

## Four new combinations in *Jacobaea* Mill. (Asteraceae, Senecioneae) for the European flora

Gabriele Galasso<sup>1\*</sup>, Fabrizio Bartolucci<sup>2</sup>

**Abstract** - Based on recent advances in the phylogeny of Senecioneae, several genera, including *Jacobaea*, are currently separated from traditional *Senecio*. New combinations are here proposed for four European taxa: *J. disjuncta* (Flatscher, Schneew. & Schönsw.) Galasso & Bartolucci, *J. insubrica* (Chenevard) Galasso & Bartolucci, *J. norica* (Flatscher, Schneew. & Schönsw.) Galasso & Bartolucci and *J. racemosa* subsp. *kirghisica* (DC.) Galasso & Bartolucci.

**Key words:** *Jacobaea*, nomenclature, *Senecio*.

**Riassunto** - Quattro nuove combinazioni in *Jacobaea* Mill. (Asteraceae, Senecioneae) per la flora europea.

Sulla base dei recenti progressi nella filogenesi delle Senecioneae, dal tradizionale genere *Senecio* vengono oggi separati più generi, tra i quali *Jacobaea*. Per quattro entità della flora europea vengono qui proposte le nuove combinazioni *J. disjuncta* (Flatscher, Schneew. & Schönsw.) Galasso & Bartolucci, *J. insubrica* (Chenevard) Galasso & Bartolucci, *J. norica* (Flatscher, Schneew. & Schönsw.) Galasso & Bartolucci e *J. racemosa* subsp. *kirghisica* (DC.) Galasso & Bartolucci.

**Parole chiave:** *Jacobaea*, nomenclatura, *Senecio*.

In recent years, the tribe Senecioneae (Asteraceae) has undergone a major sectional and generic reorganization, and several genera have been narrowly defined (Pelser *et al.*, 2007; Nordenstam *et al.*, 2009). *Jacobaea* Mill. is one of these resurrected and narrowly circumscribed genera and comprises ca. 45 species, most of them formerly classified within *Senecio* sect. *Jacobaea* (Mill.) Dumort. (*i.e.* Wiebe, 2000; Pelser *et al.*, 2002, 2003, 2006; Nordenstam,

2006; Nordenstam & Greuter, 2006; Peruzzi *et al.*, 2006). Several *Jacobaea* taxa are karyologically heterogeneous, having two or more ploidy levels (cf. Bolkhovskikh *et al.*, 1969; Dobeš & Vitek, 2000; Hodálová *et al.*, 2010, 2015), among which there is *Jacobaea carniolica* (Willd.) Schrank complex ( $\equiv$  *Senecio carniolicus* Willd. s.l.), with three ploidy levels discovered (Schönswetter *et al.*, 2007; Suda *et al.*, 2007; Hülber *et al.*, 2009; Sonnleitner *et al.*, 2010).

Three Alpine species belonging to the *Jacobaea carniolica* polyploid complex (one resurrected and two new to science: Flatscher *et al.*, 2015) and one subspecies from Kazakhstan, Ukraine and Russia (Calvo *et al.*, 2015) lack combination in *Jacobaea*. In order to provide correct names for these entities involved in the Italian flora (Conti *et al.*, in prep.) and/or Euro+Med (Greuter, 2006 onwards) treatments, which accept this genus (Nordenstam & Greuter, 2006; Peruzzi, 2007), new combinations are here established as follows.

***Jacobaea disjuncta*** (Flatscher, Schneew. & Schönsw.) Galasso & Bartolucci, **comb. nov.** Bas.: *Senecio disjunctus* Flatscher, Schneew. & Schönsw., *Phytotaxa*, 213 (1): 9 (-10, 20-21, figs. 1d, 3b, 4d, map). 2015 [11 Jun 2015, e-published].

***Jacobaea insubrica*** (Chenevard) Galasso & Bartolucci, **comb. nov.** Bas.: *Senecio carniolicus* Willd. var. *insubricus* Chenevard, *Bull. Herb. Boissier*, ser. 2, 6 (5): 368 (367-368). 1906 [30 Apr 1906]. ( $\equiv$  *Jacobaea carniolica* (Willd.) Schrank subsp. *insubrica* (Chenevard) Pelser  $\equiv$  *Jacobaea incana* (L.) Veldkamp subsp. *insubrica* (Chenevard) B.Nord. & Greuter  $\equiv$  *Senecio incanus* L. subsp. *insubricus* (Chenevard) Braun-Blanq.  $\equiv$  *Senecio insubricus* (Chenevard) Flatscher, Schneew. & Schönsw.)

***Jacobaea norica*** (Flatscher, Schneew. & Schönsw.) Galasso & Bartolucci, **comb. nov.** Bas.: *Senecio noricus* Flatscher, Schneew. & Schönsw., *Phytotaxa*, 213 (1): 9 (-10, 19-20, figs. 1c, 2b, 4c, map). 2015 [11 Jun 2015, e-published].

***Jacobaea racemosa*** (M.Bieb.) Pelser subsp. *kirghisica* (DC.) Galasso & Bartolucci, **comb. nov.** Bas.: *Senecio kirghisicus* DC., *Prodr. [A. P. de Candolle]*, 6: 362. 1838 [1837 publ. early Jan 1838]. ( $\equiv$  *Cineraria glabrata* Ledeb. [1829], non Sw. [1806], nom. illeg., non *Senecio glabratus* Hook. & Arn. [1830]  $\equiv$  *Cineraria auriculata*

<sup>1</sup> Sezione di Botanica, Museo di Storia Naturale di Milano, Corso Venezia 55, 20121 Milano, Italia

<sup>2</sup> Scuola di Bioscienze e Medicina Veterinaria, Università di Camerino; Centro Ricerche Floristiche dell'Appennino, Parco Nazionale del Gran Sasso e Monti della Laga, San Colombo, 67021 Barisciano (AQ), Italia  
E-mail: fabrizio.bartolucci@gmail.com

\*Corresponding author: gabriele.galasso@comune.milano.it

© 2015 Gabriele Galasso, Fabrizio Bartolucci

Received: 11 June 2015

Accepted for publication: 14 July 2015

Ledeb. [1833], non *Senecio auriculatus* Burm.f. [1768], non *Jacobaea auriculata* Schrank [1820]  $\equiv$  *Jacobaea kirghisica* (DC.) E. Wiebe  $\equiv$  *Senecio racemosus* (M. Bieb.) DC. subsp. *kirghisicus* (DC.) J. Calvo

## REFERENCES

- Bolkhovskikh Z. V., Grif V. G., Zakharyeva O. I. & Matveva T. S., 1969 – Chromosome numbers of flowering plants. *Nauka*, Leningrad.
- Calvo J., Álvarez I. & Aedo C., 2015 – Systematics of *Senecio* section *Crociseris* (Compositae, Senecioneae). *Phytotaxa*, 211 (1): 1-105.
- Conti F., Peruzzi L., Galasso G. & Bartolucci F. (eds.), in prep. – An updated checklist of the Italian vascular flora.
- Dobeš C. & Vitek E., 2000 – Documented chromosome number checklist of Austrian vascular plants. *Verlag des Naturhistorischen Museums Wien*, Wien.
- Flatscher P., Escobar García P., Hülber K., Sonnleitner M., Winkler M., Saukel J., Schneeweiss G. M. & Schönschwetter P., 2015 – Underestimated diversity in one of the world's best studied mountain ranges: The polyploid complex of *Senecio carniolicus* (Asteraceae) contains four species in the European Alps. *Phytotaxa*, 213 (1): 1-21.
- Greuter W., 2006 onwards – Compositae (pro parte majore). In: Compositae. Euro+Med Plantbase - the information resource for Euro-Mediterranean plant diversity. Greuter W. & Raab-Straube E. von (eds.). Available from: <<http://ww2.bgbm.org/EuroPlus-Med>> (retrieved on 7 May 2015).
- Hodálová I., Mered'á P. Jr., Vinikárová A., Grulich V. & Rotreklová O., 2010 – A new cytotype of *Jacobaea vulgaris* (Asteraceae): frequency, morphology and origin. *Nordic Journal of Botany*, 28 (4): 413-427.
- Hodálová I., Mered'á P. Jr., Kučera J., Marhold K., Kempa M., Olšavská & Slovák M., 2015 – Origin and systematic position of *Jacobaea vulgaris* (Asteraceae) octoploids: genetic and morphological evidence. *Plant Systematics and Evolution*, 301 (5): 1517-1541.
- Hülber K., Sonnleitner M., Flatscher R., Berger A., Dobrovsky R., Niessner S., Nigl T., Schneeweiss G. M., Kubešová M., Rauchová J., Suda J. & Schönschwetter P., 2009 – Ecological segregation drives fine-scale cytotype distribution of *Senecio carniolicus* in the Eastern Alps. *Preslia*, 81 (3): 309-319.
- Nordenstam B., 2006 – Additions to the genus *Jacobaea* Mill. (Compositae-Senecioneae). *Compositae Newsletter*, 44: 12-13.
- Nordenstam B. & Greuter W., 2006 – *Jacobaea* Mill. In: Euro-Med Notulae, 2 [Notulae ad floram euro-mediterraneam pertinentes No. 22]. Greuter W. & Raab-Straube E. von (eds.). *Willdenowia*, 36 (2): 711-713.
- Nordenstam B., Pelser P. B., Kadereit J. W. & Watson L. E., 2009 – Senecioneae. In: Systematics, Evolution, and Biogeography of Compositae. Funk V. A., Susanna A., Stuessy T. F. & Bayer R. J. (eds.). *IAPT*, Vienna: 503-525.
- Pelser P. B., Gravendeel B. & Meijden R. van der, 2002 – Tackling speciose genera: species composition and phylogenetic position of *Senecio* sect. *Jacobaea* (Asteraceae) based on plastid and nrDNA sequences. *American Journal of Botany*, 89 (6): 929-939.
- Pelser P. B., Gravendeel B. & Meijden R. van der, 2003 – Phylogeny reconstruction in the gap between too little and too much divergence: the closest relatives of *Senecio jacobaea* (Asteraceae) according to DNA sequences and AFLPs. *Molecular Phylogenetics and Evolution*, 29 (3): 613-628.
- Pelser P. B., Veldkamp J.-F. & Meijden R. van der, 2006 – New combinations in *Jacobaea* Mill. (Asteraceae – Senecioneae). *Compositae Newsletter*, 44: 1-11.
- Pelser P. B., Nordenstam B., Kadereit J. W. & Watson L. E., 2007 – An ITS phylogeny of tribe Senecioneae (Asteraceae) and a new delimitation of *Senecio* L. *Taxon*, 56 (4): 1077-1104.
- Peruzzi L., 2007 – Notula: 1310. In: Notulae alla checklist della flora vascolare italiana 3 (1267-1310). Conti F., Nepi C. & Scoppola A. (eds.). *Informatore Botanico Italiano*, 39 (1): 252-253.
- Peruzzi L., Passalacqua N. G. & Jarvis C. E., 2006 – Typification of the accepted names in the *Jacobaea maritima* group (Asteraceae). *Taxon*, 55 (4): 1001-1004.
- Schönschwetter P., Lachmayer M., Lettner C., Prehler D., Rechnitzer S., Reich D. S., Sonnleitner M., Wagner I., Hülber K., Schneeweiss G. M., Trávníček P. & Suda J., 2007 – Sympatric diploid and hexaploid cytotypes of *Senecio carniolicus* (Asteraceae) in the Eastern Alps are separated along an altitudinal gradient. *Journal of Plant Research*, 120 (6): 721-725.
- Sonnleitner M., Flatscher R., García P. E., Rauchová J., Suda J., Schneeweiss G. M., Hülber K. & Schönschwetter P., 2010 – Distribution and habitat segregation on different spatial scales among diploid, tetraploid and hexaploid cytotypes of *Senecio carniolicus* (Asteraceae) in the Eastern Alps. *Annals of Botany*, 106 (6): 967-977.
- Suda J., Weiss-Schneeweiss H., Tribsch A., Schneeweiss G. M., Trávníček P. & Schönschwetter P., 2007 – Complex distribution patterns of di-, tetra-, and exaploid cytotypes in the European high mountain plant *Senecio carniolicus* (Asteraceae). *American Journal of Botany*, 94 (8): 1391-1401.
- Wiebe E. I., 2000 – The annotated check-list of the tribe *Senecioneae* Cass. (Asteraceae) in Siberia. *Turczaninowia*, 3 (4): 58-63.