

Amomum spathilabium (Zingiberaceae: Alpinieae), a new species from northern Thailand

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ABSTRACT

Amomum spathilabium, a new species from Nan Province in northern Thailand, is described and illustrated. It is closely related to *A. subcapitatum* but differs in the labellum shape, anther crest shape and longer ligule. Details on distribution, ecology, etymology, and a preliminary conservation assessment are provided.

KEYWORDS: *Amomum subcapitatum*, Doi Phu Kha, native plant, spatulate labellum, taxonomy.

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INTRODUCTION

Amomum Roxb. (Zingiberaceae: Alpinieae) as currently understood consists of approximately 64 species of which almost 30 were previously recognized as *Elettariopsis curtisii* Baker (De Boer *et al.*, 2018). As currently delimited, *Amomum* species are characterized by having radical inflorescences, bracts subtending single flowers and staminodes small triangulate or oblong, or absent, but never connate to the filament, and the fruit is winged (at least partly), or angled to grooved, (De Boer *et al.*, 2018). The greatest diversity of *Amomum* is found in north-east India and the Indochinese floristic region, with several species in the *Amomum maximum* Roxb. alliance extending to Sundaland (Larsen, 2005). There seems to be a disjunction with no species occurring in Sulawesi and the Philippines, although a few species from the *A. maximum* alliance occur again in New Guinea and wet tropical Australia (northern Queensland).

Our recent exploration in northern Thailand have supported the treatment of *Amomum* and allied genera in Alpinieae for the Flora of Thailand. One species of *Amomum* with a narrow white labellum and winged fruits was collected during the fieldwork by the first author between 2004–2010 in Doi Phu Kha National Park, Pua District, Nan Province. It did not match any of the species treated in the latest revisions of *Amomum* in Cambodia, Laos and Vietnam and

Flora of China. After further examination of the flowers, fruits and comparison of type material and protologues of all known species with winged fruits from other adjacent areas such as India, China, Cambodia, Laos and Vietnam (e.g. Roxburgh, 1820; Wu & Larsen, 2000; Lamxay & Newman, 2012), it is concluded that this collection represent a new species which we describe and illustrate below as *Amomum spathilabium*.

DESCRIPTION

***Amomum spathilabium* W.Kaewsri, sp. nov.** Type: Thailand, northern: Nan, Doi Phu Kha, 19° 12.244' N, 101° 4.948' E, 20 June 2010, Kaewsri-254 (holotype BKF!; isotypes BK!). Fig. 1.

Similar to *Amomum subcapitatum* Y.M.Xia by its winged fruits and leaf blade, but differs in its ligule being longer, bilobed, 5–7 cm long, papery, apex dry at maturity, glabrous; and the glabrous petiole, 7–17 cm long; a comparison of the characters of these two species is given in Table 1.

Clump-forming herb. *Leafy shoots* stout, 5–9 leaves, ca 3 m tall. *Leaves sheath* purplish green, glabrous; ligule bilobed, 5–7 cm long, papery, apex dry at maturity, glabrous; petiole 7–17 cm long; lamina oblong to lanceolate-oblong, 30–85 × 7.5–20 cm, lower surface pale green, densely white pubescent, base cuneate to obtuse, apex acute or acuminate.

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Inflorescence ovoid to broadly ovoid, $5-6 \times 7-8$ cm; peduncle 4–5 cm long; peduncular bract broadly ovate, ca 2×3 cm, papery, apex acuminate; bract broadly ovate, ca 4.5×3 cm, glabrous, apex obtuse, brown, soon disintegrating, subtending ca 35 flowers; bracteole absent. *Calyx* tubular, ca 3 cm long including ovary, apex 3-fid, shallowly split ca 1 cm on one side, outer surface sparsely pubescent, creamy white and pale brown at apex. *Corolla* creamy white, tube ca 3.3 cm long including ovary, dorsal lobe hooded, oblong, ca 2.5×1 cm, apex apiculate, lateral lobes

narrower, apex blunt, hooded. *Lateral staminodes* subulate, ca 1 mm long. *Labellum* spatulate, spreading, ca 2.5×1.5 cm, base attenuate, apex obtuse and lateral margin slightly revolute, white with yellow blotches along mid-band, with pale red veins radiating along mid-band to margin, base white pubescent. *Stamen* creamy white, glabrous; filament ca 2 mm long; anther ca 1.2 cm long, dehiscing lengthwise, sparsely pale red dots along margins; anther crest fan-shaped, entire, spreading, ca 7×1.5 mm, creamy white. *Ovary* cylindrical, ca 8 mm long,

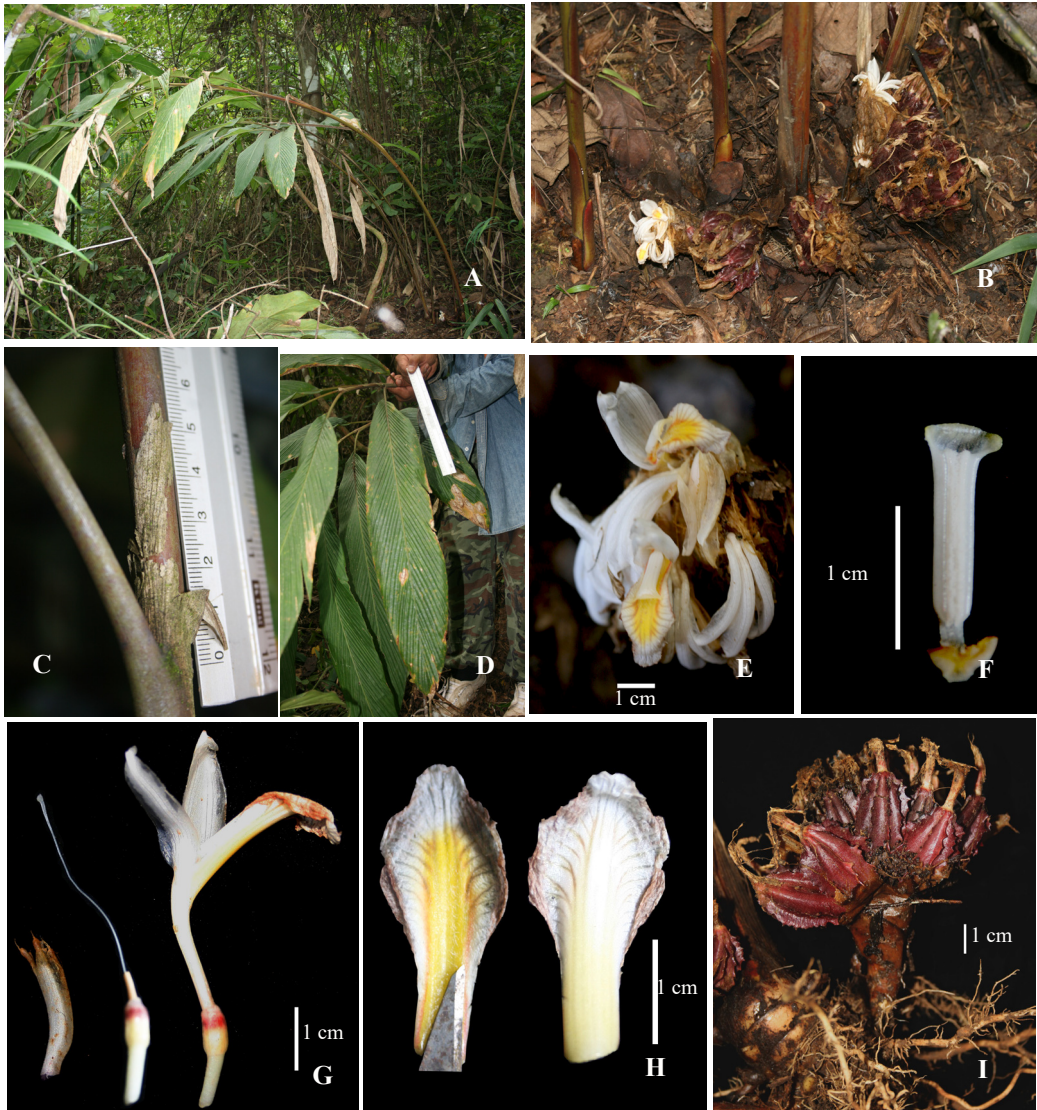


Figure 1. *Amomum spathilabium* W.Kaewsri: A–B. Habit; C. Detail of ligules; D. Leaves; E. Inflorescences; F. Stamen; G. Detail of flower including a calyx, pistil and corolla (from left); H. Detail of labellum (from left): front and back views; I. Infructescence with mature fruits.

smooth, with crimson band surrounding upper half; stigma cup-shaped, aperture narrowly transverse, edge hairy; style glabrous or glabrate; stylodes blunt, ca 5 mm long. *Fruit* 10–30 per infructescence, ovoid, longitudinally 9-winged, 4–4.5 × 2.8–3 cm, crimson, glabrous, calyx remnant ca 2 cm long at apex, fruit stalk 0.5–1 cm long.

Distribution.— Endemic to Thailand

Ecology.— Growing in montane evergreen forest, on the slope of mountain, in light gaps, 1,326 m above sea level.

Phenology.— Flowering and fruiting in June.

Etymology.— The specific epithet of this new species refers to its main distinguishing character, the spatulate labellum shape.

IUCN Conservation status.— In Thailand the species is rare and currently only known from one collection in Doi Phu Kha National Park, Nan Province. This species grows near camping area. Every year, many tourists visit this area which might impact on the species habitat by expanding the camping area. Based on currently available data we therefore provisionally assess this species as Endangered (EN B2 a,b (ii,iii), C2a(i), D) according to the IUCN Red list criteria (IUCN, 2012).

Note.— Morphological differences between *Amomum spathilabium* and *A. subcapitatum* are shown in Table 1.

Table 1. The character differences between *Amomum spathilabium* and *A. subcapitatum*.

Characters	<i>A. spathilabium</i>	<i>A. subcapitatum</i>
ligule length	5–7 cm	1–1.4 cm
labellum shape	spatulate	elliptic
anther crest shape	fan-shaped	2-lobed

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