Contribution to bee fauna (Hymenoptera: Apoidea) of Poland

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Abstract. New records of 12 very rare species of wild bees (Hymenoptera, Apoidea) from Poland are given. Their Polish localities, distribution and bionomics are presented.

Keywords: Hymenoptera, Apoidea, distribution, bionomics, Poland.

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According to the updated checklist there are 469 species and subspecies of bees recorded from Poland (BANASZAK 2000a). The distribution of the most of the species is known after data published at the beginning of the XX-th century and has to be confirmed. The knowledge of the bee fauna of certain regions of Poland is far from completed and is usually restricted to a checklist of recorded species. Research projects on bees which started in different parts of Poland in the 70-ties of XX century have brought some new data on occurrence and distribution of certain species in the country, but still we lack a lot of information both on the bee associations in certain plant communities and biotopes, and about the bee fauna of some regions of Poland.

The present paper gives new data on distribution of 12 rare species of bees in the country. The specimens were collected in southern Poland. For each locality the UTM coordinates are given. Material is housed in the collection of the Museum of Ojców National Park (Ojców).

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Colletidae

Hylaeus gredleri FÖRSTER, 1871

This very rare species belongs to the subgenus Dentigera POPOV. It occurs in southern, western and central Europe (Sicily, Italy, Corsica, France, Slovenia, Austria, Switzerland, Germany and Poland), also known from Caucasus and Ural (GOGALA 1999, PAGLIANO 1993, RASMONT et al. 1995,
SCHWARZ et al. 1996). Imagines fly from June to August. H. gredleri visits blooming plants of families: Apiaceae (Daucus carota L. and Peucedanum cervaria (L.) Lapeyr.), Asteraceae (Achillea millefolium L.), Resedaceae (Reseda lutea L.) and Rosaceae (Potentilla argentea L.). Females nest in wooden walls, wooden bars and poles or in stems of raspberry (Rubus L.).

Until now Hylaeus gredleri was known in Poland from only three stands in the Kraków-Częstochowa Upland (CELARY 1999). Recently a further two were found in Silesian Upland and Bieszczady Mts (see below).


**Hylaeus paulus** BRIDWELL, 1919

This extremely rare species belongs to the subgenus Hylaeus FABRICIUS. It is known from central Europe (Switzerland, Austria, Germany and Poland), also occurs in Siberia, Mongolia, Russian Far East and Japan (CELARY 1999). Adults fly from June until the end of August. Hylaeus paulus visits flowering plants of families: Asteraceae (Achillea millefolium L.), Brassicaceae (Barbarea vulgaris R. Br.), Crassulaceae (Sedum acre L.), Lamiales (Glechoma hederacea L.), Rosaceae (Potentilla L.) and Scrophulariaceae (Veronica chamaedrys L. and V. spicata L.). Females nest in wooden walls, wooden bars and poles or in stems of raspberry (Rubus L.), thistle (Carduus L. and Cirsium MILL.), nettle (Urtica L.), and sunflower (Helianthus tuberosus L.).

Until now the species was known in Poland from only three localities of the Kraków-Częstochowa Upland and Wielkopolsko-Kujawska Lowland (BANASZAK 2000b, CELARY 1999). Recently a further two in Ojców National Park were found (see below).

New localities. Kraków-Częstochowa Upland: DA16 Osicze, 2 ♀♀ reared from a nest in a twig of raspberry Rubus idaeus L. collected on the edge of a mixed forest Pino-Quercetum (twigs were collected on 19.02.2000, and imagines emerged in April 2000 leg. et cult. B. Wiśniowski); DA16 Miotelka, 28.05.2000 – ♂ on Achillea millefolium L., leg. B. Wiśniowski.

**Hylaeus punctatus** (BRULLÉ, 1832)

This very rare Subpontic-mediterranean species belongs to the subgenus Spatulariella POPOV. It occurs in western Asia (Iran, Syria, Israel and Turkey) and in southern Europe (Greece, Sicily, Corsica, Italy, Macedonia, Croatia, Slovenia and s. France), in central Europe is known only from its southern part: Hungary, Austria, Switzerland, s. Luxembourg, s. Germany, Czech Republic, Slovakia and s. Poland (CELARY & DYLEWSKA 1988, GOGALA 1999, MÓCZÁR 1960, PAGLIOANO 1993, PITTITONI 1952, RASOMONT et al. 1995, SCHWARZ et al. 1996, WARNCKE 1986). Imagines fly from June to August. Hylaeus punctatus visits blooming plants of families: Brassicaceae (Cardaria draba (L.) DESV., Sisymbrium L.), Resedaceae (Reseda lutea L.), Crassulaceae (Sedum L.), Apiaceae (Aegopodium podagraria L., Eryngium L.), Boraginaceae (Echium vulgare L.) and Asteraceae (Solidago L.). Females make their nests in pre-existing cavities.

Until now the species was known in Poland from only four stands in the Wielkopolsko-Kujawska Lowland, Silesian Lowland, Kraków-Częstochowa Upland and Sandomierz Lowland (CELARY & DYLEWSKA 1988). H. punctatus was recently discovered on another locality (see below).

**Hylaeus rinki** (GORSKI, 1852)

The rare Eurosiberian species belongs to the subgenus of *Lambdopsis* POPOV. It is known from the eastern part of western Europe, and from central and eastern Europe, also occurs in western Asia, Mongolia, Siberia and in the south-eastern part of Russian Far East (CELAYR 1999, CELARY & DYLEWSKA 1988, KOSTER 1986, MÓCZÁR 1960). Adults fly from June till end of August. The bee visits flowering plants of families: Rosaceae (*Potentilla erecta* (L.) RAEUSCH and *Rubus fruticosus* L. NOM. AMBIG.), Apiaceae (*Daucus carota* L. and *Heracleum sphondylium* L.) and Asteraceae (*Cirsium vulgare* (SAVI) TEN. and *Solidago gigantea* AITON). Females nest in wooden walls, wooden bars and poles or in stems of raspberry (*Rubus* L.).

*Hylaeus rinki* is known from single stands in some parts of Poland (BANASZAK & KRZYSZTOFIK 1996, CELARY 1999, CELARY & DYLEWSKA 1988, PAwlIKowski et al. 1993). Recently a new locality of the species in Bieszczady National Park was found (see below).


**Hylaeus styriacus** FÖRSTER, 1871


*Hylaeus styriacus* is known from a few stands in some parts of Poland (BANASZAK & KRZYSZTOFIK 1996, CELARY 2000, CELARY & DYLEWSKA 1988, PAwlIKowski et al. 1993). Recently a further two localities of the species in Ojców National Park and in the Bieszczady Mts were found (see below).


**Halictidae**

**Sphecodes niger** VAN HAGENS, 1874

The rare cuckoo bee occurs in western Turkey, and western and central Europe, also known from the northern part of southern Europe and from the western part of eastern Europe (CELAYR 1991, MÓCZÁR 1967, PAGLIANO 1988, RASMONT et al. 1995, SCHWARZ et al. 1996, WARNCKE 1986, 1992). Adults fly from May to June (first generation) and from July to August (second generation). The species prefers flowers of *Daucus carota* L., *Jasione montana* L., *Achillea millefolium* L. and *Senecio jacobea* L. Females of the cleptoparasitic bee lay their eggs in the cells of the nests of *Evylaeus morio* (FABR.).

*Sphecodes niger* is known from single stands in some parts of Poland (BANASZAK 2000b, CELARY 1991, PAWLIKOWSKI et al. 1993). Recently a new locality of this very rare species was discovered (see below).

Megachilidae

*Megachile nigriventris* SCHENCK, 1868


Until now the species in Poland was known only from a few stands in Tatras, Pieniny Mts and Beskid Ślaski Mts (Carpathians) (CELARY 1995a). Recently two new localities in Bieszczady National Park were found (see below).


Anthophoridae

*Nomada castellana* DUSMET, 1913

This very rare cleptoparasitic bee occurs exclusively in western, southern and central Europe (CELARY 1995b). Adults fly from May to July. The species visits blooming plants of families Brassicaceae (*Sinapis arvensis* L.), Asclepiadaceae (*Vincentocticum hirundaria* MEDIK.) and Asteraceae (*Solidago virgaurea* L.). Females of the cuckoo bee lay their eggs in the nests of *Andrena semilaevis* PER. (CELARY 1995b).

In Poland *Nomada castellana* was known exclusively from one site in Ojców National Park (CELARY 1995b). Recently a second locality in Ojców National Park was discovered (see below).


*Nomada conjugens* HERRICH-SCHÄFFER, 1839


Until now *Nomada conjugens* in Poland was known only from three stands (CELARY 1995b). Recently a further one in Ojców National Park was found (see below).


*Nomada sheppardana* (KIRBY, 1802)

This rare parasitic bee occurs in northern Africa and Europe (except for the northern part). Its northern limit of distribution reaches to 54°N (CELARY 1995b). The species has two generations, adults fly from May to June and from July to August. *Nomada sheppardana* visits flowers of *Stellaria holostea* L., *Veronica chamaedrys* L. and *Bellis perennis* L. Females of the cuckoo bee lay
their eggs in the nests of *Evylaeus nitidiunculus* (KIRBY), *E. sextrigatus* (SCHCK), *E. morio* (FABR.) and the other small species of the genus *Evytaeus* ROBERTSON (CELARY 1995, GOGALA 1999).

Until now *Nomada sheppardiana* in Poland was known from only two sites (BANASZAK 2000b, CELARY 1995b). Recently a further two stands in Ojców National Park were discovered (see below).

New localities. Kraków-Częstochowa Upland: DA16 Ojców (Ojców National Park), 1.06.1992 – ♀ on a loess slope near ground nests of various *Evytaeus* species, leg. B. WiśNIOWSKI; DA16 Czyżówki (Ojców National Park), 25.05.2000 – ♀ on a slope on the edge of a deciduous forest *Tilio-Carpinetum*, leg. B. WiśNIOWSKI.

**Epeoloides coecutiens** (FABRICIUS, 1775)

This rare cleptoparasitic bee occurs exclusively in Europe (CELARY 1990). Imagines fly from the end of June until the end of August. *Epeoloides coecutiens* visits blooming plants of *Lythrum salicaria* L., *Chamaenerion angustifolium* (L.) SCOP. and *Thymus serpyllum* L. em. Fr. Females of the cuckoo bee lay their eggs in the nests of *Macropis fulvipes* (FABR.) and *Macropis europaea* WARNCKE (CELARY 1990).

This species is observed in different parts of Poland, however, even where it is found, it is very rare (CELARY 1990, PAWLIKOWSKI et al. 1993). Recently new locality of this parasitic bee was found in Ojców National Park (see below).

New locality. Kraków-Częstochowa Upland: DA16 Peperówka (Ojców National Park), 14–20.08.2000 – 6♀♀ and 21–30.08.2000 – ♀; all specimens were caught in Moericke traps placed on the ground in the overgrown fallows on the plateau, leg. B. WiśNIOWSKI.

REFERENCES


