

New records of *Argiope bruennichi* (Scopoli, 1772) (Aranei: Araneidae) from Mordovia and adjacent regions of Russia

О находках *Argiope bruennichi* (Scopoli, 1772) (Aranei: Araneidae) в Мордовии и сопредельных регионах России

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КЛЮЧЕВЫЕ СЛОВА: *Argiope bruennichi*, экология, Мордовия.

ABSTRACT. New faunistic records, habitat preferences and abundance of *Argiope bruennichi* (Scopoli, 1772) in Mordovia and adjacent territories of Russia are provided.

РЕЗЮМЕ. Приведены сведения о фаунистических находках, предпочитаемых биотопах и численности *Argiope bruennichi* (Scopoli, 1772) в Мордовии и на сопредельных территориях России.

In recent years, apparently due to climate warming and aridization a number of invertebrates have extended their ranges. Many such invertebrates have been recorded in Mordovia and its neighbouring areas for the first time. For example, the sickle-bearing bush-cricket, *Phaneroptera falcata* (Poda, 1761) [Saveliev, 1999; Ruchin *et al.*, 2007], and the European mantis, *Mantis religiosa* (Linnaeus, 1758) [Bolshakov *et al.*, 2010], have been spreading out northward, while the common cockchafer, *Melolonta melolonta* (Linnaeus, 1758), eastward [Bolshakov *et al.*, 2013]. Yet, a number of steppe dwellers also increases; for example, *Onconotus servillei* Fischer von Waldheim, 1846, which has been simultaneously recorded by many entomologists in several forest-steppe regions of Russia [Mikhaylenko, 2008; Bakka, 2011; Ruchin, Mikhaylenko, 2013]. The wasp spider, *Argiope bruennichi* (Scopoli, 1772), as well as some of the aforementioned mentioned species, seems to have been expanding their ranges northward [Sacher, Bliss, 1990]. This spider species is known to be common in a number of European regions of Russia (see review Mikhailov *et al.*, 2011; Borisova, 2012; Sozontov, 2012; Mikhailov, Borisova, 2013) and Belarus [Savarin, Ostrovsky, 2011].

The present papers provides new information on the findings of *A. bruennichi* in Mordovia and adjacent regions of Russia based on the material collected in 2006, 2008, 2009, 2011–2013. The date and locality, a

total number of specimens and the collector's name for every finding are given (Fig. 1).

MATERIAL. **Ryazan Region.** Shilovsky Distr.: 1 — Avdotinka Vil., 17.VII.2006, 1 specimen (A. Ruchin); boundary between Sasovsky and Shatsky districts: 2 — between Novoe Berezovo and Rzhavets Vil., 10.VIII.2013, 5 specimens (A. Khapugin); 3 — Rakovo Vil., 11.VIII.2013, 4 specimens (A. Khapugin); **Tambov Region.** Kotovsky Distr.: 4 — Kuzmino-Gat Vil., 3.VIII.2009, 1 specimen (O. Artaev). **Nizhny Novgorod Region.** Voznesensky Distr.: 5 — Marino Vil., 11.VIII.2009, 1 specimen (A. Ruchin). **Republic of Mordovia.** Zubovo-Polyansky Distr.: 6 — Yavas Vil., 5.VIII.2013, 1 specimen (A. Ruchin); 7 — Kiselevka Vil., 17.VII.2008, 1 specimen (A. Ruchin). Temnikov Distr.: 8 — Mordovia Natural Reserve, plot 422, 1.VIII.2011, 1 specimen (O. Artaev); Pushta Vil., 5.VIII.2012, 1 specimen (A. Khapugin); plot 448, 3.VIII.2013, 1 specimen (A. Ruchin); cordon Valzensky, 27.VII.2013, 1 specimen (A. Ruchin); cordon Drozhdenovsky, 18.VIII.2013, 2 specimens (A. Ruchin). Krasnoslobodsky Distr.: 9 — Selishchi Vil., 11.VIII.2013, 8 specimens (A. Ruchin). Kovylnino Distr.: 10 — Alkino Vil., 4.VIII.2012, many specimens (M. Ryzhov). Staroshaygovsky Distr.: 11 — Lesnichestvo Vil., 7.VIII.2013, 2 specimens (A. Ruchin). Atyashevsky Distr.: 12 — Chebudasy Vil., 23.VIII.2012, 1 specimen (M. Ryzhov); 13 — Russkiye Dubrovki Vil., 2.VIII.2013, 2 specimens (M. Ryzhov). Chamzinsky Distr.: 14 — Chamzinka Vil., 21.VII.2013, 1 specimen (M. Ryzhov). Bolshebereznykovsky Distr.: 15 — Petrovka Vil., 10.IX.2011, 1 specimen (M. Ryzhov); 16 — Bolshiye Berezniki Vil., 18.VIII.2011, 1 specimen (M. Ryzhov); **Ulyanovsk Region.** Sura Distr.: 17 — Baryshskaya Sloboda Vil., 8.VIII.2013, 1 specimen (O. Grishutkin).

All the aforementioned findings were made in July–September. According to our observations, the typical habitats of *A. bruennichi* in Mordovia are mesophytic grasslands, wet clearings and the habitats near water sources (ponds, rivers, streams, lakes, springs). Spiders were observed on their webs situated in the grass near water. Additional findings were made in a holiday village, where spiders were observed mostly on flower beds. The species' abundance ranged from 1–2 individuals to more than 50 specimens per site.

Thus, *A. bruennichi* seems to be common in Mordovia, as well as in the adjacent regions of Russia. The number of records increased significantly after a hot 2010 summer, when many insect species began to spread

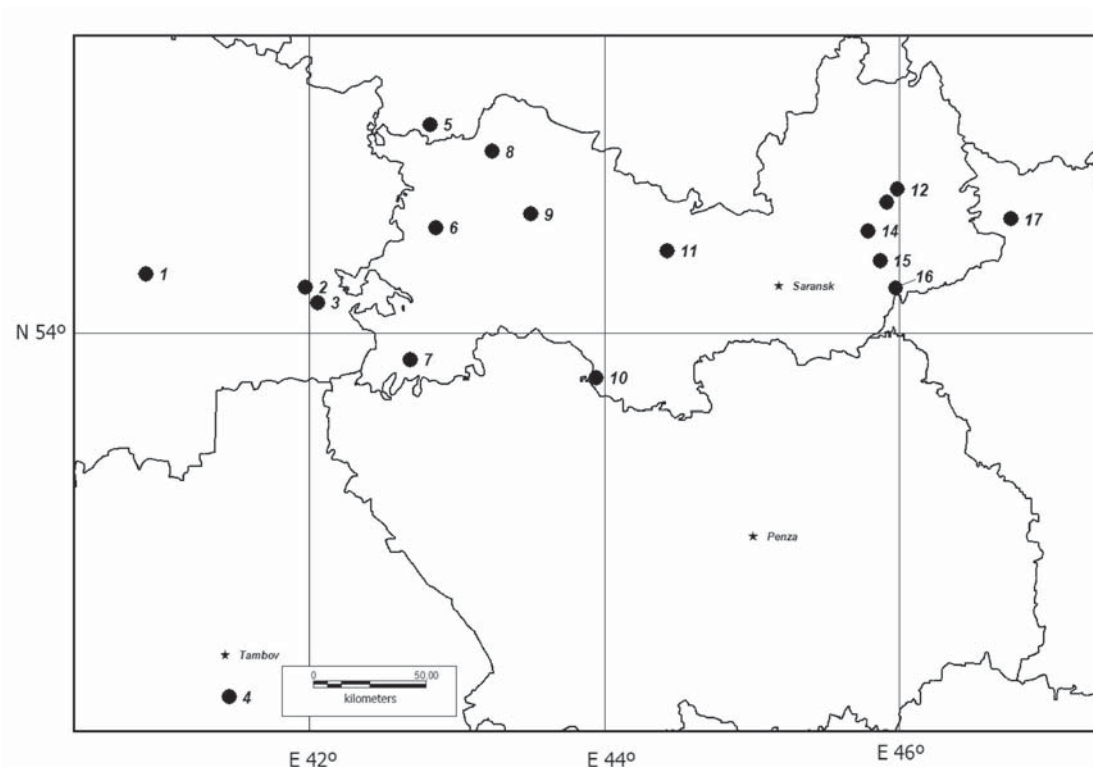


Fig. 1. Collecting localities of *Argiope bruennichi* (Scopoli, 1772) in Mordovia. See explanations in the text.

Рис. 1. Места находок *Argiope bruennichi* (Scopoli, 1772) в Мордовии. Объяснения в тексте.

out northward. *A. bruennichi* can also be found in urban landscapes, apparently being accidentally introduced by man.

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