

specimens collected respectively by Griffith in 1836 in Mishmi hills and Burkill in 1911 in Abor hills were found wrongly labelled as *Erianthus longisetosus* Anders. *S. wardii* can easily be distinguished from *E. longisetosus* by its glabrous glumes, longer callus hairs and smaller anthers (ca 2.5 mm long). Therefore both the specimens have been determined as *S. wardii*. A description of the species based on the above mentioned specimens is given below.

Saccharum wardii (Bor) Bor ex Cope in Kew Bull. 35(3): 702. 1980. *Erianthus wardii* Bor in Kew Bull. 9: 498. 1954 & Grass. Burm. Ceyl. Ind. & Pak. 152. 1960. (Figs. 1-9).

Tall grass. Culms terete; nodes glabrous. Leaf sheaths tight, striate; ligule ca 2 mm long, coriaceous, rounded, ciliate; blades ca 1 m × 2.5 cm, glaucous, narrowed towards base; margins scabrous. Inflorescence a panicle ca 20 × 10 cm, axis angled. Spikelets 2 at each node, one sessile, the other pedicelled. Sessile spikelet ca 4.5 mm long, 2-flowered; callus hairs ca 8 mm long. Lower glume ca 4.5 mm long, oblong-acute,

glabrous, 5-nerved, shortly 2-aristate at the tip. Upper glume ca 4.5 mm long, boat shaped, 3-nerved with the median nerve produced into a mucro; margins hyaline, ciliate. Lower lemma empty, ca 3 mm long, hyaline; margins ciliate. Upper lemma hermaphrodite ca 3 mm long, hyaline, awned; awn ca 20 mm long. Stamens 3; anthers ca 2.5 mm long. Styles 2; stigma plumose. Lodicules 2, truncate. Pedicelled spikelet similar to the sessile spikelet.

Found along the open hilly tracks. Commonly known as Harrahu among local tribes. Used as fodder for "mithun" and "goru".

Specimens examined: INDIA: Arunachal Pradesh: Abor hills, Janakmukh, Dec. 17. 1911. Burkill s.n. (acc. no. 37706). Lohit Dist., Hayuliang Block, on way from Maanchal to Khamlaighat, Nov. 20. 1980, V. Mudgal 1031; Mishmee, 1836, Griffith 351 (CAL).

D. C. PAL, B. P. UNIYAL

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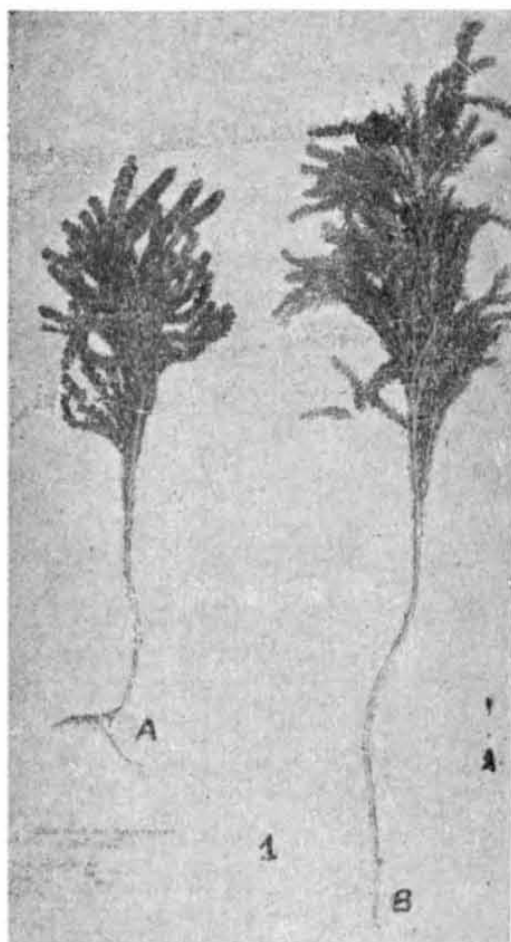
V. MUDGAL

Botanical Survey of India, Howrah

LYCOPodium obscurum L.—ITS OCCURRENCE IN BHUTAN

A study of the material of the Lycopodiaceae, extant in Central National Herbarium, Howrah, attracted the attention of the author to an unidentified collection of J. C. White from Bhutan. Two specimens were found to be distinct. A critical look at the description by Linnaeus in his species plantarum and study of the specimen in the Linnaen Herbarium (LINN Microfiche no. 1257.12) showed that Bhutan plants with these characteristics—rhizome

subterranean giving off tall aerial branched shoots, simple in basal region, copiously branched above, flabellate, branchlets crowded, ascending; strobili sessile, 2-10, terminal on the upper branchlets are only *L. obscurum* L. This is further confirmed by the comparative study of collections from other areas of the world. The establishment of its identity and occurrence in Bhutan is of interest as a record of extension of distribution from Pacific Islands,

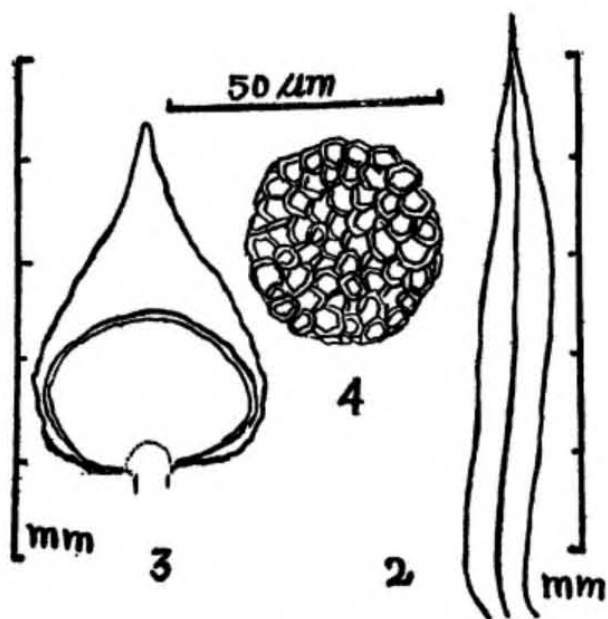


Japan, China. A detailed description and illustrations are provided to facilitate its easy identification from elsewhere.

Lycopodium obscurum L. Sp. Pl. 2: 1102. 1753; Bak. Handb. Fern Allies 24. 1887; Tagawa, Coloured Illus. Japanese Pterid. 13. 229. f. 3. 1959 & Icon. Cormophytorum Sinicorum 1: 108. f. 215. 1972.

Rhizome subterranean, usually long, giving off tall, aerial arborescently branched shoots at short intervals. Aerial shoots erect, 15-30 cm high, stout, simple in the basal region, copiously branched above, flabellate; branchlets crowded, ascending. Leaves lax to moderately close, $5-7 \times 1.0-1.5$ mm, erecto-patent, lanceolate, coriaceous, glaucous green to brownish-green at maturity; margins entire; midrib distinct throughout. Strobili 2.5-5.0 cm $\times$ 5-7 mm, sessile, 2-10, terminal on the upper branchlets, cylindrical. Sporophylls crowded, imbricate, ascending, broadly ovate, acute. Spores trilete, $35-40 \mu$ m, reticulate (Figs. 1-4).

Specimens examined: (All specimens are deposited in Herbarium CAL). **BHUTAN:** Byogha, 16.5.1906, *White* 160, Acc. nos. 7535, 7536. **CHINA:** Hupeh, 1885-88, *Henry* 7165, Acc. nos. 29732, 29733. **JAPAN:** Karita: Iwaki, 5.9.1923, *Hayakawa* 134; Gifu Pref., 1924, *Makino* 32400; Honshu Pref.—Oomine Mts. Keta-gun, 24.8.1956, *Tagawa* 7305. **AMERICA:** New Hampshire, 27.7.1915, *Fernald* 104; Northern Wisconsin, Vilas County, 27.9.1964, *Bubola* s.n., Maryland, 8.7.1972, *Winder & Stastny* 4000; North Carolina, Alleghany County, *Pence* 44949; Michigan, Aug. 1872, *Babcock* s.n., Acc. no. 30010; Canada. Kingston Ont., 18.6.1897, *Fowler* s.n., Acc. no. 30014; Quebec, Aug. 1907, *Victorin* 466.



Figs. 1-4: 1. *Lycopodium obscurum* L. *White* 160. A. Small plant with subterranean rhizome. B. Larger plant without rhizome. 2. Leaf. 3. Sporophyll. 4. Spore.

R. D. DIXIT

Botanical Survey of India, Allahabad