

RESEARCH ARTICLE

Rediscovery and taxonomic note on *Oberonia bellii* Blatt. & McCann (Orchidaceae) in Karnataka after nine decades

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Abstract

Oberonia Lindl. is one of the smallest flowering genera which include miniatures endemic to the Western Ghats. During field survey collected *Oberonia* species and conserved ex-situ. This species was examined after flowering and got to know that this is *Oberonia bellii* Blatt. & McCann which was rediscovered after 91 years of T. R. Bell's manuscript with the characters like habit size, inflorescence length and modification, flower size and leaf arrangements.

Keywords: Epiphytic orchid, faintly scented, Uttarkannada district, Verticilaster inflorescence.

Introduction

Orchidaceae is one of the diversity of all angiosperms. The genus *Oberonia* was first described by Lindley in 1830, who dedicated it to Oberon, the mythological king of fairies. While establishing the genus, *Oberonia* Lindl. is an old-world genus of mostly epiphytic herbs comprising about 300 species (Mabberley, 2017). Recognised 13 species of which four were from India (Lindley, 1963). Ansari & Balkrishnan recorded 41 species of *Oberonia* from India in the year 1990. There are around 1256 species under 155 genera, of these 307 are endemic to India. Out of these 63 *Oberonia* species are recorded (Singh S. K. *et al.*, 2019). Flora of Karnataka analysis by B. D. Sharma *et al.*, (1984), included *Oberonia bellii* Blatt. & McCann. In his survey. Flora of Karnataka monocotyledons records 16 *Oberonia* species including *Oberonia bellii* and *oberonia*

verticiliata is recorded (Laxminarasimhan *et al.*, 2019). Karnataka records 17 *Oberonia* species in the year 2019 (Sanjappa M. & A. N. Sringshwara, 2019).

Oberonia bellii Blatt. & McCann, J. Bombay Nat. Hist. Soc. 35: 256, 1931; B.D. Sharma *et al.*, Fl. Karnataka Anal.: 274. 1984; Laxminarasimhan *et al.*, Fl. Karnataka Anal. 3: 72. 2019; Sringshwara & Sanjappa. Fl. Karnataka Analysis, 2: 547. 2019.

Pendulous epiphytes, 15-18 cm in length. Leaves thick, coriaceous, narrow, ensiform, falcate or sub-falcate, acuminate, broad at the base, 5-8×1 cm; bent outside at the apex. Inflorescence a raceme, many-flowered, pendent, 15-18 cm long, thin, 1-2 mm thick, 7-8 ridges, flowers spirally arranged when young and in verticillaster when old. Bract 1 mm long, greenish-yellow, smaller than bud, lanceolate, acute, fimbriate. Flower bud globose, orange. Flower 1 × 1 mm, highly scented, yellow-orange, arranged rounded on ridges, pedicellate. Dorsal sepal ovate, acute. The lateral sepal is acute, broader at the base and larger than the dorsal sepal. Petal narrower, ovate-oblong, bent backwards. Labellum 1 mm long, 3-lobed, lateral lobes rounded; midlobe with 2-3 ridges, front lobe divided into two lobes; each lobe with lower margin dentate, gland-dotted, nerved. Column orange, with a sack for pollinia, two ends of column are hooked. Anther cap with 2 sacks, white. Pollinia 1 pair, pear-shaped, light yellow Figure 1-3.

Habit: Pendulous epiphytes.

Habitat: Epiphytic on *Gardenia gummifera* L. f. at 1000 meters altitude in association with *Bulbophyllum sterile* (Lam.) Suresh, *Dendrobium macrostachyum* Lindl. and *Pholidata imbricata* Hook.

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Conflict of interest: None.

Table 1: Differences between *Oberonia verticillata* Wight and *Oberonia bellii* Blatt. & McCann

Characters	<i>Oberonia verticillata</i> Wight	<i>Oberonia bellii</i> Blatt. & McCann
Leaf	Leaf 9-12 × 1 cm across, linear, thick, fleshy, acuminate apex, leaf curved inwards.	Leaf 5-8 × 1 cm across, linear, thickly coriaceous, acuminate apex, leaf bent outside.
Inflorescence	Verticilaster at the early stage, when inflorescence elongates forms a spiral arrangement of flowers rounded on each ridge of scape, 10-12 or 18 cm long, thick.	Spirally arranged at the early stage, when inflorescence elongated it forms verticillasters arranged down the scape, 13-18 or 22 cm long, thin.
Flower	Flower whitish-orange, 3 × 2 mm across.	Flower yellowish-orange, 1 × 1 mm across.
Bract	Lanceolate, acute, larger than flower bud, 2 mm long, serrate margin.	Lanceolate, acute, smaller than flower bud, 1 mm long, fimbriate Margin.
Side lobes of the labellum	Side lobes acute	Side lobes obtuse or rounded

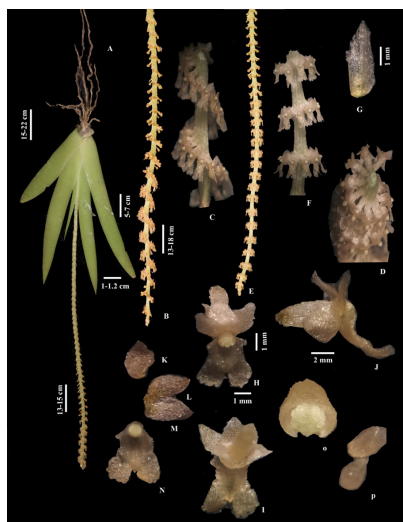


Figure 1: *Oberonia bellii* Blatt. & McCann, A. Habit B. C. & D. Early inflorescence (Spiral). E. & F. Mature inflorescence (Verticilaster) G. Bract H. I & J. Different view of Flowers K. Dorsal sepal L. Petal M. Lateral sepal N. Labellum O. Labellum one side lower lobe P. Pollinia

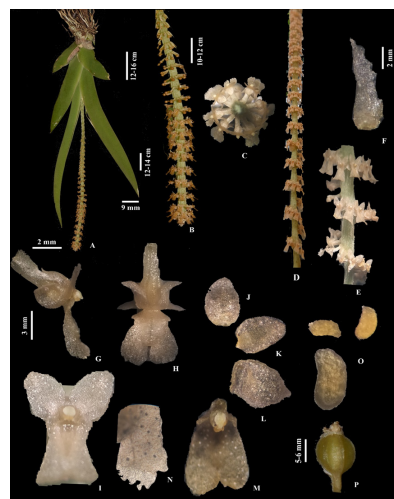


Figure 2: *Oberonia verticillata* Lindl. A. Habit B & C. Early inflorescence (Verticilaster) D. & E. Mature inflorescence (Spiral) F. Bract G. H. & I. Different views of Flower J. Dorsal sepal K. Petal L. Lateral sepal M. Labellum N. Labelum front lobe O. Pollinia P. Fruit

Flowering and Fruiting: July-August.

Distribution: India (Karnataka, Kerala)

Species Examined: India, Karnataka, Uttara Kannada district, Yellapura, Arbail Ghat, 2022, Shreyas Betageri and K. Kotresha, 14°56'11.6"N 74°41'07.2"E, 07-08-2022, 0136 (HKSCD-Herbarium of Karnatak Science College Dharwad).

Discussion

Some authors consider *Oberonia bellii* Blatt. & McCann is the synonym of *Oberonia verticillata* Wight, but there are major differences in both species with characters like habit, leaf, inflorescence and flower size as mentioned in Table 1.

Key to *Oberonia bellii* Blatt. & McCann

- Leaf apex curved inward; inflorescence with leaf scar; flower 2-3 mm long; labellum larger than sepals and petals side lobes acute***O. verticillata***
- Leaf apex curved outside; inflorescence without leaf scar; flower 1 mm long; labellum smaller than sepals and petals, side lobes obtuse***O. bellii***

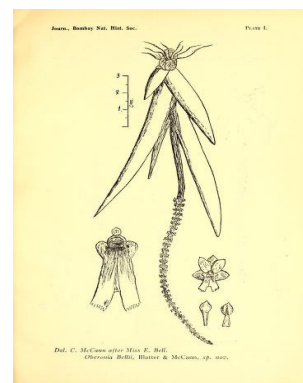


Figure 3: *Oberonia bellii* Blatt. & McCann, sp. nova. Sketch by McCann in the Journal of Bombay Natural History Society (1931)

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