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A survey of East Palaearctic Gnaphosidae (Araneae). 1. On the *Berlandina* Dalmas, 1922 (Gnaphosinae) from Mongolia and adjacent regions

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Abstract

Five new species of *Berlandina* Dalmas, 1922 are described from Mongolia: *B. koponeni* sp. n. (♂), *B. mishenini* sp. n. (♂), *B. nakonechnyi* sp. n. (♂), *B. ovtsharenkoi* sp. n. (♂♀) and *B. yakovlevi* sp. n. (♂♀). Nine other species occurring in Mongolia and adjacent Russia, China and Kazakhstan are illustrated: *B. caspica* Ponomarev, 1979; *B. hui* Song, Zhu & Zhang, 2004; *B. nabozhenkoi* Ponomarev & Tsvetkov, 2006; *B. nenilini* Ponomarev & Tsvetkov, 2006; *B. potanini* (Schenkel, 1963); *B. saraevi* Ponomarev, 2008; *B. schenkeli* Marusik & Logunov, 1995; *B. spasskyi* Ponomarev, 1979 and *B. ubsumurica* Marusik & Logunov, 1995. The female of *B. ubsumurica* is described for the first time. Fourteen species occurring in northern Asia (Kazakhstan-Mongolia) are split into 5 species groups.

Key words: Araneae, Gnaphosinae

Introduction

Berlandina Dalmas, 1922 is a relatively large genus of Gnaphosinae with 31 species distributed in the Palaearctic (25 species) and northern half of the Afrotropical Region (6 species) (Platnick 2014). Within the Palaearctic most of the species are known from the Mediterranean, the Caucasus and Central Asia. Only four species are known to occur east of 90°E: *B. hui* Song, Zhu & Zhang, 2004 (China), *B. potanini* (Schenkel, 1963) (China and Tuva, Russia), *B. spasskyi* Ponomarev, 1979 (from Kalmykia east to central Mongolia) and *B. ubsumurica* Marusik & Logunov, 1995 (Mongolia and Tuva, Russia) (Song *et al.* 2004; Marusik & Logunov 2006). The genus has never been revised on a broad scale, and there are only a few regional revisions. Two central European species were revised by Grimm (1985). Three Chinese species were surveyed by Song *et al.* (2004). Six *Berlandina* species were recently described from South Russia and Kazakhstan by Ponomarev (Ponomarev & Tsvetkov 2006; Ponomarev 2008a). Three species and one subspecies of *Berlandina*, were described from Afghanistan: *B. afghana* Denis, 1958; *B. afghana spinatarsis* Denis, 1958; *B. denisi* Roewer, 1961; *B. propinqua* Roewer, 1961. Two former species were, it seems, incorrectly synonymised with *B. plumalis* (O.P.-Cambridge, 1872) by Levy (1995).

During two expeditions to Mongolia in 1997 and 2012 we collected five species that did not fit any known species. Therefore we decided to provide a revision of the species known from the Central Palaearctic (from Northern Caucasus to China). This study reveals that five species found in Mongolia are new to science. The main goals of this study are as follows: (1) to describe the new species, (2) to redescribe all of the species known in South Russia, Kazakhstan and China and (3) delimit the species groups occurring in the Central Palaearctic.



MAP 1. Known records of 14 *Berlandina* species in Central Palaeartic. ◆ *caspica*, + *hui*, ① *koponeni* sp. n., ● *mishenini* sp. n., ★ *nabozhenkoi*, ▲ *nakonechnyi* sp. n., ◆ *nenilini*, ▼ *ovtsharenkoi* sp. n., × *potanini*, ◆ *saraevi*, * *schenkeli*, ○ *spasskyi*, ★ *absunurica*, ■ *yakovlevi* sp. n.

Conclusions

This study of *Berlandina* from Mongolia and adjacent Tuva and Xinjiang, chiefly based on only two expeditions, reveals amazing species diversity. Eight species were found in Mongolia, and 12 species in the region (Mongolia and adjacent regions), or over one third of all the known species in the genus. The highest species diversity per country was five species in the European part of Russia (Helsdingen 2010). All these five species were reported from the Ciscaspian region: Northern Caucasus, Kalmykia and Astrakhan Area. The whole of Europe has only nine species of *Berlandina* (Helsdingen 2010). Given that *Berlandina* species are mostly restricted to arid habitats like steppe, semideserts and deserts, and that these habitats are widespread in poorly investigated Central Asia, it is very likely that real number of species will be much higher.

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References

- Eskov, K.Y. & Marusik, Y.M. (1995) On the spiders from Saur Mt. range, eastern Kazakhstan (Arachnida: Araneae). *Beiträge zur Araneologie*, 4, 55–94.
- Grimm, U. (1985) Die Gnaphosidae Mitteleuropas (Arachnida, Araneae). *Abhandlungen des Naturwissenschaftl. Ver. zu*

- Hamburg, 26, 1–318.
<http://dx.doi.org/10.1002/mmnd.4800330330>
- Helsdingen, P.J. (2010) Araneae. In: Fauna Europaea Database (Version 2010.1). Available from: <http://www.european-arachnology.org/reports/fauna.shtml> (accessed 30 September 2013)
- Hu, J.L. (2001) *Spiders in Qinghai-Tibet Plateau of China*. Henan Science and Technology Publishing House, Zhengzhou, 658 pp. [in Chinese]
- Hu, J.L. & Wu, W.G. (1989) *Spiders from agricultural regions of Xinjiang Uygur Autonomous Region, China*. Shandong University Publishing House, Jinan, 435 pp. [in Chinese]
- Levy, G. (1995) Revision of the spider subfamily Gnaphosinae in Israel (Araneae: Gnaphosidae). *Journal of Natural History*, 29, 919–981.
<http://dx.doi.org/10.1080/00222939500770351>
- Logunov, D.V., Marusik, Y.M. & Koponen, S. (1998) A check-list of the spiders in Tuva, South Siberia with analysis of their habitat distribution. *Berichte des naturwissenschaftlichen-medizinischen Verein Innsbruck*, 85, 125–159.
- Marusik, Y.M. & Logunov, D.V. (1995) Gnaphosid spiders from Tuva and adjacent territories, Russia. *Beiträge zur Araneologie*, 4, 177–210.
- Marusik, Y.M. & Logunov, D.V. (1999) On the spiders (Aranei) collected in central Mongolia during a joint American-Mongolian-Russian expedition in 1997. *Arthropoda Selecta*, 7, 233–254.
- Marusik, Y.M. & Logunov, D.V. (2006) On the spiders collected in Mongolia by Dr. Z. Kaszab during expeditions in 1966–1968 (Arachnida, Aranei (excluding Lycosidae)). *Arthropoda Selecta*, 15, 39–57.
- Marusik, Y.M., Logunov D.V. & Koponen S. (2000) *Spiders of Tuva, south Siberia*. Institute for Biological Problems of the North, Magadan, 253 pp.
- Platnick, N.I. (2014) The World Spider Catalog, Version 14.5 American Museum of Natural History. Available from: <http://research.amnh.org/entomology/spiders/catalog/index.html> (Accessed 30 March 2014)
- Ponomarev, A.V. (1979) New species of spiders of the family Gnaphosidae from the North Caspian territory. *Zoologicheskij Zhurnal*, 58, 921–923. [in Russian]
- Ponomarev, A.V. (2008a) Additions to the fauna of spiders (Aranei) of the from south of Russia and western Kazakhstan: new taxa and finds. *Caucasian entomological Bulletin*, 4, 49–61.
- Ponomarev, A.V. (2008b) The additional data to the spider fauna (Aranei) of the south-east of Russian plain. *Vestnik Yuzhnogo nauchnogo tsentra RAN*, 4, 78–86. [in Russian]
- Ponomarev, A.V., Abdurakhmanov, G.M., Alieva, S.V. & Dvadnenko, K.V. (2011) Spiders (Arachnida: Aranei) of coastal and island territories of northern Dagestan. *South of Russia: Ecology, Development*, 4, 126–143. [in Russian]
- Ponomarev, A.V. & Dvadnenko, K.V. (2012) Notes on the taxonomy of spiders (Aranei) from southern Russia and western Kazakhstan. *South of Russia: Ecology, Development*, 4, 42–53. [in Russian]
- Ponomarev, A.V. & Tsvetkov, A.S. (2006) New and rare spiders of family Gnaphosidae (Aranei) from a southeast of Europe. *Caucasian entomological Bulletin*, 2, 5–13.
- Roewer, C.F. (1962) Araneae Dionycha aus Afghanistan II. *Lunds Universitets Acta*, 58, 4, 1–33.
- Schenkel, E. (1936) Kleine Beiträge zur Spinnenkunde. II. *Revue suisse de zoologie*, 43, 307–333.
- Schenkel, E. (1963) Ostasiatische Spinnen aus dem Muséum d'Histoire naturelle de Paris. *Mémoires du Muséum National d'Histoire Naturelle (A, Zool.)*, 25, 1–481.
- Song, D.X., Zhu, M.S. & Chen, J. (1999) *The Spiders of China*. Hebei Science and Technology Publishing House, Shijiazhuang, 640 pp. [in Chinese]
- Song, D.X., Zhu, M.S. & Zhang, F. (2004) *Fauna Sinica: Invertebrata Vol. 39: Arachnida: Araneae: Gnaphosidae*. Science Press, Beijing, 362 pp. [in Chinese]
- Tuneva, T.K. (2004) A contribution on the gnaphosid spider fauna (Araneae: Gnaphosidae) of east Kazakhstan. *Arthropoda Selecta, Special Issue*, 1, 319–332.
- Zhao, J.Z. (1993) *Spiders in the Cotton Fields in China*. Wuhan Publishing House, Wuhan, China, 552 pp. [in Chinese]