

Family 111. NEPENTHACEAE

1. *Nepenthes* Linnaeus

Revisions:

- Cheek, M & M Jebb. 2001. *Nepenthaceae*. Flora Malesiana series 1, 15: 1-162.
Jebb, M & M Cheek. 1997. *A Skeletal Revision of Nepenthes* (Nepenthaceae). Blumea 42: 1-106.
Danser, BH. 1928. *The Nepenthaceae of Netherlands Indies*. Bulletin du Jardin Botanique du Buitenzorg ser. 3. ser. 9 (Livr. 3-4).
Kurata, S & M Toyoshima. 1972. *Philippine species of Nepenthes*. Gardens' Bulletin Singapore 26: 155-158.
Macfarlane, JM. 1927. *The Philippine Species of Nepenthes*. The Philippine Journal of Science 33: 127-140.

Nepenthes alata Blanco, Fl. Filip. (1837) 805; --Merr., EPFP 2 (1923) 214; --Macfarl., PJS 33 (1927) 136. --Type: Blanco sn (not extant). Ilocos

?*Nepenthes alata* var. *biflora* Macfarl. in Engl., Pflanzenreich 36 (1908) 72; --Merr., EPFP 2 (1923) 214. --Type: Whitford 1723. Negros: Negros Occidental prov., Mt Silay.

Nepenthes alata var. *ecristata* Macfarl. in Engl., Pflanzenreich 36 (1908) 72; --Merr., EPFP 2 (1923) 214. --Type:

Nepenthes brachycarpa Merr., PJS 10 c (1915) Bot. 306. --Type: Merrill 9588 (L*, NY*, iso). Palawan: Silanga, May 1913.
Nepenthes graciliflora Elmer, LPB 4 (1912) 1494. --Type: Elmer 12465 (MO*, NY*, iso). Sibuyan: Mt Giting-giting, along Pauala river bottom on sand-gravelly soil, altitude 1000ft, May 1910.

LUZON: Ilocos Norte, Ilocos Sur (Cervantes), Mountain Province (Bauco), Benguet (Pauai to Kabayan; Mt Pulag; Baguio; Mt Sto Tomas), Cagayan, Isabela, Aurora, Bataan (Mt Mariveles), Laguna (Mt Makiling; San Antonio), Quezon (Kinatakutan; Mt Cadig), Sorsogon (Mt Bulusan), MINDORO: Mindoro Oriental (Mt Halcon), CULION, PALAWAN (Mt Mantalingajan), SIBUYAN (Mt Giting-giting), PANAY: Iloilo (Mt Bulilao), NEGROS: Negros Occidental (Mt Silay), Negros Oriental (Cuernos Mtns), CEBU, LEYTE, CAMIGUIN, MINDANAO: Misamis Occidental (Mt Malindang), Davao (Mt Apo), South Cotabato (Mt Matutum), Agusan del Norte (Mt Urdaneta). Thickets along forest edges and streams, grassy slopes, ultramafic and solfatara vegetations, exposed ridges, from 0-2400m. Highly polymorphic species all united by a combination of characters such as the petiolate leaves, more or less ovate operculum (never cordate), basal lid appendage, dense, evenly scattered small glands on the underside of the operculum, a spur which is neither branched nor flattened and one-flowered pedicels.

Nepenthes argentii M Jebb & Cheek, Blumea 42 (1997) 19; Fl. Males. ser. 1, 15 (2001) 34, Fig. 1. --Type: Argent & Reynoso 89119 (K, holo; iso PNH). Sibuyan: Mt Giting-giting, above Magdiwang on ridge leading to Mayo's Peak, altitude 1400m, 27 Aug 1989.

SIBUYAN (Mt Giting-giting). Subalpine shrubbery with smooth wind-clipped canopy 30cm tall on a ridge of ultramafic rocks, alt. 1400m.

Nepenthes attenboroughii AS Robinson, S McPherson, VB Heinrich, Bot. J. Linn. Soc. 159(2) (2009) 196, Fig. 1-2, map. --Type: A. Robinson AR001 (PPC, holo).

PALAWAN: Mt Victoria. On granular, inorganic, ultramafic substrates at 1650 m altitude.

Nepenthes bellii Kondo, Bull. Torrey Bot. Club 96 (1969) 653; --M Jebb & Cheek, Fl. Males. ser. 1, 15 (2001) 38, Fig. 3. --Type: Kondo 11514 (NCU, holo; iso KC, Nagoya, n.v.). Mindanao: Surigao del Norte prov., between Jayanggabon & Carrascal, altitude 800m, 14 Apr 1968.

Nepenthes globamphora S Kurata & Toyoshima, Gard.Bull. Sing. 26 (1972) 155, t. 1, Fig. 1. --Type: S Kurata & M Toyoshima 1128 (Nippon Dental College, holo). Mindanao: Surigao del Sur prov., Mt

Legaspi, E slope, 22 Aug 1965.

MINDANAO: Surigao del Norte, Surigao del Sur. Marshy forests, possibly on ultramafic substrate, altitude 250-800m.

Nepenthes blancoi Blume, Ann. Mus. Bot. Lugd.-Bat. 2 (1852) 10; *emend.* Macfarl. in Engl., Pflanzenreich 36 (1908) 40, PJS 33 (1927) 129. –Type: according to Carnivorous Plants Database web resource page, “Cebu, PH, Blanco, *sn* (MAN?)”. This is improbable because Blanco never ventured outside Luzon and no extant Blanco specimen is known to exist. Macfarlane (1927) cites Merrill 516 from Culion as a “typical specimen”

LUZON: Nueva Ecija (Mingan Mts.) and Agoo, Pangasinan (?), CULION IS., PALAWAN, MARILISON IS. (off Antique prov.), CEBU (?). On grassy slopes at or near sea level. Distinguished from *N. alata* on the basis of the extremely narrow leaves, cordate operculum base, dimorphic glands, a median keel which does not terminate into a basal lid appendage and more slender pitchers with the neck directly below the peristome moderately ventricose.

Nepenthes burkei Mast., Gard. Chron. 3, 6 (1889) 492, 566, Fig. 69; --Merr., EPFP 2 (1923) 214; --Macfarl., PJS 33 (1927) 134; --Sh. Kurata & Toyoshima, Gard. Bull. Sing. 26 (1972) 155; --M Jebb & Cheek, Blumea 42 (1997) 28; Fl. Males. ser. 1, 15 (2001) 47. –Type: J Veitch & Sons, *sn* (K, lecto) cultivated from material collected by David Burke from Mindoro.

Nepenthes burkei var. *excellens* Marshall, J. Roy. Hort. Soc. 12: (1890) cxiv.

Nepenthes burkei var. *prolifera* Mast., Gard. Chron. 3. ser.8 (1890) 184.

MINDORO: Mindoro Oriental (Mt Halcon), PANAY: Antique (Mt Madia-as). Mossy forests, 1000-1600m.

Nepenthes copelandii Merr. *ex* Macfarl. in Engl., Pflanzenreich 36 (1908) 51; PJS 33 (1927) 131; --Merr., EPFP 2 (1923) 214. –Type: Copeland 1033 (US). Mindanao: Davao, Mt Apo, Apr 1904 CAMIGUIN, MINDANAO: Davao del Sur (Mt Apo), epiphytic at elevations from 2500-3000 m. Lower pitchers similar to *N. alata* though comparatively more elongated, upper pitchers strongly infundibular; also differing from it by its epiphytic habit.

Nepenthes deaniana Macfarl. in Engl., Pflanzenreich 36 (1908) 57; --Merr., EPFP 2 (1923) 215; --Macfarl., PJS 33 (1927) 134. –Type: FB 3891 Curran (PNH, holo, destroyed). Palawan: Mt Pulgar summit, 1300m.

PALAWAN (Mt Pulgar; Cabatuan River). Reportedly very common at the 1300 m summit of Mt Pulgar. Holo destroyed at PNH in February 1945, and according to Jebb & Cheek (2001) no extant replicate has been found. This species belongs to the *N. villosa* group but is immediately distinguished from the Philippine (Palawan) representatives (*N. mantalingajanensis* and *N. mira*) by its non-climbing habit, glabrous stems which spread by shoots, much smaller pitchers, relatively narrower peristomes and one-flowered pedicels.

Nepenthes mantalingajanensis J. Nerz & A Wistuba, Das Taublatt 55(3) (2007) 17-25.

PALAWAN (Mt Mantalingahan). On ultramafic soils.

Separated from *N. mira* in the size, shape and absence of indumentum on the pitchers, the operculum that is as wide as the mouth, and the extreme rarity (total absence?) of upper pitchers (both lower and upper pitchers are produced at the same time in mature plants of *N. mira*).

Nepenthes merrilliana Macfarl., Contr. Bot. Lab. Univ. Penn. 3 (1911) 207, t. 1; --Merr., EPFP 2 (1923) 215; --Macfarl., PJS 33 (1927) 132; --Sh. Kurata & Toyoshima, Gard. Bull. Sing. 26 (1972) 152; --M Jebb & Cheek, Blumea 42 (1997) 62; Fl. Males. ser. 1, 15 (2001) 99. –Type: FB 7545 Hutchinson (PNH, n.v.). Dinagat, altitude 20m, May 1907.

Nepenthes merrillii Elmer, LPB 8 (1915) 2787, sphalm.

MINDANAO: Agusan del Norte (Mt Urdaneta), Surigao, DINAGAT. Forests, steep slopes near the coast. Apparently restricted to ultramafics, sometimes epiphytic.

Nepenthes micramphora VB Heinrich, S McPherson, T Gronemeyer & VB Amoroso, Pitcher plants of the old world, 2009.
MINDANAO: Davao Oriental (Mt Hamiguitan). In ultramafic substrates.

Nepenthes mindanaoensis Sh. Kurata, J. Insectivorous Plant Soc. 52 (2001) 32, Fig. 2, back cover, Fig. 5-7. --Type: Y Mino 6838 (Nippon Dental College). Mindanao: Surigao del Sur prov., Mt Carrascal, altitude 200-300m, 6 Aug 1999.
MINDANAO: Surigao del Sur. Open scrub on ultramafics, abundant on lateritic soil, altitude 200-300m. Separated from *N. alata* by the long, rather stiff indumentum on the younger leaves, the pitcher lids which possess very poorly developed to non-existent median keels nor basal appendages, and the dimorphic lid glands.

Nepenthes mira M Jebb & Cheek, Kew Bull. 53 (1998) 966; 54 (1999) 891, Fig. 893; Fl. Males. ser. 1, 15 (2001) 102, Fig. 13. --Type: Argent & al. 25438 (K, holo; iso in E, PNH). Palawan: Cleopatra's Needle, 22 Jan 1998.
PALAWAN (Cleopatra's Needle). Submontane forest and grassland on sandstone, altitude c. 1580m.

Nepenthes mirabilis (Lour.) Druce, Rep. Exch. Cl. Br. Isl. (1916) 637; --Merr., Interpret. Herb. Amboin. (1917) 242; E
--Sh. Kurata, *Nepenthes* of Mt Kinabalu, Sabah (1976) 56; --M Jebb & Cheek, *Blumea* 42 (1997) 63; Fl. Males. ser. 1, 15 (2001) 105; --Phyllamphora *mirabilis* Lour., Fl. Cochinch. (1790) 606; --*Nepenthes phyllamphora* Willd., Sp. Pl. 4 (1805) 874; --Macfarl., PJS 33 (1927) 135. --Type from Vietnam.

Andaman Isls, S China, Taiwan, Thailand, Laos, Cambodia, Vietnam, Sumatra, Peninsular Malaysia, Singapore, Java, Borneo (Sarawak, Brunei, Sabah, Kalimantan), Philippines, Sulawesi, Moluccas (Halmahera, Seram, Ambon, Obi Isls), New Guinea; Louisiade Archipelago, Palau Isls, Australia (Queensland). MINDANAO: Zamboanga, Lanao del Sur (Camp Keithley), Surigao. Swamps and forests, near sea-level to 900m.

Natural hybrid:

Nepenthes mirabilis x alata Sh. Kurata & Toyoshima, Gard. Bull. Sing. 26 (1972) 157. --Type: Kurata 1111-a (Nippon Dental College, n.v.). Mindanao: Surigao del Sur prov., on a river side near Carrascal Bay, altitude 20m, 9 Aug 1965

Nepenthes peltata Sh. Kurata, J. Insectivorous Plant Soc. 59(1) (2008) 12-17.
MINDANAO: Davao Oriental (Mt Hamiguitan), on ultramafic substrates.

Nepenthes petiolata Danser, Bull. Jard. Bot. Buitenz. ser.3, 9 (1928) 353, Fig. 18; --Sh. Kurata & Toyoshima, Gard. Bull. Sing. 26 (1972) 158; --M Jebb & Cheek, *Blumea* 42 (1997) 74; Fl. Males. ser. 1, 15 (2001) 120. --Type: Elmer 13705-b (BO, holo). Mindanao: Agusan del Norte prov., Mt Urdaneta, trail from Lake Danao to Masay summit, Sept 1912.

MINDANAO: Agusan del Norte (Mt Urdaneta), Surigao del Sur. Montane or submontane forest including *Agathis* and oak, possibly on ultramafic soil in Surigao, altitude 1500-1600m.

Natural hybrids:

Nepenthes petiolata x N alata Sh. Kurata & Toyoshima, Gard. Bull. Sing 26 (1972) 158; --Jebb & Cheek, Fl. Males. ser. 1, 15 (2001) 120. --Type: Kurata 1113-a (Nippon Dental College, n.v.). Mindanao: Surigao del Sur prov., Mt Legaspi, E slope, 19 Aug. 1965.

Nepenthes petiolata x N truncata Sh. Kurata & Toyoshima, Gard. Bull. Sing 26 (1972) 158; --Jebb & Cheek, Fl. Males. ser. 1, 15 (2001) 121. --Type: Kurata 1109-a (Nippon Dental College,

n.v.). Mindanao: Surigao del Sur prov., Mt Legaspi, E slope, altitude 270m, 19 Aug 1965.

Nepenthes philippinensis Macfarl. in Engl., Pflanzenreich 36 (1908) 43; --Merr., EPFP 2 (1923) 215, excl. syn. *N. brachycarpa*; --Macfarl., PJS 33 (1927) 130; --M Jebb & Cheek, Blumea 54 (1999) 888, Fig. 1; Fl. Males. ser. 1, 15 (2001) 121, Fig. 15. --Type: Curran 3896 (K, lecto). Palawan: Mt Pulgar.

Nepenthes wilkiei M Jebb & Cheek, Kew Bull. 53 (1998) 966. --Type: Mendum et al. 25545 (K, holo; iso in E, PNH). Palawan.

PALAWAN (Mt. Pulgar (=Thumb Peak); Victoria Mtns), on scrub over ultramafic soils, altitude 25-1600m.

Nepenthes saranganiensis Sh. Kurata, J. Insectivorous Plant Soc. 54(2) (2003) 41-44. --Type: SARANGANI. Characterized by its strongly decurrent leaf bases; possibly only a variant of *N. alata*.

Nepenthes sibuyanensis J Nerz, Carniv. Pl. Newsl. 27 (1998) 18, Fig. 1 & 2 & front cover; --Jebb & Cheek, Fl. Males. ser. 1, 15 (2001) 133, Fig. 16. --Type: P Mann & T Smith 051001 (L*, holo). Sibuyan: Mt Guiting-guiting, alt. 1300m, growing between *Dipteris* and high grasses on open slopes, 5 Oct 1996.

SIBUYAN: Mt Guiting-guiting, alt. 1300-1800m, grows quite sparsely on open grassy slopes among *Dipteris conjugata* and high grasses in ultramafic soils. Known only from the type locality.

Nepenthes surigaoensis Elmer, LPB 8 (1915) 2785. --Type: Elmer 13705 (NY*, iso). Mindanao: Agusan del Norte prov., Mt Urdaneta, trail from Lake Danao to Masay summit, altitude 1700m, Sept 1912.

MINDANAO: Agusan del Norte (Mt. Urdaneta). Altitude 800-1700 m. Distinguished from *N. merrilliana* by its strongly decurrent leaf bases, hairy pitchers, more rounded, smaller lower pitchers, winged upper pitchers (although absent in some specimens) and different peristome attachment.

Nepenthes truncata Macfarl., Contr. Bot. Lab. Univ. Pennsylv. 3 (1911) 209, t. 2; --Merr., EPFP 2 (1923) 215; --Macfarl., PJS 33 (1927) 137; --Jebb & Cheek, Blumea 42 (1997) 89; Fl. Males. ser. 1, 15 (2001) 120. --Type: Allen 191 (?PENN n.v., cited by Jebb & Cheek, 2001). Mindanao: Surigao del Norte prov., near Samsolang, altitude 600m, 1907.

MINDANAO: Agusan del Norte (Mt Hilong-hilong), Surigao del Norte (Cansuran; Samsolang). Wet forests, ridges, exposed rock cliff among tall grasses, on ultramafics in Surigao del Norte, altitude 225-600m.

Nepenthes ventricosa Blanco, Fl. Filip. (1837) 807; --Merr., EPFP 2 (1923) 215; --Macfarl. in Engl., Pflanzenreich 4, 3 (1908) 54; PJS 33 (1927) 133; --Jebb & Cheek, Blumea 42 (1997) 90; Fl. Males. ser. 1, 15 (2001) 154. --Type: Cuming 947 (MAN?). Luzon: Albay prov.

LUZON: Aurora, Cagayan, Ilocos Norte, Ifugao, Nueva Ecija, Nueva Vizcaya, Mountain Province, Bataan, Quezon, Rizal, Camarines, Albay, Sorsogon. Usually on mossy oak forests, 600-1500m.

Possible new species:

Nepenthes tenuidon Suarez & Ferreras, ined.

LUZON: Zambales. In ultramafic substrates at ca.1600 m altitude.

Nepenthes sp. 1 (Cetaceo) - Insignes group. Pitcher green with irregularly shaped red spots; trichomes on pitcher wings branched into two or three; peristome teeth relatively

large, including those on the column.

Nepenthes sp. 2 (Mingan) – Insignes group. Lower pitchers variably red, similar to *N. sibuyanensis*, but upper pitchers more elongated, green with faint reddish blotches; peristome slightly flaring, green with reddish-orange ribs; operculum smaller than the diameter of the mouth. May be a disjunct population of *N. sibuyanensis*.

Nepenthes sp. 3 (Zambales) - Regiae group. Stem four-cornered, stiff and woody, non-sprawling; axillary buds prominent; pitchers with indumentum, green, suffused with orange and with red-orange streaks.

Nepenthes sp. 4 (Zambales) – Regiae group. Pitchers green throughout, superficially similar to *N. alata* especially by the presence of a basal lid appendage, but operculum more orbicular with a cordate base and rounded apex and possessing no median keel as in *N. alata*; pitcher base infundibular in front, not ventricose.

Nepenthes cfr. **alata** (Bicobian) – Pitchers similar to *N. alata* but relatively stouter, operculum glands large, loosely scattered.

Nepenthes cfr. **alata** (Mingan) – In all respects similar to *N. alata*, but fringe elements denser and much longer (reminiscent to those on the lower pitchers of *N. fusca*), upper surface of the operculum base with sparse multicellular hairs similar to that seen in *N. tentaculata* and related species. Compared to *N. alata*, the peristome ribs are higher and somewhat more separated and terminating in filiform teeth, characters not seen in any known variation of the said species.

Nepenthes cf. **boschiana**

MINDANAO: Davao Oriental (Mt Hamiguitan)

Shape of operculum, distribution of the dimorphic glands (smaller glands widely scattered, larger ones concentrated on or around the barely developed median keel), the undulating peristome and the general shape and colouration of the pitchers very similar to *N. boschiana*, but fringe elements sparser and shorter. Another specimen but with green pitchers and red-striped green peristome is also very similar with regards to the shape and morphology of the operculum and the distribution of glands, but the pitchers are hipped and in this respect approaches *N. faizaliana*, itself closely related to *N. boschiana*.

Fresh collections of **Nepenthes alata** var. **biflora** MacFarl. and **Nepenthes alata** var. **ecristata** MacFarl. has to be sought for in order to determine if these two presumed varieties should be correctly placed under *N. alata* due to anomalous characters such as the two-flowered pedicels and the ecarinate lid, respectively.

Nepenthes ampullaria Jack, Comp. Bot. Mag. (1835) 271. –Type from Singapore.

Thailand, Sumatra, Peninsular Malaysia, Borneo, Philippines, New Guinea.

Known in the Philippines only from a single plant collected from an undetermined locality. More specimens are needed to determine its exact distribution within the country.

Nepenthes maxima Reinw. ex Nees, Ann. Sci. Nat. 3 (1824) 369, t. 20, Fig. 2. --Type: ? Reinwardt 1537 (L), Sulawesi: Manado, Gunung Rumengan, 1821.
Sulawesi, the Moluccas, Philippines, New Guinea.

MINDANAO: Davao Oriental (Mt Hamiguitan). Epiphytic in mossy forests, but also as terrestrials in swampy grasslands, on ridge tops, open podzolic forests, rocky substrates and ultramafic soils at elevations from 600-2500 m.