

Ferrocalamus fibrillosus (Poaceae: Bambusoideae), a new species from Vietnam

Hoang Nghia Nguyen*, Van Tien Tran & Van Tho Nguyen

Forest Science Institute of Vietnam, Dong Ngac, Tu Liem, Hanoi, Vietnam (*corresponding author's e-mail: nhnghia@netnam.vn)

Received 12 Jan. 2010, revised version received 10 Apr. 2012, accepted 21 June 2010

Nguyen, H. N., Tran, V. T. & Nguyen, V. T. 2012: *Ferrocalamus fibrillosus* (Poaceae: Bambusoideae), a new species from Vietnam. — *Ann. Bot. Fennici* 49: 206–208.

Ferrocalamus fibrillosus H.N. Nguyen & V.T. Tran *sp. nova* (Poaceae: Bambusoideae) is described and illustrated from Vietnam. It is similar to *F. strictus* and *F. rimosivaginus* but differs by the culm sheaths having erect and ca. 0.4–0.3 cm long auricles, and setae ca. 0.4 cm long. There are 10 or 12 white cylindrical fibrils inside the internodes and connecting two diaphragms.

The genus *Ferrocalamus* was described by Hsueh and Keng (1982) based on a specimen from south Yunnan in China. There are currently only two species in the genus: *F. strictus* and *F. rimosivaginus*. They occur in the Yunnan Province of China at elevations between 900 and 1200 m a.s.l. (Li & Stapleton 2006). Li and Stapleton (2006) also noted that this bamboo genus is endemic and known only from the high mountain of Yinping Xian, in Yunnan province, China.

During field surveys in lowland areas of Chiem Hoa district, Tuyen Quang province, Vietnam in 2005, specimens of a flowering bamboo species were collected by us. It is a shrubby bamboo, with solitary branches at mid-culm; it has numerous spikelets, two glumes and articulate rachilla, florets falling separately, three stamens, two stigmas, and three lodicules. Research of the literature (Hsueh & Keng 1982, Wen 1984, Li & Stapleton 2006) showed that these are characteristics of *Ferrocalamus*. The species is also similar to *F. strictus* and *F. rimosivaginus* in certain characteristics but differs in the auricled culm sheaths and leaf sheaths; also,

there are white cylindrical fibrils inside the internodes connecting two diaphragms.

***Ferrocalamus fibrillosus* H.N. Nguyen & V.T. Tran, *sp. nova* (Fig. 1)**

Species nova habitu F. stricto Hsueh & Keng et F. rimosivagino Wen sed vaginis auriculis erecti, ca. 0.4–0.3 cm longis, margine setae ca. 0.4 cm longis, 10–12 albo-fibrosus in internodiis differt.

TYPE: Vietnam. Tuyen Quang Province, Chiem Hoa District, Kim Binh Commune, 122 m, 7 Apr. 2005 H.N. Nguyen, V.T. Tran & V.T. Nguyen 0420 (holotype HN-LN: Herbarium of the Forest Science Institute of Vietnam, Hanoi).

ETYMOLOGY. The specific epithet refers to the fibrils inside the internodes. Vernacular name: May lenh lang.

Rhizome monopodial, culms usually hard, 2–3 m tall, 0.8–1.2 cm in diameter, culm walls 0.3 cm thick, young culms solid; internodes 60–70 cm long; each node with one branch, branches at mid-culm solitary, parallel to and

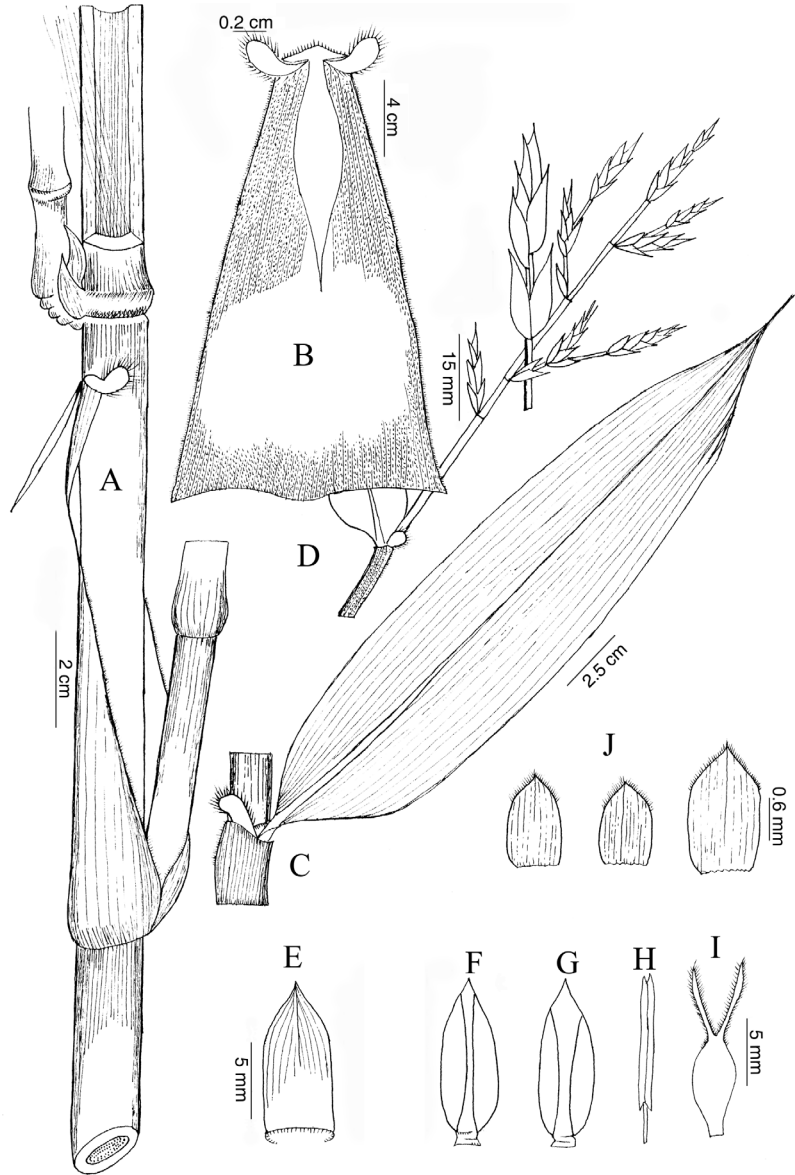


Fig. 1. *Ferrocalamus fibrillosus* (from the holotype). — **A:** Culm sheath. — **B:** Dorsal view of sheath. — **C:** Section of leafy branch. — **D:** Branchlets with leaves and flowers. — **E:** Dorsal view of lemma. — **F:** Ventral view of palea. — **G:** Dorsal view of palea. — **H:** Stamen. — **I:** Gynoecium. — **J:** Lodicules. Scales: 2 cm for **A**; 0.2 cm for auricles in **B**, 4 cm for sheath in **B**; 2.5 cm for **C**; 15 mm for **D**; 5 mm for **E**; 5 mm for **F–I**; 0.6 mm for **J**.

nearly as thick as culm. 10 or 12 white cylindrical fibrils present inside internodes and connecting two diaphragms. Culm sheaths trapeziform, persistent, 8.5–22 cm long, lower base of culm sheaths 5.5–7 cm wide, upper base 1.5–2 cm wide, covered with densely standing black hairs on abaxial surface; margins with short white hairs; blade reflexed 0.2(0.3)–2(3) cm, lanceolate, concave at base; auricles erect, ca. 0.4–0.3 cm long, setae ca. 0.4 cm long; ligule ca. 0.1 cm high, with 0.1 cm long hairs. Leaf blade

oblong-obovate, base broadly rounded to broadly cuneate, with smooth hairs on lower surface, 32(45)–8(10) cm, veins in 10–12 pairs; ligule ca. 0.3 cm high, setose; leaf sheaths purple, with reddish brown hairs; auricle erect, 0.4–0.6 cm long, margin setose, ca. 1 cm long; petiole ca. 0.2 cm long. Inflorescence panicle on leafy flowering branches, flower rachis flat with 3–4 swollen lines; spikelets 15–20 mm long, florets 2–3 and one sterile at top of flower, articulate and bright pedicel; glumes 1 or 2, the largest

Table 1. Morphological comparison of *Ferrocalamus fibrillosus* with its congeners.

Characters	<i>F. fibrillosus</i>	<i>F. strictus</i>	<i>F. rimosivaginus</i>
Culms	2–3 m tall, 0.8–1.2 cm diameter	5–7 m tall, 2–3.5 cm diameter	5–7 m tall, 2–4 cm diameter
Fibrils inside internodes	10–12	absent	absent
Culm sheaths	auricles erect, 0.4–0.3 cm	auricles absent	split at apex, auricles small
Leaf sheaths	auricles erect, 0.4–0.6 cm	auricles absent	auricles small
Florets	2–3	3–10	unknown

5(6)–2(3) mm; veins in 8–12 pairs and apically swollen at tip; lemma 9(10)–2.5(3) mm; veins in 11 pairs, midrib conspicuous at 1/2 upper part, apically swollen at tip; palea longer than lemma, 2-keeled, clasping styles and stamens, top obtuse, 9(11)–2.5(3) mm; veins in 11 pairs; lodicules 3, triangle-shaped, apex acute, 1.5(2)–1(1.2) mm; stamens 3, filaments free; stigmas 2, white, sword-shaped with long hairs, originated on top of ovary. Caryopses unknown.

DISTRIBUTION. Kim Binh and Phu Binh Commune, Chiem Hoa District, Tuyen Quang Province, Vietnam.

HABITAT. The plants grow naturally in *Manglietia conifera* plantations and mixed with native *Schizostachyum* forests, at elevations below 200 m a.s.l. They can be found scattered or in patches along streams and in the foothills. They were flowering in 2005. The flowering period extends from April to May. The shoots are edible. They were found in only two communes and their habitat is under good protection.

This species is similar to *F. strictus* and *F. rimosivaginus* in general appearance. The distinguishing characters are given in Table 1.

Acknowledgments

The authors express their sincere thanks to IPGRI, especially to Dr. L. T. Hong for supporting the field surveys of bamboo species in Vietnam; to the Ministry of Science and Technology, and the Ministry of Agriculture and Rural Development for supporting the research project on Conservation of Forest Genetic Resources in Vietnam which also includes bamboo species; to the National Foundation for Science & Technology Development for supporting the research project on Enumeration of Bamboo taxa in Southern and Central Vietnam. Dr. C. M. A. Stapleton is thanked for critical remarks on the manuscript. Mr. Philip Blackwell provided valuable assistance in editing the manuscript.

References

- Hsueh, C. J. & Keng, P. J. 1982: A new bamboo genus in China. — *J. Bamboo Res.* 1(2): 137–139.
- Li, D. & Stapleton, C. M. A. 2006: *Ferrocalamus*. — In: Wu, Z. Y., Raven, P. H. & Hong, D. Y. (eds.), *Flora of China*, vol. 22, *Poaceae*: 135. Sci. Press, Beijing & Missouri Bot. Garden Press, St. Louis.
- Wen, T. H. 1984: New taxa of Bambusoideae in China (I). — *Journal of Bamboo Research* 3(1): 28–43.