

# NOTES ON *NEPENTHES* FROM NORTHERN SUMATRA

BRUCE SALMON  
13 Rothery Road  
Manurewa  
Auckland 1702  
New Zealand.

RICKY MAULDER  
69 Hutchinson Ave  
New Lynn  
Auckland 1007  
New Zealand

Received: 13 May 1998, revised: 28 July, 1998

Keywords: new taxa: *Nepenthes angasanensis*.

## Summary

A previously unrecognized species of *Nepenthes* (Nepenthaceae) from Puncak Angasan, Aceh Province, Sumatra, Indonesia is described and illustrated. The original description of *N. miki* is reinstated.

## Introduction

On a recent field trip to Sumatra (Sept. 1997) a party of four people, three from New Zealand (Ricky Maulder, Bruce Salmon, Brian Quinn) and one from Australia (Dale Schubert), rediscovered a species that we regarded to require a formal description. We took guides from the town of Blangkejeren and on to Penosan where we began the climb at about 1600m. This species first appeared on Puncak Angasan (en-route G. Leuser) at 2400m and continued on up to 2600m where a recent fire had destroyed the higher forest. It is named by Dale Schubert.

## General

At first glance this species bears a striking resemblance to *N. tobaica*. However upon further examination it became apparent to us that this species is not *N. tobaica* and that it required its own specific name. Several clues initially attracted our attention, leading us to believe that we were dealing with something new (see Table 1). At first glance this species appears similar to *N. tobaica*. However, combined with the above geographical and ecological observations, and the main morphological differences noted in Table 2, we believe that we are justified in the naming of a new species. Van Steenis<sup>1</sup> collections from the same area (Puncak Angasan, G. Kemiri, G. Lembuh) that were placed into *N. tobaica* by Danser (1940) are also likely to be this species. This new species also has a slight resemblance to *N. miki* but mainly in rosette leaf shape/attachment and inflorescence structure. *N. miki* is not a very variable species, at least between specimens from G. Pangulubau<sup>2</sup> and G. Bandahara. Even new herbarium material, recently collected from the type location, falls within the margins of the original description. (The original description was based on cultivated specimens.) We have not observed the characteristics in this species which are used by Jebb & Cheek<sup>1</sup> (1997) in their emended description of *N. miki*. For this reason, we believe that Jebb & Cheek included other species in constructing their emended description. We feel that the original description should be reinstated until further studies can be performed.

<sup>1</sup>As we have not viewed the van Steenis nor the "Jebb & Cheek" herbarium material we are unable to confirm our suspicions at this time.

<sup>2</sup>Jebb & Cheek state that G. Pangulubau is in Riau Province when in fact it is in the Province of North Sumatra.

Table 1

*N. tobaica**N. angasanensis*

| Location          | North Sumatra, principally the Lake Toba area.                             | Aceh, possibly known from only three mountains.  |
|-------------------|--|--|
| Altitudinal range | 800-1500m.   | 2300-2800m.                                      |
| Habitat           | Growing in clay and volcanic soils in open scrub - <i>Leptospermum</i> sp. | Growing in moss and leaf litter in mossy forest. |

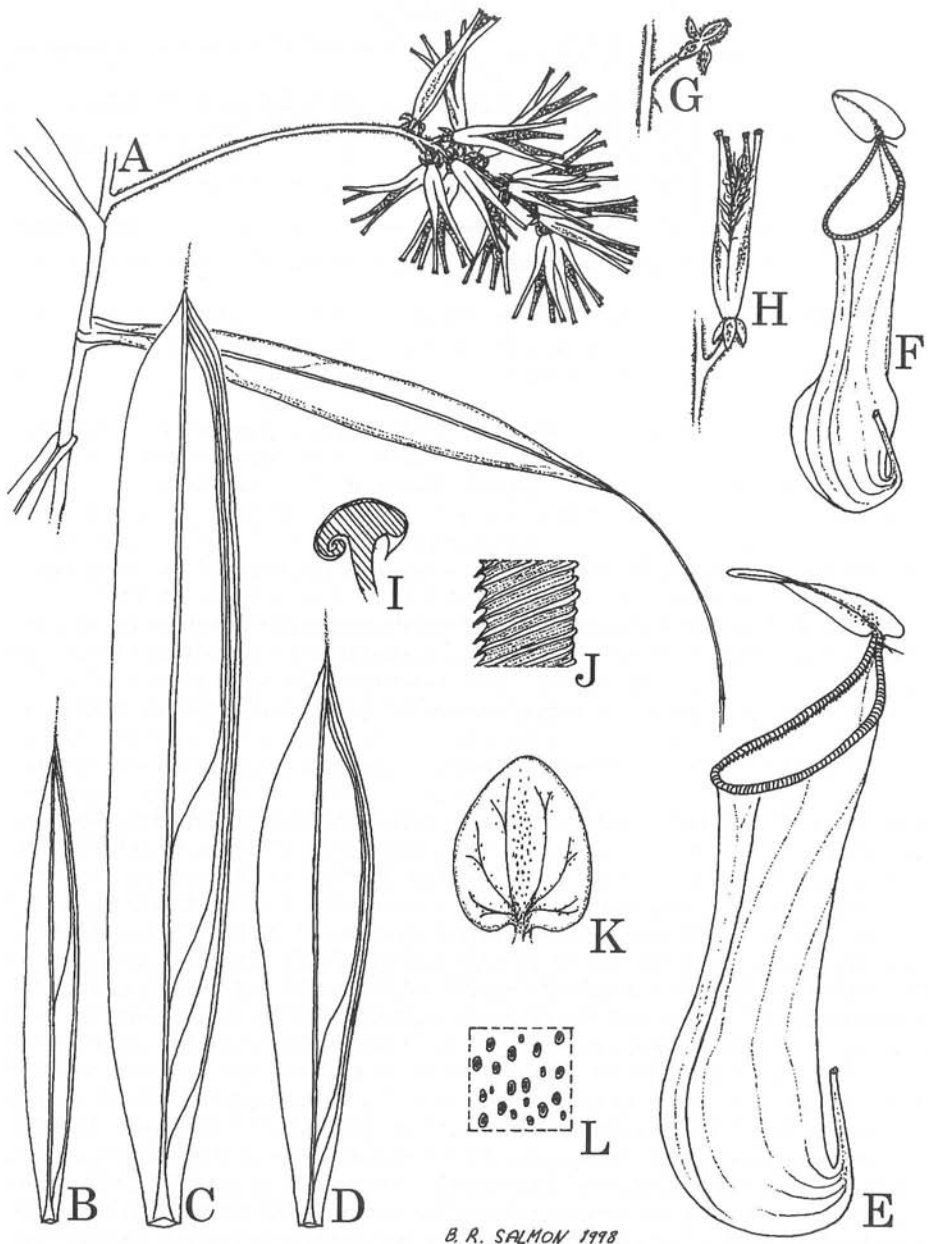
The new species from Puncuk Angasan is formally described in the following text.

*Nepenthes angasanensis* Maulder R., Schubert D., Salmon B., Quinn B., *spec. nov.*

*N. tobaica* *Danser similis sed ascidia radicalia longiora 120-150mm longa, calcar bis vel ter ramosum (non fasciculatum). Inflorescentia feminea, pedicellis unifloris, brevibus 55-125mm longa.*

Holotypus: B. Salmon and R. Maulder (234372), Young plant with pitchers, leaf and pitcher from short shoot, female inflorescence, fruits. Sumatra, Aceh Province, G. Puncak Angasan, Slopes above Penosan, 2500m alt. 25 Sept. 1997 (AK).

Stems; climbing up to 9m high, cylindrical, 2-4mm broad. Scattered short shoots arise from underground rhizomes. Internodes, 20-60mm long. Leaves of the rosettes; coriaceous, sessile, linear, 50-70mm long, 10-13mm broad, acute at the apex, tapering gradually towards and abruptly contracted at the base, clasping the stem for 2/3 the diameter. Pennate veins; irregularly reticulate running obliquely to the margin. Longitudinal veins; 2-3 on each side running in the outer 1/3 of the blade, most originating from the midrib near the base and sometimes from up to 1/2 way along the blade, converging at the tip. Tendrils; slender, 1-1.5mm broad approximately 2/3 to the same length as the leaf, descending without curl. Leaves of the short shoots; similar to those of the rosette but larger, 100-200mm long, 12-25mm broad with 3-4 longitudinal veins running the length of the blade. Leaves of the climbing stem; similar to those of the rosette and short shoots, perpendicularly attached to the stem, lanceolate, obtuse/acuminate at the tip, 100-120mm long, 20-25mm broad. Tendrils; bearing pitchers with a single or double curl. Pitchers of the rosettes; abruptly incurved at the front from the hanging end of the tendril. Pitchers facing the centre of the rosette, 60-80mm long, 18-20mm broad. Narrowest from the front, ovate in the lower 1/2, ventricose in the middle, tubular to slightly infundibuliform in the upper 1/2, narrowing slightly towards the mouth with two fringed wings running the entire length. Wings; 1-1.5mm broad, fringe segments filiform, 3-6mm long and 8-12 fringe segments  $\text{cm}^{-2}$ . Mouth; oblique, elevated towards the lid. Shape ovate becoming acuminate towards the lid with almost no neck. Peristome; rounded, 1-1.5mm broad in front, 3-4mm broad near the lid. Ribs; 0.4-0.5mm apart, 1.5-2mm long on the inner margin. Inner surface of the pitcher; glandular in the lower 1/2 with minute overarched glands. Glands; evenly distributed, rotund, 0.2-0.3mm long and 300  $\text{cm}^{-2}$ . Glands becoming larger towards the bottom with upper 1/2 glandless and pruinose. Pitcher lid; ovate, cordate at the bottom, rounded at the top. The lower surface glandular with a few scattered minute rotund and rimmed glands, the long axis of the glands being oriented parallel with the long axis of the lid, midrib almost nonexistent. Spur; forked, 0.3-0.4mm long inserted at the base of the lid. Pitchers of the short shoots; similar to those of the rosette but larger, abruptly incurved at the side from the hanging end of the tendril, facing outwards from the stem, 120-150mm long, 30-40mm broad. Lid; 30-35mm long, 25-28mm broad, glands; few, concentrated along the midrib and scattered around the edge, 0.2mm long. Wings reduced to ribs. Spur; singular, sometimes branched, 6-7mm long. Pitchers of the climbing stem; similar to those of the rosette but often very bulbous in the lower 1/3, abruptly



B. R. SALMON 1998

Figure 1: *N. angasanensis*: A) stem with female inflorescence  $\times 1$ , B) Lower leaf (rosette)  $\times 1$ , C) Intermediate leaf (short shoots)  $\times 1$ , D) Upper leaf (climbing stems)  $\times 1$ , E) Intermediate pitcher  $\times 1$ , F) Upper pitcher  $\times 1$ , G) Female flower  $\times 1.5$ , H) Ripe fruit  $\times 1.5$ , I) Peristome cross-section  $\times 10$ , J) Detail of peristome viewed from above  $\times 10$ , K) Lid (underside)  $\times 1$ , L) Detail of glands on underside of lid  $\times 10$ .

ly incurved at the back from the hanging end of the tendril, 80-90mm long, 18-25mm broad. Lid; 18-22mm long, 15-20mm broad. Lid glands; 0.1mm long, sparse, concentrated at the midrib and scattered over the surface. Wings; reduced to ribs. Spur; single or branched, 3-4mm long. Male inflorescence unknown. Female inflorescence; a raceme. Peduncle; cylindrical, 40-90mm long, 1.2-2mm broad. Axis; gradually tapering towards the tip, 15-35mm long bearing 9-17 flowers. Pedicels; situated in a whorl, 1-flowered sometimes with a 1-1.5mm long bracteole near the base of the lowest flower, 5-20mm long; interpedicel length 2-9mm; pedicel bases, 0.5-1mm broad, 3mm long near the top of the axis, 9mm long near the bottom. Tepals; lanceolate, cupped, 4-5mm long, 1.5mm broad, reflexed; inner surface glandular, glands, elliptic, rimmed, 0.1-0.2mm long, the long axis of the glands being orientated parallel with the long axis of the tepal. Carpels; 5-7mm long, 2-3mm broad being shortest near the top of the axis. Fruit valves; 20-27mm long, 3-4mm broad. Indumentum; very sparse on mature parts, the stems and leaves, including their axils, glabrous. Tendrils covered with filiform hairs, 0.2-0.5mm long. Pitchers and lid sparsely covered with filiform hairs, 0.3-0.5mm long. Peduncle, pedicels and ovary densely covered with short filiform adpressed hairs, 0.3mm long. Outer surface of tepals also with a few of these hairs. Edges of tepals densely tomentose, hairs filiform, curled, 0.05-0.1mm long.

**Table 2**

Comparisons between *N. angasanensis* and its nearest relatives, *N. tobaica* and *N. miki*

|                                  | <i>N. tobaica</i>                                  | <i>N. angasanensis</i>                        | <i>N. miki</i>              |
|----------------------------------|--|---|-----------------------------|
| <b>Habit</b>                     | No rhizomes.                                       | Produces offshoots from underground rhizomes. | No rhizomes.                |
| <b>Spur</b>                      | Filiform.  | Forked.                                       | Fasciculate.                |
| <b>Inner margin of Peristome</b> | Teeth < 0.2mm.                                     | Teeth to 1.5-2mm long.                        | Teeth to 0.2-0.4mm long.    |
| <b>Stem cross section</b>        | Cylindrical to obtusely triangular.                | Cylindrical.                                  | Cylindrical.                |
| <b>Bracteoles</b>                | At base or slightly below pedicel attachment. Few. | Sometimes near base of lowest pedicel only.   | Half way up every pedicel.  |
| <b>Pitcher glands</b>            | 200-250 / cm <sup>2</sup> .                        | 300 / cm <sup>2</sup> .                       | 150-180 / cm <sup>2</sup> . |
| <b>Pedicels</b>                  | 2-flowered.  | 1-flowered.                                   | 1-flowered.                 |
| <b>Inflorescence (female)</b>    | 195-400mm long, 30-50 flowers.                     | 55-125mm long, 9-17 flowers.                  | 40-80mm long, 4-10 flowers. |

#### Colour

Herbarium specimens; Brown to blackish. Living specimens; Stems; dark red to black. Leaves; glossy green above lighter below. Midrib; light green. Tendrils; green, turning pitcher colour towards the tips. Pitchers; red to black sometimes green or flecked with red outside, whitish green or reddish inside. Lid; like that of the pitcher. Peristome; green, sometimes red or black. Inflorescence; dark green/grey. Indumentum; white, tepal edge hairs brown.

#### Distribution

Indonesia, Aceh province, Puncuk Angasan, slopes above Penosan, 2400-2600m.

## Ecology

Open, montane, mossy forest among trees reaching 12m high. Forming a few hybrids with *N. densiflora* where their ranges overlap.

## Derivation

The specific epithet *angasanensis* refers to the mountain from which the type specimen originates.

## Specimens Examined

*N. angasanensis*: B. Salmon & R. Maulder, 234372 (Holotype), Young plant with pitchers, leaf and pitcher from short shoot, female inflorescence, fruits. Sumatra, Aceh Province, G. Puncak Angasan, Slopes above Penosan, 2500m alt. 25 Sept. 1997 (AK). Duplicates sent to (K), (BO).

## Acknowledgements

We would like to thank the staff of the Auckland Institute and Museum Herbarium for their help with the preparation of specimens. Also thanks to Jan Schlauer and Charles Clarke for their helpful critique of our manuscript.

## Literature

- Danser, B. H. 1928, The Nepenthaceae of the Netherlands Indies, Bull. Jard. Bot. Buitenzorg, Serie III. Vol. 9, pp. 382-384.
- Danser, B. H. 1940, A New *Nepenthes* from Sumatra, Bull. Jard. Bot. Buitenzorg, Serie III. Vol. 16, pp. 268-271.
- Salmon, B. and Maulder, R. 1995, Two New Species of *Nepenthes* from North Sumatra, Indonesia. Carniv. Pl. Newslett. Vol. 24, pp. 78-84.
- Jebb, M. and Cheek, M. 1997, A Skeletal Revision of *Nepenthes* (Nepenthaceae), Blumea Vol. 42, pp. 63, 86-87.

## Carnivorous Plants

International & Overnight Delivery  
International Reps Wanted

**2" & 3" Retail Packages  
Cell Trays**



Venus Flytraps  
Sundews  
Butterworts  
Pitcher Plants

**Ph: 760-630-4170  
Fax: 760-630-4173**

**BOOMAN  
FLORAL**

VISA / MC

CITES PERMIT NO. US839095  
2302 Bautista Ave., Vista, CA 92084-1641 USA