

FRAGMENTA FAUNISTICA

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***Doronomyrmex kutteri* (BUSCHINGER, 1965) (Hymenoptera, Formicidae)
– a representative of a genus new to Poland**

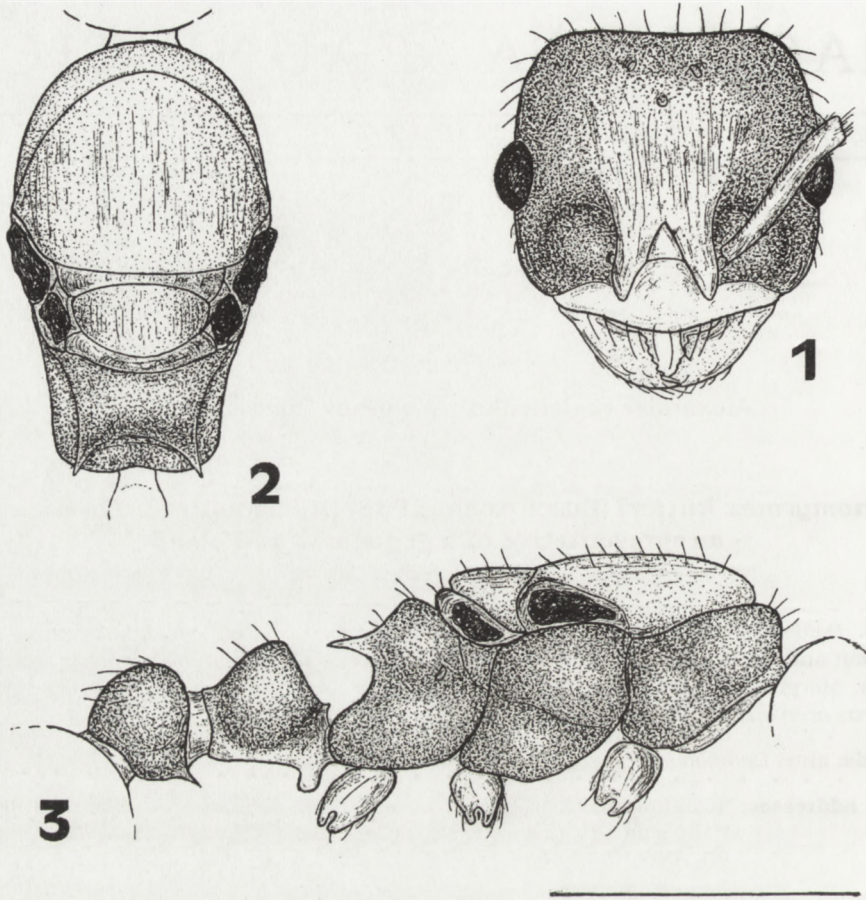
Abstract. *Doronomyrmex kutteri* (BUSCHINGER) is first recorded from Poland. Some notes on distribution and biology of the socially parasitic ant species of the genus *Doronomyrmex* Kutter are given. Morphological differences between females of *D. kutteri* and of their host species, *Leptothorax acervorum* F., are shown.

Key words: ants, *Doronomyrmex*, social parasites, fauna, Poland

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The socially parasitic ant genus *Doronomyrmex* was described by KUTTER in 1945 (type species: *D. pacis*) from Switzerland based on females and males. Then two another inquilines of *Leptothorax acervorum* F. – *Leptothorax kutteri* (BUSCHINGER, 1965) and *L. goesswaldi* (KUTTER, 1967) – were described from southern Germany; later they were replaced to the genus *Doronomyrmex* (BUSCHINGER 1981). Finally, *D. pocahontas* was described by BUSCHINGER (1979) from Canada. However, the taxonomical status of the latter species is still not settled (BUSCHINGER and HEINZE 1993). Thus, four *Doronomyrmex* species are known at present. Three of them occur in Europe; one is known only from its type locality in North America.

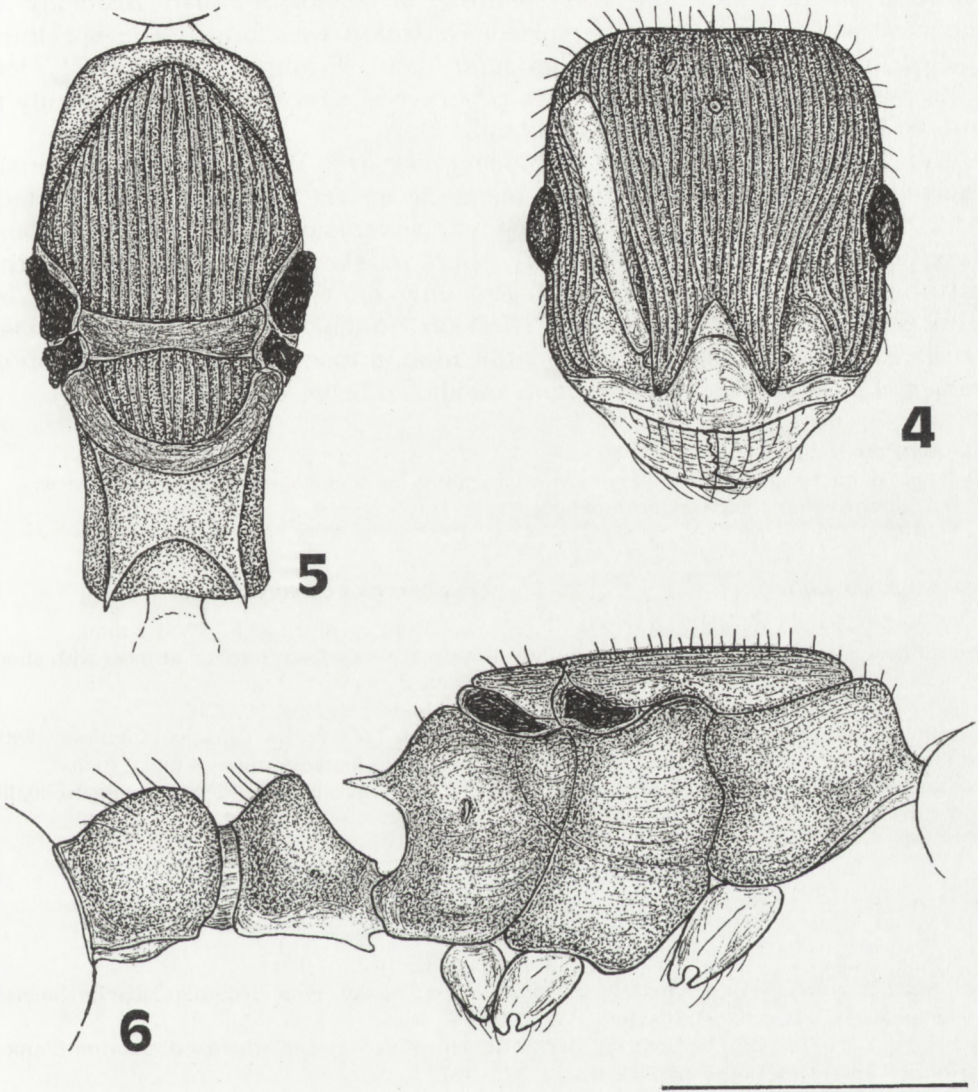
The most common European species is *D. pacis*. It inhabits Southern and Central Europe from southern Germany and France to the former Yugoslavia (BUSCHINGER 1971a,b, 1972, WINTER 1974, BUSCHINGER et al. 1981, BUSCHINGER and DOUWES 1993, SEIFERT 1996). *D. goesswaldi* is a very rare species found only in the Alps and southern Sweden (KUTTER 1967,



Figs 1-3. *Doronomyrmex kutteri*, female: 1 - head, frontal view, 2 - alitrunk, dorsal view, 3 - alitrunk and pedicel, lateral view (scale bar 1 mm).

BUSCHINGER and KLUMP 1988). *D. kutteri* is also rather rare and occurs locally, however its distribution is fairly wide. It is known from southern Germany, Suisse, Austria, the Italian Alps, Estonia, Finland and north of the European part of Russia (BUSCHINGER 1965, 1971a,b, KUTTER 1967, WINTER 1974, MAAVARA 1981, DOUWES and BUSCHINGER 1983, SAARISTO 1995, SEIFERT 1996, RADCHENKO, unpubl. data).

All the European species of *Doronomyrmex* are workerless permanent social parasites of *Leptothorax acervorum*. Mated females penetrate nests of the host species; their eggs and offspring are reared by *L. acervorum* workers. Females of *D. pacis* and *D. kutteri* do not kill the host queen, what is the case in most socially parasitic species. Behaviour of *D. goesswaldi* females is quite strange,



Figs. 4-6. *Leptothorax acervorum*, female: 4 - head, frontal view, 5 - alitrunk, dorsal view, 6 - alitrunk and pedicel, lateral view (scale bar 1 mm).

characteristic of slave-making ant queens and of temporary socially parasitic ones: they attack and kill the queen of the host species. As a result, the duration of parasitized colonies is limited by the longevity of host workers that is not longer than 3-4 years (BUSCHINGER and KLUMP 1988). This peculiarity of biology of *D. goesswaldi* can explain the sparsity of this species. As to *D. pochontas*, BUSCHINGER and HEINZE (1993) have revealed the presence of workers in this species.

During examination of unsorted and unidentified material from the ant collection in the Museum and Institute of Zoology, Polish Academy of Sciences, Warsaw, a dealate female of *D. kutteri* was found. The specimen labelled as "Polonia, Rakowskie Bagno distr. Frampol, 26.07.1951, leg. B. Pisarski", was pinned together with a worker of *L. acervorum*. The locality is situated in western Roztocze (S-E Poland).

Main diagnostic features of *Doronomyrmex* are: 1) presence of variously developed, but always distinctly visible spine on ventral postpetiolar surface and 2) smaller body size in comparison with sexuals of the host species. Some *L. acervorum* females possess a very short or short acute denticle on the ventral postpetiolar surface, and based only on this feature they may be confused with *Doronomyrmex* ones. Therefore, to make distinguishing of these species easier and to prevent misidentification, a more detailed comparison of females of *D. kutteri* and *L. acervorum* are shown below (see also Figs 1–6).

Measurements and index used:

HL – length of the head from the anterior clypeal margin to the occipital margin in full-face view;

HW – maximum width of the head (without eyes);

HI = HL:HW

Doronomyrmex kutteri

- body size smaller (HL<0.7, HW<1.1 mm);
- ventral postpetiolar surface with distinct acute spine;
- head relatively short, HI<1.10;
- dorsum of head densely punctured, only frons with fine striation, quite shining;
- dorsum of alitrunk weakly and superficially punctured and partly striated, shining;

Leptothorax acervorum

- body size larger (HL>0.8, HW>1.2 mm);
- ventral postpetiolar surface at most with short acute denticle;
- head relatively long, HI>1.15;
- dorsum of head densely rugulose with punctures between rugae, submat to mat;
- dorsum of alitrunk densely longitudinally rugulose, submat to mat.

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STRESZCZENIE

[Tytuł: *Doronomyrmex kutteri* (BUSCHINGER, 1965) (Hymenoptera, Formicidae) – przedstawiciel rodzaju nowego dla Polski]

Doronomyrmex kutteri (BUSCHINGER) – obligatoryjny pasożyt społeczny *Leptothorax acervorum* F. – został po raz pierwszy wykazany z Polski. Nieoznaczony dotychczas okaz tego gatunku, zaetykietowany: "Polonia, Rakowskie Bagno distr. Frampol, 26.07.1951, leg. B. Pisarski", znaleziono w zbiorach MiZ PAN w Warszawie. W pracy ukazano morfologiczne różnice między samicami *D. kutteri* a samicami *L. acervorum* oraz zamieszczono informacje o rozmieszczeniu i biologii wszystkich czterech znanych gatunków z rodzaju *Doronomyrmex* Kutter.