



Darwiniana

ISSN: 0011-6793

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Instituto de Botánica Darwinion

Argentina

Wheeler, Gerald A.

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Darwiniana, vol. 40, núm. 1-4, 2002, pp. 199-208

Instituto de Botánica Darwinion

Buenos Aires, Argentina

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CAREX (CYPERACEAE) FROM SOUTH AMERICA: THREE NEW SPECIES AND SOME NAME CHANGES

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ABSTRACT: Wheeler, G. A. 2002. *Carex* (Cyperaceae) from South America: three new species and some name changes. *Darwiniana* 40(1-4): 199-208.

Three new species of *Carex* (Cyperaceae) are described from Bolivia. Each of them, *Carex peruvida*, *C. ownbeyi*, and *C. beckii*, is known only from the type locality. Additionally, a new name, *C. fossa*, and a new combination, *C. subdivulsa*, are presented here and a neotype is selected for the name *C. subdivulsa*.

Key words: Taxonomy, Cyperaceae, *Carex*, Neotypification.

RESUMEN: Wheeler, G. A. 2002. *Carex* (Cyperaceae) de Sudamérica: tres nuevas especies y cambios de nombres. *Darwiniana* 40(1-4): 199-208.

Se describen tres nuevas especies de *Carex* (Cyperaceae) de Bolivia. Cada una de ellas, *Carex peruvida*, *C. ownbeyi* y *C. beckii* es conocida solo en la localidad del tipo. Además se presentan un nuevo nombre, *C. fossa*, y una nueva combinación, *C. subdivulsa* y un neotipo es seleccionado para este último nombre.

Palabras clave: Taxonomía, Cyperaceae, *Carex*, Neotipificación.

INTRODUCTION

Prior to 1980, approximately 110 species and about 40 infraspecific taxa of *Carex* L. (Cyperaceae) were recognized from South America, and some 30 species have subsequently been added. It is estimated that over 200 species occur in South America (Wheeler, 1996), with most of them growing in the mountains and cooler regions of the continent. In this paper, three new species of *Carex* are described and illustrated from Bolivia. Additionally, a new name and a new combination in South American *Carex* are offered here.

NEW SPECIES: DESCRIPTIONS AND COMMENTS

Carex peruvida G. A. Wheeler, sp. nov. TYPE: Bolivia. La Paz. Prov. Nor Yungas: Cota Pata, ca. 11 km NE of Unduavi, 16° 18'S, 67° 51'W, 3100 m s.m., 22-XII-1983, *Solomon & Moraes 11441* (holotype, MIN; isotype, MO). Figs. 1, 2A, B.

Herbae cespitosae; culmi 30–85 cm alti, superior subsabri; vaginae basales pallide brunneae, glabrae. Folia 3–5; laminae 2.5–23 cm longae, 2.5–4.6 mm latae; vaginae 2–6.5 cm longae, ventraliter albido-hyalinae, glabrae; ligulae 0.8–2.5 mm longae. Inflorescentiae 2–2.5 cm longae; spicae 4–6, gynaeandreae, ovoideae, 7–15 mm longae, bracteae infimae glumaceae vel setaceae. Perigynia 3.5–4.8 mm longa, 1.3–2 mm lata, planoconvexa, corporibus ellipticis vel ovatis, in rostrum serrulatum 1.4–1.9 longum contractum. Achenium 1.8–2.1 mm longum, 1–1.3 mm latum, biconvexum. Stigmata 2. Antherae 3, 1.6–2 mm longae.

Cespitose in small clumps. Fertile culms 30–85 cm tall, exceeding the leaves, erect, smooth proximally and finely scabrous-angled distally, especially just below the inflorescence; basal sheaths bladeless, glabrous, pale brown. Leaves 3–5, on lower one-third of culm; blades 2.5–23 cm long, 2.5–4.6 mm

wide, plicate, glabrous, the margins antrorsely scabrous distally; leaf sheaths 2–6.5 cm long, more or less tightly enveloping culms, glabrous; the inner band of sheaths glabrous, white hyaline or pale brown, sometimes prolonged up to 1.5 mm beyond the leaf bases, the apex shallowly concave to nearly straight across; ligules 0.8–2.5 mm long, rounded, wider than long, the free portion entire. Inflorescences 2–2.5 cm long, the spikes overlapping but distinct, spikes single at nodes, sessile; lowermost bracts scale-like or sometimes setaceous, from shorter than to slightly exceeding the inflorescence, sheathless, the upper ones much reduced; spikes 4–6, gynaeandrous, 7–15 mm long; terminal spikes often slightly larger than the lateral ones and with a longer staminate base, but otherwise essentially the same, ovoid, pistillate portion 4.5–10.5 mm long, 3.5–7 mm wide, ca. 10–30-flowered, staminate portion 2.5–4.5 mm long, 1.5–2 mm wide, ca. 2–5-flowered. Pistillate scales 3–4.2 mm long, 1.2–1.8 mm wide, shorter than the perigynia, ovate, subacute to acute, glabrous, reddish brown with a stramineous or pale brown center and sometimes very narrow hyaline margins, 1-veined. Staminate scales 3.5–5 mm long, 1.4–2 mm wide, ovate, subacute to acute, glabrous, reddish brown with a stramineous or pale brown center and sometimes very narrow hyaline margins, 1(–3)-veined. Perigynia 3.5–4.8 mm long, 1.3–2 mm wide, ascending or somewhat spreading, plano-convex with elliptic or ovate bodies, widest 1.3–1.6 mm above base, thick-winged and smooth on the body, green to pale brown, glabrous, sessile or nearly so, adaxial side 5–10-veined, abaxial side 8–14-veined; beaks 1.4–1.9 mm long, flattened and only sparingly serrulate-margined, reddish brown distally, more or less bidentulate with teeth up to 0.2 mm long. Achenes 1.8–2.1 mm long, 1–1.3 mm wide, biconvex, ovate-oblong, pale brown, short-stipitate. Stigmas 2. Anthers 3, 1.6–2 mm long.

Carex peruvida is known only from the type locality. The type collection was made in “boggy soil” at the edge of open water that is surrounded by “cloud forest, with *Clusia*, *Weinmannia*, and *Brunellia*”. The plants grow in clumps and mature fruit with ripe achenes have been collected in December. The epithet refers to the species growing in very wet soil.

The new species belongs in *Carex* section *Ovales* (Kunth) Christ. It is similar to *C. purdiei* Boott, whose type comes from Colombia, but *C. peruvida*

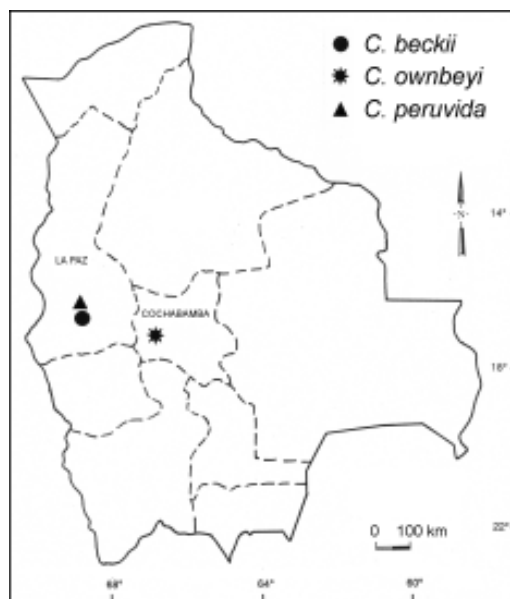


Fig. 1.- Map of Bolivia showing the distributions of *Carex beckii*, *C. ownbeyi*, and *C. peruvida*.

is a more robust plant that also differs by having larger perigynia and achenes, broader leaves, and longer and thicker culms. Moreover, *C. purdiei* grows in páramo, at slightly higher elevations, from about 3300–3800 m s.m.

Carex ownbeyi G. A. Wheeler, sp. nov. TYPE: Bolivia. Cochabamba. Prov. Quillacollo: camino Sipe Sipe-Lipichi, 3800 m s.m., 9-IV-1990, Hensen 731 (holotype, MIN; isotype, LPB). Figs. 1, 2 C, D.

Herbae laxae cespitosae; culmi 12–22 cm alti; vaginae basales brunneae, glabrae. Folia 3–5, plerumque basilaria; laminae 2–10 cm longae, 1.2–2.5 mm latae; vaginae brevis, glabrae; zonae interiores vaginarum glabrae, albo-hyalinae, apicibus rectus transversus; ligulae 0.7–1.4 mm longae. Inflorescentiae 1–1.5 cm longae, 5–8 mm latae; spicae 3–6, androgynae, 5–7 mm longae, 3.5–6 mm latae, ovoideae, pars feminae 4–9-florae. Squamae pistillatae 2.6–4.2 mm longae, 1.4–2 mm latae; squamae staminatae minores. Perigynia 3.5–4 mm longa, 1.2–1.9 mm lata, ascendencia, planoconvexa, glabra; rostra 0.7–1 mm longa, serrulata. Achenium 2–2.5 mm longum, 1.3–1.5 mm latum, stipitis albescens 0.1–0.3 mm longis. Stigmata 2. Antherae 3, 1.8–2.2 mm longae.

Loosely cespitose from brown, prolonged rhizomes. Fertile culms 12–22 cm tall, 0.5–0.8 mm thick, usually slightly to strongly curved, trigonous, smooth proximally and finely scabrous-angled distally (especially beneath the inflorescence), with glabrous, brownish basal sheaths. Leaves 3–5, on lower one-fourth of culm; blades 2–10 cm long, 1.2–2.5 mm wide, plicate, glabrous, the margins antrorsely scabrous distally; leaf sheaths 2–15 mm long, tightly enveloping culms, glabrous; the inner band of sheaths glabrous, white-hyaline or pale brown, the apex nearly straight across; ligules 0.7–1.4 mm long, slightly wider than long, rounded, the narrow free portion brownish. Inflorescences 1–1.5 cm long, 5–8 mm wide, the spikes aggregated into a terminal, ovoid or oblong head; bracts shorter than the inflorescence, the lowermost scale-like with bodies 2.5–5 mm long and 1.6–2.4 mm wide, ovate-lanceolate, acute, with serrulate awns up to 3 mm long, the upper ones reduced. Spikes 3–6, androgynous, 5–7 mm long, 3.5–6 mm wide, ovoid, mostly distinguishable but the apical staminate flowers inconspicuous (except for the anthers), perigynia 4–9 per spike. Pistillate scales 2.6–4.2 mm long, 1.4–2 mm wide, shorter than the perigynia, ovate to broadly ovate, acute or mucronate, reddish brown with a stramineous or pale brown center and with or without narrow hyaline margins, 1–3-veined; staminate scales similar but smaller. Perigynia 3.5–4 mm long, 1.2–1.9 mm wide, ascending, plano-convex with ovate or oblong-elliptic sides, the margins smooth except sometimes scaberulent at the shoulders, greenish or pale brown proximally and often reddish brown distally, glabrous, subcoriaceous, 2 lateral veins prominent and finely, but distinctly, 6–10-veined abaxially and 3–7-veined adaxially, substipitate, more or less tapered into a beak; beaks 0.7–1 mm long, the margins serrulate, the apex bidentulate with teeth up to 0.2 mm long. Achenes 2–2.5 mm long, 1.3–1.5 mm wide, lenticular, ovate-oblong, brown except for a whitish stipe 0.1–0.3 mm long. Stigmas 2. Anthers 3, 1.8–2.2 mm long, including a slender apical appendage 0.1–0.2 mm long.

Paratype: BOLIVIA. **Cochabamba**. *Prov. Quillacollo*: camino Sipe Sipe-Lipichi, 3800 m s.m., 5-III-1990, *Hensen 626* (MIN, LPB).

Carex ownbeyi is known only from the type locality, where it was collected in *Polylepis besseri*

Hierony. forest. Plants with mature perigynia have been collected in March and April. The species is named in honor of Dr. Gerald B. Ownbey, professor emeritus of botany at the University of Minnesota, well known for his floristic and taxonomic work in North America, particularly in Minnesota (U.S.A.) and Mexico, and who first encouraged and then made it possible for me to pursue a study of South American *Carex* and *Uncinia*.

The new species is here placed in *Carex* section *Phaestoglochin* Dumort. It differs from other South American members of this section by having the following combination of characters: culms usually slightly to strongly curved; a small inflorescence (1–1.5 cm long) with short spikes (5–7 mm long) and few perigynia per spike (4–9); non-tuberculate perigynia that are finely, but distinctly, several veined on both faces; and achenes with a distinctive whitish stipe 0.1–0.3 mm long. While seemingly not closely related to other South American members of section *Phaestoglochin*, *Carex ownbeyi* does resemble some members of this section from Mexico and Central America, such as *C. xalapensis* Kunth from southern Mexico and Guatemala (Hermann, 1974; Chater, 1994).

Carex beckii G. A. Wheeler, sp. nov. TYPE: Bolivia. La Paz. *Prov. Murillo*: valle de Zongo, del lago de Zongo bajando unos 31 km, frente de Chururaqui, 1900 m s.m., 3-III-1990, *Beck 17524* (holotype, MIN; isotype, LPB). Figs. 1, 3A, B.

Herbae cespitosae; culmi ca. 45 cm alti; vaginae basales rubro-brunneae, glabrae. Folia ca. 9–12, plerumque basalia; laminae 25–60 cm longae, 2–5 mm latae; vaginae ca. 5–8 cm longae, glabrae; zonae interiores vaginarum glabrae, hyalinae vel pallide rubro-brunneae, apicibus concavus; ligulae 5–9 mm longae. Inflorescentiae ca. 25 cm longae, interruptae; paniculae rigidae; rachis hispida; prophyllum in spiculis omnibus perigyniforme; bracteaefoliaceae longe vaginantes. Perigynia 2–2.8 mm longa, 0.6–1 mm lata, glabra, venis 9–15 percursis, subinflato-trigoni abrupte rostrati; rostra 0.4–0.8 longa, marginibus laevis, apice bidentata, dentibus ad 0.3 mm longis. Achenium 1.5–2 mm longum, 0.5–0.7 mm latum, medio constrictio. Stigmata 3. Antherae 3, 1–1.5 mm longae.



Fig. 2.- *Carex peruvida*. A: habit. B: inflorescence and detached perigynium. *Carex ownbeyi*. C: habit. D: inflorescence. A-B from Solomon & Moraes 11441. C-D from Hensen 731.

Plants cespitose from short rhizomes. Fertile culms ca. 45 cm tall, obtusely trigonous, smooth, with glabrous, reddish brown basal sheaths. Leaves ca. 9–12, mostly basal; blades 25–60 cm long, 2–5 mm wide, plicate, glabrous, the margins antrorsely scabrous distally, terminating in a 3-angled, strongly scabrous tip; leaf sheaths ca. 5–8 cm long, more or less loosely enveloping culm, glabrous; inner band of sheaths glabrous, stramineous to pale to reddish brown, the apex deeply concave; ligules 5–9 mm long, subacute to acute. Vegetative shoots unknown. Inflorescences ca. 25 cm long, interrupted at the base; panicles ca. 8, with the uppermost panicles overlapping and the lowest 3 panicles ca. 18–25 cm distant, panicles 1 or 2 at the nodes, ascending on flattened, smooth to scaberulent peduncles; lowest panicles with peduncles ca. 7.5–12 cm long, the uppermost lateral panicles sessile or nearly so; inflorescence prophylls glabrous; rachises scabrous on the angles and often hispidulous on the faces of the ultimate branches; lowermost bract leaf-like, exceeding the inflorescence, with blade ca. 58 cm long and ca. 5 mm wide and sheath ca. 4.5 cm long; the uppermost bracts much reduced. Panicles pyramidal, the lower ones 1–6 cm long, 1–2.5 cm wide, the lower branches again often compound, the upper panicles much reduced. Primary branches ascending, subtended by an urceolate, glabrous cladoprophyll. Spikes numerous in panicles, androgynous, 4–8.5 mm long; pistillate portion 3.5–7 mm long, 4–5 mm wide, with ca. 6–30 perigynia; staminate portion 2–3 mm long, 0.6–1.2 mm wide, ca. 3–6-flowered. Pistillate scales 1–1.5 mm long, 0.6–1 mm wide, shorter than the perigynia, glabrous, ovate, subacute to acute, pale reddish brown with a green or stramineous midrib usually exerted as a scabrous awn up to 1.2 mm long, 1-veined. Staminate scales 1.5–2.2 mm long, 0.4–0.8 mm wide, glabrous, lanceolate, subacute to acute, stramineous or pale reddish brown with a green or stramineous midrib, 1-veined. Perigynia 2–2.8 mm long, 0.6–1 mm wide, ascending to wide spreading at maturity, more or less trigonous with narrowly elliptical to slightly obovoid sides, membranaceous, stramineous or pale brown, glabrous, the margins smooth, 2 prominent lateral veins and 7–13 whitish veins, sessile or nearly so, contracted into a beak; beaks 0.4–0.8 mm long, whitish green, the margins smooth, obliquely cut and bidentulate with teeth up

to 0.3 mm long. Achenes 1.5–2 mm long, 0.5–0.7 mm wide, trigonous with flat to concave, often asymmetric, narrowly elliptic sides, yellowish brown, finely papillose, apiculate, sessile, often invaginated on one side at maturity. Stigmas 3. Anthers 3, 1–1.5 mm long, including a slender, dark reddish brown apical appendage 0.1–0.2 mm long.

Carex beckii is known only from the type locality, where it was collected on a moist slope adjacent to a highway. The plant grows in small clumps and bears mature fruit in March. The new species is named in honor of Dr. Stephan Beck (see Acknowledgments), who made the type collection.

The presence of inflorescence prophylls clearly places this new species in *Carex* subgenus *Indocarex* Baillon (Reznicek, 1990). It differs from *C. humboldtiana* Steud. and *C. porrecta* Reznicek & Camelbeke, both known from Central America and the northern half of South America, by having shorter spikes, smaller perigynia and achenes, and a shorter perigynium beak. It also somewhat resembles *C. polystachya* Sw. ex Wahlenb., which is common throughout much of Latin America, but differs by having more tightly compacted panicles (usually 2 at a node), more numerous spikes, slightly smaller perigynia, and achenes that are invaginated on one side at maturity.

NAME CHANGES: DESCRIPTIONS AND COMMENTS

Carex subdivulsa (Kük.) G. A. Wheeler, comb. et stat. nov. *Carex involucrata* Boott var. *subdivulsa* Kük., Bot. Jahrb. Syst. 27: 511. 1899. *Carex sororia* Kunth f. *subdivulsa* (Kük.) Kük., in A. Engler (ed.) Pflanzenr. 4, 20(38):150. 1909. TYPE: Argentina. La Rioja. Dpto. Famatina: Sierra Famatina, 28° 20' S, 67° 55' W, La Hoyada, ca. 2500 m s.m., herbosis subpaludosis non raro, 24-31-I-1908, *Kurtz 15000* (neotype, here designated, MIN; isoneotypes, CORD, SI). Figs. 3E, H, 4.

Carex subdivulsa occurs only in La Rioja Province, Argentina, as far as known, where it has been collected from 2500–2800 m s.m. in the Sierra Famatina. It grows in moist meadows and the plants bear mature fruit in January and February. The epithet probably refers to the lowermost 1 to 3 spikes of the inflorescence, which are usually somewhat separated from the upper spikes.

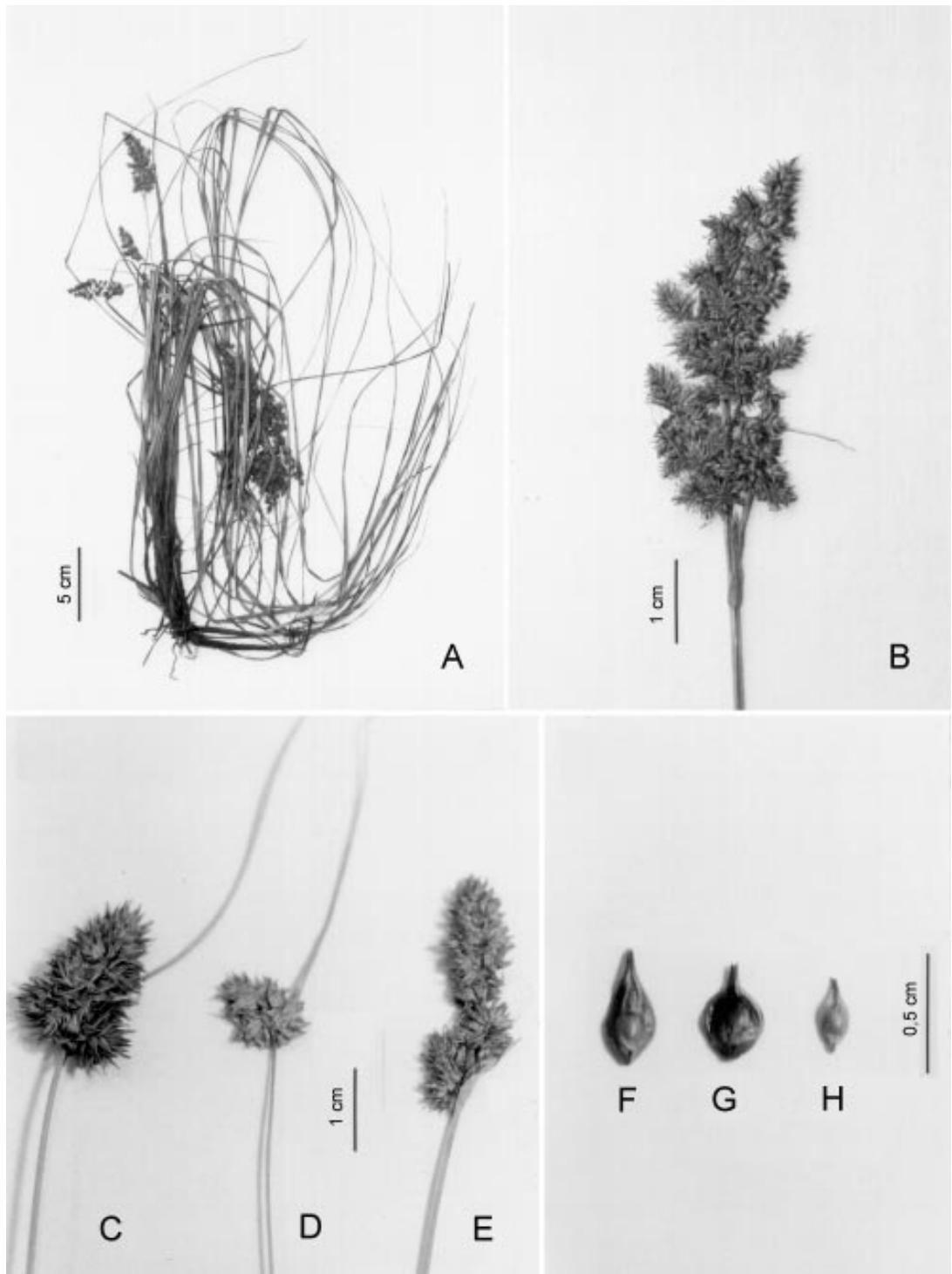


Fig. 3. *Carex beckii*. A: habit. B: portion of inflorescence. Inflorescences of *Carex*. C: *C. sororia*. D: *C. fossa*. E: *C. subdivulsa*. Perigynia of *Carex*, abaxial view. F: *C. sororia*. G: *C. fossa*. H: *C. subdivulsa*. A-B, from Beck 17524. C, F, from Burkart et al. 29755. D, from Hunziker & Fulvio 21366. E, H, from Kurtz 15000. G, from Nicora & Giardelli 84.

Kükenthal (1909) and Barros (1947) have called these plants *Carex sororia* forma *subdivulsa*, but an examination of specimens from Sierra Famatina in La Rioja Province reveals distinct morphological differences between *C. sororia* and the plant in question. As shown in Fig. 3, *C. subdivulsa* differs from *C. sororia* by having smaller perigynia (compare Fig. 3F, H) and an oblong, more interrupted inflorescence (compare Fig. 3C, E); it also differs by having smaller achenes, shorter scales, and slightly wider leaves. It is also worthy of note that the single report of *C. subdivulsa* from Uruguay (*Arechavaleta s.n.*, sensu Kükenthal, 1909:150) seems dubious and thus is excluded here. Indeed, none of the *sororia*-like material examined from Uruguay, including collections made by Arechavaleta, can be referred to *C. subdivulsa*. Like *C. sororia*, this species belongs in section Phaestoglochin.

Because no complete description of *C. subdivulsa* has previously been published, one is provided here.

Plants caespitose from dark-colored, short-creeping rhizomes. Fertile culms 18–60 cm tall, from slightly shorter than to greatly exceeding the leaves, triangular, smooth except sometimes scaberulent distally, 0.8–1.6 mm thick, with glabrous, brown basal sheaths. Leaves 3–9; blades 2.5–5 mm wide, plicate, glabrous, margins smooth except scaberulent distally; leaf sheaths 1.5–5.5 cm long, glabrous, more or less loosely enveloping culms; the inner band of sheaths glabrous, hyaline or pale brown, the apex shallowly concave or nearly straight across; ligules 0.4–2.2 mm long, rounded, wider than long, the free portion brownish. Inflorescences 2–4 cm long, 5–12 mm wide, spikes aggregated into a slightly interrupted oblong head, with the lower 1–3 primary spikes usually somewhat separated; lowermost bract often exceeding the inflorescence, 4–10 cm long, scale-like, 2.5 mm wide or less at the base and gradually tapering to a scabrous-angled pungent tip, upper bracts much reduced. Spikes ca. 5–12, androgynous, the upper ones mostly undistinguishable, the lower ones generally somewhat separated and conspicuous and the lowest spike sometimes with 1 or 2 smaller secondary spikes, the apical staminate flowers inconspicuous (except the anthers), perigynia ca. 8–30 per spike. Pistillate scales 2.6–3.4 mm long, 1.1–2 mm wide, about as long and wide as the perigynia, ovate, subacute to acute, glabrous, pale

reddish brown to reddish brown, with narrow hyaline margins and stramineous center, 1-veined. Staminate scales 2.2–2.6 mm long, 0.6–1 mm wide, lanceolate, acute, glabrous, pale reddish brown with stramineous center, 1-veined. Perigynia 2.7–3.6 mm long, 1–1.9 mm wide, ascending to wide spreading, plano-convex with ovate to ovate-lanceolate sides, glabrous, pale reddish brown to reddish brown, veinless (or nearly so) on both faces except slightly puckered and weakly 4–7-veined proximally on the adaxial face and very little bulged, margins smooth except sometimes scaberulent on the shoulders, substipitate, more or less gradually tapered into a beak; beaks 0.7–1.2 mm long, margins scaberulent or sometimes smooth, the apex bidentulate and often reddish-brown-tinged, the teeth 0.1–0.4 mm long. Achenes 1.3–1.6 mm long, 0.8–1.2 mm wide, lenticular with oblong sides, closely enveloped by the perigynium, brown, sessile or nearly so. Stigmas 2. Anthers 3, 1.1–1.8 mm long, including a slender apical appendage 0.1–0.2 mm long.

Additional specimens examined

ARGENTINA. **La Rioja.** *Dpto. Famatina:* Sierra Famatina, La Vega de La Hoyada, ca. 2700–2800 m s.m., 17-I-1908, *Jimenez s.n.* (CORD-15125, MIN); Sierra Famatina, La Vega de La Hoyada, ca. 2700–2800 m s.m., 19-20-I-1908, *Jimenez s.n.* (CORD-15156, MIN).

Observations: The holotype, *Hieronymus & Niederlein 704*, B, was destroyed in 1942 and no isotypes or other original material could be found for lectotypifying this taxon.

Carex fossa G. A. Wheeler, nom. nov. *Carex involucrata* Boott, *Illustr. Carex* 2:76. 1858, non Boeck. 1855. *Carex sororia* Kunth var. *involucrata* (Boott) Kük., A. Engler (ed.) *Pflanzenr.* 4, 20(38): 150. 1909. TYPE: “In America australis”, *Gillies s.n.* (holotype, K). Figs. 3D, G, 4.

This species is known from Argentina and has also been reported from southern Brazil, Uruguay, and southeastern Paraguay (e.g., Kükenthal, 1909; Barros, 1947), though no specimen has yet been seen from these adjacent countries. *Carex fossa* is probably best known from the Pampa region of Argentina, where it frequents grassy fields, pasture land, “slimy soil” along river banks, railroad embankments, and roadside verges and ditches; farther southwest, in Río Negro and Chubut

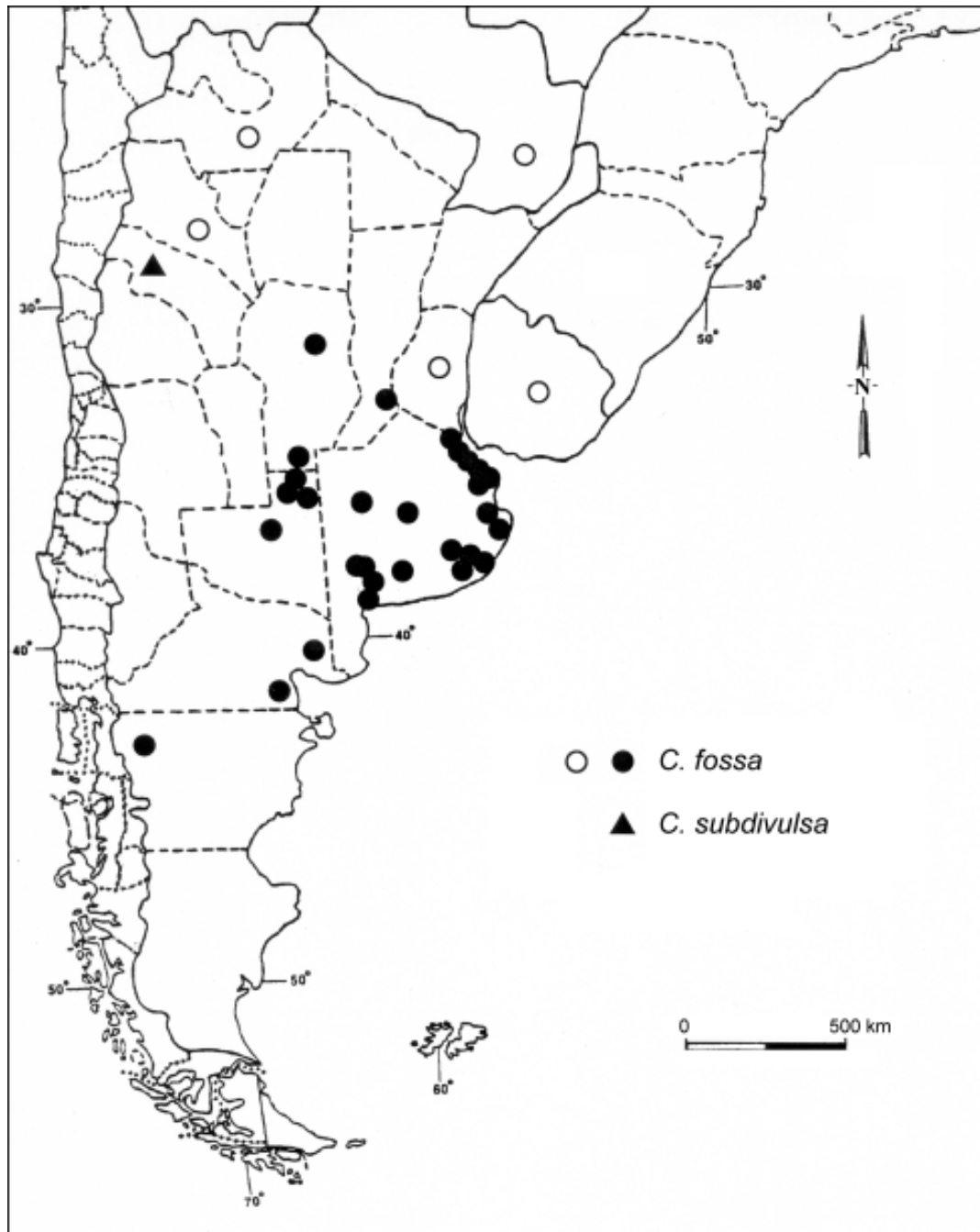


Fig. 4.- Map of southern South America showing the distributions of *Carex fossa* and *C. subdivulsa*; non-shaded circles represent reports of *C. fossa* from Argentine provinces, as well as from Paraguay, Uruguay, and Brazil, for which I have not seen any specimen.

provinces, it has also been collected, though uncommonly, in mountain valleys and on rocky hillsides. Mature fruit has been collected from November through March.

Kükenthal (1909) and subsequent workers (e.g., Barros, 1947; Pedersen, 1969; Guaglianone, 1996) have called these plants *C. sororia* var. *involutrata*, but after examining type material, as

well as many additional specimens, it is abundantly clear that *C. sororia* and this plant are closely related yet taxonomically distinct species. Because the epithet “*involutrata*” is not available for use at species rank, due to the earlier *C. involutrata* Boeck., I here offer the name *C. fossa* for the species, which refers to its often “weedy” and frequent occurrence in roadside verges, ditches, and along railroad embankments. As shown in Fig. 3 (compare C, D as well as F, G), *C. fossa* differs from *C. sororia* by having a shorter and more subglobose inflorescence, generally fewer spikes per culm, shorter and more rotund perigynia, and often smaller bracts. Also, it differs by having achenes with suborbicular sides and slightly narrower leaves. Geographically, *C. fossa* occurs farther southwest in Argentina than *C. sororia*, with the latter species unknown southwest of Buenos Aires Province. Like *C. sororia* and *C. subdivulsa*, this species belongs in section *Phaestoglochin*.

In northeastern Argentina and southern Brazil there are plants, called *C. sororia* var. *pseudobracteosa* (Kük.) Kük. in the literature (e.g., Kükenthal, 1909; Barros, 1947; Guaglianone, 1996), that resemble *C. fossa* but differ from it by having awned, greenish scales and perigynia that are less rotund and shorter-veined ventrally. But because so little is known about the distribution, ecology, and taxonomic affinity of these plants, this taxon is neither mapped nor treated further here, though it is presently under study by the author.

Because no English description of *Carex fossa* has previously been published, one is provided below.

Plants cespitose from short-creeping rhizomes. Fertile culms 15–42 cm tall, about equaling or greatly exceeding the leaves, trigonous (at least distally), smooth except sometimes scaberulent beneath the inflorescence, 0.6–1.2 mm thick, with glabrous, brownish basal sheaths. Leaves 3–7; blades 0.8–3.4 mm wide, plicate, glabrous, the margins antrorsely scabrous distally; leaf sheaths 2–5.5 cm long, glabrous, more or less tightly enveloping culms; the inner band of sheaths glabrous, hyaline or pale brown, prolonged up to 1.5 mm beyond the leaf bases, the apex shallowly concave to nearly straight across; ligules 0.5–2 mm long, rounded, the free portion brownish. Inflorescences 0.8–1.8 cm long, 0.6–1.2 mm wide, spikes closely aggregated into an ovoid to pyramidal or subglobose head; lowermost

bract exceeding the inflorescence, 1.5–6.5 cm long, scale-like, less than 2.5 mm wide at the base and gradually tapering to a scabrous-angled pungent tip, upper bracts much reduced. Spikes 3–7, androgynous, mostly undistinguishable at maturity, the apical staminate portion ca. 3–6-flowered and inconspicuous (except the anthers), perigynia ca. 5–20 per spike. Pistillate scales 2.4–3.6 mm long, 1.4–2.2 mm wide, shorter than the perigynia, ovate, acute or mucronate or the lower ones sometimes short-awned, glabrous, pale reddish brown to reddish brown, with broad hyaline margins and stramineous center, 1(–3)-veined. Staminate scales 2.5–3 mm long, 0.7–1.3 mm wide, lanceolate, acute or mucronate, glabrous, stramineous or pale reddish brown (especially distally), with hyaline margins and stramineous center, 1-veined. Perigynia 2.8–4.2 mm long, 1.6–2.5 mm wide, somewhat ascending to wide spreading, plano-convex with an ovate or, much more commonly, broadly ovate to suborbicular body, glabrous, pale brown to brown, veinless (or nearly so) dorsally, slightly spongy-puckered and weakly 5–9-veined near the base ventrally and not bulged, the margins prominently winged and smooth except sometimes scaberulent on the shoulders, rounded at the substipitate base, more or less abruptly contracted into a conspicuous beak; beaks 0.7–1.2 mm long, margins serrulate, the apex bidentulate and often brownish-tinged, the teeth 0.1–0.3 mm long. Achenes 1.6–2 mm long, 1.4–1.7 mm wide, lenticular with suborbicular sides, closely enveloped by the perigynium, dark brown at maturity, short-stipitate (stipe 0.1–0.3 mm long). Stigmas 2. Anthers 3, 1–1.6 mm long, including a slender apical appendage 0.1–0.2 mm long.

Representative specimens

ARGENTINA. **Buenos Aires.** *Pdo. Bahía Blanca*: Bahía Blanca, 1884, *Mansel s.n.*, (BM). *Pdo. Balcarce*: Balcarce, 12-X-1943, *Crovetto 2330* (BAB); Ea. Sierra Larga, III-1945, *Crovetto 3464* (LIL); Sierra Bachicha, 250 m s.m., 2-XI-1946, *Wall s.n.* (UPS). *Pdo. Campana*: Campana, 10 m s.m., 27-XI-1938, *Eyerdam & Beetle 23051* (UC, partim). *Pdo. Chascomús*: terraplén F.C. junta Ruta 2, 9-X-1956, *Vervorst 4936* (BAB). *Pdo. Cnel. Suárez*: Pigüé, 12-XI-1932, *Parodi 10411* (BAA); Arroyo Pigüé, II-IV-1881, *Lorentz 232* (B). *Pdo. Dolores*: Dolores, Ea. La Decisión, camino a Conesa, 27-III-1957, *Vervorst 5274* (BAB). *Pdo. Gral. Pueyrredón*: Mar del Plata, 6-II-1926, *Barros 297* (F). *Pdo. Lobería*:

II-1918, *Scala s.n.* (NY). *Pdo. Magdalena*: Punta Indio, Ruta Prov. 11, 14-XII-1979, *Laborde et al. s.n.*, BACP-1197 (H); Ruta Prov. 11, 9 km al Sur de Punta Indio, 15-XII-1979, *Laborde et al. s.n.*, BACP-1266 (H); Arroyo Juan Blanco, 10-XII-1967, *Söyrinki s.n.* (H-1486938, partim). *Pdo. Pehujó*: Guecco, V-1946, *Cabrera 10224* (LP). *Pdo. San Fernando*: Río Las Conchas, Ea. "El Delta", 6-II-1942, *Hunziker 3555* (US). *Pdo. Tandil*: Tandil, 22-XI-1940, *Cabrera 6866* (NY). *Pdo. Tapalqué*: Ruta 51, entre Gral. Alvear y Tapalqué, 25-XI-1959, *Hunziker 7578* (BAB). *Pdo. Tordillo*: "La Bagatela", en el camino entre Gral. Lavalle y Gral. Conesa, 13-I-1941, *Nicora & Giardelli 84* (BAA). *Pdo. Tornquist*: Abra de la Ventana, 4-II-1947, *Rossi & Bachmann 172* (LIL); Sierra de la Ventana, Estancia "El Pantanoso", 9-12-XI-1932, *Molfino & Clos s.n.* (BAB-46257). Barracas al Sud, 16-V-1902, *Venturi 101* (CORD, partim); Ruta 3, km 90, 3-XI-1962, *Cano & Cámara 8* (BAA). **Chubut**. *Dpto. Futaleufú*: Esquel airfield, 2000 m s.m., 2-IV-1952, *Beetle & Soriano 450* (NY). **Córdoba**. *Dpto. Gral. Roca*: entras las estaciones Burmeister y Onagoity, 3-XI-1971, *Hunziker & Di Fulvio 21366* (CORD, MIN). *Dpto. Río Primero*: Río Primero, Estancia "San Teodoro", II-1911, *Stuckert 22624* (CORD, MIN). **La Pampa**. *Dpto. Leventué*: camino a Ea. "Las Vertientes", en el llamado "bajo de Funes" (Loma de monte), 13-XI-1963, *Cano 2682* (BAB). *Dpto. Maracó*: Gral. Pico, alrededores Estación Experimental INTA, 5-XII-1969, *Cano 4346* (BAB). *Dpto. Rancul*: Ruta 9, Caleufú, 9-XII-1969, *Cano 4381* (BAB). *Dpto. Realicó*: Ruta 35, vías de tren frente a Realicó, 13-XII-1969, *Cano 4442* (BAB). **Río Negro**. *Dpto. Conesa*: Rincón de Palo, 20-XI-1944, *Meyer 7131* (LIL). *Dpto. San Antonio*: en el Vallecito de la gruta, 41° 38'S, 65° 23'W, 440 m s.m., 8-II-1969, *Piccinini & Leguizamón 1434* (BAA); Sierra Grande, 41° 38'S, 65° 23'W, 19-XI-1968, *Piccinini & García 1801* (BAB). **Santa Fe**. *Dpto. San Lorenzo*: entre Roldán, S. Jerónimo y La Salada, 6-XI-1973, *Lewis & Collantes 901* (MIN, SI).

Observations: The exact locality in southern South America where *Gillies s.n.* was collected is unknown to me.

ACKNOWLEDGMENTS

I want to thank Stephan Beck (National Herbarium of Bolivia) for providing duplicate specimens from Bolivia; Rosa Guaglianone (Instituto de Botánica Darwinion, Argentina) for assistance on various matters; two anonymous reviewers for valuable comments on an earlier draft of the manuscript; also, the curators and directors of the following herbaria for the loan of specimens: B, BAA, BAB, BM, CORD, F, H, LIL, LP, LPB, MIN, MO, NY, S, SI, UC, UPS, and US.

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Original recibido el 18 de octubre de 2001; aceptado el 3 de octubre de 2002.