

First data concerning gamasid mites phoresia upon beetles of *Dermestes* Linnaeus, 1758 (Acari: Mesostigmata; Coleoptera: Dermestidae) from Croatia, Greece, Hungary and Slovakia

Первые данные о форезии гемазовых клещей на жуках *Dermestes* Linnaeus, 1758 (Acari: Mesostigmata; Coleoptera: Dermestidae) в Хорватии, Греции, Венгрии и Словакии

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Key words: Faunistic, new records, Acari, Mesostigmata, Coleoptera, Dermestidae, Croatia, Greece, Hungary, Slovakia.

Ключевые слова: Фаунистика, новые находки, Acari, Mesostigmata, Coleoptera, Dermestidae, Хорватия, Греция, Венгрия, Словакия.

Abstract. Phoretic mites on *Dermestes* spp. are newly reported from Croatia, Greece, Hungary and Slovakia. *Poecilochirus necrophori* Vitzthum, 1930 and *Macrocheles glaber* (Muller, 1860) were found on *Dermestes* (*Dermestinus*) *undulatus* Brahm, 1790, *D. (D.) intermedius* Kalík, 1951 and *D. (D.) frischii* Kugelann, 1792.

Резюме. Форезия клещей на жуках рода *Dermestes* spp. недавно отмечена в Хорватии, Греции, Венгрии и Словакии. *Poecilochirus necrophori* Vitzthum, 1930 и *Macrocheles glaber* (Muller, 1860) были обнаружены на *Dermestes* (*Dermestinus*) *undulatus* Brahm, 1790, *D. (D.) intermedius* Kalík, 1951 и *D. (D.) frischii* Kugelann, 1792.

Introduction

The gamasid mites (Acari: Mesostigmata) are carried from one food source to another by beetles of multiple genera in the beetle families Silphidae, Staphilinidae, Histeridae, Trogidae, Leiodidae (Catopinae), Cerambycidae, Erotylidae, Bostrichidae, Lucanidae, Cleridae, Chrysomelidae, Carabidae, Tenebrionidae, Geotrupidae and Scarabaeidae [Haitlinger, 2004; Salmane, Brumelis, 2010; Pushkin, 2011] with they often have a symbiotic relationship in protecting the beetle's larva or its food supply from fly larva.

The data of 6 gamasid mites species (Acari: Mesostigmata) on Dermestidae (Coleoptera) upon genus *Dermestes* Linnaeus, 1758 (Tabl. 1) species from Bohemia (Czech Republic) published by Háva [2015] and from Russia by Pushkin [2011]. This article presents the data of two species gamasid mites upon three *Dermestes* species in Croatia, Greece, Hungary and Slovakia.

Material and Methods

All *Dermestes* specimens collected individually on small dead mammals. Species are arranged alphabetically, the nomenclature and zoogeography of Dermestidae (Coleoptera) follow Háva [2015], the nomenclature and zoogeography of mites follow Haitlinger [2004] and Pushkin [2011].

All the examined material is deposited in collection of Jiří Háva, Private Entomological Laboratory & Collection, Únětice u Prahy, Prague-west, Czech Republic.

Results

Acari Leach, 1817

Mesostigmata G. Canestrini, 1891

Parasitidae Oudemans, 1901

Poecilochirus necrophori Vitzthum, 1930

Material. Croatia, Makarska riviera, Živogošće-Blato, 8–24.7.2011, J. Háva & J. Háva lgt., [on dead cat], numerous specimens on *Dermestes undulatus*; Greece, Macedonia pr., Skotina env., 21.8–6.9.1997, J. Háva lgt., [on dog skull], 3 specimens on *Dermestes frischii*; Slovakia mer., Bratislava-Záhorská Bystrica (Plánky), 8–10.4.2016, J. Háva lgt., [on dead *Erinaceus europaeus* Linnaeus], numerous specimens on *Dermestes undulatus* and *D. frischii*.

Remarks. The mite species *Poecilochirus necrophori* Vitzthum, 1930 was stated for the first time in Greece, Croatia and Slovakia on *Dermestes (Dermestinus) frischii* Kugelann, 1792 and *D. (D.) undulatus* Brahm, 1790. The mite species *Poecilochirus necrophori* Vitzthum, 1930 is known from Europe, Asia Minor and USA [Mašán, 1994; Salmane, Brumelis, 2010].

Table 1. Species of gamasid mites upon *Dermestes* (*Dermestinus*)
Таблица 1. Виды гамазовых клещей на *Dermestes* (*Dermestinus*)

Mite species	<i>Dermestes</i> species	References
Parasitidae Oudemans, 1901		
<i>Parasites</i> (<i>Coleogamasus</i>) <i>copridis</i> Costa, 1963	<i>Dermestes dimidiatus</i> Steven, 1808	PU
<i>Poecilochirus necrophagi</i> Vitzthum, 1930	<i>Dermestes laniarius</i> Illiger, 1802	PU, HA
	<i>Dermestes frischii</i> Kugelann, 1792	PU, HA, *
	<i>Dermestes undulatus</i> Brahm, 1790	HA, *
	<i>Dermestes murinus</i> Linnaeus, 1758	HA
<i>Pergamasus</i> sp.	<i>Dermestes frischii</i> Kugelann, 1792	PU
Macrochelidae Vitzthum, 1930		
<i>Macrocheles glaber</i> (Müller, 1860)	<i>Dermestes frischii</i> Kugelann, 1792	PU, HA
	<i>Dermestes dimidiatus</i> Steven, 1808	PU
	<i>Dermestes laniarius</i> Illiger, 1802	PU
	<i>Dermestes intermedius</i> Kalík, 1951	*
	<i>Dermestes undulatus</i> Brahm, 1790	*
Laelaptidae Berlese, 1892		
<i>Eulaelaps stabularis</i> (C.L. Koch, 1836)	<i>Dermestes murinus</i> Linnaeus, 1758	PU
<i>Androlaelaps glasgowi</i> Till, 1963	<i>Dermestes murinus</i> Linnaeus, 1758	PU

Abbreviations: PU — Pushkin [2011]; HA — Háva [2015]; * — new record.
Обозначения: PU — Pushkin [2011]; HA — Háva [2015]; * — новые находки.

Macrochelidae Vitzthum, 1930

Macrocheles glaber (Müller, 1860)

Material. Greece, Macedonia pr., Skotina env., 21.8–6.9.1997, J. Háva lgt., [on dog skull], 5 specimens on *Dermestes intermedius*; Hungary occ., Bakony mts., Zirc env., Penzesgyőr vill., 22.V.1999, J. Háva, D. Král & J. Růžička leg., [on dead *Lepus europaeus* Pallas], numerous specimens on *Dermestes undulatus*.

Remarks. The mite species *Macrocheles glaber* (Müller, 1860) was stated for the first time in Greece and Hungary on *Dermestes* (*Dermestinus*) *intermedius* Kalík, 1951 and *D. (D.) undulatus* Brahm, 1790. The mite species *Macrocheles glaber* (Müller, 1860) is known from Palearctic Region [Mašán, 1994; Salmane, Brumelis, 2010].

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