Kaempferia koontermii (Zingiberaceae) – A New Species from Thailand

Pornpimon Wongsuwan\textsuperscript{a}, Sitthichok Prasarn\textsuperscript{a} and Chayan Picheansoonthon\textsuperscript{a,b,*}

\textsuperscript{a}Traditional Medicine Research Unit, Faculty of Medicine, Mahasarakham University, 269, Nakhon Sawan Road, Amphoe Mueang Maha Sarakham, 44000 THAILAND; \textsuperscript{b}The Academy of Science, The Royal Institute of Thailand, Sanam Suea Pa, Suriyudhaya Road, Khet Dusit, Bangkok, 10300 THAILAND

*Corresponding author: chayan.p@msu.ac.th

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A new species of the genus Kaempferia, \textit{K. koontermii} (Zingiberaceae), from Changwat Kanchanaburi in western Thailand is described and illustrated. Relationship with closely related taxa, \textit{K. elegans} (Wall.) Baker, \textit{K. glauca} Ridl., and \textit{K. parviflora} Wall. ex Baker, is also discussed.

**Key words:** Kaempferia koontermii, new taxon, Thailand, Zingiberaceae.

The genus \textit{Kaempferia} L. is an ethno-botanically important plant group in Thailand, particularly in traditional and indigenous medicine (Picheansoonthon and Koonterm 2008). It is the medium-size genus of the family \textit{Zingiberaceae}, with about 30 species distributed in Thailand. Several new taxa have recently been recognized for Thailand, including \textit{K. udonensis} Picheans. & Phokham, \textit{K. picheansoonthonii} Wongsuwan & Phokham, and \textit{K. xiengkhouangensis} Picheans. & Phokham (Phokham et al. 2013).

In continuation of our intensive studies of the genus in Thailand, we encountered an undescribed taxon on the limestone hills of Changwat Kanchanaburi in western Thailand. After thorough investigation of the herbarium and living specimens, we recognized it as a new species and named it ‘\textit{Kaempferia koontermii}’. Full description, water-color drawing, and photographic illustrations of this new taxon are presented in this paper.

**Taxonomic treatment**

\textit{Kaempferia koontermii} Prasarn, Wongsuwan & Picheans., sp. nov. \textsuperscript{[Figs. 1, 2]}

This new species is morphologically similar to \textit{Kaempferia glauca} Ridl., but differs in the following characters: (1) lanceolate to ovate bract with acute apex, (2) white broadly obovate staminode, (3) white and broadly obovate labellum with deep purple blotch at the base, (4) labellum with apex divided to one-third, and (5) white anther crest with slightly undulate apex.

**Type:** THAILAND. Changwat Kanchanaburi, Amphoe Sai Yok, Tambon Lumsum, Ban Nong Ped, 14 June 2012, Prasarn, Wongsuwan & Picheansoonthon 140612-1 (B–holotype).

Perennial herb, rhizomes short, erect, with fusiform tuberous root. Leaves 1–2; leaf sheath 2, 5–10 cm long; petiole 1–4 cm long, tomentose; leaf blades, 7.5–20 by 5.5–7 cm, ovate to elliptic,
base cuneate to obtuse; apex acute to cuspidate; margin slightly undulate; upper surface dark green, tomentose, lower surface reddish purple, tomentose; ligules broadly trapezoid 2–4 mm long, apex obtuse, reddish purple, pubescent. Inflorescences spike, peduncle 3.5–14 cm long, white, pubescent; flowers 5–15. Bracts lanceolate to ovate, 3.5–5 by 1.2–2.2 cm, apex acute, reddish-purple to greenish, pubescent. Bracteoles linear to acicular, 1–1.4 cm by ca. 1 mm, apex acute, white, pubescent. Calyx tubular, 2.5–3 cm by ca. 5 mm, split on one side by 1.3–2 cm long, apex acute, reddish purple, pubescent. Corolla tubular, 3.7–4.2 cm long, white, hairy; dorsal corolla lobe lanceolate 1.8–2 cm by 4–6 mm, hooded, apex acuminate, white; lateral corolla lobe lanceolate 1.6–2 cm by 4–5 mm, apex acute. Staminodes white, broadly obovate, 1.6–2 by 0.9–1.3 cm, apex rounded. Labellum white with deep purple blotch at base, broadly obovate, 2–2.7 by 1.8–2.4 cm, divided to one-third, each lobe broadly obovate, 2–3 by 0.9–1 cm, apex rounded, pubescent. Stamen with very short filament; anther 2–4 mm long, anther crest white, reniform, 2–3 by 3–4 mm, apex undulate. Ovary ovate, 3–4 by 2–3 mm, 3-locular, placentation axile, reddish purple, pubescent, ovules many; stylodes 1, filiform,
very slender ca. 5 mm long, white. Fruits fleshy, 1–1.2 cm by 6–7 mm, ovate to obovate, reddish purple, pubescent. Seeds many, obovate, reddish purple, 5–8 by 3–4 mm; capped with whitish aril.

Distribution: This new species is so far known from the type location and its adjacent limestone hills in Amphoe Saiyoke, Changwat Kanchanaburi, Thailand. The distribution range of this new species is an eastern end of limestone foothill of the Tenasserim in southern Myanmar.

Ecology: In limestone rock cleavages along with other gingers, e.g., Globba sp., Boesenbergia curtisii (Baker) Schltr.

Vernacular Name: Krachai Daeng (กระชายแดง).

Etymology: The authors decided to name this new taxon after Mr. Supachai Koonterm, our colleague who has been collecting and studying gingers in Thailand and Laos PDR, including the genus Kaempferia L., for several years. He had authored and co-authored several new Kaempferia and Caulokaempferia species.

Note: The genus Kaempferia L. can be divided into two groups: the ‘K. galanga’ group and the ‘K. rotunda’ group. Inflorescences of the prior group appear after the leaves, whereas inflorescences of the latter group appear before the leaves. This new taxon belongs to the ‘K. galanga’ group. Inflorescences of most members of this group are sessile or shortly pedunculated. However, some taxa of this group possess long, usually variable in length, peduncles protruding from the uppermost leaf sheath(s), of which K. elegans (Wall.) Baker is a good example. Two previously described species from limestone hills, K. parviflora Wall. ex Baker and K. glauca Ridl. also exhibit this characteristic.

At first glance, this new taxon looks somewhat like K. parviflora. However, the hairs on most parts of this new taxon makes it different from other species. After careful investigation of the plant specimens in its natural habitat, it is morphologically closer to K. glauca. Morphological comparison of these three taxa is shown in Table 1. This new species is a variable taxon similar to Kaempferia elegans in many ways, i.e., variation in length of petioles and peduncles within the same species from different populations.

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Literature cited


P. Wongsuwan*, S. Prasarn*, C. Picheansoonthon*a,b: タイ産ショウガ科植物の1新種, *Kaempferia koontermii*

タイからショウガ科の1新種, *Kaempferia koontermii* Prasarn, Wongsuwan & Picheans.を記載した。本種は、同じくタイから知られている *K. glauca* Ridl.に似るが、①苞が披針形〜卵形で先端が尖り、②仮雄ずいが白色で広卵形であり、③唇弁は白く広卵形で基部に紫色の斑点があり、④唇弁は先端から1/3まで二裂し、⑤葯の付属体は先端がわずかに波状縁となることで異なる。産地はタイ西部に位置するChangwat Kanchanaburiの石灰岩地である。

(*タイ・Mahasarakham University, Faculty of Medicine, Traditional Medicine Research Unit, b タイ・The Royal Institute of Thailand, The Academy of Science*)