4–5 mm. long. Corollæ tubus 3 mm. long. ; basi 0·6 mm. faucibus 1·2 mm. lat. ; labii postici lobi 1·25 mm. long., labium anticum 1·5 mm. Stylus 4 mm. ex tubo corollæ eminens. Nuculæ cylindricæ, dilute brunneæ, 1 \times 0·5 mm.

To be inserted in the genus next *A. Poggeanus*, Briq., from which it is easily distinguished by the inflorescence, the long outer bracts, and smaller flowers.

ORTHOSIPHON WOODII, *Gürke in Engl. Bot. Jahrb.* xxvi. (1898) 83.

Mt, Pene, 6500–7000 ft. ; in fl. Sept. ; n. 1974.

Distrib. Zululand. Now first announced as a tropical plant.

HEMIZYGIA (§ Pseudocimum) ORNATA, *S. Moore*, sp. nov.

Herba cæspitosa circa spithamea caule ascendente a basi folioso piloso-hirtulo ramulos perpaucos breves teneres emittente, foliis pro rata parvis ovatis (summis ovato-oblongis) apice obtuse mucronatis basi obtusissimis vel in petiolum subnullum leviter angustatis margine denticulatis basin versus integris firme membranaceis utrinque præsertim in costis hirtulo-puberulis, spicastris simplicibus folia excedentibus piloso-pubescentibus e verticillastris pluribus 4–8-floris compositis, bracteis superioribus majusculis ovato-lanceolatis acuminatis apice ipso obtusis minute puberulis coloratis, floribus medio-cribus brevipedicellatis, calycis sub anthesi dense piloso-pubescentis tubo cylindrico lobos plane excedente lobo postico rotundato-ovato obtuso quam ceteri setiformes subæquilongo, corollæ extus sparsim puberulæ tubo ex calyce breviter eminente labii postici lobo intermedio suborbiculare lobis lateralibus late ovatis obtusissimis labio antico postico vix æquilongo cymbiformi apice obtusiusculo, staminum anticorum filamentis sat alte coalitis, stigmatate emarginato.

Hab. Mt. Pene, 6500–7000 ft. ; in fl. Sept., Oct. ; nn. 1999, 6078.

Folia profecto evoluta 2·5 \times 1·5 cm., summa perpauca usque ad 15 \times 7 mm. redacta, in sicco pulchre viridia ; ordinis secundi costæ utrinque 4–5, leviter arcuatæ, costularum reticulum laxum utrobique aspectabile ; petioli dum adsint modo 1–2 mm. long. Spicastrum speciminis magis maturi nobis obvii 8 cm. long. Bracteæ superiores saltem 14 mm. long., ad medium 7 mm. lat., vivide puniceæ. Pedicelli circa 2 mm. long. Calyx sub anthesi totus 7·5 mm. long. ; tubus 5 \times 2 mm. ; lobus posticus 2·5 \times 2·5 mm. ; lobi laterales 2·5 mm., antici vix 3 mm. long. Calyces fructescentes non suppetunt. Corollæ tubus

calycem 3 mm. excedens, fauces ampliati 4 mm. diam.; labii postici lobus intermedius 2.5×2.5 mm.; lobi laterales 2 mm. long., basi ægre 3 mm. lat.; labium anticum 4.25 mm. long. Stamina anteriorum filamenta usque ad 3 mm. ab apice coalita.

Among the species with large foliaceous bracts this is known at once by the small ovate leaves.

Mr. Swynnerton notes this as a low herb with bright pink bracts growing in large clumps amongst the short grass on the hill-tops, and making a great show.

HEMIZYGIA BRACTEOSA, *Briq. in Ann. Conserv. & Jard. Bot. Genève*, 1898, 248.

Chikore Hills 3500 ft.; Umvumvumu River at 4000 ft.; Lower Buzi up to 400 ft.; in fl. March, April, Dec.; nn. 268, 1956, 1957.

Distrib. Senegambia to Nyasaland.

H. TEUCRIIFOLIA, *Briq. in Engl. & Prantl, Pflanzenfam.* iv. 3 A, 369.

Mt. Pene, 7000 ft.; in fl. Oct.; n. 6075.

Distrib. South Africa.

Another addition to the tropical flora.

HEMIZYGIA (§ Eu-Hemizygia) FLABELLIFOLIA, *S. Moore*, sp. nov.

Fruticosa ramulis sat validis crebro foliosis arcte argyreo-tomentosis tandem glabrescentibus, foliis pro rata parvis brevipetiolatis late obovatis obtusissimis basi gradatim cuneatis margine triente abaxiali serrato-crenulatis ceteroquin integris pergamaceis utrinsecus arcte argyreo-tomentosis secundi ordinis costis utrinque 4 basi aliquanto approximatis inde flabellatim divergentibus, spicastris folia haud multo superantibus simplicibus, verticillastris approximatis 3-4-floris, bracteis parvis suborbicularibus caducissimis, calycis sub anthesi cylindrico-campanulati densissime griseo-pubescentis tubo lobos excedente lobo postico magno suborbiculari quam lobi reliqui inter se subæquales lanceolati vel deltoideo-lanceolati acuminati longiore, corollæ tubo calycem excedente superne gradatim amplificato extus griseo-puberulo labii postici lobo intermedio late obovato emarginato quam lobi laterales abbreviati multo majore labio antico postico subæquilongo suborbiculari labiis ambobus extus minute griseo-pubescentibus, staminum anticorum filamentis alte connatis, stigmatibus bifido.

Hab. In crags among the Chimanimani mountains at 7000 ft.; in fl. Sept.; n. 1414.

Folia 1.5-2 cm. long., summum totidem lat.; petioli circa 5 mm. long. Spicastra evoluta circa 3 cm. long. Bracteæ perpaucae a me scrutatæ $2.5 \times 2.5-5 \times 5$ mm., griseo-pubescentes. Flores dilute purpurei. Calyx sub anthesi 6.5 mm. long., ima basi 3 mm. ore 6.5 mm. lat.; lobus posticus 5×3 mm.; lobi laterales 3 mm. long. Calyces fructescentes desunt. Corollæ tubus

12 mm. long., basi 3·5 mm. faucibus 5·5 mm. lat.; labii postici lobus intermedius 4 × 4 mm., lobi laterales 1·5 mm. long.; labium anticum 6 × 7 mm. Filamentorum anticorum pars libera vix 2 mm. long., pars conjuncta 1 mm. lat. Stylus crassiusculus, exsertus; stigmatis lobi suborbiculares, ægre 1 mm. long.

A very distinct species by reason of the small leaves with flabellate nervation and the close silvery tomentum.

N. E. Brown reduces this genus to *Orthosiphon*, as he finds the degree of cohesion between the filaments of the front pair of stamens to vary very much in flowers of the same species, while occasionally the filaments are free to the base. It has been thought advisable to leave the nomenclature as above until this point has been thoroughly elucidated.

HOSLUNDIA VERTICILLATA, Vahl, *Enum.* i. 213.

Chirinda; Boka and Chibabava, Lower Buzi; open woods at Beira; in fl. Nov., Dec.; nn. 386, 1967, 1968, 1973.

Distrib. Tropical Africa.

PYCNOSTACHYS URTICIFOLIA, Hook. *Bot. Mag.* t. 5365.

Outskirts of Chirinda, 3800 ft.; in fl. May; n. 521.

Distrib. Tropical East Africa.

P. RETICULATA, Benth. in *DC. Prod.* xii. 83.

Near the Upper Buzi at 3500 ft.; in fl. May; n. 1954.

Distrib. Tropical East Africa.

PLECTRANTHUS LAXIFLORUS, Benth. in *E. Mey. Comm.* 228.

Chirinda Forest, 3700–4000 ft.; in fl. April, May; nn. 341, 467.

Distrib. South Africa.

Not hitherto recorded as a tropical species.

P. FLORIBUNDUS, N. E. Br. in *Kew Bull.* 1894, 12.

Mt. Maruma, 3500 ft.; in fl. Sept.; n. 1997.

Distrib. Natal.

P. FLORIBUNDUS, N. E. Br., var. *LONGIPES*, N. E. Br. *l. c.* Chirinda, 3800 ft.; in fl. Sept.; n. 237.

Distrib. Angola to Nyasaland and German East Africa.

The type form is new to Tropical Africa.

PLECTRANTHUS (Germanea § *Coleoides*) *CHIMANIMANENSIS*, S. Moore, sp. nov.

Herbaceous, spithameus vel ultra, caule ascendente fere a basi folioso sparsim pubescente vel puberulo, foliis parvis late ovatis suborbicularibusve obtusis basi in petiolum manifestum subito angustatis margine crenatis crassiusculis utrobique sparsim pubescentibus, spicastris sat elongatis inferne breviramosis superne simplicibus sparsim pubescentibus, verticillastris sæpissime 4–6-floris

(ramulorum 1-3-floris) sessilibus, bracteis parvis lineari-oblongatis vel vato-lanceolatis obtusiusculis diutule persistentibus, pedicellis calyces circao-æquantibus, calycis sub anthesi campanulati extus puberuli glandulis rubris sessilibus onusti tubo limbum æquante lobo postico ovato obtuso margine crispulo lobis lateralibus triangularibus sursum attenuatis lobis anticis similibus nisi paullulum latioribus, corollæ tubo ex calyce eminente dorso gibboso ad fauces usque gradatim attenuato labii postici lobo intermedio obovato bilobulato quam lobi laterales ovato-oblongi multo longiore labio antico postico æquilongo cymbiformi obtuso, genitalibus breviter exsertis.

Hab. On crags of the Chimanimani Mountains at 7000 ft.; in fl. Sept.; n. 2019.

Folia solemniter 1.2-1.8 cm. long., 1-1.7 cm. lat., ut caulis glandulis rubris sessilibus utrinque inspersa; crenellæ 0.5-1.5 mm. alt., \pm 2 mm. long.; petioli 2-5 mm. long., pubescentes. Spicastra summum fere 10 cm., bracteæ \pm 3 mm., pedicelli sæpissime 3-5 mm. long. Flores purpurei. Calyx 4 mm. long., tubus 2 mm.; lobe posticus patens, 2.2 mm. long., lobi ceteri circa 2 mm. Corolla circa 8 mm. long.; tubus 5.5 mm. long., ima basi 1.5 mm. lat., inde subito ad 3 mm. auctus, faucibus 1.5 mm. lat.; labii postici lobus intermedius 3×2.5 mm.; lobi laterales 1 mm. long. vel paullulum ultra; labium anticum fere 4 mm. long. Filamenta 4-5 mm. ex corolla eminentia, stylus 3 mm.

PLECTRANTHUS (Germanea & Coleoides) PETRENSIS, *S. Moore*, sp. nov.

Circiter spithameus caule ascendente verisimiliter simplici crassiusculo-pube grisea oblecto, foliis longipetiolatis suborbicularibus margine crenatis vel fere integris pagina superiore pubescentibus inferiore griseo-villosulotomentosis, spicastris caulem longe excedentibus simplicibus glanduloso-pubescentibus dein puberulis, verticillastris pluribus 6-8-(summis paucius-) floris inter se sat distantibus, pedicellis calyces plane excedentibus, calycis sub anthesi campanulati glanduloso-puberuli tubo limbum æquante lobo postico suborbiculari obtusissimo lobis reliquis oblongo-lanceolatis æquilongo, corollæ fere glabræ tubo exserto postice gibboso juxta medium leviter attenuato faucibus paullulum amplificatis labio postico 5-lobo lobis omnibus oblongo-ovatis obtusissimis labio antico cymbiformi anticum æquante, genitalibus breviter exsertis.

Hab. Crags of the Chimanimani Mountains at 7000 ft.; in fl. Sept.; n. 2018.

Caulis circa 5 cm. long., foliorum juga plerumque 2-3 ferens. Folia summum 2.5×3 cm., sæpe equidem circa 12×15 mm., firme membranacea, costis satis perspicuis pagina inferiore percurta; crenaturæ summum 8 mm. long., 2 mm. alt., sæpissime vero breviores; petioli 1-1.5 cm. long., tomentosi. Spicastra saltem 10 cm. long. Verticillastra vetustiora 1.5-2 cm. inter se distantia, juniora magis approximata. Pedicelli 3.5-5 mm. long. Flores purpurei. Calyx ægre 3 mm. long.; lobe posticus 1.4-1.2 mm.; lobi

laterales obtusiusculi, antici brevissime acuminati. Corollæ tubus fere 6 mm. long., ima basi 2·2 mm., paullo supra basin 2 mm., ore 2·8 mm. lat.; labium posticum vix 5 mm. long., hujus lobi circa 1·5 mm. long. Filamenta 3 mm. ex tubo corollæ eminentia.

Near *P. flaccida*, Gürke, but different, *inter alia*, in clothing, leaf and corolla.

PLECTRANTHUS (Germanea § Germanea) SWYNNERTONII, *S. Moore*, sp. nov.

Herba caule erecto subsimplici gracili minute puberulo, foliis longipetiolatis ovatis obtusis basi rotundatis ipsa cordatis margine duplice crenatolobulatis tenuiter membranaceis pagina superiore pilis appressis brevibus strigillosis sparsim indutis pagina inferiore præter costas costulasque minute puberulas glabris, spicastro folia excedentibus paucis vel subsolitariis minute puberulis, verticillastris pluribus sessilibus subremotis plerumque 3–6-floris, bracteis parvulis lanceolatis acutis, pedicellis bracteas superantibus puberulis, calycis sub anthesi parvi glabri lobo postico tubo æquilongo suborbiculari lobis ceteris lineari-lanceolatis anticis acuminatis laterales acutos breviter excedentibus, calycis frutescentis decurvi aucti subcylindrici tubo lobis longiore, corollæ mediocris tubo calycem pluries excedente postice saccato superne leviter attenuato labio antico cymbiformi quam posticum 4-lobum paullulum brevior.

Hab. Chirinda Forest, 3700–4000 ft.; in fl. & fr. Feb.; n. 337.

Foliorum limbus modice 6·5–9·5 cm. long., summum 4·5–6 cm. lat. (accedunt pauca juxta solum genita 1·5–2·5 × 1·1–1·3 cm.) in sicco viridis subtus viridi-griseus; costæ secundariæ utrinque 6 arcuato-ascendentes; costularum reticulum laxatum; lobuli solemniter circa 5 mm. alt. et 5–8 mm. long., horum crenellæ 1–2 mm. alt.; petioli ad 7·5 mm. usque long., sed plerumque breviores. Spicastra 20 cm. attingentia; horum internodia circa 1·5 cm. long. Bracteæ 1·5–2 mm. long.; pedicelli 3–4 mm. Flores albi. Calycis sub anthesi tubus ut lobus posticus 1 mm. long.; lobi laterales 1 mm., lobi antici 1·5 mm. long. Calyx frutescens 8·5 mm. long.; tubus 4 mm. long., ore 2·5 mm. lat.; lobus posticus 3 × 4 mm.; lobi laterales 2 mm.; antici 3 mm. long. Corollæ tubus 7 mm. long., ima basi 1·2 mm. cito usque ad 3–3·5 mm. dilatatus, ore 2–2·5 mm. lat.; labium anticum 6·5 mm. long., posticum 7·5 mm., hujus lobi laterales oblongi, obtusi, margine ciliati, lobi intermedii obovati, obtusissimi, omnes circa 2 mm. long. Filamenta longiuscule exserta; antheræ parvulæ, 0·6 mm. long.

Near *P. fruticosus*, L'Hérit., but markedly different in leaf and corolla.

PLECTRANTHUS (Isodon § Pyramidium) CAUDATUS, *S. Moore*, sp. nov.

Herba caule ascendente robusto inferne foliorum delapsorum cicatricibus sparsim onusto superne folia pauca approximata gerente tomento laxiusculo griseo obducto, foliis breviter petiolatis nisi sessilibus subsessilibusve obovatis vel late obovato-oblongis obtusissimis basi obtusis vel rotundatis margine

crenatis crenellis mediocriter altis pergamaceis utrobique dense cano-tomentosis, spicastris simplicibus validis e verticillastris numerosis sessilibus plurifloris dense confertis compositis, bracteis amplis ovatis vel ovato-oblongis acutis vel acuminatis tomentosis coloratis, floribus mediocribus subsessilibus, calycis anguste campanulati tomentosi sub fructu parum aucti lobis tubum excedentibus inter se subæqualibus lanceolatis acutis tribus posticis quam antici altius connatis, corollæ puberulæ tubo calycem breviter excedente inferne cylindrico sursum curvato faucibus obliquis inflatis labio postico 4-lobo lobis subæqualibus abbreviatis deltoideis obtusis conduplicatis labio antico postico subæquilongo alte cymbiformi, filamentis sat longe exsertis crassiusculis.

Hab. Chimanimani Mountains at 7000 ft.; in fl. Sept.; n. 2010.

Caulis foliis orbus 7-14 cm. long., 5-7 mm. diam. Folia nunc 8-10 × 4.5-5.5 cm., nunc circa 3-4 × 2.5-3 cm., tomento griseo vel dilute griseo-brunneo; crenellæ sæpe 2 mm. alt., 3-5 mm. long.; costa media crassissima, costæ ordinis secundi costulæque paginæ inferioris prominentes; petioli dum adsint 5-7 mm. long., tomentosi. Spicastrum adhuc vix profecto evolutum 18 cm. long., corollis pansis exclusis 1.5 cm. lat. Bractæe solemniter 6-8 mm. long., pedicelli 1 mm. Flores purpurei. Calyx sub anthesi 5 mm. long., tubus 2 mm.; labium posticum 3 mm. long., hujus lobi 2 mm.; lobi antici fere 3 mm. long. Calyx frutescens 7 mm. long.; tubus 3 mm., labium posticum 4 mm. long. Corollæ tubus 5-6 mm. long., inferne vix 2 mm. lat., ore 4.5 mm.; labium posticum 4 mm. long., hujus lobi circa 1 mm.; labium anticum 4.5 mm. long. Nuculæ late ovoideæ, leves, 1 mm. long.

A very distinct species, somewhat of the habit of *Coleus comosus*, Hochst.

PLECTRANTHUS HOSLUNDIOIDES, *Bak. in Fl. Trop. Afr.* v. 418.

Near Chirinda; Chipetzana River, at 3000 ft.; in fl. April, May; nn. 445, 1989.

Distrib. German East Africa.

COLEUS (§ *Dissitiflori* *) *SWYNNERTONII*, *S. Moore*, sp. nov.

Herba elata caule erecto satis valido superne ramoso ad nodos aliquantulum tumido minute puberulo mox glabro, foliis amplis ovatis apice cuspidato-acuminatis ipso obtusis e basi latissima in petiolum longum subito cuneatim angustatis margine prominenter serrato-crenatis tenuiter membranaceis supra pilis brevibus albis appressis subsparis instructis subtus costis minute puberulis exemptis glabris, floribus in racemos compositos caulem ramulosque terminantes sæpeque folia excedentes glanduloso-pubescentes digestis, bracteis subulatis puberulis quam pedicelli filiformes glanduloso-pubescentes brevioribus, calycis sub anthesi campanulati sparsim glandulosi lobo postico

* Sectio nova. Flores solitarii nec in verticillastos dispositi, racemum simplicem vel compositum referentes. Calycis lobus posticus acuminatus, quam ceteri summum paullulum major. Calyx frutescens decurvus, ore villosus instructus.

lanceolato lobis lateralibus lineari-lanceolatis anticis linearibus omnibus quam tubus longioribus acuminatis, calycis frutescentis bene aucti demum decurvi tubo cylindrico antice gibboso ore villosa quam lobi inter se subæquales erecti plane longiore glanduloso-puberulo, corollæ tubo calycem excedente extus fere glabro inferne attenuato superne defracto necnon amplificato labii postici quadrato-obovati lobis 4 lateralibus oblongis intermediis obovatis omnibus obtusissimis labio antico posticum excedente cymbiformi.

Hab. Outskirts of Chirinda, 3700-4000 ft. ; in fl. May ; n. 349.

Foliorum adultorum limbus 9-15 cm. long., 7-10 cm. lat. (exstant vero folia minora 5-7 × 4.5-5 cm.) in sicco sæpissime subsaturate viridis, facie inferiore paullo pallidior ; crenellæ modice 4-7 mm. long., 2-3 mm. alt. ; petioli 2.5-6 cm. long., foliorum summorum breviores. Inflorescentiæ sæpe 10-15 × 8-10 cm. Bracteæ 2-3 mm. long. Pedicelli tandem 5-8 mm. long. Calycis tubus sub anthesi 1.5 mm. long. ; lobus posticus 3.5 mm. long., dimidio inferiore 1.5 mm. lat. ; lobi ceteri 3.5 × 0.5-0.7 cm. Calycis frutescentis in toto 12 mm. long. tubus 7.5 × 3-3.2 mm., nervis 10 prominentibus percursus, in sicco nitidus ; lobi 4.5 cm. long. Corollæ cæruleæ tubus pars attenuatus 6 × 1 mm. ; pars dilatata 4 × 4.5 mm. ; labium posticum 4 × 4.3 mm. ; lobi laterales 1 × 0.75 mm. ; lobi intermedii 1.5 mm. long. et lat. ; labium anticum 8 mm. long., explanatum 6 mm. lat. Vagina staminea 4 mm. long. Nuculæ subcirculares, plano-convexæ, brunneæ, 1 mm. diam.

A curious plant allied to *C. umbrosus*, Vatke, which should therefore be referred to the same section.

COLEUS (§ Solenostemonoides) GAZENSIS, *S. Moore*, sp. nov.

Herba verisimiliter satis elata, caule erecto sursum ramoso distanter folioso minute pubescente, foliis petiolatis ovatis vel ovato-oblongis obtusis basi rotundatis leviterve cordatis margine crenatis tenuiter membranaceis primo pubescentibus cito supra fere glabris subtus nervis pubescentibus exemptis puberulis, spicastris folia multo excedentibus pubescentibus e cymis pedunculatis numerosis oppositis (raro suboppositis) satis approximatis plurifloris pubescentibus sistentibus ita paniculam thyrsoideam referentibus, bracteis linearibus vel anguste lineari-lanceolatis pubescentibus, floribus mediocribus breviter pedicellatis, calycis sub anthesi parvi campanulati pubescentis tubo lobis æquilongis lobis inter se fere æqualibus (lobo postico ceteris paullulum latiore) lineari-oblongis obtuse acutis intus piloso-pubescentibus, calycis frutescentis summum leviter patentis tubo comparate elongato antice gibbo quam lobi levissime aucti plane longiore intus glabro, corollæ extus piloso-puberulæ tubo calycem longe excedente inferne tenui superne defracto dilatatoque labii postici quadrati 4-lobi lobis lateralibus late oblongis quam ceteri ovato-oblongi brevioribus obtusissimis labio antico late cymbiformi postico longiore, filamentis basi breviter connatis.

Hab. Melssetter, 6000 ft. ; in fl. April ; n. 1998.

Folia 4–5 cm. long., 3–3·5 cm. lat., summa imminuta in bracteas trans-euntia ; crenellæ circa 2·5 mm. alt., basi 2–3 mm. lat. (raro usque ad 6 mm.); petioli 1–1·5 cm. long., foliorum summorum modo 3 mm. Spicastra saltem 12 cm. long., 8 cm. diam. Bracteæ \pm 3 mm. long. Cymarum pedunculi gracillimi, 5–10 mm. long. ; pedicelli 1–4 mm. long. Flores cærulei. Calyx sub anthesi 2·2 mm. long. ; lobi virides, 1·2 mm. long. Calyx frutescens tandem fere 7 mm. long., deorsum 3 mm., ore 2 mm. lat. ; lobi 1·5 mm. long. Corollæ tubi pars inferior 3·25 mm., pars superior ægre 4 mm. long., hæc superne 3·5 mm. lat. ; labium posticum 2·5 mm. long., lobi laterales 0·7 mm. lobi intermedii 1·2 mm. long. ; labium anticum 4·5 mm. long., explanatum totidem lat. Filamentorum vagina 1 mm. long. Nuculæ plano-convexæ, brunneæ, 1 mm. diam.

In general appearance this is much like *C. polyanthus*, S. Moore, but the calyx and corolla are in several respects diverse.

Although the calyx appears not to turn downwards, I have placed this in the § *Solenostemonoides* : the only alternative would be to make a new section for its reception.

MICROMERIA BIFLORA, *Benth. in DC. Prod.* xii. 220.

Malsetta, 6000 ft. ; in fl. Sept. ; n. 1971.

Distrib. Tropical and South Africa, and India.

CALAMINTHA MASUKENSIS, *S. Moore*, comb. nov.

Leucas masukensis, Bak. in *Kew Bull.* 1898, 162.

Melsetter, 6000 ft. ; in fl. April ; nn. 1990, 1991.

Distrib. Nyasaland.

ACHYROSPERMUM CARVALHI, *Gürke in Engl. Pflanzenw. Ost-Afr.* C. 343 (ex descript.).

Chirinda Forest, 3700–4000 ft. ; in fl. May ; n. 78.

Distrib. Mozambique.

One of the commonest large shrubs of the Chirinda undergrowth. The bright red blossoms are very attractive to the sunbirds *Cinnyris olivacea* and *Anthothreptes zambesiana*.

STACHYS ÆTHIOPICA, *Linn. Mant.* i. 82.

Chimanimani Mountains at 7000 ft. ; in fl. Sept. ; n. 1972.

Distrib. Nyasaland, South Africa.

LEUCAS MILANJIANA, *Gürke in Engl. Jahrb.* xxii. (1895) 141.

Near Chirinda, 3800 ft.; Zona River, Jihu, at 2000 ft.; open woods at Beira; in fl. April, May, Nov., Dec. ; nn. 385, 509, 1994, 1995.

Distrib. Nyasaland, Mozambique.

LEONOTIS MOLLISSIMA, *Gürke in Engl. Jahrb.* xxii. (1895) 141.

Outskirts of Chirinda, 3700–4000 ft.; Chikambogé Valley, 3000 ft. ; in fl. June, Sept. ; nn. 235, 1969.

Distrib. Angola to German East Africa.

“A very tall herb, up to 10 feet, with sienna-orange or creamy white flowers very attractive to birds of all kinds. ‘Wilde daga’ of Dutch. Leaves used as cattle medicine ; also as one of the constituents of an antidote to snake-bite.”

LEONOTIS SPECTABILIS, *S. Moore*, sp. nov.

Herbacea, elata, caule stricto valido pubescente, foliis petiolatis subsessilibusve ovatis vel ovato-oblongis utrinque obtusis margine sat argute crenatis supra villosa-velutinis subtus tomento denso longoque albo-griseo obtectis, verticillastris paucis subdistantibus magnis globosis, bracteis exterioribus linearibus vel anguste lineari-lanceolatis spinuloso-acuminatis pubescentibus interiores lineares plus minus excedentibus, floribus magnis pedicellis pubescentibus insidentibus, calycis tubuloso-infundibularis pubescentis sub fructu vix aucti tubo dentes pluries superante dente postico elongato triangulari sursum caudato-spinoso dentibus reliquis 7 inter se parum inæqualibus (anticis paullo majoribus) triangularibus apice spinulosis, corollæ castaneæ bene exsertæ tubo superne gradatim dilatato, quam labium posticum villosum manifeste brevior.

Hab. Chimanimani Mountains ; in fl. Sept. ; n. 2013.

Planta trimetralis. Caulis 5 mm. diam. specimenis nobis obvii præter ramulos perbreves foliatis ex axillis foliorum evolutorum ortos simplex ; internodia 5–7 cm. long. Folia solemmiter 4·5–6 × 3·5–4 cm. (summa perpauca minora), pergamacea, crenellæ ægre 3 mm. alt. et long. 4 mm. Verticillastri (corollis exemptis) 7·5–8 cm. diam. Bracteæ exteriores 1·5 cm. long. vel paullulum ultra, interiores 5–13 mm. Pedicelli 1–3 mm. long. Calycis tubus 1·7 cm. long., basi 2 mm. ore 7 mm. lat. ; dens posticus ægre 1 cm. long. ; dentes laterales 2·5–3 mm., antici 3·4 mm. Corolla tota 4·1 cm. long. ; tubus 1·6 cm., labium posticum 2·5 cm., anticum 3·4 mm. long. Nuculæ maturatæ haud suppetunt.

This resembles *L. mollissima*, Gürke, in foliage, but the flowers of that are markedly smaller and the calyx is different in several respects. It is nearer *L. Engleri*, Gürke—known to me only by description—a plant with tomentose branches, smaller leaves, a tubular calyx with a shorter hinder tooth and side-teeth different in shape from the lower ones, and smaller corollas.

MONOCHLAMYDEÆ.

By SPENCER LE M. MOORE.

NYCTAGINEÆ.

BOERHAAVIA ADSCENDENS, Willd. *Sp. Pl.* i. 19.

Chibabava, Lower Buzi, 400 ft. ; in fl. & fr. Dec. ; nn. 1747, 1747 a.

Distrib. Tropical Africa.

A common weed in cultivated ground.

ILLECEBRACEÆ. (E. G. BAKER.)

Except the following, *Corrigiola littoralis*, Linn., is the only representative of this order in the collection. It is a weed of wide distribution.

CORRIGIOLA DRYMARIOIDES, Bak. *fil.*, sp. nov.

Herba humilis, repens, caulibus elongatis viridibus glabris ; stipulis ovatis vel subovatis scariosis ; foliis viridibus sessilibus vel subsessilibus ovatis vel oblongo-ovatis basi rotundatis vel late cuneatis apice acutis sæpissime alternis rarissime oppositis quam internodiis sæpissime brevioribus rarius longioribus margine integris ; floribus parvulis in cymas axillares et pedunculatas dispositis bracteatis cymis quam foliis longioribus ; calyce alte quinquepartito calycis segmentis obtusis medio viridibus marginibus membranaceis ; petalis 5 quam calycis segmentis paullo brevioribus ; staminibus 5 ; ovario ovoideo : stylo brevissimo 2-partito segmentis recurvis ; ovula funiculo filiformi orto e basi suspensa ; fructu subgloboso calycis segmentis incluso ; seminibus ovoideo-globosis.

Hab. Chimanimani Mountains at 7000 ft. ; in fl. & fr. Sept. ; n. 2159. A trailing herb common among the crags.

Caules debiles, usque ad 35 cm. longi. Internodia 5–18 mm. longa. Stipulæ 1·5–2·5 mm. longæ. Folia 7–12 mm. longa, 5–9 mm. lata. Bracteæ circa 1·5 mm. longæ. Calycis segmenta circ. 2 mm. longa. Capsula circiter 1·5 mm. diam.

The sessile or subsessile ovate leaves and the comparatively few-flowered axillary cymes at once distinguish this from the only other African species.

PHYTOLACCACEÆ.

PHYTOLACCA DODECANDRA, L'Hérit. *Stirp. Nov.* 143.

Mt. Maruma, 3500 ft. ; Lusitu River at about 3000 ft. ; in fl & fr. Sept. Oct. ; nn. 2116, 2117, 2118.

Distrib. Tropical and South Africa, Madagascar.

AMARANTACEÆ.

The following common weeds do not require localisation, viz.: *Ærra lanata*, Juss., and *Achyranthes aspera*, Linn.

CELOSIA TRIGYNA, *Linn. Mant.* 212.

Chipete forest patch; 3800 ft., Upper Buzi river at 3000 ft.; Madanda forests at about 400 ft.; in fl. April, May; nn. 507, 1514, 1517.

Distrib. Tropical Africa, Madagascar, Arabia.

AMARANTHUS GRÆCIZANS, *Linn. Sp. Pl.* 990.

Near Chirinda, 3800 ft.; in fl. May; n. 463.

Distrib. Eritrea to Angola and Zambesia.

CYATHULA PROSTRATA, *Blume, Bijdr.* 549.

Chirinda Forest, 3700–4000 ft.; in fl. April, May; nn. 269 a, 340.

Distrib. Liberia and Uganda to Angola and Congo Free State.

PSILOTRICHUM CONCINNUM, *Bak. in Kew Bull.* 1897, 279.

Madanda forests at about 400 ft.; in fl. Dec.; n. 1520.

Distrib. Nyasaland.

P. GRACILENTUM, *C. B. Clarke in Fl. Trop. Afr.* vi. Sect. 1, 59.

Umvumvumu River, 400 ft.; Northern Melsetter, 5000–6000 ft.; in fl. April, Oct.; nn. 777, 6640.

Distrib. Angola to Zambesia.

ACHYRANTHES BIDENTATA, *Blume, Bijdr.* 545.

Chirinda Forest, 3700–4000 ft.; in fl. June; n. 1510.

Distrib. Cameroons to Angola and Nyasaland.

CHENOPODIACEÆ.

Chenopodium album, Linn., is a cosmopolitan weed, and *C. ambrosioides*, Linn., a weed of the tropics and the warm temperate zones.

CHENOPODIUM SCHRADERIANUM, *Rœm. & Schult. Syst. Veg.* vi. 260.

Melsetter, 6000 ft.; in fl. April; n. 1507.

Distrib. Tropical and South Africa and America.

POLYGONACEÆ.

POLYGONUM SERRULATUM, *Lag. Gen. & Sp. Pl.* 14.

Inyamadzi Valley, 2500 ft.; Lower Umswirizwi River, 1000 ft.; in fl. Sept., Nov.; nn. 1513, 1515.

Distrib. Tropical Africa.

POLYGONUM LANIGERUM, *R. Br. Prod.* 419; var. γ . AFRICANUM, *Meissn. in DC. Prod.* xiv. 117.

Umtifu River, Lower Buzi, 500 ft.; in fl. Jan.; n. 1511.

Distrib. (of species). Tropical and South Africa, East Indies, Tropical Australia.

P. ACUMINATUM, *H. B. K. Nov. Gen. & Sp. Pl.* ii. 178.

Upper Buzi, 3000 ft.; Chirinda Forest, 3700–4000 ft.; in fl. June, Dec.; nn. 356, 1512.

Distrib. Tropical and South Africa, Tropical America.

RUMEX ABYSSINICUS, *Jacq. Hort. Vind.* iii. 48.

Melsetter, 6000 ft.; in fl. April; n. 1506.

Distrib. Tropical Africa.

PODOSTEMACEÆ.

HYDROSTACHYS POLYMORPHA, *Klotzsch in Peters Mossamb. Bot.* 506.

Mangezi River, Northern Melsetter, at 4000 ft.; n. 818.

Distrib. Zambesia, Nyasaland.

ARISTOLOCHIACEÆ.

ARISTOLOCHIA PETERSIANA, *Klotzsch in Monatsber. Akad. Berlin*, 1859, 599.

Beira beach; in fl. Dec.; n. 1768.

Distrib. Nyasaland, Zambesia, Northern Transvaal.

PIPERACEÆ.

PIPER CAPENSE, *Linn. fil. Suppl.* 90.

Chirinda Forest, 3700–4000 ft.; Mt. Pene Forest at 6500 ft.; in fl. June; nn. 66, 1097.

Distrib. Tropical and South Africa.

A straggling shrub 6–9 feet high, very plentiful in some parts of the forest.

PEPEROMIA REFLEXA, *A. Dietr. in Sp. Pl.* i. 1. 180.

Chipete, 3800 ft.; in fl. May; n. 426 a.

Distrib. Tropics and subtropics of both hemispheres.

P. MASCHARENA, *C. DC. in Journ. Bot.* iv. (1866) 135.

Chipete forest patch, 3800 ft.; in fl. May; n. 426.

Distrib. East Tropical and South Africa, Madagascar.

MONIMIACEÆ.

- XYMALOS MONOSPORA, *Baill. in Bull. Soc. Linn. Paris*, i. (1887) 650.
 Chirinda Forest, 3700–4000 ft.; Chimanimani Mts. at 7000 ft.; in fl.
 June, Sept.; nn. 663, 1112.
Distrib. Tropical East Africa, South Africa.

LAURINEÆ.

- Cassytha filiformis*, Linn., a parasite of wide distribution throughout the tropics, is the only representative of this order in the collection.

PROTEACEÆ.

- PROTEA MALIENSIS, *Oliver in Trans. Linn. Soc.* xxix. (1875) 143.
 Melsetter at 6000 ft.; Chimanimani Mts. at 7000 ft.; in fl. Sept., Oct.;
 nn. 629, 6097.
Distrib. Uganda to Rhodesia.
 Chindao name, “Chirapadzungu”; “Sugar-bush” of settlers.
 P. UHEHENSIS, *Engl. Bot. Jahrb.* xxviii. (1900) 380.
 Near Chirinda, 3800 ft.; in fl. Feb.; n. 190.
Distrib. German East Africa.

Chindao name, “Chirapadzungu”; “Sugar-bush” of settlers. A shrub with white flowers common in the short open veld. Flowers particularly attractive to *Cinnyris kirkii*. The woody base remaining after the falling of the seeds is made by the natives into a button, polished and worn round the neck.

PROTEA SWYNNERTONII, *S. Moore*, sp. nov.

Frutex magnus ramis validis pilosis ultimis crebro foliosis dense piloso-pubescentibus, foliis sessilibus late oblongis angustave oblongo-obovatis obtusissimis basin versus sensim angustatis basi ipsa subrotundatis levissime amplexicaulibus pergamaceis utrobique dense appresse piloso-pubescentibus, capitulis pro rata parvis ternis sessilibus campanulatis, involucri circa 7-serialis bracteis exterioribus intermediisque gradatim accrescentibus late ovatis obtusis vel obtusissimis coriaceis paucis intimis longioribus spathulato-oblongis obtusissimis coriaceo-scariosis bracteis omnibus dorso appresse pubescenti-velutinis, floribus ex involucrio breviter eminentibus extus dense ferrugineo-villosis dilute puniceis labio inferiore anguste cymbiformi apice trifido quam superius plane majore, antheris subsessilibus anguste linearibus appendice brevi obtusa crassiuscula onustis, ovario longe ferrugineo-setoso-villoso, stylo exserto superne attenuato crassiusculo glabro.

Hab. Common on grassy mountains about Melsetter at 6000 ft.; in fl. April; n. 1411.

Rami vetustiores foliis jam orbi 15 mm. diam., quam juniores duplo crassiores, cortice fragili griseo-cinereo obducti. Folia modice circa 12×4 cm. (prope basin 1.5 cm. lat.), in sicco griseo-brunnea; costæ laterales utrinque circa 12, ascendentes, rectæ, raro leviter arcuatæ, pagina inferiore sæpe et pagina superiore satis perspicuæ; reticulum laxum; glandulæ immersæ crebræ. Capitula circa 4.5×6 cm. Involucri bracteæ exteriores 5–8 mm. long., intermediæ 10–30 mm., intimæ 40 mm. vel paullo ultra, bracteæ omnes in sicco castaneæ. Perianthium ægre 40 mm. long.; labium inferius juxta basin 5 mm. lat., ad medium 1 mm., hujus lobi laterales 2 mm. long., lobus intermedius angustus, acutus, 1.2 mm. long. Filamenta circa 0.5 mm. long.; antheræ puberulæ, 6.5 mm. long. Ovarium anguste ovoideo-oblongum, 2.2 mm. long.; stylus aliquanto complanatus, 4 cm. long.

Judging from the figure and description this seems to be near *P. Goetzeana*, Engl., which, among other features, has acute leaves, somewhat different involucral bracts, and smaller white flowers.

LEUCOSPERMUM SAXOSUM, *S. Moore*, sp. nov.

Frutex ramis validis piloso-villosulis demum glabris copiose foliosis, foliis sessilibus lineari-lanceolatis vel spathulato-oblongis basin versus sensim attenuatis apice sæpissime 3–5-dentatis rarius 3-lobis rigide coriaceis utrinque cito basi piloso-villosula exempta glabris, capitulis mediocribus breviter pedunculatis terminalibus solitariis vel perpauca aggregatis subglobosis, pedunculis dense sericeis squamis parvis onustis, involucri campanulati bracteis parvis deltoideo-triangularibus acutis vel caudati-acuminatis extus sericeo-villosulis, receptaculo elevato, floribus longe exsertis extus sericeo-villosis rubris perianthii segmentis omnibus coherentibus linearibus apicem versus recurvis tandem inter se basi breviter connatis, antheris sessilibus oblongis apice mucronulatis, ovario oblongo basi villosulo, stylo elongato crassiusculo superne attenuato, stigmate terminali conico sulcato.

Hab. In crags of the Chimanimani Mountains at 7000 ft.; in fl. Sept.; n. 652.

Folia vulgo 5–6.5 cm. long. (raro 7 cm.), 1–1.5 cm. lat. (raro 1.7 cm.), in sicco griseola, evanide vel subevanide costata. Capitula pansa (floribus inclusis) circa 2.5×3.5 cm. Pedunculi circa 1 cm. long., hujus squamæ 2.5–3 mm. long. Involucri bracteæ exteriores verisimiliter persistentes, 3 mm. long., interiores 4 mm., omnes coriaceæ, hæ subrhombicæ. Perianthium 2.5 cm. long., segmenta basi 1.5–2 mm. lat., sub apice 1 mm., ipso apice 1.5 mm. Antheræ 2 mm. long. Ovarium 2 mm. long. Ovulum juxta medium loculi affixum. Stylus paullo ultra 3 cm. long., stigma vix 2 mm.

Closely allied to *L. attenuatum*, R. Br.; differing from it chiefly in the smaller bracts of the involucre, the coherence of the fourth segment of the perianth with the rest so as to form a single lip, and the shorter style. The red colour of the flower is also worthy of mention.

No species of *Leucospermum* has so far been recorded as tropical.

FAUREA SPECIOSA, *Welw. in Trans. Linn. Soc.* xxvii. (1869) 63.

Melsetter 6000 ft.; in fl. Sept., Oct.; nn. 625, 626.

Distrib. Usambara to Angola; also in Northern Transvaal.

Flowers very attractive to sunbirds, especially *Nectarinia arturi*.

F. SALIGNA, *Harv. in Hook. Lond. Journ. Bot.* vi. (1847) 373.

Near Chinde at 3500 ft.; Chimanimani Mts. at 7000 ft.; in fl. Sept., Nov., Dec.; nn. 42, 42 a, 1796.

Distrib. South Africa to Angola and Rhodesia.

Chindao name, "Gurahorgwe" ("Boeken-hout" of local Dutch). One of the largest trees of the open woods. Timber easily worked and durable. Wood used by natives in charcoal-making, also for doors and the floors of their raised huts.

F. RACEMOSA, *Farmar in Kew Bull.* 1908, 58.

Chimanimani Mts. at 7000 ft.; Mt. Pene at 7000 ft.; in fl. Sept., Oct.; nn. 639, 6096.

Distrib. Nyasaland.

A large tree up to 70 feet high.

THYMELÆACEÆ.

GNIDIA BUCHANANI, *Gilg, in Engl. Bot. Jahrb.* xix. (1894) 261.

Nyahodi River at 5000 ft.; in fl. Sept., Oct.; nn. 1834, 6136.

Distrib. South-East tropical Africa.

GNIDIA (§ Eugnidia) PHYLLODINEA, *S. Moore*, sp. nov.

Suffrutex spithameus sparsim ramosus caule erecto tenui fere a basi folioso glabro, foliis sessilibus sparsis casu solummodo oppositis anguste vel angustissime oblongo-lanceolatis acutis vel breviter acuminatis plane evanideve trinervibus coriaceo-membranaceis glabris, capitulis terminalibus solitariis pedunculatis circa 10-floris hujus foliis involueralibus circa 5 quam reliqua brevioribus ovatis acuminatis scariosis brunneis margine ciliatis ceteroquin glabris puberulisve, floribus tetrameris, perianthiis ex involuero eminentibus extus subtiliter sericeo-pubescentibus intus glabris horum tubo superne leviter amplificato quam lobi quadrato-oblongi obtusissimi 5-plo longiore, staminibus inclusis omnibus fertilibus, faucis squamis 4 brevibus filiformibus glabris, ovario oblongo ut stylus gracillimus duplo longior glabro.

Hab. Melsetter, 6000 ft.; in fl. April; n. 1833.

Folia 12–18 mm. long., 2–3 mm. lat., basin versus leviter angustata, in sicco griseolo-viridia. Pedunculus \pm 1 cm. long., sub capitulo aliquantum incrassatus. Capitula pansa circa 7 mm. diam. Folia involueralia 5 mm. long., juxta basin 2–3 mm. lat. Perianthii flavi pars decidua 9 mm. long.;

tubus 7 mm. long., inferne 1 mm. lat., superne 1.5–1.75 mm. ; lobi 2 mm. long. ; pars persistens 3 mm. long. Faucis squamæ circa 0.75 mm. long., levissime clavellatæ, crassiusculæ. Antheræ oblongæ, squamis æquilongæ. Ovarium 1.25 mm., stylus 2.5 mm. long.

As regards foliage this is homoplastic with *G. apiculata*, Gilg, a much taller freely branching plant with larger sessile heads and a different involucre.

LASIOSIPHON ROBIDUS, *S. Moore*, sp. nov.

Suffrutex caule erecto parum ramoso villosus, foliis sessilibus plus minus imbricatis oblongis vel anguste oblongo-ovatis obtusis utrinque dilute fulvo-villosis, capitulis terminalibus solitariis plurifloris pedunculis elongatis fulvide hirsuto-tomentosis suffultis, foliis involucralibus ceteris similibus nisi minoribus, floribus 5-meris, perianthii exserti parte persistente dense villosa parti deciduæ extus tomentosæ intus glabræ circiter æquilonga lobis anguste obovato-oblongis obtusissimis quam tubus multo brevioribus, staminibus superioribus breviter exsertis, faucis squamis perspicuis ovatis retusis vel bifidis, ovario ovoideo-oblongo villosus, stylo incluso glabro.

Hab. Melsetter at 6000 ft. ; in fl. Oct. ; n. 6134.

Planta paullo ultraspithamea. Folia vulgo 2–3 cm. long., 6–10 mm. lat., in sicco tandem brunneo-castanea pilis longis dilute fulvis copiose obsita. Pedunculi 10–15 cm. long., ipso sub capitulo incrassati. Folia involucralia circa 13 × 3 mm. Perianthii pars persistens superne angustata, 7.5 mm. long. ; pars decidua cylindrica, 8 mm. long. ; lobi 3 × 2 mm. Antheræ oblongæ, 1.3 mm. long. Squamæ glabræ fere 1.5 mm. long. Ovarium vix 2 mm. long., stylus circa 5 mm.

This differs from *L. Hoepfnerianus*, Vatke, chiefly in the villous indumentum, the longer peduncles, longer persistent part of the perianth, and the larger scales in the throat.

The flowers are dull yellow. The plant grows in masses on the higher slopes, its hairy leaves holding the dew till quite late in the day, like a sponge full of water.

L. KRAUSSI, *Meissn. in DC. Prod.* xiv. 596.

Mt. Pene, 6500–7000 ft. ; in fl. Sept. ; n. 1787.

Distrib. Tropical and South Africa.

SYNAPTOLEPIS ALTERNIFOLIA, *Oliver in Hook. Ic. Pl.* t. 1194.

Kurumadzi River, Jihu, 2000 ft. ; in fl. Nov. ; n. 1785.

Distrib. Nyasaland.

S. LONGIFLORA, *Gilg in Engl. Bot. Jahrb.* xix. (1894) 276.

Near Chirinda 3500 ft. ; in fl. Oct. ; n. 188.

Distrib. Mozambique.

PEDDIEA DREGEI, *Meissn. in DC. Prod.* xiv. 528.

Chipete forest patch; Mt. Pene at 6500 ft.; in fl. Jan.; nn. 123, 123 a.

Distrib. Natal.

LORANTHACEÆ. (T. A. SPRAGUE.)

LORANTHUS DREGEI, *Eckl. & Zey. Enum.* 358; forma OBTUSIFOLIA, *Engl. in Bot. Jahrb.* xx. (1894) 105. Beira beach; in fl. Dec.; n. 1082.

Distrib. (of variety). East tropical Africa.

L. BULAWAYENSIS, *Engl. in Engl. Bot. Jahrb.* xl. (1908) 536.

Umvuvumu River at 4000 ft.; in fl. Oct.; n. 6001.

Distrib. Rhodesia.

LORANTHUS (§ *Ischnanthus*) SWYNNERTONII, *Sprague*, sp. nov.

Ramulis etiam juvenilibus glabris, foliis oppositis petiolatis ovatis acute acuminatis basi obtusis vel rotundatis coriaceis glabris opacis margine exsiccano leviter crispatis nervis utrinque prominulis lateralibus utroque latere 4-6 obliquis vel patulis, umbellis axillaribus solitariis 8-13-floris, bracteis e basi patelliformi breviter ovatis vel oblongis apice rotundatis vel emarginatis ciliolatis dorso late umbonatis, calyce ascendente leviter lobato sparse ciliolato, corollæ tubi parte basali oblongo-ellipsoidea lobis leviter reflexis a basi ad medium sensim angustatis deinde spathulato-ampliatis, filamentorum parte adnata densissime glandulosa parte libera ultra insertionem dentis producta dente anguste triangulari acuto, antheris oblongo-linearibus apice minute bicuspidatis, disco breviter lobato, bacca anguste obovoidea.

Hab. Chirinda Forest, 3700-4000 ft., parasitic on *Vernonia podocoma*, Sch. Bip.; in fl. Dec.; n. 141.

Internodia ramulorum 2-3.5 cm. long. Foliorum lamina 5.5-9 cm. long., 2.5-4 cm. lat.; petiolus 6-8 mm. long. Pedunculus 3-10 mm. long.; pedicelli 6-8 mm. long. Bractea postice 1.5 mm. long., antice circiter 0.4 mm. Receptaculum 1.5 mm. long. Calyx 1.3 mm. long. Corolla in toto 2 cm. long.; tubi pars basalis 4-4.5 mm. long.; lobi 11 mm. long., superne 1-1.3 mm. lat. Filamenta 1 mm. supra basin corollæ loborum inserta, 5-6 mm. long. Antheræ 2-3 mm. long. Discus 0.5 mm. altus. Bacca 5-6 mm. long.

L. Swynnertonii may be distinguished from the other species of the section *Ischnanthus* by the very densely glandular adnate part of the filaments and the production of the filament beyond the insertion of the tooth.

SANTALACEÆ.

THESIUM GRACILE, *A. W. Hill in Kew Bull.* 1910, 185.

A common herb in the Umswirizwi Flats, 1100 ft.; in fl. Nov.; n. 310.

Distrib. Rhodesia.

THESIUM SCABRIDULUM, A. W. Hill, sp. nov.

Species foliis scabridulis stylo elongato distincta, *T. nigricanti*, Rendle, similis.

Suffrutex 30 cm. altus ; caules inferiores patentes, superiores plusminusve erecti, sulcati, scabriduli. Folia in caulis parte inferiore distantia, 0·9–1·3 cm. longa, in parte superiore numerosa, 0·7–1 cm. longa, lineari-lanceolata, acuta, carinata, scabridula. Inflorescentia racemosa. Flores singuli in axillis bractearum dispositi ; bracteæ foliosæ, pedicellis ex parte adnatæ, circiter 7 mm. longæ ; bracteolæ 2, floribus æquilongæ vel paullo longiores. Perianthium 3·5 mm. longum, glabrum ; segmentis 1·5 mm. longis, anguste ovato-lanceolatis, paullo cucullatis, marginibus sinuoso-undulatis, inflexis. Filamenta 0·5 mm. longa ; antheræ 0·5 mm. longæ. Stylus antheras superans, 1·5 mm. longus. Fructus immaturus ovoideus, reticulationibus inconspicuis.

Hab. Melsetter at 6000 ft. ; in fl. & fr. Sept. ; n. 2124.

A large straggling herb with small yellowish flowers.

OSYRIS ABYSSINICA, *Hochst. in Flora*, xxiv. (1841) *Intell.* 22.

Melsetter 6000 ft., Northern Melsetter at 5000–6000 ft. ; in fl. Sept., in fr. Oct. ; nn. 622, 6102.

Distrib. Tropical Africa.

This shrub is much used in tanning.

EUPHORBIACEÆ.

EUPHORBIA SCHIMPERIANA, *Hochst. ex A. Rich. Tent. Fl. Abyss.* ii. 242.

Outskirts of Chirinda, 3700–4000 ft. ; n. 1531.

Distrib. East tropical Africa : also in Arabia.

E. SCHIMPERIANA, *Hochst.*, var. *BUCHANANI*, *N. E. Br. in Engl. Bot. Jahrb.* xxviii. (1899) 27.

E. Buchanani, Pax.

Chirinda Forest outskirts 3800 ft. ; Inyamadzi Valley 2500 ft. ; in fl. Sept., Oct. ; nn. 238, 1532.

E. CYPARISSOIDES, Pax in *Engl. Bot. Jahrb.* xix. (1895) 123

Northern Melsetter, 5000–6000 ft. ; in fl. & fr. Oct. ; n. 6217.

Distrib. East tropical Africa.

E. CYPARISSOIDES, Pax, var.

Melsetter 6000 ft. ; hills near Haroni River, 5500 ft. ; Inyamadzi Valley, 2500 ft. ; in fl. Sept., Oct. ; nn. 1529, 1533, 6043, 6044.

E. DEPAUPERATA, *Hochst. ex A. Rich. Tent. Fl. Abyss.* ii. 241.

Hills near Haroni River, 5500 ft. ; Mt. Pene, 7000 ft. ; in fl. Sept., Oct. ; nn. 1528, 6041.

Distrib. East tropical Africa.

The specimens agree with those from Mt. Milanji collected by Whyte which serve as the type of my *E. shirensis*: the bracts of this are suborbicular and quite blunt, and so markedly different from those of typical *E. depauperata*, which are acute and mucronulate. [E. G. B.]

EUPHORBIA WHYTEANA, *Bak. fil. in Trans. Linn. Soc. ser. 2, Bot. iv. (1894) 39.*

Chimanimani Mts. at 7000 ft. ; in fl. Sept. ; n. 1526.

Distrib. Nyasaland.

E. MATABELENSIS, *Pax ex Zahlbr. in Ann. Hofmus. Wien, xv. (1900) 50.*

Near Chirinda, 3500 ft. ; South Umtali district, Melsetter Road ; in fl. Oct. ; nn. 691, 6611.

Distrib. East tropical Africa.

Chindao name, "Urimbo." Latex used as birdlime.

SYNADENIUM GAZENSE, *N. E. Brown, sp. nov.*

Folia 12–15 cm. longa, 3·5–5·5 cm. lata, breviter petiolata, longe cuneato-obovata, obtusa, supra pubescentia, subtus glabra. Cymæ 11–14 cm. longæ, 5 cm. diam., umbellatim ramosæ, ramis furcatis pubescentibus. Involucrum 6–8 mm. diam.

Chipetzana River at 3000 ft. ; in fl. April ; no. 1505.

This species very closely resembles *S. Grantii*, Oliver, but is at once distinguished by the short pubescence on the upper surface of the leaves and by the peduncle of the cyme umbellately dividing into 3 or 4 once-forked branches, not repeatedly forked as in *S. Grantii*. Mr. Swynnerton notes that it is a large shrub with milky latex and light green honey disks (involucral glands), and light yellow anthers. All the involucre on the specimen are male. [N. E. Br.]

BRIDELIA ATROVIRIDIS, *Müll. Arg. in Journ. Bot. ii. (1864) 327.*

Chipete forest patch, 3800 ft. ; in fr. April ; n. 535.

Distrib. Angola.

A large tree with straight trunk, smooth bark and dark-hearted wood. Fruits larger than those of type (8 × 7 mm.) and not narrowed above. When flowers come to hand, this may perhaps prove a new species.

B. MICRANTHA, *Baill. Adansonia, iii. (1862–63) 164.*

Lower Umswirizwi River, 1000 ft. ; near Chirinda, 3500 ft. ; in fl. Nov. ; nn. 46, 536.

Distrib. Tropical Africa, Natal.

Chindao name, "Mushungunu." A small to medium-sized tree, 30 (occasionally 40) feet high. Timber white and exceedingly durable: it makes excellent yokes for oxen. Pounded to a fine paste, the bark is smeared by the natives over their doors and baskets to stop cracks.

BRIDELIA CATHARTICA, *Bertol. Ill. Pl. Mozamb.* Diss. iv. 16, t. 6.

Beira beach ; in fl. Dec. ; n. 538.

Distrib. Eastern tropical Africa.

B. NIEDENZUI, *Gehrm. in Engl. Bot. Jahrb.* xli. (1908) *Beibl.* 95, 36.

Umvumvumu River at 2000 ft. ; in fl. & fr. April ; n. 1736.

Distrib. Tropical East Africa.

CLEISTANTHUS APETALUS, *S. Moore*, sp. nov.

Arbuscula ramulis ultimis gracilibus aliquanto anfractuosis pendentibus fulvo-sericeo-pubescentibus, foliis brevipetiolatis oblongo-lanceolatis superne caudato-attenuatis apice obtusis ipso mucronulatis basi obtusis leviterve rotundatis papyraceis deinde tenuiter coriaceis margine sparsim ciliata necnon nervis puberulis exemptis utrobique glabris, stipulis perspicuis linearilanceolatis longe acuminatis fulvo-sericeis diutule persistentibus, floribus masculis in axillis ramulorum brevium fertilium fulvo-sericeorum solitariis binisve, bracteis parvulis subulatis fugaceis, sepalis inter se sæpe inæqualibus oblongis oblanceolatisve obtusiusculis extus dense fulvo-sericeis, petalis 0, disco prominente, antheris ovato-oblongis obtusis quam filamenta suffulcentia longioribus.

Hab. Zona River, Jihu, 2300 ft. ; in fl. Nov. ; n. 150.

Folia solemniter 6-8 cm. long., 1.7-2.5 cm. lat., in sicco subcastanea vel brunneo-viridia ; costæ ordinis secundi utrinque 5-7, valde arcuatæ, a margine satis distantes ; reticulum mediocriter densum, utrinsecus sat prominens ; petioli circa 5 mm. long., fulvo-sericei. Stipulæ 7-9 mm. long. Ramuli fertiles circa 1 cm. long. Bracteæ 1 mm. vix æquantes ; pedicelli circa 2 mm. long. Sepala 4 mm. long., filamenta 1 mm., antheræ vix 2 mm.

Near to *C. angolensis*, Müll. Arg., for which it might almost be taken. This has, however, coarser branchlets devoid of fulvous silky pubescence, more markedly coriaceous leaves, longer flowering branchlets, and somewhat larger male flowers provided with small petals.

Owing to insufficient material, I am unable fully to describe the female flower. The ovary is subglobose, densely covered with tawny hairs and 2 mm. in length.

PHYLLANTHUS (§ Menarda) GRAMINICOLA, *Hutch.*, sp. nov.

Planta herbacea, dioica, glabra, inferne lignescens, superne ramosa, ramulis ascendentibus gracilibus dense foliosis, foliis imbricatis brevipetiolatis oblongo-ellipticis ovatis obtusis sæpe minute mucronulatis basi rotundatis firme membranaceis paginæ inferioris pallidis, stipulis parvulis subulatis integris basi haud productis ascendentibus, floribus masculis solummodo obviis in axillis vulgo 2-4-nis pedunculis quam folia plane brevioribus insidentibus, sepalis 5 late obovatis obtusissimis, glandulis alternisepalis 5 suborbicularibus

perspicuis inter se liberis incrassatis, staminibus 5 filamentis solummodo basi connatis antherarum rimis horizontalibus.

Hab. Near Chirinda, 3800 ft. ; in fl. Feb. ; n. 261.

Folia vulgo circa 7×4 mm., margine plana; petioli 0.5 mm. long. Stipulæ 1 mm. æquans, superne tandem recurvi. Pedicelli 2–3 mm. long. Sepala 1.5×1.2 mm. Glandulæ 0.4 mm. diam. Filamenta 0.5 mm. long., antheræ 0.2 mm.

Remarkably like *P. rotundifolius*, Müll. Arg., but the affinity is with *P. pentandrus*, Müll. Arg. and its allies. It can be distinguished at once from *P. pentandrus* by the dioecism and the shorter, differently shaped, reticulate leaves. [J. H.]

PHYLLANTHUS MADERASPATENSIS, *Linn. Sp. Pl.* 982.

Near Chirinda, 3500 ft. ; Lower Buzi River, 0–400 ft. ; in fl. Feb., Dec. ; nn. 333, 1521.

Distrib. Tropical Africa and Natal, &c. Also from Arabia to East Indies and Tropical Australia.

P. MACRANTHUS, *Pav in Engl. Bot. Jahrb.* xix. (1894) 77.

Madanda forests at about 400 ft. ; in fl. Dec. ; nn. 1756, 1757.

Distrib. Mozambique.

P. MYRTACEUS, *Sond. in Linnæa*, xxiii. (1850) 134.

Mt. Pene, 6500–7000 ft. ; Chimanimani Mts. at 7000 ft. ; in fl. & fr. Sept., Oct. ; nn. 1522, 1523, 6155 a.

Distrib. South Africa.

P. DISCOIDEUS, *Müll. Arg. in Linnæa*, xxxii. (1863) 51.

Madanda forests at about 400 ft. ; in fr. Dec. ; nn. 1504, 1749.

Distrib. Tropical Africa.

PHYLLANTHUS (§ Euphyllanthus) HUTCHINSONIANUS, *S. Moore*, sp. nov.

Frutex parvus, copiose ramosus, ramulis tenuibus frequenter foliosis subteretibus glabris, foliis parvis alternis distichis ovato-oblongis basi apiceque obtusis vel obtusissimis crassiusculis in sicco pagina superiore olivaceis pagina inferiore glaucis petiolis manifestis etsi brevibus fultis, stipulis cito reflexis subulatis acuminatis basi nequaquam productis integris scariosis, floribus monoicis ex axillis ramulorum superioribus solitatim ortis pedicellatis, florum masculorum sepalis 5 obovatis obtusissimis cum totidem glandulis suborbicularibus crassiusculis inter se liberis alternantibus, staminibus 2 filamentis in columnam tenuem alte connatis antheris rimis subobliquis dehiscentibus, florum femineorum sepalis iis masculorum similibus nisi majoribus, horum glandulis in annulum connatis, stylis abbreviatis bipartitis.

Hab. Chimanimani Mountains at 7000 ft. ; in fl. & fr. Sept. ; n. 1524.

Folia solemniter 6–8 mm. long., 3–4 mm. lat., margine aliquantulum

revoluta; petioli tenues, summum 1 mm. long. Stipulæ 1-2 mm. long., rubescentes, ramulorum maxime juvenilium approximatae optime aspectabiles. Pedicelli vulgo 2-3 mm. long. Florum masculorum sepala ægre 2 mm. long., albicantes. Glandulæ 0.25 mm. diam. Columna staminea 1 mm. alt.; antheræ fere 0.5 mm. long. Florum femineorum sepala 4 mm. long., sub fructu adusque 5 mm. aucta. Ovarium 2.5 × 3 mm. Styli ramorum crura 0.5 mm. long. Capsula in coccos 3 siccos bivalves 3 mm. long. dehiscens. Semina triangularia, dorso convexa ubi striata eleganterque insculpta, brunnea, 2.5 mm. long.

Known among allied species by the leaves, the glands of the flowers, the two stamens with the filaments united throughout and the anthers opening subobliquely. This plant seems to have a strong tendency to diœcism, only one of the specimens bearing flowers of both sexes. It is named in compliment to Mr. Hutchinson, of the Kew Herbarium, who has lately been studying the African species of *Phyllanthus* and allied genera, and has kindly helped me in naming those of the present collection.

Mr. Swynnerton notes this as being common in the forest undergrowth.

PSEUDOLACHNOSTYLIS DEKINDTII, *Pax in Engl. Bot. Jahrb.* xxviii. (1899) 20 (ex descript.).

Lower Umswirizwi River, 1000 ft.; in fl. Nov.; n. 151.

Distrib. Angola.

A small tree with spreading crown.

As Mr. Hutchinson pointed out, the specimens agree with Baum 154, named (Kunene-Samb. Exped. 285) *P. maprouneæfolia*, Pax, apparently by an oversight, for that answers much better the description of *P. Dekindtii*, Pax.

P. MAPROUNEÆFOLIA, *Pax in Engl. Bot. Jahrb.* xxviii. (1899) 20.

Umvumvumu River at 4000 ft.; in fr. April; n. 2128.

Distrib. East and South tropical Africa.

FLUEGGEA MICROCARPA, *Blume, Bijdr.* 580.

Umswirizwi River, 1000 ft.; Chibabava, Lower Buzi, 400 ft.; Sabi River at about 1000 ft.; Umtefu River, Lower Buzi, 500 ft.; in fl. & fr. Nov.; nn. 1727, 1728, 1729, 1730, 1911.

Distrib. Tropics of the Old World.

Chindao name, "Umsosoti." Fruits edible.

UAPACA SANSIBARICA, *Pax in Engl. Bot. Jahrb.* xxxiv. (1904) 370.

Open woods near Chirinda, 3800 ft.; in fl. Jan., April; nn. 155, 6513.

Distrib. East tropical Africa.

Chindao name, "Mutongoro."

UAPACA KIRKIANA, *Müll. Arg. in Flora*, xlvii. (1864) 517.

Near Chirinda, 3500 ft. ; in fl. Jan. ; n. 49.

Distrib. Nyasaland, Zambesia.

A smallish tree of the open woods bearing a large 3-seeded edible fruit much relished by natives and all kinds of animals.

ANTIDESMA MEMBRANACEUM, *Müll. Arg. in Linnæa*, xxxiv. (1865-66) 68.

Near Chirinda, 3500 ft. ; Chipetzana River at 3000 ft. ; Mt. Pene forest at 6500 ft. ; in fl. Sept., Dec., in fr. April ; nn. 169, 169 a, 631, 1111, 2011.

Distrib. Tropical West Africa.

Chindao names, "Murunga-munga" and "Mushongo.

Var. MOLLE, *Müll. Arg. l. c.* Chibabava, Lower Buzi, 400 ft. ; in fl. Dec. ; n. 1789. Same Chindao names to this as to the preceding.

HYMENOCARDIA ACIDA, *Tul. in Ann. Sc. Nat. sér. 3, Bot.* xv. (1851) 256.

Chikore Hills, 3500 ft. ; in fl. Nov., in fr. March ; nn. 1214, 1519.

Distrib. Tropical Africa.

CROTON (§ Eluteria) SWYNNERTONII, *S. Moore*, sp. nov.

Arbor dioica ramulis ultimis sat tenuibus sæpius perspicue lenticelliferis, foliis petiolatis nunc late ovatis nunc ovatis nunc ovato-lanceolatis paullo infra apicem angustatis apice ipso obtusis basi late truncatis vel cuneatis margine undulatis integrisve 3-plinerviis pergamaceis utrinque sed præsertim pagina inferiore minutissime microscopice lepidotis, stipulis fugaceis ovatis obtusissimis subscariosis, racemis pedunculatis floribundis glabris masculis elongatis (folia excedentibus) femineis folia circiter æquantibus, utriusvis sexus floribus pro bractea 1 vel 2 pedicellatis, florum masculorum sepalis ovatis obtusis extus superne minute pubescentibus quam petala suborbicularia obtusissima paullulum brevioribus, receptaculo piloso, staminibus 7-8, florum femineorum sepalis brevibus triangularibus acutis pubescentibus, petalis sepala longe excedentibus suborbicularibus obtusissimis, ovario 3-loculari ovoideo fulvo-tomentoso, styli ramis semel dichotomis.

Hab. Chirinda Forest, 3700-4000 ft. ; in fl. Sept.-Dec., in fr. Jan. ; nn. 109, 109 a, 109 b, 109 c, 6519.

Folia pleraque 6-10 × 3.5-7 cm. in sicco viridia vel viridi-brunnea, utrinque subevanide nitidula ; costæ reticulumque pagina utraque prominulæ ; petioli 1-2 cm. long., glandulis carentes. Stipulæ circa 3 mm. long. Racemi masculi usque ad 20 cm. long. ; bractæe ovatæ circa 2 mm., pedicelli 4 mm. long., glabri. Racemi feminei circa 7 cm. long., pedicelli 4-9 mm. long., pubescentes. Florum masculorum sepala 2 mm. ; petala 2.5 mm. long. ; florum femineorum sepala summum 1 mm. long. ; petala 4 × 3.75 mm. Ovarium 2 × 1.5 mm.

cito ad 4×3 mm. auctum. Styli ramorum crura torta, 2 mm. long. Capsula subglobosa, minute velutina, $13-15 \times 11-14$ mm. Semina brunnea, circa 9×8 mm.

Nearest *C. Draconopsis*, Müll. Arg., which has a stellate indumentum, differently shaped leaves, male flowers with 15 stamens and bilocular ovary.

This is a large beech-like tree with a fluted trunk and a durable timber.

CROTON SYLVATICUS, Hochst. in *Flora*, xxviii. (1845) 82.

Chirinda Forest, 3700-4000 ft. ; in fl. Nov. ; n. 4.

Distrib. South Africa. Not hitherto reported as tropical.

Chindao name, "Musuguta." One of the largest forest trees with brittle branches liable to be blown off by the wind. The bark is pounded and thrown into pools to poison fish, also used pulped as a poultice in cases of colic.

CROTON (§ *Eucroton*, *Eutropia*) *MADANDENSIS*, *S. Moore*, sp. nov.

Fruticosus, inferne nudus, ramulis ultimis foliosis primo dense stellato-pubescentibus cite glabris, foliis petiolis quam lamina longe brevioribus apice glandulis 2 parvulis pedicellatis gaudientibus insidentibus ovatis vel oblongo-ovatis acutis breviterve acuminatis basi truncatis vel leviter cordatis 3-5-plinerviis membranaceis utrobique sed præcipue pagina inferiore stellato-puberulis, stipulis linearibus pubescentibus, racemis foliis sæpissime brevioribus pedunculatis discontinuis paucifloris floribus 1-2 infimis femineis reliquis masculis omnibus 5-meris et pedicellatis et extus dense pubescentibus, bracteis oblongis exiguis, florum masculorum sepalis ovato-oblongis obtusis quam petala oblongo-obovata obtusissima paullulum brevioribus, receptaculo piloso, staminibus circa 13, florum femineorum sepalis lanceolatis acutis, petalis 0, ovario subgloboso tomentoso, styli ramis brevibus semel dischtomis.

Hab. Madanda forests at about 400 ft. ; in fl. Dec. ; nn. 1408, 1779.

Folia solemniter 2.5-4 cm. long. (exstant majora fere 6 cm. æquantia necnon minora 2 cm.), 1.8-2.8 (raro 3.5) cm. lat., in sicco utrinque dilute brunneo-viridia ; petioli 5-15 mm. long., dense pubescentes. Stipulæ circa 2 mm. long. Racemi summum 3.5 cm. long., sæpius vero breviores ; pedunculus 5-15 mm. long., ut rhachis florifera pubescens. Pedicelli florum masculorum circa 2 mm., florum femineorum circa 4 mm. long. Bracteæ circa 1 mm. long. Florum masculorum sepala 1.8 mm., petala 2 mm., filamenta 1.75 mm. long., puberula, antheræ 0.6 mm. long. Florum femineorum sepala sub flore 2 mm. sub fructu maxime crudo 3 mm. long. Ovarium 2×1.75 mm. Styli ramuli circa 1.5 mm. long.

Near *C. rivularis*, Müll. Arg., and *C. angolensis*, Müll. Arg. From the former it can be distinguished by the stipitate petiolar glands and the smaller female flowers with narrow calyx-lobes ; the latter, of which the female flowers are unknown, besides probably being diœcious, has larger leaves more markedly cordate at the base and larger male flowers.

CROTON (§ Eucroton, Eutropia) GUBOUGA, *S. Moore*, sp. nov.

Arbuscula monoica, ramulis pilis stellatis pubescentibus cito glabris, foliis ovatis vel ovato-oblongis acuminatis basi truncato-rotundatis 3-5-plinerviis margine serrato-crenatis tenuiter membranaceis supra mature glabris subtus intricate griseo-stellato-pubescentibus petiolis quam lamina plane brevioribus gracilibus pubescentibus mox glabrescentibus apice glandulis 2 pedicellatis præditis, stipulis linearibus subscariosis, racemis bisexualibus floribundis floribus 5-meris continuis inferioribus femineis masculis intermixtis superioribus masculis omnibus pedicellatis, florum masculorum sepalis late ovatis obtusis margine ciliatis, petalis late oblongis obtusis sepala paullo excedentibus, staminibus 16-20, receptaculo villosulo, florum femineorum sepalis obovatis obtusissimis margine ciliolatis leviter crassiusculis, petalis 0, ovario subgloboso dense tomentoso, stylis bis dichotomis, capsula late obovoidea 2-loculari pilis stellatis perspicuis plus minus sparsim obsita.

Hab. Lower Umswirizwi River and Sabi River at 1000 ft.; Chibabava, Lower Buzi, at 400 ft.; in fl. Nov.; nn. 153, 1123, 1125.

Folia 5-7 cm. long., 3-4 cm. lat., supra in sicco viridia subtus grisea; costæ utrinque prominulæ; petioli vulgo 1.5-2.5 cm. long. Stipulæ circa 3 mm. long. Racemi summum 6 cm. long., dense pubescentes. Bracteæ parvulæ, subulatæ circa 2 mm. long., ut pedicelli 2-5 mm. long. pubescentes. Florum masculorum sepala 3.5 mm., petala 4 mm., filamenta 2.5 mm., antheræ vix 1 mm. long. Florum femineorum sepala 5 mm. long.; horum glandulæ fere 1 mm. long. Ovarium 4 × 3.5 mm.; styli ramuli ultimi circa 3 mm. long. Capsula summum 2.4 × 2.5 cm., saltem in sicco compressa. Semina fusca, 12 mm. long.

This looks very like *C. megalobotrys*, Müll. Arg., a dioecious species, of which the female flowers are unknown, with larger male flowers and longer filaments to the stamens. Its affinity is nearest with *C. adenophorus*, Müll. Arg.; from Madagascar. It is a small tree of the river banks and open woods; the timber rots rapidly and is useful for firewood. The bark is scraped and the scrapings are thrown into the water to kill fish. Chindao names, "Gubouga" and "Mubouguta."

JATROPHA (§ Tuberosæ) CAMPESTRIS, *S. Moore*, sp. nov.

Herbacea, fere omnino glabra, caule crebro folioso simplici sparsim minute argyreo-purpureo leviter vernicoso deinde glabro, foliis breviter petiolatis ambitu late obovatis 5-7-palmato-pinnatifidis segmentis oblongis obtusis margine repandis distanterve denticulatis raro brevissime lobulatis crassiusculis nervis faciei inferiore minute furfuraceis exclusis glabris subtus aliquantulum glaucis, stipulis subulatis vel bifidis circa 1 mm. long. diutule persistentibus, cymis quam folia brevioribus subcongestis multifloris, florum masculorum sepalis ovatis obtusis integris glabris, petalis angustissime obovato-oblongis obtusissimis sepala duplo excedentibus, staminibus 8 filamentis inter se liberis, florum femineorum sepalis iis masculorum similibus, ovario glabro, stylis 3.

Hab. A fair-sized herb not uncommon in the Umswirizwi flats, 1000 ft. ; in fl. & fr. Nov. ; n. 311.

Folia pleraque 6–8 cm. long., horum segmentum terminale cetera sæpius excedens, segmenta proximalia reducta, segmenta solemniter 4–6.5 × 1–1.3 cm., proximalia dum adsint adusque 3–10 mm. imminuta ; petioli crassiusculi, summum 5 mm. long. Cymæ circa 4 × 2.5 cm. Disci glandulæ inter se liberæ, late oblongæ, 1 mm. long. Sepala 3 mm. long. Petala florum masculorum 6 mm., florum femineorum 7 mm. long. Filamenta 3 mm., antheræ 1.2 mm. long. Ovarium subglobosum, 2 mm. long. Capsulæ valvæ 13 mm. long., rugulosæ, brunneæ. Semina caruncula haud exempta 9 mm. long., nigra, dorso linea latissima longitudinali puniceo-badia utrinque notata, caruncula inciso-lobata, fusca.

The affinity is with *J. natalensis*, Müll. Arg., which has a pubescent stem, entire or trifid leaves, and monadelphous stamens.

CLUYTIA SWYNNERTONII, *S. Moore*, sp. nov.

Frutex dioicus, frequenter ramosus, ramulis teretibus crispe pubescentibus dein puberulis, foliis petiolatis anguste ovato- vel obovato-oblongis obtusis glandulis pellucidis copiose instructis membranaceis margine planis primo pubescentibus cito utraque facie præsertim vero subtus puberulis in sicco olivaceis vel griseo-viridibus, floribus masculis in axillis superioribus 3–7-nis breviter pedunculatis, horum sepalis obovato-oblongis obtusis extus pubescentibus crista parva instructis, petalis quam sepala paullo brevioribus spathulatis obtusis basi 3–4-glandulosis, floribus femineis solitariis breviter pedunculatis, horum sepalis petalisque inter se fere æquilongis lineari-spathulatis obtusis vel obtusiusculis extus pubescentibus illis glandulis 3 præditis hic eglandulosis, ovario dense griseo-pubescente, stylorum inferne pubescentium ramis bipartitis.

Hab. Chipete and outskirts of Chirinda, 3700–4000 ft. ; in fl. May, June, Oct. ; nn. 197, 530 *a*, 530 *b*, 530 *c*.

Folia nunc minora, sc. 2–3.5 × 1–1.3 cm., nunc majora 7 × 3 cm. attingentia, omnia pagina inferiore aliquanto glauca ; petioli pubescentes, 3–10 mm. long. Flores dilute virides. Florum masculorum pedicelli circa 1 mm. long., pubescentes ; horum sepala 2 mm. et petala 1.8 mm. long. Columna staminea 1.5 mm. long., antheræ 0.6 mm. Florum femineorum pedunculi pubescentes, 1.5–4 mm. long. Sepala 3 mm., petala 2.75 mm. long. Ovarium ovoideum, 4.5–5.5 mm., styli rami 1 mm. long., horum crura fere totidem.

Nearest *C. Richardiana*, Müll. Arg., and *C. Jubertiana*, Müll. Arg. ; differing from both in shape of leaf and in the sepals and petals.

CLUYTIA MONTICOLA, *S. Moore*, sp. nov.

Suffrutex caule simplici erecto crebro folioso puberulo dein glabro, foliis subsessilibus ovatis vel suborbicularibus obtusis obtusissimisve basi rotundatis

neon levissime cordatis margine cartilagineo breviter recurvo exempto planis subtus albo-punctatis membranaceis glabris, floribus masculis in axillis superioribus vel fere omnibus 1-3 pedunculis gracillimis quam flores multo longioribus suffultis, sepalis ovatis obtusis basi glandulis 5 onustis sparsim albo-punctatis, petalis quam sepala paullulum brevioribus obovato-spathulatis basi 3-glandulosis, floribus femineis ignotis.

Hab. Mt. Pene, 6500-7000 ft. ; in fl. Sept., Oct. ; nn. 2012, 6159.

Planta paullo ultraspithamea. Caulis 1.5-2 mm. diam. Folia 1.2-2.5 × 1-1.5 cm., in sicco virentia, subtus sæpius pallidiora vel etiam subglauca, horum costæ difficile aspectabiles ; petioli summum 1.5 mm. long. Pedunculi vulgo 1-1.5 cm. long. Flores albi. Sepala 2.5 × 1.75 mm. Petala 2.25 mm. long. Columna staminea 1.75 mm. long., antheræ .75 mm. Fem. rudimentum 0.5 mm. ex columna staminea eminens.

At first sight much like *C. cordata*, Bernh., which, among other points, has coriaceous leaves with strong venation.

CLUYTIA STELLEROIDES, *S. Moore*, sp. nov.

Suffrutex caule simplici erecto crebro folioso puberulo dein glabro, foliis anguste obovato-oblongis obtusis basin versus in petiolum brevem angustatis margine cartilagineo leviter recurvis subtus albo-pustulatis firme membranaceis glabris, floribus masculis 2-3-nis sat longe graciliterque pedicellatis, sepalis ovato-oblongis obtusis basi crista 8-glandulosa onustis, petalis quam sepala plane brevioribus rhombeo-ovatis obtusissimis unguiculatis basi 3-glandulosis, floribus femineis haud obviis.

Hab. Northern Melssetter, 5000-6000 ft. ; in fl. Oct. ; n. 6214.

Caulis ægre 2 mm. diam. Folia 1.5-2 cm. long., 6-8 mm. lat., in sicco virentia, costis sub lente parum aspectabilibus ; petioli 2-3 mm. long. Pedicelli ± 8 mm. long. Florum masculorum sepala albo-pustulata, 2.25 mm. long., petala 1.75 mm. Columna staminea 1.5 mm. long., antheræ 0.5 mm. Feminum rudimentum 0.6 mm. ex columna eminens.

Differs from the preceding in the shape of the leaves and the rhombeo-ovate petals.

CLUYTIA PHYLLANTHOIDES, *S. Moore*, sp. nov.

Fruticulus dioicus, ramosus, copiose foliosus, ramulis sparsim puberulis deinde glabris, foliis breviter petiolatis oblongo-obovatis obtusissimis basi obtusis vel subrotundatis tenuiter coriaceis glabris supra viridibus subtus pallidis, floribus masculis in fasciculis axillaribus paucifloris dispositis, sepalis obovato-oblongis obtusissimis crista 2-glandulosa instructis, petalis quam sepala paullulum brevioribus rhombeo-spathulatis unguiculatis basi 2-glandulosis, floribus femineis verisimiliter solitariis, sepalis oblongis obtusis basi 2-glandulosis quam petala oblongo-spathulata obtusissima eglandulosa longioribus.

Hab. Melssetter, 6000 ft. ; in fl. Sept. ; n. 1722.

Folia epunctata, 1–2 cm. long., 7–14 mm. lat.; petioli 1–2 mm. long., puberuli. Bracteæ parvulæ, puberulæ. Florum masculorum pedicelli circa 1.5 mm. long.; sepala 2.25 mm., petala 2 mm. long., columna staminea 1.5 mm. long., antheræ ovatæ 0.5 mm. long. Florum femineorum sepala (sub fructu) 2.5 mm., petala 2 mm. long. Capsula 4 mm. long.

This is probably near *C. Pavii*, Knauf., of which I have seen no specimen. It is described as having larger leaves, male flowers with obovate sepals provided with a 3-lobed crest and eglandular petals; the female flowers are unknown.

CEPHALOCROTON MOLLIS, *Klotzsch in Peters Mossamb. Bot.* 99, t. 17.

Lower Umswirizwi River, 1000 ft.; in fl. Nov.; n. 309.

Distrib. Zambesia.

ACALYPHA ORNATA, *Hochst. ex A. Rich. Tent. Fl. Abyss.* ii. 247.

Lower Umswirizwi River, 1000 ft.; Boka, Lower Buzi, 100 ft.; Kurumadzi River, Jihu, 2000 ft.; in fl. Nov., Dec.; nn. 796, 797, 798.

Distrib. Tropical Africa except the Upper Guinea Province.

A. VILLICAULIS, *Hochst. l. c.* 248.

Near Chirinda, 3500–4000 ft.; Upper Buzi River, 3000 ft.; in fl. April, May, Dec.; nn. 382, 383, 503, 1153.

Distrib. Eastern tropical Africa, also in Natal and Transvaal.

Grows as a weed in cultivated ground. Chindao name, "Chitambhuru."

ACALYPHA (§ Euacalypha, Pleurostachya) CHRINDICA, *S. Moore*, sp. nov.

Herbacea, monoica, caule ascendente folioso gracili pubescente, foliis palmatim 5-nervibus ovato-lanceolatis sursum angustatis basi obtusis angustave rotundatis margine crenato-serratis membranaceis supra pilis strigillosis appressis onustis subtus sparsim piloso-pubescentibus petiolis multo brevioribus insidentibus, spicis masculis axillaribus densifloris foliis brevioribus flore femineo orbis, spica feminea terminali unica cylindrica multiflora, hujus bracteis approximatis 1-floris suborbicularibus ad medium in laciniis 10–12 lineari-lanceolatas acutas divisas hirsutulis, florum femineorum sepalis 3 ovatis quam ovarium albo-hirsutum brevioribus, stylis fere a basi vel saltem dimidio superiore longe lacinuligeris.

Hab. Near Chirinda, 3800 ft.; in fl. Dec.; n. 381.

Folia 3–6 × 1.3–2.7 cm., pagina superiore in sicco brunnescentia, inferiore griseola; petioli ± 1 cm. long., pubescentes; stipulæ anguste lineari-lanceolatae, acuminatae, 3–4 mm. long. Spicæ masculæ pedunculo tenui pubescente exempto circa 2.5 × 2 mm. Flores masculi hispiduli. Spica feminea 15 × 6 mm. addito pedunculo pubescente 6 mm. long. Bracteæ femineæ 2.5 × 4 mm. Sepala 0.4 mm. long. Ovarium subglobosum, 1 mm. long. Styli purpurascetes, fere 5 mm. long., horum lacinulæ ± 2 mm. long.

Near *A. villicaulis*, *A. Rich.*, *A. zambesica*, Müll. Arg., and *A. senensis*,

Klotzsch, differing among other features of less importance in the 10-12-lacinate female bracts with linear-lanceolate laciniaë which show little disparity of size among themselves.

A. chirindica is common in cultivated ground.

ACALYPHA PEDUNCULARIS, *Meissn. ex Krauss in Flora*, xxviii. (1845) 82.

Melsetter, 6000 ft. ; Upper Buzi River, 3000 ft. ; Northern Melsetter, 5000-6000 ft. ; in fl. Sept., Oct., Dec. ; nn. 739, 2015, 6040, 6227 a.

Distrib. South Africa northward to Nyasaland.

A. PUBIFLORA, *Baill. Adansonia*, i. (1860-61) 268.

Boka, Lower Buzi, 100 ft. ; in fl. Dec. ; nn. 736, 737.

Distrib. Zambesia. Also in Madagascar.

A. INDICA, *Linn. Sp. Pl.* 1003.

Zinyumbo Hills, 1500 ft. ; Boka, Lower Buzi, 100 ft. ; Northern Melsetter, 2000-6000 ft. ; in fl. Jan., April, Dec. ; nn. 735, 738, 2014.

Distrib. Tropical and South Africa, Mascarene Islands, East Indies.

A. CILIATA, *Forsk. Fl. Ægypt.-Arab.* 162.

Outskirts of Chirinda, 3700-4000 ft. ; in fl. June ; n. 734.

Distrib. Tropical Africa, Arabia, India.

ACALYPHA (§ *Euacalypha*, *Pleurostachya*) SWYNNERTONII, *S. Moore*, sp. nov.

Suffrutex monoicus, ramosus, caule valido dein glabro necnon cortice griseo-purpureo circumdato, ramulis foliosis griseo-pubescentibus, foliis sat longe petiolatis 5-nerviis ovatis vel ovato-lanceolatis apice caudato-acuminatis basi obtusissimis margine serratis membranaceis supra pilis strigillosis appressis sparsim præditis subtus in nervis hirsutulis, spicis masculis floribus femineis orbis axillaribus breviter pedunculatis densifloris tenuibus, spica feminea unica terminali cylindrica quam masculæ paullo latiore apice flores paucos masculos gerente, bracteis femineis approximatis unifloris parvulis suborbicularibus ore circa 20-dentatis dentibus parvis inter se æqualibus addito lobo intermedio anguste lineari quam bractea ipsa parum brevior, sepalis 3 ovato-lanceolatis ovarium albo-hirsutum excedentibus, stylis a basi laciniigeris.

Hab. Chibabava, Lower Buzi, 400 ft. ; in fl. Dec. ; n. 799.

Folia vulgo 4-5.5 × 1.5-2.2 cm., pagina superiore in sicco olivacea, inferiore grisea ; petioli ± 2 cm. long., tenues, pubescentes. Stipulæ setacæ, circa 2 mm. long. Spicæ masculæ (incluso pedunculo pubescente 2 mm. æquante) 2-4 cm. long., 2 mm. lat. Spica feminea 4 cm. long., 3 mm. lat. ; hujus bractææ 2.75 × 2 mm. (lamina 1.5 mm., lobus intermedius 1.25 mm.). Sepala 1 mm. long. Ovarium 0.6 mm. long. Styli circa 5 mm. long., lacinulæ 3-4.5 mm.

The affinity of this seems to be with *A. Lindheimeri*, Müll. Arg., from Texas, but there are too many points of difference to render their mention necessary.

NEOBOUTONIA MELLERI, *Prain, MSS.*, comb. nov.

Mallotus Melleri, Müll. Arg. in *Flora*, xlvii. (1864) 468.

Mount Maruma, 3500 ft. ; Kurumadzi River, Jihu, 2000 ft. ; in fl. (♂) Sept., Nov. ; nn. 686, 1124.

Distrib. Zambesia.

A large tree with bright or pale yellow flowers. Timber rather soft and wet. Yields a latex apparently containing rubber.

ARGOMUELLERA MACROPHYLLA, *Pav, in Engl. Bot. Jahrb.* xix. (1894) 90.

Chirinda Forest, 3700–4000 ft. ; in fl. May, Oct., Nov. ; nn. 114, 114 a, 114 b. An evergreen shrub very common in the forest.

MACARANGA MELLIFERA, *Prain*, sp. nov.

Arbor majuscula, ramis patentibus in comam latiusculam expansis, ramulis primum parce puberulis mox glabrescentibus robustis. *Folia* petiolata, ovata vel oblonga, acute acuminata, basi late abrupte cuneata vel rotundata, margine integra, 10–12 cm. longa, 6–7 cm. lata, primum membranacea, matura subcoriacea, basi distincte 3-nervia, nervo mediano utrinque, nervis lateralibus marginem versus nervos secundarios 5–6 emittentibus, supra glaberrima subtuose glanduloso-punctata sed nisi secus nervi mediani dimidium basale nervorumque basaliū lateralium trientes basales pilis longiusculis subpatentibus densius obsita glabra ; petiolus 4–5 cm. longus ; stipulæ late lanceolatae, puberulae, deciduae. *Flores masculi* in paniculas axillares versus ramulorum apices dispositi ; rhachis 4–5 cm. longa cum ramulis 1 cm. longis puberula ; bracteae parvulae, ovatae, acutae, integrae, glomerulos subtendentes. *Calyx* membranaceus, clausus, in alabastro globosus, per anthesin valvatum 3–4-fidus. *Stamina* 15 filamentis in receptaculo angusto elongato insertis ideoque columnam centram simulantibus ; antherae terminales oculis apice dehiscens, anthera aperta hinc cruciatim 4-valvata. *Discus* 0. *Ovarii rudimentum* 0. *Flores feminei* in racemos axillares 2–3 cm. longos dispositi ; bracteae ovatae, acutae, integrae, parvulae, pedicellos singulos vel glomeratos 2 mm. longos subtendentes. *Calyx* fere membranaceus, per anthesin subtruncatus. *Discus* 0. *Ovarium* abortu 1-loculare, apice styli ramo singulo patente-erecto crassiusculo coronatum, lateribus styli ramis duobus rudimentariis munitum, dense lepidotum. *Fructus* ignotus.

Hab. Chirinda outskirts, 3700–4000 ft. ; in fl. Oct. ; nn. 5, 2120. Mt. Pene, 7000 ft. ; in fl. Oct. ; n. 6039 and most probably n. 1122 in bud only.

Noted as a fairly large tree, comparatively low and wide branching, with honey-scented flowers which are very attractive to Hymenoptera. The species also occurs in Nyasaland, where it was collected by Mr. J. Buchanan in 1901 (*Buchanan*, 1483). [D. PRAIN.]

GELONIUM PROCERUM, *Prain, Kew Bull.* 1911, *ined.*

Arbor dioica, glabra, ramulis ultimis teretibus crebro foliosis, foliis alternis

oblongo-ob lanceolatis vel ellipticis sub apice sæpe attenuatis obtusis basi in petiolum brevem gradatim extenuatis margine integris raro undulato-dentatis tenuiter coriaceis utrinque nitidulis inter maculas reticuli satis prominentis pustulatis nonnunquam vero planis in sicco viridibus, stipulis parvulis ovatis acutis, florum masculorum fasciculis sessilibus paucifloris floribus femineis solitariis pedicellatis, florum masculorum sepalis 6 ovatis obtusissimis, staminibus 20-22, florum femineorum sepalis 6 ovato-oblongis oblongisve obtusis, staminodiis circa 10 filiformibus, ovario trigono-subgloboso 2-3-loculo, stylis 2-3 subintegris vel bifidis.

Hab. Chirinda Forest, 3700-4000 ft.; Chimanimani Mountains at 7000 ft.; in fl. Oct.; nn. 104, 1115.

Folia pleraque 8-10 cm. long., 3-4 cm. lat., exstant minora sc. 5×2 cm., necnon majora raro 12×5.5 cm. attingentia. Stipulæ circa 1.5 mm. long. Et foliorum et florum gemmæ resinosæ. Florum masculorum sepala 3 mm. long. Filamenta 1 mm., antheræ fere 2 mm. long. Florum femineorum pedicelli crassi, 3 mm. long. Sepala exteriora 3×2.25 mm., interiora 3×1.25 mm. Staminodia fere 1 mm. long. Ovarium 2×2 mm. Capsula globosa, obscure verruculata, circa 7 mm. long.

A middle-sized tree with yellow flowers.

Specimens at Kew apparently similar to Mr. Swynnerton's are named "*G. Zanzibarense*, Müll. Arg.," a species the type of which I have not seen. Mr. Swynnerton's specimens cannot be referred to that species as it is monœcious and its male flowers have only 6-12 stamens. The nearest affinity seems to be with *G. Boivinianum*, Müll. Arg., from Madagascar, of which the flowers are unknown.

The hexamery of both male and female perianth is worth mention. I am not sure whether all the male flowers have staminodes; some of those examined certainly had not, though the staminodes might have got detached or been eaten by insects.

TRAGIA (*Tagira*) AMBIGUA, *S. Moore*, sp. nov.

T. caule volubili sparsim pubescente ramulos frequenter foliosos subdistantes emittente, foliis sat longipetiolatis ovatis vel ovato-oblongis acuminatis basi cordatis margine crebro dentato-serratis 5-nerviis utrinsecus pilis innocuis puberulis sparsimve pubescentibus, racemis pedunculatis paucifloris flore infimo femineo reliquis masculis, flore femineo bractea comparate magna suborbiculari grosse dentata, florum masculorum pedicellatorum bracteis linearilanceolatis acutis extus sparsim pubescentibus, floris masculi calyce 3-partito segmentis late ovatis obtusis, staminibus 2-3 antheris introrsis, floris feminei calycis dense hispidi laciniis 6 utrinque 8-10-lacinulatis sub fructu ampliatis rhachi lanceolata lacinulis linearibus integris, ovario 3-mero hispido, stylis validis inferne connatis.

Hab. Chirinda Forest, 3700-4000 ft.; in fl. June; n. 795.

Folia summum 6×4 cm., modice equidem $\pm 4 \times 2$ cm., supra in sicco fusca

subtus viridi-grisea; petioli 5-20 mm. long., sparsim pubescentes. Stipulæ lineari-lanceolatae, circa 4 mm. long., extus pubescentes intus glabrae necnon subcastaneæ. Racemi (incluso pedunculo) 1.5-3 cm. long. Floris feminei bractea viridis, 3 × 4.5 mm.; florum masculorum bracteæ 2 mm. long., pedicelli circiter totidem. Horum sepala 1.25 mm. long. Antherarum loculi 0.3 mm. long. Floris feminei calycis segmenta sub flore 2 mm. long. (sub fructu vix 1 cm. long.), 1.2 mm. lat.; lacinulæ 0.4 mm. long. Ovarium cum stylorum basi indivisa 1.3 mm. long.; stylorum pars libera extus pubescens, 1.25 mm. long.; stigmata recurva.

Var. *URTICANS*, *S. Moore*, var. nov. Primo obtuto a typo discernenda propter caulem foliaque majora longius petiolata pilis urticantibus obsita. Folia 7.5-10 cm. longa, 3.5-6 cm. lata; petioli crassiusculi, 2.5-8 cm. longi.

Hab. ut supra; in fl. May; n. 446.

This differs from its nearest allies *T. mitis*, Hochst., and *T. natalensis*, Sond., chiefly in the bracts, those subtending the female flowers of *T. ambigua* being large like all the bracts of *T. natalensis*, while its male bracts are narrow like those subtending all the flowers of *T. mitis*.

TRAGIA (*Tagira*) *MADANDENSIS*, *S. Moore*, sp. nov.

T. caule volubili pube brevi subsparsa pilis paucis hispidis intermixta obtecto, foliis longipetiolatis ambitu late ovatis 3-lobis basi truncatis 5-nervibus margine crenato-serratis utrinque præsertim ad nervos hispidis hispidulo-puberulisve, stipulis rhombeo-lanceolatis satis perspicuis, racemis pedunculatis paucifloris floribus 2 infimis femineis ceteris masculis, pedunculis hispidis, utriusque secus florum bracteis parvis ovatis florum femineorum 2-3-partitis vel 2-3-fidis masculorum integris acuminatis omnibus minute hispidulis, floribus masculis breviter pedicellatis horum calyce 3-partito segmentis late ovatis obtusis, staminibus 3 inter se liberis, antheris introrsis, florum femineorum calycis hispidi laciniis 6 utrinque 2-3-lacinulatis rhachi oblonga lacinulis sæpius anguste lineari-lanceolatis integris vel basi latere uno vel utrovis lobulum ferentibus, ovario 3-mero sursum hispido, stylis in columnam ovario æqui-longam inferne coalitis.

Hab. Madanda forests at about 400 ft.; in fl. Dec.; n. 794.

Folia adulta 5 cm. long., juxta basin totidem lat., subtus in sicco pallidiora. Stipulæ circa 5 mm. long. Racemi (pedunculo incluso) summum 2 cm long. Florum femineorum bracteæ circa 3-3.5 × 2-2.5 mm.; florum masculorum bractea 2.5 × 1.5 mm. Florum masculorum sepala 1 mm. long.; antheræ 0.3 mm. long. Floris feminei calycis laciniæ sub flore 3 mm. long., cito usque ad 5 mm., augmentatæ, hujus rhachis primo 0.3 mm. cito 1 mm. lat.; lacinulæ 1 mm. long., cito summum 2-2.5 × 0.5-0.75 mm. Ovarium mox 2.5 mm. long., styli rami 2 mm.

Easily to be distinguished from *T. cordifolia*, Benth., and its allies by the leaves and bracts of the female flowers with comparatively broad (not narrowly linear) lacinulæ and a broad rhachis.

MAPROUNEA AFRICANA, Müll. Arg. in DC. Prod. xv. II. 1191.

Open woods at Beira ; in fr. Dec. ; nn. 1503, 1734.

Distrib. Tropical West Africa.

SAPIUM MANNIANUM, Hiern in Cat. Welw. Pl. i. 986.

Chipete Forest Patch, 3800 ft. ; Mt. Maruma, 3500 ft. ; near Chirinda, 3800 ft. ; in fl. March, April, June, Sept. ; nn. 103, 741, 742.

Distrib. Tropical Africa.

EXCÆCARIA SYLVESTRIS, S. Moore, sp. nov.

Frutex elatus, monoicus, glaber, foliis plerisque oppositis (paucis suboppositis) lanceolatis vel lanceolato-ovatis rarius ovato- vel obovato-oblongis sub apice sæpe attenuatis apice ipso obtusis raro obtusissimis in petiolum brevem eglandulosum gradatim extenuatis integris tenuiter coriaceis glandulis destitutis, stipulis late ovatis acuminatis margine ciliatis, spicis terminalibus axillaribusve foliis brevioribus floribus 1 vel 2 infimis femineis, bracteis subreniformibus obtusissimis ciliolatis basi utrinque glandula instructis quam bracteolæ subulatæ acuminatæ brevioribus, florum masculorum pro bractea unicolorum sepalis 3 inter se liberis lanceolatis acutis, staminibus 3, filamentis liberis, florum femineorum sepalis ovatis acutis obtusisve intus eglandulosis margine ciliatis, ovario ovoideo sepalis æquilongis glabro.

Hab. Chirinda Forest, 3700–4000 ft. ; in fl. Oct., Jan. ; n. 72, 72a.

Folia summum 14 × 5 cm., pleraque 7–12 × 2.5–4 cm., in sicco plus minus viridia, pagina superiore sæpe olivacea, inferiore pallidiora, statu juvenili intense rubra, nitida, costulæ numerosæ angulo recto vel fere recto costæ centrali insertæ, ut reticulum satis laxum utrinsecus prominulæ ; petioli crassiusculi, canaliculati, ± 5 mm. long. Stipulæ circa 3.5 mm. long. Spicæ profecto evolutæ (incluso pedunculo circa 7 mm. long.) usque ad 3 cm. long. Bracteæ 1 × 1.5 mm. ; bracteolæ 1.5 mm. long. Florum masculorum sepala 0.75 mm. long. Filamenta crassiuscula, 0.65 mm. long. ; antheræ reniformes, loculi 0.5 mm. long. Florum femineorum sepala 1.5 mm. long. Ovarium 1.5 × 1.75 mm., styli 3, arcte involuti. Capsula trigono-subglobosa, matura fere 1 cm. diam. Semina 4 mm. diam.

Known by the large opposite eglandular leaves, the very obtuse bracts and the subulate bracteoles.

A large handsome evergreen shrub 15–20 feet high. It yields a milky latex apparently containing rubber, which flows fairly freely from the twigs, but is scanty in old stems.

URTICACEÆ.

CELTIS DIOICA, S. Moore, sp. nov.

Arbor excelsa, dioica, novellis pubescentibus, foliis adhuc valde juvenilibus petiolatis ovato-lanceolatis acuminatis basi acutis integris trinerviis membranaceis glabris, stipulis lanceolatis acutis vel acuminatis subscariosis dorso puberulis margine ciliatis, floribus utriusque sexus præcocibus masculis in paniculis brevibus plurifloris digestis femineis ex axillis ramulorum adhuc

perbrevium 2-3 (raro solitatum) oriundis, florum masculorum sepalis 5 basi leviter sagittatis, disco piloso, florum femineorum sepalis masculis similibus, ovario calycem plane excedente oblongo-ovoideo glabro, styli ramis indivisis perspicue stigmatosis.

Hab. Chirinda Forest, 3700-4000 ft. ; in fl. Oct. ; n. 108.

Folia cruda summum 35 × 8 mm. ; costæ ordinis secundi utrinque 2-4 ; petioli 4-5 mm. long. Stipulæ circa 4 mm. long. Paniculæ masculæ summum 1 cm. long. ; pedicelli ± 2 mm. long. Sepala circa 1.5 mm. long., erecta. Filamenta 2 mm., antheræ 1.5 mm. long. Ovarium vix 2 mm. cito 3 mm. long., in sicco fuscum ; styli rami 2 mm. long., sursum gradatim attenuati. Drupa ovoidea, flava, 6 mm. long.

One of the largest forest trees with somewhat rough bark and whitish timber with a most offensive smell, bored to a certain extent by *Bostrychidæ*. The small yellow berries form the staple food of the forest birds.

Besides the specimens showing flowers and in some cases young leaves, there is a small one in the collection of fruits with apparently adult leaves very little larger than those described above : perhaps these small leaves are characteristic of the species, which can be known by the diœcism and the paniculate male inflorescences.

TREMA GUINEENSIS, *Priemer in Engl. Bot. Jahrb.* xvii. (1893) 426.

Near Chirinda, 3800 ft. ; Kurumadzi River, Jihu ; Mt. Maruma, 3500 ft. ; open woods at Beira ; in fl. April, Sept., Nov., Dec. ; nn. 129, 1103, 1104, 1106, 1388.

Distrib. Tropical and South Africa ; Mascarene Islands.

FICUS EXASPERATA, *Vahl, Enum.* ii. 97.

Kurumadzi River, Jihu, 2000 ft. ; Chikambogé Valley, 3000 ft. ; Chirinda Forest, 3700-4000 ft. ; fl. & fr. Aug.-Oct. ; nn. 437, 437 *a*, 437 *b*, 601.

Distrib. Tropical Africa.

A large tree : the leaves are used by the natives as sand-paper. Singuni name, "Umfubu" ; Chindao, "Mufubu."

N. 437 *c* from Chikambogé Valley should most probably be referred here. The specimen, without flowers or fruit, has larger leaves than ordinary, somewhat thinner in texture and drying greener. It has counterparts in Herb. Kew in two specimens collected by Dr. Kirk at Zanzibar, where, as the note informs us, the leaves are used for polishing sticks.

F. CAPREÆFOLIA, *Del. in Ann. Sci. Nat.* sér. 2, *Bot.* xx. (1843) 94.

Madanda forests at about 400 ft. ; Chibabava, Lower Buzi, 400 ft. ; Sabi River at about 1000 ft. ; in fr. Nov., Dec. ; nn. 1004, 1100, 1101.

Distrib. Tropical East Africa.

Leaves used as sand-paper for polishing assegai-handles. Chindao name, "Umbharanta."

FIGUS CAPENSIS, *Thunb. Ficus Diss.* 13.

Chirinda Forest, 3700–4000 ft. ; in early fr. June ; n. 434.

Distrib. Tropical and South Africa.

A large tree with edible figs and milky latex. Chindao name, "Muckowana."

F. SUBCALCARATA, *Warb. & Schweinf. in Engl. Bot. Jahrb.* xx. (1892) 155.

Chikambogé Valley, 3000 fr. ; in fr. Sept. ; n. 435.

Distrib. Tropical East Africa.

A very large tree with shady spreading crown and milky latex coagulating into a substance like papier-maché. Chindao name, "Mutowe-towe."

Other specimens belonging to this genus are reserved for further examination.

BOSQUIEA PHOBEROS, *Baill. Adansonia*, viii. (1867) 72.

Maruma forest patch, 3700 ft. ; in fl. Sept. ; n. 687.

Distrib. Tropical East Africa.

A large tree up to 80 feet, yielding fairly freely an ochreous-yellow latex.

MYRIANTHUS ARBOREUS, *Beauv. Fl. Owar.* i. 16.

Chirinda Forest, 3700–4000 ft. ; Mt. Pene Forest, 6500–7000 ft. ; in fl. Sept., Oct., Dec. ; nn. 111, 111 a, 1052.

Distrib. Tropical Africa.

A very large tree in Chirinda, but stunted on Mt. Pene.

FLEURYA CAPENSIS, *Wedd. in Ann. Sci. Nat. sér. 4, Bot.* i. (1854) 183.

Chirinda Forest, 3700–4000 ft. ; commonest in damp soil along the upper Zona ; in fl. April, in fr. May ; nn. 338, 793.

Distrib. South Africa.

URERA OBOVATA, *Benth. in Hook. Niger Fl.* 516.

Chirinda Forest, 3700–4000 ft. ; in fl. Jan. ; n. 1518.

Distrib. Tropical Africa.

MYRICACEÆ.

MYRICA PILULIFERA, *Rendle in Trans. Linn. Soc. ser. 2, Bot.* iv. (1894) 43.

Mt. Pene at 6500 ft. ; in fl. July, in fr. Sept. ; nn. 530, 1735.

Distrib. Nyasaland.

Var. *PUBERULA*, *Rendle in Journ. Bot.* xli. (1903) 86.

Melsetter, 6000 ft. ; Nyahodi River at 5500 ft. ; Mt. Pene at 7000 ft. ; in fr. Sept., Oct. ; nn. 610, 610 a, 623, 6084.

Distrib. Nyasaland.

N. 1735, from the neighbourhood of Chirinda at 3500 feet, is apparently the male form of this species.

MONOCOTYLEDONS.

By Dr. A. B. RENDLE.

HYDROCHARIDEÆ.

OTTELIA LANCIFOLIA, *Rich. Tent. Fl. Abyss.* ii. 280.

Inyamadzi Valley, 2500 ft.; growing at the bottom of the river; in fl. Sept.; n. 781.

Distrib. East tropical Africa, Angola.

ORCHIDACEÆ.

EULOPHIA MILANJIANA, *Rendle in Trans. Linn. Soc.* ser. 2, *Bot.* iv. (1894) 44.

Near Chirinda, 3800 ft.; in fl. Oct.; n. 328.

Distrib. German East Africa to Gazaland.*LISSOCHILUS PAPILIONACEUS*, *Rendle in Journ. Bot.* xxxiii. (1896) 170.

Near Chirinda, 3700 ft.; in fl. March; n. 227.

Distrib. British Central Africa, Stevenson Road, 4000–5000 ft.*L. KREBSII*, *Reichenb. f. in Linnea*, xx. (1847) 685.

Kurumadzi River, Jihu, 2000 ft.; in fl. Nov.; n. 747.

Distrib. Mt. Milanji and Morambala Mts.; also South Africa.*L. ARENARIUS*, *Lindl. in Journ. Linn. Soc.* vi. (1862) 133.

Near Chirinda, 3500 ft.; in fl. Nov.; n. 751. Madanda forests, about 400 ft.; in fl. Dec.; n. 733.

Distrib. Widely diffused in Tropical Africa; Natal.*ANSELLIA HUMILIS*, *Bull, Cat.* 1891, 3.

Inyamadzi Valley, 2500 ft.; in fl. & fr. Oct.; n. 746.

Distrib. Lower Zambesi.*EULOPHIA SWYNNERTONII*, *Rendle*, sp. nov.

Herba glabra foliis . . . , scapo sparse vaginato, vaginis brevibus acuminatis; racemo laxiter 6–9-floro; bracteis ovato-lanceolatis, acuminatis, pedicellis subæqualibus; floribus sepalo dorsali oblongo apiculato, sepalis lateralibus brevioribus ellipticis; petalis ellipticis sepalum dorsale paullo excedentibus; labello trilobo, lobo mediano late oblongo superne rotundato, lobis lateralibus minoribus rotundatis, disco callis tribus parallelis lineato, calcare brevi conico; columna clavata.

Hab. Mt. Pene, 6500–7000 ft.; in fl. Sept. and Oct.; nn. 752, 6050. Common on the higher grass-covered slopes; flowers yellow- and brown-madder.

Scapus cum racemo 30–50 cm. long., ad 4 mm. crass.; vaginæ siccæ scariosæ, supra basin 2 vel 3, infima 4 cm. long. Racemus 8–15 cm. long.;

bracteæ ad 1.5 cm. long. Sepalum dorsale 16 mm. long., 4 mm. lat.; sepala lateralibus vix 13 mm. long.; petala 18 mm. long., 8 mm. lat.; labellum 16 mm. long.; lobus medianus 7 mm. lat.; lobi laterales vix 3 mm. long.; calcar 4-5 mm. long.; columna 5 mm. long.

Allied to *E. manganjensis*, Rolfe, from the Shiré Highlands, but the long imbricating white sheaths which clothe the scape in that species are represented only by a few distant sheaths; the flowers are also larger in the plant from Mt. Pene.

ANGRÆCUM RHODESIANUM, *Rendle*, sp. nov.

Planta in *Brachystegia Randii* epiphytica habitu *A. bicaudatæ*, caule robusto radices crassas et folia disticha gerente; foliis linearibus complicatis apice inæqualiter bilobatis, vaginis caulem arcte involventibus et velut racemorum pedunculis diu persistentibus; racemis axillaribus e basi multifloris; bracteis brevibus truncatis amplexicaulibus; floribus breviter pedicellatis; sepalis breviter caudatis, lateralibus semiovatis 5-nerviis, dorsali anguste triangulari 4-nervio; petalis sepalis æquilongis, anguste triangulari-lanceolatis, apice breviter caudatis; labello e basi obtuse auriculato late oblongo, supra medium trilobato, lobo medio anguste triangulari-acuminato, lobis lateralibus subrhomboideis emarginatis, calcare subfiliformi; columna brevi crassa; capsula ellipsoideo-obovoidea.

Hab. Melsetter, 6000 ft.; in fr. Sept.; n. 755.

Caulis vix 10 cm. long., pars inferior 3-4 mm. crassus, inferne radicibus crassis et peduncolorum vestigiis suffultus, superne vaginis persistentibus 8 mm. long. dense indutus. Folia circa 10 cm. long., 5 cm. lat. Racemi frutescentes 15 cm. long., bracteæ ad 30, 1.5 mm. long. Sepalum dorsale 7.5 mm. long., 2 mm. lat., sepala lateralibus 7 mm. long., 2.5 mm. lat., petala 7 mm. long., 1.5 mm. lat., labellum 9 mm. long., pars inferior 2 mm. lat., lobus medius 3.5 mm., lobi laterales 1.5 mm. long.; calcar 11.5 mm. long.; columna 1 mm. long.

Near the South African *A. bicaudatum*, Lindl., and the small group of tropical African species with a similar habit. Perhaps most closely allied to *A. tridactylites*, Rolfe, but a plant of more stunted growth and differing in the character of the lip, which has short blunt, not long slender pointed, side lobes.

BRACHYCORYTHIS ACUTILOBA, *Rendle*, sp. nov.

Herba sesquipedalis caule paullo supra basin laxè vaginato deinde usque ad racemum foliato, superne præcipue inter flores furfuraceo; foliis circa 20 parvis lanceolatis acuminatis glabris superne in bracteas transgradientibus; racemo densius multifloro; bracteis foliis similibus sed minoribus ovario cum pedicello subæqualibus; floribus pro genere inter majores, sepalis trinerviis, sepalo dorsali obtuse ovato concavo, sepalis lateralibus majoribus valde obliquis semi-ovatis, latere posteriore recto, apiculatis; petalis oblique subovatis basi lateraliter ad

columnnam brevem adnatis, margine undulato ; labello cum basi cymbiformi in medio perforato, limbo flabelliformi cum nervo mediano crasso apice trilobato, lobo mediano brevi rotundato, lobis lateralibus subfalcatiss acutis supra lobum medianum convergentibus.

Hab. Near Chirinda, 3800 ft. ; in fl. Dec. ; n. 6632. A common ground orchid.

Folia basalia 4·5 cm. long., 1·3 cm. lat., superiora gradatim minora. Bracteae inferiores 2·5 cm. long., vix 5 mm. lat. Sepalum dorsale 6·5 mm. long., 3·5 mm. lat. ; sepala lateralia 1 cm. long., 4·2 mm. lat. ; petala 6·5 mm. long., vix 3 mm. lat. ; labelli basis 6 mm. long., limbus 9 mm. long., 6·5 mm. lat. ; lobus medius 1·25 mm. lat. ; lobi laterales 2·4 mm. long. ; columna 1·5 mm. long.

Near *B. Welwitschii*, Reichenb. f., which it closely resembles in the flower, but in *Welwitschii* the lateral lobes of the lip are rounded and crenulate. The stem of *B. acutiloba* is somewhat slenderer and the leaves narrower and more sharply acuminate than in the Angolan species. The slit-like perforation in the middle line of the cymbiform base of the lip is an interesting character.

HABENARIA PEDICELLARIS, Reichenb. f. *Otia Bot. Hamb.* ii. 100.

Upper Buzi, 3000 ft. ; in fl. April ; n. 744.

Distrib. Abyssinia, Mt. Kilimanjaro.

SATYRIUM BUCHANANII, Schlechter in *Engl. Jahrb.* xxiv. (1898) 422.

Lusitu River, hills at 5000 ft. ; in fl. April ; n. 754.

Distrib. Nyasaland.

S. SPECIOSUM, Rolfe in *Fl. Trop. Afr.* vii. 574 & 270.

Near Chirinda, 3800 ft. ; in fl. Dec. ; n. 331 : Upper Buzi, 3000 ft. ; in fl. Apr. ; n. 745.

Distrib. Nyasaland, Zambesiland.

S. OCCULTUM, Rolfe in *Fl. Trop. Afr.* vii. 273.

Near Chirinda, 3800 ft. ; in fl. Jan. ; n. 750.

Distrib. Nyasaland.

DISA HAMATOPETALA, Rendle in *Trans. Linn. Soc.* ser. 2, *Bot.* iv. (1894) 47.

Mt. Pene, 6500–7000 ft. ; in fl. & fr. Sept. ; n. 753.

Distrib. Nyasaland.

CANNACEÆ.

CANNA ORIENTALIS, *Rosc. Scit.* t. 12.

Near Chirinda, 3800 ft. ; in fl. March ; n. 398.

Distrib. Tropical Africa and Natal ; also Tropical Asia.

ZINGIBERACEÆ.

KÆMPFERA ROSEA, *Baker in Fl. Trop. Afr.* vii. 295.

Beira, open woods, 50 ft. ; in fl. Dec. ; n. 726.

Distrib. East tropical Africa.

K. CECILÆ, *N. E. Br. in Kew Bull.* 1906, 169.

Beira, open woods, 50 ft. ; in fl. Dec. ; nn. 727, 730.

Distrib. Portuguese East Africa.

IRIDACEÆ.

MORÆA IRIDIROIDES, *Linn. Mant.* 28.

Chirinda Forest, 3700–4000 ft. ; in fl. & fr. Oct.–Dec. ; nn. 399, 6508 ;
Mt. Pene, 7000 ft. ; in fl. Oct. ; n. 6067.

Distrib. German East Africa, Nyasaland, and widely spread in South Africa.

ARISTEA ZOMBENSIS, *Baker in Fl. Trop. Afr.* vii. 346.

Chirinda Forest, 3700–4000 ft. ; in fr. Oct. ; n. 399 a : Chipete outskirts,
3800 ft. ; in fr. Apr. ; n. 399.

Distrib. Nyasaland.

A. COMPRESSA, *Buching ex Baker l. c.* 111.

North Melsetter, Moodie's Nek, 6000 ft. ; in fl. & fr. Oct. ; n. 6060.

Distrib. Eastern South Africa and Transvaal.

DIERAMA PENDULA, *Baker in Journ. Linn. Soc., Bot.* xvi. (1877) 99.

Melsetter, 6000 ft. ; in fl. Oct. ; nn. 6064, 6065.

Distrib. East tropical Africa ; South Africa.

LAPEYROUSIA ERYTHRANTHA, *Baker, l. c.* 155.

Mt. Singuno, Jihu, 2000 ft. ; in fl. Nov. ; n. 776.

Distrib. South tropical Africa.

CROCOSMA AUREA, *Planch. in Flore des Serres*, vii. (1851) 161, t. 702.

Near Chirinda, 3600 ft. ; in fl. March ; n. 323.

Distrib. German to Portuguese East Africa ; South Africa.

GLADIOLUS GAZENSIS, *Rendle*, sp. nov.

Planta habitu *G. Oatesii* cormo . . . ; caule tenui terete vaginis subfoliaceis superne acutis tecto interdum ramoso, foliis anguste linearibus ; spicis multifloris secundis, spathæ valvis siccis membranaceis rubro-brunneis elliptico-oblongis obtusis apiculatis ; floribus roseo-purpureis parvis ; perianthii tubo brevi tenui curvato, segmentis superioribus apice rotundatis apiculatis unguiculatis mediano obovato lateralibus ovatis, segmentis

inferioribus longe et tenuiter unguiculatis apice obscure apiculatis, mediano obovato, lateralibus brevioribus ellipsoideo-ovatis ; staminibus segmenta superiora haud æquantibus, antheris linearibus quam filamenta brevioribus.

Hab. Melsetter, 6000 ft. ; Chirinda outskirts, 3700–4000 ft. ; Mt. Pene, 6500–7000 ft. ; in fl. Sept. ; n. 779.

Folium (unum solum exstat) 2·5 mm. lat. Caulis florens ad 4 dm. long. ; spica ad 25 cm. long. Spathæ valva exterior 1–1·2 cm. long. Perianthium 2·5–2·7 cm. long. ; tubus circa 8 mm. long., lobus superior circa 2 cm. long., lobi laterales superiores paullo breviores, et lobum inferiorem subæquantes, laterales inferiores circa 1·4 cm. long. Stamina 1·6 cm. long. ; antheræ 7 cm. long.

Near *G. Oatesii*, Rolfe, but distinguished at once by the colour of the flower and the blunt spathe-valves.

AMARYLLIDACEÆ.

HYPOXIS ANGUSTIFOLIA, *Lam. Encyc.* iii. 182.

Lower Umswirizwi River, 1000 ft. ; in fl. Nov. ; n. 771.

Distrib. Tropical and South Africa.

H. VILLOSA, *Linn. f. Suppl.* 198.

Northern Melsetter, 5000–6000 ft. ; in fl. Oct. ; n. 6215 : Mt. Pene, 6000–7000 ft. ; in fl. Sept. and Oct. ; nn. 770, 6082, 6204 : near Chirinda, 3800 ft. ; in fl. May, Oct. ; n. 332.

Distrib. Tropical and South Africa.

CYRTANTHUS RHODESIANUS, *Rendle*, sp. nov.

Herba semipedalis e bulbo infra collum globoso orta, squamis bulbi papyraceis ; foliis . . . ; pedunculo sicco complanato ; floribus tribus læte rubris umbellatis demum pendulis, spathæ valvis 2 lanceolatis læte rubris ; pedicellis tenuibus ; perianthii tubo elongato gracili superne sensim ampliato, segmentis tubo circa $\frac{1}{4}$ brevioribus, anguste ovalibus tribus externis internis angustioribus ; staminibus biseriatis filamentis brevibus e perianthii fauce exsertis, antheris flavis oblongis ; stylo perianthio subæquante, stigmatate trifido.

Hab. Chimanimani Mts., 7000 ft. ; in fl. Sept., Oct. ; n. 769. Common amongst short grass ; flowers bright red.

Bulbus 1·5–2 cm. diametro. Pedunculus 10 cm. long. Spathæ valvis vix 3 cm. long. ; flores 4–5 cm. long., pedicelli ad 1·5 cm. long. Perianthium 3·5–4·5 cm. long., fauce 4 mm. diam., segmenta circa 1 cm. long. ; filamenta 3–3·5 cm. long. ; antheræ vix 2 mm. long.

Near *C. Welwitschii*, Hiern, but a much smaller plant with no leaves in the flowering stage. The flowers are relatively larger, with shorter pedicels and a narrower tube.

HÆMANTHUS MULTIFLORUS, *Martyn, Monogr.*

Near Chirinda, 3800 ft. ; in fl. Oct. ; n. 359.

Distrib. Tropical Africa.

CRINUM KIRKII, *Baker in Bot. Mag.* t. 6512.

Kurumadzi River, 2000 ft. ; in fl. Nov. ; and near Chirinda, 3800 ft. ;
n. 438.

Distrib. East tropical Africa.

PANCRATIUM TRIANTHUM, *Herb. in Ann. Nat. Hist.* ser. 1, iv. (1840) 28.

Near Chirinda, 3800 ft. ; n. 322.

Distrib. Tropical Africa.

DIOSCOREACEÆ.

DIOSCOREA SATIVA, *Linn. Sp. Pl.* 1033.

Chirinda Forest, 3800 ft. ; in fl. May ; n. 531.

Distrib. Widely cultivated in the tropics.

D. BUCHANANI, *Benth. in Hook. Ic.* t. 1397-8.

Near Chirinda, 3800 ft. ; in fl. July ; n. 1091.

Distrib. Shire Highlands.

D. SCHIMPERIANA, *Hochst. ex Kunth, Enum. Pl.* v. 339.

Chirinda, 3700-4000 ft. ; in fl. & fr. Feb. ; n. 214.

Distrib. Tropical Africa.

Chindao name, "Intendene." Very common along the outskirts of Chirinda and Chipete and found throughout the Jihu, where it seems to prefer the denser bush, as also about Maruma.

D. DUMETORUM, *Pax in Engl. & Prantl, Pflanzenfam.* ii. Abt. 5, 134.

Lower Zona, Jihu district, 2000 ft. ; in fl. Feb. ; and near Chirinda, 3700 ft. ; in young fr. March ; n. 215.

Distrib. Tropical Africa.

Chindao name, "Idiya." Common throughout the Jihu district, chiefly in grass jungle. It makes a very rapid growth after the annual jungle fires and grows straight upward till top-heavy, then falls and climbs over any vegetation on which it happens to rest.

D. BECCARIANA, *Martelli, Fl. Bogos*, 83.

Near Chirinda, 3800 ft. ; in fl. Dec. ; nn. 1091 a, 6630.

Distrib. Tropical Africa.

LILIACEÆ.

SMILAX KRAUSSIANA, *Meisn. in Flora*, xxviii. (1845) 312.

Beira, in fl. Dec. ; n. 1093 : near Chirinda, 3500-5900 ft. ; in fl. & fr. Nov., Dec. ; n. 212 : Chimanimani Mts., 7000 ft. ; n. 1099.

Singuni name, "Ingwena Ngulube." A common thorny trailer found throughout the Jihu, Mafusi and Southern Melsetter districts wherever the soil is rich and the grass growth rank.

Distrib. Tropical Africa, Natal.

ASPARAGUS VIRGATUS, *Baker in Saund. Ref. Bot.* t. 214.

Near Chipete forest patch, 3800 ft. ; in fl. Oct. ; n. 239.

Distrib. Nyasaland, South Africa.

A. PLUMOSUS, *Baker in Journ. Linn. Soc., Bot.* xiv. (1877) 613.

Chirinda, 3700-4000 ft. ; n. 240. A climber common in the forest.

Distrib. East tropical Africa ; South Africa.

A. ASIATICUS, *Linn. Sp. Pl.* 313.

Beira, 50 ft. ; in fr. Dec. ; n. 1094 : River Chipetzana, 3000 ft., and Upper Buzi ; in fl. Oct. ; n. 239 a.

Distrib. East tropical Africa ; South Africa ; Tropical Asia.

A. ANGOLENSIS, *Baker in Trans. Linn. Soc. ser. 2, Bot. i.* (1876) 254.

Near Chirinda, 3800 ft. ; in fl. May, Oct. ; n. 520.

Distrib. Angola.

A. AFRICANUS, *Lam. Encyc.* i. 295.

Umtefu River, Lower Buzi, 600 ft. ; in fr. Jan. ; n. 1096.

Distrib. Tropical and South Africa.

A. ÆTHIOPICUS, *Linn. Mant.* 63.

Chimanimani Mts., 7000 ft. ; in fl. Sept. ; n. 1092. Growing amongst the rocks.

Distrib. East tropical and South Africa.

A. FALCATUS, *Linn. Sp. Pl.* 313.

Chipete Forest, 3800 ft. ; in fl. April ; n. 91.

Distrib. Tropical and South Africa ; Tropical Asia.

A. MEDEOLOIDES, *Thunb. Prodr.* 66.

Chipete Forest, 3800 ft. ; in fl. & fr. April, May ; n. 89 : Mt. Pene, 7000 ft. ; n. 6058.

Distrib. British East Africa ; South Africa.

BEHNIA RETICULATA, *Didr. in Vid. Medd. Kjöbenh.* 1854, 183.

Chimanimani Mts., 7000 ft. ; in fl. Sept. ; n. 1098 : Mt. Pene, 7000 ft. ; n. 6057 : Chirinda Forest, 4000 ft. ; in fl. & fr. Oct. ; n. 90 : Maruma forest patch, 3700 ft. ; in fl. Sept. ; n. 791.

Distrib. South Africa ; not previously recorded from Tropical Africa. Very common in the Chimanimani forest patches, and in Chirinda and Chipete.

DRACÆNA FRAGRANS, *Gawl. in Bot. Mag. t. 1081.*

Mt. Maruma, 3500 ft.; in fl. Sept.; n. 725. A small single-stemmed tree, 30 ft. or so in height; stems to a foot or more in diameter. Flowers pale greenish. Leaves eaten by the rock-rabbits (*Hyrax*). Chirinda Forest, 3700–4000 ft., n. 724 (leaves only) and in fl. Dec., n. 6520: a shrub about 10 feet in height, forming dense handsome clumps here and there throughout the forest and a favourite nesting-place for forest birds.

Distrib. Tropical Africa.

DRACÆNA GAZENSIS, *Rendle*, sp. nov.

Arbor 30–35-pedalis, foliis alternis sessilibus elongatis lineari-lanceolatis acutis, siccis tenuibus; paniculæ speciosæ subpyramidalis ramis primariis patentibus leviter sursum curvatis flores albidos breviter pedicellatos dense fasciculatos supra medium et apice gerentibus; bracteis brevibus deltoideis margine scariosis acuminatis, quam pedicelli brevioribus; perianthii tubo elongato cylindrico lacinias late-lineares paullo excedente; staminibus quam corolla et stylus paullo brevioribus; antheris oblongis sub medio affixis; ovario oblongo.

Hab. Near Chirinda, 3800 ft., in fl. Oct.; Mt. Maruma, 3500 ft., in fl. Sept.; n. 80. A tall slender shrub or small tree with whitish flowers found in the kloofs and common in wooded glens.

Folia 10–24 cm. long., 1·3–2 cm. lat. Panicula 30 cm. long., 20 cm. diametro; rami ad 10 cm. long. Pedicelli 2–4 mm. long. Perianthium 4–4·5 cm. long., laciniae circ. 2 cm. long., 3 mm. lat.

Evidently near the Usambara species *D. deremensis*, Engler (known only from the description), which it apparently resembles in habit and character of inflorescence, but having smaller narrower leaves and much larger flowers—the perianth in *D. deremensis* is described as 1·5–1·7 cm. long.

“A small tree 30–35 ft. high but slender and nearly always bending over. The largest seen measured 14 inches in diameter at 4 feet from the ground; trunk much furrowed and scored; bark externally greenish-grey but much overgrown with a short moss and some lichen. Common in the Maruma forest patch and in the wooded glens about Chirinda. It occurs too in the Inyamkuwha forest patch.”

KNIPHOFIA RHODESIANA, *Rendle*, sp. nov.

Herba elata foliis . . . ; pedunculo crasso superne bracteis vacuis paucis scariosis munito, bractea infima e basi acuminata lineari-filiformi, cæteris late deltoideis acutis; racemo denso late oblongo; bracteis florentibus late triangulari-ovatis obtusis conspicue uninerviis scariosis albidis; pedicellis brevissimis; perigonio luteo-scarlatino cylindrico-clavato supra ovarium angustato, lobis obtuse triangulari-ovatis; antheris inclusis late ellipticis; stylo exserto.

Hab. Nyabodi River at about 5000 ft. ; in fl. April ; n. 723.

Pedunculus 5·5 dm. altitudine excedens, 8 mm. crass. Racemus 7 cm. long., 2·5 cm. lat. Bracteæ fertiles circiter 6 mm. long., 2 mm. + lat. Pedicelli vix 2 mm. long. Perigonium circiter 3·5 cm. long.; fauce 5 mm. diam.; lobi 2·5 mm. long. Antheræ 1·5 mm. long.

A member of the section *Uvarieæ* and nearly allied to the South African species *K. uvaria*, Hook., but differing in the colour of the flowers, non-exserted stamens and other details.

ALOE RHODESIANA, *Rendle*, sp. nov.

Acaulescens ; foliis rosulatis, e basi late ovata persistente linearibus, margine frequenter minute denticulatis ; scapo simplici per totum fere longitudinem bracteato ; bracteis scariosis conspicue nervosis sterilibus ovato-acuminatis, florentibus angustioribus quam pedicelli brevioribus ; perianthio basi valde stipitato cylindræo pallide rubro, segmentis ad basin liberis, 5-nerviis, superne 3-nerviis, obtusis ; antheris oblongis inclusis ; ovarium cylindrico-conicum in stylum breviter attenuatum.

Hab. Melssetter, 6000 ft., n. 6047 ; Mt. Pene, 7000 ft., n. 6048 ; in fl. & fr. Oct. A herb with light coral-pink flowers and stems, met with constantly throughout the higher slopes from Umyumvumvu River to Mount Pene.

Folia emarcida vel juvenilia solum exstant. Caulis florens 2·5–3 dm. altus, ad 0·5 cm. crassus ; bracteæ steriles 1·5–1·8 cm. long. ; racemus 10–15 cm. long. Pedicelli 2·5 cm. long. Perianthium 3·5 cm. long. ; segmenta exteriora 5 mm. lat. Antheræ 4 mm. long. Ovarium 8 mm. long. Capsula 2 cm. long.

A member of the section *Leptoaloe* (Berger in Engler's *Planzenreich*) nearly allied to *A. brunneopunctata*, Engl. & Gilg, from the Kunene district, but a shorter more robust plant, distinguished also by the denticulate leaf-margin.

ALOE SWYNNERTONII, *Rendle*, sp. nov.

Acaulescens ; foliis rosulatis late ensiformibus haud maculatis ad margines conspicue dentatis linea cartilaginea cinctis, dentibus subvalidis e basi sinuata deltoideis patulis cum apice corneo brunneo ; inflorescentia ramosa 4-pedali, ramis curvato-ascendentibus ultimis corymbosis, racemis abbreviato-capitatis dense multifloris, bracteis ovatis superne tenuiter acuminatis, quam pedunculi duplo brevioribus ; floribus salmonæis, perianthio basi rotundato et inflato deinde constricto subcylindræo decurvato, tubo segmentis duplo brevioris, filamentis inclusis.

Hab. Hills near Chipetzana River, 3500 ft. ; in fl. April. In short grass ; stems 4 feet high rising from a crown of leaves on the ground. Flowers deep salmon.

Folium 3 dm. long., 8 cm. lat. Dentes marginales 0·5 cm. long., circa 1 cm. inter se distantes. Caulis florens 1·25 m. altus; racemi circiter 4 cm. longi. Pedicelli circiter 1·5 cm. long. Perianthium 2·2 cm. long.; tubus 7 mm. long.

A distinct species of Berger's section *Tropicales*, though the perianth is rounded at the base. It is characterized by its broadly ensiform regularly prominently toothed leaves, dense shortened raceme, and the short tube of the salmon-coloured perianth.

ANTHERICUM ELONGATUM, Willd. *Sp. Pl.* ii. 136.

Chipetzana River, 3000 ft.; in fl. April; n. 773. Zona River, Jihu district, 2000 ft.; in fl. Nov.; n. 1751.

Distrib. Angola, British Central Africa, Portuguese East Africa, South Africa.

ANTHERICUM (§ *Phalangium*) *RHODESIANUM*, Rendle, sp. nov.

Herba parva, rigidula, glabra, foliis pluribus radicalibus e basi vaginante anguste lineari-acuminatis plus minus revolutis striatis, scapum subteretem striatum nudum subæquantibus vel excedentibus; floribus ad apicem scapi congestis; bracteis atrorubris e basi ovato acuminatis superioribus spathiformibus scariosis, pedicellos sub apice articulatos excedentibus; alabastris apice quasi ustulatis; perianthio 1 cm. long., segmentis ellipticis albis medio dorso 5-nerviis et atro-rubris apice nigrescentibus; filamentis glabris quam antheræ oblongæ brevioribus.

Hab. Melsetter, 6000 ft.; in fl. Oct.; n. 6056. A small herb with white flowers growing among short grass.

Folia interiora 9–20 cm. long., 2 mm. lat., exteriora breviora. Scapus ad 16 cm. long.; inflorescentia dense congesta vix 2·5 cm. long. Bracteæ 1 cm. long. vel breviores. Pedicellus 4 mm. long. Perianthium 1 cm. long., antheræ 3·5–4 mm. long., filamenta vix 3 mm. long.

Near *A. ustulatum*, Baker, from Angola (Huilla and Pungo Andongo), but distinguished by its somewhat larger flowers with a deep crimson keel and almost black tips to the petals, and the absence of the dark-crimson barred sheaths enveloping the leaf-bases.

CHLOROPHYTUM GAZENSE, Rendle, sp. nov.

Herba minor glabra fibris radicalibus fasciculatis interdum fusiforme incrassatis, foliis pluribus radicalibus basi vaginatis, lamina sicca papyracea 9–11 nervia anguste lanceolata acuminata apice acutissima, basi in petiolum plus minusve elongatum transeunte; scapo folia excedente laxifloro, floribus inter minores in axillis bractearum spathiformarum apice tenuiter acuminatarum 2–3-fasciculatis; pedicello medio articulo; perianthii segmentis lineari-oblongis obtusis 3-nerviis; staminibus perianthio paullo brevioribus, filamentis glabris supra ovarium dilatatis sub anthera lineari flava acuminatis;

stylo gracili filamenta æquante; ovario depresso-globoso, ovulis in loculo 3; capsula valde emarginata angulata.

Hab. Chirinda Forest, 3700–4000 ft.; in fl. & fr. Apr., May; nn. 318, 527. A small plant with white petals and yellow anthers, common in the forest.

Folia sæpe 12–15 cm. long., interdum ad 23 cm., lamina petiolum cum vagina subæquante, sæpius 1·4–1·5 cm. lat. Scapus 20–40 cm. long. Bractea sterilis in parte scapi inferiore lineari-acuminata 1·5–3 cm. long.; bractæe florentes 2–0·5 cm. long. Perianthii segmenta 1 mm. lat., exteriora 5 mm., interiora vix 6 mm. long.; antheræ 1·5 mm. long.; ovarium 1·25 mm. long. Capsulæ valvis 0·5 cm. long.

The form of the leaf recalls the West African *C. alismæfolium*, Baker, but the petiole is not sharply separated from the blade, and the species is probably nearer *C. laxum*, R. Br., though at once distinguished by its broader lanceolate leaves.

CHLOROPHYTUM ANGUSTIFOLIUM, Rendle, sp. nov.

Herba rhizomate tenui ut apparet reptans, collo nodisque rhizomatis parce setosis; foliis paucis tenuibus basalibus glabris e vagina brevi valde elongatis, petiolo elongato in laminam anguste linearem lanceolatam longe acuminatam multinerviã nervo mediano conspicuo transeunte; scapo nudo tenui foliis brevior superne sparse puberulo; racemo puberulo haud bene evoluto multifloro, floribus geminis; bracteis e basi ovata longe acuminatis margine minute serratulis; pedicellis brevibus medio articulatis; perianthii albidis segmentis trinerviis, exterioribus anguste lineari-lanceolatis, interioribus anguste ovali-oblongis; antheris flavis lineari-oblongis, filamentis glabris; ovario ellipsoideo, ovulis in loculo multis, stylo gracili.

Hab. Madanda forests at about 400 ft.; in fl. Dec.; n. 772. A herb with white flowers.

Folia (petiolo incluso) ad 5 dm. long. et 9 mm. lat., petiolum $\frac{1}{2}$ – $\frac{2}{5}$ totius longitudinis; scapus (racemo excluso) 28 cm. long., racemus nondum perfecte evolutus 8 cm. long. Pedicelli circiter 3 mm. long. Perianthium 1 cm. long.; segmenta exteriora 1·4 mm. lat., interiora 2·6 mm. lat.; stamina 7·5 mm. long., antheris 4·5 mm. long. inclusis; ovarium 2 mm. long.; stylus 11 mm. long.

Recalls the widely distributed *C. laxum*, R. Br., in habit, but has larger flowers and the long narrow grass-like leaves are more lanceolate in form.

C. BLEPHAROPHYLLUM, Schweinf. ex Baker in *Journ. Linn. Soc., Bot.* xv. (1876) 327.

Near Chirinda, 3500 ft.; in fl. Oct.; n. 329: Lower Zona, Jihu district, 2000 ft.; n. 330.

Distrib. Tropical Africa.

DIPCADI VIRIDE, *Moench, Meth. Suppl.* 267.

Near Chirinda 3500–3800 ft. ; in fl. Oct. ; n. 59.

Distrib. East tropical Africa ; South Africa.

URGINEA ALTISSIMA, *Baker in Journ. Linn. Soc., Bot.* xiii. (1872) 221.

Near Chirinda, 3800 ft. ; in fl. & fr. Apr. ; n. 321 a.

Distrib. Tropical and South Africa.

SCILLA RIGIDIFOLIA, *Kunth, Enum.* iv. 330.

Northern Melssetter, 5000–6000 ft. ; in fl. Oct. ; nn. 6053, 6226 : Mt. Pene, 7000 ft. ; in fl. & fr. Oct. ; n. 6054.

Distrib. Angola, German East Africa ; South Africa. A small herb with white flowers, fairly common amongst the short grass of the mountains.

S. INDICA, *Baker in Saund. Ref. Bot.* iii. App. 12.

Mt. Pene, 6500–7000 ft. ; in fl. Sept., Oct. ; nn. 767, 6055.

Distrib. East tropical Africa ; also India and Ceylon. A small herb of the open grass veld. Flowers green and purplish. The leaves are broader and less tapering below than in typical specimens of this species ; and the Mt. Pene plants may perhaps represent a distinct species.

GLORIOSA SUPERBA, *Linn. Sp. Pl.* 305.

Chipetzana River, 3000 ft. ; in fl. Apr. : Kurumadzi River, Jihu district, 2000 ft. ; in fl. Jan. ; n. 716 : Chirinda outskirts, 3800 ft. ; in fl. Dec. ; nn. 6507, 6509.

Distrib. Tropical Africa, Transvaal ; also Tropical Asia.

COMMELINACEÆ.

COMMELINA LIVINGSTONII, *C. B. Clarke in DC. Mon. Phan.* iii. 190.

Kurumadzi River, 2000 ft. ; in fl. Nov. ; n. 762. A common herb, wild in cultivated ground ; flowers cobalt-blue.

Distrib. East tropical and South Africa.

ANEILEMA SINICUM, *Lindl. in Bot. Reg.* t. 659.

Chirinda Forest, 3700–4000 ft. ; in fl. May ; n. 765 : Kurumadzi River, 2000 ft. ; in fl. & fr. Nov. ; n. 763 : Madanda forests, 400 ft. ; in fl. & fr. Dec. ; n. 756.

Distrib. A common Tropical African weed ; also South Africa and Asia.

FLOSCOPA GLOMERATA, *Hassk. Commel. Ind.* 166.

Chirinda, 3700 ft. ; in fl. & fr. June ; n. 764 : Upper Buzi, 3000 ft. ; in fl. & fr. Apr. ; n. 761. In swampy ground ; flowers dull purple.

Distrib. South tropical Africa ; South Africa ; Mascarene Islands.

PALMACEÆ.

PHŒNIX DACTYLIFERA, *Linn. Sp. Pl.* 1188.

Near Chirinda, 3500 ft. ; in fl. & fr. Oct. ; n. 666.

Distrib. The date-palm, widely cultivated in Tropical Africa.

Fairly common in the neighbourhood of Chirinda along streams and to a less extent in the open bush. Occurs also in other parts of the Melsetter district (including especially the Chipetzana River, the Myanyadzi and the Umvumvumu), up to nearly 6000 ft. It appears not to occur much below 3000 ft. Also noted in some numbers in the Umtali district, notably on the Umtali River.

HYPHÆNE VENTRICOSA, *Kirk in Journ. Linn. Soc., Bot.* ix. (1866) 235.

Umhlonhlo, Lower Buzi, 100 ft. ; fruit only. A large fan-leaved palm.

Distrib. Congo, Damaraland, Zambesi River.

“A tall palm becoming increasingly common as one approaches the coast from the highlands. On the north side of the River Buzi there are a number in the neighbourhood of the Amanzimhlope, a stream to the east of the Sitatonga forest. On the south the first, mere stunted specimens, were noted at Zinyumbo. They become common, still in a small form, from the east bank of the Mwangezi onwards, the first really large specimens with a large bulge in the stem (apparently only acquired when old) being at Chimbuya. Between Muchukwana and Chirinda, and again between Boka and Umhlonhlo, there are a considerable number, especially about Inyamita, and there are much larger specimens at Inyajena.”

TYPHACEÆ.

TYPHA AUSTRALIS, *Schumach. & Thonn. Beskr. Guin. Pl.* 401.

Beside the Zinyumbo pools, Zinyumbo Hills, 1500 ft. ; Nov. ; n. 961.

Distrib. North Tropical and South Africa.

AROIDEÆ.

AMORPHOPHALLUS (§ *Hydrosme*) *SWYNNERTONII*, *Rendle*, sp. nov.

Herba foliis ignotis, inflorescentia glabra, pedunculo et tubo spathæ sparse verruculoso, spatha in parte inferiore convoluta, tubo late cylindrico basi paullo inflato, intus verrucoso, limbo late ovato acuminato patente undulato, spadice sessili spathæ subæquali, parte florifera feminea cylindrica, mascula superne paullo attenuata, floribus dense aggregatis contiguis, appendice gradatim attenuata apice obtusa in parte inferiore sparsius verruculosa : ovario subgloboso uniloculari, stigmatibus sessilibus suborbicularibus ; antheris densissime aggregatis.

Hab. Madanda forests at about 400 ft. ; in fl. Dec. ; n. 717 a.

Pedunculus 28 cm. long., 0.5 cm. crass. ; spathæ tubus 7 cm. long., parte

feminea 2·5 cm. crass. ; limbus 20 cm. long., 12 cm. lat. Spadix 28 cm. long., pars feminea 1·5 cm. long., 2 cm. crass., pars mascula 5 cm. long. apice 1·5 cm. crass. ; appendix inferne 1 cm. apice 4 mm. crass. Ovarium 4 mm. long.

A very distinct species, perhaps nearest to *A. Fischeri*, N. E. Br., from South-East tropical Africa, but distinguished by the relatively shorter spadix, which is twice as long as the spathe in *A. Fischeri*, the one-celled ovary, &c. There is in the Kew Herbarium a very similar specimen, but with a much stouter spadix, collected by W. W. Johnson at Sofala at the sea-level.

CULCASIA SCANDENS, *Beauv. Fl. Owar.* 1. 4, t. 3.

Chirinda Forest, 3700–4000 ft. ; in fl. & fr. Jan. ; n. 98.

Distrib. Tropical Africa.

STYLOCHITON GAZENSE, *Rendle*, sp. nov.

Herba glabra, vix pedalis, rhizomate crasso-fibris vaginalium persistentibus induto et parte superiore radices crassas simplices emittente ; foliis (4) eodem tempore cum floribus evolutis, petiolo in parte inferiore dilatato vaginæformi laminam excedente ; lamina hastata lobo mediano late oblongo apice apiculato, lobis basalibus ovato-triangularibus ; pedunculo e medio foliorum vaginalium orto petiolis valde brevioribus ; spatha foliis brevioribus, tubo sub medio inflato superne cylindrico, limbo oblongo-lanceolato apice acuminato ; spadice vix protruso ; floribus femineis numerosis aggregatis ; perianthio cupuliformi margine crasso, ovario libero ovoideo-angulato biloculato, ovulis in quoque loculo singulis ex apice partitionis centralis pendulis, stylo crasso ex ore perianthii exserto ; parte spadiceis mascula parti femineæ contigua dense multiflora ; perianthio quam in flore femineo brevioribus nec superne contracto margine undulato ; staminibus in quoque flore 4 exsertis, filamentis tenuibus quam antheræ longioribus, antheris subglobosis cellulis parallelis, ovarii rudimento centrali parvo.

Hab. Madanda forests, 400 ft. ; in fl. Dec. ; n. 717. A herb with green spathes, common on ant-heaps in *Brachystegia* bush.

Rhizoma 0·5 cm. crass. ; folia ad 3 dm. long. ; petiolus cum vagina ad 1·9 dm. long., lamina 11 cm. long. ; lobus medianus 6 cm. lat., lobi basales vix 8 cm. long. Pedunculus 8 cm. long. Spatha cum apiculo 10 cm. long., tubus 5 cm. long., sub medio 1·75 cm. diam., limbus 1·6 cm. lat. Spadiceis pars feminea 1·6 cm. long., pars mascula 4 cm. long. Perianthium floris feminei 3 mm. long., stylus 2 mm. ; perianthium floris masculi 1 mm. long., filamenta 2·5 mm. long., antheræ 1·5 mm. long.

Near the South African *S. maximus*, in which however the leaf and spathe are much larger and the leaf has a cordate base.

POTAMOGETONACEÆ.

POTAMOGETON PUSILLUS, *Linn. Sp. Pl.* 127.

Inyamadzi River, 2500 ft.; Sept.; n. 958.

Distrib. East and West tropical Africa; widely distributed in warm and temperate regions.

CYPERACEÆ.

The collection includes the following well-known Tropical African species:—*Pycreus polystachyos*, Beauv. (Beira, Lower Buzi and Sabi River, 1000 ft.), and its var. *laxiflora* (near Chirinda, 3500 ft.); *Cyperus amabilis*, Vahl (Beira); *C. Haspan*, Linn. (Chirinda, 3500 ft.); *C. distans*, Linn. f. (Chirinda, 3700 ft.); *C. Zollingeri*, Steud. (Beira); *C. rotundus*, Linn. (Lower Buzi); *C. Fenzelianus*, Steud. (Lower Buzi); *Mariscus Sieberianus*, Nees (Chirinda, 3800 ft.); *Fimbristylis diphylla*, Vahl (Chirinda, 3700 ft.); *F. exilis*, Rœm. & Schultes (Chirinda, 3000–6000 ft., Chimanimani Mts., 7000 ft., Upper and Lower Buzi); *Fuirena pubescens*, Kunth (Chirinda, 3500 ft.); *F. glomerata*, Lam. (Beira); *Lipocarpa argentea*, R. Br. (Chirinda, 3500 ft., Lower Jihu, 2000 ft.); and *Rhynchospora aurea*, Vahl (Mt. Maruma, 3500 ft.).

KYLLINGA ALBA, *Nees in Linnaea*, x. (1836) 140.

Beside a water-furrow in cultivated ground near Chirinda, 3800 ft.; in fl. May; n. 459.

Distrib. East and South tropical Africa; South Africa.

PYCREUS REHMANNIANUS, *C. B. Clarke in Durand & Schinz, Consp. Fl. Afr.* v. 542.

Kurumadzi, River Jihu, 2000 ft.; Nov.; n. 928. At water's edge.

Distrib. Transvaal; Natal.

CYPERUS COMPACTUS, *Lam. Ill.* i. 144.

Northern Melsetter, 2000–6000 ft.; in fl. Apr.; n. 916 *b*: Mt. Pene, 6800 ft.; in fl. Sept.; n. 916: Indunda River, Lower Buzi, 100 ft.; in fl. Dec.; n. 916 *a*.

Distrib. Tropical and South Africa and the Mascarene Islands.

C. MARITIMUS, *Poir. in Lam. Encycl.* vii. 240.

Beira beach; in fl. Dec.; n. 936.

Distrib. West and South-East tropical Africa; Madagascar.

C. SPHÆROSPERMUS, *Schrader, Anal. Fl. Cap.* 8.

Lower Umswirizwi River, 1000 ft.; in fl. Dec.; n. 935: Beira, open woods, 50 ft.; in fl. Dec.; n. 935 *a*.

Distrib. Somaliland, Angola; also in South Africa and Madagascar.

CYPERUS FLABELLIFORMIS, *Rottb. Descr. et Ic.* 42.

Inyamadzi Valley, 2500 ft. ; in fl. Sept. ; n. 934 : Kurumadzi River, Jihu, 2000 ft. ; n. 929 : Idunda River, Lower Buzi, 100 ft. ; Dec. ; n. 930.

Distrib. East tropical Africa, Congo, Angola ; also South Africa and Mascarene Islands.

C. PROLIFER, *Lam. Ill.* i. 147.

Beira, open woods, 50 ft. ; in fl. Dec. ; n. 931. Common along the railway line.

Distrib. East tropical Africa ; Mascarene Islands.

C. ALBOSTRIATUS, *Schrad. Anal. Fl. Cap.* 7.

Mt. Pene, 7000 ft. ; in fl. Oct. ; n. 6036. Common in an open patch, in a wooded gorge, beside a stream.

Distrib. South Africa to Natal and Transvaal.

MARISCUS DREGEANUS, *Kunth, Enum.* ii. 120.

Beira : Boka, Lower Buzi, 100 ft. : Madanda forests, 400 ft. : in fl. Dec. ; n. 917.

Distrib. West tropical Africa, Mozambique district ; South Africa, Mascarene Islands, Tropical Asia.

M. HEMISPHERICUS, *C. B. Clarke in Durand & Schinz, Consp. Fl. Afr.* v. 589.

Madanda forests, 400 ft. ; Dec. ; n. 946 : near Chirinda, 3800 ft. ; April ; n. 412.

Distrib. East tropical Africa.

SCIRPUS CORYMBOSUS, *Roth, Nov. Pl. Sp.* 28.

Melsetter, 6000 ft. ; Sept. ; n. 906 : Inyamadzi Valley, 3000 ft. ; Oct. ; n. 905.

Distrib. East tropical Africa, Angola ; Egypt, South Africa, Madagascar, India.

FIMBRISTYLIS RHODESIANA, *Rendle*, sp. n.

Herba annua, parva, cæspitosa, pilosula, habitu formæ parvæ *F. exilis*, culmis gracilibus striatis patule pilosulis ; foliis culmis dimidio brevioribus tenuibus flaccidis interdum spiraliter tortis pilosulis ; umbellæ spiculis 3-5, pedicellatis ; bracteis umbella brevioribus ; spiculis ovatis compressis multifloris (plus quam 20), castaneo-brunneis ; glumis caducis ovatis obtusis inconspicue pilosulis, carina pallida haud mucronata ; floribus usque ad apicem spiculæ bisexualibus ; staminibus 3, antheris filamentis multo brevioribus ; stylo nucem excedente, ramis 3 exceptis glabro, basi dilatato pyramidato supra nucem constricto ; nuce albescente parva trigona obovoidea transverse rugulosa.

Hab. Upper Buzi, 3000–3500 ft. ; April ; n. 920.

Planta 1 dm. alta. Folia linearia vix 0·5 mm. lat., facie superiore plana glabra, facie inferiore convexa pilosula et cum venis 3 longitudinaliter striata. Culmi 0·3 mm. diam. Umbellæ rami 6–9 mm. long. Spicæ 0·5 cm. long. ; glumæ 3 mm. long. ; antheræ 0·3 mm. long. ; stylus cum ramis 2 mm. long. ; nux vix 1 mm. long.

A characteristic little plant belonging to the section *Trichelostylis*, with the habit of small slender forms of *F. exilis*, Rœm. & Schult., from which, however, it is distinguished by the relatively broader and shorter many-flowered spikelets, the readily falling glumes, shorter anthers, and smaller nut.

FUIRENA STRICTA, *Steud. Syn. Pl. Glum.* ii. 128.

Near Chirinda, 3700 ft. ; in fl. Jan. ; n. 910. Beside water.

Distrib. Upper Guinea, British East Africa, Nyasaland ; Madagascar.

RHYNCHOSPORA CANDIDA, *Bœck. in Linnœa*, xxxvii. (1871–73) 605.

Beira, open woods, 50 ft. ; in fl. Dec. ; n. 915.

Distrib. West tropical and South-East tropical Africa ; Madagascar ; Tropical South America.

SCLERIA MELANOMPHALA, *Kunth, Enum.* ii. 345.

Hargwe head-waters, Jihu, 2500 ft. ; in fr. Jan. ; n. 420.

Distrib. Tropical and South Africa ; Madagascar.

S. RACEMOSA, *Poir. in Lam. Encycl.* vii. 6.

Jihu, Kurumadzi River, 2000 ft. ; in fl. Nov. ; n. 902. Near the river.

Distrib. Tropical Africa, Mascarene Is.

ERIOSPORA VILLOSULA, *C. B. Clarke in Trans. Linn. Soc. ser. 2, Bot.* iv. (1894) 54.

Chimanimani Mts., 7000 ft. ; in fl. Sept. ; n. 918. Common on the cliff-ledges.

Distrib. German East Africa, Nyasaland.

CAREX SPICATO-PANICULATA, *C. B. Clarke in Durand & Schinz, Consp. Fl. Afr.* v. 690.

Near Chirinda, 3000 ft. ; June ; n. 413.

Distrib. German East Africa ; South Africa and Mascarene Islands.

C. CONDENSATA, *Nees, in Wight, Contrib.* 123.

Mt. Pene Forest, 6500–7000 ft. ; in fl. Sept. ; n. 903. Common in the forest.

Distrib. Nyasaland ; also India.

GRAMINEÆ.

The collection includes the following well-known African species:—*Imperata arundinacea* var. *Thunbergii*, Hack. (Northern Melsetter, 4000–5000 ft., and Beira); *Rottbœllia compressa* var. *fasciculata*, Hack.; *Heteropogon hirtus*, Pers. (Northern Melsetter, 4000–6000 ft.; Upper Buzi, 3000–3500 ft.); *Sorghum vulgare*, Pers., and *S. halepense*, Pers. (Lower Buzi); *Themeda triandra*, Forsk. (Northern Melsetter, 4000–6000 ft., near Chirinda 3500 ft., Lusitu River, 3000 ft., Nyahodi River, 4000 ft.); *Paspalum scrobiculatum*, Linn. (Northern Melsetter, 4000–6000 ft., near Chirinda, 3700 ft., Lower Buzi); *Panicum colonum*, Linn., and *P. Crus-galli*, Linn. (Lower Buzi); *P. maximum*, Jacq. (Chirinda, 3700–4000 ft., Lower Buzi); *P. uncinatum*, Raddi (Chipete forest patch, 3800 ft., Chirinda Forest, 3700–4000 ft.); *Tricholœna rosea*, Nees (Northern Melsetter, 4000–6000 ft., Nyahodi River, 4000 ft., near Chirinda, 3500–3800 ft., Upper Buzi, 3000–3500 ft., Beira, 50 ft.); *Oplismenus africanus*, Beauv. (Chipete forest patch, 3800 ft.); *Setaria aurea*, A. Br. (Northern Melsetter, 4000–6000 ft., Chirinda, 3000 ft., Upper and Lower Buzi); *S. verticillata*, Beauv. (near Chirinda, 3500 ft., Chipete forest patch, 3800 ft.); *Olyra latifolia*, Linn. (Chipete forest patch, 3800 ft.); *Perotis latifolia*, Ait. (near Chirinda, 3700 ft., and Lower Buzi); *Tragus racemosus*, Scop. (Madanda forests, 400 ft., and Lower Buzi); *Kœleria cristata*, Pers. (Mt. Pene, 6500–7000 ft.); *Phragmites communis*, Trin. (Nyahodi River, 4000 ft., Lusitu River, 2500 ft.); *Aristida Adscensionis*, Linn. (Northern Melsetter, 4000 ft.); *Sporobolus virginicus*, Kunth (Beira beach); *Cynodon Dactylon*, Pers. (near Chirinda, 3800 ft., Lower Buzi, 400 ft.); *Chloris barbata*, Sw. (near Chirinda, 3500 ft., Northern Melsetter, 4000 ft.); *Eleusine indica*, Gært. (Northern Melsetter, 6000 ft., near Chirinda, 3500 ft.); *E. verticillata*, Roxb. (Lower Buzi, 100–400 ft.); *Dactyloctenium ægyptiacum*, Willd. (Northern Melsetter, 4000–6000 ft.); *Leptochloa filiformis*, Beauv. (Lower Buzi, 0–400 ft.); *Eragrostis chalcantha*, Trin. (Northern Melsetter, 3000–6000 ft.); *E. major*, Host (Northern Melsetter, 4000–6000 ft., Upper Buzi, 3000–3500 ft.); *E. superba*, Peyr. (Lower Buzi); *E. aspera*, Nees (Chirinda, 3700–4000 ft.).

ANATHERUM MURICATUM, Beauv. *Agrost.* 150, t. 22.

Chibabava, Lower Buzi, 400 ft.; Dec.; n. 956. A grass with a very blue appearance, common on edges of pools.

Distrib. West and Central tropical Africa.

ISCHÆMUM FASCICULATUM, Brongn., var. *ARCUATUM*, Hack. *Androp.* 235.

Lusitu River, 3000 ft.; Apr.; n. 1652.

Distrib. Eastern South Africa (Kei River to Natal).

ISCHÆMUM GLAUCOSTACHYUM, *Stapf in Dyer, Fl. Cap.* vii. 328.

Umhlonhlo, Lower Buzi, 100 ft. ; Jan. ; n. 1573.

Distrib. Transvaal.

ELIONURUS ARGENTEUS, *Nees, Fl. Afr. Austr.* 95.

Near Chirinda, 3700 ft. ; Jan. ; n. 1624 ; a common grass : Mt. Pene, 6500–7000 ft. ; Sept. ; n. 1648 ; a small grass.

Distrib. Tropical and South Africa.

ANDROPOGON HIRTIFLORUS, *Kunth*, var. SEMIBERBIS, *Stapf in Dyer, Fl. Cap.* vii. 337.

Northern Melsetter, 4000–6000 ft. ; April ; n. 1607 : near Chirinda, 3500 ft. ; Jan. ; n. 1621.

Distrib. Tropical and South Africa ; widely distributed in the tropics.

A. CERESLÆFORMIS, *Nees, Fl. Afr. Austr.* 109.

Beira, open woods, 50 ft. ; Dec. ; n. 1598 : hills between Lusitu and Nyahodi, 5000 ft. ; April ; n. 1656.

Distrib. Tropical South Africa.

A. GAYANUS, *Kunth, Rev. Gram.* i. 163.

Zinyumbo Hills, 1500 ft. ; Jan. ; n. 1555 : near Chirinda, 3800 ft. ; April ; n. 987 : Upper Buzi, 3000–3500 ft. ; April ; n. 984.

Distrib. Tropical Africa.

A. PERTUSUS, *Willd. Sp. Plant.* iv. 922.

Northern Melsetter, 4000–6000 ft. ; April ; n. 1613.

Distrib. Tropical and South Africa ; Tropical Asia to North Australia.

A. SCHIRENSIS, *Hochst. ex Rich. Tent. Fl. Abyss.* ii. 456.

Near Chirinda, 3500 ft. ; Dec. ; n. 1624 ; a common grass.

Distrib. Tropical Africa.

CYMBOPOGON SCHÆNANTHUS, *Spreng.*, var. VERSICOLOR, *Hack. Andropog.* 610.

Northern Melsetter, 4000–6000 ft. ; April ; n. 1689 : Nyahodi River, at about 4000 ft. ; April ; n. 1676 : near Chirinda, 3500 ft. ; Jan. ; n. 1641 : Zinyumbo Hills, 1500 ft. ; Jan. ; n. 1556 : Lower Buzi, 100 ft. ; Dec. ; nn. 970, 1560, 1570, 1576.

Distrib. East tropical and South Africa ; Mascarene Islands, India.

Var. DENSIFLORUS, *Hack. l. c.* 611. Melsetter, 6000 ft. ; April ; n. 2098.

Distrib. Tropical Africa.

CYMBOPOGON GIGANTEUS, *Chiov. Intorn. alc. Gram. Essenza*, 12.

Near Chirinda, 3500 ft. ; Jan. ; n. 1636 : Upper Buzi, 3000–3500 ft. ; April ; n. 994.

Distrib. Tropical Africa.

C. RUFUS, *Rendle, in Cat. Welw. Afr. Pl.* ii. 155.

Melsetter, 4000–6000 ft. ; April ; nn. 1606, 1712 : Lusitu River at about 3500 ft. ; April ; n. 1655 : Upper Buzi, 3000–3500 ft. ; April ; n. 993.

Distrib. Tropical and South Africa and Mascarene Is. ; Brazil.

Var. FULVICOMUS, *Rendle, l. c.* Upper Buzi, 3000–5000 ft. ; April ; n. 995.

Distrib. Tropical Africa.

CYMBOPOGON GAZENSE, *Rendle, sp. nov.*

Gramen perenne (?) metrale, internodiis culmi validis teretibus glabris, nodis inferioribus geniculatis (basalibus radicanibus), superioribus erectis ; vaginis præter marginem tuberculoso-hirsutum glabris, inferioribus internodia subæquantibus, superioribus internodiis valde brevioribus ; ligula brevi truncata glabra ; lamina e basi constricta lineari-acuminata subtus sparse pilosa margine (interdum quoque supra) scabrida costa media albo-lineata subtus prominente, nervis lateralibus prominulis ; panicula foliosa folia excedente angusta sublaxa ; spathis lanceolatis acuminatis membranaceo-scariosis brunneis margine inferiore excepta glabris, dorso superne carinato scabridulo ; pedunculis communibus filiformibus inclusis sub apice albido-pilosis ; racemis e medio spathæ flabelliformi exsertis contiguus, uno sessili, altero cum pedunculo brevissimo dense albido-hirsuto ; articulis 1–2 ciliatis pedicellis similibus ; spiculis brunneo-viridibus, eis paris infimi racemi sessilis homogamis (♂) ; spiculis ceteris sessilibus ♀ oblongis superne angustatis gluma inferiore chartacea truncata pubescente præcipue in sulco mediano, nervis intracarinibus 3 sub apice solum manifestis, carinulis præcipue in parte superiore scabridulis, callo brevi barbato ; gluma superiore membranacea, obtusa, 3-nervia, nervis lateralibus superne ciliolatis ; gluma IV. lineari apice bidentata pæne ad aristam geniculatam brunneam gracilem reducta ; spiculis pedicellatis ♂ vel neutris, gluma I. lineari-lanceolata cuspidata dorso conspicuo 7-nervata nervis scabridulis, carinis ciliatis.

Hab. Near Chirinda, 3700 ft. ; Jan. ; n. 1637. A tall grass, common.

Internodia 5.5–12 cm. long, medio 2 mm. crass. Vaginæ 5–7 cm. long. ; ligula 0.75 mm. long. ; lamina ad 25 cm. long., 8 mm. lat. Panicula 18 cm. long. Spathæ propriæ 2.2–2.7 cm. long. Racemi 1.2–1.4 cm. long. ; articuli 1.5 mm. long. Spiculæ ♀ 4.5 mm. long. ; antheræ 2 mm. long. ; arista circiter 2 cm. long. ; paullo sub medio geniculata. Spiculæ pedicellatæ 8 mm. long. ; antheræ 3.2 mm. long. Spiculæ paris homogamæ 7 et 8 mm. long.

Near *C. Schimperii*, Rendle, but a more graceful plant with smaller, more compact racemes, shorter-awned sessile spikelets and larger stalked spikelets.

- CYMBOPOGON SCHIMPERI, *Rendle in Cat. Welw. Afr. Pl.* ii. 155.
Northern Melsetter, 4000-6000 ft. ; April ; n. 951 : Upper Buzi, 3000-3500 ft. ; April ; n. 994 a.
Distrib. East tropical Africa, Angola, Natal.
- C. ELEGANS, *Spreng. Pug. Pl. Nov.* ii. 14.
Nyahodi River at about 4000 ft. ; April ; n. 1675.
Distrib. Tropical East Africa, Angola, Natal, Mascarene Is.
- C. TAMBA, *Rendle*, comb. nov.
Andropogon lepidus, var. *Tamba*, Hackel.
Northern Melsetter, 4000-6000 ft. ; April ; nn. 950, 1690 : near Chirinda, 3806 ft. ; April ; n. 415.
Distrib. Abyssinia.
- C. FILIPENDULUS, *Rendle in Cat. Welw. Afr. Pl.* ii. 157.
Northern Melsetter, 4000-6000 ft. ; April ; n. 1687 : near Chirinda, 3500 ft. ; Jan. ; n. 1640 : Upper Buzi, 3000-3500 ft. ; April ; nn. 985, 988, 990.
Distrib. Tropical Africa, Natal, Ceylon, Australia.
- C. LECOMTEI, *Rendle*, comb. nov.
Andropogon Lecomtei, Franch. in *Bull. Soc. Hist. Nat. d'Autun*, viii. 329 (1895).
Nyahodi River, 4000 ft. ; April ; n. 1660.
Distrib. Congo, Nyasaland.
- C. RUPRECHTII, *Rendle in Cat. Welw. Afr. Pl.* ii. 160.
Northern Melsetter, 4000-5000 ft. ; April ; nn. 1605, 1686 : Nyahodi River at 4000 ft. ; April ; n. 1659 a : Upper Buzi, 3000-3500 ft. ; April ; n. 991.
Distrib. Tropical Africa, Transvaal, Madagascar ; also in Mexico.
- ISACHNE ALBENS, *Trin. Ic. Gram.* 8, t. 85.
Chipete forest patch, 3800 ft. ; April ; n. 406.
Distrib. Tropical Africa ; tropical Asia.
- DIGITARIA ERIANTHA, *Steud. in Flora*, xii. (1829) 468.
Lower Buzi, 100 ft. ; Dec. ; n. 1586.
Distrib. South Africa to the Zambesi.
- DIGITARIA SWYNNERTONII, *Rendle*, sp. nov. (Pl. 6. figs. 6-10.)
Glumen perenne, rhizomate squamis pilosis oblecto, culmo erecto subterete 4-nodo basi vaginis marcidis vestito, nodis glabris, vaginis laxis internodia subæquantibus, glabris ; ligula brevi truncata fimbriata ; lamina lineari-acuminata plana basi subcordata facie inferiore et juxta ligulam pilosa, pilis

e basi tumido ortis ; panicula folia valde superante, racemis in axi communi racemis brevioribus fastigiatis verticillatis superne interdum oppositis vel alternatis ; rhachilla trigona margine minute denticulata, quam spicula vix latiore ; spiculis rhachi appressis geminis, alter subsessilis, alter breviter pedicellata, basi quaternis, deinde ternatis, ovali-oblongis acutis ; gluma I. minuta, triangulari-acuta ; gluma II. spicula duplo brevioribus, plus minus scabridula, ovato-triangulari acuta 3-nerviis longe-pilosis ; gluma III. ovato-acuta 5-nerviis, nervis marginalibus obsolete pilosis, quam gluma IV. paullulo longioribus ; gluma IV. ovali-oblonga acuta valde convexa viridi-lurida minutissime punctulata.

Hab. Zinyumbo Hills, 1500 ft. ; Jan. ; n. 1554.

Rhizoma 3-4 mm. crass. Culmus ad basin inflorescentiæ 11 dm. long., 2.5 mm. crass. Vaginæ 9-28 cm. long. ; laminæ ad 25 cm. long. et 6 mm. lat., ligula 1.5 mm. long. Panicula 18-20 cm. long., racemi 11-13, 13-17 cm. long. Spicula 2.5 mm. long., pedicellus 1.5 mm. long. ; gluma II. 1 mm. long. ; gluma III. 2.5 mm. long.

Near *D. eriantha*, Steud., but a more graceful plant with slenderer racemes and more closely appressed, somewhat smaller, very acute spikelets ; the third glume is almost or quite glabrous.

DIGITARIA SANGUINALIS, Scop., var. *CILIARIS* Rendle in *Cat. Welw. Afr. Pl.* ii. 163.

Beira beach ; Dec. ; n. 1588.

Distrib. Widely spread in the tropics.

Var. *HORIZONTALIS*, Rendle, l. c. Near Chirinda, 3800 ft. ; April ; n. 964.

Distrib. Tropical and South Africa ; Mascarene Islands and Tropical America.

DIGITARIA GAZENSIS, Rendle, sp. nov. (Pl. 6. figs. 1-5.)

Gramen perenne, bipedale, rhizomate brevi lignoso squamis breviter tomentosus oblecto ; culmis erectis gracilibus subcompressis præter nodos glaberrimis specimine 4-nodis, nodis pilosis ; foliis glabris, vaginis laxis, laminis planis anguste linearibus acuminatis, nervo mediano dorso prominulo, ligula brevi rotundata ; racemis 6-9, in rhachi gracillima alternatim vel subopposite ordinatis patulis vel suberectis laxifloris ; spiculis geminis, altera brevius altera longius pedicellata, ovalibus ; rhachilla tenui compressa-trigona margine minute denticulata spiculis plus duplo angustioribus ; gluma I. 0 ; gluma II. ovali-oblonga 5-nerviis, nervis 2 lateralibus in medio proximis crassis margine et nervis albide-pilosis, inter nervos fragili spiculam æquante ; gluma III. late ovali II. simili ; gluma IV. elliptica viridi-lurida valde convexa breviter acuta minutissime seriatim punctulata.

Hab. Beira, open woods ; 50 ft. ; Dec. ; n. 1593.

Culmi c. 6 dm. alt., 2 mm. diam. Vaginæ internodia subæquantes vel

breviores, laminæ 22 cm. long. vel breviores, 3 mm. lat. ; ligula 1.5 mm. long. Panicula 12–15 cm. long., rami 7–11 cm. long. Spicula 2 mm. long. ; pedicellus alter vix 0.5 mm., alter 2 mm. long.

A distinct species characterized by its graceful habit, elongated linear leaves, hairy nodes, slender racemes, and small spikelets in which the first glume is wanting. The inflorescence recalls that of some forms of *Digitaria mutica* (*Panicum scalarum*, Schweinf.), but the racemes are longer and more slender and the spikelets less turgid.

PANICUM HUMIDICOLUM, *Rendle in Welw. Cat.* ii. 169.

Beira, open woods, 50 ft. ; Dec. ; n. 1596 b.

Distrib. Angola, Huilla. Differs from the type specimen in the slightly smaller, less hairy spikelets.

P. BRIZANTHUM, *Hochst. ex A. Rich. Tent. Fl. Abyss.* ii. 363.

Northern Melsetter, 4000–6000 ft. ; April ; n. 1602 a : Nyahodi River, 4000 ft. ; April ; n. 1673 : near Chirinda, 3500 ft. ; Jan. ; n. 1622 : Zinyumbo Hills, 1500 ft. ; Jan. ; n. 1557.

Distrib. Tropical Africa ; Natal.

P. NIGROPEDATUM, *Munro ex Ficalho & Hiern in Trans. Linn. Soc.* ser. 2, *Bot.* ii. (1881) 29.

Madanda forests about 400 ft. ; Dec. ; n. 1558 a.

Distrib. South Africa to Upper Zambesi.

P. NUDIGLUME, *Hochst. in Flora*, xxvii. (1844) 253.

Muchukwana, Lower Buzi, 400 ft. ; Dec. ; n. 997.

Distrib. Tropical Africa. A large form with pubescent spikelets.

P. TRICHOPUS, *Hochst. l. c.* 254.

Lower Buzi, 100–400 ft. ; Dec. ; nn. 971, 998, 1558.

Distrib. Tropical Africa ; Transvaal, Natal.

P. BOLBODES, *Schweinf. Beitr. Fl. Æthiop.* 300.

Northern Melsetter, 4000–6000 ft. ; April ; n. 1699.

Distrib. Tropical Africa.

P. SERRATUM, *Spreng.* var. HOLOSERICEUM, *Hack. ex Durand & Schinz, Consp. Fl. Afr.* v. 765.

Near Chirinda, 3800 ft. ; Jan. ; n. 1623.

Distrib. South Africa to Nyasaland.

P. ZIZANIOIDES, *H. B. K. Nov. Gen. & Spec.* i. 100.

Beira, open woods, 50 ft. ; Dec. ; n. 1596.

Distrib. West Africa ; India, Tropical America.

PANICUM INFESTUM, *Anderss. in Peters Mossamb. Bot.* ii. 546.

Lower Buzi, 100 ft. ; Dec. ; n. 972.

Distrib. East tropical Africa.

P. DREGEANUM, *Nees, Fl. Afr. Austr.* 42.

Beira, open woods, 50 ft. ; Dec. ; n. 1592.

Distrib. South Africa, Nyasaland.

PANICUM (§ Eu-panicum) SWYNNERTONII, *Rendle*, sp. nov.

Gramen culmis gracilibus ramosis (pars superior solum exstat); vagina sub inflorescentia sublaxa præter pilos marginales basi tuberculatos paucos glabra; ligula obsoleta; lamina lineari-acuminata margine incrasata basi ampliata; paniculæ rhachi tenui glabra, ramis filiformibus fastigiatis solitariis vel suboppositis iterum ramulosis, ramulis capillaribus secundis; pedicellis solitariis vel binatis inæqualibus; spiculis duris viridibus cæruleo-tinctis conspicue nervatis primum lanceolatis acutis; gluma I. late-ovata abrupte et breviter acuta 3-nervia spicula plus duplo brevior; gl. II. ovato-acuminata 5-nervia spiculum æquante; gl. III. late ovali 7-nervia paleam subæqualem et florem masculum fovente; gl. IV. cum flore fertili ovali glauca nitida.

Hab. Northern Melssetter, 2000–6000 ft.; April; n. 1702 a.

Culmus in parte superiore 1 mm. crass. vix excedens. Vagina suprema 5.5 cm. long.; lamina 8 cm. long., 4 mm. lat. Panicula 12 cm. long.; rami 8 cm. long., superne breviores; ramuli flexuosi superne diminuti. Spiculæ 2.5 mm. long. Gluma I. 1 mm., gl. II. 2.3 mm., gl. III. 2 mm., gl. IV. 1.75 mm. long.

A member of the *P. coloratum* group characterized by its hard, slender, very acute, distinctly nerved spikelets.

P. TRYPPERON, *Schult.*, var. GIGANTEUM, *Rendle in Welw. Cat. Afr. Pl.* ii. 181.

Near Chirinda, 3800 ft.; March; n. 1620 a. A tall grass.

Distrib. West tropical Africa.

P. MADAGASCARIENSE, *Spreng. Syst.* i. 317.

Northern Melssetter, 3000–6000 ft.; April; n. 1702: Lower Buzi, to 400 ft.; Dec.; n. 1568 a.

Distrib. Tropical Africa, Madagascar.

AXONOPUS SEMIALATUS, *Hook. f.*, var. ECKLONII, *Stapf in Dyer Fl. Cap.* vii. 418.

Melssetter, 6000 ft.; Oct.; n. 6034: Mt. Pene, 6500–7000 ft.; Sept., Oct.; nn. 1644, 6035: Beira; Dec.; n. 1597: Boma to Inyamita, Lower Buzi, 100 ft.; Dec.; n. 1583.

Distrib. Tropical and South Africa; Madagascar, India.

MELINIS MINUTIFLORA, *Beauv. Agrost.* 54.

Near Chirinda, 3500 ft. ; n. 1694.

Distrib. South tropical Africa ; Natal ; Madagascar ; Brazil.

SETARIA NIGRIROSTRIS, *Durand & Schinz, Consp. Fl. Afr.* v. 774.

Northern Melsetter, 4000–6000 ft. ; April ; n. 1693.

Distrib. East tropical and South Africa.

S. MAURITIANA, *Spreng. Syst.* i. 305.

Chirinda forest outskirts, 3700–4000 ft. ; April ; n. 417.

Distrib. Wide spread in tropics. Native name "Izeya." The first vegetation to spring up after the destruction of the forest by the annual grass fires.

PENNISETUM HORDEIFORME, *Spreng. Syst.* i. 302.

Northern Melsetter, 3000–6000 ft. ; April ; n. 1694.

Distrib. East tropical and South Africa.

P. PURPUREUM, *Schumach. in Dansk. Vidensk. Selsk.* iii. 64.

Northern Melsetter, 3000–6000 ft., and Lusitu River, 3000 ft. ; April ; n. 955.

Distrib. South-east tropical and West tropical Africa.

P. SETOSUM, *L. Rich. in Pers. Syn.* i. 72.

Upper Buzi, 3000–3500 ft. ; April ; n. 975 : Nyahodi River, 4000 ft. ; April ; n. 1664.

Distrib. Tropical Africa.

P. LONGISETUM, *K. Schum. in Engl. Pfl. Ost-Afr.* C. 105.

Lusitu River, 3000 ft. ; April ; n. 1649 : Upper Buzi, 3000–3500 ft. ; April ; n. 983 : near Chirinda, 3500 ft. ; n. 414.

Distrib. Tropical Africa, Natal.

PÆCILOSTACHYS FLACCIDULA, *Stapf MS. in Herb. Kew.*

Gramen culmis nodosis foliosis e nodis basalibus ramosis et radicanibus, internodiis inferioribus brevibus et sparse pilosis, superioribus gradatim longioribus ; vaginis laxis quam internodia sæpius brevioribus, margine exteriori et ore pilosis ; ligula truncata membranacea pilosa ; lamina intense viride flaccidule-membranacea oblongo-lanceolata acuminata multinervia facie utraque pilis paucis appressis aspersa ; panicula sæpe secunda, ramis strictis rigidule patentibus distantibus superne diminutis ; spiculis geminis inæqualiter pedicellatis cum pedicello infra glumas articulatis lateraliter subcompressis lanceolatis acutis sparsius setosis ; glumis 3 exterioribus herbaceis acutis infertilibus ; gl. I. ovato-lanceolata 3-nervia quam spicula tertia parte brevior ; gl. II. lanceolata 5-nervia spicula paullo brevior ;

gl. III. elliptica 7-nervia vel imperfecte 9-nervia spiculam æquante vacua vel florem masculinum interdum plus minus abortivum fovente; flore fertili incluso breviter pedicellato, gluma coriacea lævi elliptica subacuta 5-nervia, palea glumam æquante coriacea.

Hab. Chipete forest patch, 3800 ft.; April; n. 409 a. A common low grass in forest. Also in Nyasaland.

Culmus cum panicula 8 dm. long.; internodia inferiora 2-3 cm. long., 2 mm. crass., superiora ad 5.5 cm. long. Ligula vix 1.5 mm. long.; laminæ ad 11.5 cm. long. et 2.2 cm. lat. Panicula 25 cm. long., internodio basali foliato; ramo infimo 7 cm. long. cum ramulo brevi basali. Spiculæ 6.5-7 mm. long.; pedicellus brevior 0.5-1 mm. long., longior 1.5-2.5 mm. long. Gl. I. 4.3-4.6 mm. long., II. circa 6 mm. long.; flos fertilis 4 mm. long.

An interesting addition to this genus, hitherto known only in two species from Madagascar. The African species differs in the more herbaceous character of the spikelets, which are moreover setose, the absence of the awn from the lowest barren glume, and the spreading branches of the panicle.

TRICHOLÆNA RHODESIANA, *Rendle*, sp. nov.

Gramen perenne habitu *T. setifoliae*, Stapf, sed panicula gracili et spiculis minoribus et pro genere sparse pilosis distincta; culmis gracilibus cum innovationibus foliosis velut in *T. setifolia* aggregatis præter nodos pubescentes glabris binodis erectis vel interdum geniculatis; foliis anguste linearibus sæpissime convolutis glabris; vaginis basalibus persistentibus conspicue striatis et basi argenteo-pilosis, caulinis culmo arcte appressis, suprema ad basin paniculæ elongata; ligula brevissima dense setosa; panicula flexuosa contracta; rhachi tenui sparse albide-pilosa; ramis filiformibus solitariis, statim ramulum breviorē emittentibus; ramulis pedicellisque capillaribus plus minus pilosulis, præcipue in apice cupuliformi; spiculis argenteo-sericeis, pilis spiculam haud excedentibus; gl. I. subobsoleta dense pilosula; gl. II. subchartacea oblongo-lanceolata 5-nervia, ex apice vix emarginata breviter aristata, pilis marginalibus et linea transversali supra medium aggregatis; gl. III. primæ simili et æquali sed paullo angustiore et longius aristata, paleam subæqualem in nervis pilosulam cum flore masculo fovente; flore fertili oblonga, gluma membranacea obtusa glabra.

Hab. Near Chirinda Forest, 3700-4000 ft.; Nov.; n. 1632. A grass common in *Uapaca* groves. Nyahodi river at about 4000 ft.; April; n. 1663.

Planta 3.5-4.5 dm. alta; culmi vix ad 1 mm. crass. Vagina superior 7-11 cm. long., suprema 14-15 cm. long.; ligula 0.3 mm. long.; lamina vix 7 cm. longitudine excedens et 1.3 mm. lat. Panicula circa 1 dm. long.; rami ad 2 vel 3 cm. long. Spicula sine aristis 4 mm. long.; gl. II. 4 mm. long., ejus arista 0.6 mm.; arista gl. III. 1.6 mm. long.; flos fertilis 2.5 mm. long.

Var. *GLABRESCENS*, *Rendle*, var. nov. Planta paullo robustior spiculis pallide rubridis paullo majoribus basi excepto glabrescentibus.

Hab. Northern Melssetter, 4000–6000 ft.; April; n. 1685.

Planta ad 5 cm. alta. Gl. II. et III. sæpe 4·5 mm. long., aristis 1 mm. et 2 mm. long., margine præter basin brevius pilosæ, ceterum sparse pilosulæ.

TRICHOPTERYX SIMPLEX, *Hack. ex Engl. Hochgebirgsfl. Trop. Afr.* 129.

Northern Melssetter, 4000–6000 ft.; in fr. April; nn. 1612, 1709: Nyahodi River, 4000 ft.; in fr. April; n. 1662: Chipetzana Source, 4000 ft.; in fr. April; n. 974: near Chirinda, 3700 ft.; in fl. Jan.; n. 1618.

Distrib. Tropical and South Africa.

TRISTACHYA BISERIATA, *Stapf in Kew Bull.* 1897, 295.

Northern Melssetter, 3000–6000 ft.; April; n. 1708.

Distrib. Angola, Basutoland.

T. LEUCOTHRIX, *Trin. ex Nees Agrost. Bras.* 460.

Mt. Pene, 6500–7000 ft.; Sept.; n. 1643.

Distrib. Cape Colony.

ARISTIDA BARBICOLLIS, *Trin. & Rupr. Stirp.* 152.

Northern Melssetter, 4000 ft.; April; n. 1717.

Distrib. South Africa.

SPOROBOLUS INDICUS, *R. Br. Prodr.* 170.

Near Chirinda, 3700 ft.; Jan.; n. 404.

Distrib. East tropical Africa; South Africa; Mascarene Is.; Australia.

S. FESTIVUS, *Hochst. ex A. Rich. Tent. Fl. Abyss.* ii. 398.

Zinyumbo Hills, 1500 ft.; Jan.; n. 1553.

Distrib. East tropical Africa; Transvaal, Natal.

S. CENTRIFUGUS, *Nees, Fl. Afr. Austr.* 158.

Mt. Pene, 6500–7000 ft.; Sept.; n. 1647. A low grass.

Distrib. South Africa; Nyasaland.

DIPLACHNE BIFLORA, *Hack.*, var. *BUCHANANII*, *Stapf in Dyer Fl. Cap.* vii. 593.

Near Chirinda, 3500 ft.; Jan.; n. 1619. A common grass.

Distrib. Basutoland.

There is a similar specimen in Herb. Kew from Namasi, collected by K. J. Cameron.

CRASPEDORHACHIS RHODESIANA, *Rendle*, sp. nov. (Pl. 5. figs. 5–13.)

Gramen culmo glaberrimo terete gracili; vaginis internodiis brevioribus;

ligula brevissima membranacea; spicis tenuibus elongatis 8-9 secus rhachin communem parum distantibus, summis 2-3 confertis; spiculis sessilibus lineari-lanceolatis glabris secus rhachin marginatam arcte imbricatis; glumis 2 sterilibus subæqualibus membranaceis concavis acuminatis uninnerviis, inferiore latiore et magis carinata (carina scabridula), rhachi contigua; gluma florente triplo brevior tenuissime hyalina glabra obsolete trinervia; palea gluma paullo brevior tenuissime hyalina glabra.

Hab. Northern Melsetter, 3000-6000 ft.; April; n. 1697.

Culmi internodium ultimum 1.5 mm. diam., vagina ejusdem 15 cm. long. Rhachis communis inflorescentiæ 6-9 cm. long. ad 1 mm. crass. Spicæ ad 14 cm. long., 1 mm. crass. Spiculæ 3 mm. long.; gluma fertilis 1 mm. long.

An interesting addition to this little genus, which has hitherto been known only from two species from the Zambesi; from both of these it is distinguished by the fewer and much longer spikes, which are also much slenderer than in *C. africana*. In size the spikelets are between those of *C. africana* and *C. Mengharthii*, Hack. The fertile glume and pale are also distinguished by the absence of hairs.

CHLORIS PYCNOTHRIX, *Trin. Gram. Unifl.* 234.

Near Chirinda, 3700 ft.; Oct., April; nn. 1629 a, 1696.

Distrib. South-east tropical Africa; Natal; South America.

C. ABYSSINICA, *Hochst. ex A. Rich. Tent. Fl. Abyss.* ii. 406.

Northern Melsetter, 4000-6000 ft.; April; n. 1700.

Distrib. East tropical Africa.

LEPTOCARYDION ALOPECUROIDES, *Stapf in Dyer Fl. Cap.* vii. 649.

Northern Melsetter, 3300-6000 ft.; April; n. 1695.

Distrib. East and West tropical Africa.

POGONARTHRIA FALCATA, *Rendle in Cat. Welw. Afr. Pl.* ii. 232.

Northern Melsetter, 3000-6000 ft.; April; nn. 1609, 1706: Nyahodi River, 4000 ft.; April; n. 1674 a: Upper Buzi, 3000-3500 ft.; April; nn. 978, 981, 982.

Distrib. Angola; South Africa to the Zambesi.

ERAGROSTIS CONGESTA, *Oliver in Trans. Linn. Soc.* xxix. (1875) 175.

Nyahodi River, 4000 ft.; April; n. 1665.

Distrib. East tropical Africa.

E. PLANA, *Nees, Fl. Afr. Austr.* 390.

Melsetter, 6000 ft.; April; n. 1681: near Chirinda, 3500 & 3700 ft.; Nov., Jan.; nn. 404 a, 968, 1626.

Distrib. South Africa.

ERAGROSTIS HIERNIANA, *Rendle in Cat. Welw. Afr. Pl.* ii. 237.

Beira, 50 ft. ; Dec. ; n. 1591 a.

Distrib. Angola.

E. CHAPELIERI, *Nees, Fl. Afr. Austr.* 392.

Northern Masetter, 3000-6000 ft. ; n. 1707 : Nyahodi River, about 4000 ft. ; n. 1674 : Upper Buzi, 3000-3500 ft. ; n. 980 ; April.

Distrib. Tropical Africa ; Natal ; Mascarene Islands.

E. BRIZOIDES, *Nees, in Linnæa*, vii. (1832) 328.

Mt. Pene, about 6500 ft. ; Sept. ; n. 1646.

Distrib. South Africa.

E. NAMAQUENSIS, *Nees, Ind. Sem. Vratisl.* 1835.

Northern Masetter, 4000-6000 ft. ; April ; n. 1608.

Distrib. Tropical and South Africa.

CENTOTHECA MUCRONATA, *Hack. in Journ. Linn. Soc., Bot.* xxix. (1891) 66.

Madanda forests, 400 ft. ; Dec. ; n. 1559.

Hab. East and West tropical Africa ; Madagascar.

LEPTASPIS COCHLEATA, *Thw. Enum. Pl. Zeyl.* 357.

Chirinda, 3700-4000 ft. ; Dec., Jan. ; nn. 410, 419, 6633. One of the commonest herbs in the forest, in many parts carpeting the whole ground.

Distrib. West tropical Africa ; Comoro Islands ; Ceylon.

OXYTENANTHERA ABYSSINICA, *Munro in Trans. Linn. Soc.* xxvi. (1868) 127.

Beira, open woods at 50 ft. ; Dec. ; n. 962.

Distrib. Tropical Africa.

GYMNOSPERMS.

By Dr. A. B. RENDLE.

PODOCARPUS MILANJIANA, *Rendle in Trans. Linn. Soc.* ser. 2, *Bot.* iv. (1894) 61.

Chimanimani Mts., 7000 ft. ; male fl. Sept. ; n. 1962 ; common as a sapling, no old trees seen. Mt. Pene, 7000 ft. ; n. 6038 ; a number of well-grown specimens seen, height 40 ft. and 2 ft. or more in diameter.

Distrib. South-East tropical Africa.

WIDDRINGTONIA WHYTEL, *Rendle, l. c.* 60, t. 9.

W. Mahoni, *Masters in Journ. Linn. Soc., Bot.* xxxvii. (1905) 271.

Chimanimani Mts., 7000 ft. ; n. 1964 : Masetter, 6000 ft. ; in fr. Sept. ; n. 1963.

Distrib. Nyasaland.

A medium-sized or, occasionally, large tree ; it seldom appears to reach a really large size except in very sheltered glens or on the edges of forest patches. The bark is light reddish brown, soft and dry externally and resinous. The tree begins to fruit at a very early age. The cones usually grow in heavy and conspicuous clusters on the young leader or near the ends of the smaller side-twigs ; they vary in size and robustness, the larger averaging $\frac{3}{4}$ in. in length by $\frac{3}{8}$ in. broad, while the smaller do not exceed $\frac{1}{2}$ in. in length. It is by far the best local timber—light, handsome, easily worked, scented, and very durable.

Mr. Swynnerton's observations are of special interest as bearing on the colour of the young leaves by which the Rhodesian specimens have been distinguished from the Milanji cedar, the foliage in the young state being of a dull dark green without the bluish-green hue so remarkable in young specimens of the Milanji cedar (see Masters, *l. c.*, and Rendle in Journ. Bot. xliv. (1906) 193). Mr. Swynnerton says :—"During my visit to Northern Melsetter and the Chimanimani Mountains in 1906, I had the opportunity of examining a very large number of the trees, both old and young, in the wild state, and can assert that though the bluish tinge mentioned by Mr. Mahon is sometimes absent in the latter, it is very frequently present, and sometimes in a very marked degree. Out of 55 young trees planted by myself three years before from Melsetter seed, all in flourishing condition, not one lacked it, and even now, $2\frac{1}{2}$ years later, the majority still show it more or less conspicuously. These are on a very poor washed-out slope. On the other hand, out of a dozen or more trees of the same age planted on richer soil by one of my neighbours, at roughly the same elevation and in an equally flourishing condition, only two possessed it, the remainder being of the dark green hue described by Mr. Mahon. In the wild state I have noticed both types, but am unable to say which is the more frequent ; I think, on the Chimanimani at any rate, the bluish, and these were, I should say, on distinctly poor soil (apart from such benefit from humus as the trees might derive from standing on the outskirts of forest patches—their most usual situation). It is therefore probable that the presence or absence of the bluish tinge is dependent simply on soil.

"Comparatively few 'cedars' are found inside the forests, though in one such spot, beside a stream, I noted a fairly compact group of thirteen good, straight, single-stemmed specimens (as well as many younger), the largest number I have seen growing together in one place. Groups of three or four are not infrequent, and large numbers of seedlings may sometimes be seen growing together in a densely-packed mass—to be thinned out later, presumably, by fires. It is probably due to these annual grass-fires that the habitat of the species is so restricted. Even in Southern Melsetter (3000–4000 ft.) it flourishes exceedingly wherever planted, and is doubtless excluded from this district in its wild state solely by the far ranker growth

there of the grass, resulting in severer fires. Even on the Chimanimani range, where the grass is extremely short, the trees have suffered greatly.

“The tree grows not uncommonly between 5500–7000 and probably 8000 ft. on the higher hills about Melsetter and along the Portuguese border between that place and the Umvumvumu river, as well as on the Chimanimani range and on the higher spurs of the mountains between Mount Pene and the Yanganda headwaters—almost entirely in the glens, along the streams, on the edges of patches of forest, on sheer scarps or amongst rocks—anywhere, in fact, where there is some slight protection from the full force of the grass-fires.”

CRYPTOGAMS.

By A. GEPP, M.A., F.L.S.

PTERIDOPHYTA.

GLEICHENIA POLYPODIOIDES, *Sm. in Mém. Ac. Turin*, v. 419 (1793).

Chimanimani Mts., 6500 ft. ; n. 676.

Distrib. South Africa, Amsterdam Island.

GLEICHENIA UMBRACULIFERA, *T. Moore, Ind. Filicum*, 384 (1862).

Melsetter, 6000 ft., n. 613 ; Lusitu Hills, 5000 ft., n. 1497.

Distrib. South Africa.

CYATHEA DREGEL, *Kunze in Linnæa*, x. (1836) 551.

Mt. Pene Forest, 6500–7000 ft. ; n. 816.

Distrib. South and East Africa.

CYATHEA THOMSONI, *Baker in Journ. Bot.* xix. (1881) 180.

Near Chirinda, 3800 ft. ; n. 817, n. “Z,” n. 401 in part.

Distrib. Nyasaland.

CYATHEA MANNIANA, *Hook. Syn. Filicum*, 21 (1865).

Maruma, 3700 ft., n. 801 ; Mt. Pene, 7000 ft., n. 6030.

Distrib. West and East tropical Africa.

HYMENOPHYLLUM GRACILE, *Bory in Willd. Sp. Pl.* v. 527 (1810).

Mt. Pene, 7000 ft. ; n. 6016.

Distrib. Natal, Madagascar, Mascarene Islands.

DAVALLIA THECIFERA, *H. B. K. Nov. Gen. et Sp.* i. 23 (1815).

Mt. Pene, S.E. Rhodesia, 7000 ft. ; n. 6018.

Distrib. South America, Africa, African Islands.

HYPOLEPIS ANTHRISCIFOLIA, *Presl, Tentamen*, 162 (1836).

Chirinda Forest, 3700–4000 ft. ; n. 820.

Distrib. Mascarene Islands, South Africa, Fernando Po.

HYPOLEPIS BERGIANA, *Hooker, Sp. Filicum*, ii. 67 (1852).

Chimanimani Mts., 7000 ft. ; n. 821.

Distrib. Cape Colony to Zambesi.

PELLÆA INVOLUTA, *Baker, Syn. Filicum*, ed. 2, 148 (1874).

Common on ant-heaps, Madanda forests, 400 ft. ; n. 882.

Distrib. South Africa.

PELLÆA CONSOBRINA, *Hooker, Sp. Filicum*, ii. 145 (1858).

Chimanimani Mts., 7000 ft., n. 852 ; Mt. Pene, 7000 ft., n. 6028.

Distrib. South, West, and East Africa, and Mascarene Islands.

PELLÆA HASTATA, *Link, Filicum Sp.* 60 (1841).

Inyamadzi Valley, 2500 ft., n. 848 ; Madanda forests, 400 ft., n. 847.

Distrib. South, West, and East Africa, and Mascarene Islands.

Var. *MACROPHYLLA*, *Hooker, Sp. Filicum*, ii. 146 (1858). Chirinda Forest, 3600–4000 ft., n. 800 ; Inyamadzi Valley, 2500 ft., n. 849.

Distrib. As the type.

PELLÆA CALOMELANOS, *Link, Filicum Sp.* 61 (1841).

Near Chirinda, 3600 ft. ; n. 850.

Distrib. South, West, and East Africa, Bourbon, Himalayas, Yunnan.

PTERIS CRETICA, *Linn. Mant.* 130 (1767).

Chirinda Forest, 3700–4000 ft. ; n. 831.

Distrib. Wide.

PTERIS QUADRIAURITA, *Retz. Obs. Bot.* vi. 36 (1791).

Chirinda Forest, 3700–4000 ft. ; n. 872.

Distrib. Wide.

PTERIS BREVISORA, *Baker, Syn. Filicum*, 162 (1867).

Chirinda Forest, 3700–4000 ft. ; n. 871.

Distrib. West Africa, Zambesi.

PTERIS AQUILINA, *Linn.*, var. *LANUGINOSA*, *Hooker, Sp. Filicum*, ii. 196 (1858).

Chirinda, 2800 ft., n. 401 in part ; Mt. Pene, 7000 ft., n. 6029.

Distrib. Wide.

- LOMARIA ATTENUATA, *Willd. Sp. Pl.* v. 290 (1810).
Chimanimani Mts., 7000 ft., n. 835 *a*; Mt. Pene, 7000 ft., nn. 6023 & 6024.
- LOMARIA PROCERA, *Spreng. Syst. Veget.* iv. 65 (1827).
Chirinda Forest, 3700–4000 ft.; n. 832.
Distrib. Wide.
- LOMARIA BORYANA, *Willd. Sp. Pl.* v. 292 (1810).
Chimanimani Mts., 7000 ft., n. 835; Mt. Pene, 7000 ft., n. 6022.
Distrib. South America, Africa.
- ASPLENIUM ERECTUM, *Bory in Willd. Sp. Pl.* v. 328 (1810).
Chirinda Forest, 3700–4000 ft., n. 827; Mt. Maruma, 3500 ft., n. 839.
Distrib. Africa.
- ASPLENIUM SERRA, *Langs. et Fisch.*, var. NATALENSIS, *Baker, Syn. Filicum*, ed. 2, 485 (1874).
Chimanimani Mts., 6500 ft.; n. 851.
Distrib. Natal. The type in South America and West Africa.
- ASPLENIUM GEMMIFERUM, *Schrad. in Götting. gel. Anzeig.* (1818) 916.
Chirinda Forest, 3700–4000 ft.; nn. 402 & 853.
Distrib. South, West and East Africa, and Mascarene Islands.
- Var. LACINIATUM, *Mett. in Kuhn, Filices Africanæ*, 103 (1868). Chirinda Forest, 3700–4000 ft.; nn. 844 & 844 *a*.
Distrib. South Africa.
- ASPLENIUM RESECTUM, *Smith, Pl. Icon. Inedit.* iii. t. 72 (1791).
Chirinda Forest, 3700–4000 ft.; nn. 840 *a* & 841.
Distrib. West Africa to Japan and Polynesia.
- ASPLENIUM LÆTUM, *Swartz, Syn. Filicum*, 79, 271 (1806).
Chirinda Forest, 3700–4000 ft.; nn. 840 & 840 *b*.
Distrib. South Africa, Madagascar, South America.
- ASPLENIUM PROTENSUM, *Schrad. in Götting. gel. Anzeig.* (1818) 916.
Chirinda Forest, 3700–4000 ft.; nn. 879 & 880.
Distrib. Tropical and South Africa, and Mascarene Islands.
- ASPLENIUM FURCATUM, *Thunb. Prod. Fl. Cap.* 172 (1800).
Chirinda Forest, 3700–4000 ft., n. 845, and “D”; Chimanimani Mts., 7000 ft., n. 846 *a*; Melsetter, 6000 ft., n. 808; Mt. Pene, 7000 ft., n. 6026.
Distrib. Wide.

Var. TRIPINNATUM, *Baker, Syn. Filicum*, ed. 2, 487 (1874). Mt. Pene Forest, 6500–7000 ft. ; nn. 846 & 6027.

Distrib. South Africa.

ASPLENium CICUTARIUM, *Sw.*, var. ABYSSINICUM, *Baker, Syn. Filicum*, 220 (1867).

Chirinda Forest, 3700–4000 ft. ; n. 819.

Distrib. Tropical Africa.

ASPLENium MANNII, *Hooker, Second Century of Ferns*, t. 60 (1861).

Mt. Pene, 7000 ft., n. 6015 ; Chipete forest patch, 3800 ft., n. 427.

Distrib. Tropical Africa and Madagascar.

ASPLENium THUNBERGII, *Kunze in Linnaea*, x. (1836) 517.

Chirinda Forest, 3700–4000 ft., n. 806 ; Chipetzana head-waters, Mafusi, 4000 ft., n. 807 ; Mt. Pene, 7000 ft., n. 6017.

Distrib. South Africa.

DIDYMOCHLÆNA LUNULATA, *Desv. Prod. fam. Fougères*, 282 (1827).

Mt. Pene Forest, 6500–7000 ft. ; n. 815.

Distrib. South Africa to Polynesia, and South America.

ASPIDIUM AMMIFOLIUM, *Poiret in Lam. Encycl. Méthod.* v. 554 (1804).

Mt. Pene Forest, 6500–7000 ft., n. 878 ; Mt. Pene, 7000 ft., nn. 6031 & 6032.

Distrib. Natal, Cape, Mascarene Islands.

NEPHRODIUM ALBOPUNCTATUM, *Desv. Prod. fam. Fougères*, 255 (1827).

Chimanimani Mts., 7000 ft. ; n. 857.

Distrib. Tropical Africa, Mascarene Islands, Amboina, Fiji.

NEPHRODIUM BERGIANUM, *Baker, Syn. Filicum*, 269 (1867).

Inyamadzi Valley, 2500 ft., n. 863 ; Kurumadzi River, Jihu. 2000 ft., n. 862 pro parte ; Chirinda Forest, 3700–4000 ft., nn. 866 & 870.

Distrib. South Africa.

NEPHRODIUM THELYPTERIS, *Strempel*, var. SQUAMULIGERA, *Schlechtend. Adumbr. Pl.* 23 (1825).

Near Chirinda, 3800 ft., nn. 858 & 859 a ; Kurumadzi River, Jihu, 2000 ft., nn. 859 & 862 (in part).

Distrib. South and East Africa.

NEPHRODIUM FILIX-MAS, *Rich.*, var. ELONGATUM, *Hooker, Sp. Filicum*, iv. 117 (1862).

Near Chirinda, 3800 ft.; nn. 874 & 457.

Distrib. Africa, East Indies, Southern United States.

NEPHRODIUM ATHAMANTICUM, *Hooker, Sp. Filicum*, iv. 125 (1862).

Often growing in the holes of ant-bears and jackals, and hence providing a valuable danger-signal of pitfalls to equestrians. Near Chirinda, 3800 ft., nn. 875 & 876; Lusitu River, 3000 ft., n. 875 a.

Distrib. South Africa.

NEPHRODIUM UNITUM, *R. Br. Prod.* 148 (1810).

Mt. Maruma, 3500 ft., n. 860; Kurumadzi River, Jihu, 2000 ft., n. 861.

Distrib. Very wide.

NEPHRODIUM MOLLE, *R. Br. Prod.* 149 (1810).

Chirinda Forest, 3700–4000 ft., nn. 864, 865, 867, 870; near Chirinda, 3800 ft., nn. 868 & 869; Kurumadzi River, Jihu, 2000 ft., n. 862 a.

Distrib. Very wide.

NEPHRODIUM CICUTARIUM, *Baker, Syn. Filicum*, 299 (1867).

Gemmiferous. Chirinda Forest, 3700–4000 ft., n. 823; Inyamadzi Valley, 2500 ft., n. 824; Mt. Pene, 6500–7000 ft., n. 824 a.

Distrib. Very wide.

NEPHROLEPIS CORDIFOLIA, *Presl, var. UNDULATA, Mett. in Kuhn, Filices Africanæ*, 156 (1868).

Chirinda Forest, 3700–4000 ft.; n. 856.

Distrib. Tropical Africa, and Comoro Islands.

POLYPODIUM PROLIFERUM, *Rosb. in Wall. List*, n. 312 (1828).

Fronds creeping among boulders at river's edge and rooting here and there. Inyamadzi Valley, 2500 ft.; n. 855.

Distrib. Angola to New Caledonia.

POLYPODIUM INCANUM, *Sw. Prod.* 131 (1788).

Chirinda Forest, 3700–4000 ft.; n. 809.

Distrib. United States to Chile and Argentina; South Africa.

POLYPODIUM AFRICANUM, *Mettenius, Ueb. einiq. Farnngattung*, I. Polypodium, 131 (1857).

Chirinda Forest, 3700–4000 ft., n. 425; Chipete forest patch, 3800 ft., n. 425 a.

Distrib. South and West Africa.

POLYPODIUM LEPIDOTUM, *Willd. in Schlechtend. Adumbr. Filicum*. 17 (1825).

Epiphytic on *Brachystegia Randii* and other trees. Melsetter, 6000 ft., LINN. JOURN.—BOTANY, VOL. XL.

n. 811; Chipete forest patch, 3800 ft., n. 812; Chimanimani Mts. 7000 ft., n. 813; Mt. Pene, 7000 ft., nn. 6008 & 6019.

Distrib. India to Africa and South America.

POLYPODIUM PHYMATODES, *Linn. Mant.* 306 (1771).

Almond-scented, growing among boulders at river's edge. Lusitu River, 2500 ft.; nn. 661 & 884.

Distrib. Polynesia to Malayan Islands and Africa.

GYMNOGRAMME ARGENTEA, *Mett. in Kuhn, Filices Africanae*, 59 (1868).

In crannies of crags. Chimanimani Mts., 7000 ft.; n. 677.

Distrib. Natal and Mascarene Islands.

GYMNOGRAMME LANCEOLATA, *Hooker, Sp. Filicum*, v. 156 (1864).

Near Chirinda, 3800 ft., n. 814; Mt. Pene, 7000 ft., n. 6020.

Distrib. Polynesia and Japan to Africa.

VITTARIA ISOETIFOLIA, *Bory, Voyage*, ii. 325 (1804).

Chimanimani Mts., 7000 ft.; n. 802.

Distrib. South Africa, Bourbon.

ACROSTICHUM LATIFOLIUM, *Sw. Prod.* 128 (1788).

Mt. Pene, 7000 ft.; n. 6009.

Distrib. Natal, South America.

ACROSTICHUM LINEARE, *Fée, Mém.* ii. *Acrost.* 47 (1845).

Mt. Pene, 7000 ft.; n. 6014.

Distrib. Bourbon, Brazil.

ACROSTICHUM VISCOSUM, *Sw. Syn. Filicum*, 10, 193 (1806).

Chimanimani Mts., 7000 ft.; n. 810.

Distrib. South America to Africa, India and Malay Islands.

ACROSTICHUM HEUDELOTHII, *Hooker, Sp. Filicum*, v. 264 (1864).

Growing in stream; Inyamkuwha River, Mafusi, Chinambogé Valley, 3000 ft.; n. 833. Growing in and beside the water; common; Kurumadzi River, Jihu, 2000 ft.; n. 834.

Distrib. Senegambia, Sierra Leone, Zambesiland.

ACROSTICHUM AUREUM, *Linn. Sp. Pl.* 1069.

Limestone forest patch, Idunda River, Lower Buzi, 100 ft.; n. 838.

Distrib. Very wide.

- OSMUNDA REGALIS, *Linn. Sp. Pl.* ii. 1065.
 In swift stream, near Chirinda, 3700 ft. ; n. 828. Beside stream, Chipetzana head-waters, Mafusi, 4000 ft.
Distrib. Very wide.
- TODEA AFRICANA, *Willd. in Schrift. Akad. Wiss. Erfurt*, i. (1802) 14.
 Forming dense clumps along ledges of cliffs, Chimanimani Mts., 7000 ft. ; n. 830.
Distrib. South Africa, Australasia.
- MOHRIA CAFFRORUM, *Desv. Prod. fam. Fougères*, 198 (1827).
 Melsetter, 6000 ft. ; n. 611.
Distrib. South Africa to Mauritius.
- MOHRIA LEPIGERA, *Baker, in Ann. Bot.* v. (1891) 498.
 Chimanimani Mts., 7000 ft. ; n. 611 a.
Distrib. Zambesiland.
- LYGODIUM SUBALATUM, *Bojer, in Kuhn, Filices Africanæ*, 170 (1868).
 Handsome climbing fern, often completely enveloping patches of dense bush. Lower Zona River, Jihu, 2000 ft. ; n. 208.
Distrib. East tropical Africa, Comoro Islands, Madagascar.
- MARATTIA FRAXINEA, *Sm. Pl. Icon. Inedit.* ii. t. 48 (1790).
 Chirinda Forest, 3700–4000 ft., n. 826 ; Mt. Pene Forest, 6500–7000 ft., nos. 826 a & 6025.
Distrib. Africa to India and Polynesia, and to New Zealand.
- EQUISETUM RAMOSISSIMUM, *Desf. Fl. Atlant.* ii. 398 (1800).
 Forming thickets by the water's edge ; Inyamadzi Valley, 2500 ft. ; n. 780.
Distrib. Cosmopolitan in warm temperate and tropical zones.
- LYCOPODIUM VERTICILLATUM, *Linn. f. Suppl. Syst. Veg.* ed. xiii. 448 (1781).
 Fairly common in damp places ; Mt. Pene, 7000 ft. ; n. 6010.
Distrib. Tropical America, Polynesia, South Africa, Mascarene Islands.
- LYCOPODIUM CERNUUM, *Linn. Sp. Pl.* ed. ii. 1566 (1763).
 Trailing plant growing by the side of a water-furrow ; near Chirinda, 3800 ft. ; n. 458.
Distrib. Cosmopolitan in tropics and subtropics.

LYCOPODIUM CLAVATUM, *Linn.*, var. INFLEXUM, *Spring, Monogr. Fam. Lycopod.* i. 90 (1842).

Common in Mt. Pene Forest, 6500–7000 ft. ; n. 805.

Distrib. Cape and Madagascar.

SELAGINELLA RUPESTRIS, *Spring, in Endlich. et Mart. Fl. Bras.* i. 118 (1840).

Chimanimani Mts., 7000 ft. ; n. 617 a.

SELAGINELLA KRAUSSIANA, *A. Br. in Ind. Sem. Hort. Berol.* (1859) 22.

Chimanimani Mts., 7000 ft., n. 803 ; Mt. Pene, 7000 ft., n. 6013.

BRYOPHYTA.

CATHARINEA ANDROGYNA, *C. Muell. Syn. Musc.* i. 193 (1849).

Mt. Pene, 7000 ft. ; n. 6021.

Distrib. South Africa.

THAMNIUM AFRUM, *C. Muell. in Hedwigia*, xxxviii. (1899) 129.

On rock near Zona River, Jihu ; without number.

Distrib. South and East Africa.

MADOTHECA CAPENSIS, *Gottsche, Syn. Hepat.* 270 (1845).

On trees ; Chirinda, 3800 ft. ; n. 812.

Distrib. South, West, and East Africa, and South America.

FUNGI.

UNCINULA INCRASSATA, *E. S. Salmon, in Annales Mycologici*, vi. (1908) 525.

On leaves of *Pterocarpus mellifer* ; Zona River, Jihu, 2000 ft. ; without number.

Distrib. Gazaland.

LICHENES.

USNEA LONGISSIMA, *Ach. Lich. Univ.* 626 (1810).

Hanging from branches of trees, frequent ; Chirinda Forest, 3800 ft. ; n. 430. Chimanimani Mts., 6500 ft. ; n. 617. Madanda forests, 400 ft. ; nn. 801 & 1804.

Distrib. Very wide.

PHYSICIA FLAVICANS, *DC. Fl. Franç.* ii. 189 (1805).

On trees ; near Chirinda, 3800 ft. ; n. 883.

Distrib. Very wide.

EXPLANATION OF THE PLATES.

PLATE 1.

- (1) *Chrysophyllum fulvum*, S. Moore, in the Spungabera Forest.
 (2) A group of *Khaya nyasica*, Stapf, on the outskirts of the Chirinda Forest.
 (3) Base of tree of *Khaya nyasica*.
 (4) A tree of *Adina microcephala* var. *Galpini*, Hiern, in the Inyamadzi Valley.
 The great size of the tree can be judged from the figure of a native bearing a load in the right-hand corner.

PLATE 2.

- Figs. 1-5. *Teclea Swynnertonii*, Bak. fil. 1. A flowering branch (nat. size). 2. Female flower, $\times 6$. 3. Ovary and stigma, $\times 6$. 4. Ovary in transverse section, $\times 6$. 5. Male flower, $\times 6$.
 Figs. 6 & 7. *Schefflerodendron gazense*, Bak. fil. 6. A flower (nat. size). 7. Standard (nat. size).

PLATE 3.

Lova Swynnertonii, Bak. fil.

- Fig. 1. A flowering branch (nat. size). 2. A leaf, $\times \frac{1}{3}$. 3. A leaflet (nat. size). 4. A flower, $\times 9$. 5. Staminal tube, $\times 9$. 6. Portion of staminal tube seen from within, showing insertion of stamens, $\times 9$. 7. Capsule (nat. size). 8. Winged seed (nat. size).

PLATE 4.

- Figs. 1-4. *Heinsenia sylvestris*, S. Moore. 1. A flowering branch (nat. size). 2. Corolla opened longitudinally, $\times 1\frac{1}{2}$. 3. Ovary, style and style-arms, $\times 3$. 4. Ovary opened showing the two ovule-like pendulous placentas, $\times 3\frac{1}{2}$.
 Figs. 5 & 6. *Heinsenia Brownii*, S. Moore. 5. Ovary opened, showing placenta, $\times 10$. 6. Semidiagrammatic view of placenta in radial longitudinal section, showing the two embedded ovules (*pl.* placenta, *ov.* ovules), $\times 30$.

PLATE 5.

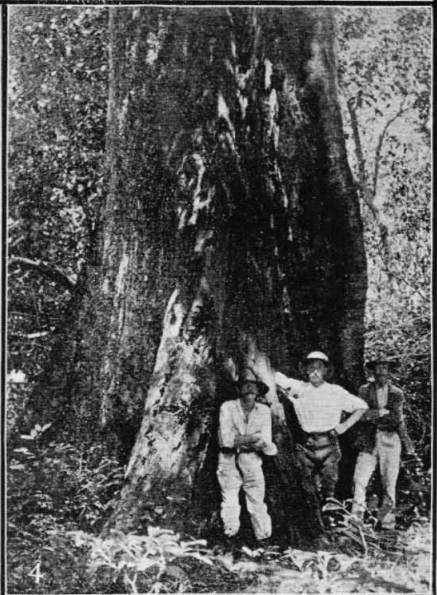
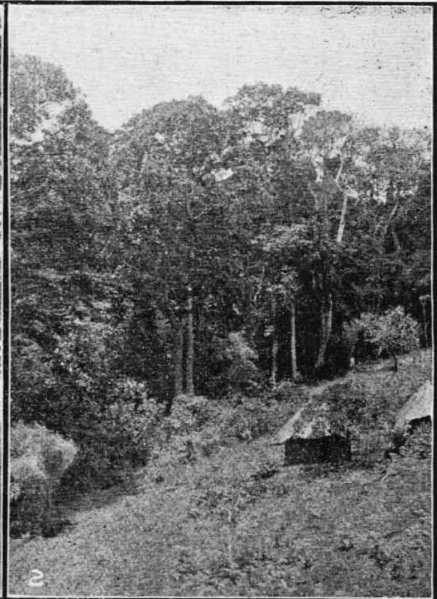
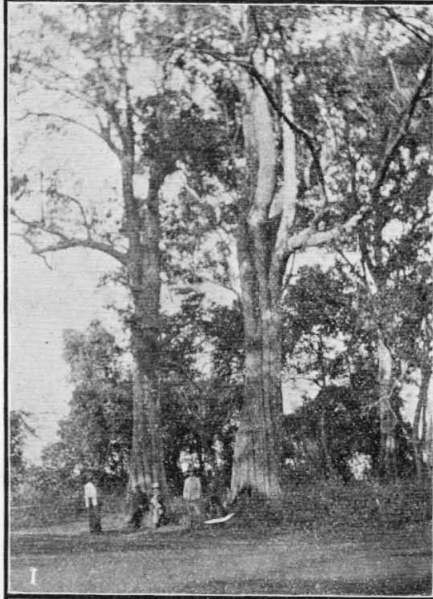
- Figs. 1-3. *Humea africana*, S. Moore. 1. Part of plant (nat. size). 2. A capitulum, $\times 8$. 3. A floret, $\times 8$.
 Fig. 4. *Swynnertonia cardinea*, S. Moore. A flower, $\times 4$ (from a sketch of Mr. Swynnerton's from the living plant).
 Figs. 5-13. *Craspedorhachis rhodesiana*, Rendle. 5. Portion of inflorescence (nat. size). 6. Portion of a spike, $\times 10$. 7, 8. Outer barren glume, $\times 15$. 9, 10. Inner barren glume, $\times 15$. 11. Fertile glume, $\times 15$. 12. Pale, $\times 15$. 13. Flower showing fertilized ovary, $\times 40$.

PLATE 6.

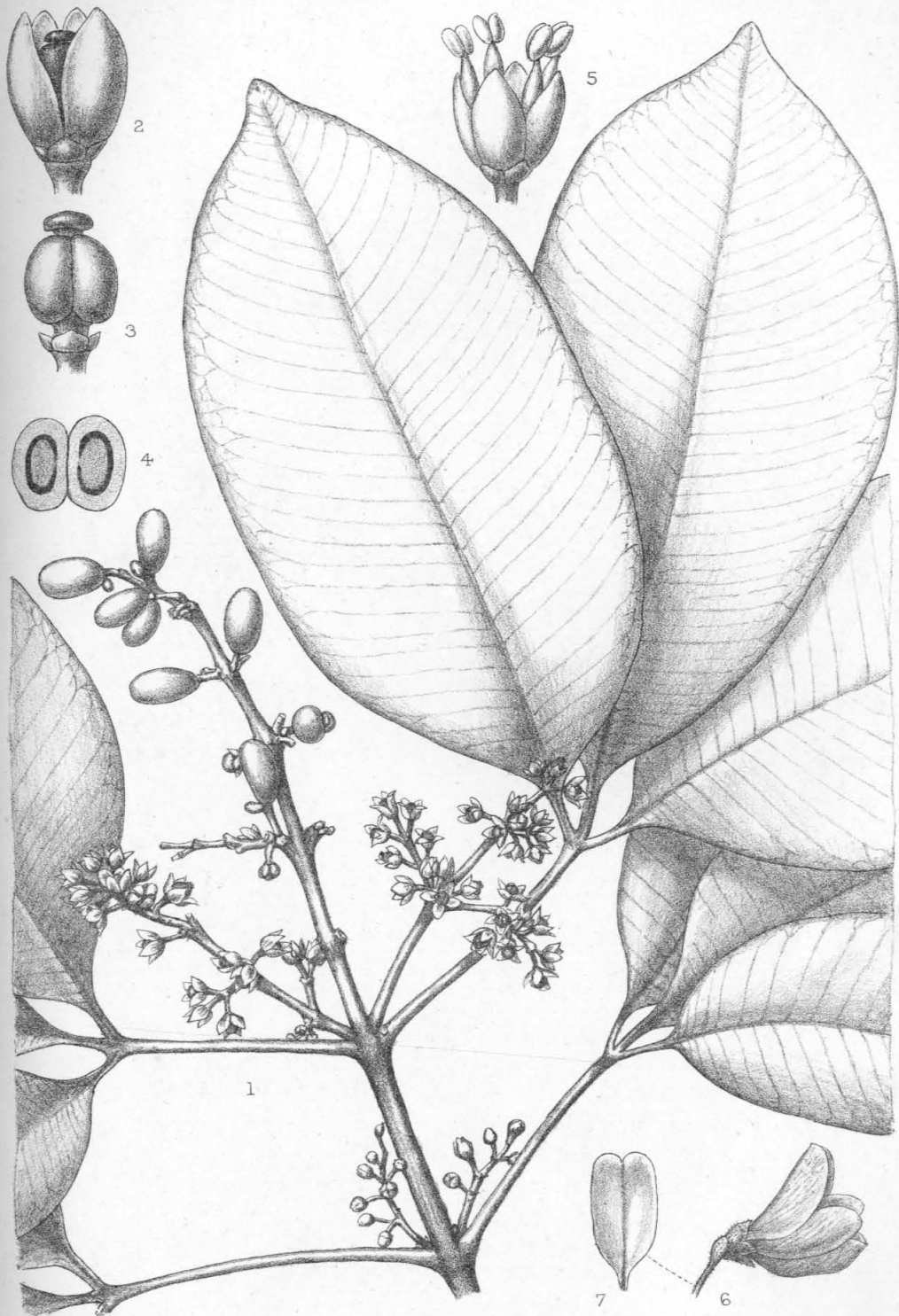
- Figs. 1-5. *Digitaria gazensis*, Rendle. 1. Plant (nat. size). 2. Portion of a spike, $\times 10$. 3, 4. Barren glumes, $\times 16$. 5. Fertile glume, $\times 16$.
 Figs. 6-10. *D. Swynnertonii*, Rendle. 6. Inflorescence (nat. size). 7. Portion of a spike, $\times 10$. 8, 9. Barren glumes, $\times 16$. 10. Fertile glume, $\times 16$.

PLATE 7.

Map of North-West Gazaland, showing Mr. Swynnerton's chief collecting districtt,
 adapted from his map published in 'The Ibis,' 1908.



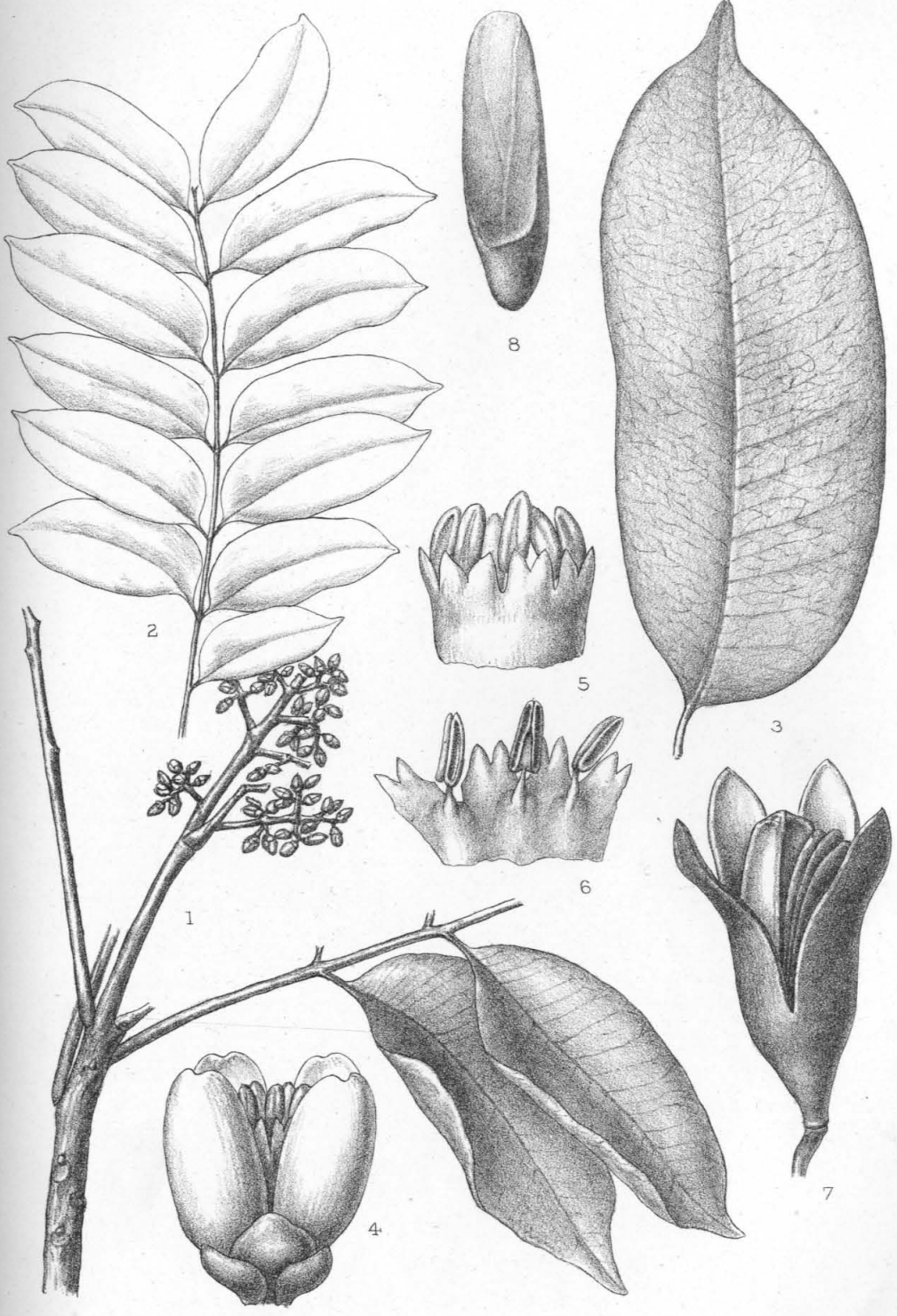
VEGETATION OF GAZALAND.



Highley, del. et lith.

C. Hodges & Son. imp.

1-5, *TECLEA SWYNNERTONII*, Bak. fil.
 6-7, *SHEFFLERODENDRON GAZENSE*, Bak. fil.



Highley. del. et lith.

C. Hodges & Son. imp.

LOVOA SWYNNERTONII, *Bak. fil.*



Highley del. et lith.

C. Hodges & Son. imp.

HEINSENIA SYLVESTRIS, S. Moore.



Highley, del. et lith

C. Hodges & Son, imp.

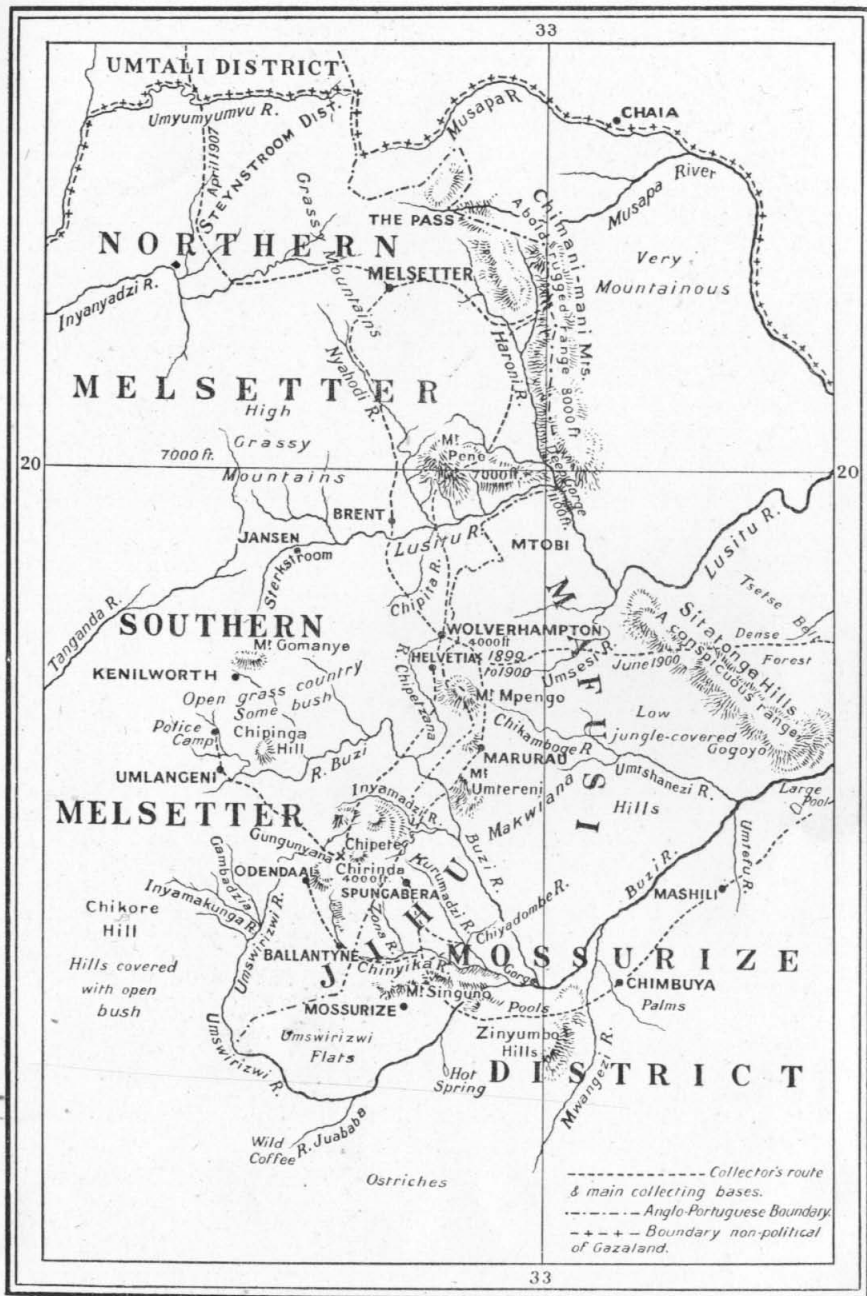
1-3, HUMEA AFRICANA. S. Moore. 4, SWYNNERTONIA CARDINEA, S. Moore. 5-13, CRASPEDORHACHIS RHODESIANA, Rendle.



Highley. del et lith.

C. Hodges & Son. imp.

1-5, DIGITARIA GAZENSIS, Rendle.
 6-10, DIGITARIA SWYNNERTONII, Rendle.



MAP OF NORTH-WEST GAZALAND.