



# Subgeneric delimitation of the plant genus *Phyllanthus* (*Phyllanthaceae*)

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## Key words

infrageneric taxonomy  
pantropical  
paraphyletic  
*Phyllanthaceae*  
*Phyllanthus*

**Abstract** Over two centuries of taxonomic studies on the species rich genus *Phyllanthus* have culminated in a broad and complicated classification with many subgenera and (sub)sections. Past taxonomic work has only focused on local revisions, mostly because of the size of the genus. In this study we aim to summarize most of the taxonomic work in a list containing the infrageneric delimitations of *Phyllanthus*. This work will serve as a reference, placing most currently recognized species in subgenera and if possible, in sections for further study. Here we recognize 880 species of *Phyllanthus*, classified in 18 subgenera, 70 sections and 14 subsections. A few taxonomic changes are necessary to reconcile published phylogenetic data with the current classification. Subsections *Callidisci* and *Odontadenii* are raised to sectional rank, while section *Eleutherogynium* and section *Physoglochidion* are reduced to subsections and *P. oxycarpus* is transferred to the genus *Glochidion*. A provisional key for the subgeneric classification of *Phyllanthus* is provided.

**Published on** 21 November 2018

## INTRODUCTION

With almost 900 species, the mostly pantropical *Phyllanthus* L. is the largest genus in the family *Phyllanthaceae* (Govaerts et al. 2000). When considering all vegetative and reproductive organs, *Phyllanthus* is one of the most diverse groups in the Angiosperms (Webster 1956). This diversity is exemplified by the multitude of subgenera and (sub)sections defined within the genus. In the past, most of these subgenera and some sections were treated at generic rank (De Jussieu 1824, Baillon 1858), but were eventually all subsumed in a broad genus concept of *Phyllanthus* with numerous sections (Müller 1863, 1865, 1866). The last major changes to this concept at genus level have been the segregation of the genera *Glochidion* J.R.Forst. & G.Forst. (Kurz 1873) and *Margaritaria* L.f. (Webster 1957, 1979). The infrageneric structure of *Phyllanthus* was improved with the creation of several subgenera in a monographic work on the *Phyllanthus* species of the West Indies by Webster (1956, 1957, 1958). Subsequent revisionary work followed Webster's outline of subgenera and sections to illustrate the relations among groups within *Phyllanthus* (e.g., Bancelhon 1971, Webster & Airy Shaw 1971, Punt 1972, Airy Shaw 1975, 1980a, Brunel 1987, Rossignol et al. 1987, Santiago et al. 2006, Ralimanana & Hoffmann 2011, 2014, Ralimanana et al. 2013). Regional work on *Phyllanthus* (Merrill 1920, 1926, Pax & Hoffmann 1922, Beille 1925, 1927, Croizat 1942, 1943, Leandri 1958, Airy Shaw 1963, 1969, 1972, 1975, 1976, 1980a, b, 1982, Webster 1986, Chantaranonthai 2005, Silva & Sales 2006, 2008) and morphological studies (Punt 1967, 1972, 1980, 1986, Punt & Rentrop 1973, Lobreau-Callen et al. 1988, Stuppy 1995, Chen

et al. 2009, Jangid & Gupta 2016, Wu et al. 2016) extended the infrageneric groupings to create a working classification for most *Phyllanthus* species.

However, recent phylogenetic studies showed that several subgenera were polyphyletic and even *Phyllanthus* itself proved to be paraphyletic (Kathriarachchi et al. 2006). In the following taxonomic revisions some of the polyphyletic subgenera were divided in new monophyletic subgenera (Ralimanana & Hoffmann 2011, 2014, Ralimanana et al. 2013), but discussion remained whether *Breynia* J.R.Forst. & G.Forst., *Glochidion* and *Sauropus* Blume should be subsumed into *Phyllanthus*. One solution is to subsume these genera in *Phyllanthus* to create a giant genus (Hoffmann et al. 2006, followed by Chakrabarty & Balakrishnan 2009, Wagner & Lorence 2011, Kurosawa 2016) and the other is to split *Phyllanthus* into smaller, morphologically recognizable, monophyletic groups (Pruesapan et al. 2012, Van Welzen et al. 2014, Telford et al. 2016, followed by Chakrabarty & Balakrishnan 2012). A more exhaustive phylogenetic study with higher sampling presented the case to maintain *Breynia* (including *Sauropus*), *Synostemon* F.Muell. and *Glochidion* as monophyletic and morphologically recognizable genera (Pruesapan et al. 2008, 2012, Van Welzen et al. 2014), still leaving the rest of *Phyllanthus* in its current state, a paraphyletic genus. If *Phyllanthus* would be split, a larger phylogenetic study, which includes all subgenera and the majority of sections, is needed to prove which groups are monophyletic.

*Phyllanthus* is currently classified in about 18 subgenera with numerous sections by past revision work. The most notable revisions of *Phyllanthus* are those for the neotropics (Webster 2001b, 2002a, b, 2004), Asia (Airy Shaw 1960, 1975, 1977, 1980a, 1981, Webster & Airy Shaw 1971, McPherson & Schmid 1991) and tropical Africa and Madagascar (Leandri 1958, Radcliffe-Smith 1974, 1996, Brunel & Roux 1975, 1976, 1977, 1981, 1984, 1985, Brunel 1987, Ralimanana & Hoffmann 2011, 2014, Ralimanana et al. 2013). There is some discussion regarding the validity as publication of Brunel's thesis (1987). The thesis covers a large amount of work on the *Phyllanthus* species of Madagascar and Africa with many notes on subgenera and

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sections. Because it is a thesis, this work was treated as not validly published based on article 32 of the International Code of Botanical Nomenclature (McNeill et al. 2012) by Kathriarachchi et al. (2006). However, the thesis contains the name of a printing company and numbered copies have been distributed to several institutes, which is all in agreement with article 30.8, making it a validly published book. As such it is used in this publication. Several of the decisions in Brunel's thesis were accepted in recent revisions of *Phyllanthus* in Madagascar (Ralimanana & Hoffmann 2011, 2014, Ralimanana et al. 2013).

The checklist by Govaerts et al. (2000) is often used to estimate the number of species within *Phyllanthus*, but it does not contain an infrageneric division. An attempted synopsis of all the subgenera and sections was published by Kathriarachchi et al. (2006). However, only the species included in the phylogenetic study were mentioned and a complete taxonomic treatment of the genus is still wanting. We hope that this list may serve as a framework for future studies. If *Phyllanthus* should ever be split into various genera, this list can serve as a recommendation for the species to include.

## METHODS

In this study, we record 880 species, which are divided into 18 subgenera, 70 sections and 14 subsections (Appendix 1). Govaerts et al. (2000) recorded 833 species and the difference is mainly caused by the acceptance of Brunel (1987) and the addition of newly published species after their work. Based on a combination of morphological descriptions, classifications in literature and published phylogenetic work (e.g., Samuel et al. 2005, Kathriarachchi et al. 2006, Pruesapan et al. 2008, 2012, Manissorn et al. 2010, Challen et al. 2011, Luo et al. 2011), we propose the current list for the subgeneric classification of *Phyllanthus*, in which we assign as many species as possible to subgenera and sections. Some placements are adopted from and are now validly published from Webster's unfinished manuscripts, which are available online ([http://herbarium.ucdavis.edu/webster\\_manuscripts.html](http://herbarium.ucdavis.edu/webster_manuscripts.html)). For those species that were unplaced, we studied the distribution and morphological descriptions (mainly branching type and the morphology of the staminate flower), which allowed us to place them at least in subgenera. A synoptic key is provided by which most species can be placed in the appropriate subgenera and/or sections. However, sections and the species included have often not been the subject of recent taxonomic revisions or are based solely on palynological differences. This complicates the creation of a key that can accommodate all species of *Phyllanthus*. The most important literature is cited after each species, which either provides a direct placement or a morphological description. Hybrid species and infraspecific taxa were not included. Some combinations, partly required by changes in level, are published here, but only to solve nomenclatural anomalies (e.g., subsections that cannot be classified anymore in a section due to splitting of sections and changes in the taxonomic level of the taxa).

## TAXONOMY LISTING OF PHYLLANTHUS

We could assign 837 of the 880 species to a particular subgenus or (sub)section (Appendix 2), with some only listed as formerly in subgenus *Isocladus* or the synonymized section *Paraphyllanthus* Müll.Arg. One species of subgenus *Isocladus* G.L.Webster, *P. maderaspatensis* L., was designated as the lectotype of the whole genus *Phyllanthus* by Ralimanana & Hoffmann (2011). However, *Phyllanthus niruri* L. was already designated as the lectotype of the genus *Phyllanthus* by Small (1913) and later independently confirmed by Webster

(1956). Unfortunately, the remaining 43 species could not be assigned due to either incomplete descriptions, destroyed type specimens, or lack of collections. We have opted to place these species *incertae sedis* as their true relations need further detailed study.

The classification of several subgenera from Webster's original monographs (1956, 1957, 1958) has changed drastically. Subsequent palynological (e.g., Punt 1967, 1972, 1973, 1980, 1986, Lobreau-Callen et al. 1988) and phylogenetic studies (Kathriarachchi et al. 2006) have led to many new combinations and necessary transfers, some of which are discussed below.

Subgenus *Isocladus* was created to include about 60 species with non-phyllanthoid branching (leaves on main stem not reduced to scales and lateral axes not deciduous) and consisted of originally four sections, *Loxopodium* G.L.Webster, *Anisolobium* Müll.Arg., *Macraea* (Wight) Baill. and *Paraphyllanthus* Müll.Arg. (Webster 1956). However, subsequent studies (Brunel 1987, Webster 2002b) have reduced the size of this subgenus considerably. The sections *Macraea* and *Ceramanthus* (Hassk.) Baill. (the latter with section *Anisolobium* merged with it; Punt 1972) were raised to subgeneric level by Brunel (1987). Section *Loxopodium* has been transferred to subgenus *Phyllanthus* on the basis of pollen characteristics and section *Paraphyllanthus* was placed in the synonymy of section *Isocladus* (Brunel 1987). Webster did create a new section in subgenus *Isocladus*, *Antipodanthus* G.L.Webster, which contained several neotropical and Australian species (Webster 2002a), but the Australian species appear to be better placed in section *Lysiandra* (F.Muell.) G.L.Webster of subgenus *Phyllanthus* (Bouman, unpubl. data). Phylogenetic studies have confirmed the distinctness of subgenera *Macraea* and *Ceramanthus* from *Loxopodium* (Kathriarachchi et al. 2006). For section *Antipodanthus*, only one Australian species, *P. calycinus* Labill., and no neotropical species were included in the phylogeny by Kathriarachchi et al. (2006), in which the group appeared to be distinct from subgenus *Isocladus*. However, to elucidate the relationship between sections *Antipodanthus* and *Lysiandra* it is necessary to include more species in a phylogenetic study. Therefore, section *Antipodanthus* is here maintained with no formal subgeneric placement. Ralimanana & Hoffmann (2011) made the remainder of subgenus *Isocladus* (including former section *Paraphyllanthus*) monotypic, to only include *P. maderaspatensis* L., leaving some species unplaced and in need of revision.

All small shrubs and herbaceous *Phyllanthus* species were originally placed in subgenus *Phyllanthus*. The subgenus was shown to be polyphyletic (Kathriarachchi et al. 2006) and several subgenera are now recognized separately: subgenus *Swartziani* (G.L.Webster) Ralim. & Petra Hoffm., containing the neotropical herbaceous species of subsection *Swartziani*; subgenus *Afroschwartziani* Ralim. & Petra Hoffm., comprising the palaeotropical species of former subsection *Swartziani* (largely comparable with section *Anthophyllus* Jean F.Brunel (Brunel 1987)), subgenus *Tenellanthus* Jean F.Brunel and subgenus *Phyllanthus*. Subgenus *Phyllanthus* now only contains sections *Almadenses* G.L.Webster, *Choretropsis* Müll.Arg., *Loxopodium* G.L.Webster, *Lysiandra*, *Phyllanthus* and *Salvinioopsis* Holm-Niels. ex Jean F.Brunel. Section *Praephyllanthus* Jean F.Brunel was found to be closely related to the species of subgenus *Afroschwartziani* (Kathriarachchi et al. 2006) and is transferred here to subgenus *Afroschwartziani*. The type of section *Anthophyllus* was placed in subgenus *Swartziani*, but all other palaeotropical species, including subsections *Callidisci* Jean F.Brunel, *Fluitantoides* Jean F.Brunel and *Odontadenii* Jean F.Brunel & Jacq.Roux (here raised to section level) are better placed in subgenus *Afroschwartziani*. These two subgenera are closely related (see Kathriarachchi et al. 2006) and mostly

distinguished by the inflorescences (unisexual in *Afroswartziani*, bisexual in *Swartziani*) (Ralimanana et al. 2013). The species in sections *Odontadenii*, *Fluitantoides* and *Callidisci* have unisexual inflorescences and are tentatively placed in subgenus *Afroswartziani*.

Subgenus *Kirganelia* (A.Juss.) Kurz is polyphyletic (Kathriarachchi et al. 2006) and currently consists of eight sections: *Anisonema* (A.Juss.) Griseb., *Brazzeani* Jean F.Brunel & Roux, *Chorisandra* (Wight) Müll.Arg., *Cicca* (L.) Müll.Arg., *Hemicicca* (Baill.) Müll.Arg., *Omphacodopsis* Jean F.Brunel, *Polyanthes* Jean F.Brunel and *Pseudomenarda* Müll.Arg. As noted by Ralimanana & Hoffmann (2011), the type species for subgenus *Kirganelia* is *P. casticum* P.Willemet, but *P. reticulatus* Poir. is the type species for the type section *Anisonema*. Some African and Madagascan species, originally attributed to this subgenus, were shown to be phylogenetically separate and placed in subgenus *Anesonemoides* (Jean F.Brunel) Ralim. & Petra Hoffm. (Ralimanana & Hoffmann 2014). Subgenus *Anesonemoides* differs from subgenus *Kirganelia* in fruit morphology (dehiscent in subgenus *Anesonemoides* vs baccate in subgenus *Kirganelia*), a lack of brachyblasts in some species of subgenus *Anesonemoides*, pollen with colpi bordered by parallel muri and the androecium (free or centrally fused stamens in subgenus *Anesonemoides* vs two sets of stamens (one fused, one free) in subgenus *Kirganelia*) (Ralimanana & Hoffmann 2014). Subgenus *Kirganelia* sections *Cicca* and *Chorisandra* were also shown to be in a clade separate from section *Anisonema* (Kathriarachchi et al. 2006), but no nomenclatural changes have yet been published. The sections *Omphacodopsis*, *Polyanthes* and *Brazzeani* have not yet been included in any phylogenetic study. Section *Brazzeani* was originally placed in subgenus *Conami* (Aubl.) G.L.Webster based on pollen characters (Brunel & Roux 1977), but these seem to have arisen through convergence and *Brazzeani* is better placed in subgenus *Kirganelia* (Meeuwis & Punt 1983). The stamen in the staminate flowers of section *Brazzeanii* are arranged in two sets, similarly to subgenus *Kirganelia* section *Anisonema*. Though still used in Kathriarachchi et al. (2006) and Ralimanana & Hoffmann (2011), section *Floribundi* Pax & K.Hoffm. was reorganized by Brunel (1987) into two new sections *Polyanthes* and *Omphacodopsis*, while the type species of section *Floribundi* (*P. muellerianus* (Kuntze) Exell) was transferred to section *Anisonema*, and the two sections were combined. Sections *Polyanthes* and *Omphacodopsis*, though distinguished by pollen and fruit (in)dehiscence by Brunel (1987), can possibly be combined (see Breteler 2012). The staminate flowers of these sections are similar to species in subgenus *Anesonemoides*, but the indehiscent fruit is more like subgenus *Kirganelia* section *Anisonema* or *Cicca*.

Subgenus *Embllica*, sections *Microglochidion* (Müll.Arg.) Müll. Arg., *Pityrocladus* G.L.Webster (subg. *Embllica*) and subgenus *Cyclanthera* G.L.Webster were not yet included in any phylogenetic research and their relationships within *Phyllanthus* are not well known. Webster chose to include section *Microglochidion* and *Pityrocladus* in the Asiatic subgenus *Embllica* on account of their similarity in pollen (Webster 2002b, Webster & Carpenter 2002, 2008). A possible relationship between subgenus *Cyclanthera* and subgenus *Xylophylla* was suggested by Brunel (1987), but not incorporated in the latest revision by Webster (2002b).

Kathriarachchi et al. (2006) listed several sections as 'not assigned to subgenus', which are either already placed by other authors, placed here, or treated as synonyms. Sections *Bivia* Jean F.Brunel & Jacq.Roux, *Ceramanthus* (Hassk.) Baill. and *Cluytopsis* Müll.Arg. are all placed in subgenus *Ceramanthus* (Punt 1972, Brunel & Roux 1985, Brunel 1987). Section *Nymphanthus* (Lour.) Müll.Arg. has often been treated in subgenus

*Phyllanthus* (Li 1987a), but is placed here in subgenus *Eriococcus* (Hassk.) Croizat & Metcalf based on its pollen morphology (see Webster 1958, Brunel 1987, Webster & Carpenter 2008). Species of subgenus *Eriococcus* occur in Asia and Australia and are characterized by the staminate flower with four sepals and two or four stamens. Section *Physoglochidion* Müll.Arg. is placed here as a subsection under section *Gomphidium* Baill. based on the treatment of McPherson & Schmid (1991), which is discussed below. Subgenus *Gomphidium* is a diverse group, with its main centres of diversity in New Guinea and New Caledonia. The monotypic section *Hemicicca* Baill. is here placed in subgenus *Kirganelia* based on its similarity in pollen (see Brunel 1987) and baccate fruits. The remaining previously un-assigned sections are here treated as synonyms: section *Heteroglochidion* Müll.Arg. is a synonym of subsection *Eleutherogynium* (Müll.Arg.) G.L.Webster ex R.W.Bouman (see below for new combinations based on Webster 1986); sections *Meiandrogluchidion* S.Moore and *Polyandrogluchidion* S.Moore are synonyms of section *Adenoglochidion* (Müll.Arg.) Müll. Arg. (McPherson & Schmid 1991); section *Pentaglochidion* Müll.Arg. is a homeotypic synonym of section *Leptonema* Baill. (see Baillon 1862, Müller 1863). The type species of section *Hedycarpidium* Müll.Arg. has been re-identified as *Baccaurea javanica* (Blume) Müll.Arg. (see Müller 1866, Haegens 2000) and even though the name is sometimes still used (Thin 2007), it is invalid and the other species assigned to this section need to be re-evaluated. A small number of *Phyllanthus* species from Vietnam was placed in subgenus *Eriococcus* subsection *Integra* Thin (see Thin 2007), which is not included in our list. No description was provided and it is quite possibly a synonym of subgenus *Eriococcus* subsection *Spiciferens* Jean F.Brunel as they include some of the same species, but we were not able to see the original publication.

Some nomenclatural issues are still present within *Phyllanthus*, particularly when looking at the names of subdivisions of certain subgenera. Recommendation 22A of the International Code of Nomenclature (McNeill et al. 2012) states that if there are no problems any subdivision of a subgenus that bears the type, should be given the same epithet. However, in a few subgenera, this is currently not the case (Webster 1960). The type section of subgenus *Conami* is section *Nothoclema* G.L.Webster and the type section of subgenus *Kirganelia* is *Anisonema*. In subgenus *Kirganelia* section *Cicca*, the type species, *P. acidus* (L.) Skeels, is in subsection *Cheramela* Kuntze (Webster 2001b).

## TAXONOMIC CHANGES

*Phyllanthus* L. subgenus *Afroswartziani* Ralim. & Petra Hoffm. section *Callidisci* (Jean F.Brunel) R.W.Bouman, *stat. nov.*

*Phyllanthus* L. subgenus *Afroswartziani* Ralim. & Petra Hoffm. section *Callidisci* (Jean F.Brunel) R.W.Bouman. — *Phyllanthus* L. subsect. *Callidisci* Jean F.Brunel, Gen. *Phyllanthus* Afr. Intertrop. Madag. (1987) 334. — Type: *Phyllanthus callidiscus* Jean F.Brunel.

Note — Species of section *Callidisci* were originally placed by Brunel (1987) in subgenus *Phyllanthus* section *Anthophyllus* together with other palaeotropical subsections and recognized by the fringed disc in the pistillate flowers. As this group has recently been shown to be polyphyletic (Kathriarachchi et al. 2006) and after revision were split into a few new subgenera (Ralimanana et al. 2013), it seems necessary also to transfer Brunel's subsections. All other palaeotropical species of subgenus *Phyllanthus* were placed in subgenus *Afroswartziani* and were distinguished from the neotropical subgenus *Swartziani* by their unisexual inflorescences (Ralimanana et al. 2013). This is in agreement with species of subsection *Callidisci*, which is transferred here and raised to sectional level to accommodate the separation from section *Anthophyllus*.

**Phyllanthus** L. subgenus **Afroswartziani** Ralim. & Petra Hoffm. section **Odontadenii** (Jean F.Brunel & Jacq.Roux) R.W.Bouman, *stat. nov.*

*Phyllanthus* L. subgenus *Afroswartziani* Ralim. & Petra Hoffm. section *Odontadenii* (Jean F.Brunel & Jacq.Roux) R.W.Bouman. — *Phyllanthus* L. subsect. *Odontadenii* Jean F.Brunel & Jacq.Roux, Willdenowia 11 (1981) 70; Jean F.Brunel, Gen. *Phyllanthus* Afr. Intertrop. Madag. (1987) 339. — Type: *Phyllanthus odontadensis* Müll.Arg.

Note — Species in the palaeotropical section *Odontadenii* also have unisexual inflorescences and are therefore more suited to be placed in subgenus *Afroswartziani* than the neotropical subgenus *Swartziani*. The species are distinguished from other sections by their winged plagiotropic branchlets (Brunel & Roux 1981).

**Phyllanthus** L. subgenus **Gomphidium** (Baill.) G.L.Webster section **Adenoglochidion** (Müll.Arg.) Müll.Arg. subsection **Eleutherogynium** (Müll.Arg.) G.L.Webster ex R.W.Bouman, *stat. nov.*

*Phyllanthus* L. subgenus *Gomphidium* (Baill.) G.L.Webster section *Adenoglochidion* (Müll.Arg.) Müll.Arg. subsection *Eleutherogynium* (Müll.Arg.) G.L.Webster ex R.W.Bouman. — *Phyllanthus* L. sect. *Eleutherogynium* Müll.Arg., Linnaea 32 (1863) 4, 14. — Type: *Phyllanthus loranthoides* Baill. *Glochidion* J.R.Forst. & G.Forst. sect. *Chorizogynium* Müll.Arg. (1863) 58, 59. — Lectotype (designated by Webster 1986): *Phyllanthus macrochiron* Baill.

*Phyllanthus* L. sect. *Heteroglochidion* Müll.Arg. (1866) 319. — Type: *Phyllanthus baladensis* Baill.

*Phyllanthus* L. sect. *Scleroglochidion* Müll.Arg. (1866) 317. — Type: *Phyllanthus myrianthus* Müll.Arg.

Note — Section *Scleroglochidion* was previously placed in synonymy by Webster (1986) who expanded the description of *Eleutherogynium* to include also *Phyllanthus* species with 3 free filaments. Section *Heteroglochidion* was defined by Müller on its biseriate sepals, which is a common character for subgenus *Gomphidium*. All of these sections are characterized by a rudimentary to absent nectar disc (see Müller 1866). Lobreau-Callen et al. (1988) in a palynological study, showed that the pollen of these groups showed a continuous variation in pollen characters and were difficult to differentiate. The lack of distinguishing floral and vegetative characters and the overlap in palynological characters leads us to the decision to combine the above sections in one subsection *Eleutherogynium*, with as main character the absent nectar disc to distinguish it from other species within section *Adenoglochidion*.

**Phyllanthus** L. subgenus **Gomphidium** (Baill.) G.L.Webster section **Gomphidium** Baill. subsection **Physoglochidion** (Müll.Arg.) R.W.Bouman, *stat. nov.*

*Phyllanthus* L. subgenus *Gomphidium* (Baill.) G.L.Webster section *Gomphidium* Baill. subsection *Physoglochidion* (Müll.Arg.) R.W.Bouman. — *Glochidion* J.R.Forst. & G.Forst. sect. *Physoglochidion* Müll.Arg., Linnaea 32 (1863) 58. — *Phyllanthus* L. sect. *Physoglochidion* (Müll.Arg.) Müll.Arg., Prodr. 15, 2 (1866) 318. — Type: *Phyllanthus faguetii* Baill.

*Phyllanthus* L. sect. *Phyllocalyx* Baill. (1862) 236 (nom. illeg., non *Phyllocalyx* A.Rich., 1847). — *Glochidion* J.R.Forst. & G.Forst. sect. *Physoglochidion* Müll.Arg. (1863) 58, 71. — Lectotype (designated here by R.W.Bouman, but see Webster (2001) manuscript synopsis of *Gomphidium*): *Phyllanthus faguetii* Baill.

Note — *Phyllanthus* section *Physoglochidion* (Müll.Arg.) Müll.Arg. is characterized by 3 free stamens, 6 sepals in two whorls and a calyx that becomes saccate in fruit. Apart from the saccate calyx, these characters also occur in section *Gomphidium* and within section *Physoglochidion* and the saccate calyx shows a continuous variation between species (Lobreau-Callen et al. 1988). Since these groups can also not be distinguished on palynological data we opt to reduce section

*Physoglochidion* to a subsection level and place it with section *Gomphidium*.

Transfer of *Phyllanthus oxycarpus* to *Glochidion*:

**Glochidion oxycarpum** (Müll.Arg.) R.W.Bouman, *comb. nov.*

*Phyllanthus oxycarpus* Müll.Arg., Prodr. 15, 2 (1866) 1270. — *Diasperus oxycarpus* (Müll.Arg.) Kuntze (1891) 600. — Type: *Teijsmann s.n.* (holo GDC), Indonesia, Sumatra.

Note — In his treatment of the genus *Phyllanthus* for De Candolle, Müller (1866) reduced the genus *Glochidion* to a few sections within *Phyllanthus*. *Phyllanthus oxycarpus* Müll. Arg. was first described by Müller (1866) and placed in section *Euglochidion* Müll.Arg. as it closely resembled *P. subscandens* (Zoll. & Moritz) Müll.Arg. (a synonym of *G. zeylanicum* (Gaertn.) A.Juss.). Other species first published in section *Euglochidion* by Müller were all transferred to the genus by other authors (e.g., Boerlage 1900, Smith 1910), but we were unable to find a transfer for *G. oxycarpum*. The description lists no nectar disc, a 5- or 6-locular ovary with columnar style, which are all typical features for the genus *Glochidion* and therefore this species is transferred here.

**KEY TO THE SUBGENERA AND (SUB)SECTIONS OF PHYLLANTHUS**

A provisional key is here provided based on characters mentioned in the literature. A key for full identification purposes, using morphology only (not pollen) is difficult due to the absence of recent complete treatments for several groups and the fact that some characters have evolved multiple times within *Phyllanthus*. The key is not completely dichotomous (trichotomous questions are marked with \*). Authors of the various subgenera, sections and subsections are listed in Appendix 1 and all species within a particular group are listed in Appendix 2.

1. Branching non-phyllanthoid (laminar leaves and flowers on all axes, branchlets not deciduous) . . . . . 2
1. Branching phyllanthoid (leaves on main stem reduced to scales, cataphylls, laminar leaves and flowers on lateral axes, lateral branchlets deciduous) or sub-phyllanthoid (leaves at base of branchlets not reduced to scales (often in juveniles), lateral branchlets deciduous) . . . . . 15
2. Aquatic herbs. — Americas . . . . . Subgenus *Phyllanthus* section *Salviniopsis*
2. Herbs, shrubs or trees, but not aquatic . . . . . 3
3. Palm-like (monocaul) shrubs to trees; stigma petaloid. — South America . . Subgenus *Xylophylla* section *Asterandra*
3. Herbs, shrubs to small trees, rarely climbers; stigmas variously bifid to multifid, not petaloid . . . . . 4
4. Leaves on all axes spirally arranged . . . . . 5
4. Leaves on all axes distichous . . . . . 9
5. Sepals 4 in staminate flowers, 6 in pistillate flowers; staminate disc entire, H-shaped around filaments; stamens 2, filaments free. — North America . . . . . Subgenus *Swartziani* section *Reverchonnia*
5. Sepals 5 or 6 in both sexes; staminate disc segmented; stamens 3 or 5, filaments free or connate . . . . . 6
6. Sepals 5; stamens 5, filaments free. — Africa . . . . . Subgenus *Kirganelia* section *Pseudomenarda*
6. Sepals 5 or 6; stamens usually 3, filaments connate (free in *P. rosmarinifolius* Müll.Arg.) . . . . . 7
7. Inflorescences axillary cymes with 1–4 flowers; pistillate disc consisting of free glands. — Africa and Asia, introduced in North America . . . . . Subgenus *Isocladus*



7. Inflorescences axillary cymules or thyrses; pistillate disc entire . . . . . 8
8. Inflorescences axillary glomerules; pollen 3- or 4-colporate, subglobose. — South America and Australia? . . . . . Section *Antipodanthus* incertae sedis
8. Inflorescences axillary glomerules or thyrses (sometimes paniculate at end of branch); pollen areolate. — Central and South America . . . . . Subgenus *Xylophylla* section *Elutanthos*
9. Staminate disc segmented, pistillate disc entire or segmented; filaments free . . . . . 10
9. Staminate disc segmented, or entire and urceolate, pistillate disc often massive and urceolate; filaments connate. Pollen with macroreticulate exine. . . . . 12 (Subgenus *Ceramanthus*)
10. Anthers dehiscing with horizontal slits; pollen 4-colporate. — Americas . . . . . Subgenus *Phyllanthus* section *Loxopodium*
10. Anthers often deflexed, but dehiscing with vertical slits; pollen clypeate or perisyncolporate . . . . . 11
11. Leaves distichous; pollen clypeate; seeds verrucate. — Africa, Asia, Australia and Pacific . . . . . Subgenus *Macraea*
11. Leaves spiral at basal nodes, distichous at upper nodes; pollen grains perisyncolporate with median pores, colpi bordered by parallel muri; seeds smooth or striate. — Madagascar . . . . . Subgenus *Betsileani*
12. Staminate flowers with sepals 4 (6 in pistillate ones); staminate disc consisting of 4 massive segments; stamens 2, filaments connate and thecae on an enlarged connective. Pollen stephanoporate. — Africa . . . . . Subgenus *Ceramanthus* section *Bivia*
12. Sepals 6 in both sexes; staminate disc entire or 6 segments; stamens 3 with connate filaments, thecae not on an enlarged connective . . . . . 13
13. Staminate disc entire and cup-shaped. — Asia . . . . . Subgenus *Ceramanthus* section *Ceramanthus*
13. Staminate disc segmented or only slightly fused into a ring . . . . . 14
14. Sepals in two dimorphic whorls; staminate disc segmented; pollen peribrevicolporate. — Africa and Asia . . . . . Subgenus *Ceramanthus* section *Anisolibium*
14. Sepals in two equal whorls; staminate disc segmented to slightly fused into a ring; pollen pantoporate. — Asia . . . . . Subgenus *Ceramanthus* section *Cluytops*
15. Branching sub-phyllanthoid . . . . . 16
15. Branching phyllanthoid (sometimes sub-phyllanthoid in very young plants, check mature plants) . . . . . 20
16. Branchlets short, with only 5–10 leaves (Webster 2001b); staminate disc entire. — South and Central America . . . . . Subgenus *Xylophylla* section *Brachycladus*
16. Branchlet length variable, usually bearing more than 10 leaves; staminate disc segmented . . . . . 17
17. Anther connective not enlarged; fruit an indehiscent capsule; seeds smooth with fleshy sarcotesta. — South America and West Indies . . . . . Subgenus *Conami* section *Hylaeanthus*
17. Anther connective variable, often enlarged; fruit a dehiscent capsule; seeds ornamented, without a fleshy sarcotesta . . . . . 18
18. Filaments connate, stamens mostly 3 . . . . . 26 (subgenus *Afroswartziani*)
18. Filaments free (filaments connate in *P. allemii* G.L. Webster and *P. fastigiatus* Mart ex Müll. Arg., but then only 2 stamens) . . . . . 19
19. Anther connective often enlarged, thecae not appearing as stipitate; seeds scalariform with slight transverse striations or smooth. — Australia and Central America (?) . . . . . Subgenus *Phyllanthus* section *Lysiandra*
19. Anther connective variable, sometimes deeply emarginate with the two thecae appearing to be stipitate; seeds striate or linearly verrucate. — South America . . . . . Subgenus *Phyllanthus* section *Phyllanthus* subsection *Clausseniani*
20. Herbs or subshrubs . . . . . 21
20. Shrubs to trees, rarely climbers . . . . . 36
21. Herbs; each branchlet bearing just one pair of (sub)opposite leaves and terminating in a raceme; anther connective enlarged. — South America . . . . . Subgenus *Phyllanthus* section *Almadanses*
21. Herbs or subshrubs; branchlet with more than 2 alternate leaves and flowers in leaf axils; anther connective (not) enlarged . . . . . 22
22. Flowers 5-merous; stamens 5, filaments free (except 3 stamens in *P. cocumbiensis* Jean F. Brunel). Pollen subglobose, 3- or 4-colporate. — Pantropical, but origin Africa . . . . . 23 (Subgenus *Tenellanthus*)
22. Flowers 5- or 6-merous; stamens 2 or 3, filaments free or connate. . . . . 24
- 23\*. Shrubs or hemicryptophytes; stamens 5, filaments basally united; pollen 3-colporate, with macroreticulate exine. Seeds with fine punctuation. — Africa . . . . . Subgenus *Tenellanthus* section *Loandani*
- 23\*. Herbs; stamens 5 (3 in *P. cocumbiensis*), filaments connate or free; pollen 3-colporate, with tectate, microperforate exine. — Africa . . . . . Subgenus *Tenellanthus* section *Pentandra*
- 23\*. Herbs or subshrubs; stamens 5, filaments completely free; pollen 4-colporate with sponge-like exine. — Pantropical, but origin Africa . . . . . Subgenus *Tenellanthus* section *Tenellanthus*
24. Inflorescences unisexual . . . . . 25
24. Inflorescences bisexual . . . . . 35
25. Cataphyllary stipules (unilaterally) auriculate . . . . . 26
25. Cataphyllary stipules not auriculate . . . . . 32
26. Leaf base symmetric; plagiotropic branches carinate (winged) (Brunel & Roux 1981). Pollen exine tectate; seeds with longitudinal striae or smooth. — Africa . . . . . Subgenus *Afroswartziani* section *Odontadenii*
26. Leaf base asymmetric; plagiotropic branches not carinate. . . . . 27
27. Pistillate disc entire with delicate fringes. — Africa . . . . . Subgenus *Afroswartziani* section *Callidisci*
27. Pistillate disc entire, but not fringed . . . . . 28
28. Sepals 5 in staminate flowers . . . . . 29
28. Sepals 6 in staminate flowers . . . . . 30
29. Cataphyllary stipules usually black and indurate; stamen 2 or 3, filaments partially or wholly connate, anthers sometimes deeply emarginate, dehiscing mostly horizontal; seeds longitudinally striate or banded, possibly with transverse striae. Pollen 3-colporate. — West Indies. . . . . Subgenus *Phyllanthus* section *Phyllanthus* subsection *Pentaphyllus*
29. Cataphyllary stipules thin and membranous, not indurate or black; stamen 3, filaments connate, anthers not emarginate, dehiscing horizontally to vertically; seeds longitudinally striate . . . . . 30

30. Pistillate inflorescences on proximal position and staminate inflorescences on distal position of plagiotropic branchlets; seeds transversely striate. Ovary often covered with tubercles. — Pantropical, but origin Asia . . . . . Subgenus *Emblica* section *Urinaria*
30. Pistillate inflorescences on distal position and staminate inflorescences on proximal position of plagiotropic branchlets; seeds longitudinally striate . . . . . 31 (Subgenus *Afroswartziani*)
- 31\*. Pollen 3- or 4-colporate, exine biretulate. — Africa . . . . . Subgenus *Afroswartziani* section *Praephyllanthus*
- 31\*. Pollen 3-sulcate, exine macroreticulate. Often found in water. — Africa . . . . . Subgenus *Afroswartziani* section *Fluitantoides*
- 31\*. Pollen perihexabrevisulcate, exine macro-rugulose (Brunel 1987). Ovary on gynophore. — Africa . . . . . Subgenus *Afroswartziani* section *Microdendron*
32. Branchlets and flowers not purplish; stamens 3, filaments mostly free or united to 2/3 of length; pollen 4-colporate, exine (hetero-)reticulate; pistillate sepals 5; pistillate disc entire; stigmas free, bifid, tips sometimes subcapitate. 33
32. Branchlets and flowers often purplish; stamens 2 or 3, filaments connate; pollen pantoporate, exine shields elongated or if round with only 1 pila; pistillate sepals 6; pistillate disc dissected or lobed; stigmas free or connate, bifid to emarginate, tips not capitate 34 (Subgenus *Cyclanthera*)
33. Anther connective not enlarged, thecae not stipitate; style branches sub-capitate; seeds verrucate. — South America, pantropically invasive . Subgenus *Phyllanthus* section *Phyllanthus* subsection *Niruri*
33. Anther connective variable, deeply emarginate with the two thecae appearing stipitate; style branches not capitate; seeds striate or linearly verrucate. — South America. . . . . Subgenus *Phyllanthus* section *Phyllanthus* subsection *Clausseniani*
34. Branchlets unramified, rooting at nodes; leaves crisply succulent; stamens 2, filaments free; pollen shields elongated (banded) (Webster & Carpenter 2002). — West Indies . . . . . Subgenus *Cyclanthera* section *Callitrichoides*
34. Branchlets often with 1 or 2 lateral branches (bipinnatifid), not rooting at nodes; leaves not succulent; stamens 3, filaments completely connate into a circular synandrium; pollen shields isodiametric, each with a central pila surrounded by a murus (Webster & Carpenter 2002). — West Indies . . . . . Subgenus *Cyclanthera* section *Cyclanthera*
35. Stamens 3, filaments free, anthers dehiscing horizontally; pistillate disc dissected; pollen grains brevicolporate and diorate or porate, exine pilate; seeds verruculose. — South America . . . . . Subgenus *Conami* section *Apolepsis*
35. Stamens 2 or 3, filaments entirely or partially connate (free in *P. warnockii* G.L.Webster), anthers dehiscing oblique to horizontally (vertically in *P. warnockii*); pistillate disc entire; pollen 3-colporate, exine reticulate; seeds smooth or longitudinally striate. — North America, pantropical invasive . . . . . Subgenus *Swartziani*
36. Leaves reduced and branchlets transformed to phylloclades (at least in older branches) . . . . . 37
36. Leaves not reduced and branchlets not transformed to phylloclades . . . . . 39
37. All stems rounded or flat; stipules unilaterally auriculate, stamens free or connate; pollen 3- or 4-colporate, exine reticulate 38 (Subgenus *Phyllanthus* section *Choretropsis*)
37. Lateral stems flattened with wide phylloclades, (bi-)pinnatifid; stipules not auriculate; stamens usually united at base; pollen clypeate, exine areolate. — West Indies . . . . . Subgenus *Xylophylla* section *Xylophylla*
38. Main axes often flat, branching monopodial, leaves distichous; inflorescences usually bisexual, stamens 3 (rarely 4). — South America . . . . . Subgenus *Phyllanthus* section *Choretropsis* subsection *Applanata*
38. Main axes rounded, branching monopodial or sympodial, leaves spiral; inflorescences mostly unisexual; stamens 2 or 3. — South America . . . . . Subgenus *Phyllanthus* section *Choretropsis* subsection *Choretropsis*
39. Fruits indehiscent, berries or drupes . . . . . 40
39. Fruits dehiscent, capsules (or absent) . . . . . 48
40. Fruits drupaceous. . . . . 41
40. Fruits baccate. . . . . 43
41. Sepals 6; stamens 3, filaments connate. — Asia . . . . . Subgenus *Emblica* section *Emblica*
41. Sepals 4–6; stamens 3 or 4 (rarely 2 or 5), filaments free . . . . . 42 (Subgenus *Kirganelia* section *Cicca*)
42. Plants dioecious; disc absent in both sexes; staminodes absent; fruits spongy (Webster 1957). — West Indies and South America). . . . . Subgenus *Kirganelia* section *Cicca* subsection *Aporosella*
42. Plants monoecious; disc present in both sexes; sometimes staminodes present; fruits hard. — Commonly cultivated, origin possibly African? . . . . . Subgenus *Kirganelia* section *Cicca* subsection *Cheramella*
43. Stamen 2, filaments connate; ovary 2-locular. — Africa, Madagascar, Mainland Asia . . . . . Subgenus *Kirganelia* section *Chorisandra*
43. Stamen 3–6, filaments free or connate; ovary 3-locular . . . . . 44
44. Branchlets subtended by reduced leaves, but not cataphylls, flowers on brachyblasts; stamens 3, filaments free or connate. — South America. . . . . Subgenus *Conami* section *Hylaeanthus*
44. Branchlets subtended by (spinescent) cataphylls, stamens 4–6, filaments free . . . . . 45
45. Branchlets subtended by spinescent cataphylls; stamens 5 in 2 sets, one free and the other basally fused. — Africa and Asia . . . . . Subgenus *Kirganelia* section *Anisonema*
45. Branchlets subtended by scale or stipule like cataphylls; stamens 4–6, filaments free. . . . . 46
46. Staminate inflorescences on separate (leafless) plagiotropic branches, pistillate flowers axillary. Seeds globular, smooth. — Africa Subgenus *Kirganelia* section *Polyanthi*
46. Inflorescences axillary, on all plagiotropic branches. . 47
47. Stamens 5. — Asia . . . . . Subgenus *Kirganelia* section *Hemicicca*
47. Stamens 6. — Africa, Madagascar, Mainland Asia. . . . . Subgenus *Kirganelia* section *Chorisandra*
48. Anthers apiculate . . . . . 49
48. Anthers non-apiculate . . . . . 56
49. Sepals often caudate-acuminate; filaments connate, staminate disc consisting of linear spatulate segments; pistillate disc entire. Pollen 4-colporate, exine reticulate. — Asia. . . . . 50 (Subgenus *Phyllanthodendron*)
49. Sepals often acuminate, but not caudate; filaments free or connate, staminate disc segmented, globular; pistillate disc entire (or absent). . . . . 54
50. Shoots not differentiated, all leaves similar in size, flowers on lateral shoots . . . . . 51
50. Shoots differentiated into sterile leaf bearing shoots with larger leaves and fertile shoots with smaller leaves . . 53
51. Sepals 4 in staminate flowers; stamens 4. — Asia. . . . . Subgenus *Phyllanthodendron* section *Tetrandrum*
51. Sepals 5 or 6 in staminate flowers; stamens 3. . . . . 52

52. Shrubs; sepals 5 in staminate flowers. Fruit reminiscent of *Actephila* (Croizat 1942). — Asia . . . . . Subgenus *Phyllanthodendron* section *Pseudoactephila*
52. Twining shrubs; Sepals 6 sepals in staminate flowers. — Asia Subgenus *Phyllanthodendron* section *Arachnodes*
53. Trunk often succulent and enlarged at base; leaf blades > 6 cm long. — Asia . . . . . Subgenus *Phyllanthodendron* section *Phyllanthodendron*
53. Trunk not succulent or enlarged at base; leaf blades < 6 cm long. — Asia . . . . . Subgenus *Phyllanthodendron* section *Calophyllum*
54. Filaments connate. — South America . . . . . Subgenus *Xylophylla* section *Ciccastrum*
54. Filaments free. . . . . 55
55. Leaves with or without laminar glands; sepals in two indistinct whorls; pollen 4–8-colporate or diorate. — South America . . . Subgenus *Emblica* section *Microglochidion*
55. Leaves without laminar glands; sepals in two distinct whorls; pollen 3-syncolporate . . . . 67 (Subgenus *Gomphidium*)
56. Leaves opposite or subopposite. . . . . 57
56. Leaves alternate. . . . . 59
57. Bark lenticellate; filaments connate. — Cuba. . . . . Subgenus *Xylophylla* section *Williamia* subsection *Mirifici*
57. Bark smooth; filaments free . . . . . 58
58. Branchlets sometimes opposite bipinnatiform; staminate sepals 5, not distinctly biseriate; staminate disc consisting of 5 free segments; stamens 5. — Madagascar and Middle East (?). . . . . Subgenus *Menarda*
58. Branchlets pinnatiform, not opposite; staminate sepals 5 or 6, in both sexes often distinctly biseriate; staminate disc entire, 3 emarginate segments or 5 or 6 massive segments; stamens mostly 3 or 5 (up to 20) . . . . . 67 (Subgenus *Gomphidium*)
59. Sepals 4 in staminate flowers; stamen 2, filaments connate. Pollen pantoporate or clypeate . . . . . 60
59. Sepals 5 or 6 in staminate flowers; stamens 3–15, filaments free or connate. . . . . 66
60. Leaf margins very thick, conspicuously revolute; staminate disc massive, entire; pollen clypeate. — Cuba . . . . . Subgenus *Xylophylla* section *Glyptothamnus*
60. Leaf margins not thickened, sometimes slightly revolute; staminate disc segmented; pollen pantoporate or clypeate . . . . . 61
61. Anthers dehiscing vertically; sepal margins entire . . . 62
61. Anthers dehiscing horizontally/transversely; sepal margins entire to dentate or lacerate . . . . . 64
62. Inflorescences usually bisexual, appearing with the expanding leaves (Webster 1958); pollen clypeate; style connate in a tube and stigmas often reduced to acute tips. — West Indies . . . . . Subgenus *Xylophylla* section *Thamnocharis*
62. Inflorescences mostly unisexual, appearing after the leaves; pollen pantoporate; style connate or free . . . 63
63. Ovary papillose or verruculose, 3-locular. — Asia . . . . . Subgenus *Eriococcus* section *Eriococcodes*
63. Ovary smooth, 6-locular. — Asia . . . . . Subgenus *Eriococcus* section *Nymphanthus*
- 64\*. Stigmas entire, connate — filaments thickened at top. — Asia to Australia . . . . . Subgenus *Eriococcus* section *Emblicastrum*
- 64\*. Stigmas entire or emarginate. — Asia . . . . . Subgenus *Eriococcus* section *Scepasma*
- 64\*. Stigmas free, bifid. . . . . 65 (Subgenus *Eriococcus* section *Eriococcus*)
65. Flowers in all leaf axils. — Asia . . . . . Subgenus *Eriococcus* section *Eriococcus*
65. Pistillate flowers on leafy panicles at end of branchlets and staminate flowers closer to the base of branchlets without leaves (see Brunel 1987). — Asia . . . . . Subgenus *Eriococcus* section *Eriococcus* subsection *Spiciferens*
66. Branchlets (bi-)pinnatiform; sepals often biseriate; staminate nectar disc often 3 massive emarginate (or 6 separate) segments to absent, stamens may be inserted on a wide receptaculum. Pollen 3-(syn)colporate. . . . . 67 (Subgenus *Gomphidium*)
66. Branchlets pinnatiform; sepal whorls indistinct; staminate nectar disc entire or segmented . . . . . 79
67. Branchlets bipinnatiform. . . . . 68
67. Branchlets pinnatiform . . . . . 70
68. Axes incrustate or hirsutulous with red hairs; stamens 2–6; pollen clypeate. — West Indies . . . . . Subgenus *Xylophylla* section *Hemiphyllanthus*
68. Axes not incrustate or hirsutulous, hairs usually white; stamens mainly 3–5 (up to 20); pollen 3-(syn)colporate . . . . . 69
69. Inflorescences glomerules; pollen diverse, often 3-colporate or porate with diorate colpi (see Webster & Carpenter 2002), exine vermiculate to pilate; fruit conspicuously veined. — South America . . . . . Subgenus *Conami* section *Nothoclema*
69. Inflorescences glomerules or panicles; pollen 3- or 4-syn-colporate with vermiculate/rugulate exine (Lobreau-Callen et al. 1988); fruit smooth. — Southeast Asia, mostly New Guinea . . . . . Subgenus *Gomphidium* section *Nymanina*
70. Disc absent or rudimentary in both sexes . . . . . 71
70. Disc entire or segmented in both sexes . . . . . 74
71. Sepals 6, biseriate, inner whorl petal-like, pistillate sepals leafy; stamens 3; ovary 3-locular. Calyx in fruit saccate. — New Caledonia. . . . . Subgenus *Gomphidium* section *Gomphidium* subsection *Physoglochidion*
71. Sepals 5 or 6, not distinctly biseriate; stamens (3–)5(–15), ovary 3–5-locular . . . . . 72
72. Sepals 5; stamens 5; ovary 4- or 5-locular. — New Caledonia. . . . . Subgenus *Gomphidium* section *Leptonema*
72. Sepals 5 sometimes 6; stamens mostly (3–)5(–15); ovary 3-locular . . . . . 73
73. Disc rudimentary in both sexes; filaments shorter than anthers, inserted on a wide receptaculum. — Southeast Asia, New Caledonia . . . . . Subgenus *Gomphidium* section *Adenoglochidion*
73. Disc rudimentary or absent in both sexes; filaments longer than anthers, diverging from centre of receptaculum. — New Caledonia . . . . . Subgenus *Gomphidium* section *Adenoglochidion* subsection *Eleutherogynium*
74. Stamens connate . . . . . 75
74. Stamens free . . . . . 76
75. Inflorescences glomerules; pollen diverse, often 3-colporate or porate with diorate colpi (see Webster & Carpenter 2002), exine vermiculate to pilate; fruit conspicuously veined. — South America . . . . . Subgenus *Conami* section *Nothoclema*
75. Inflorescences glomerules or paniculate; pollen 3- or 4-syn-colporate, exine vermiculate/rugulate (Lobreau-Callen et al. 1988); fruit smooth. — Southeast Asia, mainly New Guinea . . . . . Subgenus *Gomphidium* section *Nymanina*
76. Sepals 5, not distinctly biseriate; stamens mostly (3–)5(–15), filaments free; disc consisting of 3 emarginate segments or absent. — Southeast Asia, New Caledonia. . . . . Subgenus *Gomphidium* section *Adenoglochidion*

76. Sepals 5 or 6, often biseriate (except in *P. tuerckheimii* G.L.Webster); stamens 3, filaments free or connate; disc consisting of 3 emarginate segments or 6 free segments . . . . . 77
77. Sepals 5; pollen grains not syncolpate, colpi without distinct borders; exine reticulate. — South America . . . . . Subgenus *Gomphidium* section *Calodictyon*
77. Sepals 6; pollen grains with marginate colpi, often meeting at poles; exine reticulate or ± vermiculate . . . . . 78
- 78\*. Inflorescences axillary cymules; pollen 3-syncolporate with fine to coarse reticulate exine. — Southeast Asia, New Caledonia Subgenus *Gomphidium* section *Gomphidium*
- 78\*. Inflorescences glomerules or panicles; pollen 3-syncolporate with vermiculate/rugulate exine. — Southeast Asia, mostly New Guinea . . . . . Subgenus *Gomphidium* section *Nymania*
- 78\*. Inflorescences glomerules; pollen diverse, often 3-colporate with diorate colpi (see Webster & Carpenter 2002), exine vermiculate to pilate. Fruit conspicuously veined. — South America . . . Subgenus *Conami* section . . . . . *Nothoclema*
79. Staminate disc entire. — South America . . . . . Subgenus *Xylophylla* section *Adianthoides*
79. Staminate disc segmented . . . . . 80
80. Filaments free or only fused at base . . . . . 81
80. Filaments fused at least partially to completely, sometimes fused in separate sets or whorls. . . . . 89
81. Leaves often with glands; anthers apiculate. Leaves thick; style entire. — South America . . . . . Subgenus *Emblica* section *Microglochidion*
81. Leaves without glands; anthers not apiculate. . . . . 82
82. Stamens 3 . . . . . 83
82. Stamens 4 or 5 . . . . . 85
83. Brachyblasts often present; inflorescences cauliflorous; sepals 6. — South America . . . . . Subgenus *Kirganelia* section *Ciccopsis*
83. Brachyblasts absent; inflorescences axillary; sepals 5 84
84. Leaf blades < 8 cm long; anther connective enlarged; pollen 4-colporate. — South America . . Subgenus *Phyllanthus* . . . . . section *Phyllanthus* subsection *Clausseniani*
84. Leaf blades > 8 cm long; anther connectives not enlarged; pollen perisyncolporate. Pistillate pedicel quite massive (up to 3 cm wide (Brunel 1987)), fruit ornamented. — Africa . . . . . Subgenus *Ceramanthus* section *Ebolowani*
85. Pistillate sepals 8–10. — South America . . . . . Subgenus *Xylophylla* section *Diplocicca*
85. Pistillate sepals 5 or 6. . . . . 86
86. Brachyblasts present . . . . . 87
86. Brachyblasts absent . . . . . 88
87. Inflorescences (stalked) fascicles; stamens 5, filaments completely free; fruits 3-locular, dehiscent; seeds kidney-shaped, smooth with mottled patterns (similar to seeds of *P. juglandifolius* Willd.). — Africa . . . . . Subgenus *Kirganelia* section *Omphacodopsis*
87. Inflorescences panicles; stamens 4 or 5, filaments free or sometimes basally fused; fruits 3–5-locular, indehiscent; seeds globular, smooth. — Africa . . . . . Subgenus *Kirganelia* section *Polyanthi*
88. Stamens 3–5, free or slightly fused at base; anthers dehiscing vertically; fruits capsular; seeds smooth or faintly longitudinally striate. — Africa, Madagascar, Asia . . . . . Subgenus *Anesonemoides*
88. Stamen 2–5(–7); anthers dehiscing horizontally; fruits capsular; seeds smooth. — South America . . . . . Subgenus *Emblica* section *Pityrocladus*
89. Stamens fused in several whorls or sets. . . . . 90
89. Stamens fused in a central column . . . . . 93
90. Brachyblasts present; stamens fused in two sets with one central column and two separate free stamens. . . . . 91
90. Brachyblasts absent; stamens in 2 or 3 whorls, fused in various ways. — West Indies . . . . . 94 (Subgenus *Xylophylla* section *Williamia*)
91. Pollen 3-colporate, exine pilate or reticulate . . . . . 92
91. Pollen clypeate, exine areolate. — West Indies . . . . . 94 (Subgenus *Xylophylla* section *Williamia*)
92. Exine pilate. — Africa . . . . . Subgenus *Kirganelia* section *Brazzeani*
92. Exine reticulate. — Africa and Asia . . . . . Subgenus *Kirganelia* section *Anisonema*
93. Stems and branchlets incrustate with dark platelets of bark or lenticellate . . . . . 94 (Subgenus *Xylophylla* section *Williamia*)
93. Stems smooth . . . . . 95
- 94\*. Stems smooth; leaves alternate; stamens 3–15 in 3 whorls, connate in various ways; stigmas erect but not lacerate. Sepals 5 or 6. — West Indies . . . Subgenus *Xylophylla* . . . . . section *Williamia* subsection *Discolores*
- 94\*. Stems and branchlets incrustate with small dark platelets on the fissured bark; leaves alternate; stamens (2–)3–6 with filaments connate, usually in 2 whorls; stigmas erect, conspicuously lacerate (see Webster 1958). — West Indies . . . . . Subgenus *Xylophylla* section *Williamia* . . . . . subsection *Incrustati*
- 94\*. Stems smooth but prominently lenticellate; leaves opposite; stamens 5 with filaments connate, but 2 anthers inserted lower than the other 3; stigmas reflexed and covering the ovary, apex sometimes blunt. — West Indies . . . . . Subgenus *Xylophylla* section *Williamia* . . . . . subsection *Mirifici*
95. Pollen 3–5-colporate or 5-brevicolporate (Webster & Carpenter 2008), exine reticulate, microperforate or scabrous. — Africa and Asia . . . . . 96
95. Pollen clypeate, exine areolate. — Americas . . . . . 99 (Subgenus *Xylophylla*)
96. Anthers dehiscing obliquely to horizontally; exine microperforate or scabrous. — Pantropical, mostly African . . . . . Subgenus *Afroswartziani*
96. Anthers dehiscing vertically; exine reticulate. . . . . 97 (Subgenus *Emblica*)
97. Sepals mostly 5; staminate disc consisting of 5 segments; stamens 2–5(–7); anthers dehiscing horizontally; pollen 3–5-colporate; pistillate disc entire or segmented. — South America Subgenus *Emblica* section *Pityrocladus*
97. Sepals 6; staminate disc consisting of 6 segments; stamens 3; anthers dehiscing vertically; pollen 4- or 5-colporate or 5-breviculcate; pistillate disc entire . . 98
98. Inflorescences at terminal end of branchlet and secondary ramification on more basal end; pollen 5-breviculcate. — Asia . . . . . Subgenus *Emblica* section *Botryoides*
98. Inflorescences found along entire branchlet; pollen 4- or 5-colporate. — Asia Subgenus *Emblica* section *Emblica*
99. Inflorescences cauliflorous thyrses; stigmas petaloid. — West Indies . . Subgenus *Xylophylla* section *Epistylium*
99. Inflorescences axillary cymules; stigmas tapering, not petaloid, sometimes fused into a tube. . . . . 100
100. Leaf blades mostly 1–2 cm long, with mesophyllar sclereids; stamens 3–7. — West Indies . . . . . Subgenus *Xylophylla* section *Orbicularia*
100. Leaf blades > 2 cm long, sometimes with mesophyllar sclereids; stamens 2–7(–8) . . . . . 101



101. Brachyblasts often present; sepals 5; staminate disc consisting of 5 segments; stamens 3 (rarely 4); fruit a large fleshy capsule (usually > 2 cm diam). — West Indies. . . . . Subgenus *Xylophylla* section *Omphacodes*
101. Brachyblasts absent; sepals 4–6; staminate disc usually consisting of 6 segments; stamens 2–7(–8); fruit small dry capsule (< 1 cm diam). . . . . 102
102. Staminate sepals 5, pistillate sepals 6; inflorescences mostly unisexual cymules appearing after the leaves, several pistillate flowers per node; stamens 3–7, thecae dehiscing horizontally; style present, elongated and exerted from calyx, stigmas dilated, bifid to multifid. — South America. . . . . Subgenus *Xylophylla* section *Oxalistrylis*
102. Sepals in both sexes 4–6; inflorescences bisexual cymules appearing with the expanding leaves on new branchlets, usually only 1 or 2 pistillate flowers among several staminate flowers; stamens 2–6 (or 8), thecae dehiscing vertically; style like an erect tube, stigma branches narrowed to acute tips. — West Indies. . . . . Subgenus *Xylophylla* section *Thamnocharis*

## DISCUSSION AND CONCLUSION

Taxonomic discussions on the circumscription of genus *Phyllanthus* are still ongoing, mainly with the question whether the genera nested within should be subsumed (Hoffmann et al. 2006) or remain separate (Van Welzen et al. 2014). However, a good understanding and clear structure within the genus *Phyllanthus* in its current circumscription is necessary. Here an attempt was made to summarize over 200 years of taxonomic work on this immense group. Several issues that still exist will hopefully be resolved in new systematic studies. The provisional key to the subgenera and (sub)sections provided here works with most typical examples of *Phyllanthus* species. Future research and revision work should focus on treatments of the individual subgenera and/or sections within the genus.

Unfortunately, not all species could be fitted in this subgeneric classification due to exceptional characters or incomplete descriptions (see Appendix 2). These will need further study or more new collections to elucidate their place within the genus. Often these are species of which only the type specimen is known and which were not collected since, and some might be extinct (e.g., *P. aoraiensis* Nadeaud; Wagner & Lorence 2011), or they might be exceptional forms, which should be united with other species. For some we could only assign them to subgenus level and further revision work should place them in their appropriate sections. The placement of some species may change with new research and we welcome these changes as they will lead to a better understanding of the genus *Phyllanthus* and we hope this article inspires discussion.

Several issues are still unresolved and will require further attention. Subgenus *Phyllanthus*, which previously spanned all herbaceous species, remains difficult and more species need to be included in new phylogenetic studies. Several groups in our list have not had formal taxonomic treatment for some time and new revision work may identify new species and better characters to differentiate them within *Phyllanthus*. Another taxonomic problem was created by the discussions on the validity of Brunel's thesis (1987), which has led to many species being published twice under different names (see Radcliffe-Smith 1996). This will require close scrutiny in determining how many should be synonymized. Finally, a decision should be made on how to treat the paraphyly of the genus *Phyllanthus*. Whether the genus will be split or whether the clades will be subsumed within *Phyllanthus*, we hope that this treatment will provide structure to this diverse genus.

**Acknowledgements** This work was done as part of the PhD research of the main author, funded by the Hortus botanicus Leiden and Leiden University. Help with preparing the list for the manuscript by Peter Hovenkamp is gratefully acknowledged. The second author thanks the Leiden University Fund (LUF) for their support of the chair Botanical Gardens and Botany of Southeast Asia. The last author thanks the Treub Maatschappij, the Society for the Advancement of Research in the Tropics, for their support of the Ornstein chair in Tropical Plant Biogeography.

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**Appendix 1** Synopsis of the infrageneric classification of the genus *Phyllanthus*. Author of type species can be found in Appendix 2. Countries in parentheses indicate unlikely disjunct distributions that require further study.

Genus	Subgenus	Section	Subsection	Author	Type species	Distribution
<i>Phyllanthus</i>				L.	<i>P. niruri</i>	Pantropical
<i>Phyllanthus</i>	<i>Afroswartziani</i>			Ralim. & Petra Hoffm.	<i>P. lokohensis</i>	Madagascar, Mainland Asia, Malesia, Tropical Africa
<i>Phyllanthus</i>	<i>Afroswartziani</i>	<i>Callidisci</i>		(Jean F. Brunel) R.W. Bouman	<i>P. callidiscus</i>	Tropical Africa
<i>Phyllanthus</i>	<i>Afroswartziani</i>	<i>Fluitantoides</i>		Jean F. Brunel	<i>P. felcis</i>	Tropical Africa
<i>Phyllanthus</i>	<i>Afroswartziani</i>	<i>Microdendron</i>		Jean F. Brunel	<i>P. microdendron</i>	Tropical Africa
<i>Phyllanthus</i>	<i>Afroswartziani</i>	<i>Odontadenii</i>		(Jean F. Brunel & Jacq. Roux) R.W. Bouman	<i>P. odontadenis</i>	Congo
<i>Phyllanthus</i>	<i>Afroswartziani</i>	<i>Praephyllanthus</i>		Jean F. Brunel	<i>P. arvensis</i>	Tropical Africa
<i>Phyllanthus</i>	<i>Anisomemoides</i>			(Jean F. Brunel) Ralim. & Petra Hoffm.	<i>P. bojerianus</i>	Madagascar
<i>Phyllanthus</i>	<i>Betsileani</i>			(Jean F. Brunel) Ralim. & Petra Hoffm.	<i>P. betsileanus</i>	Madagascar
<i>Phyllanthus</i>	<i>Ceramanthus</i>			(Hassk.) Jean F. Brunel	<i>P. albidiscus</i>	Tropical Africa, Asia
<i>Phyllanthus</i>	<i>Ceramanthus</i>	<i>Anisobolium</i>		Müll. Arg.	<i>P. welwitschianus</i>	Tropical Africa, Asia
<i>Phyllanthus</i>	<i>Ceramanthus</i>	<i>Bivia</i>		Jean F. Brunel & Jacq. Roux	<i>P. petraeus</i>	Tropical Africa
<i>Phyllanthus</i>	<i>Ceramanthus</i>	<i>Ceramanthus</i>		(Hassk.) Baill.	<i>P. albidiscus</i>	Tropical Africa, Asia
<i>Phyllanthus</i>	<i>Ceramanthus</i>	<i>Cluytopsis</i>		Müll. Arg.	<i>P. cochinchinensis</i>	Asia
<i>Phyllanthus</i>	<i>Ceramanthus</i>	<i>Ebolowani</i>		Jean F. Brunel	<i>P. letouzeyanus</i>	Tropical Africa
<i>Phyllanthus</i>	<i>Conarni</i>			(Aubl.) G.L. Webster	<i>P. brasiliensis</i>	Tropical South America
<i>Phyllanthus</i>	<i>Conarni</i>	<i>Apolepsis</i>		G.L. Webster	<i>P. orbiculatus</i>	Tropical South America
<i>Phyllanthus</i>	<i>Conarni</i>	<i>Hylaeanthus</i>		G.L. Webster	<i>P. attenuatus</i>	Tropical South America, West Indies
<i>Phyllanthus</i>	<i>Conarni</i>	<i>Nothoclema</i>		G.L. Webster	<i>P. acuminatus</i>	Tropical South America, Central America, West Indies
<i>Phyllanthus</i>	<i>Cyclanthera</i>			G.L. Webster	<i>P. lindenianus</i>	West Indies
<i>Phyllanthus</i>	<i>Cyclanthera</i>	<i>Callitrichoides</i>		G.L. Webster	<i>P. carnosulus</i>	West Indies
<i>Phyllanthus</i>	<i>Cyclanthera</i>	<i>Cyclanthera</i>		G.L. Webster	<i>P. lindenianus</i>	West Indies
<i>Phyllanthus</i>	<i>Cyclanthera</i>	<i>Cyclanthera</i>		G.L. Webster	<i>P. lindenianus</i>	West Indies
<i>Phyllanthus</i>	<i>Embllica</i>			(Gaertn.) Kurz	<i>P. emblica</i>	Pantropical, origin Asia
<i>Phyllanthus</i>	<i>Embllica</i>	<i>Botryoides</i>		Jean F. Brunel	<i>P. baeeobotryoides</i>	Mainland Asia
<i>Phyllanthus</i>	<i>Embllica</i>	<i>Embllica</i>		(Gaertn.) Baill.	<i>P. emblica</i>	Mainland Asia, Malesia
<i>Phyllanthus</i>	<i>Embllica</i>	<i>Microglochidion</i>		(Müll. Arg.) Müll. Arg.	<i>P. vacinifolius</i>	Tropical South America
<i>Phyllanthus</i>	<i>Embllica</i>	<i>Ptyrocladus</i>		G.L. Webster	<i>P. ruscifolius</i>	Tropical South America
<i>Phyllanthus</i>	<i>Embllica</i>	<i>Urinaria</i>		(Gaertn.) G.L. Webster	<i>P. urinaria</i>	Pantropical, origin Asia
<i>Phyllanthus</i>	<i>Embllica</i>	<i>Urinaria</i>	<i>Urinaria</i>	Haicour & Rossignol	<i>P. urinaria</i>	Pantropical, origin Asia
<i>Phyllanthus</i>	<i>Eriococcus</i>			(Hassk.) Croizat & Metcalf	<i>P. gracilipes</i>	Mainland Asia, Malesia, Australia
<i>Phyllanthus</i>	<i>Eriococcus</i>	<i>Embllicastrum</i>		Müll. Arg.	<i>P. lamprophyllus</i>	Mainland Asia, Malesia, Australia
<i>Phyllanthus</i>	<i>Eriococcus</i>	<i>Eriococcodes</i>		Müll. Arg.	<i>P. acutissimus</i>	Mainland Asia, Malesia, Australia
<i>Phyllanthus</i>	<i>Eriococcus</i>	<i>Eriococcus</i>		(Hassk.) Müll. Arg.	<i>P. gracilipes</i>	Mainland Asia, Malesia
<i>Phyllanthus</i>	<i>Eriococcus</i>	<i>Eriococcus</i>		Jean F. Brunel	<i>P. nhatrangensis</i>	Mainland Asia
<i>Phyllanthus</i>	<i>Eriococcus</i>	<i>Nymphanthus</i>		(Lour.) Müll. Arg.	<i>P. ruber</i>	Mainland Asia, Malesia
<i>Phyllanthus</i>	<i>Eriococcus</i>	<i>Scepaema</i>		(Blume) Müll. Arg.	<i>P. buxifolius</i>	Mainland Asia, Malesia, Australia
<i>Phyllanthus</i>	<i>Gomphidium</i>			(Baill.) G.L. Webster	<i>P. chamaecerasus</i>	'Central America', Malesia, Australia, Pacific
<i>Phyllanthus</i>	<i>Gomphidium</i>	<i>Adenoglochidion</i>		(Müll. Arg.) Müll. Arg.	<i>P. aeneus</i>	Malesia, New Caledonia
<i>Phyllanthus</i>	<i>Gomphidium</i>	<i>Adenoglochidion</i>	<i>Eleutherogynium</i>	(Müll. Arg.) G.L. Webster ex R.W. Bouman	<i>P. loranthoides</i>	New Caledonia
<i>Phyllanthus</i>	<i>Gomphidium</i>	<i>Calodictyon</i>		G.L. Webster	<i>P. tuerckheimii</i>	Central America
<i>Phyllanthus</i>	<i>Gomphidium</i>	<i>Gomphidium</i>		Baill.	<i>P. chamaecerasus</i>	Malesia, Pacific
<i>Phyllanthus</i>	<i>Gomphidium</i>	<i>Gomphidium</i>	<i>Physoglochidion</i>	(Müll. Arg.) R.W. Bouman	<i>P. taguetii</i>	New Caledonia
<i>Phyllanthus</i>	<i>Gomphidium</i>	<i>Leptonema</i>		Baill.	<i>P. karalensis</i>	New Caledonia
<i>Phyllanthus</i>	<i>Gomphidium</i>	<i>Nymania</i>		(K. Schum.) J.J. Sm.	<i>P. clambooides</i>	Australia, Malesia, Pacific
<i>Phyllanthus</i>	<i>Isocladius</i>			G.L. Webster	<i>P. maderaspatensis</i>	Pantropical (Introduced in North America)
<i>Phyllanthus</i>	<i>Kirganella</i>			(A. Juss.) Kurz	<i>P. casticum</i>	Pantropical
<i>Phyllanthus</i>	<i>Kirganella</i>	<i>Anisomena</i>		(A. Juss.) Griseb.	<i>P. reticulatus</i>	Tropical Africa, Mainland Asia, Malesia, Australia
<i>Phyllanthus</i>	<i>Kirganella</i>	<i>Brazzeani</i>		Jean F. Brunel & Jacq. Roux	<i>P. dimklagei</i>	Tropical Africa
<i>Phyllanthus</i>	<i>Kirganella</i>	<i>Chorisandra</i>		(Wight) Müll. Arg.	<i>P. pinnatus</i>	Tropical Africa, Madagascar, Mainland Asia
<i>Phyllanthus</i>	<i>Kirganella</i>	<i>Cicca</i>		(L.) Müll. Arg.	<i>P. acidus</i>	Pantropical: origin South America
<i>Phyllanthus</i>	<i>Kirganella</i>	<i>Cicca</i>	<i>Aporosella</i>	(Chodat) G.L. Webster	<i>P. chacoensis</i>	Tropical South America



Appendix 1 (cont.)

Genus	Subgenus	Section	Subsection	Author	Type species	Distribution
<i>Phyllanthus</i>	<i>Kirganelia</i>	<i>Cicca</i>	<i>Cheramela</i>	Kuntze	<i>P. acidus</i>	Pantropical, origin possibly Africa
<i>Phyllanthus</i>	<i>Kirganelia</i>	<i>Ciccopsis</i>		G.L.Webster	<i>P. pseudocicca</i>	Tropical South America
<i>Phyllanthus</i>	<i>Kirganelia</i>	<i>Hemicicca</i>		(Baill.) Müll.Arg.	<i>P. flexuosus</i>	China, Japan
<i>Phyllanthus</i>	<i>Kirganelia</i>	<i>Omphacodopsis</i>		Jean F.Brunel	<i>P. physocarpus</i>	Tropical Africa
<i>Phyllanthus</i>	<i>Kirganelia</i>	<i>Polyanthi</i>		Jean F.Brunel	<i>P. polyanthus</i>	Tropical Africa
<i>Phyllanthus</i>	<i>Kirganelia</i>	<i>Pseudomenarda</i>		Müll.Arg.	<i>P. purpureus</i>	Tropical Africa
<i>Phyllanthus</i>	<i>Macraea</i>			(Wight) Jean F.Brunel	<i>P. virgatus</i>	Mainland Asia, Malasia, Pacific, Australia
<i>Phyllanthus</i>	<i>Menarda</i>			(Comm. ex A.Juss.) Ralim. & Petra Hoffm.	<i>P. cryptophyllus</i>	Madagascar, Middle East?
<i>Phyllanthodendron</i>				(Hemsl.) G.L.Webster	<i>P. mirabilis</i>	Mainland Asia
<i>Phyllanthodendron</i>				(Gagnep.) Airy Shaw	<i>P. arachnodes</i>	Mainland Asia
<i>Phyllanthodendron</i>	<i>Arachnodes</i>			Croizat	<i>P. anthopotamicus</i>	Mainland Asia
<i>Phyllanthodendron</i>	<i>Calophyllum</i>			Croizat	<i>P. mirabilis</i>	Mainland Asia
<i>Phyllanthodendron</i>	<i>Phyllanthodendron</i>			Croizat	<i>P. roseus</i>	Mainland Asia
<i>Phyllanthodendron</i>	<i>Pseudoactephila</i>			P.TLI	<i>P. moi</i>	Mainland Asia
<i>Phyllanthodendron</i>	<i>Tetrandrum</i>			–	<i>P. nituri</i>	Tropical South America
<i>Phyllanthus</i>				Müll.Arg.	<i>P. choretroides</i>	Tropical South America
<i>Phyllanthus</i>	<i>Choretropsis</i>		<i>Applanata</i>	L.J.M.Santiago	<i>P. klotzschianus</i>	Tropical South America
<i>Phyllanthus</i>	<i>Choretropsis</i>		<i>Choretropsis</i>	–	<i>P. choretroides</i>	Tropical South America
<i>Phyllanthus</i>	<i>Choretropsis</i>			G.L.Webster	<i>P. carolinensis</i>	Americas
<i>Phyllanthus</i>	<i>Loxopodium</i>			(F.Muell.) G.L.Webster	<i>P. subcrenulatus</i>	Australia, 'North America'
<i>Phyllanthus</i>	<i>Lysandra</i>			–	<i>P. nituri</i>	Pantropical
<i>Phyllanthus</i>	<i>Phyllanthus</i>		<i>Almadanses</i>	G.L.Webster	<i>P. almadensis</i>	Tropical South America
<i>Phyllanthus</i>	<i>Phyllanthus</i>		<i>Clausseniani</i>	G.L.Webster	<i>P. clausenii</i>	Tropical South America
<i>Phyllanthus</i>	<i>Phyllanthus</i>		<i>Nituri</i>	G.L.Webster	<i>P. nituri</i>	Tropical South America
<i>Phyllanthus</i>	<i>Phyllanthus</i>		<i>Pentaphylli</i>	G.L.Webster	<i>P. pentaphyllus</i>	West Indies
<i>Phyllanthus</i>	<i>Salvinopsis</i>			Holm-Niels. ex Jean F.Brunel	<i>P. fluitans</i>	Americas
<i>Phyllanthus</i>				(G.L.Webster) Ralim. & Petra Hoffm.	<i>P. amarus</i>	Pantropical, origin North America?
<i>Phyllanthus</i>	<i>Swartziani</i>			(A.Gray) G.L.Webster	<i>P. wamockii</i>	North America
<i>Phyllanthus</i>	<i>Swartziani</i>			Jean F.Brunel	<i>P. tenellus</i>	Pantropical, origin Africa
<i>Phyllanthus</i>	<i>Tenellanthus</i>			Jean F.Brunel	<i>P. loandensis</i>	Tropical Africa
<i>Phyllanthus</i>	<i>Tenellanthus</i>			G.L.Webster	<i>P. pentandrus</i>	Tropical Africa
<i>Phyllanthus</i>	<i>Tenellanthus</i>			Jean F.Brunel	<i>P. tenellus</i>	Pantropical, origin Africa
<i>Phyllanthus</i>	<i>Xylophylla</i>			(L.) Pers.	<i>P. epiphyllanthus</i>	Tropical South America
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Adiantoides</i>		Jabl. ex Jean F.Brunel	<i>P. adiantoides</i>	Tropical South America
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Asterandra</i>		(Klotzsch) Müll.Arg.	<i>P. juglandifolius</i>	Tropical South America
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Brachycladus</i>		G.L.Webster	<i>P. rupestris</i>	Tropical South and Middle America
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Ciccastrum</i>		Müll.Arg.	<i>P. riedelianus</i>	Tropical South and Middle America
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Diplocicca</i>		Müll.Arg.	<i>P. octomerus</i>	Tropical South America
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Elutanthos</i>		Croizat	<i>P. glaucescens</i>	Central and South America
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Epistylum</i>		(Sw.) Griseb.	<i>P. axillaris</i>	West Indies
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Glyptothamnus</i>		G.L.Webster	<i>P. chryseus</i>	West Indies
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Hemiphyllanthus</i>		(Müll.Arg.) Müll.Arg.	<i>P. ovatus</i>	West Indies
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Omphacodes</i>		G.L.Webster	<i>P. subcarnosus</i>	West Indies
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Orbicularia</i>		(Baill.) Griseb	<i>P. orbicularis</i>	West Indies
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Oxalistsylis</i>		Baill.	<i>P. salviifolius</i>	Tropical South America, West Indies
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Thamnocharis</i>		G.L.Webster	<i>P. cinctus</i>	West Indies
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Williamia</i>		(Baill.) Müll.Arg.	<i>P. discolor</i>	West Indies
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Williamia</i>	<i>Discolores</i>	G.L.Webster	<i>P. discolor</i>	West Indies
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Williamia</i>	<i>Incrustati</i>	G.L.Webster	<i>P. williamoides</i>	West Indies
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Williamia</i>	<i>Mirifici</i>	G.L.Webster	<i>P. mirificus</i>	West Indies
<i>Phyllanthus</i>	<i>Xylophylla</i>	<i>Xylophylla</i>		(L.) Baill.	<i>P. epiphyllanthus</i>	West Indies
<i>Phyllanthus</i>	<i>Antipodanthus</i>			G.L.Webster	<i>P. dictyospermus</i>	Tropical South America, 'Australia'

**Appendix 2** Species checklist of *Phyllanthus* based on the current infrageneric classification. Each species denotation contains information on whether the classification was based on morphology, literature references or phylogenetic evidence. Unsure placements are noted with 'loc' for location based placements, a question mark and/or a ~ symbol when morphology does not completely comply with the group.

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Afroswartziani</i>	<i>P. aily-shawii</i> Jean F. Brunel & Jacq. Roux	India, Myanmar, People's Republic of Bangladesh, Thailand	Mainland Asia		x	x	Brunel & Roux 1984
Subg. <i>Afroswartziani</i> ?	<i>P. elmerianus</i> L.B. Chaudhary & R.R. Rao	India	Mainland Asia		x	x	Balakrishnan & Chakrabarty 2007
Subg. <i>Afroswartziani</i>	<i>P. ampandrandavae</i> Leandri	Madagascar	Madagascar		x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. andranovatenis</i> Jean F. Brunel & Jacq. Roux	Madagascar	Madagascar		x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. angustatus</i> Hutch.	Zambia	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. ankazobensis</i> Raim. & Petra Hoffm.	Madagascar	Madagascar		x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. asperulatus</i> Hutch.	Northern Africa	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. berguelensis</i> Müll. Arg.	Angola	Tropical Africa		x	x	Webster 1957
Subg. <i>Afroswartziani</i>	<i>P. boninardii</i> Jean F. Brunel	Ivory Coast	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i> ?	<i>P. brevipes</i> Hook. f.	India	Mainland Asia		x	x	Balakrishnan & Chakrabarty 2007
Subg. <i>Afroswartziani</i>	<i>P. bynaerfii</i> Jean F. Brunel	Congo	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. caesifolius</i> Petra Hoffm. & Cheek	Cameroun	Tropical Africa		x	x	Hoffmann & Cheek 2003
Subg. <i>Afroswartziani</i>	<i>P. camerunensis</i> Jean F. Brunel	Cameroun	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. carunculatus</i> Jean F. Brunel	Democratic Republic of the Congo, Zambia	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. cerastotomon</i> Brenan	Central African Republic	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. chevallierii</i> Belle	Chad, Kenya, Sudan, United Republic of Tanzania	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. consanguineus</i> Müll. Arg.	Mascarenes	Indian Ocean		x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afroswartziani</i>	<i>P. cursii</i> Leandri	Madagascar	Madagascar		x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. crassinervis</i> Radcl. - Sm.	Democratic Republic of the Congo, Malawi, United Republic of Tanzania, Zambia	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. debilis</i> J.G. Klein ex Willd.	Africa, Asia, widespread	Tropical Africa, Mainland Asia	x	x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. dekindtianus</i> Jean F. Brunel	Angola	Mainland Asia		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. delagensis</i> Hutch.	Tropical Africa	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. denticulatus</i> Jean F. Brunel	Uganda	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. discoloratus</i> Jean F. Brunel	Cameroun	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. eliae</i> (Jean F. Brunel & Jacq. Roux) Jean F. Brunel	Togo	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. epiphylliferens</i> Jean F. Brunel	Congo	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. fotii</i> Jean F. Brunel	Cameroun	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. friesii</i> Hutch.	United Republic of Tanzania, Zambia	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. gabonensis</i> Jean F. Brunel	Equatorial Guinea, Gabon	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. geniculatosiemon</i> Jean F. Brunel	Uganda	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. gillettianus</i> Jean F. Brunel	Democratic Republic of the Congo, Kenya, Zambia, Zimbabwe	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. gossweilerii</i> Hutch.	Angola, Democratic Republic of the Congo, Zambia	Tropical Africa	x	x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i> ?	<i>P. griffithii</i> Müll. Arg.	Butan, India, Nepal	Mainland Asia		x	x	Balakrishnan & Chakrabarty 2007
Subg. <i>Afroswartziani</i>	<i>P. harrisii</i> Radcl. - Sm.	Kenya, United Republic of Tanzania	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. heterophyllus</i> E. Mey. ex Müll. Arg.	South Africa	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. hidebrandtjii</i> Pax	Ethiopia, Somalia	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. holostylus</i> Milne-Redh.	Angola, Democratic Republic of the Congo, Zambia	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. humpatanus</i> Jean F. Brunel	Angola	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. hutchinsonianus</i> S. Moore	Mozambique, United Republic of Tanzania, Zimbabwe	Tropical Africa		x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. irigiuis</i> Radcl. - Sm.	United Republic of Tanzania	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. ivohibeus</i> Leandri	Madagascar	Madagascar		x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. keessneri</i> Hutch.	Kenya, United Republic of Tanzania, Zambia	Tropical Africa		x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. kelleanus</i> Jean F. Brunel	Cameroun	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. lanceolatus</i> Poir.	Mascarenes	Indian Ocean		x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afroswartziani</i>	<i>P. leandrianus</i> Jean F. Brunel	Madagascar	Madagascar		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. leonardianus</i> Lisowski	Democratic Republic of the Congo	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i> ?	<i>P. leschenaultii</i> Müll. Arg.	Butan, India	Mainland Asia		x	x	Balakrishnan & Chakrabarty 2007
Subg. <i>Afroswartziani</i>	<i>P. lesteurii</i> Jean F. Brunel	Kenya, Mozambique, Somalia, Uganda, United Republic of Tanzania	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. leucocalyx</i> Hutch.	United Republic of Tanzania	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. leucochlamys</i> Radcl. - Sm.	United Republic of Tanzania	Tropical Africa		x	x	Radcliffe-Smith & Hoffmann 2006
Subg. <i>Afroswartziani</i>	<i>P. leucosepalus</i> Jean F. Brunel	Kenya	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. lokohensis</i> Leandri	Madagascar	Madagascar	x	x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. macranthus</i> Pax	Angola, Democratic Republic of the Congo, United Republic of Tanzania, Zambia, Zimbabwe	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. madagascariensis</i> Müll. Arg.	Madagascar	Madagascar		x	x	Rallimanana et al. 2013

## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Afroswartziani</i>	<i>P. mafingensis</i> Radcl.-Sm.	Malawi	Tropical Africa		x	x	Radcliffe-Smith 1996
Subg. <i>Afroswartziani</i>	<i>P. magdameanus</i> Jean F. Brunel	Cameroon	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. mahengeensis</i> Jean F. Brunel	United Republic of Tanzania	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. makitae</i> Jean F. Brunel	Congo	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. mannianus</i> Müll. Arg.	Cameroon, Nigeria	Tropical Africa	x	x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i> ?	<i>P. mckenziei</i> Fosberg	Aidabra, Seychelles	Indian Ocean				
Subg. <i>Afroswartziani</i>	<i>P. melleri</i> Müll. Arg.	Madagascar	Madagascar		x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. micromeris</i> Radcl.-Sm.	Malawi, United Republic of Tanzania	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. mindouliensis</i> Jean F. Brunel	Congo	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. mikirirae</i> Jean F. Brunel	United Republic of Tanzania	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. moerensis</i> De Wild.	Democratic Republic of the Congo	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. monroviae</i> Jean F. Brunel	Liberia	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. moramangicus</i> (Leandri) Leandri	Madagascar	Madagascar		x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i> ?	<i>P. mukerjeanus</i> D. Mitra & Bennet	India	Mainland Asia		x	x	Mitra & Bennet 1967
Subg. <i>Afroswartziani</i>	<i>P. myraceus</i> Sond.	Zimbabwe	Tropical Africa		x	x	Müller 1863, 1866
Subg. <i>Afroswartziani</i>	<i>P. ndikirimekianus</i> Jean F. Brunel	Cameroon	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. nigericus</i> Brennan	Nigeria	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. niruroides</i> Müll. Arg.	Guinea, Kenya, Uganda, United Republic of Tanzania, Zaire, Zimbabwe	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. nyale</i> Petra Hoffm. & Cheek	Cameroon	Tropical Africa		x	x	Hoffmann & Cheek 2003
Subg. <i>Afroswartziani</i>	<i>P. nyikae</i> Radcl.-Sm.	Malawi	Tropical Africa		x	x	Radcliffe-Smith 1996
Subg. <i>Afroswartziani</i>	<i>P. omahkensis</i> Dinter & Pax	Angola, Botswana, Namibia, Zambia, Zimbabwe	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. oppositifolius</i> Baill. ex Müll. Arg.	Mascarenes	Indian Ocean		x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afroswartziani</i> ?	<i>P. parvifolius</i> Buch.-Ham. ex D. Don	Bhutan, India, Myanmar, Nepal	Mainland Asia		x	x	Balakrishnan & Chakrabarty 2007
Subg. <i>Afroswartziani</i>	<i>P. parvus</i> Hutch.	Angola, Democratic Republic of the Congo, Malawi, United Republic of Tanzania, Zambia	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i> ?	<i>P. pendulus</i> Roxb.	India	Mainland Asia		x	x	Balakrishnan & Chakrabarty 2007
Subg. <i>Afroswartziani</i>	<i>P. phillyreifolius</i> Poir.	Mascarenes	Indian Ocean		x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afroswartziani</i>	<i>P. pierlotii</i> Jean F. Brunel	Togo	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. pleostigma</i> Coode	Mascarenes	Indian Ocean		x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afroswartziani</i>	<i>P. pseudocarunculatus</i> Radcl.-Sm.	Angola, Zimbabwe	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. rangloakensis</i> Leandri	Democratic Republic of the Congo, Zambia	Tropical Africa		x	x	Radcliffe-Smith 1996, but see <i>P. carunculatus</i> Jean F. Brunel
Subg. <i>Afroswartziani</i>	<i>P. rheedei</i> Wight	Madagascar	Madagascar		x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. rhizomatobus</i> Radcl.-Sm.	India, Sri Lanka, Myanmar	Mainland Asia	x	x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. rotundifolius</i> J.C. Klein ex Willd.	United Republic of Tanzania	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. rouxii</i> Jean F. Brunel	Tropical Africa to Sri Lanka and India	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. sepialis</i> Müll. Arg.	Ghana, Togo	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. serandji</i> Jean F. Brunel	Ethiopia, Kenya, Sudan, Uganda, United Republic of Tanzania	Tropical Africa	x	x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. shabaensis</i> Jean F. Brunel	Guinea	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. sublanatus</i> Schumacher & Thonn.	Democratic Republic of the Congo	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. suffrutescens</i> Pax	Benin, Burkina Faso, Ghana, Guinea, Ivory Coast, Mali, Togo	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. tampinensis</i> Leandri	Ethiopia, Kenya, Somalia, Uganda, United Republic of Tanzania	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. tanaensis</i> Jean F. Brunel	Madagascar	Madagascar		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. taylorianus</i> Jean F. Brunel	Kenya	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. tenus</i> Radcl.-Sm.	Cameroon to Ethiopia and Zimbabwe	Tropical Africa		x	x	Radcliffe-Smith 1996
Subg. <i>Afroswartziani</i>	<i>P. tukuyuanus</i> Jean F. Brunel	Zambia	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. udoricola</i> Radcl.-Sm.	United Republic of Tanzania	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. ukagurensis</i> Radcl.-Sm.	Madagascar	Madagascar		x	x	Radcliffe-Smith 1996
Subg. <i>Afroswartziani</i>	<i>P. upembaensis</i> Jean F. Brunel	Malawi, Zambia, Zimbabwe	Tropical Africa		x	x	Radcliffe-Smith 1996
Subg. <i>Afroswartziani</i>	<i>P. vanderystii</i> Hutch. & De Wild.	United Republic of Tanzania	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. vatovaviensis</i> Leandri	Congo	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. venustulus</i> Leandri	Democratic Republic of the Congo	Tropical Africa		x	x	Brunel 1987
Subg. <i>Afroswartziani</i>	<i>P. viquerii</i> Jean F. Brunel	Madagascar	Madagascar		x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. xiphophorus</i> Radcl.-Sm.	Madagascar	Madagascar		x	x	Rallimanana et al. 2013
Subg. <i>Afroswartziani</i>	<i>P. zambicus</i> Radcl.-Sm.	Zambia	Tropical Africa		x	x	Radcliffe-Smith 1996, but see Brunel 1987 <i>P. xiphophorus</i>
Subg. <i>Afroswartziani</i>	<i>P. zornoides</i> Radcl.-Sm.	Zambia	Tropical Africa		x	x	Jean F. Brunel
Subg. <i>Afroswartziani</i> sect. <i>Callidisci</i>	<i>P. fischeri</i> Pax	Malawi, Zambia, Zimbabwe	Tropical Africa		x	x	Radcliffe-Smith 1996
		Ethiopia, Kenya, Uganda, United Republic of Tanzania	Tropical Africa		x	x	Brunel 1987

## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Afrosartziani</i> sect. <i>Callidisci</i>	<i>P. limmuensis</i> Cufod.	Democratic Republic of the Congo, Ethiopia	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Callidisci</i>	<i>P. wingfieldii</i> Raddl.-Sm.	United Republic of Tanzania	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Callidisci</i>	<i>P. yangambiensis</i> Jean F. Brunel	Democratic Republic of the Congo	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Callidisci</i>	<i>P. youngii</i> Jean F. Brunel	Angola	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Fluitantoides</i>	<i>P. felixii</i> Jean F. Brunel	Guinea	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Microdendron</i>	<i>P. microdendron</i> Müll. Arg.	Angola, Zambia	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. aspersus</i> Jean F. Brunel & Jacq. Roux	Cameroon	Tropical Africa	x	x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. bancillonae</i> Jean F. Brunel & Jacq. Roux	West Tropical Africa	Tropical Africa	x	x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. bequaertii</i> Robyns & Lawalrée	Tropical Africa	Tropical Africa	x	x	x	Brunel & Roux 1981
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. burundensis</i> Jean F. Brunel	Burundi	Tropical Africa	x	x	x	Brunel & Roux 1981
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. caligatus</i> Jean F. Brunel & Jacq. Roux	Cameroon	Tropical Africa	x	x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. dusemii</i> Hutch.	Nigeria	Tropical Africa	x	x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. guseinovea</i> Jean F. Brunel & Jacq. Roux	Democratic Republic of the Congo, Ghana, Ivory Coast, Nigeria, Sierra Leone, Togo	Tropical Africa	x	x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. jaegeri</i> Jean F. Brunel & Jacq. Roux	Sierra Leone	Tropical Africa	x	x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. kivuensis</i> Jean F. Brunel	Congo	Tropical Africa	x	x	x	Brunel & Roux 1981
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. lebrunii</i> Robyns & Lawalrée	Democratic Republic of the Congo, Rwanda	Tropical Africa	x	x	x	Brunel & Roux 1981
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. leucanthus</i> Pax	Ethiopia, Malawi, Mozambique, Zaire, Zambia, Zimbabwe	Tropical Africa	x	x	x	Brunel & Roux 1981
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. magnificens</i> Raddl.-Sm.	Ghana	Tropical Africa	x	x	x	Brunel & Roux 1981
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. mieschii</i> Jean F. Brunel & Jacq. Roux	Congo, Democratic Republic of the Congo	Tropical Africa	x	x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. nozerianus</i> Jean F. Brunel & Jacq. Roux	Ivory Coast	Tropical Africa	x	x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. odontadenioides</i> Jean F. Brunel	United Republic of Tanzania	Tropical Africa	x	x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. odontadenius</i> Müll. Arg.	Angola, Burundi, Kenya, Rwanda, Sierra Leone, Uganda, United Republic of Tanzania, Zaire	Tropical Africa	x	x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. pseudoniruri</i> Müll. Arg.	United Republic of Tanzania, Zaire, Botswana, Burundi, Cameroon, Ethiopia, Kenya, Rwanda, Sudan, Uganda, United Republic of Tanzania, Zaire, Zambia, Zimbabwe	Tropical Africa	x	x	x	Brunel & Roux 1981
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. raynalli</i> Jean F. Brunel & Jacq. Roux	Cameroon, Gabon	Tropical Africa	x	x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. trichotepalus</i> Brenan	Congo, Rwanda	Tropical Africa	x	x	x	Brunel & Roux 1981
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. vollensii</i> Engl.	Kenya, Tanzania	Tropical Africa	x	x	x	Brunel & Roux 1981
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. witteri</i> Robyns & Lawalrée	Democratic Republic of the Congo	Tropical Africa	x	x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afrosartziani</i> sect. <i>Odontadenii</i>	<i>P. xiphophorus</i> Jean F. Brunel	Zambia	Tropical Africa	x	x	x	Webster 2002 synopsis of <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Afrosartziani</i> sect. <i>Praephyllanthus</i>	<i>P. anvensis</i> Müll. Arg.	Angola, Democratic Republic of the Congo, Malawi, United Republic of Tanzania, Zambia, Zimbabwe	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Praephyllanthus</i>	<i>P. boehmii</i> Pax	Uganda, United Republic of Tanzania, Zambia	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Praephyllanthus</i>	<i>P. confusus</i> Brenan	Malawi	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Praephyllanthus</i>	<i>P. fluminis-athi</i> Raddl.-Sm.	Kenya	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Praephyllanthus</i>	<i>P. meyerianus</i> Müll. Arg.	South Africa	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Praephyllanthus</i>	<i>P. microphyllus</i> Müll. Arg.	Angola	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Praephyllanthus</i>	<i>P. mitterianus</i> Hutch.	Kenya, United Republic of Tanzania	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Praephyllanthus</i>	<i>P. oblongigans</i> M.G. Gilbert	Ethiopia, Kenya, Zaire	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Praephyllanthus</i>	<i>P. oxycoctifolius</i> Hutch.	Angola, United Republic of Tanzania	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Praephyllanthus</i>	<i>P. paxii</i> Hutch.	Angola, Burundi, Democratic Republic of the Congo, Malawi, United Republic of Tanzania, Mozambique, Zambia	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Praephyllanthus</i>	<i>P. schulisii</i> Jean F. Brunel	Cameroon	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Praephyllanthus</i>	<i>P. tanzanianus</i> Jean F. Brunel	United Republic of Tanzania	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> sect. <i>Praephyllanthus</i>	<i>P. virgatus</i> Müll. Arg.	Angola, Democratic Republic of the Congo, Malawi, Zambia	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Afrosartziani</i> loc	<i>P. austropatensis</i> Raddl.-Sm.	United Republic of Tanzania	Tropical Africa	x	x	x	Raddcliffe-Smith 1992
Subg. <i>Afrosartziani</i> loc	<i>P. bonensis</i> M.G. Gilbert	Ethiopia	Tropical Africa	x	x	x	Gilbert 1987
Subg. <i>Afrosartziani</i> loc	<i>P. caespitosus</i> Brenan	Malawi, Zambia	Tropical Africa	x	x	x	Brenan 1967
Subg. <i>Afrosartziani</i> loc	<i>P. dewideorum</i> M.G. Gilbert	Ethiopia	Tropical Africa	x	x	x	Gilbert 1987
Subg. <i>Afrosartziani</i> loc	<i>P. dictyophlebis</i> Raddl.-Sm.	United Republic of Tanzania	Tropical Africa	x	x	x	Raddcliffe-Smith 1992
Subg. <i>Afrosartziani</i> loc	<i>P. mooneyi</i> M.G. Gilbert	Ethiopia	Tropical Africa	x	x	x	Gilbert 1987
Subg. <i>Afrosartziani</i> loc	<i>P. retinerivis</i> Hutch.	Democratic Republic of the Congo, Malawi, United Republic of Tanzania, Zambia	Tropical Africa	x	x	x	Raddcliffe-Smith 1992
Subg. <i>Anisonemoides</i>	<i>P. ambatovolana</i> Leandri	Madagascar	Madagascar	x	x	x	Ralimanana & Hoffmann 2014
Subg. <i>Anisonemoides</i>	<i>P. analameranae</i> Leandri	Madagascar	Madagascar	x	x	x	Ralimanana & Hoffmann 2014
Subg. <i>Anisonemoides</i>	<i>P. anikerana</i> Leandri	Madagascar	Madagascar	x	x	x	Ralimanana & Hoffmann 2014
Subg. <i>Anisonemoides</i>	<i>P. bernangidensis</i> Ralim.	Madagascar	Madagascar	x	x	x	Ralimanana & Hoffmann 2014

## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Anisorenoides</i>	<i>P. bernieranus</i> Baill.	Madagascar, Mozambique	Tropical Africa		x	x	Ralimanana & Hoffmann 2014
Subg. <i>Anisorenoides</i>	<i>P. bojerianus</i> (Baill.) Müll. Arg.	Madagascar	Madagascar		x	x	Ralimanana & Hoffmann 2014
Subg. <i>Anisorenoides</i>	<i>P. gordonii</i> Raiml. & Petra Hoffm.	Madagascar	Madagascar		x	x	Ralimanana & Hoffmann 2014
Subg. <i>Anisorenoides</i>	<i>P. goudotianus</i> (Baill.) Müll. Arg.	Madagascar	Madagascar		x	x	Ralimanana & Hoffmann 2014
Subg. <i>Anisorenoides</i>	<i>P. humbertianus</i> Leandri	Madagascar	Madagascar		x	x	Ralimanana & Hoffmann 2014
Subg. <i>Anisorenoides</i>	<i>P. iratsiensis</i> Leandri	Madagascar	Madagascar		x	x	Ralimanana & Hoffmann 2014
Subg. <i>Anisorenoides</i>	<i>P. isomonensis</i> Leandri	Madagascar	Madagascar		x	x	Ralimanana & Hoffmann 2014
Subg. <i>Anisorenoides</i>	<i>P. mananarenensis</i> Leandri	Madagascar	Madagascar		x	x	Ralimanana & Hoffmann 2014
Subg. <i>Anisorenoides</i>	<i>P. mantadensis</i> Raiml. & Petra Hoffm.	Madagascar	Madagascar		x	x	Ralimanana & Hoffmann 2014
Subg. <i>Anisorenoides</i>	<i>P. multiflorus</i> Poir.	Madagascar	Madagascar		x	x	Ralimanana & Hoffmann 2014
Subg. <i>Anisorenoides</i>	<i>P. obdeltophyllus</i> Leandri	Madagascar	Madagascar		x	x	Ralimanana & Hoffmann 2014
Subg. <i>Anisorenoides</i>	<i>P. vakinankaratrae</i> Leandri	Madagascar	Madagascar		x	x	Ralimanana & Hoffmann 2014
Subg. <i>Betsileani</i>	<i>P. bathianus</i> Leandri	Madagascar	Madagascar	x	x	x	Ralimanana & Hoffmann 2011
Subg. <i>Betsileani</i>	<i>P. betsileanus</i> Leandri	Madagascar	Madagascar	x	x	x	Ralimanana & Hoffmann 2011
Subg. <i>Betsileani</i>	<i>P. philippoides</i> Leandri	Madagascar	Madagascar		x	x	Ralimanana & Hoffmann 2011
Subg. <i>Ceramanthus</i> ?	<i>P. binthii</i> Thin	Vietnam	Mainland Asia			~	Thin 2007
Subg. <i>Ceramanthus</i> sect. <i>Anisobolium</i>	<i>P. kerstingii</i> Jean F. Brunel	Benin, Ghana, Guinea, Ivory Coast, Sierra Leone, Togo	Tropical Africa	x	x	x	Brunel & Roux 1985, Brunel 1987
Subg. <i>Ceramanthus</i> sect. <i>Anisobolium</i>	<i>P. welwitschianus</i> Müll. Arg.	Angola, Democratic Republic of the Congo, Malawi, United Republic of Tanzania, Zambia	Tropical Africa	x	x	x	Brunel & Roux 1985, Brunel 1987
Subg. <i>Ceramanthus</i> sect. <i>Bivia</i>	<i>P. petraeus</i> A. Chev. & Belle ex Belle	Sierra Leone, Liberia, Guinea	Tropical Africa		x	x	Brunel & Roux 1985, Brunel 1987
Subg. <i>Ceramanthus</i> sect. <i>Ceramanthus</i>	<i>P. albifiscus</i> (Ridl.) Airy Shaw	Indonesia (Java), Thailand	Mainland Asia		x	x	Brunel & Roux 1985, Brunel 1987
Subg. <i>Ceramanthus</i> sect. <i>Clytropsis</i>	<i>P. cochinchinensis</i> Spreng.	Cambodia, China, India, Lao People's Democratic Republic, Vietnam	Mainland Asia	x	x	x	Punt 1972, Brunel & Roux 1985, Brunel 1987
Subg. <i>Ceramanthus</i> sect. <i>Ebolowari</i>	<i>P. letouzeyanus</i> Jean F. Brunel	Cameroon	Tropical Africa		x	x	Brunel & Roux 1985, Brunel 1987
Subg. <i>Conami</i> ?	<i>P. petaloides</i> Paul G. Wilson	Mexico	North America		x	x	Wilson 1962
Subg. <i>Conami</i> sect. <i>Apolepsis</i>	<i>P. orbiculatus</i> Rich.	Bolivia, Brazil, Colombia, French Guiana, Paraguay, Peru, Surinam, Trinidad, Venezuela	Tropical South America		x	x	Punt 1987, Webster & Carpenter 2002
Subg. <i>Conami</i> sect. <i>Hylaeanthus</i>	<i>P. attenuatus</i> Miq.	Brazil, Colombia, Ecuador, French Guiana, Peru, Venezuela	Tropical South America		x	x	Webster 2004
Subg. <i>Conami</i> sect. <i>Hylaeanthus</i>	<i>P. awaensis</i> G.L. Webster	Ecuador	Tropical South America		x	x	Webster 2004
Subg. <i>Conami</i> sect. <i>Hylaeanthus</i>	<i>P. bernardii</i> Jabl.	Venezuela	Tropical South America		x	x	Webster 2004
Subg. <i>Conami</i> sect. <i>Hylaeanthus</i>	<i>P. callejasi</i> G.L. Webster	Colombia	Tropical South America		x	x	Webster 2004
Subg. <i>Conami</i> sect. <i>Hylaeanthus</i>	<i>P. madeirensis</i> Croizat	Brazil, Colombia	Tropical South America		x	x	Webster 2004
Subg. <i>Conami</i> sect. <i>Hylaeanthus</i>	<i>P. manausensis</i> W.A. Rodrigues	Brazil	Tropical South America		x	x	Webster 2004
Subg. <i>Conami</i> sect. <i>Hylaeanthus</i>	<i>P. purtiji</i> G.L. Webster	Brazil	Tropical South America		x	x	Webster 2004
Subg. <i>Conami</i> sect. <i>Hylaeanthus</i>	<i>P. skutchii</i> Standl.	Costa Rica	Tropical South America		x	x	Webster 2004
Subg. <i>Conami</i> sect. <i>Hylaeanthus</i>	<i>P. valleanus</i> Croizat	Colombia	Tropical South America		x	x	Webster 2004
Subg. <i>Conami</i> sect. <i>Nothoclema</i>	<i>P. acuminatus</i> Vahl	Argentina, Brazil, Caribbean, French Guiana, Mexico, Venezuela	Central America	x	x	x	Webster 2001b
Subg. <i>Conami</i> sect. <i>Nothoclema</i>	<i>P. anisobolus</i> Müll. Arg.	Colombia, Costa Rica, Ecuador, Nicaragua, Panama, Peru	Tropical South America		x	x	Webster 2003
Subg. <i>Conami</i> sect. <i>Nothoclema</i>	<i>P. brasiliensis</i> (Aubl.) Poir	Brazil, Guyanas, Peru, Surinam, Venezuela, Cayman Islands	Tropical South America		x	x	Webster 2003
Subg. <i>Conami</i> sect. <i>Nothoclema</i>	<i>P. caymanensis</i> G.L. Webster & Proctor	Brazil, Colombia, Costa Rica, Ecuador, Mexico, Peru, Venezuela	Tropical South America	x	x	x	Webster 2003
Subg. <i>Conami</i> sect. <i>Nothoclema</i>	<i>P. graveolens</i> Kunth	Venezuela	Tropical South America		x	x	Webster 2001b
Subg. <i>Conami</i> sect. <i>Nothoclema</i>	<i>P. lesneri</i> G.L. Webster	Costa Rica, Mexico	Central America		x	x	Webster 2003
Subg. <i>Conami</i> sect. <i>Nothoclema</i>	<i>P. mcvaughii</i> G.L. Webster	Venezuela	Tropical South America		x	x	Webster 2003
Subg. <i>Conami</i> sect. <i>Nothoclema</i>	<i>P. meridensis</i> G.L. Webster	Costa Rica, El Salvador, Mexico	Central America		x	x	Webster 2001b
Subg. <i>Conami</i> sect. <i>Nothoclema</i>	<i>P. mochinianus</i> Baill.	Peru	Tropical South America		x	x	Webster 2002b
Subg. <i>Conami</i> sect. <i>Nothoclema</i>	<i>P. pavonianus</i> Baill.	Cuba	West Indies		x	x	Webster 2002b
Subg. <i>Cyclanthera</i> sect. <i>Callitrichoides</i>	<i>P. carnosulus</i> Müll. Arg.	Haiti	West Indies		x	x	Webster 1957
Subg. <i>Cyclanthera</i> sect. <i>Cyclanthera</i>	<i>P. abditi</i> G.L. Webster	Dominican Republic, Haiti	West Indies		x	x	Webster 1957
Subg. <i>Cyclanthera</i> sect. <i>Cyclanthera</i>	<i>P. berteroi</i> Müll. Arg.	Cuba, Dominican Republic, Haiti	West Indies		x	x	Webster 2002b
Subg. <i>Cyclanthera</i> sect. <i>Cyclanthera</i>	<i>P. lindianus</i> Baill.	Cuba, Haiti	West Indies		x	x	Webster 1957
Subg. <i>Cyclanthera</i> sect. <i>Cyclanthera</i>	<i>P. tenuicaulis</i> Müll. Arg.	India	West Indies		x	x	Webster 1957
Subg. <i>Emblica</i>	<i>P. andamanicus</i> N.P. Balakr. & N.G. Nair	India	Mainland Asia	x	x	x	Pagare et al. 2016
Subg. <i>Emblica</i>	<i>P. bokorensis</i> Tagane	Cambodia	Mainland Asia		x	x	Balakrishnan & Nair 1982
Subg. <i>Emblica</i>	<i>P. collinsae</i> Craib	Lao People's Democratic Republic, Thailand, Vietnam	Mainland Asia		x	x	Airy Shaw 1974
Subg. <i>Emblica</i>	<i>P. dealbatatus</i> Alston	Sri Lanka	Indian Ocean		x	x	Alston 1931
Subg. <i>Emblica</i>	<i>P. hasskarianus</i> Müll. Arg.	Indonesia (Java)	Mainland Asia		x	x	Webster & Carpenter 2008
Subg. <i>Emblica</i>	<i>P. kerrii</i> Airy Shaw	Thailand	Mainland Asia		x	x	Airy Shaw 1969
Subg. <i>Emblica</i>	<i>P. paccensis</i> Thin	Vietnam	Mainland Asia		x	x	Thin 2007



## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Emblica</i> ?	<i>P. praetervisus</i> Müll.Arg.	Bhutan, China, India, Myanmar	Mainland Asia				
Subg. <i>Emblica</i> ?	<i>P. prainianus</i> Collett & Hemsli	Myanmar	Mainland Asia		~		Collett & Hemsley 1890
Subg. <i>Emblica</i> ?	<i>P. rheophyticus</i> M.G.Gilbert & P.T.Li	China	Mainland Asia		~		
Subg. <i>Emblica</i> ?	<i>P. scabrifolius</i> Hook.f.	India	Mainland Asia			x	Hooker 1890
Subg. <i>Emblica</i> sect. <i>Botryoides</i>	<i>P. baecobotryoides</i> Wall.	India, Myanmar, People's Republic of Bangladesh	Mainland Asia		x	x	Brunel 1987
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. albizzioides</i> (Kurz) Hook.	India, Myanmar	Mainland Asia		x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Emblica</i>
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. argikorensis</i> Belle	Cambodia	Tropical Africa	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Emblica</i>
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. colummaris</i> Müll.Arg.	Myanmar, Thailand	Mainland Asia	x	x	x	Müller 1866
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. emblica</i> L.	Mainland Asia, Malasia	Mainland Asia	x	x	x	Müller 1866
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. geoffrayi</i> Belle	Lao People's Democratic Republic, Thailand, Vietnam	Mainland Asia	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Emblica</i>
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. hamandii</i> Belle	Cambodia	Tropical Africa	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Emblica</i>
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. indofischeri</i> Bennet	India	Mainland Asia		x	x	Ganesan 2003
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. jawii</i> J.Graham	India	Mainland Asia		x	x	Müller 1866
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. nilinamii</i> Hayata	Taiwan	Mainland Asia		x	x	Hayata 1904
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. nilinamii</i> Miq.	Peninsular Malaysia, Indonesia (Sumatra), Thailand	Mainland Asia		x	x	Müller 1866
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. oxyphyllus</i> Müll.Arg.	China (Hainan), Indonesia (Borneo), Lao People's Democratic Republic, Myanmar, Peninsular Malaysia, Thailand, Vietnam	Mainland Asia	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Emblica</i>
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. pachyphyllus</i> Müll.Arg.	Peninsular Malaysia	Mainland Asia		x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Emblica</i>
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. pectinatus</i> Hook.f.	Vietnam	Mainland Asia		x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Emblica</i>
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. phuquocensis</i> Belle	India, Sri Lanka, Thailand	Mainland Asia		x	x	Belle 1927
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. polyphyllus</i> Willd.	India, Sri Lanka, Thailand	Mainland Asia	x	x	x	Müller 1866
Subg. <i>Emblica</i> sect. <i>Emblica</i>	<i>P. pomiferus</i> Hook.f.	Myanmar	Mainland Asia	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Emblica</i>
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. aracaensis</i> G.L.Webster ex Secco & A. Rosário	Brazil	Tropical South America	x	x	x	Secco & De Rosário 2015
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. carrenal</i> Steyerem.	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. chimantae</i> Jabl.	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. dudaea</i> Gleason	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. jablonskianus</i> Steyerem. & Luteyn	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. jauensis</i> Jabl.	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. jedformis</i> Jabl.	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. longistylus</i> Jabl.	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. maguirei</i> Jabl.	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. majus</i> Steyerem.	Venezuela	Tropical South America		x	x	Webster 1957, sometimes referenced as <i>P. major</i> Steyerem.
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. minutifolius</i> Jabl.	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. myrsinites</i> Kunth	Colombia, Guyana, Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. neblinae</i> Jabl.	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. obeliscatus</i> Lasser & Maguire	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. paraqueensis</i> Jabl.	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. pycnophyllus</i> Müll.Arg.	Guyana, Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. strobilaceus</i> Jabl.	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. subapicalis</i> Jabl.	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. tepuciale</i> Steyerem.	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. vaccinifolius</i> (Müll.Arg.) Müll.Arg.	Guyana, Venezuela	Tropical South America		x	x	Webster & Carpenter 2008
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. ventuarii</i> Jabl.	Venezuela	Tropical South America		x	x	Webster 1957
Subg. <i>Emblica</i> sect. <i>Microglochidion</i>	<i>P. websterianus</i> Steyerem.	Brazil	Tropical South America		x	x	Webster & Carpenter 2002
Subg. <i>Emblica</i> sect. <i>Ptyrocladus</i>	<i>P. cuatrecasasianus</i> G.L.Webster	Colombia to Peru	Tropical South America		x	x	Webster 2002b
Subg. <i>Emblica</i> sect. <i>Ptyrocladus</i>	<i>P. popayanensis</i> Pax	Colombia	Tropical South America		x	x	Webster 2002b
Subg. <i>Emblica</i> sect. <i>Ptyrocladus</i>	<i>P. ruscifolius</i> Müll.Arg.	Colombia	Tropical South America		x	x	Webster 2002b
Subg. <i>Emblica</i> sect. <i>Ptyrocladus</i>	<i>P. sponifolius</i> Müll.Arg.	Colombia, Ecuador	Tropical South America		x	x	Webster 2002b
Subg. <i>Emblica</i> sect. <i>Ptyrocladus</i>	<i>P. symphoricarposoides</i> Kunth	Colombia	Tropical South America		x	x	Webster 2002b
Subg. <i>Emblica</i> sect. <i>Ptyrocladus</i>	<i>P. valerii</i> Standl.	Costa Rica	Central America		x	x	Webster 2002b
Subg. <i>Emblica</i> sect. <i>Urinaria</i>	<i>P. arenarius</i> Belle	Vietnam	Mainland Asia		x	x	Rallimanana et al. 2013, Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Emblica</i> sect. <i>Urinaria</i>	<i>P. benguetensis</i> C.B.Rob.	Philippines	Malasia		x	x	Rallimanana et al. 2013, Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Emblica</i> sect. <i>Urinaria</i>	<i>P. chamaepeuce</i> Ridl.	Indonesia (Borneo incl. Sabah), Peninsular Malaysia, Thailand, Vietnam	Mainland Asia		x	x	subg. <i>Phyllanthus</i>
Subg. <i>Emblica</i> sect. <i>Urinaria</i>	<i>P. chayamaritiae</i> Chantar. & Kantachot	Thailand	Mainland Asia		x	x	Rallimanana et al. 2013, Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Emblica</i> sect. <i>Urinaria</i>	<i>P. enythrotrichus</i> C.B.Rob.	Philippines	Malasia		x	x	Rallimanana et al. 2013, Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Emblica</i> sect. <i>Urinaria</i>	<i>P. marianus</i> Müll.Arg.	Marianas	Malasia		x	x	Robinson 1911, Chen et al. 2009
Subg. <i>Emblica</i> sect. <i>Urinaria</i>							Rallimanana et al. 2013, Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>

## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Embllica</i> sect. <i>Urinaria</i>	<i>P. petelotii</i> Croizat	Vietnam	Mainland Asia		x	x	Thin 2007
Subg. <i>Embllica</i> sect. <i>Urinaria</i>	<i>P. societatis</i> Müll.Arg.	Cook Islands, French Polynesia	Pacific		x	x	Ralimanana et al. 2013, Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Embllica</i> sect. <i>Urinaria</i>	<i>P. submarginalis</i> Airy Shaw	Indonesia, Flores	Malasia		x	x	Ralimanana et al. 2013, Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Embllica</i> sect. <i>Urinaria</i>	<i>P. sulcatus</i> J.T.Hunter & J.J.Bruhl	Australia (Queensland)	Australia		x	x	Ralimanana et al. 2013, Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Embllica</i> sect. <i>Urinaria</i>	<i>P. thalii</i> Thin	Vietnam	Mainland Asia		x	x	Thin 2007
Subg. <i>Embllica</i> sect. <i>Urinaria</i>	<i>P. trungi</i> Thin	Vietnam	Mainland Asia		x	x	Thin 2007
Subg. <i>Embllica</i> sect. <i>Urinaria</i>	<i>P. tsarongensis</i> W.W.Sm.	China	Mainland Asia		~		Smith 1921
Subg. <i>Embllica</i> sect. <i>Urinaria</i> subsect. <i>Berguetensis</i>	<i>P. coi</i> M.J.Wu, Ferreras & Y.J.Chen	Philippines	Malasia		x	x	Wu et al. 2017
Subg. <i>Embllica</i> sect. <i>Urinaria</i> subsect. <i>Urinaria</i>	<i>P. embergeri</i> Haicour & Rossignol	China to Vietnam and Taiwan	Mainland Asia		x	x	Ralimanana et al. 2013, Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Embllica</i> sect. <i>Urinaria</i> subsect. <i>Urinaria</i>	<i>P. urinaria</i> L.	Pantropical: origin Asia	Pantropical	x	x	x	Ralimanana et al. 2013, Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Eriococcus</i>	<i>P. anabaptizatus</i> Müll.Arg.	Sri Lanka	Malasia		x	x	Müller 1866
Subg. <i>Eriococcus</i>	<i>P. balakrishnanii</i> Sunil, K.M.P.Kumar & Naveen Kum.	India	Mainland Asia		x	x	Sunil et al. 2016
Subg. <i>Eriococcus</i>	<i>P. chandrasei</i> Govaerts & Raddl.-Sm.	India	Mainland Asia		x	x	Balakrishnan & Chakrabarty 2007
Subg. <i>Eriococcus</i>	<i>P. chantrieri</i> André	Vietnam	Mainland Asia		x	x	
Subg. <i>Eriococcus</i>	<i>P. fimbriatylax</i> P.T.Li	China	Mainland Asia		x	x	Li 1987a
Subg. <i>Eriococcus</i>	<i>P. franchetianus</i> H.Lév.	China	Mainland Asia		x	x	Li 1987a
Subg. <i>Eriococcus</i>	<i>P. georgeanus</i> (Gamble) M.Mohanan	India	Mainland Asia		x	x	Balakrishnan & Chakrabarty 2007
Subg. <i>Eriococcus</i> ?	<i>P. macgregorii</i> C.B. Rob.	Philippines	Malasia		x	x	Robinson 1911
Subg. <i>Eriococcus</i>	<i>P. muscosus</i> Ridl.	Peninsular Malaysia	Mainland Asia		x	x	Ridley 1909
Subg. <i>Eriococcus</i>	<i>P. rangcharianii</i> Murugan, Kabeer & G.V.S.Murthy	India	Mainland Asia		x	x	
Subg. <i>Eriococcus</i>	<i>P. singampattianus</i> (Sebast. & A.N.Henry) Kuman & Chandrab.	India	Mainland Asia		x	x	Balakrishnan & Chakrabarty 2007
Subg. <i>Eriococcus</i>	<i>P. talbotii</i> Sedgw.	India	Mainland Asia		x	x	Balakrishnan & Chakrabarty 2007
Subg. <i>Eriococcus</i>	<i>P. tetrandrus</i> Roxb.	India, People's Republic of Bangladesh	Mainland Asia		x	x	Balakrishnan & Chakrabarty 2007
Subg. <i>Eriococcus</i> sect. <i>Embllicastrum</i>	<i>P. baigooi</i> ; Petra Hoffm. & A.J.M.Baker	Malaysia (Borneo), Philippines	Malasia		x	x	Hoffmann et al. 2003
Subg. <i>Eriococcus</i> sect. <i>Embllicastrum</i>	<i>P. curranii</i> C.B. Rob.	Philippines	Malasia		x	x	Robinson 1909
Subg. <i>Eriococcus</i> sect. <i>Embllicastrum</i>	<i>P. lamprophyllus</i> Müll.Arg.	Indonesia (Java)	Australia, Malasia		x	x	Müller 1866
Subg. <i>Eriococcus</i> sect. <i>Embllicastrum</i>	<i>P. robinsonii</i> Meir.	Philippines	Malasia		x	x	Merrill 1912
Subg. <i>Eriococcus</i> sect. <i>Embllicastrum</i>	<i>P. watsonii</i> Airy Shaw	Peninsular Malaysia	Mainland Asia		x	x	Airy Shaw 1971
Subg. <i>Eriococcus</i> sect. <i>Eriococcodes</i>	<i>P. acutissimus</i> Miq.	Indonesia (Java, Sumatra), Thailand	Mainland Asia		x	x	Airy Shaw 1969
Subg. <i>Eriococcus</i> sect. <i>Eriococcodes</i>	<i>P. fangchengensis</i> P.T.Li	China	Mainland Asia		x	x	Li 1987a
Subg. <i>Eriococcus</i> sect. <i>Eriococcodes</i>	<i>P. guangdongensis</i> P.T.Li	China	Mainland Asia		x	x	Li 1987a
Subg. <i>Eriococcus</i> sect. <i>Eriococcodes</i>	<i>P. kampotensis</i> Belle	Cambodia, Vietnam	Tropical Africa		x	x	Thin 2007
Subg. <i>Eriococcus</i> sect. <i>Eriococcodes</i>	<i>P. nanellus</i> P.T.Li	Hainan	Mainland Asia		x	x	Li 1987a
Subg. <i>Eriococcus</i> sect. <i>Eriococcodes</i>	<i>P. spirei</i> Belle	Lao People's Democratic Republic	Mainland Asia		x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Eriococcus</i>
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. acutus</i> Wall. ex Müll.Arg.	Malaysia	Mainland Asia		x	x	Müller 1866
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. armstrongii</i> Benth.	Australia (Northern Territory)	?Australia		~		
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. baillonianus</i> Müll.Arg.	Sri Lanka	Malasia		x	x	Müller 1863
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. balanseae</i> Belle	Vietnam	Mainland Asia		x	x	Belle 1927
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. beddomei</i> (Gamble) M.Mohanan	India	Mainland Asia		x	x	Balakrishnan & Chakrabarty 2007
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. birmannicus</i> Müll.Arg.	Myanmar	Mainland Asia		x	x	Müller 1863
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. blancoanus</i> Müll.Arg.	Philippines	Malasia		x	x	Müller 1863
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. bodinieri</i> (H.Lév.) Rehder	China	Mainland Asia		x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Eriococcus</i>
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. chekiangensis</i> M.Schmid	China	Mainland Asia		x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Eriococcus</i>
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. cinereus</i> Müll.Arg.	Sri Lanka	Malasia		x	x	Müller 1866
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. elegans</i> Wall.	Myanmar, Thailand, Vietnam	Mainland Asia		x	x	Belle 1927
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. evrardii</i> Belle	Vietnam	Mainland Asia		x	x	Belle 1927
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. filicifolius</i> Gage	Peninsular Malaysia	Mainland Asia		x	x	Gage 1914
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. firmbratus</i> (Wight) Müll.Arg.	India	Mainland Asia		x	x	Müller 1863
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. forestii</i> W.W.Sm.	China	Mainland Asia		x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Eriococcus</i>
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. glabrescens</i> (Miq.) Müll.Arg.	Lesser Sunda Islands	Malasia		x	x	Müller 1863

## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. gomphocarpus</i> Hook.f.	India, Myanmar, Peninsular Malaysia	Mainland Asia	x	x	x	Balakrishnan & Chakrabarty 2007
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. gracilipes</i> (Miq.) Müll.Arg.	China, Indonesia, Lao People's Democratic Republic, Malaysia, Thailand, Vietnam	Mainland Asia	x	x	x	Airy Shaw 1975
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. greenii</i> Elmer	Philippines	Malesia	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Eriococcus</i>
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. heinaneensis</i> Merr.	China	Mainland Asia	x	x	x	Merrill 1935
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. heyneanus</i> Müll.Arg.	India	Mainland Asia	x	x	x	Müller 1863
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. insulensis</i> Belle	Vietnam	Mainland Asia	x	x	x	Belle 1927
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. kinabaluensis</i> Airy Shaw	Borneo	Malesia	x	x	x	Airy Shaw 1974, 1975
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. laciniaatus</i> C.B. Rob.	Philippines	Malesia	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Eriococcus</i>
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. leptocladus</i> Benth.	China	Mainland Asia	x	x	x	Müller 1863
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. leyfensis</i> Elmer	Philippines	Malesia	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Eriococcus</i>
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. macrocalyx</i> Müll.Arg.	India	Mainland Asia	x	x	x	Müller 1863
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. megaracem</i> (Gamble) Kumari & Chandrab.	India	Mainland Asia	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Eriococcus</i>
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. megalanthus</i> C.B. Rob.	Philippines	Malesia	x	x	x	Chen et al. 2009
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. mindorensis</i> C.B. Rob.	Philippines	Malesia	x	x	x	Chen et al. 2009
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. muriculatus</i> J.J.Sm.	Indonesia (Java)	Malesia	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Eriococcus</i>
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. oreophilus</i> Müll.Arg.	Sri Lanka	Malesia	x	x	x	Müller 1863
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. pileyi</i> Belle	Vietnam	Mainland Asia	x	x	x	Belle 1927
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. pulcher</i> Wall. ex Müll.Arg.	China, Indonesia, Lao People's Democratic Republic, Malaysia, Thailand	Mainland Asia	x	x	x	Airy Shaw 1975
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. pulchroides</i> Belle	Cambodia, Vietnam	Mainland Asia	x	x	x	Belle 1927
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. rubescens</i> Belle	Vietnam	Mainland Asia	x	x	x	Belle 1927
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. rubristipulus</i> Goovaerts & Radcl.-Sm.	Vietnam	Mainland Asia	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Eriococcus</i>
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. sibuyanensis</i> Elmer	Philippines	Malesia	x	x	x	Chen et al. 2009
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. sikkimensis</i> Müll.Arg.	Bhutan, India, Myanmar, Nepal, Peninsular Malaysia, People's Republic of Bangladesh	Malesia	x	x	x	Müller 1866
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. singelensis</i> (Miq.) Müll.Arg.	Indonesia (Sumatra)	Malesia	x	x	x	Müller 1863
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. scoleptensis</i> Craib	China	Mainland Asia	x	x	x	Belle 1927
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. stipularis</i> Merr.	Philippines	Malesia	x	x	x	Robinson 1909
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. taxodifolius</i> Belle	Cambodia, China, Thailand, Vietnam	Mainland Asia	x	x	x	Belle 1927
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. trichosporus</i> Adelb.	Indonesia (Celebes, Java)	Malesia	x	x	x	Backer 1945
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. triphlebius</i> C.B. Rob.	Philippines	Malesia	x	x	x	Robinson 1909
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. wightianus</i> Müll.Arg.	India	Mainland Asia	x	x	x	Müller 1863
Subg. <i>Eriococcus</i> sect. <i>Eriococcus</i>	<i>P. nhatrangensis</i> Belle	Vietnam	Mainland Asia	x	x	x	Brunel 1987
Subg. <i>Eriococcus</i> sect. <i>Nymphanthus</i>	<i>P. ruber</i> (Lour.) Spreng.	China, Vietnam	Mainland Asia	x	x	x	Belle 1927
Subg. <i>Eriococcus</i> sect. <i>Nymphanthus</i>	<i>P. touranensis</i> Belle	Vietnam	Mainland Asia	x	x	x	Belle 1927
Subg. <i>Eriococcus</i> sect. <i>Scepasma</i>	<i>P. buxifolius</i> (Blume) Müll.Arg.	Indonesia (Borneo, Java)	Malesia	x	x	x	Airy Shaw 1975
Subg. <i>Eriococcus</i> sect. <i>Scepasma</i>	<i>P. palauiensis</i> Hosok.	Caroline Islands	Malesia	x	x	x	
Subg. <i>Gomphidium</i>	<i>P. ankaratrae</i> (Leandri) Petra Hoffm. & McPherson	Madagascar	Madagascar	x	x	x	Ralimanana & Hoffmann 2011
Subg. <i>Gomphidium</i>	<i>P. acupiniensis</i> M.Schmid	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. apiculatus</i> Merr.	Philippines	Malesia	x	x	x	Merrill 1920
Subg. <i>Gomphidium</i>	<i>P. barouaensis</i> M.Schmid	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. boguensis</i> M.Schmid	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. carlotiae</i> M.Schmid	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. cherrieri</i> M.Schmid	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. ciliaris</i> Baill.	New Caledonia	New Caledonia	x	x	x	Guillaumin 1927
Subg. <i>Gomphidium</i>	<i>P. coratulus</i> C.B. Rob.	Philippines	Malesia	x	x	x	Robinson 1909
Subg. <i>Gomphidium</i>	<i>P. dorothae</i> M.Schmid	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. dumbaensis</i> M.Schmid	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. faveri</i> M.Schmid	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. frachetii</i> M.Schmid	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. golanensis</i> M.Schmid	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. humbertii</i> (Leandri) Petra Hoffm. & McPherson	Madagascar	Madagascar	x	x	x	Ralimanana & Hoffmann 2011
Subg. <i>Gomphidium</i>	<i>P. kourmancensis</i> Guillaumin	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. lichenisilvae</i> (Leandri ex Humbert) Petra Hoffm. & McPherson	Madagascar	Madagascar	x	x	x	Ralimanana & Hoffmann 2011
Subg. <i>Gomphidium</i>	<i>P. longerramosus</i> Guillaumin ex M.Schmid	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. luciferae</i> M.Schmid	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991

## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Gomphidium</i>	<i>P. maradjelaensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. marogjeiensis</i> (Leandri) Petra Hoffm. & McPherson	Madagascar	Madagascar	x	x	x	Rallimanana & Hoffmann 2011
Subg. <i>Gomphidium</i>	<i>P. memaoyaeensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. meuiensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. nitens</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. oreichitius</i> Leandri	Madagascar	Madagascar		x	x	Rallimanana & Hoffmann 2011
Subg. <i>Gomphidium</i>	<i>P. ovalifolius</i> J.J. Sm.	Moluccas	Malaysia		x	x	Smith 1920
Subg. <i>Gomphidium</i>	<i>P. parainduratus</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. parangovensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. pelatus</i> Guillaumin	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. perrieri</i> (Leandri) Petra Hoffm. & McPherson	Madagascar	Madagascar		x	x	Rallimanana & Hoffmann 2011
Subg. <i>Gomphidium</i>	<i>P. pseudotrictopodus</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. rozennae</i> M.Schmid	New Caledonia	Pacific		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. sambiranensis</i> Leandri	Madagascar	Madagascar		x	x	Rallimanana & Hoffmann 2011
Subg. <i>Gomphidium</i>	<i>P. sessilis</i> Ward.	New Guinea	Malaysia		~		Warburg 1891
Subg. <i>Gomphidium</i>	<i>P. stultitiae</i> Airy Shaw	Irian Jaya	Malaysia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i>	<i>P. tabularis</i> Airy Shaw	Papua New Guinea	Malaysia		x	x	Webster. 2001 Synopsis of <i>Gomphidium</i>
Subg. <i>Gomphidium</i>	<i>P. tixieri</i> M. Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. trichopodus</i> Guillaumin	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. umbricola</i> Guillaumin	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. unifoliatum</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. valeriae</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. virgulitramus</i> Däniker	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. vulcant</i> Guillaumin	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i>	<i>P. yvettae</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. baladensis</i> Baill.	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. aeneus</i> Baill.	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. arvensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. brassii</i> C. T. White	Australia (Queensland)	Australia		x	x	Webster. 2001 Synopsis of <i>Gomphidium</i>
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. deciduiarum</i> Däniker	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. francii</i> Guillaumin	New Caledonia	New Caledonia		x	x	Guillaumin 1927
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. guillauminii</i> Däniker	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. hypospodius</i> F. Muell.	Australia (Queensland)	Australia		x	x	Webster. 2001 Synopsis of <i>Gomphidium</i>
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. igustrifolius</i> S. Moore	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. maritimus</i> J.J. Sm.	Irian Jaya	Malaysia		x	x	Webster & Airy Shaw 1971
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. ramosii</i> Quisumb. & Merr.	Philippines	Malaysia		x	x	Chen et al. 2009 pollen
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. serpentinus</i> S. Moore	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. sylvicola</i> S. Moore	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. tirelae</i> M. Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. verrucosulus</i> Airy Shaw	Bismarck Archipel, Papua New Guinea	Malaysia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. bupleuroides</i> Baill.	New Caledonia	New Caledonia		x	x	Müller 1866, McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. casearioides</i> S. Moore	New Caledonia	New Caledonia		x	x	Rendle et al. 1921, McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. comptonii</i> S. Moore	New Caledonia	New Caledonia		x	x	Rendle et al. 1921, McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. conjugatus</i> M. Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. dracunculooides</i> Baill.	New Caledonia	New Caledonia		x	x	Rendle et al. 1921, McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. gneissicus</i> S. Moore	New Caledonia	New Caledonia	x	x	x	Rendle et al. 1921, McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. loranthoides</i> Baill.	New Caledonia	New Caledonia	x	x	x	Lobreau-Callen et al. 1988
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. macrochoron</i> Baill.	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							

## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. margaretae</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. montrouzieri</i> Guillaumin	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. moratii</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. ouveanus</i> Däniker	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. rhodoladus</i> S. Moore	New Caledonia	New Caledonia		x	x	Rendle et al. 1921
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. saiaifolius</i> Baill.	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. serasinii</i> Guillaumin	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. torrentium</i> Müll. Arg.	New Caledonia	New Caledonia		x	x	Müller 1866, McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. vesperillo</i> Baill.	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Adenoglochidion</i>	<i>P. yaouhenensis</i> Schltr.	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
subsect. <i>Eleutherogynium</i>							
Subg. <i>Gomphidium</i> sect. <i>Calodictyon</i>	<i>P. tuerckheimii</i> G.L. Webster	Guatemala	Central America		x	x	Webster 1967a, Webster & Carpenter 2008
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. acinaefolius</i> Aity Shaw & G.L. Webster	Papua New Guinea	Malesia		x	x	Aity Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. amieuensis</i> Guillaumin	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. ardisianthus</i> Aity Shaw & G.L. Webster	Irian Jaya	Malesia		x	x	Aity Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. balansaeanus</i> Guillaumin	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. bourgoisii</i> Baill.	Irian Jaya	Malesia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. buxoides</i> Guillaumin	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. calcicola</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. castus</i> S. Moore	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. caudatus</i> Müll. Arg.	New Caledonia	New Caledonia	x	x	x	Rendle et al. 1921, McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. charnecerasus</i> Baill.	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. cornutus</i> Baill.	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. dzumacensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. frodinii</i> Aity Shaw	Papua New Guinea	Malesia		x	x	Aity Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. gluchidoloides</i> Elmer	Philippines	Malesia		x	x	Chen et al. 2009 pollen
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. heleneae</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. heterodoxus</i> Müll. Arg.	Fiji	Pacific		x	x	Webster 1986
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. houalouensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. jaffrei</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. kostermansii</i> Aity Shaw	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. koniamboensis</i> M.Schmid	Irian Jaya	Malesia		x	x	Aity Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. kouaouensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. macphersonii</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. mangenotii</i> M.Schmid	New Caledonia	New Caledonia	x	x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. montis-foritum</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. moorei</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. mouensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. niringensis</i> M.Schmid	New Caledonia	New Caledonia	x	x	x	Müller 1866
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. pancheirianus</i> Baill.	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. paucicapillus</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. petchikaransis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. pinjenensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. polygynus</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. poueboensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. poumensis</i> Guillaumin	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. pterocladus</i> S. Moore	New Caledonia	New Caledonia		x	x	Rendle et al. 1921, McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. quintuplinervis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. rupi-insularis</i> Hosok.	Caroline Isl.	Malesia		x	x	Webster 1986
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. sauropodoides</i> Aity Shaw	Australia (Queensland)	Australia		x	x	McPherson & Schmid 1991



## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. securinegoides</i> Merr.	Philippines	Malasia		x	x	Chen et al. 2009 pollen
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. smithianus</i> G.L.Webster	Fiji	Malasia		x	x	Webster 1986
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. stenophyllum</i> Guillaumin	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. tangensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. tenuipedicellatus</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. tibeghiensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. triepalms</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. unioensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. velloni</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. avanguiensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
subsect. <i>Physoglochidion</i>	<i>P. fagueuif</i> Baill.	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. jauberti</i> Vieill. ex Guillaumin	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. koghiensis</i> Guillaumin	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. netoensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. nothisi</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. pilifer</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. pindaiensis</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. platycalyx</i> Müll.Arg.	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. stipitatus</i> M.Schmid	New Caledonia	New Caledonia		x	x	McPherson & Schmid 1991
Subg. <i>Gomphidium</i> sect. <i>Gomphidium</i>	<i>P. fimbriatipalpus</i> Guillaumin	Vanuatu	New Caledonia		x	x	Guillaumin 1937, but see Webster 1986
Subg. <i>Gomphidium</i> sect. <i>Leptonema</i>	<i>P. kanaleinsis</i> Baill.	New Caledonia	Pacific		x	x	Webster & Carpenter 2008
Subg. <i>Gomphidium</i> sect. <i>Leptonema</i>	<i>P. acethylifolius</i> J.J.Sm.	Irian Jaya	New Caledonia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. amnicorum</i> G.L.Webster	Tonga	Pacific		x	x	Webster 1986
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. aphanostyles</i> Airy Shaw & G.L.Webster	Papua New Guinea	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. clamboides</i> (F.Muell.) Diels	Papua New Guinea	Australia (Queensland), Papua New Guinea		x	x	Smith 1912
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. cuscutiflorus</i> S.Moore	Australia (Queensland), Papua New Guinea	Australia, Malasia	x	x	x	Webster & Airy Shaw 1971
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. efrusus</i> S.Moore	Papua New Guinea	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. finschii</i> K.Schum.	Papua New Guinea	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. flaviflorus</i> Airy Shaw	Papua New Guinea	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. glitlerupi</i> J.J.Sm.	Papua New Guinea	Malasia		x	x	Smith 1912
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. insulaae-japan</i> Airy Shaw	Papua New Guinea	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. merinthopodus</i> Diels	Papua New Guinea	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. papuanus</i> Gage	Irian Jaya	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. pegraclis</i> Gillespie	Fiji	Malasia		x	x	Webster 1986
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. poli-borealis</i> Airy Shaw	Irian Jaya	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. praelongipes</i> Airy Shaw & G.L.Webster	Australia (Queensland), Papua New Guinea	Australia, Malasia		x	x	Webster & Airy Shaw 1971
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. pulleanii</i> Airy Shaw & G.L.Webster	Papua New Guinea	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. rheophilus</i> Airy Shaw	Papua New Guinea	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. rosseleensis</i> Airy Shaw & G.L.Webster	Papua New Guinea	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. rubriflorus</i> J.J.Sm.	Papua New Guinea	Malasia		x	x	Smith 1912
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. rufuschaneyi</i> Welzen, R.W.Bouman & Ent	Papua New Guinea	Malasia		x	x	Bouman et al. 2018
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. salomonis</i> Airy Shaw	Papua New Guinea	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. tagulae</i> Airy Shaw & G.L.Webster	Papua New Guinea	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. tenuifrachis</i> J.J.Sm.	Papua New Guinea	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. utricularis</i> Airy Shaw & G.L.Webster	Papua New Guinea	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. warburgii</i> Airy Shaw & G.L.Webster	Papua New Guinea	Malasia		x	x	Airy Shaw 1980a
Subg. <i>Gomphidium</i> sect. <i>Nymania</i>	<i>P. wilkesianus</i> Müll.Arg.	Fiji	Malasia		x	x	Webster 1986
Subg. <i>Isocladus</i>	<i>P. maderaspatensis</i> L.	Palaeotropics	Tropical Africa, Asia	x	x	x	Rallimanana & Hoffmann 2011
Subg. <i>Kirganella</i> ?	<i>P. caudatifolius</i> Merr.	Philippines	Malasia		x	x	Merril 1926

## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Kirganella</i> ?	<i>P. dumetosus</i> Poir.	Philippines	Malesia				
Subg. <i>Kirganella</i>	<i>P. keyensis</i> Warb.	Papua New Guinea	Malesia		x	x	Warburg 1891
Subg. <i>Kirganella</i>	<i>P. martinii</i> Raddi.-Sm.	Zambia	Tropical Africa		x	x	Raddcliffe-Smith 1996
Subg. <i>Kirganella</i>	<i>P. oligospermus</i> Hayata	Taiwan	Malesia	x	x	x	Li 1987
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. angavensis</i> Leandri	Madagascar	Madagascar		x	x	Brunel 1987a
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. archibaldianus</i> Airy Shaw & G.L. Webster	Papua New Guinea	Malesia		x	x	Webster & Airy Shaw 1971
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. baccatus</i> F. Muell. ex Benth.	Australia	Australia		x	x	Barrett & Telford 2015
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. caesius</i> Airy Shaw & G.L. Webster	Papua New Guinea	Malesia		x	x	Webster & Airy Shaw 1971
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. caesticurum</i> P. Willemet	Madagascar	Madagascar	x	x	x	Müller 1866
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. ciccoides</i> Müll. Arg.	Australia, Papua New Guinea	Australia, Malesia		x	x	Webster & Airy Shaw 1971
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. deplanchei</i> Müll. Arg.	New Caledonia	New Caledonia		x	x	Müller 1863
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. fuscocoloratus</i> Müll. Arg.	Madagascar	Madagascar	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Kirganella</i>
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. glaucinus</i> (Miq.) Müll. Arg.	Indonesia (Sumatra)	Malesia		x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Kirganella</i>
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. mattanensis</i> Leandri	Madagascar	Madagascar	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Kirganella</i>
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. microcarpus</i> (Benth.) Müll. Arg.	India, Indonesia, Myanmar, Thailand	Mainland Asia, Malesia		x	x	Luo et al. 2011
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. muellerianus</i> (Kuntze) Exell	Angola, Benin, Cameroon, Democratic Republic of the Congo, Gabon, Guinea, Ivory Coast, Liberia, Nigeria, South Africa, United Republic of Tanzania, Zambia	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. novae-hollandiae</i> Müll. Arg.	Australia (Queensland), Papua New Guinea	Australia, Malesia		x	x	Webster & Airy Shaw 1971
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. ovalifolius</i> Forssk.	Angola, Cameroon, Democratic Republic of the Congo, Ethiopia, Kenya, Malawi, Mozambique, Rwanda, Uganda, United Republic of Tanzania, Yemen	Tropical Africa		x	x	Brunel 1987
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. pervilleanus</i> (Baill.) Müll. Arg.	Comoros, Madagascar	Madagascar	x	x	x	Rallimanana & Hoffmann 2011: subg. <i>Kirganella</i> , probably sect. <i>Anisonema</i>
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. polyspermus</i> Schumacher.	Cameroon, Congo, Gabon, Togo	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. reticulatus</i> Poir.	Bhutan, China, India, Indonesia, Myanmar, Papua New Guinea, Peninsular Malaysia, People's Republic of Bangladesh, Philippines, Thailand	Mainland Asia, Malesia	x	x	x	Airy Shaw 1975, see Luo et al. 2011
Subg. <i>Kirganella</i> sect. <i>Anisonema</i>	<i>P. seyrigii</i> Leandri	Madagascar	Madagascar	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Kirganella</i>
Subg. <i>Kirganella</i> sect. <i>Brazzeani</i>	<i>P. dinklagei</i> Pax	Cameroon, Democratic Republic of the Congo, Gabon, Republic of Equatorial Guinea	Tropical Africa		x	x	Meeuwis & Punt 1983
Subg. <i>Kirganella</i> sect. <i>Chorisandra</i>	<i>P. coluteoides</i> Baill.	Madagascar	Madagascar	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Kirganella</i>
Subg. <i>Kirganella</i> sect. <i>Chorisandra</i>	<i>P. kidna</i> Challen. & Petra Hoffm.	Cameroon	Tropical Africa	x	x	x	Challen et al. 2011
Subg. <i>Kirganella</i> sect. <i>Chorisandra</i>	<i>P. orientalis</i> (Crab) Airy Shaw	Thailand	Mainland Asia	~	x	x	Airy Shaw 1971
Subg. <i>Kirganella</i> sect. <i>Chorisandra</i>	<i>P. pinnatus</i> (Wight) G.L. Webster	Kenya, Malawi, Mozambique, United Republic of Tanzania, Zimbabwe	Tropical Africa	x	x	x	Webster 1957
Subg. <i>Kirganella</i> sect. <i>Cicca</i>	<i>P. ibonensis</i> Rusby	Bolivia	Tropical South America		x	x	Rusby 1927
Subg. <i>Kirganella</i> sect. <i>Cicca</i>	<i>P. pseudonobilis</i> Rusby	Bolivia	Tropical South America		x	x	Rusby 1927
Subg. <i>Kirganella</i> sect. <i>Cicca</i> subsect. <i>Aporosella</i>	<i>P. chacoensis</i> Morong	Argentina, Brazil, Paraguay, Bolivia	Tropical South America	x	x	x	Webster 2001b
Subg. <i>Kirganella</i> sect. <i>Cicca</i> subsect. <i>Aporosella</i>	<i>P. elisiae</i> Urb.	Colombia, Mexico, Guyana, Trinidad & Tobago	North America, Tropical South America, West Indies		x	x	Webster 2001b
Subg. <i>Kirganella</i> sect. <i>Cicca</i> subsect. <i>Cheramela</i>	<i>P. acidus</i> Skeels	Pan-tropical	Pan-tropical	x	x	x	Webster 2001b
Subg. <i>Kirganella</i> sect. <i>Ciccopsis</i>	<i>P. pseudocicca</i> Griseb.	Cuba	West Indies		x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Kirganella</i> , but see Brunel 1987
Subg. <i>Kirganella</i> sect. <i>Hemicicca</i>	<i>P. flexuosus</i> (Siebold & Zucc.) Müll. Arg.	China, Japan	Mainland Asia	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Kirganella</i> : <i>Fleugeopsis</i>
Subg. <i>Kirganella</i> sect. <i>Omphacodopsis</i>	<i>P. inflatus</i> Hutch.	Ghana, Kenya, Mozambique, South Africa, Uganda, United Republic of Tanzania, Zambia, Zimbabwe	Tropical Africa		x	x	Brunel 1987
Subg. <i>Kirganella</i> sect. <i>Omphacodopsis</i>	<i>P. physocarpus</i> Müll. Arg.	Benin, Cameroon, Congo, Democratic Republic of the Congo, Gabon, United Republic of Tanzania, Zambia	Tropical Africa		x	x	Brunel 1987
Subg. <i>Kirganella</i> sect. <i>Polyanthi</i>	<i>P. cedreifolius</i> Verdc.	South Africa	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Kirganella</i> sect. <i>Polyanthi</i>	<i>P. engleri</i> Pax	United Republic of Tanzania	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Kirganella</i> sect. <i>Polyanthi</i>	<i>P. polyanthus</i> Pax	Cameroon, Central African Republic, Congo, Democratic Republic of the Congo, South Africa, Zambia	Tropical Africa	x	x	x	Brunel 1987, but see Breteier 2012
Subg. <i>Kirganella</i> sect. <i>Polyanthi</i>	<i>P. profusus</i> N.E.Br.	Cameroon, Ghana, Ivory Coast, Liberia	Tropical Africa	x	x	x	Brunel 1987, but check <i>P. wildemanni</i>
Subg. <i>Kirganella</i> sect. <i>Polyanthi</i>	<i>P. schliebenii</i> Mansf. ex Raddl.-Sm.	United Republic of Tanzania	Tropical Africa	x	x	x	Brunel 1987
Subg. <i>Kirganella</i> sect. <i>Pseudomenarda</i>	<i>P. purpureus</i> Müll. Arg.	Angola, Namibia	Tropical Africa	x	x	x	Müller 1866

## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Kirganella</i> sect. <i>Pseudomenarda</i>	<i>P. somalensis</i> Hutch.	Kenya, Somalia	Tropical Africa		x	x	Brunel 1987
Subg. <i>Macraea</i>	<i>P. alpestris</i> Belle	Benin, Ivory Coast, Liberia, Republic of Equatorial Guinea, Sierra Leone	Tropical Africa		x	x	Brunel 1987
Subg. <i>Macraea</i>	<i>P. acralensis</i> Nadeaud	Tahiti	Pacific		x		Wagner & Lorence 2011
Subg. <i>Macraea</i>	<i>P. chrysanthus</i> Bail.	New Caledonia	New Caledonia	x	x	x	Lobreau-Callen et al. 1988
Subg. <i>Macraea</i>	<i>P. clarkii</i> Hook. f.	China, India, Myanmar, Nepal, Thailand, Vietnam	Mainland Asia	x	x	x	Luo et al. 2011
Subg. <i>Macraea</i>	<i>P. distichus</i> Hook. & Arn.	Hawaii	Pacific		x	x	Webster 1986
Subg. <i>Macraea</i>	<i>P. dumosus</i> C.B.Rob.	Philippines	Malasia		x	x	Robinson 1909
Subg. <i>Macraea</i>	<i>P. everetti</i> C.B.Rob.	Philippines	Malasia		x	x	Robinson 1909
Subg. <i>Macraea</i>	<i>P. lanceifolius</i> Merr.	Australia (Northern Territory)	Australia		x	x	Chen et al. 2009
Subg. <i>Macraea</i>	<i>P. macraea</i> Müll.Arg.	India	Mainland Asia		x	x	Müller 1866
Subg. <i>Macraea</i>	<i>P. minutiflorus</i> F.Muell. ex Müll.Arg.	Australia	Australia		x	x	Barrett & Telford 2015
Subg. <i>Macraea</i>	<i>P. myrtilloides</i> (Wight) Müll.Arg.	Sri Lanka	Malasia		x	x	Brunel 1987
Subg. <i>Macraea</i>	<i>P. narayanswami</i> Gamble	India	Mainland Asia		x	x	Balakrishnan & Chakrabarty 2007
Subg. <i>Macraea</i>	<i>P. pacificus</i> Müll.Arg.	Marquesas	Pacific		x	x	Punt 1980
Subg. <i>Macraea</i>	<i>P. pansyensis</i> Merr.	Philippines	Malasia		x	x	Merrill 1920, Wu et al. 2016
Subg. <i>Macraea</i>	<i>P. macraea</i> ?	<i>P. samaranensis</i> Müll.Arg.	Australia		x	x	Hunter & Bruhl 1997a
Subg. <i>Macraea</i>	<i>P. sanjappae</i> Chakrab. & M. Gangop.	India	Mainland Asia		x	x	Chen et al. 2009
Subg. <i>Macraea</i>	<i>P. samaranensis</i> Müll.Arg.	Philippines	Malasia		x	x	Chakrabarty & Gangopadhyay 1993
Subg. <i>Macraea</i>	<i>P. tenuipes</i> C.B.Rob.	Moorea, Raiatea, Tahiti	Malasia		x	x	Robinson 1909, Wu et al. 2016
Subg. <i>Macraea</i>	<i>P. urceolatus</i> Bail.	China, Japan, Korea, Russia	West Indies	x	x	x	Brunel 1987
Subg. <i>Macraea</i>	<i>P. ussuriensis</i> Rupr. & Maxim.	China, Japan, Korea, Russia	Mainland Asia	x	x	x	Brunel 1987
Subg. <i>Macraea</i>	<i>P. virgatus</i> G. Forst.	Australia, China, Fiji, India, Indonesia (Borneo), Lao People's Democratic Republic, Myanmar, New Caledonia, Papua New Guinea, Thailand, Vietnam	Australia, Mainland Asia, Pacific	x	x	x	Lobreau-Callen et al. 1988
Subg. <i>Macraea</i>	<i>P. wheeleri</i> G.L. Webster	Sri Lanka	Mainland Asia, Pacific		x	x	Webster 1995
Subg. <i>Macraea</i>	<i>P. womersleyi</i> Airy Shaw & G.L. Webster	Papua New Guinea	Malasia	x	x	x	Webster & Airy Shaw 1971
Subg. <i>Menarda</i>	<i>P. coodei</i> Rallim. & Petra Hoffm.	Madagascar	Malasia		x	x	Rallimana et al. 2014
Subg. <i>Menarda</i>	<i>P. cryptophilus</i> (Comm. ex A. Juss.) Müll. Arg.	Madagascar	Madagascar		x	x	Rallimana et al. 2014
Subg. <i>Menarda</i>	<i>P. hodjezensis</i> Schweinf.	Yemen	Middle east		x	x	Schweinfurth 1899
Subg. <i>Menarda</i>	<i>P. zygophylloides</i> Müll. Arg.	Madagascar	Madagascar		x	x	Müller 1866
Subg. <i>Phyllanthodendron</i>	<i>P. breynioides</i> (P.T.L.) Govaerts & Raddcl.-Sm.	China	Mainland Asia		x	x	Li 1987b
Subg. <i>Phyllanthodendron</i>	<i>P. guangxiensis</i> Govaerts & Raddcl.-Sm.	China	Mainland Asia		x	x	Li 1987b
Subg. <i>Phyllanthodendron</i>	<i>P. ili</i> Govaerts & Raddcl.-Sm.	China	Mainland Asia		x	x	Li 1987b
Subg. <i>Phyllanthodendron</i>	<i>P. orbicularifolius</i> (P.T.L.) Govaerts & Raddcl.-Sm.	China	Mainland Asia		x	x	Li 1987b
Subg. <i>Phyllanthodendron</i>	<i>P. rubicundus</i> Belle	Vietnam	Mainland Asia		x	x	Belle 1927
Subg. <i>Phyllanthodendron</i>	<i>P. linguatus</i> Belle	Cambodia	Tropical Africa		x	x	Airy Shaw 1960
Subg. <i>Phyllanthodendron</i> sect. <i>Arachnodes</i>	<i>P. arachnodes</i> Govaerts & Raddcl.-Sm.	Lao People's Democratic Republic, Thailand, Vietnam	Mainland Asia		x	x	Croizat 1942
Subg. <i>Phyllanthodendron</i> sect. <i>Arachnodes</i>	<i>P. polianei</i> Belle	Vietnam	Mainland Asia		x	x	Croizat 1942
Subg. <i>Phyllanthodendron</i> sect. <i>Arachnodes</i>	<i>P. ridleyanus</i> Airy Shaw	Peninsular Malaysia, Thailand	Mainland Asia		x	x	Croizat 1942
Subg. <i>Phyllanthodendron</i> sect. <i>Calophyllum</i>	<i>P. anthropotamicus</i> Hand.-Mazz.	South China	Mainland Asia		x	x	Croizat 1942, but see Webster & Carpenter 2008
Subg. <i>Phyllanthodendron</i> sect. <i>Calophyllum</i>	<i>P. dongmoensis</i> Thun	Vietnam	Mainland Asia		x	x	Thun 2007
Subg. <i>Phyllanthodendron</i> sect. <i>Calophyllum</i>	<i>P. dunnianus</i> (H.Lév.) Hand.-Mazz. ex Rehder	China	Mainland Asia		x	x	Croizat 1942
Subg. <i>Phyllanthodendron</i> sect. <i>Phyllanthodendron</i>	<i>P. kaweesakii</i> Pomp., Chantar. & J. Parr.	Thailand	Mainland Asia		x	x	Pompongrungrueang et al. 2017
Subg. <i>Phyllanthodendron</i> sect. <i>Phyllanthodendron</i>	<i>P. mirabilis</i> Müll. Arg.	China, Lao People's Democratic Republic, Thailand	Mainland Asia	x	x	x	Hemsley 1898
Subg. <i>Pseudoactephila</i>	<i>P. carinatus</i> Belle	Vietnam	Mainland Asia		x	x	Croizat 1942
Subg. <i>Pseudoactephila</i>	<i>P. lativenius</i> (Croizat) Govaerts & Raddcl.-Sm.	China	Mainland Asia		x	x	Croizat 1942
Subg. <i>Pseudoactephila</i>	<i>P. roseus</i> (Craib & Hutch.) Belle	China, Lao People's Democratic Republic, Thailand, Vietnam	Mainland Asia		x	x	Croizat 1942, but see Webster & Carpenter 2008
Subg. <i>Pseudoactephila</i>	<i>P. yunnanensis</i> (Croizat) Govaerts & Raddcl.-Sm.	China	Mainland Asia		x	x	Croizat 1942
Subg. <i>Phyllanthodendron</i> sect. <i>Tetrandrum</i>	<i>P. moi</i> P.T.Li	China	Mainland Asia		x	x	Li 1987b
Subg. <i>Phyllanthus</i>	<i>P. bicolor</i> Vis.	Venezuela	Tropical South America		x	x	Visiani 1858
Subg. <i>Phyllanthus</i>	<i>P. cassioides</i> Rusby	Bolivia	Tropical South America		x	x	Rusby 1912

## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Phyllanthus</i>	<i>P. compressus</i> Kunth	Brazil, Costa Rica, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Venezuela	Central to North America		x		
Subg. <i>Phyllanthus</i>	<i>P. leptocaulis</i> Müll. Arg.	Brazil	Tropical South America		x		Müller 1873
Subg. <i>Phyllanthus</i>	<i>P. paraguayensis</i> Parodi	Paraguay	Tropical South America		x		Parodi 1881
Subg. <i>Phyllanthus</i>	<i>P. pohlianus</i> Müll. Arg.	Brazil	Tropical South America		x		Müller 1873
Subg. <i>Phyllanthus</i>	<i>P. simplicicaulis</i> Müll. Arg.	Brazil	Tropical South America		x		Müller 1863, 1866
Subg. <i>Phyllanthus</i>	<i>P. subcuneatus</i> Greenm.	Mexico	North America		~		Greenman 1898
Subg. <i>Phyllanthus</i> sect. <i>Choretropsis</i>	<i>P. angustissimus</i> Müll. Arg.	Brazil	Tropical South America	x	x		Santiago et al. 2006
subsect. <i>Applanata</i>							
Subg. <i>Phyllanthus</i> sect. <i>Choretropsis</i>	<i>P. edmundoi</i> L. J. M. Santiago	Brazil	Tropical South America		x		Santiago et al. 2006
subsect. <i>Applanata</i>							
Subg. <i>Phyllanthus</i> sect. <i>Choretropsis</i>	<i>P. flagelliformis</i> Müll. Arg.	Brazil	Tropical South America		x		Santiago et al. 2006
subsect. <i>Applanata</i>							
Subg. <i>Phyllanthus</i> sect. <i>Choretropsis</i>	<i>P. gladiatus</i> Müll. Arg.	Brazil	Tropical South America		x		Santiago et al. 2006
subsect. <i>Applanata</i>							
Subg. <i>Phyllanthus</i> sect. <i>Choretropsis</i>	<i>P. klotzschianus</i> Müll. Arg.	Brazil, Guyana	Tropical South America	x	x		Santiago et al. 2006
subsect. <i>Applanata</i>							
Subg. <i>Phyllanthus</i> sect. <i>Choretropsis</i>	<i>P. scoparius</i> Müll. Arg.	Brazil	Tropical South America		x		Santiago et al. 2006
subsect. <i>Applanata</i>							
Subg. <i>Phyllanthus</i> sect. <i>Choretropsis</i>	<i>P. choretroides</i> Müll. Arg.	Brazil	Tropical South America		x		Santiago et al. 2006
subsect. <i>Choretropsis</i>							
Subg. <i>Phyllanthus</i> sect. <i>Choretropsis</i>	<i>P. goianensis</i> L. J. M. Santiago	Brazil	Tropical South America		x		Santiago et al. 2006
subsect. <i>Choretropsis</i>							
Subg. <i>Phyllanthus</i> sect. <i>Choretropsis</i>	<i>P. serothamnoides</i> Govaerts & Raddcl. - Sm.	Brazil	Tropical South America		x		Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
subsect. <i>Choretropsis</i>							
Subg. <i>Phyllanthus</i> sect. <i>Choretropsis</i>	<i>P. spartioides</i> Pax & K. Hoffm.	Brazil	Tropical South America		x		Santiago et al. 2006
subsect. <i>Choretropsis</i>							
Subg. <i>Phyllanthus</i> sect. <i>Loxopodium</i>	<i>P. avicularis</i> Müll. Arg.	Brazil	Tropical South America		x		Webster 2002 Outline of the Neotropical infrageneric taxa of <i>Phyllanthus</i> (Euphorbiaceae)
Subg. <i>Phyllanthus</i> sect. <i>Loxopodium</i>	<i>P. brandegei</i> Millsp.	Mexico	North America		x		Webster 1955
Subg. <i>Phyllanthus</i> sect. <i>Loxopodium</i>	<i>P. carolinensis</i> Walter	Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, El Salvador, French Guiana, Guyana, Mexico, Nicaragua, Panama, Paraguay, Peru, Surinam, United States, Venezuela	North, Central and Tropical South America	x	x		Webster 1955
Subg. <i>Phyllanthus</i> sect. <i>Loxopodium</i>	<i>P. evanescens</i> Brandegee	Mexico	North America		x		Webster 1970
Subg. <i>Phyllanthus</i> sect. <i>Loxopodium</i>	<i>P. heliotropus</i> C. Wright ex Griseb.	Cuba	West Indies		x		Webster 1956
Subg. <i>Phyllanthus</i> sect. <i>Loxopodium</i>	<i>P. hyssopifoloides</i> Kunth.	Colombia, Costa Rica, Dominican Republic, Surinam, Venezuela	West Indies		x		Webster 1956
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. baeckeoides</i> J. T. Hunter & J. J. Bruhl	Australia (Western Australia)	Australia		x		<i>Lysiandra</i>
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. carpentariae</i> Müll. Arg.	Australia (Northern Territory, Queensland)	Australia		x		Webster 2002b
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. cautilola</i> J. T. Hunter & J. J. Bruhl	Australia (Northern Territory)	Australia		x		<i>Lysiandra</i>
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. collinus</i> Domin	Australia (Queensland)	Australia		x		Webster Outline of Australian <i>Phyllanthus</i>
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. delachyanus</i> Benth.	Australia (Queensland)	Australia		x		Webster 1978
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. eremicus</i> R. L. Barrett & I. Telford	Australia (Western Australia)	Australia		x		Barrett & Telford 2015
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. eulaxioides</i> S. Moore	Australia (Northern Territory)	Australia		x		Moore 1920
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. flagellaris</i> Benth.	Australia (Northern Territory)	Australia		x		Webster Outline of Australian <i>Phyllanthus</i>
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. fuernrohrii</i> F. Muell.	Australia	Australia		x		Barrett & Telford 2015
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. gunni</i> Hook. f.	Australia (East and Southeast)	Australia		x		Barrett & Telford 2015
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. hamelii</i> R. L. Barrett & I. Telford	Australia (coastal areas of the Carnarvon bioregion)	Australia		x		Barrett & Telford 2015
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. harrimanii</i> G. L. Webster	Mexico	North America		x		Webster 1978
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. indigiferoides</i> Benth.	Australia (Western Australia)	Australia		x		Barrett & Telford 2015
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. involutus</i> J. T. Hunter & J. J. Bruhl	Australia (Queensland)	Australia		x		Barrett & Telford 2015
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. lacerosus</i> Airy Shaw	Australia	Australia		x		Barrett & Telford 2015
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. lacunellus</i> Airy Shaw	Australia	Australia		x		<i>Lysiandra</i>
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. mitchelli</i> Benth.	Australia (Queensland)	Australia		x		Airy Shaw 1980b
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. microcladus</i> Müll. Arg.	Australia (Southeast Queensland and East New South Wales)	Australia		x		Bentham 1873
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. occidentalis</i> J. T. Hunter & J. J. Bruhl	Australia (Queensland)	Australia		x		Webster Manuscript enumeration Australian taxa: <i>Lysiandra</i>
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. savannicola</i> Domin	Australia (Queensland)	Australia		x		Hunter & Bruhl 1997b
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. saxosus</i> F. Muell.	Australia	Australia		x		Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Phyllanthus</i> sect. <i>Lysiandra</i>	<i>P. similis</i> Müll. Arg.	Australia (Queensland, New South Wales)	Australia		x		Webster 2002b

## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Subgeneric area (Queensland, New South Wales)	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Phyllanthus</i> sect. <i>Lysandra</i>	<i>P. subcrenulatus</i> F. Muell.	Australia	Australia (Queensland, New South Wales)	Australia		x	x	Von Mueller 1859
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i>	<i>P. carmenluciae</i> R. T.M. Ribeiro & Loloia	Brazil		Tropical South America		x	x	Ribeiro et al. 2017
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i>	<i>P. eremitus</i> F.unez & Hessemer	Brazil		Tropical South America	~			Funez & Hessemer 2017
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i>	<i>P. timboensis</i> Funez, J.P.R. Ferreira & Hessemer	Brazil		Tropical South America		x	x	Funez et al. 2018
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Almadanses</i>	<i>P. almadensis</i> Müll.Arg.	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. acutifolius</i> Poir. ex Spreng.	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. allenii</i> G.L. Webster	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. arenicole</i> Casar.	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. atalaiensis</i> G.L. Webster	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. blanchetianus</i> Müll.Arg.	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. bradeanus</i> G.L. Webster	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. caparaensis</i> G.L. Webster	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. carvalhoi</i> G.L. Webster	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. clausenii</i> Müll.Arg.	Brazil		Tropical South America	x	x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. fastigiatus</i> Mart. ex Müll.Arg.	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. glaziovii</i> Wall. ex Müll.Arg.	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. gongyoloides</i> Cordeiro & Carr.-Torres	Brazil		Tropical South America		x	x	Cordeiro & Carneiro-Torres 2004
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. heteradenius</i> Müll.Arg.	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. hypoleucus</i> Müll.Arg.	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. itatiaiensis</i> Brade	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. lagoensis</i> Müll.Arg.	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. mocotensis</i> G.L. Webster	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. piranii</i> G.L. Webster	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. retroflexus</i> Brade	Brazil		Tropical South America		x	x	Silva & Sales 2008
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. sincorensis</i> G.L. Webster	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Clausseniani</i>	<i>P. submarginalis</i> Müll.Arg.	Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Niruri</i>	<i>P. augustinii</i> Baill.	Southeast Brazil		Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Niruri</i>	<i>P. bolivianus</i> Pax & K. Hoffm.	Bolivia		Tropical South America		x	x	Webster 2002 outline neotropical taxa
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Niruri</i>	<i>P. longipedicellatus</i> M. J. Silva	Brazil		Tropical South America		x	x	Silva 2009
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Niruri</i>	<i>P. mimicus</i> G.L. Webster	Trinidad & Tobago		West Indies		x	x	Webster 1957
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Niruri</i>	<i>P. niruri</i> L.	North and South America		North, Central and Tropical South America	x	x	x	Webster 2002a

## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Niruri</i>	<i>P. perpusillus</i> Baill.	Brazil	Tropical South America		x	x	Webster 2002a
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Pentaphylli</i>	<i>P. amnicola</i> G.L.Webster	Dominican Republic	West Indies		x	x	Webster 1955, 1957
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Pentaphylli</i>	<i>P. brachyphyllus</i> Urb.	Haiti	West Indies		x	x	Webster 1957
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Pentaphylli</i>	<i>P. buchii</i> Urb.	Dominican Republic, Haiti	West Indies		x	x	Webster 1957
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Pentaphylli</i>	<i>P. dimorphus</i> Britton & P.Wilson	Cuba	West Indies		x	x	Webster 1957
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Pentaphylli</i>	<i>P. echinospermus</i> C.Wright	Cuba	West Indies		x	x	Webster 1957
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Pentaphylli</i>	<i>P. fueresii</i> Urb.	Dominican Republic, Haiti	West Indies		x	x	Webster 1955, 1957
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Pentaphylli</i>	<i>P. imbricatus</i> G.L.Webster	Cuba	West Indies		x	x	Webster 1955, 1957
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Pentaphylli</i>	<i>P. junceus</i> Müll.Arg.	Cuba	West Indies		x	x	Webster 1957
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Pentaphylli</i>	<i>P. leptoneurus</i> Urb.	Dominican Republic, Haiti	West Indies		x	x	Webster 1957
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Pentaphylli</i>	<i>P. maestrensis</i> Urb.	Cuba	West Indies		x	x	Webster 1957
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Pentaphylli</i>	<i>P. micranthus</i> A.Rich.	Cuba	West Indies		x	x	Webster 1955, 1957
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Pentaphylli</i>	<i>P. pentaphyllus</i> C.Wright ex Griseb.	Caribbean, Florida, Venezuela	North, Central and Tropical South America		x	x	Webster 1955, 1957
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Pentaphylli</i>	<i>P. pulverulentus</i> Urb.	Cuba	West Indies		x	x	Webster 1957
Subg. <i>Phyllanthus</i> sect. <i>Phyllanthus</i> subsect. <i>Pentaphylli</i>	<i>P. selbyi</i> Britton & P.Wilson	Cuba	West Indies		x	x	Webster 1957
Subg. <i>Phyllanthus</i> sect. <i>Salviniopsis</i>	<i>P. fluitans</i> Benth. ex Müll.Arg.	Argentina, Brazil, Colombia, Ecuador, Mexico, Paraguay, Peru, United States, Venezuela	Tropical South to North America		x	x	Brunel 1987
Subg. <i>Swartziiani</i>	<i>P. abnormis</i> Baill.	United States	North America	x	x	x	Ralimanana et al. 2013
Subg. <i>Swartziiani</i>	<i>P. amarus</i> Schumacher & Thonn.	Pan-tropical	Pan-tropical	x	x	x	Ralimanana et al. 2013
Subg. <i>Swartziiani</i>	<i>P. caribaeus</i> Urb.	Brazil, Colombia, Mexico, Trinidad & Tobago, Venezuela	West Indies	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Swartziiani</i>	<i>P. fadyenii</i> Urb.	Jamaica	West Indies	x	x	x	Webster 1957
Subg. <i>Swartziiani</i>	<i>P. fraternalis</i> G.L.Webster	Widespread in Tropical Africa to Asia, naturalised elsewhere	Mainland Asia	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Swartziiani</i>	<i>P. hexadactylus</i> McVaugh	Mexico	North America	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Swartziiani</i>	<i>P. leptophyllus</i> Müll.Arg.	Brazil	Tropical South America	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Swartziiani</i>	<i>P. lindbergii</i> Müll.Arg.	Brazil, Colombia, Surinam, Venezuela	Tropical South America	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Swartziiani</i>	<i>P. microphyllus</i> Kunth	Bolivia, Brazil, Colombia, Venezuela	Tropical South America	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Swartziiani</i>	<i>P. minutulus</i> Müll.Arg.	Brazil, Colombia, Venezuela	Tropical South America	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Swartziiani</i>	<i>P. procerus</i> C.Wright	Cuba	West Indies	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Swartziiani</i>	<i>P. standleyi</i> McVaugh	Mexico	North America	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Swartziiani</i>	<i>P. stipulatus</i> (Raf.) G.L.Webster	Bolivia, Brazil, Colombia, Costa Rica, Ecuador, Guyana, Nicaragua, Venezuela	Tropical South America	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Swartziiani</i> ?	<i>P. vichadensis</i> Croizat	Colombia	Tropical South America		x	x	Croizat 1945
Subg. <i>Swartziiani</i> sect. <i>Reverchonia</i>	<i>P. warnockii</i> G.L.Webster	United States	North America	x	x	x	Webster 2007
Subg. <i>Tenellanthus</i> ?	<i>P. tenellanthus</i> ?	United Republic of Tanzania	Tropical Africa		x	x	Radcliffe-Smith 1982
Subg. <i>Tenellanthus</i> ?	<i>P. manicaensis</i> Jean F.Brunel ex Radcl.-Sm.	Mozambique	Tropical Africa		x	x	Radcliffe-Smith 1996
Subg. <i>Tenellanthus</i> ?	<i>P. mozambicensis</i> Gand.	Mozambique	Tropical Africa		x	x	Gandoger 1919
Subg. <i>Tenellanthus</i> sect. <i>Loandani</i>	<i>P. angolensis</i> Müll.Arg.	Angola, Botswana, Malawi, Mozambique, South Africa, United Republic of Tanzania, Zambia, Zimbabwe	Tropical Africa		x	x	Brunel 1987
Subg. <i>Tenellanthus</i> sect. <i>Loandani</i>	<i>P. graminicola</i> Hutch.	Mozambique, Zimbabwe	Tropical Africa		x	x	Brunel 1987
Subg. <i>Tenellanthus</i> sect. <i>Loandani</i>	<i>P. loandensis</i> Welw.	Angola, Mozambique, South Africa	Tropical Africa		x	x	Brunel 1987
Subg. <i>Tenellanthus</i> sect. <i>Loandani</i>	<i>P. tsetserrae</i> Jean F.Brunel	Mozambique	Tropical Africa		x	x	Brunel 1987
Subg. <i>Tenellanthus</i> sect. <i>Pentandra</i>	<i>P. cocumbiensis</i> Jean F.Brunel	Angola	Tropical Africa		x	x	Brunel 1987
Subg. <i>Tenellanthus</i> sect. <i>Pentandra</i>	<i>P. geayi</i> Leandri ex Humbert	Madagascar	Madagascar		x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Tenellanthus</i> sect. <i>Pentandra</i>	<i>P. mendesii</i> Jean F.Brunel	Angola, Botswana, Namibia, Zambia, Zimbabwe	Tropical Africa		x	x	Brunel 1987

## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Tenellanthus</i> sect. <i>Pentandra</i>	<i>P. parvulus</i> Sond.	Boatswana, Democratic Republic of the Congo, Namibia, South Africa	Tropical Africa	x	x	x	Webster 2002 Synopsis <i>Phyllanthus</i> subg. <i>Phyllanthus</i>
Subg. <i>Tenellanthus</i> sect. <i>Pentandra</i>	<i>P. pentlandrus</i> Schumacher, & Thonn.	Benin, Botswana, Burkina Faso, Namibia, Nigeria, South Africa, United Republic of Tanzania	Tropical Africa	x	x	x	Rallimanana & Hoffmann 2011
Subg. <i>Tenellanthus</i> sect. <i>Tenellanthus</i>	<i>P. comorensis</i> Leandri	Comoros	Indian Ocean	x	x	x	Brunel 1987
Subg. <i>Tenellanthus</i> sect. <i>Tenellanthus</i>	<i>P. nummuliferifolius</i> Poir.	Gabon, Ghana, Guinea, Liberia, Madagascar, Mozambique, Republic of Equatorial Guinea, United Republic of Tanzania	Tropical Africa	x	x	x	Rallimanana & Hoffmann 2011
Subg. <i>Tenellanthus</i> sect. <i>Tenellanthus</i>	<i>P. tenellus</i> Roxb.	Pantropical	Pantropical	x	x	x	Rallimanana & Hoffmann 2011
Subg. <i>Xylophylla</i> ?	<i>P. eurisiadro</i> Mart. ex Colla	Brazil	Tropical South America				
Subg. <i>Xylophylla</i> ?	<i>P. laevis</i> Steyerl.	Venezuela	Tropical South America				
Subg. <i>Xylophylla</i> ?	<i>P. minarum</i> Standl. & Steyerl.	Guatemala	Central America	x			
Subg. <i>Xylophylla</i> ?	<i>P. petrensis</i> Lundell	Guatemala	Central America	~			
Subg. <i>Xylophylla</i> ?	<i>P. sellowianus</i> (Klotzsch) Müll. Arg.	Argentina, Brazil, Paraguay, Uruguay	Tropical South America	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Adiantoides</i>	<i>P. adiantoides</i> Klotzsch	Guyana, Surinam	Tropical South America	x	x	x	Brunel 1987
Subg. <i>Xylophylla</i> sect. <i>Adiantoides</i>	<i>P. borjaensis</i> Jabl.	Colombia, Venezuela	Tropical South America	~			Jablonski 1967
Subg. <i>Xylophylla</i> sect. <i>Asterandra</i>	<i>P. genitryi</i> G.L. Webster	Panama	Tropical South America	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Asterandra</i>	<i>P. juglandifolius</i> Willd.	Tropical America	Tropical South America	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Brachycladus</i>	<i>P. atabapoensis</i> Jabl.	Brazil, Colombia, Guyana, Venezuela	Tropical South America	x	x	x	Webster 2001b
Subg. <i>Xylophylla</i> sect. <i>Brachycladus</i>	<i>P. mickelli</i> McVaugh	Mexico	North America	x	x	x	Webster 2001b
Subg. <i>Xylophylla</i> sect. <i>Brachycladus</i>	<i>P. paezensis</i> Jabl.	Venezuela	Tropical South America	x	x	x	Webster 2001b
Subg. <i>Xylophylla</i> sect. <i>Brachycladus</i>	<i>P. rupertis</i> Kunth	Brazil, Colombia, Venezuela	Tropical South America	x	x	x	Webster 2001b
Subg. <i>Xylophylla</i> sect. <i>Brachycladus</i>	<i>P. spruceanus</i> Müll. Arg.	Brazil	Tropical South America	x	x	x	Webster 2001b
Subg. <i>Xylophylla</i> sect. <i>Ciccastrum</i>	<i>P. purpusii</i> Brandegee	Mexico	North America	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Ciccastrum</i>	<i>P. niedelianus</i> Müll. Arg.	Brazil	Tropical South America	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Diplocicca</i>	<i>P. octomerus</i> Müll. Arg.	Brazil	Tropical South America	x	x	x	Müller 1873
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. adenoiscus</i> Müll. Arg.	Mexico: Veracruz	Tropical South America	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. anderssonii</i> Müll. Arg.	Windward Islands	North America	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. biantherifer</i> Croizat	Brazil	West Indies	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. boryanthus</i> Müll. Arg.	Colombia, Mexico, Peru, Venezuela	Tropical South America	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. chiapensis</i> Sprague	Mexico	Tropical South America	x	x	x	Webster 2001b
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. coalcomanensis</i> Croizat	Mexico	North America	x	x	x	Croizat 1943
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. gradyi</i> M.J. Silva & M.F. Sales	Brazil	North America	x	x	x	Croizat 1943
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. grandifolius</i> L.	Mexico	Tropical South America	x	x	x	Silva & Sales 2006
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. huallagensis</i> Standl. ex Croizat	Peru	North America	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. laxiflorus</i> Benth.	Guatemala, Mexico	Tropical South America	x	x	x	Croizat 1943
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. mutisianus</i> G.L. Webster	Colombia	Central and North America	x	x	x	Croizat 1943
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. nutans</i> Sw.	Cuba, Jamaica	Tropical South America	x	x	x	Webster 2001a
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. oaxacanus</i> Brandegee	Mexico	West Indies	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. pachystylus</i> Urb.	Cuba	North America	x	x	x	Croizat 1943
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. poeppigianus</i> (Müll. Arg.) Müll. Arg.	Brazil, Peru	West Indies	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. prunifolius</i> Rusby	Bolivia	Tropical South America				Müller 1866
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. racemigerus</i> Müll. Arg.	Peru, Venezuela	Tropical South America	~			
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. ramosus</i> Vell.	Brazil	Tropical South America	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. teguiliensis</i> B.L. Rob. & Greenm.	Mexico	Tropical South America	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. umbratus</i> Müll. Arg.	Brazil	North America	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. urbanianus</i> Mansf.	Haiti	Tropical South America	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. ventricosus</i> G.L. Webster	Peru	West Indies	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. vincinae</i> J.F. Macbr.	Peru	Tropical South America	x	x	x	Webster 1967b
Subg. <i>Xylophylla</i> sect. <i>Elutanthos</i>	<i>P. zanthoxyloides</i> Steyerl.	Venezuela	Tropical South America	x	x	x	Webster 2002 Outline of the Neotropical infrageneric taxa of <i>Phyllanthus</i> (Euphorbiaceae)
Subg. <i>Xylophylla</i> sect. <i>Epistylum</i>	<i>P. axillaris</i> Müll. Arg.	Jamaica	Tropical South America				Webster 2002 Outline of the Neotropical infrageneric taxa of <i>Phyllanthus</i> (Euphorbiaceae)
Subg. <i>Xylophylla</i> sect. <i>Epistylum</i>	<i>P. cauliflorus</i> (Sw.) Griseb.	Jamaica	West Indies	x	x	x	Müller 1866
Subg. <i>Xylophylla</i> sect. <i>Epistylum</i>	<i>P. cladanthus</i> Müll. Arg.	Jamaica	West Indies	x	x	x	Müller 1866
Subg. <i>Xylophylla</i> sect. <i>Glyptothammus</i>	<i>P. chryseus</i> R.A. Howard	Cuba	West Indies	x	x	x	Müller 1866
Subg. <i>Xylophylla</i> sect. <i>Hemiphyllanthus</i>	<i>P. acacioides</i> Urb.	Tobago	West Indies	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Hemiphyllanthus</i>	<i>P. malcolensis</i> Urb. & Ekman	Dominican Republic, Haiti	West Indies	x	x	x	Webster 2002 Synopsis of <i>Phyllanthus</i> subg. <i>Xylophylla</i>
Subg. <i>Xylophylla</i> sect. <i>Hemiphyllanthus</i>	<i>P. martii</i> Müll. Arg.	Brazil	West Indies	x	x	x	Webster 2002 Synopsis of <i>Phyllanthus</i> subg. <i>Xylophylla</i>
Subg. <i>Xylophylla</i> sect. <i>Hemiphyllanthus</i>	<i>P. megapodius</i> G.L. Webster	Dominica, Jamaica, Martinique	Tropical South America	x	x	x	Müller 1873
Subg. <i>Xylophylla</i> sect. <i>Hemiphyllanthus</i>			West Indies	x	x	x	Webster 2002 Synopsis of <i>Phyllanthus</i> subg. <i>Xylophylla</i>

## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Subg. <i>Xylophylla</i> sect. <i>Hemiphyllanthus</i>	<i>P. mimosoides</i> Sw.	Leeuward Isles, Trinidad	West Indies		x	x	Webster 2002 Synopsis of <i>Phyllanthus</i> subg. <i>Xylophylla</i>
Subg. <i>Xylophylla</i> sect. <i>Hemiphyllanthus</i>	<i>P. myriophyllus</i> Urb.	Haiti	West Indies		x	x	Webster 2002 Synopsis of <i>Phyllanthus</i> subg. <i>Xylophylla</i>
Subg. <i>Xylophylla</i> sect. <i>Hemiphyllanthus</i>	<i>P. ovatus</i> Poir.	Martinique	West Indies		x	x	Webster 2002 Synopsis of <i>Phyllanthus</i> subg. <i>Xylophylla</i>
Subg. <i>Xylophylla</i> sect. <i>Omphacodes</i>	<i>P. subcarnosus</i> C. Wright ex Griseb.	Cuba, Haiti	West Indies		x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Orbicularia</i>	<i>P. chamaecristoides</i> Urb.	Cuba	West Indies		x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Orbicularia</i>	<i>P. comosus</i> Urb.	Cuba	West Indies		x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Orbicularia</i>	<i>P. cuneifolius</i> (Britton) Croizat	Puerto Rico	Central America		x	x	Voronitsova et al. 2007
Subg. <i>Xylophylla</i> sect. <i>Orbicularia</i>	<i>P. formosus</i> Urb.	Cuba	West Indies		x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Orbicularia</i>	<i>P. myrtilloides</i> Griseb.	Cuba	West Indies		x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Orbicularia</i>	<i>P. nummularioides</i> Müll. Arg.	Dominican Republic	West Indies		x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Orbicularia</i>	<i>P. orbicularis</i> Kunth	Cuba to Puerto Rico, Surinam	West Indies		x	x	Hidalgo et al. 2017
Subg. <i>Xylophylla</i> sect. <i>Orbicularia</i>	<i>P. phialanthoides</i> Falcon & J.L. Gomez	Cuba	West Indies		x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Orbicularia</i>	<i>P. phlebocarpus</i> Urb.	Cuba	West Indies		x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Orbicularia</i>	<i>P. scopulorum</i> (Britton) Urb.	Cuba	West Indies		x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Oxalystis</i>	<i>P. salivillus</i> Kunth	Colombia, Costa Rica, Peru, Venezuela	Central America		x	x	Müller 1866
Subg. <i>Xylophylla</i> sect. <i>Thamnocharis</i>	<i>P. cinctus</i> Urb.	Cuba	West Indies		x	x	Webster 1955, 1958
Subg. <i>Xylophylla</i> sect. <i>Thamnocharis</i>	<i>P. comptus</i> G.L. Webster	Cuba	West Indies		x	x	Webster 1955, 1958
Subg. <i>Xylophylla</i> sect. <i>Thamnocharis</i>	<i>P. ekmanii</i> G.L. Webster	Cuba	West Indies		x	x	Webster 1955, 1958
Subg. <i>Xylophylla</i> sect. <i>Thamnocharis</i>	<i>P. cristalensis</i> Urb.	Cuba	West Indies		~	x	Webster 1958
<i>Discolores</i>							
Subg. <i>Xylophylla</i> sect. <i>Williamia</i> subsect.	<i>P. discolor</i> Poepp.	Cuba	West Indies	x	x	x	Müller 1866
<i>Discolores</i>							
Subg. <i>Xylophylla</i> sect. <i>Williamia</i> subsect.	<i>P. microdactylus</i> Urb.	Cuba	West Indies	x	x	x	Webster 1958
<i>Discolores</i>							
Subg. <i>Xylophylla</i> sect. <i>Williamia</i> subsect.	<i>P. excisus</i> Urb.	Cuba	West Indies		x	x	Webster 1958
<i>Incrustati</i>							
Subg. <i>Xylophylla</i> sect. <i>Williamia</i> subsect.	<i>P. incrustatus</i> Urb.	Cuba	West Indies		x	x	Webster 1958
<i>Incrustati</i>							
Subg. <i>Xylophylla</i> sect. <i>Williamia</i> subsect.	<i>P. willamioides</i> Griseb.	Cuba	West Indies		x	x	Webster 1958
<i>Incrustati</i>							
Subg. <i>Xylophylla</i> sect. <i>Williamia</i> subsect.	<i>P. mirificus</i> G.L. Webster	Cuba	West Indies		x	x	Webster 1958
<i>Mirifici</i>							
Subg. <i>Xylophylla</i> sect. <i>Xylophylla</i>	<i>P. angustifolius</i> (Sw.) Sw.	Cuba, Jamaica, Nicaragua	West Indies	x	x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Xylophylla</i>	<i>P. arbuscula</i> (Sw.) J.F. Gmel.	Jamaica	West Indies		x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Xylophylla</i>	<i>P. ephyllanthus</i> L.	Anguilla, Bahamas, Cuba, Dominican Republic, Guadeloupe, Haiti, Puerto Rico, Trinidad & Tobago	West Indies	x	x	x	Müller 1866
Subg. <i>Xylophylla</i> sect. <i>Xylophylla</i>	<i>P. eximius</i> G.L. Webster & Proctor	Jamaica	West Indies		x	x	Webster 1960
Subg. <i>Xylophylla</i> sect. <i>Xylophylla</i>	<i>P. latifolius</i> (L.) Sw.	Jamaica	West Indies		x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Xylophylla</i>	<i>P. montanus</i> (Sw.) Sw.	Jamaica	West Indies		x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Xylophylla</i>	<i>P. obtusatus</i> (Bilib.) Müll. Arg.	Brazil	Tropical South America		x	x	Müller 1866
Subg. <i>Xylophylla</i> sect. <i>Xylophylla</i>	<i>P. proctoris</i> G.L. Webster	Jamaica	West Indies		x	x	Webster 1958
Subg. <i>Xylophylla</i> sect. <i>Xylophylla</i>	<i>P. robustus</i> Mart. ex Colla	Brazil	Tropical South America		x	x	Colla 1831
Former <i>Isocladus</i>	<i>P. fallax</i> Müll. Arg.	Brazil	Tropical South America				Müller 1865
Former <i>Isocladus</i>	<i>P. incurvus</i> Thunb.	Tropical Africa	Tropical Africa		x	x	Brunel 1987
Former <i>Isocladus</i>	<i>P. serpentinicola</i> Radcl. - Sm.	Zimbabwe	Tropical Africa		x	x	Radcliffe-Smith 1996
Former <i>Isocladus</i>	<i>P. tener</i> Radcl. - Sm.	Zambia	Tropical Africa		x	x	Radcliffe-Smith 1996
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. aridus</i> Benth.	Australia	Australia		x	x	Webster 2002b
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. australis</i> Hook. f.	Australia (Tasmania)	Australia		x	x	Webster 2002b
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. calycinus</i> Labill.	Australia	Australia	x	x	x	Webster 2002b
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. cordobensis</i> (Kuntze) K. Schum.	Argentina	Tropical South America		x	x	Webster 2002b
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. dawsonii</i> Steyererm.	Brazil	Tropical South America		x	x	Webster 2002b
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. dictyospermus</i> Müll. Arg.	Brazil	Tropical South America		x	x	Webster 2002b
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. erwinii</i> J.T. Hunter & J.J. Bruhl	Australia	Australia		x	x	Webster 2002b
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. hirellus</i> F. Muell. ex Müll. Arg.	Australia	Australia		x	x	Webster 2002b
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. lacunarius</i> F. Muell.	Australia	Australia		x	x	Webster 2002b
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. oblancoolatus</i> J.T. Hunter & J.J. Bruhl	Australia	Tropical South America		x	x	Webster 2002b
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. pinifolius</i> Baill.	Brazil	Tropical South America		x	x	Webster 2002b
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. ramulosus</i> Müll. Arg.	Argentina, Brazil	Tropical South America		x	x	Webster 2002b



## Appendix 2 (cont.)

Subgeneric placement	Species	Major area	Global area	D <sup>1</sup>	M <sup>2</sup>	L <sup>3</sup>	Most important literature
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. rosmarinifolius</i> Müll.Arg.	Brazil	Tropical South America		x	x	Webster 2002b
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. salesiae</i> M.J.Silva	Brazil	Tropical South America		x	x	Silva 2009
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. scaber</i> Klotzsch	Australia	Australia		x	x	Webster 2002b
Former <i>Isocladus</i> sect. <i>Antipodanthus</i>	<i>P. strifaculis</i> J.T.Hunter & J.J.Bruhl	Australia	Australia		x	x	Webster 2002b
Former <i>Isocladus</i> sect. <i>Isocladus</i> sensu Brunel 1987	<i>P. caraculiensis</i> Jean F.Brunel	Angola	Tropical Africa		x	x	Brunel 1987
Former <i>Isocladus</i> sect. <i>Isocladus</i> sensu Brunel 1987	<i>P. cunenensis</i> Jean F.Brunel	Angola	Tropical Africa		x	x	Brunel 1987
Former <i>Isocladus</i> sect. <i>Isocladus</i> sensu Brunel 1987	<i>P. karibibensis</i> Jean F.Brunel	Namibia, South Africa	Tropical Africa		x	x	Brunel 1987
Former <i>Isocladus</i> sect. <i>Isocladus</i> sensu Brunel 1987	<i>P. liebmannianus</i> Müll.Arg.	Mexico, United States: Florida	North, Central and Tropical South America		x	x	Webster 2001b
Former <i>Isocladus</i> sect. <i>Isocladus</i> sensu Brunel 1987	<i>P. mendoncae</i> Jean F.Brunel	Ethiopia, Mozambique	Tropical South America		x	x	Brunel 1987
Former <i>Isocladus</i> sect. <i>Isocladus</i> sensu Brunel 1987	<i>P. paxianus</i> Dinter	Angola, Democratic Republic of the Congo, Namibia	Tropical Africa		x	x	Brunel 1987
Former <i>Isocladus</i> sect. <i>Isocladus</i> sensu Brunel 1987	<i>P. polygonoides</i> Nutt. ex Spreng.	Mexico, United States	North America		x	x	Webster 2001b
Former <i>Isocladus</i> sect. <i>Isocladus</i> sensu Brunel 1987	<i>P. revaughanii</i> Coode	Mascarenes, Mozambique	Tropical Africa		x	x	Brunel 1987
Former <i>Isocladus</i> sect. <i>Isocladus</i> sensu Brunel 1987	<i>P. spinosus</i> Chiov.	Somalia	Tropical Africa		x	x	Brunel 1987
Former <i>Isocladus</i> sect. <i>Paraphyllanthus</i>	<i>P. bahiensis</i> Müll.Arg.	Brazil	Tropical South America		x	x	Müller 1863, 1866, 1873
Former <i>Isocladus</i> sect. <i>Paraphyllanthus</i>	<i>P. barbae</i> M.C.Johnst.	Mexico	North America		x	x	Johnston 1986
Former <i>Isocladus</i> sect. <i>Paraphyllanthus</i>	<i>P. ericoides</i> Torr.	Mexico	North America		x	x	Webster 2001b
Former <i>Isocladus</i> sect. <i>Paraphyllanthus</i>	<i>P. fraguensis</i> M.C.Johnst.	Mexico	North America		x	x	Webster 2002 Outline of the Neotropical infrageneric taxa of <i>Phyllanthus</i> (Euphorbiaceae)
Former <i>Isocladus</i> sect. <i>Paraphyllanthus</i>	<i>P. galeottianus</i> Baill.	Mexico	North America		x	x	Webster 2001b
Former <i>Isocladus</i> sect. <i>Paraphyllanthus</i>	<i>P. gypsicola</i> McVaugh	Mexico	North America		x	x	Webster 2001b
Former <i>Isocladus</i> sect. <i>Paraphyllanthus</i>	<i>P. heikgalensis</i> Thwaites ex Trimen	Sri Lanka	Malaysia				Webster 1997
Former <i>Isocladus</i> sect. <i>Paraphyllanthus</i>	<i>P. lasogyne</i> Müll.Arg.	Paraguay	Tropical South America		x	x	Müller 1866, 1873
Former <i>Isocladus</i> sect. <i>Paraphyllanthus</i>	<i>P. neoleonensis</i> Croizat	Mexico	North America				Webster 2002 Outline of the Neotropical infrageneric taxa of <i>Phyllanthus</i> (Euphorbiaceae)
Former <i>Isocladus</i> sect. <i>Paraphyllanthus</i>	<i>P. peninsularis</i> Brandegee	Mexico	North America		x	x	Webster 2001b
Former <i>Isocladus</i> sect. <i>Paraphyllanthus</i>	<i>P. sarforajii</i> Merr.	Guam	Malaysia		x	x	Merrill 1914
Incertae sedis	<i>P. anisophylloides</i> Merr.	Philippines	Malaysia				See Webster Manuscript outline neotropical <i>Phyllanthus</i>
Incertae sedis	<i>P. bolivariensis</i> Steyerl.	Venezuela	Tropical South America				Possible <i>Eriococcus</i> , but species not seen
Incertae sedis	<i>P. celebicus</i> Koord.	Celebes	Malaysia				Specimen not seen or described
Incertae sedis	<i>P. hortensis</i> Govaerts & Raddl.-Sm.	Unknown					Male flowers not known
Incertae sedis	<i>P. lunifolius</i> M.G.Gilbert & Thulin	Somalia	Tropical Africa				Possible <i>Eriococcus</i> , but species not seen
Incertae sedis	<i>P. minihassae</i> Koord.	Celebes	Malaysia				Sterile
Incertae sedis	<i>P. petiolaris</i> Roxb.	Venezuela	Tropical South America				
Incertae sedis	<i>P. pseudoguyanensis</i> Herter & Mansf.	India	Mainland Asia				
Incertae sedis	<i>P. pseudopaniculatus</i> R.L.Mitra & Sanjappa	Uruguay	Tropical South America				
Incertae sedis	<i>P. rotundatus</i> Poir.	Bhutan, India, Myanmar, Nepal	Mainland Asia				
Incertae sedis	<i>P. rupicola</i> Elmer	India	Mainland Asia				
Incertae sedis	<i>P. squamifolius</i> (Lour.) Stokes	Philippines	Mainland Asia				Male flowers not known
Incertae sedis	<i>P. vergens</i> Baill.	Vietnam	Mainland Asia				
Incertae sedis	<i>P. villosus</i> Poir.	Madagascar	Madagascar				See Ralimanana & Hoffmann 2011
Incertae sedis	<i>P. xyloanthus</i> Thulin	China	Tropical Africa				Possible <i>Eriococcus</i> , but species not seen
Incertae sedis	<i>P. zippelianus</i> Müll.Arg.	Somalia	Tropical Africa				Thulin 2003
sect. <i>Hedycarpidium</i> <sup>4</sup>	<i>P. declacensis</i> Thun	Lesser Sunda Isl.	Malaysia				Thin 2007, possible <i>Eriococcus</i> , but species not seen
sect. <i>Hedycarpidium</i> <sup>4</sup>	<i>P. songbolensis</i> Thin	Vietnam	Mainland Asia				Thin 2007, possible <i>Eriococcus</i> , but species not seen
sect. <i>Hedycarpidium</i> <sup>4</sup>	<i>P. tui</i> Thin	Vietnam	Mainland Asia				Thin 2007, possible <i>Eriococcus</i> , but species not seen

1 Placement based on DNA.

2 Placement based on morphology.

3 Placement based on a literature reference.

4 Section *Hedycarpidium* is currently placed in the genus *Baccaurea* and its use by Thin (2007) for *Phyllanthus* is invalid.