



Morphometric and karyological study of *Genista sericea* (Cytiseae-Fabaceae)

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Abstract

A morphometric and karyological study of several populations of *Genista sericea*, a northern Illyrian amphiadriatic species, with a disjunct distributional area centered on Pollino Massif (southern Italy), has been undertaken, based on herbarium specimens and field research. Morphometric analysis allowed to individuate three distinct groups of populations which are here attributed to three taxa at subspecific level. One of them is here newly described: *G. sericea* subsp. *pollinensis*, endemic to northern Calabria in Pollino and neighbouring areas of Basilicata. The taxonomic status of *G. sericea* var. *rigida* was re-evaluated and a name of a new rank is proposed: *G. sericea* subsp. *rigida* (occurring in southern Illyria), while subsp. *sericea* is a southeastern Alpine northern Illyrian taxon. The names *G. sericea* and *G. sericea* var. *rigida* are lectotypified. Karyologically, all the taxa are characterized by the same somatic number $2n = 48$, sometimes with B chromosomes (up to four).

Keywords: amphiadriatic species, chromosome numbers, numerical analysis, systematics

Introduction

Genista Linnaeus (1753: 709) is the most complex and species-rich genus of tribe Cytiseae, with about 130 taxa subdivided by Gibbs (1966) into three subgenera and ten sections. The section *Spartioides* Spach (1845: 113) is the most species-rich within subgen. *Genista*, with about 24 taxa, distributed mostly in the Mediterranean region, with two main diversity centers: a western (southern Spain and northwestern Africa) and an eastern one (Balkan Peninsula and Anatolia). Only *G. pilosa* Linnaeus (1753: 710) is widely distributed in western and central Europe (Gibbs 1966, Greuter *et al.* 1989). The western taxa are mostly erect retamoid-like shrubs, as the group of *G. cinerea* (Villars 1779: 40) Candolle (1805: 494), *G. florida* Linnaeus (1759: 1157) and *G. obtusiramea* J.Gay ex Spach (1845: 116), more rarely smaller subshrubs, as *G. pseudopilosa* Cosson (1851: 102) and *G. teretifolia* Willkomm (1851: 617). On the contrary, the eastern ones, among which *G. sericea* Wulfen in Jacquin (1789: 167), are prostrate subshrubs, sometimes tending to form hummocks, as *G. sakellariadis* Boiss. & Orph. in Boissier (1859: 42), *G. subcapitata* Pančić (1874: 224), *G. halacsyi* Heldreich (1899: 1526), *G. millii* Boissier (1888: 160), *G. albida* Willdenow (1802: 942) and *G. involucrata* Spach (1845: 120) (Gibbs 1966, 1968, 1970, Cantó & Sánchez 1988, Greuter *et al.* 1989, Cantó *et al.* 1997, Talavera 1999). The sect. *Spartioides* is known as heterogeneous for morphological and phytochemical characters (alkaloids and isoflavonoids), as well as for karyological and palynological data (Cantó *et al.* 1997, Cusma Velari *et al.* 2003, 2009, Rizzi Longo & Feoli Chiapella 2009). The species of the section do not form a monophyletic group, also on the basis of molecular data obtained from the analysis of nrDNA (ITS region) and cpDNA (*trnL-trnF* IGS) by Pardo *et al.* (2004).

Genista sericea, a northern Illyrian amphiadriatic species, ranges from northeastern Italy to Albania, with a disjunct distributional area centered on Pollino Massif (southern Italy) (Pampanini 1912, Gibbs 1966, Pignatti 1982, Conti *et al.* 2005).

Within this species, Pampanini (1912) distinguished numerous forms grouped in three varieties: var. *typica* (var. *sericea*, according to the ICN), var. *rigida* Pampanini (1912: 332) and var. *tomentosa* Pampanini (1912: 336). While var. *sericea* is distributed in the northern part of the range (northeastern Italy and northern part of the Illyrian region),

Acknowledgements

This research was supported by a grant from “Ministero dell’Università e della Ricerca” (MIUR, Italy). We would like to thank Prof. M. Codogno (Trieste), Dr. C. Coran (Trieste), Prof. G. Cristofolini (Bologna), Prof. C. Lasen (Feltre), Prof. D. Vladovic (Split) for supplying with some seeds, Dr. D. Vincek & Dr. V. Vincek (Kolašin) for sending specimens, Prof. E. Feoli (Trieste) for the useful advice, Dr. P. Ganis (Trieste) for helping in data analysis, Dr. S. Velari (Trieste) for drawing a graph, Dr. L. Feoli for correcting the English version. Thanks to the curators and directors of the following herbaria: APP, B, CLU, FI, LJU, LJM, MFU, NCY, P, PAD, TSB, TSM, ZA, ZAHO, W for loan of material.

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