

189. CAREX CASTROVIEJOI LUCEÑO & JIMÉNEZ MEJÍAS (CYPERACEAE), A NEW SPECIES FROM NORTH GREEK MOUNTAINS

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Carex castroviejoi Luceño & Jiménez Mejías (Cyperaceae), una especie nueva de las montañas del norte de Grecia

Palabras clave. Grupo de *Carex flava*, Grecia, Montes Pindo, serpentinas, endemismo.

Key words. *Carex flava* group, Greece, Pindus mountains, serpentines, endemic.

Carex castroviejoi Luceño & Jiménez Mejías,
sp. nov. (fig. 1-2)

- *C. lepidocarpa* sensu Chater (1980),
Flora Europaea 5: 310, p.p., non Tausch

- *C. lepidocarpa* sensu Strid & Kit Tan
(1991), Mountain Flora of Greece, 2: 853-854,
non Tausch

Holotypus. Greece, Epirus, Ioannina, Parque Valia Kalnta, 1698 m, 39° 52' N 21° 11' E, taludes pedregosos en dominio del *Pinus heldreichii* y *Fagus sylvatica*, 29.VI.2008, M. Luceño (3108ML), P. Vargas & F.J. Fernández [UPOS (3442)]. **Isotypus:** UPOS.

Speciei Carex lepidocarpa Tausch., *similis a qua praesertim, spica mascula late fusiformis, differt.*

Perennial, cespitose. Stems 7-40 cm length, trigonous, smooth, erect or slightly curved. Leaves 0.9-3 mm wide, usually shorter than stems, flat, light green; ligule short, slightly protruding beyond the sheath apex, truncate to rounded, scarious, absent from the cauline leaves; anteligule 1-2 mm, rounded; basal leaf sheaths un conspicuous, weak, light brown. Lowest bract 1-6 cm × 0.5-3 mm, as long as or a bit longer than inflorescence, shortly leaf-

like, sometimes bristle-like. Male spike 1, 7-20 × 3-3.5(4.2) mm, terminal, widely fusiform to elliptical, with a peduncle 1-15(20) mm; female spikes 1-3, the lowest one 7-10 mm long, generally clustered at stem apex, sessile or short-peduncled, erect, sometimes with a long-peduncled basilar spike, rarely some of them androgynous. Male glumes oval, subacute to obtuse, entirely brown, with a lighter middle nerve; female glumes oval, subacute to obtuse, brown, with a lighter middle nerve and sometimes an inconspicuous scarious margin. Stigmata 3. Utricles 3.2-4.5(4.8) × 0.9-1.5 mm, green to dark brown, those from the lower half of the spike strongly deflexed, those from the upper half deflexed to patent, the apical ones patent to erect-patent, elliptical, trigonous, plurinerved, gradually attenuated into a 1.2-2.2(2.5) mm, deflexed (30-40° in reference to utricle body), bidentate or bifid, smooth beak. Achenes 1.5-1.8 × 1 mm, narrowly obovate, trigonous.

Etymology. This new species is named in honour of our dear friend and mentor Dr. Santiago Castroviejo Bolívar, main architect of *Flora iberica*, the most important work in the Spanish botanical history.



Figure 1. Holotype of *Carex castroviejoii* Luceño & Jiménez Mejías



Figure 2. *C. castroviejoii* specimen from type locality.

Ecology. Boggy soils over ophiolitic rocks, in montane forests of Pindus range, North Greece.

Distribution. Endemic from North Greece, Epirus and West Macedonia regions (fig. 3). In addition to type materials, we studied plants from the following stations:

Studied materials (paratype): Greece. Epirus, Ioannina, Milia, Valia Kalta Nacional Park, 1513 m, 39° 51' N 21° 12' E, arroyos, prados turbosos sobre serpentinas, 28.VI.2008, *M. Luceño* (2008ML), *P. Vargas & F.J. Fernández* (ATH, E, M, MA, MGC, NY, TAU, UPOS); N Pindhos, Katara Pass, flushes on the N side at 1600 m with *Blysmus* and *C. echinata*, on serpentine substrate, 5-VII-1988,

A.J. Richards (BM, RNG); Pindhus, Katara Pass 8 km east of Metsovon, 1650 m, flushes on serpentine, N of top of pass, 30-VI-1985, *A.J. Richards & G. Chaytor* (BM, with *C. viridula* s.str.); Pindhus Mts, W slopes below Mt. Smolikas, 6000 ft., 26-VII-1961, *Cambridge University Expedition* (K); Konitsa, Vasilitsa ski resort, 1580 m, turberas sobre serpentinas, 12-VII-2004, *P. Vargas* (281PV04) (UPOS). **West Macedonia,** Distr. Grevena, Montes Pindhus, in declivibus boreali orientalibus montis Aptia, in valle Arkudolaka (Valea Kalda) ditones pagi Perivoli, substr. serpent., 1700-2100 m, 30,31-VI-1957, *K.H. Rechinger* 18442 (K).

Carex castroviejoii is included in *C. flava* group (Sect. *Ceratocystis*), a taxonomically



Figure 3. Distribution map including studied populations (represented by star symbols).

difficult complex showing poorly differentiated morphological boundaries and frequent hybridization processes. Four species have been widely accepted in Europe (*C. demissa* Hornem., *C. flava* L. s.str., *C. lepidocarpa* Tausch. y *C. viridula* Michx. s.str.); the high mountain dwarf forms from Iberian Peninsula, Corse and Alps were included in *Flora Europaea* under *C. nevadensis* Boiss. & Reuter (cf. Chater, 1980, *Flora Europaea* 5: 310), although it is now well established that this group is a heterogeneous set of different taxa (Jiménez-Mejías & Luceño, in preparation). Within this complex two groups of plants may be easily distinguished from a morphological point of view: plants with straight and patent utricles (*C. demissa* and *C. viridula* s.str.) and plants with bent utricles, at least the lower ones from each spike deflexed (*C. flava* s.str., *C. lepidocarpa* and most of the high mountains forms). *Carex castroviejoii* should be within this latter group and, in fact Chater (1980, *Flora Europaea*, 5: 310) considered these plants under *C. lepidocarpa*. Morphological, karyological and molecular studies (Jiménez-Mejías &

Luceño, in preparation) strongly supported the taxonomic autonomy of *C. castroviejoii* from the remaining members of *Carex* sect. *Ceratocystis*. Morphological affinity to *C. lepidocarpa* could be the result of a convergence phenomenon, since our phylogenetic studies show *C. castroviejoii* as an independent and isolated lineage, not closely related to *C. lepidocarpa*.

The following key helps to distinguish the bent-beaked taxa of *C. flava* group from the Mediterranean Basin.

1. Male spike 7-20 × 3-3.5(4.2) mm, widely fusiform to elliptical; utricule beak smooth.....
..... *C. castroviejoii*
- Male spike up to 3 mm wide, terete, linear or narrowly fusiform; utricule beak smooth or scabrid..... **2**
2. Utricles dark brown, at least in the upper half, (1.5)2.2-3(3.1) mm long; lowest bract setaceous or shortly leaf-like, up to 1.5 mm wide on middle part; apical utricles of each spike erect.....
..... *C. lepidocarpa* subsp. *nevadensis*
- Utricles green, yellow or light brown, longer than 3 mm; lowest bract leaf-like, wider than 1.5 mm on middle part; apical utricles of each spike erect to patent..... **3**
3. At least some utricles from the upper half of the spike with a deflexed beak; female spikes oblong to subglobose; male spike usually pedunculate ..
..... *C. lepidocarpa* subsp. *lepidocarpa*
- Utricles form the upper half of the spike with erect-patent beaks; female spikes subglobose; male spike sessile..... *C. flava* s.str.

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