

***Temochloa*, a new bamboo genus (Poaceae-Bambusoideae) from Thailand**

SOEJATMI DRANSFIELD*

ABSTRACT. *Temochloa*, a new genus of bamboo (Poaceae-Bambusoideae) is described from Southern Thailand with a single species, *T. liliana*, growing on limestone hills. The inflorescence is determinate, borne on terminating leafy branches, bearing one to four spikelets, each containing one fertile floret.

During fieldwork in peninsular Thailand in 1996, I collected a sterile slender sympodial bamboo growing on limestone rocks in Khao Lak, north of Krabi. This bamboo can also be seen growing on other limestone hills around Krabi. Initially I thought it was *Dendrocalamus elegans* Holtt., a bamboo species found on limestone hills in north Peninsular Malaysia. After examining the collections I realised that the Thai bamboo has a different branching system from that of *D. elegans*. In *D. elegans* the primary branch is dominant and elongates, whereas in the Thai bamboo the branches are of the same length. While examining specimens in BKF I found a sterile specimen collected in 1990 (*Pooma* 419 (BKF)) from Khao Sok National Park that matches my collection, and a flowering specimen collected in 1967 from Phangnga (*Shimizu et al.* 7904 (BKF, KYO, L)) which from the branch system resembles the sterile specimens. After examining further material (*Shimizu et al.* 7967 (KYO, L)), I am certain that the fertile and sterile specimens together represent an undescribed genus. The inflorescence terminates a leafy branch, and usually bears one spikelet (in the type specimen), consisting of a fertile floret and a long rachilla extension bearing a rudimentary or empty floret. In *Dendrocalamus elegans* the inflorescence consists of many pseudospikelets, arranged in a fascicle at each node of the flowering branches. I propose to name the new genus *Temochloa*, for the late Dr Tem Smitinand, who introduced me to Thai bamboos and their problems, and the species as *Temochloa liliana*, named for the late Ms Liliana Zimmermann, sister of Dr R.-C. Zimmermann who donated a grant through the Royal Botanic Gardens Kew to support my fieldwork in Thailand in 1996 and 1997.

Temochloa S. Dransf., **genus novum** *Poacearum-Bambusoidearum* rhizomatibus sympodialibus novum, rami et spiculae structura distincta; ramuli primarii 2–3 ad nodum a gemma singulare exorti; inflorescentia determinata, ramum foliosum terminanti, spiculo unico (raro plus) ferenti; spicula 2 glumis, 1 floscula fertile complanata effusa, internodio rachillae infra flosculum fertile elongato, extensione rachillae flosculum imperfectum ferenti distincta. Typus: *T. liliana*.

*Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AB, U.K.

Erect then scrambling, slender, sympodial bamboo. Culm with relatively thin walls; internodes smooth, node slightly swollen. Branch bud one at each node, developing into two or three equal branches borne at the same level, each producing branches at each lower node, developing into few to several secondary branches, usually of the same size, and geniculate. Culm sheaths glabrous; auricles not seen (probably absent); ligule very short; blades not seen. Leafy branches bearing about 8 small leaf blades; leaves with rounded base, tapering to long tips, glabrous, smooth, sheaths glabrous, auricles not present, ligule very short. Inflorescences determinate, terminating leafy branches, unbranched, bearing one spikelet (in the type specimen), or branched bearing three or more spikelets, axis slender, usually flattened, glabrous; spikelet consisting of two glumes, rachis internodes elongated above upper glume, with one fertile floret, and a rachilla extension bearing a sterile floret; lemma glabrous, palea 2-keeled, lodicules not seen, ovary glabrous, probably with three stigmas, stamens probably 6 with joined filaments, fruit not seen.

One species.

Temochloa liliana S. Dransf., *sp. nov.* culmi gracili, 1–2 mm diametri, pariete tenue ferenti; vaginis culmi glabris; laminis foliorum tenuis, glabris, basi rotundis ferenti vaginarum laminum foliorum pubescentibus; spicula 15 mm longa, glumas glabris, internodio rachillae 7 mm longa, glabris, lemmatae et palea glabris, ovario tenue glabra distincta. Typus: *Shimizu et al* 7904 (holotypus BKF!, isotypi KYO!, L!). Fig. 1.

Slender, erect then scrambling bamboo, with rhizomes producing very long roots (more than 30 cm), usually unbranched. *Culms* about 2 m tall, erect, with upper parts drooping or leaning on other vegetation, internodes 10–15 cm long, 1–2 mm in diam., smooth, with relatively thin walls, nodes slightly swollen. *Branch bud* 1 at each node of the main culm, from the lowermost node upwards, borne above supranodal ridge, prophyll hairy along the keels, enclosing 2 or 3 branch buds borne at the same level, developing extravaginally into slender, geniculate branches, often producing branches at its lower node, these branches bearing leaf blades, or elongating and branched again, one or two at each node, bearing leaf-blades. *Culm sheaths* (not well-preserved in available material) glabrous, about 4 cm long. *Leafy branches* 8–10 cm long, bearing 8–11 leaf blades; blades 4–7 by 0.5–0.9 cm, relatively thin, usually glabrous, base rounded, tapering to fine tips; sheaths hairy, becoming glabrous. *Inflorescence* borne terminating leafy branches, determinate, usually comprising one spikelet, in inflorescences with more than one spikelet (3–4 spikelets, *Shimizu et al* 7967) the axis segmented, elongating, up to 4 cm, slender, glabrous, terminated by a spikelet, and a single branch terminated by a single spikelet borne at each node, subtended by a bract/sheath and a prophyll, bracts/sheaths up to 1 cm long, glabrous, with rudimentary leaves, prophylls up to 5 mm long, glabrous. *Spikelets* 15 mm long, comprising 2 glumes, one fertile floret, a rachilla extension with rudimentary floret; lower glume glabrous, 5 mm long, with long tip, 5-nerved, upper glume glabrous, 6 mm long, with long tip, 5-nerved; rachilla internode (below fertile floret) 7 mm long, slender, glabrous; fertile floret 7 mm long, laterally compressed, lemma 7 mm long, glabrous, with long tip, 9-nerved; palea glabrous, 7 mm long, 2-keeled, with shallow groove, tip 2-lobed, 4-nerved; lodicules not seen; ovary glabrous, style short, stigmas not seen; stamens not seen.

Thailand.— PENINSULAR: Surat Thani [Khao Sok, Chiewlaan Dam, sterile, 23 April 1990, *R. Pooma* 419 (BKF)]; Phangnga [Khao Sam Kob, Thap Put, fl., 24 Aug. 1967, *Shimizu et al.* 7904 (holotype BKF; isotypes KYO, L), Khao Tham Thong Lang, Thap Put, fl., 24 Aug. 1967, *Shimizu et al.* 7967 (KYO, L)]; Krabi [Ban Thung, Khao Lak, sterile, alt. 50 m, *Dransfield* SD1411 (BKF, K, KEP, L), mixed collection with *Dendrocalamus elegans*].

Distribution.— Endemic to Thailand.

Ecology.— Limestone hills, 50–250 m.

Notes.— *Shimizu et al.* 7904 is chosen as the type because it is the most complete specimen. The vegetative parts are described from *Dransfield* SD1411. The fertile floret is easily shed, and disarticulates below the lower glume leaving an elongate rachilla internode (7 mm long) bearing two glumes on an elongate inflorescence stalk (up to 6 cm long). The flowering specimens (*Shimizu et al.* 7904 and 7967) bear only 3–6 florets, and because of this I did not dissect more than one floret. In the dissected floret the stamens were not seen (presumably they had fallen off), and remnants of filaments were not easy to find. More collections of this bamboo are needed. Although the descriptions of the inflorescence and flower are not complete, I believe this bamboo does not belong to any known genus. However, it approaches *Temburongia* S. Dransf. & K.M. Wong (*Dransfield & Wong* 1996), a monotypic genus from Brunei, in having one fertile flower on the spikelet, borne on an elongated rachilla internode, and a long rachilla extension. The branch structure in *Temochloa* is very different from that of *Temburongia*; there are 2–4 at each node originating from a single branch bud borne at the same level; in *Temburongia* the primary branch is dominant surrounded by several shorter secondary branches. *Temochloa* shares with *Racemobambos* Holtt. the determinate inflorescences, but differs from the latter in having one fertile flower in the spikelet with a rachilla extension bearing a reduced or rudimentary floret. (*Racemobambos* Holtt. is a Malesian genus of ca. 20 species, mostly occurring in montane forest; spikelet consists of 2–8 fertile florets and a vestigial terminal floret). The placements of both *Temochloa* and *Temburongia* in tribe *Bambuseae* are still uncertain.

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REFERENCE

- Dransfield, S. & K. M. Wong (1996). *Temburongia*, a new genus of bamboo (Gramineae-Bambusoideae) from Brunei. *Sandakania* 7: 49–58.

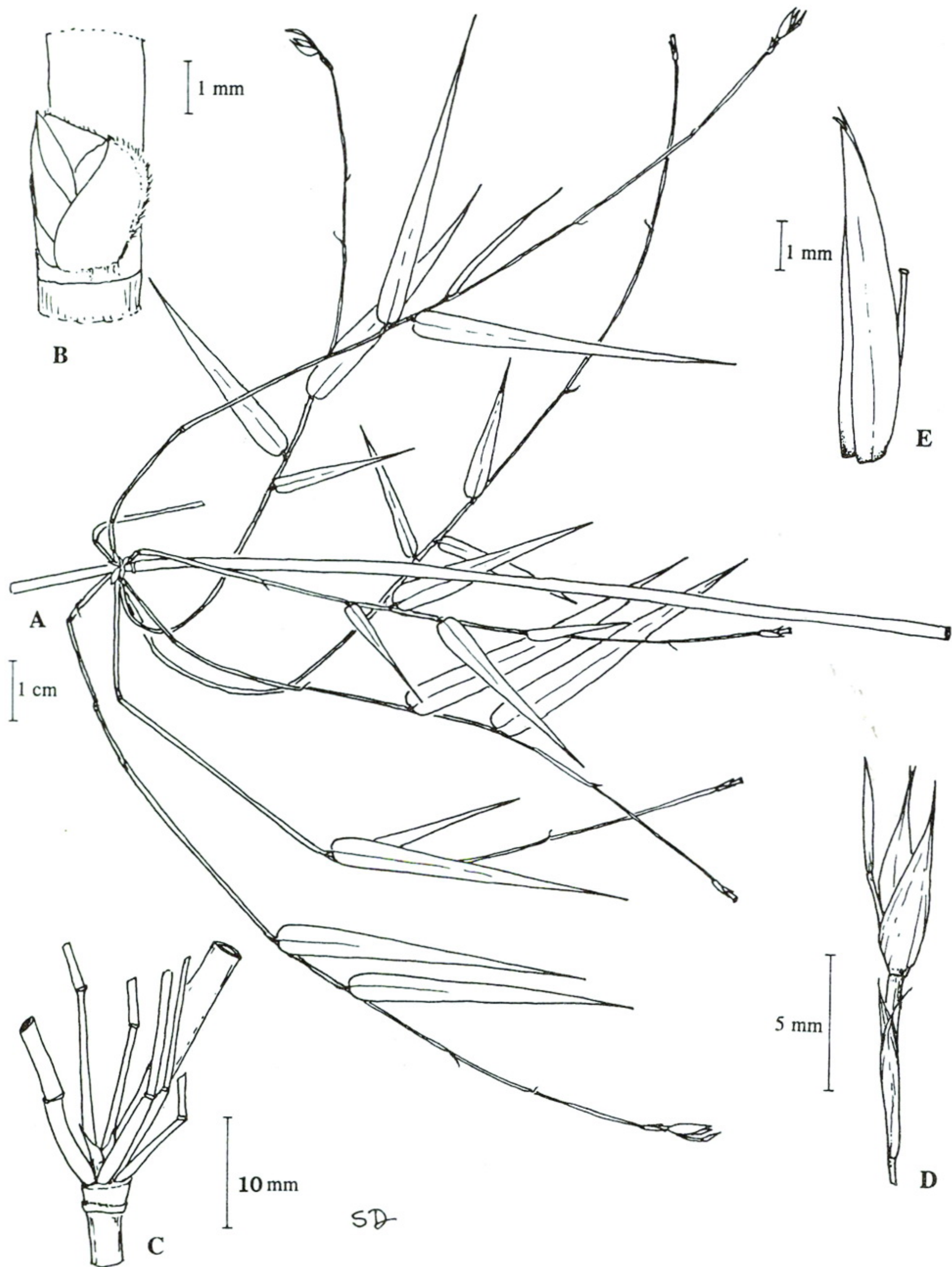


Fig. 1. *Temochloa liliana*: A. part of main culm with flowering branches; B. single bud at a node; C. branches at a node, showing three branches borne on the same level; D. spikelet, with 2 glumes; E. palea and rachilla extension. A, D & E from Shimizu *et al* 7904, B & C from Dransfield SD1411. Drawn by the author.