

A REVISION OF PAPUECHITES (APOCYNACEAE)

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SUMMARY

In the present article the genus *Papuechites* Markgraf (Apocynaceae) is revised. One species is recognised, *Papuechites aambe* (Warb.) Markgr.

INTRODUCTION

Papuechites was first described by Markgraf (1927a) based on New Guinean collections originally described as *Strophanthus aambe* Warb. and then *Anodendron aambe* (Warb.) Warb. in 1891. Shortly afterwards Markgraf (1927b) added two more species: *Papuechites novoguineensis* (K. Schum.) Markgr. and *P. wariana* (Schltr.) Markgr. These were new combinations based on species originally described as *Micrechites* and *Parameria* respectively. These two species have been transferred to *Ichnocarpus* (Middleton, 1994). This just leaves the original type species of *Papuechites*, *P. aambe* (Warb.) Markgr.

Pichon (1950) placed *Papuechites* in the tribe Ecdysanthereae, subtribe Papuechitinae along with *Ixodonerium* Pitard. He suggested that the monospecific *Ixodonerium* from Vietnam was very close to *Papuechites* and that they could be merged. They are indeed very similar in appearance and in the flowers, but Lý (1986) stated that the seeds of *Ixodonerium* are unbeaked, unlike the seeds of *Papuechites*. The original description of *Ixodonerium* by Pitard (1933) makes no mention of the seeds and it is not clear whether Pichon has seen them or not as he just gives a general note under the subtribe description that the seeds are the same as for the Anodendrinae, i. e. beaked. I have been unable to find fruiting specimens of *Ixodonerium*. Therefore, as the seed characters are very important in the subfamily as a whole the two genera should be kept separate until more specimens of *Ixodonerium* are collected and the situation clarified. It would certainly be a very interesting distribution if the two species prove to be congeneric.

MATERIALS AND METHODS

Herbarium material was studied from the following herbaria: A, B, BM, BO, BRI, E, G, K, L, LAE, M, MEL, MO, P, SING, U, UC, W, WRSL (Holmgren et al., 1990).

The dimensions given in the descriptions are for dried material except for androecium and gynoecium characters which are measured from flowers boiled in water to reconstitute them.

PAPUECHITES

Papuechites Markgr., Nova Guinea 14 (1927) 288; Pichon, Mém. Mus. Nat. Hist. Nat., sér. B., Bot. 1 (1950) 94. — Type species: *Papuechites aambe* (Warb.) Markgr.

Woody forest climbers, producing white latex. *Branches* terete. *Leaves* opposite, those of a pair equal, petiolate; subcoriaceous. *Inflorescence* thyrsoid, terminal and axillary from upper axils; flowers 5-merous, actinomorphic. *Sepals* free; with col-eters in the corners. *Corolla*: lobes in bud overlapping to the right; consisting of a lower tube which widens slightly into an upper part and then with spreading lobes; lobes broad at base, narrower towards apex, falcate, infolded in bud; head of bud rounded. *Stamens* included in the corolla tube, inserted at the level where corolla tube widens, attached in a ring to the pistil head; filament short and narrow; anthers narrowly triangular, apex acuminate, base sagittate with blunt tails. *Disc* of 5 free lobes. *Ovary* of 2 separate carpels united into a common style, superior, ovoid, pubescent; style and pistil head short, head pointed; ovules many. *Fruit* of 2 divergent follicles; broad at base, tapering to the end; with 2 ridges lengthways. *Seeds* flat, elliptic; with a long apical beak bearing a coma.

***Papuechites aambe* (Warb.) Markgr. — Map 1**

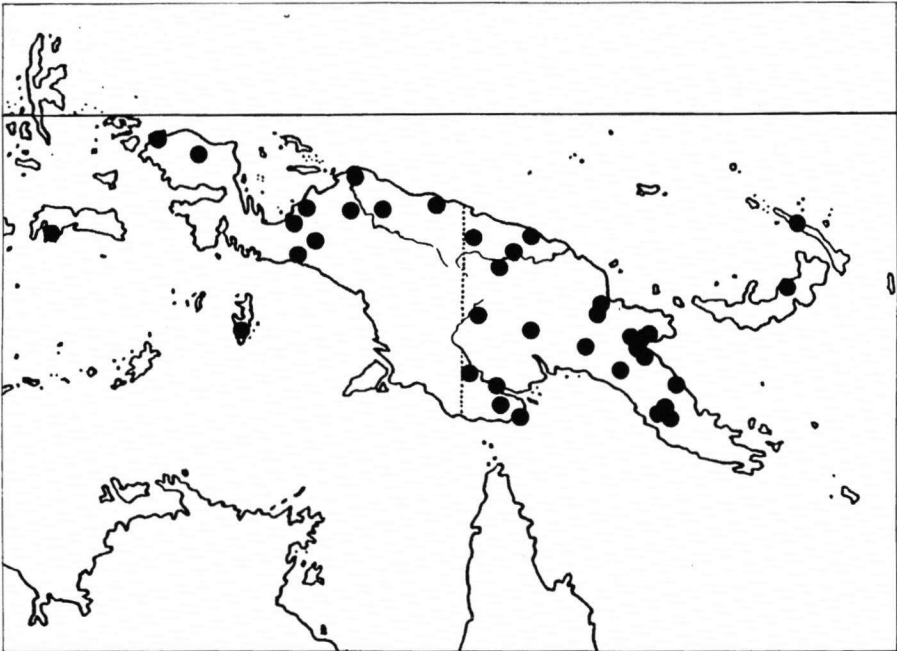
Papuechites aambe (Warb.) Markgr., Nova Guinea 14 (1927) 288; Bot. Jahrb. 61 (1927) 209; Tsiang, Sunyatsenia 2 (1934) 126. — *Strophanthus aambe* Warb., Bot. Jahrb. 13 (1891) 407. — *Anodendron aambe* (Warb.) Warb., Bot. Jahrb. 13 (1891) 454. — Type: *Warburg 21307* (untraced, probably destroyed in B). Neotype: *Hartley TGH 11841* (L; isoneotypes A, BRI, G, K, LAE). *Ichnocarpus bertieroides* Wernham ex S. Moore, J. Bot. 61 (1923) Suppl. 33. — Type: *Forbes 859* (lectotype BM, designated here; iso A, K, L, MEL). Paratype: *Forbes 941* (BM, K, L).

Branchlets glabrous, sparsely puberulent or tomentose; rarely lenticellate. *Leaves* elliptic or weakly obovate, apex acuminate, base cuneate to obtuse; petiole 0.5–1.7 cm long; blade 3.7–13.7 cm long, 1.2–6.4 cm wide, 1.7–3.9 × as long as wide; 6–12 pairs of lateral nerves, gradually ascending, tertiary venation loosely reticulate; glabrous, sparsely puberulent on midrib beneath or puberulent all over beneath; punctate beneath. *Inflorescence* 6–25 cm long; sparsely to densely tomentose; pedicels 3–9 mm long. *Sepals* ovate, apex rounded; 1.2–2.1 mm long, 1.2–1.8 mm wide, 1–1.4 × as long as wide; sparsely puberulent. *Corolla* pink or red; tube 2.3–4.7 mm long; lobes 2.7–5 mm long, 1.1–2.1 mm wide, 1.8–3.8 × as long as wide; lobes 0.9–1.3 × as long as tube; glabrous outside and inside except on inside face of filaments. *Stamens* inserted at 1.3–2 mm from the base of the tube, which is 0.3–0.5 of the tube length; filaments 0.3–1 mm long; anthers 1.5–2.7 × 0.6–0.9 mm, 2.1–3.9 × as long as wide. *Disc* 0.8–1 mm long; 0.6–1 × as long as ovary. *Ovary* 0.9–1.4 mm long; style 0.8–2.1 mm long; pistil head 0.7–1 mm long. *Fruit* 4.8–7.3 cm long, 1.2–2 cm wide; glabrous; occasionally weakly lenticellate. *Seeds* 10.3–11.7 × 2.3–3.4 mm; beak 1.3–1.6 cm long, coma hairs 2.9–3.8 cm long.

Distribution — New Guinea, Aru, Ambon.

Habitat — In forest to 1300 m altitude.

Notes — *Warburg 21307*, the untraced type of this species, was collected in New Britain. The neotype has been selected from neighbouring Morobe Province on the



Map 1. Distribution of *Papuechites aambe* (Warb.) Markgr.

mainland of New Guinea as neither of the two New Britain specimens seen were found to be satisfactory. Two collections from Ambon and one from the Aru Islands are the only ones from outside New Guinea (including New Britain and New Ireland). It is quite probable that the species also occurs on Seram although no collections have been seen.

Markgraf (1927b) included *Strophanthus aambe* Warb. as a synonym of *Anodendron paniculatum*, and *Anodendron aambe*, a new combination based on this name and with the same type, as a synonym of *Papuechites aambe*. Forster (1993) also included *Strophanthus aambe* as a synonym of *Anodendron paniculatum*. Warburg 21307 is the type specimen of *Strophanthus aambe* and the basis of Markgraf's new genus *Papuechites* (Markgraf, 1927a) where it is suggested that the fruits on the specimen are from an *Anodendron* but that the rest of the plant is *Papuechites aambe* (Warb.) Markgr. It is quite possible that Markgraf was mistaken in his belief that it was a mixed collection as the fruits and seeds of *P. aambe* do bear a remarkable similarity to those of *A. paniculatum*.

Specimens studied — INDONESIA. Ambon: Dolleschel s.n. (W); Dolleschel 60 (W). — Aru Islands: Pulau Trangan, Sungei Leileimar, van Balgooy & Mamesah 6410 (L). — Irian Jaya: s.l. Teijsmann 42a/b (BO, L), 41c (BO, L), von Römer 261 (BO, L); Sorong, Remoe, Pleyte 702 (A, BO, BRI, L, SING); Vogelkop, Kebar Valley, Schram BW 7733 (L); Sliber, Nabire, Kanehira & Hatusima 12646 (A, BO); Dosai near Jayapura, Kostermans & Soegang 484 (L), Versteegh BW 4824 (L); Mamberamo R., Janowsky 448 (BO, L); Mt Gaultier, Gjellerup 818 (BO, L); Nassau, Docters van

Leeuwen 10551 (BO, L, U), *10589* (BO, L, U); Rouffaer R., *Docters van Leeuwen 9871* (BO, L, U); Sg. Aendoea near Oeta, *Aet 519* (A, BO, L, SING); Siriwo R., *Janowsky 173* (L). — PAPUA NEW GUINEA. Central: Mt. Victoria, *Carr 16291* (B, BM, L, SING); Dieni, Orange Road, *Brass 3973* (BO, BRI, K, UC); Koitaki, *Carr 12095* (BM, L, SING), *12197* (A, BM, L, SING), *12198* (A, BM, L, SING), *12626* (A, BM, L, LAE, SING), *12627* (A, BM, K, L, LAE, SING); Meroka, *Forbes 941* (BM, K, L); Sogeri, *Forbes 859* (A, BM, L, K, MEL). Gulf: Kikori, *Conn et al. LAE 66354* (A, BRI, K, L, LAE, M, MO); Werr R., Kaintiba, *Vinas 166* (A, K, L). Madang: s.l., *Schlechter 16995* (A, BM, BRI, G, L, MO, S); Brahman, Bundi, *Henty NGF 49215* (A, BO, BRI, K, L, LAE, NSW, SING); Usino Subdistrict, Amiaba R., *Foreman et al. NGF 45988* (A, BRI, K, L, LAE). Morobe: s.l., *Schlechter 19840* (G, S); 15 miles NE of Lae, *Hartley TGH 11841* (A, BRI, G, K, L, LAE - neotype); along Tymne-Wago track, *Hartley TGH 11386* (A, L, LAE); Bupu Village, Wampit, *Millar NGF 22929* (A, BRI, L, LAE); Burep R., NE of Lae, *Hartley TGH 10127* (A, BRI, L, LAE, NSW, P, SING); Mou R., above Anna Village, *Kerenga LAE73857* (A, BRI, L, LAE, M, MO, NSW); near Oomsis, *Gillison NGF 25058* (BO, BRI, L, LAE, SING); Patep, *Millar 23886* (A, BO, BRI, L, LAE, SING); Lae, Markham swamp, *Streimann & Kairo NGF 35839* (A, BO, BRI, L, LAE, SING). West Sepik: Bewani, Mt Yungat, *Wiakabu LAE 50588* (L). East Sepik: April R., *Ledermann 8580a* (SING); Balam Village W of Wewak, *Pullen 1338* (A, BM, BRI, L, LAE); Wagu, Ambunti subdistrict, *Hoogland & Craven 10364* (A, L, LAE). Southern Highlands: Waro airstrip 20 km SSW of Kutubu, *Jacobs 9238* (BO, L, LAE). Western: Lake Daviumbu, *Brass 7857* (A, BM, BO, L); Gaima, *Brass 8365* (A, BRI, G, K, LAE); Daru Isl., *Brass 1367* (A, BRI, P, SING); Kiunga, *Streimann LAE 51850* (A, BO, BRI, K, L, LAE, SING); Oriomo creek, 40 miles from sea, *Womersley NGF 17776* (A, BO, BRI, L, LAE, SING). — New Ireland: *Schlechter 14686* (BO, WRSL). — West New Britain: NNE slope of Mt Ulawon, Hoskins subdistrict, *Stevens LAE 51257* (A, BO, K, L, LAE, SING); Ulamona mission W of Nantumbu, Hoskins subdistrict, *Isles & Vinas NGF 32331* (L, LAE).

SPECIES EXCLUSAE

Papuechites novoguineensis (K. Schum.) Markgr. = *Ichnocarpus novoguineensis* (K. Schum.) D. J. Middleton, *Blumea* 39 (1994) 82.

Papuechites wariana (Schltr.) Markgr. = *Ichnocarpus wariana* (Schltr.) D. J. Middleton, *Blumea* 39 (1994) 86.

ACKNOWLEDGEMENTS

I would like to thank Matthew Jebb and John Parnell for their comments on the manuscript of this revision.

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