BLUMEA 25 (1979) 315–318

A SECOND SPECIES OF STEGANTHERA (MONIMIACEAE) FROM AUSTRALIA*

P. K. ENDRESS
Institut für Systematische Botanik der Universität Zürich

SUMMARY

Wilkiea macooraia (Bailey) Perkins is transferred into the genus *Steganthera* as *Steganthera macooraia* (Bailey) Endress. The flowers of the species are described for the first time.

The Australian genus *Wilkiea* (*Monimiaceae*) is a problematical group, as Johnson (1962) rightly pointed out for the three subtropical species. The same is true for the three or more tropical species from Northern Queensland.

One of these, *W. macooraia* (Bailey) Perkins, had been transferred by Perkins (1911) from the genus *Mollinedia* into *Wilkiea*, based only on observations of a fruiting specimen. This is a questionable procedure as, in this group, the critical generic features are represented by the flowers, and not by the fruits.

A closer inspection of new collections from the type locality has shown that the species belongs to the genus *Steganthera*. The description of flowers and fruits (fixed in FAA) is based on the following specimens: *P. K. Endress, G. Stocker & B. Gray 4280, 4281, 4291, 4292, 4295*, Sept. 16, 1977, summit region of Mt. Bellenden Ker, alt. 1600 m.

In *Wilkiea* at least the female flowers have six or more tepals, the inner ones thickened and glandular (Endress, unpubl.); the male flowers have six or more (rarely four) stamens. In *Steganthera* the flowers have four tepals (not thickened); the male flowers have four stamens. *Steganthera* (including *Anthobembix*, cf. Kanehira & Hatusima 1942) with about thirty species occurs almost without exception in New Guinea. In 1944 the first species for Australia (Northern Queensland) was described as *S. australiana* White. Thus, *S. macooraia* represents the second Australian *Steganthera* species.

Steganthera macooraia (Bailey) Endress, *nov. comb.* – **Fig. 1–7.**

Mollinedia macooraia Bailey, Bot. Bull. Dept. Agric. 5 (1892) 23. – *Wilkiea macooraia* (Bailey) Perkins in Engler, Pflanzenreich IV, 101 (1911) 26–27. – Holotype: *s. nom., s. num., Bellenden Ker Expedition*, South Peak, 1889 (fruiting specimen) (BRI).

Emended and extended description:

Frutex vel arbor parva, glabra, ad 10 m alta. *Folia* opposita, coriacea, nitida, aromatica; lamina lanceolata, acuta vel breviter acuminata, apice obtusa,

* Mitteilungen aus dem Botanischen Museum der Universität Zürich Nr. 306.

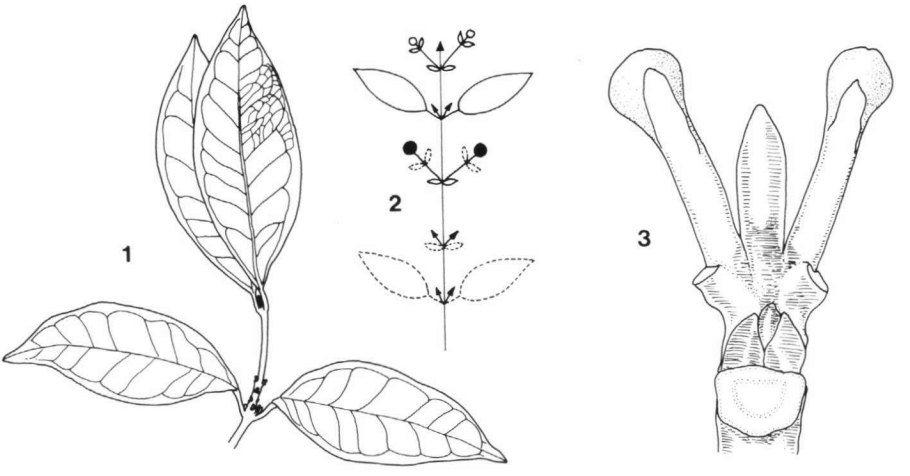

Fig. 1–3. *Steganthera macooraia* – 1. vegetative twig with alternation of leaf pairs and groups of bract pairs, $\times {}^{1}/_{2}$; 2. reproductive shoot system (white circles: flowers; black circles: fruits; arrows: vegetative buds; interrupted lines: parts fallen); 3. end of reproductive twig with two (female) flower buds and terminal vegetative bud (leaf and two bracts removed), $\times 6{}^{1}/_{2}$. – All after *Endress, Stocker & Gray 4295*.

(5–)7–8(–9) cm longa, 2–3.2 cm lata; petiolo 2–3 mm longo, initio rubro. Paria foliorum singula, in ramunculis paribus bractearum singulis vel paucis intercalata. *Flores* dioeci, globosi, ca. 3 mm diametro, mellei; *perigonii lobi* minuti, 4, duobus paribus apice receptaculi inserti; *receptaculum* crassum, intus pilosum. *Flores masculini*: stamina 4, duobus paribus in receptaculo inclusi, filamentis brevibus, pilosis; antheris reniformibus, rima horizontali dehiscentibus. *Flores feminei*: carpella numero variabili (ca. 10–24), glabra, apocarpica. *Fructus*: carpella ovoidea, glabra, carnosa, ca. 1.5–1.8 cm longa, ca. 0.8–0.9 cm lata, initio viridia, postea purpurescentia, demum nigrescentia (in siccitate minute papillosa); embryo in albumine copioso parvus, radicula elongata. Numerus chromosomatum diploideus $= \pm 76$ (secundum Ehrendorfer *et al.* 1968).

Distribution: The area of the species is limited to two ranges in tropical Queensland (Cook District): Bellenden Ker Range, 17°15′ S, 145°50′ E; Great Dividing Range between 17°20′ S, 145°25′ E and 16°10′ S, 145°20′ E.

Ecology: Montane rain forest and microphyll vine-fern thicket; alt. 1000–1600 m.

Steganthera macooraia is a distinct species. It shares some of its peculiar characters, such as habit, small leaves, few-flowered inflorescences (single flowers instead of cymes in axils of leaves or bracts on leaf shoots) with New Guinea *Steganthera* species of high altitudes, for example *S. myrtifolia* (Smith) Kanehira & Hatusima.

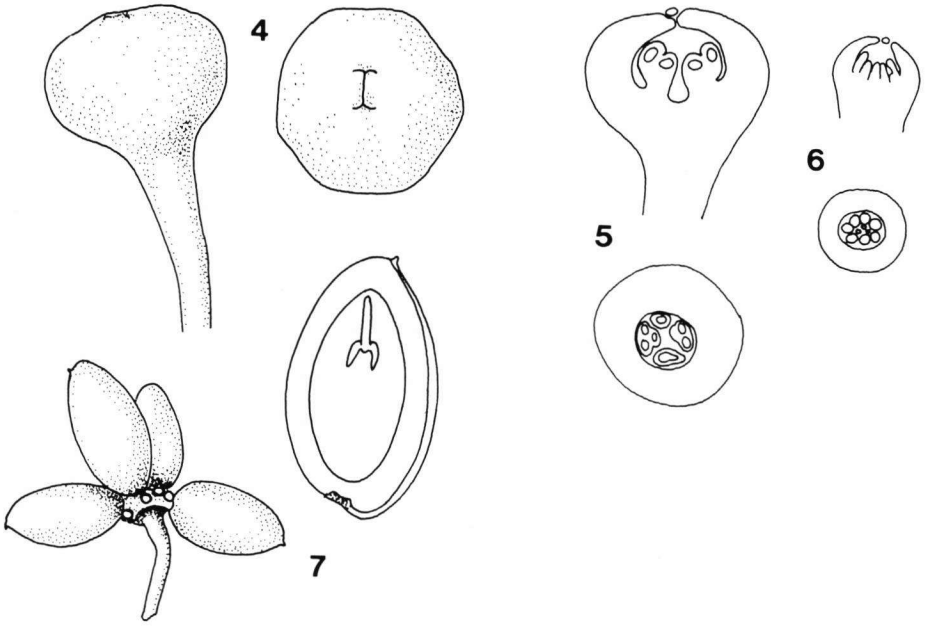

Fig. 4 – 7. *Steganthera macooraia* – 4. male flower, shortly before anthesis (right side: top view with the two decussate pairs of tepals, the outer pair covering the inner one), × 9; 5. male flower, shortly before anthesis, longitudinal and cross section, × 9; 6. female flower bud, longitudinal and cross section, × 9; 7. fruit: left side: receptacle with four carpels and abscission zones of other carpels, × $1^1/_3$; right side: longitudinal section of fruiting carpel with endosperm and embryo, × 2.2 – Figures 4 and 5 after *Endress, Stocker & Gray 4281*, 6 and 7 after *Endress, Stocker & Gray 4295*.

Possibly, these features are due to convergent evolution, as the same syndrome also occurs in higher altitude species of other monimiaceous genera (e.g. *Levieria*, *Kibara*) and in other families. *S. macooraia* differs from the other Australian species, *S. australiana*, by its smaller leaves without marginal teeth and the glabrous and one-flowered inflorescences. The *Wilkiea* species differ not only in floral structure, but also in vegetative characters.

The presence of a second species of *Steganthera* in Northern Queensland is a further example for the close floristic relationships of the Northern Australian and the New Guinea rain forests. More and more genera and species are being detected, which are common to both regions (e.g. Hoogland 1972, Webb & Tracey 1972, Hyland 1973, Hyland & van Steenis 1973, Leenhouts 1978).

ACKNOWLEDGEMENTS

I thank B. P. M. Hyland, CSIRO Division of Forest Research, Atherton, Queensland, cordially for valuable support, G. Stocker and B. Gray for the joint excursion to Mt. Bellenden Ker, and the Georges-und-Antoine-Claraz-Schenkung for the financial support of the trip. Thanks are also due to the heads and staff of the herbaria of Atherton (QRS), Brisbane (BRI) and Leiden (L) for their help during my stay.

LITERATURE

BAILEY, F. M. 1892: Contributions to the Queensland flora. Bot. Bull. Dept. Agric. 5: 1 – 36.

EHRENDORFER, F., F. KRENDL, E. HABELER, & W. SAUER. 1968: Chromosome numbers and evolution in primitive angiosperms. Taxon 17: 337 – 353.

HOOGLAND, R. D. 1972: Plant distribution patterns across the Torres Strait. – In: D. Walker (ed.): Bridge and barrier: the natural and cultural history of Torres Strait, 131 – 152. Austral. National University, Canberra.

HYLAND, B. P. M. 1973: Tetrameles nudiflora R. Brown (Datiscaceae). A new record for Australia. Blumea 20: 338.

HYLAND, B. P. M., & C. G. G. J. VAN STEENIS. 1973: The generic identity of Xanthostemon brachyandrus C. T. White: Lindsayomyrtus novum genus (Myrtaceae). Blumea 21: 189 – 192.

JOHNSON, L. A. S. 1962: Taxonomic notes on Australian plants. Contr. N.S. Wales nat. Herb. 3: 93 – 102.

KANEHIRA, R., & S. HATUSIMA. 1942: The Kanehira-Hatusima 1940 collection of New Guinea plants X. Monimiaceae. Bot. Mag. (Tokyo) 61: 249 – 262.

LEENHOUTS, P. W. 1978: A new species of Diploglottis (Sapindaceae) and its systematic position. Blumea 24: 173 – 179.

PERKINS, JANET 1911: Monimiaceae (Nachträge). – In: A. Engler (ed.): Das Pflanzenreich. IV.101. W. Engelmann, Leipzig.

WEBB, L. J., & J. G. TRACEY. 1972: An ecological comparison of vegetation communities on each side of Torres Strait. – In: D. Walker (ed.): Bridge and barrier; the natural and cultural history of Torres Strait, 109 – 129. Austral. National University, Canberra.

WHITE, C. T. 1944: Contributions to the Queensland flora, No. 8. Proc. roy. Soc. Queensland 55: 59 – 83.