

Philippine Species of *Nepenthes**

by

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This paper lists the results of two expeditions to the Philippines in search for *Nepenthes*. It records seven species and describes one of them and three hybrids as new taxa. All but one were collected during the three-week expedition made by both authors to the islands of Mindanao and Luzon in August 1965. *N. burkei* was collected by the senior author (S. Kurata) when he participated in the second expedition from December 1967 to February 1968 to Mindoro Island. Some Bornean species were also found but are excluded in this paper. The authors are grateful to Dr. C. X. Furtado for correcting the latin diagnosis.

The new taxa are *N. globamphora*, *N. mirabilis* x *alata*, *N. petiolata* x *alata* and *N. truncata* x *petiolata*.

1. *Nepenthes alata* Blanco, Fl. Filip., ed. 1, p. 805 (1837).

LUZON: Mountain Prov., Baguio, 1470 m. alt., Aug. 28, 1965, S. Kurata 1136-a 1136-b; en route to La Trinidad, 1500 m. alt., Aug. 28, 1965, S. Kurata 1135. MINDANO: Surigao del Sur, eastern slope of Mt. Legaspi, 270 m. alt., Aug. 19, 1965, S. Kurata 1101-a, 1101-b, 1104.

Distribution. Philippines, Malaya, Sumatra, Borneo.

Between the Luzon plants and those from Mindanao there are some differences. The former are hairy on the pitchers and tendrils. The purple blotches or stripes are usually distributed on its pitcher wall. On the other hand, the pitcher of the latter is strikingly narrow but dilate in the lower part, and the hair is absent from its wall. The colour of the pitcher is mostly yellowish green and at times becoming brownish green near the mouth.

2. *Nepenthes burkei* Masters. Gard. Chron. Ser. 3, VI p. 492 (1889).

MINDORO: Occidental Mindoro, Mt. Kidayap, summit, 1550 m. alt., Feb. 12, 1968, S. Kurata 2033, 2034, 2035.

Distribution. Philippines (Mindoro and Panay).

3. *Nepenthes (Montanae) globamphora* Kurata et Toyoshima, **sp. nov.** (Fig. 1, pl. 1). — *Nepenthes globamphora* (nomen nudum), Kurata et Toyoshima, Journ. Insectivorous Plants Soc. 36: p. 15-22, 1966.

Planta tenuis, breviter scandens, luteo-viridis. Caulis 30-80 cm altus, 4-5 mm crassus, cylindricus. Folia 8-12 cm longa, 1-1.8 cm lata, lanceolata, coriacea, sessilia, basi $\frac{2}{3}$ amplexicaulia, utrinque glabra; nervi longitudinales utrinque 3; nervi transversales obscure, oblique ascendentes; cirrhus 15-20 cm longus, cylindricus, glaber, luteo-viridis saepe etiam lucido-purpureus. Ascidia 4-9 cm longa, 3-5 cm lata, subdimorphia, inferiora ellipsoidea vel globosa, superiora ampulliformia, omnia luteo-vel, rubro-viridia, diffuse purpureo-maculata, coriacea, glabra, intus omnino glandulosa, bialata, alis margine dentatis, dentibus 3-ciliatis; os orbiculare obliquum; peristomium 5-8 mm latum, sub-cylindricum, aequale, luteo-viride, margine exteriori revolutum, interiore denticulatum; operculum 2-3.5 cm latum,

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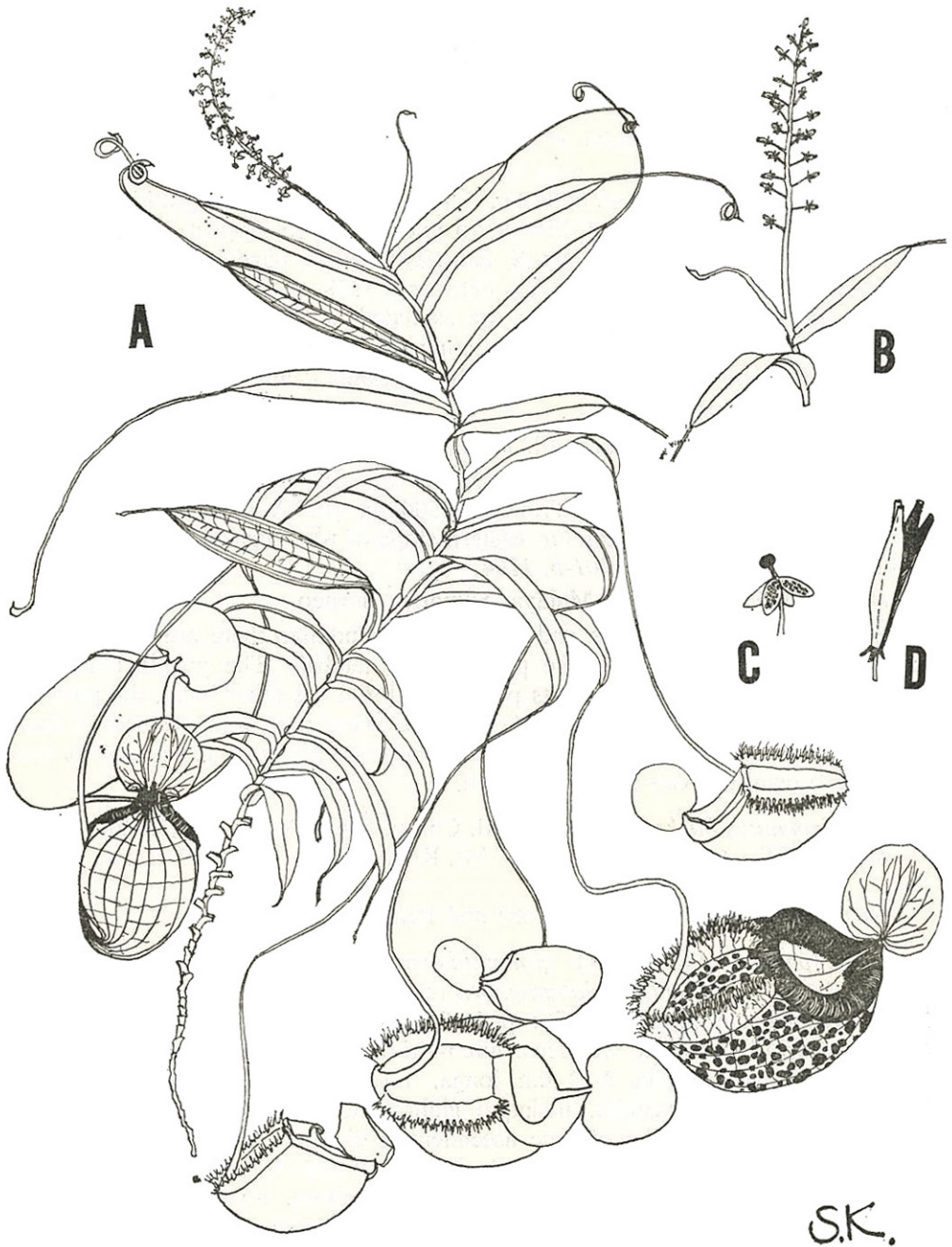


Fig. 1. *Nepenthes globamphora* Kurata et Toyoshima: A. male plant with flowers and pitchers (x 0.3); B. upper portion of female plant with flowers (x 0.3); C. male flower (x 2); D. capsules (x 1).

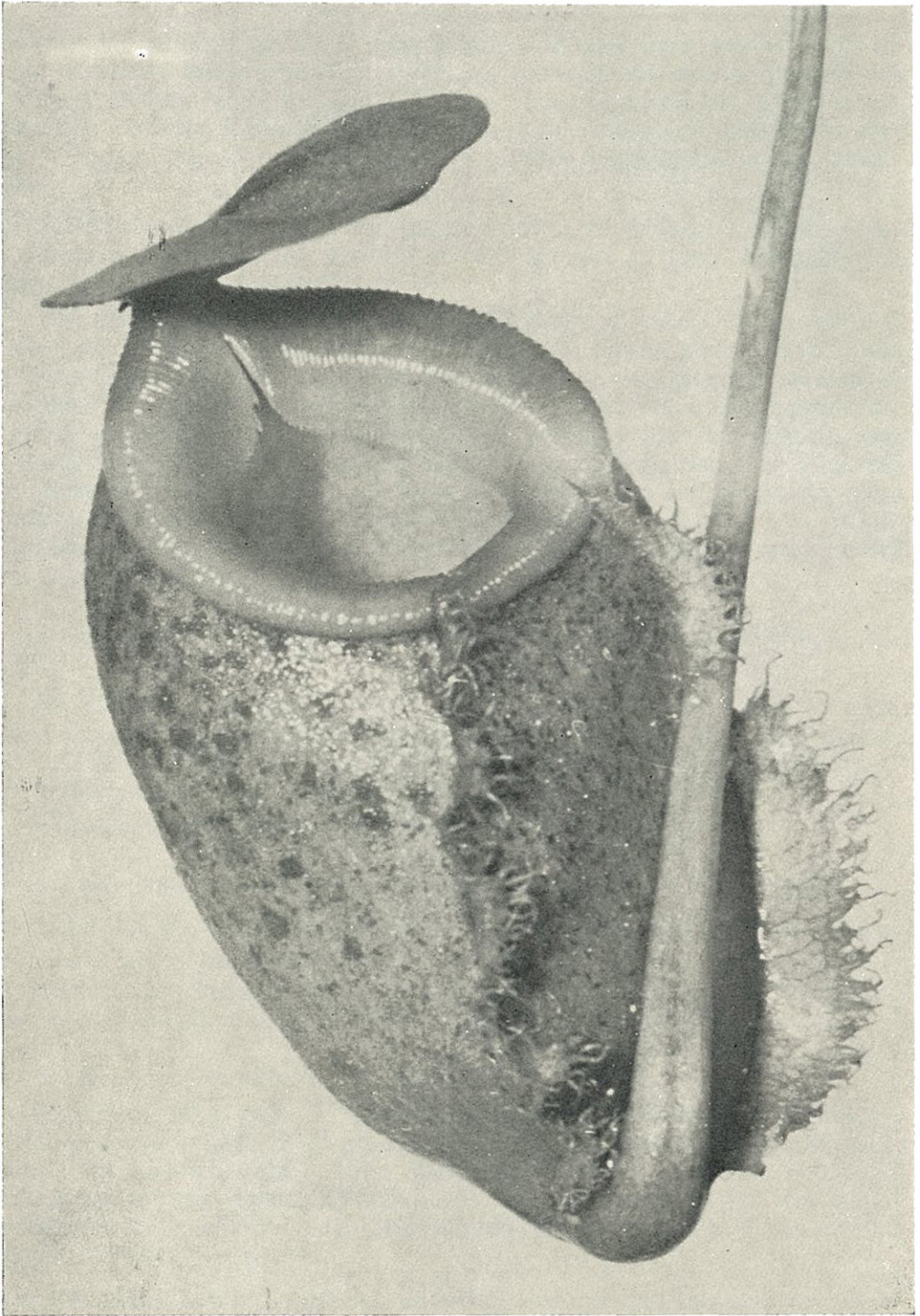


PLATE 1. *Nepenthes globamphora*: a pitcher on the lower stem (x 2.5).

cordato-orbicularum; calar ca. 1 mm longum, filiforme. Inflorescentia 10-15 cm longa, racemosa, pedunculus 6-9 cm longus, ferruginio-tomentosus, pedicelli 3-4 mm longi, uniflori; sepala 4, ovata, 2-2.5 mm longa, 1-1.2 mm lata, extus minute tomentosa; columna staminiae sepalis brevior, glaber, antherae 8, uniseriatae; capsula 17-20 mm longa, 4 mm lata, fusiformis, brunneo-nitida, glabra, valvae lanceolatae.

MINDANAO: Surigao del Sur, eastern slope of Mt. Legaspi, 270 m alt., Aug. 22, 1965, *S. Kurata and M. Toyoshima 1128* holotype in Herb. NDC (Nippon Dental College) *1129, 1130, 1132*.

This new species is easily distinguishable from all others by the peculiar pitcher which has an unusual roundness (hence the epithet "globamphora"), and by the trifold ciliae fringing the pair of wide wings — a very unique occurrence in the genus. The lid has no appendix on its lower surface where nectar glands are sparingly distributed. The glands are very small and deep. The remarkable feature of this species is that the inner surface of the pitcher is wholly glandular. When dry the specimen is red-brown, and the lower surface of leaves and flowers are more reddish. The lid has a ceramic luster on its lower surface. This plant is comparatively common on the eastern slope of Mt. Legaspi, but its distribution seems limited to a narrow area.

4. *Nepenthes merrilliana* Macf., Contrib. Bot. Lab. Univ. Pennsylv., III, p. 207, t. I (1911).

MINDANAO: Surigao del Sur, Camp David (a lumberer's camp, 10 miles upper stream of the mouth of Carrascal river). 150 m alt., Aug. 20, 1965, *S. Kurata 1117, 1118, 1119, 1120-a, 1120-b, 1124, 1125, 1126*; eastern slope of Mt. Legaspi, 270 m alt., Aug. 19, 1965, *S. Kurata 1116, 1121, 1122, 1123, 1127*.

Distribution: Philippines (Mindanao), Sulawesi.

5. *Nepenthes mirabilis* Druce, Rept. Exch. Cl. Br. Isl., 1916, p. 637 (1917).

MINDANAO: Surigao del Sur, on a river side near the Carrascal Bay, 20 m alt., Aug. 19, 1965, *S. Kurata 1107*.

Distribution: Southern China, Indochina, Malaya, Philippines (Mindanao), Borneo, Java, Sumatra, Sulawesi, New Guinea, Parau, Australia (York Pen.).

6. *Nepenthes mirabilis* x *alata*, **hybr. nov.**

Hybrida naturalis inter *N. mirabilis* et *N. alata*. Folia lanceolata, herbacea, glabra, petiolata. Ascidia 10-15 cm longa, 3-4 cm lata, monomorphia, cylindrica, bialata, alis fimbriatis, luteo-viridia, herbacea, glabra; os orbiculare obliquum; peristomium 2-3 mm latum, subcylindricum, aequale; operculum 3-5 cm latum, orbicularum, facie inferiore prope basin appendiculatum; calcar ca. 1 cm longum, bifidum. Inflorescentia ignota.

MINDANAO: Surigao del Sur, on a river side near the Carrascal Bay, 20 m alt., Aug. 9, 1965, *S. Kurata 1111-a* (type in Herb. NDC), *1111-b*.

This specimen has thin, herbaceous, petiolate leaves and cylindrical pitchers with orbicular lids. The pitcher is intermediate between its parental species; the strong folds on the boundary between the waxy zone and the glandular zone are derived from *N. mirabilis* whilst the appendix on the lower surface of the lid agrees with *N. alata*.

7. *Nepenthes petiolata* Danser, Bull. Jard. Bot. Buitzg. ser. III, Vol. IX, p. 353 (1928).

MINDANAO: Surigao del Sur, eastern slope of Mt. Legaspi, 270 m alt., Aug. 19, 1965, S. Kurata 1108.

Distribution. Philippines (Mindanao).

8. *Nepenthes petiolata* x *alata*, **hybr. nov.**

Hybrida naturalis inter *N. petiolata* et *N. alata*. Folia elliptico-lanceolata, coriacea, glabra, petiolata. Ascidia 10-15 cm longa, 3-4 cm lata, monomorphia, cylindrica, bialata alis fimbriatis, luteo-viridia, diffuse purpureo-maculata, coriacea, minute tomentosa; os orbiculare obliquum; peristomium ca. 2 mm latum, subcylindricum, aequale; operculum 3 cm latum, ovatum, facie inferiore prope basin appendiculatum; calcar ca. 1 cm longum, filiforme. Inflorescentia ignota.

MINDANAO: Surigao del Sur, eastern slope of Mt. Legaspi, 270 m alt., Aug. 19, 1965, S. Kurata 1113-a (type in Herb. NDC), 1113-b.

This specimen has elliptical leaves with petioles and cylindrical pitchers with ovate lids. The colour of the pitcher is yellow-green with purple blotches and/or stripes and is densely covered with short hairs which seem to be the same of that of *N. petiolata*. On the other hand, the small glands and the appendix on the lower surface of the lid seem to be derived from *N. alata*. A lustrous belt on the boundary between the waxy zone and the glandular zone on the inner surface of the pitcher is also from *N. alata*. Both species *N. petiolata* and *N. alata* are found growing in the same area.

9. *Nepenthes truncata* Macf., Contrib. Bot. Lab. Univ. Pennsylv., III, p. 209, t. II (1911).

MINDANAO: Surigao del Sur, Camp David, 150-300 m alt., Aug. 20, 1965, S. Kurata 1105, 1106, 1115.

Distribution. Philippines (Mindanao).

10. *Nepenthes truncata* x *petiolata*, **hybr. nov.**

Hybrida naturalis inter *N. truncata* et *N. petiolata*. Folia oblonga, apice truncata, coriacea, supra glabra, subtus villosa, petiolata. Ascidia 10-15 cm longa, 3-4 cm lata, monomorphia, inferne ventricosa, superne cylindrica, bialata, alis fimbriatis, luteo-viridia, diffuse purpureo-maculata, coriacea, tomentosa; os orbiculare obliquum; peristomium 5-8 mm latum, subcylindricum, margine exteriore expansum, margine interiore denticulatum; operculum 4-5 cm latum, cordato-ovatum, facie inferiore prope basin appendiculatum; calcar ca. 1 cm longum, bifidum. Inflorescentia ignota.

MINDANAO: Surigao del Sur, eastern slope of Mt. Legaspi, 270 m. alt., Aug. 22, 1965, S. Kurata 1109-a (type in Herb. NDC), 1109-b.

This specimen has wide coriaceous leaves with petioles, and the lamina is cordate at the apex. The petiole and lamina are densely covered with brownish coarse hairs beneath. The pitcher has a wide and expanded peristome. The lid has on its lower surface an appendix and two kinds of nectar glands: one small and deep, surrounded with a wide rim, the other large and shallow, surrounded with a narrow rim. The above characters show that this specimen is a natural hybrid between *N. truncata* and *N. petiolata*. At the place where this plant was collected, both parental species and the other i.e. *N. alata* were growing together.