POLEMONIACEAE (C. A. Backer, Heemstede)

Annual or perennial herbs or shrubs, sometimes climbing by means of foliar tendrils, rarely small trees. Leaves spirally arranged or opposite, estipulate, sessile or petioloed, entire or more or less deeply divided, or compound. Flowers axillary or terminal, solitary, gamophyllous, corimboso or capitate, actinomorphic or slightly zygomorphic. Calyx 5-lobed or 5-partite, with or without transparent fields, persistent. Corolla gamophyllous, 5-lobed or 5-partite; lobes contorted in bud. Stamens 5, on the corolla-tube, inserted at equal or unequal height, alternating with the segments; filaments free from each other, included or exerted; anthers dorsifixed, 2-celled; cells opening longitudinally. Ovary superior, sessile on a disk, 3 (rarely 2)-celled; ovaries in each cell 1-∞, inserted in the inner angle; style 1, filiform, 3 (rarely 2)-fid. Fruit a loculicidal or septifragal capsule, rarely indehiscent. Endosperm mostly copious; embryo straight or slightly curved.

Distr. N. America and the Andes, rare in the Old World, absent from Africa and Australia. Genera 12, represented by upwards of 250 species. In Malaysia one American genus is more or less naturalized; a few other species are cultivated in gardens.

Uses. The Indonesian species are exclusively of horticultural value.

KEY TO THE GENERA

   1. Cobaea
   2. Filaments inserted at very unequal height. Leaves entire.
      2. Phlox
   2. Filaments inserted at equal height.
      3. Gilia

1. COBAEA CAU. Icon. 1 (1791) 11.

Climbing shrubs or herbs. Leaves spirally arranged, pinnate; rachis ending in a much branched tendril, branches of tendril terminated by a minute sharp claw. Leaflets opposite, herbaceous, usually in 3 pairs, lowest pair quite near the leaf-base. Flowers solitary or gamophyllous, axillary or on top of short branch, long pedicelled, rather large. Calyx-tube sometimes well-developed, usually very short; segments valvate with recurved margins, either short and broad or long and narrow. Corolla campanulate, 5-lobed or 5-partite; segments short and broad or long and narrow. Stamens inserted at equal height above the base of corolla-tube; filaments filiform with a thickened hairy base, about as long as corolla or longer, sometimes much longer. Disk thick, 10-lobed. Ovary ovoid-oblong, glabrous; cells 2-∞-ovuled; style about as long as corolla or longer; style-arms linear. Capsule oblong, coriaceous or pergamaceous, septifragal, 3-valved; central column very thick. Seeds in each cell 1-∞, 2-seriate, peltately attached, large, much compressed, winged all round; testa becoming slimy when steeped in water; cotyledons large, fleshy.

Distr. Species 18, native of tropical America, a few introduced into other countries; one of these has become more or less naturalized in Java.

KEY TO THE SPECIES

1. Calyx-tube with 5 prominent flat folds; segments not or slightly longer than broad, rounded or retuse with an apical point and broadly reflexed, mutually appressed margins. Corolla-segments much shorter than the tube, broadly triangular, obtuse. Flowers patent or erecto-patent...
   1. C. scandens
1. Calyx-tube without prominent flat folds; segments much longer than broad, acute, with narrowly reflexed, mutually appressed margins. Corolla-segments much longer than the tube, narrowly linear, at the apex divided into 2 very short, narrow segments. Flowers pendulous.
   2. C. panamensis

(1) The genera Phlox and Gilia are represented in Malaysia by cultivated ornamentals only; they are not further treated here.

Robust perennial climber, 3–8 (up to 20?) m high. Stem angular, glabrous. Leaffets in 3 or sometimes 2 pairs, glabrous, obtuse or acute, mucronate; lowest pair subsessile, not stipuliform, oblong-obovate from an obtuse, truncate or emarginate, subequal, often broadened base; higher ones distinctly stalked, ovate to oval or oblong from an obtuse, acute or contracted base, 3½–13 by 1½–6 cm; lateral nerves confluent into a thin intramarginal nerve; petioles 1–2 cm. *Flowers* patent or erecto-patent. Peduncle robust, 8–30 cm long, near the base with 2 pinnate bracts. *Calyx* 3–3½ cm long, cleft more than halfway down, widely gaping; tube 1–1½ cm long, very wide, with 5 strongly prominent flat folds; segments foliaceous, slightly or hardly longer than broad, broadly oval-ovate, rounded or retuse, with a short or longish point, green, pale-veined, glabrous without, very densely short-white-pubescent within. *Corolla* 4½–6½ cm long, very wide, lobed much less than halfway down, at first pale green, usually turning dark violet, rarely not changing its colour; tube slightly constricted above the broad campanulate base, above the constriction gradually widened, outside along the upper margin densely short-pubescent, otherwise glabrous, within with a broad densely villous ring at the insertion of the stamens, otherwise glabrous; segments broadly triangular, rounded or very obtuse. *Stamens* about as long as the corolla or slightly or distinctly longer, often upturned at the apex, filaments glabrous above the pubescent base; style glabrous; style-arms comparatively short, erect or erecto-patent. *Capsule* elliptic-oblong, 5–9 cm long. Seeds numerous, blackish brown, ± 1½ cm long.

*Distr.* Native of Mexico, Central America and Brazil, in the mountainous districts of Java cultivated as an ornamental and locally met with as an escape from gardens, not truly naturalized, 1200–1800 m. *Fl. Jan.–Dec.*, *fr.* July–Aug.


Herbaceous, climbing, 2–4 m high. Stem very slender, angular, densely white-woolly about the nodes, otherwise glabrous or subglabrous, purplish green; leaf-rachis thin, 4–6 cm (disregarding the apical tendril), glabrous above the pubescent base. *Leaffets* 3 pairs, subequal, narrowly oblong-obovate from an obtuse, rounded or subtruncate base, very acute, thin, light green, obscurely and remotely ciliolate, otherwise glabrous, 3–8 cm by 3½–2½ cm; petioles 4–8 mm. *Flowers* solitary, pendulous; peduncle thin, glabrous ebracteate, 6–

Fig. 1. *Cobaea scandens* Cav. as an escape near Tjibodas mountain garden, W. Java (Jensen).