

***Cameraria ohridella* (Lepidoptera Gracillariidae) predation by *Crematogaster scutellaris* (Hymenoptera Formicidae) in Northern Italy (Preliminary note)**

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Abstract

The predatory behaviour of workers of *Crematogaster scutellaris* (Olivier), acrobat ant, on larvae and pupae of horse chestnut leaf miner, *Cameraria ohridella* Deschka et Dimić, was observed for the first time in Northern Italy.

Key words: *Crematogaster scutellaris*, predation, *Cameraria ohridella*, *Aesculus hippocastanum*, horse chestnut, acrobat ant, leaf miner.

In 2003, during studies on *Cameraria ohridella* Deschka et Dimić (Lepidoptera Gracillariidae) control in Bologna (Northern Italy), for the first time a predatory behaviour of *Crematogaster scutellaris* (Olivier) (Hymenoptera Formicidae) on horse chestnut (*Aesculus hippocastanum* L.) leaf miners, larvae and pupae, was observed. The genus *Crematogaster* Lund (Myrmicinae subfamily) includes 427 species world-wide (Bolton, 1995). *C. scutellaris* is very common in the entire Mediterranean basin and nests in a wide variety of trees that are thick enough and have dead parts to nest construction. In Spain, Redolfi *et al.* (1999) observed acrobat ants in natural oak woods and in various orchards and groves (poplars, almonds, figs, etc). Most of *Crematogaster* species that visit trees, feed on both insects at different stages (eggs, larvae and pupae) in addition to liquid sugars, from extrafloral nectar and honeydew (Grandi, 1951; Cavalloro and Delrio, 1975; Richard *et al.*, 2001).



Figure 1. *C. scutellaris* worker carrying *C. ohridella* larva.



Figure 2. Lower side of horse chestnut leaves. *C. ohridella* mines opened by acrobat ants.

References on ants preying on leaf miners are scarce. However, in Florida, Faeth (1980) observed *Crematogaster ashmeadii* Mayr opening mines and removing larvae of *Eriocraniella* sp. (Lepidoptera Eriocraniidae) from infested leaves of *Quercus nigra* L. (Fagaceae). Effect of ant predation on a population of *Phyllonorycter* infesting *Quercus dentata* Thunberg was also studied in Japan (Sato and Higashi, 1987). On a horse chestnut tree, located in Quarto Inferiore, 10 km North East of Bologna city centre, I observed hunting workers forage collectively for several times. The workers were able to open the mines from lower side of the leaf and removed the larvae and pupae (figures 1, 2, 3). Since the first appearance of *C. ohridella*, in 1998, in Bologna surroundings (Maini and Santi, 1999), this ant behaviour has never been detected.

No predatory behaviour occurred on other, nearby horse chestnut trees, also infested by the leaf miner, but not colonised by the acrobat ants. Further studies will be conducted in order to investigate the role of *C. scutellaris* in the control of *C. ohridella*.



Figure 3. Detail of *C. ohridella* mine showing how ants cut the lower side of the leaf.

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