

# 1161. *Jacobaea persoonii* (De Not.) Pelser

## Asteraceae

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### Summary

*Jacobaea persoonii* is illustrated and discussed. It is a narrow endemic species restricted to a part of the Ligurian Alps. A detailed description is provided, with notes on cytology and habitat. It belongs to the *incana* clade and produces pyrrolizidine alkaloids as a defence mechanism against herbivores. The species is listed as Least Concern in Italy and Critically Endangered in France.

## INTRODUCTION

*Jacobaea* currently comprises 63 accepted species and 7 hybrids (POWO, 2025). The genus is present exclusively in the Northern Hemisphere and mainly in Eurasia, although some species have been introduced into Central and South America and Australia. *Jacobaea persoonii* was firstly described by De Notaris in the *Repertorium florum Ligusticae* (1844; as *Senecio persoonii*) based on samples from mountains near Nava (NW Italy) at the border between Liguria and Piedmont (Italy). In 2003 the species was included in *Senecio* sect. *Jacobaea* by Pelser et al. (2003). However, molecular evidence suggested that sect. *Jacobaea* is more closely related to *Packeria* Á.Löve & D.Löve and other genera of Senecioneae from the New World (Pelser et al., 2002). As a result, the species belonging to *Senecio* sect. *Jacobaea* were transferred to the genus *Jacobaea* Mill. (Pelser et al., 2006). A more recent analysis suggested that *Jacobaea* forms a clade with *Bethencourtia* Choisy and eight other *Senecio* species distributed mainly in the sub-Saharan Africa (Pelser et al., 2007).

*Jacobaea persoonii* is distinguished from other species of the genus mainly by the absence of ray flowers (Plate 1161, Figure 1). It belongs to the *incana* clade (together with *J. incana* (L.) Veldkamp, *J. leucophylla* (DC.) Pelser, *J. carniolica* (Willd.) Schrank., *J. boissieri* (DC.) Pelser, *J. adonidifolia* (Loisel.) Pelser & Veldkamp, *J. uniflora* (All.) Veldkamp, and *J. abrotanifolia* Moench). In particular, morphological characters of the style (Martini, 1984) and chloroplast molecular data (Calvo et al., 2013) suggest that it is closely related to *J. leucophylla*, which grows in the Pyrenees and South-Central France. On the basis of this relationship, Barbero

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**FIGURE 1** A plant of *Jacobaea persoonii* showing its cypsela with disc flowers. Photograph C. Calise.

(1966) and Martini (1984) suggested that *J. persoonii* is a thermophilic relict species belonging to the Mesogean floristic contingent, which had a wider distribution area during the Tertiary and contracted its range during the glaciations, eventually remaining confined to the Ligurian Alps, an area that was partially spared from glacial coverage. However, nuclear molecular data suggests that *J. persoonii* falls in a subclade with *J. incana*, *J. carniolica* and *J. uniflora* (Calvo et al., 2013; Mas De Xaxars et al., 2015). These species occur in the wider Alps and northern Apennines: *J. uniflora* in the northwestern Alps, *J. carniolica* in the central-eastern Alps, *J. incana* in the western Alps and northern Apennines, and *J. persoonii* in the western Alps. These relationships would suggest a different origin during glaciation from an Alpine ancestor. *Jacobaea incana* and *J. persoonii* are found sympatrically, but despite the lack of geographical isolation the species are differentiated both morphologically and ecologically (Barbero, 1966; Calise et al, 2012). *Jacobaea persoonii* is a xerophilic species living in different vegetation types, spanning from *Loiseleuria procumbentis* – *Vaccinietea microphylli* Egger ex Schubert to *Asplenietea trichomanis* Br.-Bl. in Meier & Br.-Bl. (Calise et al, 2012). Like other *Jacobaea* species, *J. persoonii* contains pyrrolizidine alkaloids, chemical compounds with cytotoxic, mutagenic and genotoxic properties that are a deterrent to most vertebrates and herbivorous insects (Pelser et al., 2005). In particular, *J. persoonii* contains the alkaloids seneciophylline and erucifoline and their N-oxides, and the erucifoline-N-oxide reported for the first time from a plant in *J. persoonii* (Roeder et al., 1993).

## CULTIVATION

A few *Jacobaea* species (e.g. *J. maritima*) are grown as ornamentals, valued especially for their attractive foliage, but *J. persoonii* is cultivated only in alpine botanical stations such as Re and Bicknell Botanical Stations in Parco Naturale Marguareis in Chiusa di Pesio.



PLATE 1161 *Jacobaea persoonii*

ALESSANDRO INFUSO



## NOMENCLATURE AND DESCRIPTION

*Jacobaea personii* (De Not.) Pelsler in *Compositae Newslett.* 44: 9 (2006).

Homotypic synonyms:

*Senecio incanus* subsp. *personii* (De Not.) Nyman in *Consp. Fl. Eur.*: 356 (1879).

*Senecio personii* De Not. in *Repert. Fl. Ligust.*: 229 (1844).

Heterotypic synonyms:

*Senecio incanus* var. *italicus* Pers. in *Syn. Pl.* 2: 435 (1807).

*Senecio incanus* subsp. *italicus* (Pers.) Arcang. in *Comp. Fl. Ital.*: 349 (1882).

The specific name refers to Christiaan Hendrik Persoon (1761–1836), a South African mycologist and botanist who moved to Europe at a young age. The common names of the species are: *Sèneçon de Persoon* in French and *Senecione di Persoon* or *Senecio di Persoon* in Italy.

*Perennial herb*, with a very dense white tomentum. *Stem* grey-downy, erect or ascending, 10–20 cm high. *Leaves* pinnate with often obovate, deeply crenate and lobulated segments (Figure 2). *Inflorescence* of clustered capitula with 15–25 disc flowers (ray flowers absent), 0.9–1 cm × 0.9–1 cm, involucral bracts not spotted at the apex. *Flowers* have an elongated style with thick cylindrical branches, truncated at the apex and provided with a crown of papillose hairs, elongated at the periphery, short in the centre, anthers with very short rounded basal appendage.

**CYTOLOGY.** *Jacobaea personii* is a diploid ( $2n = 40$ ; Kupfer, 1971) as are most of the species of the genus.



**FIGURE 2** *Jacobaea personii* has pinnate leaves with obovate, deeply crenate and lobulated segments. This individual is growing on bare gravelly soil. Photograph C. Calise.



**FIGURE 3** *Jacobaea persoonii* growing on rocky but vegetated terrain. Photograph C. Calise.

**PHENOLOGY.** Flowering from May to August.

**DISTRIBUTION.** The species is endemic to the Ligurian Alps, where it occurs along a narrow stretch of the main watershed. In particular, its distribution extends from the area between Pizzo d'Ormea and Cima Ruscarina toward the Mt. Marguareis, and continues southward along the ridge connecting Mt. Marguareis to Mt. Saccarello. The southernmost populations are located near the Mt. Frontè.

**HABITAT.** *Jacobaea persoonii* grows on cliffs and sometimes on scree soils at the foot of cliffs between 1,500 and 2,400 m. It prefers siliceous substrates such as granite and quartzite, but it also occurs on limestones, as in the north side of the Cima delle Saline (Barbero, 1966) (see Figures 2, 3).

**CONSERVATION.** *Jacobaea persoonii* is considered Least Concern in the Italian Red List (Rossi et al., 2020) while the species is listed as Critically Endangered in the France Red List (UICN France, FCBN, AFB & MNHN, 2018). However, no conservation actions are currently needed in France (La Berre et al., 2022).

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## REFERENCES

- Barbero, M. (1966). A propos de trois espèces rupicoles, endémiques des Alpes ligures. *Bulletin de la Société Botanique de France* 113: 330–341. <https://doi.org/10.1080/00378941.1966.10835532>
- Calise, C., Dagnino, D., Casazza, G. & Minuto, L. (2012). A morphological and phytosociological comparison between *Jacobaea personii* and *Jacobaea incana* in the Ligurian Alps. *Notiziario della Società Botanica Italiana* 5: 154.
- Calvo, J., Álvarez, I., Aedo, C. & Pelsler, P.B. (2013). A phylogenetic analysis and new delimitation of *Senecio* sect. *Crociseris* (Compositae: Senecioneae), with evidence of intergeneric hybridization. *Taxon* 62: 127–140. <https://doi.org/10.1002/tax.621011>
- De Notaris, G. (1844). *Repertorium florum Ligusticae*. Torino: Ex Regio Typographeo.
- Kupfer, P.H. (1971). *Liens génétiques entre les flares alpine et pyrénéenne*. Actes des Colloque sur la flare et la végétation des Chaînes Alpine et Jurassienne, pp. 167–185. Paris.
- Le Berre, M., Piazza, C., Bianchin, N., Fort, N., Andrieu, F., Delage, A., Hugot, L., Pires, M., Debarros, G. & Diadema, K. (2022). *Typification des actions - stratégie de conservation de la flore vasculaire en région Méditerranéenne. Rapport d'étude*. CBNMED, CBNC, CBNMC, CBNA, RESEDA-FLORE. 12 p. + ann.
- Martini, E. (1984). Lineamenti geobotanici delle Alpi Liguri e Marittime: endemismi e fitocenosi. *Biogeographia – The Journal of Integrative Biogeography* 9: 51–134. <https://doi.org/10.21426/B69110122>
- Mas De Xaxars, G., Fridlender, A., Garnatje, T. & Vallès, J. (2015). Molecular and cytogenetic confirmation of the hybrid origin of *Jacobaea* × *mirabilis* (Asteraceae, Senecioneae), with nomenclatural notes on this name. *Phytotaxa* 234(3): 271–279. <https://doi.org/10.11646/phytotaxa.234.3.8>
- Pelsler, P.B., de Vos, H., Theuring, C., Beuerle, T., Vrieling, K. & Hartmann, T. (2005). Frequent gain and loss of pyrrolizidine alkaloids in the evolution of *Senecio* section *Jacobaea* (Asteraceae). *Phytochemistry* 66(11): 1285–95. <https://10.1016/j.phytochem.2005.04.015>.
- Pelsler, P.B., Gravendeel, B. & van der Meijden, R. (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: 929–939.
- Pelsler, P.B., Gravendeel, B. & van der Meijden, R. (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: 613–628.
- Pelsler, 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: 1077–1104. <https://doi.org/10.2307/25065905>
- Pelsler, P.B., Veldkamp, J.-F. & van der Meijden, R. (2006). New combinations in *Jacobaea* Mill. (Asteraceae-Senecioneae). *Compositae Newsletter* 44: 1–11.
- POWO (2025). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. <https://powo.science.kew.org/>. [Accessed 14 July 2025]
- Roeder, E., Bourauel, T. & Kersten, R. (1993). Pyrrolizidine alkaloids from *Senecio personii*. *Phytochemistry* 32(4): 1051–1053. [https://doi.org/10.1016/0031-9422\(93\)85254-O](https://doi.org/10.1016/0031-9422(93)85254-O)
- Rossi, G., Orsenigo, S., Gargano, D., Montagnani, C., Peruzzi, L., Fenu, G., Abeli, T., Alessandrini, A., Astuti, G., Bacchetta, G., Bartolucci, F., Bernardo, L., Bovio, M., Brullo, S., Carta, A., Castello, M., Cogoni, D., Conti, F., Domina, G., Foggi, B., Gennai, M., Gigante, D., Iberite, M., Lasen, C., Magrini, S., Nicoletta, G., Pinna, M.S., Poggio, L., Prosser, F., Santangelo, A., Selvaggi, A., Stinca, A., Tartaglioni, N., Troia, A., Villani, M.C., Wagensommer, R.P., Wilhelm, T. & Blasi, C. (2020). *Lista Rossa della Flora Italiana. 2 Endemiti e altre specie minacciate*. Ministero dell'Ambiente e della Tutela del Territorio e del Mare.
- UICN France, FCBN, AFB & MNHN (2018). *La Liste rouge des espèces menacées en France – Chapitre Flore vasculaire de France métropolitaine*. Paris, France.

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