

ON THE ASIATIC SPECIES OF NEUROPELTIS WALL.
(CONVOLVULACEAE)

BY

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In my first paper on Malaysian Convolvulaceae in *Blumea* III, 1938, p. 62—94, I pointed out (p. 83) that *Neuropeltis racemosa* Wall. has often been confounded both in literature and in herbaria with another species from the Malay Peninsula, *N. Maingayi* Peter. Moreover, on p. 85, I expressed my doubt whether specimens from Indo China, mentioned in literature as *N. racemosa* Wall. (by Gagnepain & Courchet in *Lecomte, Flore Générale de l'Indo-Chine* IV, 1915, p. 290, fig. 31) actually belong to that species. A more detailed study of materials from Indo China has now brought to light, that the plants from that country are different from those occurring in the Malay Peninsula and that they represent a new, though closely related, species.

Specimens from the west coast of British India (Kanara, Malabar) also appeared to be different from *N. racemosa*, under which name they are mentioned by Beddome, Clarke, Cooke and Gamble.

At present four species of *Neuropeltis* are known with certainty from Asia, to which perhaps may be added two other, doubtful ones. These four species are closely related to each other. As to their habit, the form of their leaves and their inflorescences they show a great mutual similarity. The fruits with the, at fruiting time, much enlarged bracts are also much alike in the four species and it is often difficult to keep them separate in the absence of well-developed flowers. These, however, show good specific differences and it is mainly on account of floral characteristics that the following key has been based. That the species are geographically well-limited is shown by *Fig. 1*.

The materials examined by me, belong to the following herbaria

(B) — Berlin-Dahlem.
(BR) — Brussels.
(K) — Kew.
(L) — Leiden.

(P) — Paris.
(PNH) — Manila.
(SING) — Singapore.
(U) — Utrecht.

Key to the Asiatic species of Neuropeltis.

- 1a. Corolla tube inside hairy at the base of the filaments. Styles as long as or shorter than the breadth of a stigma. Tenasserim, N.W. part of the Malay Peninsula . . . 1. *N. racemosa*
- b. Corolla tube inside glabrous at the base of the filaments. Styles much longer than the breadth of a stigma . . . 2
- 2a. Bract of well-developed flowers broad-elliptic, at least 5 mm long, minutely mucronate. Filaments incurved. Leaves acuminate, with a long and narrow acumen, young ones densely tomentose above. British India (Deccan Peninsula). 4. *N. malabarica*
- b. Bract of well-developed flowers mostly smaller, mucro conspicuous. Filaments straight. Acumen of the leaf blade not so long and narrow; young leaves not densely tomentose above . . . 3

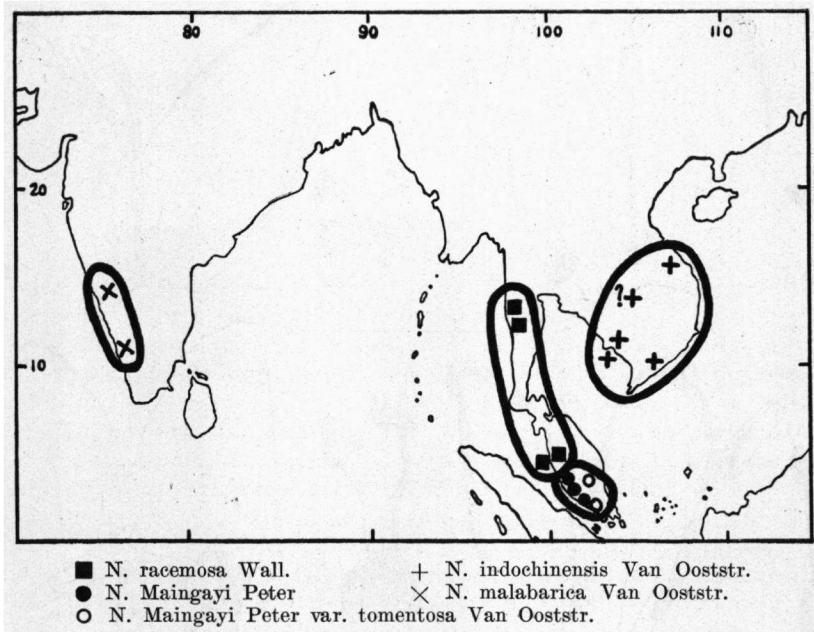


Fig. 1. — The distribution of the Asiatic species of *Neuropeltis* Wall.

- 3a. Styles long, filiform, erect, $2\frac{1}{2}$ —3 times as long as the breadth of a stigma. Corolla campanulate to rotate, the lobes elliptic-oblong. Indo China 3. *N. indochinensis*
- b. Styles shorter, divaricate, $1\frac{1}{2}$ —2 times as long as the breadth of a stigma. Corolla more rotate, the lobes broader, ovate. Malay Peninsula . . . 2. *N. Maingayi*

1. *Neuropeltis racemosa* Wall. in Roxb., *Fl. Ind.*, ed. Carey & Wall., II (1824) p. 44; Van Ooststr. in *Blumea* III (1938) p. 81 — ? *N. intermedia* Griff., *Notul. Pl. Asiat.* IV (1854) p. 285 — *Fig. 2, a—b.*

Distribution: Tenasserim, N.W. part of the Malay Peninsula, ? Borneo (see *Blumea* l.c. p. 83).

Tenasserim: without exact locality, *Helper, Herb. of the late East India Company 5887* (K); *Falconer 1032 bis* (K); Mergui, *Griffith, Herb. of the late East India Company 5887* (K).

Malay Peninsula: Kedah and P. Penang (see *Blumea* l.c., p. 82).

The type of *N. intermedia* Griff. is unknown to me. Its description very well agrees with that of *N. racemosa* Wall. and I suppose that the two species are identic.

2. *Neuropeltis Maingayi* Peter ex Van Ooststr. in *Blumea* III (1938) p. 83 — *Fig. 2, c—d*.

Distribution: Malay Peninsula.

Malay Peninsula: Perak, Selangor and Malacca (see *Blumea* l.c., p. 84).

var. *tomentosa* Van Ooststr. in *Blumea* III (1938) p. 85.

Distribution: Malay Peninsula.

Malay Peninsula: Malacca and Pahang (see *Blumea* l.c., p. 85).

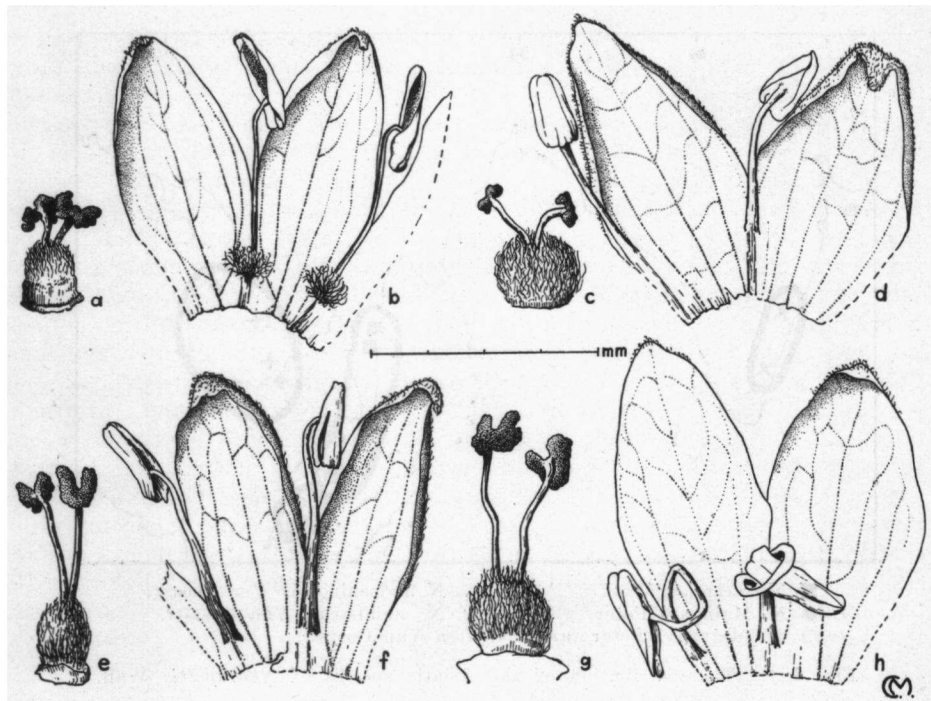


Fig. 2, a—b: Neuropeltis racemosa Wall., *a*: pistil, *b*: part of corolla with stamens; *c—d: N. Maingayi* Peter, *c*: pistil, *d*: part of corolla with stamens; *e—f: N. indochinensis* Van Ooststr., *e*: pistil, *f*: part of corolla with stamens; *g—h: N. malabarica* Van Ooststr., *g*: pistil, *h*: part of corolla with stamens.

3. *Neuropeltis indochinensis* Van Ooststr., nov. spec. — *N. racemosa* auct.; Gagnep. & Courchet in Lec., *Fl. Gén. Indo-Chine* IV (1915) p. 290, fig. 31, non Wall. — *Fig. 2, e—f*.

Description of the type collection, *Pierre s.n.*, from the island of Phu-quoc (the data in parentheses refer to the other specimens mentioned below; the description of the fruit and the bract at fruiting time has been made after the specimens *Pierre 1464* and *Pierre s.n.* from the Cam Chay mountains).

Frutex scandens, rami teretes, in partibus junioribus tomentulosi, in partibus adultioribus glabrescentes vel glabri, ad $3\frac{1}{2}$ (—6) mm diam., cinereo-brunnei vel cinerei, juniores lenticellis punctiformibus numerosis pallidis praediti. *Folia* anguste ovata, ovato-oblonga vel oblonga, interdum lanceolata, apicem versus gradatim attenuata vel acuminata, apice acuta vel obtusa, mucronulata, mucrone 1— $1\frac{1}{2}$ mm longo, basi obtusa (vel acutiuscula), 6—10 (—15) cm longa, 2— $4\frac{1}{2}$ (—6) cm lata, tenuiter coriacea, supra primo breviter adpresseque pilosa (vel subglabra), deinde glabrescentia, subtus minus pilosa, deinde glabrescentia; nervus medianus supra impressus, subtus prominens, nervi laterales primarii utrinque 7—9, prope marginem arcuato-conjuncti, supra subprominentes et saepe canaliculati, subtus prominentes; nervi minores reticulati, supra plus minusve prominuli, subtus minus prominuli sed conspicui; petiolus $\frac{1}{2}$ —1 (— $1\frac{1}{2}$) cm longus, breviter adpresseque pilosus, glabrescens, supra sulco longitudinali praeditus. *Inflorescentiae* in axillis foliorum solitariae vel binae, racemosae, ferrugineo-tomentosae, foliis breviores vel aequales, 3—8 (—18) cm longae; pedicelli breves, 2 mm longi; bracteae in pedicello infra calycem ipsum insertae, basi pedicello adnatae, ovatae vel ellipticae, mucronatae, 2— $2\frac{1}{2}$ mm longae, in fructu valde auctae, late ovatae vel ellipticae, scariosae, reticulato-nervosae, utrinque breviter adpresseque pilosae, apice obtusae vel interdum submarginatae, mucronulatae, basi subcordatae, $2\frac{1}{2}$ —4 cm longae, 2—3 cm latae, paulo infra medium fructum gerentes; bracteolae minutae. *Sepala* 5 imbricata, extus tomentosa, intus glabra, exteriora dua elliptica, obtusa, $2\frac{1}{2}$ mm longa, sepalum tertium orbiculare, margine unilateraliter glabrum, $2\frac{1}{4}$ mm longum, interiora dua orbicularia, marginibus glabris, ± 2 mm longa. *Corolla* late campanulata vel rotata, $\pm 5\frac{1}{2}$ mm longa, profunde 5-lobata, lobi quam tubus longiores, elliptico-oblongi, ± 4 mm longi, $\pm 2\frac{1}{4}$ mm lati, primo apice marginibusque inflexi, ultimatim plani, nervosi, extus pilosi; tubus intus ad basin filamentorum glaber. *Stamina* paulo infra sinus corollae inserta, quam lobi corollae breviora, filamentis filiformibus, antheris oblongis basi sagittatis. *Ovarium* ovoideum, pilosum, $\pm 1\frac{1}{2}$ mm altum; styli 2, filiformes, quam ovarium valde longiores, 2— $2\frac{1}{2}$ mm longi, longitudine circiter $2\frac{1}{2}$ —3-plo latitudinem stigmatum aequante, stigmata $\pm \frac{3}{4}$ mm lata, forma vestigii equi, obscure lobata. *Capsula* subglobosa, 5—6 mm alta, 4-valvata, 1-ocularis, semine unico, globoso, laevi, ± 4 mm diam., nigro.

Vernacular name: Cáy ca giang (Gagnepain & Courchet, l. c., p. 292).

Distribution: Indo China.

Indo China: Cambodia, island of Phu-quo in the gulf of Siam, *Pierre s. n.*, fl. Febr. 1874 (K; P, type; PNH); Cam Chay mountains near Kampot, *Pierre 1464*, fr. Apr. 1874 (P); id., *Pierre s. n.*, fr. Apr. 1874 (BB, K, P, PNH); Cochin China, Bien-hoa, *Thorel 629*, with young flowers and with very young fruits (K, P); Annam, Tourane and vicinity, in thicket near stream, *J. & M. S. Clemens 4175*, fr. May—July 1927 (K, U); Laos, Mulu-prey, *Harmand 218*, fr. (BB); id., *Harmand 271*, fr. Jan. 1876 (P).

Only the type specimen in the Paris herbarium has well-developed flowers, another sheet of the type collection at Manila as well as that at Kew only bears flower buds and so do the specimens at Kew and Paris collected by Thorel (n. 629). The Thorel specimen at Paris has been used

by Gagnepain and Courchet for their figure in the Flore Générale de l'Indo-Chine. This figure shows a very young flower, in which the corolla lobes, the stamens and the styles have not yet reached their full length. As to the form of the leaves the Thorel specimen at Paris agrees with the type of *N. indochinensis*; the same number at Kew, however, has the leaves much narrower, elliptic-oblong with acute tip and base.

I am not quite certain that the fruiting specimens collected by Harmand actually belong to *N. indochinensis*. The Harmand collection has leaves of a somewhat aberrant form, they are broad-elliptic (6—9 cm × 4—6 cm) and their minute reticulate nervation is less prominent above.

4. *Neuropeltis malabarica* Van Ooststr., nov. spec. — *N. racemosa* auct.; Beddome, Ic. Plant. Ind. Orient. I (1874) p. 68, t. CCXCI; Clarke in Hook., Fl. Brit. Ind. IV (1883) p. 225, p.p.; Cooke, Fl. Pres. Bombay II (1905) p. 227; Gamble, Fl. Pres. Madras V (1923) p. 922, non Wall. — Fig. 2, g—h.

Description of the type specimen, *Beddome 326* (the data in parentheses refer to the specimen *Talbot 2735*, mentioned below).

Frutex scandens, rami teretes, in partibus junioribus ferrugineo-tomentosi, denique glabri, ad $3\frac{1}{2}$ mm diam., cinerei (vel fusci), lenticellis sparsis pallidis praediti. *Folia* elliptico-oblonga (vel elliptica vel ovata), apice acumine longo angusto acuminata, basi acuta, ad 10 (—12) cm longa, ad 4 (—5) cm lata, tenuiter coriacea, supra primo dense ferrugineo-tomentosa, denique glabra, subtus valde minus pilosa, denique glabra; nervus medianus supra impressus, subtus prominens, nervi laterales primarii utrinque 7—9 (—10), prope marginem arcuato-conjuncti, supra subprominentes, canaliculati, subtus prominentes, nervi minores reticulati utrinque prominuli; petiolus 1— $1\frac{1}{4}$ cm longus, primo dense ferrugineo-tomentosus, ultimim glaber, supra sulco longitudinali praeditus. *Inflorescentiae* in axillis foliorum vel e ramis defoliatis ortae, solitariae vel binae, racemosae, ferrugineo-tomentosae, 4—9 cm longae; pedicelli breves, ad 5 mm longi; bractee in pedicello paulo infra calycem insertae, basi pedicello adnatae, late ellipticae, mucronulatae, in florescentia 5 (—8) mm longae (in fructescentia valde auctae, utrinque tomentosae). *Sepala* imbricata, extus tomentosa, intus glabra, exteriora dua elliptica, acutiuscula, $2\frac{1}{2}$ mm longa, sepalum tertium orbiculare, margine unilateraliter glabrum, $2\frac{1}{2}$ mm longum, interiora dua transverso-elliptica, marginibus glabris, $2\frac{1}{4}$ — $2\frac{1}{2}$ mm longa. *Corolla* late campanulata vel rotata, $\pm 6\frac{1}{2}$ mm longa, profunde 5-lobata, lobi tubo paulo longiores, subovati, obtusi, $\pm 3\frac{1}{2}$ mm longi, nervosi, extus adpresse pilosi; tubus intus ad basin filamentorum glaber. *Stamina* paulo infra sinus corollae inserta, lobis corollae breviores, filamentis incurvatis, filiformibus, antheris oblongis basi sagittatis. *Ovarium* subglobosum, pilosum, $\pm 1\frac{1}{2}$ mm altum; styli 2, filiformes, quam ovarium valde longiores, $2\frac{1}{2}$ mm longi, longitudine circiter $2\frac{1}{2}$ —3-plo latitudinem stigmatis aequante, stigmata $\pm \frac{3}{4}$ mm lata, forma vestigii equi, obscure lobata. *Capsula* mihi ignota.

Distribution: British India (Deccan Peninsula).

British India (Deccan Peninsula): near the foot of the Tambacherry ghat in the plains of Malabar, about Poodoopara (according to Beddome l. c.; the type specimen bears no indication of the collecting locality), *Beddome 326*, fl. Oct. 1873

(K, type); N. Kanara, Potoli (Cooke l. c. writes Potelli), *Talbot 2735*, fl. and young fr. Febr. 1892 (K).

This species shows a remarkable dense tomentum on the upper surface of the young leaves. Moreover, it is characterized by the size of the bracts, which at flowering time are larger than in the other species and not so distinctly mucronate.

Doubtful species.

***Neuropeltis ovata* Wall., Cat. (1828) n. 1323, nomen.**

The type collection of Wallich's *N. ovata*, from Amherst, Tenasserim, is represented in several herbaria (B, K, P, SING) by leafy branches with mature fruits or by fruits only. The leaves are fully identic with those of *N. racemosa* Wall.; the form of the large elliptic scarious bract is slightly different from what is commonly found in that species. In *N. racemosa* Wall. the bract is, at fruiting time, broad-elliptic to orbicular, slightly emarginate and minutely mucronate at the apex, slightly emarginate or obtuse at the base, bearing the fruit a little below its centre. In the specimens of *N. ovata* the bract is narrower, elliptic, and rounded both at the apex and at the base. As the form of the bract appears to be rather variable in various species of *Neuropeltis* it is quite possible that the plant from Amherst belongs to *N. racemosa*. Without any knowledge of its flowers it is, however, impossible, to solve this question definitely.

***Neuropeltis bracteata* Griff., Notul. Pl. Asiat. IV (1854) p. 285.**

In my paper on the Convolvulaceae of Malaysia I (*Blumea* III, 1938, p. 81) I mentioned this name as a synonym under *N. racemosa* Wall. with the addition of a note of interrogation. As the type of Griffith is unknown to me, it is still impossible to clear up this synonymy. Griffith did not know the fruits of his species nor did he see the styles, but as he describes the plant with flowers which are adnate to their bracts, his insertion of it in *Neuropeltis* is probably right. The sepals are described as lanceolate, which makes it, however, uncertain that the species is identic with *N. racemosa* Wall. The existence of bundles of hairs at the base of the filaments, it has, on the other hand, in common with the latter species.