BULL. BOT. SURV. INDIA

Vol. 25, Nos. 1-4 : pp. 235-238, 1983

THREE NEW TAXA OF INDIAN BAMBOOS

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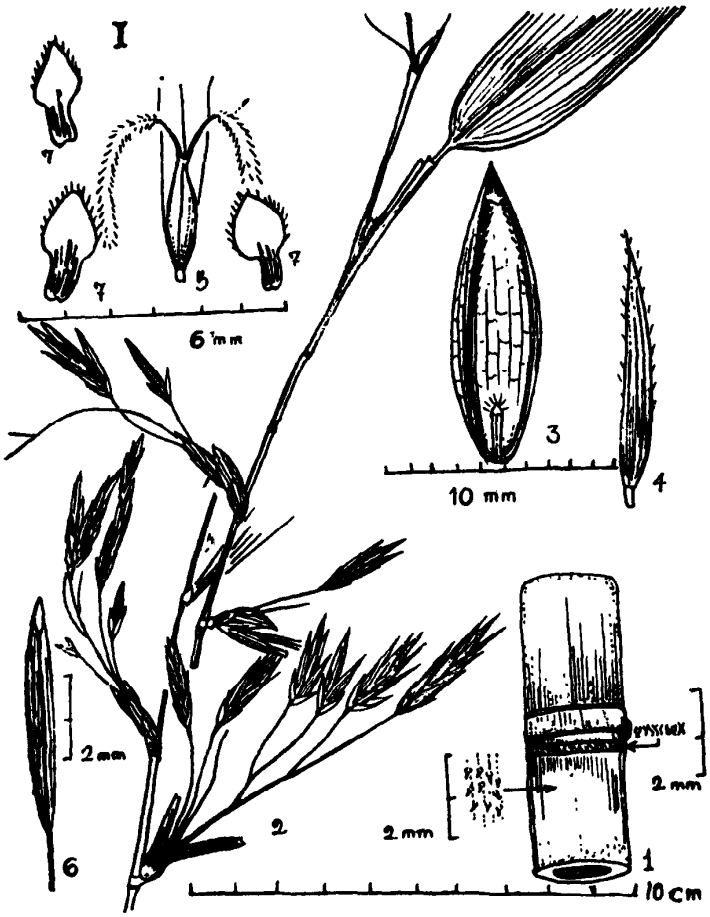
INTRODUCTION

The present study of the Indian Bamboos is long overdue as there is no critical revision of the taxa after excellent monograph of Gamble (1896) except a review by Blatter (1929). Though Gamble was a critical worker yet his acceptance of the classification by Bentham (1883) often forced him to take decisions contrary to his own observations. Thus the similarity in structure of the grains of *Bambusa, Gigantochloa* and *Dendrocalamus* did not support their segregation under different subtribes. Also the grain of *Dendrocalamus* is hardly comparable in structure to those of *Melocalamus, Pseudostachyum,* and *Cephalostachyum* with which it had been placed nor was there justification to keep separate *Schizostachyum, Cephalostachyum* and *Teinostachyum* (Holttum 1946, 1958). This together with the appreciation of the study of the branch-initial as well as the morphology of the vegetative and floral organs necessitates revision of the group as a whole (McClure 1934, 1973 ; Holttum 1955).

ENUMERATION

1. Drepanostachyum jainiana (Das et Pal) Majumder, R. *comb. nov.* Syn. *Chimonobambusa, jainiana* Das et Pal, J. Econ. Tax. Bot. 4(3) : 1023-1024. 1983.

Plantae fruticosae, perennes, culmis validis 2 cm latis. Annulus nodalis praesens, internodia asterata, rami numerosi in caespitibus. Culmi- vaginae ignotae. Lamina 11-25 cm longa, 2-4 cm lata, oblonga, crassa, venae



Drepanostachyum jainiana (Das et Pal) Majumder, R.

Plate I: 1. Part of the culm showing a nodal ring (lower part of culm-sheath) infra-nodal white-hairy zone (a) and scabrid internode (b). 2. Part of the inflorescence. 3. A floret with rhachilla-joint. 4. The terminal sterile floret. 5. Gynoecium with withered filaments, 6. Anthers. 7. Lodicules.

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insigniter parallelae, petioli-5-7 mm longi; ligula 5-6 mm alta. Panicula magna, rami cum caespitibus racemorum brevium. Spiculae 2, 4.5-6.5 mm longae, 5-9-nervae. Lemma 13-20 mm longum, lanceolato-acuminatum, dense pilosum ad dorsum marginemque, nervi reticulati, areolas rectangulares formantes, palea brevior, bicarinata, iner carinae 3-4-nerva, carinae pilosae. Lodiculae 3, ciliatae. Stamina 3, antherae 5-5.5 mm longae. Granum-non visum.

Sikkim — Nakowa *Riboo et Romeo* 80! *Riboo et Romeo* 81! 82! 83! 84! (CAL.). *Holotype*: Kalimpong Hazra 12178! (CAL).

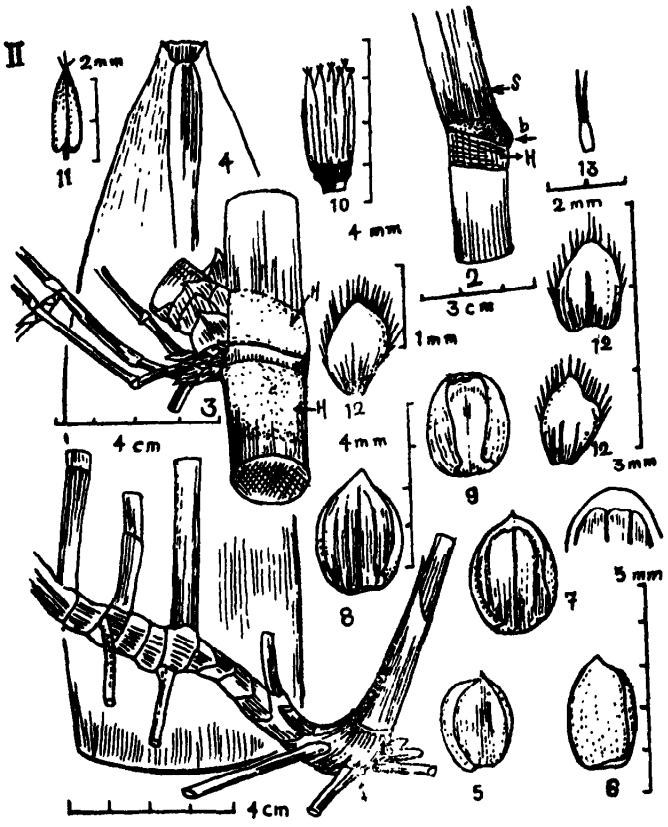
Rather tall perennial bamboo; culms c. 2 cm wide with a nodal ring followed by an infra-nodal scabrid zone and nodes extended upwards to supra-nodal ridge, internodes minutely asperulous. Leaf-blades 11-25 cm long and 2-4 cm wide rather thick with parallel veins, and ligule 5-7 mm high. Panicles very large, branches spiculate in the lower part but often leafy at the end. Spikelets 1.8-3 cm long, 5-7-flowered; lemma 13-20 mm long, paleate and with tassellated nerves. Flowering in the years: 1905 and 1979.

The new genus *Drepanostachyum* Keng, f. in *J. Bamb. Res.* 2(1): 15. Jan. 1983, is justified due to the presence of tuft of nodal branches, tufted habit of the plant, different type of floriferous branches and rhizome type. The new genus has also been conceived by the present author, in India and Dr. Soderstrom, Smithsonian Institution, Washington, D.C., simultaneously, but Keng's publication is earlier.

The Sikkim plant, known as *Arundinaria suberecta* Munro in *Trans. Linn. Soc.* 26: 32. 1868; Gamble in *Ann. Roy. Bot. Gardn. Calcutta* 7: 25, t. 24. 1896, should be known hereafter as: *D. suberecta* (Munro) Majumder.

2. Melocalamus indicus Majumder, R. *sp. nov.*

Planta scandens. Culmi subsolidi, 6-30 cm longi, 10-20 cm lati, annulo nodali prominenti; internodia 40-50 cm longi. Culmi vaginae 20-25 cm longae, 3-6 cm latae, juventute tubulares, in maturitate concavi et elabentes propter spissescentem secus medium, ore depresso, 10-12 mm lato similiter profundo, ligula reoleto. Laminae vaginales vaginum aequantes vel eam superantes, lineares, virides. Foliorum laminae 12-18 cm longae, 2.5-3 cm latae in ramis junioribus, breviores in partibus vetustioribus, oblongae apicae tortae, pilis longis sericeis. Panicula magna apicularum fasciculis globosis, in ramis, axis principalis sine vagina culmi. Spiculae 2.5 mm crassae, fere orbiculares, flosculi 2, flosculus inferior sterilis et superior hermaphro-



Melocalamus indicus Majumder, R.

Plate II: 1. Part of the rhizome with thick roots. 2. Part of the culm showing white felty zone (H), culm-sheath-base (b) and culm-sheath (s). 3. Part of solid culm showing hairy zone, many slender branches supporting a larger upper branch. 4. Culm-sheath. 5. Lower glume. 6. Upper glume. 7. Lower lemma. 8. Upper lemma. 9. Upper palea. 10. Stamens. 11. Stamen showing penicillate anther-tip. 12. Lodicules. 13. Gynoecium.

ditus, flosculus imperfectus nullus; glumae 2, 2-2.5 mm longae, similiter latae, paucinervae; lemma 2.5 mm longum ad marginum ciliatum, nervi 4 validi, reticulati, areolas rectangulares formantes, palea brevior, non distincte carinata. Lodiculae 3, ciliatae. Stamina-6, filamenta brevia, libera, granum non visum.

Holotype: Cachar: Bhuban Hill *Majumder* 73083 ! (CAL.). Manipur *Malik* 942. (CAL.).

Evergreen scandent bamboo with very long solid culms, arching over tall trees and then hanging downwards with tufts of green leaves at the branch-tips; culm-nodes with woody ring, formed by the persistent lower part of the cylindrical culm-sheaths, infranodal region white scurfy and branches many in tufts, supporting often a solitary large bud that develop into a branch as thick as the main culm. Culm-sheaths cylindrical at length crustaceous and falling away (persistent in *M. compactiflorus*). Panicle large with globular clusters of spikelets on the nodes of the flexuous branches. Spikelets-2-flowered, lower floret sterile and the upper hermaphrodite but without rhachilla extension (present in *M. compactiflorus*).

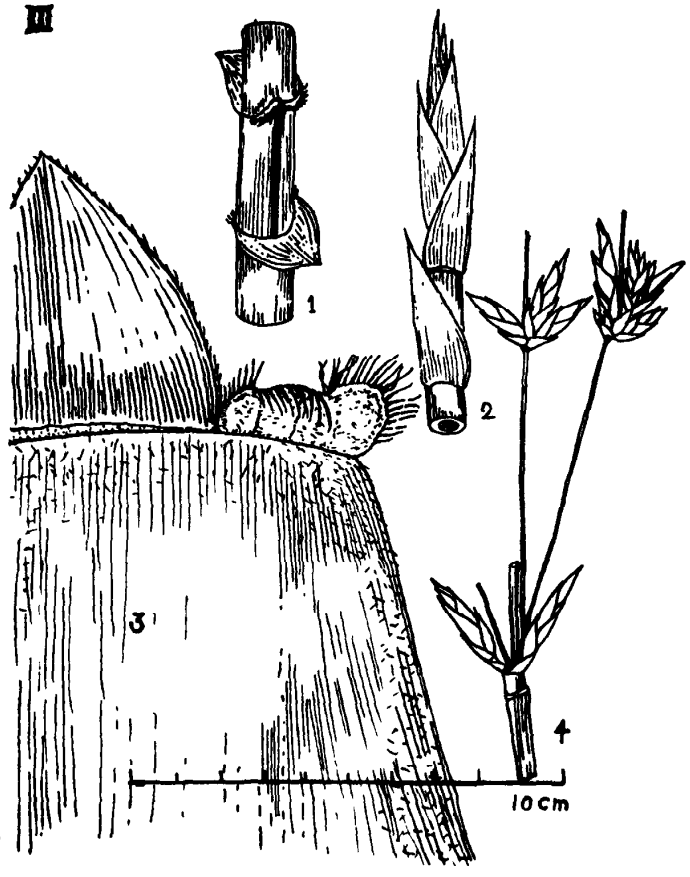
Common in the tropical low land rain forests of Cachar, Manipur and other adjoining parts of Assam. The culms are used in basket works.

3. **Bambusa cacharensis** Majumder, R. *sp. nov.*

Bambusa arborea, *B. tuldae* simulans. Culmi erecti 20-21 m alti, 5-10 cm in sectione transversa. Culmi vaginae aurantiaco-flavae, 12-15 cm longae, 25-27 latae, crassae, ad dorsum pilis fuscatis spicularibus, auriculae sinuatae cum cilia crassa valida ad marginum, ad dorsum pilis densis brevibus, patentes ad angulum rectum surculo juveni. Lamina 16-20 cm longa, 1.5-2.5 cm lata, linearis. Panicula permagna, culmum totum occupans. Spiculae 3-3.5 cm longae, 3-6-florae, flosculai 10-15 mm longi, politovirides; glumae-2 inaequales, 5-8 mm longae, multinervatae, lemma 10-14 mm longum multinervatum. Palea brevior, bicarinata, carinae scabrae. Lodiculae 3, ciliatae. Stamina 6.

Holotypus: Cachar: Lakhimpur, Mar Bastee *Majumder* 74265 A ! (CAL.). *Iso*: *Majumder* 74265 B ! (ASSAM).

Tall bamboo like *Bambusa tulda;* young shoots without white powdery excretions below the culm-sheaths; sheath-blades orange-yellow and spreading at right angle to the axis (blades erect in *B. tulda* and *B. pallida*). Culm-sheaths 12-15 cm long and 25-27 cm broad, covered on the back with chocolate-brown sharp spicular hairs; blade with wavy auricles with thick rigid cilia on the margins and short dense hairs outside on the body (hairs absent in auricles of *B. tulda* and *B. pallida*). Panicle occupying the whole culm,



Bambusa cacharensis Majumder, R.
Plate III: 1. Young shoot showing spreading culm-sheath-blade: diagrammatic. 2. Young shoot of *B. pallida* showing ascending culm-sheath blades: diagrammatic. 3. Part of culm-sheath. 4. Part of inflorescences.

spikelets aggregated at the nodes of the ultimate branchlets. Spikelets 3-3.5 cm long and 3-6-flowered, rhachilla internodes articulated; florets 10-15 mm long, glossy green.

Common in the Brahmaputra valley and in the Cachar. Easily spotted in the field due to the coloured reflexed blades of the culm-sheaths.

ACKNOWLEDGEMENTS

Thanks to Dr. N. C. Majumder, Ecologist, BSI, Howrah for Latin diagnosis; and to Dr. T. Soderstrom, Smithsonian Institution, Washington, D.C. for information; to Dr. V. S. Agarwal, Editor, Head quarters and Dr. J. Joseph, Deputy Director, Eastern Circle, Shillong for encouragements.

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