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A New Species of *Kaempferia* (Zingiberaceae) from Southern Laos

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ABSTRACT: A new species of *Kaempferia* L. (Zingiberaceae) from Southern Laos, *K. champasakensis*, is described and illustrated. This new taxon can be easily recognized by its pure white flowers with the labellum divided two-third to the base and the large white ovate-elliptic to suborbicular anther crest with greatly varied apex. Relationship with other taxa is also discussed.

KEY WORDS: new species, *Kaempferia champasakensis*, Zingiberaceae, Laos.

INTRODUCTION

The family Zingiberaceae is one of the important medicinal families in Thailand. Taxonomic studies on this plant group are essential to set up the baseline information for other related research, especially in drug development.

The genus *Kaempferia* L. is a medium-sized genus of this family with approximately 50 species, mostly distributed from India, South China, to Malesia (Mabberley, 1993). Thirteen species were previously listed for Indochina which included the areas presently part of Northeast Thailand (Gagnepain, 1908). However, eight species were preliminarily listed for Laos PDR (Newman et al., 2007). A new taxon, *K. chayanii* Koonterm, from Southern Laos, was recently added (Koonterm, 2008).

In this paper, a new species, from Champasak Province of Southern Laos, is recognized and the relationship with other related species is discussed.

TAXONOMIC TREATMENT

Kaempferia champasakensis Pichean. & Koonterm sp. nov. Figs. 1 & 2

Type: *Picheansoonthon & Koonterm 52*, Ban Lad Suea, Xanasomboon Town, Champasak Province, Lao PDR., N 15°18.954′ E 105°38.654′, alt. 109 m, 10 June 2007 (holotype BKF, isotype BK, SING).

Kaempferia e roscoanae similis, foliis ovatis ad ovato-lanceolatis apice acuto, bracteis anguste lanceolatis ad linearibus apice acuto, labello vivide albo (basi sine macula lutea) ad circa 2/3 divisis, antherae crista ovato-elliptica ad suborbiculari apice variabili e rotundato ad bilobato apicibus in quoque lobo rotundatis ad acuminatis differt.

Perennial herb, rhizome slender, long creeping, bearing several roots in a fascicle. Leaves 2(-3), sessile, blade horizontal, near the ground, ovate to ovate-lanlceolate, 5.2-7.3 by 0.8-1.6 cm, apex acute, base attenuate to cuneate, margin undulate, both surfaces glabrous; leaf-sheaths 1-2.3 cm long, glabrous; bladeless sheath 2-3, 0.5-2 cm long, glabrous; ligule inconspicuous. Inflorescence sessile, enclosed by the two leaf sheaths. Flowers 2-5; bracts 2, narrowly lanceolate to linear, 0.8-1.3 by *c.* 0.2 cm., apex acute; bracteoles 2, linear *c.* 0.5-1 cm by *c.* 1 mm, apex acuminate, glabrous; calyx tubular, 2-2.5 cm long, split on one side, 0.7-1 cm long, glabrous, apex trident; corolla tubular, 3-4.2 cm long, white, glabrous, dorsal corolla lobe narrowly lanceolate, 1.8-2.3 cm by *c.* 3 mm, apex acute, lateral corolla lobes narrowly lanceolate, 1.6-2 cm by *c.* 2 mm, apex acute. Staminodes pure white, broadly obovate, 1.6-1.8 by 1.2-1.7 cm. Labellum pure white, broadly obovate, 2-2.3 by 1.8-2 cm, divided about two-third to the base, each lobe obovate,1.8-2 by 0.8-1.2 cm. Stamen sessile, anther 2-4 mm long, anther crest ovate-elliptic to suborbicular, 4-7 by 3-4 mm, apex varied from round to bilobe with the apex of each lobe round to acuminate. Stigma funnel-shaped. Ovary cylindrical *c.* 7 by *c.* 5 mm, glabrous, 3-locular, placentation axile, ovules many; stylode 1, filiform, very slender, 7-9 mm long. Fruits fleshy, obovate, 1-1.3 cm by 5-7 mm; Seeds many, narrowly ellipsoid to deltoid, 2-3 by 1-2 mm.

Distribution: This new species is so far known only from the type locality in Champasak Province of Southern Laos.

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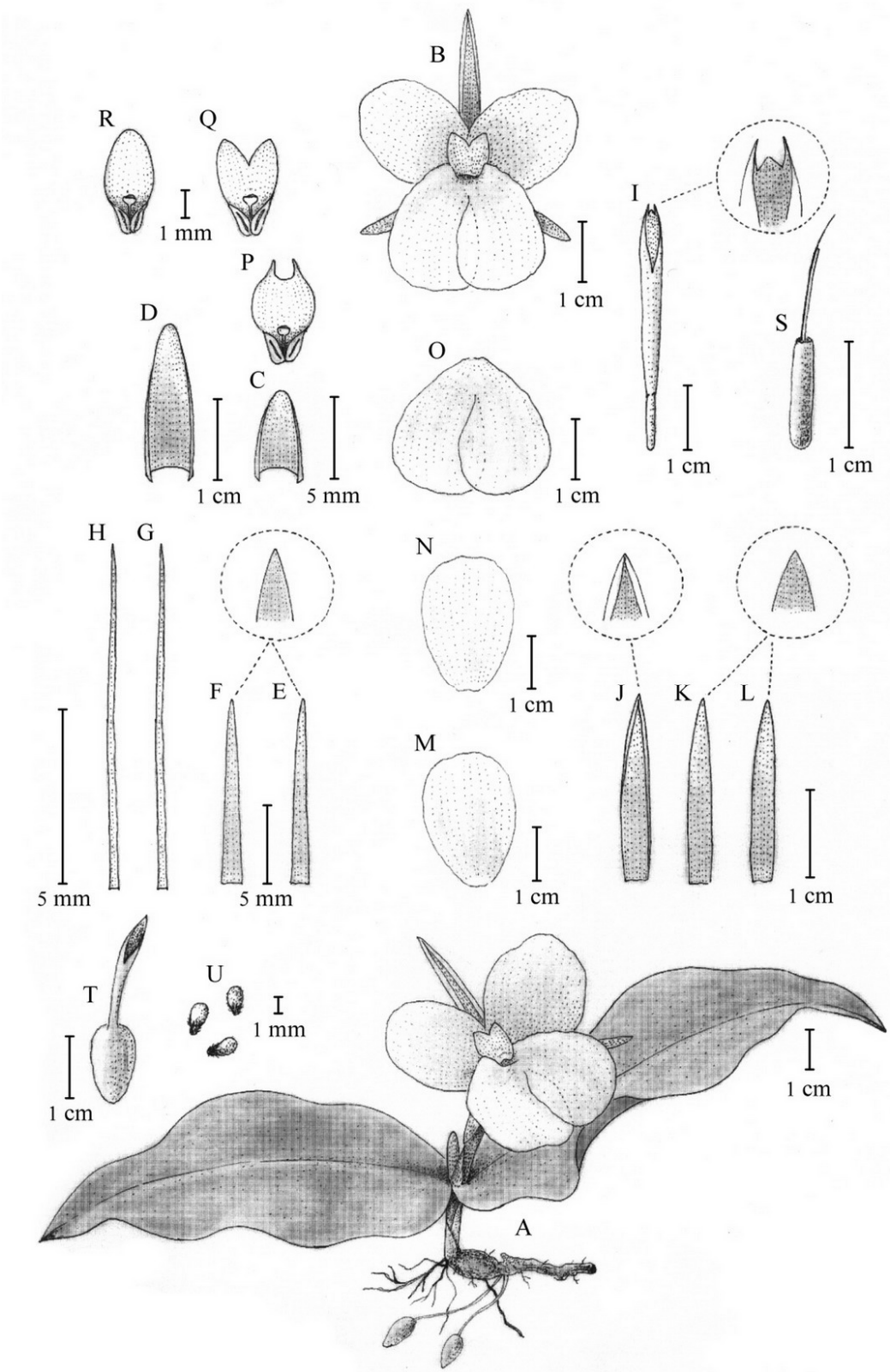


Fig. 1. *Kaempferia champasakensis* Picheans. & Koonterm. A: Habit. B: A flower (top view). C, D: Bladeless sheaths. E, F: Bracts. G, H: Bracteoles. I: Ovary and calyx tube. J: Dorsal corolla lobe. K, L: Lateral corolla lobes. M, N: Lateral staminodes. O: Labellum. P, Q, R: Anthers, stigma and various forms of anther crests. S: Ovary with part of the style and the stylodes. T: Fruit with persistent calyx. U: Seeds (Drawn by Chalermchoke Boonchit).

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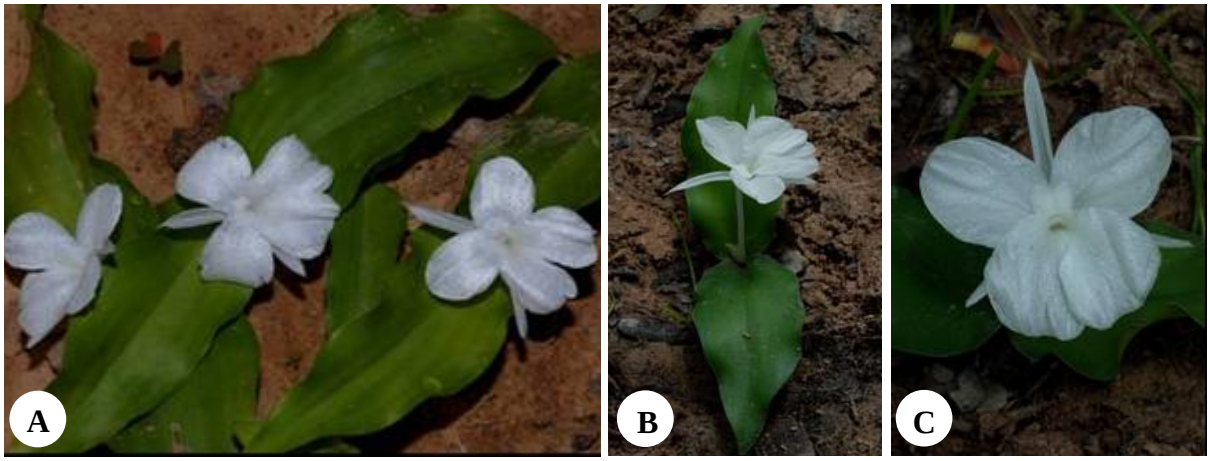


Fig. 2. *Kaempferia champasakensis*. A: The plant habit. B: Leaves and a flower. C: Detail of the flower (Photographed by Chayan Picheansoonthon).

Ecology: This new species grows in the sandy soil along the stream in lowland dry deciduous forest.

Note: The white-flowered *Kaempferia* L. known for Thailand and Laos can be divided into two groups, the *K. candida* group and the *K. roscoeana* group. Flowers of the prior group, which includes *K. candida* Wall. and *K. grandifolia* Saensouk & Jenjitt., appear before the leafy-shoots. *K. candida* is widely distributed and can be found from Northern Myanmar, Southern China, Northern Thailand, Laos and Cambodia. *Kaempferia grandifolia*, however, is so far known only from the type location in Kok Phu-taka of Khon Kaen Province in Thailand (Picheansoonthon and Koonterm, 2008).

The latter group includes *Kaempferia roscoeana* Wall., *K. fallax* Gagnep., *K. fissa* Gagnep., and *K. filifolia* K. Larsen. Although *K. roscoeana* Wall. has white flowers with yellow spot at the base of the labellum, its two large leaves are uniquely broadly ovate to orbicular and horizontal near the ground. *Kaempferia fallax*, *K. fissa*, and *K. filifolia* all have pure white flowers, but their leaves are filiform to linear, and their flowers are night-bloomed (Picheansoonthon and Koonterm, 2008).

This new species can be readily distinguished by its two (rarely 3) ovate to ovate-lanlceolate leaves with undulate margin and acute apex. Its pure white flowers can be easily recognized by the labellum divided two-third to the base and the large white ovate-elliptic to suborbicular anther crest with greatly varied apex, ranged from round to bilobe, the apex of each lobe can be obtuse, acute or acuminate.

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寮國南部薑科山柰屬新種－*Kaempferia champasakensis* Picheans. & Koonterm.

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摘　　要

本文描述寮國南部山柰屬 (薑科) 新種－*Kaempferia champasakensis* Picheans. & Koonterm.，並提供圖片。此一新種可以藉由純白的花、其唇瓣裂至基部三分之二以及卵狀橢圓形至近圓形之大型白色花藥附屬體等特徵易於鑑別，與其他分類群的關係也一併予以討論。

關鍵詞：新種、*Kaempferia champasakensis*、薑科、寮國。

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