

BOESENBERGIA O. KUNTZE (ZINGIBERACEAE) :
NEW RECORDS FROM KERALA

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Fischer in the Flora of the Presidency of Madras reported only 9 genera of *Zingiberaceae*, *Globba*, *Curcuma*, *Kaempferia*, *Hedychium*, *Amomum*, *Zingiber*, *Costus*, *Elettaria* and *Alpinia*. The genus *Boesenbergia* O. Kuntze (*Gastrochilus* Wall.), is not reported from Kerala. The presence of *B. pulcherrima* (Wall.) O. Kuntze in Kerala—though not identified at that time—had been observed as early as in 1896's. In a two volume paintings of the local plants of Malappuram and some adjacent areas, in natural colour by an unknown author, (presently in the possession of the Botany Department, Library of Calicut University), there is an accurate illustration of this taxon. Most of the drawings in the book were identified and referred to the descriptions in Hooker's Flora of British India. From the handwriting it is presumed that the identification was done by C. B. Clarke. Recently, *B. pulcherrima* has been collected from Vythiri in Wynad region and *B. tiliaefolia* from Attappady and Karimala. These plants have been identified at Central National Herbarium, Calcutta (CAL).

The specimens cited are deposited in the Calicut University Herbarium, Calicut.

BOESENBERGIA O. Kuntze

Caulate tender herbs, with fleshy roots found as undergrowth, at higher altitudes. Leaves with sheathing petioles; blade ovate-elliptic, base mostly oblique, ligulate. Spike secund, terminal, partially included in upper leaf sheaths. Bracts free and distichous, each

with one bracteole and a flower. Corolla tube slightly longer than bract and with subequal lobes. Lateral staminodes petaloid, equalling or slightly longer than corolla lobes. Lip concave; stamens shorter than corolla lobes; filament thick and fleshy; connective broad, truncate. Capsule with 2-6 arillate seeds.

***Boesenbergia pulcherrima* (Wall.) O. Kuntze**, Rev. Gen. Pl. 685. 1891. *Gastrochilus pulcherrima* Wall. Pl. Asiat. Rar. 1 : 22, t. 24. 1829; Baker in Hook. f. Fl. Brit. India 6 : 217. 1890.

Roots tuberous. Rhizome absent. Stem caulescent often with axillary bulbils. Internodes elongated, 3-6 cm. Leaves distichous, glabrous or with few hairs beneath. Petiole 6-9 cm. Ligules hyaline. Blade often oblique at base, elliptic-ovate, acute, 7-20 × 5-9 cm. Floral bracts about 3 × 1 cm, green. Calyx truncate, 4 mm long, hyaline. Corolla lobes white 1.5 cm long, linear-oblong. Staminodes white, longer than corolla lobes. Lip 2.5 × 1.5 cm, broad and concave, white with pink in the depression. Connective truncate or with slight projection at tip, pubescent. Ovary tricarpellary, unilocular with often two or sometimes more ovules attached to the lower posterior side of the wall. Capsule dehisces into 3 valves, each rolling outwards. Seed brown when mature, minutely hairy. Aril lacerate.

Specimens examined : CALICUT DIST., Wythiri, ± 400 m, in fruits, 24-7-1975, Jose K.

Mangaly 6691 A-C. CANNANORE DIST., Ezhimalai, in flowers, 10-9-1978, *Swaroopanandan* & *Jose K. Mangaly*, 17566 A-C.

Boesenbergia tiliaefolia (Baker) O. Kuntze, Rev. Gen. Pl. 685. 1891. *Gastrochilus tiliaefolia* Baker in Hook. f. Fl. Brit. India 6 : 218. 1890.

Annual or perennial caulescent herbs 15-20 cm tall. Roots slender, fascicled, occasionally tuberous. Stem short completely included within leaf sheaths, and occasionally with axillary bulbils. Internodes short, 2-3 cm long. Leaves distichous, often 4 in number, glabrous or with few hairs beneath. Petioles 8-10 cm long. Ligules hyaline, transverse and narrow. Blade 8-20 × 6-11 cm, distinctly oblique at base, ovate, acute. Floral bracts 2 × 1 cm, green. Calyx truncate, hyaline. Corolla white; lobes linear-oblong, 2 cm long. Stamen pubescent. Connective truncate, not spurred. Lip 3 cm long and concave, white with pink spots in the depression. Staminodes white, equal to or slightly longer than corolla lobes. Ovary tricarpeal, unilocular, at times partially divided by the posterior septum. Ovules 6, attached to the persisting septum in the lower

part of the ovary; style and stigma tuberculate. Capsule often with 2-4 seeds, on dehiscence each valve rolling backward and outwards. Seeds brown to black, minutely hairy. Aril lacerate.

Specimens examined : PALGHAT DIST., Mukkali, ± 350 m, in flowers, 22-6-1976. *Jose K. Mangaly*, 17545 A & B.

The genus *Boesenbergia* is often described as with tricarpeal trilocular ovary. On critical examination, the ovary, though tricarpeal, is found to be unilocular, by the complete suppression of both lateral septa and partial or complete suppression of the posterior septum. The ovules varying from 2-6 are attached to the remnants of the posterior septum or the posterior side of the ovary wall itself, very close to the base. Whether such ovaries are restricted to plants in this region alone and its evolutionary significance are yet to be assessed. The presence of the pubescence on seeds is also unique when compared with seeds of other species of Zingiberaceae in this area. There is considerable amount of phenotypic plasticity within populations.