

## ALSEUOSMIACEAE (C.G.G.J. van Steenis, Leyden)

Until recently this small family was only known to occur in New Zealand and New Caledonia, but in 1982 I have shown that it occurs in New Guinea and in 1984 that it is also represented in East Australia.

Its phytophagic history is complicated through the former confusion about the systematic affinity. *Wittsteinia* was described by F. VON MUELLER (1861) as probably belonging to *Ericaceae* (or *Pyrolaceae*). *Periomphale* was described by BAILLON (1888) and has been affiliated to *Caprifoliaceae* or *Gesneriaceae*. In the 'Pflanzenfamilien' it was ranged among *incertae sedis* (Nachtr., 1897). GILG & SCHLECHTER (1906) described two other genera from New Caledonia which have appeared not to be different from *Periomphale*.

Recently I could show that *Wittsteinia*, which was by BURTT (1949) relegated to *Epacridaceae*, is the oldest name for *Periomphale* and that, in addition to *Alseuosmia* from New Zealand, there occurs in Queensland a new, peculiar, third genus, *Crispiloba* STEEN., of this family. The assemblage of the three genera is now a coherent, typically Australasian one.

In my mind the affinity is with *Escalloniaceae* *q.* *Grossulariaceae*, and pending further systematic research in that group, we can maintain it as a family of its own, in agreement with CRONQUIST (1981).

I am particularly satisfied that recent anatomical work on the three genera by Dr. W.C. DICKSON, Chapel Hill (*in litt.*) endorses my opinion.

### 1. WITTSTEINIA

F. v. M. Fragm. Phytogr. Austr. 2 (1861) 136; *ibid.* 3 (1863) 166; BURTT, Kew Bull. 3 (1949) 493; STEVENS, Bot. J. Linn. Soc. 64 (1971) 45; J.H. WILLIS, Handb. Pl. Vict. 2 (1973) 497; STEEN. Blumea 29 (1984) 391. — *Periomphale* BAILL. Bull. Mens. Soc. Linn. Paris n. 92 (1888) 731; Hist. Pl. 10 (1888) 85; GUILLAUMIN, Fl. Nouv. Caléd. (1948) 318; AIRY SHAW, Kew Bull. 18 (1965) 250; GARDN. Blumea 24 (1978) 141; STEEN. *ibid.* 24 (1978) 480; Fl. Mal. I, 9 (1982) 556; v. ROYEN, Alp. Fl. New Guinea 4 (1983) 2659. — *Memecylanthus* GILG & SCHLTR, Bot. Jahrb. 39 (1906) 269. — *Pachydiscus* GILG & SCHLTR, *l.c.* 270. — Fig. 1.

Small shrubs. *Leaves* spiral, sometimes some in pairs or in false whorls, entire or dentate, membranous or rather fleshy, exstipulate; axils puberulous. *Flowers* fragrant, actinomorphic, 4–7-merous, usually 5-merous, axillary, solitary or in pauciflorous racemes (up to 5 flowers), sustained by a few bracts, small, often in part cleistogamous. *Calyx* persistent. Disk absent. *Corolla* sympetalous, barrel-shaped, lobes  $\pm$  valvate, short, carunculate inside apex. *Stamens* mostly 5, free, alternipetalous; filaments filiform; anthers introrsely, lengthwise dehiscent. *Ovary* inferior, 2–3-celled, with flat apex, style columnar, as long as the corolla, the globular, rugose stigma closely enveloped by the corolla segments. *Ovules* flattened, attached to the septum, (?1–)4–6 in each cell. *Berry* small, globose, crowned by the calyx, few-seeded.

Distr. About 3–4 *spp.*, Australia (Victoria), New Caledonia, in *Malesia*: Papua New Guinea

Ecol. In forests, the Papuan species epiphytic.

Notes. A clearly Australasian, East Gondwanic genus, in which the Papuan species is manifestly allied with the Australian species, not with the New Caledonian one(s).

The occurrence of cleistogamous flowers is highly peculiar and should be more closely studied in the field.

BAILLON (1888) mentioned the occurrence of an orange disk but in herbarium specimens I cannot distinguish this and assume it is the bulging apex of the ovary.

Whether the flowers are always bisexual is also uncertain; there is probably variability and they may appear to be polygamous. This must be checked in the field.



Fig. 1. *Wittsteinia papuana* (STEEN.) STEEN. Small apical part of the very slender habit, nat. size (type, LAE 67068).

1. *Wittsteinia papuana* (STEEN.) STEEN. *Blumea* 29 (1984) 391. — *Periomphale papuana* STEEN. *Blumea* 24 (1978) 481; *Fl. Mal.* 1, 9 (1982) 556; v. ROYEN, *Alp. Fl. New Guinea* 4 (1983) 2660, f. 767. — Fig. 1.

Branched, very thin and slender, completely glabrous, epiphytic shrublet, c. 75 cm long. *Twigs* angular. *Leaves* scattered and in pseudovercils, lanceolate-oblong, cuneate at base, acute at apex, margin entire or mostly with 1–2 short gland-tipped teeth; nerves 2–3 pairs, very erect; venation impressed above, indistinct beneath; petiole 3–4 mm, much widened at base. *Flowers* solitary, axillary; pedicel emerging between a few minute bracts, 1–2 mm. *Calyx* lobes 5, thickish, blunt deltoid, 1.25 by 1.5 mm. *Corolla* (in mature bud) narrowly barrel-shaped, 6 mm long; lobes carunculate inside apex, 1 mm. *Stamens* 5, filaments 4 mm, anthers roundish, cordate, 0.75 mm. *Ovary* c. 3 mm, 2-celled; ovules 4(–75) in each cell.

*Distr. Malesia:* Papua New Guinea (W. Sepik, Telefomin Subdistr., 5°S 141°E). One collection.

*Ecol.* *Podocarpus-Phyllocladus* woodland with *Gahnia* tussocks undergrowth, 3000 m.

*Affinity.* The species is differing from the New Caledonian one(s) by having dentate leaves and an ascending habit producing many roots. These characters are also found in the Australian *W. vacciniacea* F. v. M. The latter is a ± creeping or ascending, rooting small shrub with larger, more coarsely and more densely dentate leaves, an attenuate leaf base with a hardly developed petiole, and hairy twigs and lower portion of the leaves.

*Field notes.* Pedicels pink, gynoecium creamy white, petals pinkish light green, stamens creamy white.