Mini data sheet on *Prosopis chilensis, P. velutina and P. glandulosa*

Added to the EPPO Alert List in 2018 – Deleted in 2020

Reasons for deletion:
Prosopis chilensis, P. velutina and P. glandulosa were transferred in 2020 to the EPPO List of Invasive Alien Plants.

Why

Three species of *Prosopis (Prosopis chilensis, P. velutina* and *P. glandulosa*) have been added to the EPPO Alert List. In Jordan, since the mid-1900s all three species have been planted. In Almeria (South-eastern Spain), *P. chilensis* and *P. velutina* have shown to naturally regenerate (self-sown seedlings) from planted individuals. In 2017, a Pest Risk Assessment was conducted on the congener P. *juliflora* and the Expert Working Group highlighted the potential threat of P. chilensis, *P. velutina* and *P. glandulosa* to the EPPO region, noting these species to be more frost tolerant than *P. juliflora*.

Geographical distribution

Prosopis chilensis
EPPO region: Jordan and Spain.
North America: USA (Texas).
South America: Argentina, Chile, Peru.
Oceania: Australia.

Prosopis velutina
EPPO region: Jordan, Morocco and Spain.
Asia: India.
Africa: Botswana, Namibia, South Africa.
North America: Mexico, USA (Arizona, California, Nevada, New Mexico, Texas).
Oceania: Australia.

Prosopis glandulosa
EPPO region: Jordan.
Asia: India, Kuwait, Myanmar, Pakistan, Qatar, Saudi Arabia, United Arab Emirates
Africa: Botswana, Namibia, South Africa, Sudan.
North America: Mexico, USA (Arizona, California, Colorado, Kansas, Louisiana, Nevada, New Mexico, Oklahoma, Texas, Utah).
Caribbean: Cuba.
Oceania: Australia.

Biology and ecology

Prosopis is a taxonomically complex genus and due to hybridization, the distinction of species can prove difficult. Species in the genus can survive in regions with very low rainfall due to deep tap roots. Seeds have a high level of dormancy and germination requires the hard seed coat to be damaged to allow water to enter.

Habitats

All three *Prosopis* species are adapted to dry conditions and can dominate in dry or seasonally dry watercourses. *P. velutina* has escaped from cultivation and naturalised along a dry river bed in Zagora, Morocco. Prosopis species can invade roadsides and disturbed habitats.

Pathways for movement
Prosopis species have been widely moved around the world and planted as fodder, shade trees and for erosion control. Seeds are sometimes available via mail order and via horticultural suppliers.

Impacts
All three *Prosopis* species are reported as having similar ecological and socio-economic impacts. They can form dense monocultures which can have negative impacts on water availability and alter nutrient sources and flows within the invaded habitat. *Prosopis* species can negative impacts on native plant biodiversity and the impacts can cascade to higher trophic levels. In Africa and Asia, *Prosopis* species have been shown to have a negative impact on human livelihoods by reducing areas for livestock feeding.

Control
Trees can be felled, and stumps can be uprooted but this method would only be suitable for small areas of infestation. Mechanical control can be effective for *Prosopis* species where roots are severed below ground level. Stem and aerial application of chemical herbicides are also applied to kill trees.

Source: Pasiecznik N, Peňalvo E (2017) 25 year results of a dryland tree trial, and an invasive risk assessment of introduced species. *Zonas Áridas* **16**, 52-71.
Sukhorukov AP, Verloove F, Ángeles Alonso M, Belyaeva IV, Chapano C, Crespo MB, El Aouni MH, El Mokni R, Maroyi A, Shekede MD, Vicente A, Dreyer A, Maria Kushunina (2017) Chorological and taxonomic notes on African plants, 2. *Botany Letters* **164** (2), 135-153.