Megachile nigriventris Schenck, 1868 and its nest parasite Coelioxys lanceolata Nylander, 1852 (Hymenoptera, Apoidea, Megachilidae) in Poland

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Megachile nigriventris Schenck has two colored forms. A dark form with black pollen-collecting brush in female (Schenck 1868, Gerstaecker 1869 – described as Megachile ursula) exists in Alps (sporadically in Carpathians, Sudetes and Fennoskandia). The pale form with reddish-yellow scopa (black hairs only on the sides and at the end) described by Thomson (1872) as Megachile curvicrus, occurs in Fennoskandia, Sudetes and Carpathian Mts (Dorn & Weber 1988, Tkalcu 1976). Pale form is similar to the Siberian species Megachile maacki described by Radoszkowski (1874), therefore in paper of Dylewska and Zablocki (1972) almost all Polish specimens (with the exception for specimen of female from Pieniny Mts, belonging to the dark form) are recorded as Megachile maacki RAD. Comparison of material with the descriptive type of Megachile maacki (Holotype ♂, Russia: Siberia: Irkutsk; Institute of Systematics and Evolution of Animals of the Polish Academy of Sciences, Kraków) as well as with descriptions of Megachile nigriventris Schck. (Dorn & Weber 1988, Gerstaecker 1869, Niemela 1936, Schenck 1868, Thomson 1872, Tkalcu 1966, 1976) and specimens of M. nigriventris Schck. coming from Alps indicated, that all specimens from Poland belong to the pale form of Megachile nigriventris Schck.

Female of M. nigriventris can be readily separated from that of M. maacki by the lack of whitish and erect fasciae on distal margins of tergites 3-5, whereas the male can be easily recognized by characteristic structure of the foretarsus (Fig. 1) and genital capsule (Figs. 2-3).

Mature adults of the species emerge in June and fly till the end of July. As one of few species of the genus Megachile it nests in rotting wood, beams, stumps and boughs (sometimes in door- and window-frames). It builds brood cells of ovals and circles precisely cut out of leaves of Betula sp., Fagus silvatica L., Acer pseudoplatanus L., A. platanoides L., Rosa sp. and Epilobium sp. This is an oligolectic species, collecting pollen of plants of the family Fabaceae such as: Medicago

Apart from Poland (West Carpathians), M. nigriventris is known also from Spain (Pyrenees) and Italy (PAGLIANO 1993), Switzerland (Alps), Austria and Germany (Alps), Bohemia (Sudetes), and Denmark (WARNCKE 1986), Lithuania (MONSYAVICHYUS 1984), Finland, Sweden (NIEMELÄ 1936), and Norway (TKALCU 1976). The characteristic distribution limited to Northern Europe and mountains of Central Europe as well as very wide disjunction on the Great European Plains distinctly indicates, that it is a Boreo-montane element (postglacial relict) in the fauna of Europe.

In Poland M. nigriventris SCHCK. was recorded exclusively from sites of Pieniny Mts and Tatra Mts (ŚNIEŻEK 1910, NOSKIEWICZ 1920, DYLEWSKA 1962, 1991), recently the author collected a female of this species in Beskid Śląski Mts (Fig. 8). Therefore, in Poland a prevalence of the species is limited to Carpathians, because information about locality in Masuria (DYLEWSKA & ZABŁOCKI 1972) refers to the locality in Russia (Rominty – Kaliningrad district).

**Coelioxys lanceolata** NYL. is the only nest parasite of *M. nigriventris* SCHCK. The species was described on the basis of a female specimen (NYLANDER 1852), while males over very long period were unknown. It was not till one hundred years later that ERLANDSSON (1955) published the description of a male on the basis of a specimen collected in Sweden (till now males are known exclusively from this territory).

Female of *Coelioxys lanceolata* NYL. differs from those of all other members of the genus in having tubercle at the base of outer ridge on outer surface of mandible (Fig. 4), as well as the characteristic shape of distal (5-6) tergites and sternites (Figs 5-7).

Figs 4-7. *Coelioxys lanceolata* NYL. 4 – outer view of mandible of female; 5 – dorsal view of distal segments of female abdomen; 6 – same in ventral view; 7 – same in lateral view.

Its flight season is the same as of its host. The cletoparasite visits flowers of *Vicia* sp., *Epilobium* sp. and *Thymus* sp. (WESTRICH 1989).

The inquiline such as its host is a Boreo-montane species, but as cuckoo bee is significantly rarer. The cletoparasite is known from Sweden and Finland (ERLANDSSON 1955) as well as from Pyrenees, Alps and West Carpathians (WARNCKE 1986, 1992).
From Poland *C. lanceolata* NYL. was known from a single specimen of female (DYLEWSKA 1962), which was collected on south-western slope (Grabczycha) of Facimiech Mt in Pieniny Mts. By over thirty years it was the only known locality of this species in Poland. Recently two females of the inquiline were found on northern slope of Barania Góra Mt (Fig. 8).

Fig. 8. Map showing the sites where material was collected: ▲ - localities of *Coelioxys lanceolata* NYL. and *Megachile nigriventris* SCHCK.; ■ - localities of *Megachile nigriventris* SCHCK.

Material examined. CV59 Barania Góra Mt, 7 July 1993, 2♀, on *Vicia* sp., leg. W. CELARY. DV57 Grabczycha, 20 June 1961, ♀, leg. M. DYLEWSKA.

All material is preserved in collection of the Institute of Systematics and Evolution of Animals, Polish Academy of Sciences in Kraków.

REFERENCES


