Hedychium champasakense (Zingiberaceae), a New Species from Southern Laos

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ABSTRACT: A new species, *Hedychium champasakense* (Zingiberaceae), from Southern Laos is described and illustrated. It can be easily differentiated from its closest taxon, *H. speciosum* Wall., by its elliptic leaves, longer ligules with shallowly bilobe apices, the calyx tubes being shorter than the bract, the lanceolate-oblong or spathulate staminodes with the acute to rounded apices, and the sub-orbicular to orbicular labella with the 2-clefted apeces and the short claws. The relationship with other related species is also discussed.

KEY WORDS: New species, *Hedychium champasakense*, Zingiberaceae, Southern Laos.

INTRODUCTION

The genus *Hedychium* J. König is one of the ethnopharmacologically important genera of the family Zingiberaceae. Some species, e.g. *Hedychium coronarium* J. König, *H. gomezianum* Wall., are used medicinally in Thai traditional herbal remedies. The taxa with showy and fragrant flowers are grown worldwide as garden plants.

Gagnepain (1908) listed five species and four varieties from Indochina: *H. coronarium* J. König (var. *maximum* Rosc., var. *flavum* Roxb., var. *flavescens* Carey, and var. *chrysoleucum* Hook.), *H. coccineum* Buch.-Ham. ex Sm., *H. bousigonianum* Pierre ex Gagnep., *H. yunnanense* Gagnep., and *H. villosum* Wall. Three more taxa were later added by Larsen (1965): *Hedychium boloveniorum* K. Larsen (from Laos), *H. poilanii* K. Larsen (from Vietnam), and *H. forrestii* Diels var. *latebracteatum* K. Larsen (from Vietnam).

Seven taxa were recently listed for Laos: *H. boloveniorum* K. Larsen, *H. bousigonianum* Pierre ex Gagnep., *H. coccineum* Buch.-Ham. ex Sm., *H. coronarium* J. König, *H. coronarium* J. König var. *flavescens* Carey, *H. ellipticum* Buch.-Ham. ex Sm., and *H. stenopetalum* Lodd. (Newman et al., 2007). More recently, a new species, *H. chayanianum* Wongsuwan was added (Wongsuwan, 2008).

In this paper a new species from Champasak Province in Southern Laos is described and illustrated.

TAXONOMIC TREATMENT

Hedychium champasakense Picheans. & Wongsuwan, *sp. nov.* Figs. 1 & 2

Type: *Picheansoonthon 859*, Laos PDR, Champasak Province, Dan Nong Luang, the Bolaven Plateau, N 15° 04.330', E 106° 42.152', alt 920 m, 15 June 2005 (holotype BKK, isotype BK, SING).

Hedychio specioso similis, foliis ellipticis infra secus costam pubescentibus, ligula longiore (2.7-3.1 cm vs. *ca.* 2 cm) oblonga apice vade bilobata pubescenti, calycis tubo bractea breviore apice bifido, staminodiis lanceolato-oblongis spathulatisve apice acuto ad rotundato, labello suborbiculari ad orbiculari apice 2-fuisso, unguiculato ungue breviore (6-7 mm vs. *ca.* 15 mm) differt.

Terrestrial, perennial herb. *Pseudostems* 75.5-153 cm high, leaf sheaths red, bladeless sheaths 4-5. *Leaves* sessile; blade elliptic, 12.8-42.5 by 8.0-12.2 cm, base cuneate, apex acute, margin slightly undulate, upper surface glabrous, lower surface hairy along the midrib; ligule light green, oblong, 2.7-3.1 by 1.9-2.2 cm, membranous, pubescent, apex shallowly bilobed. *Inflorescence* a terminal spike, erect, 6.4-13.0 cm long; peduncle 3.5-7.5 cm long, hairy; bracts lax, folded, greenish, oblong, 4.5-4.9 by 2.7-2.9 cm, pubescent, each subtending a cincinnus of 2-4 flowers, apex acute; first bracteole greenish tubular, 2.2-2.5 by 1.7-1.8 cm, apex 2-dent; second bracteole oblong, 1.7-2.0 by 0.9-1.2 cm, apex acute; third bracteole oblong, membranous, 1.05-1.15 by 0.8-1.0 cm; fourth bracteole oblong, membranous, 0.9-1.1 cm by 3.5-5 mm. *Flowers* white to pale yellow, fragrant; calyx tubular, 3.4-3.5 cm by 3-4 mm, apex 2-dent, glabrous; corolla tube slender, 5.9-6.2 cm by 2-3 mm, 3-lobed, lobes linear, apex hooded, yellowish, 3.3-4.4 cm by 2.5-3 mm; lateral staminodes narrowly lanceolate-oblong or spathulate, 2.75-2.8 cm by 7-8 mm, base attenuate into a 3-7 by 2-3 mm claw;

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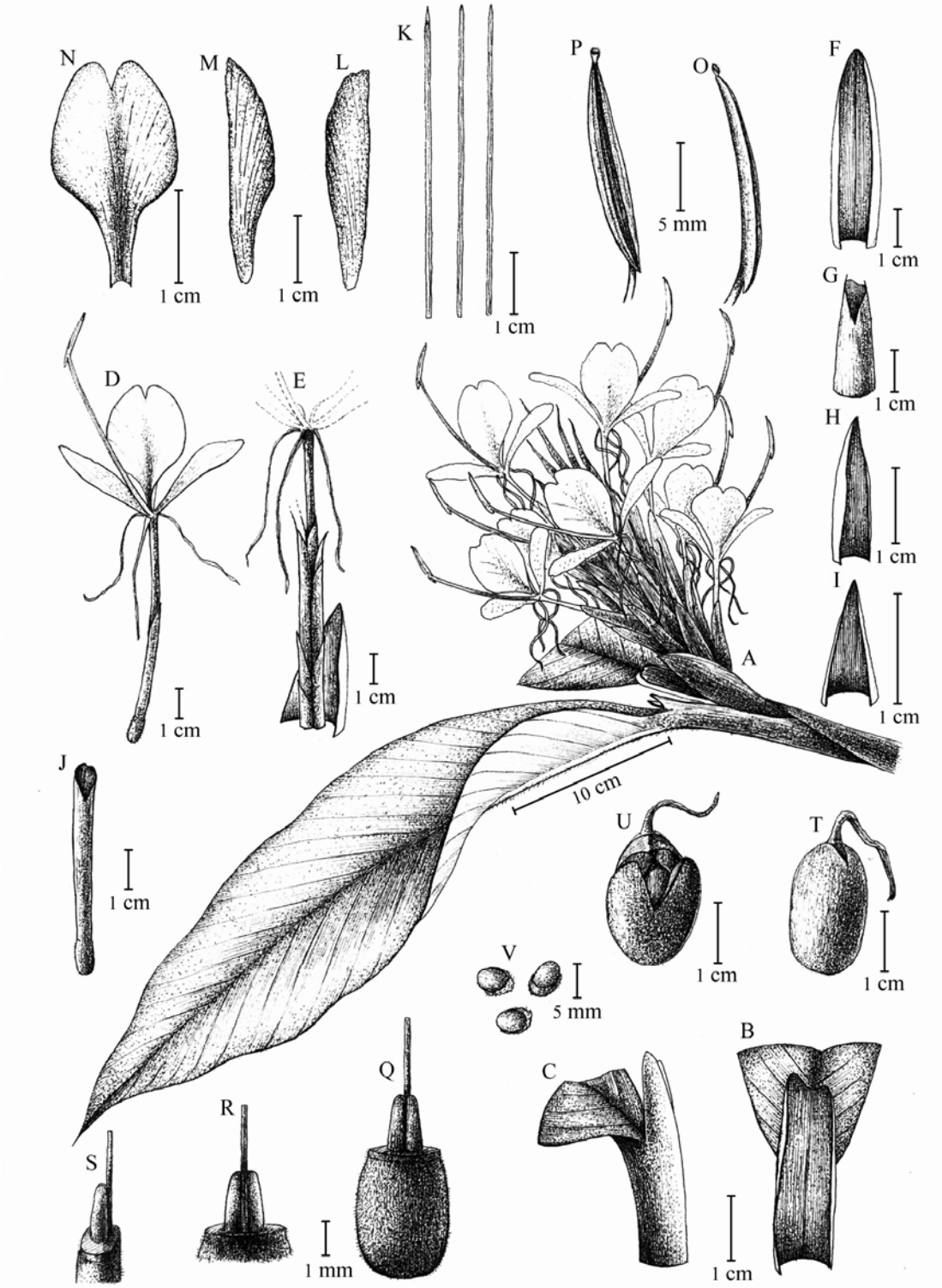


Fig. 1. *Hedychium champasakense* Picheans. & Wongsuwan. A: A flowering top showing leaves and an inflorescence. B, C: Part of a leaf showing a ligule (B. front view and C. side view). D: A flower. E: Lower part of a flower showing bract and bracteoles. F: Bract. G: First bracteole. H: Second bracteole. I: Third bracteole. J: Calyx tube. K: dorsal corolla lobe. L, M: Lateral corolla lobes. N, O: Staminodes. P: Labellum. Q, R: Anther (front and side views). S: Ovary and epigynous glands. T, U: Epigynous glands (T: Back view and U: Side view). V: Fruit. W: A partially dehiscing fruit with seeds inside. X: Seeds. (drawn by Chalermchoke Boonchit)

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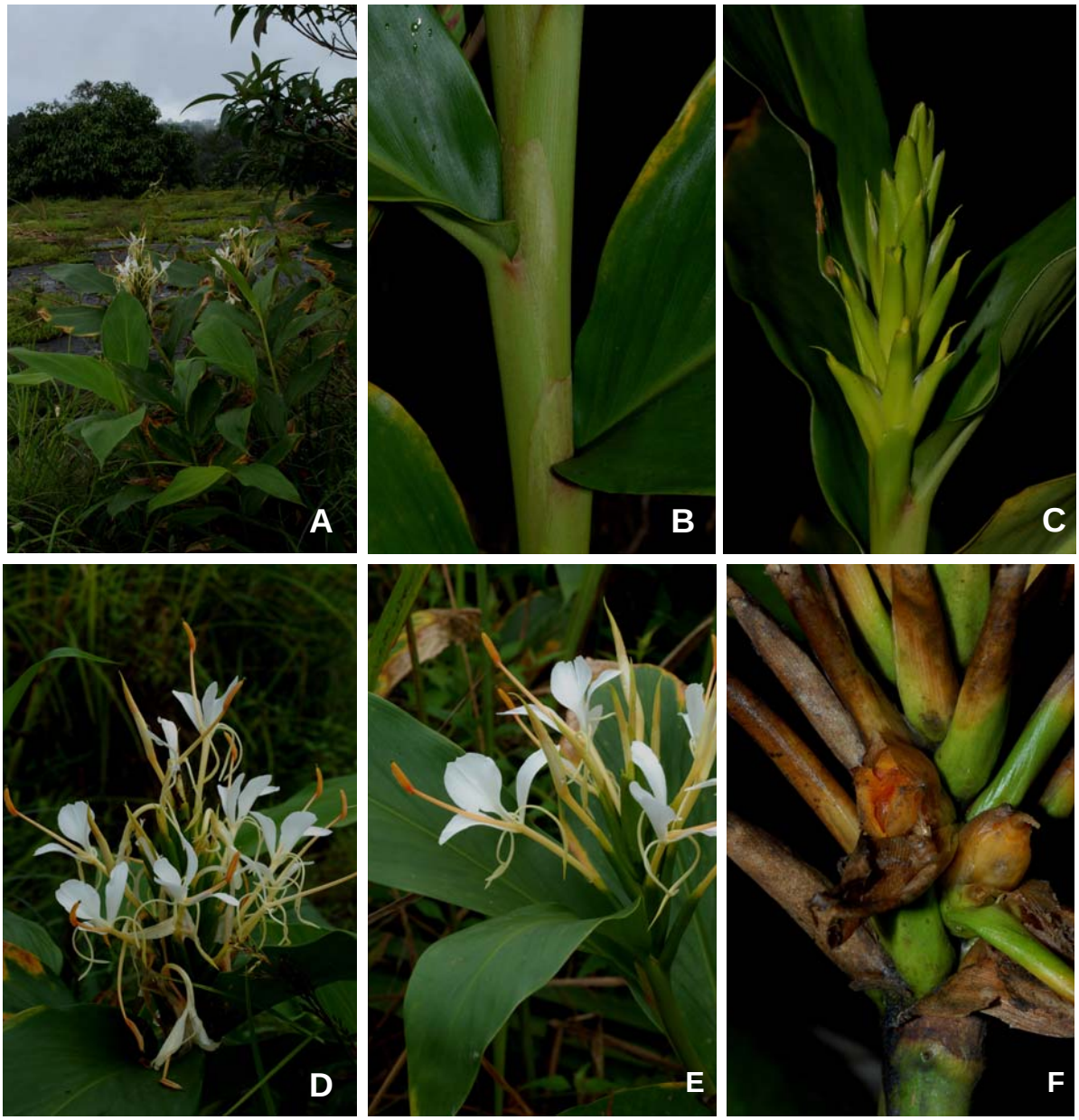


Fig. 2. *Hedychium champasakense* Picheans. & Wongsuwan. A: The flowering plants in the type location. B: Part of the leaves and ligules. C: Young inflorescence, showing bracts. D: An inflorescence. E: Details of the flowers. F: An infructescence, showing a mature fruit and a dehiscing fruit. (photographed by Chayan Picheansoonthon)

labellum suborbicular to orbicular, white with pale yellow patch at the base, 1.7-2.2 by 1.4-1.8 cm, apex 2-cleft, base attenuate into a 6-7 by *ca.* 2 mm claw; filament salmon red, 3.3-3.7 cm long, anther dorsifixed, base divaricate, yellowish, 1.5-1.7 cm by 2-3 mm; ovary pubescent, 1-3 by 1-2 mm, 3-loculed, placentation axile, epigynous glands 2, slender, yellowish, 3-4.5 by *ca.* 0.5 mm, stigma green, densely ciliate. *Fruits* ovate to suborbicular, 1.8-2.0 by 1.6-1.7 cm, greenish, pubescent. Seeds many, reddish orange, ovate to orbicular, 5-8 by 5-6 mm. Flowering July-September, fruiting September-November.

Distribution: This new species is only known from the type location on the Bolaven Plateau of Champasak Province in Southern Laos.

Ecology: This new species grows along the edge of the lower montane scrub and in the open areas of the gap wetland (blanket marsh) vegetation, at the altitude of 930-970 m.

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Vernacular names: Sai-hoen, Wan Sai-hoen, Sai-hoen Pa.

Use: Medicinal.

Note: This new species belongs to the group of *Hedychium* with long anther and emarginated to shallowly-clefted labellum. Based on specimens investigated, it is closest to *Hedychium speciosum* Wall. but can be easily differentiated by its elliptic leaves, longer ligules (2.7-3.1 cm versus *ca.* 2 cm) with shallowly bilobed apices, calyx tube being shorter than the bract, lanceolate-oblong or spathulate staminodes with the acute to rounded apices, and sub-orbicular to orbicular labellum with the 2-clefted apex and the shorter claw (6-7 mm versus *ca.* 1.5 cm).

It is also somewhat morphologically resembled *H. gardnerianum* Sheppard ex Ker. Gawl. and *H. ellipticum* Buch.-Ham. ex Sm. However, the prior taxon can be readily distinguished by its oblong leaf blades, 4-5-flowered bracts and hairy calyx tubes. The latter species can be easily identified by its petiolated and glabrous (both surfaces) leaves, shorter glabrous ligules, 1-flowered bracts, oblanceolate labellum, and glabrous ovaries.

From our intensive fieldwork in southern Laos during the past few years, we can only found a small population of *H. champasakense* in a very small restricted area of the type location. Its type locality is only few meters from the type locations of two other endemic taxa of the family Zingiberaceae, *H. chayanianum* Wongsuwan (Wongsuwan, 2008) and *Jirawongsea burttii* (K. Larsen & Jenjitt.) Picheans. (Picheansoonthon et al., 2008). However, *H. chayanianum* Wongsuwan can be seen in few other localities of the Bolaven Plateau.

Other materials studied: *Picheansoonthon & Wongsuwan 52*, same location, 25 August 2006 (paratype BKK).

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寮國南部薑科蝴蝶薑屬新種

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摘要：本文描述寮國南部蝴蝶薑屬 (薑科) 新種－*Hedychium champasakense* Picheans. & Wongsuwan，並提供圖片。此一新種可藉其橢圓形葉片、較長且尖端些微二裂的葉舌、花萼筒短於苞片、假雄蕊長披針形或呈匙狀且尖端尖至圓形、球形唇瓣之尖端二裂、花瓣柄短等特徵，與其最近似的 *H. speciosum* Wall.區分，與其他相關種的關係也一併予以討論。

關鍵詞：新種、*Hedychium champasakense*、薑科、寮國南部。

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