BLUMEA 46 (2001) 589–593

NEW NOMENCLATURAL COMBINATIONS IN PSEUDUVARIA (ANNONACEAE)

YVONNE C.F. SU & RICHARD M.K. SAUNDERS

Department of Ecology & Biodiversity, The University of Hong Kong, Pokfulam Road, Hong Kong, China

SUMMARY

New nomenclatural combinations are validated for *Pseuduvaria oxycarpa* (transferred from *Mitrephora*) and *P. luzonensis*, *P. unguiculata* and *P. pamattonis* (all transferred from *Orophea*). All names are lectotypified.

Key words: Annonaceae, *Pseuduvaria*, nomenclatural combinations.

INTRODUCTION

Although the genus *Pseuduvaria* was first proposed by Miquel in 1858, many subsequent taxonomists did not recognise it as a distinct taxon, often reducing it to synonymy with either *Mitrephora* (e.g., Bentham, 1862; Baillon, 1868; King, 1892; Boerlage, 1899; Ridley, 1922) or *Orophea* (e.g., Prantl, 1891). Miquel's own conception of the genus appears to have been rather poorly defined, since he subsequently described several species of *Pseuduvaria* under other generic names (Miquel, 1858: 30; 1865: 23–27). Current classification systems consistently recognise *Pseuduvaria* as a distinct genus: the important diagnostic characteristics of the three genera are outlined in Table 1.

Table 1. Distinguishing characteristics of *Pseuduvaria*, *Mitrephora* and *Orophea*.

	Pseuduvaria	*Mitrephora*	*Orophea*
Flower position	axillary	extra-axillary, rarely terminal	extra-axillary
Flower sex	unisexual	bisexual	bisexual
Relative size of outer and inner petals	outer petals shorter than inner petals	inner petals shorter than outer petals	outer petals shorter than inner petals
Inner petal glands	± protruding gland(s)	absent	± non-protruding glands
Stamen number	numerous	numerous	few
Stamen shape (sensu Prantl, 1891)	'uvarioid'	'uvarioid'	'miliusoid'

During the preparation of a comprehensive taxonomic monograph of *Pseuduvaria*, it was revealed that three species names in *Orophea* and one species name in *Mitrephora* need to be transferred to *Pseuduvaria*. The new nomenclatural combinations are validated and lectotypified here.

DESCRIPTIONS

Pseuduvaria luzonensis (Merr.) Y.C.F. Su & R.M.K. Saunders, *comb. nov.*

Orophea luzonensis Merr., Philipp. J. Sci., Bot. 3 (1908) 224, as '*O. luzoniensis*'. — *Orophea maculata* Merr., Bur. Govt. Lab., Manila 35 (1906) 11, nom. illeg. — Type: *T.E. Borden FBN 2389* (holo PNH†; lecto NY, here designated; isolecto E, K, SING), Philippines, Luzon, Bataan Province, Lamao River, January 1905.

Pseuduvaria grandiflora Merr., Philipp. J. Sci. 14 (1919) 392, syn. nov. — Type: *M. Ramos BS 27514* (holo PNH†; lecto NY, here designated; isolecto A, BM, L, P), Philippines, Luzon, Ilocos Norte Province, Bangui, 9 March 1917.

The earliest name for this species, *Orophea maculata* Merr. (Merrill, 1906), is illegitimate as it is a later homonym of *O. maculata* Scort. ex King (1892); Merrill (1908) accordingly provided a replacement name, *O. luzonensis* (erroneously spelled '*luzoniensis*'). Merrill (1919) subsequently published the name *Pseuduvaria grandiflora* Merr., although examination of the type specimens reveals that this name is clearly synonymous with *O. luzonensis*.

This species is unequivocally referable to *Pseuduvaria* and not *Orophea*, since the flowers are unisexual, and the staminate flowers possess numerous stamens that are 'uvarioid' in shape (sensu Prantl, 1891). The name *O. luzonensis* is accordingly transferred to *Pseuduvaria*, as it is the earliest legitimate name.

Pseuduvaria luzonensis is endemic to Luzon, Philippines, occurring at low and medium altitudes (Merrill, 1923: 167–168). It is remarkable in bearing comparatively large flowers (sepals 1.5–2.5 by 1.5–2.5 mm; outer petals 2.5–4.5 by 2–3.5 mm; and inner petals 11–19.5 by 7–11 mm, with exceptionally long basal claws, 7.5–14 mm long). Another *Pseuduvaria* species with similarly large flowers is *P. galeata* (Sinclair, 1955: 414–416) from Peninsular Malaysia, although there are many distinguishing characteristics: *P. galeata* has slightly larger sepals (2–3.5 by 3–3.5 mm) and outer petals (3.5–7 by 4.5–5.5 mm), but smaller inner petals (12–13 by 6–9 mm) (pers. obs.). In addition, flowers of *P. galeata* consistently have more reproductive organs (103–111 stamens, c. 24 carpels, and c. 14 staminodes) than *P. luzonensis* (69–85 stamens, c. 13 carpels, and 2–7 staminodes); and the fruits of *P. galeata* consist of (12–)22–30 monocarps, whereas there are only c. 3 in *P. luzonensis*.

Additional specimens studied:

PHILIPPINES: Cagayan Province, Luzon, *A. Bernardo FBN 12987* (BM); Lamao river, Mt Mariveles, Bataan Province, Luzon, *R. Meyer FBN 2418* (NY, SING); idem, *R.S. Williams 510* (A, K, NY); Mt Mariveles, Luzon, *Capt. G.P. Ahern 745* (MO, NY, US); Mt Pico de Loro, Ilocos Norte Province, Luzon, *G.E. Edaño PNH 17976* (A, L, LAE, SING); San Mariano, Isabela Province, Luzon, *M. Ramos & G.E. Edaño BS 46774* (A, NY); idem, *M. Ramos & G.E. Edaño BS 46794* (B, NY, SING).

Pseuduvaria oxycarpa (Boerl. ex Koord.) Y.C.F. Su & R.M.K. Saunders, *comb. nov.*

Mitrephora oxycarpa Boerl. ex Koord., Meded. Lands Plantentuin 19 (1898) 335. — Type: *S.H. Koorders 16019* (lecto BO [99024-114], here designated; isolecto B, BO [99024-115], L), Celebes [Sulawesi], Pakoëoere, 15 April 1895.

This species is unequivocally referable to *Pseuduvaria* since it possesses unisexual flowers that are axillary, and inner petals that are longer (5–6 mm) than the outer petals (< 5 mm).

Pseuduvaria oxycarpa is endemic to Sulawesi, occurring at altitudes between 200 and 750 m. Its closest relative appears to be *P. reticulata* (Blume) Miq. (Miquel, 1858: 33), from Peninsular Malaysia, Thailand, Borneo, Sumatra and Java; both species bear flowers in cymose inflorescences, and have long, stout fruiting pedicels. There are also significant differences between the two species, however: *P. oxycarpa* lacks inner petal glands, whereas *P. reticulata* has a solitary samaroid gland on the adaxial surface of each inner petal; and *P. oxycarpa* has rugulose monocarps with elongated apices (c. 3 mm long), whereas those of *P. reticulata* are smooth, with minute apicules (0.1–0.5 mm long).

Additional specimens studied:

SULAWESI: Dumoga Bone National Park, Toraut Dam, Sulawesi Utara, 0° 34' N, 123° 54' E, *E.F. de Vogel & J. Vermeulen 6639* (BO, NY); Dumoga Bone National Park, Edwards Camp, Sulawesi Utara, 0° 35' N, 123° 5' E, *E.F. de Vogel & J. Vermeulen 6794* (KEP).

Pseuduvaria pamattonis (Miq.) Y.C.F. Su & R.M.K. Saunders, *comb. nov.*

Orophea pamattonis Miq., Ann. Mus. Bot. Lugd.-Bat. 2 (1865) 24. — Type: *P.W. Korthals s.n.* (lecto L [898.62-114], designated by Keßler (1988: 69); isolecto B, GH, L [898.62-115]), Borneo, G. Pamatton, [without date].

Although this species was originally classified in *Orophea* (Miquel, 1865), it is clearly referable to *Pseuduvaria* since specimens possess separate pistillate and staminate flowers, and the stamens are numerous and 'uvarioid' in shape. The nomenclatural combination *P. pamattonis* is accordingly validated here. Coode et al. (1996: 22) used this combination with the authority "(Miq.) J. Sinclair"; although J. Sinclair annotated several herbarium specimens with the combination *P. pamattonis*, we have been unable to locate any publication that validates it, nor is it listed in 'Index Kewensis'.

The L syntype was designated as the lectotype by Keßler (1988: 69), although he erroneously cited the specimen as '898.62-14' instead of '898.62-114'.

Pseuduvaria pamattonis is indigenous to Borneo and Palawan, occurring at altitudes between 70 and 670 m. An unusual feature of this species is the presence of reniform inner petals in staminate flowers, in contrast with other species which possess rhombic inner petals. As a consequence, the inner petals of staminate flowers form a dome which has an apical opening in addition to the standard three lateral apertures; this presumably explains why Miquel's (1865) protologue describes the shape of the inner petals as variable. Miquel furthermore erroneously stated that the flowers possess only 6 stamens and 6 carpels. Miquel presumably based this on the examination of solely pistillate flowers, and interpreted the staminodes as stamens. We have observed that the pistillate flowers possess 6–7 carpels and 6 staminodes, whereas staminate flowers possess 30–52 stamens.

Pseuduvaria pamattonis is closely related to *P. philippinensis* Merr. (Merrill, 1915: 256): both species have similarly sized leaves, flowers and monocarps, flowers borne in cymose inflorescences of 3–7, and lack glands on the inner petals. *Pseuduvaria pamattonis*, however, has shorter flowering pedicels (4–10.5 mm long) than *P. philippinensis* (15–17 mm long), and has apiculate monocarps with a smooth but densely tomentose indumentum (with dark brown hairs), whereas *P. philippinensis* has monocarps that are not apiculate, and are rugulose and pubescent (with light yellow hairs).

Additional specimens studied:

BORNEO: Bt. Tingkar, Sandakan District, Sabah, *Sigin et al. SAN 56752* (BRI, KEP); Compartment 6, Sepilok Forest Reserve, Elopura, Sandakan, Sabah, *Kadir A 2543* (BRI, K, KEP, L, SING, US); Compartment 9, North Borneo Timber Co. Concession area, Bukit Kretam, Lahad Datu District, Sabah, *G.H.S. Wood A 4778* (A, K, KEP, SING); G. Api, Ulu Sg., Melinau Paku, Baram District, Sarawak, *J.A.R. Anderson 4061* (K, L); G. Benarat, Beram District, Sarawak, *J.A.R. Anderson 4295* (K, L); Mostyn area, near Madai Forest Reserve, Lahad Datu District, Sabah, *Muin Chai SAN 29342* (KEP, L); Mt Pock Forest Reserve, Semporna District, Sabah, *N. Gansau 46316* (L); Mt Silam, Sabah, *Muin Chin 29659* (L); N slopes of Bukit Kian, Bau, Sarawak, *J.A.R. Anderson & P.S. Ashton S 20268* (L); precise locality not known: [no date], *P.W. Korthals s.n.* (A, B, L, U); SE of ridge from G. Lotung, Ulu Sg. Inarat, Lamag District, Sabah, *Saikeh Lantoh SAN 83192* (K, L); Sg. Sekeloh, Niah National Park, 4th Division, Sarawak, *Y.P. Ching S 40126* (KEP, L); Tawao [Tawau], Elphinstone Province, Sabah, *A.D.E. Elmer 20738* (A, BM, BRI, C, L, MO, NY, P, U, US); Tinagat Forest Reserve, Tawau District, Sabah, *J. Singh et al. 48998* (L); Ulu Mamut Bakong, Miri, Sarawak, *Ilias Paie S 24358* (A, KEP, L, NY, SING, U). — PHILIPPINES: Brooke's Point, S slope of Addison Peak, Palawan, 8° 50' N, 117° 50' E, *D.D. Soejarto & O. Fernando 7374* (L); Mt Tagburos, vicinity of Puerto Princesa, Palawan, *L.E. Ebalo 639* (A, MO, NY); NNW spur of Mt Beaufort, Puerto Princesa Municipality, Palawan, *A.C. Podzorski SMHI 520* (BO, L, PNH); Palawan, *J. Agama FBN 21615* (BM).

Pseuduvaria unguiculata (Elmer) Y.C.F. Su & R.M.K. Saunders, *comb. nov.*

Orophea unguiculata Elmer, Leafl. Philipp. Bot. 5 (1913) 1724. — Type: *A.D.E. Elmer 13286* (holo PNH†; lecto B, here designated; isolecto BM, BO, E, K, L, NY, P, U), Philippines, Mindanao, Agusan Province, Cabadbaran (Mt Urdaneta), July 1912.

Mitrephora ellipanthoides Elmer, Leafl. Philipp. Bot. 5 (1913) 1721. — *Orophea ellipanthoides* (Elmer) Merr., Enum. Philipp. Flow. Pl. 2 (1923) 167. — Type: *A.D.E. Elmer 13987* (holo PNH†; lecto BO, here designated; isolecto B, BM, C, L, NY, U), Philippines, Mindanao, Agusan Province, Cabadbaran (Mt Urdaneta), October 1912.

Pseuduvaria caudata Merr., Philipp. J. Sci. 17 (1920) 251, syn. nov. — Type: *A.L. Cenabre FB 25533* (holo PNH†; lecto P, here designated; isolecto K), Philippines, Luzon, Camarines Province, Sipocot, 15 May 1916.

Elmer (1913) simultaneously published two species names, *Orophea unguiculata* and *Mitrephora ellipanthoides*, which refer to the same taxon. The type specimens of *O. unguiculata* possess staminate flowers and lack both pistillate flowers and fruits, whereas the type specimens of *M. ellipanthoides* are fruiting and lack flowers. Examination of these types indicates that the two names are unequivocally conspecific, and refer to a species of *Pseuduvaria*: the flowers are axillary and unisexual, and the staminate flowers possess numerous (42–48) 'uvarioid' stamens.

Merrill (1920) subsequently published the name *P. caudata* for this same species, although the name is synonymous. The new combination *P. unguiculata* is accordingly validated here.

Pseuduvaria unguiculata is endemic to the Philippines (Luzon, Mindanao and Samar), occurring at low and medium altitudes (Merrill, 1923: 167–168). It has close affinities with *P. costata* (Scheff.) J. Sinclair (Sinclair, 1956) from New Guinea: both species have short and slender petioles, (2–)5–7(–9) mm long, comparatively small laminas, 8–14(–18) by 2.5–4.5 cm, and short fruiting pedicels, 2.5–6 mm long. *Pseuduvaria unguiculata* is distinct, however, in possessing smooth, spherical fruiting monocarps, whereas those of *P. costata* are ellipsoid with many distinctive longitudinal ridges (pers. obs.).

Additional specimens studied:

PHILIPPINES: Cabadbaran (Mt Urdaneta), Agusan Province, Mindanao, *A.D.E. Elmer 13285* (E); Guinayangan, Tayabas Province, Luzon, *L. Escritor BS 20834* (L, P, US); Mt Tubuan, Zamboanga, Mindanao, *M. Ramos & G.E. Edaño BS 36636* (A, BM, BO, L, P, US); Samar, *M. Ramos 1661* (A, BM, BO, L, NY, P, US).

ACKNOWLEDGEMENTS

Financial support for this project was provided by a grant from The University of Hong Kong CRCG, awarded to RMKS. We are grateful to the curators of the following herbaria for the loan of specimens: A, B, BM, BO, BRI, C, E, K, KEP, L, LAE, MO, NY, P, PNH, SING, U and US.

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