

NEW NAMES AND COMBINATIONS IN ORCHIDACEAE FROM THE PHILIPPINES AND NEW GUINEA

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SUMMARY

New names and combinations are proposed for species of the orchid genera *Bulbophyllum*, *Dendrobium*, *Flickingeria*, *Glomera*, *Octarrhena* and *Trichotosia*. The genera *Ischnocentrum* and *Sepalosi-phon* are synonymised with *Glomera*, while *Chitonanthera* is synonymised with *Octarrhena*.

Key words: Orchidaceae, New Guinea, The Philippines, nomenclature, taxonomy.

INTRODUCTION

In the course of producing CD-ROMs on Orchidaceae for the Flora Malesiana project (Schuiteman & De Vogel, 2001, 2002; Agoo et al., 2003), it became apparent that a number of new names or combinations were required. As dissemination in electronic media does not constitute valid publication under the International Code of Botanical Nomenclature (Greuter et al., 2000, article 29), they are dealt with in the present paper, together with some additional comments where necessary.

BULBOPHYLLUM Thouars

The two following species of this immense genus require a new name, the first because its original epithet is a later homonym, the second because it was described in the wrong genus. Both are 'good' species, to the best of our knowledge.

1. *Bulbophyllum apoense* Schuit. & de Vogel, *nom. nov.*

Basionym: *Bulbophyllum graciliscapum* Ames & Rolfe in Ames (1915) 175. — Type: *Copeland 1127* (holo AMES; iso K).

Not *Bulbophyllum graciliscapum* Schltr. (1905) 203; *Bulbophyllum graciliscapum* H. Perrier (1937) 107; *Bulbophyllum graciliscapum* Summerh. (1954) 579.

Distribution — Philippines.

Note — This species of section *Leptopus* Schltr. is only known from Mt Apo on Mindanao at 2000 m altitude.

2. *Bulbophyllum globulosum* (Ridl.) Schuit. & de Vogel, *comb. nov.*

Basionym: *Phreatia globulosa* Ridl. (1916) 197. — Type: *Kloss s.n.* (Camp 6a, 3100 ft.) (holo BM).

Distribution — New Guinea.

Note — Following a suggestion by the first author, Vermeulen examined the type of *Phreatia globulosa* and found that it was not a *Phreatia* but a member of *Bulbophyllum* section *Lepanthanthe* Schltr. In his revision of this section, Vermeulen (1993: 89) refrained from making a new combination under *Bulbophyllum*, as the type material had no flowers left. He further remarked that *Phreatia globulosa* was similar to two later described species of *Bulbophyllum*, but that according to the description it differed from these in having a hastate lip. Vermeulen concluded that an unambiguous interpretation of *Phreatia globulosa* was not possible. Our view, however, is that such an interpretation may yet become possible at a future date, namely, in case new material is collected at or near the type locality (Indonesia, Papua Province, foothills of Mt Jaya, on the western bank of the Tsingarong River at c. 950 m altitude). If such material answers Ridley's description, there will be no reason not to identify it accordingly. In addition, since vegetative material of *P. globulosa* is preserved, sequencing or other (perhaps as yet untried) techniques could at least in theory provide conclusive evidence. While we agree that these possibilities are at present remote, we think that it is nevertheless useful to have this new combination available.

DENDROBIUM Sw.

Dendrobium Sw. is the second largest orchid genus in Asia, with probably in excess of 900 species (Schuiteman & De Vogel, 2002). It is also an extremely diverse genus, as is testified by the fact that it has about 60 generic synonyms (Agoo et al., 2003). Various clades can be recognised, both on morphological grounds and based on DNA sequence data (Yukawa & Uehara, 1996; Yukawa et al., 2000; Clements, 2003). In which rank these clades should be classified is a contentious issue. In the absence of non-arbitrary criteria for the recognition of a clade at generic rank, we opt for a solution that follows three principles: 1) Any genus should be monophyletic; 2) the rank of a clade should only be modified when this does not entail a large number of new combinations; 3) a clade currently recognised below genus level should only be raised to genus level when there are clear morphological synapomorphies for the clade. To put it succinctly, we prefer to maintain the nomenclatural status quo, unless there are compelling grounds to depart from it. We do so in recognition of the fact that the constant and seemingly never ending name-changing is one of the reasons why taxonomy is currently held in low esteem. While many name changes are undoubtedly both necessary and unavoidable, we would like to plea for much more restraint in this respect. Applied to the rather recently established genus *Dockrillia* Brieger our principles lead to its rejection on the following grounds: 1) In its current delimitation, as advocated by Clements & Jones (1996b), *Dockrillia* is paraphyletic, as was shown by Yukawa et al. (2000: 468); 2) even if an expanded concept of *Dockrillia*, i.e. including *Dendrobium lichenastrum* (F. Muell.) Nicholls and its allies, would be monophyletic this does not imply that it has a sister group relationship with any other group. In other words, its recognition could make another group paraphyletic; 3) without knowing the delimitation of the clade to which *Dockrillia* belongs it is not possible to find morphological synapomorphies for it; 4) recognition of *Dockrillia* at genus level may imply the same for dozens of

additional segregates of *Dendrobium*, resulting in a huge number of name changes (as exemplified by Clements & Jones, 2002a, b), moreover, many of these segregates will be almost impossible to distinguish using morphological characters. For these reasons we consider it premature to recognise *Dockrillia* and most other genera recently split off from *Dendrobium*.

3. *Dendrobium caudiculatum* (M.A. Clem. & D.L. Jones) Schuit. & de Vogel, *comb. nov.*

Basionym: *Dockrillia caudiculata* M.A. Clem. & D.L. Jones (1996a) 10. — Type: *Clements* 7284 (holo CANB; iso NCBG), Canberra Nat. Bot. Garden cult., 22 Feb. 1993.

Distribution — New Guinea.

4. *Dendrobium contextum* Schuit. & de Vogel, *nom. nov.*

Basionym: *Dockrillia convoluta* M.A. Clem. & D.L. Jones (1996a) 11. — Type: *Clements* 8592 (holo CANB), Canberra Nat. Bot. Garden cult., 29 July 1996.

Not *Dendrobium convolutum* Rolfe (1906) 375.

Distribution — New Guinea.

5. *Dendrobium erythraeum* Schuit. & de Vogel, *nom. nov.*

Basionym: *Dockrillia hepatica* M.A. Clem. & D.L. Jones (1996a) 14. — Type: *Clements s.n.* (holo CANB), Canberra Nat. Bot. Garden cult., 20 Aug. 1995.

Not *Dendrobium hepaticum* J.J. Sm. (1917) 48.

Distribution — New Guinea.

6. *Dendrobium leptophyton* Schuit. & de Vogel, *nom. nov.*

Basionym: *Dockrillia delicata* M.A. Clem. & D.L. Jones (1996a) 12. — Type: *Clements* 7280 (holo CANB; iso CANB, NCBG), Canberra Nat. Bot. Garden cult., 2 Feb. 1994.

Not *Dendrobium* × *delicatatum* (F.M. Bailey) F.M. Bailey (1902) 1527.

Distribution — New Guinea.

7. *Dendrobium nothofageti* (M.A. Clem. & D.L. Jones) Schuit. & de Vogel, *comb. nov.*

Basionym: *Dockrillia nothofageti* M.A. Clem. & D.L. Jones (1996a) 16. — Type: *NGF (Womersley)* 15210 (holo CANB; iso LAE).

Distribution — New Guinea.

FLICKINGERIA A.D. Hawkes

This genus is closely related to *Dendrobium*, from which it differs mainly in its vegetative architecture. As it is currently accepted by all students of Asian Orchidaceae, the following new combination is required.

8. *Flickingeria lonchigera* (Schltr.) Schuit. & de Vogel, *comb. nov.*

Basionym: *Dendrobium lonchigerum* Schltr. (1922) 96. — *Ephemerantha lonchigera* (Schltr.) P.F. Hunt (1971) 179. — Type: *Ledermann 8145* (holo B†).

Dendrobium simplicicaule J.J. Sm. (1929) 409, syn. nov. — *Desmotrichum simplicicaule* (J.J. Sm.) A.D. Hawkes in Hawkes & Heller (1957) 127, syn. nov. — *Flickingeria simplicicaulis* (J.J. Sm.) A.D. Hawkes (1961) 459, syn. nov. — *Ephemerantha simplicicaulis* (J.J. Sm.) P.F. Hunt & Summerh. (1961) 106, syn. nov. — Type: *Bogor cult. (Lorentz Exp., Rachmat 459) s.n.* (syn L), (*Lam*) 234 (syn L).

Distribution — New Guinea.

Note — Although all type material of *Dendrobium lonchigerum* is lost, it is evident from the description that it is conspecific with the later described *D. simplicicaule*. This is a highly characteristic species, of which the lip is more similar to that of certain species of *Diplocaulobium* than to that of any other species of *Flickingeria*. Its position in *Flickingeria* is not in doubt, however, as in other respects (e.g. vegetative architecture, inflorescence morphology) it clearly belongs in this genus.

GLOMERA Blume

Type species: *Glomera erythrosma* Blume.

Ischnocentrum Schltr. (1912) 318, syn. nov. — Type species: *Ischnocentrum myrtilus* Schltr.

Sepalosiphon Schltr. (1912) 317, syn. nov. — Type species: *Sepalosiphon papuanum* Schltr.

The number of genera included in the subtribe Glomerinae has shown a steady decline since the treatment by Schlechter (1911: 223–324). The genera *Ceratosstylis* Blume, *Epiblastus* Schltr., and *Mediocalcar* J.J. Sm. are now firmly established as belonging to the Eriinae, while *Agrostophyllum* Blume (including *Chitonochilus* Schltr., which represent a peloric species of *Agrostophyllum*) and *Earina* Lindl. may either belong in the Podochilinae or in a subtribe of their own, the Agrostophyllinae. The six remaining genera included by Schlechter are all bona fide members of the Glomerinae: *Aglossorhyncha* Schltr., *Glomera* Blume, *Glossorhyncha* Ridl., *Giulianettia* Schltr., *Ischnocentrum* Schltr., and *Sepalosiphon* Schltr. Van Royen (1974) included *Giulianettia* in *Glossorhyncha*, and suggested that *Ischnocentrum* and *Sepalosiphon* should be treated likewise. These two genera were formally transferred to *Glossorhyncha* by Ormerod (2002). However, already in 1908, Smith united *Glossorhyncha* with *Glomera*, and gave compelling arguments for this step. These arguments have never been refuted — on the contrary, with the very considerable number of new species described since then they have only become stronger. In their present circumscription, *Glomera* and *Glossorhyncha* differ only in the number of flowers in the inflorescence: one in *Glossorhyncha*, two or more in *Glomera*. Admittedly, this division may largely coincide with a difference in pollination syndrome: species of *Glomera* seem to be adapted to bird pollination, while *Glossorhyncha* is probably mainly pollinated by nocturnal butterflies. As a result, many species of *Glomera* have brightly coloured, not widely opening, scentless flowers and a generally rather robust habit, while most species of *Glossorhyncha* have white, greenish or brownish, widely opening, scented flowers and a more delicate habit. But there are quite a few species of *Glossorhyncha* that could aptly be characterised by saying that they are glomeras with a 1-flowered inflorescence, such as the tellingly named *Glossorhyncha glomeroides* Schltr. In view of the essential lack of characters separating *Glossorhyncha* from *Glomera* we prefer to treat all in a

broader circumscribed genus *Glomera*. The genus *Aglossorhyncha* is clearly distinct, so that the subtribe now contains these two genera only.

9. *Glomera myrtillus* (Schltr.) Schuit. & de Vogel, *comb. nov.*

Basionym: *Ischnocentrum myrtillus* Schltr. (1912) 319. — *Glossorhyncha myrtillus* (Schltr.) Ormerod (2002) 9. — Type: *Schlechter 16657* (syn B†; isosyn AMES, BM, K, L); *17488* (syn B†; isosyn AMES, BM, K, L); *18022* (B†; isosyn BM, BO).

Ischnocentrum selaginelloides Schltr. (1919) 118. — Type: *Kempter s.n.* (holo B†), Kaiser Wilhelmsland, 'hinterland of Angriffshafen' [= Vanikoro].

Distribution — New Guinea.

10. *Glomera sepalosiphon* Schuit. & de Vogel, *nom. nov.*

Basionym: *Sepalosiphon papuanum* Schltr. (1912) 317. — *Glossorhyncha sepalosiphon* Ormerod (2002) 9. — Type: *Schlechter 17251* (holo B†).

Not *Glomera papuana* Rolfe, Bull. Misc. Inf. Kew (1899) 111; *Glossorhyncha papuana* (Kraenzl.) Schltr. (1912) 311.

Distribution — New Guinea.

OCTARRHENA Thw.

Type species: *Octarrhena parvula* Thw.

Chitonanthera Schltr. (1905) 193, syn. nov. — Type species: *Chitonanthera angustifolia* Schltr. (here chosen).

As its name implies, *Octarrhena* is a genus in which the flowers possess eight pollinia. These pollinia can either be of equal size, or there may be four (relatively) large and four small pollinia in the pollinarium. The genus *Chitonanthera* agrees in every significant character with certain species of *Octarrhena* (e.g. *O. lorentzii* J.J. Sm.), but for the fact that here we find only four equal-sized pollinia. In the past perhaps too much emphasis has been laid on the number of pollinia to distinguish genera in the Orchidaceae. There are now several examples where the number of pollinia can be variable within the same genus, and *Octarrhena* is definitely such a case. It is therefore necessary to transfer the ten known species of *Chitonanthera* to *Octarrhena*. Study of the available material at Leiden has revealed that some names should be considered synonymous.

11. *Octarrhena angustifolia* (Schltr.) Schuit., *comb. nov.*

Basionym: *Chitonanthera angustifolia* Schltr. (1905) 194. — Type: *Schlechter 14009* (holo B†; iso K).

Chitonanthera vinosa J.J. Sm. (1934) 208, syn. nov. — Type: *Mayr 380* (holo L).

Distribution — New Guinea.

12. *Octarrhena angustissima* (Schltr.) Schuit., *comb. nov.*

Basionym: *Chitonanthera angustissima* Schltr. (1923) 146. — Type: *Ledermann 11567* (holo B†).

Distribution — New Guinea.

13. *Octarrhena aporoides* (Schltr.) Schuit., *comb. nov.*

Basionym: *Chitonanthera aporoides* Schltr. (1913) 899. — Type: *Schlechter 18713* (holo B[†]; iso AMES).

Chitonanthera oberonioides Schltr. (1913) 900, syn. nov. — Type: *Schlechter 18695* (holo B[†]; iso AMES, L).

Distribution — New Guinea.

14. *Octarrhena brassii* (L.O. Williams) Schuit., *comb. nov.*

Basionym: *Chitonanthera brassii* L.O. Williams (1946) 165. — Type: *Brass 5036* (holo AMES; iso NY).

Distribution — New Guinea.

15. *Octarrhena falcifolia* (Schltr.) Schuit., *comb. nov.*

Basionym: *Chitonanthera falcifolia* Schltr. (1905) 194 — Type: *Schlechter 14010* (holo B[†]; iso BR, K, P).

Chitonanthera aphanopetala Schltr. (1923) 146, syn. nov. — Type: *Ledermann 11568* (holo B[†]).

Distribution — New Guinea.

16. *Octarrhena gracilis* (L.O. Williams) Schuit., *comb. nov.*

Basionym: *Chitonanthera gracilis* L.O. Williams (1946) 167. — Type: *Clemens 11341* (AMES).

Distribution — New Guinea.

17. *Octarrhena latipetala* (J.J. Sm.) Schuit., *comb. nov.*

Basionym: *Chitonanthera latipetala* J.J. Sm. (1915) 17. — Type: *Janowsky 311* (holo BO; iso L).

Distribution — New Guinea.

18. *Octarrhena podochiloides* (Schltr.) Schuit., *comb. nov.*

Basionym: *Chitonanthera podochiloides* Schltr. (1913) 899. — Type: *Schlechter 18698* (holo B[†]; iso AMES, L).

Distribution — New Guinea.

19. *Octarrhena reflexa* (J.J. Sm.) Schuit., *comb. nov.*

Basionym: *Chitonanthera reflexa* J.J. Sm. (1915) 16. — Type: *Janowsky 319* (holo BO; iso L).

Distribution — New Guinea.

20. *Octarrhena spathulata* (Schltr.) Schuit., *comb. nov.*

Basionym: *Chitonanthera spathulata* Schltr. (1923) 147. — Type: *Ledermann 12839* (holo B[†]).

Distribution — New Guinea.

TRICHOTOSIA Blume

The genus *Trichotosia*, like *Flickingeria* mentioned above, is characterised by vegetative rather than floral characters. Usually it is recognised at once by the conspicuous indumentum of red-brown or yellow hairs on the leaves and the leaf-sheaths, a rare feature in the Orchidaceae. The stems are never fleshy or swollen into pseudobulbs, as in most other members of the subtribe Eriinae. Again, this is a genus currently recognised by all students of Asian Orchidaceae, therefore the following new combinations are necessary.

21. *Trichotosia hirsutipetala* (Ames) Schuit. & de Vogel, *comb. nov.*

Basionym: *Eria hirsutipetala* Ames (1922) 102. — Type: *Bur. Sci. (Ramos & Edaño)* 39124 (holo AMES; iso K).

Distribution — Philippines.

22. *Trichotosia lagunensis* (Ames) Schuit. & de Vogel, *comb. nov.*

Basionym: *Eria lagunensis* Ames (1915) 150. — Type: *Serrato s.n.* (holo AMES; iso AMES (3), BM, L, NY, PNH), Luzon, Laguna Prov., Sept. 1912.

Distribution — Philippines.

23. *Trichotosia leytensis* (Ames) Schuit. & de Vogel, *comb. nov.*

Basionym: *Eria leytensis* Ames (1913) 427. — Type: *Wenzel 17* (holo AMES; iso BM, BO, NY).

Distribution — Philippines.

24. *Trichotosia mcgregorii* (Ames) Schuit. & de Vogel, *comb. nov.*

Basionym: *Eria mcgregorii* Ames (1915) 153. — Type: *Bur. Sci. (McGregor)* 19876 (holo AMES; iso BO).

Distribution — Philippines.

REFERENCES

- Agoo, E.M.G., A. Schuiteman & E.F. de Vogel. 2003. Flora Malesiana: Orchids of the Philippines, vol. I: Illustrated checklist and genera. ETI, Amsterdam & Nationaal Herbarium Nederland, Leiden. CD-ROM.
- Ames, O. 1913 ('1914'). Notes on Philippine orchids, with descriptions of new species VI. *Philipp. J. Sci., Bot.* 8: 407–440.
- Ames, O. 1915. The genera and species of Philippine orchids. *Orchidaceae* 5: 1–271.
- Ames, O. 1922. New or noteworthy orchids from different parts of the world. *Orchidaceae* 7: 83–137.
- Bailey, F.M. 1902. *Orchidaceae*. Queensland Fl. 5: 1514–1592.
- Clements, M.A. 2003. Molecular phylogenetic systematics in the Dendrobiinae (Orchidaceae), with emphasis on *Dendrobium* section *Pedilonum*. *Telopea* 10, 1: 247–298.
- Clements, M.A. & D.L. Jones. 1996a. New species of Dendrobiinae from Papua New Guinea. *Lasianthera* 1: 8–25.

- Clements, M.A. & D.L. Jones. 1996b. A checklist of the genus *Dockrillia*. *Orchadian* 12: 60.
- Clements, M.A. & D.L. Jones. 2002a. Nomenclatural changes in the Dendrobieae 1: The Australasian region. *Orchadian* 13: 484–492.
- Clements, M.A. & D.L. Jones. 2002b. Nomenclatural changes in the Dendrobieae 1: The Australasian region, Appendix 1: Allied genera from New Guinea. *Orchadian* 13: 493–497.
- Greuter, W., et al. (eds.). 2000. International Code of Botanical Nomenclature (St Louis Code). *Regnum Vegetabile* 138. Koeltz Scientific Books, Königstein.
- Hawkes, A.D. 1961. *Flickingeria*, a new genus of orchids. *Orchid Weekly* 2: 451–460.
- Hawkes, A.D. & A.H. Heller. 1957. Nomenclatorial notes in the Dendrobium alliance, 2. *Desmotrichum* Bl. *Lloydia* 20: 125–127.
- Hunt, P.F. 1971. Notes on Asiatic Orchids: VI. *Kew Bull.* 26: 171–185.
- Hunt, P.F. & V.S. Summerhayes. 1961. Notes on Asiatic Orchids III. *Taxon* 10: 101–110.
- Ormerod, P. 2002. Notes on the orchids of New Guinea and the Pacific, part 7. *Oasis* 2, 3: 8–9.
- Perrier de la Bâthie, H. 1937. *Les Bulbophyllum de Madagascar*. *Not. Syst.* 6: 41–124.
- Ridley, H.N. 1916. Report on the botany of the Wollaston expedition to Dutch New Guinea, 1912–13. *Trans. Linn. Soc. London, Bot.*, 9: 1–209.
- Rolfe, R.A. 1906. New Orchids: Decade 29. *Bull. Misc. Inform. Kew*: 375–379.
- Schlechter, R. 1905. *Microspermae*. In: K. Schumann & K. Lauterbach, *Nachtr. Fl. Deutsch. Schutzgeb. Südsee*: 69–234.
- Schlechter, R. 1911–1914. Die Orchidaceen von Deutsch-Neu-Guinea. *Feddes Repert. Spec. Nov. Regni Veg. Beih.* 1: 1–LXVI, 1–1079.
- Schlechter, R. 1919. *Orchidaceae novae et criticae, decas LIX–LXIII (additamenta ad orchideologiam papuanam II)*. *Feddes Repert. Spec. Nov. Regni Veg.* 16: 103–131.
- Schlechter, R. 1922–1923. *Neue Orchidaceen Papuasiens*. *Bot. Jahrb. Syst.* 58: 50–154.
- Schuiteman, A. & E.F. de Vogel. 2001. [Flora Malesiana:] *Orchids of New Guinea, vol. I: Illustrated checklist and genera*. ETI, Amsterdam & Nationaal Herbarium Nederland, Leiden. CD-ROM.
- Schuiteman, A. & E.F. de Vogel. 2002. *Flora Malesiana: Orchids of New Guinea, vol. II: Illustrated checklist and genera*. ETI, Amsterdam & Nationaal Herbarium Nederland, Leiden. CD-ROM.
- Smith, J.J. 1908. Die Gattung *Glossorhyncha*. *Bull. Dép. Agric. Indes Néerl.* 15: 27–29.
- Smith, J.J. 1915. *Vorläufige Beschreibungen neuer papuanischer Orchideen, XIII*. *Meded. Rijks-Herb.* 23: 1–21.
- Smith, J.J. 1917. *Orchidaceae novae malayenses, VIII*. *Bull. Jard. Bot. Buitenzorg II*, 25: 1–103.
- Smith, J.J. 1929. *Orchidaceae. Nova Guinea* 14: 337–516.
- Smith, J.J. 1934. *Neue Orchideen Papuasiens*. *Bot. Jahrb. Syst.* 66: 161–212.
- Summerhayes, V.S. 1954. African orchids – XII. *Kew Bull.*: 575–591.
- Van Royen, P. 1974. The genera *Glomera* and *Glossorhyncha*. *Folia Geobot. Phytotax.* 9, 1: 77–85.
- Vermeulen, J.J. 1993. A taxonomic revision of *Bulbophyllum*, sections *Adelopetalum*, *Lepanthanthe*, *Macouris*, *Pelma*, *Peltopus*, and *Uncifera* (Orchidaceae). *Orchid Monogr.* 7: 1–324.
- Williams, L.O. 1946. *Orchidaceae Novae Guineae I*. *Bot. Mus. Leaflet*. 12: 149–171.
- Yukawa, T., K. Kita & T. Handa. 2000. DNA phylogeny and morphological diversification of Australian *Dendrobium* (Orchidaceae). In: K.L. Wilson & D.A. Morrison (eds.), *Monocots: Systematics and Evolution*: 465–471. CSIRO, Melbourne.
- Yukawa, T. & K. Uehara. 1996. Vegetative diversification and radiation in subtribe *Dendrobiinae* (Orchidaceae): evidence from chloroplast DNA phylogeny and anatomical characters. *Pl. Syst. Evol.* 201: 1–14.