

VALERIANACEAE (C. A. Backer, Heemstede)

1. VALERIANA

LINNÉ, Sp.Pl. (1753) 31; Gen. Pl. ed. 5 (1754) no 43.

Perennial herbs, with a short, often strong-smelling rootstock. Lowest leaves in a basal rosette, higher ones decussate, simple, odd-pinnate or deeply pinnatifid, exstipulate but those of one pair often connected by a raised line, radical ones often long-petioled. Flowers small, ♀ or unisexual, bracteate, sessile, cymose; cymes united into an often large, terminal panicle or corymb. Bracts small, opposite, persistent, oblong or linear, on the ultimate branchlets of the inflorescence only one bract of each pair flower-bearing. Calyx small, persistent; limb during anthesis short, inrolled, deeply divided into 10 or more segments, these in fruit unrolling, much accrescent, finally widely patent, plumose, pappus-like. Corolla gamopetalous, caducous after anthesis, small; tube funnel-shaped, much widened above the very short, narrow basal part, unequalsided; lobes 5, patent, oblong, imbricate in bud. Stamens 3, inserted about halfway down on the corolla-tube, alternating with the lobes, exserted or not; filaments thin; anthers small, versatile, 2-celled, oval-suborbicular, or sub-biglobose, cells opening lengthwise. Ovary inferior, 3-celled, only one cell perfect, 1-ovuled, the two others barren or imperfect; ovule pendulous. Style thin, filiform, shortly 3-lobed or subentire, glabrous, exserted or not. Fruit small, dry, indehiscent, 1-seeded, ovate-oblong, much compressed, with 3 dorsal, 1 ventral, and 2 marginal ribs, 1-celled, the two barren or imperfect cells either enlarged or reduced to narrow ridges. Seed pendulous; albumen absent or scanty.



Fig. 1. *Valeriana hardwickii* WALL. Young flowering stemtop and separate leaf, $\times 2/3$.

Distr. Very many spp. centering in Andine Chile, the others nearly all on the N. hemisphere,

scarce in the mountainous districts of the tropics, absent from Australia, in *Malaysia* only known from Central Sumatra and Java.

Ecol. Open or slightly shaded, moderately moist localities in the mountains.

Use. Shortly after the outbreak of the second World War H. A. C. BOELMAN & U. G. BIJLSMA in Java showed the tincture of *Valeriana hardwickii* to be equivalent in pharmaceutical properties to *radix valerianae officinalis* (cf. *Natuurwet. Tijds. N.I.* 101, 1941, 194-199), and to furnish a valuable substitute.

1. *Valeriana hardwickii* WALL. in ROXB. Fl. Ind. ed. CAREY & WALL. 1 (1820) 166; D. DON, Prod. (1825) 159; DC. Prod. 4 (1830) 640; WALL. Pl. As. Rar. 3 (1832) 39, t. 263; CLARKE in HOOK. f. Fl. Br. Ind. 3 (1881) 213; O. K. Rev. Gen. 1 (1891) 303; KOORD. Exk. Fl. 3 (1912) 288; RIDL. J. Fed. Mal. St. Mus. 8, 4 (1917) 44; KOORD. Fl. Tjib. 3, 2 (1918) 40; BÜNNEMEIJER, Trop. Natuur 10 (1921) 57, f. 10; STEEN. Bull. J.B.B. III, 13 (1936) 258, 403; BACKER, Bekn. Fl. em. ed. 8 (1949) fam. 176, p. 2.—*Valeriana javanica* BL. Bijdr. (1826) 919; MOR. Syst. Verz. (1846) 70; JUNGH. Java ed. 2, 1 (1853) 596; ZOLL. Syst. Verz. (1854) 119; MIQ. Fl. Ind. Bat. 2 (1856) 118; KOORD. Nat. Tijds. N.I. 60 (1901) 373; HALLIER f. Meded. R.H. 12 (1912) 17.—Fig. 1.

Erect, 0.3-2 m high; stem terete, fistular, finely hairy when young, soon glabrescent; lower internodes short, higher ones longer, upper often very long. Leaves odd-pinnate or very deeply pinnatifid; petiole and leaf-rachis finely hairy when young, glabrescent; petiole 1-3 cm, rachis 3-11 cm; leaflets (segments) 3-9, ovate to oblong or lanceolate from an acute, obtuse or rounded base, long acuminate-caudate, more or less coarsely serrate-dentate; terminal segment largest, stalked, 4-12 by 2-6 cm; lateral ones sessile, often \pm oblique, 2-7 by 1-3 cm. Terminal panicle 14-60 cm, with opposite, erecto-patent main-branches; cymes

often long-stalked, widely branched, many-flowered; flowering bracts 3-5 mm long, obtusely acuminate, 1-nerved. Corolla milky white, tube 1 $\frac{1}{4}$ -2 mm; segments patent, oval with an obtuse or rounded apex 1 $\frac{1}{4}$ -2 mm long. Filaments sometimes not or hardly, sometimes distinctly exerted, glabrous, 1-2 mm, rarely shorter. Style exert or not, 1 $\frac{1}{4}$ -2 $\frac{1}{2}$ mm. Fruit brown, glabrous or subpubescent, \pm 2 $\frac{3}{4}$ mm long; calycinal bristles 10-11, on the mature fruit widely spreading, long-plumose, 5-7 mm long.

Distr. Continental SE. Asia, in *Malaysia*: Central Sumatra (rare), Java (throughout).

Ecol. Sunny or slightly shaded localities, meadows, thickets, large forest-glades, *Casuarina* and subalpine mixed forests, sometimes as a weed on fields, locally often numerous and arresting the eye by a profusion of white flowers, 1400-3200 m.

Use. See under the genus.

Vern. *Lompong alas* (Tengger), *gédébés* (Gedeh), *kutét gamong*, *t(é)ropongan*, J, *padang tundah*, *sémprètan*, M (because children make trumpets and whistles from the hollow stems), *Javaanse valeriaan*, D.

Note. The smell of the bruised rhizome reminds that of *Valeriana officinalis* L. The plumed fruits are readily dispersed by wind over some distance (like those of many Composites). The flowers seem to be dimorphic.

Exclusively cultivated

According to BAKHUIZEN VAN DEN BRINK *Jr* (in BACKER, Bekn. Fl. Java em. ed. 8, 1949, fam. 176, p. 2) *Kentranthus ruber* (L.) DC., a native of Europe, is sometimes cultivated for ornamental purposes in gardens in the mountains of Java.

Excluded

Triplostegia will be treated in this Flora under the *Dipsacaceae*, cf. p. 290.