

Supplemental online material

Appendix. Detailed information about the studied populations of *Scrophularia sambucifolia* and *S. grandiflora*

The first *S. sambucifolia* population (hereinafter known as Morón) is located in the southern part of the province of Seville (near km 7 of the A-406 road from Morón de la Frontera to Pruna; 228 m altitude; 37°06'N-5°23'W) on slopes near the bank of the Guadaíra River. The second population (hereinafter El Gastor), situated approximately 58 km from the previous one, is located in northern Cádiz Province (next to the A-374 road towards El Gastor; 454 m altitude; 36°52'N-5°21'W) to the east of Sierra de Líjar (Algodonales), also on road slopes. In both populations, the substrate is marl-limestone. The average annual temperature and rainfall at the meteorological stations closest to the investigated populations (Puebla de Cazalla, Seville, and Villamartín, Cádiz) were respectively 17.8 °C and 446.6 mm for Morón and 17.3 °C and 486.3 mm for El Gastor (Ministry of the Environment and Rural and Marine Affairs, 2001–2010 period). The vegetation at these two study sites is a Mediterranean scrub consisting mainly of *Retama sphaerocarpa*, *Chamaerops humilis*, *Crataegus monogyna*, *Phlomis purpurea*, *Ceratonia siliqua*, *Olea europaea* var. *sylvestris*, *Rubia peregrina* and *Daphne gnidium* along with scattered individuals of oak (*Quercus rotundifolia*).

The first *S. grandiflora* population (hereinafter Rabaçal) is located in Rabaçal (Penela Council), on the EM-553 roadside (199 m altitude; 40°01'N-8°27'W). The second population (hereinafter Pombalinho) is situated 2.8 km from the Rabaçal population near Pombalinho (Soure Council) on a private plot of land next to the road (280 m altitude; 40°00'N-8°28'W). During the second year of the study, this population had to be replaced by another one located on public land with a similar ecology. This third population (hereinafter Zambujal) is 2.6 km from Rabaçal at an altitude of 175 m at 40°03'N-8°27'W. The three populations are found on marl-limestone. The average annual temperature and rainfall at the nearest meteorological station were 15.5 °C and 905.1 mm, respectively (Instituto Português do Mar e da Atmosfera, period 1971–2000). The vegetation of the Rabaçal population, located next to a hedge of *Rubus ulmifolius*, consists of a Mediterranean scrub comprising species such as *Cistus albidus*, *Daphne gnidium*, *Crataegus monogyna*, *Ulex* sp., *Phlomis purpurea* and *Scrophularia canina*. The population at Pombalinho is part of an orchard grassland next to a pasture

dotted with olive trees, *Daphne gnidium*, *Quercus faginea*, *Rosa* sp., *Jasminum fruticans* and other arboreal and shrubby elements. The Zambujal population borders an olive grove next to individuals of *Antirrhinum majus*, *Crataegus monogyna* and *Cistus albidus*.