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Myrmica hirsuta ELMES, 1978 (*Hymenoptera, Formicidae*) – a socially parasitic ant species new to Poland

Abstract. *Myrmica hirsuta* ELMES is first recorded from Poland. It was found in the Pieniny Mts (the Western Carpathians) in 1996. Some notes on distribution and biology of this species are given. Morphological differences between *M. hirsuta* and its host species, *Myrmica sabuleti* MEIN., are shown.

Key words: ants, social parasites, *Myrmica hirsuta*, *Myrmica sabuleti*, fauna, Poland.

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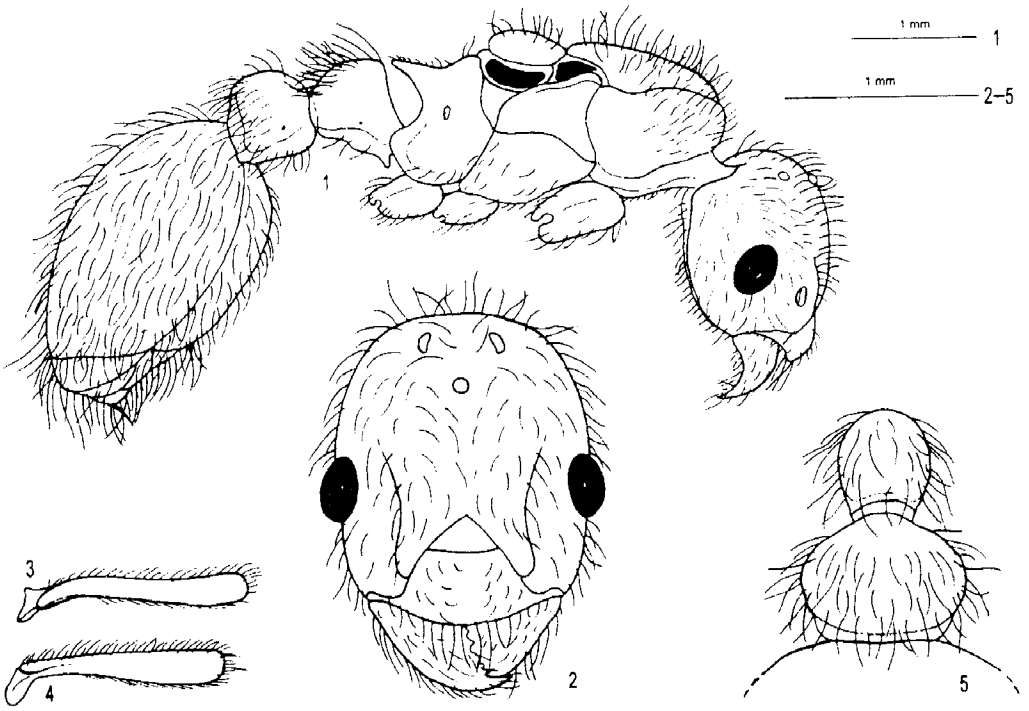
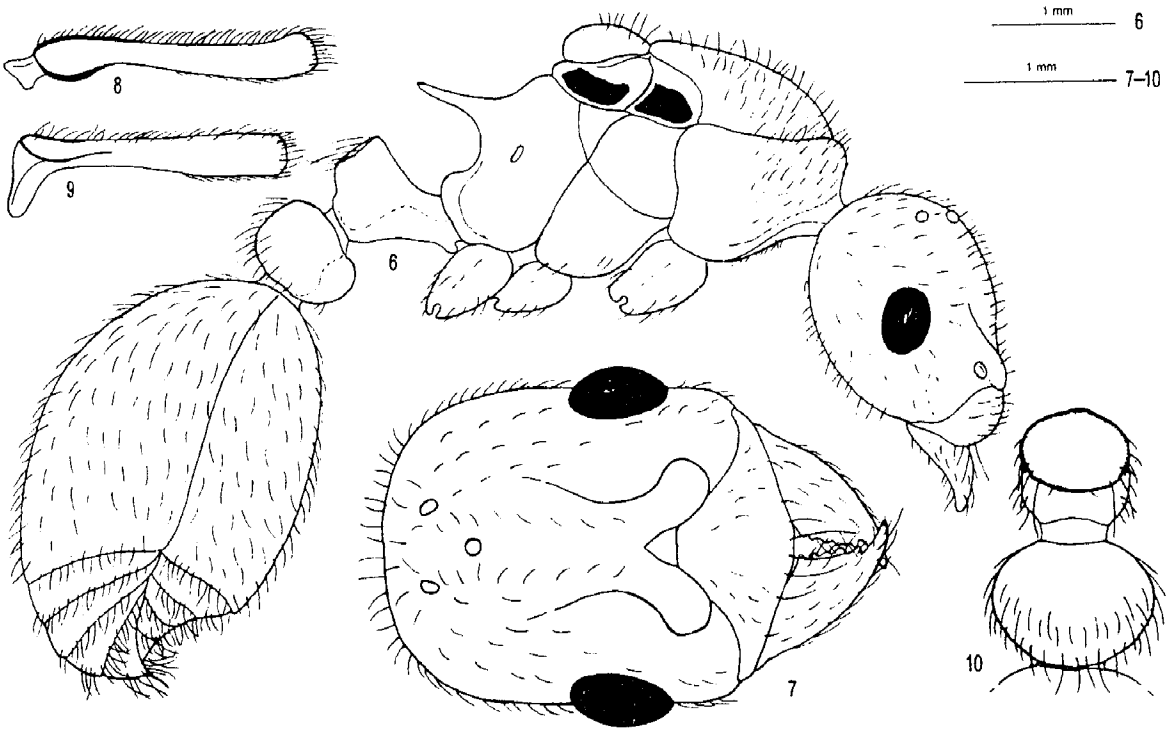
Myrmica hirsuta was described by ELMES (1978) from southern England based on females and males. They were found in a nest of *Myrmica sabuleti* MEIN. At first, the species had been considered to be a workerless social parasite, but later ELMES (1994) found and described also workers of it. Within about twenty years after the original description, *M. hirsuta* was found in several countries. Now it is known, besides England, from Germany, Austria, Denmark, Sweden, southern Finland, the former Yugoslavia, and the former Czechoslovakia (VEPSÄLÄINEN and PISARSKI 1982, SEIFERT 1988, 1996, ELMES 1994, SAARISTO 1995). Thus, the species is widely spread in Central and partly in Northern Europe and, in our opinion, it ought to be found also in the European part of the former Soviet Union.

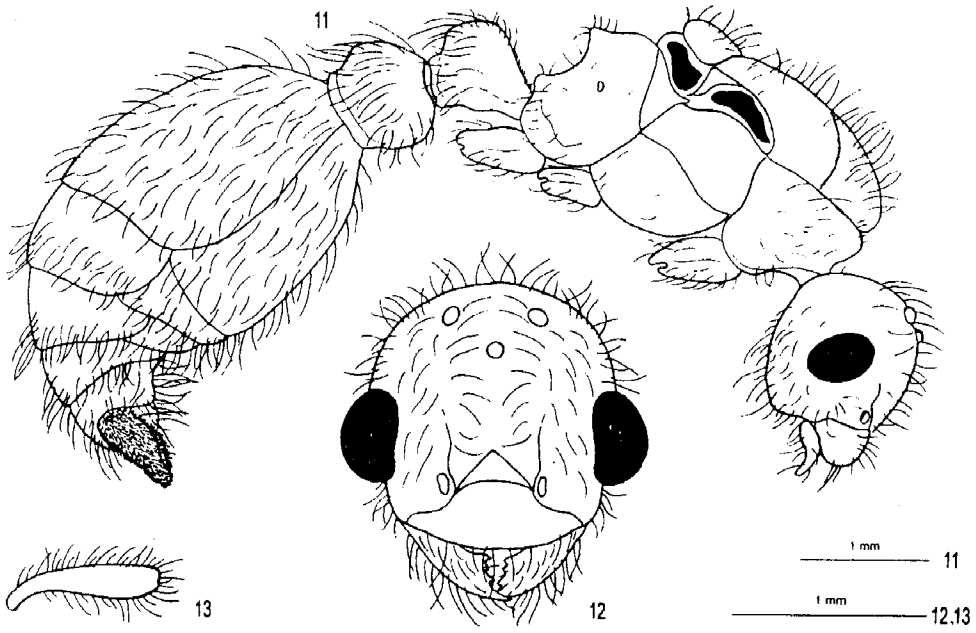
Until quite lately, *M. hirsuta* had been known only as a social parasite of *M. sabuleti*. Recently, it has been already reported however, that its host species in Finland are both *M. sabuleti* and *M. lonae* FINZI (a species closely related to the former (SAARISTO 1995).



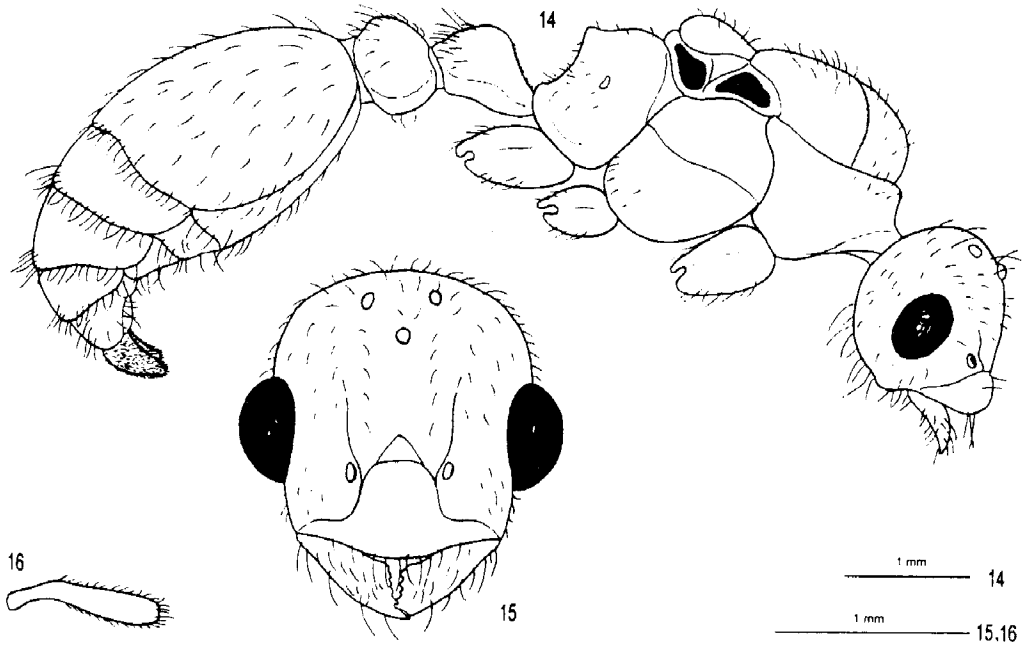
Figs 1–5. *Myrmica hirsuta*, female: 1 – body in profile, 2 – head, frontal view, 3, 4 – antennal scapus (3 – dorsal view, 4 – lateral view), 5 – pedicel, dorsal view.



Figs 6–10. *Myrmica sabuleti*, female: 6 – body in profile, 7 – head, frontal view, 8, 9 – antennal scapus (8 – dorsal view, 9 – lateral view), 10 – pedicel, dorsal view.



Figs 11–13. *Myrmica hirsuta*, male: 11 – body in profile, 12 – head, frontal view, 13 – antennal scapus.



Figs 14–16. *Myrmica sabuleti*, male: 14 – body in profile, 15 – head, frontal view, 16 – antennal scapus.

In 1996, *M. hirsuta* was revealed in the Pieniny Mts (the Western Carpathians; 49°25'N, 20°23'W;), southern Poland. Ten alate sexuals (5 females, 5 males)[1] were found on 21 and 29 August in four nests of *M. sabuleti*. All the host colonies lived in a xerothermal grassland (*Origano-Brachypodietum laserpitietosum*) habitat on south and south-west slopes of the Mt Trzy Korony at an altitude of 650–680 m. The characteristic plant species of the association are *Coronilla varia* L., *Calamintha vulgaris* (L.) DRUCE, *Hypericum perforatum* L, *Origanum vulgare* L., *Laserpitium latifolium* L., and *Polygonatum odoratum* (MILL.) DRUCE. Such plant communities occur on warm and dry slopes with a thin layer of soil (brown rendzina), rich in calcium carbonate, formed on a substratum of strengthened limestone scree (PANCER-KOTEJOWA and ZARZYCKI 1976).

M. hirsuta clearly differs from all European *Myrmica* species in extremely long and abundant standing hairs. Workers and females differ from those of host species (both of *M. sabuleti* and *M. lonae*) in, among others, absence of large lobe on scape base (scape base only with narrow lateral carina, similarly as in *M. scabrinodis* NYL. or in *M. specioides* BONDR.), less curved frontal lobes, visibly wider frons, and tranverse postpetiole (Figs 1–10; see also ELMES 1978, 1994).

Males of *M. hirsuta* have fairly long antennal scape (similarly as in *M. sabuleti*, *M. lonae* and *M. vandeli* BONDR.) and they distinctly differ in this feature from all other species of the *scabrinodis* group (SEIFERT 1988, RADCHENKO 1994). From the host species they differ in much longer and more abundant standing hairs on the whole body and in different shape of petiole; its node has slightly convex dorsal surface and abruptly sloped down posterior one (see in profile). In the latter feature *M. hirsuta* males clearly differ also from males of *M. vandeli*, whose hairs on the body and appendages are more dense and longer than in *M. sabuleti* and *M. lonae* (based only on this feature *M. vandeli* may be confused with *M. hirsuta*; see also SEIFERT 1988).

Inasmuch as there is no detailed drawing of *M. hirsuta* in the literature [there are only schemas in ELMES (1978) and some details in SEIFERT (1988)][2] – to make determination easier – we place figures of females and males of this species (Figs 1-5, 11-13) and, for comparison, of females and males of *M. sabuleti* (Figs 6-10, 14-16).

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[1]The specimens are kept in the Museum and Institute of Zoology, PAS in Warsaw.

[2]There is, however, a very good colour photo of a *M. hirsuta* female in SEIFERT (1996).

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STRESZCZENIE

[Tytuł: *Myrmica hirsuta* ELMES, 1978 (*Hymenoptera, Formicidae*) – nowy dla Polski gatunek pasożytniczej społecznie mrówki]

Myrmica hirsuta ELMES, pasożyt społeczny znany z kilku krajów Europy, został po raz pierwszy wykazany z Polski. Uskrzydlone formy płciowe (samice i samce) tego gatunku znaleziono w 1996r. w czterech koloniach *M. sabuleti* MEIN., gniazdujących na murawach kserotermicznych (*Origano-Brachypodietum laserpitietosum*) na stokach Trzech Koron w Pieninach. W pracy ukazano cechy morfologiczne, różniące *M. hirsuta* od gatunku gospodarza.

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