

CORYNOCARPACEAE (C. G. G. J. van Steenis, Leyden)

1. CORYNOCARPUS

FORST. Gen. Pl. (1776) 32, t. 16; DC. Prod. 8 (1844) 145; HOOK. f. Bot. Mag. (1848) t. 4379; Fl. Nov. Zel. 1 (1852) 48; B. & H. Gen. Pl. 1 (1862) 425; E. & P. Nachtr. (1897) 215; TIEGH. J. de Bot. 14 (1900) 193; HEMSL. Ann. Bot. 17 (1903) 743, t. 36; *ibid.* 18 (1904) 179; STEEN. Bull. J.B.B. III, 13 (1933) 99, f. 1; J. KRAUSE in E. & P. ed. 2, 20b (1942) 22.

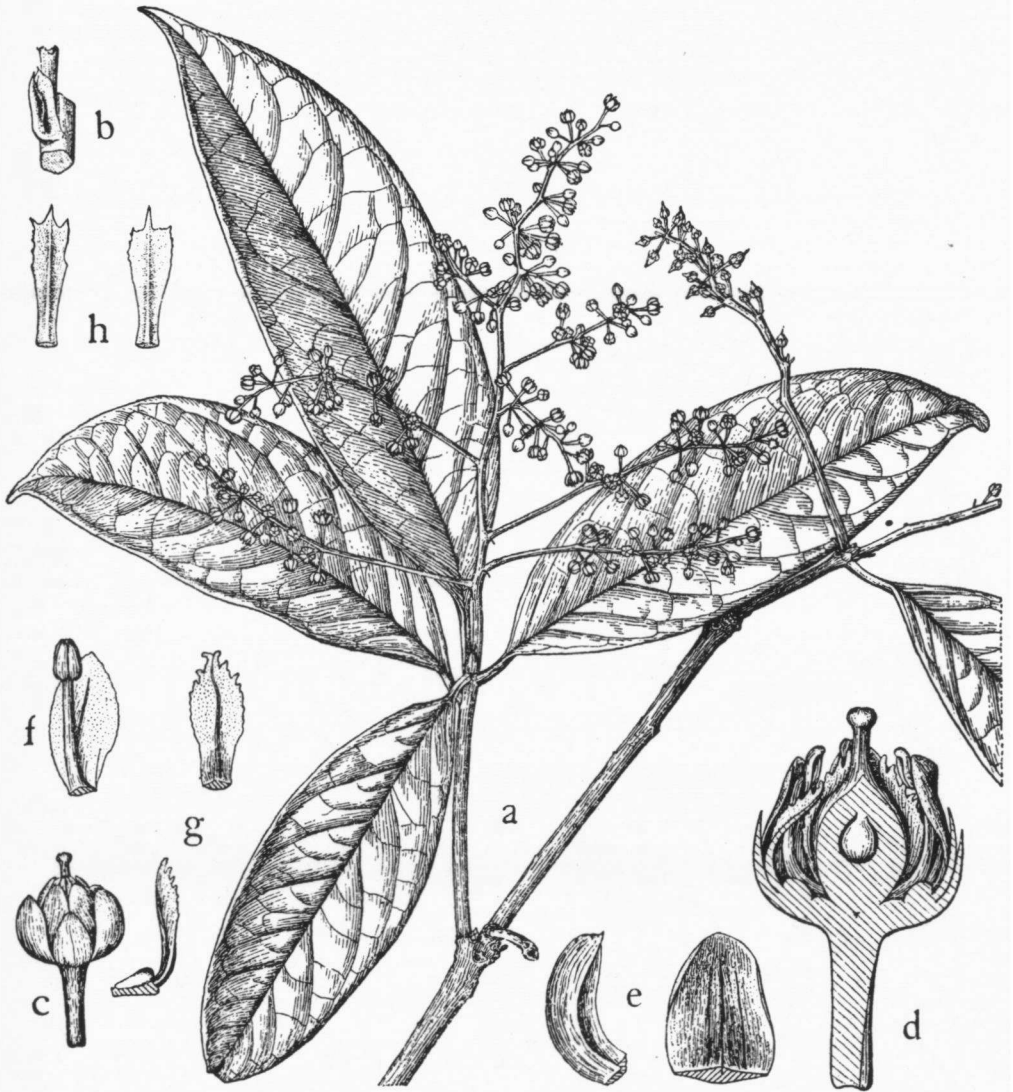


Fig. 1. *Corynocarpus australasica* C. T. WHITE. a. Flowering branch,  $\times \frac{1}{2}$ , b. insertion of a lower branch of panicle, with 2 adnate bracts, c. flower, d. section of flower, e. sepal, inner and lateral side, f. petal and adnate stamen, g. staminodes, the lower with the basal gland, h. staminodes from fresh material; b-h. enlarged (drawn after C.H.B.: V.B. 83).

Evergreen, glabrous trees or shrubs, without resin-tubes. *Leaves* spread, simple, entire, more or less crowded towards the ends of the shoots, shining, exstipulate; midrib sulcate; shoots with perular terminal buds. Branches often in pseudo-whorls. Inflorescences terminal, sometimes lateral, generally not exceeding the leaves. *Flowers* on the ultimate axis in fascicles of 3, towards the end solitary, pedicellate, bracteate. *Calyx* deeply 5-lobed, fleshy, persistent, petaloid, lobes unequal, concave, imbricate, 2 outermost smallest. *Petals* 5, thinner than the sepals, inserted at the margin of the disk-like receptacle. *Stamens* 5, attached to the base of the petals; filaments flattened or terete, slightly thickened towards the base; anthers dorsifixed, dehiscing lengthwise, introrse. *Staminodes* petaloid, dentate in the upper half, top mostly pointed, alternating with the petals. *Disk* glands 5, ovoid to ellipsoid, epistaminodial. *Ovary* ovoid, originally 2-celled, one cell soon abortive. *Styles* 1–2; stigma punctiform. *Ovule* 1, pendulous, anatropous. *Fruit* drupaceous, or a nut, with fibrous endocarp. *Testa* membranous; cotyledons plano-convex; albumen absent.

*Distr.* Four *sp.*, one each in New Zealand and adjacent islands, N. Caledonia, the New Hebrides, and N. Queensland & E. Malaysia.

*Uses.* In New Zealand the fleshy exocarp and the seeds of *C. laevigata* FORST. are found edible by the Maori tribe, the prune-like fruit being prepared before, to remove some prussic acid containing glucosids. By its big fruit the New Guinean species is promising as a food plant, but nothing is definitely known about its properties.

*Notes.* Both ENGLER and HUTCHINSON place this monogeneric family in the *Celastrales* or *Celastrineae* but WETTSTEIN in the *Terebinthales*; HALLIER *f.* finally included them in the *Rosaceae*.

1. *Corynocarpus australasica* C. T. WHITE, Contr. Arn. Arb. 4 (1933) 57, t. 5; STEEN. Bull. J.B.B. III, 13 (1933) 101; MERR. & PERRY, J. Arn. Arb. 22 (1941) 541; STEEN. *ibid.* 28 (1947) 421.—*Corynocarpus sp.* Bull. J.B.B. III, Suppl. (1930) 82.—Fig. 1, 2.

Small to medium-sized tree, 4–12 m; branchlets angular, their bark grey. Perular bracts thick, triangular, acute, warty, persistent, outer ones 4–6 by 3–4½ mm, inner ones narrower. *Leaves* elliptic-oblong, distinctly acute-, mostly falcate-acuminate, base cuneately narrowed into the sulcate petiole 1–2 cm, 9–22 by 3–9 cm. *Nerves* ca 9–11 pairs, erect, curved, anastomosing near the margin, impressed above, prominent below as is the stout midrib; parenchyma with whitish-crystal dots. Panicle broadly pyramidal, 6–16 cm long, 5–25 cm broad; axis angular, primary branches bracteate. *Flowers* fragrant, whitish, tips of the petals slightly rosa, after flowering the whole flower distinctly rosa, flower parts long-persistent. *Sepals* broadly elliptic with rounded tip, after blossoming very concave, 2 outer 1¾–2½ by 1¼–2 mm, inner ones 2½–3½ by 2 mm, 3-veined. *Petals* obovate-oblong to elliptic, 2½–3¼ by 1½ mm long, with 1 vein. *Filaments* terete, white, 1½–2¼ mm long; *anthers* brownish, later dark brown, acute-ovate, ⅔ mm long, lower half of the cells free. *Staminodes* obovate-oblong, 2½–3 mm long. *Disk-glands* yellowish or yellow-green. *Ovary* green, ca 1 mm high; *style* 1, sometimes obliquely inserted, little over 1 mm; *stigma* greenish-brown, punctiform. *Receptacle* developed as a flat disk between the ovary and the insertions of the sepals, connate with the bases of the petals. *Fruit* a nut,

not fleshy, globular to broad-elliptic but variable in shape, pointed at both ends; pericarp hard, irregularly shallow-ribbed, 3–5 by 3¼–3½ cm, greyish-green to red; exocarp 2 mm diam.; endocarp woody, closely adhering, inside smooth with

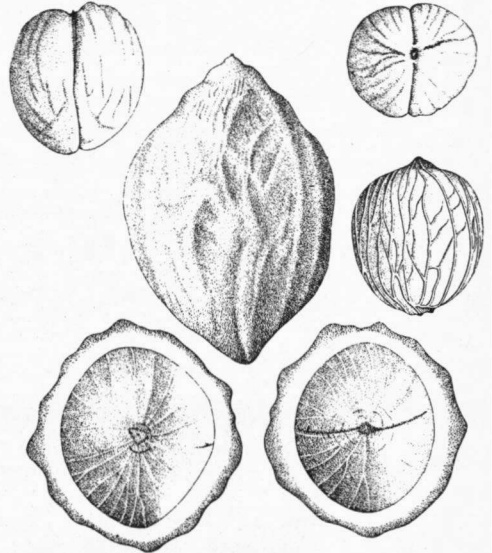


Fig. 2. Fruit of *Corynocarpus australasica* C. T. WHITE,  $\times \frac{3}{4}$ . Centre: outside; bottom: halved pericarp, innerside; right: seed with testa; top: testa removed (drawn after bb 22121).

irregular ribs and a furrow in the apical half, purple, 2 mm thick. Testa membranous, prominently lengthwise veined. Embryo hard, oblique, bony, with a longitudinal groove between the cotyledons,  $2\frac{1}{2} \times 2\frac{1}{2} \times 2$  cm.

Distr. N. Queensland, in *Malaysia*: New Guinea and S. Moluccas (Aru Islands).

Ecol. Rainforest substage tree, apparently not rare in New Guinea, up to 1800 m, *fl.* Oct., *fr.* June–Oct.