

Article

Phytoseiidae on Blackberry in Central California

JAMES A. MCMURTRY¹ & EDGAR D. SHOW²¹ University of California, Riverside (Emeritus); P.O. Box 4487, Sunriver, OR 97707, USA; jmcmurtry@chamberscable.com;² Research Department, Driscoll Strawberry Associates, 404 San Juan Rd., Watsonville CA 95076, USA; ed.show@driscolls.com

Abstract

Winter collections (November through January 2006–2007) of phytoseiid mites were made from dormant buds in 19 different sites of wild blackberry and 13 different farms with commercial blackberry. Twelve different species were collected from wild blackberry, with *Metaseiulus arboreus* (Chant) being the dominant species, collected in all plots except one, in which no phytoseiids were found. Eight of these species are considered Type III generalist feeders. In commercial blackberry, phytoseiids were not only less numerous, but *M. arboreus*, collected in all plots except one in which no phytoseiids were found, was the only species except for a single specimen of *Galendromus occidentalis* (Nesbitt). The low diversity of phytoseiids on commercial blackberry may be related to the lack of diversity in plants, alternate foods and the adverse effects of dormant sprays.

Key words: phytoseiid mites, predaceous mites, blackberry

Introduction

Cultivated blackberry cultivars (*Rubus fruticosus*) and wild blackberry (*Rubus armeniacus* syn. *Rubus discolor*) in coastal, Central California, USA offer host associations with numerous microarthropods, including phytoseiid, eriophyid, tarsonemid, tetranychid and tydeid mite species. Approximately 500 Santa Cruz County acres of commercial conventional and organic blackberries were in production in 2009 (SCC 2009). *Rubus armeniacus*, Armenian blackberry or Himalayan blackberry, is a species in the blackberry group *Rubus* subgenus *rubus* series *Discolores* (P.J. Mull) Focke. It is native to Armenia in southwest Asia and widely naturalized elsewhere. Both its scientific name and origin have been the subject of much confusion, with much of the literature using one or the other of the two synonyms and often mistakenly citing its origin as western European. Himalayan blackberry was probably introduced to North America in 1885 as a cultivated crop (Bailey 1945). In coastal Central California, Himalayan blackberry is a common noxious weed, thriving along fence lines, roadsides, open pastures and riparian corridors. The major objective of the study here reported was to obtain knowledge of the phytoseiid fauna on commercial and wild blackberry in Santa Cruz and Monterrey Counties, with the idea of conserving and utilizing them in pest management programs.

Methods

During the winter of 2007–2008 we collected 336 phytoseiid mite specimens from 19 wild blackberry patches, in Santa Cruz County and 12 commercial blackberry production ranches, 10 in