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Conference Abstract

Evaluation of the *Sicyos angulatus* population on the Danube River in Romania

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Abstract

Sicyos angulatus L. (Cucurbitaceae) is an annual herbaceous vine native to North America. The plant colonizes semi-natural habitats (banks of inland waterways and water bodies, swamps, thickets, openings in floodplain forests, moist meadows in floodplain areas) and other artificial surfaces (wastelands).

Currently, this taxon is reported in 21 European countries. In Romania, *Sycios angulatus* has been present since 1816, cited from Transylvania, later reported from other regions of the country such as Banat, Muntenia and Dobrogea.

Our studies were conducted as part of the project POIM/178/4/1/120008 “Adequate management of invasive species in Romania, in accordance with EU Regulation 1143/2014 regarding the prevention and management of the introduction and spread of invasive alien species“. Thus, the study was carried out between 2020 and 2022 in the Romanian sector of the Danube River, on the left bank, and also in the Biosphere Reserve Danube Delta. The methodology adhered to the guidelines outlined by the project. Our data collection encompassed diverse natural and anthropogenic habitats, for each route traversed within these habitat types, we completed a field sheet that included data about geographical coordinates, population size of the species, phenology, habitat type, abundance-dominance and accompanying species. Regarding population size, a five-step scale was utilized, as follows: 1 (1-10 individuals); 2 (11-50 individuals); 3 (51-100 individuals); 4 (101-500 individuals); 5 (over 500 individuals).

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Sicyos angulatus has been recorded frequently in the study area, especially in the meadow forests, on sandy beaches, on concrete dikes and on household garbage. In the habitats invaded by *Sicyos angulatus*, we found the presence of both native (*Populus alba*, *Rorippa sylvestris*, *Glycyrrhiza echinata*, etc.) and alien plants (*Ailanthus altissima*, *Amorpha fruticosa*, *Robinia pseudoacacia*, *Eclipta prostrata*, *Xanthium italicum*, etc.). The size of the population was variable, from a few individuals, to over 500 individuals/100 sqm. Propagation is predominantly by seeds, but we also suspect the presence of vegetative propagation.

Our study updates the data about *Sicyos angulatus* and offers a valuable tool for the managers involved in control and eradication of invasive alien species present along the Danube River.

Keywords

alien plants, competition, riverbank, native plants, Danube River, Romania

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Conflicts of interest

The authors have declared that no competing interests exist.