

中国爵床科一新记录种——翅柄裸柱草

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摘要: 报道中国爵床科一新记录种——翅柄裸柱草 [*Gymnostachyum sigantum* (Benoist) J. B. Imlay], 并提供了该种的描述。为名称 *Gymnostachyum sigantum* 指定了后选模式。

关键词: 爵床科; 中国; 裸柱草属; 模式指定

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Gymnostachyum signatum, A Newly Recorded Species from Yunnan, China

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Abstract: *Gymnostachyum sigantum* (Benoist) J. B. Imlay (Acanthaceae) is reported as newly recorded species from China. The description of the species is also provided. The lectotype is designated here for the name *Gymnostachyum sigantum*.

Key words: Acanthaceae; China; *Gymnostachyum*; Typification.

Gymnostachyum Nees is a genus of about thirty species of Acanthaceae distributed in tropical region of Asia^[1-3]. It belongs to tribe Andrographideae together with *Andrographis* Nees, *Phlogacanthus* Nees, *Cystacanthus* T. Anderson, *Diotacanthus* Benth., *Graphandra* J. B. Imlay, *Haplanthodes* O. Kuntze and *Indoneesiella* Sreem.^[4-7]

Lo^[8] is the first one to study the genus *Gymnostachyum* from China. In 1979, he described two new species, viz., *G. subrosulatum* H. S. Lo and *G. kwangsiense* H. S. Lo, from Guangxi. The difference between these two species is mainly in the ratio of the limb and corolla tube. Hu et al.^[2] merged them as a single species *G. subrosulatum*. Chu^[9] transferred

Andrographis sinensis H. S. Lo, a species described from Guangxi, to *Gymnostachyum* as *G. sinense* (H. S. Lo) H. Chu. Shui & Chen^[10] reported *Gymnostachyum listeri* Kurz from Yunnan province. In recently published *Flora of China*, Hu et al.^[2] recognized three species from China, viz., *G. listeri*, *G. sinense* and *G. subrosulatum*.

During the floristic surveys of the local flora supported by the project “Theory and Practice on full Conservation of Regional Biodiversity in Xishuangbanna” in 2013, we found that a collection of *Gymnostachyum* represents a newly recorded species from China, i.e., *G. signatum* (Benoist) J. B. Imlay.

Gymnostachyum signatum was originally described

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as *Cryptophragmium signatum* Benoist^[11] based on the gathering Poilane 19722 from Vietnam. We traced three duplicates in herbarium P. Since no holotype was indicated in the protologue, the specimen P00719629

(Fig. 1) with full field notes is here designated as the lectotype of the name *Cryptophragmium signatum*. Since this species has not yet been described in English, the emended full description is provided below.



Fig. 1 Lectotype of *Gymnostachyum signatum*

Gymnostachyum signatum (Benoist) J. B. Imlay, Bull. Misc. Inform. Kew **1939**(3): 128. 1939. *Cryptophragmium signatum* Benoist, Bull. Soc. Bot. France **81**: 602. 1934. Lectotype (here designated!): Vietnam. Dong Nai: Bien Hoa, Cochinchina, km 58 on colonial route 20, forest floor on basaltic soil, Oct. 14, 1931, M. Poilane 19722 (P barcode P00719629!; isolectotypes: P barcode P00719631!, P barcode P00719632!) (Fig. 2).

Isophyllous herbs, perennial, 15–30 cm high. Stems terete, pubescent, with 2 grooves when dry. Leaves opposite; petioles 2.5–6 cm long, winged,

pubescent; leaf blades ovate, 7–10 cm × 5–6 cm, base cuneate, margin entire, apex obtuse, adaxially pubescent and densely covered with linear cystoliths, abaxially pubescent, secondary veins 7–8 on each side of midvein, camptodromous. Spikes terminal and axillary, 5–8 cm long, pubescent. Peduncle 1 cm long, pubescent. Bracts linear, 2 mm × 0.5 mm, pubescent; bracteoles 2, linear, 1.5 mm × 0.5 mm, pubescent. Calyx 5-lobed almost to the base, lobes linear-triangular, 5 mm × 1 mm, covered with long glandular hairs. Corolla 13 mm long, purple, outside pubescent, bilabiate, upper lip minutely 2-lobed, lower lip 3-lobed and inner side



Fig. 2 *Gymnostachyum signatum*. A: Habit; B: Inflorescence; C: Inflorescence; D: Equatorial view of pollen grain

bullate. Stamens 2, inserted at base of throat; filament ca. 4 mm long, glabrous; anther bithecal, theca linear, 2.5 mm long, each with a short spur at base; connectives covered with short glandular hairs. Pollen grains subprolate, $34.39 (31.5-36.7) \mu\text{m} \times 24.75 (23.1-26.0) \mu\text{m}$,

$P/E=1.39$, tricolporate. Ovary oblong-ovoid, 2 mm long, densely glandular-hairy, 2-locular, 10 ovules per locule; style 1.2 cm long, pubescent; stigma unlobed. Capsule linear, densely covered with long glandular hairs.

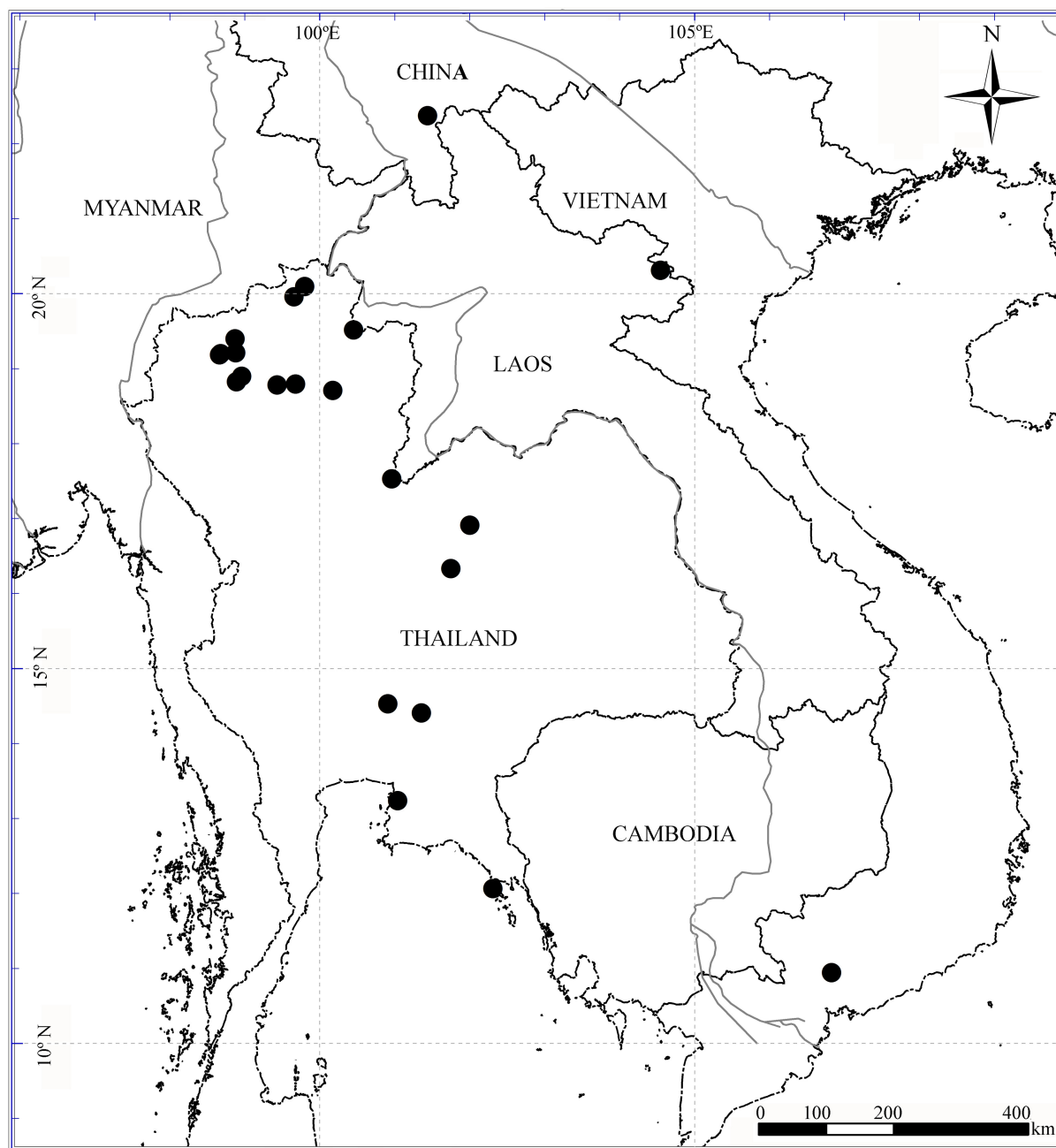


Fig. 3 Distribution map of *Gymnostachyum signatum*

Distribution: *Gymnostachyum signatum* is distributed in China, Laos, Thailand and Vietnam (Fig. 3). It is newly recorded from China.

Habitat: Under evergreen broad-leaved forest,

850 m alt.

Phenology: Flowering September–October; fruiting October–November.

Notes: *Gymnostachyum signatum* can be easily

distinguished from the other three Chinese species of *Gymnostachyum* by its leaf base decurrent onto the petioles forming winged petioles and flowers densely

arranged on the spikes. An identification key to Chinese species is provided below.

Key to Chinese species of *Gymnostachyum*

- 1a. Leaf base attenuate and decurrent on the petioles forming narrow wings *G. signatum*
 1b. Petioles wingless
 2a. Stems very short, less than 5 cm; leaves in a basal rosette *G. subrosulatum*
 2b. Stems elongate, longer than 30 cm; leaves cauline.
 3a. Spikes axillary, several-flowered; corolla red *G. listeri*
 3a. Spikes terminal, few-flowered; corolla yellow *G. sinense*

Specimens examined: **CHINA. Yunnan:** Jinghong Shi, Mengwang Xiang, Manhong, 850 m, Sep. 13, 2013, Tan Yunhong 10329 (HITBC, IBSC); **LAOS. Locality Unknown:** M. Massie s. n. (P). **Hua Phan:** Vieng Xai District, Phoun Mai Village, 350 m, Dec. 5, 2013, Sun Hang et al. 17545 (IBSC, KUN); **THAILAND. Chaiyaphum:** Chaiyaphum District, 600 m, Dec. 20, 1971, C. F. Van Beusekom et al. 4466 (L). **Chiang Mai:** Mueang Chiang Mai District, Me Hia, c. 400 m, Oct. 25, 1922, A. F. G. Kerr 6448 (ABD, BM, K); Muang District, Doi Sutep-Pui National Park, SW side, 1000 m, Oct. 22, 2000, J. F. Maxwell 00-436 (A, CMUB, L, MO); Pong Duad, 700 m, Sep. 4, 1999, P. Suksathan 1753-1 (QBG); Mae Rim District, Mae Sa Fall, Sep. 22, 1994, W. Nanakorn et al. 19026 (QBG); Mae Rim District, 650 m, Aug. 31, 1994, W. Nanakorn et al. 1491 (QBG); Chiang Dao District, Doi Chiang Dao, 575 m, Nov. 11, 1989, J. F. Maxwell 89-1406 (A, CAS, E, L, MO); Chiang Dao District, Ban Bing Hong, 500 m, Oct. 29, 1987, J. F. Maxwell 87-1303 (CAS, L); Chiang Dao District, Doi Chiang Dao Animal Sanctuary, 450 m, Oct. 27, 1990, J. F. Maxwell 90-1193 (A, CAS, L, MO); Mae Dtang District, Mae Lao-Mae Sae Wildlife Sanctuary, 700 m, Sep. 17, 1995, Kai Larsen 46560 (QBG); Mae Dtang District, Pa Pae Wildlife Sanctuary, 950–1100 m, Sep. 17, 1995, W. Nanakorn et al. 4488 (QBG); Mae Dtang District, PaaPae Wildlife Sanctuary, 950–1100 m, Sep. 17, 1995, W. Nanakorn et al. 4513 (QBG); Mae Dtang

District, Geut Chang Subdistrict, Doi Sahng Liang, 1075 m, Aug. 27, 1997, J. F. Maxwell 97-893 (A, CAS, MO); Mae Dtang District, Bah Bae Subdistrict, 925 m, Oct. 14, 1990, J. F. Maxwell 90-1167 (A, L, MO). **Chiang Rai:** Sanaong District, Mae Sahn Subdistrict, Mae Kahn (Karen) Village, 675 m, Oct. 12, 2001, J. F. Maxwell 01-529 (A, MO); Doi Tam Ta Pu, c. 520 m, Oct. 5, 1924, H. B. G. Garrett 202 (ABD, K). **Chonburi:** Siricha District, Kow Kieo, 100 m, Oct. 20, 1975, J. F. Maxwell 75-1061 (L). **Lampang:** Muang Bahn (Pan) District, Jae Sawn National Park, 525 m, Aug. 22, 1995, J. F. Maxwell 95-522 (CAS, CMUB, L); MuangBahn (Pan) District, Jae Sawn National Park, 500 m, Aug. 22, 1996, J. F. Maxwell 96-1099 (CMUB); Chae (Jae) Hom District, Bahn Sah Subdistrict, Doi Pra Bah, 400 m, Nov. 9, 2008, J. F. Maxwell 08-207 (CMUB, QBG). **Loei:** Phu Ruea District, Phu Luang Wildlife Reserve, 29 Sep. 1990, P. Chantarnothai, J. Parnell & D. Simpson 90/460 (K); Phu Kradueng District, Pha Nok Khao, 500 m, 1958, T. Sørensen et al. 2448 (E); Na Haeo District, Ha Haew, Hua Hom, Phu Suan Sai National Park, Sep. 1, 2008, C. Maknoi2694 (QBG). **Nakhon Nayok:** Muang District, Khao Yai National Park, 798 m, Nov. 10, 1999, S. Chongko 41 (CAS, CMUB, L); Muang District, Bin Dahng Subdistrict, KhaoYai National Park, 825 m, Aug. 12, 2000, J. F. Maxwell 00-340 (A, CMUB, L, MO). **Nakhon Ratchasima:** Pak Chong District, 300 m, 29 December 1923, Marcan 1527 (ABD).

Phayao: Chiang Khan District, Rom Yen Subdistrict, Doi Pha Dam, 1030 m, Aug. 15, 2013, W. La-ongsri et al. 3044 (QBG). **Phrae:** Song District, Dow Boom Subdistrict, Mae Yom National Park, 225 m, Dec. 10, 1991, J. F. Maxwell 91-875 (A, CAS, E, L, P). **Saraburi:** Ban Nawang Bua, Sep. 26, 1927, Put 1080 (ABD, BM, K, L); Muak Lek District, Sep. 5, 1928, Put 1896 (ABD, BM, K); Mueang Saraburi District, Sahm Lahn, 150 m, Aug. 24, 1974, J. F. Maxwell 74-837 (L). **Uthaithani:** KlongPluu, 500–600 m, Oct. 21, 1993, Thaya 1237 (QBG). VIETNAM. **Dong Nai:** Bao Chianh, Sep. 1869, L. Pierre s.n. (A, K, P, SING); Bien Hoa, Oct. 14, 1931, M. Poilane 19703 (A, P); Bien Hoa, Oct. 14, 1931, M. Poilane 19722 (P).

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