

Project partner: Hortus Botanicus Karalitanus of the University of Cagliari

Island

SARDINIA

Species name (Family)

Rhamnus persicifolia Moris (Rhamnaceae)

Common name

Alaterno a foglie di pesco (Italian name), buckthorn peachleaf (English name)

Plant description

- *Rhamnus persicifolia* is a small tree or shrub, 2-5 m tall, characterised by long growing branches with thorny apex. Leaves are dark, green, elliptic, serrate, upper glabrous and pubescent above. Tetrameric yellow-green flowers. Fruits consist of a multi-stoned drupe with 3-4 sectoroid and slightly flattened pyrenes with a small triangular scar, a distinct longitudinal ridge and the seed completely enclosed.
- *R. persicifolia* is probably pollinated by insects and/or wind. The flowering period occurs from May to June, while fruits develop from August to October. Seeds show a physiological dormancy with overwintering cold stratification requirement and spring germination.
- This *taxon* grows both on limestone and siliceous substrata, at 500- 1500 m a.s.l. This species occurs in scattered groups or as single trees, in riparian woods or hygrophilous scrub along mountainous streams and in deep gorges. From a bioclimatic point of view, the species can be referred to the Upper Mesomediterranean, Lower Humid, Semicontinental Weak.

Distribution

R. persicifolia is endemic to central-eastern Sardinia (Italy). The populations are located in the Supramontes region and Gennargentu Massif. To date, only six main populations are known, half of these are threatened by low plant numbers or an unbalanced *sex ratio*.

Legal status

The plant is not listed in any international, national or local regulations.

Map



Main threats and conservation status

According to the IUCN Threats Classification Scheme (Version 3.2) the main threats are:

- 2 Agriculture and Aquaculture - 2.3 Livestock Farming & Ranching - 2.3.1 Nomadic grazing. These were the main threats affecting the seedling survival and causing the habitat loss and fragmentation.
- 7 Natural system modifications - 7.3 Other ecosystem modifications. The seasonal flooding could severely damage the species causing the complete exposure of the roots and a risk of crash.
- 8. Invasive and Other Problematic Species, Genes & Diseases - 8.1 Invasive Non-Native/Alien Species/Diseases. Non-native species trees were planted during the last decades for forestry policies, which increased alien and non-native species in the area.
- 11 Climate change and severe weather - 11.3 Temperature extremes - 11.1 Habitat shifting.

R. persicifolia was assessed as Endangered (EN) at national level.

Conservation actions carried out in the CARE-MEDIFLORA project

The selected actions for this target species include two *in situ* conservation actions. The long term (base collection at -25°C) germplasm conservation was carried out at the Sardinian Germplasm Bank (BG-SAR).

The first *in situ* conservation action was performed for the biggest individual (Patriarch) of this species in Sardinia, located in “Rio Is Eras” population. In collaboration with Fo.Re.S.T.A.S. Agency, an artificial river bank was built to protect this plant from flooding events and to prevent the risk of a crash. However, a few months after its construction two consecutive and large-scale flooding events destroyed the artificial river bank just built; more recently this action was repeated again. The second *in situ* conservation action consisted of a translocation to boost the number of individuals and restore the natural habitat of the species. Plants multiplied in the Fo.Re.S.T.A.S. nursery were successful transplanting in the selected site “Monte Genziana”, near the extant population and each plant was labelled for the future monitoring activities. A monitoring plan of the artificial bank effectiveness and the conservation status of the patriarch was elaborated and started in January 2017. In addition, a monitoring plan of plant translocation was elaborated and started in April 2018. Success indicator for the translocation action was the survival rate of the 154 translocated individuals. The preliminary results of the monitoring showed a high survivorship rate of transplanted individuals. After the end of the project, the monitoring activities will be continued, ensuring the long-term sustainability of the *in situ* actions.

Photos



Left: *Individual of Rhamnus persicifolia* (photo by Gianluigi Bacchetta). Right: *Plant of Rhamnus persicifolia translocated in Monte Genziana (Talana; photo by Alba Cuenca Lombrana).*



Rhamnus persicifolia patriarch in Rio Is Eras population (Talana; photo by Gianluigi Bacchetta).