



## **Rapid survey of the plants of North Lorma, Gola and Grebo National Forests**

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# Chapter 1

## Rapid survey of the plants of North Lorma, Gola and Grebo National Forests

Carel C.H. Jongkind

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### SUMMARY

As the dry season had not really started yet, very few plants were flowering or fruiting during our expedition. The total number of species recorded from the three sites in North Lorma, Gola and Grebo National Forests is 548, however 101 (18%) are endemic to the Upper Guinea forest area (Upper Guinea sensu White). The North Lorma and Gola National Forests are considered to be healthy and mature and show only limited disturbance by human activity, which, at the moment does not cause a clear threat to the vegetation. Grebo National Forest was logged about 20 years ago and is now in the process of regeneration and is recovering well. We found three species endemic to Liberia (*Cephaelis micheliae*, *Sericanthe adamii* and *Trichoscypha linderi*) and three species recorded for the first time the country (*Elytraria ivorensis*, *Gardenia nitida* and *Zanthoxylum psammophilum*). Additionally, three species likely to be new to science were found: *Drypetes* sp., *Leptoderris* sp. and *Rhaphiostylis* sp.

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### INTRODUCTION

Liberia lies almost entirely within the Upper Guinea forest block, which forms the western part of the West African Guinean Forests hotspot, one of the 34 biologically richest and most endangered terrestrial ecoregions in the world (Mittermeier et al. 2004). The Upper Guinea forest as a whole is threatened, and while most other West African countries have lost the majority of their forest cover (e.g. most of the mature forest in neighboring Côte d'Ivoire is already gone), Liberia's forest cover still seems to be quite extensive. Liberia was originally more than 90% forested, and is currently still covered in large part by mature forest. Liberia's forests are, however, increasingly threatened by logging, shifting agriculture, and hunting and mining activities, with logging companies, such as the Oriental Timber Company, recently demonstrating that these forests can disappear in just a few years when large areas are not protected from exploitation.

Most Upper Guinea endemics are concentrated in and around Liberia and species composition varies greatly within the Liberian forest. Important differences exist between the very wet coastal forest of central Liberia and the much drier forest near the border with Guinea. Variation in rain-fall patterns with increasing seasonality from southeast to northwest Liberia also have an important influence on the vegetation. Liberia's botanical richness is thus certainly not adequately protected within Sapo National Park alone and additional protected areas covering a variety of habitats are needed. More biodiversity research is urgently needed to make it possible for the Liberian government to choose the best locations for new protected areas. Most Liberian forests have never been studied by botanists and many undiscovered species are to be expected here.

During the rapid botanical survey of the North Lorma, Gola and Grebo National Forests we did not attempt to compile a complete list of all plant species occurring at the three sites. With approximately 2300 species known from Liberia (Jongkind 2004), including many epi-

phytes occurring only in the canopy, such a task would have been impossible even if we had spent a month at each site. Because the study sites had rarely been visited by botanists prior to our survey, we were uncertain what to expect. However, as two of the three sites were near to neighboring Côte d'Ivoire and Sierra Leone, where more botanical research has been carried out in the past (e.g. Aké Assi 2001, 2002), we thought it unlikely that we would encounter a large number of unknown species.

## METHODS

The North Lorma, Gola and Grebo National Forests were surveyed for six, seven and five days respectively. The three sites were surveyed by walking more or less at random (local guides with detailed knowledge of the forest were unavailable) through the vegetation for most of the daylight hours. We surveyed as many different vegetation types and identifiable vascular plant species as possible. While this was not a particularly scientific based way of working, with the limited time available and the absence of detailed maps, it was the only logical option. Species that were not definitively identified on the spot were collected. These vouchers were dried as soon as possible at the base camp. The drying was done in a special drying press that used hot air produced by a propane cooking stove. These specimens will be kept in the National Herbarium Nederland at the Wageningen University branch, the Netherlands; duplicate fertile specimens will be transferred to other botanical institutes based on the specialists working there. About 80% of the vouchers are now identified to species level.

For western African plant species assessment of the conservation status is very incomplete and represents only a subset of the plant species that are actually threatened. Using data from the IUCN Red List and CITES Appendices would give the wrong indication of the conservation status of the plant species, therefore, no IUCN Red List or CITES status has been listed for this taxonomic group.

## RESULTS

As the dry season had not really started, very few plants were flowering or fruiting during our survey. If the dry season had commenced in November as expected, the species lists would have been longer as many plant species are difficult to identify or find when sterile.

Epiphytes are under-represented for all sites. The botanical team had to rely on the relatively few plants that had accidentally fallen from the canopy for collecting specimens of epiphytes. The data from the three study sites are from relatively small areas because the survey work was done on foot from a single base camp at each site. It is not clear whether the vegetation seen was representative of the forests as a whole due to the lack of data from a larger area.

The total number of species recorded from the three sites is 548 (Appendix 1). Of these, 101 (18%) are endemic to the Upper Guinea forest block. Only 21 species (4%) were noted at all three sites, however, it is likely that the real overlap in species composition between the three sites is (much) larger. Many of the species recorded at one or two sites only are known to occur in the general area of the other sites. Although the very different geomorphology of the three sites, combined with differences in climate, in part explains the differences in our species lists, these differences are likely to decrease with increasing research effort.

We found that the three forests have a number of characteristic species in common, namely *Chrysophyllum africanum*, *Chytranthus carneus*, *Heinsia crinita*, *Ruellia primuloides*, *Copaifera salikounda*, *Heritiera utilis*, *Pauridiantha sylvicola*, *Stelechantha ziamaeana* and *Strephonema pseudocola*. These are all species of wetter forest and the latter five are endemic to Upper Guinea. The overlap of the species lists of North Lorma and Gola National Forests is 49 species, between North Lorma and Grebo National Forests it is 61 species and between Gola and Grebo National Forests it is 49. Too many variables are involved to know if these differences in overlap are statistically solid; it is expected they are not. A larger overlap between North Lorma and Gola National Forests could have been expected, as the range of several species recorded at these localities, such as the common *Schizocolea linderi*, is not known to extend as far east as Grebo National Forest. However, considerable northward and westward range extensions were noted for several species, including *Mendoncia combretoides*, *Psychotria biaurita*, *Pyrenacantha klaineana* and *Sericanthe adamii*. Three species, *Elytraria ivorensis*, *Gardenia nitida* and *Zanthoxylum psammophilum*, were recorded in Liberia for the first time. The presence of the first two is not a surprise because they were already known from close to the Liberian border.

### Site 1: North Lorma National Forest

At this site, 265 species were recorded: 231 species were collected and notes on 34 more were taken (Appendix 1). Of these, 38 species (14%) are endemic to the Upper Guinea forest block. The largest families of flowering plants are the Leguminosae, with 26 species, and the Rubiaceae, with 21 species. Twenty-four species of 'ferns and allies' were identified.

Site 1 consisted of a mostly open, species-rich, riverine forest with abundant *Plagiosiphon emarginatus* mixed with many wet evergreen forest species such as *Achyroserpium oblongifolium*, *Costus deistelii*, *Cryptosepalum tetraphyllum*, *Mapania* spp., *Strephonema pseudocola* and *Triphyophyllum peltatum*, the latter mixed with many more widespread forest species. Slightly uphill from the Lawa River, the vegetation quickly changed to lower forest with scattered huge trees which even harboured characteristic dry-forest species like *Gardenia nitida* and *Grewia pubescens*. In some places this vegetation gave way to predominantly herbaceous vegetation with several species of Labiatae and Acanthaceae, such as

*Plectranthus epilithicus* that are usually found on seasonally wet, rocky areas and occasionally, the succulent *Sansevieria liberica* and the climbing *Asparagus drepanophyllus*. The seasonally dry wind from the north is clearly much stronger here than at the other two sites, and the shallow soil on rocky substrate found at several places also influences the species composition. On such soil in open forest, we found the orchid *Habenaria macrandra*, once with *Oeceoclades maculata* and a *Nervillia* species. In small, rocky streams we often encountered *Anubias gracilis* and several fern species, such as *Bolbitis salicina*. In low areas between the hills several *Raphia palma-pinus* swamps occurred, with other swamp plants like *Halopogon azurea*. It appeared that logging did not occur at this site but there was an old logging road that ended close to our base camp.

### Site 2: Gola National Forest

In total 200 species were recorded here: 172 were collected and notes on 28 other species were taken (Appendix 1). Of these, 52 (26%) are endemic to Upper Guinea, including three species known only from Liberia (in bold and underlined in the list). The largest families of flowering plants are the Rubiaceae, with 29 species, and the Leguminosae, with 11 species. Nineteen species of 'ferns and allies' were identified. The species list for this site is not very long because of the difficulty of access compounded by logistical problems during our stay.

The study site was a completely forested area with good evergreen forest species including *Anisophyllea meniaudii*, *Cola buntingii*, *Costus deistelii*, *Delpyodora gracilis*, *Dicellandra barberi*, *Diospyros chevalieri*, *Heinsia crinita*, *Physacanthus batanganus*, *P. nematosiphon*, *Renealmia longifolia*, and *Strephonema pseudocola*. The primary forest canopy had an open structure, probably because of the presence of steep slopes. Lower vegetation was dense in most areas and huge lianas were present. Because of the open structure of the forest, many specialised forest undergrowth species, herbs as well as shrubs, occurred. Along the streams the damage to the vegetation caused by rapidly changing water levels was clearly visible. Several species were adapted to this condition; usually shrubs with flexible twigs and narrow leaves like *Rinorea breviracemosa* were collected along fast-flowing parts of the streams. The tree *Stachyothyrsus stapfiana*, which is near-endemic to Liberia, was found several times on sandy banks of the Gba river, in places where the water was flowing more slowly. On rocks in and above the streams the small specialised herb *Argostemma pumilum* was found in abundance. *Anubias gracilis* and ferns like *Bolbitis salicina* were also abundant on such rocks. The streams in this area definitely held the most interesting waterside vegetation among the three study sites.

The deserted village and a few localized diamond-pits did not have an important influence on the vegetation of the area. Most of the area we saw is likely to be too steep and rocky to be suitable for inhabitation or resource exploitation.

A surprise was the presence of *Zanthoxylum psamphilum*, a large liana not previously known from Liberia and not seen west of eastern Côte d'Ivoire before. Also

worth mentioning is the presence of three saprophytic species without chlorophyll, *Burmanna congesta*, *Gymnosiphon longistylum* and *Voyria platypetala*, at one location even found next to each other. These species are not commonly seen and the author had never seen all three together before. The liana *Sericanthe adamii* was recorded for the first time away from Mt. Nimba. This species, as well as *Trichoscypha linderi* and *Cephaelis micheliae*, is at present known only from Liberia. A species of *Rhaphiostylis* found here and at Grebo National Forest is probably new to science.

### Site 3: Grebo National Forest

At this site 220 species were recorded: 177 were collected and notes on 43 other species were taken (Appendix 1). Of these, 37 (17%) are endemic to Upper Guinea. The largest families of flowering plants on the list are the Rubiaceae, with 32 species, and the Leguminosae, with 18 species. Sixteen species of 'ferns and allies' were identified.

This area was heavily logged about twenty years ago and has more or less since then been left undisturbed. However, the damage caused by this logging will continue to exercise a strong influence on the forest structure and the species composition for many years to come. Except for one small area, all forest we saw was open, with only isolated huge trees such as *Antiaris toxicaria*, *Pentaclethra macrophylla*, *Piptadeniastrum africanum*, *Sacoglottis gabonensis*, *Terminalia superba* and *Triplochiton scleroxylon*, which were giving shade to abundant forest re-growth. The forest understory is presumably much poorer in species now than before the logging. Because of the condition of this forest, liana species are well represented in our species list for this site, although large lianas were rare.

The abundant presence of *Psychotria kwewonii* was interesting. It is a recently discovered species occurring in east Liberia and southwest Côte d'Ivoire that is currently being described. A species of *Leptoderris* likely to be new to science was found once at this site as well; it has previously been recorded in the Putu Hills and western Côte d'Ivoire. A *Drypetes* species collected in flower could not be identified and is likely to be new to science, as is a species of *Rhaphiostylis* found also at Gola National Forest.

## DISCUSSION

Today most of the mature forest, stretching from coastal Senegal to the border between Ghana and Togo only a century ago, is gone. The rate of disappearance and the percentage that is gone already differs from publication to publication, but no one disagrees with the fact that most is not there anymore. About 35% to 40% of the remaining Upper Guinea forest block is found in Liberia (Poorter et al. 2004). As many species endemic to the western part of the Upper Guinea forest block are found in most or all forests in Liberia and because the Upper Guinea forest as a whole is threatened, all primary and good secondary forest in Liberia is part of a biodiversity hotspot and worth protecting. Hence

the challenge is to distinguish and select Liberian forests with a higher or lower conservation priority.

Site 1 is remarkable because of the many different vegetation types occurring in close proximity to each other. Next to the Lawa River, species-rich wet forest quickly changed into dry forest and even into completely herbaceous vegetation uphill, whereas in lower areas it became swamp forest. If this is characteristic for North Lorma National Forest, Site 1 is definitely worth protecting. As most of these vegetation types occur in narrow bands or small isolated areas only, they are probably easily disturbed and can be expected to have difficulty recovering. The vegetation in this area seems to be balancing between two opposites but the presence of many slow-moving species indicate it has been doing so with success for a long time. There are probably not many areas with the same vegetation pattern, in Liberia or elsewhere.

The many steep slopes and the wet climate at Site 2 caused the water levels in the abundant streambeds to change quickly. The vegetation in this area should be protected if only to avoid rapid erosion. We noted important differences in the vegetation from one location to another within the forest, probably due to this special landscape feature, although these were not as important as at Site 1. Gola National Forest has the highest percentage of restricted-range species of the three forests visited, and the site is expected to hold the richest plant diversity. This would make Gola National Forest one of the richer sites within Upper Guinea. None of the three sites is situated in the hyperwet evergreen forest area, where I would expect the highest percentage of Upper Guinea endemic plants, but the site at Gola National Forest is very close to it (Hawthorne and Jongkind 2006).

Several of the species recorded in North Lorma and Gola National Forests are timber species (*Heritiera*, *Entandrophragma* and *Nauclea*) but the steep slopes of these sites would make any resource extraction difficult. Additionally, these trees and the accompanying vegetation provide erosion control.

At Site 3, patches of primary forest need to be examined in order to better evaluate the successive vegetation stages. At present, forest undergrowth and stream-related vegetation appear to be much poorer than in less damaged forest. Based on the limited knowledge we have, the vegetation before the logging probably resembled that of large parts of Taï National Park in Côte d'Ivoire.

### CONSERVATION RECOMMENDATIONS

The vegetation in North Lorma and Gola National Forests showed only limited disturbance by human activities which, at present, do not represent a clear threat. However, additional surveys of the forests should be conducted so that a proper baseline can be established. Additionally, these areas should be closely monitored to ensure that forest composition is not altered by human activity.

Years ago, large-scale logging in Grebo National Forest caused damage to the forest, from which it is now recovering well. Our base camp was located on an old road, the re-opening of which would likely reverse such recovery and, if re-opening is not necessary, the road would be better left to revert to forest. In order to conserve the original vegetation, it is important to protect those animals responsible for seed dispersal of the various plant species. Thus, recommendations that are made to protect animal biodiversity are important for the protection of plants as well.

Additional biodiversity research is needed as soon as possible to aid the Liberian government in the selection and designation of new protected areas. Most Liberian forests have never been studied by botanists and, even in places that have been visited before, specialized research can reveal unexpected new species. For instance, an important component of Liberian forest biodiversity is found high up in the trees. Thus, canopy research will surely discover many new epiphytic Orchids and other plants.

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## Appendix 1

### Plant species recorded in North Lorma, Gola and Grebo National Forests.

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|                                       |   |
|---------------------------------------|---|
| Herb. =                               | Voucher deposited in National Herbarium Nederland - Wageningen University |
| -X- =                                 | Notes only taken in the field   |
| Photo =                               | Photograph and notes taken  |
| <b>Bold</b> =                         | Endemic to the Upper Guinea forest block                                  |
| <b><u>Bold &amp; Underlined</u></b> = | Endemic to Liberia  |

Species' IUCN and CITES status are not listed because for western African plant species these lists are incomplete and represent only a small number of the plant species that are actually threatened. Combining the IUCN/CITES data with the list below would give a wrong indication for the sites we visited during this RAP survey.

| Family      | Species  | North Lorma | Gola  | Grebo |
|-------------|--|-------------|-------|-------|
| Acanthaceae | <i>Asystasia scandens</i> (Lindl.) Hook.                   |             | Herb. |       |
| Acanthaceae | <i>Asystasia vogeliana</i> Benth.                          |             | Herb. |       |
| Acanthaceae | <i>Brillantaisia lamium</i> (Nees) Benth.                  | Herb.       |       |       |
| Acanthaceae | <i>Elytraria ivorensis</i> Dokosi                          |             |       | Herb. |
| Acanthaceae | <i>Elytraria marginata</i> Vahl                            | Herb.       |       |       |
| Acanthaceae | <i>Eremomastax speciosa</i> (Hochst.) Cufod.               | Herb.       |       |       |
| Acanthaceae | <i>Justicia extensa</i> T.Anderson                         | Herb.       |       |       |
| Acanthaceae | <i>Justicia flava</i> (Forssk.) Vahl                       | Herb.       |       |       |
| Acanthaceae | <i>Justicia tenella</i> (Nees) T.Anderson                  | Herb.       |       |       |
| Acanthaceae | <i>Lankesteria brevior</i> C.B.Clarke                      |             | Herb. |       |
| Acanthaceae | <i>Lepidagathis alopecuroides</i> (Vahl) R.Br. ex Griseb.  | Herb.       | Herb. |       |
| Acanthaceae | <b><i>Mendoncia combretoides</i> (A.Chev.) Benoist</b>     |             | Herb. | Herb. |
| Acanthaceae | <i>Physacanthus batanganus</i> (J.Braun & K.Schum.) Lindau |             | Herb. |       |
| Acanthaceae | <i>Physacanthus nematosiphon</i> (Lindau) Rendle & Britten |             | Herb. |       |
| Acanthaceae | <i>Rhinacanthus virens</i> (Nees) Milne-Redh.              | Herb.       |       |       |
| Acanthaceae | <i>Ruellia primuloides</i> (T.Anderson ex Benth.) Heine    | Herb.       | Herb. | Herb. |
| Acanthaceae | <b><i>Staurogyne capitata</i> E.A.Bruce</b>                | Herb.       |       | Herb. |
| Acanthaceae | <i>Thunbergia chrysops</i> Hook.                           | Herb.       |       |       |
| Acanthaceae | <b><i>Whitfieldia colorata</i> C.B.Clarke ex Stapf</b>     |             | Herb. | Herb. |
| Acanthaceae | <b><i>Whitfieldia lateritia</i> Hook.</b>                  | Herb.       |       | Herb. |
| Adiantaceae | <i>Adiantum vogelii</i> Mett. ex Keyserl.                  | Herb.       |       | Herb. |
| Adiantaceae | <i>Pellaea doniana</i> Hook.                               | Herb.       |       |       |

continued

| Family            | Species   | North Lorma | Gola  | Grebo |
|-------------------|---|-------------|-------|-------|
| Amaranthaceae     | <i>Cyathula prostrata</i> (L.) Blume                            | Herb.       |       |       |
| Amaryllidaceae    | <i>Crinum natans</i> Baker                                      |             | -X-   |       |
| Anacardiaceae     | <i>Trichoscypha arborea</i> (A.Chev.) A.Chev.                   |             |       | Herb. |
| Anacardiaceae     | <b><i>Trichoscypha barbata</i> Breteler</b>                     |             | Herb. |       |
| Anacardiaceae     | <i>Trichoscypha bijuga</i> Engl.                                | Herb.       | Herb. |       |
| Anacardiaceae     | <b><i>Trichoscypha linderi</i> Breteler</b>                     |             | Herb. |       |
| Anacardiaceae     | <i>Trichoscypha lucens</i> Oliv.                                |             |       | Herb. |
| Ancistrocladaceae | <b><i>Ancistrocladus barteri</i> Scott-Elliot</b>               |             |       | Herb. |
| Anisophylleaceae  | <i>Anisophyllea meniaudii</i> Aubrév. & Pellegr.                |             | Herb. |       |
| Annonaceae        | <i>Annickia polycarpa</i> (DC.) Setten & Maas                   |             |       | Herb. |
| Annonaceae        | <i>Artabotrys oliganthus</i> Engl. & Diels                      |             | Herb. |       |
| Annonaceae        | <i>Artabotrys</i> sp.   | Herb.       |       |       |
| Annonaceae        | <i>Cleistopholis patens</i> (Benth.) Engl. & Diels              |             | Herb. | Herb. |
| Annonaceae        | <i>Friesodielsia</i> sp.  | Herb.       |       |       |
| Annonaceae        | <i>Greenwayodendron oliveri</i> (Engl.) Verdc.                  | Herb.       |       |       |
| Annonaceae        | <i>Monanthes taxidis</i> sp. 1                                  | Herb.       |       |       |
| Annonaceae        | <i>Monanthes taxidis</i> sp. 2                                  | Herb.       |       |       |
| Annonaceae        | <i>Monanthes taxidis</i> sp. 3                                  |             | Herb. |       |
| Annonaceae        | <b><i>Monocyclanthus vignei</i> Keay</b>                        |             | Herb. |       |
| Annonaceae        | <i>Monodora myristica</i> (Gaertn.) Dunal                       |             |       | Herb. |
| Annonaceae        | <i>Neostenanthera gabonensis</i> (Engl. & Diels) Exell          |             | Herb. |       |
| Annonaceae        | <i>Piptostigma fasciculatum</i> (De Wild.) Boutique             | Herb.       |       | Herb. |
| Annonaceae        | <b><i>Piptostigma fugax</i> A.Chev. ex Hutch. &amp; Dalziel</b> |             | Herb. |       |
| Annonaceae        | <i>Uvaria baumannii</i> Engl. & Diels                           |             |       | Herb. |
| Annonaceae        | <i>Uvaria</i> sp. 1   |             | Herb. |       |
| Annonaceae        | <i>Uvaria</i> sp. 2   |             |       | Herb. |
| Annonaceae        | <i>Uvaria</i> sp. 3   |             |       | Herb. |
| Annonaceae        | <i>Uvariastrum pierreanum</i> Engl. & Diels                     | Herb.       |       | Herb. |
| Annonaceae        | <i>Uvariopsis</i> sp.   | Herb.       |       |       |
| Annonaceae        | <i>Xylopiya acutiflora</i> (Dunal) A.Rich.                      | Herb.       | Herb. |       |
| Annonaceae        | <i>Xylopiya le-testui</i> Pellegr.                              | Herb.       |       | Herb. |
| Annonaceae        | <i>Xylopiya villosa</i> Chipp                                   | Herb.       |       |       |
| Apocynaceae       | <i>Alstonia boonei</i> De Wildeman                              |             | -X-   |       |
| Apocynaceae       | <i>Ancylobotrys scandens</i> (Schumach. & Thonn.) Pichon        |             |       | Herb. |
| Apocynaceae       | <i>Baijia baillonii</i> Hua                                     | Herb.       |       |       |
| Apocynaceae       | <i>Callichilia subsessilis</i> (Benth.) Stapf                   | Herb.       | Herb. |       |
| Apocynaceae       | <b><i>Hunteria simii</i> (Stapf) H.Huber</b>                    | Herb.       | Herb. | Herb. |
| Apocynaceae       | <i>Landolphia dulcis</i> (R.Br. ex Sabine) Pichon               |             | Herb. |       |
| Apocynaceae       | <i>Landolphia incerta</i> (K.Schum.) J.G.M.Pers.                |             |       | Herb. |
| Apocynaceae       | <b><i>Landolphia nitidula</i> J.G.M.Pers.</b>                   |             |       | Herb. |
| Apocynaceae       | <i>Landolphia owariensis</i> P.Beauv.                           |             |       | Herb. |
| Apocynaceae       | <i>Oncinotis gracilis</i> Stapf                                 | Herb.       |       |       |
| Apocynaceae       | <i>Orthopichonia</i> sp.  | Herb.       |       |       |
| Apocynaceae       | <i>Pleiocarpa mutica</i> Benth.                                 |             | Herb. |       |

continued

| Family           | Species   | North Lorma | Gola  | Grebo |
|------------------|---|-------------|-------|-------|
| Apocynaceae      | <i>Tabernaemontana psorocarpa</i> (Pierre ex Stapf) Pichon        |             | Herb. |       |
| Araceae          | <i>Amorphophallus</i> sp.   | -X-         |       |       |
| Araceae          | <i>Anubias gigantea</i> A.Chev. ex Hutch.                         | Herb.       |       |       |
| Araceae          | <i>Anubias gracilis</i> A.Chev. ex Hutch.                         | Herb.       | Herb. |       |
| Araceae          | <i>Cercestis afzelii</i> Schott                                   | Herb.       |       | -X-   |
| Araceae          | <i>Cercestis dinklagei</i> Engl.                                  | Herb.       |       | Herb. |
| Araceae          | <i>Cercestis</i> sp.  | Herb.       |       |       |
| Araceae          | <i>Culcasia angolensis</i> Welw. ex Schott                        | Herb.       |       |       |
| Araceae          | <i>Culcasia sapinii</i> De Wild.                                  | Herb.       |       | Herb. |
| Araceae          | <i>Culcasia scandens</i> P.Beauv.                                 | Herb.       |       | Herb. |
| Araceae          | <i>Rhaphidophora africana</i> N.E.Br.                             | Herb.       |       |       |
| Asclepiadaceae   | <i>Periploca nigrescens</i> Afzel.                                |             |       | Herb. |
| Asclepiadaceae   | <i>Tylophora cuspidata</i> (K.Schum.) Meve & Omlor                |             |       | Herb. |
| Aspleniaceae     | <i>Asplenium africanum</i> Desv.                                  | Herb.       | Herb. |       |
| Aspleniaceae     | <i>Asplenium anisophyllum</i> Kunze                               | Herb.       |       |       |
| Aspleniaceae     | <i>Asplenium barteri</i> Hook.                                    | Herb.       | Herb. |       |
| Aspleniaceae     | <i>Asplenium formosum</i> Willd.                                  | Herb.       |       |       |
| Aspleniaceae     | <i>Asplenium unilaterale</i> Lam.                                 | Herb.       |       |       |
| Aspleniaceae     | <i>Asplenium variabile</i> Hook.                                  |             | Herb. | Herb. |
| Begoniaceae      | <i>Begonia cavallyensis</i> A.Chev.                               |             | Herb. |       |
| Begoniaceae      | <i>Begonia fusialata</i> Warb. var. <i>fusialata</i>              | Herb.       |       | Herb. |
| Begoniaceae      | <i>Begonia polygonoides</i> Hook.f.                               | Herb.       |       |       |
| Begoniaceae      | <i>Begonia quadrialata</i> Warb. subsp. <i>quadrialata</i>        | Herb.       |       |       |
| Bignoniaceae     | <i>Newbouldia laevis</i> (P.Beauv.) Seeman ex Bureau              | Herb.       |       |       |
| Bombacaceae      | <i>Ceiba pentandra</i> (L.) Gaertn.                               | -X-         |       |       |
| Burmanniaceae    | <i>Burmannia congesta</i> (Wright) Jonker                         |             | Herb. |       |
| Burmanniaceae    | <i>Gymnosiphon longistylus</i> (Benth.) Hutch.                    | Herb.       | Herb. |       |
| Burseraceae      | <i>Dacryodes klaineana</i> (Pierre) H.J.Lam                       |             | Herb. | -X-   |
| Capparaceae      | <i>Euadenia eminens</i> Hook.f.                                   |             |       | Herb. |
| Capparaceae      | <i>Ritchiea capparoides</i> (Andr.) Britten                       |             | Herb. | Herb. |
| Celastraceae     | <i>Salacia lehmbachii</i> Loes.                                   |             | Herb. |       |
| Celastraceae     | <i>Salacia owabiensis</i> Hoyle                                   |             |       | Herb. |
| Celastraceae     | <i>Salacia</i> sp.  |             | Herb. |       |
| Celastraceae     | <i>Salacia staudtiana</i> Loes.                                   | Herb.       |       |       |
| Chrysobalanaceae | <i>Afrolicania elaeosperma</i> Mildbr.                            | Herb.       |       |       |
| Chrysobalanaceae | <i>Dactyladenia hirsuta</i> (A.Chev. & De Wild.) Prance & F.White |             | Herb. |       |
| Chrysobalanaceae | <i>Dactyladenia whytei</i> (Stapf) Prance & White                 |             | Herb. |       |
| Chrysobalanaceae | <i>Magnistipula zenkeri</i> Engl.                                 |             |       | Herb. |
| Chrysobalanaceae | <i>Maranthes aubrevillei</i> (Pellegri.) Prance                   | Herb.       |       | Herb. |
| Chrysobalanaceae | <i>Maranthes glabra</i> (Oliv.) Prance                            | Herb.       |       |       |
| Chrysobalanaceae | <i>Parinari excelsa</i> Sabine                                    | Herb.       |       | Herb. |
| Combretaceae     | <i>Combretum aphanopetalum</i> Engl. & Diels                      |             |       | Herb. |
| Combretaceae     | <i>Combretum comosum</i> G.Don                                    |             |       | Herb. |

continued



| Family         | Species  | North Lorma | Gola  | Grebo |
|----------------|--|-------------|-------|-------|
| Combretaceae   | <i>Combretum oyemense</i> Exell                              | Herb.       |       |       |
| Combretaceae   | <i>Strephonema pseudocola</i> A.Chev.                        | Herb.       | Herb. | Herb. |
| Combretaceae   | <i>Terminalia ivorensis</i> A.Chevalier                      | -X-         |       |       |
| Combretaceae   | <i>Terminalia superba</i> Engler & Diels                     |             |       | -X-   |
| Commelinaceae  | <i>Buforrestia obovata</i> Brenan                            | Herb.       |       |       |
| Commelinaceae  | <i>Commelina capitata</i> Benth.                             | Herb.       | Herb. | Herb. |
| Commelinaceae  | <i>Floscopa africana</i> (P.Beauv.) C.B.Clarke               |             | Herb. | Herb. |
| Commelinaceae  | <i>Palisota bracteosa</i> C.B.Clarke                         | Herb.       |       | Herb. |
| Commelinaceae  | <i>Pollia condensata</i> C.B.Clarke                          | Herb.       |       | Herb. |
| Commelinaceae  | <i>Polyspatha paniculata</i> Benth.                          | Herb.       |       |       |
| Commelinaceae  | <i>Stanfieldiella imperforata</i> (C.B.Clarke) Brenan        | Herb.       |       |       |
| Compositae     | <i>Adenostemma perrottetii</i> DC.                           |             | Herb. |       |
| Compositae     | <i>Chromolaena odorata</i> (L.) R.M.King & H.Rob.            | Herb.       |       |       |
| Compositae     | <i>Vernonia titanophylla</i> Brenan                          | -X-         |       |       |
| Connaraceae    | <i>Agelaea paradoxa</i> Gilg var. <i>microcarpa</i> Jongkind | -X-         |       | Herb. |
| Connaraceae    | <i>Agelaea pentagyna</i> (Lam.) Baill.                       | -X-         | Herb. | Herb. |
| Connaraceae    | <i>Cnestis bomiensis</i> Lemmens                             |             | Herb. |       |
| Connaraceae    | <i>Connarus africanus</i> Lam.                               | Herb.       |       |       |
| Connaraceae    | <i>Manotes expansa</i> Sol. ex Planchon                      |             | -X-   |       |
| Connaraceae    | <i>Manotes macrantha</i> (Gilg) Schellenb.                   |             | Herb. |       |
| Connaraceae    | <i>Rourea minor</i> (Gaertn.) Alston                         |             | Herb. | Herb. |
| Connaraceae    | <i>Rourea solanderi</i> Baker                                |             | Herb. | Herb. |
| Connaraceae    | <i>Rourea thomsonii</i> (Baker) Jongkind                     |             |       | Herb. |
| Convolvulaceae | <i>Bonamia thunbergiana</i> (Roem. & Schult.) F.N.Williams   |             |       | Herb. |
| Convolvulaceae | <i>Calycobolus africanus</i> (G.Don) Heine                   | Herb.       |       |       |
| Convolvulaceae | <i>Calycobolus heudelotii</i> (Baker ex Oliv.) Heine         | Herb.       |       |       |
| Convolvulaceae | <i>Ipomoea aitonii</i> Lindl.                                | Herb.       |       |       |
| Convolvulaceae | <i>Ipomoea obscura</i> (L.) Ker Gawl.                        | Herb.       |       |       |
| Convolvulaceae | <i>Neuropeltis acuminata</i> (P.Beauv.) Benth.               |             |       | Herb. |
| Convolvulaceae | <i>Stictocardia beraviensis</i> (Vatke) Hallier f.           | Herb.       |       |       |
| Costaceae      | <i>Costus deistelii</i> K.Schum.                             | Herb.       |       |       |
| Costaceae      | <i>Costus</i> sp.  | -X-         | -X-   |       |
| Cucurbitaceae  | <i>Momordica charantia</i> L.                                | Herb.       |       |       |
| Cucurbitaceae  | <i>Momordica foetida</i> Schumach.                           |             |       | Herb. |
| Cyatheaceae    | <i>Cyathea camerooniana</i> Hook.                            | Herb.       |       |       |
| Cyperaceae     | <i>Hypolytrum heteromorphum</i> Nelmes                       | Herb.       |       |       |
| Cyperaceae     | <i>Hypolytrum purpurascens</i> Cherm.                        | Herb.       |       |       |
| Cyperaceae     | <i>Hypolytrum</i> sp. 1                                      | Herb.       |       |       |
| Cyperaceae     | <i>Hypolytrum</i> sp. 2                                      |             |       | Herb. |
| Cyperaceae     | <i>Mapania ivorensis</i> (Raynal) Raynal                     |             | Herb. |       |
| Cyperaceae     | <i>Mapania linderi</i> Hutch. ex Nelmes                      | Herb.       | Herb. |       |
| Cyperaceae     | <i>Scleria boivinii</i> Steud.                               |             | -X-   |       |
| Cyperaceae     | <i>Scleria naumanniana</i> Boeckeler                         |             | Herb. |       |

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| Family           | Species   | North Lorma | Gola  | Grebo |
|------------------|---|-------------|-------|-------|
| Dennstaedtiaceae | <i>Microlepia speluncae</i> (L.) Moore                        |             |       | Herb. |
| Dichapetalaceae  | <i>Dichapetalum angolense</i> Chodat                          |             |       | Herb. |
| Dichapetalaceae  | <i>Dichapetalum heudelotii</i> (Planch. ex Oliv.) Baill.      |             | Herb. |       |
| Dichapetalaceae  | <i>Dichapetalum</i> sp.                                       |             |       | Herb. |
| Dichapetalaceae  | <i>Dichapetalum toxicarium</i> (G.Don) Baill.                 |             |       | Herb. |
| Dilleniaceae     | <i>Tetracera alnifolia</i> Willd.                             |             | -X-   | -X-   |
| Dioncophyllaceae | <i>Triplophyllum peltatum</i> (Hutch. & Dalziel) Airy Shaw    |             | Herb. | Herb. |
| Dioscoreaceae    | <i>Dioscorea</i> sp.  | Herb.       |       |       |
| Dracaenaceae     | <i>Dracaena aubryana</i> Brongn. ex C.J.Morren                | Herb.       | -X-   | Herb. |
| Dracaenaceae     | <i>Dracaena camerooniana</i> Baker                            |             |       | Herb. |
| Dracaenaceae     | <i>Dracaena cristula</i> W.Bull                               |             |       | Herb. |
| Dracaenaceae     | <i>Dracaena ovata</i> Ker Gawl.                               |             | Herb. |       |
| Dracaenaceae     | <i>Dracaena surculosa</i> Lindl. var. <i>maculata</i> Hook.f. |             |       | Herb. |
| Dracaenaceae     | <i>Sansevieria liberica</i> Gér. & Labr.                      | -X-         |       |       |
| Dryopteridaceae  | <i>Callipteris prolifera</i> (Lam.) Bory                      |             |       | Herb. |
| Dryopteridaceae  | <i>Tectaria</i> sp.   | Herb.       |       |       |
| Dryopteridaceae  | <i>Triplophyllum buchholzii</i> (Kuhn) Holttum                |             | Herb. |       |
| Dryopteridaceae  | <i>Triplophyllum</i> sp. 1                                    | Herb.       |       |       |
| Dryopteridaceae  | <i>Triplophyllum</i> sp. 2                                    |             | Herb. |       |
| Dryopteridaceae  | <i>Triplophyllum</i> sp. 3                                    |             | Herb. |       |
| Ebenaceae        | <i>Diospyros chevalieri</i> De Wild.                          |             | Herb. | Herb. |
| Ebenaceae        | <i>Diospyros ferrea</i> (Willd.) Bakh.                        |             | Herb. |       |
| Ebenaceae        | <i>Diospyros gabunensis</i> Gürke                             |             | Herb. |       |
| Ebenaceae        | <i>Diospyros heudelotii</i> Hiern                             | Herb.       |       |       |
| Ebenaceae        | <i>Diospyros mannii</i> Hiern                                 | Herb.       | Herb. | Herb. |
| Ebenaceae        | <i>Diospyros sanza-minika</i> A.Chev.                         |             |       | Herb. |
| Ebenaceae        | <i>Diospyros soubreana</i> F.White                            |             |       | Herb. |
| Ebenaceae        | <i>Diospyros</i> sp.  | Herb.       |       |       |
| Erythroxylaceae  | <i>Erythroxylum mannii</i> Oliv.                              |             |       | Herb. |
| Euphorbiaceae    | <i>Alchornea cordifolia</i> (Schum. & Thonning) Muell.Arg.    |             | -X-   | -X-   |
| Euphorbiaceae    | <i>Antidesma</i> sp.  |             |       | Herb. |
| Euphorbiaceae    | <i>Crotonogyne caterviflora</i> N.E.Br.                       |             | Herb. |       |
| Euphorbiaceae    | <i>Discoglypemma caloneura</i> (Pax) Prain                    |             |       | Herb. |
| Euphorbiaceae    | <i>Macaranga heterophylla</i> (Muell.Arg.) Muell.Arg.         | -X-         | -X-   |       |
| Euphorbiaceae    | <i>Macaranga hurifolia</i> Beille                             |             |       | -X-   |
| Euphorbiaceae    | <i>Maesobotrya barteri</i> (Baillon) Hutch.                   | -X-         |       |       |
| Euphorbiaceae    | <i>Manniophyton fulvum</i> Müll.Arg.                          | -X-         | -X-   | -X-   |
| Euphorbiaceae    | <i>Mareya micrantha</i> (Benth.) Müll.Arg.                    |             | Herb. |       |
| Euphorbiaceae    | <i>Phyllanthus kerstingii</i> Brunel                          | Herb.       |       |       |
| Euphorbiaceae    | <i>Phyllanthus profusus</i> N.E.Br.                           | Herb.       |       |       |
| Euphorbiaceae    | <i>Plesiatropha paniculata</i> (Pax) Breteler                 | Herb.       |       |       |
| Euphorbiaceae    | <i>Spondianthus preussii</i> Engler                           |             |       | -X-   |
| Euphorbiaceae    | <i>Tragia spathulata</i> Benth.                               | Herb.       |       |       |

continued

| Family            | Species   | North Lorma | Gola  | Grebo |
|-------------------|---|-------------|-------|-------|
| Euphorbiaceae     | <i>Uapaca paludosa</i> Aubrév. & Léandri                    |             |       | Herb. |
| Flacourtiaceae    | <i>Oncoba brevipes</i> Stapf                                |             | -X-   |       |
| Flacourtiaceae    | <i>Oncoba echinata</i> Oliv.                                | Herb.       |       |       |
| Gentianaceae      | <i>Anthocleista nobilis</i> G.Don                           |             | -X-   |       |
| Gentianaceae      | <i>Voyria primuloides</i> Baker                             |             | Herb. |       |
| Gleicheniaceae    | <i>Dicranopteris linearis</i> (Burm.) Underwood             |             | -X-   | -X-   |
| Gramineae         | <i>Acroceras gabunense</i> (Hack.) Clayton                  | Herb.       |       |       |
| Gramineae         | <i>Centotheca lappacea</i> (L.) Desv.                       | Herb.       | Herb. |       |
| Gramineae         | <i>Guaduella oblonga</i> Hutch. ex W.D.Clayton              | Herb.       | Herb. |       |
| Gramineae         | <i>Leptaspis zeylanica</i> Nees ex Steud.                   | Herb.       |       |       |
| Gramineae         | <i>Olyra latifolia</i> L.                                   | Herb.       |       |       |
| Gramineae         | <i>Oplismenus hirtellus</i> (L.) P.Beauv.                   | Herb.       |       |       |
| Gramineae         | <i>Panicum laxum</i> Sw.                                    |             | Herb. |       |
| Gramineae         | <i>Pseudechinolaena polystachya</i> (Kunth) Stapf           | Herb.       |       |       |
| Gramineae         | <i>Setaria megaphylla</i> (Steud.) Dur. & Schinz            | Herb.       |       |       |
| Gramineae         | <i>Streptogyna crinita</i> P.Beauv.                         | Herb.       |       | Herb. |
| Grammitidaceae    | <i>Cochlidium serrulatum</i> (Swartz) L.E. Bishop           |             | Herb. |       |
| Guttiferae        | <i>Garcinia epunctata</i> Stapf                             |             |       | Herb. |
| Guttiferae        | <i>Harungana madagascariensis</i> Lamarck ex Poiret         |             | -X-   | -X-   |
| Guttiferae        | <i>Mammea africana</i> Sabine                               |             |       | -X-   |
| Guttiferae        | <i>Pentadesma butyracea</i> Sabine                          | -X-         | -X-   | -X-   |
| Humiriaceae       | <i>Sacoglottis gabonensis</i> (Baill.) Urb.                 |             | Herb. | Herb. |
| Hymenophyllaceae  | <i>Hymenophyllum hirsutum</i> (L.) Sw.                      |             | Herb. |       |
| Hymenophyllaceae  | <i>Trichomanes chamaedrys</i> Taton                         |             | Herb. |       |
| Hymenophyllaceae  | <i>Trichomanes fallax</i> Christ                            | Herb.       |       |       |
| Hymenophyllaceae  | <i>Trichomanes guineense</i> Afzel. ex Sw.                  |             | Herb. |       |
| Icacinaceae       | <i>Desmostachys vogelii</i> (Miers) Stapf                   |             | Herb. |       |
| Icacinaceae       | <b><i>Iodes liberica</i> Stapf</b>                          |             |       | Herb. |
| Icacinaceae       | <i>Pyrenacantha acuminata</i> Engl.                         | Herb.       |       |       |
| Icacinaceae       | <i>Pyrenacantha glabrescens</i> (Engl.) Engl.               |             |       | Herb. |
| Icacinaceae       | <i>Pyrenacantha klaineana</i> Pierre ex Exell & Mendonça    |             | Herb. |       |
| Icacinaceae       | <b><i>Rhaphiostylis cordifolia</i> Hutch. &amp; Dalziel</b> |             | Herb. |       |
| Icacinaceae       | <i>Rhaphiostylis</i> sp. nov.                               |             | Herb. | Herb. |
| Irvingiaceae      | <i>Irvingia gabonensis</i> (Aubry-Lecomte) Baillon          |             |       | -X-   |
| Labiatae          | <i>Achyropermum oblongifolium</i> Baker                     | Herb.       |       | Herb. |
| Labiatae          | <i>Plectranthus epilithicus</i> B.J.Pollard                 | Herb.       |       |       |
| Labiatae          | <i>Plectranthus</i> sp.                                     | Herb.       |       |       |
| Lecythidaceae     | <i>Napoleonaea vogelii</i> Hook. & Planch.                  |             |       | Herb. |
| Lecythidaceae     | <i>Petersianthus macrocarpus</i> (P.Beauv.) Liben           | -X-         |       |       |
| Leguminosae-Caes. | <i>Afzelia</i> sp.  |             | -X-   |       |
| Leguminosae-Caes. | <i>Anthonotha crassifolia</i> (Baill.) J.Léonard            | Herb.       |       |       |
| Leguminosae-Caes. | <i>Anthonotha fragrans</i> (Baker f.) Exell & Hillcoat      | Herb.       | Herb. |       |
| Leguminosae-Caes. | <b><i>Bussea occidentalis</i> Hutch. ex Chipp.</b>          | Herb.       |       |       |

continued

| Family            | Species  | North Lorma | Gola  | Grebo |
|-------------------|--|-------------|-------|-------|
| Leguminosae-Caes. | <i>Copaifera salikounda</i> Heckel                                       | Herb.       | -X-   | Herb. |
| Leguminosae-Caes. | <i>Cryptosepalum tetraphyllum</i> Benth.                                 | Herb.       |       |       |
| Leguminosae-Caes. | <i>Daniella thurifera</i> Bennett  | -X-         |       |       |
| Leguminosae-Caes. | <i>Dialium aubrevillei</i> Pellegr.                                      | Herb.       | Herb. | Herb. |
| Leguminosae-Caes. | <i>Distemonanthus benthamianus</i> Baillon                               | -X-         |       |       |
| Leguminosae-Caes. | <i>Erythrophleum ivorense</i> A.Chev.                                    |             |       | Herb. |
| Leguminosae-Caes. | <i>Gilbertiodendron aylmeri</i> (Hutch. & Dalziel) J.Léonard             |             | Herb. |       |
| Leguminosae-Caes. | <i>Gilbertiodendron preussii</i> (Harms) J.Léonard                       | -X-         | Herb. | Herb. |
| Leguminosae-Caes. | <i>Griffonia simplicifolia</i> (Vahl ex DC.) Baillon                     |             |       | -X-   |
| Leguminosae-Caes. | <i>Guibourtia leonensis</i> J.Léonard                                    | Herb.       |       |       |
| Leguminosae-Caes. | <i>Paramacrolobium coeruleum</i> (Taub.) J.Léonard                       | Herb.       |       |       |
| Leguminosae-Caes. | <i>Plagiosiphon emarginatus</i> (Hutch. & Dalziel) J. Léonard            | Herb.       | Herb. |       |
| Leguminosae-Caes. | <i>Senna podocarpa</i> (Guill. & Perr.) Lock                             | Herb.       |       |       |
| Leguminosae-Caes. | <i>Senna tora</i> (L.) Roxb.   | Herb.       |       |       |
| Leguminosae-Caes. | <i>Stachyothyrsus stapfiana</i> (A.Chev.) J.Léonard & Voorhoeve          |             | Herb. |       |
| Leguminosae-Caes. | <i>Tessmannia baikiaeooides</i> Hutch. & Dalziel                         | Herb.       |       |       |
| Leguminosae-Mim.  | <i>Calpocalyx brevibracteatus</i> Harms                                  |             | Herb. |       |
| Leguminosae-Mim.  | <i>Newtonia duparquetiana</i> (Baill.) Keay                              | Herb.       |       |       |
| Leguminosae-Mim.  | <i>Newtonia</i> sp.  |             |       | Herb. |
| Leguminosae-Mim.  | <i>Parkia bicolor</i> A.Chev.  | Herb.       | -X-   |       |
| Leguminosae-Mim.  | <i>Pentaclethra macrophylla</i> Bentham                                  | -X-         |       | -X-   |
| Leguminosae-Mim.  | <i>Piptadeniastrum africanum</i> (Hooker f.) Brenan                      |             |       | -X-   |
| Leguminosae-Mim.  | <i>Xylia evansii</i> Hutch.  | Herb.       |       |       |
| Leguminosae-Pap.  | <i>Abrus fruticosus</i> Wall. ex W. & A.                                 | Herb.       |       |       |
| Leguminosae-Pap.  | <i>Amphimas pterocarpoides</i> Harms                                     |             |       | Herb. |
| Leguminosae-Pap.  | <i>Baphia capparidifolia</i> Baker subsp. <i>polygalacea</i> Brummitt    | Herb.       |       |       |
| Leguminosae-Pap.  | <i>Baphia nitida</i> Lodd.   |             |       | Herb. |
| Leguminosae-Pap.  | <i>Dalbergia adamii</i> Berhaut  | Herb.       |       |       |
| Leguminosae-Pap.  | <i>Dalbergia afzeliana</i> G.Don   |             |       | Herb. |
| Leguminosae-Pap.  | <i>Dalbergia heudelotii</i> Stapf  | Herb.       |       |       |
| Leguminosae-Pap.  | <i>Dalbergia oblongifolia</i> G.Don                                      | Herb.       |       | Herb. |
| Leguminosae-Pap.  | <i>Dalbergia</i> sp.   |             | Herb. |       |
| Leguminosae-Pap.  | <i>Leptoderris sassandrensis</i> Jongkind                                |             |       | Herb. |
| Leguminosae-Pap.  | <i>Leptoderris</i> sp. nov.  |             |       | Herb. |
| Leguminosae-Pap.  | <i>Millettia chrysophylla</i> Dunn                                       | Herb.       |       | Herb. |
| Leguminosae-Pap.  | <i>Millettia lane-polei</i> Dunn   | Herb.       |       |       |
| Leguminosae-Pap.  | <i>Millettia liberica</i> Jongkind                                       |             |       | Herb. |
| Leguminosae-Pap.  | <i>Millettia lucens</i> (Scott-Elliot) Dunn                              | Herb.       |       |       |
| Leguminosae-Pap.  | <i>Millettia</i> sp.   | Herb.       |       |       |
| Leguminosae-Pap.  | <i>Millettia warneckei</i> Harms var. <i>porphyrocalyx</i> (Dunn) Hepper | Herb.       |       |       |
| Leguminosae-Pap.  | <i>Platysepalum hirsutum</i> (Dunn) Hepper                               |             |       | Herb. |
| Leguminosae-Pap.  | <i>Vigna gracilis</i> (Guill. & Perr.) Hook.f.                           | Herb.       |       | Herb. |
| Liliaceae         | <i>Asparagus drepanophyllus</i> Welw.                                    | Herb.       |       |       |

continued

| Family           | Species  | North Lorma | Gola  | Grebo |
|------------------|--|-------------|-------|-------|
| Liliaceae        | <i>Chlorophytum alismaefolium</i> Baker  | Herb.       |       |       |
| Liliaceae        | <i>Chlorophytum comosum</i> (Thunb.) Jacq. var. <i>sparsiflorum</i> (Baker) A.D.Poulsen & Nordal | Herb.       | Herb. |       |
| Linaceae         | <i>Hugonia</i> sp.   | -X-         |       |       |
| Linaceae         | <i>Ochthocosmus africanus</i> Hook.f.  | Herb.       |       |       |
| Loganiaceae      | <i>Strychnos aculeata</i> Solereder  |             | -X-   |       |
| Loganiaceae      | <i>Strychnos afzelii</i> Gilg  | Herb.       |       | Herb. |
| Loganiaceae      | <i>Strychnos barteri</i> Soler.  |             |       | Herb. |
| Loganiaceae      | <i>Strychnos camptoneura</i> Gilg & Busse  |             | Herb. |       |
| Loganiaceae      | <i>Strychnos densiflora</i> Baill.   |             | Herb. |       |
| Loganiaceae      | <i>Strychnos icaja</i> Baill.  | Herb.       |       | Herb. |
| Loganiaceae      | <i>Strychnos splendens</i> Gilg  | Herb.       |       |       |
| Loganiaceae      | <i>Strychnos usambarensis</i> Gilg   |             | Herb. |       |
| Lomariopsidaceae | <i>Bolbitis acrostichoides</i> (Afzel. ex Sw.) Ching   | Herb.       |       |       |
| Lomariopsidaceae | <i>Bolbitis salicina</i> (Hook.) Ching   | Herb.       | Herb. |       |
| Lomariopsidaceae | <i>Bolbitis</i> sp.  |             | Herb. |       |
| Lomariopsidaceae | <i>Elaphoglossum</i> sp. 1   |             | Herb. |       |
| Lomariopsidaceae | <i>Elaphoglossum</i> sp. 2   |             | Herb. |       |
| Lomariopsidaceae | <i>Lomariopsis guineensis</i> (Underw.) Alston   |             | Herb. | Herb. |
| Lomariopsidaceae | <i>Lomariopsis palustris</i> (Hook.) Mett. ex Kuhn   | Herb.       |       | Herb. |
| Loxogrammataceae | <i>Loxogramme abyssinica</i> (Baker) M.G.Price   | Herb.       |       |       |
| Lycopodiaceae    | <i>Lycopodiella cernua</i> (L.) Pichi Sermolli   |             |       | Photo |
| Malpighiaceae    | <i>Acridocarpus longifolius</i> (G.Don) Hook.f.  |             |       | Herb. |
| Malpighiaceae    | <i>Acridocarpus plagiopterus</i> Guill. & Perr.  |             |       | Herb. |
| Malpighiaceae    | <i>Flabellaria paniculata</i> Cav.   | Herb.       |       |       |
| Malvaceae        | <i>Wissadula amplissima</i> (L.) R.E.Fr. var. <i>rostrata</i> (Schumach. & Thonn.) R.E.Fr.       | Herb.       |       |       |
| Marantaceae      | <i>Halopogon azurea</i> (K.Schum.) K.Schum.  | Herb.       | Herb. |       |
| Marantaceae      | <i>Marantochloa cuspidata</i> (Rosc.) Milne-Redh.  | Herb.       |       |       |
| Marantaceae      | <i>Marantochloa filipes</i> (Benth.) Hutch.  | Herb.       |       |       |
| Marantaceae      | <i>Marantochloa leucantha</i> (K.Schum.) Milne-Redh.   |             |       | Herb. |
| Marantaceae      | <i>Sarcophrynium brachystachyum</i> (Benth.) K.Schum.  |             | Herb. | Herb. |
| Marattiaceae     | <i>Marattia fraxinea</i> J.Sm.   |             | Herb. |       |
| Medusandraceae   | <i>Soyauxia floribunda</i> Hutch.  | Herb.       |       |       |
| Melastomataceae  | <i>Calvoa monticola</i> A.Chev. ex Hutch. & Dalziel  | Herb.       |       |       |
| Melastomataceae  | <i>Dicellandra barteri</i> Hook.f.   |             | Herb. |       |
| Melastomataceae  | <i>Dichaetanthera africana</i> (Hook.f.) Jacq.-Fél.  |             |       | Herb. |
| Melastomataceae  | <i>Guyonia ciliata</i> Hook.f.   |             | Herb. |       |
| Melastomataceae  | <i>Melastomastrum theifolium</i> (G.Don) A.Fern. & R.Fern.                                       | Herb.       |       |       |
| Melastomataceae  | <i>Memecylon lateriflorum</i> (G.Don) Bremek.  |             | Herb. |       |
| Melastomataceae  | <i>Memecylon</i> sp.   | Herb.       |       |       |
| Melastomataceae  | <i>Ochthocharis dicellandroides</i> (Gilg) C.Hansen & Wickens                                    |             |       | Herb. |
| Melastomataceae  | <i>Tristemma akeassii</i> Jacq.-Fél.   |             |       | Herb. |
| Melastomataceae  | <i>Tristemma coronatum</i> Benth.  | Herb.       | Herb. |       |

continued

| Family          | Species  | North Lorma | Gola  | Grebo |
|-----------------|--|-------------|-------|-------|
| Melastomataceae | <i>Warneckea cinnamomoides</i> (G.Don) Jacq.-Fél.                        |             | Herb. |       |
| Melastomataceae | <i>Warneckea golaensis</i> (Baker f.) Jacq.-Fél.                         | Herb.       |       |       |
| Melastomataceae | <i>Warneckea memecyloides</i> (Benth.) Jacq.-Fél.                        |             |       | Herb. |
| Melastomataceae | <i>Warneckea</i> sp.   |             | Herb. |       |
| Meliaceae       | <i>Carapa procera</i> DC.  | Herb.       |       |       |
| Meliaceae       | <i>Entandrophragma angolensis</i> (Welwitsch) DC.                        | -X-         |       |       |
| Meliaceae       | <i>Entandrophragma utile</i> (Dawe & Sprague) Sprague                    | -X-         |       |       |
| Meliaceae       | <i>Khaya</i> sp.   |             |       | -X-   |
| Menispermaceae  | <i>Albertisia ferruginea</i> (Diels) Forman                              |             | Herb. |       |
| Menispermaceae  | <i>Kolobopetalum leonense</i> Hutch. & Dalziel                           |             | Herb. |       |
| Menispermaceae  | <i>Penianthus patulinervis</i> Hutch. & Dalziel                          | Herb.       |       |       |
| Menispermaceae  | <i>Tiliacora leonensis</i> (Scott-Elliot) Diels                          |             |       | Herb. |
| Moraceae        | <i>Antiaris toxicaria</i> (Rumph. ex Pers.) Leschen.                     |             |       | -X-   |
| Moraceae        | <i>Ficus barteri</i> Sprague   |             |       | Herb. |
| Moraceae        | <i>Ficus elasticoides</i> De Wild.                                       |             |       | Herb. |
| Moraceae        | <i>Ficus leonensis</i> Hutch.  |             | Herb. |       |
| Moraceae        | <i>Ficus lingua</i> Warb. ex De Wild. & T.Durand subsp. <i>lingua</i>    |             |       | Herb. |
| Moraceae        | <i>Ficus natalensis</i> Hochst. subsp. <i>leprieurii</i> (Miq.) C.C.Berg | Herb.       |       |       |
| Moraceae        | <i>Ficus pachyneura</i> C.C.Berg   |             | Herb. |       |
| Moraceae        | <i>Ficus sansibarica</i> Warb.   | Herb.       |       |       |
| Moraceae        | <i>Ficus saussureana</i> DC.   |             | Herb. |       |
| Moraceae        | <i>Ficus umbellata</i> Vahl  |             |       | Herb. |
| Moraceae        | <i>Ficus vogeliana</i> (Miq.) Miq.                                       |             |       | Herb. |
| Moraceae        | <i>Milicia regia</i> (A.Chev.) C.C.Berg                                  |             | Herb. |       |
| Moraceae        | <i>Musanga cecropioides</i> F.Br.  | -X-         | -X-   | -X-   |
| Moraceae        | <i>Myrianthus libericus</i> Rendle                                       | Herb.       |       |       |
| Moraceae        | <i>Streblus usambarensis</i> (Engl.) C.C.Berg                            | Herb.       |       |       |
| Moraceae        | <i>Treulia africana</i> Decne.   | Herb.       |       | Herb. |
| Moraceae        | <i>Trilepisium madagascariense</i> Thouars ex DC.                        | Herb.       |       |       |
| Myristicaceae   | <i>Pycnanthus angolensis</i> (Welwitsch) Warb.                           | -X-         |       | -X-   |
| Ochnaceae       | <i>Campylopermum amplexans</i> (Stapf) Farron                            |             | Herb. |       |
| Ochnaceae       | <i>Campylopermum congestum</i> (Oliv.) Farron                            | Herb.       |       |       |
| Ochnaceae       | <i>Campylopermum duparquetianum</i> (Baill.) Tiegh.                      |             |       | Herb. |
| Ochnaceae       | <i>Campylopermum glaberrimum</i> (P.Beauv.) Farron                       |             | Herb. |       |
| Ochnaceae       | <i>Campylopermum schoenleinianum</i> (Klotzsch) Farron                   | Herb.       | Herb. | Herb. |
| Ochnaceae       | <i>Campylopermum subcordatum</i> (Stapf) Farron                          | Herb.       | Herb. |       |
| Ochnaceae       | <i>Lophira alata</i> Banks ex Gaertn.                                    |             | -X-   | -X-   |
| Ochnaceae       | <i>Ochna membranacea</i> Oliv.   | Herb.       |       |       |
| Ochnaceae       | <i>Rhabdophyllum calophyllum</i> (Hook.f.) Tiegh.                        | Herb.       |       |       |
| Olacaceae       | <i>Coula edulis</i> Baill.   |             |       | Herb. |
| Olacaceae       | <i>Heisteria parvifolia</i> Sm.  |             | -X-   | Herb. |
| Olacaceae       | <i>Olax gambecola</i> Baill.   | Herb.       |       |       |
| Olacaceae       | <i>Ptychopetalum anceps</i> Oliv.  |             | Herb. | Herb. |

continued

| Family         | Species  | North Lorma | Gola  | Grebo |
|----------------|--|-------------|-------|-------|
| Oleaceae       | <i>Strombosia pustulata</i> Oliv.                        |             | Herb. | Herb. |
| Oleaceae       | <i>Jasminum pauciflorum</i> Benth.                       | Herb.       |       |       |
| Oleandraceae   | <i>Arthropteris palisotii</i> (Desv.) Alston             |             |       | Herb. |
| Oleandraceae   | <i>Nephrolepis biserrata</i> (Sw.) Schott                | Herb.       |       |       |
| Orchidaceae    | <i>Angraecum birrimense</i> Rolfe                        | Herb.       |       |       |
| Orchidaceae    | <i>Angraecum distichum</i> Lindl.                        |             | Herb. |       |
| Orchidaceae    | <i>Angraecum podochiloides</i> Schltr.                   |             | Herb. |       |
| Orchidaceae    | <i>Angraecum subulatum</i> Lindl.                        | Herb.       |       |       |
| Orchidaceae    | <i>Bulbophyllum magnibracteatum</i> Summerh.             |             | Herb. |       |
| Orchidaceae    | <i>Bulbophyllum oreonastes</i> Rchb.f.                   |             | Herb. |       |
| Orchidaceae    | <i>Calyptrochilum christyanum</i> (Rchb.f.) Summerh.     |             |       | Herb. |
| Orchidaceae    | <i>Chamaeangis odoratissima</i> (Rchb.f.) Schltr.        |             |       | Herb. |
| Orchidaceae    | <i>Habenaria macrandra</i> Lindl.                        | Herb.       |       |       |
| Orchidaceae    | <i>Nervilia</i> sp.                                      | Photo       |       |       |
| Orchidaceae    | <i>Oeceoclades maculata</i> (Lindley) Lindley            | Photo       |       |       |
| Orchidaceae    | <i>Polystachya</i> Hook.                                 |             |       | Herb. |
| Orchidaceae    | <i>Polystachya polychaete</i> Kraenzl.                   |             | Herb. |       |
| Orchidaceae    | <i>Tridactyle bicaudata</i> (Lindl.) Schltr.             |             | Herb. |       |
| Orchidaceae    | <i>Vanilla africana</i> Lindl.                           | Herb.       |       |       |
| Palmae         | <i>Eremospatha</i> sp.                                   |             | -X-   |       |
| Palmae         | <i>Laccosperma</i> sp.                                   |             | -X-   |       |
| Palmae         | <i>Raphia hookeri</i> Mann & Wendl.                      |             |       | -X-   |
| Palmae         | <b><i>Raphia palma-pinus</i> (Gaertn.) Hutch.</b>        | -X-         |       |       |
| Pandaceae      | <i>Microdesmis keayana</i> J.Léonard                     | Herb.       |       | -X-   |
| Pandaceae      | <i>Panda oleosa</i> Pierre                               |             |       | Herb. |
| Passifloraceae | <i>Adenia cissampeloides</i> (Planch. ex Benth.) Harms   |             |       | Herb. |
| Passifloraceae | <i>Adenia lobata</i> (Jacq.) Engler                      |             |       | -X-   |
| Passifloraceae | <i>Adenia mannii</i> (Mast.) Engl.                       |             |       | Herb. |
| Passifloraceae | <b><i>Androsiphonia adenostegia</i> Stapf</b>            |             | Herb. |       |
| Passifloraceae | <b><i>Crossostemma laurifolium</i> Planch. ex Benth.</b> | Herb.       |       |       |
| Passifloraceae | <i>Smeathmannia pubescens</i> Sol. ex R.Br.              | Herb.       |       |       |
| Piperaceae     | <i>Peperomia rotundifolia</i> (L.) H.B.& K.              | Herb.       |       |       |
| Piperaceae     | <i>Piper guineense</i> Schum. & Thonning                 | -X-         | -X-   | -X-   |
| Piperaceae     | <i>Piper umbellatum</i> L.                               |             |       | -X-   |
| Polygalaceae   | <i>Carpolobia alba</i> G.Don                             | Herb.       |       |       |
| Polygonaceae   | <i>Afrobrunnichia erecta</i> (Asch.) Hutch. & Dalziel    | -X-         |       | Herb. |
| Polypodiaceae  | <i>Drynaria laurentii</i> (Christ) Hieronymus            |             |       | -X-   |
| Polypodiaceae  | <i>Microgramma lycopodioides</i> (L.) Copel.             |             |       | Herb. |
| Polypodiaceae  | <i>Microsorium punctatum</i> (L.) Copeland               | -X-         |       | -X-   |
| Polypodiaceae  | <i>Phymatosorus scolopendria</i> (Burm.f.) Pic.Serm.     |             |       | Herb. |
| Polypodiaceae  | <i>Platyterium stemaria</i> (P.Beauv.) Desvaux           | -X-         |       | Photo |
| Pteridaceae    | <i>Pityrogramma calomelanos</i> (L.) Link                |             |       | -X-   |
| Pteridaceae    | <i>Pteris burtonii</i> Baker                             |             | Herb. |       |

continued

| Family         | Species  | North Lorma | Gola  | Grebo |
|----------------|--|-------------|-------|-------|
| Putranjivaceae | <i>Drypetes gilgiana</i> (Pax) Pax & K.Hoffm.                  | Herb.       | Herb. |       |
| Putranjivaceae | <i>Drypetes inaequalis</i> Hutch.                              | Herb.       |       |       |
| Putranjivaceae | <i>Drypetes</i> sp. nov.                                       |             |       | Herb. |
| Rapateaceae    | <i>Maschalocephalus dinklagei</i> Gilg & K.Schum.              |             | Herb. |       |
| Rhamnaceae     | <i>Lasiodiscus fasciculiflorus</i> Engl.                       | Herb.       | Herb. |       |
| Rhamnaceae     | <i>Lasiodiscus mannii</i> Hook.f.                              |             | Herb. |       |
| Rhamnaceae     | <i>Ventilago africana</i> Exell                                |             |       | Herb. |
| Rhizophoraceae | <i>Cassipourea nialatou</i> Aubrév. & Pellegr.                 |             |       | Herb. |
| Rubiaceae      | <i>Argocoffeopsis afzelii</i> (Hiern) Robbr.                   | Herb.       |       |       |
| Rubiaceae      | <i>Argostemma pumilum</i> Benn.                                |             | Herb. |       |
| Rubiaceae      | <i>Bertiera bracteolata</i> Hiern                              |             |       | Herb. |
| Rubiaceae      | <i>Bertiera breviflora</i> Hiern.                              | Herb.       |       |       |
| Rubiaceae      | <i>Bertiera racemosa</i> (G.Don) K.Schum.                      |             |       | Herb. |
| Rubiaceae      | <i>Bertiera spicata</i> (C.F.Gaertn.) K.Schum.                 |             | Herb. |       |
| Rubiaceae      | <i>Cephaelis micheliae</i> J.-G.Adam                           |             | Herb. |       |
| Rubiaceae      | <i>Chassalia afzelii</i> (Hiern) K.Schum.                      |             |       | Herb. |
| Rubiaceae      | <i>Chassalia corallifera</i> (A.Chev. ex De Wild.) Hepper      |             | Herb. |       |
| Rubiaceae      | <i>Chassalia</i> sp. nov.                                      |             | Herb. |       |
| Rubiaceae      | <i>Corynanthe pachyceras</i> K.Schum.                          |             |       | Herb. |
| Rubiaceae      | <i>Craterispermum caudatum</i> Hutch.                          |             |       | Herb. |
| Rubiaceae      | <i>Cremaspora triflora</i> (Thonn.) K.Schum.                   |             |       | Herb. |
| Rubiaceae      | <i>Gaertnera longevaginalis</i> (Hiern) E.M.A.Petit            | Herb.       |       |       |
| Rubiaceae      | <i>Gaertnera</i> sp.   |             | Herb. |       |
| Rubiaceae      | <i>Gardenia nitida</i> Hook.                                   | Herb.       |       |       |
| Rubiaceae      | <i>Geophila afzelii</i> Hiern                                  | Herb.       |       | Herb. |
| Rubiaceae      | <i>Geophila obvallata</i> (Schumach.) F.Didr.                  | Herb.       |       |       |
| Rubiaceae      | <i>Heinsia crinita</i> (Afzel.) G.Taylor                       | -X-         | Herb. | -X-   |
| Rubiaceae      | <i>Hutchinsonia barbata</i> Robyns                             |             | Herb. |       |
| Rubiaceae      | <i>Hymenocoleus neurodictyon</i> (K.Schum.) Robbr.             | Herb.       |       |       |
| Rubiaceae      | <i>Hymenocoleus</i> sp. 1                                      |             | Herb. |       |
| Rubiaceae      | <i>Hymenocoleus</i> sp. 2                                      |             | Herb. |       |
| Rubiaceae      | <i>Ixora aggregata</i> Hutch.                                  |             |       | Herb. |
| Rubiaceae      | <i>Ixora nimbana</i> Schnell                                   | Herb.       |       |       |
| Rubiaceae      | <i>Keetia bridsoniae</i> Jongkind                              | Herb.       |       |       |
| Rubiaceae      | <i>Keetia leucantha</i> (Krause) Bridson                       |             |       | Herb. |
| Rubiaceae      | <i>Keetia obovata</i> Jongkind                                 |             | Herb. |       |
| Rubiaceae      | <i>Keetia rufivillosa</i> (Robyns ex Hutch. & Dalziel) Bridson | Herb.       |       | Herb. |
| Rubiaceae      | <i>Keetia</i> sp.  |             | Herb. |       |
| Rubiaceae      | <i>Lasianthus batangensis</i> K.Schum.                         | Herb.       | Herb. |       |
| Rubiaceae      | <i>Lasianthus repens</i> Hepper                                | Herb.       |       |       |
| Rubiaceae      | <i>Massularia acuminata</i> (G.Don) Bullock ex Hoyle           | Herb.       |       |       |
| Rubiaceae      | <i>Mussaenda chippii</i> Wernham                               |             | Herb. |       |
| Rubiaceae      | <i>Mussaenda grandiflora</i> Benth.                            |             |       | Herb. |

continued



| Family      | Species  | North Lorma | Gola  | Grebo |
|-------------|--|-------------|-------|-------|
| Rubiaceae   | <i>Nauclea diderrichii</i> (De Wild. & Th.Dur.) Merrill  | -X-         |       | -X-   |
| Rubiaceae   | <i>Nauclea vanderguchtii</i> (De Wild.) Petit            |             | Herb. |       |
| Rubiaceae   | <i>Nichallea soyauxii</i> (Hiern) Bridson                |             |       | Herb. |
| Rubiaceae   | <i>Oxyanthus formosus</i> Hook.f. ex Planch.             | Herb.       |       |       |
| Rubiaceae   | <i>Parapentas setigera</i> (Hiern) Verdc.                | Herb.       |       |       |
| Rubiaceae   | <i>Pauridiantha sylvicola</i> (Hutch. & Dalziel) Bremek. | Herb.       | Herb. | Herb. |
| Rubiaceae   | <i>Pavetta</i> sp.                                       |             | Herb. |       |
| Rubiaceae   | <i>Poecilocalyx stipulosa</i> (Hutch. & Dalziel) N.Hallé |             | Herb. |       |
| Rubiaceae   | <i>Psychotria biaurita</i> (Hutch. & Dalziel) Verdc.     | Herb.       |       |       |
| Rubiaceae   | <i>Psychotria gabonica</i> Hiern                         |             |       | Herb. |
| Rubiaceae   | <i>Psychotria kwewonii</i> Jongkind ined.                |             |       | Herb. |
| Rubiaceae   | <i>Psychotria ombrophila</i> (Schnell) Verdc.            |             | Herb. |       |
| Rubiaceae   | <i>Psychotria peduncularis</i> (Salisb.) Verdcourt       |             |       | -X-   |
| Rubiaceae   | <i>Psychotria</i> sp. 1                                  | Herb.       |       |       |
| Rubiaceae   | <i>Psychotria</i> sp. 2                                  |             |       | Herb. |
| Rubiaceae   | <i>Psychotria</i> sp. 3                                  |             |       | Herb. |
| Rubiaceae   | <i>Psychotria</i> sp. 4                                  |             |       | Herb. |
| Rubiaceae   | <i>Psychotria yapoensis</i> (Schnell) Verdc.             |             |       | Herb. |
| Rubiaceae   | <i>Rothmannia whitfieldii</i> (Lindl.) Dandy             |             | Herb. |       |
| Rubiaceae   | <i>Rytigynia canthioides</i> (Benth.) Robyns             |             |       | Herb. |
| Rubiaceae   | <i>Sabicea ferruginea</i> Benth.                         |             | -X-   | Herb. |
| Rubiaceae   | <i>Sabicea rosea</i> Hoyle                               |             |       | Herb. |
| Rubiaceae   | <i>Schizocolea linderi</i> (Hutch. & Dalziel) Bremek.    | Herb.       | Herb. |       |
| Rubiaceae   | <i>Sericanthe adamii</i> (N.Hallé) Robbr.                |             | Herb. |       |
| Rubiaceae   | <i>Sherbournia calycina</i> (G.Don) Hua                  |             |       | Herb. |
| Rubiaceae   | <i>Stelechantha ziamaeana</i> (Jacq.-Fél.) N.Hallé       | Herb.       | Herb. | Herb. |
| Rubiaceae   | <i>Tarenna fusco-flava</i> (K.Schum.) S.Moore            |             |       | Herb. |
| Rubiaceae   | <i>Tarenna</i> sp.                                       |             | Herb. |       |
| Rubiaceae   | <i>Tricalysia pallens</i> Hiern                          |             |       | Herb. |
| Rubiaceae   | <i>Tricalysia reflexa</i> Hutch.                         |             | Herb. |       |
| Rubiaceae   | <i>Tricalysia</i> sp. nov.                               |             | Herb. |       |
| Rubiaceae   | <i>Trichostachys aurea</i> Hiern                         | Herb.       |       | -X-   |
| Rubiaceae   | <i>Uncaria africana</i> G.Don                            |             | -X-   | -X-   |
| Rubiaceae   | <i>Virectaria procumbens</i> (Sm.) Bremek.               |             | Herb. | Herb. |
| Rubiaceae   | <i>Virectaria</i> sp.                                    |             | Herb. |       |
| Rutaceae    | <i>Vepris</i> sp.  |             | Herb. |       |
| Rutaceae    | <i>Vepris verdoorniana</i> (Exell & Mendonça) W.Mziray   | Herb.       |       |       |
| Rutaceae    | <i>Zanthoxylum psammophilum</i> (Aké Assi) Waterman      |             | Herb. |       |
| Rutaceae    | <i>Zanthoxylum</i> sp.                                   | -X-         |       |       |
| Sapindaceae | <i>Allophylus</i> sp.                                    |             | Herb. |       |
| Sapindaceae | <i>Chytranthus carneus</i> Radlk.                        | Herb.       | Herb. | Herb. |
| Sapindaceae | <i>Chytranthus</i> sp.                                   | Herb.       |       |       |
| Sapindaceae | <i>Eriocoelum racemosum</i> Baker                        |             | Herb. |       |

continued

| Family           | Species   | North Lorma | Gola  | Grebo |
|------------------|---|-------------|-------|-------|
| Sapindaceae      | <i>Pancovia</i> sp.   | Herb.       |       |       |
| Sapindaceae      | <i>Paullinia pinnata</i> Linné                                      | -X-         |       |       |
| Sapindaceae      | <i>Placodiscus pseudostipularis</i> Radlk.                          |             | Herb. |       |
| Sapotaceae       | <i>Chrysophyllum africanum</i> A.DC.                                | Herb.       | Herb. | Herb. |
| Sapotaceae       | <i>Chrysophyllum subnudum</i> Baker                                 | Herb.       |       |       |
| Sapotaceae       | <i>Chrysophyllum welwitschii</i> Engl.                              | Herb.       |       | Herb. |
| Sapotaceae       | <i>Delphydora gracilis</i> A.Chev.                                  |             | Herb. |       |
| Sapotaceae       | <i>Englerophytum</i> sp.  |             | Herb. |       |
| Sapotaceae       | <i>Gluema ivorensis</i> Aubrév. & Pellegr.                          |             | Herb. |       |
| Sapotaceae       | <i>Ituridendron bequaertii</i> De Wild.                             |             |       | Herb. |
| Sapotaceae       | <i>Manilkara</i> sp.  |             | Herb. |       |
| Sapotaceae       | <i>Neolemonniera</i> sp. Heine                                      | Herb.       |       |       |
| Sapotaceae       | <i>Pouteria aningeri</i> Baehni                                     | Herb.       |       | Herb. |
| Scytopetalaceae  | <i>Scytopetalum tieghemii</i> Hutch. & Dalziel                      |             |       | Herb. |
| Selaginellaceae  | <i>Selaginella cathedriformis</i> Spring                            | Herb.       | Herb. |       |
| Selaginellaceae  | <i>Selaginella myosurus</i> (Swartz) Alston                         |             |       | -X-   |
| Selaginellaceae  | <i>Selaginella soyauxii</i> Hieron.                                 | Herb.       |       |       |
| Selaginellaceae  | <i>Selaginella versicolor</i> Spring                                | Herb.       |       |       |
| Simaroubaceae    | <i>Hannoa klaineana</i> Pierre ex Engl.                             | Herb.       |       |       |
| Solanaceae       | <i>Solanum terminale</i> Forssk.                                    | Herb.       |       |       |
| Sterculiaceae    | <i>Cola buntingii</i> Baker f.                                      |             | Herb. | Photo |
| Sterculiaceae    | <i>Cola caricifolia</i> (G.Don) K.Schum.                            |             |       | -X-   |
| Sterculiaceae    | <i>Cola heterophylla</i> (P.Beauv.) Schott. & Endl.                 | Herb.       |       |       |
| Sterculiaceae    | <i>Cola lateritia</i> K.Schum.                                      |             |       | -X-   |
| Sterculiaceae    | <i>Cola</i> sp.   | Herb.       |       |       |
| Sterculiaceae    | <i>Heritiera utilis</i> Sprague                                     | Herb.       | Herb. | -X-   |
| Sterculiaceae    | <i>Leptonychia occidentalis</i> Keay                                |             |       | Herb. |
| Sterculiaceae    | <i>Sterculia</i> sp.  |             |       | Herb. |
| Sterculiaceae    | <i>Triplochiton scleroxylon</i> K.Schum.                            |             |       | -X-   |
| Thelypteridaceae | <i>Cyclosorus striatus</i> (Schum.) Ching                           | Herb.       |       |       |
| Thymelaeaceae    | <i>Dicranolepis</i> sp.   | -X-         |       | -X-   |
| Tiliaceae        | <i>Desplatsia chrysochlamys</i> (Mildbr. & Burret) Mildbr. & Burret | Herb.       |       | Herb. |
| Tiliaceae        | <i>Grewia malacocarpa</i> Mast.                                     | Herb.       |       |       |
| Tiliaceae        | <i>Grewia pubescens</i> P.Beauv.                                    | Herb.       |       |       |
| Urticaceae       | <i>Urena</i> sp.  | -X-         |       |       |
| Verbenaceae      | <i>Vitex phaeotricha</i> Mildbr. ex W.Piep.                         |             |       | Herb. |
| Violaceae        | <i>Decorsella paradoxa</i> A.Chev.                                  |             | Herb. | Herb. |
| Violaceae        | <i>Rinorea brachypetala</i> (Turcz.) Kuntze                         | Herb.       |       |       |
| Violaceae        | <i>Rinorea brevillacemosa</i> Chipp                                 | Herb.       | Herb. |       |
| Violaceae        | <i>Rinorea ilicifolia</i> (Welw. ex Oliv.) Kuntze                   | Herb.       |       | Herb. |
| Violaceae        | <i>Rinorea microdon</i> M.Brandt                                    | Herb.       | Herb. |       |
| Violaceae        | <i>Rinorea oblongifolia</i> (C.H.Wright) Marquand ex Chipp          | Herb.       |       |       |
| Violaceae        | <i>Rinorea</i> sp.  |             |       | Herb. |

continued

| Family        | Species                                    | North Lorma | Gola  | Grebo |
|---------------|--|-------------|-------|-------|
| Vitaceae      | <i>Cissus diffusiflora</i> (Baker) Planch. | Herb.       |       |       |
| Vitaceae      | <i>Cissus miegei</i> Tchoumé               |             |       | Herb. |
| Vitaceae      | <i>Cissus producta</i> Afzel.              |             |       | Herb. |
| Vitaceae      | <i>Cissus smithiana</i> (Baker) Planch.    |             |       | Herb. |
| Vitaceae      | <i>Cissus</i> sp.                          | Herb.       |       |       |
| Vitaceae      | <i>Leea guineensis</i> G.Don               |             |       | -X-   |
| Vittariaceae  | <i>Antrophyum mannianum</i> Hook.          | Herb.       |       |       |
| Vittariaceae  | <i>Vittaria guineensis</i> Desv.           | Herb.       |       |       |
| Zingiberaceae | <i>Aframomum</i> sp.                       |             | -X-   |       |
| Zingiberaceae | <i>Renealmia longifolia</i> K.Schum.       |             | Herb. |       |