

## FIRST RECORDS OF *HERIADES RUBICOLA* PÉREZ, 1890 (HYMENOPTERA: MEGACHILIDAE) AND *NOMADA MOESCHLERI* ALFKEN, 1913 (HYMENOPTERA: APIDAE) FROM SLOVAKIA

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**Abstract:** In this contribution we present two bee species (Hymenoptera: Apoidea: Apiformes) recorded for the first time from Slovakia. *Heriades rubicola* Pérez, 1890 (Megachilidae: Megachilinae) is a xerothermophilous mediterranean Megachilid bee distributed in North Africa and South Europe. From this area it is spreading to Central Europe. *Nomada moeschleri* Alfken, 1913 (Apidae: Nomadinae) is a parasitic bee species, which belongs to the boreo–alpine group of bees with Central and East–European occurrence. For both species we provide detailed information about their finding places. This report is supplemented with a distribution map of the discussed species.

**Key words:** Apoidea, *Heriades rubicola*, *Nomada moeschleri*, Slovakia

### INTRODUCION

Ongoing research focused on bees in different parts of Slovakia often results in interesting zoogeographic records and discoveries. Due to the activities of professional and amateur entomologists, several bee species were found to be new for Slovakia in the last few years (e.g. SMETANA et al. 2010, ŠIMA & SMETANA 2012, SMETANA et al. 2015). Such findings have not only local importance documenting biodiversity of certain areas, but also fill gaps in the knowledge on actual distribution of bees in Europe. Both species, we mention here, were known from the surrounding countries already, therefore their presence in Slovakia was expected. *Nomada moeschleri* has been recorded from Czech Republic (STRAKA et al. 2004), Poland (BANASZAK 2006) and Austria (GUSENLEITNER et al. 2012, BOSSERT & SCHNELLER 2014). *Heriades rubicola* is known from Hungary (JÓZAN 2011), Czech Republic (STRAKA et al. 2008, PŘIDAL 2014) and Austria (GUSENLEITNER et al. 2012). Herewith we confirm the presence of *N. moeschleri*

and *H. rubicola* from Slovakia, and extend the list of aculeate Hymenoptera of Slovakia by two new species.

## MATERIAL AND METHODS

Biological material was collected during entomological surveys within the territory of Slovakia. Bees were pinned, labelled and deposited in the collection of the first author. All bee specimens mentioned here were determined by the second author. Nomenclature follows the last Check-list of Aculeata of Czech Republic and Slovakia (BOGUSCH et al. 2007). Records of bees are supplemented with the following information: locality, number of the faunistic code of the Central European mapping grid system (EHRENDORFER & HAMANN 1965), date of collection, altitude (in meters above sea level (= m a. s. l.)), number of specimens observed or collected, sex (female = ♀, male = ♂) of the specimens listed, a short description of the collection site, name of the collector (leg.), deposition of the collected specimens (coll.) and the name of determinator (det.). Following abbreviation were used in the text: NR – Nature Reserve, NP – National Park.

## LIST OF RECORDS

### Megachilidae: Megachilinae

*Heriades rubicola* Pérez, 1890

**Material examined. Slovakia: Podunajská rovina:** Nové Zámky env., (8074), 27.6.2009, 113 m a.s.l., 1 ♀, specimen collected at the “Kvitnúci ostrov” gardening colony, in a garden by sweeping on blooming ornamental plants, P. Šima leg. et coll., J. Straka det.

*H. rubicola* is distributed mainly in the Mediterranean region of South Europe, North Africa and Israel (MACEK et al. 2010, AMIET et al. 2004). Its distribution area extends to Central Europe, where the species reaches its current northernmost border (POLASZEK & M.-D. MITROIU 2016, PŘIDAL et al. 2014). According to PŘIDAL & VESELÝ (2011), this species is probably spreading in Europe. Genus *Heriades* Spinola, 1808 was represented by two species in Slovakia till so far (STRAKA et al. 2007). By this input, the total number of *Heriades* species have been extended to three species: *H. crenulatus*, *H. truncorum* and *H. rubicola*. Current distribution of *H. rubicola* in Slovakia is visualised on the map (Fig. 1 ★). **New species for Slovakia.**

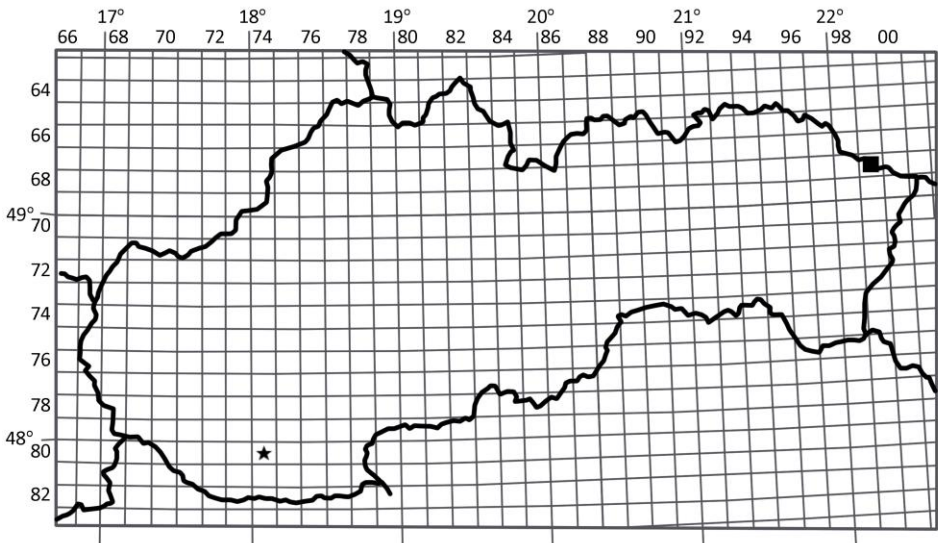
## Apidae: Nomadinae

### *Nomada moeschleri* Alfken, 1913

**Material examined. Slovakia: Bukovské vrchy:** Poloniny NP, Pod Ruským NR, (6899), 09.5.2015, 510 m a.s.l., 1 ♂, vegetation sweeping, forest margin, P. Šima leg. et coll., J. Straka det.

This species is distributed northwards from Alps to Northern Europe (SCHEUCHL 2000). It could be found in several European countries, e.g. in Slovenia, Austria, Switzerland, Germany, Poland, Czech Republic, Finland, etc. (POLASZEK & M.-D. MITROIU 2016, STRAKA et al. 2004, BOGUSCH et al. 2005). Host species of *N. moeschleri* is still not known. *Andrena haemorrhoea*, *A. helvola*, *A. fucata*, *A. varians*, *A. lapponica* (SAURE 1995) and *A. lathyri* (DUBITZKY et al. 2005) are among the species which could be taken into account as a potential host. In Slovakia, the genus *Nomada* Scopoli, 1770 is represented by 86 species currently. However, to eight species there are no reliable data available to confirm their presence in the country (STRAKA et al. 2007). By this recent finding, the total number of species from genus *Nomada* spp. reached 88 species in Slovakia, out of which 79 species have been reliably confirmed. *N. moeschleri* is known today only from a single locality situated in north-eastern part of Slovakia (Fig. 1 ■).

### New species for Slovakia.



**Fig. 1.** Distribution of *Heriades rubicola* Pérez, 1890 (★) and *Nomada moeschleri* Alfken, 1913 (■) in Slovakia.

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## REFERENCES

- AMIET, F., HERRMANN, M., MÜLLER, A. & NEUMEYER, R. 2004. *Fauna Helvetica 9. Apidae 4 (Anthidium, Chelostoma, Coelioxys, Dioxys, Heriades, Lithurgus, Megachile, Osmia & Stelis)*. Centre Suisse de cartographie de la faune, Neuchâtel, 272 pp.
- BANASZAK, J. 2006. Bees (Hymenoptera) in the Narew National Park. *Polish Journal of Entomology* 75: 511–538.
- BOGUSCH, P., MACEK, J. & STRAKA, J. 2005. Faunistic records from the Czech Republic – 188. *Klapalekiana* 41: 144.
- BOGUSCH, P., STRAKA, J. & KMENT, P. (eds) 2007. Annotated checklist of Aculeata (Hymenoptera) of the Czech Republic and Slovakia. Komentovaný seznam žahadlových blanokřídлых (Hymenoptera: Aculeata) České republiky a Slovenska. *Acta Entomologica Musei Nationalis Pragae, Supplementum* 11: 1–300.
- BOSSERT, S. & SCHNELLER, B. 2014. First records of *Bombus haematurus* Kriechbaumer, 1870 and *Nomada moeschleri* Alfken, 1913 (Hymenoptera: Apidae) for the state of Vienna (Austria). *Beiträge zur Entomofaunistik* 15: 95–100.
- DUBITZKY, A., BLANK, S.M. & SCHÖNITZER, K. 2005. Die Hymenopteren fauna (Symphyta, Aculeata) im Norden von Dachau, Bayern. *Linzer biologische Beiträge* 37 (1): 235–314.
- EHRENDORFER, F. & HAMMAN, U. 1965. Vorschläge zu einer floristische Kartierung von Mitteleuropa. *Berichte der Deutschen Botanischen Gesellschaft* 78: 35–50.
- GUSENLEITNER, F., SCHWARZ, M. & MAZZUCCO, K. 2012. Apidae (Insecta: Hymenoptera). In: SCHUSTER R. (Ed.): *Checklisten der Fauna Österreichs 6*. Österreichische Akademie der Wissenschaften, Vienna, 162 pp.
- JÓZAN, ZS. 2011. Checklist of Hungarian Sphecidae and Apidae species (Hymenoptera, Sphecidae and Apidae). *Natura Somogyiensis* 19: 177–200.
- MACEK, J., STRAKA, J., BOGUSCH, P., DVOŘÁK, L., BEZDĚČKA, P. & TYRNER, P. 2010. *Blanokřídli České republiky I., Žahadloví*. Academia, Praha, 524 pp. ISBN 978–80–200–1772–7
- POLASZEK, A. & MITROIU, M.-D. 2016. Fauna Europaea, Hymenoptera, Megachilidae. Fauna Europaea version 2.6.2, <http://www.fauna-eur.org>, last update: 29 august 2013 (accessed November 07, 2016).

- PŘIDAL, A. & VESELÝ, P. 2011. Changes in the composition of the bee populations of the Mohelno Serpentine Steppe after 70 years (Hymenoptera: Apiformes). *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis* 59: 291–311.
- PŘIDAL, A. 2014. New and interesting records of bees from Moravia and Slovakia with remarks to the Czech and Slovak checklist of bees (Hymenoptera: Apoidea: Apiformes). *Klapalekiana* 50 (1): 73–83.
- SAURE, C. 1995: Wer ist der Wirt von *Nomada moeschleri*? *Bembix* 5: 21–26.
- SCHEUCHL, E. 2000. *Illustrierte Bestimmungstabellen der Wildbienen Deutschlands und Österreichs. Band I: Anthophoridae.* (2. erweiterte Auflage). Eigenverlag, Velden, 158 pp.
- SMETANA, V., ROLLER, L., BENEŠ, K., BOGUSCH, P., DVOŘÁK, L., HOLÝ, K., KARAS, Z., MACEK, J., STRAKA, J., ŠIMA, P., TYRNER, P., VEPŘEK, D. & ZEMAN, V. 2010. Blanokřídlovce (Hymenoptera) na vybraných lokalitách Borskej nížiny. *Acta Musei Tekovensis Levice* 8: 78–111.
- SMETANA, V., ŠIMA, P., BOGUSCH, P., ERHART, J., HOLÝ, K., MACEK, J., ROLLER, L. & STRAKA, J. 2015. Blanokřídlovce (Hymenoptera) na vybraných lokalitách v okolí Levíc a Kremnice. *Acta Musei Tekovensis Levice* 10: 44–68.
- STRAKA, J., BOGUSCH, P., TYRNER, P. & VEPŘEK, D. 2004. New important faunistic records of Hymenoptera (Chrysidoidea, Apoidea, Vespoidea) from the Czech Republic. *Klapalekiana* 40: 143-153.
- STRAKA, J., JANŠTA, P., FARKAČ, J. & VRABEC, V. 2008. Faunistic records from the Czech Republic – 268. *Klapalekiana* 44: 299–301.
- STRAKA J., BOGUSCH P. & PŘIDAL A. 2007: Apoidea: Apiformes (včely), pp. 241–299. In: Bogusch, P, Straka, J. & Kment, P. (eds) Annotated checklist of the Aculeata (Hymenoptera) of the Czech Republic and Slovakia. Komentovaný seznam žahadlových blanokřídlych (Hymenoptera: Aculeata) České republiky a Slovenska. *Acta Entomologica Musei Nationalis Pragae*, Supplementum 11: 1–300.
- ŠIMA, P. & SMETANA, V. 2012. *Bombus (Cullumanobombus) semenoviellus* (Hymenoptera: Apidae: Bombini) new species for the bumblebee fauna of Slovakia. *Klapalekiana* 48: 41–147.