

NEOMORTONIA, A NEW GENUS  
IN THE GESNERIACEAE

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On one of my visits to the National Herbarium in Washington, D.C., in 1969, Mr. Conrad V. Morton, curator of ferns, Gesneriaceae, Solanaceae, etc. showed me three gesneriad collections from Colombia which he had on loan from Stockholm since 1937. He told me that this material might possibly represent a new genus, asked where such a taxon would be placed in my then developing scheme of realignment of the genera of the neotropical subfamily Gesnerioideae, and suggested to try my luck with this odd species.

Since that time I have found many other herbarium collections of this species, some more information about it on the sheet labels, but no other close relative of it in the tribe Episcieae Endlicher. But Gesneriaceae are one of those tropical plant families best studied through the observation of living material. On one of my field trips in search of Gesneriaceae I was fortunate to find this species in flower and fruit in Colombia, and to bring it back to cultivation to the greenhouses of the University of Miami for further research (plant accession number W-1699). I also obtained in 1971 seed of a Panamanian collection from Dr. Helen Kennedy who knew of my interest in this elusive species we had tried to find on an earlier field trip, but this material has not yet flowered although it grows vegetatively very vigorously (accession number W-1606).

From the study of 23 different herbarium collections from Colombia, Panama, and Costa Rica, from the observation of living material in the field, greenhouse, and laboratory, and from the insights gained from my work on a new classification of the neotropical Gesneriaceae, it appears now clear that this species represents a new genus in the tribe Episcieae. A new evaluation of the taxonomic characters useful in the classification of the subfamily emphasizes the importance of the fruit character for generic delimitations. Until recently, detailed information on the fruit was not available for many taxa of the Gesnerioideae. The fruit of the new species is an ovoid, laterally somewhat flattened, bright orange berry. Most of the 19 genera of the tribe Episcieae have a capsular fruit, but seven genera are characterized by having a baccate fruit: *Columnea* Linnaeus, *Dalbergaria* Tussac, *Trichantha* Hook., *Pentadenia* (Planch.) Hanst., *Codonanthe* (Mart.) Hanst., *Corytoplectus* Oerst., and another new genus with three undescribed species. The new species does not fit into any one of these genera since it differs strongly from these taxa in floral construction and in the shape and color of the berry. (Round orange berries occur in a few species of *Codonanthe* from southeastern Brazil, but this genus differs in base chromosome number from the rest of the baccate taxa of the tribe.) The new species shows some kinship to the two species of the section *Alsobia* (Hanst.) Benth. of *Episcia* Mart., *E. punctata* (Lindl.) Hanst., and *E. dianthiflora* Moore & Wilson, both from Central America; but these species possess the stoloniferous habit typical of *Episcia* and they have a capsular fruit. All attempts to hybridize the new species with other taxa of the tribe Episcieae have failed so far. These still inconclusive results stand in contrast to the fact

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that artificial intergeneric hybrids can be produced comparatively easily in the subfamily Gesnerioideae (Wiehler, 1970).

It seems therefore best to regard the new species as belonging to a distinct, so far monotypic, genus. All color values expressed in numbers below refer to the Horticultural Colour Chart (Wilson, 1938-41).

### **Neomortonia** Wiehler

Genus novum, *Episciae* Mart. affinis, a quo fructu baccato et absentia habitus stoloniferi differt.

A new genus, akin to *Episcia* Mart., from which it differs in the fruit, a berry, and by the absence of the stoloniferous habit. It is distinct from the other genera with baccate fruit in the tribe Episcieae by the following combinations of characters: the shape of the corolla, the laterally compressed fruit, and its orange color at maturity.

### **Neomortonia rosea** Wiehler, sp. nov.

Herba perennis, epiphytica vel saxicola; caules graciles, pendentibus vel repentes vel scandentes, 1 mm diam., basiramiferi, internodiis 1-2 cm longis, primo viridibus vel lilacino-purpureis suffusis, demum griseis vel porphyreis, puberulis interspersis pilis pilosis.

Folia opposita-decussata sed aspectu dispositionis oppositifoliae, vel ternata, isophylla, parce sericea, pilis capitatis glanduliferis interspersa, petioli 1-3 mm longi, laminae ovatae, late ellipticae vel obovatae, apice acuto vel obtuso, margine crenato, dentibus utrinque 3-4, basi obtuso vel acuto, 8-18 mm longae, 6-14 mm latae, venis primariis 2-3-jugis, chartaceae, virides vel lilacino-purpureae suffusae.

Inflorescentia axilaris, redacta, uniflora, pedicellus ebractiatus, pilosus, 8-9 mm longus; calyx viridis vel lilacino-purpureus suffusus, pilosus, lobis subaequalis lanceolatis e basi discretis, 7-8 mm longis, 1.5-4.0 mm latis, lobo dorsali angustiore, serrulatis vel dentatis, dentibus utrinque 1-2; corolla calcarata in calice horizontalis, 2.1-2.8 cm longis, tubus infundibularis irregularis obliquus, extus pilosus, 1.4-1.8 cm longus, constrictus supra basim ad 3 mm diam., tum adrupte expansus, dein inflatus dorsaliter et ventraliter, sub lobis 7-11 mm diam., limbus obliquus, lobi 5, subaequales, patentes vel recurvati, 6-10 mm longi, 5-9 lati, margines dentibus manifeste laciniatis, 2-3 mm longis, circa faucem et dorsum internum trichomatibus glanduliferis, tubus albus, dorso extus limboque roseo-suffuso, fauce interna aurantiaca vel brunneo-notata; stamina 4, inclusa; ovarium pubescens, ad apicem pilosum, 3 mm longum, stylus glabrus, 10-13 mm longus, stigmatibus stomatomorpho; nectarium in glandulam duplo-connatam dorsalem glabram albam reductum.

Fructus bacca ovoidea lateralis compressa, pilosa, aurantiaca, ad 11 mm longa, 8 mm lata; semina striata, aurantiaca, 1.1 mm longa, 0.3 mm lata, partibus proximalibus involutis arillis cupulatis affixis ad funiculos inflatos carnosos flavos, 6.5 mm longos, pulpam baccae facientes.

Plants herbaceous, perennial, epiphytic, or growing on rocks. Stems slender, pendent, repent, or clambering, 1 mm in diam., 30-60 cm long or longer, branching near the base or sometimes by the adventitiously rooting nodes when repent, internodes 1-2 cm long, puberulous, interspersed with pilose hairs, first green or flushed with lilac purple (H.C.C. 0.31/2), grey or reddish brown when older.

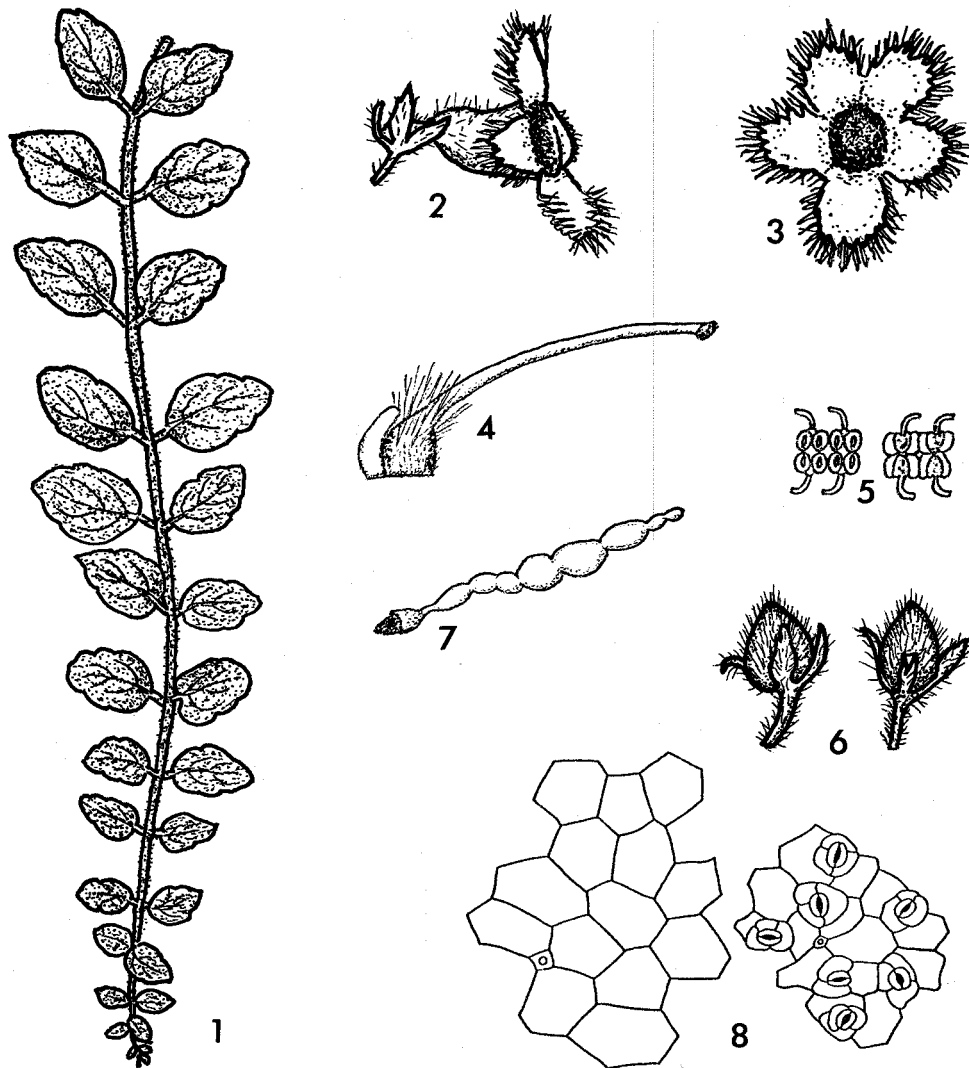
Leaves opposite-decussate, but appearing opposite on a single plane at maturity, or ternate, isophyllous, sparsely sericeous, interspersed with long, capitate glandular trichomes, petiole 1-3 mm long, lamina ovate, broadly elliptic, or obovate, apex acute or obtuse, margin crenate, with 3-4 teeth on each side, base obtuse or acute, 8-18 mm long, 6-14 mm wide, with 2-3 pairs of veins, chartaceous, green or flushed with lilac purple.

Inflorescences axillary, reduced to a single flower on a bractless pedicel, 8-9 mm long, pilose; calyx green or flushed with lilac purple, pilose, the subequal lobes free from the base, lanceolate, serrulate or dentate, with 1-2 teeth on each side, 7-8 mm long, 1.5-4.0 mm wide, the dorsal lobe somewhat narrower; corolla horizontal in the calyx, 2.1-2.8 cm long, spur 1.5 mm long, tube irregular & oblique funnel-form, pilose externally, 1.4-1.8 cm long, constricted above the base to 3 mm in diam., abruptly expanding, dorsally and ventrally inflated, 7-11 mm in diam. below the lobes, limb oblique, the 5 subequal lobes at right angles to the floral axis or slightly recurved, 6-10 mm long, 5-9 mm wide, margins with prominently lacinated teeth, 2-3 mm long, around the throat and the dorsal inside of the tube glandular pubescent, corolla white, the dorsal side of the tube and the limb flushed with china rose (H.C.C. 0.24/2), the throat inside orange or dotted with brown; stamens 4, included, filaments adnate to the base of the corolla tube, connately fused to a tube of 4 mm length around the ovary, then free for a length of 9-11 mm, anthers quadrately connate, the 2 oval cells of each anther parallel one to another, each 0.7 mm long, 0.5 mm wide, dehiscing by a longitudinal slit, pollen yellow; ovary pilose, 3 mm long, style glabrous, 10-13 mm long, stigma stomatomorphic; nectary reduced to 1 dorsal, double, white gland; berry ovoid, pilose, bright orange (H.C.C.12), 11 mm long, 8 mm wide, laterally somewhat compressed; seeds 1.1 mm long, 0.3 mm wide, striate, orange, the proximal halves enveloped by cup-shaped arils, attached to inflated, fleshy, 6.5 mm long light yellow funicles which constitute the pulp of the berry. Chromosome number of type material:  $n = 9$ .

TYPE: COLOMBIA: VALLE: Pacific slope of Cordillera Occidental, old road from Cali to Buenaventura, about 10 km west of La Elsa. Montane rain forest, about 900-1000 m altitude. "Epiphyte and rockplant, clambering over bushes, repent on mossy tree trunks and rocks, near waterfall. Lvs. light green, some with a purple flush; calyx green; corolla tube white below, with red hairs, with a rose back and rose limb; berry bright orange, seeds orange. Growing together with *Dalbergaria picta*, yellow hummingbird corollas, #7242." 29 April 1972, H. Wiehler, R. L. Dressler, N. H. & N. F. Williams 7241 (Holotype: US, isotypes: SEL, COL, PAN, CR, NY, GH, F, MO, K, P, BR, B, HBG, M, LE).

DISTRIBUTION: Montane and lowland rainforests of western Colombia, Panama, and Costa Rica, at altitudes of 5-2000 m.

ADDITIONAL MATERIAL EXAMINED: COLOMBIA: NARINO: rain forest in coastal plain near La Guayacana, between Tumaco and El Diviso, 100 m alt.,



LEGEND FOR FIGURES 1 - 8

*Neomortonia rosea*: 1. branch,  $\times 1\frac{1}{2}$ ; 2. flower in lateral view,  $\times 1\frac{1}{2}$ ; 3. corolla in face view,  $\times 1\frac{1}{2}$ ; 4. nectary, ovary, style, and stigma,  $\times 4$ ; 5. anthers, ventral (right) and dorsal (left) views,  $\times 5$ ; 6. fruit, lateral (right) and face (left) views,  $\times 1\frac{1}{2}$ ; 7. seed and funiculus,  $\times 5.5$ ; 8. epidermis of the leaf, adaxial side (right), and abaxial side with stomata (left). Drawn from material cultivated as W-1699 at the Selby Gardens.

30 July 1956, *S. Vogel* 22 (US, F); CAUCA: Cordillera Occidental: near the village of El Tambo: La Costa, in primary forest, 900 m, 19 April 1936, *K. von Sneidern* 615 (S); same place, 800 m, 3 July 1936, *K. von Sneidern* 756 (S); same area, in primary forest near Munchique, 2000 m, 31 Oct. 1936, *K. von Sneidern* 1056 (S); in coastal area, on Rio Timbiquí, forests of Coteje, 0-500 m, without date, *F. C. Lehmann* 9026 (NY); VALLE: Pacific coast, Rio Cajambre: Barco, 5-80 m, 21-30 April 1944, *J. Cuatrecasas* 16962 (F); Cordillera Occidental, Pacific slope, valley of Rio Anchicayá: Sabaletas, 25 m, 13 & 16 Nov. 1945, *J. Cuatrecasas* 19793 (F, US-Herb. Cuatrecasas); same area: between Sabaletas and Quebrada del Tatabro, 30-60 m, 28, 29 Sept. 1946, *J. Cuatrecasas* 22050 (F); same area: near the bridge of Aguaclara, 120 m, 29 Sept. 1946, *J. Cuatrecasas* 22085 (F); Pacific coast, Rio Calima: Estación Agroforestal del Bajo Calima, 20-40 m, 23 Sept. 1961, *J. Cuatrecasas & L. Willard* 26009 (US); Rio Azul, junction with Rio Calima, 700 m, August 1962, *D. Ll. Hugh-Jones* 150 (US); Rio Calima (Chocó area): La Trojita, 5-50 m, 19 Feb. - 10 March 1944, *J. Cuatrecasas* 16379 (F, 2 sheets); Rio Calima (Chocó area): hills facing Quebrada de la Brea, 30-50 m, 18 May 1946, *J. Cuatrecasas* 21064 (F, US-Herb. Cuatrecasas); CHOCO: between Carmen de Atrato and Tutunendo, on road from Bolivar to Quibdo, km 52-70, valley of Rio Atrato, 500-600 m, 25-26 July 1944, *H. Garcia-Barriga* 11137 (US); ANTIOQUIA: north of Dabeiba: Antasales ("Antizales, Dept. of Bolivar"), 1700-2000 m, 25-26 Feb. 1918, *F. W. Pennell* 4456 (NY, US); PANAMA: PROV. PANAMÁ: Rio La Maestra, 0-25 m, 4 Dec. 1936 *P. H. Allen* 5 (GH, US); Rio Pita, 1-3 miles above confluence with Rio La Maestra, logging roads along Rio Pita, 14 Oct. 1961, *J. A. Duke* 4751 (MO, US); Rio Pasiga, 3-4 miles upstream, semi-deciduous forest, 28 Oct. 1971, *H. Kennedy* 1194 (SEL); COSTA RICA: border between provinces SAN JOSE, LIMON, and CARTAGO: Carillo, 300 m, 8-9 July 1889, *H. Pittier* 1226 (BR, not seen, photo at BH); same area: road from Carillo, 300 m, 25 Nov. 1890, *P. Biolley* 3161 (BR, not seen, photo at BH); CARTAGO: Navarro, December 1933, *C. H. Lankester* 1353 (F).

This genus honors Conrad V. Morton for his extensive work on the neotropical Gesneriaceae. According to Skog (1974), he authored 47 publications on this family between 1935 and 1973, the year of his untimely death. He himself selected the prefix "Neo-" from several combinations suggested to him in 1971. The Colombian collection of *Neomortonia rosea* now in cultivation has horticultural potential as a hanging basket plant. Gratefulness for the dried material on loan is also due to the curators of the herbaria cited above.

It appears possible that *N. rosea* is related to *Alloplectus nummularia* (Hanst.) Wiehler from Central America (Colón, Panama to Chiapas, Mexico). Both species share the same habit and the same type of fruit, and occupy the same habitat, but *A. nummularia* differs by the *Hypocyrtia*-shaped red corolla with a ventral pouch and an extremely narrow throat, apparently pollinated by hummingbirds. *A. nummularia* was until recently a member of the genus *Hypocyrtia* Mart. but had to be disassociated from it as this genus was merged with *Nematanthus* Schrader (Moore, 1973; Wiehler, 1972a, 1972b). This taxon is native exclusively to southeastern Brazil. *A.*

*nummularia* appears now also a stranger in the genus *Alloplectus*; a better placement for this puzzling species will be reported later.

A medicinal note: One of the collections of *Neomortonia rosea* at US, from Rio Calima in Colombia, *Cuatrecasas 21064*, bears the annotation that the native name of this species is "poleito de monte" (= little herb of the woods, from the Spanish word poleo = Pennyroyal, *Mentha pulegium* which is used as a medicinal tea) and that it is considered by the natives as a cure against snake bite ("cura mordedura de culebra").



#### LITERATURE CITED

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