

Updating Malesian Icacinaceae

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ABSTRACT. The Icacinaceae were traditionally considered difficult to recognise because of extremely diverse vegetative anatomy and an enormous range in structure. Using a traditional circumscription of the family, the Icacinaceae of Asia were revised by Sleumer in 1969 and published in the *Flora Malesiana* in 1971, and included 100 species in 21 genera. Since the publication of the FM account, a new understanding of relationships within the group, stimulated by molecular phylogenetic data, has resulted in these genera being assigned to several different, more morphologically homogeneous families. In addition, an increase in collections has allowed species-level taxonomy to be revised in several groups, resulting in new species from the region, as well as a new genus from Borneo. In this paper these changes are reviewed, with a discussion of useful characters for identification, and an updated list of families, genera and species presented.

Keywords. Cardiopteridaceae, checklist, classification, Icacinaceae, Malesia, Stemonuraceae

Introduction

The Icacinaceae as historically circumscribed are a pan-tropical family of trees, shrubs and lianas with c. 50–55 genera and 300–400 species worldwide (Mabberley 1997, Kårehed 2001). However, recent studies have shown that the family as traditionally circumscribed was polyphyletic (Savolainen et al. 2000, Soltis et al. 2000, Kårehed 2002); this had resulted in a morphologically heterogeneous group that was difficult to recognise in the field and herbarium (e.g., van Balgooy 1998). Genera were traditionally placed in the family if they possessed a superior, unilocular ovary with two pendulous ovules, of which only one matures. In addition simple, exstipulate, alternate leaves, free petals with valvate aestivation, free stamens, and drupes with a single seed were used to identify members of the Icacinaceae. The family has now been split into five families residing in three different orders (see Kårehed 2001 and Stevens 2001 for an updated family classification).

The family was revised for the *Flora Malesiana* by Hermann Otto Sleumer (1971a), and our knowledge of the group in Malesia is based on this solid foundation.

Sleumer was best known for his work on Ericaceae and Flacourtiaceae, especially the former which he revised for the Flora Malesiana (published in 1966). His work on the Icacinaceae was something that he commenced in 1942 but, when compared to his treatments of Ericaceae, was considered a sideline, e.g., it has been noted that Sleumer's "taxonomic studies have included Ericales, Proteaceae, Flacourtiaceae, and various minor groups" (Doleshy 1966).

In addition to the new family limits, several new taxa have been described recently, including a new genus and a complete revision of the taxonomically complex genus *Gomphandra*, and these changes are summarised here with an updated key and checklist to the families in the Malesian region. We have kept the key to genera in Sleumer's original format as we note that many herbaria have yet to re-arrange their collections to a new APG III system and the collections will still be kept together in the traditional Icacinaceous circumscription. (We also feel that some botanists may still have a mental concept of Icacinaceae being those plants that are neither Euphorbiaceae, Flacourtiaceae nor anything else!) Distributions are given for each species following the TDWG distribution scheme (Brummitt 2001).

Key to the genera of
Cardiopteridaceae, Icacinaceae s.str., and Stemonuraceae in Malesia

The following key is adapted from Sleumer (1971a) with the new families in brackets after each genus, and with the addition of *Sleumeria*, *Cardiopteris*, and a brief distribution statement for each genus (distribution statements are given for each species below).

- 1a. Trees or (not climbing) shrubs 2
- 1b. Climbing shrubs or lianas, sometimes with tendrils. Flowers unisexual or functionally so 16

- 2a. Sepals essentially free at least in their upper 3/4 and imbricate 3
- 2b. Sepals connate into a cup-like calyx, its upper free part (or lobes), if any, short and not imbricate 6

- 3a. Flowers bisexual 4
- 3b. Flowers unisexual 5

- 4a. Petals free, valvate, or subimbricate in their upper part. Malesia (except Peninsular Malaysia) 2. *Citronella* [Cardiopteridaceae]
- 4b. Petals connate below into a tube, their upper part free and valvate in bud. New Guinea 4. *Pseudobotrys* [Cardiopteridaceae]

- 5a. Filaments free, fixed to the very base of the petals. Leaves with a layer of rounded to star-shaped appressed scales underneath at least in the young state. Malesia
..... 11. *Platea* [Icacinaceae s.str.]

- 5b. Filaments adnate for almost their entire length to the lower tubular part of the petals. Scales absent. Malesia 3. **Gonocaryum** [Cardiopteridaceae]
- 6a. Flowers unisexual (or functionally so) 7
- 6b. Flowers bisexual 11
- 7a. Drupe ovoid-ellipsoid or oblongoid, without a fleshy lateral appendage. Flowers in rather short cymes. Malesia 19. **Gomphandra** [Stemonuraceae]
- 7b. Drupe laterally compressed (almond-like) 8
- 8a. Drupe without a fleshy lateral appendage. Flowers in spikes (very rarely in panicles composed of spikes, or almost fascicled). New Guinea and the Moluccas 14. **Rhyticaryum** [Icacinaceae s.str.]
- 8b. Drupe with a thick fleshy, laterally borne, practically entirely adnate appendage. Flowers in cymes 9
- 9a. Disk unilateral, thick-squamular. New Guinea 20. **Hartleya** [Stemonuraceae]
- 9b. Disk absent 10
- 10a. Filaments glabrous. Fleshy appendage of drupe covering two pronounced ribs of the mesocarp. Philippines 18. **Codiocarpus** [Stemonuraceae]
- 10b. Filaments with apical, longish, club-shaped hairs at least in the fertile stamens. Prominent ribs under the appendage of the drupe less pronounced or absent. Malesia (except Borneo) 21. **Medusanthera** [Stemonuraceae]
- 11a. Ovary with a lateral swelling which in the fruit develops into a thick succulent appendage, appearing perpendicular to the drupe. Disk absent. Peninsular Malaysia to Philippines 5. **Apodytes** [Icacinaceae s.str.]
- 11b. Ovary and fruit without such an adnate appendage. Disk present or not 12
- 12a. Connective surpassing the anther cells as a marked glabrous apiculus. Outer part of the stone finally spongy-corky and deeply irregularly lacunose. Disk absent. Philippines and New Guinea 7. **Merrilliodendron** [Icacinaceae s.str.]
- 12b. Connective, if any, hardly or not surpassing the anther cells. Outer part of the stone fibrous, slightly ribbed or grooved lengthwise, or smooth outside 13
- 13a. Peduncle of inflorescence with numerous knob-like bracts which form alveoles. Stigma peltate. Disk absent. Sumatra, Peninsular Malaysia and Borneo 17. **Cantleya** [Stemonuraceae]
- 13b. Peduncle quite smooth. Stigma small, subcapitate or point-like. Disk \pm cup-shaped 14
- 14a. Inflorescence usually terminal. Anthers glabrous. Philippines, Sumatra and Lesser Sunda Islands 9. **Nothapodytes** [Icacinaceae s.str.]

- 14b. Inflorescence axillary. Anthers with an apical tuft of club-shaped hairs 15
- 15a. Flowers sessile. Petals up to 8 mm, free to almost the base. Stigma point-like at the top of the ± attenuate (sometimes shortly style-like) part of the ovary. Malesia
..... 22. *Stemonurus* [Stemonuraceae]
- 15b. Flowers 1–2 mm pedicelled. Petals (12–)13–15 mm, free in the distal part only. Stigma small on one side of the inverted, i.e. cup-like distal part of the ovary. Solomons 23. *Whitmorea* [Stemonuraceae]
16. Leaves opposite 17
16. Leaves spirally arranged 18
- 17a. Anthers broadly club-shaped to subglobular, many-celled, with numerous pollen-bearing alveoles. Moluccas, New Guinea and the Solomons
..... 12. *Polyporandra* [Icacinaeae s.str.]
- 17b. Anthers as usual, with 2 cells. Malesia except New Guinea
..... 6. *Iodes* [Icacinaeae s.str.]
- 18a. Twining liana with white milky juice. Flower bisexual (or with plants andromonoecious). Malesia 1. *Cardiopteris* [Cardiopteridaceae]
- 18b. Scandent shrubs, lianas. Plants dioecious (except *Sleumeria*) 19
- 19a. Flowers in elongate spikes or spike-like racemes, these solitary or sometimes composed of panicles 20
- 19b. Flowers in peduncled heads or umbels, these solitary or composed of racemes or panicles 22
- 20a. Leaves with rather lax but slightly raised reticulation. Sepals absent. Philippines 13. *Pyrenacantha* [Icacinaeae s.str.]
- 20b. Leaves markedly prominently tessellate on both faces. Sepals persistent 21
- 21a. Leaves glabrous or very sparsely hairy. Flowers usually 5-merous. Anther connectives not auriculate. Peninsular Malaysia to Philippines (including Java) ..
..... 15. *Sarcostigma* [Icacinaeae s.str.]
- 21b. All parts hairy with yellow hairs. Flowers usually 4-merous. Anther connectives auriculate. Borneo 16. *Sleumeria* [Icacinaeae s.str.]
- 22a. Style absent, i.e. stigma sessile, thick-peltate. Peninsular Malaysia to the Philippines 8. *Miquelia* [Icacinaeae s.str.]
- 22b. Style (very) shortly thick-columnar, with 2–4 stigmatic lobes. Malesia
..... 10. *Phytocrene* [Icacinaeae s.str.]

Checklist of Cardiopteridaceae, Icacinaceae s.str., and Stemonuraceae in Malesia

CARDIOPTERIDACEAE

A family difficult to characterise, but Kårehed (2001) lists free, imbricate sepals, sympetalous corollas, and epipetalous stamens as possible synapomorphies, which, together with no stipules, entire leaf margins and one seeded drupes, provide a combination of characters to help identify the family. The following genera and species are found in the Flora Malesiana region with the species composition unchanged since Sleumer (1971a, b).

1. *Cardiopteris* Wall. ex Royle

1.1. *Cardiopteris moluccana* Blume.

42 MOL, PHI, SUL; 43 BIS, NWG-IJ, NWG-PN, SOL-NO.

1.2. *Cardiopteris quinqueloba* (Hassk.) Hassk.

Distribution: 41 THA; 42 BOR-KA, JAW, LSI-BA, LSI-ET, LSI-LS, MLY-PM, SUL, SUM.

2. *Citronella* D. Don

2.1. *Citronella latifolia* (Merr.) R.A. Howard

Distribution: 42 PHI.

2.2. *Citronella philippinensis* (Merr.) R.A. Howard

Distribution: 42 PHI.

2.3. *Citronella suaveolens* (Blume) R.A. Howard

Distribution: 42 BOR-SB, BOR-KA, SUL, SUM, MOL; 43 NWG-IJ, NWG-PN.

3. *Gonocaryum* Miq.

3.1. *Gonocaryum calleryanum* (Baill.) Becc.

Distribution: 42 BOR-KA, MOL, PHI, SUL.

3.2. *Gonocaryum cognatum* Elmer

Distribution: 42 BOR-SB, PHI.

3.3. *Gonocaryum crassifolium* Ridl.

Distribution: 42 MLY-PM.

3.4. *Gonocaryum gracile* Miq.

Distribution: 42 MLY-PM, SUM.

3.5. *Gonocaryum impressinervium* Sleumer

Distribution: 42 BOR-KA, BOR-SR.

3.6. *Gonocaryum litorale* (Blume) Sleumer

Distribution: 42 LSI-ET, LSI-LS, MOL, SUL; 43 BIS, NWG-IJ, NWG-PN.

3.7. *Gonocaryum lobbianum* Kurz

Distribution: 41 THA; 42 MLY-PM.

3.8. *Gonocaryum macrophyllum* (Blume) Sleumer

Distribution: 42 BOR-BR, BOR-KA, BOR-SB, BOR-SR, MLY-PM, SUM.

3.9. *Gonocaryum minus* Sleumer

Distribution: 42 BOR-BR, BOR-SB, BOR-SR.

4. *Pseudobotrys* Moeser

4.1. *Pseudobotrys cauliflora* (Pulle) Sleumer

Distribution: 43 NWG-IJ, NWG-PN.

4.2. *Pseudobotrys dora* Moeser

Distribution: 43 NWG-PN.

ICACINACEAE s.str.

The revised concept of Icacinaceae s.str. may be recognised by its racemose inflorescence of small flowers that are usually pentamerous (although they can be 4–6-merous); glabrous, alternipetalous stamens; unilocular ovary with 2 pendent ovules, and drupaceous fruits. In addition, the family is always woody (climbers or trees), the leaf margins are entire (although they can be palmately lobed) and exstipulate, but the leaves can be opposite or alternate. Apart from the description of the new genus *Sleumeria* (Utteridge et al. 2005) and a new species of *Platea* (Utteridge 2010), the members of this family are unchanged since Sleumer's (1971a) Flora Malesiana treatment. The genera *Phytocrene* and *Rhyticaryum* are the most likely candidates to yield new taxa or to have taxonomic changes made, especially the latter genus which has several species known only from a few collections from New Guinea.

5. *Apodytes* E.Mey. ex Arn.

5.1. *Apodytes dimidiata* E.Mey. ex Arn.

Distribution: 42 BOR-SB, JAW, LSI-LS, MLY-PM, MOL, PHI, SUM.

6. *Iodes* Blume

6.1. *Iodes cirrhosa* Turcz.

Distribution: 42 BOR-BR, BOR-SB, BOR-SR, JAW, ?MOL, MLY-PM, MLY-SI, PHI, SUL, SUM.

6.2. *Iodes ovalis* Blume

Distribution: 42 JAW, MLY-PM, MLY-SI, SUM.

6.3. *Iodes philippinensis* Merr.

Distribution: 42 BOR-BR, BOR-SB, MOL, PHI, SUL.

6.4. *Iodes reticulata* King

Distribution: 42 MLY-PM.

6.5.1. *Iodes velutina* King var. *velutina*

Distribution: 42 MLY-PM, MLY-SI.

6.5.2. *Iodes velutina* King var. *subvillosa* Sleumer

Distribution: 42 BOR-SR, SUM.

6.6.1. *Iodes yatesii* Merr. var. *yatesii*

Distribution: 42 SUM.

6.6.2. *Iodes yatesii* Merr. var. *glabrescens* (Ridl.) Sleumer

Distribution: 42 BOR-SR.

7. *Merrilliodendron* Kaneh.

7.1. *Merrilliodendron megacarpum* (Hemsl.) Sleumer

Distribution: 42 PHI, SUL; 43 BIS, NWG-IJ, NWG-PN, SOL-NO, SOL-SO.

8. *Miquelia* Meisn.8.1. *Miquelia caudata* King

Distribution: 42 BOR-BR, BOR-SB, MLY-PM.

8.2. *Miquelia celebica* Blume

Distribution: 42 BOR-BR, BOR-SB, BOR-SR, PHI, SUL, SUM.

8.3. *Miquelia philippinensis* Merr.

Distribution: 42 PHI.

8.4. *Miquelia reticulata* Merr.

Distribution: 42 PHI.

9. *Nothapodytes* Blume9.1. *Nothapodytes foetida* (Wight) Sleumer

Distribution: 42 PHI, SUM.

9.2. *Nothapodytes montana* Blume

Distribution: 42 JAW, LSI-LS, SUM.

10. *Phytocrene* Wall.10.1. *Phytocrene anomala* Merr.

Distribution: 42 BOR-SB, BOR-SR.

10.2. *Phytocrene borneensis* Becc.

Distribution: 42 BOR-BR, BOR-KA, BOR-SB.

10.3. *Phytocrene bracteata* Wall.

Distribution: 42 BOR-BR, BOR-KA, BOR-SB, BOR-SR, MLY-PM, SUM.

10.4. *Phytocrene hirsuta* Blume

Distribution: 42 MOL, SUL.

10.5. *Phytocrene interrupta* Sleumer

Distribution: 43 NWG-PN.

10.6.1. *Phytocrene macrophylla* Blume var. *macrophylla*

Distribution: 42 JAW, PHI, SUM.

10.6.2. *Phytocrene macrophylla* Blume var. *caudigera* (Sleumer) Sleumer

Distribution: 42 BOR-SB.

10.6.3. *Phytocrene macrophylla* Blume var. *dasycarpa* (Miq.) Sleumer

Distribution: 42 SUL.

10.7. *Phytocrene malacothrix* Sleumer

Distribution: 43 NWG-PN.

10.8. *Phytocrene oblonga* Wall.

Distribution: 42 MLY-PM.

10.9. *Phytocrene palmata* Wall.

Distribution: 42 MLY-PM, SUM.

10.10. *Phytocrene racemosa* Sleumer

Distribution: 42 BOR-SR.

10.11. *Phytocrene trichura* Ridl.

Distribution: 42 MLY-PM.

11. *Platea* Blume

11.1. *Platea bullata* Sleumer

Distribution: 42 BOR-SR.

11.2.1. *Platea excelsa* Blume var. *excelsa*

Distribution: 42 JAW, SUM.

11.2.2. *Platea excelsa* Blume var. *riedeliana* (Becc.) Sleumer

Distribution: 42 BOR-BR, BOR-SB, BOR-SR, MLY-PM, MLY-SI, SUM.

11.2.3. *Platea excelsa* Blume var. *microphylla* (Sleumer) Sleumer

Distribution: 43 NWG-IJ, NWG-PN.

11.2.4. *Platea excelsa* Blume var. *borneensis* (Heine) Sleumer

Distribution: 42 BOR-BR, BOR-SB, BOR-SR, JAW, LSI-BA, LSI-LS, MOL, MLY-PM, MLY-SI, PHI, SUL, SUM; 43 BIS, NWG-IJ, NWG-PN.

11.2.5. *Platea excelsa* Blume var. *kinabaluensis* (Sleumer) Sleumer

Distribution: 42 BOR-SB.

11.3. *Platea latifolia* Blume

Distribution: 42 BOR-BR, BOR-KA, BOR-SB, BOR-SR, JAW, MLY-PM, MLY-SI, PHI, SUL, SUM; 43 BIS, NWG-IJ, NWG-PN.

11.4. *Platea malayana* Utteridge

Distribution: MLY-PM.

11.5. *Platea sclerophylla* Sleumer

Distribution: 42 BOR-SB.

12. *Polyporandra* Becc.

12.1. *Polyporandra scandens* Becc.

Distribution: 42 MOL; 43 NWG-IJ, NWG-PN, SOL-NO, SOL-SO.

13. *Pyrenacantha* Wight

13.1. *Pyrenacantha repanda* (Merr.) Merr.

Distribution: 42 PHI.

14. *Rhyticaryum* Becc.

14.1. *Rhyticaryum elegans* G.Schellenb.

Distribution: 43 NWG-IJ, NWG-PN.

14.2. *Rhyticaryum fasciculatum* Becc.

Distribution: 43 NWG-IJ.

14.3. *Rhyticaryum gracile* G.Schellenb.

Distribution: 43 NWG-PN.

14.4. *Rhyticaryum longifolium* K.Schum. & Lauterb.

Distribution: 43 NWG-IJ, NWG-PN.

14.5. *Rhyticaryum lucidum* G.Schellenb.

Distribution: 43 NWG-PN.

14.6. *Rhyticaryum macrocarpum* Becc.

Distribution: 43 NWG-IJ, NWG-PN.

14.7. *Rhyticaryum novoguineense* (Warb.) Sleumer

Distribution: 43 NWG-PN.

14.8. *Rhyticaryum oleraceum* Becc.

Distribution: 42 LSI-LS, MOL; 43 NWG-IJ.

14.9. *Rhyticaryum oxycarpum* K.Schum. & Lauterb.

Distribution: 43 NWG-PN.

14.10. *Rhyticaryum purpurascens* G.Schellenb.

Distribution: 43 NWG-PN.

14.11. *Rhyticaryum racemosum* Becc.

Distribution: 43 NWG-IJ.

14.12. *Rhyticaryum rotundatum* G.Schellenb.

Distribution: 43 NWG-PN.

15. *Sarcostigma* Wight & Arn.

15.1. *Sarcostigma kleinii* Wight & Arn.

Distribution: 42 BOR-SR, JAW, MLY-PM.

15.2. *Sarcostigma paniculata* Pierre

Distribution: 42 BOR-BR, BOR-SR, MLY-PM, PHI.

16. *Sleumeria* Utteridge, Nagam. & Teo

16.1. *Sleumeria auriculata* Utteridge, Nagam. & Teo

Distribution: 42 BOR-BR, BOR-KA, BOR-SB, BOR-SR.

STEMONURACEAE

Members of Stemonuraceae are trees or shrubs with falcate, naked terminal buds, entire alternate leaves, and usually green young twigs. Inflorescences may be axillary, terminal or leaf-opposed (rarely ramiflorous), with one to many flowers, often umbelliform with cymose branches. The flowers are bisexual or functionally unisexual, with a small cupular calyx and 4–5 free to connate petals that are often inflexed at the apex. The stamens (and staminodes) are characteristically flattened (except *Codiocarpus*), with clavate hairs on the filament. The fruits are usually white, yellow, pink or red, and three genera have a prominent lateral appendage on one side of the drupe. Recently *Gomphandra* and *Medusanthera* have been revised with new species described (see Schori 2010, Schori & Utteridge 2010, and Utteridge 2011), and a new species of *Stemonurus* has been described (Utteridge & Schori 2009).

17. *Cantleya* Ridl.

17.1. *Cantleya corniculata* (Becc.) R.A.Howard

Distribution: 42 BOR-BR, BOR-KA, BOR-SB, BOR-SR, MLY-PM, MLY-SI, SUM.

18. *Codiocarpus* R.A.Howard

18.1. *Codiocarpus merrittii* (Merr.) R.A.Howard

Distribution: 42 PHI.

19. *Gomphandra* Wall. ex Lindl.19.1. *Gomphandra angustata* Schori ined.

Distribution: 43 NWG-PN.

19.2. *Gomphandra australiana* F.Muell.

Distribution: 42 MOL; 43 NWG-PN.

19.3. *Gomphandra borneensis* Schori ined.

Distribution: 42 BOR-BR, BOR-SB, BOR-SR.

19.4. *Gomphandra bracteata* Schori ined.

Distribution: 42 PHI.

19.5. *Gomphandra capitulata* (Jungh. & de Vriese) Becc.

Distribution: 42 BOR-KA, MLY-PM, SUM.

19.6. *Gomphandra coi* Schori ined.

Distribution: 42 PHI.

19.7. *Gomphandra chimaera* Schori ined.

Distribution: 42 SUM.

19.8. *Gomphandra conklinii* Schori

Distribution: 42 PHI.

19.9. *Gomphandra cumingiana* (Miers) Fern.-Vill.

Distribution: 42 BOR-KA, BOR-SB, BOR-SR, PHI.

19.10. *Gomphandra dinagatensis* Schori ined.

Distribution: 42 PHI.

19.11. *Gomphandra dolichocarpa* Merr.

Distribution: 42 SUM.

19.12. *Gomphandra engganensis* Schori ined.

Distribution: 42 SUM.

19.13. *Gomphandra fernandoi* Schori & Utteridge ined.

Distribution: 42 PHI.

19.14. *Gomphandra flavicarpa* (Elmer) Merr.

Distribution: 42 PHI.

19.15. *Gomphandra fuliginea* (Elmer) Merr.

Distribution: 42 PHI.

19.16. *Gomphandra fusiformis* Sleumer

Distribution: 42 SUM.

19.17. *Gomphandra halconensis* Schori

Distribution: 42 PHI.

19.18. *Gomphandra jacobsii* Schori ined.

Distribution: 42 SUM.

19.20.1. *Gomphandra javanica* (Blume) Valetton subsp. *javanica*

Distribution: 42 JAW, LSI-BA, LSI-LS.

19.20.2. *Gomphandra javanica* (Blume) Valetton subsp. *pseudojavanica* (Sleumer)
Schori ined.

Distribution: 42 SUM.

19.21.1. *Gomphandra kinabaluensis* Schori ined. var. *kinabaluensis*

Distribution: 42 BOR-SB.

- 19.21.2. *Gomphandra kinabaluensis* Schori var. *clemensiorum* Schori ined.
Distribution: 42 BOR-SB.
- 19.22. *Gomphandra lamanii* Schori ined.
Distribution: 42 BOR-KA, BOR-SR.
- 19.23. *Gomphandra lancifolia* Merr.
Distribution: 42 PHI.
- 19.24. *Gomphandra longipedunculata* Schori ined.
Distribution: 42 BOR-SR.
- 19.25.1. *Gomphandra luzoniensis* (Merr.) Merr. subsp. *luzoniensis*
Distribution: 42 PHI.
- 19.25.2. *Gomphandra luzoniensis* (Merr.) Merr. subsp. *septentrionalis* Schori & Utteridge ined.
Distribution: 38 TAI; 42 PHI.
- 19.26. *Gomphandra lysipetala* Stapf
Distribution: 42 BOR-SB, BOR-SR.
- 19.27. *Gomphandra macrosperma* Schori ined.
Distribution: 42 BOR-SB.
- 19.28. *Gomphandra mappioides* Valetton
Distribution: 42 LSI-ET, LSI-LS, MOL, PHI, SUL.
- 19.29.1. *Gomphandra melanesiensis* Schori ined. subsp. *melanesiensis*
Distribution: 43 BIS, SOL-NO, SOL-SO.
- 19.29.2. *Gomphandra melanesiensis* Schori subsp. *macrocarpa* Schori ined.
Distribution: 43 SOL-SO.
- 19.30. *Gomphandra microcarpa* Schori ined.
Distribution: 42 MLY-PM.
- 19.31. *Gomphandra montana* (G. Schellenb.) Sleumer
Distribution: 43 NWG-PN.
- 19.32. *Gomphandra muscosa* Schori ined.
Distribution: 43 NWG-PN.
- 19.33. *Gomphandra oblongifolia* Merr.
Distribution: 42 PHI.
- 19.34. *Gomphandra oligantha* Sleumer
Distribution: 42 PHI.
- 19.35. *Gomphandra palustris* Schori
Distribution: 42 BOR-SR.
- 19.36. *Gomphandra papuana* (Becc.) Sleumer
Distribution: 43 NWG-IJ, NWG-PN.
- 19.37.1. *Gomphandra parviflora* (Blume) Valetton var. *parviflora*
Distribution: 42 SUM.
- 19.37.2. *Gomphandra parviflora* (Blume) Valetton var. *magnifolia* Schori ined.
Distribution: 42 SUM.
- 19.37.3. *Gomphandra parviflora* (Blume) Valetton var. *paucibarbata* Schori ined.
Distribution: 42 SUM.

- 19.38. *Gomphandra psilandra* Schori ined.
Distribution: 42 PHI.
- 19.39. *Gomphandra pseudoprasina* Sleumer
Distribution: 43 NWG-PN.
- 19.40. *Gomphandra puberula* Ridl.
Distribution: 42 MLY-PM.
- 19.41. *Gomphandra quadrifida* (Blume) Sleumer
Distribution: 42 MLY-PM, MLY-SI, SUM.
- 19.42. *Gomphandra ramuensis* (Lauterb.) Sleumer
Distribution: 43 NWG-IJ, NWG-PN.
- 19.43. *Gomphandra rarinervis* Schori
Distribution: 43 NWG-PN.
- 19.44. *Gomphandra schoepfiifolia* Sleumer
Distribution: 43 NWG-PN.
- 19.45. *Gomphandra simalurensis* Sleumer
Distribution: 42 SUM.
- 19.46. *Gomphandra simulans* Schori ined.
Distribution: 42 SUM.
- 19.47. *Gomphandra subcordata* Schori ined.
Distribution: 43 NWG-PN.
- 19.48. *Gomphandra subrostrata* Merr.
Distribution: 42 SUM.
- 19.49. *Gomphandra tenuis* Schori ined.
Distribution: 42 MLY-PM.
- 19.50. *Gomphandra tomentella* (Kurz) Mast.
Distribution: 41 THA; 42 MLY-PM.
- 19.51. *Gomphandra ultramafterrestris* Schori ined.
Distribution: 42 PHI.
- 19.52. *Gomphandra velutina* Sleumer
Distribution: 42 SUL.

20. *Hartleya* Sleumer

- 20.1. *Hartleya inopinata* Sleumer
Distribution: 43 NWG-PN.

21. *Medusanthera* Seem.

- 21.1. *Medusanthera gracilis* (King) Sleumer
Distribution: 42 MLY-PM, SUM.
- 21.2. *Medusanthera inaequalis* Utteridge
Distribution: 43 NWG-IJ.
- 21.3. *Medusanthera laxiflora* (Miers) R.A.Howard
Distribution: 42 PHI; 43 NWG-IJ, NWG-PN, SOL-NO, SOL-SO.
- 21.4. *Medusanthera malayana* Utteridge
Distribution: 42 MLY-PM.

21.5. *Medusanthera megistocarpa* Utteridge

Distribution: 43 NWG-PN.

22. *Stemonurus* Blume

22.1. *Stemonurus ammui* (Kaneh.) Sleumer

Distribution: 43 BIS, NWG-PN, NWG-IJ, SOL-NO, SOL-SO.

22.2. *Stemonurus celebicus* Valeton

Distribution: 42 SUL.

22.3. *Stemonurus corrugatus* Utteridge & Schori

Distribution: 42 BOR-SR.

22.4. *Stemonurus gitingensis* (Elmer) Sleumer

Distribution: 42 PHI.

22.5. *Stemonurus grandifolius* Becc.

Distribution: 42 BOR-SB, BOR-SR, BOR-KA.

22.6. *Stemonurus hallieri* (Merr.) Merr.

Distribution: 42 PHI.

22.7. *Stemonurus malaccensis* (Mast.) Sleumer

Distribution: 42 BOR-KA, BOR-SB, BOR-SR, BOR-BR, MLY-PM.

22.8. *Stemonurus monticola* (G. Schellenb.) Sleumer

Distribution: 43 NWG-IJ, NWG-PN.

22.9. *Stemonurus scorpioides* Becc.

Distribution: 42 BOR-BR, BOR-SB, BOR-SR, JAW, MLY-PM, MLY-SI, SUM.

22.10. *Stemonurus secundiflorus* Blume

Distribution: 42 BOR-BR, BOR-KA, BOR-SB, BOR-SR, JAW, MLY-PM, SUM.

22.11. *Stemonurus umbellatus* Becc.

Distribution: 42 BOR-SR, BOR-KA, BOR-BR, BOR-SB, MLY-PM.

23. *Whitmorea* Sleumer

23.1. *Whitmorea grandiflora* Sleumer

Distribution: 43 SOL-NO, SOL-SO.

Summary

Family changes due to molecular and morphological data have altered the concept of many families in the Flora Malesiana region. These family changes are summarised in the APG publications (e.g., see Stevens 2001). The Icacinaceae is one such family and has now been re-circumscribed into new groups. In 1971 the family was published for the Flora Malesiana and, with the Cardiopteridaceae considered a separate family, the group then included 100 species in 22 genera in two families (Sleumer 1971a, 1971b). The current concept of the group is now of three families: Icacinaceae s.str. with 48 species in 12 genera; Cardiopteridaceae with 15 species in four genera; and Stemonuraceae with 72 species in seven genera.

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