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***Muehlenbeckia sagittifolia* (Polygonaceae), a new alien for the Italian flora**

Abstract

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Muehlenbeckia sagittifolia, native plant from South America, is reported for the first time as naturalized in Italy. The Italian site is located in Palermo (CN-Sicily), within the Parco della Favorita where the species occurs climbing partly exotic trees and shrubs. Taxonomic, biological and chorological information on the species together with the characters of the Sicilian site are provided.

Key words: xenophytes, vascular flora, alien plants, Sicily.

Introduction

In the exotic flora of Italy, the *Polygonaceae* family is currently present with the only genus *Fallopia* Adans. There are three species of this genus present in various regions, including Sicily (Galasso & al. 2008): *F. baldschuanica* (Regel) Holub, *F. convolvulus* (L.) Á. Löve and *F. dumetorum* (L.) Holub. In Palermo, during the inspection activities aimed at the restoration of the Favorita Park, the opportunity arose to observe a different *Polygonacea*, apparently similar to *Fallopia* but lacking the floral elements necessary for its identification. Finally, the opportunity has arisen to return to the same site and to grasp the plant in full bloom that had been well preserved from the first observation. It was thus possible to identify and attribute it to *Muehlenbeckia sagittifolia* (Ortega) Meisn., a new entity for the alien flora of Italy.

Materials and Methods

The present contribution is based on field surveys and analysis of relevant literature. The plants were photographed, collected and then identified using the reference floras (Akeroyd & Webb 1993; Jankowski & al. 2000). New herbarium specimens are housed in PAL, PAL-Gr and FI.

Results and Conclusions

Taxonomy

***Muehlenbeckia sagittifolia* (Ortega) Meisn.** in Pl. Vasc. Gen. 1: 227 (1839) [Polygonaceae]
Basonym: *Coccoloba sagittifolia* Ortega. Synonyms: *Menispermum sagittatum* (Ortega) Spreng., *Calacinum sagittifolium* (Ortega) J. F. Macbr., *Coccoloba dioica* Steud., *Coccoloba sagittata* Poir., *Karkinetrion hastatum* Raf., *Polygonum acetosifolium* Vent., *Polygonum ribesioides* C. Huber, *Polygonum sagittifolium* (Ortega) Kuntze, *Sarcogonum sagittifolium* (Ortega) Samp.

For the taxon, Jankowski & al. (2000) provides the following general informations:

Description: Climbing plant, perennial, glabrous, with lignified rhizome from which twining, thin, reddish aerial stems emerge, up to 3 m long. Alternate leaves with 5-15 mm long petiole, little evident hyaline ocher and oblong-deltoid lamina with acute apex, the entire margin and sagittate base from 40 to 70 mm in length and 10 to 20 mm in width. Flowers in glomeruli arranged in spiciform clusters, lax, with a greenish-white perigonium of 5 1.5 mm long tepals, which turn reddish when ripe and finally fleshy and white in the fruit. Achene trine, partially surrounded by the fleshy perigonium. Seeds ovoid, longitudinally three-furrowed.

Biology

Climbing perennial plant with spring emergence and sprouting, summer vegetation and summer-autumnal flowering. Dioecious or polygamous-dioecious species with entomophilous pollination, it has anemocora and zoocora dissemination. In the native range, the propagation occurs through the regrowth of its rhizomes and the dispersion of its seeds by the wind and by animals.

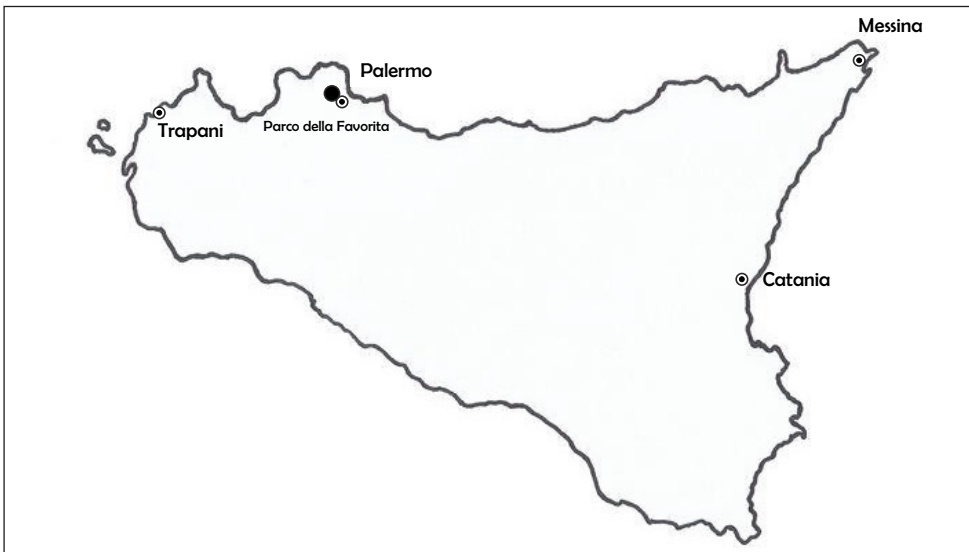


Fig. 1. Geographical localization of the first record of *Muehlenbeckia sagittifolia* in Sicily (Italy).

Chorology

Origin and native range: South American species that goes as far as the north and north-east of Argentina. Its distribution includes Bolivia, central and southern Brasil, Paraguay, Uruguay and Argentina (Jankowski & al. 2000; POWO 2019).

European distribution: Azores, Madeira and Portugal (Akeroyd & Webb 1993; POWO 2019).

Notes: *Muehlenbeckia sagittifolia* is reported also from Morocco (Dobignard & Chatelain 2013).

Ecology and uses

In South America, the species grows in coastal woodlands, forest edges, roadsides and fences. Ruderal and weeds of orchards and gardens, is sometimes cultivated for ornamental and medicinal use.

Italian record

Muehlenbeckia sagittifolia is recorded in Sicily to Palermo (Fig. 1), inside the historic urban park “La Favorita”. In this first Italian site, the small spontaneous population occupies an area of about 100 m² on the edge of a path very popular with people who practice jogging, near Case Rocca (Fig. 2).

In this place, the species is found on red Mediterranean soil, climbing on trees and shrubs, among which *Celtis australis* L., *Parkinsonia aculeata* L., *Ulmus* aff. *canescens* Melville, *Asparagus acutifolius* L. and *Rubus ulmifolius* Schott (Figs. 3a-d).



Fig. 2. The area and the site of the new record in the area of Parco della Favorita (Palermo, Sicily) (prepared by Google Earth Pro).

The herbaceous layer is characterized by *Achyranthes sicula* (L.) All., *Arisarum vulgare* O. Targ.Tozz., *Arum italicum* Mill., *Bromus sterilis* L., *Geranium dissectum* L., *Lobularia maritima* (L.) Desv., *Lotus biflorus* Desr., *Mercurialis annua* L., *Oxalis pes-caprae* L., *Smilax aspera* L., *Smyrniolum olusatrum* L., *Solanum nigrum* L., *Trifolium campestre* Schreb., *Urtica membranacea* Poir., etc. (Figs. 3e-f).



Fig. 3. Some expressions of the Sicilian population of *Muehlenbeckia sagittifolia*.

Exsiccata

Sicily: Palermo, Parco della Favorita, at the edge of a path near Case Rocca, on Mediterranean red soil, 50 m a.s.l. (38°09'28" N – 13°20'26"), 7 Juli 2015, *Raimondo* (PAL); Palermo, Parco della Favorita, in bloom at the edge of a path near Case Rocca, on red Mediterranean soil, 50 m a.s.l. (38°09'28" N – 13°20'26"), 15 October 2020, *Raimondo & Di Gristina*, (PAL, PAL-Gr, FI).

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