

**A New Entomopathogen from *Altica hampei* (Allard, 1867) (Coleoptera: Chrysomelidae)**

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**Aim of the study:** In this study is aimed determination of pathogens of *Altica hampei* Allard (1867) (Coleoptera: Chrysomelidae). Protection of plants against to insects is generally done by using chemical insecticide. Chemical insecticide creates serious damages in both many living groups and ecosystem. Recently, scientists have begun to explore biological control methods. These methods aims to decrease the damage of insects utilizing their natural enemies. Natural enemies of insects involve parasites, predators, and entomopathogens (virus, protist, bacteria, fungus, etc.). Among these pathogens, protist pathogens (microsporidia group, Gregarin, and Neogregarins, etc.) are significant in terms of their diversity and potential of the usage for biological control. In Turkey, there is no study about pathogens of *Altica hampei*. This study will make contribution to investigate new living organisms which will contribute our country's and the world's biological richness.

**Material and Methods:** Insects were collected from Ordu province in 2016. Collected insects are dissected in Ringer's solution. *A. hampei* adults intestines examined under light microscope at a magnification from 100× to 1.000× for presence of pathogen according to Tosun et al. (Tosun et al., 2008). When the gregarine pathogens were observed, it photographed and measured using Nikon Eclips Ci microscope with digital camera DS-fi 2. Its different life stages (gamont, trophozoite, associative form, precyst and cyst) were detected. The following gregarine pathogen structures were measured (µm): length of epimerite (LE), length of deutomerite (LD), length of protomerite (LP), total length (TL), width of deutomerite (WD), width of protomerite (WP), ratio of the length of protomerite to total length (LP:TL) and ratio of the width of protomerite to the width of deutomerite (WP:WD) according to Lipa (1967) and Clopton (2004). These measurements are used to identify the gregarine pathogen. Presence of gregarine was recorded for each adult beetle

**Results:** A gregarine pathogen from *A. hampei* was observed in Turkey for the first time. There is no report about gregarine pathogen from genus of *Altica* in the world literature therefore the observed pathogen from *A. hampei* in this study is a new gregarine pathogen report for Turkey and in world literature. Several life stages of the gregarine pathogen, trophozoite, gamont, associative form and cyst were observed in the midgut epithelium of *A. hampei*. Gamonts belongs to pathogen are ovoidal or elongate. Average of morphological and structural measurements of gamonts of the gregarine parasite was as following: TL: 171 ± 40.2µm; LP: 39.5 ± 14.5µm; LD: 131.4 ± 27.9µm; WP: 42.5 ± 8.1µm; WD: 63.9 ± 18.5µm; LP:TL: 4.5 ± 0.6µm; WP:WD: 1.5 ± 0.3.

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