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Density of Centaurea solstitialis L. and Its Natural Enemies Ceratapion spp. in Southern Turkey

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Abstract: Centaurea solstitialis L., yellow star thistle, is an annual weed that belongs to the family Asteraceae. In Turkey, this weed can be found in pasture areas, along roadsides, in cultivated areas and in field margins. Yellow star thistle is native to Mediterranean and western Asian countries. Alternative management strategies to chemical control have been and still are being studied; for example, management strategies to control this weed in the USA concentrate on the biological control approach. In addition, chemical control methods in pasture areas are banned in Turkey, which led us to carry out this field study. The average percentage cover of yellow star thistle on the selected study sites at an altitude of 0-1623 m in southern Turkey was 22.56%. Three fungi and 15 arthropod species were found on yellow star thistle during the survey and rearing study. These were Helminthosporium sp., Alternaria sp., Puccinia sp., Bangasternus orientalis, Ceratapion basicorne, Ceratapion sp., Phytoecia humeralis, Eustenopus villosus, Haplothrips reuteri, Lixus cardui, Strophosoma melanorammum, Uroleucon jacea, Diplapion detritum, Larinus curtus, Larinus grisescens, Lixus scolopax, Urophora sp. and Aceria solstitialis. Among these species, Ceratapion spp. had the highest infestation rate (18.4%), and 1-6 larvae per attacked plant. An important observation made with regard to Ceratapion spp. was that they do not feed on yellow star thistle seeds, but their larvae mine the root crown of plants that have reached the rosette stage.

Key Words: Biological control, weed, Centaurea solstitialis, Ceratapion spp.

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