

ELEOCHARIS CORDILLERANA (CYPERACEAE), A NEW SPECIES FROM SOUTHERN CHILE

M. Socorro González-Elizondo¹, E. Rosa Guaglianone² & Bárbara Ruthsatz³

¹CIIDIR, Instituto Politécnico Nacional Unidad Durango, Sigma s.n. Fracc. 20 de Noviembre II, Durango, Dgo. 34220, México; *herbario_ciidir@yahoo.com.mx* (author for correspondence).

²Instituto de Botánica Darwinion, CONICET-ANCEFN, Casilla de Correo 22, B1642HYD San Isidro, Buenos Aires, Argentina.

³Universität Trier-FB VI Geobotanik, D 54286, Trier, Germany.

Abstract. González-Elizondo, M. S.; E. R. Guaglianone & B. Ruthsatz. 2008. *Eleocharis cordillerana* (Cyperaceae), a new species from Southern Chile. *Darwiniana* 46(2): 297-299.

A new species of *Eleocharis*, *E. cordillerana* (Cyperaceae) is described and illustrated. This species is endemic to Southern Chile, and its relationships at species level remain unclear.

Keywords. Andes, Chile, *Eleocharis*, Cyperaceae.

Resumen. González-Elizondo, M. S.; E. R. Guaglianone & B. Ruthsatz. 2008. *Eleocharis cordillerana* (Cyperaceae), una nueva especie del sur de Chile. *Darwiniana* 46(2): 297-299.

Se describe e ilustra *Eleocharis cordillerana* (Cyperaceae), una especie nueva, endémica del sur de Chile, cuyas relaciones a nivel específico son poco claras.

Palabras clave. Andes, Chile, *Eleocharis*, Cyperaceae.

INTRODUCTION

Eleocharis R. Brown (Cyperaceae) is a widely distributed genus of more than 200 species (González-Elizondo & Peterson, 1997; González-Elizondo & Tena Flores, 2001). The genus was extensively studied by Svenson (1929, 1932, 1939, 1957) but a modern, and worldwide taxonomic treatment of the genus is not available (Smith et al., 2002). The species here described, whose relationships are unclear, is endemic to Southern Chile.

Eleocharis cordillerana S. González, Guagl. & B. Ruthsatz, sp. nov. TIPO: CHILE: Región X. Prov. Valdivia (La Unión), Cordillera Pelada, Posa Negra, 900 m s.m., 10-II-1991, B. Ruthsatz 7726 (holotype SI, isotypes CIIDIR, CONC 135773, Trier). Fig. 1.

Perennis, rhizoma elongata ca. 0.6-1 mm cras-

sa, oblique ascendente. Culmis filiformibus, fasciculatis, erectis 2-3 cm alti, 0.15-0.25(-0.3) mm crassi; vaginis membranaceis, stramineis, apice obliquis acutis leviter dilatatis. Spiculae 2-2.5(-2.9) mm longae, 1.4-2.2 mm latae, ovatae vel subflabellatae, acutae vel subtruncatae, 2-9-floriferae; glumae floriferae polystichae, 1.5-2.2 mm longae, 0.9-1.2 mm latae, ellipticae, acutae vel acuminatae, dorso viridi vel straminei, lateribus castaneus vel rufescens, inferioribus vacuae. Achaenia 1-1.2 mm longa (cum styli basis), 0.6-0.65 mm lata, obovata, obtuse trigona, angulis obtusis vel subcostatis, nitida mellitus vel flavescens, longitudinaliter laeviter costulata, inter costas horizontaliter striata, apice rotundata vel subtruncata; rostrum parvum, depresso annularum, 0.27-0.3 mm latum at basis, pyramide trigona minuscula terminata; setae 6 brevibus vix scabrae, achaenium superantibus. Stylus trifidus. Stamina dua.

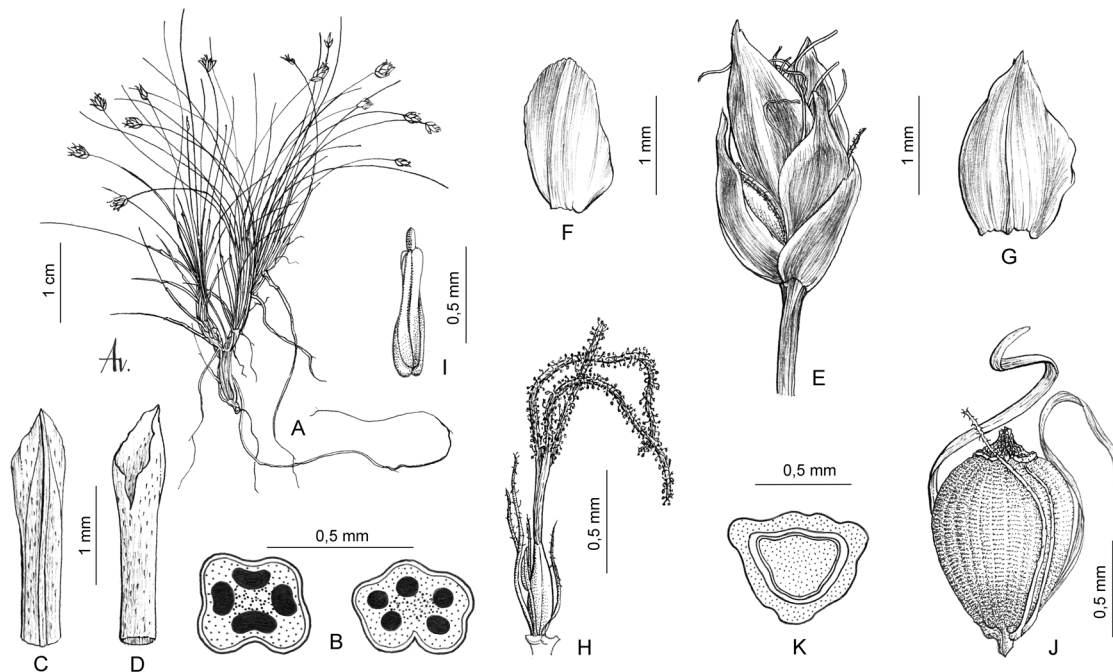


Fig. 1. *Eleocharis cordillerana*. **A**, plant. **B**, transection of the culm. **C-D**, upper sheath, dorsal and ventral view. **E**, spikelet. **F**, proximal, empty scale. **G**, floral scale. **H**, flower. **I**, anther. **J**, achene. **K**, transection of the achene. From *B. Ruthsatz 7726* (Holotype SI).

Perennial with ascending, long rhizomes 0.6-1 mm thick, covered by a membranous, stramineous coat. Culms 2-3 cm long, 0.15-0.25(-0.3) mm wide, pale green, straight to slightly curved, filiform, terete to ellipsoid and bisulcate (with a longitudinal groove on the opposite sides of the culm), or quadrangular with obtuse angles and a groove on each face. Upper sheath membranous, stramineous, the apex slightly inflate, translucent, oblique and acute, the mouth rounded or in V, sometimes desintegrating and open to 1.5 mm. Spikelets 2-2.5(-2.9) mm long, 1.4-2.2 mm wide, ovoid to subflabelloid, acute to subtruncate, 2-9-flowered; rachilla greenish. Floral scales polystichous, divergent, falling before the achenes, 1.5-2.2 mm long, 0.9-1.2 mm wide, membranous, elliptic, acute to subacuminate, greenish to stramineous along midvein, chestnut to reddish brown on the sides, the apex and upper portion of the margins hyaline; proximal scale empty, 1.2-1.7 mm long, the apex acute to rounded, shorter but otherwise similar to the floral scales. Achenes 1-1.2 mm long, including the stylopodium and base,

0.6-0.65 mm wide, obovoid, trigonous with blunt or slightly costulate angles and convex faces, rounded at the apex and truncate below the stylopodium, stramineous to pale yellowish (very pale when immature), with 11-14 rows of horizontally elongated cells on the adaxial face and 9-11 rows on each of the abaxial faces, the cells whitish and visible through a translucent, glossy surface which appears almost smooth or with obscure longitudinal ribs (the glossy surface absent on immature achenes); stylopodium 0.1-0.16 mm long, 0.27-0.3 mm wide at the base, sessile or on an inconspicuous rib at the apex of the achene, depressed, with the central part minutely conic or pyramidal, acute, dark-brown. Perianth bristles 6, some of them longer than the achene, reddish or stramineous at the base, curved, finely and irregularly ciliate-barbate, the barbules divergent to slightly ascendant on the upper part of the bristle and slightly retrorse at the lower part. Style trifid, stigma papillose with elongated papillae. Stamens 2, anthers 0.9 mm long, including the shortly prolonged connective 0.15-0.2 mm long.

Paratypes

CHILE. **Región X.** Chiloé, Castro, Cordillera de San Pedro, Alcaldeo Llau-Llau (42° 22'S 73° 48'W), 5-II-1982, *Villagrán, C. & Meza, I.* 3788 (SGO 128587); Isla Grande de Chiloé, Cordillera de Piuchén, trayecto Alerzal hacia altos de Pichihué, 42° 24'S 74° 01'W, 500 m s.m., 13-II-1984, *Villagrán, C.* 5669 (CONC 69126).

The name *E. cordillerana* refers to the cordilleras in the Andean region of Chile, where the new species has been found. The type of the species was collected from a rivulet within a moorland dominated by *Oreobolus obtusangulus* Gaud., *As-telia pumilia* R. Br., *Myrteola barneoudii* Berg and *Sphagnum magellanicum* Brid. In the vicinity of *E. cordillerana* have been observed *Isolepis inundata* R. Br., *Carex canescens* L., *C. magellanica* Lam., *C. banksii* Boott, and *Juncus procerus* E. Mey. This indicates that the seepage water had low contents of basic ions, but was not extremely acid (pH: 6,1, conductivity: 43,2 µS).

Observations. The relationships of *E. cordillerana* are unclear and the species can not be placed into any one of the subgenera of *Eleocharis* recognized by González-Elizondo and Peterson (1997). The glossy surface of the achenes and the floral scales that fall before the achenes remind of those in *Eleocharis uniflora* Seberg, another species of uncertain affinities originally described into a separate genus (as *Chillania pusilla* Roiv.). *Eleocharis uniflora*, also endemic to Chile, differs in having spikelets reduced to a single flower and small pads at the basis of the perianth bristles; more studies are needed in order to outline its taxonomical placement (into *Eleocharis* or *Chillania*). Because of the ornamentation of the surface

of the achenes, *E. cordillerana* is also superficially similar to *Eleocharis squamigera* ssp. *straminea* S. González & Reznicek, from Venezuela; however, *E. cordillerana* differs in several features, including smaller achenes with a very small, sessile or almost sessile stylopodium, darker floral scales and a more delicate habit.

ACKNOWLEDGEMENTS

Thanks are given to anonymous reviewers for helpful suggestions to clarify the manuscript. SGE acknowledges EDI and COFAA, IPN (Mexico), and ERG to PIP 5262/06-07 CONICET (Argentina) and Flora of Chile Project (University of Concepción, Chile) both for support research.

BIBLIOGRAPHY

- González-Elizondo, M. S. & P. M. Peterson. 1997. A classification of and key to the supraspecific taxa in *Eleocharis* (Cyperaceae). *Taxon* 46: 433-449.
- González-Elizondo, M. S. & J. A. Tena Flores. 2000. *Eleocharis* (Cyperaceae) in the New World, in K. L. Wilson & D. A. Morrison (eds.), *Monocots: Systematics and evolution*, pp. 637-643. Melbourne: CSIRO-University of New Gales.
- Smith, S. G.; J. Bruhl, M. S. González-Elizondo & F. J. Menapace. 2002. *Eleocharis* pp., in Flora of North America Editorial Committee (eds.), *Flora of North America North of Mexico*, vol. 23, pp. 60-120. New York: Oxford University Press.
- Svenson, H. K. 1929. Monographic studies in the genus *Eleocharis*. *Rhodora* 31: 121-135; 152-163; 167-191; 199-219; 224-242.
- Svenson, H. K. 1932. Monographic studies in the genus *Eleocharis*. *Rhodora* 34: 193-203; 215-227.
- Svenson, H. K. 1939. Monographic studies in the genus *Eleocharis*. *Rhodora* 41: 1-19; 43-77; 90-110.
- Svenson, H. K. 1957. Scirpeae (Cyperaceae) (contin.), in D. D. Keck, H. W. Rickett & D. P. Rogers (eds.), *North American Flora*, vol. 18 (9), pp. 505-556. New York: New York Bot. Garden.