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Numerical classification of the Phyllanthaceae Martinov based on gross morphology

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Phyllanthaceae Martinov is considered the second-largest family that is segregated from Euphorbiaceae. *s.l.* Previous taxonomic studies of Phyllanthaceae relied on phylogeny and the floral minutiae, with gross morphology negligence, which is various and more obvious. In this study, a state of 24 characters were recorded comparatively for a cosmopolitan sample of 37 species belonging to 12 genera of the Phyllanthaceae. The data matrix was subjected to numerical analysis using seven radically different combinations of similarity measures and clustering methods. Of the seven resulting dendrograms, two are nearly identical and show that the species are divisible neatly into two major groups which coincide with and support the two subfamilies Phyllanthaceae. Similarity between the two groups extends to all levels in the dendrograms. Gross morphology is as important as phylogenetic and anatomical characters and can give a complete vision to group classification, especially leaf morphology, which provides most of the characters that define the groups of species at all hierarchical levels. By comparing these results with previous studies, it's important to refer to that the generic concept in the Phyllanthaceae is fraught with instability and needs a major taxonomic re-appraisal, especially the largest genus *Phyllanthus*.

Keywords: Cluster analysis, dendrograms, morphology, Phyllanthopsis, Phyllanthus, taxonomy

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INTRODUCTION

The widest concept of the Euphorbiaceae Juss. (or Euphorbiaceae s.l.) was last subjected to a comprehensive taxonomic treatment by Webster (1975, 1994a, 1994b), who arranged this vast array of genera and species into five subfamilies (Phyllanthoideae Ascherson, Oldfieldioideae Köhler & Webster, Achalyphoideae Ascherson, Crotonoideae Pax, and Euphorbioideae Boiss.), with 50 tribes and 49 subtribes. Subsequent phylogenetic studies led to its disbanding into seven much smaller families: Euphorbiaceae s.s. (or Euphorbiaceae Juss., in a restricted sense), Phyllanthaceae Martynov, Pandaceae Engl. & Gilg, Picrodendraceae Small., Peraceae Klotzsch, Putranjivaceae Endl. ex Meisn., and Centroplacaceae Doweld & Reveal (APG IV, 2016).

The Phyllanthaceae comprises *ca*. 2000 species arranged in 60 genera accepted by APG IV (2016), with the majority of species being aggregated in the type of genus *Phyllanthus* alone. However, the generic concept in the Phyllanthaceae is relatively unsettled through the numerous allocations and reallocations of species between different genera. Suffice it here to mention that Webster (1994a) was able to count no less than 42 synonyms of the type of genus *Phyllanthus*. Consequently, wide discrepancies exist between the numbers of genera ascribed to the Phyllanthaceae by different authors. They vary from 54 to 60 by sinking some genera into others and by fragmenting some relatively large genera into

separate splinter ones (Byng, 2014). For instance, a new monotypic genus Notoleptopus was established on Leptopus decaisnei (Benth.) Voronts. & Petra Hoffm. by Vorontsova and Hoffmann (2008). Furthermore, the same authors based a new monotypic genus (Pseudophyllanthus, with only P. ovalis (F. Mey. Ex Sond.) Voronts. & Petra Hoffm.) on Andrachne ovalis (E. Mey. Ex Sond.) Müll. Arg., and created a new genus Phyllanthopsis to accommodate two species (P. arida and P. phyllanthoides) by separating Andrachne arida and A. phyllanthoides, respectively, from the rest of Andrachne species. Other phylogenetic studies of the Phyllanthaceae (Samuel et al., 2005), and some of its subordinate Kathriarachchi et al., groups (e.g., 2005; Kathriarachchi et al, 2006; Hoffmann et al., 2006; Vorontseva et al., 2007) accepted varying numbers of genera in this family. The number of species in the Phyllanthaceae suffers similar uncertainty.

The plants are mostly large trees with a few shrubs and small herbs, monoecious or dioecious, and often lacking in milky latex and resinous secretions. They are predominantly pantropical with major centers of geographical distribution in the tropical parts of sub-Saharan Africa, Asia, N. and S. America, and Australia. The leaves are simple, alternate, mainly in distichous or phyllotactic arrangement, stipulate, leathery, evergreen, with entire margins, but some *Phyllanthus* species (e.g., *P. montanus*) have flattened leaf-like cladodes bearing flowers along their margins, while the true leaves are reduced to tiny, nonphotosynthetic scales with the solitary flowers in their axils. Stipules triangular to filiform and caducous. The inflorescence is commonly a raceme of male, female, or hermaphrodite flowers. Ovary consistently superior with 2-5 locules; each locule with two pendulous ovules on an apical placenta although often only one ovule will develop into one seed. Fruit berry, drupe, schizocarpic capsule, or a 2-winged sypsela (in *Hymenocardia acida*). Seeds vary in shape from globular to ovoid. Seeds of the Phyllanthaceae are usually 'ecarunculate'; absence of the caruncle is among the significant features discriminating between them and members of the Euphorbiaceae *s.s.* (Byng, 2014).

From the economic standpoint, numerous Bridelia and Phyllanthus species (e.g., Bridelia ferruginea, B. balansae; P. acidus, P. amarus, P. niruri, P. urinaria, P. emblica, P. phyllyreifolius) are rich in a wide range of bioactive substances used in folk medicine to cure diabetes, arthritis, and malaria. Other pharmacological activities in members of the Phyllanthaceae include anticancer, hepatoprotective, antimicrobial, and cardioprotective effects (e.g., Zhao et al., 2015; Geethangili and Ding, 2018; Kaur et al., 2017; 2018; Tan et al., 2020; Yeboah et al., 2022; Prananda et al., 2023). The extract of Phyllanthus atropurpureus was shown by Abdallah et al. (2019) to be a promising inhibitor of acetylcholinesterase, the enzyme which causes the most common form of dementia (Alzheimer's disease), and for which no medication to slow or stop the neuro degeneration process has so far been discovered. Some species are grown as garden ornamentals while others (e.g., Phyllanthus acidus, P. amarus, P. emblica) have edible fruits.

Interest in the phylogenetic classification of the Phyllanthaceae, among other angiosperms, seems to have started with the comprehensive study by Savolainen *et al.* (2000). Phylogenetic studies targeting the Phyllanthaceae were initiated by Wurdack *et al.* (2004), who showed that none of the tribal circumscriptions of this family are supported by *rbcL* sequencing data. These authors also introduced some major changes in the circumscription of this family, including the transfer of *Centroplacus* and *Putranjiva* to other families (Centroplacaeae and Putranjivaceae, respectively), while confirming the placement of *Antidesma*, *Bischofia*, *Hymenocardia*, *Martretia*, and *Uapaca* in the Phyllanthaceae.

The pantropic genus *Phyllanthus* is the largest and most widespread genus of the Phyllanthaceae (Bouman et al., (2018). The subdivision of Phyllanthus into infra-generic taxa was for decades highly controversial. The checkered history of segregating small groups of species from *Phyllanthus* and raising them to generic status while submerging some others into Phyllanthus was detailed by Bouman et al. (2018), who recognized 880 species in the genus, classified them into 18 subgenera, 70 sections and 14 subsections, and provided an artificial key to all infrageneric taxa based entirely on attributes of vegetative, floral and pollen morphology. However, circumscription of Phyllanthus remains debatable. Owing perhaps to the relatively large number of species, most of the studies dealing with *Phyllanthus* were limited to monographic revisions of its representatives in the various pantropic regions of the world, with various circumscriptions of the genus (e.g., Li, 1987; Santiago et al., 2006; Ralimanana and Hoffman, 2011, 2014; Ralimanana et al., 2013).

Emphasis on analysis of phylogenetic data for purposes of classification of the Phyllanthaceae at the family and infra-familial levels resulted in the negligence of the multitude of gross morphological features and its potential taxonomic value. Studies of the gross morphology of the Phyllanthaceae seem to be largely limited to the work of Levin (1986a, 1986b, 1986c), who meticulously scored 43 characters of foliar features in a sample of 259 species representing 51 genera, laying greater emphasis on leaf venation, and subjecting the wealth of comparative data to phenetic and phylogenetic analyses.

While the flowers of most members of the Phyllanthaceae are so minute that using them in a taxonomic study of this family is often fraught with numerous difficulties. In contrast, the numerous features of gross morphology describing the general aspect of plants, their leaves, fruits, and seeds are easily definable and avoids the need for the less easily accessible microscopic characters of the flowers and pollen grains.

Therefore, the present study was undertaken to explore the usefulness of gross morphology in the classification of the Phyllanthaceae and their type of genus *Phyllanthus* by analyzing as much data recorded comparatively from a representative sample of genera and species to numerical analysis.

MATERIALS AND METHODS

Herbarium specimens of 37 species belonging to 12 genera of the Phyllanthaceae were available for the present study in the Cairo University Herbarium (CAI). The number of specimens of a species ranged from one to more than 90 (for Andrachne aspera, Phyllanthus rotundifolius), with most of the species being represented by 4-8 specimens each, thus covering most of its range of geographical distribution and habitat diversity. The number of species representing a given genus is roughly proportionate to its actual size. Identification of all taxa was scrutinized with the help of keys in appropriate local floras, revisions, and monographs (e.g., Webster, 1970; R.-Smith, 1987; Carter and Smith, 1988; Boulos, 2000; Li Bingtao et al., 2008; NSW, 2022; Bingham et al., 2023; Levin, 2023), and nomenclature was updated according to the World Flora Online (WFO, 2022).

All specimens were searched for aspects of gross morphological variation which were scored comparatively for each species in a data matrix (Appendix 1). The collection data of each species were presented in (Appendix 2). Measurements expressing variation in length and width of leaf blades and petiole length were scored as the average made from at least the largest five leaves in available specimens of any species. For accurate definition of terms describing different states of leaf morphology, the glossary of botanical terms by Stearn (2004) was resorted to.

The data matrix was subjected to two-way cluster analysis using the program package PC-ord version 5 for Windows (McCune, 1997); characters were abbreviated into eight digits each to suite requirements of the program as shown in Table 2. This program package offers a wide choice of seven distance (or dissimilarity) measures and eight clustering methods with different degrees of clustering intensity. Of the possible 56 combinations, only the seven shown in Table 1 were used because they cover a wide range of specifications with basic algorithmic differences (outlined by Lance and Williams, 1967; Sneath, 1969; Sneath and Sokal, 1973; Milligan, 1989), which are reflected on the resulting classifications. The Euclidean geometric distance (dissimilarity) measure is basically different from the arithmetic Jaccard (similarity) method. Flexible β differs from all other clustering methods by having a variable clustering intensity depending on the value set by the user of this method for the parameter β ,

while other methods have fixed clustering intensities. The original default value of β set by Lance and Williams (1967) at -0.25 was used.

RESULTS Observations

The leaves are the richest and most obvious source of morphological variation in members of the Phyllanthaceae (characters 6-18 in Table 2). They are invariably simple, alternate, distichous or phyllotactic, and with entire margins. Blade outline differs widely from species to species and is sometimes slightly different in specimens of the same species. Therefore, variation in the blade shape was set in four clearly distinct states each of which is covering the entire range of blade shapes of any given species. Blade length varies from 1 cm or less (e.g., in Andrachne telephioides, Phyllanthus capillaris) to 12(-18) cm (e.g., in Antidesma bunius, Uapaca kirkiana), while most of the species have leaf blade length within the range of 6-10 cm. Leaf blade width ranges between 3 cm (in Phyllanthus maderaspatensis, Ph. amarus, Ph. emblica), to 6 cm or more (in Bridelia micrantha, B. brideliifolia). Accordingly, the blade length-width ratio is highly variable. The position of the widest part of the leaf blade (xy/xz) is markedly different from species to species (Figures 1-3). Similarly, the petiole-bade length ratio is variable. Leaf blades may be thin and lean or thick and shining leathery. When leaf blades are exceedingly longer than the stem internodes thus hiding them, they seem closely aggregated along the stem and were termed 'overlapping' (e.g., *Phyllanthus rotundifolius*; character 7 in Table 2).

The numerical analyses

Each of the seven combinations of dissimilarity measures and clustering methods in Table 1 resulted in a two-way hierarchical scheme of classification, with the contribution of each character in the clustering of every species in each group expressed in color. While six schemes had some degree of resemblance to each other in terms of expressing taxonomic relatedness among the genera and species and in the close values of the chaining percentages (4.34-6.51%), the scheme based on the combination of Euclidean distance and McQuitty's clustering method has a 13.02% chaining and seemed taxonomically outlandish as it differed profoundly from all others. Furthermore, the two schemes named Phyllanthaceae2 (based on Jaccard's measure and Ward's method) and Phyllanthaceae5 (generated

Table 1. Seven combinations of distance measures and clustering methods used in the numerical analysis of a data matrix comprising 24 characters recorded comparatively for 37 species belonging to 12 genera of the Phyllanthaceae. The chaining % obtained by each combination is shown.

Name	Distance measure	Clustering method	Chaining %
Phyllanthaceae 1	Sørensen	Flexible β	4.34
Phyllanthaceae 2	Jaccard	Ward's	4.73
Phyllanthaceae 3	Jaccard	Flexible β	4.34
Phyllanthaceae 4	Euclidean	Ward's	6.51
Phyllanthaceae 5	Euclidean	Flexible β	5.52
Phyllanthaceae 6	Sørensen	McQuitty's	7.30
Phyllanthaceae 7	Euclidean	McQuitty's	13.02



Figure 1. Aspects of gross morphological variation in the Phyllanthaceae. 1-3: images of simple leaves of *Antidesma venosum*, *Pseudolachnostylis maproneifolia*, and *Phyllanthus distichus*, respectively, with symmetrical blade base and the two measurements (xy) and (xz) determining the position of the widest part of the blade (xy/xz). 4: the 2-winged sypsela of *Hymenocardia acida*. All images are made from herbarium specimens.

Table 2. List of the 24 characters, their character-states, abbreviations, and types recorded comparatively for 37 species belonging to 12 genera of the Phyllanthaceae and subjected to numerical analysis C = qualitative or 2-state character; M = multistate character; Q = quantitative or measured character.

#	Characters and character-states	Abbreviations	Types
1	Plant: herb 1/ shrub 2/ tree 3	H/Sh/Tr	М
2	Plant: glabrous 1/ hairy 0	Glab/Hr	С
3	Milky latex: present 1/ absent 0	late p/a	С
4	Stem: cylindrical 1/ angled 0	St cyl/a	С
5	Spiny wings of stem: present 1/ absent 0	spin P/a	С
6	Leaf blade: elliptical-lanceolate 1/ oblanceolate-obovate	Lf Shape	М
	2/ ovate-cordate 3/ orbicular-suborbicular 4		
7	Leaves: overlapping 1/ not overlapping 0	Lvs over	С
8	Leaf veins: prominent 1/ not prominent 0	V pro/n	С
9	Base of leaf blade: rotund 1/ cordate 2/ cuneate 3	Base	Μ
10	Leaf blade: thin 1/ thick and leathery 0	Bl thin/thk	С
11	Leaf blade length (in cm)	If lengt	Q
12	Leaf blade width (in cm)	lf width	Q
13	Leaf blade length/width ratio	l/w rati	Q
14	Position of the widest part of leaf blade (xy/xz in Figs. 1-3)	wid posi	Q
15	Leaf blade apex: rotund 1/ acute 2/ acuminate 3/ mucronate 4	apex	Μ
16	Leaf blade base: symmetrical 1/ asymmetrical 0	bas sy/a	С
17	Petiole length (in cm)	pet leng	Q
18	Petiole/blade length ratio	Pe/Bl ra	Q
19	Fruit: drupe 1/ capsule 2/ 2-winged sypsela 3 (Fig. 4)	fr d/c/s	М
20	Number of seeds per fruit: one 1/ two 2/ more 3	Sd num	М
21	Seed surface: variegated 1/ not variegated 0	Sd var/n	С
22	Seed surface: rugose 1/ smooth 2/ pitted 3	se r/s/p	М
23	Seed shape: angular 1/ globular-ovoid 2/ oblong-ellipsoid 3	sd shape	М
24	Caruncle: present 1/ absent 0 car p/a		С

by using Euclidean distance and Flexible β) were nearly identical, despite the major mathematical differences between the methods used in their generation. The two schemes are presented in Figs. 5 and 6, respectively, and were selected for further discussion.

DISCUSSION

The two main groups A and B in each of the two dendrograms in Figs. 5 and 6 are identical in terms of their content of genera and species despite the basic algorithmic differences between the Jaccard and Euclidean distance measures (detailed by Sneath and Sokal, 1973), and between the Flexible β and Ward's clustering methods (defined by Lance and Williams, 1967; Sneath, 1969; Dallwitz, 1988) used in their construction. This uniformity in composition of the two classifications is a source additional support for them and attests to their taxonomic robustness. Furthermore, the secondary groups of Group A (AC and AD) in both dendrograms are identical. The minor differences between the two classifications in Figs. 5 and 6 are limited to the pattern of fusion between a few individual species in the lowest levels of both hierarchies owing to the migration of these species from one terminal group to another within the same main group.

Groups A and B are not only identical, but they also subfamilies respectively support the two Phyllanthoideae and Antidematoideae recognized in the phylogenetic classification of the Phyllanthaceae by Hoffmann et al. (2006). This is one of the rare examples in which phenetic and phylogenetic classifications are in mutual agreement and, hence, are mutually supportive. The relatively small sample of genera and species included in the present study does not allow further comparison between the minor groups C1, C2, D1, D2 and B with the groups of lower ranks in the detailed phenetic and phylogenetic classifications by Webster (1994a and 1994b) and Hoffmann et al. (2006), respectively.

The similarity between the two schemes in Figures 5 and 6 extends to the treatment of individual genera. Of the 12 genera included in the present study, six (*Breynia, Margaritaria, Hymenocardia, Leptopus, Phyllanthopsis, Pseudolachnostylis*) are represented by a single species each. The remaining six genera are distinguished into two categories: (i) those whose representative species emerged together in only one of the five low-level groups A-C1, AC-2, AD1, AD2 and B, and (ii) those with species falling in more than one low-level group as follows:

	in Phyllanthaceae 2 (Fig. 5)	in
	•	Phyllanthaceae
		5 (Fig. 6)
Category	Andrachne (2 spp. in AC-1)	Andrachne (2
(i):	Fluggea (2 spp. in AD-1)	spp. in AC-1)
	Antidesma (4 spp. in B)	Fluggea (2 spp.
		in AD-1)
		Antidesma (4
		spp. in B)
Category	Bridelia	Bridelia
(ii):	(2 in AD-1; 4 spp. in B)	(1sp. in AD-1; 1
	Uapaca	sp. in AD-2; 4 in
	(1 sp. in AD-1; 1 sp. in B)	B)
		Uapaca
	Phyllanthus	(1 sp. in AD-1; 1
	(5 spp. in AC-1; 6 spp. in AC	sp. in B)
	2.	Phyllanthus
	;1 sp. in AD-1; 3 spp. in	(5 spp. in AC-1;
	AD2).	5 spp. in AC-2; 2
		spp. in AD-1; 3
		spp. in AD-2).

This is further corroborated by the arrangement of the 15 species representing the largest genus in the family (*Phyllanthus*) in our sample. Figures 5 and 6 and Table 3 show that apart from the slight differences in the pattern of fusions among individual species and the migration of *P. muellerianus* from group A-C-C2 in Fig. 5 to group A-D-D1 in Figure 6, the distribution of all other *Phyllanthus* species among the four low-level groups is essentially the same in the two analyses Phyllanthaceae 2 and Phyllanthaceae 5.

The subdivision of Phyllanthus into infra-generic taxa remains and controversial comparing the arrangement in Table 3 with a plausible phenetic or phylogenetic classification of this genus seems futile. Separation of the two species Andrachne arida and A. phyllanthoides from Andrachne to establish the new genus Phyllanthopsis by Vorontsova and Hoffmann (2008) on phylogenetic bases is not supported by morphological features since one of the two species in the new genus (P. phyllanthoides) is deeply immersed with other Andrachne and Phyllanthus species and appears consistently with them in the same low-level group A-C-C1. The generic concept in the Phyllanthaceae remains largely unsettled and seems in need of a detailed re-appraisal in which comparative gross morphology should be taken more adequately into consideration.

The deeper the blue color in Figures 5 and 6, the greater the contribution of a character in the set of attributes defining a group of taxa and in discriminating between two groups united to form a common group of higher rank. For instance, leaf length, leaf width, and petiole length are the main discriminating features between Groups A and B. Similarly, the leaf length/width ratio and position of



Figure 5. Two-way cluster dendrogram illustrating the phenetic relationships among 37 species belonging to 12 genera of the Phyllanthaceae, generated by numerical analysis of a data matrix comprising 24 characters by Jaccard's similarity measure and Ward's clustering method, the chaining percentage for the species hierarchy is 4.73%. Abbreviations of character names are presented in Table 2.

Full names of taxa in the same sequence in each Group are as follows:

Group AC-C1: Andrachne aspera Spreng., Andrachne telephioides L., Phyllanthus capillaris Schumach. & Thonn., Phyllanthus nummulariifolius subsp. nummulariifolius, Phyllanthus rotundifolius Klein ex Willd., Phyllanthopsis phyllanthoides (Nutt.) Voronts. & Petra Hoffm., Phyllanthus alpestris Beille, Phyllanthus gardnerianus (Wight) Baill.

AC-C2: Phyllanthus amarus Schum., Phyllanthus maderaspatensis L., Phyllanthus emblica L., Phyllanthus niruri L., Phyllanthus odontadenius Mull.Arg., Phyllanthus muellerianus (Kuntze) Exell

Group AD-D1: Breynia disticha J.R. Forst. & G. Forst., Margaritaria discoidea (Baill.) Webster, Flueggea suffruticosa (Pall.) Baill., Leptopus chinensis (Bunge) Pojark., Phyllanthus columnaris Muell.Arg., Flueggea virosa (Roxb. ex Willd.) Royle, Bridelia atroviridis Müll.Arg., Bridelia tomentosa Blume var. chinensis Müll.Arg., Uapaca bojeri Baill.

Group A-D-D2: Hymenocardia acida Tul., Phyllanthus elegans Wall. ex Müll.Arg., Phyllanthus acidus Skeels, Phyllanthus reticulatus Poir., Pseudolachnostylis maprouneifolia Pax

Group B: Antidesma bunius (L.) Spreng., Antidesma membranaceum Müll.Arg., Bridelia micrantha (Hochst.) Baill., Bridelia ndellensis Beille, Bridelia scleroneura Müll.Arg., Antidesma montanum Blume, Antidesma venosum E. Mey. ex Tul., Bridelia brideliifolia (Pax) Fedde subsp. pubescentifolia J. Léonard, Uapaca kirkiana Muell.Arg.



Figure 6. Two-way cluster dendrogram illustrating the phenetic relationships among 37 species belonging to 12 genera of the Phyllanthaceae, generated by numerical analysis of a data matrix comprising 24 characters by a combination of Euclidean distance measure and Flexible β (-0.25) clustering method. The chaining percentage for the species hierarchy is 5.52 %. Abbreviations of character names are presented in Table 2. Full names of taxa in the same sequence in each Group are as follows:

Group AC-C1: Andrachne aspera Spreng., Andrachne telephioides L., Phyllanthopsis phyllanthoides (Nutt.) Voronts. & Petra Hoffm., Phyllanthus alpestris Beille, Phyllanthus capillaris Schumach. & Thonn., Phyllanthus nummulariifolius subsp. nummulariifolius, Phyllanthus gardnerianus (Wight) Baill., Phyllanthus rotundifolius Klein ex Willd.

Group AC-C2: Phyllanthus amarus Schum., Phyllanthus maderaspatensis L., Phyllanthus emblica L., Phyllanthus niruri L., Phyllanthus odontadenius Mull.Arg.

Group AD-D1: Breynia disticha J.R. Forst. & G. Forst., Margaritaria discoidea (Baill.) Webster, Bridelia tomentosa Blume var. chinensis Müll.Arg., Flueggea suffruticosa (Pall.) Baill., Leptopus chinensis (Bunge) Pojark., Phyllanthus columnaris Muell.Arg., Flueggea virosa (Roxb. ex Willd.) Royle, Phyllanthus muellerianus (Kuntze) Exell

Group AD-D2: Bridelia atroviridis Müll.Arg., Uapaca bojeri Baill., Hymenocardia acida Tul., Phyllanthus elegans Wall. ex Müll.Arg., Phyllanthus acidus Skeels, Phyllanthus reticulatus Poir., Pseudolachnostylis maprouneifolia Pax

Group B: Antidesma bunius (L.) Spreng., Antidesma membranaceum Müll.Arg., Bridelia micrantha (Hochst.) Baill., Bridelia ndellensis Beille, Bridelia scleroneura Müll.Arg., Antidesma montanum Blume, Antidesma venosum E. Mey. ex Tul., Bridelia brideliifolia (Pax) Fedde subsp. pubescentifolia J. Léonard, Uapaca kirkiana Muell.Arg.

groups	Phyllanthaceae 2 (Fig. 5)	Phyllanthaceae 5 (Fig. 6)
AC-C1	P. alpestris, P. capillaris, P. gardnerianus P. nummulariifolius, P.	P. alpestris, P. capillaris, P. gardnerianus, P. nummulariifolius,
	rotundifolius	P. rotundifolius
AC-C2	P. amarus, P. maderaspatensis, P. emblica, P. niruri, P.	P. amarus, P. maderaspatensis, P. emblica, P. niruri, P.
	odontadenius, P. muellerianus	odontadenius
AD-D1	P. columnaris	P. columnaris, P. muellerianus
AD-D2	P. elegans, P. acidus, P. reticulatus	P. elegans, P. acidus, P. reticulatus

Table 3. Comparison between the distribution of 15 *Phyllanthus* species in the four low-level groups (AC-C1, AC-C2, AD-D1, and AD-D2) in Figs. 5 and 6.

the widest part of leaf blade contributed considerably to the distinction between groups AC-1 and AC-2. While leaf morphology and measurements provided most of the characters defining the groups at all hierarchical levels in Figs. 5 and 6, seed features and numbers were the least taxonomically useful.

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Appendix 1: Data matrix of variation in 24 gross morphological characters scored comparatively for 37 species representing 12 genera (with appreviations) of the Phyllanthaceae is available in: https://docs.google.com/spreadsheets/d/1d0z-3ajjknju9hk0kKAHQx_LnHSRVWJO40spfmUMAB0/edit?usp=sharing

Appendix 2: Collection data of all 37 taxa of Phyllanthaceae as recorded in the label mounted on the herbarium sheet of each species:

Andrachne aspera Sgreng. Lofty Boulors, Sn. 10.3.1944, Wald Algaba, Red Sac Castt, C.M. M. Kasasa, M.O. Mobaria, and Hamad. A Omary, 77, 11.2.1966, Extend Sci Debl Asolhiba, part Sudam, C.M. M. Kasasa, M.O. Mobaria, and Hamad. A Omary, 77, 11.2.1966, Extend Sci Debl Machiba, part Sudam, C.M. M. Kasasa, M.O. Mobaria, and Hamad. A Omary, 77, 11.2.1966, Extend Sci Debl Machiba, part Sudam, C.M. Andrachne telephioides L. Ahmend Magahed, 32, 16.2.1992, El Haar Arex, C.M. M. Kasasa, H. Forky, et al. 1973, Sci Debl, Tear art Bah, Masata, F.M., Sinal, C.M. Antidesma bunius (L) Spreng. Mohammed El Maholi, 32, 102, 1596, Frant Istan, Assuar, C.M. Antidesma membranceum Mull Arg. Mohammed El Maholi, 32, 102, 1596, Frant Istan, Assuar, C.M. Antidesma membranceum Billine J. W. Heifer, SJ. 20, 160, Frant Istan, Assuar, C.M. Antidesma membranceum Billine J. W. Heifer, SJ. 20, 160, Frant Istan, Assuar, C.M. Antidesma membranceum Billine J. W. Heifer, SJ. 20, 160, Frant Sian, Assuar, C.M. Antidesma membranceum Billine J. W. Heifer, SJ. 20, 160, Prant Billin, Bengla Carl, Sciutan, C.M. Antidesma membranceum Billine J. Kealler, 1320, 226/S/1976, Burnet Glob, Sciutan, C.M. Antidesma membranceum Billine J. Kealler, 1320, 226/S/1976, Burnet Glob, Sciutan, C.M. Antidesma membranceum Billine J. Kealler, 1320, 226/S/1976, Burunet J.C.B. Brideli	Таха	Collection data
M. Kassas, M. O. Mobarak, and Hamad A. Omar, 677; 14:12;056; Erokul, Red So Dircti; CAL, Nakasa, H. Favay, et al, 1873, 82.1082; Erokul, Red So Dircti; CAL, Nahed Haddy, s.n.; 1075/56; Gabi El-Doir near the Monatery st. Catherine; Sinai; CAL Andreachnet telephioldes L. Addreachnet telephioldes L. Anneed Kastage, St. 21, 2105; Erokul, Red So Dircti; CAL, Anneed Kastage, St. 21, 2102; St. 2104; St.	Andrachne aspera Spreng.	Lofty Boulos; S.n; 10.3.1954; Wadi Alqaba; Red Sea Coast; CAI.
M. Kassa, M. O. Mobark, and Hamad A. Omar, 44, 512.396; Trickli, Ref. Sea District, CAI. Ahreel Megabed; 32: 162.1902; El Haer Area; CAI. Arteed Megabed; 32: 162.1902; El Haer Area; CAI.Andrachne telephioides L.Almeed Khatba B. M. Makali El Haidit, K388; 23.8.1965; Kobe Hilof Vadi Aideib, CAI. Atheed Khatba B. M. Makali El Haidit, K388; 23.8.1966; Kuba Madina, Saudi Arabia; CAI. Left Soulos; 51, 1939; Kaia de Thautia, N. Sinai, CAI. Antidesma menhanous (L) Spreng.Antidesma menhanous (L) Spreng.Mohammed El Mahid; 32: 607; 1906; Plant Island, Assuan; CAI. Antidesma menhanous BlumeJ. W. Heller; J. 1937; India orientalis, in Benglia clinic Ca Calcutam; CAI. Antidesma menhanous BlumeJ. W. Heller; J. 1937; India orientalis, in Benglia clinic Calcutam; CAI.Antidesma menhanous BlumeJ. W. Heller; J. 1937; India orientalis, in Benglia clinic Calcutam; CAI.Antidesma menhanous BlumeJ. W. Heller; J. 1937; India orientalis, in Benglia clinic Calcutam; CAI.Antidesma menhanous BlumeJ. W. Heller; J. 1937; India orientalis, in Benglia clinic Calcutam; CAI.Antidesma menhanous Blume Vas TUI.Lewalle; 1991; J. 100: 1966; Burundi; CAI.Antidesma menhanous Blume Vas TUI.Mohammed El Mahid; 330; J. 21 Mars JBOS; Burundi; CAI.Bridelin divelinging Play Islami, Burgelia Handi, S. 1997; Bluss, Babe, Scheb, Cebe Marn, Darburg, CAI.Bridelin divelinging Play Islami, Burgelia Handi, K. 1992; Oli (1998; Kabe, Cebe Marn, Darburg, CAI.Bridelin divelingi Stall.J. Lewalle; 231; J.1 feru: J.1983; Stall Marn, Darburg, CAI.Bridelin divelingi Stall.J. Lewalle; 231; J.1 feru: J.1988; Stall Marn, Darburg, CAI.Bridelin divelingi Stall.J. Lewalle; J.1992; Oly Stall Marn, Darburg, CAI. <td></td> <td>M. Kassas, M.O. Mobarak, and Hamad A. Omar; 677; 14.12.1966; Jebel Asohiba, part Sudan; CAI.</td>		M. Kassas, M.O. Mobarak, and Hamad A. Omar; 677; 14.12.1966; Jebel Asohiba, part Sudan; CAI.
Nabile Hadidy: s.n. 107/556; Sebi El-Deir near the Monastery X. Chi. Anned Megaberki 23; 16: 1392; El Hear Ares; C.Al. M. Kassas, H. Favey, et al; 1373; 8.2.1692; Slope Nill of Wadi Aldelle; CAI.Adrdrachne telephioldes L. Adrdachne telephioldes L.Anneel Khattab M. Nabile Hadiki; X833; 23: 1692; Slope Nill of Wadi Aldelle; CAI. Lotty Boulos, 5: 18/3/1395; Wadi El-Arsifis, CAI. Athreed K. Tahthiry, s.n. 1988; Saca El-Rauffa, N. Smai, CAI.Antidesma motinaur BlumeMohammed El Mahdi; 34; 20/5/1969; Plant Island, Assuar; CAI. Antidesma motinaur BlumeJ.W. Helfer, 19; 1937; India orientalis, in Bengalia circa Calcuttam; CAI. Evaluation and the Mahdi; 2305; 23: 2000; 2000		M. Kassas, M.O. Mobarak, and Hamad A. Omar; 44; 5.12.1966; Erckuit, Red Sea District; CAI.
Ahred Megahed; 32: 162.1952; El Harr Are; CAI. M. Kassa, H. Fawy, et al; 1873; 82.1062; Stope hill of Wadi Aidelb; CAI. Andrachne telephioides L. Loft Boology, Stall Stall, Stope and El Anshi, CAI. Antdeama bunius (L) Spreng. Antdeama bunius (L) Spreng. Mohammed El Maholi; 32:05/1969; Plant Island, Assuan; CAI. Antidesma menbranoccum Müll Arg. Mohammed El Maholi; 32:05/1969; Plant Island, Assuan; CAI. Antidesma menbranoccum Müll Arg. Mohammed El Maholi; 33:00/1970; Plant Island, Assuan; CAI. Antidesma venosam E. Mey, ex Tul. Levelle; 1999; 13 June 1966; Burundi; CAI. Bridela intravinità Müll Arg. Mohammed El Maholi; 31:07/1976; Drama Garden, Gita; CAI. Bridela intravinità Müll Arg. Mohammed El Maholi; 33:07/1970; Bary Mano Garden, Gita; CAI. Bridela intravinità Müll Arg. Bridela intravinità Müll Arg. Bridela intervinità Bull Bridela interinto Mull Arg. Bridel		Nabil el Hadidy; s.n.; 10/5/56; Gebl El-Deir near the Monastery st. Catherine; Sinai; CAI.
M. Kasas, H. Faway, et al. 1873, 8.2.1892; Slope hill of Wall Arabia, CAI. Andrachne telephiodes L. Anned Khatba M. Mabill Haddi; Slag, SJ. Slope, Kuba Madina, Saudi Arabia, CAI. Antidestm bunius (L.) Spreng. Mohammed El Mahil; 343, 2075/1959, Plant Island, Assuan, CAI. Antidestm montanum Blume J. W. Helfer; J9; 1937; India orientalis, In Bengalia circa Calcuttar; CAI. Antidestm montanum Blume J. W. Helfer; J9; 1937; India orientalis, In Bengalia circa Calcuttar; CAI. Antidestm montanum Blume J. W. Helfer; J9; 1937; J. Slöb; SJ. Smran, Garden, Giaz, CAI. Bridelia distub Al, R. Forst, & G. Forst. Mohammed El Mahil; 305; J. 2073; J. Slag, SJ. Suruadi, CAI. Bridelia distub Kull, Arg. Mohammed El Mahil; 305; J. 2073; J. Slag, SJ. Suruadi, CAI. Bridelia distub JR, Forst, & G. Forst. Mohammed El Mahil; 305; J. 2073; J. Slag, SJ. Stag, Gabe IMaer, J. Angar, Arumeru District; CAI. Bridelia distub JR, Stag, S. Schest, S. Bartandi, L. Stag, S. Schest, S. Stag, Gabe IMaera, Darrier, CAI. Schester, Stag, J. Schester, J. Schester, Schester, CAI. Bridelia distub JR, Stag, Stag, Gabe JL, Stag, J. Stag, J. Schester, J. Schester, Schester, CAI. J. W. Helfer; J. 21937; India orientalis, In Bengalia circa Calcuttari; CAI. Bridelia distub JR, Schester, S. MULL, J. W. Helfer; J. 21937; J. Schester, Schester, CAI. J. W. Helfer; J. 21937; J. Schester, Schester, CAI. Bridelia distub JR, Schester, Stall, J		Ahmed Megahed; 32; 16.2.1992; El Haer Area; CAI.
Andrachne telephioides L Anmed Khatab & M. Nabil El Hadidi, X388, 238.3966, Kuba Madina, Saudi Arabia; CAI. Antidesma bunius (L) Spreng. Mohammed El Mahidi, 32, 057/1969, Pinti Liand, Assuan; CAI. Antidesma membranoecum MüllArg. Mohammed El Mahidi, 32, 057/1969, Pinti Liand, Assuan; CAI. Antidesma menbranoecum MüllArg. Mohammed El Mahidi, 32, 057/1969, Pinti Liand, Assuan; CAI. Antidesma monama Blume 1. W. Heffer; 19, 1937, India orientalis, in Bengalia circa Calcuttam; CAI. Antidesma venoum E. Mey, ex TuI. Lewalle; 999, 19 June 1966; Burundi; CAI. Bridelia dravidijo (Pax) Fedde subsp. pubescentfolia J. Mohammed El Mahidi, 31, 172, 1967; Burundi; CAI. Bridelia dravidijo (Pax) Fedde subsp. pubescentfolia J. I. Lewalle; 1970; 25/5/1987; Burundi; CAI. Léonard J. Lewalle; 1920; 25/5/1987; Burundi; Cai Note, CAI. Bridelia dravidijo (Pax) Fedde subsp. pubescentfolia J. I. Lewalle; 1920; 25/5/1987; Burundi; Cai Note, CAI. Bridelia steraneura MüllArg. J. Lewalle; 1927; 25/5/1987; Burundi; Cai Note, CAI. Bridelia dravida subsp. pubescentfolia J. Mohammed Tei Xaya Sing Antaba Antara Markan, Antaro District; CAI. Bridelia dravida (Pax) J. Lewalle; 123, 151, 13/4/1398, Kabg, Gala, CAI. Bridelia dravida (Pax) W. Heffer; 12; 1937, India orientalis, in Bengalia circa Calcuttam; CAI. Bridelia dravida (Pax) W.		M. Kassas, H. Fawzy, et al; 1873; 8.2.1692; Slope hill of Wadi Aideib; CAI.
Lotty Boulos; 8; 18/3/2155; Wadi El-Arsh; CAI. Antidestan Bunius (L) Spreng. Mohammed El Mahigi 336; 207/51956; Plant Island, Assun, CAI. Antidestan Bunitary, CAI. Mohammed El Mahigi 336; 207/51956; Plant Island, Assun, CAI. Antidestan Bunitary, CAI. Mohammed El Mahigi 336; 207/51956; Plant Island, Assun, CAI. Antidestan Bunitary, CAI. Mohammed El Mahigi 336; 207/1365; Drana Garden, Giar; CAI. Bregnio disticho J.R. Forst, & G. Forst, Mohammed El Mahigi 330; 207 and Srades; Burundi; CAI. Bridelio travisitis Will Arg, Mohammed El Mahigi 330; 207 and Srades; Burundi; CAI. Bridelio travisitis Will Arg, Mohammed El Mahigi 330; 207/51367; Burundi; CAI. Bridelio travisitis Will Arg, I. Lewalle; 1970; 267/1367; Burundi; CDI Itoke; CAI. Ass Mierga & E. Massangilla: 172; D Deembers Deps. Antim Architary; 724, 207/1367; Burundi; CDI Itoke; CAI. Bridelio notelinesis Belle Mohammed Drar; 2437; 15/5/1388; Kabe, Gebel Marra; Donfur; CAI. Bridelio totelenzo Blanu, Burg, J. J. Lewalle; 723, 715/5/1388; Kabe, Gebel Marra; Donfur; CAI. Antim Michal; 718, 201/548; travisitia Quartary, SAU. Bridelio tomentosa Blume var. chinensis Mull Arg. J. W. Heffer; 12; 1937; India orientalis, in Bengalia circa Calcuttary, CAI. Bridelio tomentosa Blume var. chinensis Mull Arg. J. W. Heffer; 12; 1937; India orientalis, InBengalia circa Calcuttary,	Andrachne telephioides L.	Ahmed Khattab & M. Nabil El Hadidi; K388; 23.8.1966; Kuba Madina, Saudi Arabia; CAI.
Antidesma bunius (L.) Spreng, Mohammed G. Fahmy, sn., 1988, Saad EF. Rauffag, N. Sinai, CAI. Antidesma membranaceum MUILarg, Mohammed El Mahdi, 23, 20, 23 Nov. 1967, Burundi - Teritois Bubanza, Route de Musigati, CAI. Antidesma montama Bume I. V. Heffer, 19, 1937, India orientalis, In Bengalia circa Calcuttam; CAI. Envieta distribuito (Pas) Fedde subsp. pubescentfolia J. Hohammed El Mahdi, sn. 19(7)/1053, Orama Garden, Giza, CAI. Bridelia dravinidis MuILarg, Mohammed El Mahdi, sn. 19(7)/1053, Orama Garden, Giza, CAI. Bridelia dravinidis MuILarg, Mohammed El Mahdi, sn. 19(7)/1053, Orama Garden, Giza, CAI. Bridelia dravinidis MuILarg, Mohammed El Mahdi, sn. 19(7)/1053, Orama Garden, Giza, CAI. Bridelia dravinidis MuILarg, J. Lewalle, 1970, 26(5/1967, Burundi, CDI toke; CAI. Anim Michaile; 179, 20(1)/1984, Yanho Equationa, Sudan, CAI. Bridelia dravinidis MuILarg, J. Lewalle, 1973, 27(3)/1984, Yanho Equationa, Sudan, CAI. Bridelia dravinidis MuILarg, J. Lewalle, 1973, 1973, 1984, Yanho Equationa, Sudan, CAI. Bridelia dravinicas (Pall) Balil. Webster, n. 19.8, 1955, Kaba Mountain Wook, Japan, Hondo; CAI. Flueggees urinosa (Roxb, ex Willd.) Royle Amin Michail; 715, 114/1984, Yanba Eduardo, Sudan; CAI. Flueggees urinosa (Roxb, ex Willd.) Royle Amin Michail; 715, 114/1984, Kagada, Way, CAI. Hymenacrafia acidera (Balil) Webster J. Lewalle; 1240, J5 Nov. 1966, Burundi; CAI. Hymenacrafia acidera (Balil) Webster J. Lewalle; 1240, 215 Nov. 1966, Burundi; CAI. Hyllonthus acides Seels Vi Tackholm and Inhamine Bayed; sn.; 21/7/1965, Jarlerd Bircher's Garden, El Saff; CAI. "Kept as Andracher comerinam MuELArg," Vi Tackholm and Inhamine Sayed; sn.; 21/7/1965, Fasher – Qoz, Darfur, Khartoum; CAI. Hyllonthus acides Seels Vi Tackholm and Inhamis Bayed; sn.; 21/7/1965, Jarlerd Bircher's Garden, El		Lotfy Boulos; 8; 18/3/1955; Wadi El-Arish; CAI.
Antidesm aunius (L.) Spreng. Mohammed El Mahdi; 34, 20/5/1669; Plant Island, Assum; CAI. Antidesm amathranne Blume J. W. Heffer; 15; 1937; India orientalis, in Bengalia circa Calvutam; CAI. Antidesm amathranne Blume J. W. Heffer; 15; 1937; India orientalis, in Bengalia circa Calvutam; CAI. Antidesm amathranne Blume J. W. Heffer; 15; 1937; India orientalis, in Bengalia circa Calvutam; CAI. Breynia distich J.R. Forst. 8, G. Forst. Mohammed El Mahdi; Say, 23 Mars 1969; Burundi; CAI. Bridelia torivitifik Mull.Arg. Mohammed I Mahdi; Say, 23 Mars 1969; Burundi; CAI. Bridelia torivitifik Mull.Arg. Mohammed I Mahdi; Say, 22/5/1963; Orman Garden, Gaz, CAI. Bridelia torivitifik Mull.Arg. Mohammed I Mahdi; Aday, 23/Ars 1969; Burundi; CAI. Bridelia torivitifik Mull.Arg. Mohammed Dirariy, 245/5/1967; Burundi, Chi Toke; CAI. Bridelia torivitifik Mull.Arg. J. Lewalle; 1970; 20/10/1984; Yambio Equatoria, Sudan; CAI. Bridelia torentosa Blume var, chinensis Müll.Arg. J. W. Heffer; 21; 1937; India orientalis, In Bengalia circa Calvutam; CAI. Bridelia torentosa Blume var, chinensis Müll.Arg. J. W. Heffer; 25; 1937; India orientalis, In Bengalia circa Calvutam; CAI. Bridegia varia Gaz, Aday, Bray, Bray, Causa, Say, Say, Say, Say, Say, Say, Say, Sa		Ahmed G. Fahmy; s.n.; 1988; Saad El- Rauffaa, N. Sinai, CAI.
Antidesm annehranaceum MullArg. Mohammed El Mahdi; 236; 23 Nov. 1967; Burundi - Carlorie Bubanza, Route de Musigati; CAI. Antidesm avensum E. Mey, ex Tul. Lewalle; 999; 19 June 1966; Burundi; CAI. Briedle atrovirkis Mull.Arg. Mohammed El Mahdi; 330; 23 Mars 1969; Burundi; CAI. Briedle atrovirkis Mull.Arg. Mohammed El Mahdi; 330; 25 Mars 1969; Burundi; CAI. Briedle atrovirkis Mull.Arg. Mohammed El Mahdi; 3567; Burundi. Chi hoke; CAI. Bridela atrovirkis Mull.Arg. J. Lewalle; 1970; 25(7):567; Burundi. Chi hoke; CAI. Bridela atrovirkis Mull.Arg. J. Lewalle; 1970; 25(7):57180; Burundi. Chi hoke; CAI. Bridela atrovirkis Mull.Arg. J. Lewalle; 2317; 15(7):1988; Kabe, Gebel Mara, Dartur, CAI. Bridela atroneuro Mull.Arg. J. Lewalle; 2321; 14 ferr. 1986; Ginang, Champ de tir, Savane Doise; CAI. Annim Michale; 719; 2071/01/394; Yambio Equatoria, Sudan; CAI. Michamed El Mahdi; 175; 1374, 378; Kaba, Mourtain Woods, Japan, Hondy; CAI. Flueggee using (Rok. ex Will.B), Role Amin Michale; 719; 2071/01/394; Yambio Equatoria, Sudan; CAI. Flueggee usings (Rok. ex Will.B), Role Amin Michale; 719; 2071/01/394; Yambio Equatoria, Sudan; CAI. Hylanchosis (Bunge Pojark M. Koarsa, Cuacasa, Russis; CAI. Mirgensis Bylanthorides (Nutl.) Voronts. & Petra M. Karkon and Unsinger, Sudan; CAI. Hylanthus acidos Skeels Vivi Tackho	Antidesma bunius (L.) Spreng.	Mohammed El Mahdi; 34; 20/5/1969; Plant Island, Assuan; CAI.
Antidesma montanum Biume 1. W. Helter; 19; 1937; India orientalis, in Bengalia circa Calcuttam; CAI. Antidesma venosum E. Mey, ex Tul. Lewalle; 999; 19 June 19(66; Burundi; CAI. Breynia distich J.R. Forst. 8, 6, Forst. Mohammed El Mahdi; sin; 16/7/1963; Orman Garden, Giza; CAI. Bridelia attoribitis Mull.Arg. Mohammed El Mahdi; sin; 207/1963; Orman Garden, Giza; CAI. Bridelia diversitis Mull.Arg. Mohammed El Mahdi; sin; 207/1963; Orman Garden, Giza; CAI. Bridelia diversitis Mull.Arg. Mohammed El Mahdi; 4061; 14 Nov. 1969; Bugarama; CAI. Bridelia diversitis Mull.Arg. Lewalle; 1970; 26/5/1967; Burundi, CDI toke; CAI. Bridelia diversitis Bulme var. chinensis Müll.Arg. Li Lewalle; 231; 14 forv; 1988; Ghanga, Champ de tir, Savane holsee; CAI. Bridelia atorica (Sauta) Bulme var. chinensis Müll.Arg. J. W. Heffer; 21; 1937; India orientalis, in Bengalia circa Calcuttam; CAI. Bridelia atorica (Sauta) Bulme var. chinensis Müll.Arg. J. W. Heffer; 21; 1937; India orientalis, In Bengalia Circa Calcuttam; CAI. Huegges uricas (Roxb. ex Willd; Nevje Amin Michali; 7, 112; 20/10/1984; Yambio Equatoria; Saudar; CAI. Huegges uricas (Roxb. ex Willd; Nevje Amin Michali; 7, 1137; 1137; 1137; 1374; 1375; 1374; 1375	Antidesma membranaceum Müll.Arg.	Mohammed El Mahdi; 2363; 23 Nov.1967; Burundi – Teritoire Bubanza, Route de Musigati; CAI.
Antdesma vensum E. Mey, ex Tul. Lewalle; 999; 19 June 1966; Burund; CAI. Brielle atroviridis Müll.Arg. Mohammed El Mahdi; 3390; 23 Mars 1969; Burund; CAI. Brielle atroviridis Müll.Arg. Mohammed El Mahdi; 3390; 23 Mars 1969; Burund; CAI. Brielle atroviridis Müll.Arg. Mohammed El Mahdi; 3390; 23 Mars 1969; Burund; CAI. Brielle micrantha (Hochst.) Bail. Lewalle; 1970; 25/5/1967; Burundi, CAI. Bridelia stelleness Belle Mohammed Tir, 7323; 15/5/1988; Abb. Gebel Marra, Darfur; CAI. Bridelia comentosa Blume var. chinensis Müll.Arg. J. Weher, 2193; 1ndia orientalis, In Bengalia circa Calcuttan; CAI. Bridelia tomentosa Blume var. chinensis Müll.Arg. J. Weher, 21, 1932; India orientalis, In Bengalia circa Calcuttan; CAI. Bridelia tomentosa Blume var. chinensis Müll.Arg. J. Weher, 21, 1932; India orientalis, In Bengalia circa Calcuttan; CAI. Bridelia tomentosa Blume var. chinensis Müll.Arg. J. Weher, 21, 1932; India orientalis, In Bengalia circa Calcuttan; CAI. Bridegeu sufficiences (Bunge Pojark M. Dorar & M. El Mahdi; 1175; 1174/31938; Naggalo, Wayto Vei; CAI. Hugtpost Schmens (Bunge Pojark M. Dorar & M. El Mahdi; 1175; 1174/31938; Naggalo, Wayto Vei; CAI. Hoffman. J. Lewalle; 1240; 15 Nov. 1966; Burundi; CAI. Hylianthus acdurs Skeels Viri Tacholm and I brian Bisave; sin; 21/7/ 1953; Alfred Bircher's Garden, El Saff; CAI.	Antidesma montanum Blume	J. W. Helfer; 19; 1937; India orientalis, in Bengalia circa Calcuttam; CAI.
Breyna dstche J.K. Forst. Mohammed El Mahdi; S.n.; 14/7/1963; Orman Garden, Suz; CAI. Bridela drovindis Müll.Arg. Mohammed El Mahdi; 350; 23 Mars 1869; Burundi; CAI. Bridela drovindis Müll.Arg. Mohammed El Mahdi; 4061; 14 Nov. 1969; Bugarama; CAI. Bridela drovindis Müll.Arg. J. Lewalle; 1970; 26/5/1967; Burundi; Cbi toke; CAI. Bridela drelinsis Belle Mohammed El Mahdi; 4061; 14 Nov. 1969; Bugarama; CAI. Bridela drelinsis Müll.Arg. J. Lewalle; 1970; 26/5/1967; Burundi; Cbi toke; CAI. Bridela drelinsis Ball Mohammed Dira; 7337; 15/5/1988; Kabe, Gebel Mara, Darking, CAI. Bridela drelinsis Ball J. Lewalle; 2831; 14 fevr. 1968; Ginanga, champ de tir, Savane boisee; CAI. Anim Michali; 716; 1954; Botanie Garden, Sudar, CAI. Fileggea vircos (Roxb. ex Willd.] Royle Anim Michali; 716; 1954; Botanie Garden, Sudar, CAI. Fileggea vircos (Roxb. ex Willd.] Royle J. W. Heffer; 12; 1937; India orientalis, Russia; CAI. Morganicatida Koicole (Rail). Webster J. Kacomomov s.n.; 1978; Caucasia, Russia; CAI. Morganicatida Koicole (Rail). Webster J. G. Adam; 2876; 27 Juillet 1974; Liberia Mont Nimba; CAI. Phyllanthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/71963; Alfred Bircher's Garden, El Saff; CAI. Phyllanthus and schumarks; Shi, 22/51/21955; Fisher - Qoz, Daffur, Khartoum; CAI. <	Antidesma venosum E. Mey. ex Tul.	Lewalle; 999; 19 June 1966; Burundi; CAI.
Bridelio dravirdis Mull.Arg. Mohammed El Mahdi; 3390; 23 Mars 1969; Bugrarma; CAI. Bridelio bridgifiola (PaS) Fedde subsp. pubescentifolio J. Mohammed El Mahdi; 3390; 23 Mars 1969; Bugrarma; CAI. Bridelio micrantha (Hochst.) Bail. J. Lewalie; 1970; 265/1967; Burrundi, Cib Tobie; CAI. As. Mieya & E. Masangulla; 1172; 9 December 1998; Asba, Gebel Marra, Darfur; CAI. Bridelio actionarus Mull.Arg. Bridelio actionarus Mull.Arg. J. Ewalie; 2831; 14 fevr. 1968; Ghanga, champ de tir, Savane boisee; CAI. Anin Michaile; 719; 2017/1988; Kabe, Gebel Marra, Darfur; CAI. Bridelio actionarus Mull.Arg. Bridelio actionarus Mull.Arg. J. W. Heffer; 22; 1937; Tidai orientalis, Im Bengalia circa Calcutam; CAI. Phuggeo sufficiticose (Pall) Bail. Webster, s.n.; 198.1965; Kaba Mountain Woods, Japan, Hondo; CAI. Hurgeoge vinzos (Boxb. ex Willa Royle Anin Michail; 746; 1934; Batoanic Garche, Sudan; CAI. Hurgeoge vinzos (Baunge) Pojark M. Darar & M. El Mahdi; 1370; 211/4/1938; Kaggalo, Way to Yei; CAI. Leptopus chinensis (Bunge) Pojark M. Kocmomov; s.n.; 1978; Caucasia, Russia; CAI. Phyllanthogis phyllonthoides (Nutt.) Voronts. & Petra M. dachar. 2080; 297/1962; Alfred Bircher's Garden, El Saff; CAI. "Kept as Andrim. Phyllanthus actual Skeels Vin Tackholm and Ibrahim Elsayed; s.n.; 217/1963; Alfred Bircher's Garden, El Saff; CAI. Phyllanthus actual Skeels Vin Tackholm	Breynia disticha J.R. Forst. & G. Forst.	Mohammed El Mahdi; s.n.; 16/7/1963; Orman Garden, Giza; CAI.
Bridelia brideligolia (Pas) Fedde subsp. pubescentifolia J. Mohammed El Mañdi; 4061; 14 Nov. 1969; Bugarna; CAL. Bridelia micrantha (Hochst.) Baill. J. Lewalle; 1970; 26/5/1967; Burundi, Cib Itoke; CAL. Bridelia netlensis Beille Mohammed Drar; 2437; 15/5/1988; Kabe, Gebel Marar, Darfur; CAL. Bridelia netlensis Beille Mohammed Drar; 2437; 15/5/1988; Kabe, Gebel Marar, Darfur; CAL. Bridelia scleroneuro MüllArg. J. Lewalle; 2831; 14 forv. 1986; Binanga, champ de tir, Savane boixec; CAL. Armin Michale; 719; 20/10/1984; Yambia Guausofa, Sudan; CAL. Mohammed Vanile; 719; 20/10/1984; Yambia Guausofa, Sudan; CAL. Bridelia tomentoso Blume var. chinensis MüllArg. J. W. Helfer; 12; 1937; India orientalis, in Bengalia circa Calcuttam; CAL. Hueggez viroso (Roxb. ex Willd.) Baill. Webster, sn.; 1936; Guausia, Russia; CAL. Margonizina Gido Tu. M. Drar & M. El Mahdi; 1175; 11/4/1938; Kaggalo, Way to Yei; CAL. Leptopus chinensis (Bunge) Pojark M. Kocmomov; sn.; 1978; Guausia, Russia; CAL. Margonizina Guido Tu. M. Drar & M. El Mahdi; 1175; 11/4/1938; Kaggalo, Way to Yei; CAL. Hylionthosis phyllanthoides (Nutt.) Voronts. & Petra Vivi Tackholim and Ibrahim Esayed; s. n; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAL. Phyllonthus acidus Skeels Vivi Tackholim and Ibrahim Esayed; s. n; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAL. Phyllonthus acidus Skumarks. & Thonn. <td>Bridelia atroviridis Müll.Arg.</td> <td>Mohammed El Mahdi; 3390; 23 Mars 1969; Burundi; CAI.</td>	Bridelia atroviridis Müll.Arg.	Mohammed El Mahdi; 3390; 23 Mars 1969; Burundi; CAI.
Bridelia micrantha (Hochst.) Baill. J. Lewalle; 1970; 25/5/1967; Burundi, Cib Itock; CAI. A.S. Mkeya & E. Masangulla; 1172; 9 Docember 1999; Arusha, Arumeru District; CAI. Bridelia ndellensis Beille Mohammed Darr; 2437; 15/5/1988; Kabe, Gebel Marra, Darfur; CAI. Bridelia scleroneura MüllArg. J. Lewalle; 2831; 14 fevr. 1986; Gihanga, chamg de tir, Savane boisee; CAI. Amin Michale; 179; 20/10/1984; Yambia Equatoria, Sudan; CAI. Environeura MüllArg. Bridelia tomentosa Blume var. chinensis MüllArg. J. W. Heffer; 12; 1937; India orientalis; in Bengalagi circa Calcuttam; CAI. Flueggee virosa (Roxb. ex Willd.) Royle Amin Michale; 179; 1164/1938; Kaggalo, Way to Yei; CAI. Hymenocardia acida Tul. M. Drar & M. El Mahdi; 1175; 11/4/1938; Kaggalo, Way to Yei; CAI. Leptopus chinensis (Bunge) Pojark M. Koromory: s.n. 1976; Caucasai, Russia; CAI. Morganitaria discoidee (Baill.) Webster J. Lewalle; 1240; 15 Nov. 1966; Burundi; CAI. Phyllonthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1962; Alfred Bircher's Garden, El Saff; CAI. "Kept as Androchne roemeriana MuelLArg." Phyllonthus acidiaris Skumach. & Thonn. J. G. Adam; 2029; 1974; Liberi aMont Nimba; CAI. Phyllonthus acidiaris Skuell. et Arg. J. W. Heffer; 22; 1937; India orientalis, in Bengalia circa. Calcuttam; CAI. Phyllonthus acidiaris Skuell. T. Labib; s. n.; 27.9.200; Donato farm, Khaatteba, Egyp	Bridelia brideliifolia (Pax) Fedde subsp. pubescentifolia J. Léonard	Mohammed El Mahdi; 4061; 14 Nov. 1969; Bugarama; CAI.
AS. Mkeys & E. Masangulls; 1172; 9 December 1999; Arusha, Arumeru District; CAI. Bridelia scienceuru MüllArg. J. Lewalle; 2337; 15/5/1988; Kabe, Gebel Marra, Darfur; CAI. Bridelia tomentosa Blume var. chinensis MüllArg. J. Lewalle; 2331; 14 fevr. 1966; Gihanga, champ de tir, Savane boisee; CAI. Amin Michaiel; 719; 20/10/1984; Yamibi Equatoria, Sudan; CAI. Michaiel; 719; 20/10/1984; Yamibi Equatoria, Sudan; CAI. Flueggeo suffruitcosa (Pall) Baill. Webster, s.n.; 19.8.1965; Kaba Mountain Woods, Japan, Hondo; CAI. Flueggeo virosa (Roxb. ex Willd.) Royle Amin Michail; 716; 1954; Botanie Garden, Sudan; CAI. Margoritaria discride (Baill, Webster J. Lewalle; 1240; 15 Nov. 1966; Burrundi; CAI. Margoritaria discride (Baill, Webster J. Lewalle; 1240; 15 Nov. 1966; Burrundi; CAI. Phylionthopsis phyllanthoides (Nutt.) Voronts. & Petra Vivi Tackholm and Ibrahim Elsayed; s.n.; 24/s/ 1962; Alfred Bircher's Garden, El Saff; CAI. "Kept as Androchne receneriana Muell.Ag." Phylionthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAI. Phylionthus copilaris Schumach. & Thonn. J. G. Adam; 2276; 27 Juillet 1974; Liberia Mont Nimba; CAI. Phylionthus copilaris Schumach. & Thonn. J. G. Adam; 2293; 1974; Liberia Mont Nimba; CAI. Phylionthus edgens Wall. ex Mull.Ag. J. W. Heffer; 22, 1937, India orientalis, in Bengalia circa Calcuttam; CAI. Ph	Bridelia micrantha (Hochst.) Baill.	J. Lewalle; 1970; 26/5/1967; Burundi, Cib Itoke; CAI.
Bridelia ndellensis Beile Mohammed Drar; 2437; 15/5/1988; Kabe, Gehel Mara, Darfur; CAI. Bridelia scleroneura Müll.Arg. J. Lewalle; 2831; 14 fevr. 1968; Gihanga, champ de tir, Savane boisee; CAI. Bridelia tomentosa Blume var. chinensis Müll.Arg. J. W. Helfer; 12; 1937; Inidia orientalis, in Bengalia circa Calcuttam; CAI. Bridelia tomentosa Blume var. chinensis Müll.Arg. J. W. Helfer; 12; 1937; Inidia orientalis, in Bengalia circa Calcuttam; CAI. Flueggea virosa (Roxb, ex Willd), Royle Amin Michail; 716; 1954; Botanie Garden, Sudan; CAI. Hymenocardia acida Tul. M. Dara & M. El Mahdi; 1175; 11/4/1938; Kaggalo, Way to Yei; CAI. Hymenocardia acida Tul. M. Dorar & M. El Mahdi; 1175; 11/4/1938; Kaggalo, Way to Yei; CAI. Hymenocardia acida Tul. M. Koromorov, s.n. 1978; Caucasia, Russia; CAI. Hyllanthogis phylanthoides (Nut.) Voronts. & Petra V. Wi Tackholm and Ibrainin Elsayed; s.n. 2477/1963; Alfred Bircher's Garden, El Saff; CAI. "Kept as Androchne coemeriana Mueil.Arg." Phyllanthus acidus Skeels Vvii Tackholm and Ibrainin Elsayed; s.n. 2177/1963; Alfred Bircher's Garden, El Saff; CAI. Phyllanthus acidus Skeus Vvii Tackholm and Ibrainin Elsayed; s.n. 24275/1965; Tasher – Oaz, Darfur, Khartoum; CAI. Phyllanthus acidus Skeus Vvii Tackholm and Ibrainin Elsayed; s.n. 2177/1963; Alfred Bircher's Garden, El Saff, CAI. Phyllanthus acidus Skeus Vvii Tackholm and Ibrainin Elsayed; s.n. 2172/1965; Fasher		A.S. Mkeya & E. Masangulla; 1172; 9 December 1999; Arusha, Arumeru District; CAI.
Bridella scleroneura Müll.Arg. J. Lewalle; 2831; 14 fevr. 1968; Gihanga, Champ de tir, Savane bolsee; CAI. Amin Michaie; 719; 20/10/1984; Yambio Equatoria, Sudan; CAI. Bridella tomentosa Blume var. chinensis Müll.Arg. Bridella tomentosa Blume var. chinensis Müll.Arg. J. W. Helfer; 12; 1937; India orientalis, in Bengalia circa Cakuttam; CAI. Flueggee suffuticosa (Poll, Baill. Webster; s.n.; 198.1965; Kaba Mountain Woods, Japan, Hondo; CAI. Hymenocardia acida Tul. M. Dara & M. El Mahdi; 1175; 11/4/1938; Kaggalo, Way to Yei; CAI. Margontaria discrider (Baill, Webster J. Lewalle; 1240; 15 Nov. 1966; Burrundi; CAI. Phylionthopsis phyllanthoides (Nutt.) Voronts. & Petra M. Kocmomov; s.n.; 1978; Caucasia, Russia; CAI. Margontaria discrider (Baill, Webster J. Lewalle; 1240; 15 Nov. 1966; Burrundi; CAI. Phyllanthosis phyllanthoides (Nutt.) Voronts. & Petra Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/1963; Alfred Bircher's Garden, El Saff; CAI. "Kept as Androchne comerinand Muell.Arg." Phyllanthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/1963; Alfred Bircher's Garden, El Saff; CAI. Phyllanthus acidus Skeels J. K. Helfer; 22; 1937; India orientalis, in Bengalia circa Calcuttam; CAI. Phyllanthus acidus Skeels J. W. Helfer; 22; 1937; India orientalis, in Bengalia circa Calcuttam; CAI. Phyllanthus acidus Skeels J. W. Helfer; 22; 1937; India orientalis, in Bengalia circa Calcuttam; C	Bridelia ndellensis Beille	Mohammed Drar; 2437; 15/5/1988; Kabe, Gebel Marra, Darfur; CAI.
Amin Michaief, 719; 20/10/1984; Yambio Equatoria, Sudan; CAI.Bridelia tomentosa Blume var. chinensis Müll.Arg,J. W. Helfer; 12; 1937; India orientalis, in Bengalia circa Calcuttam; CAI.Flueggee virosa (Roxb, ex Willd.) BoyleAmin Michail; 716; 1954; Botanie Garden, Sudan; CAI.Flueggee virosa (Roxb, ex Willd.) RoyleAmin Michail; 716; 1954; Botanie Garden, Sudan; CAI.I special acida TuI.M. Drar & M. El Mahdi; 1175; 1151/14/1938; Kaggalo, Way to Yei; CAI.Leptopus chinensis (Bunge) PojarkM. Kocmomov; s.n.; 1978; Caucasia, Russia; CAI.Morgaritaria discoide (Baill.) WebsterJ. Lewalle; 1240; 15 Nov. 1966; Burund; CA.Phyllonthosis phyllanthoides (Nutt.) Voronts. & PetraVivi Tackholm and Ibrahim Elsayed; s.n.; 24/5/ 1962; Alfred Bircher's Garden, El Saff; CAI. "Kept asHoffm.Andrachne roemeriana Muell.Arg."Phyllonthus acidus SkeelsVivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAI.Phyllonthus andeutris bundl. et Arg.J. G. Adam; 2020; 1974; Liberia Mont Nimba; CAI.Phyllonthus columoris Muell. et Arg.J. W. Helfer; 22; 1937; India orientalis, in Bengalia circa Calcuttam; CAI.Phyllonthus edgeans Wall. ex Müll.Arg.J. W. Helfer; 27: 20207; Donota form, Khatteba, Egypt; CAI.Phyllonthus edgeans Wall. ex Müll.Arg.J. W. Helfer; 27: 20207; Donota form, Khatteba, Egypt; CAI.Phyllonthus addresptensis LM. Kassas, M.O. Mobarak, B. Fadiallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-Gallabat, Sudan; CAI.Phyllonthus maderaspatensis LM. Kassas, M.O. Mobarak, B. Fadiallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Naksal district, Sudan; CAI.Phyllonthus m	Bridelia scleroneura Müll.Arg.	J. Lewalle; 2831; 14 fevr. 1968; Gihanga, champ de tir, Savane boisee; CAI.
Bridelia tomentoso Blume var. chinenis Müll.Arg. J. W. Heffer, 12; 1937; India orientalis; In Bengalia circa Calcuttam; CAI. Flueggea suffruiticosa (Pall.) Ball. Webster, s.n.; 19.8, 1965; Kaba Mountain Woods, Japan, Hondo; CAI. Huggea virsos (Roxb. ex Willd.) Royle Amin Michail; 716; 1954; Botanie Garden, Sudan; CAI. Hymenocardia acida Tul. M. Drar & M. El Mahdi; 1175; 11/4/1938; Kaggalo, Way to Yei; CAI. Margaritaria discoidea (Baill.) Webster J. Lewalle; 1240; 15 Nov. 1966; Burundi; CAI. Phylionthosis phylionthoides (Nutt.) Voronts. & Petra Vivi Tackholm and Ibrahim Elsayed; s.n.; 2177; Caucasia, Russia; CAI. Phylionthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 2177; 1963; Alfred Bircher's Garden, El Saff; CAI. Phylionthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 2177; 1963; Alfred Bircher's Garden, El Saff; CAI. Phylionthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 217/ 1963; Alfred Bircher's Garden, El Saff; CAI. Phylionthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 217/ 1963; Alfred Bircher's Garden, El Saff; CAI. Phylionthus acidus Skeels Vivi Heffer; 2: 1937; India orientalis, in Bengalia circa Calcuttar; CAI. Phylionthus acidumaris Kuell R. Arg. J. K. Heffer; 2: 1937; India orientalis, Theira Mont Nimba; CAI. Phylionthus acidumaris Kuell R. Arg. J. K. Heffer; 2: 1937; India orientalis, Interasida Calcuttar; CAI.		Amin Michaiel; 719; 20/10/1984; Yambio Equatoria, Sudan; CAI.
Fluegges suffruticess (Pail.) Baill. Webster, s.n.; 19.8.1965; Kaba Mountain Woods, Japan, Hondo; CAI. Fluegges virosa (Roxb. ex Willd.) Royle Amin Michail; 716; 1954; Botanie Garden, Sudan; CAI. Hymenocardia acida Tui. M. Drar & M. El Mahdi; 1175; 11/4/1938; Kaggalo, Way to Yei; CAI. Leptopus chinensis (Bunge) Pojark M. Koromowy s.n.; 1978; Caucasia, Russia; CAI. Morgaritaria discoidea (Baill.) Webster J. Lewalle; 1240; 15 Nov 1966; Burundi; CAI. Phyllonthopsis phyllonthodes (Nutt.) Voronts. & Petra Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAI. Phyllonthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAI. Phyllonthus acigus Schumach. & Thonn. J. G. Adam; 28786; 27 Juillet 1974; Liberia Mont Nimba; CAI. Phyllonthus columnoris Muell. et Arg. J. W. Heffer, 22; 1937; India orientalis, in Bengalia circa Calcutta; CAI. Phyllonthus columnoris Muell. et Arg. J. W. Heffer, 27; 1930; Bengalia circa, Calcutta; CAI. Phyllonthus englians is Caumach. & Thonn. T. Labib; s. n; 27.9.2007; Donato farm, Khatteba, Egypt; CAI. Phyllonthus englians is Caumach. & Thonin. Y. Schwara Jang, s.n.; 24.8.1972; Callent; CAI. Phyllonthus englians is a subscience. Kassas, M.O. Obbarak, 96.1; 25/12/1965; Fasher – Qoz, Darfur, Khartoum; CAI. Phyllonthus gardnerianus (Wight) Baill.	Bridelia tomentosa Blume var. chinensis Müll.Arg.	J. W. Helfer; 12; 1937; India orientalis, in Bengalia circa Calcuttam; CAI.
Flueggea virosa (Roxb, ex Willd.) Royle Amin Michail; 716; 1954; Botanie Garden, Sudan; CAI. Hymencardia acida Tul. M. Drar & M. El Mahdi; 1175; 11/4/1938; Kaggalo, Way to Yei; CAI. Leptopus chinensis (Bunge) Pojark M. Korcmorov; s.n.; 1978; Caucasia, Russia; CAI. Margaritaria discoidea (Baill.) Webster J. Lewalle; 1240; 15 Nov. 1966; Burundi; CAI. Phyllanthopsis phyllanthoides (Nutt.) Voronts. & Petra Vivi Tackholm and Ibrahim Elsayed; s.n.; 24/5/ 1962; Alfred Bircher's Garden, El Saff; CAI. Phyllanthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAI. Phyllanthus adpestris Beille J. G. Adam; 28786; 27 Juillet 1974; Liberia Mont Nimba; CAI. Phyllanthus copilloris Schumach. & Thonn. J. G. Adam; 28786; 27 Juilet 1974; Liberia Mont Nimba; CAI. Phyllanthus copilloris Schumach. & Thonn. J. G. Adam; 29209; 1974; Liberia Mont Nimba; CAI. Phyllanthus eemblica L T. Labib; s. n; 27.9.2007; Donato farm, Khatteba, Egypt; CAI. Phyllanthus acpairerianus (Wight) Baill. V. V. Shivara Jan; s. n; 2.8.1972; Calient; CAI. Phyllanthus maderaspatensis L Galabat; Sudan; CAI. Galabat; Sudan; CAI. M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus aruellerianus (Kuntze) Exell M. Drar; 1149; 11.4.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus mue	Flueggea suffruticosa (Pall.) Baill.	Webster, s.n.; 19.8.1965; Kaba Mountain Woods, Japan, Hondo; CAI.
Hymencardia acida Tul.M. Drar & M. El Mahdi; 1175; 11/4/1938; Kaggalo, Way to Yei; CAI.Leptopus chinensis (Bunge) PojarkM. Kacomonov; s.n.; 1978; Caucasia, Russia; CAI.Morgaritaria discoidea (Ball.) WebsterJ. Lewalle; 1240; 15 Nov. 1966; Burundi; CAI.Phyllanthogis phyllanthoides (Nutt.) Voronts. & PetraVivi Tackholm and Ibrahim Elsayed; s.n.; 24/5/ 1962; Alfred Bircher's Garden, El Saff; CAI. "Kept asAndrachne reomeriana MuelLArg."Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAI.Phyllanthus acidus SkeelsVivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAI.Phyllanthus acidus SkeelsVivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAI.Phyllanthus acidus SkeelsVivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAI.Phyllanthus capillaris Schumach. & Thonn.J. G. Adam; 29029; 1974; Liberia Mont Nimba; CAI.Phyllanthus capillaris Schumach. & Thonn.J. G. Adam; 29029; 1974; Liberia Mont Nimba; CAI.Phyllanthus calegans Wall. ex MülLArg.J. W. Helfer; s.n.; 1936; Beengalia circa, Calcutta; CAI.Phyllanthus acidurating the unit of the targ.J. W. Helfer; s.n.; 1936; Beengalia circa, Calcutta; CAI.Phyllanthus gardnerianus (Wight) Baill.V. Tackholm and I. ElSayed; s.n.; 21:1052; North Garden, El Saff, Egypt; CAI.Phyllanthus muellerianus (Kuntze) ExellM. Drar; 1148; 114.1938; Bahr el Batal; southern Sudan; CAI.Phyllanthus numulariifolius subsp. nummulariifoliusM. Kassas, M.O. Mobarak, B. Fadallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. <td>Flueggea virosa (Roxb. ex Willd.) Royle</td> <td>Amin Michail; 716; 1954; Botanie Garden, Sudan; CAI.</td>	Flueggea virosa (Roxb. ex Willd.) Royle	Amin Michail; 716; 1954; Botanie Garden, Sudan; CAI.
Leptopus chinensis (Bunge) PojarkM. Kocmomov, s.n.; 1978; Caucasia, Russia; CAI.Margaritaria discoidea (Baill.) WebsterJ. Lewalle; 1240; 15 Nov. 1966; Burundi; CAI.Phyllenthopsis phyllanthoides (Nutt.) Voronts. & PetraAndrachne roemeriana MuellArg, "Phyllenthopsis phyllanthoides (Nutt.) Voronts. & PetraVivi Tackholm and Ibrahim Elsayed; s.n.; 24/5/ 1962; Alfred Bircher's Garden, El Saff; CAI. "Kept asPhyllenthus acidus SkeelsVivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAI.Phyllenthus apestris BeilleJ. G. Adam; 28786; 27 Juuillet 1974; Liberia Mont Nimba; CAI.Phyllenthus apestris Schumach. & Thonn.J. G. Adam; 292029; 1974; Liberia Mont Nimba; CAI.Phyllenthus columnaris Muell. et Arg.J. W. Helfer; S. r., 1978; Gaucasia, Egypt; CAI.Phyllenthus elegans Wall. ex Müll.Arg.J. W. Helfer; S. r., 1978; Gaucasia, Egypt; CAI.Phyllenthus elegans Wall. ex Müll.Arg.J. W. Helfer; S. r., 1978; Gaucasia, Egypt; CAI.Phyllenthus gardnerianus (Wight) Baill.V. V. Shivara Jan; s. n; 2.8.1972; Calient; CAI.Phyllenthus maderaspatensis LG. Tackholm; s. n; 1929; Gebel Elba, Egypt; CAI.Gallabat, Sudan; CAI.M. Dra; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI.Phyllenthus muellerianus (Kuntze) ExellM. Dra; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI.Phyllenthus niruri LM. Dra; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI.Phyllenthus niruri LM. Dra; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI.Phyllenthus niruri LM. Dra; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI.Phyllenthus noruri Jolius Kl	Hymenocardia acida Tul.	M. Drar & M. El Mahdi; 1175; 11/4/1938; Kaggalo, Way to Yei; CAI.
Margaritaria discoidea (Baill.) Webster J. Lewalle; 1240; 15 Nov. 1966; Burundi; CAI. Phyllanthopsis phyllanthoides (Nutt.) Voronts. & Petra Vivi Tackholm and Ibrahim Elsayed; s.n.; 24/5/ 1962; Alfred Bircher's Garden, El Saff; CAI. "Kept as Androchne roemeriana Muell-Arg." Phyllanthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAI. Phyllanthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAI. Phyllanthus andrus Schum. I. 6. Adam; 28786; 27 Juillet 1974; Liberia Mont Nimba; CAI. Phyllanthus columaris Muell. et Arg. J. W. Helfer; 22; 1937; India orientalis, in Bengalia circa Calcuttar; CAI. Phyllanthus columaris Muell. et Arg. J. W. Helfer; s. n.; 1936; Bengalia circa, Calcutta; CAI. Phyllanthus enblica L. T. Labity s. n.; 27.9.007; Donato farm, Khatateba, Egypt; CAI. V. Tackholm and I. ElSayed; s. n.; 22.11.1962; North Garden, El Saff, Egypt; CAI. V. Shivara Jan; s. n.; 28.197; Callent; CAI. Phyllanthus gardnerianus (Wight) Baill. V. V. Shivara Jan; s. n.; 28.197; Callent; CAI. Phyllanthus nucllerianus (Kuntze) Exell M. Drar; 1148; 114.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus niruri L M. Drar; 1252; 1962; Nothern Provience, Wadi Halfa; Sudan; CAI. Phyllanthus niruri L M. Sarass, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala dis	Leptopus chinensis (Bunge) Pojark	M. Kocmomov; s.n.; 1978; Caucasia, Russia; CAI.
Phyllanthopsis phyllanthoides (Nutt.) Voronts. & Petra Vivi Tackholm and Ibrahim Elsayed; s.n.; 24/5/1962; Alfred Bircher's Garden, El Saff; CAI. "Kept as Andrachne roemeriana Muell.Arg." Phyllanthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/1963; Alfred Bircher's Garden, El Saff; CAI. Phyllanthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/1963; Alfred Bircher's Garden, El Saff; CAI. Phyllanthus andrus Schum. M. Kassas, M. D. Elkhalifa & M. O. Mobarak, 961; 25/12/1965; Fasher – Qoz, Darfur, Khartoum; CAI. Phyllanthus columnaris Muell. et Arg. J. W. Helfer; 22; 1937; India orientalis, in Bengalia circa, Calcuttar; CAI. Phyllanthus elegans Wall. ex Mül.Arg. J. W. Helfer; 22; 1937; Onoato farm, Khatatteba, Egypt; CAI. Phyllanthus gardnerianus (Wight) Baill. V. V. Shivara Jan; s. n; 22.8172; Calient; CAI. Phyllanthus maderaspatensis L. M. Kassas, M.O. Mobarak, B. Fadialiah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-Gallabat, Sudan; CAI. Phyllanthus nuellerianus (Kuntze) Exell M. Drar; 1254; 28.2.1938; Mogran, White Nile, Sudan; CAI. Phyllanthus niruri L. M. Drar; 148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus oriuri L. M. Drar; 2524; 28.2.1938; Mogran, White Nile, Sudan; CAI. Phyllanthus numularijofuis subsp. nummularijofuis M. Kassas, M.O. Mobarak, B. Fadialiah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassal adistric, Sudan; CAI.	Margaritaria discoidea (Baill.) Webster	J. Lewalle; 1240; 15 Nov.1966; Burundi; CAI.
Hoffm. Andrachne roemeriana Muell.Rr," Phyllanthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/1963; Alfred Bircher's Garden, El Saff; CAI. Phyllanthus and scius Skeels J. G. Adam; 28786; 27 Juillet 1974; Liberia Mont Nimba; CAI. Phyllanthus capillaris Schumach. & Thonn. J. G. Adam; 29029; 1974; Liberia Mont Nimba; CAI. Phyllanthus capillaris Schumach. & Thonn. J. G. Adam; 29029; 1974; Liberia Mont Nimba; CAI. Phyllanthus capillaris Schumach. & Thonn. J. G. Adam; 29029; 1974; Liberia Mont Nimba; CAI. Phyllanthus capillaris Schumach. & Thonn. J. W. Helfer; 2: 1937; India orientalis, in Bengalia circa Calcutta; CAI. Phyllanthus elegans Wall. ex Müll.Arg. J. W. Helfer; 2: 1937; India orientalis, in Bengalia circa, Calcutta; CAI. Phyllanthus gardnerianus (Wight) Baill. V. V. Shivara Jan; s. n; 22.8.1972; Calient; CAI. Phyllanthus maderaspatensis L. M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-Gallabat, Sudan; CAI. Phyllanthus niruri L. M. Stassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus niruri L. M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus niruri L. M. Stassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus numularifolius su	Phyllanthopsis phyllanthoides (Nutt.) Voronts. & Petra	Vivi Tackholm and Ibrahim Elsayed; s.n.; 24/5/ 1962; Alfred Bircher's Garden, El Saff; CAI. "Kept as
Phyllanthus acidus Skeels Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1963; Affred Bircher's Garden, El Saff; CAI. Phyllanthus angestris Beille J. G. Adam; 28786; 27 Juillet 1974; Liberia Mont Nimba; CAI. Phyllanthus copillaris Schumach. & Thonn. J. G. Adam; 29029; 1974; Liberia Mont Nimba; CAI. Phyllanthus columaris Muell. et Arg. J. W. Helfer; 22; 1937; India orientalis, in Bengalia circa Calcuttam; CAI. Phyllanthus elegans Wall. ex Müll.Arg. J. W. Helfer; 22; 1937; India orientalis, in Bengalia circa Calcuttam; CAI. Phyllanthus enblica L. T. Labity s. n.; 27.9.2007; Donato farm, Khatatteba, Egypt; CAI. V. Tackholm and I. ElSayed; s. n.; 22.11.1962; North Garden, El Saff, Egypt; CAI. V. Tackholm and I. ElSayed; s. n.; 22.11.1962; North Garden, El Saff, Egypt; CAI. Phyllanthus gardnerianus (Wight) Baill. V. V. Shivara Jan; s. n.; n. 2.8.197; Calient; CAI. Phyllanthus muellerianus (Kuntze) Exell M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-Gallabat, Sudan; CAI. Phyllanthus niruri L M. Drar; 1248; 114.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus ootntadenius Mull. Arg. J. G. Adam; 29014; 1974; Liberia Mont Nimba; CAI. Phyllanthus numulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus rotundifolius Subsp. nummulariifolius	Hoffm.	Andrachne roemeriana Muell.Arg."
Phyllanthus alpestris Beille J. G. Adam; 28786; 27 Julielt 1974; Liberia Mont Nimba; CAI. Phyllanthus capillaris Schumach. & Thonn. J. G. Adam; 29029; 1974; Liberia Mont Nimba; CAI. Phyllanthus capillaris Schumach. & Thonn. J. G. Adam; 29029; 1974; Liberia Mont Nimba; CAI. Phyllanthus capillaris Schumach. & Thonn. J. G. Adam; 29029; 1974; Liberia Mont Nimba; CAI. Phyllanthus elegans Wall. ex Müll. Arg. J. W. Helfer; s. n.; 1936; Bengalia circa, Calcutta; CAI. Phyllanthus emblica L. T. Labib; s. n.; 279.2007; Donato farm, Khatatteba, Egypt; CAI. V. Tackholm and I. ElSayed; s. n.; 22.11.1962; North Garden, El Saff, Egypt; CAI. Phyllanthus maderaspatensis L. M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-Gallabat, Sudan; CAI. Phyllanthus muellerianus (Kuntze) Exell M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudar; CAI. Phyllanthus niruri L M. Kassas, M.O. Mobarak, B. Fadallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus numulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, and Hamad A. Omar; 5.n.; 196; Sudan; CAI. Phyllanthus rotundifolius Klein ex Willd. J. G. Adam; 29014; 1974; Liberia Mont Nimba; CAI. Phyllanthus numulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, and Hamad A. Omar; s.n.; 196; Sudan; CAI. Phyllanthus rotundifolius Klein ex Willd.	Phyllanthus acidus Skeels	Vivi Tackholm and Ibrahim Elsayed; s.n.; 21/7/ 1963; Alfred Bircher's Garden, El Saff; CAI.
Phyllanthus amarus Schum. M. Kassas, M. D. Elkhalifa & M. O. Mobarak, 961; 25/12/1965; Fasher – Qoz, Darfur, Khartoum; CAI. Phyllanthus capillaris Schumach. & Thonn. J. G. Adam; 29029; 1974; Liberia Mont Nimba; CAI. Phyllanthus columnaris Muell. et Arg. J. W. Helfer; 22; 1937; India orientalis, in Bengalia circa Calcuttary CAI. Phyllanthus elegans Wall. ex Müll.Arg. J. W. Helfer; 22; 1937; India orientalis, in Bengalia circa Calcuttary CAI. Phyllanthus enblica L. T. Labib; s. n; 27.9.2007; Donato farm, Khatatteba, Egypt; CAI. Phyllanthus gardnerianus (Wight) Baill. V. V. Shivara Jan; s. n; 2.8.1972; Calient; CAI. Phyllanthus maderaspatensis L. M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-Gallabat, Sudan; CAI. Phyllanthus numellerianus (Kuntze) Exell M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus niruri L M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus nummulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus rotundifolius Klein ex Willd. M. Cassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus nummulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, and Hamad A. Omar; S. n; 20.1.1962; Gebel Elba; CAI. Phyllanthus rotu	Phyllanthus alpestris Beille	J. G. Adam; 28786; 27 Juillet 1974; Liberia Mont Nimba; CAI.
Phyllanthus capillaris Schumach. & Thonn. J. G. Adam; 29029; 1974; Liberia Mont Nimba; CAI. Phyllanthus columnaris Muell. et Arg. J. W. Helfer; 22; 1937; India orientalis, in Bengalia circa Calcuttar; CAI. Phyllanthus emblica L. J. W. Helfer; S. n.; 1936; Bengalia circa, Calcutta; CAI. Phyllanthus gardnerianus (Wight) Baill. V. Tackholm and I. ElSayed; s. n.; 22.11.1962; North Garden, El Saff, Egypt; CAI. Phyllanthus maderaspatensis L. M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-Gallabat, Sudan; CAI. Phyllanthus muellerianus (Kuntze) Exell M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus niruri L M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus niruri L M. Drar; 1148; 11.4.1938; Mahr el ghazal, southern Sudan; CAI. Phyllanthus niruri L M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus numulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus rotundifolius Klein ex Willd. J. G. Adam; 29014; 1974; Liberia Mont Nimba; CAI. Phyllanthus nummulariifolius Mull. Arg. J. G. Adam; 29014; 1974; Liberia Mont Nimba; CAI. Phyllanthus rotundifolius Klein ex Willd. V. Tac	Phyllanthus amarus Schum.	M. Kassas, M. D. Elkhalifa & M. O. Mobarak, 961; 25/12/1965; Fasher – Qoz, Darfur, Khartoum; CAI.
Phyllanthus columnaris Muell. et Arg. J. W. Helfer; 22, 1937; India orientalis, in Bengalia circa Calcuttam; CAI. Phyllanthus enblica L. T. Labib; s. n; 27.9.2007; Donato farm, Khatatteba, Egypt; CAI. Phyllanthus gardnerianus (Wight) Baill. V. V. Shivara Jan; s. n; 28.1972; Calient; CAI. Phyllanthus maderaspatensis L. M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-Gallabat, Sudan; CAI. Phyllanthus muellerianus (Kuntze) Exell M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-Gallabat, Sudan; CAI. Phyllanthus niruri L. M. Drar; E154; 18.1.1938; Bahr el ghazal, southern Sudan; CAI. M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus niruri L. M. Drar; E154; 28.1.2938; Mogran, White Nile, Sudan; CAI. Phyllanthus numulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus numulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; s. n; 196; Sudan; CAI. Phyllanthus rotundifolius Klein ex Willd. V. Tackholm, M. kassas, H. Faway, F. Shalaby, M. Samy; s. n; 20.11962; Geble Elba; CAI. Phyllanthus numulariifolius Klein ex Willd. V. Tackholm, M. Kassas, M. O. Mobarak; 818; 22.2.1965; Khan Arbat, Sudan; CAI. Phyllanthus	Phyllanthus capillaris Schumach. & Thonn.	J. G. Adam; 29029; 1974; Liberia Mont Nimba; CAI.
Phyllanthus elegans Wall. ex Müll.Arg. J. W. Helfer; s. n.; 1936; Bengalia circa, Calcutta; CAI. Phyllanthus emblica L. T. Labib; s. n.; 27.9.2007; Donato farm, Khatatteba, Egypt; CAI. V. Tackholm and I. ElSayed; s. n.; 22.11.1962; North Garden, El Saff, Egypt; CAI. Phyllanthus gardnerianus (Wight) Baill. V. V. Schwara Jan; s. n.; 2.8.1972; Calient; CAI. Phyllanthus maderaspatensis L. M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-Gallabat, Sudan; CAI. Phyllanthus muellerianus (Kuntze) Exell M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus niruri L. M. Drar; E254; 28.2.1938; Mogran, White Nile, Sudan; CAI. Phyllanthus niruri L. M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus niruri L. M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus normulariifolius subsp. nummulariifolius M. Sassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus odontadenius Mull. Arg. J. G. Adam; 29014; 1974; Liberia Mont Nimba; CAI. Phyllanthus reticulatus Poir. J. G. Adam; 29014; 1974; Liberia Mont Nimba; CAI. Phyllanthus reticulatus Poir. M. Kassas, M.D. ElKhalifa and M. O. Mobarak; 818; 22.2.1965; Sudan; CAI. Phyllanthus reticulatus Poir. M. Kassas, M.D. ElKhalifa and M. O. Mobarak; 818; 22.2.1	Phyllanthus columnaris Muell. et Arg.	J. W. Helfer; 22; 1937; India orientalis, in Bengalia circa Calcuttam; CAI.
Phyllanthus emblica L. T. Labib; s. n.; 27.9.2007; Donato farm, Khatatteba, Egypt; CAI. V. Tackholm and I. ElSayed; s. n.; 22.11.1962; North Garden, El Saff, Egypt; CAI. Phyllanthus gardnerianus (Wight) Baill. V. V. Shivara Jan; s. n.; 2.8.1972; Calient; CAI. Phyllanthus maderaspatensis L. M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-Gallabat, Sudan; CAI. Gallabat, Sudan; CAI. G. Tackholm; s. n.; 1929; Gebel Elba, Egypt; CAI. Phyllanthus muellerianus (Kuntze) Exell M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus niruri L. M. Drar; E254; 28.2.1938; Mogran, White Nile, Sudan; CAI. M. kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus numulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, and Hamad A. Omar; s.n.; 196; Sudan; CAI. Phyllanthus odontadenius Mull. Arg. J. G. Adam; 29014; 1974; Liberia Mont Nimba; CAI. Phyllanthus reticulatus Poir. V. Tackholm, N. Kassas, H. Fawzy, F. Shalaby, M. Samy; s. n.; 20.1.1962; Gebel Elba; CAI. A. Migahed; 16; 1970; Salbokh area, Saudi Arabia; CAI. M. Massas, M.O. Mobarak, and Hamad A. Omar; 761; 16.12.1966; Khan Arbat, Sudan; CAI. Phyllanthus reticulatus Poir. M. Kassas, M.D. ElKhalifa and M. O. Mora; 818; 22.2.1965; Sudan; CAI. Phyllanthus reticulatus Poir. M. Kassas, M.D. ElKhali	Phyllanthus elegans Wall. ex Müll.Arg.	J. W. Helfer; s. n.; 1936; Bengalia circa, Calcutta; CAI.
V. Tackholm and I. ElSayed; s. n.; 22.11.1962; North Garden, El Saff, Egypt; CAI.Phyllanthus gardnerianus (Wight) Baill.V. V. Shivara Jan; s. n.; 2.8.1972; Calient; CAI.Phyllanthus maderaspatensis L.M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-Gallabat, Sudan; CAI.Gallabat, Sudan; CAI.G. Tackholm; s. n.; 1929; Gebel Elba, Egypt; CAI.Phyllanthus muellerianus (Kuntze) ExellM. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI.Phyllanthus niruri L.M. Drar; 1254; 28.2.1938; Mogran, White Nile, Sudan; CAI.M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassaladistrict, Sudan; CAI.M. Orar; E254; 28.2.1938; Mogran, White Nile, Sudan; CAI.Phyllanthus numulariifolius subsp. nummulariifoliusM. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassaladistrict, Sudan; CAI.Baro pettersson; 16782; 1962; Northern provience, Wadi Halfa; Sudan; CAI.Phyllanthus nummulariifolius subsp. nummulariifoliusM. Kassas, M.O. Mobarak, and Hamad A. Omar; s.n.; 196; Sudan; CAI.Phyllanthus odontadenius Mull. Arg.J. G. Adam; 29014; 1974; Liberia Mont Nimba; CAI.Phyllanthus rotundifolius Klein ex Willd.V. Tackholm, M. kassas, H. Fawzy, F. Shalaby, M. Samy; s. n.; 20.1.1962; Gebel Elba; CAI.A. Migahed; 16; 1970; Salbokh area, Saudi Arabia; CAI.Phyllanthus reticulatus Poir.M. Kassas, M.D. ElKhalifa and M. O. Mobarak, 818; 22.2.1965; Sudan; CAI.El-Shafei M. Badawi; 348; 2011; Darfour, Dalingi, Banjadeed, Sudan; CAI.Pseudolachnostylis maproneifolia PaxJ. Lewalle; 2663; 9 Jan. 1968; Burundi; CAI. <td< td=""><td>Phyllanthus emblica L.</td><td>T. Labib; s. n.; 27.9.2007; Donato farm, Khatatteba, Egypt; CAI.</td></td<>	Phyllanthus emblica L.	T. Labib; s. n.; 27.9.2007; Donato farm, Khatatteba, Egypt; CAI.
Phyllanthus gardnerianus (Wight) Baill. V. V. Shivara Jan; s. n.; 2.8.1972; Calient; CAI. Phyllanthus maderaspatensis L. M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-Gallabat, Sudar; CAI. Phyllanthus muellerianus (Kuntze) Exell M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudar; CAI. Phyllanthus niruri L. M. Drar; E254; 28.2.1938; Mogran, White Nile, Sudar; CAI. M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudar; CAI. Phyllanthus numulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudar; CAI. Phyllanthus nummulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudar; CAI. Phyllanthus nummulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, and Hamad A. Omar; s.n.; 196; Sudar; CAI. Phyllanthus rotundifolius Klein ex Willd. V. Tackholm, M. kassas, H. Fawzy, F. Shalaby, M. Samy; s. n.; 20.1.1962; Gebel Elba; CAI. Phyllanthus reticulatus Poir. M. Kassas, M.D. ElKhalifa and M. O. Mobarak; 818; 22.2.1965; Sudar; CAI. Phyllanthus reticulatus Poir. M. Kassas, M.D. ElKhalifa and M. O. Mobarak; 818; 22.1965; Sudar; CAI. Phyllanthus reticulatus Poir. M. Kassas, M.D. ElKhalifa and M. O. Mobarak; 818; 22.1965; Sudar; CAI. Phyllanthus ret		V. Tackholm and I. ElSayed; s. n.; 22.11.1962; North Garden, El Saff, Egypt; CAI.
Phyllanthus maderaspatensis L M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-Gallabat, Sudan; CAI. Gallabat, Sudar; CAI. G. Tackholm; s. n.; 1929; Gebel Elba, Egypt; CAI. Phyllanthus muellerianus (Kuntze) Exell M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus niruri L. M. Drar; E254; 28.2.1938; Mogran, White Nile, Sudan; CAI. M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus numulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus numulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Phyllanthus odontadenius Mull. Arg. J. G. Adam; 29014; 1974; Liberia Mont Nimba; CAI. Phyllanthus rotundifolius Klein ex Willd. V. Tackholm, M. kassas, M. Fawzy, F. Shalaby, M. Samy; s. n.; 20.1.1962; Gebel Elba; CAI. A. Migahed; 16; 1970; Salbokh area, Saudi Arabia; CAI. M. Kassas, M.O. Mobarak, and Hamad A. Omar; 761; 16.12.1966; Khan Arbat, Sudan; CAI. Phyllanthus reticulatus Poir. M. Kassas, M.D. ElKhalifa and M. O. Mobarak; 818; 22.2.1965; Sudan; CAI. Phyllanthus reticulatus Poir. M. Kassas, M.D. ElKhalifa and M. O. Mobarak; 818; 22.2.1965; Sudan; CAI. Phyllanthus reticulatus Poir	Phyllanthus gardnerianus (Wight) Baill.	V. V. Shivara Jan; s. n.; 2.8.1972; Calient; CAI.
Gallabat, Sudar, CAI. G. Tackholm; s. n.; 1929; Gebel Elba, Egypt; CAI. Phyllanthus muellerianus (Kuntze) Exell M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudar; CAI. Phyllanthus niruri L. M. Drar; 1254; 28.2.1938; Mogran, White Nile, Sudar; CAI. M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudar; CAI. Phyllanthus nummulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, and Hamad A. Omar; s. n.; 196; Sudar; CAI. Phyllanthus odontadenius Mull. Arg. J. G. Adam; 29014; 1974; Liberia Mont Nimba; CAI. Phyllanthus rotundifolius Klein ex Willd. V. Tackholm, M. kassas, M. Smay; S. n.; 20.1.1962; Gebel Elba; CAI. A. Migahed; 16; 1970; Salbokh area, Saudi Arabia; CAI. M. Kassas, M.O. Mobarak, and Hamad A. Omar; 5.1; 16.12.1966; Khan Arbat, Sudar; CAI. Phyllanthus reticulatus Poir. M. Kassas, M.D. ElKhalifa and M. O. Mobarak; 818; 22.2.1965; Sudar; CAI. Pseudolachnostylis maproneifolia Pax J. Lewalle; 2663; 91an. 1968; Burundi; CAI. Uapaca bojeri Baill. Christina Brydolf; s. n.; 27.2.1967; Madgascar; CAI. Uapaca bojeri Baill. Christina Brydolf; Sun; C72.2.1967; D. Rundrig: CAI.	Phyllanthus maderaspatensis L.	M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E614; 19.12.1967; Doka-
G. Tackholm; s. n.; 1929; Gebel Elba, Egypt; CAI. Phyllanthus muellerianus (Kuntze) Exell M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI. Phyllanthus niruri L. M. Drar; E254; 28.2.1938; Mogran, White Nile, Sudan; CAI. M. Drar; E254; 28.2.1938; Mogran, White Nile, Sudan; CAI. M. Acassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Bror pettersson; 16782; 1962; Northern provience, Wadi Halfa; Sudan; CAI. Bror pettersson; 16782; 1962; Northern provience, Wadi Halfa; Sudan; CAI. Phyllanthus odontadenius Mull. Arg. J. G. Adam; 29014; 1974; Liberia Mont Nimba; CAI. Phyllanthus rotundifolius Klein ex Willd. V. Tackholm, M. kassas, H. Fawzy, F. Shalaby, M. Samy; s. n.; 20.1.1962; Gebel Elba; CAI. A. Migahed; 16; 1970; Salbokh area, Saudi Arabia; CAI. M. Kassas, M.O. Mobarak, and Hamad A. Omar; 761; 16.12.1966; Khan Arbat, Sudan; CAI. Phyllanthus reticulatus Poir. M. Kassas, M.D. ElKhalifa and M. O. Mobarak; 818; 22.2.1965; Sudan; CAI. Pseudolachnostylis maproneifolia Pax J. Lewalle; 2663; 91an. 1968; Burundi; CAI. Uapaca bojeri Baill. Christina Brydolf; s.n.; 27.2.1967; Madgascar; CAI. Uapaca bojeri Baill. Christina Brydolf; s.n.; C7.2.1967; Madgascar; CAI.		Gallabat, Sudan; CAI.
Phylianthus muliierianus (Kuntze) Exell M. Dra; 1143; 114.1943; 18ahr ei gnazal, southern Sudan; CAI. Phyllanthus niruri L. M. Dra; 1243; 114.1943; 18ahr ei gnazal, southern Sudan; CAI. M. Dra; 1245; 28.2.1938; Mogran, White Nile, Sudan; CAI. M. Dra; E254; 28.2.1938; Mogran, White Nile, Sudan; CAI. M. Dra; 1245; 114; 114; 114; 114.1943; 16ahr ei gnazal, southern Sudan; CAI. M. Chargen, E254; 28.2.1938; Mogran, White Nile, Sudan; CAI. Phyllanthus numulariifolius subsp. numulariifolius M. Kassas, M.O. Mobarak, and Hamad A. Omar; s.n.; 196; Sudan; CAI. Phyllanthus odontadenius Mull. Arg. J. G. Adam; 29014; 1974; Liberia Mont Nimba; CAI. Phyllanthus rotundifolius Klein ex Willd. V. Tackholm, M. kassas, H. Fawzy, F. Shalaby, M. Samy; s. n.; 20.1.1962; Gebel Elba; CAI. A. Migahed; 16; 1970; Salbokh area, Saudi Arabia; CAI. M. Kassas, M.O. Mobarak, and Hamad A. Omar; 761; 16.12.1966; Khan Arbat, Sudan; CAI. Phyllanthus reticulatus Poir. M. Kassas, M.D. ElKhalifa and M. O. Mobarak; 818; 22.2.1965; Sudan; CAI. Pseudolachnostylis maproneifolia Pax J. Lewalle; 2663; 9 Jan. 1968; Burundi; CAI. Uapaca bojeri Baill. Christina Brydolf; s.n.; 27.2.1967; Madgascar; CAI. Uapaca bojeri Baill. Christina 9700; Subord in Chi		G. Tackholm; s. n.; 1929; Gebel Elba, Egypt; CAI.
Phylianthus niruri L. M. Dra'; E24; 28.2:1938; Mogran, White Nile, Sudan; CAI. M. Kassas, M.O. Mobarak, B. Fadlallah, M. Othman and Hamad A. Omar; E415; 13.12.1967; Kassala district, Sudan; CAI. Bror pettersson; 16782; 1962; Northern provience, Wadi Halfa; Sudan; CAI. Phyllanthus nummulariifolius subsp. nummulariifolius M. Kassas, M.O. Mobarak, and Hamad A. Omar; s.n.; 196; Sudan; CAI. Phyllanthus odontadenius Mull. Arg. J. G. Adam; 29014; 1974; Liberia Mont Nimba; CAI. Phyllanthus rotundifolius Klein ex Willd. V. Tackholm, M. kassas, H. Fawzy, F. Shalaby, M. Samy; s. n.; 20.1.1962; Gebel Elba; CAI. A. Migahed; 16; 1970; Salbokh area, Saudi Arabia; CAI. M. Kassas, M.O. Mobarak, and Hamad A. Omar; 761; 16.12.1966; Khan Arbat, Sudan; CAI. Phyllanthus reticulatus Poir. M. Kassas, M.D. ElKhalifa and M. O. Mobarak; 818; 22.2.1965; Sudan; CAI. Pseudolachnostylis maproneifolia Pax J. Lewalle; 2663; 9 Jan. 1968; Burundi; CAI. Uapaca bojeri Baill. Christina Brydolf; s.n.; 27.2.1967; Madgascar; CAI. Uapaca kirkingen Augil. Arg. Luovalla; 3082; 2 Nor; CAI.	Phyllanthus muellerianus (Kuntze) Exell	M. Drar; 1148; 11.4.1938; Bahr el ghazal, southern Sudan; CAI.
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