

**New Records for the Flora of Peninsular Malaysia,
Family Orchidaceae 1. *Appendicula floribunda*,
Bulbophyllum elevatopunctatum, *Cymbidium sigmoideum*
and *Dendrochilum bandaharaense***

M. JUTTA, P.T. ONG & S.N. PHOON

Forest Research Institute Malaysia, 52109 Kepong, Selangor, Malaysia

Abstract

Four orchids, *Appendicula floribunda* (Schltr.) Schltr., *Bulbophyllum elevatopunctatum* J.J.Sm., *Cymbidium sigmoideum* J.J. Sm., and *Dendrochilum bandaharaense* J.J. Wood & J.B. Comber are new records for the Orchidaceae of Peninsular Malaysia.

Introduction

Expanding infrastructure and development projects have made many areas of forest in Peninsular Malaysia accessible which in recent years has led to the discovery of new records, especially of taxa that were previously recorded from surrounding regions (Jutta, 2004; Jutta & Faridah, 2005; Wong *et al.*, 2002). Four such species are reported here, namely *Appendicula floribunda* (Schltr.) Schltr. from Terengganu, *Bulbophyllum elevatopunctatum* J.J.Sm. from Selangor and Johor, and *Cymbidium sigmoideum* J.J. Sm. and *Dendrochilum bandaharaense* J.J. Wood & J.B. Comber, from Pahang. The presence of these species in Peninsular Malaysia is no surprise, given their confirmed distribution in neighbouring countries.

1. *Appendicula floribunda* (Schltr.) Schltr.

Rept. Spec. Nov. Regni. Veg. Beih. 1 (1912) 355; Op. Bot. 89 (1986) 138; Comber, Orchids of Sumatra (2001) 532. Basionym: *Podochilus floribundus* Schltr. Mem. Herb. Boiss. 21 (1900) 58. **Fig. 1A-F, Plate 1A, B.**

Specimens examined: Terengganu. Taman Negara, Tasik Kenyir, on low-canopy trees overhanging the banks of a shallow stream *M. Jutta FRI 59560*, 3 Aug 2007 (KEP); *M. Jutta KBG 20070621* (living collection FRIM).

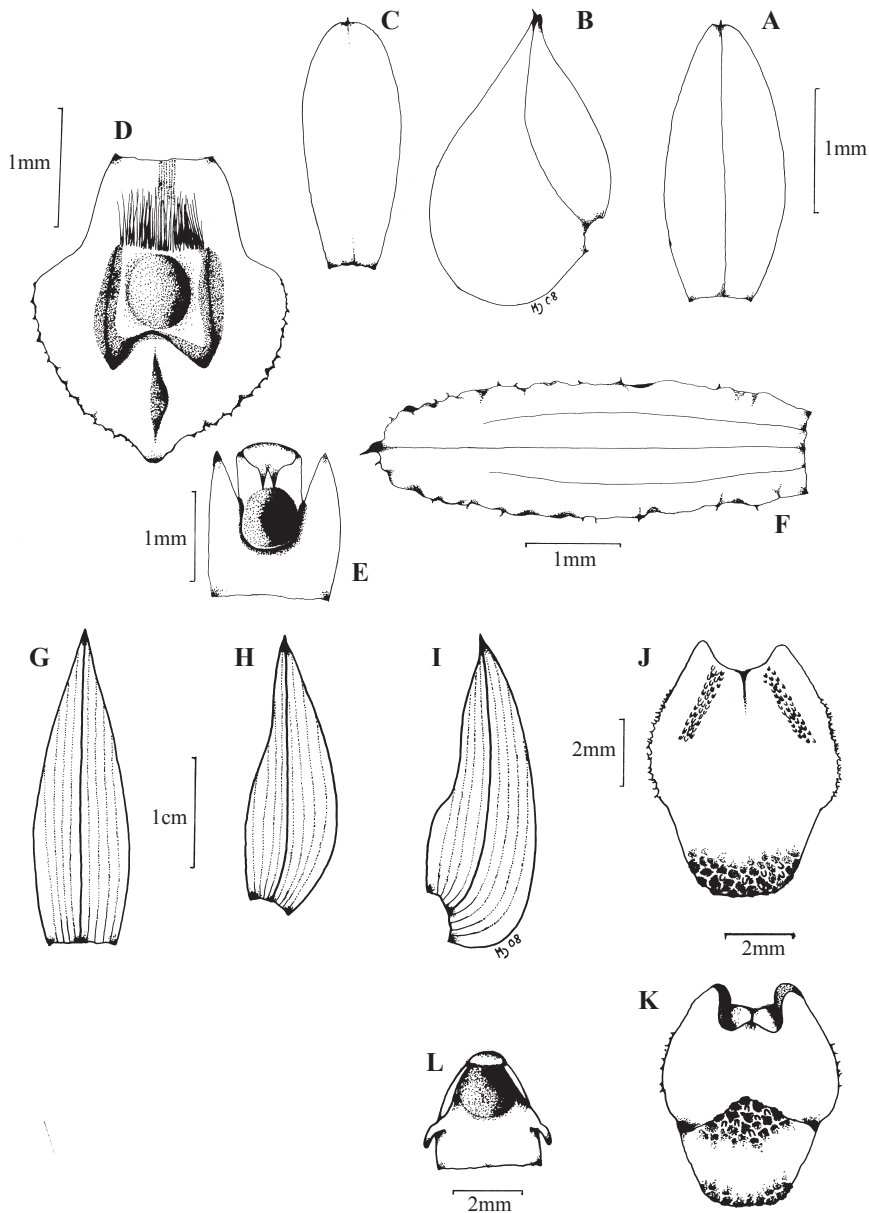


Figure 1. *Appendicula floribunda*. A. Dorsal sepal; B. Lateral sepal; C. Petal; D. Lip; E. Column; F. Floral bract. *Bulbophyllum elevatopunctatum*. G. Dorsal sepal; H. Petal; I. Lateral sepal; J. Lip (adaxial); K. Lip (abaxial). L. Column. (A-F from *FRI 595560*, G-L from *FRI 58820*).

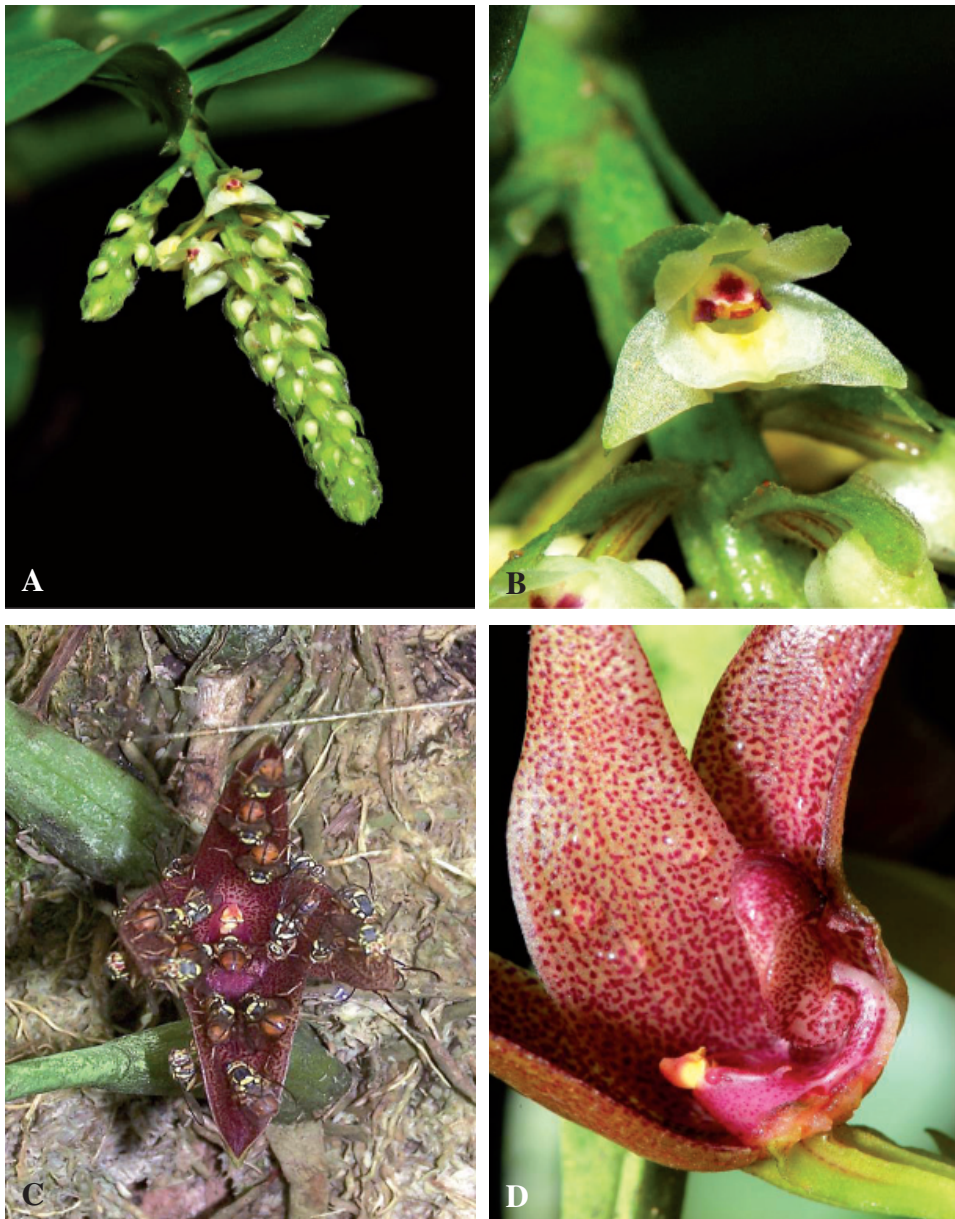


Plate 1. *Appendicula floribunda*. A. Inflorescence; B. Close-up of a single flower. *Bulbophyllum elevatopunctatum*. C. Flower heavily visited by fruit flies; D. Petal and lateral sepal removed to show tooth on column. (Photographs by P.T.Ong)

The plant, whose collection was made possible by the building of the Kenyir hydro-electric dam, was identified using Seidenfaden (1986). From other Peninsular Malaysian *Appendicula* (Seidenfaden & Wood, 1992), the species is easily distinguished by the prominent row of long, retrorse hairs fringing the base of the three-pointed callus (Fig. 1D). Our material has white flowers, turning yellow with age and with some purple markings on the column. Comber (2001) mentioned 'some purple' on the lip but this was not observed by us.

2. *Bulbophyllum elevatopunctatum* J.J. Sm.

Bull. Jard. Bot. Buit 3 (1920) 99; Comber, Orchids of Sumatra (2001) 771. **Fig. 1G-M, Plate 1C, D.**

Specimens examined: Selangor. On an old rubber tree trunk *Ong P.T. FRI 58820* 2006 (KEP); *Ong P.T. KBG 20070191* (living collection, FRIM). Johor. *Ong P.T. FRI 58826* 14 Dec 2007 (KEP).

Bulbophyllum elevatopunctatum, previously known only from Sumatra, is most similar to *B. membranifolium* Hook.f. among Peninsular Malaysian species within sect. *Sestochilus*, but differs in having relatively thick-textured leaves, sepals and petals, leaves with shorter stalk, base of lip with strips of papillae, fimbriate side lobe margins, and a dark red flower. The species is, however, most closely related to the Bornean endemic, *B. vinaceum* Ames & C.Schweinf., separated only by two strips of papillae at the base of the lip and a distinct curved tooth along each lower margin of the column (Fig. 1L; Plate 1D), which are absent in *B. vinaceum*. Presence or absence of teeth along the lower margins of the column is considered a specific character within sect. *Sestochilus* (Vermeulen, 1991). The flowers examined here differed from Comber's description in being consistently larger in size. Flowers, as soon as the buds opened, were heavily visited by fruit flies of the genus *Bactrocera* Macquart.

3. *Cymbidium sigmoideum* J.J.Sm.

Bull. Dept. l' Agric. Indes Néerl. (1907) 52; Comber, Orchids of Java (1990) 381, Orchids of Sumatra (2001) 235. **Plate 2A, B.**

Specimen examined: Pahang. Cameron Highlands, *Phoon & Ong FRI 60439* (KEP).

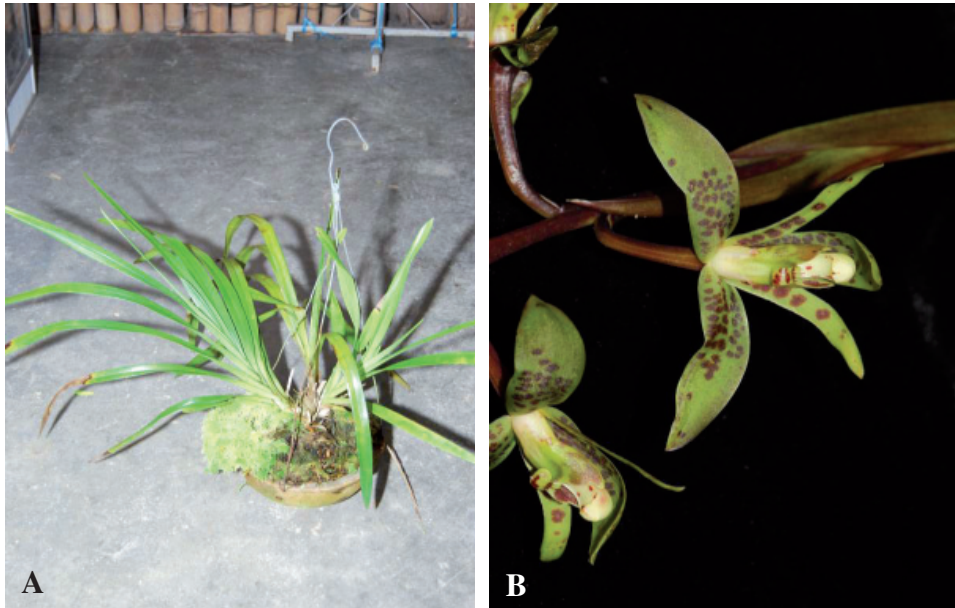


Plate 2. *Cymbidium sigmoideum*. A. Plant habit; B. flower. (Photographs by P.T.Ong)

The plant was identified using Comber (1990, 2001). Among Peninsular Malaysian *Cymbidium* it is most closely related to *C. roseum* J.J.Sm. Both belong to sub-genus *Cyperorchis* that is distinguished by the base of the lip being fused to the column. However, it is clearly set apart from *C. roseum* by the midlobe of the lip that is narrowly oblong, tongue-like and strongly recurved, with an acute tip, also a column that is longer than the lip. Comber (2001) mentioned a callus at the base of the midlobe but this was not observed here. We also observed that anthesis commenced with flowers at the apex and continued towards the base of the inflorescence.

4. *Dendrochilum bandaharaense* J.J. Wood & J.B. Comber
Lindleyana 10 (1995) 57; Comber, Orchids of Sumatra (2001) 398.

Specimen examined: Pahang. Cameron Highlands, Ong P.T. et al. FRI 57305, 24 Oct 2007 (KEP).

The plant was identified using Comber (2001). *Dendrochilum bandaharaense* J.J. Wood & J.B. Comber was until now regarded as endemic in Gunung Bandahara in the Gunung Leuser Nature Reserve, Aceh Province of

Sumatra. Among the Peninsular Malaysian species, it is most similar to *D. odoratum* and *D. simile* that have entire margins (a character not mentioned in Seidenfaden & Wood, 1992) and from which it differs in having serrate margins on the hypochile of the lip. In addition, it has pale salmon-creamy flowers and the apical wing has more pronounced teeth.

Acknowledgements

The authors are grateful to Kueh Hock Leng for assistance in the field, Abdul Aziz bin Mohd. Top, Johor National Parks Corporation, for access to their *ex situ* collection and to Tai Ngong Chiang from Cameron Highlands, Pahang. This work was in part made possible through the Flora of Peninsular Malaysia Project (Project No. 01-04-01-0000 Khas) funded by the Ministry of Science, Technology and Innovation (MOSTI). Jaap J. Vermeulen provided valuable advice and reference materials while Ruth Kiew assisted with the manuscript.

References

- Comber, J.B. 1990. *Orchids of Java*. Royal Botanic Gardens, Kew, England.
- Comber, J.B. 2001. *Orchids of Sumatra*. Natural History Publications, Kota Kinabalu, Malaysia.
- Jutta, M. 2004. *Phaius indigoferus* Hassk.: A new record for Malaysia. *Folia Malaysiana* **5**, 1: 17-20.
- Jutta, M. & Q.Z. Faridah. 2005. *Malaxis inexpectata* and *Habenaria paradiseoides* (Orchidaceae), new records for Peninsular Malaysia. *Gardens Bulletin Singapore* **57**: 263-267.
- Seidenfaden, G. 1986. Orchid genera in Thailand 13. Thirty three epidendroid genera. *Opera Botanica* **89**: 1-216.
- Seidenfaden, G. & J.J. Wood. 1992. *The Orchids of Peninsular Malaysia and Singapore*. Olsen & Olsen, Denmark.

Vermeulen, J. J. 1991. *Orchids of Borneo* Vol. 2. Natural History Publications, Kota Kinabalu, Malaysia.

Wong, K.M., M. Sugumaran, J. Jumian & Zulkapli Ibrahim. 2002. New and interesting records for Peninsular Malaysia: *Bulbophyllum lemniscatoides* and *Mischobulbum crassum* (Orchidaceae). *Malaysian Nature Journal* **55**: 183-186.