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Seidenfadeniella salimii (Orchidaceae): a new plant species from South Western Ghats, India

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An epiphytic orchid species, *Seidenfadeniella salimii*, is described as a new taxon from Kerala, part of South Western Ghats, India.

Keywords: *Seidenfadeniella*; Orchidaceae; Kerala; new species; South Western Ghats

Introduction

Seidenfadeniella C.S. Kumar is a genus of terete-leaved, pendulous epiphytic orchids which comprises only two species distributed in south Asia (Nayar et al. 2014). According to Sasidharan (2013), *Seidenfadeniella rosea* (Wight) C.S. Kumar is endemic to the South Western Ghats and the other species, *Seidenfadeniella filiformis* (Rchb. F.) Christenson & Ormerod is distributed in south India and Sri Lanka.

Botanical explorations in the forests of Wayanad district in Kerala, part of South Western Ghats, during 2011–15 yielded some interesting specimens of the genus *Seidenfadeniella*. On critical inspection, we consider these specimens to be sufficiently distinctive to warrant taxonomic recognition as a new species, which is described and illustrated here as *Seidenfadeniella salimii*.

Taxonomy

Seidenfadeniella salimii J.Mathew, T.K.Hride, V.B.Sreek. & K.Madhus. **sp. nov.** (Figures 1 and 2).

Diagnosis

Seidenfadeniella salimii (Figure 1) differs from *S. rosea* (Figure 3A) and *S. filiformis* (Figure 3B) in having a white lip (*S. rosea*: rose-coloured lip; *S. filiformis*: orange-yellow lip), lip larger than column (*S. rosea*: lip half as long as the column; *S. filiformis*: lip as long as or shorter than column), spur three times as long as dorsal sepal (less than twice as long in *S. rosea*; up to twice as long in *S. filiformis*), and larger fruits of 10 × 6 mm (*S. rosea*: 8 × 3 mm; *S. filiformis*: 6 × 5 mm).

Type: India, South Western Ghats, Kerala, Wayanad district, Aranamala, 1450 m, 11°29'30" N, 076°06'11"

E, 24 December 2011, *PM Salim 0404* (holo, MSSRF; iso, SESH).

Description

Epiphytes, stem pendulous. Roots numerous, creeping. Stems slender, terete, 10–50 cm long, 3–4 mm broad, dark green, bending downwards, often ascending apically, base covered with remains of sheaths of older leaves; internodes 4–6 cm long. Leaves 9–15 cm long, green, terete, with a ventral groove, acute, articulated with the sheaths which cover the internodes above. Inflorescence short, simple, a densely many-flowered, stout raceme 6–8 cm long. Floral bracts 1.3 × 1 mm, ovate-acuminate. Ovary with pedicel 8 mm long. Flowers c.6 mm diameter; sepals and petals light pink, the petals with a broad green midvein, lip including spur white; column pinkish, pollinia whitish yellow; 6 mm broad. Dorsal sepal 3–3.2 × 1.6 mm, oblong-lanceolate, erect, obtuse or rounded, single-veined; lateral sepals 2.6 × 1–1.2 mm, obliquely subspatulate, obtuse, one-veined. Petals 2.5–3 × 2.2–2.3 mm, orbicular, crenate, rounded, three-veined. Lip spurred; spur large, 11–12 × 1.9–2.3 mm., greatest width of spur, cylindrical-clavate, apex incurved; blade of lip three-lobed, lateral lobes erect, rounded, 4.3 × 1.9–2.1 mm; midlobe small, ovate, 3.3 × 2.1 mm in size, ovate, deflexed, subacute; column 10 mm long, 3 mm broad, with two erect, curved rostellar arms at the apex; foot absent. Anther terminal, bi-loculate, 10 × 0.8 mm; pollinia 2, globose, whitish yellow; each pollinium 0.3 mm in diameter; stipe short, 0.2 mm in length, linear; viscidium oblong and 0.2 × 0.2 mm in size. Fruit a fusiform ribbed capsule, 9–12 mm long, 6 mm in diameter. Seeds minute, numerous.

Phenology

Flowers and fruits observed in October–December.

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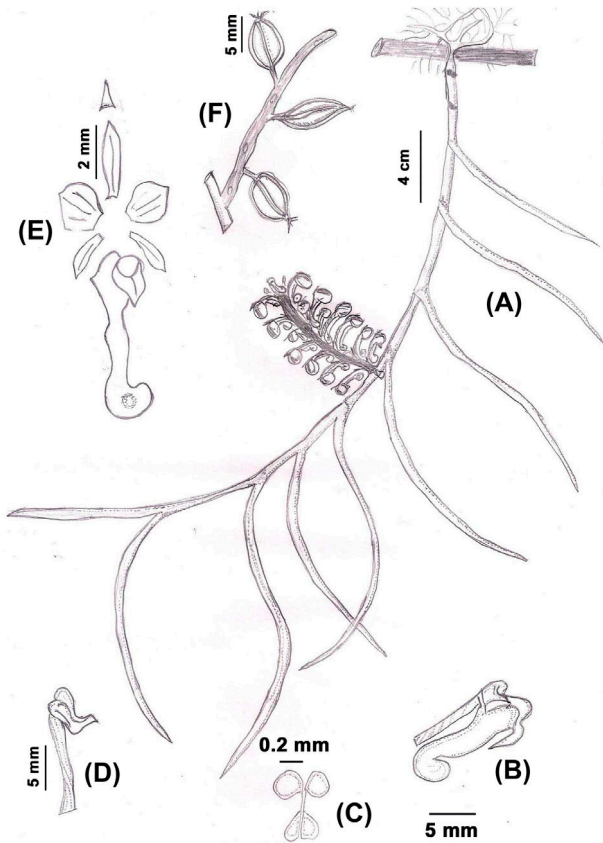


Figure 1. *Seidenfadeniella salimii*. (A) Plant with inflorescences growing on the bark of tree. (B) Lip, column and spur from side. (C) Pollinia. (D) Column. (E) Bract, sepals and petals spread out from front. (F) Fruits. (A–F) Drawn by J. Mathew ©.

Distribution and ecology

Found in montane grassland (altitude ± 1450 m) of the Aranamala Hills, Wayanad, Western Ghats, Kerala, India. Grows on the trunks of *Chionanthus mala-elengi* (Dennst.) P.S. Green ssp. *linocieroides* (Wight) P.S. Green in association with bryophytes. This host species is an endemic species, occupying a very restricted area in the evergreen forests of Aranamala Hills.

Etymology

The species is named in honour of environmentalist Mr P.M. Salim, MS. Swaminathan Research Foundation, Kalpatta, Wayanad, Kerala, India, who first collected specimens of this species, and also for his contribution to plant taxonomy.

Conservation status

Seidenfadeniella salimii is currently known from only three populations in Wayanad forest area, separated by a distance of only 1 km. A total of only 10 mature individuals were found in the area. The data gained from the field studies were evaluated and the threat status of this species has been assigned as ‘Critically Endangered’

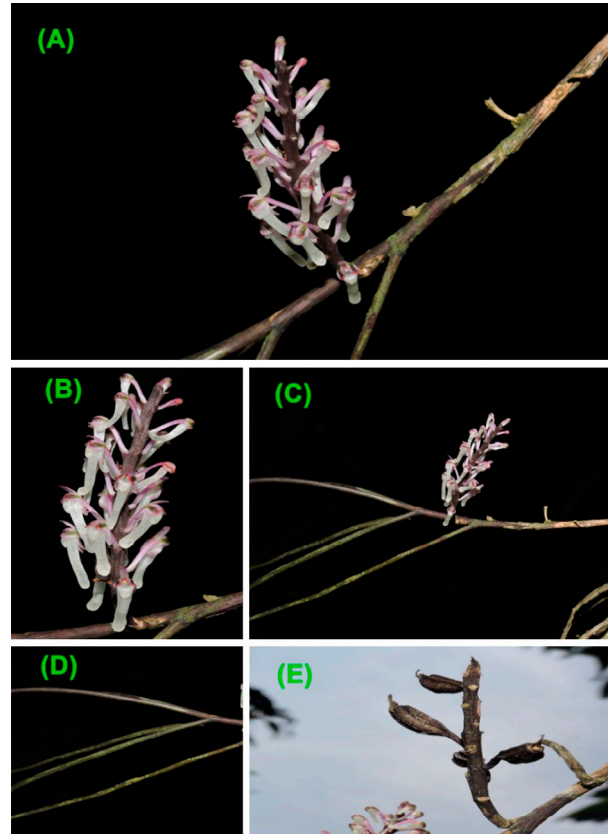


Figure 2. *Seidenfadeniella salimii*. (A–C) Inflorescence. (D) Leaves. (E) Fruits. A–E. Type locality, 24 December 2011, photographed by PM Salim Pichan, 0404 ©.



Figure 3. (A) Inflorescence of *Seidenfadeniella rosea*. (B) Inflorescence of *Seidenfadeniella filiformis*. (A, B) Photographed by J. Mathew ©.

(CR B1ab and 2ab) as per the guidelines of IUCN (2014). Its area of occupancy is $< 1 \text{ km}^2$ and size of the population has declined to ≤ 10 . Based on the above observation, adequate measures should be adopted to ensure the protection of this species in its natural habitat.

Additional specimens seen

India: Kerala: South Western Ghats, Idukki, Kottamala, 1300 m, June 1998, *J. Augustine & K.P. Rajesh 15361* (KFRI); Kollam, Thoovalmala, 1300 m, 18 December 2013, *J. Mathew 4199* (SESH) Wayanad district, 900 Forest, 1450 m, 24 January 2014, *P.M. Salim 0104* (MSSRF).

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