

PROSPECTS FOR THE BIOLOGICAL CONTROL OF SILVERLEAF
NIGHTSHADE, *SOLANUM ELAEAGNIFOLIUM*, IN AUSTRALIA

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Abstract. The distribution of silverleaf nightshade, *Solanum elaeagnifolium*, and herbivores associated with it in its native range in Mexico and south-west U.S.A. have been surveyed in relation to climate. The potential agents are: the leaf-galling nematode, *Orrinia phyllobia*; the defoliating cassid beetle, *Gratiana pallidula*; chrysomelid beetles, *Leptinotarsa texana* and *L. defecta* and tingid bugs, *Gargaphia* spp.; the stem boring weevil, *Trichobaris texana*; a stem galling cecidomyid; the fruit feeding moth *Fruenta nephalomicta*; and tephritid fly, *Zonosemata vittigera*.

Their distributions are centred on the Monterrey region. The climate to which these herbivores are adapted is one with rainfall predominating in the warm seasons. Hence, these agents are unsuited to the winter-rainfall climates which occur over the major areas of infestation by silverleaf nightshade in southern Australia. They might establish and be useful in areas less heavily infested by the weed in summer-rainfall climates and irrigated crops. However, as well, all agents except *O. phyllobia* were adversely affected by cultivation and no effective agent was found damaging the perennating rootstock of silverleaf nightshade in Mexico.