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Franco Pedrotti

Juncus fontanesii (*Juncaceae*), a new species for Trentino (Central Alps, northern Italy)

Abstract

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The presence of *Juncus fontanesii* subsp. *fontanesii* is reported for the first time for Trentino (Province of Trento, Central Alps, Northern Italy). In addition to the distinctive features of the taxon, the author recalls the stationary characteristics of the new record followed by some brief phytogeographic considerations.

Key words: vascular flora, *Juncus* , chorology, Alps, N. Italy.

Introduction

The purpose of this note is to report the first finding of *Juncus fontanesii* subsp. *fontanesii* in Trentino, Central Alps (Northern Italy), the flora of which has been explored and treated extensively. Many specific and infraspecific taxa in the genus *Juncus* occur in Italy, 17 of which are also present in Trentino (Prosser & al. 2019).

Taxonomy

Juncus fontanesii J. Gay ex Laharpe in Mem. Soc. Hist. Nat. Paris 3: 130 (1827)

Juncus fontanesii is a rhizomatous geophyte, perennial, with long sterile stems snaking on the ground and rooting at the nodes, 3-5, rarely 20 decimeters long ; the fertile stems are short and ascending; leaves with evident transverse septa, up to 10 centimeters long and more; large inflorescence, with about ten flower heads with 6-20 flowers (Pignatti 2017). This taxon is well distinguished from other species of the genus, due to the prostrate stem, floating in shallow water or lying on humid soil. Another very evident characteristic is stems rooting at the nodes, as is well illustrated in the iconography of the species by Arrigoni (2015) and shown in Fig. 1. *Juncus fontanesii* is divided into two subspecies (Snogerup 1980; Bartolucci & al. 2018), namely *J. fontanesii* subsp. f*ontanesii* and *J. fontanesii* subsp. *pyramidatus* (Laharpe) Snogerup. In Trentino only the nominal subspecies is present.

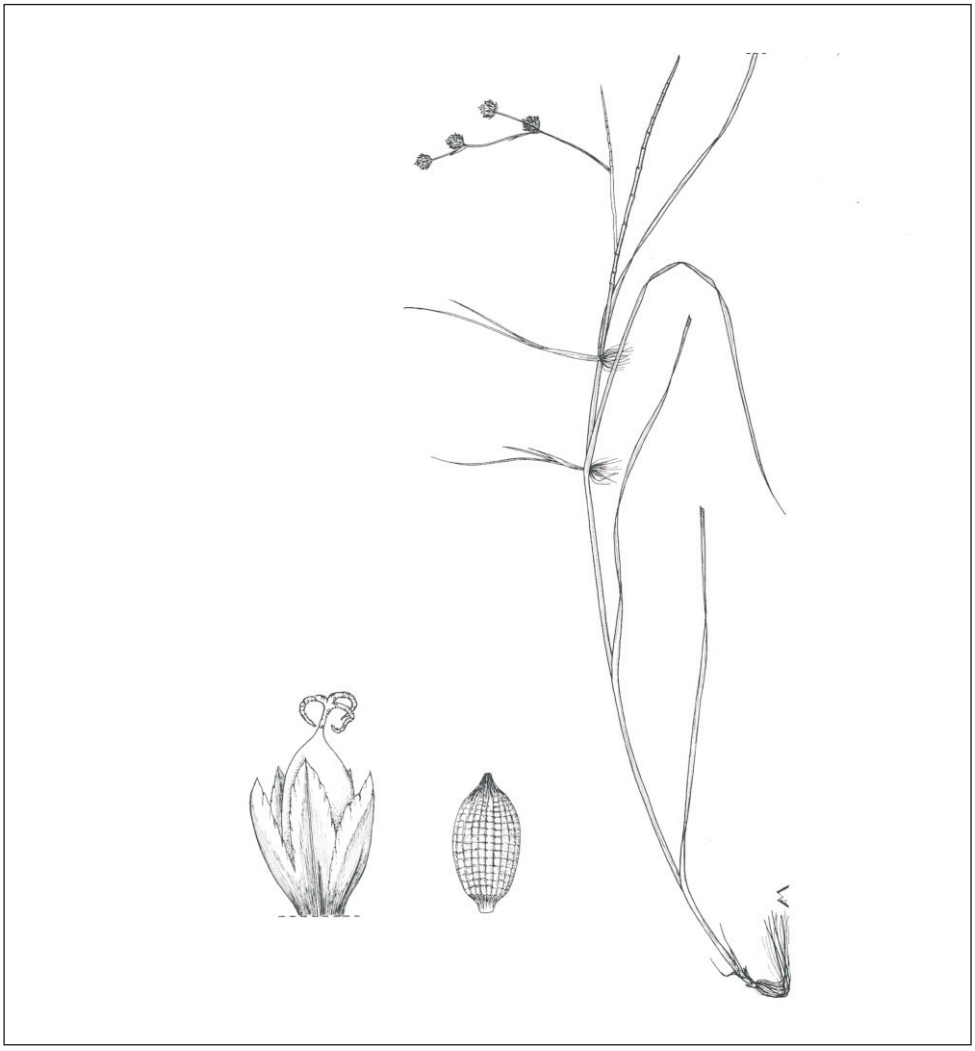

Fig. 1. Iconographic plate of *Juncus fontanesii* subsp. *fontanesii* (from Arrigoni 2015).

The new record

Juncus fontanesii was found in a bog in Maderlina, Dossone Cembra, on the right bank of the Val di Cembra (Trentino, Central Alps), at 900-1000 m [25.VIII. 2020, Pedrotti (CAME)]. It is a rhizomatous geophyte and its stems, at Maderlina, are always prostrate on soil and 70-80 cm long (Fig. 2). *Juncus fontanesii* forms a monospecific population, with a cover degree of 100%, and occupies the entire central part of the swamp.

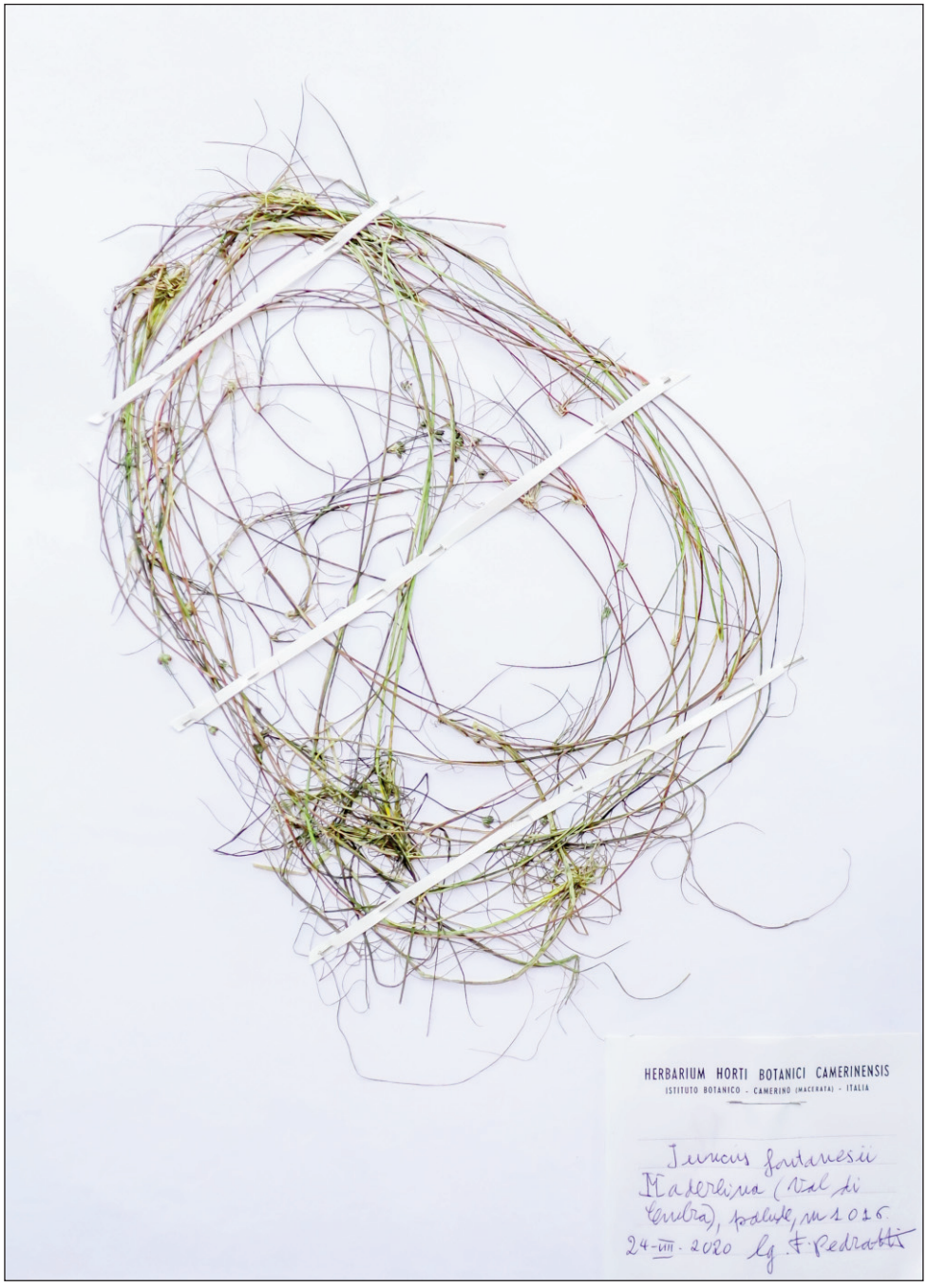

Fig. 2. Herbarium sheath of a specimen of *Juncus fontanesii* subsp. *fontanesii* collected in the Maderlina swamp (Val di Cembra, Trentino), 2020, and housed in the *Herbarium Horti Botanici Camerinensis* (CAME).

The environment where *Juncus fontanesii* grows is the marshes of Maderlina, an area located on a not very marked plateau, completely covered by forests, between 900-1000 m of altitude, in the lower humid pre-alpine supra-temperate (Gafta & Pedrotti 1996) or montane belt. The vegetation on the plateau consists of an acidophilic beech forest (*Luzulo-Fagetum)* plus Scots pine (*Vaccinio vitis-idaeae-Pinetum sylvestris*). On the slopes of the plateau the forest is represented by the *Luzulo niveae-Quercetum petraeae*. There is a group of 9 marshes occurring in hollows not far from each other, all surrounded by woods, on an irregular plateau inclined slightly towards the northeast.

The swamps are all small (the largest 80 × 5 m), round or elongated, and 1.50-2.0 m deep. None of these marshes is mapped on the Trentino Technical Map (Autonomous Province of Trento). *Juncus fontanesii* was found in a single swamp, during inspections at the end of August 2020, when the swamp itself was devoid of water.

The plateau is made up of volcanites (porphyry) of the Atesina porphyry platform, on which there are more or less vast moraine deposits (Venzo 1962-1963). The basins with the marshes can be considered of glacial origin, partly inter-moraine and partly of glacial excavation. The water of the marshes derives from snow and rain, coming especially in the spring and autumn months. At the Cembra station (662 m) the rainfall is 902 mm per year, and on the Maderlina Plateau (900-1000 m) is around 1000 mm per year. No springs were observed in the area. In August, the marshes are dry, but the mud at the bottom remains very moist.

The banks of the marshes are bordered by a belt of marshy vegetation (*Caricetum vesicariae*), common to all the marshes. The *Caricetum elatae* and the *Caricetum gracilis* appear more irregularly and in smaller areas. Outside the associations of large sedges (listed above), the marshes are surrounded by an irregular strip of *Molinia caerulea* (*Succiso-Molinietum*). At the center of the marshes, the stretch of water is almost always invaded by *Potametum natantis*; between the large sedge associations and *Potametum natantis* it is possible to find some groups of *Glycerietum notatae*.

Chorological Note and Conclusions

Juncus fontanesii is a Mediterranean-Iranian-Turanian species (Arrigoni 2015). In Italy it is present in the Peninsula, Sicily and Sardinia. In Lombardy it has been reported for Valcamonica in Campolungo (Cedegolo), at 450 m) (Martini & al. 2012). The taxon does not appear in Aeschimann & al. (2004); the stations of Valcamonica and Val di Cembra (Trentino) are the only two known for the entire chain of the Alps (Fig. 3).

The discovery of *Juncus fontanesii* subsp. *fontanesii* in Trentino assumes considerable significance, both floristically and phytogeographically. In the first case it is a kind of new signal for Trentino, which increases - in particular - the biodiversity of wetlands.

With regard to the second aspect, *Juncus fontanesii* is a Mediterranean-Iranian-Turanian species that, like other taxa of the Mediterranean contingent (primarily *Quercus ilex*), penetrates the Alpine region and reaches the northern limit of its range. The Trentino location is very disconnected from its main distribution

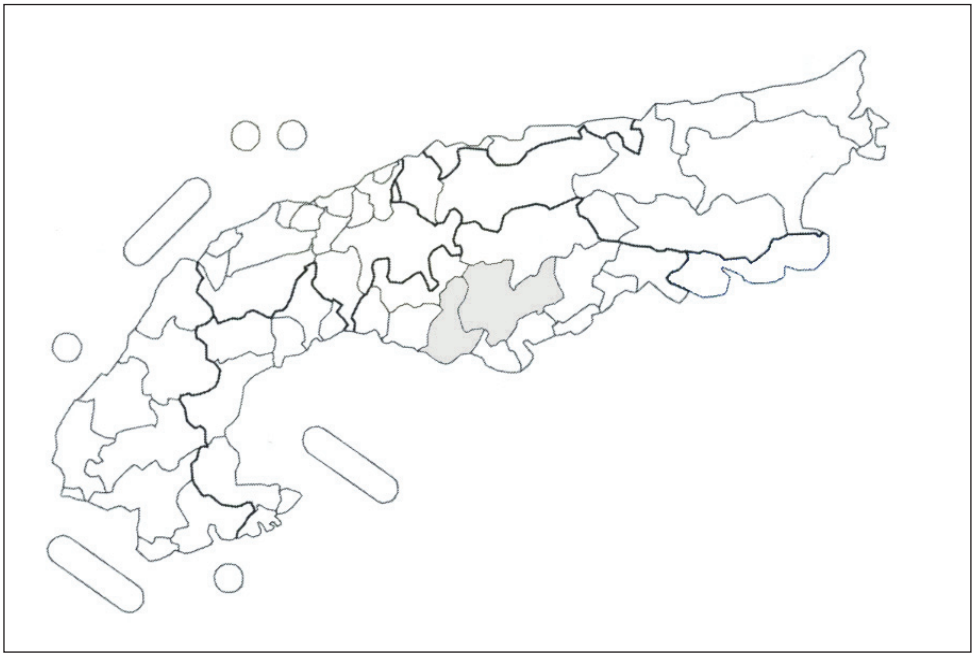

Fig. 3. Distribution of *Juncus fontanesii* subsp. *fontanesii* in the chain of the Alps, Provinces of Brescia and Trento. The reference map is that of Aeschimann & al. (2004).

area, as is the Lombardy location. Normally this species is reported for humid places in hilly plains with a Mediterranean or sub-Mediterranean climate. In Trentino, however, it occurs at an altitude of 900-1000 m, in vegetation of the beech forest and the Scots pine forest, which are typical of the lower montane belt (lower pre-alpine humid supra-temperate).

References

Aeschimann, D., Lauber, K., Moser, D. M. & Theurillat, J.-P. 2004: Flora alpina. — Bologna.

Arrigoni, P. V. 2015: Flora dell'Isola di Sardegna. **6.** — Sassari.

Bartolucci, F., Peruzzi, L., Galasso, G., Albano, A., Alessandrini, A., Ardenghi, N. M. G., Astuti, G., Bacchetta, G., Ballelli, S., Banfi, E., Barberis, G., Bernardo, L., Bouvet, D., Bovio, M., Cecchi, L., Di Pietro, R., Domina, G., Fascetti, S., Fenu, G., Festi, F., Foggi, B., Gallo, L., Gottschlich, G., Gubellini, L., Iamonico, D., Iberite, M., Jiménez-Mejías, P., Lattanzi, E., Marchetti, D., Martinetto, E., Masin, R. R., Medagli, P., Passalacqua, N. G., Peccenini, S., Pennesi, R., Pierini, B., Poldini, L., Prosser, F., Raimondo, F. M., Roma-Marzio, F., Rosati, L., Santangelo, A., Scoppola, A., Scortegagna, S., Selvaggi, A., Selvi, F., Soldano, A., Stinca, A., Wagensommer, R. P., Wilhalm, T. & Conti, F. 2018: An updated checklist of the vascular flora native to Italy. — Pl. Biosyst. **152(2):** 179-303. https://doi.org/10.1080/11263504.2017.1419996

Gafta, D. & Pedrotti, F. 1996: Fitoclima del Trentino-Alto Adige. — Studi Trent. Sc. Nat. **73:** 55-111.

Martini, F., Bona, E., Federici, G., Fenaroli, F. & Perico, G. 2012: Flora vascolare della Lombardia centro-orientale. vol. 1, Parte generale. — Trieste.

Pignatti S., 2017: *Juncus* L. — Pp. 390-407 in: Flora d'Italia, 2ª ed., **1.** — Milano.

Prosser, F., Bertolli, A., Festi, F. & Perazza, G., 2019: Flora del Trentino — Rovereto.

Snogerup, S. 1980: *Juncus* L. – Pp. 102-112 in: Tutin, T. G., Heywood, V. H., Burges, N. A., Valentine, D. H., Walters, S. M. & Webb, D. A. (eds), Flora Europaea, **5.** –Cambridge.

Venzo, G. A. 1962-1963: Geologia della regione dalla confluenza Val di Cembra-Val d'Adige all'altipiano di Lavazè (Trentino-Alto Adige). — Mem. Mus. Storia Nat. Venezia Tridentina **14(1A):** 1-227.

Address of the author:
Franco Pedrotti,
Università di Camerino, Via Pontoni 5, I-62032 Camerino (MC), Italy.
E-mail: franco.pedrotti@unicam.it