Taiwania, 52(4): 315-319, 2007

A New Species of *Stahlianthus* (Zingiberaceae) from Northeastern Thailand

Arunrat Chaveerach[1,5], Piya Mokkamul[1], Runglawan Sudmoon[2], Tawatchai Tanee[3] and Vicente F. Garcia[4]

(Manuscript received 30 May, 2007; accepted 5 September, 2007)

ABSTRACT: A new species of the genus *Stahlianthus* (Zingiberaceae) from northeastern Thailand, *Stahlianthus pedicelatus* A. Chaveerach & P. Mokkamul is described and illustrated. It is closely related to *S. involucratus* (King) Craib ex Loes., but differs in several characters. The distinctive characters which are different from the closely related species are pseudostems produced after inflorescence withering, flowering in dry season with 1 or 2 small reduced laminas, and labellum white at apex and yellow with a red blotch at base.

KEY WORDS: ***Stahlianthus pedicelatus*, Zingiberaceae, new species, Thailand.**

INTRODUCTION

Genus *Stahlianthus* is a small genus in tribe Hedychieae of family Zingiberaceae. It has distribution range in China, India, Laos, Myanmar, Sikkim, Thailand, Vietnam, and Cambodia (Wu and Larsen, 2000). The genus was established in 1891 with a species, *S. campanulatus* Kuntze (Larsen and Larsen, 2006). However, the botanists have tossed most species back and forth between *Kaempferia* and *Stahlianthus*. In 1904, one more species from the Philippines, *S. philippianus* Loes., was described as a new member of the genus (Schumann, 1904). In the same year *S. campanulatus* was re-considered and transferred to *Kaempferia* by Schumann as *K. campanulata* (Kuntze) Schumann (Schumann, 1904). One species from Laos, *S. thorelii* Gagnep. was later described (Gagnepain, 1907). Later, one species of *Kaempferia*, *K. macrochlamys* Baker (1894) from Tenasserim, Myanmar and northern Thailand was transferred to *Stahlianthus* as *S. macrochlamys* (Baker) Craib (Craib, 1912). Two species from India and Myanmar, *K. involucrata* King ex Baker and *K. andersonii* Baker have been transferred to *Stahlianthus* as *S. involucratus* (King) Craib ex Loes. in 1930 (Loesener, 1930) and *S. andersonii* (Baker) R.M. Smith in 1990 (Smith, 1991), respectively. More one further new species has been recognized, *S. rubromarginatus* from Yunnan, China (Tong, 1995), but four years later, in 1999, it was transferred back to *Kaempferia* by Searle as *K. rubromarginata* (S. Q. Tong) R. J. Searle (Searle, 1999). After these, there is a missing time until to the *S. pedicellatus*. Type specimen of *S. involucratus* (King) Craib ex Loes. (肖嘉 89948, IBSC!) was examined.

There are five species in the genus before this new species being discovered. This genus distinguished from the true *Kaempferia* by its remarkable and conspicuous inflorescences pedunculate, capitate, surrounded by a campanulate involucre bract, leaves narrowly lanceolate, linear, narrowly obovate-oblong, narrowly oblanceolate or to grass-like in a basal tuft. In this paper, the later new species of *Stahlianthus* from northeastern Thailand is described and illustrated. The new species brings members of the genus to a total of six species.

1. Department of Biology, Faculty of Science, Khon Kaen University, Khon Kaen 40002, Thailand.
2. Department of Biochemistry, Faculty of Science, Khon Kaen University, Khon Kaen 40002, Thailand.
3. Faculty of Environment and Resource Studies, Mahasarakham University, Mahasarakham 44000, Thailand.
4. Department of Integrative Biology, University of California, Berkeley, CA 94720, USA.
5. Corresponding author. Tel: 66-4334-2908; Fax: 66-4336-4169; Email raccha@kku.ac.th

Key to the new species of *Stahlianthus*

1. Leaf blades linear, narrowly obovate-oblong or narrowly oblanceolate; labellum apical white, central yellow with a red blotch at base; stigma glabrous ..... *S. pedicelatus*
1. Leaf blades obovate-oblong or lanceolate, labellum white with central yellow blotch; stigma ciliate ..... *S. involucratus*

Stahlianthus pedicelatus A. Chaveerach & P. Mokkamul *sp. nov.* Figs. 1 & 2

Diagnoses: This species is similar to *S. involucratus* (King) Craib ex Loes., but different in

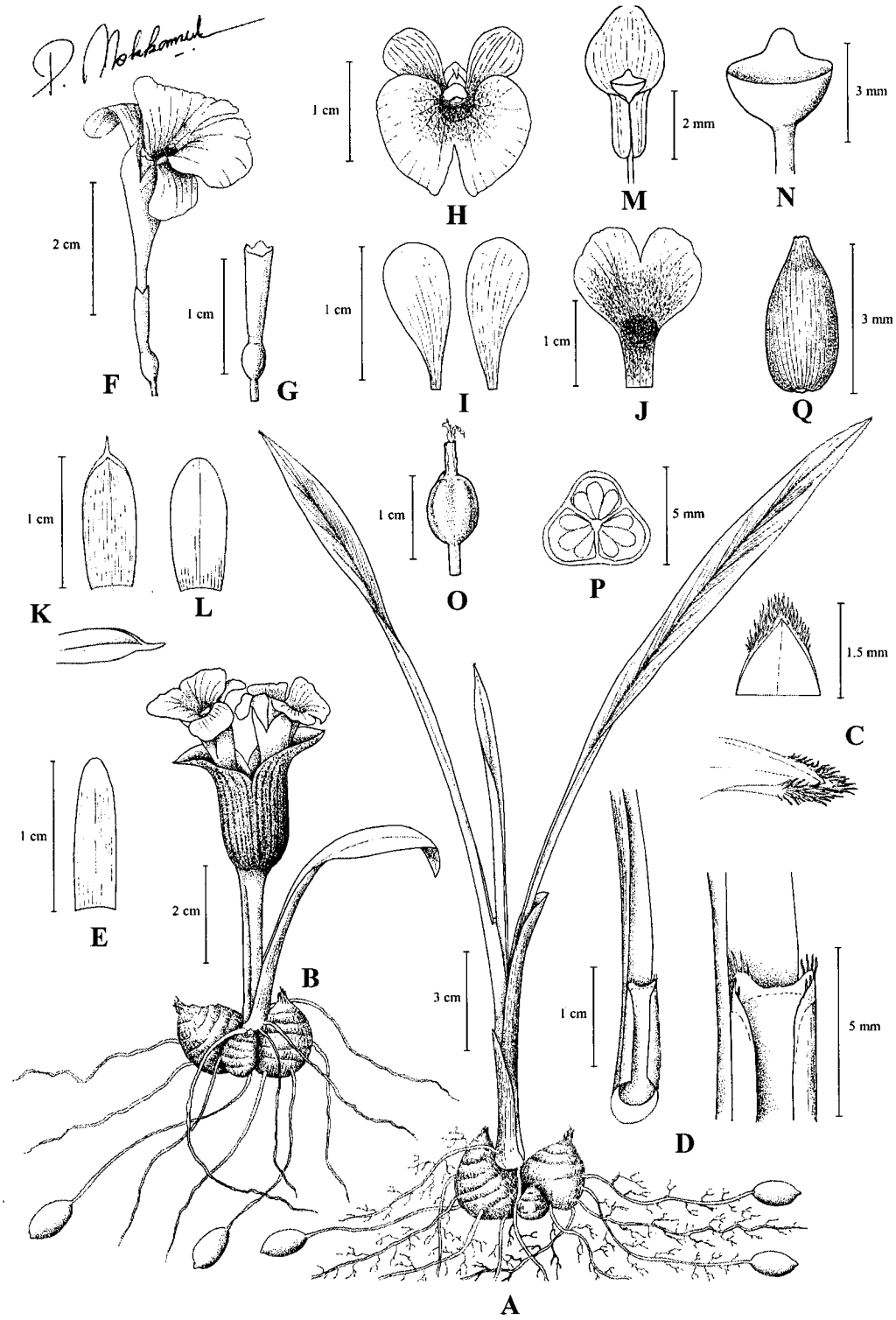


Fig. 1 *Stahlianthus pedicelatus* A. Chaveerach & P. Mokkamul. A: Habit. B: Inflorescence showing bract, flowers and reduced leaf. C: Leaf apex. D: Ligule. E: Bracteole. F: A flower with calyx tube and ovary. G: Calyx tube with ovary. H: A flower (front view). I: Lateral staminodes. J: Labellum. K: Dorsal lobe and L: lateral lobe of corolla. M: Anther, anther crest and stigma. N: Stigma. O: Fruit. P: Cross section of fruit. Q: Seed. (Drawing by Piya Mokkamul).

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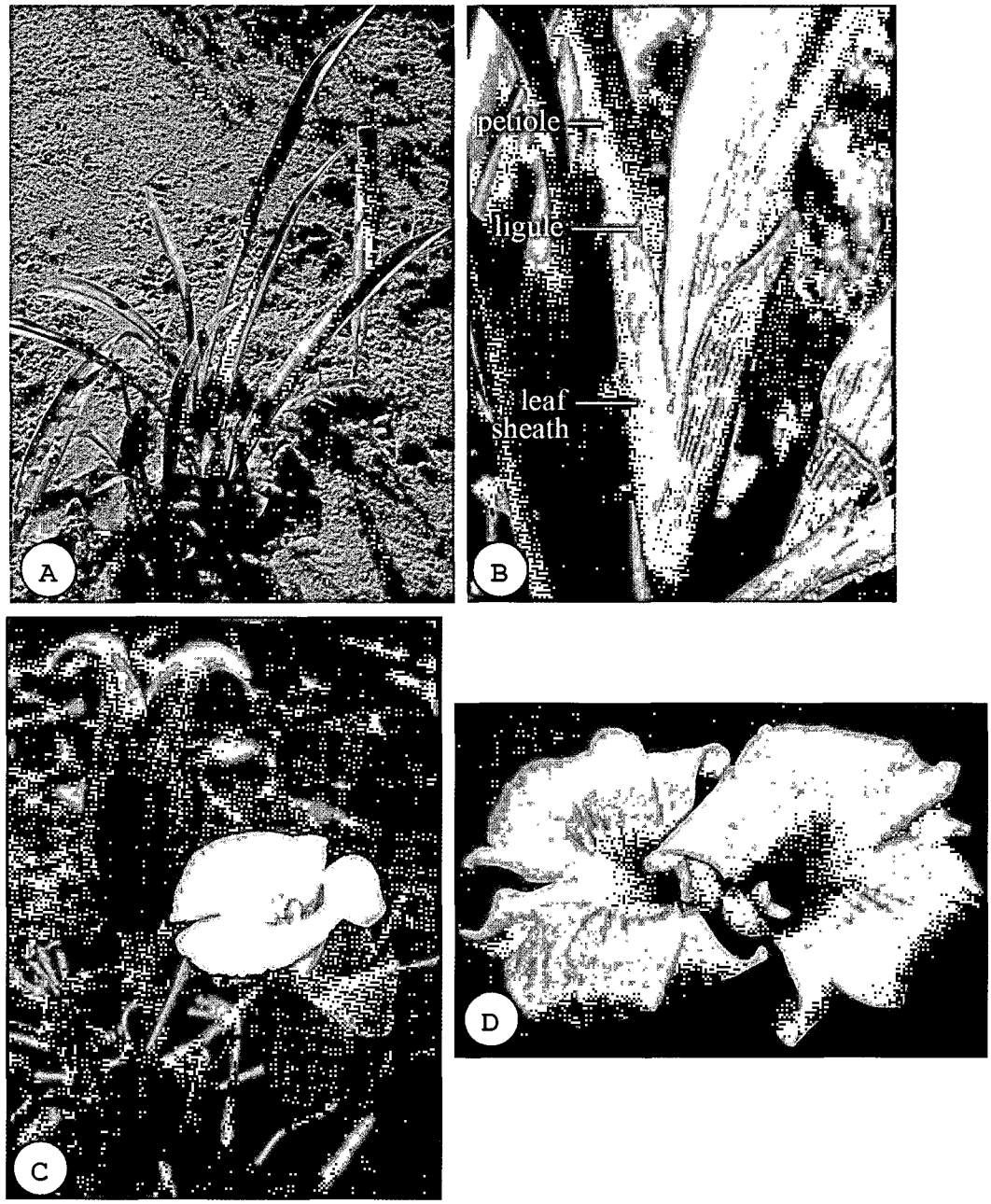


Fig. 2 *Stahlianthus pedicelatus* A. Chaveerach & P. Mokkamul. A: Plant habit showing leaf blades linear or narrowly obovate with under surface purplish-green. B: Very short pseudostems with red leaf sheaths, and short ligule. C: Inflorescences showing campanulate bracts with bilobed apex. D: Flowers showing labella with yellow blotch at the middle and a red blotch at base, apex bilobed, and anther crest apex emaginate. (All photos taken by Piya Mokkamul).

the following characters; pseudostems produce after inflorescences withered; flowered in dry season with 1 or 2 small reduced laminas; leaf blades linear, narrowly obovate-oblong or narrowly oblanceolate, lower surface pubescent; flower with pedicel ca. 0.3 cm long; labellum apical white, basal yellow with a red blotched at base; stigma glabrous.

Latin Diagnoses: Talis species similis est S. involucrato (King) Craib ex Loes., sed dissimilis est in sequentis proprietatis: falsi caules geniti sunt postquam flores emarcescent; ea floret sicco tempo cum una aut duis parvis laminis reductis; folia linearis, brevis ovata oblonga aut brevis elliptica oblonga, ima pars pilo vestita; flos cum caule ca. 0.3

cm longo; labellum apicis album, flavium ad terram cum una macula fulva; stigma glabrum.

Type: Thailand: Nakhon Phanom Province, Pla Pak District, Wang Krabao Village, altitude 200-300 m. *P. Mokkamul & A. Chaveerach 315* (holotype: BKF, isotype: BK)

Annual herbs, rhizomes short, erect, stout, roots fibrous some expanded into globose tubers at apex. Pseudostems 15-30 cm tall, produced after inflorescences withered. Sheaths 2-3, 4.0-8.0 cm by 0.6-0.8 cm, red, greenish-red or green with red stripes, apex acute. Petioles 4.0-6.5 cm long, green, red or reddish green, upper side groove, glabrous. Ligules very short ca. 0.2 cm long, apex bilobed, obtuse to round, ciliate. Leaves linear, narrowly obovate-oblong or narrowly oblanceolate, 12.5-16.5 cm by 1.0-1.5 cm, base narrowly cuneate, apex acute, ciliate, upper surface green with red stripe along the midrib, glabrous, lower surface green, purplish or purplish-green, pubescent. Inflorescences produced from rhizome, erect, 4.5-9.0 cm long, peduncle 3.0-6.0 cm long, flat or cylindrical. Bracts campanulate, 3.2-3.5 cm by 1.3-1.7 cm, apex bilobed rarely trilobed, lobe apex obtuse to acute, reflexed, green with densely stripes from the base to the apex or red, glabrous. Bracteoles linear, 1.0 cm by 0.1 cm, membranous, apex obtuse, glabrous. Flowers 15-30, white, pedicel ca. 0.3 cm long. Calyx tube 8.0 cm by 0.3 cm, membranous, apex trilobed, lobe apex rounded, glabrous. Corolla tubular, ca. 1.5 cm by 0.2 cm, tapering toward at mouth, white, glabrous, dorsal lobe ovate-oblong, ca. 1 cm by 0.4 cm, boat-shape, apex hooded with mucronate ca. 0.1 cm long, white, glabrous, lateral lobe ovate-oblong, ca. 1.0 cm by 0.4 cm, apex rounded, white, glabrous. Lateral staminodes obovate, 1.2 cm by 0.5 cm, inner side hairy, basal yellow, apical white. Labellum spatulate, 1.8-2.0 cm by 1.3-1.5 cm, base claw 0.7 cm by 0.5 cm, central part yellow with a red blotch at base, apex white, emarginated or shortly bilobed, lobe apex rounded and crenate, hairy. Filament very short ca. 0.2 cm by 0.1 cm, flat, white, glabrous. Anther 0.2-0.3 cm by 0.1-0.2 cm, white, glabrous, anther crest ovate, 0.3-0.4 cm by 0.2-0.3 cm, apex obtuse to rounded rarely emarginate, white, glabrous. Stigma cup-shape, with dorsal side median lobe extending ca. 0.05 cm long, white, glabrous. Fruit ellipsoid, 0.7-0.8 cm by 0.4-0.5 cm, triangular, white, glabrous, tri-locular, placentation exile, pedicel ca. 0.3 cm long. Seeds many, ovoid-oblong, 0.3 cm by 0.1 cm, brown, seed coat fissure. Flowering April, fruiting May (Fig. 2).

Vernacular name: Waan Dak Dae, Kra Chaeo Khao.

Ecology: This new species has been found growing on sandy loose soil scattered with sandstone rocks and laterites under the canopy of *Shorea obtusa* Wall. ex Blume and *S. siamensis* Miq. in deciduous forest.

Distribution: Wang Krabao village, Pla Pak district, Nakhon Phanom province in northeastern Thailand, altitude 200-300 m.

Notes: The specific epithet of this new species is named by its conspicuous flower with pedicel that is different from other species in the genus. This discovering showed new distribution range of the genus in the northeast of Thailand. It is closely related to *S. involucratus* (King) Craib ex Loes. by its roots expanded into globose tubers at the apex, bracts erect, apex 2- or 3-lobed, bracteoles linear, membranous, labellum white with a central yellow-blotch, spatulate, apex emarginate. However, this new species is blooming in dry season with 1 or 2 small reduced laminas. These are distinctively different characters from the closely related species.

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泰國東北部土田七屬(薑科)一新種

Arunrat Chaveerach[1,5], Piya Mokkamul[1], Runglawan Sudmoon[2], Tawatchai Tanee[3] and Vicente F. Garcia[4]

(收稿日期：2007 年 5 月 30 日；接受日期：2007 年 9 月 5 日)

摘　　要

本文描繪泰國東北部土田七屬(薑科)一新種： *Stahlianthus pedicelatus* A. Chaveerach & P. Mokkamul。本種非常類似土田七 (*S. involucratus* (King) Craib ex Loes.)，但可以數個特徵區別。與相近類群之區別特徵為偽莖在花序枯萎後產生，乾季開花，具一或二枚小形退化葉片，唇瓣先端白色，基部黃色具紅斑。

關鍵詞：*Stahlianthus pedicelatus*、薑科、新種、泰國。

1. Department of Biology, Faculty of Science, Khon Kaen University, Khon Kaen 40002, Thailand.
2. Department of Biochemistry, Faculty of Science, Khon Kaen University, Khon Kaen 40002, Thailand.
3. Faculty of Environment and Resource Studies, Mahasarakham University, Mahasarakham 44000, Thailand.
4. Department of Integrative Biology, University of California, Berkeley, CA 94720, USA.
5. 通信作者。Tel: 66-4334-2908; Fax: 66-4336-4169; Email: raccha@kku.ac.th

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