

The first record of *Garsaultia gigantonympa* (Acari: Acaridae) on *Temnothorax crassispinus* (Hymenoptera: Formicidae)

První nález *Garsaultia gigantonympa* (Acari: Acaridae) u *Temnothorax crassispinus* (Hymenoptera: Formicidae)

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Abstract: The occurrence of the hypopus of acarid mite *Garsaultia gigantonympa* (Vitzthum, 1920) on the body of the myrmicine ant *Temnothorax crassispinus* (Karavajev, 1926) was recorded for the first time. Owing to the scarcity of these findings (17 colonies in 2 localities from more than 500 colonies originating from Czech, Moravian and Slovak populations), it is likely that this phenomenon is quite rare and local in distribution.

Key words: *Temnothorax*, *Garsaultia*, mite, myrmecophily.

Abstrakt: V práci je poprvé popsán výskyt roztoče *Garsaultia gigantonympa* (Vitzthum, 1920) na těle myrmicinního mravence *Temnothorax crassispinus* (Karavajev, 1926). Vzhledem k malému počtu nálezů (u 17 kolonií na 2 lokalitách z více než 500 prozkoumaných kolonií pocházejících z českých, moravských a slovenských populací) se pravděpodobně jedná o vzácný lokální jev.

INTRODUCTION

The bodies of ants provide special microhabitats for a variety of ectosymbionts. Myrmecophilous mites are the foremost representatives among ectosymbiont species in terms of sheer numbers of individuals (Holldöbler et Wilson 1990). Ectosymbiont mites have been studied mainly in the formicine genera *Lasius* Fabricius, 1804 and *Formica* Linnaeus, 1758 (see e. g. Janet 1897 a, b; Wasmann 1902; Wheeler 1910, Samšiňák 1960), and in *Eciton* Latreille, 1804 army ants (see e. g. Rettenmeyer 1960). In the myrmicine ants, they have been investigated in genera *Aphaenogaster* Mayr, 1853, *Crematogaster* Lund, 1831 and *Tetramorium* Mayr, 1855 (see Hunter 1964, Kistner 1982). There are scarce data for the genus *Temnothorax* Mayr, 1861, the ant group which is currently the centre of interest of many myrmecologists.

The present paper reports the first finding of a hypopus of the acarid mite *Garsaultia gigantonympa* in the myrmicine ant *Temnothorax crassispinus*.

MATERIAL AND METHODS

Temnothorax crassispinus is a small myrmicine ant (workers about 2 mm, queen 3–4 mm). Its colonies regularly contain several dozen individuals, which establish their nests in small cavities, such as pieces of rotten wood, acorns and other material lying on the ground. This species inhabits mainly deciduous, mixed and pine woods of the temperate zone. *Garsaultia gigantonympa* is an acarid mite known only from a deutonymphal stage (O'Connor 2002; Türk et Türk 1957). It has been found on the genus *Camponotus* Mayr, 1861 (cf. Samšiňák, pers. comm.) and *Myrmica rubra* (Linnaeus, 1758) (cf. Türk et Türk 1957). Information about this mite is scarce.

Date of collection: 7. 6. 1991, 4. 6. and 2. 7. 2002, 11. 9. 2005 (lgt. Tichá, det. Samšiňák, coll. Muzeum Vysočiny Jihlava)

Localities: Czech Republic, Praha – Motol (5952), Hrotovice (6862)

RESULTS AND DISCUSSION

Garsaultia gigantonympa was found in 17 colonies of *Temnothorax crassispinus* (7 colonies collected on 7. 6. 1991, Motol; 3 colonies collected on 4. 6. 2002, Motol; 6 colonies collected on 2. 6. 2002, Motol and 1 colony collected on 11. 9. 2005, Hrotovice). From 1 to 20 hypopuses of this mite were located on the thorax and/or abdomen of ants. The mites occurred mostly in queens, but were also found in workers. Other stages have not been found. The hypopuses were immobile on the ant body, but they were able to walk after removal. They were notable for their resistance against low temperature. Four individuals were still alive after 20 minutes exposition to -18°C .

Occurrence of *Garsaultia gigantonympa* on *Temnothorax crassispinus* appears to be rare and local. More than 550 colonies of *T. crassispinus* have been explored since 1988, originating from the Czech Republic and Slovakia (localities Praha, Mělník, Mohelno, Hrotovice, Znojmo and Piešťany) (Tichá 1992, 2002; Tichá unpubl.; Tichá et Štys 2002). *Garsaultia gigantonympa* has been found only in the cases described above.

The discovery of unknown stages of *Garsaultia gigantonympa* and the exploration of their biology is an important task for future research.

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