



Gastrodia exilis Hook.f. (Orchidaceae), a new genus and species record for South India

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***Gastrodia exilis* Hook. f. (Orchidaceae), a new genus and species record for South India**

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Abstract

Gastrodia exilis Hook. f., a saprophytic orchid known earlier from North East India and Thailand is reported for the first time from South India. With the collection of this species, the genus *Gastrodia* is also added to South Indian flora. A brief description along with an illustration and notes of the species are also provided.

INTRODUCTION

Gastrodia R. Br. is a primitive saprophytic orchid genus belonging to the subtribe Gastrodiinae of the tribe Gastrodieae (Dressler, 1993). It has about 35 species (Mabberley, 1995) distributed from Madagascar to eastern Siberia and Japan, Indo-Malesia to Australasia and the Pacific Islands. Five species have been reported from India viz., *G. arunachalensis* Hegde et A.N. Rao, *G. dyeriana* King et Pantl., *G. exilis* Hook. f., *G. falconeri* Jones et Clem. [new name for *G. orobanchoides* (Falc.) Benth. ex Hook. f. (1890), non *G. orobanchoides* F. Muell., 1873] and *G. mishmensis* A.N. Rao, all from North Western and Eastern India with no representation from South India. During an exploratory survey in Agasthyamala region in Kerala State, a curious and delicately fragile saprophytic orchid was collected during the monsoon in 1995. It was again collected from a different locality in Agasthyamala during March, 1999. Photographs and illustrations were sent to Mr. Paul Ormerod of Australia who confirmed it as *Gastrodia exilis* Hook. f. This is the first report of the genus and species from South India.

Gastrodia exilis Hook.f., Fl. Brit. India 6:123. 1890 & Hook., Icon. Pl. Fourth Series Pl. 2196. 1894; Joseph et al., Bull. Bot. Surv. India 22 (1-4) : 203. 1980 (1982) (Fig. 1).

G. siamensis Rolfe ex Downie, Kew Bull. 1925: 416. 1925; Seidenfaden, Bot. Tidsskr. 65: 106. 1969 & Dansk Bot. Arkiv. 32(2) : 181. 1978.

G. hayatae Tuyama, J. Jap. Bot. 17 : 58. 1941.

Delicate saprophytic herbs. Tubers 1.4-3.5 x 0.4-1 cm, mostly fusiform to dumb-bell-shaped, sparingly tubercled and slightly wrinkled. Inflorescence 15.5-45 cm high, erect, white

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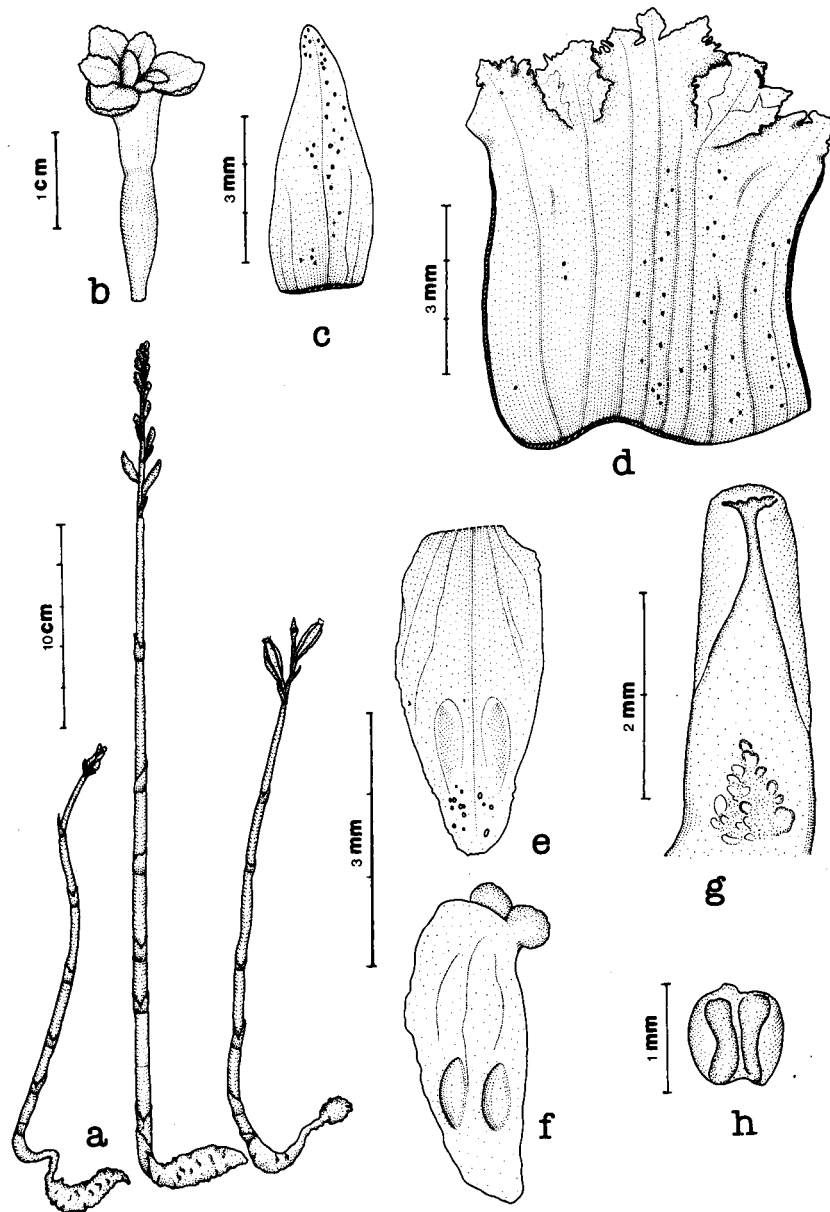


Fig. 1. *Gastrodia exilis* Hook. f.: a. Habit; b. A single flower; c. Floral bract; d. Sepaline tube showing petals; e, f. lip; g. Column; h. Operculum.

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to straw-coloured or light brown, deeply coloured at nodes. Sterile bracts 6-9, lower ones cup-like and clasping the peduncle. Floral bracts 5 x 2 mm, lanceolate, elliptic, 5-veined, gland-dotted, tip obtuse. Flowers 3-12, 1-1.3 cm long, white to slightly mauve coloured, erect. Sepals fused to form a tube of 6.5 mm long with fringed margins. Petals small, margins fringed, set between the sepals on the tube. Lip 3.5 x 2mm, broadly ovate, much smaller than the sepaline tube, 5-veined, obtuse with 2 fleshy lamellae at distal half and 2 calli at base. Column 3.5-4 mm long, thin, and margins slightly winged; stigma grape-like, at base. Operculum 2-celled; pollinia 2, granular. Fruits 2.7-3 x 0.3-0.4 cm, white capsules.

Flowering and fruiting : September-March.

Specimens examined: INDIA, Kerala: Thiruvananthapuram Dt., Agastyamala, 1250 m, 29.09.1995, Sathish Kumar 24418 (TBGT); Agastyamala, on the way to *Paphiopedilum druryi* Hill, 1050 m, 19.03.1999, Suresh Kumar 31324 (TBGT); Meghalaya: Shillong, Khasia Hills, October 1899, Prain's collector 26 (CAL).

Distribution : India (Kerala, Meghalaya) and Thailand.

Ecology: Grows among moist decaying leaves of *Ochlandra* sp. at altitudes 1050-1250 m, and flowers during monsoon.

Notes: This species was described by J. D. Hooker (1890) based on his and Thomson's collections made in September 1850 from Amwee at 3000 feet, Meghalaya. He confessed that he had great difficulty in analyzing the flowers of this species from dried specimen and hence the overlook of presence of a pair of calli at lip-base in the protologue. This was later corrected (Hooker, 1894) when Miss Matilda Smith, the Kew artist provided a carefully made sketch.

After a detailed study of the miserable type specimens of both *Gastrodia siamensis* Rolfe ex Downie and *G. exilis* Hook. f. which were available at Kew, Seidenfaden (1969) opined that it could be one and the same, a view already expressed by Tang in Seidenfaden and Smitinand (1965). But he did not formally reduce *G. siamensis* to *G. exilis* for want of fresh materials from Khasia to compare with his collection from Thailand, and continued to treat *G. siamensis* as a separate species (Seidenfaden, 1978). At the same time, Seidenfaden had little doubt in reducing *G. hayatae* Tuyama (1941) to *G. siamensis* as the types of both the species originated from Doi Suthep in Thailand.

Joseph *et al.* (1982) while reporting the rediscovery of *G. exilis* from Khasi and Jaintia Hills took up Seidenfaden's trail and formally reduced *G. siamensis* Rolfe ex Downie to *G. exilis*. This has now been accepted by Seidenfaden (1995).

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