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New floristic data of alien vascular plants from Sicily

Abstract

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New records of *Commelina communis*, *Euphorbia hypericifolia*, *Melia azedarach*, *Nicotiana tabacum*, and *Xanthoceras sorbifolium* are reported for the Sicilian flora.

Key words: xenophytes, biodiversity, plant distribution, Sicilian flora.

Introduction

Research on the urban flora of some inhabited centers of Sicily has made it possible to find alien species, infrequent not only in this island but also in the rest of the Mediterranean region. Some of them are already reported on the Island in one or a few localities, two are new for Sicily and one also for the Mediterranean and Europaean flora. These are *Commelina communis* L., *Euphorbia hypericifolia* L., *Melia azedarach* L., *Nicotiana tabacum* L. and *Xanthoceras sorbifolium* Bunge. Preliminary data on the Sicilian records of two of this taxa have been reported by Spadaro & al. (2019). In addition to brief botanical information on the taxa examined, the distribution and record data concerning Sicily are reported below.

Taxa and related Sicilian records

Commelina communis L. (*Commelinaceae*)

This Asiatic taxon has long been known in various Italian and European regions, both as a naturalized, and as a casual alien. It is a perennial herbaceous rhizomatous. It grows best in open and disturbed areas, along roadsides, and woodland borders. *C. communis* was introduced in central and south eastern Europe, and eastern North America, where it has spread to become a noxious weed. In Italy, Galasso & al (2018) report this taxon in almost all regions except Marche, Molise, and Puglia. In Sicily, the species was already collected in 2017 in Palermo, on the edge of a busy street in the city center. At the same time it was

observed spontaneous in areas uncultivated within the Botanical Garden. This Sicilian record have been announced by Spadaro & al. (2019).

Specimens: Sicily, Palermo, via Nunzio Morello on the corner with via Ariosto, at the roadside, ca. 35 m a.s.l., 25.06.2017, *Spadaro* (PAL, PAL-Gr, FI); Sicily, Palermo, Botanical Garden, uncultivated space, ca. 10 m a.s.l., 12.08. 2017, *Raimondo* (PAL, PAL-Gr, FI).

***Euphorbia hypericifolia* L. (Euphorbiaceae)**

Camaephyte native to the tropical and subtropical New World (i.e. USA, Mexico, Central and South America), it is also widespread in different countries on various continents (i.e. Africa, Europe, Asia). Sciandrello & al. (2016) report for the first time *E. hypericifolia* in Italy, near Taormina (Sicily). They also report the distribution data known from the literature, according to which the species is present in Singapore and Taiwan, in Egypt, Israel, Belgium, Spain, Canary Islands, and Greece (Peloponnese). After Sciandrello & al (2016), a second Sicilian locality of *E. hypericifolia* is reported in Sicily in Palermo (Spadaro & Raimondo 2018). Recently, its presence was ascertained in various sites within and on the outskirts of the inhabited center: particularly in the city of Catania, Trapani, and Marinella di Selinunte (Castelvetrano).

Specimens: Sicily, Castelvetrano, in Marinella di Selinunte village, ruderal environment, ca. 10 m a.s.l., 14.07.2018, *Raimondo* (PAL, PAL-Gr, FI); Sicily, Trapani, to the edge of the square of the train station, ca. 10 m a.s.l., 11.07.2019, *Raimondo* (PAL, PAL-Gr, FI); Sicily: Catania, flower beds in the square Giovanni Verga, ca. 25 m a.s.l., 11.07.2019, *Raimondo* (PAL, PAL-Gr, FI).

***Melia azedarach* L. (Meliaceae)**

Tree, native to southern Asia (Yulianti & al., 2011), is cultivated for ornamental purposes in various countries where it has also partly spontaneously grown. In Italy Galasso & al. (2018) record it in various regions including Sicily where it had been reported by Di Martino and Perrone (1962) among the species of the arboricolous flora of Palermo, a city in which it has been used extensively in the trees of streets and squares since the 1800s. Unlike its first report, the new record concerns a small uneven population, observed on the northern slopes of Monte Pellegrino where it is found at the edge of the rolling stock, at the base of an escarpment facing East. Recently for the Mediterranean area, Sakhraoui & al. (2019) report the naturalization of *M. azedarach* in Algeria.

Specimens: Sicily, Palermo, Monte Pellegrino, East slopes in calcareous soil, ca. 200 m a.s.l., 12.9.2019, *Campisi*, (PAL, PAL-Gr, FI).

***Nicotiana tabacum* L. (Solanaceae)**

The species, native to South America and cultivated in numerous countries, is known spontaneously in various regions of the world. In Italy, Galasso & al. (2018) report it in the

north, central and south, including Sicily where the species had been reported in Mazara del Vallo (Dia & Romano 1981). Recently, a rich population was found inside the former geriatric institute, in the inhabited center of the city of Trapani, in nitrified habitat.

A taxonomic study of the exsiccata allows to refer the Sicilian finding to *Nicotiana tabacum* var. *angustifolia* (Mill.) Aiton.

Specimens: Sicily, Trapani, nitrified space inside the ex geriatric institute, via Segesta, ca. 10 m a.s.l., 10.8.2018, *Raimondo* (PAL, PAL-Gr, FI).

***Xanthoceras sorbifolium* Bunge (Sapindaceae) (Fig. 1).**

Native to China, this taxon is the only species of its genus. Introduced in some gardens of different countries, including Italy, where it is present in Sicily only. This plant has a shrubby or arborescent habit; alternate, pinnate leaves, with 10-20 lanceolate leaflets, sessile. The flowers are grouped in axillary racemes and have a pentapartite corolla, with white petals showing a small red spot at the base. The fruit is a globose, trilocular capsule, with a hook point, and yellowish when ripe. Each loculus contains 1-2 (-3) showy sub-spherical seeds, of dark brown colour. One individual is cultivated in the park of Villa Whitaker to Malfitano (Palermo). The site of spontaneization of *X. sorbifolium* is in the same garden where it was introduced, and cultivated. There, the population of this taxon occupies a small uncultivated space. Outside the city of Palermo, to date, there are no reports of this taxon. This record has been announced by Spadaro & al. (2019).

Specimens: Sicily, Palermo in the park of Villa Whitaker to Malfitano, in calcareous soil, ca. 35 m a.s.l., 11.8.2018, *Raimondo* (PAL, PAL-Gr, FI).

Discussion and Conclusion

According to Galasso & al. (2018), the exotic vascular flora of Sicily includes 437 taxa. Today it is enriched with two other taxa (*Commelina communis* and *Xanthoceras sorbifolium*). Furthermore, *Nicotiana tabacum* and *Melia azedarach*, previously known from a single locality, respectively in Mazara del Vallo (Trapani) and in Palermo (arboreal habitat), are confirmed: the first in another locality, in the same province, the second always in Palermo but on the soil. On the contrary, *Euphorbia hypericifolia* – recorded near Taormina, in the Messina province (Sciandrello & al. 2017) and then in Palermo (Spadaro & Raimondo 2015) – is now also reported in Catania, Trapani and, in the same province, in Marinella di Selinunte (Castelvetrano). This taxon in Sicily begins to spread into urbanized contexts. It is conceivable for this species a naturalization path that could affect all the coastal towns of the island.

The Sicilian record of *Xanthoceras sorbifolium* represents the first case of spontaneization reported in the Mediterranean and European geographical context. We can say that today it affects the same site where the species was first introduced and cultivated in Europe for about a century, and there is reason to believe that it will remain an isolated case for a long time.

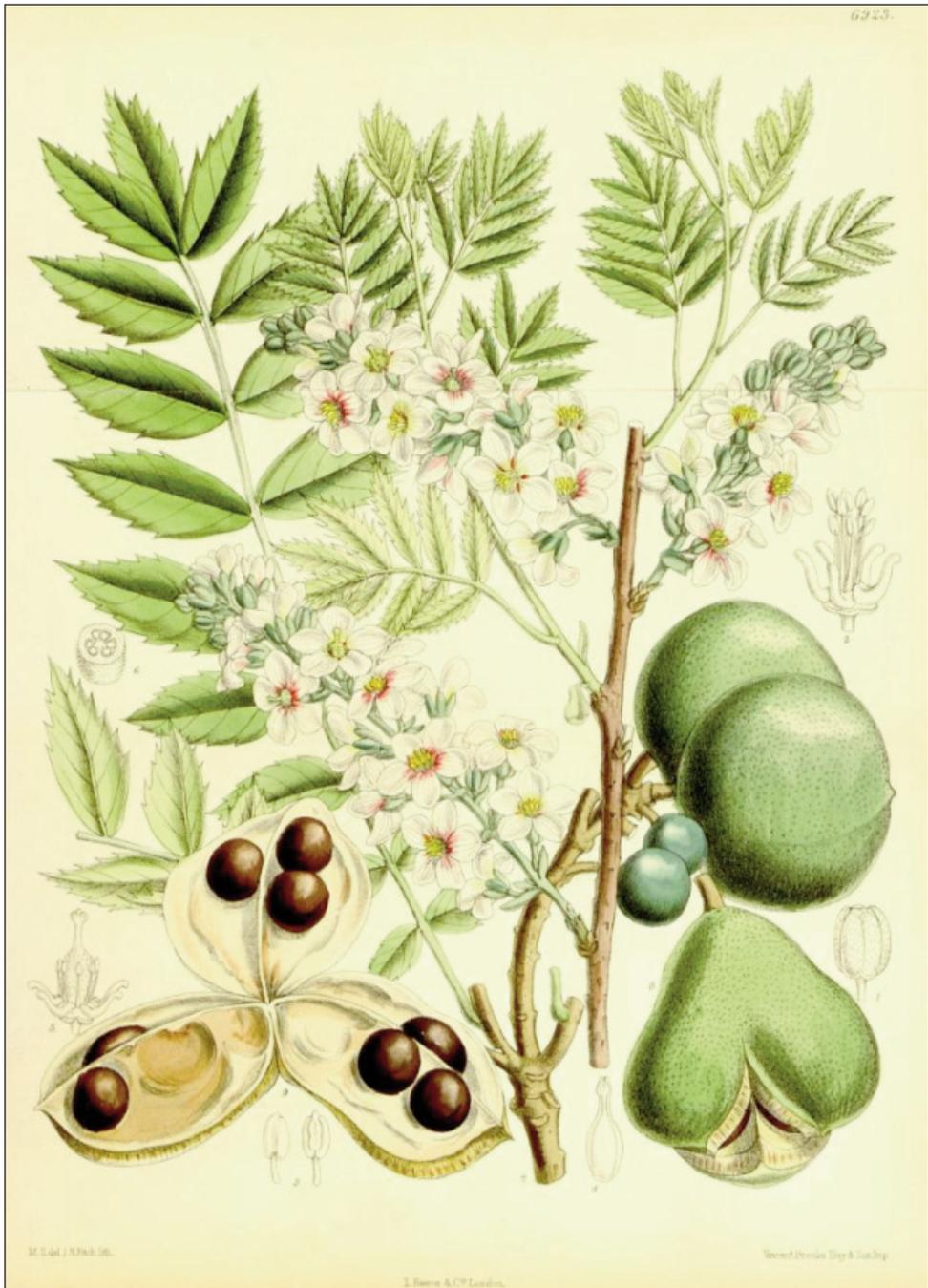


Fig. 1. *Xanthoceras sorbifolium* (Curtis illustration) - Hand-coloured lithograph of *X. sorbifolium* Bunge, after a painting by Matilda Smith (1887), taken from Curtis's *Botanical Magazine* 113: t. 6923 (from *Kewscience*, *Plants of the World online*).

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