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Contribution to the bionomics of *Dermestes bicolor* (Coleoptera: Dermestidae)

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Abstract. Contribution to the bionomy of *Dermestes bicolor* Fabricius, 1781 collected in the nests of *Ardea cinerea* (Linnaeus, 1758) (Aves: Ciconiiformes) from the southern Moravian region is presented.

Bionomics, Coleoptera, *Dermestes bicolor*, Aves, *Ardea cinerea*, Moravia, Palaearctic region

INTRODUCTION

According to the literature sources dealing with the bionomics of the palaearctic species of the larder beetles (Dermestidae) *Dermestes bicolor* Fabricius, 1781 from the Czech Republic and Central European area, the development of this species has only been described in nests of birds raised by people for economic purposes. It has been found in artificially bred groups of fowls, ducks and pigeons (Hinton 1945, Mroczkowski 1975, Zhantiev 1976, 1998). According to this literature, the larvae live on chicks, they gnaw out tiny wounds into their skin and, after dying of the individual, they feed on its remains.

The species has been recently collected and recorded in towns and villages directly in dovecotes, in bigger towns it has been caught accidentally. For example, several tens of larvae were recorded on young pigeons in southern Bohemia (Písek region) in 2004 (Jan Šrůt pers. comm.). Both adult individuals and larvae were recorded and collected in nesting sites of feral pigeons in lofts (Prague: Staré Město, Nusle, Vinohrady, J. Háva lgt. et coll.).

MATERIAL STUDIED

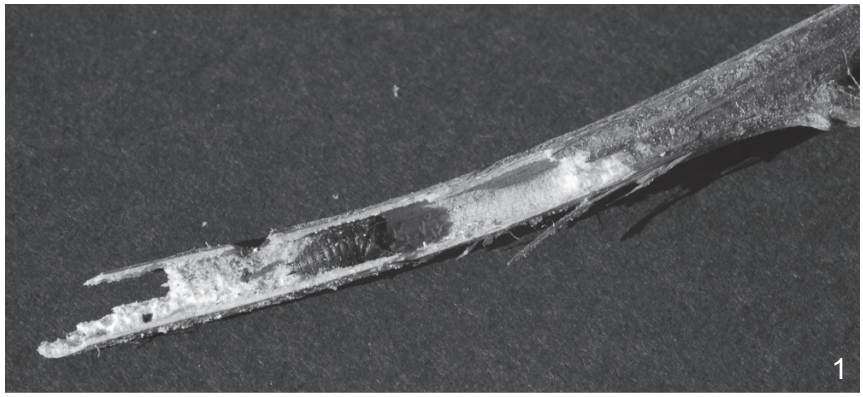
Czech Republic, Moravia mer., Hrabětice, Trávní Dvůr – centre (7264b), 1. iv. 2003, 4 spec., A. Reiter lgt., J. Háva det; Czech Republic, Moravia mer., Hrabětice, Trávní Dvůr (7264b) – fallen nest of *Ardea cinerea*, 16. xii. 2004, 40 spec., A. Reiter lgt., J. Háva det. Specimens are deposited in the collection of the South-Moravian museum in Znojmo and in the private collection of the senior author.

RESULTS AND DISCUSSION

This report gives the information about the first finding of *Dermestes bicolor* in the wild, in the nest colony of the Grey Heron (*Ardea cinerea* Linnaeus, 1758, Ciconiiformes: Ardeidae). This colony is situated about 800 m south-west of Trávní Dvůr settlement (Hrabětice village, Znojmo

district, South Moravia) – 7264b grid square, 48° 47’ 26” N, 16° 25’ 28” E, altitude 173 m. It has been known since the 1970s (Martiško 1994) and it has recently reached tens of occupied nests (own observation).

The first individuals of *Dermestes bicolor* were found on the dead body of a bird caught in a tree just above the ground directly under the nest colony on 1 April 2003. In December 2004, two nests fallen probably during the strong wind in November 2004 were collected on the ground under a colony. According to remains of excrements and food of Herons (fish scales, bones, balls of animal hairs), the nests were occupied in 2004. During the research of the nests with the aim to collect commensal beetles, a higher number of wintering adult individuals of *D. bicolor* were found. They were hidden in the galleries bored into wood or thicker stems of plants (probably Apiaceae family) contained in the nests. On the surface of a stick (stem), one round hole with diameter 3.5–4.0 mm followed by a gallery long from 1 to 3 cm is situated. In the gallery, an exuvium of the last larval stage turned with head part inwards can be found. In the end of gallery, an adult individual is usually hidden (Figs 1, 2). Together, 32 living and several dead adult individuals were found in the first nest, 8 living adult individuals, a higher number of dying, incompletely developed individuals and 3 larvae in the second one. It is probable that the total number of individuals in each of the nests was higher because the thicker branches of the nests had been removed during the collection in the field for easier transport of material.



Figs 1, 2. 1 – A stick with an exuvium of the last larval stage. The remain of a bored round hole is obvious in the left upper edge, a chamber, where an adult beetle overwintered, right out of the exuvium (above). 2 – Detail of an exuvium and a chamber with the wintering individual.

We can consequently state that *D. bicolor* in the region of the Czech Republic is not only a pest in farm bird breedings, but is able to develop in nest sites of wild living birds. Nest colonies of communally living bird species can be an original habitat of this beetle in Central Europe. Owing to the bionomy of larvae known from bird breedings, *D. bicolor* can be considered not only to be a commensal species taking advantage of remains in the nests, but also a nest parasite. In the conditions of the Czech Republic, this type of parasitosis has not been till described either in Grey Heron nor in other colonial breeding bird species (Cormorant, White Stork, Night Heron, Greylag Goose, Mallard) (cf. Hudec 1994) and it has not been recorded in our wild living Columbidae (Hudec & Černý 1977). In this connection, it would be interesting to check possible occurrence of *Dermestes bicolor* at other sites of colonially breeding bird species in the wild.

A c k n o w l e d g e m e n t s

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