

Phoresy of *Trichouropoda shcherbakae* Hirschmann, 1972 (Acari: Mesostigmata) on beetles of the genus *Tetropium* Kirby, 1837 (Coleoptera: Cerambycidae) in Białowieża Forest, Poland

Research Article

Jerzy Błoszyk^{1,2}, Jerzy M. Gutowski³, Dariusz J. Gwiazdowicz⁴, Anna Mądra^{1,2,*}

¹Department of General Zoology, Adam Mickiewicz University, 61-614 Poznań, Poland

²Natural History Collections, Adam Mickiewicz University, 61-614 Poznań, Poland

³Forest Research Institute, European Centre for Natural Forests, 17-230 Białowieża, Poland

⁴Department of Forest Protection, Poznań University of Life Sciences, 60-625 Poznań, Poland

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Abstract: The aim of this study was to assess the phoretic relationship between two beetle species of the genus *Tetropium* and mites from order Mesostigmata. The study was conducted in the Białowieża Forest, which is recognized as one of Europe's last natural forest areas. Insects were caught over a period of 8 weeks in 72 attractant traps (type Intercept IPM). In total 1250 specimens of genus *Tetropium* were collected. We analyzed 524 beetles, including 295 specimens of *T. castaneum* and 229 specimens of *T. fuscum*. On 49 beetles (9.4%) there were 785 individuals of *Trichouropoda shcherbakae* (Trematuridae). Mites were more common on *T. fuscum*, which carried 82% of all collected deutonymphs. Most of the mites found on beetles were attached to their legs. This study reports on changes in the intensity of phoresy in time and location of mite deutonymphs on their host species.

Keywords: Mites • Brown Spruce Longhorn Beetle • Longhorn beetles • Uropodina

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1. Introduction

Mesostigmatid mites are small arachnids, whose body length is usually less than 1 mm. Such a small body size impedes migration over long distances and colonization of specific isolated micro-habitats such as rotten wood, the nests of birds and mammals, anthills, animal excrement, carcasses *etc.* [1-9]. Therefore they have developed the ability to disperse using other, more mobile animals, such as insects [10-13]. Phoretic relations between insects and mites have been the subject of numerous research papers, which usually have faunistic character or analyze ecological links [2,10,13]. The phenomenon of mite phoresy on insects

that inhabit tree bark (e.g. Curculionidae: Scolytinae) has been studied by different authors [14-17]. However, the relationship between insects and mites during different stages of the life cycle of the host - for example, immediately after the insect leaves its feeding site under the bark, during insect swarming, and shortly before the insect's death has not been examined.

Longhorn beetles (Cerambycidae) are among the best known beetle families in Poland. Polish fauna includes 195 species, grouped in six subfamilies [18]. In Europe, there are six known species of the genus *Tetropium* (subfamily Spondylidinae): *T. aquilonium* Plavilstshikov, 1940, *T. castaneum* (Linnaeus, 1758), *T. fuscum* (Fabricius, 1787), *T. gabrieli* Weise, 1905,

* E-mail: madan@amu.edu.pl