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A FIRST PLANT CHECKLIST FOR MT. NAMULI, NORTHERN MOZAMBIQUE

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SUMMARY

The Namuli massif in north-central Mozambique is one of the major areas of plant conservation interest in the country. A preliminary checklist of vascular plant taxa recorded from this montane area of 120 km^2 above 1200 m (1000 m on the western side) is presented, along with indications on whether each is endemic or near-endemic, their known habitat and any published IUCN Red List assessment. A total of 603 taxa is listed, including 20 strict endemics and 20 taxa known only from Namuli and three or fewer mountains in the Mulanje-Namuli-Ribáuè centre of plant endemism. The Namuli area is briefly described together with the main vegetation types found, followed by a discussion on the main conservation issues and threats.

KEY WORDS: Mozambique – Zambézia – plant checklist – vegetation – endemics – threats – conservation

INTRODUCTION

Although currently unprotected, Mt Namuli is one of the most important sites for biodiversity conservation in Mozambique. Situated just north of the town of Gurué in Zambézia Province, northern Mozambique (Fig. 1), broadly this montane area has an extent of around 200 km^2 (Timberlake *et al.* 2009). The upland Namuli area comprises moist forest, montane grassland, montane shrubland, woodland and bare rock faces, and is known to support 40 endemic or near-endemic plant taxa, the latter being defined here as taxa shared with nearby montane inselbergs in northern Mozambique and southern Malawi.

The massif has been the focus of much biological study, beginning with that by Joseph Last on plants and geography in 1886 (Last 1887) and Jack Vincent on birds in 1932 (Vincent 1933a), and, more recently, through multidisciplinary surveys carried out during a Darwin Initiative project from 2005 to 2009 (Timberlake *et al.* 2009). In addition to these surveys, there have been accounts on birds, small mammals, reptiles and butterflies (e.g. Ryan *et al.* 1999, Branch & Ryan 2001, Spottiswoode *et al.* 2008, Congdon, Collins & Bayliss 2010, Dowsett-Lemaire 2010, Branch, Bayliss & Tolley 2014).

Despite this interest and the biological richness, no plant checklist for Mt Namuli has yet been published. This paper provides a preliminary checklist based both on recent and historic collections and records, and builds on the list of plants collected in 2007 during the Darwin project trips (Timberlake *et al.* 2009: Annex 2). Following Timberlake (2018) it covers an area of approximately 120 km^2 above the 1200 m contour on the eastern side down to the 1000 m contour in the west (Fig. 2), an area much larger in extent than the 51 km^2 upland area proposed by the NGO Legado as a community conservation area (Legado 2018) but smaller than the broad Namuli area of 200 km^2 outlined in Timberlake *et al.* (2009). The checklist aims to contribute to the increasing body of plant diversity data on the mountains across south-central Africa, including areas within the Manica Highlands in eastern Zimbabwe and adjacent parts of Mozambique (Müller *et al.* 2008,

Clark *et al.* 2017, Wursten *et al.* 2017, Timberlake *et al.* 2020), Mt Mulanje (Strugnell 2006) and the Nyika plateau (Burrows & Willis 2005) in Malawi, the Mafinga Mountains in northeast Zambia (Timberlake *et al.* 2018), and Mt Mabu (Timberlake *et al.* 2012, Bayliss *et al.* 2014) and Mt Chiperone (Timberlake *et al.* 2007) in northern Mozambique. It is hoped this will help build a regional picture of plant distribution and biogeographical patterns.

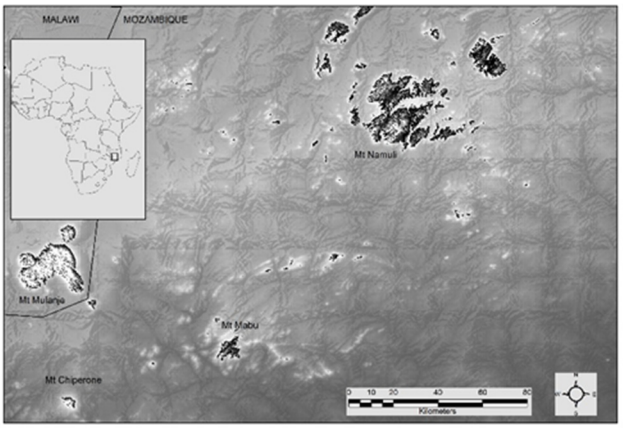

Figure 1. Location of Mt Namuli in Mozambique.

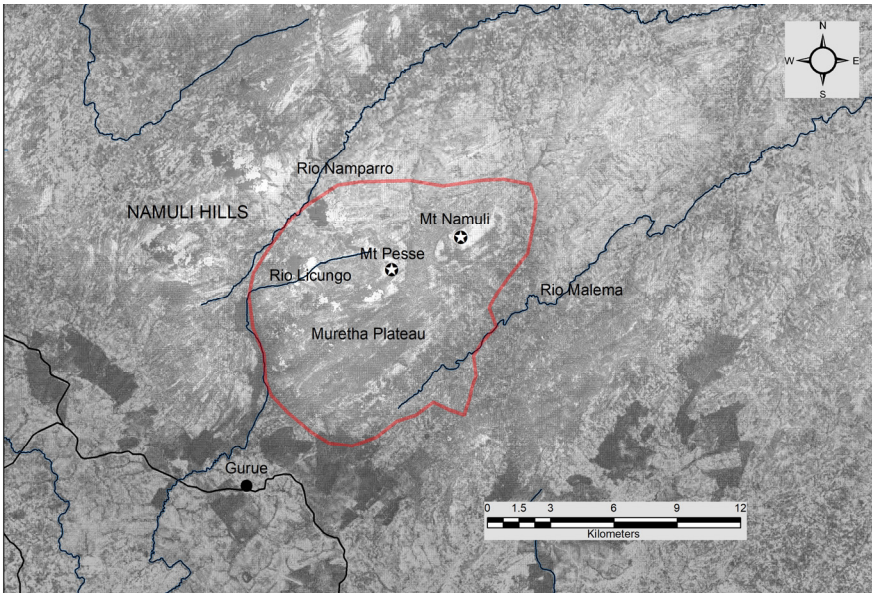

Figure 2. Extent of Mt Namuli area (red line) above 1000-1200 m covered by checklist.

STUDY AREA

Geography and Geology

Centred on 15°23'S, 37°02'E, Mt Namuli lies just north of the town of Gurué which has long been a major centre of tea production in Mozambique (Fig. 2). Mt Mulanje in Malawi (3002 m) lies 150 km to the southwest and the nearest part of the Indian Ocean coastline is about 250 km to the southeast. The second highest peak in the country − after Mt Binga in the Chimanimani Mountains at 2436 m − the highest points are the twin

peaks of Mt Namuli itself (15°22'S, 37°03'E) at 2419 m and 2369 m and Mt Pesse at 2303 m (Timberlake *et al.* 2009). From a pediplain at around 800 m on the south and west, the land rises to a fairly extensive sloping plateau at around 1800 m. The largest montane grassland area is in the east – the Muretha (or Moretxa) plateau at around 1850 m; there are a few smaller grassland areas to the north-west (Fig. 2). Some spectacular waterfalls are found on the western side, the best-known being the Cascata de Namuli on the Rio Licungo (15°24'40"S, 36°58'39"E, 1030 m altitude), which falls about 100 m down a sloping rock face.

The whole upland complex in this area forms part of the watershed between the Rio Lúrio and Rio Licungo catchments, and appears to be the largest single such massif in the country. It is essentially a complex of granite/syenite inselbergs ('whalebacks') or intrusions linked by a high plateau, exposed by millions of years of subsequent erosion. The peaks and ridges of the Namuli massif itself consist of Precambrian granite-porphyrite rocks intruded into 1100–850 million-year-old migmatites of the Nampula and Namarroi series of the Mozambique tectonic province (Instituto Nacional de Geológia 1987).

Climate

Climatic data for the Namuli massif itself are not available; the only data are for Gurué town at an altitude of 730 m where the rainfall is probably significantly less and mean temperatures certainly higher (Timberlake *et al.* 2009). Mean annual rainfall over 28 years at Gurué town is 1995.7 mm (Kassam *et al.* 1981). There is a distinct rainy season from November to March with each of these months having over 300 mm precipitation (mean of 357.8 mm for March, the wettest month) and a dry season from May to October with less than 60 mm/month (mean of 26.1 mm for September, the driest). Mean maximum temperatures are 28.0°C (ranging from 32.5° in October to 23.0° in July) while mean minima are 15.7°C (ranging from 12.3° in July to 18.3° in January). Potential evapotranspiration is 1226.7 mm/year, some 770 mm/year less than precipitation. Without the benefit of meteorological instruments, Vincent (1933a) suggested that the annual rainfall at Gurué was around 1800 mm/year while up on the slopes of Mt Namuli it is probably 110–120 inches/year (2800–3050 mm). He did not think temperatures frequently went much below zero up on the plateau during the cold season, but it is probable that overnight mild frosts are not uncommon from June to August.

Vegetation and Habitats

Although the Namuli massif is relatively small at a regional level, it is clearly shown on the Flora Zambesiaca vegetation map (Wild & Barbosa 1967) as an area of Moist Evergreen Medium-altitude Forest (type 1) encompassing a small area of Dry Coniferous Montane Forest (type 8). Unfortunately, this does not reflect what is actually present, which is more akin to Moist Broadleaved Montane Forest (type 7) surrounding a small area of sub-montane *Themeda* grassland (type 68). The mapped Dry Coniferous Forest probably refers to an assumed area of *Widdringtonia*, which is in fact absent from Namuli (Timberlake *et al.* 2009). The pediments immediately below the plateau are shown as *Brachystegia spiciformis* (high rainfall) Woodland (type 21) surrounded by drier *Brachystegia spiciformis–Julbernardia* Woodland (type 23) further away. In his Africa-wide study of vegetation, White (1983) depicts montane forest here as being allied to the East African coastal mosaic, surrounded by Wetter Zambezian miombo woodland. However, the montane forests on Namuli show very little affinity to those of the lower coastal areas and are much closer to what he terms Afromontane Forest, certainly above 1600 m altitude.

Earlier botanical studies include those by Barbosa (1952) on the vegetation of Zambézia Province and by Pedro & Barbosa (1955) of the whole country. Barbosa (1952) describes the vegetation of the Namuli massif as Moist Tropical Montane Forest (rain and

clouds) with mostly evergreen trees 18–20 m high with three or four strata. Forest is found only above 1200 m altitude. Above a certain (unspecified) altitude it is said to be sufficiently cool that a xerophytic thicket vegetation is found, dominated by Ericaceae and Proteaceae species. He also mentions that large areas of forest have been cleared in the Gurué area for tea plantations. Pedro & Barbosa (1955) do not give details of vegetation in the Namuli area but state that vegetation at 1000–1800 m is part of Montane Zones of Zambézia–Niassa, while those parts above 1800 m fall into Subalpine Zones of Zambézia. Areas below 800 m are described as open or closed woodland characterised by *Brachystegia* species and *Uapaca* depending on the geomorphology and soil type.

In general, the vegetation of the Namuli massif above 1200 m altitude can be categorised into six main groups – forest, woodland, montane scrub, montane grassland, thin mats or patches on rocky slopes and bare rock, and cultivated/heavily disturbed areas (Timberlake *et al.* 2009) − although there is substantial variation within some of them and the boundaries are not always clear-cut. This is particularly the case with woodland and scrub, which in a number of instances would appear to have been originally derived from forest by fire and/or disturbance. Undoubtedly woodland was extensive before settlement in the area, but this vegetation type has been the most modified by human activity. These six types are described briefly below; further details on vegetation composition are given by Dowsett-Lemaire (2008, 2010).

Forest: There are three main types of forest, depending on altitude and composition (Timberlake *et al.* 2009). The area under moist evergreen forest was extensive, estimated at around 1250 ha in 2009, with about 1115 ha of this between an altitude of 1600–1900 m. About 50 ha of forest was noted between 1950 and 2200 m altitude on the slopes of Mts Pesse and Pilani, and around 135 ha of medium-altitude forest below 1600 m. The main blocks of forest, which were at that time more-or-less continuous, lay in SW–NE trending broad valleys and on the less-steep slopes of the plateau. Some patches were found in deeper valleys or in moister areas such as the Ukalini forest below the peak of Namuli itself.

Montane forest (1600−2200 m) has its main area of development at 1700−1800 m. It has a closed canopy at around 20−25 m high with emergents to 30−40 m, but in smaller patches on more level ground the canopy is lower at 15−20 m. Common canopy trees are *Albizia gummifera, Anthocleista grandiflora*, *Aphloia theiformis*, *Apodytes dimidiata*, *Bersama abyssinica*, *Cassipourea malosana*, *Cussonia spicata*, *Drypetes gerrardii*, *Eugenia natalitia*, *Garcinia kingaensis*, *Ilex mitis*, *Macaranga mellifera*, *Maytenus acuminata*, *Podocarpus milanjianus*, *Polyscias fulva*, *Prunus africana*, *Psydrax parviflora* subsp. *chapmanii*, *Rapanea melanophloeos*, *Schefflera umbellifera* and *Tabernaemontana stapfiana*. The main emergents are *Faurea racemosa*, *Cryptocarya liebertiana*, *Olea capensis* and *Ekebergia capensis*. Epiphytes and ferns are common, indicating the high year-round humidity derived from frequent low cloud and rain outside of the main rainy season.

Medium altitude forest (below 1600 m) has a higher canopy. There is an increased presence of *Albizia gummifera* and *Newtonia buchananii*, along with *Chrysophyllum gorungosanum, Englerophytum magalismontanum* and *Synsepalum muelleri*.

Along larger watercourses, well-developed riparian forest can be found, although the extent appears to be significantly less than in Vincent's day. *Albizia adianthifolia* is common, along with *Bersama abyssinica*, *Parinari excelsa* and *Newtonia buchananii*. In the Licungo valley on the western side of the massif at 1000–1250 m, narrow strips of tall riverine forest with *Breonadia salicina*, *Parinari excelsa*, *Syzygium* sp. and *Englerophytum magalismontanum* are found.

Woodland is primarily found on the lower slopes below 1700 m but also on forest margins. On forest margins from 1800–2000 m, *Erica benguelensis* is common, sometimes forming a type of woodland that is much affected by fire and could be considered to be derived from moist forest. No *Brachystegia* or *Julbernardia* woodland

(miombo) has been noted above 1200 m on the mountain itself. On slopes that have been partially cleared, cultivated and burnt, another open woodland type characterised by evergreen trees of *Syzygium cordatum* is seen.

Montane scrub typically comprises bracken (*Pteridium aquilinum*), small shrubs such as *Kotschya recurvifolia* and *Tetradenia riparia*, and woody herbs such as *Dissotis princeps*, *Rhynchosia* species, *Tephrosia aequilata* and various Lamiaceae, Acanthaceae, Asteraceae and *Cyperus* species. It is found above 1750 m in more fertile or better-drained sites within grassland on the margins of montane forest, especially close to rocky outcrops, ridges or on footslopes. Bracken stands, which can be extensive, are from 0.5–1.5 m high, while clumps of shrubs can exceed 2.5 m in height and cover a hectare or more. This vegetation type appears to be secondary, at least in part, derived by fire or disturbance from grassland and the drier margins of forest. Burning is fierce and regular.

Montane grassland is found on more level parts of the upland plateau between 1850 and 2000 m altitude. The overall extent in 1969 was estimated to be around 300 ha (Timberlake *et al.* 2009). Much of the grassland on the Namuli massif, particularly on the Muretha plateau, is on deep peat deposits, presumably built up through waterlogging and acidic conditions. The grasses are tussocky, primarily *Loudetia simplex* but with *Themeda triandra* and *Eragrostis* species more common on better-drained sites and *Setaria sphacelata* in enriched areas. Closer to rock outcrops shorter grasses are found, and the vegetation changes gradually to one more typical of rocky areas. Both short and tall herbs are common, with many having root storage organs such as rhizomes or bulbs. Among the most characteristic species are *Euphorbia depauperata*, *Helichrysum* and *Crotalaria* and many ground orchids. *Kniphofia splendida* is locally abundant and scattered *Cyathea dregei* tree ferns are found on gully edges.

Rocky slopes and outcrops is possibly the most extensive vegetation type on the massif and includes both vegetation adapted to severe drought and high diurnal temperature changes and vegetation found in perennial seepages on shallow slopes adjacent to grassland. On rock faces and steeper slopes plant cover is typically patchy and confined to small thin mats, the main species being the sedge *Coleochloa setifera* which forms compact clumps 20–50 cm high. Other common species include *Crassula globularioides*, lithophytic orchids and short wiry grasses, while *Aloe mawii* and *Xerophyta kirkii* are found locally. In wetter sites or where there is lateral moisture seepage, the geophyte *Merwilla lazulina* is abundant, along with *Hypoxis nyasica* and many ground orchids. The wettest sites on permanent seepages have an almost continuous vegetation cover consisting of thin mats held together by fibrous roots that are readily destroyed by pigs or natural erosion. Such areas support finer-leaved grasses and sedges with annual or short-lived herbs such as *Xyris* and *Drosera*. Less acidic and more base-rich areas contain grasses such as *Panicum inaequilatum*.

Cultivated areas comprise vegetation that is secondary or planted and is mostly found below 1200 m on the western side and below 1400 m in the east. In the Licungo valley in the west, tea has been planted extensively in most suitable areas up to about 1200 m, although narrow fringes of riparian woodland or forest can remain along larger watercourses. There are fairly extensive areas of fallow up to about 1400 m, and owing to the tall grasses, mostly of *Hyparrhenia*, fires are both fierce and frequent. Very little of what would have been the original vegetation is left, although it is suspected this would have been dry to moist woodland.

History and Botanical Collecting

A detailed history of the area is outlined in Timberlake *et al.* (2009: 15−23). Although old Portuguese archives have not been looked at, it seems the first recorded and published visit was by the British Consul in Mozambique, Henry O'Neill, in 1883, who spent much

time travelling on foot between the coast and British-settled areas of Nyasaland (O'Neill 1884, 1885). He first saw the peaks of Mt Namuli across the broad Malema valley (O'Neill 1884: 638) saying that it was a remarkable feature, although "not reaching the description that traders in this country generally give of them", suggesting that he was fully aware of the massif before seeing it. He did not set foot on the mountain itself but noted its strange shape and its sacred nature for the local Lomwe people. It was probably these reports that, in 1885, inspired the Royal Geographical Society in London to send the missionary and linguist Joseph Last to investigate further.

Last spent three months from August to October of 1886 in the Namuli area mapping and recording. He collected numerous plant specimens, but many appear to have been stolen during his return trip. However, 79 plant specimens did end up in the Kew Herbarium in London, including some that are now types.

In the early part of the 20th century the Portuguese colonial authorities introduced tea plantations to the Gurué area, particularly on the western and southern slopes of Mt Namuli, and, later on, cattle production to the drier northern slopes. It was to this developing area that the ornithologist Jack Vincent came and spent around a month in July to August 1932 (Vincent 1933a, Dowsett-Lemaire 2008). Although he explored the whole mountain in detail, he focussed on Ukalini forest at the foot of the main peak, the Muretha plateau, and the north-eastern slopes. During this period, he collected and preserved many bird specimens and wrote up his ornithological findings in a series of papers (e.g. Vincent 1933b). He also collected some plant and small mammal specimens (including the endemic Vincent's squirrel), now probably held in the Natural History Museum in London.

Later on, the Portuguese botanist António Rocha da Torre collected from the mountains around Gurué from 1937 to 1943, and in April−June that year he collected more extensively in the area as part of a nationwide botanical survey by the Missão Botânica de Moçambique (Conde *et al.* 2014). At least five new species resulted from these trips. After Torre, scattered collections were made by the botanists Mendonça (1942, 1944), Andrade (1949), and Grandvaux Barbosa and Carvalho (1949), mostly at lower altitudes in the Gurué area and surrounding country. Many years later, between 1966 and 1968, Torre again visited the Namuli area on at least four occasions with M.F. Correia. These visits were to the Licungo valley and western massif slopes, the slopes and riverine forests of Mt Namuli on the eastern side of the massif, and to the forest and upper slopes above Gurué town, collecting in all the main habitats including montane forest and grassland up to at least 1820 m. However, most collections were from lower than 1300 m altitude with perhaps only 130 collections from above 1700 m, the point at which the plateau and montane forest can be said to truly begin.

Under a UK Government Darwin Initiative project, the Royal Botanic Gardens, Kew, the Instituto de Investigação Agrária de Moçambique (IIAM), the Maputo Natural History Museum, the Mulanje Mountain Conservation Trust (MMCT), the Forest Research Institute of Malawi and BirdLife International carried out a reconnaissance trip and two major expeditions in 2007 to look at the vegetation and plants as well as birds, other small vertebrates and butterflies (Timberlake *et al.* 2009). This resulted in over 900 plant collections with at least seven new plant species being described plus various new reptiles and butterflies. A full list of biological collectors of both plants and animals is given in Timberlake *et al.* (2009).

Land Uses and Present Situation

The main activity for which Gurué has been known historically is tea production. Plantations were established by Portuguese settlers in the first part of the 20th century and large tea factories were operating in the Gurué area from the 1950s to the early 1980s, especially around Mt Namuli. However, the civil war in the 1980s forced their closure and that of many other support services, and the local economy all but collapsed. It is only since the mid-1990s that local development and rehabilitation has picked up

again. Tourism on Mt Namuli itself is not a significant economic activity, principally because of access difficulties and poor roads.

Apart from casual and contract employment on the tea plantations, the main economic activity around Namuli is subsistence farming. The main crops grown are cassava and sweet potato, with some maize, sorghum and beans. Increasingly, small-scale horticulture for cash is being practiced, particularly of tomatoes and Irish potato, with the produce being sold in Gurué town and nearby settlements. There are also a few cattle owners on the northern slopes who graze their livestock in the Namparro valley and on the grassy plateau around Mt Pesse.

Around 2006 to 2010 there were significant numbers of semi-feral pigs on the Muretha plateau, basically running wild (Timberlake *et al.* 2009). The animals would dig up many bulbous and shallow-rooted herbs, particularly on the shallow soil seepages over rock. However, it seems the pigs were later removed as local villagers in the Malema valley on the eastern slopes started to cultivate potatoes up on the plateau and the animals caused much damage to the new crops. At this time semi-feral goats were also present in low numbers.

In recent years the great increase of Irish potato cultivation up on the plateau, especially on the eastern side, has become an important economic activity (Timberlake 2017). Many moist forest patches have been cleared and burnt as this crop grows best on these more fertile soils; recovery of the forest is subsequently difficult owing to invasion by shrubs and large herbs and frequent fires (Timberlake 2017). Such threats are discussed later.

METHODS

The checklist (see Annex) has been compiled from various data sources. The main one was the original list of identified specimens collected by various botanists during the Darwin project, identified by a number of specialists at the Royal Botanic Gardens, Kew (see Timberlake *et al.* 2009: Annex 2). This was updated as regards nomenclature where names have subsequently changed. Other sources were: a list of citations from the Serra Gurué−Namuli area in various published volumes of Flora Zambesiaca (most are listed in Annex 3 in Timberlake *et al.* 2009), records cited on the invaluable Flora of Mozambique website (Hyde *et al.* 2020), records from recent taxonomic papers (e.g. Bruyns 2006a,b; Harris, Darbyshire & Polhill 2011; Downes & Darbyshire 2017; Darbyshire *et al.* 2019a,b; Darbyshire *et al.* 2021, in press), records cited from Serra da Gurué and Cascata de Namuli during the Missão de Botânica of 1944−1948 (Conde *et al.* 2014), and personal photos and other reliable sight records from the area. All entries have a cited specimen or note indicating the source.

As far as possible, records were only taken from above 1200 m altitude on the eastern side of the mountain, from above 1000 m on the steeper western side and above 1300 m on the drier northern slopes, an area of approximately 120 km^2. Only records east of the Rio Licungo and west of the Rio Malema have been listed although, in some cases, the exact locality and altitude was not clear. Where there was significant uncertainty on the identity of a record or its location it was omitted. The original identification of each record has not been reassessed.

No further systematic collecting has been done for this checklist, and there are possibly some additional or unconfirmed species (for example, *Encephalartos gratus*, Donaldson 2010) from woodland areas in the lower parts of the altitudinal range. Confirmed species from outside the altitudinal range were excluded, e.g. *Ficus modesta* and *F. cyathistipula* (Van Noort, Gardiner & Tolley 2007).

The list is arranged alphabetically by family, genus and species under the groupings of pteridophytes, gymnosperms, monocotyledons and dicotyledons, making it more readily compared to similar checklists of other mountains in Mozambique, Malawi and Zimbabwe (e.g. Strugnell 2006, Clark *et al.* 2017, Wursten *et al.* 2017, Timberlake *et al.* 2020). An indication is given of the main lifeform (tree, shrub, climber, herb, aquatic,

epiphyte), the habitat type (which does not always strictly follow the vegetation types earlier described), and the altitudinal range of available records (where known). Species assumed to have been introduced are noted. Where available, any published or draft IUCN Red List assessment (IUCN 2020) is shown.

Family nomenclature follows that used on the Flora of Mozambique website (Hyde *et al.* 2020). Species nomenclature and authorities also follow this site, although there are occasional updates following recent publications or if there was any uncertainty. Ancillary sources of information used were the African Plants Database (http://www.ville-ge.ch/musinfo/bd/cjb/africa/index.php) and Kew's Plants of the World Online (http://www.plantsoftheworldonline.org). Pteridophyte nomenclature follows the Pteridophyte Phylogeny Group (2016).

RESULTS

A total of 603 taxa are listed in the Annex, of which 79 are pteridophytes, 523 flowering plants and one gymnosperm (Table 1). Only seven of the listed taxa (1.2%) are likely to have been introduced, a much lower figure than the 123 taxa recorded from the Bvumba mountains in Zimbabwe at a similar altitude (Timberlake *et al.* 2020). The four largest families (Table 2) are Fabaceae, Rubiaceae, Orchidaceae and Asteraceae, with 159 taxa combined, about 26% of the total.

Table 1. Total number of taxa on the Namuli checklist.

Group	total taxa	% of total taxa	# endemic taxa	# near-endemic taxa
Pteridophytes	79	13.1	0	0
Gymnosperms	1	0.2	0	0
Monocotyledons	132	21.9	5	4
Dicotyledons	391	64.8	15	16
TOTALS	603	100.0	20	20

Table 2. Plant families with more than 10 taxa on the Namuli checklist.

family	# taxa
Fabaceae *sensu lato*	48
Rubiaceae	39
Orchidaceae	37
Asteraceae	35
Poaceae	29
Lamiaceae	26
Aspleniaceae	19
Cyperaceae	18
Acanthaceae	13
Dryopteridaceae	11
Iridaceae	11

Of the listed taxa, 20 are considered to be endemic and a further 20 are near-endemic (Tables 1, 3), the latter being defined as taxa confined to Namuli and just two or three adjacent massifs as far as Mt Mulanje and Zomba Mountain in southern Malawi or the Ribáuè hills or Mt Mabu in northern Mozambique (modified from Darbyshire *et al.* 2019a).

Only some of the taxa shown have been assessed for their conservation status using the IUCN Red List (IUCN 2020), particularly those that are endemic or near-endemic. Of the 185 taxa with recent published assessments (Table 4), 20 (10.8% of those assessed) are considered to be under threat (IUCN categories CR, EN or VU), two are Near Threatened, nine are Data Deficient and a further 154 are considered to be of Least Concern.

DISCUSSION

Species Diversity and Habitats

Based as it is on limited collecting, most of which has focussed on montane forest, grassland and scrub habitats above 1600 m altitude and on range-restricted species, this checklist is clearly incomplete. It is fairly certain that significant increases would result in such groups as legumes, orchids, grasses, sedges and ferns with comprehensive surveys. For example, the number of pteridophytes is low compared to some montane areas in South Africa and Zimbabwe such as Buffelskloof Nature Reserve and the Bvumba massif, especially considering the moisture status of Namuli (John Burrows, pers. comm. 2020).

Comparison of plant species diversity across the various montane massifs of south-central Africa is difficult, not least as the mountains are of differing extent. Table 5 gives a comparison of the extent, diversity and number of endemic taxa across various mountains in Mozambique, Malawi and Zimbabwe. Although the number of taxa recorded from Namuli is significantly lower than for many other mountains, it is believed this is more a reflection of the limited collecting that has taken place there rather than any intrinsically lower diversity. Comparison with better-collected mountain areas suggests that, given the habitat diversity, the total flora of the Namuli massif should be at least 800 taxa, and possibly over 1000.

There is a significant diversity of habitats on Mt Namuli ranging from (heavily disturbed) miombo woodland and riparian woodland on the lower slopes to moist forest, montane grassland and scrub and rock faces at higher altitudes. However, the extent of moist forest below an altitude of 1600 m is quite low compared to, for example, Nyanga, Bvumba or Mulanje, and moist forest is known to be a particularly biodiverse habitat. Although not all species on the checklist have been clearly categorised by habitat (which at this stage may not be a useful exercise given the poor detail in historical records and limited focus of many recent surveys), it would appear that montane forest, grassland and scrub are probably the most speciose habitats. But this may be more a reflection of the focus of much of the botanical collecting.

Endemism

With 20 endemic taxa, the level of endemism for Mt Namuli is high for the region (Table 5). It compares favourably with similar figures of 50 endemic taxa for nearby Mt Mulanje (reduced from the 69 given in Strugnell (2006) as many have since been found on other mountains, especially Namuli), 33 endemics on the Nyika plateau (Burrows & Willis 2005), and 21 endemics in the Nyanga area (Clark *et al.* 2017). Owing to their unusual quartzite substrate, the Chimanimani mountains are known to be particularly rich in endemics (Timberlake *et al.* 2016) with a much higher total of 74 endemics and 19 near-endemic taxa in a relatively small area of just 530 km^2 (Wursten *et al.* 2017).

Table 3. Endemic and near-endemic taxa from Mt Namuli, with indication of habitat and any published IUCN conservation assessment (IUCN 2020).
END – endemic; NE – near-endemic (on no more than 2-3 mountains within the Mulanje-Namuli-Ribáuè centre of endemism).
IUCN status with main criteria (see IUCN 2001): CR = Critically Endangered; EN = Endangered; VU = Vulnerable; NT = Near-threatened; LC = Least Concern; DD = Data Deficient. Assessments in square brackets need updating.

family/taxon	status	IUCN assess.	habitat	notes
Acanthaceae				
Isoglossa namuliensis I.Darbysh. & T.Harris	END	CR B1+B2	montane forest	known only from type
Sclerochiton hirsutus Vollesen	NE	VU D2	riverine forest	also Mabu
Apiaceae				
Pimpinella mulanjensis C.C.Towns.	NE	LC	rocky grassland	also Mulanje
Apocynaceae				
Ceropegia nutans (Bruyns) Bruyns	END	VU D1+D2	rocks	
Asphodeleaceae				
Aloe torrei I.Verd. & Christian	END	DD	rocky grassland	
Asteraceae				
Helichrysum lastii Engl.	NE	LC	grassland	also Mulanje, Zomba
Senecio peltophorus Brenan	NE	LC	rocks	also Mulanje, Mabu
Commelinaceae				
Cyanotis namuliensis Faden ined.	END	LC	rocky grassland	
Crassulaceae				
Crassula zombensis Baker f.	NE	LC	rocks	also Zomba
Cyperaceae				
Kyllinga sp. nr. *nervosa* of FZ	END		woodland, grassland	
Eriocaulaceae				
Eriocaulon mulanjeanum S.M.Phillips	NE		wet rocks	also Mulanje, Zomba, Pico Muli
Euphorbiaceae				
Euphorbia namuliensis Bruyns	END	LC	rocks	known only from type
Fabaceae: Papilionoideae				
Crotalaria namuliensis Polhill & T.Harris	END	LC	grassland	
Crotalaria torrei Polhill	END	LC	grassland	
Indigofera namuliensis Schrire	END	DD	rocks	known only from type
Rhynchosia clivorum S.Moore subsp. *gurueensis* Verdc.	END	DD	grassland, river margin	known only from type
Rhynchosia torrei Verdc.	END	LC	grassland	
Tephrosia whyteana Baker f. subsp. *gemina* Brummitt	END	CR B1+B2	forest margins, rocks	
Lamiaceae				
Coleus namuliensis E.Downes & I.Darbysh.	END	LC	grassland, rocks	
Plectranthus guruensis A.J.Paton	END	EN B1+B2	forest	
Plectranthus mandalensis Baker	NE	VU B1+B2	montane forest	also Mulanje, Ribáuè
Stachys didymantha Brenan	NE		forest margin, shrubland	also Mulanje
Malvaceae				
Dombeya lastii K.Schum.	END	EN B1+B2	woodland	

Table 3 (cont.). Endemic and near-endemic taxa from Mt Namuli.

family/taxon	status	IUCN assess.	habitat	notes
Melastomataceae				
Dissotis johnstoniana Baker f. var. *johnstoniana*	NE		forest margin, rocky grassland	also Mulanje
Memecylon nubigenum R.D.Stone & I.G.Mona	NE	EN B1+B2	forest	also Mulanje, Ribáuè
Orchidaceae				
Cynorkis brevicalcar P.J.Cribb	NE	[DD]	grassland	also Mulanje
Orobanchaceae				
Buchnera namuliensis Skan	END	DD	grassland	
Poaceae				
Alloeochaete namuliensis Chippind.	END	VU D2	rocky grassland	
Digitaria appropinquata P.Goetgh.	END	DD	rocks	known only from type
Podostemaceae				
Inversodicraea torrei (C.Cusset) Cheek	END	VU D2	streams	
Polygalaceae				
Polygala adamsonii Exell	NE	LC	grassland	also Mulanje, Ribáuè
Proteaceae				
Faurea racemosa Farmar	NE	EN B2	montane forest	also Mulanje, Zomba, Mabu
Rubiaceae				
Pavetta gurueënsis Bridson	NE	VU D2	montane forest	also Mabu
Pyrostria chapmanii Bridson	NE	EN B1+B2	montane forest	also Mulanje, Ribáuè
Thymelaeaceae				
Gnidia chapmanii B.Peterson	NE	LC	grassland	also Mulanje
Velloziaceae				
Xerophyta splendens (Rendle) N.L.Menezes	NE	LC	rocks	also Mulanje
Xyridaceae				
Xyris makuensis N.E.Br.	NE	LC	grassland, seepages	also Mulanje

The main habitats where Namuli's endemics are found (see Table 3) are montane grassland (11 taxa) along with rocky outcrops and seepages over rock (4 taxa). Although fairly extensive, forest and forest margins support just three endemic taxa. As has been noted elsewhere (Clark *et al.* 2017, Wursten *et al.* 2017), it is the more open montane grassland, scrub and rock habitats (including seepages) that disproportionally support species of restricted distribution. Montane grassland on Namuli is of particular significance given its very limited occurrence in the region, although Namuli has just 230−300 ha (c.3 km^2) while Mt Mulanje has around 240 km^2 (J. Timberlake, unpublished data).

In addition to strictly endemic taxa, there are also some that are near-endemic, defined here as being also found on just two or three nearby mountains such as Mulanje, Zomba, Ribáuè and Mt Mabu; 20 taxa on the Namuli checklist fall in this category (Table 3). In addition to these near-endemics, there are a number of restricted-range species on Namuli that are confined to the Mulanje−Namuli−Ribáuè centre of endemism (J. Timberlake, I. Darbyshire, J. Osborne & H. Matimele, unpublished data). This centre, still to be formally described, encompasses all the granite and syenite inselbergs and montane areas across north-central Mozambique and southern Malawi.

Table 4. Numbers of Namuli taxa listed on the IUCN Red List by category.

IUCN Red List status	# taxa
Critically Endangered	2
Endangered	7
Vulnerable	11
Near Threatened	2
Least Concern	154
Data Deficient	9
TOTAL	185

Note: Includes taxa with published IUCN assessments (IUCN 2020), but not those with assessments requiring updating (e.g. from range extension since original assessment).

The main families with range-restricted taxa are Fabaceae (Papilionoideae) with six strict endemics, and Lamiaceae with two endemics and two near-endemics. All other families have only one or two range-restricted species each. It is interesting to note that the surveys undertaken through the Darwin project in 2007 and after, although especially targeting range-restricted taxa, did not collect 15 out of the 40 taxa listed in Table 3, including nine of the endemics.

Table 5. Comparison of montane areas, number of taxa and endemics from selected mountains in south-central Africa.

Area	Extent (km^2)	above altitude (m)	no. taxa (native)	endemic taxa	source
Namuli	120	1200	603 (594)	20	this paper
Mabu	83	1000	350?	1	Timberlake *et al.* 2012
Mulanje	640	1000	1303	50 [69] [1]	Strugnell 2006
Nyika	1800	1800	1891 (1865)	33	Burrows & Willis 2005
Nyanga	2181	1000/1500	1471 (1394)	21	Clark *et al.* 2017
Bvumba	276	1200	1250 (1127)	1	Timberlake *et al.* 2020
Chimanimani	530	1200	977 (956)	74	Wursten e*t al.* 2017

[1] The original published figure of 69 endemic taxa has been reduced by subsequent range extensions.

Threats and Threatened Species

Mt Namuli is one of the most-threatened montane massifs in Mozambique (Timberlake 2007, 2017), in part as it remains formally unprotected but mostly because of the use local populations living on the slopes are making of the moist forest and upland plateau. In the mid-2000s the main conservation issues appeared to be selective timber extraction (principally *Faurea racemosa*) for local carpentry use, the presence of semi-feral pigs rooting around the grasslands and moist forest, small herds of cattle and small flocks of goats on some of the upland grasslands, and some limited clearance of small patches within upland forest for the cultivation of Irish potato (Dowsett-Lemaire 2008, 2010, Timberlake *et al.* 2009). From a botanical viewpoint, frequent wildfires were also considered to be a major problem.

More recent visits, including one in 2017 (Timberlake 2017), showed that the pigs and goats had been removed, but that there had been a very large increase in the area under potato cultivation resulting in the clear-felling of many patches of moist forest on the Muretha plateau and upper Nivolo valley. Forest trees were felled, the smaller branches burnt, and potatoes planted. After harvesting, the potatoes are sold in Gurué town and nearby villages as a cash-crop. Yields are apparently reasonable in the first year, but rapidly diminish with a second or third crop (R. Cunliffe, pers. comm. 2017). There was little evidence of regeneration of forest trees on fallow areas as a dense cover soon formed of bracken fern, shrubs and twining creepers. The destructive wildfires that can sweep through this scrubby cover in the dry season were still common.

A rapid estimate using Google Earth imagery suggested a loss of moist forest cover from a total of 1250 ha determined using 1969 aerial photos (with 1115 ha above 1600 m altitude) down to just 1070 ha in 2016 (Timberlake 2017), a possible 14% decrease. However, the determination techniques are not strictly comparable. This figure would be the effective area of occupancy (AOO) for generalist forest species in any IUCN Red List conservation assessment. However, a separate comparison of historic Google Earth imagery between September 2013 and November 2015 suggested a loss of forest cover of between 10 to 30% (Timberlake 2017), a figure borne out by ground observation. In the same study, the extent of well-developed tussock montane grassland across the massif was estimated at around 230 ha, but perhaps as much as 900 ha when combined with shallow soils, rocky outcrops and montane scrub, the main habitats for Namuli's restricted-range species. Again, depending on the species, something between these two figures would be the effective AOO in any conservation assessment of grassland or montane scrub species. A recent digital land cover assessment (Montfort 2019) based on 2018 imagery gives a forest extent of 949 ha across a smaller 50 km^2 Namuli core area, not greatly different from that determined above by other methods, plus 623 ha of grassland and 1586 ha of bare rock and soil.

These loss estimates indicate the level of threats on Namuli and are the main reason for the relatively high IUCN threat assessments (most being CR or EN) for taxa found in forest or on forest margins (Table 3). In contrast, those endemic or near-endemic taxa found in grassland or associated with rocky outcrops are mostly assessed as Least Concern as there appears to be little loss to these habitats with just the seasonal occurrence of fire, to which many of the species are probably adapted.

Conservation Actions

On the basis both of its high number of endemic and range-restricted species and on the presence of a number of threatened taxa, the area has been identified as a potential Important Plant Area for Mozambique (sensu Darbyshire *et al.* 2017). It has also been identified and described as one of 30 Key Biodiversity Areas for the country (H. Matimele, pers. comm.), covering the 52.6 km^2 core area. This designation is principally based on the range-restricted plant species present but also on some of the bird and reptile species found there. Namuli has also been designated as an Important Bird Area (Parker 2001, Dowsett-Lemaire 2010). However, the mountain remains without any form of formal or designated protection and most forms of land use can be practiced.

Since 2011, the international NGO Legado has been involved in a community-based conservation project (www.legadoinitiative.org/legado-namuli/) based on and around the mountain, with NGO partners LUPA and Nitidae (Legado 2018). This initiative is aimed at helping communities in the Malema valley and elsewhere design and implement sustainable conservation agriculture practices, improve their livelihood options and negotiate appropriate conservation and land agreements. Initially the project carried out biodiversity research work, followed later by participatory rural surveys and mapping (R. Cunliffe, pers. comm. 2017). Eventually it is hoped Namuli will become a Community Conservation Area under Mozambique legislation, with a network of local forest guards to help reduce deforestation and wildfires.

Future Studies and Prospects

As noted above, this checklist is preliminary as there has been neither a comprehensive survey of the whole extent of the Namuli massif nor of the range of habitats present. Montane grassland, montane forest and rocky slopes have been moderately well covered, but even so the focus has been primarily on woody plants and range-restricted species. Grasses and smaller herbs have not been well-collected, and neither have the woodlands and lower slopes.

A visit in the mid-rainy season (February) of 2017 resulted in a number of new records based on photographs of the many geophytic grassland plants then flowering, particularly ground orchids. It is believed that more detailed collecting at this time would result in new records and possibly some new species, while further survey of the drier, rocky northern slopes would add a number of succulent and semi-succulent species to the list, building on the collections made by Peter Bruyns in 2004.

Undoubtedly the main conservation requirement now is some level of formalised protection for the most significant habitats of moist upland forest, riverine forest lower down, grassland and scrub across the mountain, and an immediate cessation of the very destructive clearance of forest for cultivation. Some level of use, such as limited cattle grazing and collection of fibres from *Kniphofia*, is not incompatible with conservation of the main habitats and species of conservation significance, both plant and animal, but the levels of cultivation and disturbance seen over the last 15−20 years have undoubtedly taken their toll on the biodiversity values of the area. In addition, the frequency of wildfires needs to be reduced as this can greatly inhibit vegetation regeneration in fallows as well as 'eating into' forest margins. Local community and NGO initiatives are working towards this, as well as training local guides and guards and developing the areas' ecotourism potentials. These potentials would be significant once access issues can be addressed. Hopefully, these actions would result in one of the most significant areas for plant conservation in Mozambique being much better protected.

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REFERENCES

Barbosa, L.A.G. (1952). Esboço da Vegetação da Zambézia. Separate from Documentário Moçambique No. 69. Centro de Investigação Científica Algodoeira, Maputo (Lourenço Marques).

BAYLISS, J., TIMBERLAKE, J.R., BRANCH, W., BRUESSOW, C., COLLINS, S., CONGDON, C., CURRAN, M., DE SOUSA, C., DOWSETT, R., DOWSETT-LEMAIRE, F., FISHPOOL, L., HARRIS, T., HERRMANN, E., GEORGIADIS, S., KOPP, M., LIGGITT, B., MONADJEM, A., PATEL, H., RIBEIRO, D., SPOTTISWOODE, C., TAYLOR, P., WILLCOCK, S. & SMITH, P. (2014). The discovery, biodiversity and conservation of Mabu forest – the largest medium-altitude rainforest in southern Africa. *Oryx* **48**: 177–185.

BRANCH, W.R., BAYLISS, J. & TOLLEY, K.A. (2014). Pygmy chameleons of the *Rhampholeon platyceps* complex (Squamata: Chamaeleonidae): Description of four new species from isolated 'sky islands' of northern Mozambique. *Zootaxa* **3814**(1): 1–36.

BRANCH, W.R. & RYAN, P.G. (2001) Additions to the Mozambique herpetofauna: Two new lizards from the Namuli massif, Mozambique. *Herpetological Review* **32**: 281–282.

BRUYNS, P.V. (2006a). A new species of *Brachystelma* (Apocynaceae) from South Tropical Africa. *Novon* **16**: 452–453.

BRUYNS, P.V. (2006b). Three new species of *Euphorbia* (Euphorbiaceae) from South Tropical Africa. *Novon* **16**: 454–457.

BURROWS, J.E. & WILLIS, C.K. (2005). *Plants of the Nyika Plateau*. Southern Africa Biodiversity Network Report No. 31. SABONET, Pretoria.

CLARK, V.R., TIMBERLAKE, J.R., HYDE, M.A., MAPAURA, A., COATES PALGRAVE, M., WURSTEN, B.T., BALLINGS, P., BURROWS, J.E., LINDER, H.P., MCGREGOR, G.K., CHAPANO, C., PLOWES, D.C.H., CHILDES, S.L., DONDEYNE, S., MÜLLER, T. & BARKER, N.P. (2017). A first comprehensive account of floristic diversity and endemism on the Nyanga Massif, Manica Highlands (Zimbabwe–Mozambique). *Kirkia* **19**: 1–53.

CONDE, P., FIGUEIRA, R., SARAIVA, S., CATARINO, L., ROMEIRAS, M. & DUARTE, M.C. (2014). A Missão Botânica de Moçambique (1942-1948): contribuições para o conhecimento da flora medicinal de Moçambique. *História, Ciências, Saúde – Manguinhos* **21**(2): 539−585. Available at http://www.scielo.br/hcsm, accessed 25 Oct 2020.

CONGDON, T.C.E., COLLINS, S. & BAYLISS, J. (2010). Butterflies of south east Africa's mountains (Mozambique and Malawi). *Metamorphosis* **21**: 45–107.

DARBYSHIRE, I., ANDERSON, S., ASATRYAN, A., BYFIELD, A., CHEEK, M., CLUBBE, C., GHRABI, Z., HARRIS, T., HEATUBUN, C.D., KALEMA, J., MAGASSOUBA, S., MCCARTHY, B., MILLIKEN, W., DE MONTMOLLIN, B., NIC LUGHADHA, E., ONANA, J.M., SAÏDOU, D., SÂRBU, A., SHRESTHA, K. & RADFORD, E.A. (2017). Important Plant Areas: Revised selection criteria for a global approach to plant conservation. *Biodiversity & Conservation* **26**: 1767–1800.

DARBYSHIRE, I., TIMBERLAKE, J., OSBORNE, J., ROKNI, S., MATIMELE, H., LANGA, C., DATIZUA, C., DE SOUSA, C., ALVES, T., MASSINGUE, A., HADJ-HAMMOU, J., DHANDA, S., SHAH, T. & WURSTEN, B. (2019a). The endemic plants of Mozambique: diversity and conservation status. *PhytoKeys* **136**: 45–96.

DARBYSHIRE, I., WURSTEN, B., LUKE, Q. & FISCHER, E. (2019b). A revision of the *Crepidorhopalon whytei* complex (Linderniaceae) in eastern Africa. *Blumea* **64**: 165–176.

DARBYSHIRE, I., POLHILL, R.M., MAGOMBO, Z. & TIMBERLAKE, J.R. (2021). Two new species from the mountains of southern Malawi and northern Mozambique. *Kew Bulletin* (accepted for publication).

DONALDSON, J.S. (2010). *Encephalartos gratus*. *The IUCN Red List of Threatened Species* 2010: e.T41916A10594309.

DOWNES, E. & DARBYSHIRE, I. (2017). *Coleus namuliensis* and *Coleus caudatus* (*Lamiaceae*): a new species and a new combination in the Afromontane flora of Mozambique and Zimbabwe. *Blumea* **62**: 168–173.

Dowsett-Lemaire, F. (2008). Survey of birds on Namuli Mountain (Mozambique), November 2007, with notes on vegetation and mammals. Dowsett-Lemaire Misc. Report 60. 26 pp. Available at http://www.biofund.org.mz/wp-content/uploads/2018/12/survey-of-birds-on-namuli-mountain-2007.pdf, accessed 1 Oct 2020.

Dowsett-Lemaire, F. (2010). Further ornithological exploration of Namuli and Mabu Mountains (northern Mozambique), and the urgent need to conserve their forests. *Bulletin of the African Bird Club* **17**: 159−177.

Harris, T., Darbyshire, I. & Polhill, R. (2011). New species and range extensions from Mt Namuli, Mt Mabu and Mt Chiperone in northern Mozambique. *Kew Bulletin* **66**: 241−251.

Hyde, M.A., Wursten, B.T., Ballings, P. & Coates Palgrave, M. (2020). Flora of Mozambique website. Available at: https://www.mozambiqueflora.com/index.php, accessed 17 Dec 2020.

Instituto Nacional de Geológia (1987). Carta Geológica, scale 1: 1 million. Instituto Nacional de Geológia, Maputo.

IUCN (2001). The IUCN Red List Categories and Criteria, version 3.1. IUCN, Cambridge.

IUCN (2020). The IUCN Red List of Threatened Species. Version 2020-2. Available at https://www.iucnredlist.org, accessed 4 Sept 2020.

Kassam, A.H., Van Velthuizen, H.T., Higgins, G.M., Christoforides, A., Voortman, R.L. & Spiers, B. (1981). Climatic data bank and length of growing period analysis. Field Document No. 33, Project MOZ/75/011, Assessment of Land Resources for Rainfed Crop Production in Mozambique. FAO, Rome.

Last, J.T. (1887). On the Society's Expedition to the Namuli Hills, East Africa. *Proceedings of Royal Geographical Society* **9**: 467–490.

Legado (2018). Thriving Futures Program, Mount Namuli, Mozambique: Strategic Plan. Unpublished report, April 2018. Available at https://www.legadoinitiative.org/legado-namuli/, accessed 4 Sept 2020.

Montfort, F. (2019). Land use and land cover map of Mount Namuli and surroundings. Unpublished report. Nitidae, Mozambique. Available at 10.5281/zenodo.4116105, accessed 20 Oct 2020.

Müller, T., Mapaura, A., Wursten, B., Chapano, C., Ballings, P. & Wild, R. (2008). Vegetation survey of Mount Gorongosa. Occasional Publications in Biodiversity No. 23. Biodiversity Foundation for Africa, Bulawayo. Available at http://www.biodiversityfoundation.org/documents/BFA%20No.23_Gorongosa%20vegetation%20survey.pdf, accessed 01 February 2020.

O'Neill, H.E. (1884). Journey from Mozambique to Lakes Shirwa and Amaramba. Part 1, From Mozambique through the Macua and Lomwe countries to Lake Shirwa, June to September 1883. *Proceedings of Royal Geographical Society* **6**: 632–647.

O'Neill, H.E. (1885). Eastern Africa, between the Zambesi and Rovuma Rivers. *Proceedings of Royal Geographical Society* **7**: 430–449.

Parker, V. (2001). Mozambique. In: *Important Bird Areas in Africa and Associated Islands: Priority Sites for Conservation* (eds. L.D.C. Fishpool & M.I. Evans), pp. 627–638. Pisces Publications & BirdLife International, Newbury & Cambridge, UK.

Pedro, J.G. & Barbosa, L.A.G. (1955). *A Vegetação. Esboço de Reconhecimento Ecólogica- Agricola de Moçambique*. Centro de Investigação Científica Algodoeira, Lourenço Marques.

Pteridophyte Phylogeny Group (2016). A community-derived classification for extant ly-cophytes and ferns. *Journal of Systematics and Evolution* **54**: 563–603.

Ryan, P.G., Bento, C., Cohen, C., Graham, J., Parker, V. & Spottiswoode, C. (1999). The avifauna and conservation status of the Namuli Massif, northern Mozambique. *Bird Conservation International* **9**: 315–331.

Spottiswoode, C.N., Patel, I.H., Hermann, E., Timberlake, J. & Bayliss, J. (2008). Threatened bird species on two little-known mountains (Chiperone and Mabu) in northern Mozambique. *Ostrich* **79**: 1–7.

STRUGNELL, A.M. (2006). A checklist of the spermatophytes of Mount Mulanje, Malawi. *Scripta Botanica Belgica* 34. National Botanic Garden, Meise, Belgium.

TIMBERLAKE, J.R. (2007). Mount Namuli: A conservation assessment and proposal outline. Unpublished report. Royal Botanic Gardens, Kew, London.

TIMBERLAKE, J.R. (2017). Mt Namuli - a conservation update. Unpublished report for Legado, Mozambique. Sussex, UK.

TIMBERLAKE, J.R. (2018). Mozambique's sky islands. Unpublished consultancy report for Legado, Mozambique. Sussex, UK.

TIMBERLAKE, J., BAYLISS, J., ALVES, T., BAENA, S., FRANCISCO, J., HARRIS, T. & DE SOUSA, C. (2007). *The Biodiversity and Conservation of Mount Chiperone, Mozambique*. Report produced under Darwin Initiative Award 15/036. Royal Botanic Gardens, Kew, London, UK. 33 pp. Available at http://www.biofund.org.mz/wp-content/uploads/2018/12/1544176489-The%20Biodiversity%20and%20Conservation%20of%20Mount%20Chiperone%202007%20Timberlake%20etc.pdf, accessed 25 Oct 2020.

TIMBERLAKE, J., DOWSETT-LEMAIRE, F., BAYLISS, J., ALVES, T., BAENA, S., BENTO, C., COOK, K., FRANCISCO, J., HARRIS, T., SMITH, P. & DE SOUSA, C. (2009). *Mt Namuli, Mozambique: Biodiversity and Conservation*. Report produced under Darwin Initiative Award 15/036. Royal Botanic Gardens, Kew, London, UK. 115 pp. Available at http://www.biofund.org.mz/wp-content/uploads/2019/09/1568639660-F1232.2009-Timberlake-Et-Al-Namuli.Pdf, accessed 25 Oct 2020.

TIMBERLAKE, J., BAYLISS, J., DOWSETT-LEMAIRE, F., CONGDON, C., BRANCH, W.R., COLLINS, S., CURRAN, M., DOWSETT, R.J., FISHPOOL, L., FRANCISCO, J., HARRIS, T., KOPP, M. & DE SOUSA, C. (2012). *Mt Mabu, Mozambique: Biodiversity and Conservation*. Report produced under Darwin Initiative Award 15/036. Royal Botanic Gardens, Kew, London, UK. 94 pp. Available at https://www.kew.org/sites/default/files/2019-02/Mabu%20report_Final%202012_0.pdf, accessed 25 Oct 2020.

TIMBERLAKE, J.R., DARBYSHIRE, I., WURSTEN, B., HADJ-HAMMOU, J., BALLINGS, P., MAPAURA, A., MATIMELE, H., BANZE, A., CHIPANGA, H., MUASSINAR, D., MASSUNDE, M., CHELENE, I., OSBORNE, J. & SHAH, T. (2016). *Chimanimani Mountains: Botany and Conservation*. Report produced under CEPF Grant 63512. Royal Botanic Gardens, Kew, London, UK. 95 pp. Available at http://www.biofund.org.mz/wp-content/uploads/2018/12/1544519303-Chimanimani%20CEPF%20report_REVISED-lr.pdf, accessed 25 Oct 2020.

TIMBERLAKE, J.R., SMITH, P.P., MERRETT, L., MERRETT, M., VAN NIEKIRK, W., SICHAMBA, M., MWANDILA, G. & VOLLESEN, K. (2018). *The Mafinga Mountains, Zambia: Report of a reconnaissance trip, March 2018*. Report for Wildlife and Environmental Conservation Society of Zambia, Lusaka. Occasional Publications in Biodiversity No.24. BFA, Bulawayo. 41 pp. Available at http://www.biodiversityfoundation.org/documents/BFA%20No.24_Mafingas%20botany.pdf, accessed 25 Oct 2020.

TIMBERLAKE, J., BALLINGS, P., VIDAL JR., J.DE DEUS, WURSTEN, B., HYDE, M., MAPAURA, A., CHILDES, S., COATES PALGRAVE, M. & CLARK, V.R. (2020). Mountains of the Mist: A first plant checklist for the Bvumba Mountains, Manica Highlands (Zimbabwe-Mozambique). *PhytoKeys* **145**: 93−129.

VAN NOORT, S., GARDINER, A.J. & TOLLEY, K.A. (2007). New records of *Ficus* (Moraceae) species emphasize the conservation significance of inselbergs in Mozambique. *South African Journal of Botany* **73**: 642–649.

VINCENT, J. (1933a). The Namuli Mountains, Portuguese East Africa. *The Geographical Journal* **81**: 314–332.

VINCENT, J. (1933b). The birds of Northern Portuguese East Africa. Comprising a list of, and observations on, the collections made during the British Museum Expedition of 1931–32. Part I. *Ibis* **13**: 611–652.

WHITE, F. (1983). *The Vegetation of Africa*. Natural Resources Research No. 20. UNESCO, Paris.
WILD, H. & BARBOSA, L.A.G. (1967). Vegetation map of the Flora Zambesiaca area. M.O. Collins, Harare.
WURSTEN, B.T., TIMBERLAKE, J.R. & DARBYSHIRE, I. (2017). The Chimanimani Mountains: an updated checklist. *Kirkia* **19**: 70–100.

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ANNEX. Plant checklist for Mt Namuli area between the Malema and Licungo rivers above c.1200 m in east and 1000 m on western side.

LIFE FORM: T - tree; S - shrub; h - herb; cl - climber/liana; aq - aquatic; ep - epiphyte/lithophyte. * - introduced taxon; **E** - taxon endemic to Namuli; **NE** - near-endemic taxon.
Altitudinal ranges rounded to nearest 10m, most taken from 2007 and later trips.
HABITAT CATEGORIES: FOR - montane and other moist forest (incl. forest gaps); RF - riverine forest; WL - woodland; GR - grassland; RO - rock outcrop/bare rock; RG - rocky grassland; WET - wetland & seepages; STR - streambanks & freshwater; margin - margins of given habitat; dist - disturbed areas.
IUCN RED LIST ASSESSMENTS: both published and available draft assessments included. Draft or older assessments (e.g. using older data) indicated in square brackets. IUCN status with criteria (see IUCN 2020 for details): CR - Critically Endangered; EN - Endangered; VU - Vulnerable; NT - Near-threatened; LC - Least Concern; DD - Data Deficient.
SOURCES: numbered herbarium specimens taken from Flora Zambesiaca, Flora of Mozambique website, Timberlake *et al.* 2009 (Annexes 2 & 3); s.n. - no number; (sr) - sight record; (photo) - identified from photo.

Family/species	l/f	alt(m)	habitat	IUCN assess.	specimen
PTERIDOPHYTA					
Anemiaceae					
Mohria lepigera *(Baker) Baker* (=Anemia lepigera *(Baker) Christenh.*)	h				Last s.n.
Aspleniaceae					
Asplenium anisophyllum *Kunze*	ep	1710	FOR		Wursten 146
Asplenium blastophorum *Hieron.*	ep				Schelpe & Leach 7090
Asplenium ceii *Pic.Serm.* (=A. atroviride *Schelpe*)	ep				Last s.n.
Asplenium dregeanum *Kunze*	ep	1850	FOR		Harris 150
Asplenium erectum *Willd.*	h	1710	FOR		Wursten 144
Asplenium friesiorum *C.Chr.*	h				Last s.n.
Asplenium gemmascens *Alston*	h	1710	FOR		Wursten 118
Asplenium inaequilaterale *Willd.*	h	1710	FOR		Wursten 145
Asplenium lividum *Kuhn*	ep				Torre & Correia 14927
Asplenium lobatum *Pappe & Rawson*	ep	1710	FOR		Wursten 113
Asplenium mannii *Hook.*	ep	1880	FOR		Timberlake 5006
Asplenium megalura *Hieron.*	ep	1870	FOR/GR margin		Patel 7406
Asplenium normale *D.Don*	h				Last s.n.
Asplenium preussii *Brause*	h				Last s.n.
Asplenium rutifolium *(P.J.Bergius) Kunze*	ep	1880	FOR		Timberlake 5004
Asplenium sandersonii *Hook.*	h	1880	FOR		Timberlake 5003
Asplenium stuhlmannii *Hieron.* (incl. A. ramlowi *Hieron.*)	ep	1880	FOR		Timberlake 5007
Asplenium sulcatum *Lam.*	ep	1280	RF		Wursten 135
Asplenium theciferum *(Kunth) Mett.*	ep				Torre & Correia 14823
Blechnaceae					
Blechnum attenuatum *(Sw.) Mett.*	h			LC	Schelpe & Leach 7032
Blechnum tabulare *(Thunb.) Kuhn*	h	1860	FOR		Patel 7341
Cyatheaceae					
Cyathea dregei *Kunze.*	T	1970	GR	LC	Timberlake 5079
Cyathea manniana *Hook.*	T	1890	GR	LC	Timberlake 5038
Cyathea mossambicensis *Baker*	T				Last s.n.
Dennstaedtiaceae					
Blotiella natalensis *(Hook.) R.M.Tryon*	h				Last s.n.
Hypolepis sparsisora *(Schrad.) Kuhn*	h				Last s.n.
Pteridium aquilinum *(L.) Kuhn* subsp. capense *(Thunb.) C.Chr.*	h	1800	GR,FOR margin		Schelpe & Leach 7003

Family/species	l/f	alt(m)	habitat	IUCN assess.	specimen
Didymochlaenaceae					
Didymochlaena truncatula *(Sw.) J.Sm.*	h			LC	Last s.n.
Dryopteridaceae					
Dryopteris athamantica *(Kuntze) Kuntze*	h				Schelpe & Leach 7000
Dryopteris kilemensis *(Kuhn) Kuntze*	h				Last s.n.
Dryopteris manniana *(Hook.) C.Chr.*	h				Last s.n.
Dryopteris pentheri *(Krasser) C.Chr.*	h	1890	WL margin		Harris 248
Elaphoglossum acrostichoides *(Hook.& Grev.) Schelpe*	h	2050	RO	LC	Timberlake 5259
Elaphoglossum aubertii *(Desv.) T.Moore*	ep	1710	FOR		Wursten 101
Elaphoglossum chevalieri *Christ*	ep			LC	Last s.n.
Elaphoglossum lancifolium *(Desv.) C.V.Morton*	ep	1710	FOR		Wursten 106
Elaphoglossum macropodium *(Fée) T.Moore*	ep				Schelpe & Leach 7046
Elaphoglossum spathulatum *(Bory) T.Moore* var. spathulatum	ep			LC	Schelpe & Leach 7094
Polystichum zambesiacum *Schelpe*	h			LC	Last s.n.
Gleicheniaceae					
Gleichenia polypodioides *(L.) Sm.*	h				Last s.n.
Hymenophyllaceae					
Abrodictyum rigidum *(Sw.) Ebihara & Dubuisson*	ep				Mendonça 2161
Crepidomanes melanotrichum *(Schltdl.) J.P.Roux*	ep				Schlepe & Leach 7038
Didymoglossum erosum *(Willd.) J.P.Roux*	ep				Last s.n.
Hymenophyllum capense *Schrad.*	ep				Torre 3569
Hymenophyllum kuhnii *C.Chr.*	ep	1900	FOR		Timberlake 5028
Hymenophyllum sibthorpioides *(Willd.) Kuhn*	ep	1830	FOR		Timberlake 5028
Lomariopsidaceae					
Lomariopsis warneckei *(Hieron.) Alston*	ep				Last s.n.
Lycopodiaceae					
Huperzia dacrydioides *(Baker) Pic.Serm.*	ep	1590-1870	RF,FOR	LC	Timberlake 5284
Huperzia ophioglossoides *(Lam) Rothm.*	ep	1870	FOR		Timberlake 5205
Huperzia verticillata *(Lf.) Trevis.*	ep	1870	FOR		Timberlake 5204
Lycopodium clavatum *L.*	h	1280	RG	LC	Wursten 124
Marattiaceae					
Ptisana fraxinea *(Sm.) Murdock* var. salicifolia *(Schrad.) Murdock*	h	1890	FOR		Harris 256
Nephrolepidaceae					
Nephrolepis undulata *(Afzel.) J.Sm.*	h	1650-1950	RO,GR	LC	Timberlake 5866
Oleandraceae					
Oleandra distenta *Kunze*	h	1620	FOR		Harris 258
Osmundaceae					
Osmunda regalis *L.*	h			LC	Schelpe & Leach 7023
Polypodiaceae					
Belvisia spicata *(L.f.) Copel.*	ep				Schelpe & Leach 7082
Lepisorus schraderi *(Mett.) Ching*	ep				Schelpe & Leach 7068
Loxogramme abyssinica *(Baker) M.G.Price*	ep	1880	FOR		Timberlake 5005
Microgramma mauritiana *(Willd.) Tardieu*	ep	1880	FOR		Timberlake 5008
Pleopeltis macrocarpa *(Willd.) Kaulf.*	ep	1880	FOR/GR margin		Harris 218
Pleopeltis polypodioides *(L.) E.G.Andrews & Windham* subsp. ecklonii *(Kunze) J.P.Roux*	ep				Schelpe & Leach 7085
Pyrrosia rhodesiana *(C.Chr.) Schelpe*	ep				Torre 5099
Pyrrosia schimperiana *(Kuhn) Alston* var. schimperiana	ep				Andrade 1974

Family/species	l/f	alt(m)	habitat	IUCN assess.	specimen
Pteridaceae					
Antrophytum mannianum *Hook.*	h				Last s.n.
Cheilanthes leachii *(Schelpe) Schelpe*	h			LC	Schelpe & Leach 7018
Cheilanthes multifida *(Sw.) Sw.*	h				Schelpe & Leach 7017
Pellaea doniana *Hook.*	h				Schelpe & Leach 7004
Pellaea dura *(Willd.) Hook.* var. dura	h				Schelpe & Leach 7072
Pityrogramma calomelanos *(L.) Link* var. calomelanos	h				Schelpe & Leach 7074
Pteris friesii *Hieron.*	h				Schelpe & Leach 7075
Vittaria guineensis *Desv.* var. orientalis *Hieron.*	ep				Schelpe & Leach 7079
Vittaria isoetifolia *Bory*	ep	2020	FOR		Timberlake 5213
Vittaria volkensii *Hieron.*	ep				Schelpe & Leach 7045
Selaginellaceae					
Selaginella sp. - not matched	h	1860	GR		Patel 7318
Tectariaceae					
Arthropteris monocarpa *(Cordem.) C.Chr.*	h				Schelpe & Leach 7091
Arthropteris orientalis *(J.F.Gmel.) Posth.*	h				Schelpe & Leach 6997
Tectaria gemmifera *(Fée) Alston*	h				Schelpe & Leach 7032
Thelypteridaceae					
Thelypteris confluens *(Thunb.) C.V.Morton*	h			LC	Schelpe & Leach 7016
GYMNOSPERMS					
Podocarpaceae					
Podocarpus milanjianus *Rendle*	T	1740-1870	FOR	LC	Timberlake 5085
MONOCOTYLEDONS					
Amaryllidaceae					
Cyrtanthus welwitschii *Baker*	h	1030-1970	GR		Harris 435
Anthericaceae					
Chlorophytum comosum *(Thunb.) Jacq.*	h				de Koning 7467
Chlorophytum paucinervatum *(Poelln.) Nordal*	h	1870	RG		Harris 420
Chlorophytum sphacelatum *(Baker) Kativu* subsp. milanjianum *(Rendle) Kativu*	h	1880	FOR		Harris 323
Chlorophytum stolzii *(K.Krause) Kativu*	h	1870-1900	RG		Timberlake 5017
Araceae					
Culcasia falcifolia *Engl.*	cl			LC	Torre & Correia 16952
Asparagaceae					
Asparagus krebsianus *(Kunth) Jessop*	h	1850	RO		Harris 421
Asparagus setaceus *(Kunth) Jessop*	h	1840-1940	FOR		Harris 412
Asphodelaceae					
Aloe mawii *Christian*	h	1860-1950	RO	LC	Timberlake 5013
Aloe torrei *I.Verd.& Christian* **E**	h	1500-1600	RG	DD	Leach & Schelpe 11479
Kniphofia linearifolia *Baker*	h		GR		Torre 5123
Kniphofia splendida *E.A.Bruce*	h	1860-1890	GR,FOR margin		Harris 204
Behniaceae					
Behnia reticulata *(Thunb.) Didr.*	cl	1750-1980	FOR		Timberlake 5200
Commelinaceae					
Aneilema hockii *De Wild.*	h	1840	GR		Timberlake 5149
Commelina africana *L.* subsp. africana var. milleri *Brenan*	h	1870-1900	RO		Harris 383
Cyanotis namuliensis *Faden*, in ed. **E**	h	1840-1970	RG	LC	Harris 438
Murdannia simplex *(Vahl) Brenan*	h	1180-1860	WL,GR	LC	Harris 275

Family/species	l/f	alt(m)	habitat	IUCN assess.	specimen
Cyperaceae					
Ascolepis capensis *(Kunth) Ridl.*	h	1860	GR	LC	Mphmaba 1
Bulbostylis cf. buchananii *C.B.Clarke*	h	1830	GR		Harris 367
Bulbostylis schoenoides *(Kunth) C.B.Clarke*	h	1880	WET	LC	Mphamba 327
Carex chlorosaccus *C.B.Clarke*	h	1060	STR		Mphamba 32
Carex vallis-rosetto *K.Schum.* (=C. cyrtosaccus *C.B.Clarke*)	h	1880	GR		Patel 23
Coleochloa setifera *(Ridl.) Gilly*	h	1850-2050	GR,RO		Timberlake 5191
Cyperus fischerianus *A.Rich.*	h	1800	RO		Patel 7351
Cyperus glaucophyllus *Boeckler*	h				Barbosa 4514
Cyperus rotundus *L.*	h	1800	GR	LC	Harris 401
Cyperus semitrifidus *Schrad.*	h	1800	GR		Harris 168
Fuirena stricta *Steud.* subsp. stricta	h	1890	RO	LC	Patel 7398
Isolepis fluitans *(L.) R.Br.*	h	1970	STR	LC	Harris 400
Kyllinga nervosa *Steud.* subsp. nervosa	h	1230	WL		Harris 306
Kyllinga sp. nr. nervosa of FZ **E**	h	1230-1860	WL,GR		Harris 384
Kyllinga odorata *Vahl*	h	1940	GR	LC	Harris 335
Pycreus nigricans (Steud.) C.B.Clarke (=P. macranthus *(Boeck.) C.B.Clarke*)	h	1850	GR	LC	Timberlake 5186
Rhynchospora brownii *Roem.& Schult.*	h	1820	RO		Harris 316
Scleria erythrorrhiza *Ridl.*	h	1820	GR		Timberlake 5039
Dracaenaceae					
Dracaena laxissima *Engl.*	h	1200-1890	FOR		Timberlake 5079
Eriocaulaceae					
Eriocaulon mulanjeanum *S.M.Phillips* **NE**	h	1860	GR,WET		Timberlake 5151
Eriocaulon zambesiense *Ruhland*	h	1870	GR	DD	Mphamba 25
Hyacinthaceae					
Albuca abyssinica *Jacq.*	h	1850	RO		Harris 419
Drimia calcarata *(Baker) Stedje*	h	2000	RG		Harris 330
Merwilla lazulina *(Wild) Speta*	h	1600-2030	RG,RO		Timberlake 5020
Hypoxidaceae					
Hypoxis nyasica *Baker*	h	1810-1900	RG		Harris 456
Iridaceae					
Aristea ecklonii *Baker*	h	1840-1860	GR,STR		Harris 348
Crocosmia aurea *(Hook.) Planch* subsp. aurea	h	1720-1890	FOR		Timberlake 5130
Dierama formosum *Hilliard*	h	2000	FOR margin		Harris 328
Dietes iridioides *(L.) Klatt*	h	1160	STR		Harris 465
Gladiolus atropurpureus *Baker*	h	1350	GR		Mphamba 38
Gladiolus crassifolius *Baker*	h	1870	RG		Harris 284
Gladiolus dalenii *Van Geel* subsp. dalenii	h	1870	GR		Harris 364
Gladiolus zambesiacus *Baker*	h	1300	GR	VU B2ab	Torre & Correia 14721
Gladiolus zimbabweensis *Goldblatt*	h	1850-1920	GR +2ab	VU B1ab	Harris 217
Moraea schimperi *(Hochst.) Pic.Serm.*	h	1620	RG		Harris 310
Radinosiphon leptostachya *(Baker) N.E.Br.*	h	1880	WET		Timberlake (photo)
Juncaceae					
Juncus lomatophyllus *Spreng.*	h	1870	WET	LC	Patel 7326
Orchidaceae					
Angraecopsis parviflora *(Thouars) Schltr.*	h	1800	FOR		Harris 155
Angraecum chamaeanthus *Schltr.*	h	1840	FOR		Timberlake 5217
Brachycorythis pleistophylla *Rchb.f.* subsp. pleistophylla	h	1960	GR		Timberlake 5277
Bulbophyllum josephi *(Kuntze) Summerh.*	ep	1200			Schafer 6884
Bulbophyllum scaberulum *(Rolfe) Bolus*	ep	1250	FOR		Chapama 14
Cynorkis brevicalcar *P.J.Cribb* **NE**	h	1850	GR	DD	Cunliffe (photo)

Family/species	l/f	alt(m)	habitat	IUCN assess.	specimen
Cynorkis buchananii *Rolfe*	h	1880	RO,FOR margin		Harris 177
Cynorkis kassneriana *Kraenzl.*	h	1850			Cunliffe (photo)
Disa baurii *Bolus* (=Herschelianthe baurii *(Bolus) Rauschert*)	h	1850-2090	GR		Timberlake 5208
Disa hircicornis *Rchb.f.*	h		GR		Torre & Correia 16886
Disa welwitschii *Rchb.f.* subsp. welwitschii	h	1790-1820	GR		Timberlake 5043
Disperis cf. anthoceros *Rchb.f.*	ep	1900	FOR		Timberlake 5029
Epipactis africana *Rendle*	h	1750	FOR		Timberlake 5861
Eulophia horsfallii *(Bateman) Summerh.*	h	1620	FOR		Patel 7418
Eulophia norlindhii *Summerh.* (=E. milnei *Rchb.f.* var. norlindhii *(Summerh.) Geerinck*)	h	1880	GR		Harris 388
Eulophia speciosa *(Lindl.) Bolus*	h	1600	GR	LC	Harris 463
Eulophia streptopetala *Lindl.*	h	1310	GR		Mphamba 41
Habenaria malacophylla *Rchb.f.*	h	1570	FOR		Timberlake 5166
Jumellea usambarensis *J.J.Wood*	ep	1840-2000	GR		Timberlake 5266
Liparis caespitosa *(Thouars) Lindl.*	ep	1280			de Koning 7440
Orthochilus mechowii *Rchb.f.* (=Eulophia zeyheri *Hook.f.*)	h	1950	GR/FOR margin		Harris 432
Polystachya fusiformis *Lindl.*	ep	1400			de Koning 7416
Polystachya lindblomii *Schltr.*	ep	1800			Schelpe & Leach 7053
Polystachya johnstonii *Rolfe* var. roseopurpurea *la Croix & P.J.Cribb*	ep	1830-1980	RO		Harris 325
Polystachya simplex *Rendle*	ep	1100			Torre & Correia 14782
Polystachya transvaalensis *Schltr.* or P. cf. johnstonii *Rolfe*	ep	1720-1870	FOR		Timberlake 5206
Polystachya zambesiaca *Rolfe*	h	1880	RF		Timberlake 5214
Roeperocharis bennettiana *Rchb.f.*	h	1880	GR		Harris 181
Roeperocharis wentzeliana *Kraenzl.*	h	1800	GR		Wursten 192
Satyrium breve *Rolfe*	h	1870	GR		Harris 387
Satyrium chlorocarys *Rolfe*	h	1890-2010	WET		Timberlake 5037
Satyrium neglectum *Schltr.* var. neglectum	h	1690	GR		Harris 267
Satyrium shirense *Rolfe*	h	1890	WET	DD	Timberlake 5035
Satyrium trinerve *Lindl.*	h	1800	GR	LC	Timberlake (photo)
Schizochilus sulphureus *Schltr.*	h	1950	WET		Timberlake (photo)
Solenangis conica *(Schltr.) L.Jonss.*	ep	1720	FOR		Timberlake 5863
Stenoglottis zambesiaca *Rolfe*	h	1350	FOR		Wursten (sr)
Poaceae					
Alloeochaete namuliensis *Chippind.* **E**	h	1820-2060	RG	VU D2	Timberlake 5256
Andropogon eucomus *Nees* subsp. huillensis *(Rendle) Sales*	h	1860	GR		Harris 346
Andropogon schirensis *A.Rich.*	h	1820	GR		Harris 458
Cenchrus unisetus *(Nees) Morone* (=Pennisetum unisetum *(Nees) Benth.*)	h	1870	FOR	LC	Harris 251
Digitaria appropinquata *P.Goetgh.* **E**	h	1500	RO	DD	Torre 5162
Digitaria maitlandii *Stapf & C.E.Hubb.*	h	1890-1970	GR/WL		Harris 398
Eragrostis nindensis *Ficalho & Hiern*	h	1890	GR		Harris 205
Eragrostis racemosa *(Thumb.) Steud.*	h	1860	GR		Harris 167
Eragrostis volkensii *Pilg.*	h	1990	GR		Harris 402
Eriochrysis pallida *Munro*	h	1880	GR		Timberlake 5216
Eulalia villosa *(Thunb.) Nees*	h	1300			Torre & Correia 14754
Exotheca abyssinica *(A.Rich.) Andersson*	h	1870	GR		Timberlake 5882
Festuca costata *Nees*	h	1840	RG		Timberlake 5189
Hyparrhenia cymbaria *(L.) Stapf*	h	1540	GR		Timberlake 5157
Hyparrhenia newtonii *(Hack.) Stapf* var. macra *Stapf*	h	1500			Torre 5131
Loudetia simplex *(Nees) C.E.Hubb.*	h	1790-1880	GR		Timberlake 5184
Melinis repens *(Willd.) Zizka*	h	1860	RG		Harris 381

Family/species	l/f	alt(m)	habitat	IUCN assess.	specimen
Panicum sp. aff. inaequilatum *Stapf & C.E.Hubb.*	h	1970	GR		Harris 399
Panicum wiehei *Renvoize*	h	1880	FOR		Harris 262
Phacelurus schliebenii *(Pilg.) Clayton*	h	1860	GR		Mphamba 9
Rhytachne rottboellioides *Desv.*	h	1860	GR		Harris 344
Rytidosperma davyi *(C.E.Hubb.) Cope*	h	1830-1850	RO,FOR margin		Timberlake 5197
Setaria sphacelata *(Schumach.) Moss*	h	1860-2060	GR,RG		Timberlake 5255
Sporobolus mauritianus *(Steud.) T.Durand & Schinz*	h	1960	GR		Harris 437
Sporobolus pyramidalis *P.Beauv.*	h	1960	FOR		Harris 431
Stereochlaena cameronii *(Stapf) Pilg.*	h	1860	GR		Patel 7309
Themeda triandra *Forssk.*	h	1280-1900	GR		Timberlake 5040
Trichopteryx stolziana *Henr.*	h				Torre 5156
Trisetopsis milanjiana *(Rendle) Röser & A.Wölk* (=Helictotrichon milanjianum *(Rendle) C.E.Hubb.*)	h	1740-1850	GR,FOR margin		Timberlake 5185
Restionaceae					
Platycaulos mahonii *(N.E.Br.) H.P.Linder & C.R.Hardy* subsp. mahonii	h	1880	RG	LC	Patel 7332
Smilacaceae					
Smilax anceps *Willd.*	cl	1600	FOR		Patel 7421
Velloziaceae					
Xerophyta kirkii *(Hemsl.) L.B.Smith & Ayensu*	h	1200-1920	RG	LC	Timberlake 5251
Xerophyta pseudopinifolia *Behnke* (=X. pinifolia *Lam.* var. pinifolia of FZ)	h	1300		LC	Torre & Correia 16015
Xerophyta schlechteri *(Baker) N.L.Menezes*	h	1700			Torre & Correia 15959
Xerophyta splendens *(Rendle) N.L.Menezes* **NE**	h	1670	RG	LC	Timberlake 5163
Xerophyta viscosa *Baker*	h	1910-1980	RG		Harris 326
Xerophyta zambiana *L.B.Smith & Ayensu*	h	1250			de Koning 7563
Xyridaceae					
Xyris congensis *Büttner*	h	1870	WET		Harris 184
Xyris makuensis *N.E.Br.* **NE**	h	1810-1890	WET	LC	Timberlake 5041
Xyris peteri *Pollen.*	h	1810-1860	WET	LC	Harris 318
Zingiberaceae					
Aframomum alboviolaceum *(Ridley) K.Schum.*	h	1050	WL	LC	Harris 467
DICOTYLEDONS					
Acanthaceae					
Asystasia gangetica *(L.) T.Anderson* subsp. micrantha *(Nees) Ensermu*	h	1300	GR		Harris 279
Asystasia malawiana *Brummitt & Chisumpa*	h	1730	FOR margin, FOR		Timberlake 5292
Brachystephanus africanus *S.Moore* var. africanus	h	1720-1740	FOR		Timberlake 5231
Brillantaisia cicatricosa *Lindau*	h	1520	FOR		Leach & Schelpe 11470
Hypoestes aristata *(Vahl) Roem.& Schult.*	h	1860	GR	LC	Harris 174
Hypoestes sp. aff. aristata A of FZ	h	1000	RF		Torre 5595
Isoglossa namuliensis *I.Darbysh.& T.Harris* **E**	h	1890	FOR	CR B1ab +2ab	Harris 324
Isoglossa sp. A of FZ	h	1330	RF		de Koning 7459
Justicia sp. A of FZ (*JE & SM Burrows* 9902)	h	1720	FOR		Timberlake 5051
Justicia striata *(Klotzsch) Bullock*	h	1870	FOR		Harris 163
Mimulopsis solmsii *Schweinf.*	h	1850	FOR		Mphamba 13
Pseuderanthemum subviscosum *(C.B.Clarke) Stapf*	h				Last s.n.
Sclerochiton hirsutus *Vollesen* **NE**	h	1150	RF	VU D2	de Koning 7498

Family/species	l/f	alt(m)	habitat	IUCN assess.	specimen
Achariaceae					
Rawsonia lucida *Harv.& Sond.*	S/T	1460-1840	FOR,RF	LC	Timberlake 5057
Amaranthaceae					
*Achyranthes aspera *L.*	h	1830-1940	FOR		Timberlake 5075
Cyathula cylindrica *Moq.*	h	1870	FOR margin		Patel 7394
Anacardiaceae					
Searsia acuminatissima *(R.Fern.& A.Fern.) Moffett* (= Rhus acuminatissima *R.Fern.& A.Fern.*)	S/T	1980	GR	NT B2ab	Timberlake 5271
Annonaceae					
Annona senegalensis *Pers.* subsp. senegalensis	T	1170-1350	WL	LC	Timberlake (sr)
Aphloiaceae					
Aphloia theiformis *(Vahl.) Benn.*	T	1710-1860	GR,FOR margin	LC	Timberlake 5240
Apiaceae					
Afrosciadium eylesii *(C.Norman) P.J.D.Winter* (=Peucedanum eylesii *Norman*)	h	1850	GR		Mphamba 5
Afrosciadium nyassicum *(H.Wolff) P.J.D.Winter* (=Peucedenum nyassicum *H.Wolff*)	h	1860-1890	RG	DD	Harris 232
Alepidea peduncularis *A.Rich.*	h	1580-1830	GR		Harris 292
Diplolophium buchananii *(Oliv.) C.Norman* subsp. buchananii	h	900-1200	GR,WL	LC	Mendonça 2179
Heteromorpha arborescens *(Spreng.) Cham.& Schltdl.* var. abyssinica *(A.Rich.) H.Wolff*	S	1280	RF	[LC?]	Wursten 94
Heteromorpha arborescens *(Spreng.) Cham.& Schltdl.* var. montana *P.J.D.Winter*	S/T	1710-1780	GR	[LC?]	Harris 265
Hydrocotyle mannii *Hook.f.*	h	1180	WL	LC	Harris 308
Lefebvrea longipedicellata *Engl.* (=L. brevipes *H.Woolf*)	h	1850	WET		Patel 7312
Pimpinella mulanjensis *C.C.Towns.* **NE**	h	1890-1920	RG	LC	Timberlake 5019
Apocynaceae					
Asclepias palustris *(K.Schum.) Schltr.*	h	1860-1880	FOR margin, GR		Harris 320
Carissa bispinosa *(L.) Brenan* subsp. zambesiensis *Kupicha*	S/T	1720-1880	FOR,RF	LC	Timberlake 5212
Carvalhoa campanulata *K.Schum.*	S	1300	WL		Timberlake 5032
Ceropegia buchananii *(N.E.Br.) Bruyns*	h	1500	WL,RO		Bruyns 9728
Ceropegia namuliensis *Bruyns*	cl	1200	WL	LC	Bruyns 9725
Ceropegia nutans *(Bruyns) Bruyns* **E** (=Brachystelma nutans *Bruyns*)	h	1400-1500	RO	VU D1 +D2	Bruyns 9729
Cynanchum mulanjense *(Liede & Meve) Liede & Meve*	h	1340	RO		Harris 473
Secamone alpini *Schult.*	h	1820	FOR		Harris 439
Tabernaemontana stapfiana *Britton*	T	1610-1830	FOR	LC	Timberlake 5053
Xysmalobium undulatum *(L.) W.T.Aiton*	h	1730	FOR,GR		Harris 377
Aquifoliaceae					
Ilex mitis *(L.) Radlk.* var. mitis	T	1720-1990	RF,FOR margin	LC	Timberlake 5195
Araliaceae					
Cussonia spicata *Thunb.*	T	1980	FOR margin		Andrade 1855
Polyscias fulva *(Hiern) Harms*	T	1590	FOR margin	LC	Timberlake 5281
Schefflera goetzenii *Harms*	T	1460-1840	FOR margin		Timberlake 5199
Schefflera umbellifera *(Sond.) Baill.*	T	1870-1900	FOR	LC	Timberlake 5012

Family/species	l/f	alt(m)	habitat	IUCN assess.	specimen
Asteraceae					
*Ageratum conyzoides *L.*	h	1870	FOR margin		Patel 7398
Anisopappus chinensis *(L.) Hook.& Arn.* var. dentatus *(DC.) S. Ortiz, Paiva & Rodr.-Oubiña*	h	1870	RG		Harris 182
Anisopappus kirkii *(Oliv.) Brenan*	S	1830	FOR margin		Harris 369
Bothriocline glomerata *(O.Hoffm.& Muschl.) C.Jeffrey*	h	1630	RF	[EN B2ab]	Patel 7419
Bothriocline inyangana *N.E.Br.* var. inyangana (=B. longipes *(Oliv.& Hiern) N.E.Br.*)	S	1870	GR		Patel 7324
Bothriocline moramballae *(Oliv.& Hiern) O.Hoffm.*	h	1200	GR	LC	Torre & Correia 15881
Crassocephalum crepidioides *(Benth.) S.Moore*	h	1870-1890	RO		Timberlake 5070
Crassocephalum montuosum *(S.Moore) Milne-Redh.*	h	1900	FOR		Timberlake 5135
Crassocephalum rubens *(Jacq.) S.Moore*	h	1900	RO		Harris 190
Crassocephalum × picridifolium *(DC.) S.Moore*	h	1860	FOR margin	LC	Patel 7310
Crepis newii *Oliv.& Hiern* subsp. newii	h	1870	RO		Patel N22
Emilia decipiens *C.Jeffrey*	h	1940	RO		Harris 210
Gerbera viridifolia *(DC.) Sch.Bip.* subsp. viridifolia	h	1940-1960	GR		Harris 333
Helichrysum adenocarpum *DC.* subsp. adenocarpum	h	1870	GR		Harris 157
Helichrysum brassii *Brenan*	h				Andrade 1863
Helichrysum cephaloideum *DC.*	h				Torre 5145
Helichrysum cf. buchananii *Engl.*	h	1860-1920	GR		Timberlake 5136
Helichrysum chasei *Wild*	h	1850	GR		Timberlake 5862
Helichrysum foetidum *(L.) Moench.*	h	1760-1870	FOR margin		Mphamba 22
Helichrysum kirkii *Oliv.& Hiern* var. kirkii	h	1370	GR		Leach & Schelpe 11474a
Helichrysum lastii *Engl.* **NE**	h	1800	GR	LC	Last s.n., Andrade 1864
Helichrysum nudifolium *(L.) Less.* var. pilosellum *(L.f.) Beentje*	h	1850	GR margin		Patel 7339
Helichrysum sulphureofuscum *Baker*	h	1860-1940	GR		Harris 159
Lactuca inermis *Forssk.*	h	1680	GR		Harris 268
Senecio auriculatissimus *Britten*	h				Last s.n.
Senecio cf. purpureus *L.*	h	1850	GR		Harris 173
Senecio erubescens *Aiton*	h	1840	GR		Timberlake 5188
Senecio latifolius *DC.*	h	1840	RO		Harris 313
Senecio milanjianus *S.Moore*	h	1920	RG		Harris 370
Senecio peltophorus *Brenan* **NE**	h	1600-2070	GR,RO	LC	Timberlake 5141
Solanecio mannii *(Hook.f.) C.Jeffrey*	S	1370	FOR margin	LC	Timberlake (sr)
*Tagetes minuta *L.*	h	1870	FOR margin		Patel 7395
Tolpis capensis *(L.) Sch.Bip.*	h	1870	GR		Mphamba 24
Vernonia natalensis *Walp.*	h	1390	GR		Harris 471
Vernonia wollastonii *S.Moore*	S	1850	RF		Harris 360
Balsaminaceae					
Impatiens oreocallis *Launert*	h	1300-1800	FOR margin		Timberlake 5095
Impatiens psychadelphoides *Launert*	h	1200-1860	FOR margin	VU B2ab	Schafer 6938
Impatiens sylvicola *Burtt Davy*	h	1730-1960	FOR margin, STR		Timberlake 5104
Impatiens zombensis *Baker*	h	1800	FOR margin		Timberlake 5102
Begoniaceae					
Begonia oxyloba *Hook.f.*	h	1100	near WET		Mendonça 2104
Bignoniaceae					
Tecomaria nyassae *(Oliv.) K.Schum.* (=T. capensis *(Thunb.) Spach* subsp. nyassae *(Oliv.) Brummitt*)	S/T	1620-1830	RO	LC	Mphamba 14
Cactaceae					
Rhipsalis baccifera *(J.Mill) Stearn*	ep	1030-1200	FOR	LC	Timberlake 5178

Family/species	l/f	alt(m)	habitat	IUCN assess.	specimen
Campanulaceae					
Cyphia lasiandra *Diels*	h	1890-1940	RO		Timberlake 5018
Cyphia mazoensis *S.Moore*	h	1350	GR		Wursten 99
Lobelia blantyrensis *E.Wimm.*	h	1940	RO		Harris 207
Lobelia goetzei *Diels*	h	1840-1900	RG		Harris 191
Lobelia trullifolia *Hemsl.* subsp. trullifolia	h	1865	RO		Harris 464
Wahlenbergia abyssinica *(A.Rich.) Thulin*	h	1350	RO		Mphamba 42
Wahlenbergia virgata *Engl.*	h	1970-1980	GR		Harris 332
Celastraceae					
Maytenus acuminata *(L.f.) Loes.* var. acuminata	T	1720-1890	FOR	LC	Timberlake 5015
Maytenus undata *(Thunb.) Blakelock*	T	1720-1840	FOR	LC	Timberlake 5083
Mystroxylon aethiopicum *(Thunb.) Loes.* subsp. schlechteri *(Loes.) R.H.Archer*	T	1620-1850	FOR	LC	Timberlake 5081
Pterocelastrus echinatus *N.E.Br.*	T	1720-1900	FOR	LC	Timberlake 5128
Chrysobalanaceae					
Hirtella zanzibarica *Oliv.*	T	1300			Torre & Correia 16032
Maranthes goetzeniana *(Engl.) Prance*	T	1450	FOR	NT B2ab	Barbosa & Carvalho 4129
Parinari curatellifolia *Benth.*	T	1280	WL	LC	Timberlake (sr)
Parinari excelsa *Sabine*	T	1040	RF	LC	Timberlake 5293
Clusiaceae					
Garcinia kingaensis *Engl.*	T	1570-1835	FOR		Timberlake 5068
Harungana madagascariensis *Poir.*	S	1250-1940	FOR margin	LC	Timberlake (sr)
Hypericum peplidifolium *A.Rich.*	h	1950	GR		Harris 422
Psorospermum febrifugum *Spach*	T	1520	WL	LC	Timberlake (sr)
Combretaceae					
Combretum coriifolium *Engl.& Diels*	cl	1800			Torre & Correia 14952
Convolvulaceae					
Cuscuta cassytoides *Engelm.*	cl	1800	GR		Timberlake 5096
Ipomoea involucrata *P.Beauv.* var. operosa *(C.H.Wright) Hallier f.*	h	1860	RO		Patel 7337
Crassulaceae					
Crassula globularioides *Britten*	h	1830-2060	RO		Timberlake 5258
Crassula sarcocaulis *Eckl.& Zeyh.* subsp. sarcocaulis	h	1740	RO,RG		Harris 281
Crassula lanceolata *(Eckl.& Zeyh.) Walp.* subsp. transvaalensis *(Kuntze) Toelken*	h	2080	RO,RG		Timberlake 5143
Crassula setulosa *Harv.* var. setulosa	h	2120	RO,RG		Patel 7388
Crassula swaziensis *Schönland* subsp. swaziensis *R.Fern.* var. guruensis *R.Fern.*	h	1600	RO		Mendonça 2173
Crassula zombensis *Baker f.* **NE**	h	1440	RO	LC	Leach & Schelpe 11483
Kalanchoe elizae *A.Berger*	h	1370	RO	LC	Leach & Schelpe 11482
Cucurbitaceae					
Oreosyce africana *Hook.f.*	cl	1860-1890	GR		Harris 252
Peponium chirindense *(Baker f.) Cogn.*	cl				Torre & Correia 16941
Peponium vogelii *(Hook.f.) Engl.*	cl	1380-1760	dist.FOR		Patel 7411
Dipsacaceae					
Cephalaria pungens *Szabó*	h	1850	RF		Mphamba 10
Droseraceae					
Drosera madagascariensis *DC.*	h	1813	WET	LC	Timberlake 5042
Ebenaceae					
Diospyros abyssinica *(Hiern) F.White* subsp. abyssinica	T	1500	FOR		Timberlake (sr)
Diospyros mespiliformis *A.DC.*	T	1040	RF		Timberlake (sr)

Family/species	l/f	alt(m)	habitat	IUCN assess.	specimen
Diospyros natalensis *(Harv.) Brenan* subsp. nummularia *(Brenan) Jordaan*	T	1730-1830	FOR		Timberlake 5089
Diospyros whyteana *(Hiern) F.White*	S/T	1980-2000	FOR		Timberlake 5260
Euclea crispa *(Thunb.) Gürke* subsp. crispa	S	1940	RG		Harris 424
Ericaceae					
Agauria salicifolia *(Lam.) Oliv.*	T	1830	FOR margin	LC	Timberlake 5196
Erica benguelensis *(Engl.) E.G.H.Oliv.* var. benguelensis	S/T	1890-1930	GR,FOR margin	LC	Timberlake 5034
Erica hexandra *(S.Moore) E.G.H.Oliv.*	S	1870	FOR	LC	Timberlake 5014
Erica mannii *(Hook.f.) Beentje* subsp. usambarensis *(Alm & T.C.E.Fr.) Beentje*	S/T	1840	RO	LC	Harris 358
Erica silvatica *(Engl.) Beentje* (=Blaeria kingaensis *Engl.*)	S	2120	RO,RG		Patel 7387
Erica simii *(S.Moore) E.G.H.Oliv.* (=Phillipia simii *S.Moore*)	S	2060	RO,RG	LC	Timberlake 5145
Erythroxylaceae					
Erythroxylum emarginatum *Thonn.*	T	1720-1750	FOR		Timberlake 5049
Euphorbiaceae					
Acalypha psilostachya *A.Rich.*	S	1890	WL		Harris 247
Acalypha welwitschiana *Müll.Arg.*	S	1850	FOR margin		Timberlake 5183
Alchornea hirtella *Benth.* form glabrata *(Müll.Arg.) Pax & K.Hoffm.*	S/T	1720-1870	FOR	LC	Timberlake 5046
Erythrococca polyandra *(Pax & K.Hoffm.) Prain*	S	1940	FOR		Harris 430
Erythrococca trichogyne *(Müll.Arg.) Prain* var. trichogyne	T	1730	FOR	LC	Timberlake 5066
Euphorbia depauperata *A.Rich.*	h	1860-1980	GR		Harris 343
Euphorbia mlanjeana *L.C.Leach*	S	800-1500	RO		Bruyns sn (NBG,2004)
Euphorbia namuliensis *Bruyns* **E**	h	800-1500	RO	LC	Bruyns 9723
Macaranga capensis *(Baill.) Sim*	T	1040-1370	RF	LC	Mphamba 35
Macaranga mellifera *Prain*	T	1710-1900	FOR	LC	Timberlake 5118
Fabaceae: Caesalpinioideae					
Brachystegia spiciformis *Benth.*	S	1666	GR	LC	Timberlake 5162
Chamaecrista stricta *E.Mey.*	h	1870	FOR margin		Harris 216
Senna singueana *(Delile) Lock*	S	1280	WL	LC	Timberlake (sr)
Fabaceae: Mimosoideae					
Albizia adianthifolia *(Schumach.) W.F.Wight*	T	1490	FOR	LC	Timberlake 5182
Albizia gummifera *(J.F.Gmel.) C.A.Sm.*	T	1540-1840	FOR	LC	Timberlake 5101
Newtonia buchananii *(Baker f.) G.C.C.Gilbert & Boutique*	T	1000	RF	LC	Barbosa & Carvalho 4123
Fabaceae: Papilionoideae					
Aeschynomene nodulosa *(Baker) Baker f.* var. nodulosa	S	1870	FOR margin		Harris 321
Argyrolobium rupestre *(E.Mey.) Walp.* subsp. aberdaricum *(Harms) Polhill*	h	1950	GR		Harris 423
Argyrolobium tomentosum *(Andrews) Druce*	h	1500			Torre 5063
Craibia brevicaudata *(Vatke) Dunn* subsp. baptistarum *(Büttner) J.B.Gillett*	T	1130	RF		Timberlake 5300
Crotalaria caudata *Baker*	h	1880	GR		Timberlake 5885
Crotalaria cleomifolia *Baker*	h	1320	RO		Harris 300
Crotalaria goetzei *Harms*	S/T	1400-1930	FOR margin		Harris 347
Crotalaria lachnocarpoides *Engl.*	h	1670	RG		Timberlake 5164
Crotalaria lanceolata *E.Mey.* subsp. exigua *Polhill*	h	1880-1910	GR	LC	Timberlake 5024b
Crotalaria lanceolata *E.Mey.* subsp. prognatha *Polhill*	h	1670-1870	GR		Harris 179
Crotalaria namuliensis *Polhill & T.Harris* **E**	h	1820-1920	GR,RO	LC	Patel 7319

Family/species	l/f	alt(m)	habitat	IUCN assess.	specimen
Crotalaria natalitia *Meisn.* var. rutshuruensis *De Wild.*	h	1220	dist.WL		Harris 280
Crotalaria recta *A.Rich.*	h				Torre 5121
Crotalaria spartea *Baker*	h	1610	WET		Harris 273
Crotalaria stolzii *(Baker f.) Polhill*	h	1842	GR		Timberlake 5150
Crotalaria torrei *Polhill* **E**	h	1800-1900	FOR margin, GR	LC	Timberlake 5026
Dalbergia arbutifolia *Baker* subsp. arbutifolia	cl		FOR	LC	Vincent (sr)
Desmodium setigerum *(E.Mey.) Harv.*	h	1040	river margin		Harris 466
Dumasia villosa *DC.* var. villosa	cl			LC	Barbosa & Carvalho 4126
Eriosema montanum *Baker f.*	h			LC	Torre & Correia 15884
Eriosema nutans *Schinz*	h				Torre 5142
Eriosema rhodesicum *R.E.Fr.* var. rhodesicum	h				Mendonça 2285
Erythrina abyssinica *DC.*	T	1420	GR	LC	Timberlake (sr)
Erythrina latissima *E.Mey.*	T	1280	GR		Timberlake (sr)
Indigofera lyallii *Baker* subsp. nyassica *J.B.Gillett*	S	1000-2010	RO	LC	Harris 213
Indigofera namuliensis *Schrire* **E**	h	1400-1500	GR	DD	Patel 7413
Kotschya recurvifolia *(Taub.) F.White* subsp. recurvifolia	S	1850-2050	FOR margin, RG	LC	Timberlake 5071
Kotschya scaberrima *(Taub.) Wild*	S				Torre 5698
Lotus namulensis *Brand*	h	1850-1980	RG		Patel 7413
Macrotyloma axillare *(E.Mey.) Verdc.* var. axillare	cl				de Koning 7442
Macrotyloma axillare *(E.Mey.) Verdc.* var. macranthum *(Brenan) Verdc.*	cl				Leach & Schelpe 11473
Millettia lasiantha *Dunn*	cl	1030	WL		Mphamba 36
Rhynchosia clivorum *S.Moore* subsp. gurueensis *Verdc.* **E**	h/S	1900	RF	DD	Mendonça 2143
Rhynchosia clivorum *S.Moore* subsp. pycnantha *(Harms) Verdc.*	h/S				Mendonça 2055
Rhynchosia torrei *Verdc.* **E**	h/S	1760-2130	RG	LC	Harris 221
Sesbania macrantha *E.Phillips & Hutch.* var. macrantha	h/S	1540	GR	LC	Timberlake 5156
Smithia elliotii *Baker f.* var. elliotii	h				Torre 5088
Tephrosia aequilata *Baker*	S	1840-2100	FOR margin, RO	LC	Harris 342
Tephrosia vogelii *Hook.f.*	h/S	1220-1420	dist	LC	Harris 277
Tephrosia whyteana *Baker f.* subsp. gemina *Brummitt* **E**	S		FOR margin, RO	CR B1ab +2ab	Mendonça 2163
Vigna gazensis *Baker f.*	h	1830-1840	FOR margin	LC	Mphamba 11
Vigna vexillata *(L.) A.Rich.* var. vexillata	h	1400	WL		Mphamba 40
Gelsemiaceae					
Mostuea brunonis *Didr.* var. brunonis	S	1710	FOR margin		Timberlake 5243
Gentianaceae					
Anthocleista grandiflora *Gilg*	T	1530-1600	FOR margin		Timberlake (sr)
Exacum zombense *N.E.Br.*	h	1890-1920	RG	LC	Harris 223
Sebaea leiostyla *Gilg*	h				Torre 5514
Sebaea longicaulis *Schinz*	h	1855	FOR margin		Patel 7338
Swertia usambarensis *Engl.* var. curtioides *(Gilg) Sileshi*	h	1860-1880	WET		Harris 156
Geraniaceae					
Geranium arabicum *Forssk.*	h	1750-2080	FOR margin, RG		Harris 239
Gerrardinaceae					
Gerrardina eylesiana *Milne-Redh.*	S	1840	RG		Harris 454

Family/species	l/f	alt(m)	habitat	IUCN assess.	specimen
Gesneriaceae					
Streptocarpus eylesii *S.Moore* subsp. brevistylus *Hilliard & B.L.Burtt*	h	1820	RO		Timberlake (sr)
Streptocarpus goetzei *Engl.*	h	1490-1880	FOR,RO		Timberlake 5056
Streptocarpus hirtinervis *C.B.Clarke*	h	2100	RO		Harris 408
Haloragaceae					
Laurembergia repens *P.J.Bergius* subsp. brachypoda *(Hiern) Oberm.* (=L. tetrandra *(Schott) Kanitz* subsp. brachypoda *(Hiern) A.Raynal*)	h	1880-1890	WET	LC	Timberlake 5215
Hamamelidaceae					
Trichocladus ellipticus *Eckl.& Zeyh.* subsp. malosanus *(Baker) Verdc.*	T	1460	RF	LC	Timberlake 5289
Hydrostachyaceae					
Hydrostachys polymorpha *A.Braun*	aq	1030	STR	LC	Harris 302
Icacinaceae					
Apodytes dimidiata *E.Mey.* subsp. dimidiata	T	1710-1720	FOR margin		Timberlake 5241
Iteaceae					
Choristylis rhamnoides *Harv.*	S	1880	RF margin	LC	Timberlake 5211
Lamiaceae					
Aeollanthus buchnerianus *Briq.*	h	1330-1950	RG		Harris 276
Aeollanthus serpiculoides *Baker*	h	1720	RG		Patel 7377
Aeollanthus subacaulis *(Baker) Hua & Briq.* var. linearis *(Burkill) Ryding*	h	1890-1900	GR		Timberlake 5025
Aeollanthus ukamensis *Gürke*	h	1340	GR		Harris 293
Clerodendrum cephalanthum *Oliv.* subsp. swynnertonii *(S.Moore) Verdc.*	S	1620-1830	FOR		Timberlake 5097
Coleus namuliensis *E.Downes & I.Darbysh.* **E**	h	2050	GR,RO	LC	Harris 237
Haumaniastrum villosum *(Benth.) A.J.Paton*	h	1900	RG		Harris 189
Leucas milanjiana *Gürke*	h	1250	FOR		Chapama 16
Micromeria imbricata *(Forssk.) C.Chr.* var. imbricata	h	1680-1940	GR		Harris 266
Ocimum obovatum *Benth.* subsp. obovatum var. obovatum	h	1950	GR		Harris 444
Platostoma rotundifolium *(Briq.) A.J.Paton*	h	1730	FOR margin		Mphamba 20
Platostoma sp. no. 2 of Fl.Moz	h	1160	RO		Wursten BW92
Plectranthus alboviolaceus *Gürke*	h	1800	FOR margin		Timberlake 5093
Plectranthus guruensis *A.J.Paton* **E**	h	1030-1140	RF margin	EN B1ab +B2ab	Harris 301
Plectranthus laxiflorus *Benth.*	h	1750-1870	FOR		Harris 378
Plectranthus mandalensis *Baker* **NE**	h	1800-1860	FOR	VU B1ab +2ab	Harris 257
Plectranthus melleri *Baker*	h	1380	FOR		Patel s.n.
Plectranthus pubescens *Baker*	h	1860-1940	GR,RG		Harris 178
Plectranthus sanguineus *Britten*	h	2100-2120	RG		Harris 407
Plectranthus stenosiphon *Baker*	h	1180-1840	RO		Timberlake 5290
Pycnostachys urticifolia *Hook.*	h	1790	FOR		Harris 263
Stachys aethiopica *L.*	h	1700-1990	FOR margin		Harris 396
Stachys didymantha *Brenan* **NE**	h	1980-2130	RO,RG		Harris 212
Tetradenia galpinii *(N.E.Br.) Phillipson & C.Steyn*	S/T	1850	FOR margin		Mphmaba 12
Tetradenia riparia *(Hochst.) Codd*	S/T	1660-1920	GR,RO	LC	Harris 290
Vitex payos *(Lour.) Merr.*	T	1350	GR		Timberlake (sr)
Lauraceae					
Cryptocarya liebertiana *Engl.*	T	1690-1750	FOR		Timberlake 5121
Ocotea kenyensis *(Chiov.) Robyns & R.Wilczek*	T	1700	FOR	[VU A1cd]	Torre & Correia 16955

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Lentibulariaceae					
Utricularia livida *E.Mey.*	h	1330		LC	Schafer & Koning 6931
Linderniaceae					
Craterostigma nummulariifolium *(D.Don) Eb.Fisch., Schäferh.& Kai Müll.* (=Lindernia nummulariifolia *(D.Don) Wettst.*)	h	1200		LC	Torre & Correia 14854
Crepidorhaphon namuliensis *I.Darbysh.& Eb.Fisch.* **E**	h	1730-1870	GR,WET	LC	Patel 7319
Torenia thouarsii *(Cham.& Schltdl.) Kuntze*	h	1220	WL	LC	Harris 305
Loganiaceae					
Strychnos spinosa *Lam.*	S/T	1280-1520	GR		Timberlake (sr)
Strychnos usambarensis *Gilg*	cl	1590	FOR		Timberlake (sr)
Loranthaceae					
Actinanthella menyharthii *(Schinz) Balle*	ep	1570	FOR margin		Congdon 575
Agelanthus patelii *Polhill & Timberlake* **NE**	ep	1700	FOR margin	EN B1 +B2ab	Patel 2
Englerina inaequilatera *(Engl.) Gilli*	ep	1870-1890	FOR		Harris 255
Englerina kwaiensis *(Engl.) Polhill & Wiens*	ep	1720-1850	FOR	LC	Patel 2369b
Erianthemum schelei *(Engl.) Tiegh.*	ep	1870	RF		Harris 254
Helixanthera schizocalyx *T.Harris, I.Darbys.& Polhill* **NE**	ep	1570-1600	FOR margin	EN B1ab +2ab	Patel 39
Malvaceae sensu lato					
Dombeya lastii *K.Schum.* **E**	S		WL	EN B1 +B2ab	Torre 5618, Last s.n.
Pavonia columella *Cav.*	h	1850-2040	RO,FOR		Harris 161
Sparrmannia ricinocarpa *(Eckl.& Zeyh.) Kuntze*	h	1850-1980	FOR margin		Harris 211
Melastomataceae					
Antherotoma naudinii *Hook f.*	h	1600-1910	RO		Harris 197
Antherotoma phaeotricha *(Hochst.) Jacq.-Fél.* (=Dissotis phaeotricha *(Hochst.) Hook.f.*)	h	1710	GR		Harris 264
Dissotis johnstoniana *Baker f.* var. johnstoniana **NE**	S	1830-2100	RO		Mendonça 2277
Dissotis princeps *(Kunth) Triana*	S	1880	RG		Harris 230
Memecylon nubigenum *R.D.Stone & I.G.Mona* **NE**	T	1600-1700	FOR	EN B1ab +B2ab	Torre & Correia 15956
Meliaceae					
Ekebergia capensis *Sparrm.*	T	1820-2000	FOR margin	LC	Timberlake 5074
Melianthaceae					
Bersama abyssinica *Fresen.* subsp. nyassae *(Baker f.) F.White*	T	1740-1840	FOR margin		Timberlake 5119
Menispermaceae					
Stephania abyssinica *(Quart.-Dill.& A.Rich.) Walp.* var. abyssinica	cl	1310	GR		Wursten 170
Molluginaceae					
Corrigiola drymarioides *Baker f.*	h	1920	RO,RG		Harris 206
Monimiaceae					
Xymalos monospora *(Harv.) Baill.*	T	1620	FOR	LC	Timberlake 5175
Moraceae					
Ficus ingens *(Miq.) Miq.*	T	1540	RG	LC	Timberlake 5159
Ficus natalensis *Hochst.* subsp. natalensis	T	1190	RO	LC	Timberlake 5177
Myricaceae					
Morella pilulifera *(Rendle) Killick*	S	1710-1870	GR,FOR	LC	Timberlake 5218
Morella serrata *(Lam.) Killick*	S/T				de Koning 7432

Family/species	l/f	alt(m)	habitat	IUCN assess.	specimen
Myrsinaceae					
Embelia schimperi *Vatke*	S	1000	RF	LC	Torre & Correia 14846
Maesa lanceolata *Forssk.*	S/T	1240-2000	FOR	LC	Timberlake 5261
Myrsine africana *L.*	S	1870-1980	FOR		Timberlake 5147
Rapanea melanophloeos *(L.) Mez*	T	1870-1970	FOR, FOR margin		Timberlake 5132
Myrtaceae					
*Eucalyptus alba *Reinw.*	T	1040-1200	WL		Timberlake (sr)
Eugenia natalitia *Sond.* (=E. capensis *(Eckl.& Zeyh) Sond.* subsp. nyassensis *(Engl.) F.White*)	S/T	1570-1870	FOR		Timberlake 5168
Syzygium afromontanum *(F.White) Byng & J.E.Burrows* (=S. guineense *(Willd.) DC.* subsp. afromontanum *F.White*)	T	1720-1870	FOR		Timberlake 5014a
Syzygium cordatum *C.Krauss*	T	1310-1720	FOR,GR	LC	Timberlake 5152
Syzygium owariense *(P.Beauv.) Benth.*	T	1830	FOR		Timberlake 5086
Ochnaceae					
Ochna holstii *Engl.*	T	1710-1980	FOR	LC	Timberlake 5054
Olacaceae					
Strombosia scheffleri *Engl.*	T	1620	FOR		Patel s.n.
Oleaceae					
Olea capensis *L.* subsp. macrocarpa *(C.H.Wright) I.Verd.*	T	1620-1710	FOR	LC	Timberlake 5173
Schrebera alata *(Hochst.) Welw.*	T	1500	FOR	LC	Dowsett-Lemaire (sr)
Orobanchaceae					
Alectra sessiliflora *(Vahl) Kuntze*	h	2120	RO		Harris 245
Buchnera lastii *Engl.* subsp. lastii	h	1870-1890	GR		Timberlake 5203
Buchnera namuliensis *Skan* **E**	h		GR	DD	Last s.n.
Gerardiina angolensis *Engl.*	h	1810-1885	WET,RO, GR		Patel 7329
Sopubia ramosa *(Hochst.) Hochst.*	h	1370-1930	GR		Timberlake 5062
Sopubia simplex *(Hochst.) Hochst.*	h	1740	GR		Patel N36
Striga angustifolia *(Don) C.J.Saldanha*	h	1900	RO		Harris 200
Oxalidaceae					
Oxalis obliquifolia *A.Rich.*	h	1720	FOR margin		Patel 7378
Oxalis semiloba *Sond.* subsp. semiloba	h	1200	dist		Harris 296
Passifloraceae					
*Passiflora edulis *Sims*	cl	1910	RO		Harris 201
Penaeaceae					
Olinia huillensis *A.Fern.& R.Fern.* subsp. discolor *(Mildbr.) Sebola*	T	1920	FOR	LC	Timberlake 5273
Peraceae					
Clutia abyssinica *Jaub.& Spach* var. abyssinica	S	2030	RO	LC	Patel 7350
Clutia abyssinica *Jaub.& Spach* var. pedicellaris *(Pax) Pax*	S				Torre 3530
Phyllanthaceae					
Antidesma vogelianum *Müll.Arg.*	S/T	1460	RF		Timberlake 5291
Bridelia micrantha *(Hochst.) Baill.*	T	1540-1750	FOR,GR	LC	Timberlake 5053
Cleistanthus polystachyus *Planch.* subsp. milleri *(Dunkley) Radcl.-Sm.*	T			LC	Barbosa & Carvalho 4494
Phyllanthus hutchinsonianus *S.Moore*	S				Torre & Correia 15936
Phyllanthus leucanthus *Pax*	h	1900	RG		Harris 193
Phyllanthus sp. near P. myrtaceus *Sond.*	S	1860-1900	FOR margin		Patel 7320
Uapaca lissopyrena *Radcl.-Sm.*	T		WL		Torre & Correia 16026

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Piperaceae					
Peperomia retusa *(L.f.) A.Dietr.*	h	1860	FOR		Patel 7410
Peperomia bangroana *C.DC.* (= P. rotundifolia *(L.) Kunth*)	ep	1200			Torre & Correia 14818
Peperomia tetraphylla *(G.Forst.) Hook.& Arn.*	ep	1831	FOR		Timberlake 5099
Piper capense *L.f.* var. capense	h	1730-1880	FOR	LC	Timberlake 5884
Pittosporaceae					
Pittosporum viridiflorum *Sims* var. viridiflorum	T	1870-1890	FOR		Timberlake 5010
Podostemaceae					
Inversodicraea torrei *(C.Cusset) Cheek* **E** (=Ledermanniella torrei *C.Cusset*)	aq	2000	STR	VU D2	Mendonça 2166
Polygalaceae					
Polygala adamsonii *Exell* **NE**	h	1730-2030	RO	LC	Timberlake 5061
Polygala virgata *Thunb.* var. decora *(Sond.) Harv.*	h	1730-1860	FOR margin		Harris 375
Polygonaceae					
Rumex abyssinicus *Jacq.*	h	1870	FOR margin		Harris 445
Proteaceae					
Faurea delevoyi *De Wild.*	T	1840	FOR,STR		Timberlake 5170
Faurea racemosa *Farmar* **NE** (incl. F. wentzeliana sensu Timberlake *et al.* 2012)	T	1620-1870	FOR	EN B2ab	Timberlake 5176
Faurea rochetiana *(A.Rich.) Pic.Serm.*	T	1800		LC	Mendonça 2230
Faurea saligna *Harv.*	T	1840	FOR margin	LC	Timberlake (sr)
Protea madiensis *Oliv.* subsp. madiensis	S/T			LC	Torre 5161
Protea petiolaris *(Hiern) Baker* subsp. elegans *Chisumpa & Brummitt*	S/T	1870-1950	GR,RO		Timberlake 5275
Protea welwitschii *Engl.*	S/T	1660-1950	FOR margin, GR	LC	Timberlake 5031
Putranjivaceae					
Drypetes gerrardii *Hutch.* var. grandifolia *Radcl.-Sm.*	S/T	1730-1850	FOR	LC	Timberlake 5047
Ranunculaceae					
Clematis brachiata *Thunb.*	cl	1350	dist		Wursten 97
Clematis viridiflora *Bertol.*	cl	1870	FOR		Harris 162
Thalictrum rhynchocarpum *Quart.-Dill.& A.Rich.*	h	1920	FOR		Harris 229
Rhizophoraceae					
Cassipourea malosana *(Baker) Alston*	T	1850-1890	FOR margin, GR		Timberlake 5203b
Rosaceae					
Prunus africana *(Hook.f.) Kalkm.*	T	1990	FOR margin	[VU A1cd]	Timberlake 5269
Rubus chapmanianus *Kupicha*	S	1760	STR		Harris 340
Rubus pinnatus *Willd.*	S	1890	STR		Mphamba 30
Rubiaceae					
Anthospermum herbaceum *L.f.*	h				Leach & Schelpe 11477
Anthospermum welwitschii *Hiern*	h	1920-1980	FOR margin, RO		Timberlake 5148
Anthospermum whyteanum *Britten*	h				Andrade 1858
Breonadia salicina *(Vahl) Hepper & J.R.I.Wood*	T	1030-1050	RF	LC	Timberlake 5179
Canthium oligocarpum *Hiern* subsp. captum *(Bullock) Bridson*	S/T	1740-1850	FOR		Timberlake 5080
Cephalanthus natalensis *Oliv.*	cl			LC	Barbosa & Carvalho 4497
Chassalia parvifolia *K.Schum.*	S/T	1710-1950	FOR,STR	LC	Timberlake 5000a

Family/species	l/f	alt(m)	habitat	IUCN assess.	specimen
Coffea mufindiensis *Bridson* subsp. australis *Bridson*	S	1730	FOR margin		Mphamba 17
Conostomium natalense *(Hochst.) Bremek.*	h	1340	GR,dist		Harris 278
Fadogia elskensii *De Wild.* var. elskensii	h	1360	RG		Mphamba 39
Heinsenia diervilleoides *K.Schum.* subsp. diervilleoides	T		FOR		Torre & Correia 16961
Hymenodictyon floribundum *(Hochst.& Steud.) B.L.Rob.*	S	1490	FOR	LC	Timberlake 5286
Ixora scheffleri *K.Schum.& K.Krause* subsp. schefflera	T	1720-1890	FOR margin	[VU B1 +B2b]	Timberlake 5067
Keetia venosa *(Oliv.) Bridson*	S	1880	RG	LC	Mphamba 31
Lasianthus kilimandscharicus *K.Schum.* subsp. kilimandscharicus	T	1710-1900	FOR,RO	LC	Timberlake 5084
Mussaenda arcuata *Poir.*	cl	1100-1650	FOR margin, RF		Timberlake 5155
Oldenlandia goreensis *(DC.) Summerh.* var. goreensis	h	2120	FOR,RO		Timberlake 5091
Oldenlandia rupicola *(Sond.) Kuntze* var. rupicola	h				Last s.n.
Otomeria elatior *(DC.) Verdc.*	h				Torre 5168
Oxyanthus speciosus *DC.* subsp. stenocarpus *(K.Schum) Bridson*	S	1730-1740	FOR	LC	Timberlake 5201
Pauridiantha paucinervis *(Hiern) Bremek.* subsp. holstii *(K.Schum.) Verdc.*	S	1620-1870	FOR,RF		Patel 7380
Pauridiantha symplocoides *(S.Moore) Bremek.*	S	1740-1870	FOR		Timberlake 5117
Pavetta chapmanii *Bridson*	S	2010	FOR	VU B1ab	Patel N21
Pavetta gurueënsis *Bridson* **NE**	h/S	1200-1840	FOR,RF	VU D2	Timberlake 5076
Pavetta johnstonii *Bremek.* subsp. johnstonii	S				Torre & Correia 16843
Pentas pubiflora *S.Moore*	h				Torre 5117
Pentas zanzibarica *(Klotzsch) Vatke* subsp. milangiana *(Verdc.) Verdc.*	h	1530-1920	FOR/GR margin	LC	Timberlake 5883
Psychotria ealaensis *De Wild.*	cl	1890-1940	FOR		Harris 427
Psychotria zombamontana *(Kuntze) E.M.A.Petit*	S	1720-1840	FOR	[NT]	Timberlake 5060
Psydrax parviflora *(Afzel.) Bridson* subsp. chapmanii *Bridson* (=Canthium vulgare *(K.Schum.) Bullock*)	T				Torre & Correia 16947
Pyrostria chapmanii *Bridson* **NE** (=P. sp. A of Bridson 1987)	T	1800-2000	FOR	EN B1ab +2ab	Timberlake 5262
Rutidea fuscescens *Hiern* subsp. fuscescens	cl	1040	RF		Timberlake 5295
Rutidea orientalis *Bridson*	S	1720-1890	FOR,GR	LC	Timberlake 5009
Rytigynia adenodonta *(K.Schum.) Robyns* var. reticulata *(Robyns) Verdc.*	S			[VU B1 +B2b]	Torre & Correia 14851
Rytigynia uhligii *(K.Schum.& K.Krause) Verdc.*	S	1890-1970	FOR,STR	LC	Harris 339
Sericanthe andongensis *(Hiern) Robbr.* subsp. andongensis var. andongensis	S				Mendonça 2252
Tarenna pavettoides *(Harv.) Sim* subsp. affinis *(K.Schum.) Bridson*	T	1040	RG		Mphamba 34
Tricalysia acocantheroides *K.Schum.*	T	1760	FOR		Timberlake 5123
Vangueria infausta *Burch.*	S	1370	FOR	LC	Timberlake (sr)
Rutaceae					
Clausena anisata *(Willd.) Benth.*	S	1590	FOR	LC	Timberlake (sr)
Toddalia asiatica *(L.) Lam.*	cl	1690	FOR margin		Patel 7424
Vepris nobilis *(Delile) Mziray*	T	1760	FOR		Timberlake 5125
Santalaceae					
Osyridicarpos schimperianus *(A.Rich.) A.DC.*	cl	1910	RO		Harris 414
Sapindaceae					
Allophylus chaunostachys *Gilg*	S/T	1880	FOR	LC	Timberlake 5004a

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Sapotaceae					
Chrysophyllum gorungosanum *Engl.*	T	1130-1740	FOR,RF		Timberlake 5249
Englerophytum magalismontanum *(Sond.) T.D.Penn.*	T	1030-1620	FOR,RF	LC	Timberlake 5172
Synsepalum brevipes *(Baker f.) T.D.Penn.*	T	1070	RF	LC	Timberlake 5299
Synsepalum muelleri *(Kupicha) T.D.Penn.*	T	1460-1650	FOR	LC	Timberlake 5283
Scrophulariaceae					
Buddleja salviifolia *(L.) Lam.*	S	1890-2060	FOR margin, RG	LC	Timberlake 5254
Diclis tenella *Hemsl.*	h	2100	RO		Harris 235
Solanaceae					
Solanum aculeatissimum *Jacq.*	S	1940	dist,FOR		Harris 410
*Solanum nigrum *L.*	h	1890	GR		Harris 186
Stilbaceae					
Halleria elliptica *Thunb.*	S	1840-2010	RG		Timberlake 5011
Nuxia congesta *Fresen.*	S/T	1840-1970	FOR margin	LC	Timberlake 5105
Nuxia floribunda *Benth.*	S/T			LC	Torre & Correia 14853
Theaceae					
*Camellia sinensis *(L.) Kuntze*	S	1040	RF(planted)		Timberlake 5294
Thymelaeaceae					
Gnidia chapmanii *B.Peterson* **NE**	S	1870-2080	RO	LC	Timberlake 5280
Peddiea africana *Harv.* (=P. fischeri *Engl.*)	T	1740-1960	FOR margin	LC	Timberlake 5120
Ulmaceae					
Trema orientalis *(L.) Blume*	T	1370-1490	FOR margin	LC	Timberlake (sr)
Urticaceae					
Boehmeria macrophylla *Hornem.*	S	1550	FOR		Timberlake 5165
Laportea alatipes *Hook.f.*	h	1950	RF		Harris 442
Myrianthus holstii *Engl.*	T	1760	FOR	LC	Timberlake (sr)
Pilea rivularis *Wedd.*	h	1860	FOR margin		Patel 7336
Urera hypselodendron *(A.Rich.) Wedd.*	S/T	1760	FOR margin		Timberlake 5108
Valerianaceae					
Valeriana capensis *Thunb.* var. capensis	h	1980	RO,GR		Harris 331
Violaceae					
Rinorea angustifolia *(Thouars) Baill.* subsp. ardisiiflora *(Oliv.) Grey-Wilson*	T	1620	FOR	LC	Patel s.n.
Rinorea ferruginea *Engl.*	T	1570-1760	FOR		Timberlake 5111
Viola abyssinica *Oliv.*	h	1840-1950	GR/FOR margin		Timberlake 5137
Vitaceae					
Cissus aristolochiifolia *Planch.*	cl	1000	RF margin	VU B1ab +2ab	Torre 5180
Cyphostemma kilimandscharicum *(Gilg) Wild & R.B.Drumm.*	h	1890	WL		Harris 231
Rhoicissus rhomboidea *(Harv.) Planch.*	cl	1500			Torre & Correia 16972