Taiwania, 55(1): 82-85, 2009

NOTE

Additions to the Genus *Bulbophyllum* (Orchidaceae) in India from Andaman & Nicobar Archipelago

K. Karthigeyan[1*], J. Jayanthi[1] and R. Sumathi[2]

1. Department of Botany, Madras Christian College, Tambaram, Chennai 600 059, India.
2. Foundation for Revitalisation of Local Health Traditions, Bangalore 560 064, India.
** Corresponding author. Email: karthigeyan.murthy@gmail.com*

(Manuscript received 30 June 2009; accepted 30 August 2009)

ABSTRACT: *Bulbophyllum apodum* Hook. f., *B. bakhuizenii* Steenis and *B. longebracteatum* Seidenf. collected from the Andaman & Nicobar archipelago are first reported to the orchid flora of India. Detailed descriptions, illustrations and note on their distribution are provided.

KEY WORDS: Andaman & Nicobar, *Bulbophyllum*, India, New addition, Orchidaceae.

INTRODUCTION

Bulbophyllum Thouars. a genus of pantropical distribution is the largest genus of the family Orchidaceae which comprises about 2400 species distributed worldwide (Vermeulen, 1991; Sieder et al., 2007). In India this genus is the second largest which is represented by 97 species (Sathish kumar and Manilal, 1994). So far, 9 species have been recorded in Andaman & Nicobar Islands of which *B. crassipes* Hook.f. and *B. protractum* Hook.f. also occurs in the mainland India. All the remaining species namely *B. lepidum* (Bl.) J.J. Sm., *B. lilacinum* Ridl., *B. macranthum* Lindl., *B. rufinum* Reichb.f., *B. sessile* (Koenig) J.J. Sm., *B. tenuifolium* (Bl.) Lindl. including the recently reported *B. serratotruncatum* Seidenf. (Karthigeyan et al., 2007) occurs in the Andaman and Nicobar Islands and the adjacent Indochinese and Malesian region.

During our floristic inventorisation in various parts of Andaman & Nicobar Islands three unrecognized species belonging to the genus *Bulbophyllum* were collected from Campbell Bay National Park in Great Nicobar Island. Based on critical study of the specimens and expert opinions received the specimens were identified as *B. apodum, B. bakhuizenii* and *B. longebracteatum*. A thorough scrutiny of literature revealed that these three species were hitherto unrecorded from India. Hence these species are reported as new additions to the orchid flora of India. Detailed descriptions, illustrations and notes on their distribution are provided to facilitate easy recognition of these species in field. A dichotomous key for all the species of *Bulbophyllum* occurring in Andaman & Nicobar Islands is also provided.

TAXONOMIC TREATMENTS

Key to the species in Andaman & Nicobar Islands

1a. Pseudobulbs minute or inconspicuous ……...…… 2
1b. Pseudobulbs well developed, distinct ……..……... 3
2a. Rhizomes creeping; leaves over 10 cm long; petioles long, over 5 cm; flowers many, borne on spikes ……..
……...…….. *B. apodum* (Sec. Aphanobulbon)
2b. Rhizomes pendulous, not creeping over the substrate; leaves under 3 cm long; petioles inconspicuous; flowers solitary, directly borne on the rhizome ……..…… *B. sessile* (Sec. Oxysepalum)
3a. Flowers in umbels or subumbels …… 4
3b. Flowers solitary or in spikes ……...…… 7
4a. Inflorescence arising from the base of the pseudobulb; lateral sepals connate, more than twice as long as the dorsal sepal …….
……. 5 (Sec. Cirrhopetalum)
4b. Inflorescence arising from the rhizome; lateral sepals free, as long as the dorsal sepal …… 6 (Sec. Desmosanthes)
5a. Lateral sepals 1-1.8 cm long; column wings rounded and entire at apex …… *B. lepidum*
5b. Lateral sepals 2-3 cm long; column wings truncate and dentate at apex ……..…… *B. serratotruncatum*
6a. Pseudobulbs c. 1 cm long; flowers creamy – white, opening widely; petals lanceolate …… *B. protractum*
6b. Pseudobulbs 1.5-3 cm long; flowers greenish – yellow, not opening widely; petals ovate – oblong …… *B. bakhuizenii*
7a. Flower solitary ……...…… 8
7b. Flowers many ……..…… 9 (Sec. Careyana)
8a. Leaves upto 6 cm long; inflorescence arising from the base of the pseudobulb; flowers under 1.5 cm across; lip unlobed ……..…
…… *B. tenuifolium* (Sec. Leptopus)
8b. Leaves over 10 cm long; inflorescence arising from the rhizome; flowers over 3 cm across; lip 3 – lobed ……..
…… *B. macranthum* (Sec. Sestochilus)
9a. Scape under 2.5 cm long ……..…… *B. crassipes*
9b. Scape over 3 cm long ……...…… 10
10a. Floral bracts more than twice as long as the pedicel; flowers yellow – orange ……... 11
10b. Floral bracts less than twice as long as the pedicel; flowers pale pink ……..... *B. lilacinum*
11a. Inflorescence lax flowered; petals acuminate at apex .... *B. rufinum*
11b. Inflorescence dense flowered; petals long caudate at apex ..……..
…… *B. longebracteatum*

臺灣大學學術期刊資料庫

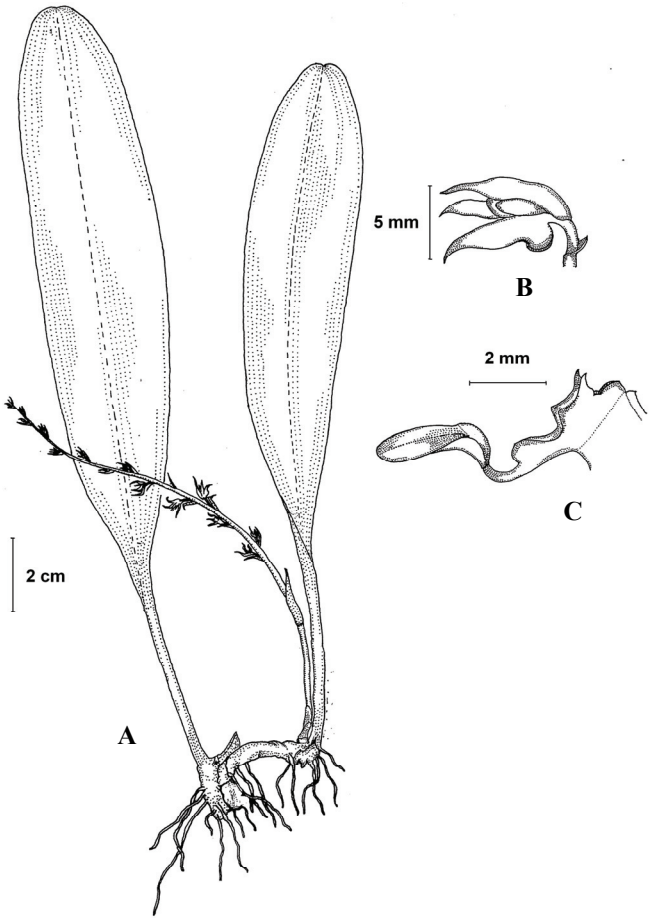


Fig. 1. *Bulbophyllum apodum* Hook. f. A: Habit. B: Flower. C: Lip.

Bulbophyllum apodum Hook.f. Fl. Brit. India 5: 766. 1890; Hook. f. in Ic. Pl. 21. pl. 2043. 1892; Fl. Malay Peninsula 4: 73. 1924; Orchids of Borneo 2: 33. 1991; Opera Bot. 114: 266. 1992; Orch. Pen. Mal. Sing. 463. 1992; Orch. of Sumatra 728. 2001. *B. vaginulosum* Carr, Gard. Bull. Str. Settl. 5: 140, Pl. 4, 1. 1930. ……...…… Fig. 1

Epiphytic herbs. Rhizome creeping, 3-5 mm thick. Pseudobulbs 2-3.5 cm apart. Leaves narrowly elliptic – oblong, 10-15 x 2.5-3.5 cm, rounded to attenuate at base, entire, retuse to emarginate at apex; petioles 5-6.5 cm long. Racemes 13-16 cm long, up to 25-flowered; scape 4.5-6.5 cm long; spike c. 9 cm long. Bracts lanceolate, 4-6 mm long. Flowers creamy-white, c. 9 mm long; pedicel with ovary 3.5 mm long. Dorsal sepal elliptic, 5-6 x 1.5-2 mm, caudate at apex, 1-nerved, glabrous. Lateral sepals free, ovate, 6-6.5 x 1.5-2 mm, broad at base, gradually narrowed, caudate at apex, glabrous. Petals ovate-elliptic, 2.5-3 x 1 mm, obtuse at apex, 1-nerved, margin and upper portion finely papillose. Lip pale yellow, recurved, ovate, 3-3.5 x 1.8-2 mm, margin finely papillose. Column c. 2 mm long; stelidia triangular. Pollinia 2.

Distribution: This species was earlier known to occur in Vietnam, Peninsular Thailand to Sumatra, Java and Borneo. In Great Nicobar Island it occurs commonly in inland evergreen forests from 100 m to hill top forests. Flowering May-June.

Specimen examined: India: Great Nicobar Island, Campbell Bay National Park, Inland evergreen forests, 04 June 2002, *Jayanthi, Karthigeyan* & *Sumathi* 19338 (PBL, SING).

Bulbophyllum bakhuizenii Steenis, Mount. Fl. Java Pl. 36, 3. 1972; Orch. Pen. Mal. Sing. 471. 1992; Orch. of Sumatra 802. 2001. *B. multiflorum* (Breda) Kranzl. Gard. Chron. 1: 294. 1896 (*non* Ridl.); Fl. Java 3: 382. 1968. *Odontostylis multiflora* Breda in Kuhl & Hasselt, Gen. Sp. Orch. sub. t. 4. 1827. Fig. 2

Epiphytic herbs. Rhizome creeping, c. 2 mm thick. Pseudobulbs 3-6 cm apart, cylindric, ribbed, 1.5-3 x 0.3-0.5 cm, flattened at top, oblique. Leaves oblong, 3-8 x 0.6-1.5 cm, rounded – attenuate at base, entire, obtuse at apex. Inflorescence subumbellate, arising from any portion of the rhizome; scape up to 3.5 cm long, slender, c. 5- flowered. Bracts ovate, c. 2 mm long, acute at apex. Flowers greenish -yellow, c. 7.5 mm long; pedicel with ovary c. 3.5 mm long. Dorsal sepal ovate, 5-6 x 1-1.5 mm, 3-nerved, acuminate at apex; lateral sepals ovate, 5-6 x 1-1.5 mm, caudate at apex, 3-nerved. Petals ovate- oblong, c. 2.5 x 1 mm, 3-nerved, acute at apex, hood like. Lip slightly recurved, c. 1.5 x 0.5 mm. Column c. 1.3 mm long. Pollinia 2.

Distribution: This species is earlier known to occur in Java, Sumatra, Borneo and Malaya. In Great Nicobar Island it is rare and found profusely spreading on *Knema andamanica* subsp. *nicobarica* at an elevation of ± 650 m. Flowering May – June.

Specimen examined: India: Great Nicobar Island, Campbell Bay National Park, Inland evergreen forests, 05 June 2002, *Jayanthi, Karthigeyan* & *Sumathi* 19329 (PBL, SING).

Bulbophyllum longebracteatum Seidenf. in Dansk. Bot. Ark. 33(3): 140. 1979; Opera Bot. 114: 275. 1992. Fig. 3

Epiphytic herbs. Pseudobulbs globose-ovoid, 1.5-2 cm long. Leaves oblong, 5-15 x 2-4 cm, obtuse at apex, entire; petioles 4-10 mm long. Inflorescence arising from the base of pseudobulb, up to 15 cm long. Bracts oblong – elliptic, c. 13 x 4.5 mm, acute at apex, 7-nerved. Flowers orange-yellow; pedicel with ovary c. 4 mm long. Dorsal sepal oblong-elliptic, 4-4.5 x 2 mm, hooded, 3- nerved, acuminate

臺灣大學學術期刊資料庫

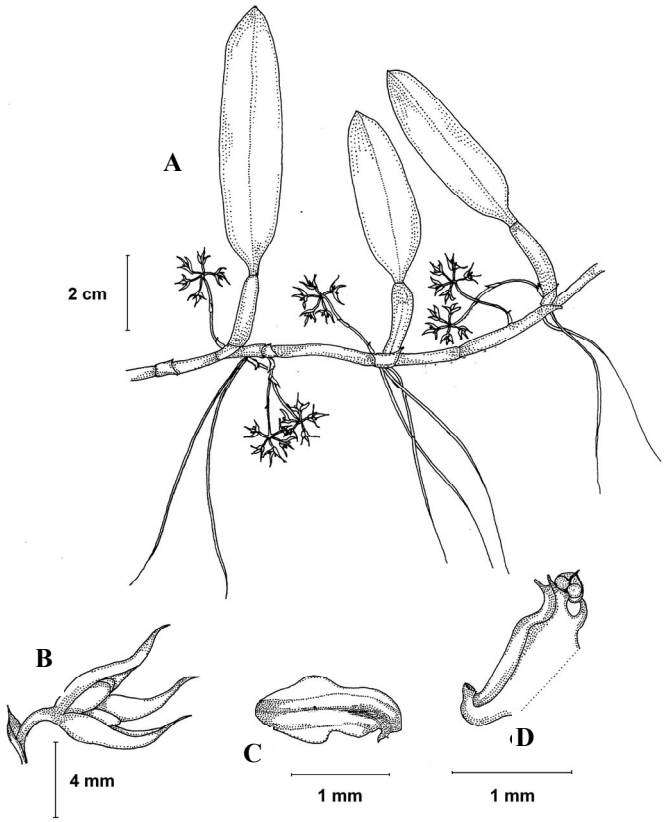


Fig. 2. *Bulbophyllum bakhuizenii* Steenis. A: Habit. B: Flower. C: Lip. D: Column.

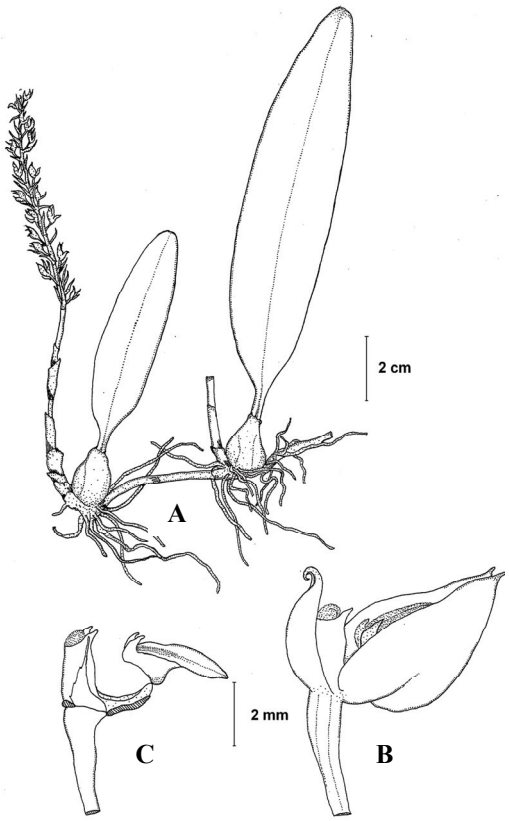


Fig. 3. *Bulbophyllum longebracteatum* G. Seidenf. A: Habit. B: Flower. C: Column with lip.

at apex. Lateral sepals obliquely ovate, c. 7 x 4 mm, acuminate at apex, 4-nerved at base. Petals oblique, c. 1.5 x 1.3 mm, caudate at apex, 1-nerved, distantly serrate along one margin and entire on the other margin. Lip lanceolate, c. 3 x 1.3 mm. Column c. 2 x 1 mm; column foot c. 2 mm long, curved. Stelidia triangular, pointed at apex. Anther c. 0.7 x 0.8 mm. Pollinia c. 0.5 x 0.2 mm.

Distribution: Seidenfaden records the distribution of this species in Thailand and Laos. The present collection shows its extended distribution to Great Nicobar Island. A rare orchid found along the littoral forests, growing on the trunks of *Bruguiera gymnorrhiza.* Flowering January-March.

Specimen examined: India: Great Nicobar Island, Campbell Bay National Park, littoral forests, 02 February 2004, *Jayanthi, Karthigeyan* & *Sumathi* 5831 (PBL, MCCH).

ACKNOWLEDGEMENTS

We thank Dr. M. Sanjappa, Director, Dr. H. J. Chowdhery, Joint Director, Dr. P. G. Diwakar, Deputy Director, Botanical Survey of India for facilities, Dr. D. Narasimhan, Reader & Dr. C. Livingstone, Head (Retd.), Dept. of Botany, Madras Christian College for encouragement. Thanks to Dr. J. J. Vermeulen, Singapore Botanic Gardens for confirming the identity. We also thank the Dept. of Environment & Forests, A & N Islands for granting permission to explore the National park.

LITERATURE CITED

Karthigeyan, K., R. Sumathi, J. Jayanthi and P. V. Sreekumar. 2007. *Bulbophyllum serratotruncatum* Seidenf. (Orchidaceae) – a new record for India, from the Andaman Islands. Ind. J. Forestry **30**: 75-76.

Sathishkumar, C. and K. S. Manilal. 1994. A catalogue of Indian Orchids. Bishen Singh Mahendra Pal Singh, Dehra Dun, India. pp. 63-87.

Seidenfaden, G. and J. J. Wood. 1992. The Orchids of Peninsular Malaysia and Singapore. Olsen & Olsen, Fredensborg, Denmark.. pp. 429-521.

Sieder, A., H. Rainer and M. Kiehn. 2007. CITES checklist for *Bulbophyllum* and allied taxa (Orchidaceae). Botanical Garden, University of Vienna. http://www.cites.org/common/com/NC/tax_ref/Bulbophyllum.pdf (accessed in 2009)

Vermeulen, J. J. 1991. Orchids of Borneo. **2**: 1-342. *Bulbophyllum*. Royal Botanic Gardens, Kew, India.

臺灣大學學術期刊資料庫

印度 Andaman 與 Nicobar 半島豆蘭屬植物 (蘭科) 之新見

K. Karthigeyan[1*], J. Jayanthi[1] and R. Sumathi[2]

1. Department of Botany, Madras Christian College, Tambaram, Chennai 600 059, India.
2. Foundation for Revitalisation of Local Health Traditions, Bangalore 560 064, India.
** Corresponding author. Email: karthigeyan.murthy@gmail.com*

(收稿日期：2009 年 6 月 30 日；接受日期：2009 年 8 月 30 日)

摘要：採集自 Andaman & Nicobar 半島的豆蘭屬植物 *Bulbophyllum apodum* Hook. f., *B. bakhuizenii* Steenis 與 *B. longebracteatum* Seidenf. 均首次在印度被發現。本文提供這些植物之描述，手繪圖與分佈上的註解。

關鍵詞：Andaman & Nicobar、豆蘭屬、印度、新見、蘭科。

臺灣大學學術期刊資料庫