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Systematics of *Senecio* section *Crociseris* (Compositae, Senecioneae)

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Abstract

The complexity of the evolutionary history of *Senecio* is reflected in its conflicted taxonomy. Within this genus, *Senecio* section *Crociseris* (Compositae, Senecioneae), a group of perennial herbs distributed in Europe, western and Central Asia, and northwestern Africa, was not fully revised. A worldwide revision of this section recognizing 28 species and eight subspecies is presented here. The main morphological characters revealed as useful for distinguishing between species are the number and shape of supplementary and involucre bracts, synflorescence architecture, indumentum, and the shape and size of leaves and achenes. In this new taxonomic treatment *S. provincialis* and *S. lagascanus* have been segregated from *S. doronicum*, within which three subspecies are recognized (*S. doronicum* subsp. *orientalis* is validly published herein). On the other hand, *S. ruthenensis* from France and *S. lusitanicus* from Portugal have been synonymized to *S. lagascanus*, as well as *S. ovatifolius*, *S. pisidicus*, and *S. tmoleus* from Anatolia to *S. kolenatianus*, *S. olympicus*, and *S. castagneanus* respectively, *S. bertramii* from Lebanon to *S. cilicius*, and *S. delbesianus* from Syria to *S. racemosus* subsp. *racemosus*. Sixty eight names are lectotypified, the names *S. barrelieri*, *S. pyrenaicus*, and *S. scopolii* are neotypified, and one epitype is designated for the name *S. perralderianus*. Descriptions and distribution maps are provided for all the species included, as well as an identification key. Nine species are illustrated for the first time.

Keywords: Asteraceae, Eurasia, *Jacobaea*, lectotypification, northwestern Africa, *Senecio* section *Crociseris*, *Senecio*, taxonomy

Introduction

The genus *Senecio* Linnaeus (1753: 866) (Compositae, Senecioneae) comprises ca. 1250 species and is one of the largest genera of flowering plants (Bremer 1994, Pelsner 2007, Nordenstam 2007). It is almost cosmopolitan, although remarkable diversification occurs mainly in the Mediterranean climate zones, i.e., South Africa, Chile, and the Mediterranean Basin. Fewer representatives may be found in Australasia and Mesoamerica, and no native species inhabit the West Indies (Nordenstam *et al.* 2009). Along its distribution area, the genus *Senecio* shows an extraordinary morphological diversity in which almost all life forms are present (annual and perennial herbs, subshrubs or shrubs, small trees), successfully colonizing a wide range of habitats (Bremer 1994, Nordenstam 2007).

The high variability in the concept of *Senecio* and its sections employed by different authors makes difficult to reach a consensus on its delimitation (Jeffrey 1977) and the number of sections that it includes. In the geographical frame where our study group occurs (i.e., western Eurasia and northwestern Africa), four main sections are classically recognized: *Senecio* sect. *Crociseris* (Reichenbach 1831–1832: 242) Boissier (1844: 13), *Senecio* sect. *Doria* (Fabricius 1759: 73) Godron (1850: 117), *Senecio* sect. *Jacobaea* (Miller 1754: [667]) Gray (1821: 469), and *Senecio* sect. *Senecio*. During the last decades, several genera, such as *Caucasalia* Nordenstam (1997: 22), *Iranecio* Nordenstam (1989a: 53), and *Tephroseris* (Reichenbach in Mössler 1829: 1498) Reichenbach (1841: 87) were segregated from the Eurasian *Senecio* with a widespread acceptance (Bremer 1994, Nordenstam 2007, Pelsner *et al.* 2007, 2010, Greuter 2008, Blanca & Quesada 2009, Hamzaoglu *et al.* 2011). By contrast, the genus *Turanecio* Hamzaoglu (2011: 484) does not seem to be accepted (Euro+Med PlantBase 2006+). The recent