

***Schizostachyum lobacense* (Poaceae: Bambusoideae),  
A NEW SPECIES FROM SOUTHERN VIETNAM**

**Van Tien Tran**

Dalat University, Lam Dong province, Vietnam

Received 5 September 2022; accepted 19 December 2022

**ABSTRACT**

*Schizostachyum lobacense* sp. nov. from Vietnam is described and illustrated. It is recognized from southern Vietnam, where it occurs at 1,033 m in Loc Bac commune, Bao Lam district, Lam Dong province. Based on its vegetative, inflorescence, and basic spikelets structures, *Schizostachyum lobacense* is closely similar to *Schizostachyum brachycladum* and *Schizostachyum langbianense*, but differs from *S. brachycladum* by internode 3–5 cm diam, culm leaf abaxial white hairs, auricles inconspicuous or replaced by a low dark thickened rim to ca 1 mm high, rhachilla extension less than 1/2 length of the lemma, lodicules 2; from *S. langbianense* by 2 perfect flowers.

**Keywords:** *Schizostachyum lobacense*, Poaceae, Bambusoideae.

---

*Citation:* Van Tien Tran, 2022. *Schizostachyum lobacense* (Poaceae: Bambusoideae), a new species from southern Vietnam. *Academia Journal of Biology*, 44(4): 27–32. <https://doi.org/10.15625/2615-9023/17487>

\*Corresponding author email: [tientv@dlu.edu.vn](mailto:tientv@dlu.edu.vn)

©2022 Vietnam Academy of Science and Technology (VAST)

## INTRODUCTION

The genus *Schizostachyum* Nees, was established by Nees von Esenbeck in 1929, based on *Schizostachyum blumei* Nees, with more than 50 species currently recognized. It is one of the biggest genera in the subtribe Melocanninae, which is widely distributed in tropical and subtropical southeastern Asia, with the majority of the species in China, Malaysia and Indonesia (Wong, 1995; Dransfield & Widjaja, 1995; Ohrnberger, 1999; Xia & Stapleton, 2006).

In Vietnam, the genus *Schizostachyum* has been studied by several authors (Balansa, 1890; Camus & Camus, 1923; Pham, 2000; Nguyen, 2006). Balansa (1890) recorded the first species of this genus, *Schizostachyum zollingeri* Steudel, from northern Vietnam. Camus & Camus (1923) recorded another one, *Schizostachyum aciculare* Gamble, from southern Vietnam. McClure (1942) did mention the occurrence of *Schizostachyum pseudolima* McClure and *Schizostachyum hainanense* Merr. ex McClure in the north of Vietnam. Furthermore, 7 newly recorded species of this genus from Vietnam recorded by Pham (2000) and Nguyen (2006) based on several field surveys and specimens collected over the whole country from 2004 to 2005. In this review, he recognized 16 species in the genus from these specimens, but the severally remaining could not be determined with certainty, because the specimens were not often sterile. In order to carry out a revision of *Schizostachyum* in Vietnam, nine species were recognized by Tran (2013), and five new species were described, namely, *Schizostachyum ninhthuanense* N. H. Xia, V. T. Tran & H. N. Nguyen, *Schizostachyum yalyense* N. H. Xia, V. T. Tran & H. N. Nguyen, *Schizostachyum nghianum* N. H. Xia & V. T. Tran, and *Schizostachyum langbianense* V. T. Tran, N. H. Xia & H. N. Nguyen (Tran et al., 2010, 2013, 2016); *Schizostachyum dakrongense* N. H. Xia, Z. Y. Cai, Y. H. Tong & T. C. Vu (Xia et al., 2020).

In February 2022, expedition to Loc Bac forest, Loc Bac commune, Bao Lam district, Lam Dong province, southern Vietnam, I found that several populations of *Schizostachyum* are abundant and degraded natural in valleys, between 1,000 and 1,033 m altitude. Specimens of branches, culm leaves, flowers were collected. All collected specimens were dissected and studied. The structure of culm leaves and the inflorescence in those specimens is basically similar to that of *Schizostachyum brachycladum* and *S. langbianense*, but differ from *S. brachycladum* by internode 3–5 cm diam, culm leaf abaxial white hairs, auricles inconspicuous or replaced by a low dark thickened rim to ca 1 mm high, rhachilla extension less than 1/2 length of the lemma, lodicules 2; from *S. langbianense* by 2 perfect flowers. The present paper is a description of this interesting species.

## MATERIALS AND METHODS

Fresh flowers were examined under an Olympus SX-41 light Microscope and colour photographs were made using a Canon Power Shot SX10IS. Presumably, related species were used for critical comparison.

Morphological studies were compared with type specimens in herbaria (CANT, HITBC, IBSC, KUN, LE, P, PE, SING, SWFC, SYS), pictures of the type specimens on websites of herbaria (E, K, L, P, US, W), and the publications by Kurz (1870), Tran et al. (2016).

## RESULTS

### *Schizostachyum lobcacense* V. T. Tran, sp. nov. (Fig. 1)

*Schizostachyum lobcacense* is closely similar to *S. brachycladum* and *S. langbianense*, but differs from *S. brachycladum* by internode 3–5 cm diam, culm leaf abaxial white hairs, auricles inconspicuous or replaced by a low dark thickened rim to ca 1 mm high, rhachilla extension less than 1/2 length of the lemma, lodicules 2; from *S. langbianense* by 2 perfect flowers (Table 1, Fig. 1).



Figure 1. *Schizostachyum locbacense* sp. nov.: a) habit; b) clump and shoot; c) culm leaves; d) mid-culm branch complements; e) nodes; f) flowering branch; g & h) portion of leafy branches; i&j) pseudospikelets; k<sub>1</sub> & k<sub>2</sub>), florets; l) portion of florets; m) prophyllate; n) bract; o<sub>1</sub>) bract; o<sub>2</sub>) rachilla extension disarting below fertile floret; o<sub>3</sub>), lemma; p) lemma; q) palea; r) lodicules; s) stamens; t) stigmas; u) young cariopsis. **Scale bar:** c) 7 cm; f) 14 cm; m) 0.5 mm; n) 0.1 mm; p) 0.5 cm; q) 0.5 cm; r) 0.4 mm; s) 3 mm; u) 4 mm.

[Photo: V. T. Tran]

Table 1. Morphological comparison of *Schizostachyum locbacense* sp. nov. with *Schizostachyum brachycladum* and *Schizostachyum langbianense*

Characters		<i>Schizostachyum brachycladum</i>	<i>Schizostachyum langbianense</i>	<i>Schizostachyum locbacense</i> sp. nov.
Internode		6–8 cm diam	2–4 cm diam	3–5 cm diam
Culm leaves	culm-leaves blade	erect, as wide as sheath at base	erect first, then reflexed, as narrow as sheath at base	erect, as narrow as sheath at base
	abaxial surface of culm leaves	dark brown hairs	white hairs	white hairs
	auricles	conspicuous	inconspicuous	inconspicuous or replaced by a low dark thickened rim to ca 1 mm high
	ligule	conspicuous, ca. 2 mm high	0.1 cm long	inconspicuous
Flowers		2	1	1–2
Rhachilla extension		0.8–0.9 length of lemma	1–2 mm long	less than 1/2 length of lemma
Lodicules		3	3	2

**Type:** VIETNAM, Lam Dong province, Bao Lam district, Loc Bac commune, P40 slope, elevation 1,033 m, 11°43'50"N, 107°43'53"E, 22 Feb. 2022, V.T. Tran DLU 0462 (holotype Dalat University [DLU!]; isotypes-VNMN!, Tay Nguyen Institute for Scientific research [VTN]!).

**Description:** Sympodial bamboo. Culm erect, 8–10 m tall, 3–5 cm diam., apical subrect; internodes terect, straight, 50–80 cm long, densely covered with appressed with hairs when young, and becoming rough later; wall 0.3–0.5 cm thick; nodes slightly pale or black swollen. Branches numerous on each node, dendroid. Culm leaf sheaths persistent, 10–15 × 20–22 cm, coriaceous, pubescent, hairy throughout, densely covered with appressed with hairs, apex truncate; auricles inconspicuous or replaced by a low dark thickened rim to ca 1 mm high, with dense, relatively erect white bristles (oral setae) in tidy row, to ca. 0.4 cm long; ligule ca. 1 mm tall; blade erect, linear-lanceolate, as narrow as sheath at base, less than 1/2 the length of the sheath, abaxially pubescent. Leafy

branches each with typically 5–6 foliage leaf blades; leaf blade glabrous, margins with dense white oral setae; auricles ca. 0.1 cm, with erect white bristles 0.3–0.4 cm long; petiole 0.1–0.2 × 0.5–0.7 cm; blades oblong-lanceolate or ovate-lanceolate, 2–3 × 22–25 cm, base acute, slightly oblique. Pseudospikelets ca. 1.5–2 cm long, clustered at the nodes, in untidy tufts, glumaceous subtending bracts with axillary buds at the base of spikelet; prophyllate below lateral spikelets, obovate 1.5–2 mm long, apex obtuse, 2-keeled, margins ciliate; bract 2–3, oblong, 0.5–0.7 cm many-veined, apex obtuse to acute and mucronate, margins ciliate; floret 1–2, fertile; rachilla disarticulating below the floret; the extension of the rachilla nearly 1/2 the lemma; glumes absent; lemma oblong-lanceolate, 0.2–0.3 × 1.5–1.7 cm, many veined, apex acute, margins ciliate; palea oblong-lanceolate, tightly convolute around the flower, 0.2–0.3 × 1.5–1.7 cm, many veined, apex mucronate, mucro ca. 1 mm long, abaxially and margins ciliate; lodicules 2, 0.6–0.8 × 1–1.2 mm,

margins ciliate; stamens 6, filaments free, anthers white when young and pink when maturity, 0.8–1 × 5–6 mm; stigmas 3, pink, plumose. Cariopsis oblong, ca. 1 cm long; style pink, ca. 1.2 cm long, flat, ciliate.

**Distribution and habitat:**

*Schizostachyum locbacense* is known from Loc Bac forest, Bao Lam district, Lam Dong province, southern Vietnam. It is widespread and abundant and degraded natural in valleys, between 1,000 m and 1,033 m altitude. The flowering and fruiting occurred in Feb. 2022, and new shoots were developed at the same time.

**Etymology:** The specific epithet refers to the type locality in southern Vietnam.

**Additional specimens examination:**

Vietnam, Cochinchine Ca Mau province de Bac Lieu, 3 October 1191, *Chevalier 17*, (P [P00451067]!); Bornéo, Bureau of Science, Manille, 19 Juin 1922 (P [P02326325]!).

**Remarks:** *Schizostachyum locbacense* sp. nov. is placed in subtribe Melocannineae by the characters of branches numerous on each node, perfect flower 1–2. Otherwise, this species may be closely similar to *S. brachycladum* and *S. langbianense*, but differs from *S. brachycladum* by internode 3–5 cm diam, culm leaf abaxial white hairs, auricles inconspicuous or replaced by a low dark thickened rim to ca 1 mm high, rachilla extension less than 1/2 length of the lemma, lodicules 2; from *Schizostachyum langbianense* by 1 perfect flowers.

**Acknowledgements:** I would like to thank Dr. Nguyen Van Binh and Dr. Nguyen Van Giang in the Faculty of Biology, Dalat University assistance during field work.

**REFERENCES**

Camus E. G., Camus A., 1923. Graminées, in Lecomte H. (Ed.) Flore générale de l'Indo-Chine: 203–650.  
 Dransfield S., Widjaja E. A., 1995. *Schizostachyum*, in Plant Resources of South-East Asia No. 7. Backhuys Publishers, Leiden: 130–145.

Kurz J., 1870. On some new or imperfectly known Indian Plants. *Asiate Society Bengan*, 39(2): 89.  
 McClure F. A., 1942. New bamboos, and some new records, from French Indo-China. *J Arnold Arboretum*, 23: 93–101.  
 Nees von Esenbeck C. G. D., 1829. *Agrostologia brasiliensis: seu descriptio Graminum in imperio Brasiliensi hucusque detectorum* 2: 535.  
 Nguyen H. N., 2006. Bamboos of Vietnam. Agricultural Publishing House, Ha Noi: 186–194.  
 Ohrnberger D., 1999. *Schizostachyum* Nees, in The bamboos of the world. Elsevier. Amsterdam, etc.: 330–337.  
 Pham H. H., 2000. An illustrated flora of Vietnam. Young Publishing House, Ho Chi Minh: 621–624.  
 Tran V. T., Xia N. H., Nguyen H. N., 2010. *Schizostachyum yalyense* sp. nov. and *S. ninhthuanense* sp. nov. (Gramineae: Bambusoideae) from Vietnam. *Nor Jbot*, 28(4): 487–492. <https://doi.org/10.1111/j.1756-1051.2010.00770.x>  
 Tran V. T., Xia N. H., Nguyen V. T., 2013. *Schizostachyum nghianum* (Poaceae: Bambusoideae), a new species from Vietnam. *Blumea*, 57(3): 300–302. <https://doi.org/10.3767/000651913X665558>  
 Tran V. T., Chinh V. T., Xia N. H., Wong K. M., Duy N. V., Phan N. H. T., Nguyen H. N., 2016. *Schizostachyum langbianense*, a new species of bamboo (Poaceae: Bambusoideae) from Lang Bian Mountain, Vietnam. *Phytotaxa*, 257: 181–186. <https://doi.org/10.11646/phytotaxa.257.2.8>  
 Wong K. M., 1995. The bamboos of peninsular Malaysia. Sabah, Malaysia. Forest Research Institute Malaysia: 1–45.  
 Xia N. H., Cai Z. Y., Tong Y. H., Chinh V. T., Ni J. B., 2020. *Schizostachyum*

- dakrongense* (Poaceae, Bambusoideae), a new species from Dakrong Nature Reserve, Vietnam. *Phytokey* 138: 179–186. <https://doi.org/10.3897/phytokeys.138.39623>
- Xia N. H., Stapleton C., 2006. *Schizostachyum*, in Wu, C.-Y., Raven P. & Hong D.-Y. (eds), *Flora of China*. Vol. 22. Science Press, Beijing & Missouri Botanical Garden Press, St. Louis: 9–38.