



Aeschynanthus wangii (Gesneriaceae), a new species from Yunnan Province, China

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ABSTRACT: *Aeschynanthus wangii* Y.H.Tan & H.B.Ding, a new species of Gesneriaceae from Yunnan Province, China, is described and illustrated here. The new species morphologically resembles *A. angustiblondus* W.T.Wang and *A. stenosepalus* J.Anthony, but is significantly different from them by having lanceolate leaves with long caudate apex, brownish yellow corolla with five dark red lines from the middle of corolla tube to the top of the lobes, and calyx lobes slightly fused into calyx tube (2–4 mm) at the base.

KEY WORDS: *Aeschynanthus angustiblondus*, *Aeschynanthus stenosepalus*, Flora of Yunnan, Taxonomy.

INTRODUCTION

The genus *Aeschynanthus* Jack (1823), commonly known as lipstick plants, comprises about 170 species distributed in India, New Guinea, the Solomon Islands, Southeast Asia, Sri Lanka, and southern & southwestern China (Weber, 2004). Currently, 36 known species of *Aeschynanthus* have been known to occur in China (Wang *et al.*, 1998; Li and Wang, 2005; Middleton, 2007, 2009; Hu *et al.*, 2020; Qin *et al.*, 2023), 14 of which are endemic.

During the botanical surveys in the China-Myanmar transboundary region in Yunnan, China between 2020 to 2023, we encountered and collected a brownish-yellow flowered plant of *Aeschynanthus*. An examination of specimens revealed that the earliest specimen of this species was collected by Mr Taiping Zhu in 1958 in Cangyuan County, Yunnan, and was not collected again for nearly fifty years until it was re-collected by several collectors after 2006; however, none of these specimens were correctly identified. After extensive morphological comparisons with several similar species from China and neighboring countries, we concluded that the unknown plant is new to science. Here, the new species *Aeschynanthus wangii* Y.H.Tan & H.B.Ding is described from Yunnan, China.

MATERIALS AND METHODS

Specimens of *Aeschynanthus* were collected during extensive field surveys in different locations in Yunnan, including Yunnan Nangunhe Nature Reserve and Yunnan Tongbiguan Provincial Nature Reserve, from 2020 to 2023. The descriptions below are based on living material and specimens from the type collections.

Specimens of the genus *Aeschynanthus* include digital images of specimens from 15 herbaria (PE, HITBC, KUN, IBSC, GXMG, IBK, GXMI, SZG, WUK, NAS, E, NY, P, K, BM) were examined. The general plant terminology follows Beentje (2016), and the terminology of *Aeschynanthus* follows Middleton (2007). The preliminary conservation assessment below follows the guidelines of IUCN (2022). The type specimens were deposited at HITBC (Herbarium of the Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences), KUN (Herbarium of Kunming Institute of Botany, Chinese Academy of Sciences), and PE (Herbarium of Institute of Botany Chinese Academy of Sciences).

TAXONOMIC TREATMENT

Aeschynanthus wangii Y.H.Tan & H.B.Ding, *sp. nov.*

文采芒毛苣苔 Fig. 1 & 2A

Type: CHINA. Yunnan Province: Lincang District, Cangyuan Wa Autonomous County, Nangunhe Nature Reserve, Mengjiao Town, near Wengding Village, 23°16'34" N, 99°11'28" E, elevation 1815 m, 8 September 2022, Hong-Bo Ding, Jin-Chao Zhao, Han-Jie Zhou and Xiao-Dong Zeng D329 (holotype: HITBC [HITBC0092738], isotype: HITBC [HITBC0092737]).

Diagnosis: *Aeschynanthus wangii* resembles *A. angustiblondus* W.T.Wang (in Wang 1975: 64) (Fig. 2B) in having lanceolate leaves and solitary flower in leaf axils, and also shares similar characteristics with *A. stenosepalus* J.Anthony (in Anthony 1934: 191) (Fig. 2C) in having lanceolate leaves with long caudate apex. However, the new species can easily distinguished from others by its leaves with long caudate apex (vs. obtuse in *A. angustiblondus*), absence of peduncle (vs. 2.2–5(–7)

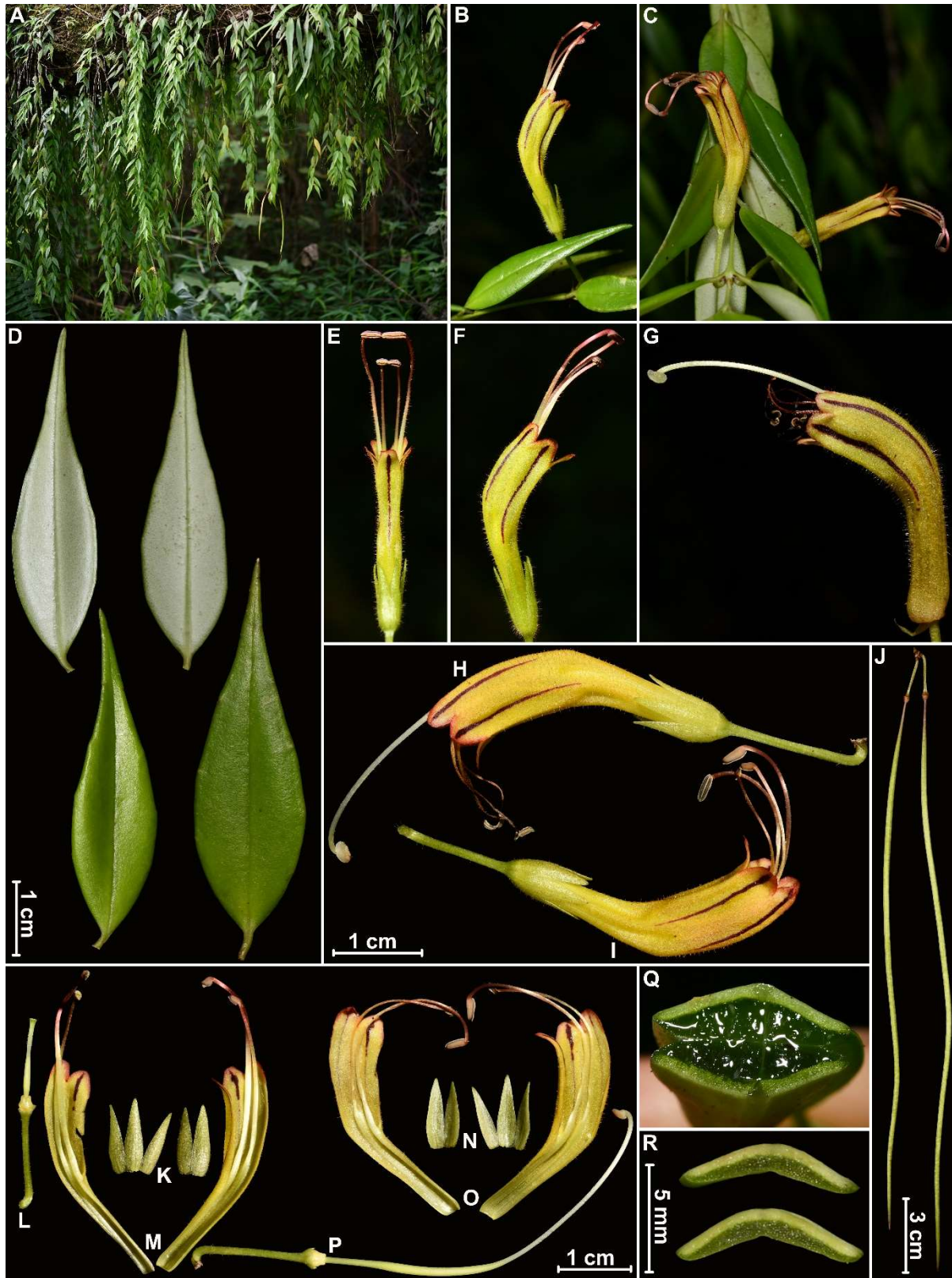


Fig. 1. *Aeschynanthus wangii* Y.H.Tan & H.B.Ding, *sp. nov.* A. Habit; B–C. Axillary inflorescence; D. Leaves, adaxial (below) and abaxial (above) view; E. Flower (front view); F–G. Flower (side view); H–I. Flower with scale; J. Capsule; K. Calyx (back view); L. Pedicel and immature pistil; M. Corolla and stamens; N. Calyx (front view); O. Corolla and stamens; P. Pedicel and mature pistil; Q–R. Cross section of leaves.

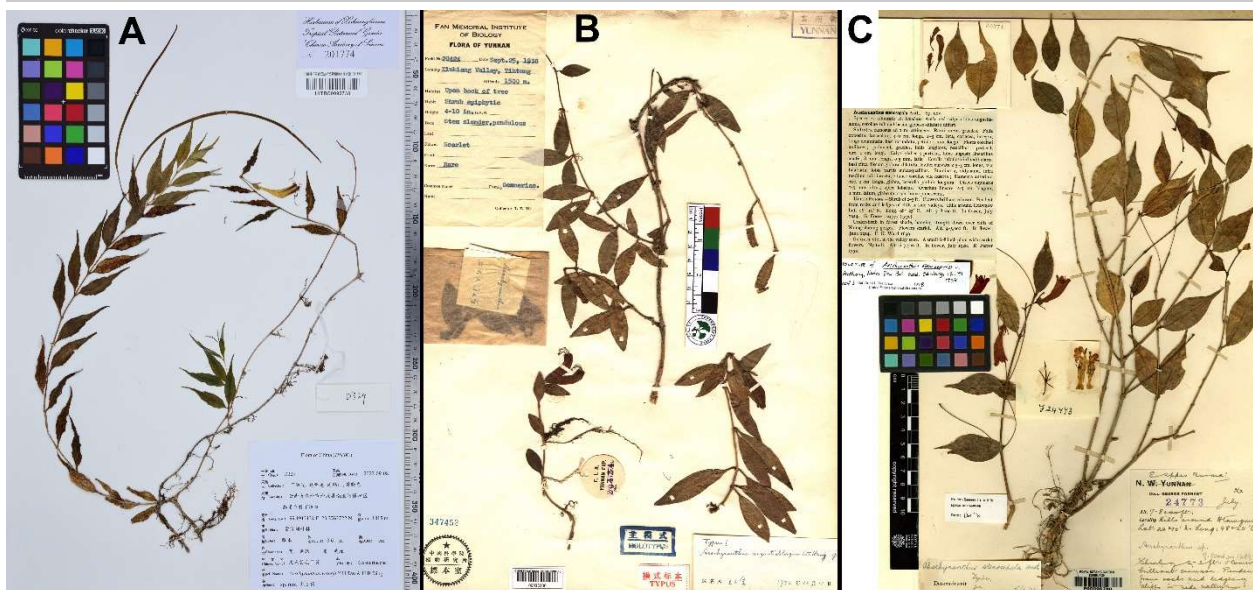


Fig. 2. Photos of the holotype of *Aeschynanthus wangii*, *A. angustiblondus* and *A. stenosepalus*. **A.** *A. wangii* [HITBC0092738]; **B.** *A. angustiblondus* [PE00032300] (reproduced with permission from: <https://www.cvh.ac.cn/spms/detail.php?id=0864ec7e>); **C.** *A. stenosepalus* [E00096780] (<https://data.rbge.org.uk/herb/E00096780>).

cm long in *A. stenosepalus*), corolla brownish yellow with five dark red lines from the middle of corolla tube to the top of the lobes (vs. red, in *A. angustiblondus* and *A. stenosepalus*) and calyx lobes slightly fused into calyx tube (2–4 mm) at the base (vs. free to bottom, in *A. angustiblondus* and *A. stenosepalus*).

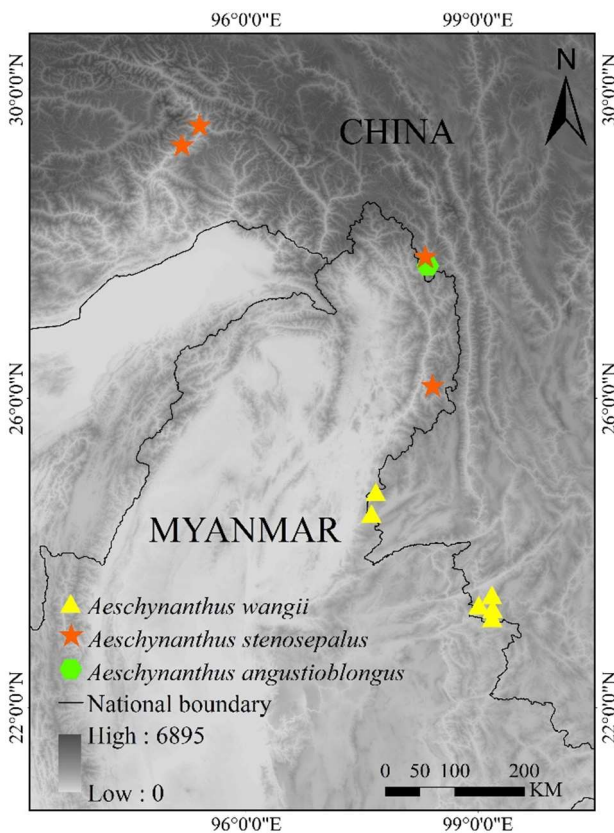
Description: Epiphytic sub-shrubs, pendulous and branched. **Creeping stem** on the bark of trees, pale brown, **drooping stem** yellowish green with purple spots, slender, terete, glabrous, 1–2 mm thick, rooting at the node of the creeping stem; internodes 0.7–4 cm long. **Leaves** opposite; **petiole** 2–4 mm long, yellowish green, glabrous; **leaf blade** fleshy, slightly thick, lanceolate, 3.5–5.0 × 0.8–1.4 cm, coriaceous, glabrous, adaxial surface green, abaxial surface pale green, caudate at apex, cuneate to obtuse at base, weakly dentate at margins, recurved back and revolute when drying; midrib slightly sunken, lateral veins obscure. **Flowers** solitary in the axil of paired leaves, protandrous; **peduncle** absent, bracts tiny and deciduous; **pedicel** 1.0–1.7 cm long, yellowish green, with sparse to dense multicellular hairs. **Calyx** lobes 8–10 × 1.8–2.5 mm, lobes slightly fused into calyx tube (2–4 mm) at the base, segments slightly unequal, narrowly lanceolate, greenish yellow to brownish yellow, adaxially nearly glabrous, abaxially erect multicellular hairs, apex acute, margin entire. **Corolla** 3–3.5 cm long, tubular, strongly oblique mouth, inflated at middle, tube 2–3 mm broad at base, gradually widened towards the throat with 7–8 mm, externally brownish yellow, with 5 dark red lines from the middle of corolla tube to the top of the lobes, sparsely to densely erect multicellular hairs, internally brownish yellow, dark red lines obscure, subglabrous; **lobes** brownish yellow with purplish red at

margin, apex rounded; **upper lobes** 2, ca. 3 mm in diameter at the base, not spreading or reflexed; **lateral lobes** 2, slightly spreading, obliquely semicircular to ovate, ca. 4 × 3 mm; **lower lobe** extending, ovate, ca. 4.5 × 4 mm. **Stamens** 4, exerted, anthers cohere by their apices in 2 pairs; **filaments** cream white at the base, gradually changing to pale yellow and subglabrous from the bottom to the middle and progressively changing to purple red with sparsely erect multicellular hairs from the center to the top, **anterior filaments** 3–3.2 cm long, adnate to 1.5–1.6 cm above the corolla base; **posterior filaments** 2.4–2.5 cm long, adnate to 1.8–1.9 cm above the corolla base; **anthers** ca. 2–3 × 1 mm, oblong, 2-locular, thecae parallel, dehiscing longitudinally, pollen pale yellow; **staminode** 1, filiform, cream white, ca. 1 mm long, adnate to ca. 1.8 cm above the corolla base, glabrous. **Disk** annular, ca. 1.5 mm high, brownish yellow, glabrous. **Pistil** (functionally male stage) 5–11 mm long, stipe 0.5–1 mm long, yellowish green, glabrous; ovary narrowly spindly, 2–5 mm long, yellowish green, glabrous; style 2–5 mm long, cream white, sparsely erect multicellular hairs, stigma infundibuliform, yellowish green, ca. 1 mm in diameter. **Pistil** rapidly extends out of the corolla tube at the end of the single flowering phase. **Pistil** (functionally female stage) 5.2–5.5 cm long, stipe ca. 7 mm long, yellowish green, glabrous; ovary narrowly spindly, 1.5–1.7 cm long, yellowish green, glabrous; style 2.8–3.2 cm long, cream white, sparsely erect multicellular hairs, stigma capitate, cream white, 2–2.5 mm in diameter; **Capsule** linear, 11–24 cm long, yellowish green, glabrous.

Phenology: Flowering from July to September, fruiting from September to December.

**Table 1.** Comparison of diagnostic characteristics of *Aeschynanthus wangii*, *A. angustiblondus* and *A. stenosepalus*.

Characters	<i>A. wangii</i>	<i>A. angustiblondus</i>	<i>A. stenosepalus</i>
Leaf blade	lanceolate, 3.5–5.0 × 0.8–1.4 cm, apex caudate, margins weakly dentate	narrowly oblong to oblong-lanceolate or narrowly elliptic, (1.8–)3.0–5.4 × (0.8–)1.0–1.5 cm, apex obtuse, margin entire	narrowly elliptic to lanceolate or ovate, 2.2–6.0 × 0.8–2.3 cm, apex long acuminate to caudate, margin entire
Inflorescence	axillary, 1-flowered	axillary, 1-flowered	axillary, 1–3-flowered
Peduncle	absent	absent	2.2–5(–7) cm long
Pedicel	1.0–1.7 cm long, sparsely to densely multicellular hairs	1.0–2.2 cm long, glabrous	0.5–1.1 cm long, glabrous
Calyx	5 lobes slightly fused into calyx tube (2–4 mm) at the base, greenish yellow to brownish yellow, outside erect multicellular hairs	5 separate lobes free to base, green, outside glabrous	5 separate lobes free to base, green, sometimes tinged red, outside glabrous
Corolla	3.0–3.5 cm long, externally brownish yellow, with 5 dark red lines from the middle of corolla tube to the top of the lobes, internally brownish yellow dark red lines obscure	2.8–3.0 cm long, red	2.5–3.2 cm long, red

**Fig. 3.** Distribution map of *Aeschynanthus wangii*, *A. angustiblondus* and *A. stenosepalus*.

Distribution and Habitat: Presently, *Aeschynanthus wangii* is known from the China-Myanmar transboundary area; several populations were discovered in the Yunnan Nanggunhe Nature Reserve and Yunnan Tongbiguan Provincial Nature Reserve, respectively (Figure 3). It grows on moist, shady tree trunk surfaces in evergreen forests at around 1200–1900 m elevation. The main companion species are: *Agapetes brandisiana* W.E.Evans, *Oberonia ensiformis* (Sm.) Lindl., *Lemmaphyllum*

microphyllum C.Presl, *Bosmania membranacea* (D.Don) Testo, *Aeschynanthus tengchungensis* W.T.Wang and *Lysionotus coccinus* G.W.Hu & Q.F.Wang.

Etymology: The specific epithet *wangii* honors Prof. Wen Tsai Wang (W.T. Wang, 1926–2022), who made significant contributions to the flora of China. The Chinese name is given as “文采芒毛茛苔”.

Conservation Status: *Aeschynanthus wangii* was only seen from several populations in the Yunnan Nanggunhe Nature Reserve and Yunnan Tongbiguan Provincial Nature Reserve; hence we cannot conclude if it is a relatively common or rare species. Therefore, we propose it to be listed under the Data Deficient (DD) category.

Additional specimens examined (paratypes): — CHINA. Yunnan Province: Lincang District, Cangyuan Wa Autonomous County, Nanggunhe Nature Reserve, Mengdong Town, Baka Village, near Denggege River, 23°09'28.07" N, 99°11'10.08" E, elevation 1610 m, 7 October 2022, *Hong-Bo Ding, Qiang Wang, Xiao-Dong Zeng and Jin-Chao Zhao D397* (HITBC); *ibid.*, 23°09'31.54" N, 99°11'07.43" E, elevation 1611 m, 7 October 2022, *Hong-Bo Ding, Qiang Wang, Xiao-Dong Zeng and Jin-Chao Zhao D402* (HITBC); Yunnan Province: Dehong District, Yingjiang County, near Xima Town, 24°47'19.48" N, 97°40'43.31" E, elevation 1428 m, 8 August 2022, *Shi-Shun Zhou, Hong-Bo Ding, Xiao-Dong Zeng and Rong-Cong Yang WPY483* (HITBC, PE); Yunnan Province: Dehong District, Yingjiang County, Yunnan Tongbiguan Provincial Nature Reserve, Tongbiguan Town, Baishitou Village, 24°30'27.21" N, 97°37'15.62" E, elevation 1330 m, 19 March 2023, *Hong-Bo Ding, Jian-Wu Li and Xiao-Dong Zeng D564* (HITBC); Yunnan Province: Lincang District, Gengma County, Mengding Town, near Delong Village, 23°27'27.46" N, 99°10'55.85" E, elevation 1582 m, 8 July 2020, *Jian-Wu Li 6083* (HITBC); Yunnan Province: Lincang District, Cangyuan Wa Autonomous County, Mangka Town, Ganmeng Village, 23°19'31.56" N, 99°00'39.77" E, elevation 1516 m, 31 August 2013, *Cheng Liu, Hai-Rong Zi, Ge Gao and Jin-Chao Zhao 13CS6615* (KUN, [KUN1396150]); Yunnan Province: Lincang District, Cangyuan Wa Autonomous County, Nanggunhe Nature Reserve, elevation 1750 m, 19 August 2006, *Shi-Shun Zhou 3933* (HITBC); Yunnan Province: Lincang District, Cangyuan Wa Autonomous County, near Mengjiao Town, elevation 1280 m, 19 December 1958, *Tai-Ping Zhu 500* (KUN, [KUN0205681]).

***Aeschynanthus stenosepalus*:** CHINA. Xizang Province: **Motuo County**, 6 August 1974, *Qinghai-Xizang Expedition 74-4133* (PE, [PE00140040], [PE00140039]); 29 June 1980, *Wei-Lie Chen 10758* (PE, [PE00140038]); 10 May 1983, *Shu-Zhi Cheng et al. 4805*



(PE, [PE01506220]); 29°16'52.50" N, 95°10'12.50" E, elevation 770 m, 28 May 2013, *Cheng Liu et al. 13CS6437* (KUN, [KUN1385154]). Yunnan Province: **Gongshan County**, October 1935, *Chi-Wu Wang 67508* (PE, [PE00140033]; IBSC, [IBSC0548420]); 26 July 1938, *Tse-Tsun Yu 19422* (PE, [PE00140037], [PE00140036]); 5 August 1982, *Qinghai-Xizang Expedition 8901* (PE, [PE01173163], [PE00140031]; KUN, [KUN0206158]); 17 January 1991, *Dulongjiang Expedition 3230* (KUN, [KUN0206160]); 28 January 1991, *Dulongjiang Expedition 3614* (KUN, [KUN0206158]); 27°50'28.28" N, 98°19'24.08" E, elevation 1343 m, 6 November 2014, *Ting Zhang et al. 14CS8983* (KUN, [KUN1396151]); **Fugong County** (Shang-pa Hsien), 25 September 1933, *Hse-Tao Tsai 56610* (PE, [PE00140028]; IBSC, [IBSC0548418], [IBSC0548419]); 1 October 1933, *Hse-Tao Tsai 54719* (PE, [PE00140030]; IBSC, [IBSC0548416], [IBSC0548417]); 7 October 1933, *Hse-Tao Tsai 54785* (IBSC, [IBSC0548415]). **MYANMAR**. Upper Burma, 26°10' N, 98°25' E, July 1924, *George Forrest 24773* (E, [E00096780]; K, [K000831882]; PE, [PE00032276]).

Aeschynanthus angustoblongus: CHINA. Yunnan Province: **Gongshan County**, 25 September 1938, *Tse-Tsun Yu 20424* (PE, [PE00032300], [PE00032297], [PE00032298]; KUN, [KUN0205677]; IBSC, [IBSC0004802]); 9 August 1982, *Qinghai-Xizang Expedition 9121* (PE, [PE01173140]); 9 August 1982, *Qinghai-Xizang Expedition 9122* (PE, [PE01173139]).

Notes: *Aeschynanthus wangii* is morphologically allied to *A. angustoblongus* W.T.Wang & *A. stenosepalus* J. Anthony; Table 1 compares these species.

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