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Article · October 2018

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DOI:10.3969/j.issn.1000-3142.2011.05.002

越南蛛毛苣苔属(苦苣苔科)植物新记录

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摘 要:报道了2个苦苣苔科(Gesneriaceae)蛛毛苣苔属(*Paraboea*)(C.B.Clarke)Ridl.植物在越南的分布新记录,并列出了每个种的标本引证和地理分布情况。

关键词:越南;苦苣苔科;蛛毛苣苔属;云南蛛毛苣苔;梭氏蛛毛苣苔

CLC Number:Q949.778.4 **Document Code**:A **Article ID**:1000-3142(2011)03-0288-03

Two occurrence taxa in *Paraboea* (C.B.Clarke) Ridl.(Gesneriaceae) for flora of Vietnam

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Abstract: Two *Paraboea* species, *P. neurophylla* and *P. thorelii*, are reported for the first time from Vietnam. The citation of specimens and their distribution is given in the present paper.

Key words: Vietnam; Gesneriaceae; *Paraboea*; *P. neurophylla*; *P. thorelii*

According to the latest revisions and publications of the genus *Paraboea* (C.B.Clarke) Ridl. comprises 94 species distributed in Bangladesh, Bhutan, Burma, Cambodia, southern China, India, Indonesia, Laos, Malaysia, Philippines, Thailand and Vietnam (Kiew, 2010; Wei *et al*., 2010; Chen *et al*., 2008; 2011; Xu *et al*., 2008). In Vietnam, only fifeteen species are recorded (Xu *et al*., 2008). We collected many specimens of *Paraboea* from all parts of Vietnam. We carefully compared their morphology, both of reproductive and vegetative organs. Especially the characteristics of the reproductive organs are important for species identification. During the study of specimens and literature of Gesneriaceae from Vietnam, we have found two new records of species of *Paraboea* (C. B. Clarke) Ridl. for the flora of Vietnam. They are *P. neurophylla* and *P. thorelii*. Up to now, *Paraboea* are recorded with seventeen species.

Paraboea neurophylla (Collett & Hemsl.) B. L. Burtt in Notes Roy. Bot. Gard. Edinb. 41(3): 434. 1984.; K. Y. Pan in W. T. Wang, Fl. Reip. Pop. Sin. 69: 469. tab. 129: 10—11. 1990; id. in W. T. Wang *et al*., Fl. China 18: 366. 1998.; Z. R. Xu in Edinb. J. Bot. 65(2): 282. 2008. ——*Didymocarpus neurophyllus* Collett & Hemsl. in Journ. Linn. Soc. Bot. 28: 102. 1890.

Herbs, near stemless or short stem, ca. 8—12 mm long, near glabrous to puberulent in young part. Leaves basal or clustered at the apex; oblanceolate or obo-

① **Received date**: 2010-12-27 **Accepted date**: 2011-04-29

Foundation items: Supported by Guangxi Natural Science Foundation (2011GXNSFB018050); Basic Operating Funds from Guangxi Institute of Botany; Science and Technology Innovation Program of Guangxi Academy of Sciences

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vate, ca. (3—)5—12×1.5—7 cm, apex round or short acuminate; base narrowly cuneate; margin rough serrate from near base; adaxial near glabrous, abaxial densely woolly to pannose; lateral veins 5—8 pairs, petiole ca. 0.5—4 cm long, usualy decurrent. Cymes axillary, ca. 7—12×3—6 cm, many flowers; peduncle 5—9 cm long, sparse woolly to near glabrous; bracts 2, ovate to elliptic, ca. 1—1.5×0.5—0.6 cm, outside woolly. Pedicel ca. 8—10 mm long. Calyx 5-sect from base, segment ovate to narrow ovate, ca. 2.5—3.5 mm long, outside glandular puberulent to glabrous. Corolla bluish, ca. 10—12 mm long, outside glabrous; tube ca. 5—7 mm long; 2 lips: adaxial lip 2 short lobed, ca. 1—2×3—4 mm; abaxial lip 3 lobed, ca. 2—3×3—4 mm. Stamens 2, coherent pair at the anther; filaments ca. 3 mm long, connate base of the tube, glabrous; anther ca. 2—3 mm long; staminodes 2, ca. 1.5—2 mm long. Pistil ca. 9—10 mm long, glabrous; ovary ca. 4—5 mm long; style ca. 4—5 mm long; stigmas entire. Capsular ca. 1.5—2.5 cm long, glabrous, twisted.

Typus: Upper Burma, Shan Hills, Pinlong, 6000 ft (c. 2 000 m), Collett 804(holo K; iso E).

Specimens examined: BAC KAN, HLF 608 & 767 (HN); HAL 4801(HN).

Distibution: China, Yunnan; Burma (Shan Hills); Vietnam, Bac Kan province (Ba Be national park). Documented in Vietnam for the first time.

Ecology: Primary forest, limestone mountain, damp, humus. 500—900 m altitude. Flowering & fruiting time: May-Dec.

Notes: This species is similar to *Paraboea crassifolia* but can easily be differentiated in having petiolate leaves and blunter calyx lobes (Burtt 1984: 427), smoothly curved filaments (Xu *et al.*, 2008: 212—213).

Paraboea thorelii (Pellegr.) B. L. Burtt in Notes Roy. Bot. Gard. Edinb. 41: 439. 1984.; Z. R. Xu *et al.* in Edinb. J. Bot. 65 (2): 322. 2008.; ——*Boea thorelii* Pellegr. in Bull. Soc. Bot. France, 73: 424. 1926; id. In Fl. Gen. Indoch. 4: 547. 1930. Fig. 1.

Perennial herb, short stems, 10—30 cm long (including cymes), with woolly. Leaves opposite, clustered at stem apex. Leaf blade elliptic, obovate or spathulate, 10—19×4—6 cm; apex acute, base long-attenuate, decurrent along the whole length of the petiole and joining each other across the stem; margin subentire, obtuse serrate or indistinctly crenate, adaxial pubescent, abaxial with a thin matted indumentum; petiole with two wings, 4—7 cm long, each blade 5—6 mm wide, decurrent from the blade. Inflorescen terminal

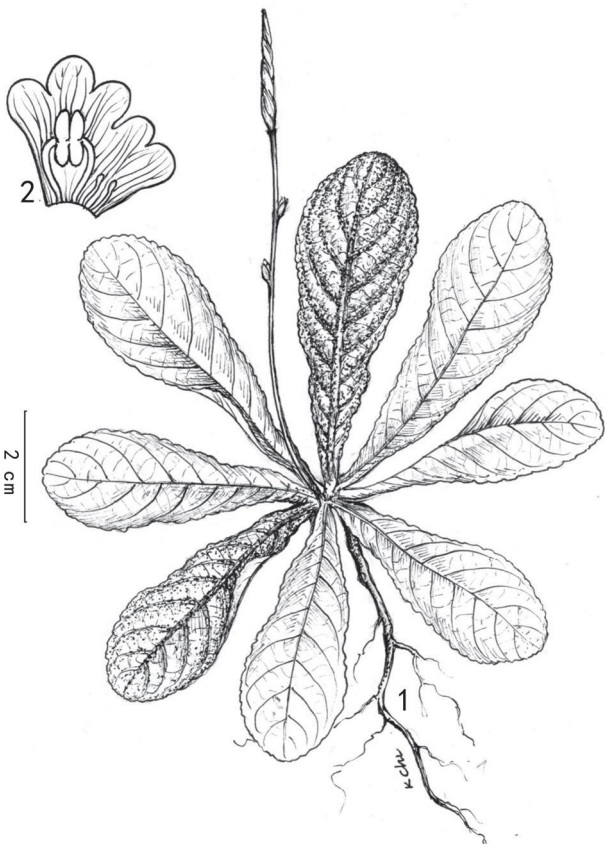

Fig. 1 *Paraboea neurophylla* (Coll. &Hemsl.) B. L. Burtt
1. Stem with fruit; **2**. Corolla open (Drawing specimen HLF 608, HN; painter Le Kim Chi)

paniculate, 25—30×10—12 cm, peduncle 5—15 cm long, with glandular hairs except on the calyx and corolla; bracts 4—5 cm long, bracteole linear with apex acute, 3—4 mm long; pedicel 1—2 cm long. Calyx 1—1.5 mm long, 5-parted to the base, lobes linear to narrowly ovate, outside sparsely puberulent to glabrous. Corolla white, campanulate, 6—7 mm long, 6—7 mm in diam., glabrous; tube 3—4 mm long; limb with 2 similar lips; adaxial lip 2-lobed, abaxial lip 3-lobed, lobes broadly ovate, 3—4×3—4 mm. Stamens 2, coherent at the top, filaments 2—3 mm long, inserted at ca. 0.5 mm from the corolla base; anther ellipsoid, 2—2.5 mm

long; staminodes very short and not apparent. Pistil 4—5 mm long; ovary narrowly ovoid to ovoid, 3×1 mm; style 1—2 mm long; stigmas headlike. Capsule 2—3 cm long, spirally twisted, glabrous. Seed ellipsoid, 0.4—0.5 mm long.

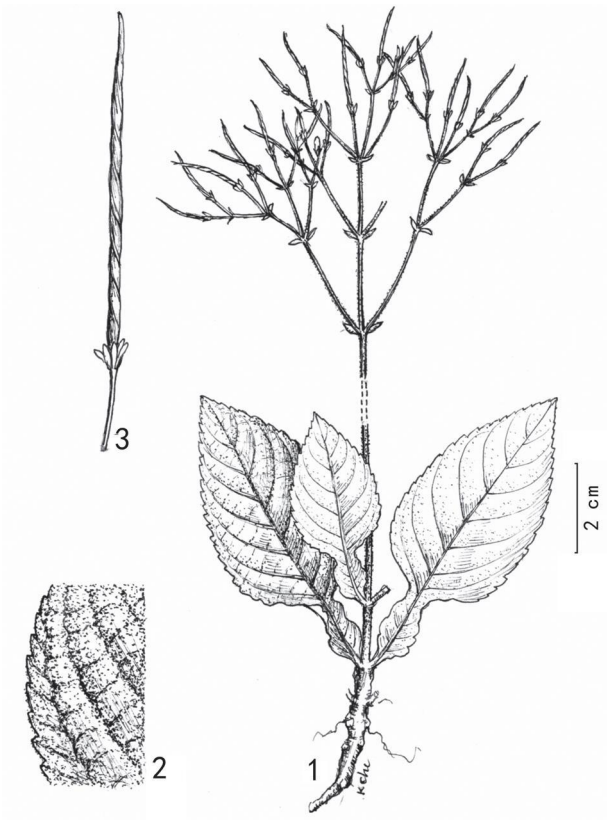

Fig. 2 *Paraboea thorelii* (Pellegr.) B. L. Burtt

1. Stem with fruiting branch; **2.** Part of leaf (abaxial); **3.** Capsule (Drawing from specimen HAL 3307, HN; painter Le Kim Chi)

Typus: Laos, Champassak, Mt. Bassac, M. L. Thorel 2352 (lecto P, designated by Burtt (1984: 439)).

Specimens examined: LANG SON, V. X. Phuöng 3133 & 3745 (HN). -THANH HOA, HAL 3307 (HN).

Distribution: Laos, Bassac; Vietnam, Lang Son province (Huu Lien Nature Reserve) and Thanh Hoa province (Ba Thuoc). Documented in Vietnam for the first time.

Ecology: Primary forest, on limestone or soil in mountains, damp. Altitude 200 m. Flowering & fruiting: May-October.

Notes: This species is close to *Paraboea glutinosa* but differs in having winged petioles, sepals 1—1.5 mm long, corolla 6—7 mm long, pubescence on the upper leaf surface and some glandular hairs on the inflorescence (Xu *et al*., 2008). It has been recorded from Indochina before, but only in Laos by Pellegrin (1926).

Acknowledgments

The authors would like to thank staff at the Hanoi herbarium (HN); Herbarium, Institute of Tropical Biology, Ho Chi Minh City, Vietnam (VNM); the herbarium of the Institute of Botany Guangxi, China (IBK); the herbarium of the South China Botanical Garden, Chinese Academy of Sciences, China (IBSC); the herbarium of the Kunming Institute of Botany, Chinese Academy of Sciences, China (KUN); Museum National d´Histoire Naturalle, Paris, France (P). We also thank D.J. Middleton for providing materials for study.

References:

Burtt BL. 1984. Studies I the Gesneriaceae of the Old World: XLVII Revised generic concepts for Boea and its allies[J]. *Notes Roy Bot Gard Edinb*, **41**: 401—452

Chen WH, Möller M, Shui YM, *et al*. 2008. A new species of *Paraboea* (Gesneriaceae) from a karst cave in Guangxi, China and observations on variations in flower and inflorescence architecture[J]. *Bot J Lin Soc*, **158**: 681—688

Collett H, Hemsley WB. 1890. On a collection of plants from Upper Burma and the Shan States[J]. *J Linn Soc Bot*, **28**: 1—150, 1—22

Handel-Mazetti H. 1927. Naturbilder aus Südwest-China[M]. Osterreich Bundesverlag Weinund Leipzig

Kiew R. 2010. Two new species of *Paraboea* (Gesneriaceae) from Peninsular Malaysia and Thailand[J]. *Edinb J Bot*, **67** (2): 209—217

Pellegrin F. 1930. Gesneriaceae[M]//Lecomte H. Flore générale de L'Indo-chine[M]. Paris: Masson, **4**: 487—565

Pellegrin F. 1926. Les Gésneracées-Cyrtandrées d'Indo-Chine[J]. *Bull Soc Bot France*, **73**: 412—429

Pan KY. 1998. Notulae de Gesneriaceis Sinensibus: 9[J]. *Acta Phytotax Sin*, **26**: 429—442

Ridley HN. 1896. Cyrtandraceae Malayenses[J]. *J Linn Soc Bot*, **32**: 497—528

Ridley HN. 1905. The Gesneraceae of the Malay *Peninsula*[J]. J Straits Branch Roy Asiat Soc, **43**: 1—92

Wang WT, Pan KY, Li ZY. 1990. Flora Reipublicae Popularis sinicae[M]. Beijing: Science Press, **69**: 125—581

Wang WT, Pan KY, Li ZY, *et al*. 1998. Gesneriaceae[M]//Wu CY, Raven PH (eds). Flora of China (18). Beijing: Science Press; St Louris: Missouri Botanical Garden Press: 244—499

Wei YG, Wen Fang, Michael Möller, *et al*. 2010. Gesneriaceae of South China[M]. Naning: Guangxi Sci Tec Press: 606—644

Xu ZR, Burtt BL, Skog LE, *et al*. 2008. A revision of *Paraboea* (Gesneriaceae)[J]. *Edinb J Bot*, **65** (2): 161—347