the dry specimen. Flowers yellowish-red. Sepals subequal, broadly ovate. Petals slightly smaller than sepals, cuneately obovate. Lip 3-lobed with bottle-shaped spur at the base, apex of the spur globose, didynamous; side lobes rounded and midlobe oblong. Stigmatic surface 1 x 1 mm. Capsule not seen.

Fl.: Late June-late July

Fr.: Unknown.

Geographical distribution: India, Assam, Sikkim, Bangladesh, Bhutan and Thailand.

Specimen examined: Chittagong Hill Tracts (Ragamati); Kaptai, 10.ii.1981 (collected at vegetative stage, subsequently flowered next year, cultured in the Botanical garden, Chittagong University, Chittagong, Bangladesh), Moyeen 404.

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34. *BOLBOSCHOENUS PLANICULMIS* (F. SCHMIDT) T. KOYAMA (CYPERACEAE) — A NEW RECORD FOR SOUTH ASIA FROM GUJARAT COAST

(*With two text-figures*)

While working on Cyperaceae specimens from the West Coast of the country, two interesting specimens were found labelled as *Scirpus maritimus* L. var. *affinis* Clarke. As some striking, superficial differences were found in these specimens, a detailed study was made and the specimens were subsequently identified as *Bolboschoenus planiculmis* (Schmidt) Koyama which is not yet reported from India and the neighbouring countries, except from the Chinese coast. A detailed description of the species along with illustrations and distribution is given below.

Bolboschoenus planiculmis (F. Schmidt) T. Koyama, Fl. Taiwan 5: 207. 1978. *Scirpus planiculmis* F. Schmidt, Reisen Amerlande U. Ins. Sachalin 190, t. 8, f. 1-7. 1868; Koyama in Journ. Fac. Sci. Univ. Tokyo 3, 7(6): 330, f. 13. 1958. Fig. 1.

Perennials with long stolons, 30-50 cm high, stramineus when dry. Stolons slender, 1-1.5 mm thick, covered by brownish sheaths, ending in small tubers; tubers ovoid to oblong-ellipsoid, 10-12 x *ca* 3 mm, rooting and producing new stems. Stems solitary from the

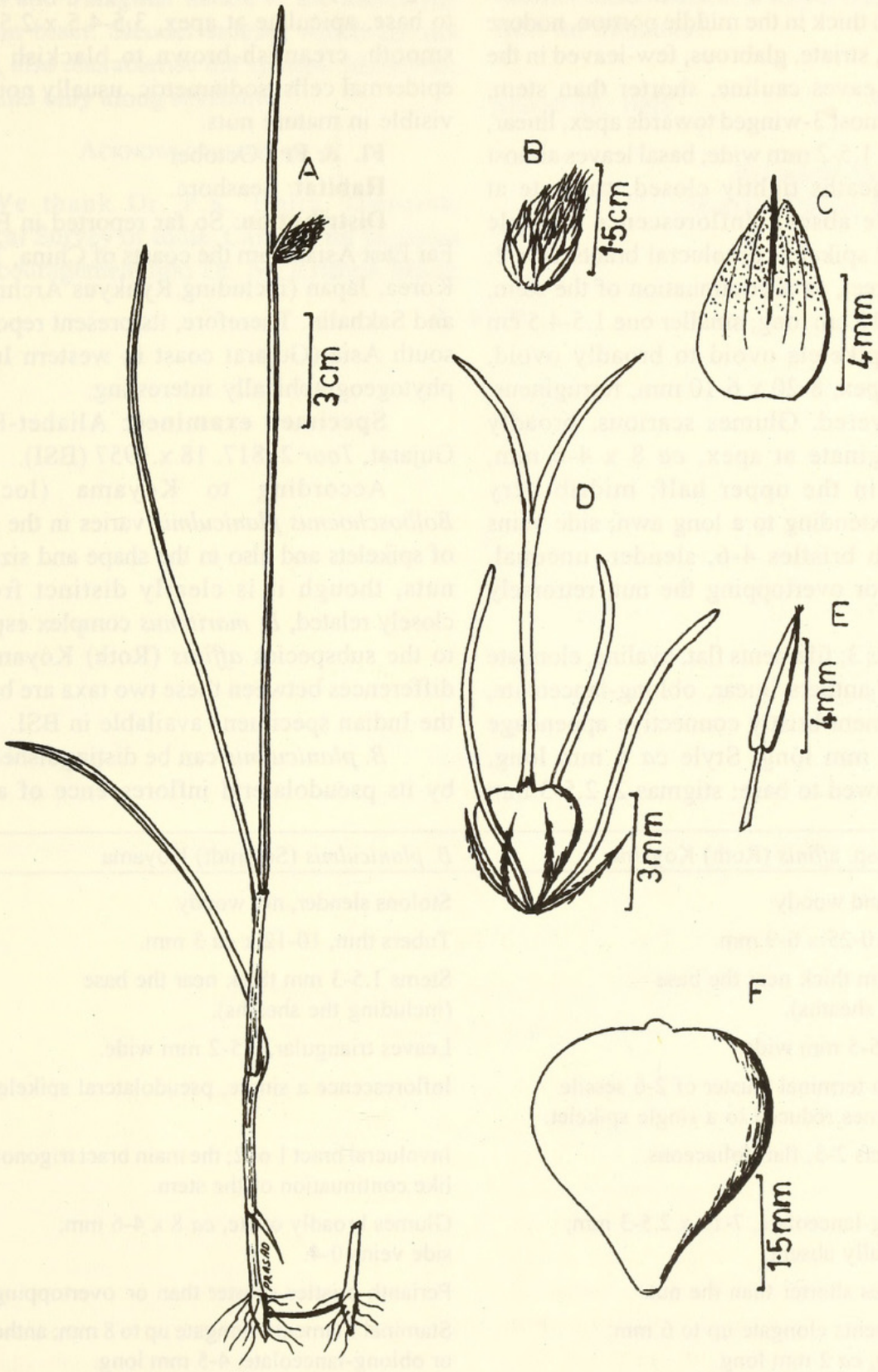


Fig. 1: *Bolboschoenus planiculmis* (Schmidt) Koyama (A) Habit; (B) Spikelet; (C) Glume; (D) Flower in later stage; (E) Stamen; (F) Nut.

tuberous base, narrow, erect, trigonous with flat sides, 1-2 mm thick in the middle portion, nodose towards base, striate, glabrous, few-leaved in the basal half. Leaves cauline, shorter than stem, triangular, almost 3-winged towards apex, linear, acute at apex, 1.5-2 mm wide; basal leaves almost bladeless; sheaths tightly closed, truncate at mouth; ligule absent. Inflorescence a single pseudolateral spikelet. Involucral bracts 1 or 2; main bract erect, as if continuation of the stem, trigonous, 7-15 cm long; smaller one 1.5-4.5 cm long, flat. Spikelets ovoid to broadly ovoid, subacute at apex, 8-20 x 6-10 mm, ferrugineus, densely flowered. Glumes scarious, broadly ovate, emarginate at apex, *ca* 8 x 4-6 mm, puberulous in the upper half; midrib very prominent, extending to a long awn; side veins 0-4. Perianth bristles 4-6, slender, unequal, shorter than or overtopping the nut, retrorsely scabrous.

Stamens 3; filaments flat, hyaline, elongate up to 8 mm; anthers linear, oblong-lanceolate, with a prominent bristly connective appendage at apex, 4-5 mm long. Style *ca* 4 mm long, slightly narrowed to base; stigmas 2, 2.5-3 mm long. Nuts planoconvex, broadly obovate, cuneate to base, apiculate at apex, 3.5-4.5 x 2.5-3 mm, smooth, creamish-brown to blackish brown; epidermal cells isodiametric, usually not clearly visible in mature nuts.

Fl. & Fr.: October

Habitat: Seashore.

Distribution: So far reported in East and Far East Asia, from the coasts of China, Taiwan, Korea, Japan (including Ryukyus Archipelago) and Sakhalin. Therefore, its present report from south Asia (Gujarat coast in western India) is phytogeographically interesting.

Specimen examined: Aliahet-Hansot, Gujarat, *Toor* 25817. 18.x.1957 (BSI).

According to Koyama (loc. cit), *Bolboschoenus planiculmis* varies in the number of spikelets and also in the shape and size of the nuts, though it is clearly distinct from the closely related, *B. maritimus* complex especially to the subspecies *affinis* (Roth) Koyama. The differences between these two taxa are based on the Indian specimens available in BSI.

B. planiculmis can be distinguished easily by its pseudolateral inflorescence of a single

B. maritimus ssp. *affinis* (Roth) Koyama	*B. planiculmis* (Schmidt) Koyama
Stolons thick and woody	Stolons slender, not woody
Tubers stout, 10-25 x 6-9 mm.	Tubers thin, 10-12 x *ca* 3 mm.
Stems 2.5-6 mm thick near the base (including the sheaths).	Stems 1.5-3 mm thick near the base (including the sheaths).
Leaves flat, 2.5-5 mm wide.	Leaves triangular, 1.5-2 mm wide.
Inflorescence a terminal cluster of 2-6 sessile spikelets, at times reduced to a single spikelet.	Inflorescence a single, pseudolateral spikelet.
Involucral bracts 2-3, flat, foliaceous.	Involucral bract 1 or 2; the main bract trigonous, looks like continuation of the stem.
Glumes oblong-lanceolate, 7-10 x 2.5-3 mm; side veins usually absent.	Glumes broadly ovate, *ca* 8 x 4-6 mm; side veins 0-4.
Perianth bristles shorter than the nut.	Perianth bristles shorter than or overtopping the nut.
Staminal filaments elongate up to 6 mm; anthers oblong, *ca* 2 mm long.	Staminal filaments elongate up to 8 mm; anthers linear or oblong-lanceolate, 4-5 mm long.
Style *ca* 2 mm long.	Style *ca* 4 mm long.
Nuts *ca* 2.5 x 2 mm.	Nuts 3.5-4.5 x 2.5-3 mm.

spikelet and triangular nature of the leaves and the main bract. Slender stolons which are not woody, also characterise the species. Moreover, it is found only along seashores.

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