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***Orthopelma mediator* (THUNBERG)  
(Hymenoptera: Ichneumonidae) and the native parasitoid  
complex of *Dryocosmus kuriphilus* YASUMATSU  
(Hymenoptera: Cynipidae) in Lombardy (Italy)**

**Marco BORIANI, Marilisa MOLINARI & Marco BAZZOLI<sup>1</sup>**

### **Abstract**

Preliminary data on native parasitoids obtained from *D. kuriphilus* in Lombardy are reported. Twelve native species belonging to different families were collected: three Eurytomidae [*Sycophila biguttata* (SWEDERUS), *S. variegata* (CURTIS), *Eurytoma brunniventris* (RATZEBURG)], two Pteromalidae [*Mesopolobus sericeus* (FÖRSTER), *M. amaenus* (WALKER)], three Torymidae [*Torymus flavipes* (WALKER), *T. auratus* (WALKER), *Megastigmus dorsalis* (FABRICIUS)], two Eupelmidae [*Eupelmus urozonus* (DALMAN), *E. rostratus* RUSCHKA] and one Ormyridae [*Ormyrus pomaceus* (GEOFFROY)]. The first occurrence of *Orthopelma mediator* (THUNBERG) (Ichneumonidae) on *D. kuriphilus* is reported.

Key words: chestnut gall wasp, native parasitoid complex, *Orthopelma mediator*, *Eupelmus rostratus*, Lombardy, Italy.

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## Zusammenfassung

Vorläufige Daten über einheimische Parasitoide von *D. kuriphilus* in der Lombardei werden gemeldet. Zwölf einheimische Arten aus verschiedenen Familien wurden gesammelt: drei Eurytomidae [*Sycophila biguttata* (SWEDERUS), *S. variegata* (CURTIS), *Eurytoma brunniventris* (RATZEBURG)], zwei Pteromalidae [*Mesopolobus sericeus* (FÖRSTER), *M. amaenus* (WALKER)], drei Torymidae [*Torymus flavipes* (WALKER), *T. auratus* (WALKER), *Megastigmus dorsalis* (FABRICIUS)], zwei Eupelmidae [*Eupelmus urozonus* (DALMAN), *E. rostratus* RUSCHKA] und ein Ormyridae [*Ormyrus pomaceus* (GEOFFROY)]. Das erste Auftreten von *Orthopelma mediator* (THUNBERG) (Ichneumonidae) auf *D. kuriphilus* wird gemeldet.

## Introduction

The parasitoid complex of *Dryocosmus kuriphilus* YASUMATSU is well-known in some Italian regions, in particular Piedmont and Latium (MELIKA et al. 2004; AEBI et al. 2007; QUACCHIA et al. 2012; SPERANZA et al. 2009). In these regions *D. kuriphilus* was first reported respectively in 2002 (BRUSSINO et al. 2002) and 2005 (PAPARATTI et al. 2005). The chestnut gall wasp was first reported in Lombardy in 2006 (BORIANI 2006), but its introduction probably dates back to 2004 with the purchase of infested propagation material. This paper summarizes the native parasitoid complex in Lombardy. The trophic relationship between *Orthopelma mediator* (THUNBERG) (Hymenoptera: Ichneumonidae) and *D. kuriphilus* is also discussed.

## Material and methods

Several galls of *D. kuriphilus* were collected from 2006 to 2012 in various chestnut orchards of Lombardy (Northern Italy). The parasitoids that emerged from parasitized galls were identified.

## Results and conclusions

Research regarding the native parasitoid complex of *D. kuriphilus* in Lombardy is in progress. Twelve native species belonging to different families were obtained: three Eurytomidae [*Sycophila biguttata* (SWEDERUS), *S. variegata* (CURTIS), *Eurytoma brunniventris* (RATZEBURG)], two Pteromalidae [*Mesopolobus sericeus* (FÖRSTER), *M. amaenus* Walker], three Torymidae [*Torymus flavipes* (WALKER), *T. auratus* (WALKER), *Megastigmus dorsalis* (FABRICIUS)], two Eupelmidae [*Eupelmus urozonus* (DALMAN), *E. rostratus* RUSCHKA], one Ormyridae [*Ormyrus pomaceus* (GEOFFROY)] and one Ichneumonidae [*Orthopelma mediator* (THUNBERG)]. These chalcid wasps are well-known parasitoids of cynipid oak galls (ASKEW 1966; GRAHAM & GIJSWIJT 1994; PUJADE-VILLAR & ROS-FARRÉ 1998; ASKEW & NIEVES-ALDREY 2000; GÓMEZ et al. 2006). *E. urozonus* is a common parasitoid or hyperparasitoid of various hosts, included

*D. kuriphilus* (AEBI et al. 2007). *O. mediator* is a well-known primary parasitoid of *Diplolepis* species (GAULD & MITCHELL 1977; LOTFALIZADEH et al. 2007; ÇORUH & KOLAROV 2010). MORLEY (1907) recorded this species as a parasitoid of Cynipini on *Quercus* in Great Britain, but this occurrence was not confirmed by GAULD & MITCHELL (1977). The trophic relationship between *O. mediator* and *D. kuriphilus* is apparently very unusual, but can be well explained by the adaptation of this parasitoid to a new host. Recent researches have shown, for example, that *Eurytoma brunniventris*, well-known parasitoid in cynipid oak galls, can also parasitize *Diplolepis* galls on roses as well as *Dryocosmus* galls (ÁCS et al. 2002; SPERANZA et al. 2009; QUACCHIA et al. 2012). Therefore, it is quite possible that *Orthopelma* can similarly transfer to parasitizing *D. kuriphilus* and hosts in cynipid oak galls. These data on native parasitoids report chalcid wasps already widely known in other Italian regions. The record of *E. rostratus* is new for the Italian fauna. *O. mediator* is an ichneumonid wasp never previously associated with *D. kuriphilus*. The occurrence of this species complex seems conditioned by the coexistence of their original hosts. Finally, all the species were found only occasionally, and none seems able to be an effective agent of biological control. The parasitoid complex of *D. kuriphilus* in Lombardy includes also the exotic *Torymus sinensis* KAMIJO, successfully introduced for the first time in 2008 (QUACCHIA et al. 2009).

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