

PRELIMINARY OBSERVATIONS ON THE NATURAL ENEMIES
OF SOUTHERN AFRICAN ASPARAGACEAE

C.A. Kleinjan and J.K. Scott
CSIRO Biological Control Unit, Department of Zoology, University of Cape Town,
Rondebosch 7700, South Africa.

Abstract. Seven species of southern African Asparagaceae have become naturalized in Australia (1). The asparagus ferns, *Protasparagus africanus*, *P. densiflorus* and *P. plumosus*, are considered a threat to native vegetation at various localities (1,2). Bridal creeper, *Myrsiphyllum asparagoides*, occurs on disturbed ground and in native vegetation, and is regarded as becoming a serious problem (3). Within native vegetation widespread use of chemical control of Asparagaceae spp. is not advisable (2). Cultural control is often not practical as the plants have large underground reserves which enable successive regeneration (3). Consequently these four species are being considered as targets for biological control.

Preliminary observations on Asparagaceae in South Africa have revealed some potential candidates for consideration as biological control agents. Pre-dispersal damage to the fruits and seeds of bridal creeper and several *Protasparagus* spp. is caused by an unidentified chalcid wasp, moth larva and rust fungus. The wasps are widespread and abundant. Each larva consumes a single seed. The moth is less abundant, but is widespread and each larva destroys several fruits during its development. The rust fungus is very damaging to fruits, but its effect on seeds is unknown.

Another rust fungus, *Puccinia myrsiphylli*, occurs on the leaves of bridal creeper. Galling of the growth tips caused by fly larvae has been noted on bridal creeper. Extensive damage is caused to the leaves of bridal creeper and several *Protasparagus* spp. by a thrip (unidentified). A geometrid larva (Lepidoptera unidentified) eats the foliage of *Protasparagus* spp. The stems of *Protasparagus* spp. are galled by larvae of a chalcid, *Asparagobius braunsii* (Hymenoptera, Pteromalidae) (4). Another gall forming chalcid wasp, *Eurytoma* sp. (Hymenoptera, Eurytomidae), causes die-back of the stems above the point of galling and is potentially very damaging to plants.

Virtually nothing is known of the biology and host plant specificity of these fauna and diseases. Our observations indicate that a thorough survey is highly likely to produce candidate biological control agents for the members of this family that have become weeds in Australia.

REFERENCES

1. Clifford, H.T. and Conran, J.G. 1987. Flora of Australia 45, 159-165.
2. Conran, J.G. and Forster, P.I. 1986. Austrobaileya 2, 300-304.
3. Robertson, M. 1983. Proc. Management of weeds of recreation areas, particularly bushland and national parks. pp. 19-23.
4. Prinsloo, G.L. 1985. In: Insects of Southern Africa. (Eds. C.H. Scholtz and E. Holm) (Butterworths: Durban). pp. 402-422.