**CYPERACEAE** 720

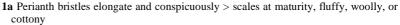
Changes to key: Schoenoplectiella segregated from Schoenoplectus on the basis of molecular and morphological data. Doing so makes both genera monophyletic.

## **References:**

Hayasaka, E. 2012. Delineation of Schoenoplectiella Lye (Cyperaceae), a genus newly segregated from Schoenoplectus (Rchb.) Palla. Japanese Journal of Botany. 87: 169-186.

## CYPERACEAE Sedge Family

Infl capitate, umbellate, or pan, terminal or pseudolateral, with bract appearing to be a continuation of the st beyond the infl; fls much reduced,  $\mathcal{Q}$  or  $\partial \mathcal{Q}$  (pls then monoecious or seldom dioecious), sessile in spikes or spikelets, apparently or truly axillary to small bracts (scales); perianth of  $1-\infty$  (often 6) short or elongate bristles, or lacking; stamens gen 3, or only 1-2, in ours exserted at anthesis (pls wind pollinated); ovary superior, tricarpellate or less often bicarpellate, the style correspondingly 3- or 2-cleft; ovary 1-celled, 1-ovuled; fr an achene; fibrous-rooted, often rhizomatous herbs, often grasslike, the culm triangular to terete, solid or seldom hollow; lvs mostly 3-ranked and with closed (rarely open) sheath and parallel-veined, typically elongate and grasslike bl, or some or all lvs with reduced or no bl, ligs present or absent.



2a Perianth bristles contorted, the spikelets appearing woolly, gen gray to rufous

2b Perianth bristles nearly straight, the spikelets appearing silky or cottony, bright white to rufous

**3a** Perianth bristles gen 10-25 per fl; spikelets 1-10(-30), > 1 cm excluding bristles **Eriophorum** 

**3b** Perianth bristles 4–6 per fl; spikelets solitary, < 1 cm excluding bristles (T. alpinum) Trichophorum

**1b** Perianth bristles absent or inconspicuous and < scales at maturity

**4a** Achene enclosed or enwrapped in a small bract (perigynium, abbreviated to "peri") as well as subtended by a scale; fls unisexual

5a Peri open, with unsealed margins, merely wrapped around the achene; infl unbr

**5b** Peri closed (except at the tip), though often showing an inconspicuous dorsal suture distally; infl unbr or with obvious brs

**4b** Achene subtended by a scale, not enclosed or enwrapped in a peri; fls gen bisexual **6a** Scales of spikelet arranged in 2 vertical ranks (distichous)

7a Sts hollow and Ify distally; infl axillary; perianth of 6–9 bristles > achene; the rather short lvs in 3 ranks Dulichium

7b Sts solid and Ifless distally; infl terminal; perianth none; the often moreelongate lvs gen spiraled and not in 3 ranks Cyperus

6b Scales of spikelet spirally arranged

8a Style thickened toward base, the thickened part persistent on achene as a tubercle, gen sharply differentiated from body of the achene

9a Spikelet solitary; fertile fls or achenes several—∞ per spikelet; perianth bristles 0-6 Eleocharis

**9b** Spikelets several $-\infty$ ; fertile fls or achenes  $1-\infty$  per spikelet; perianth bristles absent or gen 10-12

10a Pls ann; spikelets in red-brown umbels, terminal and rarely basal; bristles absent; tubercle buttonlike, < 0.3 mm, as long as wide

Bulbostvlis

10b Pls per; spikelets in dense white clusters, terminal and axillary; bristles retrorsely barbed, 10–12; tubercle narrow, 0.5–1.2 mm, much longer than wide

Rhynchospora

8b Style not thickened, although achene sometimes with a persistent, pointed stylar tip not sharply differentiated from body of achene

11a Infl a solitary terminal spikelet

**12a** Upper If sheaths with bls 1.5–8.5 cm long Trichophorum

12b Sheaths  $\pm$  bladeless, the upper If sheaths with bls reduced to a tiny tooth Eleocharis

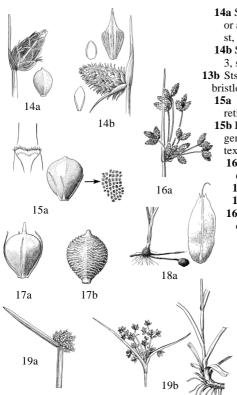
11b Infl a solitary lateral spikelet, never truly terminal, or spikelets > 1

13a Sts < 0.5 mm diam; pls ann, cespitose (rarely weakly per); perianth bristles absent (flat, smooth filaments often present)



12b

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14a Stigmas gen 3, achenes gen trigonous or planoconvex; 1 scale per fl or achene; infl bract solitary and erect, apparently a continuation of the st, or obscure and scalelike Isolepis

**14b** Stigmas 2, achenes biconvex; 3 scales per fl or achene; infl bracts 1–3, spreading or erect **Lipocarpha** 

13b Sts > 0.5 mm wide; pls gen per, cespitose or rhizomatous; perianth bristles gen present, gen scab (flat, smooth filaments present as well)

15a Lvs with ciliate ligs and narrow, elongate bls; achene surface reticulate at 10×, smooth and glossy

Amphiscirpus

15b Lvs with ligs absent or smooth, bls present or absent; achene surface gen not reticulate at 10×, smooth and glossy or dull or papillose or textured or with wavy, transverse ridges

**16a** Infl subtended by a solitary, erect bract, apparently a continuation of the st, infl apparently lateral

17a Pls per, rhizomatous; achenes smoothSchoenoplectus17b Pls ann, cespitose; achenes ridgedSchoenplectiella

**16b** Infl subtended by 1-several, gen spreading, lfy bracts, infl obviously terminal

**18a** Spikelet scales hairy on surfaces, at least when young, tips notched and awned; rhizomes with tubers or thickened at nodes; spikelets  $10-40 \times (4-)6-12$  mm **Bolboschoenus** 

18b Spikelet scales glab on surfaces, tips not both notched and awned; rhizomes without tubers, not thickened at nodes; spikelets  $2-12 \times 1-4$  mm

19a Lf sheaths bladeless; spikelets sessile in a dense cluster; uncommon, intro sp. (*S. mucronata*)
Schoenoplectiella
19b Lf sheaths with wide bls; spikelets sessile or peduncled and pan; common native spp.
Scirpus