

***Cornukaempferia larsenii* sp. nov. (Zingiberaceae): A New Species from Thailand**

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ABSTRACT.– A new species of *Cornukaempferia*, *C. larsenii* P. Saensouk is described, illustrated and the key to the three species of the genus is given.

KEY WORDS: *Cornukaempferia*, Zingiberaceae, new species, Thailand

INTRODUCTION

Cornukaempferia is a genus, with two species endemic to Northeastern Thailand namely, *C. aurantiflora* and *C. longipetiolata*. The genus *Cornukaempferia* was established by Mood and Larsen (1997) based on *C. aurantiflora*. Later Mood and Larsen (1999) described the second species, *C. longipetiolata*. During a floristic survey carried out by the first author in Phu Rua and Na Haeo National Parks, Loei Province, a morphologically distinct species of *Cornukaempferia* was discovered.

***Cornukaempferia larsenii* P. Saensouk sp. nov.**

C. aurantiflorae Mood and Larsen simulans, a qua differt: lamina foliorum viridi vel aliquando supra intervenio argenteomaculata; labello introplacato,

campanuloides; inflorescentiis 3-5 floris.

Typus: Thailand, Loei Province, Phu Rua National Park, S. Saensouk and P. Saensouk 145, 22 May 2005, flowering (holotype KKU; isotypes AAU, BK, BKF, K, QBG, PSU).

Perennial rhizomatous herb with appressed leaves, c. 28-40 cm high. Roots yellowish, fibrous with terminal globular to fusiform storage tubers; tuber yellow with a light brown core, slightly aromatic and bitter. Rhizome 2 layers outer layer yellowish white, inner core yellow; diam 1.5-2 cm. Sheaths without leaf 3, green to reddish, sparsely hairy. Leaf sheaths 5-10 cm long, green to reddish, sparsely hairy; ligule short, membranous; petiole 3-8 cm long, green to reddish, glabrescent or sparsely hairy; lamina broadly ovate to suborbicular, 17-26 x 11.8-17 cm; upper surface green, sometimes with few silvery markings between veins, sparsely hairy; lower surface greenish with few white hairs; margin undulate. Inflorescence with 3-5 flowers; bracts ovate, c. 5.2 x 1.4 cm, apex acute, sparsely hairy; bracteoles

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FIGURE 1. *Cornukaempferia larsenii* P. Saensouk sp. nov. **A.** Habit; **B.** Flower. Photos taken from the type locality by S. Saensouk (scale bars A = 10 cm and B = 1 cm).

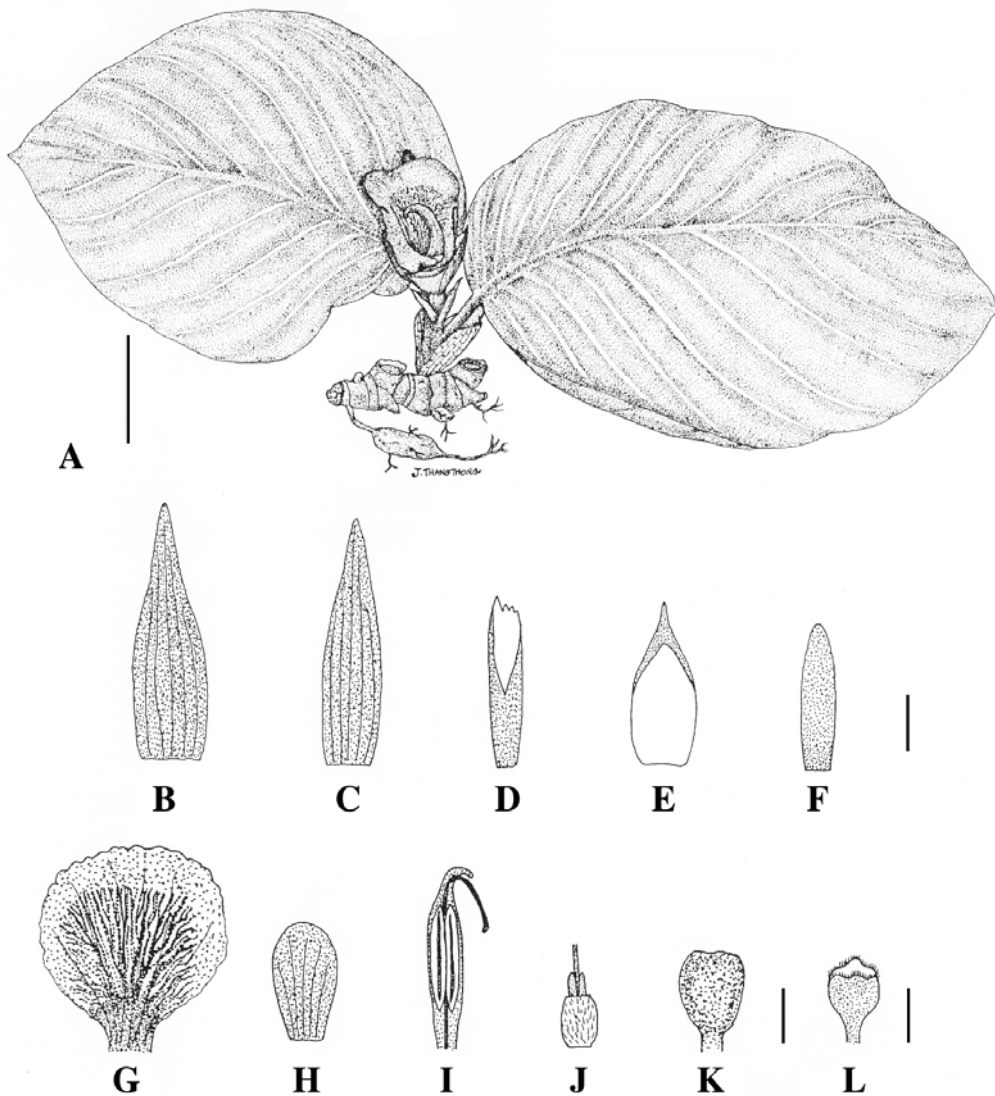


FIGURE 2. *Cornukaempferia larsenii* P. Saensouk sp. nov. **A.** Habit; **B.** Bract; **C.** Bracteole; **D.** Calyx; **E.** Dorsal corolla lobe; **F.** Lateral corolla lobe; **G.** Labellum; **H.** Lateral staminode; **I.** Stamen; **J.** Ovary and epigynous glands; **K.** Fruit; **L.** Stigma; scale bar **A** = 5 cm, **B-K** = 1 cm, **L** = 1 mm. Drawing by J. Thangthong (for **A**) and S. Saensouk (for **B** to **L**).

lanceolate, c. 5 x 1 cm, apex acute, glabrous; calyx tube c. 3.5 x 0.5 cm, split 1 cm on one side, apex tridentate, white, pubescent; corolla tube 2-3.2 cm long, white, glabrous on both sides; dorsal corolla lobe lanceolate to oblong, c. 3 x 1.2 cm, apex hooded, glabrous, red; lateral corolla lobes oblong, c. 3 x 0.6 cm, apex

rounded, glabrous, red; lateral staminodes, oblanceolate, 1.8-2.3 x 1-1.4 cm, glabrous, yellow to orange; labellum, campanuloid, deflexed, yellow to orange with red lines at central, broadly suborbicular, 3-3.5 x 2.5-3 cm, with undulating margin, glabrous. Filament c. 5 mm long, yellow, glabrous; anther c. 2 x 0.5 cm, yellowish, opening

TABLE 1. Comparison of some morphological characters of *C. aurantiflora*, *C. longipetiolata* and *C. larsenii*.

Characters	<i>C. aurantiflora</i>	<i>C. longipetiolata</i>	<i>C. larsenii</i>
1. Cross section of rhizome	2 layers, outer layer white, inner core yellow	3 layers, outermost layer brown, middle yellow-orange, inner core yellow-orange	2 layers, outer layer yellowish white, inner core yellow
2. Petiole length	5-11 cm	9-13 cm	3-8 cm
3. Silvery markings on upper leaf surface	numerous markings	numerous markings	very few markings or absent
4. Colour of lower leaf surface	purple	purple	green
5. Flowers per inflorescence	10-15 (from S. Saensouk and P. Saensouk 148)	10-15 (from S. Saensouk and P. Saensouk 151)	3-5 (from S. Saensouk and P. Saensouk 145)
6. Labellum	broadly deltoid, reflexed	broadly deltoid, reflexed	campanuloid, deflexed
7. Stigma	round, sticky	round, sticky	apex 3-lobed, ciliate
8. Fruit	not seen	not seen	reddish

longitudinally, connective produced into a long, narrow, forwards curved crest. Ovary ellipsoid, sparsely hairy; style curved with the filament and crest; stigma c. 1 x 1 mm, apex 3-lobed, ciliate. Epigynous glands two, c. 4 mm long, glabrous. Immature fruit reddish, subglobose, c. 12 x 8 mm, glabrous (Figs 1,2).

Habitat: In mixed deciduous forest on soil rich in humus, alt. 1,200 m.

Notes: *Cornukaempferia larsenii* is similar to *C. aurantiflora* but differs in having green or sometimes with very few silvery markings between secondary veins on upper surface and greenish on lower surface and campanuloid labellum. The species has 3-5 flowers in the inflorescence while 10-15 flowers in *C. aurantiflora* (Table 1). The leaves and flowers appear in April, the fruits ripen in May. The name of the species honours Prof. Kai Larsen (AAU), an outstanding botanist of the Thai Flora.

Key to species

1. Lower leaf surface purple, upper leaf surface with numerous silvery markings; inflorescence with 10-15 flowers; labellum broadly deltoid, reflexed
 2. Layers of rhizome in cross section 2; petiole 5-11 cm long.....*C. aurantiflora*
 2. Layers of rhizome in cross section 3; petiole 9-13 cm long.....*C. longipetiolata*
1. Lower leaf surface green, upper leaf surface without or with very few silvery markings; inflorescence with 3-5 flowers; labellum campanuloid, deflexed*C. larsenii*

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LITERATURE CITED

- Mood, J. and Larsen, K. 1997. *Cornukaempferia*, a new genus of Zingiberaceae from Thailand. Natural History Bulletin of the Siam Society, 45: 217-221.
- Mood, J. and Larsen, K. 1999. New to cultivation: the genus *Cornukaempferia* in Thailand with description of a second species. The New Plantsman, 6: 196-205.

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