

PART XIII  
NOTES OF NERIUM L. AND  
TABERNAEMONTANA L.

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## INTRODUCTION

The present paper is a precursor of the revisions of the genera and is required for contributions to several Floras.

### NERIUM L.

*Nerium oleander* L. is a frequently cultivated species, which is known as garden ornamental in tropical and subtropical countries and as pot plant in the temperate zone. Comparative studies of several hundreds of herbarium specimens, among which the type specimens cited below, and many living plants in gardens showed, that they all belong to a single species. This conclusion makes the genus monotypic. *N. oleander* is even remarkably constant except for the corollas. They may be white, pale pink, dark pink, wine red, pale yellow or salmon. Furthermore, at least since VAN RHEEDE TOT DRAKESTEIN (1689), also double forms are known.

**Nerium oleander** L., Sp. Pl. 1: 209. 1753; Stearn in Davis, Fl. Turkey 6: 159. 1978. **Phot. 1**

Type: Cultivated, Netherlands, near Haarlem, de Hartecamp = Hortus Clifortianus (BM-herb. Cliff. p. 76, designated by Stearn). Homotypic synonyms: *N. floridum* Salisb., Prod. 147. 1796. *N. lauriforme* Lam., Fl. Fr. 2: 299. 1805.

Heterotypic synonyms: *N. indicum* Mill., Gard. Dict. ed. 8 no. 2. 1768. Type: Herb. Miller, 'Nerium foliis lineari-lanceolatis rigidis acutis, Nerium indicum augustifolium, floribus odoratis, simplicibus. H.L.' (BM, holotype). Homotype synonym: *N. oleander* var. *indicum* (Mill.) Degener & Greenwell, Fl. Hawai. Fam. 305 (7/25). 1952.

*N. latifolium* Mill., op. cit. no. 3. 1768. Type: Herb. Miller, 'Nerium (latifolium) foliis lanceolatis longioribus flaccidis' (BM, holotype). Homotypic synonym: *N. odorum* Salisb., Prod. 147. 1796 (not of Soland.).

*N. odorum* Soland. in Aiton, Hort. Kew. ed. 1. 1: 297. 1789. Type: Belutta-areli Rheed., Malab. 9: 3, t. 2. 1689 (lectotype). Homotypic synonyms: *N. odoratum* Lam., Enc. 3: 456. 1792. *N. verecundum* Salisb., Prod. 147. 1796.

*N. carneum* Hort. ex Dum.-Cours., Bot. Cult. ed. 2. 3: 268. 1811 (published with this binomial as variety of *N. oleander*; type apparently not preserved).

*N. flavescens* Di Spino, Jard. de St. Sebastien 1812, ex Roem. & Schult., Syst. 4: 410. 1819. Type not yet traced. Homotypic synonym: *N. luteum* Nois. ex Steud., Nom. ed. 1: 553. 1821.

*N. splendens* Hort. ex Part., Mag. Bot. 3: 73. 1837. Type apparently not preserved.

*N. thyrsoflorum* Paxt., loc. cit., with plated (plate designated lectotype here).

*N. mascatense* A. DC., Prod. 8: 421. 1844. Type: Muscat, Aucher-Eloy 4925 (G-DC, holotype (microfiche seen); isotypes seen: BM, FI, FI-W, K, P).

*N. kotschyi* Boiss., Diagn. Ser. 1. 7: 21. 1846. Type: Iran: Kuh-Delu, Kotschy

558 (G, holotype, not yet seen; isotypes seen: BM, BP, C, FI, FI-W, K, P, UPS, W, WAG). Homotypic synonyms: *N. odorum* Soland. var. *kotschyi* (Boiss.) Boiss., Fl. Or. 4: 48. 1875. *N. indicum* subsp. *kotschyi* (Boiss.) Rech. f. Fl. Iran. 103: 3. 1974.

*N. oleander* subsp. *kurdicum* Rech. f., op. cit. 2. Type: Yugoslavia: Dalmatia, Rechinger 12141 (W, holotype).

*Shrub* or small *tree* 1–6 m high. Trunk 2–15 cm in diam. or more (?); bark smooth, pale to dark grey or pale grey-brown. *Branches* flexible, bearing a terminal inflorescence subtended by 3 equal branchlets, therefore candelabrum-shaped (model of LEEUWENBERG as described by HALLÉ & OLDEMAN, 1970, Essai sur L'Architecture et la dynamique de croissance des arbres tropicaux, Paris); branchlets slightly triangular at the apex, furthermore terete, green, glabrous or obscurely puberulous at the apex, 3–6 mm in diam., with clear sticky sap. *Leaves* ternate (exceptionally some opposite or alternate), with a single row of colleters in the axils, those of a whorl equal, shortly petiolate; petiole 3–10 mm long, glabrous or puberulous; blade (often thickly) coriaceous, very narrowly elliptic, 4–8 × as long as wide, 5–21 × 1–3.5 cm, acuminate or acute at the apex, cuneate at the base or decurrent into the petiole, smooth when fresh, dull and with a more or less granular structure of impressed veins above when dry, revolute at the entire margin, glabrous on both sides or sometimes partly puberulous beneath; numerous straight rather obscure lateral veins. *Inflorescence* termi-



PHOT. 1. *Nerium oleander* L. (Leeuwenberg 12209, PHOT. A. DE GRAAF)

nal or in the forks, more or less thyrsoïd, lax, especially in the first branchings, variable in size, often long-pedunculate. Peduncle, branches and pedicels angular, pubescent or glabrous, Bracts sepal-like, 1-2 × as long as them, with colletes in the axils, outside pubescent or glabrous. *Flowers* 5-merous, actinomorphic except for the subequal sepals, fragrant or not. *Sepals* pale green when corolla white or pale-colored, suffused with dark red when corolla dark-colored, free, narrowly triangular to narrowly ovate, 1.5-4 × as long as wide, 3-10 × 1-3 mm, acuminate, pubescent outside, inside pubescent at the apex and with a single continuous row of colletes (0.5-0.8 × 0.15 mm), imbricate in bud, erect or apically recurved. *Corolla* white, pale pink, dark pink, wine-red, pale yellow or salmon, often with darker longitudinal lines in throat (double only seen in cultivated specimens), glabrous outside, inside with a (basally interrupted) belt of long recurved hairs from 3-7 mm above the base to the insertion of the stamens and from there to the apex of the corona sparsely pubescent (with ordinary and/or glandular hairs); tube 1.9-4.5 × as long as the calyx, 0.8-1.3 × as long as the lobes, 12-22 mm long, infundibuliform, at the base 2-4 mm and at the throat 8-12 mm wide, abruptly widened from the insertion of the stamens, lobes in the bud overlapping to the right, obovate or nearly so, 1.2-2 × as long as wide, 13-30 × 8-25 mm, rounded, entire, more or less spreading; corona in the corolla mouth composed of 5 truncate epipetalous parts each bearing 3-8 unequal or less often equal, in many cases partly united linear or triangular lobes (linear and triangular lobes often on a single corona part). *Stamens* barely included, inserted at 7-13 mm from the corolla base; filaments short, 1-2 mm long, with recurved long hairs inside, glabrous outside; anthers narrowly triangular, fertile at the sagittate base, introrse, 4-6 × 1.2-1.7 mm (except for appendages), with stiff upcurved hairs outside, glabrous inside, apically with a filiform densely hirsutulous 7-9 mm long appendage (the appendages of the 5 anthers usually twisted around each other); cells 2, dehiscent throughout with a longitudinal slit. *Pistil* 9-15 mm long; ovary broadly ovoid, often laterally compressed, 1.5-2 × 1.2-2 × 1-1.5 mm, retuse at the apex, pubescent, composed of 2 fused carpels, with 2 indented lines of dehiscence; style cylindrical, glabrous, about 0.5 mm in diam.; pistil head 1.2 × 1.2 mm composed of a basal ring (0.4 mm high and conical), a cylindrical 0.5 × 0.6 mm central part topped by 2 oblong erect 0.3 mm long lobes; apical lobes 0.4 mm long. The head adnate to or coherent with the connectives of the anthers by which the style and pistil head are shed with the corolla. Disk none. Ovules in each cell many. *Fruit* a bicarpellate follicle subtended by the persisting calyx, medium brown, narrowly or more frequently very narrowly oblong, (5.5)7.5-17.5 × 1-1.3 × 1-1.2 cm, glabrous, longitudinally striate, obtuse at the apex, narrowed towards both ends, bivalved, septicial, many-seeded; wall fairly thick, woody. *Seed* medium brown, oblong, 4-7 × 1.5-2 × 1 mm, with a 9-12 mm long coma at the truncate apex (directed towards the apex of the fruit), acute at the base, tomentellous with upcurved hairs grading into the coma; endosperm about 0.3 mm thick, starchy, creamy, surrounding the embryo; embryo straight, spatulate; cotyledons about 1.5 × as long as the rootlet and about 3.5 × as

long as wide, oblong, obtuse at the apex, truncate at the base (in a seed  $6.5 \times 1.5 \times 1$  mm; embryo 6 mm long; cotyledons  $3.5 \times 1$  mm; rootlet  $2.5 \times 0.6$  mm).

Distribution: Mediterranean area and Middle East to China. Specimens collected from wild plant seen from Portugal, Spain, France (near Toulon, Var, and Corsica), Italy, Yugoslavia, Hungary, Greece, Morocco, Algeria, Tunisia, Libya, Egypt, Turkey, Cyprus, Lebanon, Syria, Israel, Jordania, Muscat & Oman, Iraq, Iran, Afghanistan, Pakistan, NW India (Kashmir, Punjab), Nepal, China (Yünnan and perhaps further East).

Ecology: Banks of rivers or dry river beds; alt. 0–2000 m (or perhaps more). The flexible branches with the well-fixed leathery narrow smooth leaves and the big rooting system enable the plants very well to survive both flooding and long dry periods.

#### NOMEN NUDUM

*Nerium grandiflorum* Desf., Tab. ed. 2: 92. 1815 = *N. oleander* L.

#### TABERNAEMONTANA L.

Since the present author started a monograph of the *Tabernaemontanae*, he observed, that several valid species are described in segregates which he does not maintain. Therefore he proposes some new combinations:

***Tabernaemontana bouquetii* (Boiteau) Leeuwenberg, comb. nov.**

Basionym: *Camerunia bouquetii* Boiteau in BOITEAU & ALLORGE, Bull. Mus. natn. Hist. nat. Paris sér. 4. 3: 236, pl. 9. 1981.

Type: Congo: Makalala, Komono-Sibiti Road, Bouquet 963 (P, holotype).

***Tabernaemontana obliqua* (Miers) Leeuwenberg, comb. nov.**

Basionym: *Bonafousia obliqua* Miers, Apoc. S. Am. 49. 1878.

Type: Venezuela: Rio Casiquiare, Spruce 3119 (BM, holotype; isotype: NY).

Heterotypic synonym: *T. albescens* Rusby, Descr. of 300 new sp. of S. Am. Pl. 83. 1920. Type: Venezuela: Lower Orinoco, Santa Catalina, Rusby & Squires 300 (M, W, isotypes).

***Tabernaemontana panamensis* (Mgf., Boiteau & Allorge) Leeuwenberg, comb. nov.**

Basionym: *Bonafousia panamensis* Mgf., BOITEAU & ALLORGE, Ann. Miss. Bot. Gard. 68: 677, fig. 1. 1981.

Type: Panama: Gentry 6847 (MO, isotype).