

Eriophyoid mites (Acari: Eriophyoidea) on leafy spurges (*Euphorbia* spp.) (Euphorbiaceae) in Yugoslavia - their potential use in biological control

RADMILA PETANOVIC¹ AND VLADIMIR STEVANOVIC²

¹ Faculty of Agriculture, Institute of Plant and Food Protection, Nemanjina 6, P.O. Box 127, 11081 Belgrade-Zemun, Yugoslavia

² Faculty of Biology, Institute of Plant and Food Protection, Nemanjina 6, P.O. Box 127, 11081 Belgrade-Zemun, Yugoslavia

The possibility of controlling weeds with eriophyoid mites and the results obtained in experiments with eriophyoid mites associated with *Chondrilla juncea* L., *Convolvulus arvensis* L. and *Centaurea diffusa* Lam. have led to research on leafy spurge eriophyoids in Yugoslavia. A review of literature revealed that 13 species of eriophyoids have been reported on leafy spurges (*Euphorbia* spp.): one in the United States of America, one in India and 11 in Europe, of which five have been described from Yugoslavia. During a six-year trial, 26 *Euphorbia* taxa (24 species and two subspecies) have been surveyed for eriophyoid mites. Thirteen *Euphorbia* taxa have been found as host plants of six eriophyoid species: *Eriophyes euphorbiae* (Nal.), *E. septemlineatus* Pet., *Vasates euphorbiae* Pet., *V. glabriflorae* Pet. et de Lillo, *V. montenegrinus* Pet. et de Lillo and *Phyllocoptes euphorbiae* Farkas. This poster presented the distributions of the mites and correlates these with host distribution, degrees of infestation, type of injury and the relative importance of the eriophyoid species. All the species examined inhabit shoot tips and inflorescences, provoking drying, stunting of stems and plants, inflorescence deformation, witches brooming and other symptoms. The potential of *V. euphorbiae* as a biological control agent is considered.

Phomopsis amaranthicola, a broad-spectrum bioherbicide for *Amaranthus* spp.

ERIN N. ROSSKOPF and R. CHARUDATTAN

Plant Pathology Department, University of Florida, Gainesville, Florida 32611-0690, USA

A *Phomopsis* species that was isolated from diseased pigweed plants collected in Florida was capable of causing a foliar- and stem-blight of pigweed species, several of which are among the world's worst weeds. Based on morphological criteria, the isolate is considered to be a new species, tentatively named *Phomopsis amaranthicola* which was pathogenic on all of 22 pigweed species that were tested, but mortality rates differed among species and biotypes. None of the plants outside the genus *Amaranthus* was infected. The addition of hydrophilic psyllium mucilloid to inoculum suspension promoted the development of disease and resulted in low levels of pigweed mortality even in the absence of dew. In field trials repeated over two years, *P. amaranthicola* controlled all species of pigweed tested (*A. hybridus*, *A. lividus*, *A. spinosus*, *A. viridis*, and a triazine-resistant *A. hybridus*). Following post-emergent application of the fungus to seedlings, the disease developed and spread quickly in the field, with rapid primary and secondary infection cycles. Secondary inoculum appeared to have been produced and disseminated over the experimental field. Conidial suspension was more effective as inoculum than mycelial suspension, although there was variation among the species with respect to the most effective inoculum level. A second application of conidia enhanced mortality in some species. The fungus could be readily grown on solid media and inoculum for field trials could be easily produced in the laboratory. Thus, *P. amaranthicola* appears to be an effective, safe, and feasible broad-spectrum bioherbicidal agent for pigweeds.