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**A NEW FOR MONGOLIA SPIDER FAMILY PISAURIDAE SIMON, 1890
(ARACHNIDA: ARANEI)**

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Summary. *Dolomedes senilis* Simon, 1880 and the family Pisauridae are recorded from Mongolia for the first time. The distribution of the species of *Dolomedes* in Asian Russia is also discussed.

Key words: Araneae, fishing spiders, *Dolomedes*, new record, Siberia, Mongolia.

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Резюме. *Dolomedes senilis* Simon, 1880 и семейство Pisauridae впервые отмечаются для Монголии. Обсуждается распространение видов рода *Dolomedes* в азиатской части России.

INTRODUCTION

Pisauridae Simon, 1890 is a small spider family consisting of 356 valid species in 51 genera worldwide (World Spider Catalog, 2018). Of them only two genera have been known from Siberia: *Dolomedes* Latreille, 1804 and *Pisaura* Simon, 1886; both having very different morphology and life-styles (Marusik & Kovblyuk, 2011). *Dolomedes* is a large pisaurid genus containing 103 named species and one subspecies (World Spider Catalog, 2018). Its members are large species hunting on the surface of fresh-water ponds or streams (Zhang *et al.*, 2004). Bellvert *et al.* (2013) recorded a maximal body length for an adult female of *D. plantarius* (Clerck, 1757) as 22 mm. Such large size in combination with active hunting tactics allows representatives of the genus to feed on small fishes (Marusik & Kovblyuk, 2011). Only six species of *Dolomedes* are known to occur in the Asian part of Russia, and three of them are confined to the Far East – Amur-Maritime Area and the southern Kurile Islands. Therefore, only three *Dolomedes* species are known from Siberia: *D. bukhkaloi* Marusik, 1988, *D. fimbriatus* (Clerck, 1757) and *D. plantarius* (Clerck, 1757) (Mikhailov, 2013). Fishing spiders of the Asian part of Russia have been surveyed in several papers: Bonnet (1929), Marusik (1988) and Renner (1988). Data about the Pisauridae and particularly about *Dolomedes* from the adjacent territories such as South Korea, Japan and China are scattered in numerous papers: viz., Namkung (2002), Ono (2009) and Zhang *et al.* (2004), etc. To date, the Pisauridae have not been reported from Mongolia. Recently, the author got

an opportunity to study old materials collected from Mongolia, which contained specimens of *Dolomedes senilis* Simon, 1880. The goal of this paper is to report on this species and the family Pisauridae that have been found in Mongolia for the first time.

This paper is based on the old material from the collection of Zoological Institute (St. Petersburg, Russia) (ZISP) which was collected from Mongolia by M.I. Tkachenko in 1925, during the Mongolian-Tibetan expedition held under the leadership of the famous Russian explorer – Pyotr Kuzmich Kozlov (S.Yu. Sinev pers. comm.). Photographs were taken in dish with white paraffin at the bottom, using an AxioCam MRc 5 (Zeiss) camera attached to a Stemi – 2000 C stereomicroscope in the Institute of Systematic and Ecology of Animals, Novosibirsk, Russia (ISEA). Digital images were processed by using Helicon Focus 3.10 image stacking software. The epigyne was macerated in a 10% water solution of KOH.

RESULTS

Dolomedes senilis Simon, 1880

Figs. 1–4

Dolomedes senilis Simon, 1880b: 101; Song & Zheng, 1982c: 156, figs. 3-4; Hu, 1984: 258, figs. 271.1-3; Guo, 1985: 132, figs. 2-69.1-3; Song, 1987: 205, fig. 165; Zhang, 1987: 166, figs. 140.1-2; Feng, 1990: 159, figs. 134.1-4; Song, Zhu & Chen, 1999: 347, figs. 202Q, 203J; Song *et al.*, 2001: 266, figs. 166A-B; Zhang *et al.*, 2004: 377, figs. 44-49; Marusik & Kovblyuk, 2011: 219, figs. 31.8-9; Tanikawa, 2012: 11, figs. 1-2, 7-15; Yin *et al.*, 2012: 879, figs. 440a-g.

Dolomedes strandi Bonnet, 1929a: 268, figs. 1-3; Renner, 1988: 2, figs. 1a, 2-5; Marusik, 1988a: 1471, figs. 1.6-7.

MATERIAL. Mongolia: Bulgan Aimag, Egiyn-Gol River mouth (“Эгин-гол” in the original label) (Selenga River tributary), 1925, 2♀, leg. M.I. Tkachenko (ZISP).

DIAGNOSIS. *Dolomedes senilis* is similar to *D. saganus* Bösenberg et Strand, 1906 from China and Japan, but its females can be separated by the rhomboid epigynal fovea with its posterior part not reaching the genital groove (*vs* inverse pear-shaped, reaching the genital groove in the related species) and by the copulatory ducts packed in a tight coil (*vs* copulatory ducts packed in a loose coil in the related species). The male of *D. senilis* can be diagnosed by the short palpal tibia; the large fulcrum, with its top extending beyond the tip of the median apophysis (*vs* the palpal tibia long; the fulcrum small, with its top not extending beyond the median apophysis in *D. saganus*) (Zhang *et al.*, 2004).

DESCRIPTION. See the descriptions in Yin *et al.* (2012), Tanikawa (2012) and Zhang *et al.* (2004).

DISTRIBUTION. *Dolomedes senilis* is known from the southern part of the Russian Far East, China (Beijing, Hebei, Hunan and Shaanxi Provinces) and Japan (Hokkaido Island) (Bonnet, 1929; Yin *et al.*, 2012; Tanikawa, 2012). The new record from Mongolia represents the northern-westernmost locality of the species range. *D. senilis* is the fourth *Dolomedes* species recorded from Siberia, to which the mountains of northern Mongolia indeed belong.

COMMENTS. In the photo depicting the female habitus of *D. senilis* from Japan, a white midline on the carapace and longitudinal light stripes on legs are clearly visible (Tanikawa, 2012: fig. 1). Such details of the coloration are absent from the specimens collected from Mongolia (Figs 1–2), the southern part of the Russian Far East (Bonnet, 1929: fig. 1) and China (Yin *et al.*, 2012: fig. 440a; Zhang *et al.*, 2004: fig. 44). Such differences could indicate that specimens from the continental Asia and from Japan are likely to belong to separate species.

TAXONOMICAL NOTES. *Dolomedes senilis* was described on the basis of the material collected from the vicinity of Beijing (Simon, 1880). In 1929, *D. strandi* Bonnet, 1929 was described from Amur River in the southern part of the Russian Far East. For 75 years, it had



Figs. 1–4. Female habitus and epigyne of *Dolomedes senilis*. 1 – habitus, dorsal view; 2 – habitus, ventral view; 3 – macerated epigyne, dorsal view; 4 – intact epigyne, ventral view. Scale bars: 1–2 = 2 mm; 3 = 0.2 mm; 4 = 0.5 mm.

been believed that these two were different species, until Zhang et al. (2004) reasoning from the descriptions and illustrations of *D. strandi* defined that the latter was to be considered a junior synonym of *D. senilis*.

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REFERENCES

- Bellvert, A., Casals, A., Fonollosa, A., Dalmau, G. & Tobella, C. 2013. First record of *Dolomedes plantarius* (Clerck, 1758) (Araneae: Pisauridae) from the Iberian Peninsula. *Revista Ibérica de Aracnología*, 23: 109–111.
- Bonnet, P. 1929. Sur une nouvelle espece de *Dolomedes* (araneide) de la region de l'Amour (Siberie orientale). *Bulletin de la Société Entomologique de France*, 1929: 267–269.
- Feng, Z.Q. 1990. *Spiders of China in colour*. Hunan Science and Technology Publishing House. 256 pp. [In Chinese with English summary]
- Guo, J.F. (Ed.) 1985. [*Farm spiders from Shaanxi Province*]. Shaanxi Science and Technology Press. 227 pp. [In Chinese]
- Hu, J.L. 1984. *The Chinese spiders collected from the fields and the forests*. Tianjin Press of Science and Techniques. 482 pp. [In Chinese]
- Marusik, Y.M. 1988. New species of spiders (Aranei) from the Upper Kolyma. *Zoologicheskii Zhurnal*, 67(10): 1469–1482.
- Marusik, Y.M. & Kovblyuk, M.M. 2011. *Spiders (Arachnida, Aranei) of Siberia and Russian Far East*. KMK Scientific Press, Moscow. 344 pp.
- Mikhailov, K.G. 2013. The spiders (Arachnida: Aranei) of Russia and adjacent countries: a non-annotated checklist. *Arthropoda Selecta*, (Supplement 3): 1–262.
- Namkung, J. 2002. *The spiders of Korea*. Kyo-Hak Publishing Co., Seoul. 648 pp. [In Korean with English summary]
- Ono, H. 2009. *The spiders of Japan with keys to the families and genera and illustrations of the species*. Tokai University Press, Kanagawa. 739 pp. [In Japanese]
- Renner, F. 1988. Wiederbeschreibung von *Dolomedes strandi* Bonnet und Anmerkungen zur Taxonomie sibirischer *Dolomedes*-Arten (Araneae: Pisauridae). *Stuttgarter Beiträge zur Naturkunde (A)*, 427: 1–6.
- Simon, E. 1880. Etudes arachnologiques. 11e Mémoire. XVII. Arachnides recueillies aux environs de Pékin par M. V. Collin de Plancy. *Annales de la Société Entomologique de France*, 5(10): 97–128.
- Song, D.X. 1987. *Spiders from agricultural regions of China (Arachnida: Araneae)*. Agriculture Publishing House, Beijing. 376 pp. [In Chinese]
- Song, D.X. & Zheng, S.X. 1982. Notes on Chinese spiders of the family Pisauridae (Araneida). *Acta Zootaxonomica Sinica*, 7(2): 155–159. [In Chinese with English summary]

- Song, D.X., Zhu, M.S. & Chen, J. 1999. *The spiders of China*. Hebei University of Science and Technology Publishing House, Shijiazhuang. 640 pp.
- Song, D.X., Zhu, M.S. & Chen, J. 2001. *The Fauna of Hebei, China: Araneae*. Hebei University of Science and Technology Publishing House, Shijiazhuang. 510 pp. [In Chinese with English summary]
- Tanikawa, A. 2012. Further notes on the spiders of the genus *Dolomedes* (Araneae: Pisauridae) from Japan. *Acta Arachnologica*, 61(11): 11–17.
- World Spider Catalog. 2018. *World Spider Catalog. Version 19.0*. Natural History Museum Bern, online at <http://wsc.nmbe.ch> (accessed on June, 2018).
- Yin, C.M., Peng, X.J., Yan, H.M., Bao, Y.H., Xu, X., Tang, G., Zhou, Q.S. & Liu, P. 2012. *Fauna Hunan: Araneae in Hunan, China*. Hunan Science and Technology Press, Changsha. 1590 pp. [In Chinese]
- Zhang, W. S. (Ed.) 1987. [*Farm spiders from Hebei Province*]. Hebei University of Science and Technology Press. 299 pp. [In Chinese]
- Zhang, J.X., Zhu, M.S. & Song, D.X. 2004. A review of the Chinese nursery-web spiders (Araneae, Pisauridae). *Journal of Arachnology*, 32: 353–417

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