

**APPENDICULA NICOBARICA (ORCHIDACEAE –  
EPIDENDROIDEAE – PODOCHILEAE),  
A NEW SPECIES FROM GREAT NICOBAR  
BIOSPHERE RESERVE, INDIA**

J. JAYANTHI, R. SUMATHI, K. KARTHIGEYAN & D. NARASIMHAN

*Appendicula nicobarica* Jayanthi, Sumathi & Karthig. (Orchidaceae) is described and illustrated from Great Nicobar Biosphere Reserve, India.

*Keywords.* *Appendicula*, Great Nicobar Island, Orchidaceae.

INTRODUCTION

The genus *Appendicula* Blume (Orchidaceae) comprises about 60 species (Pridgeon *et al.*, 2005) distributed from India to China (Hainan), Taiwan and Hong Kong southeastwards through Thailand to Malaysia and Indonesia, the Philippines, New Guinea and the southwest Pacific islands (Seidenfaden, 1986; Seidenfaden & Wood, 1992; Comber, 2001; Pridgeon *et al.*, 2005). Two species have been recorded from India, namely *Appendicula cornuta* Blume from the Sikkim Himalayan region and *A. reflexa* Blume from Great Nicobar Island (Sathish Kumar & Manilal, 1994).

During a survey of the flora of Campbell Bay National Park in the Great Nicobar Biosphere Reserve, a good population of an undetermined species of *Appendicula* was found growing in the evergreen forest on Mount Thullier, the highest peak on Great Nicobar Island. Consultation of the literature and comments from experts revealed that this taxon is new to science, and it is described below.

SPECIES DESCRIPTION

***Appendicula nicobarica* Jayanthi, Sumathi & Karthig., sp. nov. Fig. 1.**

*Appendiculae pendulae* Blume affinis, foliis minoribus (ad 5 cm longis, 1.2 cm latis), inflorescentia tantum terminali eramosa, bracteis minoribus (3–5 mm longis, c.3 mm latis), floribus minoribus (ad 4.5 mm longis), mento brevior (ad 2 mm longo), labello angustiore (ad 2.2 mm lato) prominentiter recurvato, epichilio sine carinis lateralibus et callo differt. – Type: India, Great Nicobar Island, Campbell Bay National Park, Mount Thullier, 30 v 2002, Jayanthi, Sumathi & Karthigeyan 19343 (holo CAL; iso PBL).

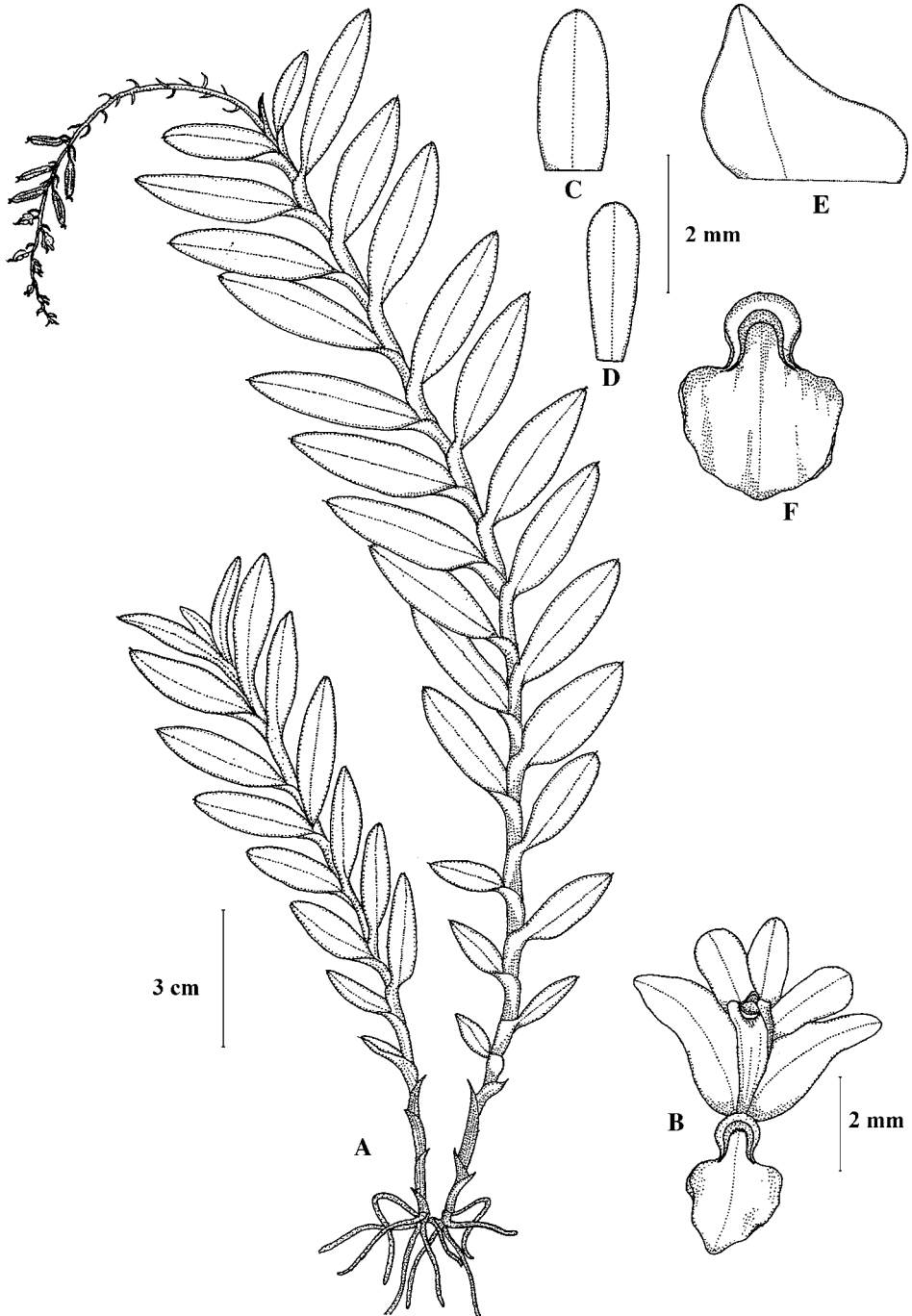


FIG. 1. *Appendicula nicobarica* Jayanthi, Sumathi & Karthig. A, habit; B, flower; C, dorsal sepal; D, petal; E, lateral sepal; F, lip.

Epiphytic herb 25–60 cm high. *Rhizome* short. *Roots* c.0.2 mm in diameter, fibrous, covered by dense hairs. *Stems* erect, 20–50 cm long, 0.2–0.4 cm in diameter, simple, entirely covered by leaf-sheaths. *Leaves* 2–5 × 0.4–1.2 cm, alternate, distichous, membranous, narrowly elliptic-oblong, sheathed at base, apex bilobed, margin entire, glabrous, mid-nerve prominent, extending above the leaf apex and forming an c.1 mm long cusp; sheath 0.5–1 cm long. *Inflorescence* terminal, 3–11 cm long, simple, arising from the sheath of the apical leaf, few-flowered; floral bracts 3–5 × 2–3 mm, ovate-lanceolate, apex long acuminate, glabrous, 5-nerved, reflexed. *Flowers* up to 4.5 mm long, greenish yellow, lip creamy-white. *Pedicel-with-ovary* up to 4 × 1 mm. *Dorsal sepal* c.2.3 × 1 mm, elliptic-oblong, apex rounded-obtuse, margin entire, 1-nerved. *Lateral sepals* c.2.3 × 3 mm, obliquely ovate-triangular, apex obtuse, margin entire, 1-nerved. *Mentum* c.2 mm long. *Petals* c.2.3 × 1 mm, oblong-obovate, apex rounded, margin entire, 1-nerved. *Lip* 3 × 2.2 mm, fleshy, recurved, obovate; basal appendage concave, fleshy, swollen at the centre, with 2 tapering edges. *Column* c.2.5 × 0.5 mm; anther-cap c.1 × 1 mm, broadly elliptic-rhomboid; pollinia 6. *Capsule* c.8 × 3 mm, 6-ribbed, dehiscing by longitudinal slits.

*Distribution.* India: Great Nicobar Island.

*Habitat and ecology.* Well-shaded, moist inland evergreen forest; epiphytic on moss-covered trunks of *Kibara coriacea* (Blume) Tulasne and *Gironniera subaequalis* Planch.; above 600 m. Flowering and fruiting: May and June.

*Etymology.* The specific epithet refers to the type locality, Great Nicobar Island.

*Appendicula nicobarica* resembles the widespread *A. pendula* Blume in habit, but differs in having shorter simple stems, smaller leaves (up to 5 cm long), smaller inflorescences (up to 11 cm long), smaller broadly ovate-lanceolate floral bracts (3–5 × 2–3 mm), smaller flowers (up to 4.5 mm long) with a 2 mm long mentum, and a prominently recurved lip lacking lateral keels and callus on the epichile. The distinguishing characters between *Appendicula pendula* and *A. nicobarica* are provided in Table 1.

TABLE 1. Characters distinguishing *Appendicula nicobarica* and *A. pendula*

| Character     | <i>Appendicula nicobarica</i>   | <i>Appendicula pendula</i>   |
|---------------|---|--|
| Stems         | 25–60 cm long, unbranched   | Up to 2 m long, branched   |
| Leaves        | Less than 1 cm apart, 2–5 cm long   | c.2 cm apart, 5–12 cm long   |
| Inflorescence | Only terminal, up to 11 cm long, not pendulous  | Both terminal and lateral, up to 18 cm long, pendulous                               |
| Floral bracts | Broadly ovate to lanceolate, 3–5 × 2–3 mm   | Oblong to lanceolate, c.6 × 5 mm   |
| Flowers       | c.4.5 mm long   | c.6.5 mm long  |
| Dorsal sepal  | c.2 × 1 mm  | c.4 × 2.5 mm   |
| Lip           | Obovate, without reddish spots at base, lateral keels and callus absent on the epichile | Oblong, with reddish spots at base, lateral keels and callus present on the epichile |

A good population with more than 100 individuals was observed on the host trees at an elevation above 600 m. According to the IUCN Standards and Petitions Working Group (2008) this species could be assigned to the Endangered category under the criteria B2a. However, there is no immediate threat to this population since it occurs in a protected biosphere reserve.

#### ACKNOWLEDGEMENTS

The authors are grateful to Dr M. Sanjappa, Director, Dr H. J. Chowdhery, Joint Director and Dr P. G. Diwakar, Botanical Survey of India for facilities; Dr Paul Ormerod for confirming the identity of the species; Dr J. F. Veldkamp, Nationaal Herbarium Nederland, Universiteit Leiden branch, for the Latin diagnosis; and Dr P. Dayanandan and Dr C. Livingstone, Madras Christian College, Tambaram, for encouragement.

#### REFERENCES

- COMBER, J. B. (2001). *Orchids of Sumatra*. Malaysia: Natural History Publications (Borneo).
- IUCN STANDARDS AND PETITIONS WORKING GROUP (2008). *Guidelines for Using the IUCN Red List Categories and Criteria*. Version 7.0. Prepared by the Standards and Petitions Working Group of the IUCN SSC Biodiversity Assessments Sub-Committee in August 2008. <http://intranet.iucn.org/webfiles/doc/SSC/RedList/RedListGuidelines.pdf>
- PRIDGEON, A. M., CRIBB, P. J., CHASE, M. W. & RASMUSSEN, F. N. (2005). *Genera Orchidacearum. Vol. 4: Epidendroideae (Part 1)*. Oxford: Oxford University Press.
- SATHISH KUMAR, C. & MANILAL, K. S. (1994). *A Catalogue of Indian Orchids*. Dehra Dun: Bishen Singh Mahendra Pal Singh.
- SEIDENFADEN, G. (1986). Orchid genera in Thailand XIII. Thirty-three epidendroid genera. *Opera Bot.* 89: 135–142.
- SEIDENFADEN, G. & WOOD, J. J. (1992). *The Orchids of Peninsular Malaysia and Singapore*. Fredensborg: Olsen & Olsen.

*Received 22 June 2009; accepted for publication 17 August 2009*