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Gastrodia verrucosa (Orchidaceae), a new, but not unexpected, record for Thailand

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ABSTRACT. The discovery of *Gastrodia verrucosa* in Thailand gives a better picture of the distribution of that species.

KEY WORDS: *Gastrodia*, Orchidaceae, new record, Thailand.

INTRODUCTION

Seidenfaden (1978) estimated there were about 30 species in the genus *Gastrodia*, occurring from eastern Sumatra to Japan in the north and New Zealand in the south. He recorded 2 species in Thailand, *G. javanica* (Blume) Lindl. and *G. siamensis* Rolfe ex Downie (= *G. exilis* Hook.f.). Recently Suddee (2005) described *G. fimbriata*, a species endemic to Kaeng Krachan National Park, Phetchaburi province. As only one population was found, he stated the need for effective protection of the habitat. Seidenfaden & Wood (1992) recorded *G. verrucosa* from Sumatra and Java, and stated that it also occurs in Japan, on the Bonin Islands and Ryukyu Islands. They then noted that 'the large gap between the two distribution areas seems to call for fuller study'. The discovery of this species in Thailand fills part of that large gap.

NEW RECORD

The recently collected specimen from Thailand was found in the rainforest of the Soi Dao mountains in Chanthaburi province in the southeast of the country. The single plant seen was growing at 1200 m altitude. The only access to the area is by a walking trail that starts at about 300 m altitude. The date was 22nd October (2008) and October is the wettest month of the year in the area. Climbing in heavy rain from 300 m to 1200 m on often steep, slippery tracks is rather discouraging for most botanists and individual plants of *Gastrodia verrucosa* are small and relatively difficult to see, so it is likely the plant is more common than the one collection suggests. It possibly also occurs in Cambodia because the collection location is less than 30 km from the Cambodian border and there are similar mountains and habitats on the Cambodian side of the border.

KEY TO THE SPECIES OF GASTRODIA IN THAILAND

1. Lateral sepals only joined to each other at the base; lip usually >8 mm long **G. javanica**
1. Lateral sepals joined for most of their length; lip usually <8 mm long

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2. Flowers smooth externally, apex of sepals and petals erose
  3. Lip with 2 truncate-rounded calli near apex, apex not fimbriate **G. exilis**
  3. Lip with 2 linear-oblong calli near base, apex fimbriate **G. fimbriata**
2. Flowers warty externally, apex of sepals and petals entire to erose **G. verrucosa**

Gastrodia verrucosa Blume, Mus. Bot. 2: 175. 1856; Comber, Orch. Java: 85. 1990; Seidenf. & Wood, Orch. Pen. Malay. Sing.: 140 (Fig. C–F), 141. 1991; Comber, Orch. Sumatra: 115. 2001.— *Gastrodia holtumii* Carr, Gard. Bull. Straits Settlem. 5: 38. 1929. Fig. 1.

Holomycotrophic rhizomatous geophytes. *Rhizome* tuberous, horizontal, constricted at intervals, fleshy, 3 cm long, 8–10 mm in diam., with fibrous roots. *Inflorescences* erect, to 10 cm long, bearing 2–4 flowers; scape dark brown, fleshy, with 2–3 tubular membranous sheaths. *Bracts* ovate-lanceolate, to 10 mm long. *Pedicels* 0.8–1.2 cm long. *Sepals and petals*, except for the free tips, united into a short campanulate tube, slightly gibbous on anterior part of base. *Sepals* with the free parts orbicular-ovate, 7–8 mm long, 9–10 mm wide at base, pale pinkish-brown, warty outside; dorsal sepal emarginate; lateral sepals slightly larger than dorsal sepal, slightly hooded at apex. *Petals* orbicular-ovate, 4–5 mm diam., margin entire near base, erose at apex. *Lip and column* enclosed by the sepal tube. *Lip* attached below sinus between lateral sepals, ovate-lanceolate, 6–7 by 4–5 mm, apex blunt acute-obtuse, margin irregular dentate, concave, with a thickened emarginate median band below epichile and two small calli at base. *Column* 7–8 mm long, with triangular-acute wing on each side beside anther cap. *Stigma* at base of column. *Pollinia* reddish yellow.

Thailand.— SOUTH-EASTERN: Chanthaburi [Soi Dao Nuea, 22 Oct. 2008, *Harwood* 2030 (**BKF**)].

Distribution.— Japan, Taiwan, Peninsular Malaysia, Java, Sumatra.

Ecology.— In lower montane rain forest. Altitude 1200 m (in Thailand).

Conservation Status.— Locally threatened. With only one location known in Thailand, we are obliged to list the species as threatened. However, as discussed above, it is possibly more common, and the habitat of the one known location is within a large protected area (Khao Soi Dao Wildlife Sanctuary). Outside Thailand *G. verrucosa* has a broad distribution (see above).

Notes.— Tuyama (1982) described *Gastrodia shimizuana* Tuyama from the Ryukyu Islands of Japan, and noted that two other species he had previously described, *Gastrodia confusa* Honda & Tuyama and *Gastrodia boninensis* Tuyama, had been declared synonymous with *G. verrucosa* by Garay and Sweet (1974). We have not had the opportunity to examine specimens of *G. shimizuana*, but suspect that it is also synonymous with *G. verrucosa*, as the characters Tuyama used to distinguish the two species are quite variable.

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Figure 1. *Gastrodia* species in Thailand: A. *G. exilis* Hook.f.; B. *G. fimbriata* Suddee; C. *G. javanica* (Blume) Lindl.; D. *G. verrucosa* Blume. (A. & D. photographed by Bob Harwood; B. by David Middleton; C. by Thamarat Phutthai).

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