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**A NEW NATURAL HYBRID OF NEPENTHES FROM MT. KINABALU
(SABAH)**

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ABSTRACT

A new natural hybrid of *Nepenthes*, *N. x alisaputraiana*, from Mt. Kinabalu Sabah is described.

ABSTRAK

Sejenis hibrid asli *Nepenthes*, *N. x alisaputraiana* dari Gunung Kinabalu Sabah dipertelakan.

INTRODUCTION

During the survey by one of us (JHA) on 2 February 1988 along the main trail of the mossy montane forest of Pig Hill, Mt. Kinabalu we found and collected on our descent a previously unknown natural hybrid of *Nepenthes*. This hybrid occupied a very narrow altitudinal zone of 1900 — 1930 m whereas its putative parental species *Nepenthes burbidgeae* Hook. f. ex Burbidge and *N. rajah* Hook. fil. were collected and recorded from 1900 — 1950 m, 1950 — 2320 m (the summit) respectively. The hybrid shows intermediate characters between the two putative parents (Table 1). We have examined representative specimens of both putative parent species from UKMS, SAR, SAN, K, L and descriptions of *N. rajah* (Hooker, 1859) and *N. burbidgeae* (Burbidge, 1882). Our specimens cannot be assigned to either of these taxa. The percentage of stainable pollens in *N. x alisaputraiana* is very low (24 %) compare with *N. rajah* (100 %) (Table 2).

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Table 1. Comparison of diagnostic characters of *N. burbidgeae*, *N. x alisaputraiana* and *N. rajah*

<i>Character</i>	<i>N. burbidgeae</i>	<i>N x alisaputraiana</i>	<i>N. rajah</i>
1. Habit	Climber	Climber	Prostrate
2. Climbing or upper stem	Triangular	Triangular	Cylindrical
3. Lower stem	Cylindrical	Cylindrical	Cylindrical
4. Tendril insertion	Apical	Apical or peltate	Peltate
5. Peristome	Not expanded	Expanded	Expanded
6. Outer peristome margin	Not wavy	Wavy	Wavy
7. Glandular crest on lid surface below	Present	Present	Absent

FIELD KEY TO THE TAXA

I. Climbing or upper stem and upper pitcher

- 1a. Stem triangular.....2
 1b. Stem cylindrical.....*N. rajah*
 2a. Peristome of pitcher distinctly expanded; outer peristome margin wavy.....
*N. x alisaputraiana*
 2b. Peristome narrower; outer margin not wavy.....*N- burbidgeae*

II. Lower stem and lower pitcher

- 1a. Peristome of pitcher greatly expanded; outer peristome margin wavy; tendril insertion peltate.....2
 1b. Peristome narrower; not wavy; tendril insertion apical.....*N. burbidgeae*
 2a. Glandular crest on lid below absent.....*N. rajah*
 2b. Glandular crest on lid below present.....*N. x alisaputraiana*

Table 2. Percentage of stainable & unstainable pollen of *N. x alisaputraiana* and *N. rajah* stained with lactophenol/cotton blue

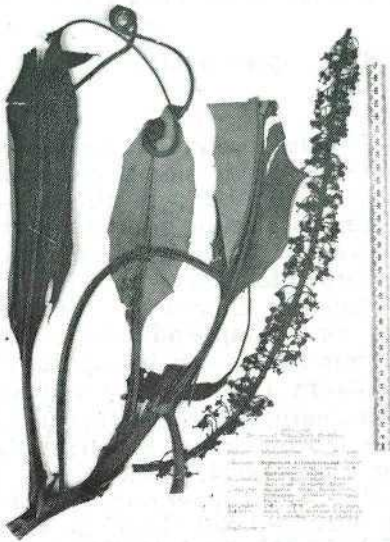
Taxa	% stainable pollen	% unstainable pollen	total pollen count
1. <i>N. x alisaputraiana</i>	24	76	330
2. <i>N. rajah</i>	100	0	500
3. <i>N. burbidgeae</i>	no pollen available		

Nepenthes x alisaputraiana* Adam & Wilcock, *nothospedies nova

Illustrations: plate 1 — male plant, plate 2 - upper pitcher, plate 3 — lower stem, plate 4 -- lower pitcher.

Planta scandens. Rosulae ignotae. Caulis triangularis vel cylindricus. Folia petiolata, lamina oblonga vel lanceolata, apex acutus vel obtusus et emarginatus vel peltatus, basis obtusa, nervi longitudinales utrinque 3 — 4, basis petioli 2/3 amplexans, in alas 2 decurrens. Ascidia inferiora ellipsoidea, costae prominentes cum alis 2 fimbriatis vel per totam longitudinem ascidii extensis vel per partem. Os ovatum, fere horizontale, elevatum ad operculum. Peristomium expansum, margo exterior distincte sinuatus, 5 - 5.5 mm latus. Operculum orbiculatum vel ovatum, basi cordata, appendix basalis glandulosa. Calcar 7 - 1.5 mm longum, 1.5 — 2 mm latum. Ascidia superiora infundibuliformia; peristomium 1.6 - 3.8 mm latus. Inflorescentia mascula racemosa, pedicelli biflori, raro triflori. Inflorescentia feminei et fructus ignotus. TYPUS : Malaysia, Sabah, Ranau District, Kundasang, Kinabalu National Parks, Mt. Kinabalu, Pig Hill, *Jumaat Haji Adam, Julaihi Haji Adam, Aliosman Mahdi, 2442 — 1* (male plant), *2442 — 2* (upper pitcher), *2442 — 3* (lower stem), *2442 — 4* (lower pitcher), altitude 1900—1930 m, 2.2.1988, holotype UKMS, isotypes ABD, K, L. BO, UKMB, SAR, SAN, Sabah National Parks Herbarium.

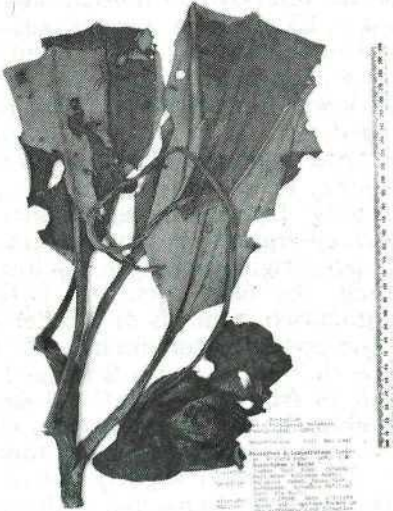
Plant climbing to 5 m high. Rosettes unknown. Climbing stem triangular, 15 — 16 mm thick, internodes 3 — 13 cm long. Leaves coriaceous, petiolate; lamina oblong to lanceolate, 18 — 34 cm long, 6.5 - 8 cm broad, apex acute to slightly obtuse, base obtuse; longitudinal nerves 3 on each side, originating from the leaf base and lower half of the midrib, pinnate nerves irregular and distinct; petiole winged, 10 — 17 cm long, clasping the stem for 2/3 at the base and decurrent into 2 wings extending over 1/2 - 1 internode; tendrils curled, 9 - 20 cm long. Lower stem cylindrical, 14 — 15 mm thick, internodes 2.5 - 3.5 cm long. Leaves oblong to lanceolate; lamina 27 - 41 cm long, 7 - 13 cm broad, emarginate or peltate with round apex, longitudinal nerves 3 — 4 on each side originating from the lower 1/5 of the midrib; petiole 10 - 14 cm long, the base decurrent extending slightly beyond one internode; tendrils uncurled, tendrils of pitcher longer than lamina, inserted 3 - 1.5 mm from the apex. Lower pitcher ellipsoidal, 13 - 33 cm high, 8 - 19 cm wide below the mouth, with 2 fringed wings extended 1/3 to almost the entire length in front, wings 5 - 13 cm long, 3 — 10 mm broad, 15 - 40 mm apart below the mouth, each wing with 18 — 50 lateral appendages, appendages 2 - 15 mm long, base 1 - 2 mm wide; mouth ovate, 5.5— 10.5 cm long, 3.5 - 12 cm broad slightly horizontal in front and elevated towards the lid; peristome greatly expanded with a distinctly wavy outer margin, 5 - 30 mm wide in front, 10 - 15 mm wide near the lid, with 312 — 338 ribs, ribs 0.3 - 3 mm apart, inner peristome teeth 1 — 5 mm long; lid ovate to orbiculate with rounded apex and cordate base, 7 - 13 cm long, 5 - 13 cm broad glandular crest on lid surface below present, 2 - 10 mm high, wholly glandular, with round — elliptic glands, inside



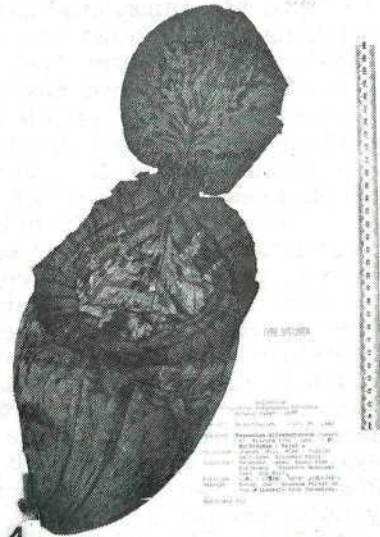
1



2



3



4

Photographs of holotype of *N. x alisaputraiana* Adam & Wilcock.
 Plate 1. Male plant. Plate 2. Upper pitcher. Plate 3. Lower stem. Plate 4. Lower pitcher.
 From *Jumaat et al.* 2442.

surface of the pitcher wholly glandular; spur flattened, not branched, or slightly and shortly branched at the apex, 7 — 15 mm long, 1 - 2 mm broad, inserted 4 — 5 mm from the lid base; upper pitcher generally similar to the lower pitcher, infundibulate, gradually contracted from the mouth towards the base, 20 — 30 cm long 9 - 12 cm broad, with 2 ribs running over the whole length sometimes with 2 fringed wings running over $\frac{1}{3}$ — $\frac{1}{2}$ of the entire length, rib below the mouth 18 - 27 mm apart; mouth ovate, 5 — 11 cm long, 3 - 9 cm broad; peristome 18 — 28 mm wide in front, 10 — 38 mm wide near the lid, with 280 — 470 ribs; lid 11 - 13 cm long, 8 - 12 cm wide, sparsely hairy toward the apex on the lower lid surface, glandular crest 10 — 13 mm high, inside surface of the pitcher almost wholly glandular, the triangular area immediately beneath the lid base glandless; spur 13 — 14 mm < long, 1.5 — 3 mm broad, inserted 5 — 7 mm below the lid. Male inflorescence racemose, axis including peduncle 57 - 93 cm long, pedicels 12 — 22 mm long, 2 — flowered, very rarely 3 — flowered, bracteoles absent; sepals 4, 4.5 mm long, 2—3 mm wide, glandular above; staminal column 2 — 4 mm long, anther uniseriate. 1.5 - 2 mm thick. Female inflorescence unknown. Fruits unknown.

DERIVATION : The hybrid is named in honour of Encik Lamri Aliaputra, Director of Sabah National Parks.

LOCALITIES : This hybrid has only been recorded from Pig Hill. It may possibly also be found at Marai Parai Plateau (Mt. Kinabalu) and Mt. I'ambu-yokon, since both the putative parental species are found in these 2 localities.

HABITAT : Mossy forest.

DISTRIBUTION : Borneo, Mt. Kinabalu only.

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