Faunistični zapiski / Faunistical notes

**Myrmicinosporidium durum Hölldobler, 1933 (Fungi), An Ant Endoparasite, In Slovenia**

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**Abstract** - The ant endoparasitic fungus *Myrmicinosporidium durum* is documented for Slovenia. It was detected in a major worker of *Pheidole pallidula*.

**Keywords**: Endoparasitic fungus, Formicidae, Hymenoptera, *Pheidole pallidula*.

**Izvleček** - *Myrmicinosporidium durum* Hölldobler, 1933 (Fungi), Endoparazit mravelj, v Sloveniji


**Ključne besede**: endoparazitska gliva, Formicidae, Hymenoptera, *Pheidole pallidula*.

**Introduction**

Parasites of social insects are an enormous and heterogeneous assemblage (Schmid-Hempel, 1998). Many are pathogenic and extremely virulent although selection against virulence seems to be rather strong in those infesting ants (Boomsma et al. 2005). Fungi are among the most easily perceived parasites as they usually grow hyphae or fruiting bodies out of the insect body. Notwithstanding, a few are more inconspicuous and close to having no detrimental effect towards the insect society. *Myrmicinosporidium* is such a case.

The ant endoparasitic fungus *Myrmicinosporidium durum* Hölldobler, 1933 is known from 35 ant species, belonging to 16 genera and three ant subfamilies...
(Gonçalves et al., 2012). It has a vast geographical range, from the Galápagos Islands (Espadaler, 1997), Eastern United States of America (Sanchez-Peña et al. 1993; Pereira 2004) and to Western and Central Europe (Espadaler & Santamaria, 2012). This is in agreement with the usual cosmopolitan or wide-ranging specific distribution of Fungi (Webster & Weber, 2007). Infested ants are usually detected because of the fungal spores (up to 50 µm in diameter), that are visible through the cuticle (Sanchez-Peña et al. 1993; Buschinger et al. 2004; Pereira 2004). Those ant species more lightly pigmented are more easily detected being infested although dark-coloured ant species may be infested too (Gonçalves et al., 2012). All ant castes (workers, queens and males) may be infested (García & Espadaler, 2010). Nothing is known about its life cycle and modes of transmission. Here we document the first finding of *Myrmicinosporidium* in Slovenia.

**Studied material**

The spores were detected in a lightly coloured major worker of *Pheidole pallidula* (Nylander, 1849) foraging out of the nest (Figs. 1, 2). Three minors and one major were also collected, but were not infested. The nest was in a crack at the base of stairs in
Kače ulica, an alley close to Prešernov Trg, Koper, Slovenia [45°32’45”N, 13°43’46”E, 3 m], 7 August 2011; X. Roig leg. The host species has a submediterranean distribution in Slovenia (Bračko, 2007). The infested ant specimen, preserved in 70% ethyl alcohol, is deposited at the Slovenian Museum of Natural History.

The finding of this fungus in Slovenia is no surprise. It was already detected in the four countries neighbouring Slovenia: Austria, Croatia, Italy (Sanchez-Peña et al., 1993; Buschinger et al., 2004) and Hungary (Kanizsai, 2010). *Pheidole pallidula* was already known as a host of *Myrmicosporidium durum* Hölldobler.

**Fig. 2.** Close-up view of pronotum and posterior part of head of *Pheidole pallidula* major worker from Koper (Slovenia) infested with spores of *Myrmicosporidium durum* Hölldobler. Spore size: 43-46 μm.

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**References**


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