

## Biological control of weeds programmes of the European Biological Control Laboratory

L. FORNASARI, L. KNUTSON, R. SOBHIAN and G. CAMPOBASSO

European Biological Control Laboratory, USDA ARS, B.P. 4168-Agropolis II, 34092 Montpellier, Cedex 5, France

The European Biological Control Laboratory of the United States Department of Agriculture conducts research on and makes shipments of new biological control agents of weeds for introduction into the United States of America. Laboratory studies focus on insects, mites and pathogens. Cooperative projects are carried out with other national and international research organizations, universities and extension services. An overview of the programme of the laboratory was provided.

## Release of the fungus, *Sphaerulina mimosae-pigrae* (*Phloeospora mimosae-pigrae*), in Australia for biological control of giant sensitive plant, *Mimosa pigra*

WENDY FORNO, MARION SEIER, SUKUMAR CHAKRABORTY, MATTHEW WEINERT  
and BERTIE HENNECKE

CSIRO Entomology, Long Pocket Laboratories, PMB3, Indooroopilly, Qld 4068, Australia

A new species, *Sphaerulina mimosae-pigrae* Evans & Carrion (Ascomycotina: Dothideales) and its anamorph, *Phloeospora mimosae-pigrae* Evans & Carrion (Deuteromycotina: Coelomycetes) was approved for release in Australia in 1994 following screening against 112 plant species, mostly in closely-related genera or families. It is a highly coevolved and specific pathogen of *Mimosa pigra* and in its native range, the pathogen has a wide distribution being recorded from both the Gulf and Pacific coasts of Mexico, Nicaragua, Trinidad, Guyana, Venezuela, Colombia and parts of Brazil. The anamorph, *P. mimosae-pigrae*, is the dominant form and the pathogen cycles through most of the year in the conidial state infecting pinnules and rachides resulting in substantial leaf-loss. The teleomorph has a sporadic occurrence during the wet season and appears to reach its peak during the transitional period between the wet and dry season. Conidia of *P. mimosae-pigrae* are adapted to short-distance spread by water-splash and rain, thus infecting plants within a population whilst the ascospores are probably spread by wind and serve as a means of long-distance or vertical spread between populations. For field releases, conidia of *P. mimosae-pigrae* were mass produced as shake cultures in 20% V8 broth. Inoculum with  $1 \times 10^6$  conidia/ml containing 0.1% methyl cellulose was applied to young growth of mimosa using a knapsack sprayer. Disease symptoms appeared 4-6 weeks later. Initial results indicate that the pathogen has established and is spreading to adjacent plants.