

**ANDRENA DANUVIA STOECKHERT AND HOPLITIS PEREZI (FERTON)
IN SLOVENIA (HYMENOPTERA: ANDRENIDAE AND MEGACHILIDAE)**

Andrej GOGALA

Prirodoslovni muzej Slovenije,
Prešernova 20, p.p. 290, SI-1001 Ljubljana; agogala@pms-lj.si

Abstract – Two bee species are recorded for the first time for Slovenia: *Andrena (Melandrena) danuvia* Stoeckhert and *Hoplitis (Anthocopa) perezi* (Ferton). They were both found on the Karst plateau at the border between Slovenia and Italy. Additionally, the specimens in the E. Jaeger collection, identified as *Andrena cineraria* (Linnaeus), were proved to be *Andrena danuvia*.

KEY WORDS: Hymenoptera, Andrenidae, Megachilidae, fauna, Slovenia, Italy

**Izvešček – ANDRENA DANUVIA STOECKHERT IN HOPLITIS PEREZI (FERTON)
V SLOVENIJI (HYMENOPTERA: ANDRENIDAE IN MEGACHILIDAE)**

Dve vrsti čebel sta prvič zabeleženi za Slovenijo: *Andrena (Melandrena) danuvia* Stoeckhert in *Hoplitis (Anthocopa) perezi* (Ferton). Obe sta bili najdeni na Krasu ob meji med Slovenijo in Italijo. Poleg tega primerki iz zbirke E. Jaegra, določeni kot *Andrena cineraria* (Linnaeus), v resnici pripadajo vrsti *Andrena danuvia*.

KLJUČNE BESEDE: Hymenoptera, Andrenidae, Megachilidae, favna, Slovenija, Italija

In 2018 I visited several times the border area between Slovenia and Italy on the western edge of the Karst plateau between the villages Sela na Krasu in Slovenia and Iamiano/Jamlje in Italy with the highest points Kremenjak and Špik. From these places there is a nice view on the valley of Brestovica near Komen, Monfalcone/Tržič on the coast, intermittent lake at Doberdo/Doberdob and the Friulan plain to the west. Here I found two bee species for the first time, *Andrena danuvia* E. Stoeckhert and *Hoplitis perezi* (Ferton). The first is still poorly known species, for a long time confused with related species, and the find is the first in the Karst. The other was al-



Fig. 1: *Andrena danuvia* female from Kremenjak, Kras/Carso.



Fig. 2: *Andrena danuvia* female from Trobevnik near Podčetrtek, collected by E. Jaeger.

ready known from the surroundings of Trieste, while it has not yet been found in Slovenia. I found its nests just above the walls of the karst edge.

Andrena danuvia E. Stoeckhert, 1950

Slovenia, Styria: Podčetrtek, UTM: WM41, 23. 4. 1932, 1♀, 27. 4. 1932, 1♂, 12. 5. 1932, 1♀, 10. 4. 1933, 2♀2♂, 28. 4. 1934, 1♀, E. Jaeger leg.

Podčetrtek, TRO - Olimje, Trobevnik, 20. 5. 1933, 1♀, E. Jaeger leg. (Fig. 2)

Italy/Slovenia: Sela na Krasu, Kremenjak, UL97, 1. 5. 2018, 1♀ on *Cotinus coggygria*, A. Gogala leg. (Fig. 1)

I found one female of the *Andrena (Melandrena) cineraria* group on the flowers of *Cotinus coggygria* on the Italian side of the border between Italy and Slovenia on the south-western slope of Kremenjak, which is not a mountain, only a high point at the edge of the Karst plateau. It turned out it is a specimen of *Andrena danuvia*, described from Vienna where it is very numerous, nesting under the trees along avenues (Fraberger 2005). It has dark apical half of the front wings while *A. cineraria* (Linnaeus, 1758) has only a dark apical border. This character is similar in *A. barbareae* Panzer, 1805, but this species has much shorter third antennal segment. In *A. danuvia* it is almost three times as long as wide, while it is less than two times as long as wide in *A. barbareae* (Pittioni & Stöckhert 1950). *A. danuvia* is also characterized by more evident blue luster of the abdomen and less evident black stripe on the thorax.

Andrena danuvia is already known from Italy (Scheuchl & Willner 2016), but is not listed by Zandigiacoimo et al. (2013) among the *Andrena* species of Friuli Venezia Giulia. So the record from Kremenjak is new for the Karst (Kras/Carso) and this Italian region. After this find I checked the specimens identified as *A. cineraria* in the E. Jaeger collection, kept in the Slovenian Museum of Natural History. All specimens collected by E. Jaeger in Podčetrtek and its surroundings, proved to be *A. danuvia*. The records of *Andrena cineraria* by Gogala (1994) are thus wrong and probably also the record by Vogrin (1955) as it is also based on the specimens collected in Podčetrtek by Jaeger. This finding is in accordance with observations by Scheuchl and Willner (2016) that all checked specimens of the *A. cineraria* group from Greece and Turkey turned out to be *A. danuvia*, which is thus an East Mediterranean species. We could omit *A. cineraria* from the list of Slovenian species. An unresolved question remains the identity of *Apis atra*, described by Scopoli (1763). Scopoli found it in Gorjuše between Bled and Bohinj in 1761. As his collection is not preserved, we cannot check its identity.

Hoplitis perezii (Ferton, 1895)

Sela na Krasu, Špik, 219 m, UL97, 12. 5. 2018, 1♀, A. Gogala leg.

Hoplitis (Anthocopa) perezii is a Mediterranean and Central Asian species nesting in the soil and collecting pollen from *Convolvulus* flowers. It also cuts pieces out of *Convolvulus* petals to make cells in the burrow (Ducke 1900, Müller 2018). Ferton described it from France, but Ducke (1900) described it again as a form of *Osmia pa-*



Fig. 3: *Hoplitis perezi* female in front of her burrow.



Fig. 4: The place on Špik near Sela na Krasu, where *Hoplitis perezi* nests were found.

paveris, *O. p. convolvuli*. He found it in Contovello near Trieste and stated it is not rare there. Contovello is situated at the coast with milder climate than the Slovenian part of the Karst in the interior, probably the reason the species was not recorded before in Slovenia. I found at least three nests just above the walls of the karst edge on Špik near Sela na Krasu. Females were entering the burrows and were also seen visiting *Convolvulus cantabrica* flowers nearby. Some flowers were missing pieces cut out by the bees. The burrows were dug in shallow soil on top of the limestone and one female was seen closing the burrow with anything around it, like small pieces of twigs and leaves. The place with the nests has direct climatic influence from the sea, which is seen below and is oriented towards the sun. *Convolvulus cantabrica* is very numerous there. The border between Slovenia and Italy is just a few meters away and *Hoplitis perezii* specimens were seen also on the Italian side.

Acknowledgement

I dedicate this paper to my father Matija, my first teacher of entomology, at his 80th birthday.

References

- Ducke, A.**, 1900: Die Bienengattung *Osmia* Panz. *Ber. naturw.-med. Ver. Innsbruck*, 25: 1-323.
- Fraberger, R. J.**, 2005: Bionomie der Sandbiene *Andrena danuvia* Stöckert 1950 (Hymenoptera, Andrenidae) und aktuelle Vorkommen in Wien. *Linzer biol. Beitr.*, 37 (2): 1481-1499.
- Gogala, A.**, 1994: Contribution to the Knowledge of the Bee Fauna of Slovenia II. (Hymenoptera: Apidae). *Scopolia*, 31: 1-40.
- Müller, A.**, 2018: Palaearctic Osmiine Bees. ETH Zürich, <http://blogs.ethz.ch/osmiini>
- Pittioni, B., E. Stöckert**, 1950: Über einige neue und verkannte *Andrena*-Arten (Hymenoptera, Andrenidae). Beiträge zu Kenntnis paläarktischer Apiden III. *Ann. Naturhist. Mus. Wien*, 57: 284-295.
- Scopoli, I. A.**, 1763: Entomologia carniolica exhibens insecta Carnioliae indigena et distributa in ordines, genera, species, varietates. Methodo Linnaeana. Trattner, Vindobonae.
- Scheuchl, E., W. Willner**, 2016: Taschenlexikon der Wildbienen Mitteleuropas. Alle Arten im Porträt. Quelle & Meyer Verlag Wiebelsheim, 917 pp.
- Vogrin, V.**, 1955: Prilog fauni Hymenoptera-Aculeata Jugoslavije. *Zaštita bilja* (Beograd), 31: Dodatak.
- Zandigiacomo, P., L. Fortunato, R. Barbattini, F. Frilli, G. Pagliano, M. Quaranta**, 2013: Apoidea del Friuli Venezia Giulia e di territori confinanti. III. Andrenidae. *Gortania. Botanica, Zoologia*, 34: 101-136.

Received / Prejeto: 9. 10. 2018