

## *Didymoplexiella trichechus* (Orchidaceae), a new species record for Thailand

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**ABSTRACT.** *Didymoplexiella trichechus* (J.J.Sm.) Gray, a mycoheterotrophic orchid, is newly recorded for Thailand. A key to the Thai species of *Didymoplexiella*, a description and illustrations are provided.

**KEY WORDS:** achlorophyllous, mycoheterotrophic.

### INTRODUCTION

*Didymoplexiella* Garay is a small orchid genus with ca. 8 species, distributed in Indonesia, extending to Malaysia, Thailand, China, Taiwan and Japan (Garay, 1954; Seidenfaden, 1978; Comber, 2001; Xiahua et al, 2004; Tsukaya et al., 2005). The genus is very similar to *Didymoplexis* Griff. in habit and flower appearance, however, the former differs in having long stielidia on the column apex and lacking a column-foot (Comber, 2001; Jin et al., 2004; Tsukaya et al., 2005).

In Thailand, Seidenfaden (1978) listed two species of *Didymoplexiella*, namely: *D. ornata* (Ridl.) Garay and *D. siamensis* (Rolfe) Seidenf. Based on herbarium specimens and field surveys in peninsular Thailand, we can here add *D. trichechus* (J.J.Sm.) Garay as a new record for the country. The description and illustrations below are based only on the Thai specimens cited.

### DESCRIPTION

***Didymoplexiella trichechus*** (J.J.Sm.) Garay, Arch. Jard. Bot. Rio de Janeiro 13: 34. 1954; Comber, Orchids Sumatra: 111. 2001.— *Didymoplexis trichechus* J.J.Sm., Bull. Jard. Bot. Buitenzorg, sér. 3, 2: 19. 1920. Fig. 1.

Plant terrestrial, mycoheterotrophic, achlorophyllous. *Rhizome* horizontal, fleshy, tuberous, irregularly cylindrical to fusiform, gradually narrowed to apex, 4–7.3 cm long, 0.4–0.6 cm in diameter. *Roots* few, filiform, arising from neck at the top of rhizome. *Flowering shoot* erect, to 30 cm tall, dark brown, 2–4 mm in diameter at base, unbranched. *Inflorescence* glabrous; peduncle with 2–4 sheaths; sheaths brown, glabrous, tubular, 1–2 mm long, chartaceous, base amplexicaul; rachis 0.5–1.5 cm long, 3- to 10-flowered; floral bracts ovate-triangular, 0.5–1.5 mm long, glabrous, persistent; the flowers placed close together, opening in succession, usually only one flower at a time; pedicel and ovary 5–12 mm long, brown. *Flowers* resupinate, chocolate brown except for the labelum which is white with purplish center; sepals and petals adnate near their base, forming a bilobed short tube; upper lobe formed by dorsal sepal and petals, joined for approximately 2/5–1/2 their length; lower lobe formed by lateral sepals, joined for approximately 2/5 their length. Sepals glabrous, minutely tuberculate outside; dorsal sepal ovate, 6–8.5 by 3–4 mm, apex acute or obtuse; lateral sepals broad ovate-falcate, 6–7.5 by 3.5–5 mm, apex acute to rounded. Petals glabrous, oblique orbicular-ovate, much wider than dorsal sepal, obtuse to rounded apex, margins faintly erose,

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more or less reflexed. *Labellum* trilobed, 6–6.5 by 6.5–7 mm; side lobes obliquely quadrangular, 2.5–3 mm broad, white, apex irregularly denticulate, much longer than midlobe; midlobe suboblong, apex emarginate, with a conspicuous white to light purple 2-lobed callus below apex. *Column* slender, ca. 3–4 mm long, erect, with a pair of linear stelidia at apex; stelidia decurved, ca. 2.5 mm long, with a small tooth at their base; anther cap cucullate, smooth; pollinia 4, coarsely granulate; stigma rounded. *Fruit* a capsule, brown, oblong, 2.5–3 cm long, 2–3.5 mm in diameter.

Thailand.— PENINSULAR: Nakhon Si Thammarat [Khao Luang National Park, Krung Ching, 24 Sept. 2010, *Middleton, Lindsay, Suddee, Karaket & Phutthai* 5525 (BKF, spirit)]; Songkhla [Ton Nga Chang waterfall, 06°56' 41.31"N, 100°13' 06.56"E, 350–500 m alt, 27 May 1985, *Maxwell* 85-543 (PSU, spirit); 19 July 2006,

*Chantanaorrapint* 1212 (BKF, spirit); 29 Jan. 2011, *Phutthai s.n.* (BKF, spirit); 25 Jan. 2014, *Rojchana-umpawan* 107 (PSU, spirit)].

Distribution.— Sumatra (type).

Ecology.— The Thai specimens were found growing with other mycoheterotrophic plants such as *Lecanorchis malaccensis* Ridl. and *Thismia alba* Holttum ex Jonker, in sandy soil covered by leaf litter, under shade in primary lowland evergreen forest, at ca. 150–500 m alt. Flowering and fruiting from January to September.

Notes.— *Didymoplexiella trichechus* is easily distinguished from all other Thai species of *Didymoplexiella* in having a trilobed labellum with emarginate midlobe and denticulate side lobes. At present, three species of *Didymoplexiella* are known from Thailand. Based on comparative data, a key to the species is provided below.

#### KEY TO THE SPECIES OF DIDYMOPLEXIELLA IN THAILAND

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|---|----------------------|
| 1. Labellum entire or trilobed with the side lobes small and much shorter than midlobe  | <b>D. siamensis</b>  |
| 1. Labellum trilobed, side lobes large, much longer than midlobe  |                      |
| 2. Labellum with yellowish callus near the basal part; side lobes entire, with smooth margins; midlobe oblong-lanceolate, apex acute      | <b>D. ornata</b>     |
| 2. Labellum with purple callus near the apex; side lobes with irregularly denticulate margins at apex; midlobe suboblong, apex emarginate | <b>D. trichechus</b> |



Figure 1. A. Habit and habitat; B. Inflorescence, shown side view of flower; C. Flower. Photographed by S. Chantanaorrapint.

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