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A NEW SPECIES OF *CAREX* (CYPERACEAE) FROM AUSTRAL SOUTH AMERICA AND THE STATUS AND DISTRIBUTION OF *C. MACRORRHIZA*

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ABSTRACT: Wheeler, G. A. 2006. A new species of *Carex* (Cyperaceae) from austral South America and the status and distribution of *C. macrorrhiza*. *Hickenia* 3(59): 259-266.

A new species of *Carex* (Cyperaceae) is described and illustrated from austral South America. *Carex subfuegiana* (sect. Divisae) is a rhizomatous species that occurs in Argentine Patagonia, where it grows in moist to wet sites. In addition, the status and distribution of the closely-related, but more northerly-occurring *C. macrorrhiza* is discussed here, and a lectotype is chosen for that name. *Carex ecuadorica* is delated from the Argentine Flora.

Key words: Taxonomy, Cyperaceae, *Carex*, Section Divisae, *Carex macrorrhiza*, *C. subfuegiana*, Lectotypification, Argentina.

RESUMEN: Wheeler, G. A. 2006. Una nueva especie de *Carex* (Cyperaceae) de Sud América austral y delimitacion y distribucion de *C. macrorrhiza*. *Hickenia* 3(59): 259-266.

Una nueva especie, *Carex subfuegiana* (Cyperaceae-secc. Divisae) es descripta e ilustrada para Sud America austral. Es una hierba rizomatosa que crece en sitios húmedos de la Patagonia Argentina. Se discute la delimitación y distribución de *C. macrorrhiza*, con la cual está estrechamente relacionada pero distribuida más hacia el Norte, designándose aquí un lectotipo para ese nombre. *Carex ecuadorica* se excluye de la Flora Argentina.

Palabras clave: Taxonomía, Cyperaceae, *Carex*, secc. Divisae, *Carex macrorrhiza*, *Carex subfuegiana*, lectotipificación, Argentina.

INTRODUCTION

Approximately 90 species of *Carex* L. (Cyperaceae) are known from Argentina (Guaglianone, 1996; Wheeler, 2002; Wheeler & Guaglianone, 2003a, 2003b), about one-half of which occur in Patagonia (e.g., Barros, 1969; Boelcke et al., 1985; Guaglianone, 1996; Wheeler & Guaglianone, 2003b). In Argentina, *Carex macrorrhiza* Boeck. (sect. Divisae H. Christ ex Kük.) has previously been reported as ranging from Santa Cruz Province northward to Jujuy Province and eastward to Córdoba Province (Barros, 1947, 1969; Guaglianone, 1996). After comparing isotype material of *C. macrorrhiza* with specimens previously identified as that species, it is abundantly clear that *C. macrorrhiza* has had too wide a range ascribed to it by previous authors. In this paper, it is demonstrated that essentially all Patagonian specimens previously assigned to *C. macrorrhiza* actually belong to a closely related yet taxonomically distinct species, *C. subfuegiana*, which is newly described and illustrated below. Additionally, the lectotype of *C. macrorrhiza* var. *simplex* Kük. is here considered to be conspecific with typical *C. macrorrhiza* and, further, a lectotype is chosen for the name *C. macrorrhiza*. It is also important to note that because a specimen of *C. subfuegiana* from San Juan Province, Argentina, was earlier mistakenly referred to *C. ecuadorica* Kük., the latter name should henceforth be deleted from the Argentine flora.

NEW SPECIES: DESCRIPTION AND COMMENTS

Carex subfuegiana G. A. Wheeler, sp. nov. Type: Argentina. Chubut. *Dpto. Río Senguerr*: Río Mayo, Estancia Zootécnica, 30-I-1954, *Grondona 3567* (holotype: MIN; isotypes: BAA, BAB, SI).

Rhizoma repens elongatum, crassum, lignosum; culmi 5-50 cm alti, superior subscabri; vaginae basales brunnae, glabrae. Folia 3-9; laminae 4-28 cm longae, 2-3 mm latae, supra planae; vaginae glabrae, antice hyalinae. Inflorescentiae 1-3.5 cm longae, 6-15 mm latae, in capitulum oblongo-ovatum vel oblongum laxe congestum; spicae plures androgynae. Perigynia 3-4.2 mm longa, 1.2-1.8 mm lata, planoconvexa, glabra, subcoriacea, corporibus ovato-elliptica ad elliptica latissima proxima medio; rostrum 1.2-1.6 mm longum, marginibus laeve vel parce scabrum, ore oblique sectum demum bidentulum. Achenia 1.6-1.8 mm longa, 1.1-1.6 mm lata. Stigmata 2. Antherae 3, 1.6-2.2 mm longae.

Plant perennial; rhizomes long-creeping, stout (2-4 mm thick), ligneous, dark brown; fertile culms 5-50 cm tall, arising singly or in small clumps at intervals, generally exceeding the leaves, triangular (at least distally), smooth or sometimes scaberulent-angled beneath the inflorescence, with glabrous, brown basal sheaths. Leaves 3-9; blades 4-28 cm long, 2-3 mm wide, flattish or, more often, channelled, scabrous distally and smooth or scaberulent proximally; leaf sheaths glabrous, very slightly septate-nodulose, whitish green; inner band of sheaths glabrous, white-hyaline, nearly straight across at the mouth; ligules 1-1.8 mm long, rounded, wider than long, the free portion white-hyaline or pale brown. Inflorescences 1-3.5 cm long, 6-15 mm wide, the several to numerous spikes aggregated into an oblong-ovoid to oblong head; spikes androgynous, more or less distinct (at least the lower ones), apical staminate flowers inconspicuous (except the anthers), perigynia few to several per spike; bractless or sometimes with the lowermost 1 or 2 bracts cuspidate and possessing an awn up to 7 cm long. Pistillate scales 3-5 mm long, 1.4-2.2 mm wide, wider and about as long as or longer than the perigynia, ovate-lanceolate, apex acuminate or cuspidate, pale ferruginous with stramineous center and broad hyaline margins, 1(-3)-veined; staminate scales similar but narrower and paler. Perigynia 3-4.2 mm long, 1.2-1.8 mm wide, plano-convex, the body ovate-elliptic to elliptical, usually widest at or just below the middle, glabrous, subcoriaceous, stramineous or ferruginous, faintly 3-7-veined abaxially, very weakly (0)1-5-veined adaxially, the margins smooth in proximal two-thirds of body and usually serrulate in distal one-third

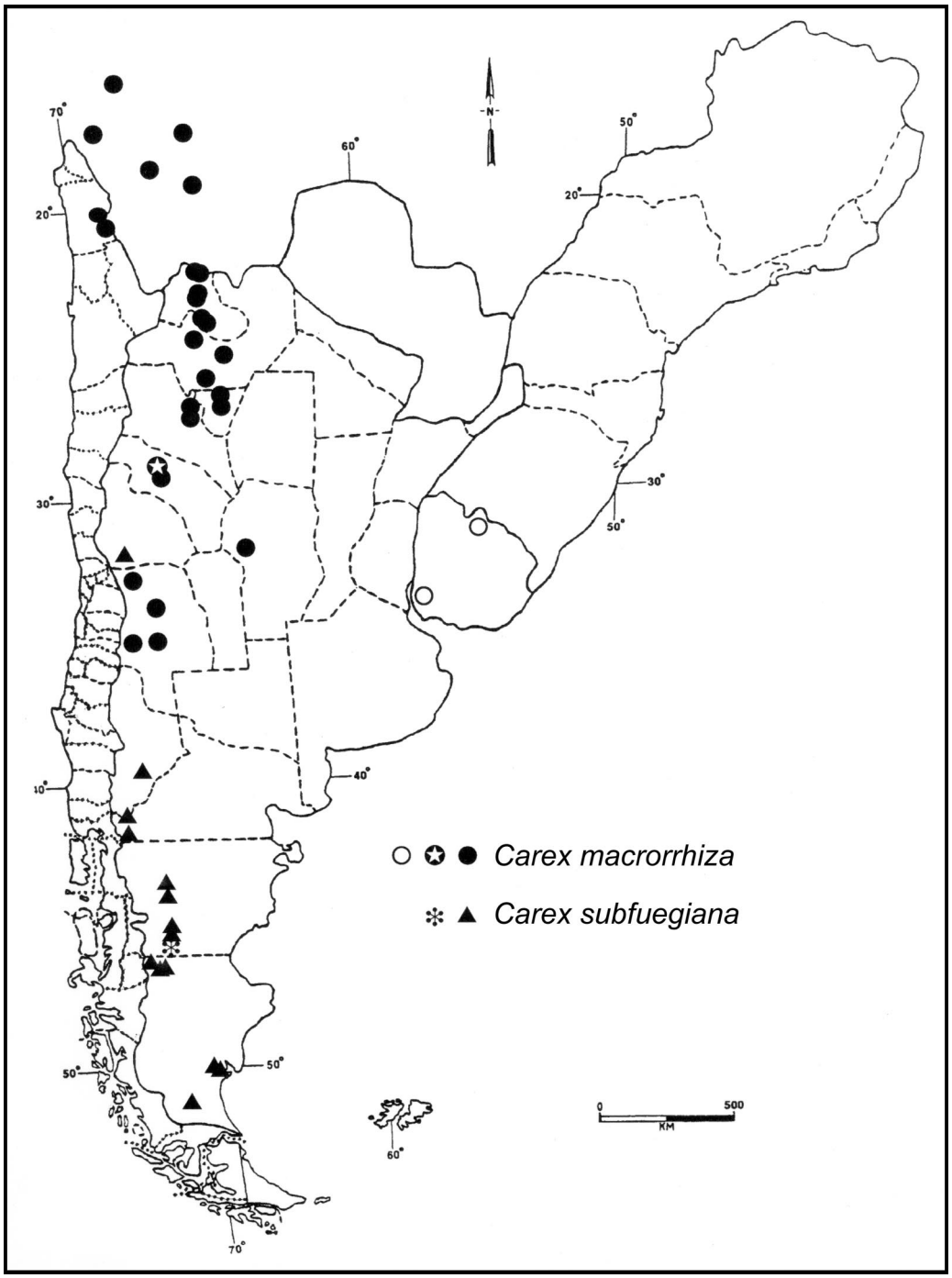

Fig. 1. Map of the southern half of South America showing distributions of *Carex macrorrhiza* and *C. subfuegiana*. Starred circle represents lectotype locality of *C. macrorrhiza*; open circles represent reports (Chebataroff, 1942; Herter, 1953) of *C. macrorrhiza* from Uruguay for which I have not seen any specimen. Ray-like symbol represents the holotype locality of *C. subfuegiana*.

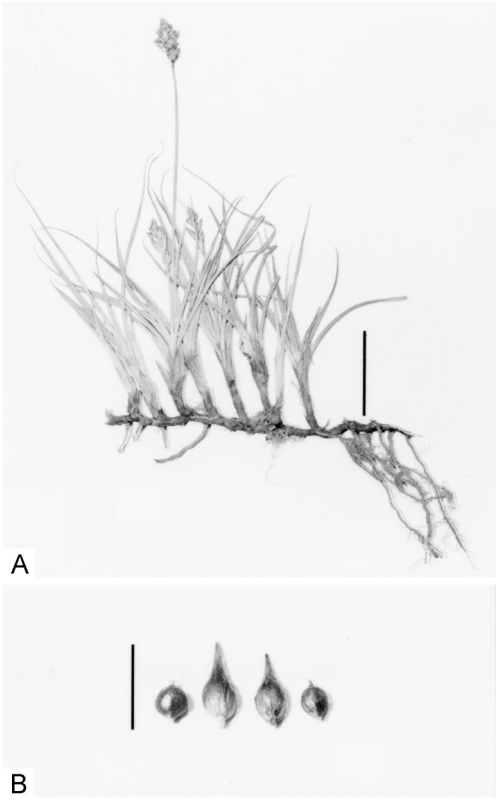

Fig. 2. *Carex subfuegiana*. A: habit, from *Grondona 3567*. B: sinistral achene and perigynium (abaxial view), from *Grondona 3567*; dextral achene and perigynium (abaxial view), from *Roivanen 2630*. Bar = 3 cm in A; bar = 4 mm in B.

(especially on the shoulders), little if at all spongy at the nearly sessile or short-stipitate base, more or less abruptly contracted into a beak; beaks 0.8-1.6 mm long, narrowly conical, the margins smooth or occasionally scaberulent, obliquely cut dorsally, bidentulate with weak teeth up to 0.3 mm long. Achenes 1.6-1.8 mm long, 1.1-1.6 mm wide, lenticular with oval sides, closely enveloped by perigynia, subsessile, apiculate, dark brown. Stigmas 2. Anthers 1.6-2.2 mm long, including an apiculate tip about 0.1-0.2 mm long.

This species occurs primarily in Argentine Patagonia, where it ranges from Santa Cruz Province northward to Neuquén Province, with a single locality also known from San Juan Province (Fig. 1). It may also occur in Chilean Patagonia but no specimen, thus far, has been seen from Chile. Plants of *C. subfuegiana* are strongly anchored in the ground by stout, long-creeping monopodial rhizomes, with the flowering culms growing solitary or few together in small clumps. It frequents hydric places, such as swales in meadows and grasslands, seepage areas, the moist banks of lakes and streams, and other wet depressions. It grows mostly below 300 m s.m. in southern Patagonia but is known from 2400 m s.m. in San Juan Province. Plants with mature fruit have been collected from January through March. The epithet *subfuegiana* refers to the fact that most populations of this species occur in the vast Patagonian tableland lying immediately north of Tierra del Fuego.

Most specimens of *C. subfuegiana* were originally identified as *C. macrorrhiza* and, indeed, the inflorescences, staminate and pistillate scales, and growth habits of these two species are similar. However, the former entity differs from the latter by having mature perigynia that are usually widest at or just below the middle of the perigynium body, a narrower beak, and slightly wider achenes (see key further below; also compare Figs. 2 and 3). Barros (1947, 1969) also, though inadvertently, illustrated the differences between the perigynia of *C. subfuegiana* and *C. macrorrhiza*. For instance, compare the elliptical-shaped perigynium body and relatively narrow beak of *Donat 81* (here called *C. subfuegiana*, but Barros's *C. macrorrhiza*, 1969, Fig. 73, p. 79) from Santa Cruz Province in Argentine Patagonia, with the ovate-shaped perigynium body and comparatively broader beak of *Castillón s.n.* [LIL-9909] (treated here and by Barros [1947, Pl. 173, c & d] as *C. macrorrhiza*) from Tucumán Province in northern Argentina. Although Barros's illustrations show the beak of *Donat 81* as longer than that of *Castillón s.n.*, beak length by itself cannot be used to separate the two species, as some overlap does occur. Ecologically speaking, *C. subfuegiana* grows in wetter sites than *C. macrorrhiza*. Both species belong in *Carex* section Divisae.

Regrettably, before the recent study revealed the existence of a new species in Patagonia, *Ruthsatz 8828* (here referred to *C. subfuegiana*) from San Juan Province, Argentina, was mistakenly referred to *C. ecuadorica* (Wheeler, 1996). Consequently, *C. ecuadorica* should be deleted from the Argentine flora. Parenthetically, however, re-examination of the Bolivian specimens reported as *C. ecuadorica* in that same paper are indeed referable to that species.

Additional specimens examined

ARGENTINA. **Chubut**. *Dpto. Languiñeo*: near Tecka, Quichaura Ranch, 7-IV-1952, *Beetle & Soriano H-506* (NY). *Dpto. Río Senguerr*: prope Río Senguerr, 21-XI-1908, *Skottsberg 593* (S, UPS); *Dpto. Tehuelches*: Nueva Lubecka, Estancia Laurita, 4-II-1945, *Soriano 1449* (BAB); Estancia Laurita, 40 km al S de Nueva Lubecka, 19-XI-1946, *Soriano 2134* (BAB, SI). **Neuquén**, *Dpto. Catán-Lil*: 2 km al sur de la Estancia Bernal, 27-I-1961, *Perez-Moreau 3105* (BAB). **Río Negro**. *Dpto. Bariloche*: Cerro Tronador, Mallín Chico, 8-I-1952, *Boelcke & Correa 5762* (BAB, MIN, UC). Lago Nahuel Huapi, 8-XI-1928, *Cordini 148* (US). **San Juan.** *Dpto. Calingasta*: El Leoncito, 2400 m s.m., 14-I-1991, *Ruthsatz 8828* (MIN, SI, Trier). **Santa Cruz**. *Dpto. Corpen Aike*: Comandante Luis Piedrabuena, I-XII-1945, *O'Donell 3845* (MO); Puerto Santa Cruz, Estancia Vidal, 28-I-1958, *Vervoorst 5712* (BAB). *Dpto. Güer Aike*, Tehuelche, 250 m s.m., 10-XI-1928, *Donat 81* (BM, F, G, GH, K, MO, S, SI, UC). *Dpto. Lago Buenos Aires*: Los Antiguos, 46° 36'S, 71° 26'W, 23-II-1970, *Roivainen 2630* (H-2 sheets); Lago Buenos Aires, IV-1927, Leg. *Guiñazu s.n.*, Hb. Barros 2169 (SI). Perito Moreno, 46° 36'S, 71° 00'W, 10-II-1970, *Roivainen 2357* (H-2 sheets).

NOTES ON *CAREX MACRORRHIZA*

Carex macrorrhiza Boeck., Cyp. Nov. 1: 43. 1888. TYPE: Argentina. Prov. La Rioja. Sierra Famatina, [en las cercanias de la quebrada, 2 á 4 leguas arriba del Vallecito, 21-I-1874,] *Hieronymus et Niederlein* [600] (lectotype [here designated]: S; isolectotype: CORD). [The holotype at Berlin (B) was destroyed in 1942.]

Carex curvifolia Boeck., Cyp. Nov. 1:41. 1888. TYPE: Argentina. Prov. La Rioja, "Sierra Tamativa" [sic], *Hieronymus et Niederlein s.n.* (holotype: B [destroyed]) [the correct spelling is Sierra Famatina]. *C. macrorrhiza* Boeck. var. *simplex* Kük., in A. Engler, Das Pflanzenr. 4, 20(38): 127. 1909. *C. hypoleucos* Kük., in A. Engler, Das Pflanzenr. 4, 20(38): 127. 1909, non E. Desv. (1853).—Type: Argentina. [Prov. Mendoza. *Dpto. Malargüe*: Río Salado Superior (35° 14' S, 69° 32' W)], cordillera de Mendoza, El Planchón im Valle Hermoso, [5-6-II-1893,] *Kurtz 7635* (lectotype [designated by Barros, 1947]: CORD; isolectotype: MIN).

Plant perennial; rhizomes long-creeping, stout (2-4 mm thick) and ligneous, dark brown; fertile culms 5-45(-60) cm tall, arising singly or in small clumps at intervals, usually exceeding the leaves, triangular (at least distally), scabrous-angled distally but sometimes nearly smooth, with glabrous, brown basal sheaths. Leaves (3-)5-11; blades 2.5-30 cm long, 1.5-4 mm wide, flattish (at least distally), stiff, glabrous, the margins antrorsely scabrous; leaf sheaths glabrous, slightly septate-nodulose, pale greenish; inner band of sheaths glabrous, white-hyaline or pale brown, slightly concave at mouth; ligules 0.8-2.4 mm long, rounded or retuse, wider than long, the free portion white-hyaline or pale brown. Inflorescences 1-4 cm long, 7-15 mm wide, the several to numerous spikes aggregated into a more or less dense oblong-ovoid to ovoid head; spikes androgynous, the upper ones mostly undistinguishable, the lower ones more or less distinct, apical staminate flowers inconspicuous (except the anthers), perigynia few to several per spike; bractless or sometimes with the lowermost 1 or 2 bracts cuspidate and possessing an awn up to 5 cm long. Pistillate scales 2.4-4.2(-4.6) mm long, 1.4-2.1 mm wide, wider and about as long as or longer than the perigynia, ovate, apex acuminate or cuspidate, very pale ferruginous to ferruginous with stramineous center and broad hyaline margins, 1(-3)-veined; staminate

Fig. 3. *Carex macrorrhiza*. A: habit, from *Ruthsatz 9149*. B: sinistral achene and perigynium (abaxial view), from *Ruthsatz 9149*; dextral achene and perigynium (abaxial view), from *Jorgensen 1658*. Bar = 5 cm in A; bar = 3 mm in B.

scales similar but narrower and paler. Perigynia 2.8-4.2 mm long, 1.3-1.9 mm wide, plano-convex, the body ovate to ovate-deltoid, usually widest at or near the rounded or quasi-truncate base, glabrous, subcoriaceous, straminеous or ferruginous, weakly 3-7-veined abaxially and veinless (or nearly so) adaxially, the margins smooth in the proximal two-thirds and usually serrulate in the distal one-third (especially on the shoulders), more or less spongy at the nearly sessile or substipitate base, gradually tapered into a beak; beaks 0.6-1.4 mm long, broadly conical, serrulate-margined proximally and often smooth distally, obliquely cut dorsally, bidentulate with weak teeth up to 0.3 mm long. Achenes 1.3-1.8 mm long, 0.7-1.2 mm wide, lenticular with ovate-oblong or oval sides, closely enveloped by perigynia, subsessile, apiculate, brownish. Stigmas 2. Anthers 1.8-3.2 mm long, including an apiculate tip about 0.2 mm long.

Carex macrorrhiza occurs in Argentina, Bolivia, and Chile, and has also been reported from Uruguay (Chebataroff, 1942; Herter, 1953), though no Uruguayan specimen has been seen. See Fig. 1. In Argentina, this species is known from Mendoza Province northward to Jujuy Province and eastward to Sierra de Achala in Córdoba Province. It grows from about 2000 to 4200 m s.m. and frequents meadows and grasslands, pastures and old fields, banks of slow-flowing streams, and rocky hillsides and other stony and sandy ground. Also, because it can tolerate alkaline conditions, the plant occasionally occurs around the margins of salars and in other salinitrous places. It flowers in October and November and mature fruit has been collected from December through April. The epithet refers to the stout, long-creeping monopodial rhizomes of this species.

Kükenthal (1909) described *C. macrorrhiza* var. *simplex* from two Argentine collections, one from Mendoza Province (*Kurtz 7635*) and the other from Santa Cruz Province (*Spegazzini 375*), and subsequently Barros (1947) designated the former as lectotype. However, the features used by Kükenthal (1909) and later authors (e.g., Barros, 1947) to separate these two entities do not hold up under close scutiny, viz., spike shape, degree of culm and perigynium beak scabrousness, degree of perigynia sponginess, and longer perigynium beaks and stipes. In fact, most (if not all) of these characters vary not only from plant to plant in the same population but sometimes also on the same plant. Following Barros's (1947: 416)

selection of lectotype, *Kurtz 7635* (from west-central Argentina) is here considered to be conspecific with *C. macrorrhiza*, as the majority of perigynia have a body that is widest near the base and a broadly conical beak. On the other hand, *Spegazzini 375* (from southern Patagonia) is readily assignable to *C. subfuegiana*, as the majority of perigynia possess a body widest near the middle and a narrowly conical beak, as well as slightly larger achenes.

It is also worth noting that, in a significant work preceeding his monograph, Kükenthal (1899: 502) referred the two syntypes of *C. macrorrhiza* var. *simplex* to *C. hypoleucos* E. Desv. But apparently never having seen type material of Desvaux's *C. hypoleucos*, Kükenthal (1909: 127), in his subsequent monograph, strangely and confusingly used the name "C. hypoleucos Kük." and placed it in synonymy of *C. macrorrhiza* var. *simplex*, a confusion which continues today (e.g., Barros, 1969: 80, gives *C. hypoleucos* Kük. as a synonym of *C. macrorrhiza* var. *simplex*, whereas Guaglianone, 1996: 141, gives *C. hypoleucos* E. Desv. as a synonym of var. *simplex*). However, after examining type material of *C. hypoleucos* E. Desv. (Gay s.n. [holotype, P]), it is abundantly clear that this plant has differently-shaped perigynia and smaller achenes than either *C. macrorrhiza* or *C. subfuegiana*. The taxonomic status of *C. hypoleucos* E. Desv. will be discussed in a separate paper.

Lastly, immature plants of *C. macrorrhiza*, as well as those of *C. subfuegiana*, are sometimes confused with immature plants of other sympatric carices, particularly *C. gayana* E. Desv. which has a wide distribution in the southern half of South America. While shape and color of pistillate scales, rhizome characteristics, and beak length are useful in identifying immature specimens of these species, mature perigynia are *sine qua non* for positive identification. Notably, cognizance of beak length is mentioned above because both *C. macrorrhiza* and *C. subfuegiana* have a relatively long beak, whereas *C. gayana* has a short beak, a difference usually recognizable in even immature specimens of these species.

Representative specimens

ARGENTINA. **Catamarca**. *Dpto. Andalgala*: El Candado, 30-III-1917, *Jörgensen 1658* (GH; MO; SI). *Dpto. Antofagasta de la Sierra*: Paicuqui, 19-II-1974, *Ulibarri 711* (SI). *Dpto. Santa María*: Santa María, 19-X-1948, *Ruiz Leal 12211* (SI). **Córdoba.** Pampa de Achala, Sierra Grande, 2200 m s.m., 29-XII-1935, *Burkart 7139* (GH); Pampa de Achala, 15-I-1940, *Burkart 10234* (SI); Achala, 20-XII-1909, *Stuckert 21177* (LIL). **Jujuy**. *Dpto. Cochinoca*: Abra Pampa, 3480 m s.m., 8-I-1972, *Ruthsatz 243/3* (MIN, NY, Trier); Mina Rumicruz, 3980 m s.m., 9-IV-1973, *Ruthsatz 538/4* (NY, Trier). *Dpto. Humahuaca*: Mina Aguilar, Toma de agua de Molino, 4200 m s.m., 27-II-1972, *Ruthsatz 383/15* (MIN, NY, Trier); Tres Cruces, 3650 m s.m., 5-II-1972, *Ruthsatz 339/1* (NY, Trier). *Dpto. Santa Catalina:* Santa Catalina, ca. 3650 m s.m., 9-I-1901, *Claren 11408* (SI). *Dpto. Tumbaya*: Volcán, 2000 m s.m., 17-II-1924, *Schreiter 2634* (LIL); Est. Volcán, 2100 m s.m., 15-I-1923, *Castillon 9307* (LIL). *Dpto. Yavi*: La Quiaca, orillas del Río Matareillas, 3450 m s.m., 12-II-1940, *Meyer s.n.* (GH); La Quiaca–Villazon, 3442 m s.m., 24-I-1940, *Schreiter 10984* (SI). Casabindo, 18-I-1948, *Cabrera 9323* (BAB, SI); Moreno, 3500 m s.m., 14-XI-1901, *Fries 763* (S, UPS). **La Rioja**. *Dpto. Chilecito*: Sierra de Famatina, Encrucijada, 3400 m s.m., 3-II-1995, *Ruthsatz 9149* (MIN, SI, Trier); Sierra Famatina, Vallecito, 15-20-I-1879, *Hieronymus 660* (CORD). Sierra Famatina, La Encrucijada, 29-I-2-II-1879, *Hieronymus* 500 (CORD). Sierra de Famatina, Río la Cunchi, 3400 m s.m., 29-IV-1951, *Sparre 8893* (LIL). **Mendoza**. *Dpto. Las Heras*: Uspallata, 5-XII-1945, *Ruiz Leal 10532* (LIL). *Dpto. San Carlos*: La Consulta, 31-X-1940, *Ruiz Leal 6836* (LIL). *Dpto. San Rafael*: Malalhue, del río Malalhue, 1760 m s.m., 4-II-1942, *Ruiz Leal 7846* (LIL). **Salta**. *Dpto. Cachi*: La Paya, 5 km al oeste del Río Calchaquí, 2500-2600 m s.m., 18-IX-1977, *Novara 471* (G). *Dpto. Los Andes*: camino a Abra del Acay, Ruta 40, Las Pircas, 3840 m s.m., 20-II-1987, *Nicora et al. 8964* (MIN, SI). Nevado del Castillo, 10000-15000 ft., 19-23-III-1873, *Lorentz & Hieronymus 61* (GOET). **Tucumán**. *Dpto. Tafí*: Infiernillo, 3000 m s.m., 20-XII-1912, *Castillon 2299* (LIL); Calchaquíes, Infiernillo, 29-XI-1946, *Sparre 1060* (S); Río Banda, 2000 m s.m., 10-XII-1908, *Lillo 8720* (GH, LIL); Valle del Tafí, 2000 m s.m., 17-XII-1916, *Castillon 5a* (GH, LIL).

BOLIVIA. **Cochabamba**. Colcapampa a 12 km de Cochabamba, 23-XI-1958, *Jiménez 3* (SI). **La Paz**. *Prov. Los Andes*: Batallas, Saliendo por

Pucarani, 3850 m s.m., 12-XI-1986, *Beck 14045* (LPB, SI). *Prov. Pacajes*: a 24 km al S de Rosario, 17° 26' 19"S, 68° 48' 28"W, 3914 m s.m., 19-VII-1995, *Massy 1345* (LPB). **Oruro**. *Prov. Saucari*: comunidad Kollpuma, 60 km al SW de Oruro, 18° 11'S, 67° 30'W, 3820 m s.m., 8-II-1992, *Ayala 75* (LPB, MIN). **Potosí**. Hacienda Cayara in Río Molino valley, 3500 m s.m., 28-12-1994, *Wood 9035* (LPB, MIN).

CHILE. **Región I** (Tarapacá) *Prov. Iquique*: Mamiña, 2700 m s.m., 12-I-1950, *Pfister s.n.* (CONC-9454); Mamiña, 2700 m s.m., 22-X-1960, *Montero 6335* (CONC); Salar de Coposa, 3750 m s.m., 24-III-1992, *Ruthsatz 8430* (MIN, Trier).

A Selected Morphological Key to *Carex macrorrhiza* and *C. subfuegiana*

Majority of perigynia widest at or near the base, the body ovate to ovate-deltoid, beak broadly conical; achenes 0.7-1.2 mm wide ..... *Carex macrorrhiza*

Majority of perigynia widest at or just below the middle, the body ovate-elliptic to elliptical, beak narrowly conical; achenes 1.1-1.6 mm wide ..... *Carex subfuegiana*

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