

CONFIRMED RECORD OF THE GENUS *CHERNES* IN BOSNIA AND HERZEGOVINA (PSEUDOSCORPIONES: CHERNETIDAE)

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The finding of the chernetid pseudoscorpion *Chernes hahnii* (C.L. Koch, 1839) represents the first reliable record of the genus *Chernes* Menge, 1855 in Bosnia and Herzegovina. Adults, as well as nymphal stages were collected from six localities and occurred under bark of trees.

Key words: Balkans, *Chernes hahnii*, confirmed record, pseudoscorpion, tree bark

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Nalaz pseudoškorpiona iz porodice Chernetidae *Chernes hahnii* (C.L. Koch, 1839) prvi je sigurni nalaz roda *Chernes* Menge, 1855 u Bosni i Hercegovini. Odrasli primjerci, kao i stadiji nimfe, prikupljeni su sa šest lokaliteta, ispod kore drveća.

Ključne riječi: Balkan, *Chernes hahnii*, potvrđeni nalaz, pseudoškorpioni, kora drveta

INTRODUCTION

According to the world pseudoscorpion catalogue, 55 species are known from Bosnia and Herzegovina (HARVEY, 2013). Most of them belong to the families of Chthoniidae and Neobisiidae. The species *Pselaphochernes hadzii* Čurčić, 1972, *P. lacertosus* (L. Koch, 1873), *Dinocheirus panzeri* (C.L. Koch, 1837), *Allochernes wideri* (C.L. Koch, 1843) with the subspecies *A. wideri phaleratus* (Simon, 1879) from the family Chernetidae have been recorded in Bosnia and Herzegovina (HARVEY, 2013) in the catalogue did not mention two others chernetid species from BEIER (1929) - *Lamprochernes nodosus* (Schrank, 1803) and *Pselaphochernes scorpioides* (Hermann, 1804). Chernetid species have low known diversity not only in Bosnia, but across the Balkans in generally (CHRISTOPHORYOVÁ & JABLONSKI, 2017). The present findings of *Chernes hahnii* (C.L. Koch, 1839) represent the first reliable record of the species, and the genus as well, in Bosnia and Herzegovina. In the Balkans, the species has been known to occur only in Bulgaria (HARVEY, 2013); quotation from Bosnia by BEIER (1929) is doubtful, since it may be referred also to *Chernes cimicoides* (Fabricius, 1793).

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MATERIAL AND METHOD

During two excursions in 2017 to Bosnia and Herzegovina, 99 specimens of *Chernes hahnii* were collected under tree bark. The specimens were studied as temporary slide mounts using lactic acid as a medium, then first rinsed in water and returned to 70% ethanol. The species was photographed using a Leica DM1000 compound microscope with ICC50 Camera Module (LAS EZ application, 1.8.0). The specimens were identified using the identification keys proposed by BEIER (1963) and CHRISTOPHORYOVÁ *et al.* (2011b) and they are deposited in the zoological collections of Comenius University, Bratislava.

List of localities (Figs 1, 2)

1. Trebinje, 42.70866° N, 18.34282° E, 264 m a. s. l., alley near bus station, under bark of *Platanus acerifolia*
2. Sarajevo, Lukavica, 43.81561944° N, 18.34921389° E, 518 m a. s. l., garden near the restaurant, under bark of *Platanus* sp.
3. Sarajevo, At Mejdan, 43.85708° N, 18.42774° E, 555 m a. s. l., city park, under bark of *Platanus* sp.
4. Sarajevo, Alifakovac, 43.85821111° N, 18.43698889° E, 580 m a. s. l., cemetery, under bark of *Betula* sp.
5. Tuzla, Gradski park, 44.53848611° N, 18.67936111° E, 230 m a. s. l., city park, under bark of *Platanus acerifolia*
6. Tuzla, 44.53990° N, 18.66499° E, 224 m a. s. l., city park, under bark of *Platanus acerifolia*.

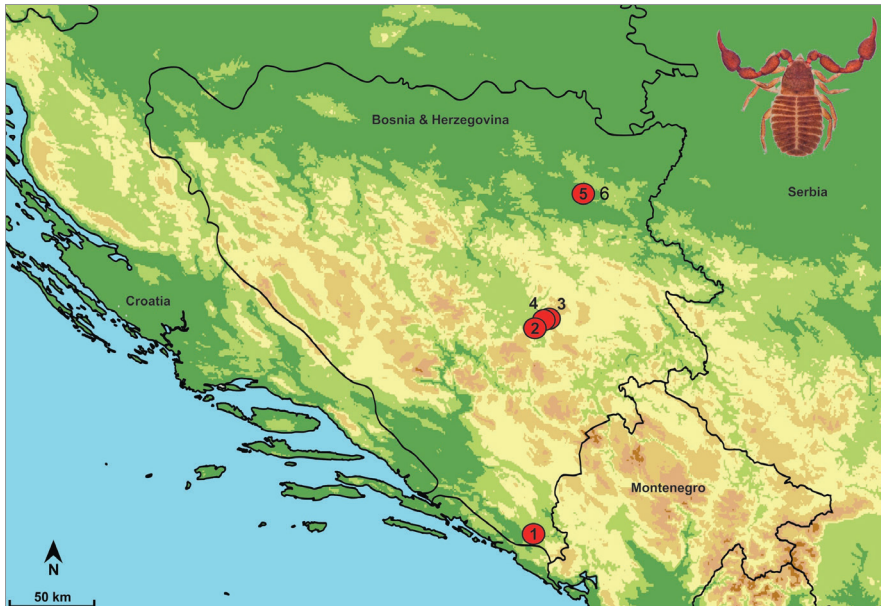


Fig. 1. Map of Bosnia and Herzegovina showing records of *Chernes hahnii*. For locality codes see Material and Method.



Fig. 2. Habitat and microhabitat types of *Chernes hahnii* in Bosnia and Herzegovina. A, B: *Betula* sp. at the cemetery (Locality 4, see Material and Method); C, D: *Platanus* sp. in the park (Locality 3); E, F: *Platanus acerifolia* in alley (Locality 1).

RESULTS AND DISCUSSION

Chernes hahnii (C.L. Koch, 1839) (Fig. 3)

Present records: **1:** 30.6.2017, 1 ♀, 1 ♂; **2:** 29.6.2017, 1 ♀; **3:** 29.6.2017, 1 ♀; **4:** 14.10.2017, 1 ♀; **5:** 15.10.2017, 23 ♀♀, 24 ♂♂, 14 tritonymphs, 7 deutonymphs; **6:** 9.7.2017, 4 ♀♀, 12 ♂♂, 10 tritonymphs.



Fig. 3. Male of *Chernes hahnii*. Scale line: 1 mm.

Presented specimens of *C. hahnii* were found under tree bark. No other pseudoscorpion species were collected in the studied microhabitat at the selected localities. During the months of collecting, silken chambers of the species were present under the tree barks. In July females with eggs were collected.

BEIER (1963) reported that the species is typically an inhabitant of the space under the bark of the broad-leaved trees. In later studies its strong association with the microhabitat under tree bark was confirmed (ŠŤÁHLAVSKÝ, 2001; KRAJČOVIČOVÁ & CHRISTOPHORYOVÁ, 2014). In addition, it can be found in other tree microhabitats, such as tree hollows, dead wood and directly on tree bark (CHRISTOPHORYOVÁ *et al.*, 2017). Except for tree microhabitats *C. hahnii* is known to be an inhabitant of bird nests (TURIZO *et al.*, 2010; CHRISTOPHORYOVÁ *et al.*, 2011a). The new findings correspond with the known microhabitat preference of the species.

A basic identification key to chernetid taxa known from Bosnia and Herzegovina is given (BEIER, 1963; ČURČIĆ, 1972; CHRISTOPHORYOVÁ *et al.*, 2011b, CHRISTOPHORYOVÁ & JABLONSKI, 2017):

- 1 Body and palpal setae long, pointed and finely toothed . . . *Lamprochernes nodosus*
- Body and palpal setae short, dentate and clavate. 2
- 2 Pedal tarsus IV with a long tactile seta distinctly longer than the width of segment 3
- Pedal tarsus IV with tactile seta absent or with a short distal pseudotactile seta . . . 5
- 3 Palpal femur at most 0.59 mm long, palpal patella at most 0.52 mm long. 4
- Palpal femur 0.58–0.65 mm long, palpal patella 0.57–0.67 mm long
- *Pselaphochernes lacertosus*

- 4 Palpal femur 0.43–0.59 mm long, palpal patella 0.43–0.52 mm long
 *Pselaphochernes scorpioides*
 - Palpal femur 0.48–0.54 mm long, palpal patella 0.45–0.47 mm long
 *Pselaphochernes hadzii*
- 5 Pedal tarsus IV with a subdistal pseudotactile seta; tergite XI with a pair of long tactile setae; female spermatheca paired, with a pair of long tubes with terminal bulbs *Dinocheirus panzeri*
 - Pedal tarsus IV without pseudotactile seta; tergite XI without a pair of long tactile setae 6
- 6 Number of accessory teeth of chelal fingers reduced: movable chelal finger medially with only 1 accessory tooth; female spermatheca unpaired, T- or mushroom-like *Allochernes wideri phaleratus*
 - Number of accessory teeth of chelal fingers not reduced: movable chelal finger medially with 4–7 accessory teeth; female spermatheca paired, with long and thin tubes *Chernes hahnii*

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