

To the fauna of Geophilomorpha (Chilopoda) of Uzbekistan and Turkmenistan

Yurii V. Dyachkov

Altai State University, 61 Lenin Ave., Barnaul, 656049,
Russia

Genus *Stenotaenia* C.L. Koch, 1847 is new to the fauna of the Middle Asia. The following taxa are new to the fauna of Turkmenistan: family Mecistocephalidae, genus *Krateraspis* Lignau, 1929, *K. meinerti* (Sseliwanoff, 1881), and genus *Stenotaenia* C.L. Koch, 1847. Genus *Geophilus* Leach, 1814 and *G. lindbergi* (Loksa, 1971) are new to Uzbekistan. All new records are illustrated. An updated list of the chilopod species dwelling in Uzbekistan and Turkmenistan is provided.

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Corresponding author: Yurii V. Dyachkov (dyachkov793@mail.ru)

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Keywords

Biodiversity, fauna, *Krateraspis*, Mecistocephalidae, Middle Asia, new records, Repetek, *Stenotaenia*

Introduction

The centipede fauna of Turkmenistan and Uzbekistan is still poorly studied (Muralewicz 1926; Zalesskaja & Schileyko 1992; Krivokhatsky 1994; Dyachkov & Nedoev 2021; Dyachkov 2022b; Dyachkov 2022c; Dyachkov & Bonato 2022). This paper provides some new faunistic records from these countries.

Materials and methods

Material is deposited in the ZISP (abbreviations below).

The standardized terminology follows Bonato et al. (2010). Locality data are given as on the original labels; additional information is provided in square brackets.

The pictures have been taken using an Olympus DP74 digital camera attached to an Olympus SZX16 stereo microscope. The distribution map (Fig. 1) was generated using SimpleMapper software (Shorthouse 2010).

Abbreviations: coll. - collector, fragm. - fragment, ZISP - Zoological Institute of the Russian Academy of Sciences, Saint Petersburg.



Figure 1. Distribution of *Geophilus lindbergi* (Loksa, 1971) (oval), *Stenotaenia* sp. (star), and *Krateraspis meinerti* (Sselivanoff, 1881) (square) in Middle Asian countries. Kg - Kyrgyzstan, Pa - Pakistan, Tj - Tajikistan. White color - previous records, green one - new data.

Result

Family Geophilidae Leach, 1816

Genus *Geophilus* Leach, 1814

Geophilus lindbergi (Loksa, 1971)

Figures 2-7

Clinopodes lindbergi Loksa 1971: 110.

Clinopodes lindbergi - Titova 1975: 309.

Geophilus lindbergi - Bonato et al. 2011: 197; Dyachkov & Nedojev 2021: 47; Dyachkov 2022a: 11.

Material. 1 male (ZISP chilo-64), [Uzbekistan, Bukhara Region], Bukhara [ca. N39°46', E64°26'], behind the Uglanovskie vorota [Uglon Gate], swamp, 7 April 1925, coll. M. Sokolov.

Distribution. Afghanistan (Loksa 1971; Dyachkov 2022a), Turkmenistan ("Kushka" [now Serhetabat, ca. N35°16', E62°20']) (Titova 1975), and Uzbekistan (new).

Remarks. Specimen has 53 leg-bearing segments.

This species and genus *Geophilus* are new to the fauna of Uzbekistan; present record is the northernmost range limit of the species.

Genus *Stenotaenia* C.L. Koch, 1847

Remarks. This genus is new to the fauna of the Middle Asia. Present record is easternmost range limit of the genus (Bonato & Minelli 2008).

***Stenotaenia* sp.**

Figures 8-12

Material. 1 body fragm. (ZISP chilo-192), Turkmenistan, [Balkan Region], Ai-Dere [river valley, ca. N38°24', E56°44', Sunt-Hasardag Nature Reserve], 20-22 November [19]70, coll. unknown.

Remarks. Species identification is not possible due to absence of the rear body part.

Family Mecistocephalidae Bollman, 1893

Genus *Krateraspis* Lignau, 1929

***Krateraspis meinerti* (Sseliwanoff, 1881)**

Figures 13-16

Mecistocephalus meinerti Sseliwanoff 1881a: 9; 1881b: 232; 1884: 73.

Krateraspis meinerti - Dyachkov 2019: 368; 2020: 79; 2023: 67; Dyachkov & Nedoev 2021: 44; Dyachkov & Bonato 2022: 149.

Tygarrup asiaticus Verhoeff 1930: 260.

Tygarrup asiaticus - Dyachkov & Bonato 2022: 149.

Material. 1 female (ZISP chilo-176), [Turkmenistan, Lebap Region], Repetek [N38°33'45", E63°10'38"], [date unknown], coll. Y. Bekman.

Distribution. Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan (Dyachkov & Bonato 2022), and Turkmenistan (new).

Remarks. This species, genus *Krateraspis* Lignau, 1929, and family Mecistocephalidae are new to the fauna of Turkmenistan.

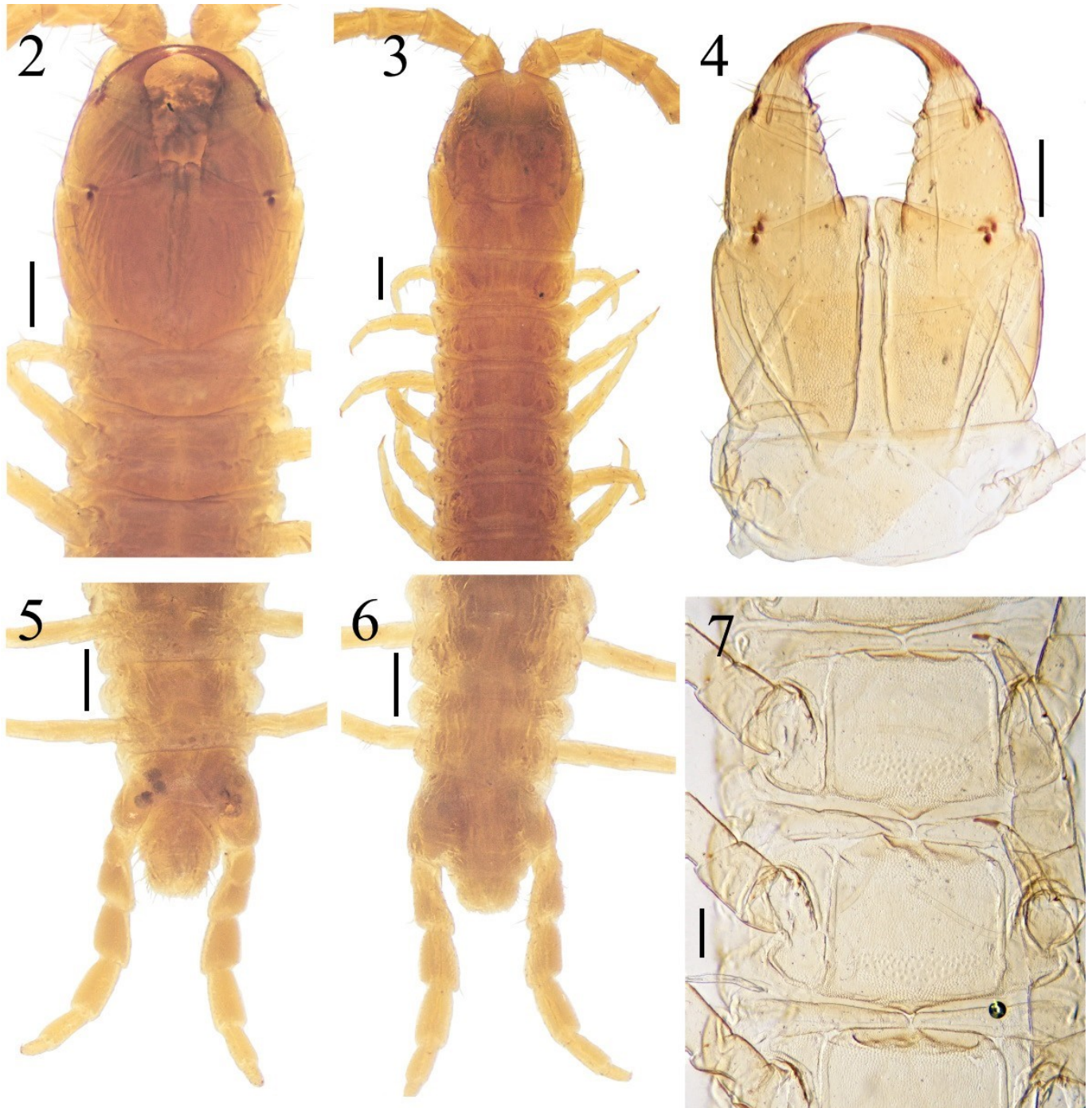


Figure 2. Figures 2-7. *Geophilus lindbergi* (Loksa, 1971): **2, 3** - front body fragment, ventrally and dorsally; **4** - forcipules and first segment, ventrally; **5, 6** - rear body fragment, ventrally and dorsally; **7** - 7-8th segments, ventrally. Scale: 0.1 mm (7), 0.2 mm (2-6).

Conclusions

At present, the chilopod fauna of Uzbekistan is represented by at least 28 species in 16 genera, 8 families, and 4 orders; while the fauna of Turkmenistan consists of at least 16 species in 11 genera, 7 families, and 4 orders.

It should be recognized that our knowledge of Middle Asian Geophilomorpha is still far from being complete.

List of the Chilopoda species occurring in Uzbekistan**Order Geophilomorpha****Family Geophilidae**

1. *Geophilus lindbergi* (Loksa, 1971)
2. *Pachymerium ferrugineum* (C.L. Koch, 1835)
3. *Taschkentia parthorum* (Pocock, 1891)
4. *T. bucharensis* Verhoeff, 1930

Family Himantariidae

5. *Bothriogaster signata* (Kessler, 1874)
6. *Polyporogaster porosa* (Sseliwanoff, 1881)
7. *P. turkeстана* Verhoeff, 1930

Family Mecistocephalidae

8. *Arrup asiaticus* (Titova, 1975)
9. *Krateraspis meinerti* (Sseliwanoff, 1881)
10. *K. sselivanovi* Titova, 1975

Order Lithobiomorpha**Family Henicopidae**

11. *Cermatobius kirgisticus* (Zalesskaja, 1972)

Family Lithobiidae

12. *Australobius magnus* (Trotzina, 1894)
13. *Bothropolys desertorum* Lignau, 1929
14. *B. ghilarovi* Zalesskaja, 1975
15. *B. lutulentus* Verhoeff, 1930
16. *Hessebius plumatus* Zalesskaja, 1978
17. *Lithobius crassipes* L. Koch, 1862
18. *L. javanicus* (Zalesskaja, 1978)
19. *L. krali* (Dobroruka, 1979)
20. *L. praeditus* Zalesskaja, 1975

21. *L. turkestanicus* Attems, 1904

Order Scutigeromorpha

Family Scutigeridae

22. *Scutigera asiatica* Sselivanoff, 1884

23. *Thereuonema turkeстана* Verhoeff, 1905

Order Scolopendromorpha

Family Cryptopidae

24. *Cryptops doriae* Pocock, 1891

25. *C. hortensis* (Donovan, 1810)



Figure 3. Figures 8-12. *Stenotaenia* sp.: **8, 9** - front body fragment, ventrally and dorsally; **10** - forcipules, ventrally; **11** - clypeus and labrum, ventrally; **12** - 6-7th segments, ventrally. Scale: 0.1 mm (**10-12**), 0.2 mm (**8, 9**).

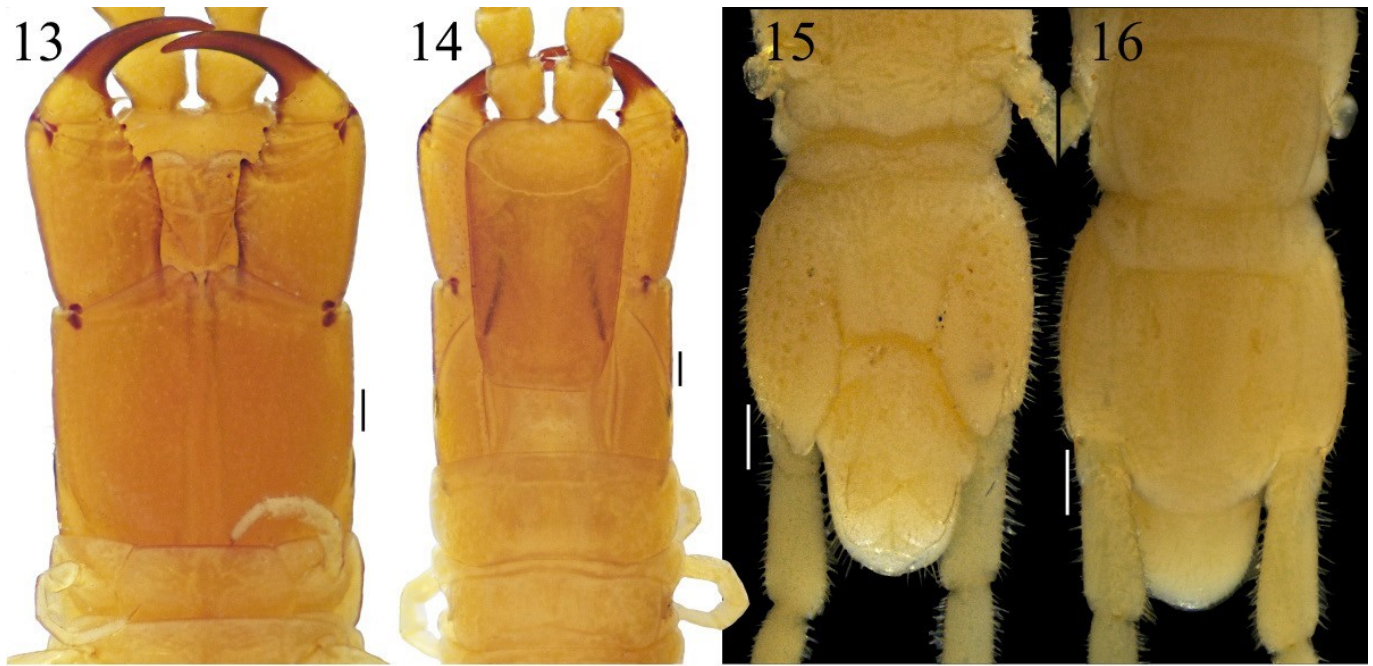


Figure 4. Figures 13-16. *Krateraspis meinerti* (Sseliwanoff, 1881): 13, 14 - front body fragment, ventrally and dorsally; 15, 16 - rear body fragment, ventrally and dorsally. Scale bar: 0.2 mm.

Family Scolopendridae

26. *Scolopendra canidens* Newport, 1844

27. *S. cingulata* Latreille, 1829

28. *S. mirabilis* (Porat, 1876)

List of the Chilopoda species occurring in Turkmenistan

Order Geophilomorpha

Family Geophilidae

1. *Geophilus lindbergi* (Loksa, 1971)

2. *Pachymerium ferrugineum* (C.L. Koch, 1835)

3. *Stenotaenia* sp.

Family Himantariidae

4. *Bothriogaster signata* (Kessler, 1874)

5. *Polyporogaster geminata* (Silvestri, 1895)

6. *P. porosa* (Sseliwanoff, 1881)

Family Mecistocephalidae

7. *Krateraspis meinerti* (Sseliwanoff, 1881)

Order Lithobiomorpha**Family Lithobiidae**

8. *Hessebius barbipes* (Porat, 1893)

9. *L. icis* Zalesskaja, 1978

10. *L. juniperius* Zalesskaja, 1978

11. *L. vinciguerrae* Silvestri, 1895

Order Scutigeromorpha**Family Scutigeridae**

12. *Scutigera coleoptrata* (Linnaeus, 1758)

Order Scolopendromorpha**Family Cryptopidae**

13. *Cryptops hortensis* (Donovan, 1810)

14. *C. caucasius* Verhoeff, 1934

Family Scolopendridae

15. *Scolopendra canidens* Newport, 1844

16. *S. mirabilis* (Porat, 1876)

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