Arthropoda Selecta 27(3): 244–256

On a small collection of spiders (Aranei) from the Astrakhan Reserve (Russia)

О небольшой коллекции пауков (Aranei) из Астраханского заповедника (Россия)

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KEY WORDS: spiders, fauna, Astrakhan Reserve, new findings.
КЛЮЧЕВЫЕ СЛОВА: пауки, фауна, Астраханский заповедник, новые находки.

ABSTRACT. An annotated list of 89 spider species in 17 families found in the Damchik site of the Astrakhan Reserve (Russia) in 2017 is provided; of them 30 species are new to the fauna of Astrakhan Area, 57 species are first recorded from the Astrakhan Reserve; three species remain undetermined or determined provisionally: *Haplodrassus* sp., *Poecilochroa* cf. *senilis*, *Heriaeus* sp; 11 species are illustrated.

How to cite this article: Ponomarev A.V., Bastaev V.V., Dubovikoff D.A., Shmatko V.Yu. 2018. On a small collection of spiders (Aranei) from the Astrakhan Reserve (Russia) // Arthropoda Selecta. Vol.27. No.3. P.244–256. doi: 10.15298/arthsel. 27.3.09

РЕЗЮМЕ. Приводится аннотированный список 89 видов пауков из 17 семейств, обнаруженных на территории Дамчикского участка Астраханского заповедника (Россия) в 2017 году; из них 30 видов являются новыми для фауны Астраханской области, 57 видов впервые отмечаются в Астраханском заповеднике; не определены или определны предварительно 3 вида: *Haplodrassus* sp., *Poecilochroa* cf. *senilis*, *Heriaeus* sp; 11 видов проиллюстрированы.

Introduction

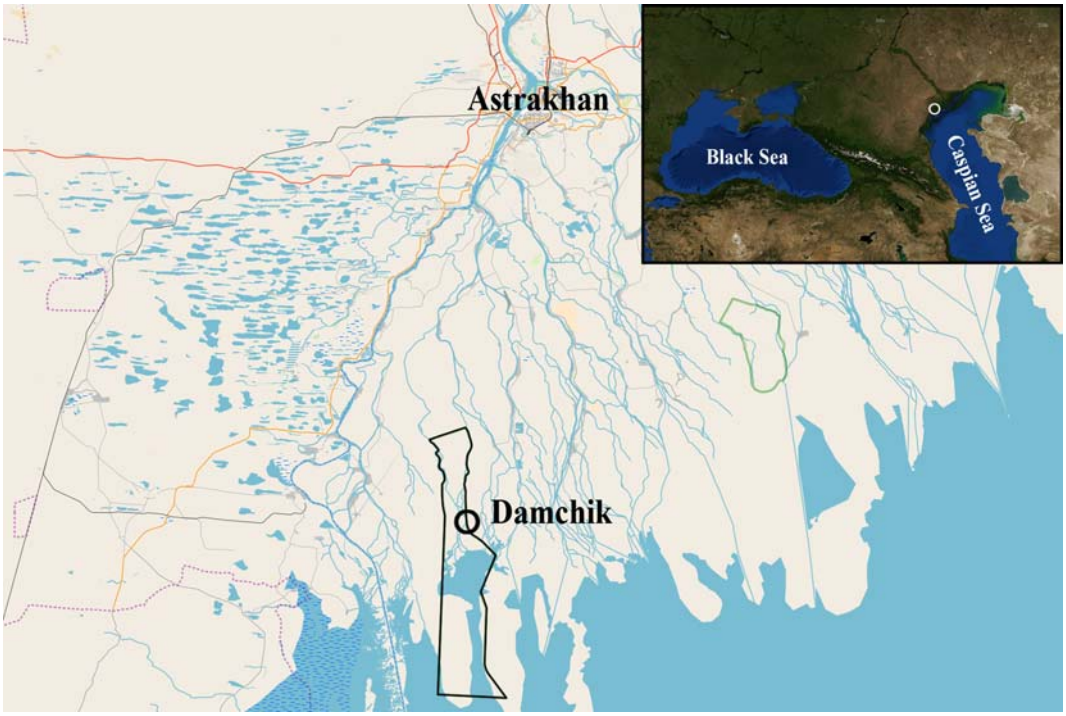
The Astrakhan Biosphere Reserve is located in the lower reaches of the Volga delta, which belongs to the intrazonal delta area of the Caspian Region of the semi-desert zone, bordering the lacustrine province of the Caspian Region [Astrakhan Reserve, 1991]. The uniqueness of the Astrakhan Reserve is due to the fact that it covers significant areas of the largest delta in Europe and at the same time lies in the arid climatic zone. Against the background of reed thickets and willow forests, there are elements of steppe and desert landscapes: viz., sandy massifs, meadows of different degrees of moistening, salt-marshes, *Tamarix* thickets, areas of dry steppe and desert vegetation, etc. The diversity of microclimate and vegetation promotes the coexistence of various ecological and zoogeographical animal groups in such a small territory.

The spider fauna of the Astrakhan Reserve has been poorly studied yet. The first and to date the only list of spiders of the Reserve [Utochkin, 1971] contains 44 species only. Later [Ponomarev, 1981; Utochkin, 1985; Ponomarev *et al*., 2008], another 20 species were added to the list. Thus, to date a total of 64 spider species in 16 families has been recorded from the Reserve at hand.

Below, we present the results of a spider survey in the Astrakhan Reserve based on the materials collected by us in 2017. The obtained data greatly expand our knowledge of its spider fauna.

Material and methods

The studied material was collected by V.V. Bastaev from the Damchik site of the Astrakhan Biosphere Reserve (Map 1) in the period from 26.06 to 3.07.2017. Different collecting methods, such as hand-collecting by means of forceps, aspirators and/or entomological nets, as well as pitfall traps and sifters, were used. A total of some 1500 spider specimens was collected, of which over 900 were adults. The material is shared between the collection of the St. Petersburg University and the personal collection of A.V. Ponomarev. Photographs were taken at the Southern Scientific Center of the Russian Academy of Sciences, by means of a microscope MICMED-6 using a SONY NEX-C3 16.2mp digital camera and Microphotoset (MFN-12).



Map 1. Geographic location of the Damchik site of the Astrakhan Reserve.
Карта 1. Месторасположение Дамчикского участка Астраханского заповедника.

Survey of species

ARANEIDAE

Argiope lobata (Pallas, 1772)

MATERIAL. 1♀ juv., saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 1♂, forb-grass meadow, 28.06–3.07.2017.

Hypsosinga heri (Hahn, 1831)

MATERIAL. 1♀, edge of reeds (*Phragmites australis*), 3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. In the Lower Volga region, it was recorded from Sarepta (now Volgograd Area) [Thorell, 1875].

Larinioides folium (Schrank, 1803)

RECORDS. Astrakhan Reserve [Utochkin, 1971: *Araneus*].

MATERIAL. 1♂, 1♀, boggy meadow with cattail (*Typha angustifolia*), 29.06.2017; 2♂♂, 1♀, shore of ducts, 29.06.2017; 1♀, reed thicket (*Phragmites australis*), 26.06–3.07.2017.

Larinioides ixobolus (Thorell, 1873)

RECORDS. Astrakhan Reserve [Utochkin, 1971: *Araneus*].

MATERIAL. 3♂♂, 1♀, on the Damchik cordon, 26.06–3.07.2017.

Neoscona adianta (Walckenaer, 1802)

MATERIAL. 3♂♂, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 1♂, dry wormwood-grass meadow, 27.06–3.07.2017; 6♂♂, 4♀♀, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017; 2♂♂, 2♀♀, tall grass meadow along willow stands (*Salix* spp.), 27.06–3.07.2017; 2♂♂, 1♀, reed-sedge meadow, 28.06.2017; 2♂♂, forb-grass meadow, 28.06–3.07.2017; 1♀, wet forb meadow in willow stands, 29.06–3.07.2017; 1♂, sweeping over *Tamarix* sp., 26.06–3.07.2017.

CLUBIONIDAE

Clubiona neglecta O. Pickard-Cambridge, 1862

MATERIAL. 1♂, cordon, indoor, 26.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. Widely distributed in the Palearctic Region [WSC, 2018].

Clubiona pallidula (Clerck, 1758)

MATERIAL. 1♀, boggy meadow with cattail (*Typha angustifolia*), 29.06.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. Widely distributed in Europe [Nentwig *et al*., 2018].

Clubiona phragmitis C.L. Koch, 1843

RECORDS. Astrakhan Reserve [Utochkin, 1971].

MATERIAL. 1♀, boggy meadow with cattail (*Typha angustifolia*), 29.06.2017.

DICTYNIDAE

Argenna patula (Simon, 1874)

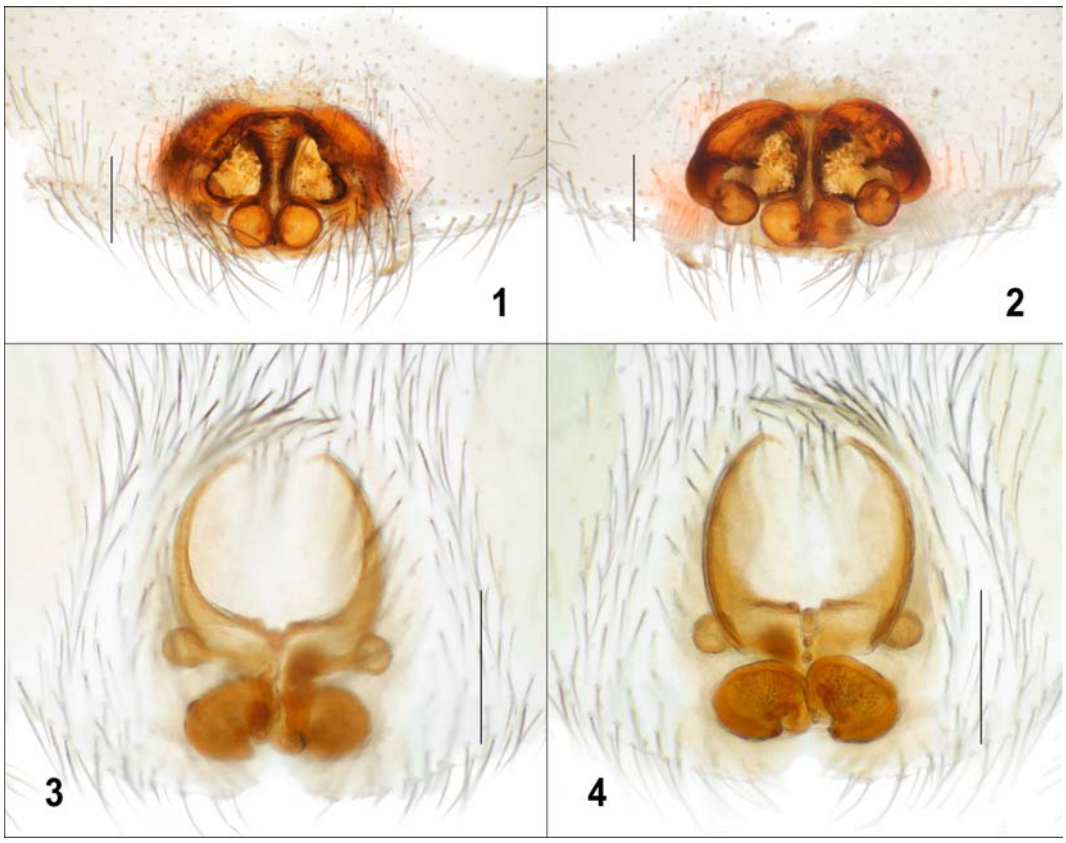
RECORDS. Astrakhan Reserve [Ponomarev *et al*., 2008].

MATERIAL. 1♀, reed meadow, 3.07.2017.

GNAPHOSIDAE

Aphantaulax trifasciata (O. Pickard-Cambridge, 1872)

MATERIAL. 1♂, dry wormwood-grass meadow, 27.06–3.07.2017; 1♀, reed-sedge meadow, 28.06.2017; 1♂, 1♀, salted forb-grass meadow, 2.07.2017.



Figs 1–4. Epigynes of *Berlandina nabozhenkoi* (1, 2) and *Cryptodrassus helvolus* (3, 4): 1, 3 — ventral view; 2, 4 — dorsal view. Scale bars: Figs 1, 2 — 0.25 mm; Figs 3, 4 — 0.2 mm.

Рис. 1–4. Эпигины *Berlandina nabozhenkoi* (1, 2) и *Cryptodrassus helvolus* (3, 4): 1, 3 — вид снизу; 2, 4 — вид сверху. Масштаб: рис. 1, 2 — 0,25 мм; рис. 3, 4 — 0,2 мм.

COMMENTS. A new species to the fauna of Astrakhan Area. In the Lower Volga region, it was recorded from the vicinity of Volgograd [Ponomarev, Khnykin, 2013].

Berlandina nabozhenkoi Ponomarev et Tsvetkov, 2006
Figs 1–2.

Berlandina nabozhenkoi Ponomarev et Tsvetkov, 2006: 6, f. 1–2 (♂).

Berlandina nabozhenkoi: Ponomarev, 2008: 79-80, f. 1b, 2a–c (♂♀).

Berlandina nabozhenkoi: Marusik, Fomichev et Omelko, 2014: 210, f. 105–110 (♂).

MATERIAL. 1♀, salted meadow with *Tamarix* sp., 26.06–3.07.2017.

COMMENTS. The species was described from the single male from Astrakhan Area, the vicinity of Ikryanoe Vil. [Ponomarev, Tsvetkov, 2006]. Later, it was found in Kalmykia, the vicinity of Ulan Khol [Ponomarev, 2008] and in islands and the coastline of Caspian Sea in northern Dagestan [Ponomarev, Abdurakhmanov, 2014]. As the description of the female was based on a single specimen [Ponomarev, 2008], with its epigyne being illustrated from the ventral view only, in the present paper we have provided additional drawings of the epigyne based on the studied specimen from the Astrakhan Reserve (Figs 1–2). Thus, all the findings of this species, including the current one, are confined to the north-west region of Caspian Sea.

Civizelotes caucasius (L. Koch, 1866)

MATERIAL. 2♂♂, 3♀♀, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017.

Cryptodrassus helvolus (O. Pickard-Cambridge, 1872)
Map 2, Figs 3–4.

Melanophora helvola O. Pickard-Cambridge, 1872: 243, pl. 16, f. 23 (♂).

Zelotes helvolus: Levy, 1998, 148, f. 120-122 (♂).

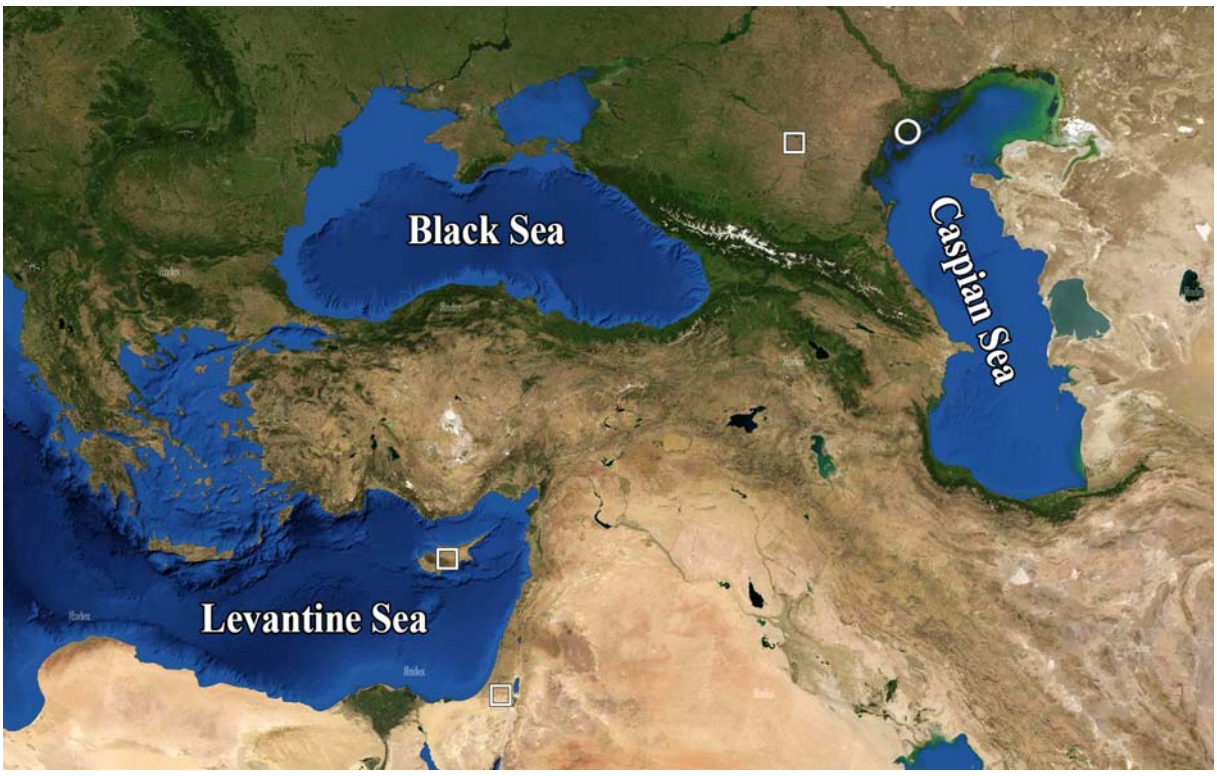
Zelotes helvoloides: Levy, 1998, 150, f. 126-127 (♀, misidentification).

Cryptodrassus helvolus: Chatzaki, Russell-Smith, 2017, 239, f. 1–6 (♂♀).

Zelotes helvolus: Ponomarev et al., 2017, 111, f. 9–10 (♂).

MATERIAL. 3♀♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017.

COMMENTS. The structure of the epigyne of the studied females (Figs 3–4) undoubtedly indicates that they belong to *C. helvolus*. The species is known from Israel [O. Pickard-Cambridge, 1872; Levy, 1998], Cyprus [Chatzaki, Russell-Smith, 2017], Stavropol Territory (the shore of the Chogray reservoir) [Ponomarev *et al*., 2017] and now from the western part of the Volga Delta. The distance between the findings of this species in the Eastern Mediterranean and the North-Western Caspian region (Map 2) is about 1500 km. Thus, the species range can be described as a disjunctive Eastern Mediterranean-Northern Caspian one.



Map 2. Map of localities of *Cryptodrassus helvolus*: square - literature records; circle — new records.
Карта 2. Места находок *Cryptodrassus helvolus*: квадрат — литературные данные; круг — наши данные.

Drassodes caspius Ponomarev et Tsvetkov, 2006

RECORDS. Poldnevoe [Ponomarev, 1981: sub *Drassodes pubescens*, misidentification].

MATERIAL. 1♂, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017.

Drassyllus lutetianus (L. Koch, 1866)

MATERIAL. 14♂♂, 1♀, wet forb meadow in willow stands, 29.06–3.07.2017.

Drassyllus pusillus (C.L. Koch, 1833)

MATERIAL. 1♀, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017; 43♂♂, 13♀♀, wet forb meadow in willow stands, 29.06–3.07.2017.

Gnaphosa leporina (L. Koch, 1866)

RECORDS. Poldnevoe [Ponomarev, 1981].

MATERIAL. 1♂, 1♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 1♂, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017; 1♂, cordon, meadow, 26.06–3.07.2017.

Gnaphosa saurica Ovtsharenko, Platnick et Song, 1992

MATERIAL. 9♂♂, 2♀♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017.

Haplodrassus dalmatensis (L. Koch, 1866)

MATERIAL. 1♂, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017.

Haplodrassus minor (O. Pickard-Cambridge, 1879)

MATERIAL. 1♂, wet forb meadow in willow stands, 29.06–3.07.2017.

Haplodrassus sp.
Fig. 5.

MATERIAL. 1♀, wet forb meadow in willow stands, 29.06–3.07.2017; 1♀, cordon, meadow, 26.06–3.07.2017.

COMMENTS. Based on the epigynal structure (Fig. 5), the studied specimens is close to *H. minor*, but seems to belong to an undescribed species.

Micaria bosmansi Kovblyuk et Nadolny, 2008
Figs 6–7.

Micaria bosmansi Kovblyuk et Nadolny, 2008: 224, f. 48–62 (♂♀).

MATERIAL. 1♂, cordon, meadow, 26.06–3.07.2017.

COMMENTS. Conformation of the male palp of the studied specimen (Figs 6–7) beyond doubts indicates that it belongs to *M. bosmansi*. A new species to the fauna of Astrakhan Area; described from the Crimea [Kovblyuk, Nadolny, 2008], later was recorded from Rostov and Volgograd Areas [Ponomarev, Dvadnenko, 2012; Ponomarev, Khnykin, 2013].

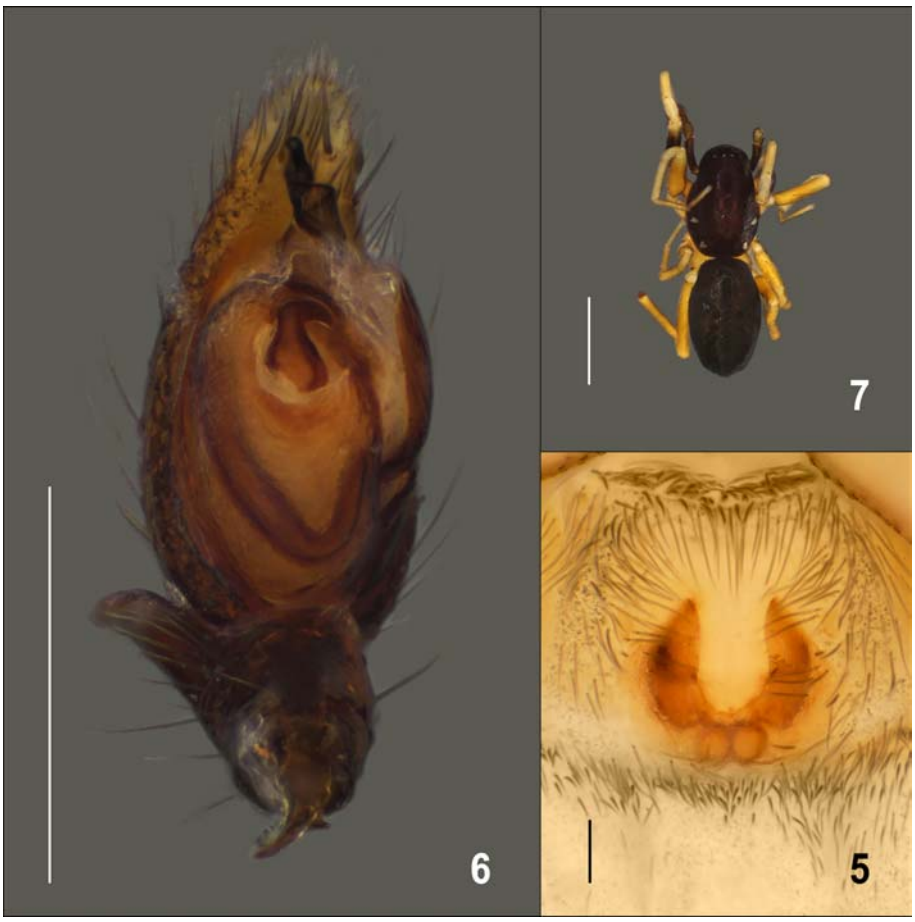
Micaria dives (Lucas, 1846)

MATERIAL. 1♀, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. In the Lower Volga region, it was recorded from the vicinity of Volgograd [Ponomarev, Khnykin, 2013].

Micaria rossica Thorell, 1875

MATERIAL. 3♂♂, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017.



Figs 5–7. Copulatory organs (5, 6) and habitus (7) of *Haplodrassus* sp. (5) and *Micaria bosmansi* (6, 7): 5 — epigyne, ventral view; 6 — male palp, ventral view; 7 — male, dorsal view. Scale bars: fig. 5 — 0.2 mm; fig. 6 — 0.25 mm; fig. 7 — 1 mm.

Рис. 5–7. Копулятивные органы (5, 6) и внешний вид (7) *Haplodrassus* sp. (5) и *Micaria bosmansi* (6, 7): 5 — эпигина, вид снизу; 6 — пальпа самца, вид снизу; 7 — самец, вид сверху. Масштаб: рис. 5 — 0,2 мм; рис. 6 — 0,25 мм; рис. 7 — 1 мм.

Poecilochroa cf. *senilis* (O. Pickard-Cambridge, 1872)
Figs 8–9.

MATERIAL. 1♀, canal bank, 29.06.2017.

COMMENTS. Based on the conformtion of the epigyne (Figs 8–9), the studied specimen is close to *P. senilis*, which is widespread in the Mediterranean [Nentwig *et al*., 2018] and in southern regions of European Russia [Kovblyuk, Tuneva, 2008; Ponomarev *et al*., 2017]. However, the identification based on a single female leaves some doubts in its conspecificity with true *P. senilis* and requires a male for its verification.

Talanites fagei Spassky, 1938

MATERIAL. 1♂, 2♀♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017.

Trachyzelotes cumensis (Ponomarev, 1979)
Figs 10–11.

Zelotes cumensis Ponomarev, 1979: 923, f. 8 (♀).

Trachyzelotes cumensis: Ponomarev, Tsvetkov, 2004, 94, f. 11–12 (♂♀).

MATERIAL. 2♀♀, wet forb meadow in willow stands, 29.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. Described form Kalmykia [Ponomarev, 1979], and then has been recorded from the shores of Black and Azov Seas, northern Dagestan (Russia) and Azerbaijan [Ponomarev, Tsvetkov, 2004; Mikhailov, 2013; Polchaninova, Prokopenko, 2013; Ponomarev *et al*., 2011, 2016, 2017; Ponomarev, 2017]. Due to insufficient knowledge of this species, figures of the epigyne (Figs 10–11) based on the female from the Astrakhan nature reserve has been provided.

Trachyzelotes malkini Platnick et Murphy, 1984

MATERIAL. 1♂, 1♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 4♀♀, cordon, meadow, 26.06–3.07.2017.

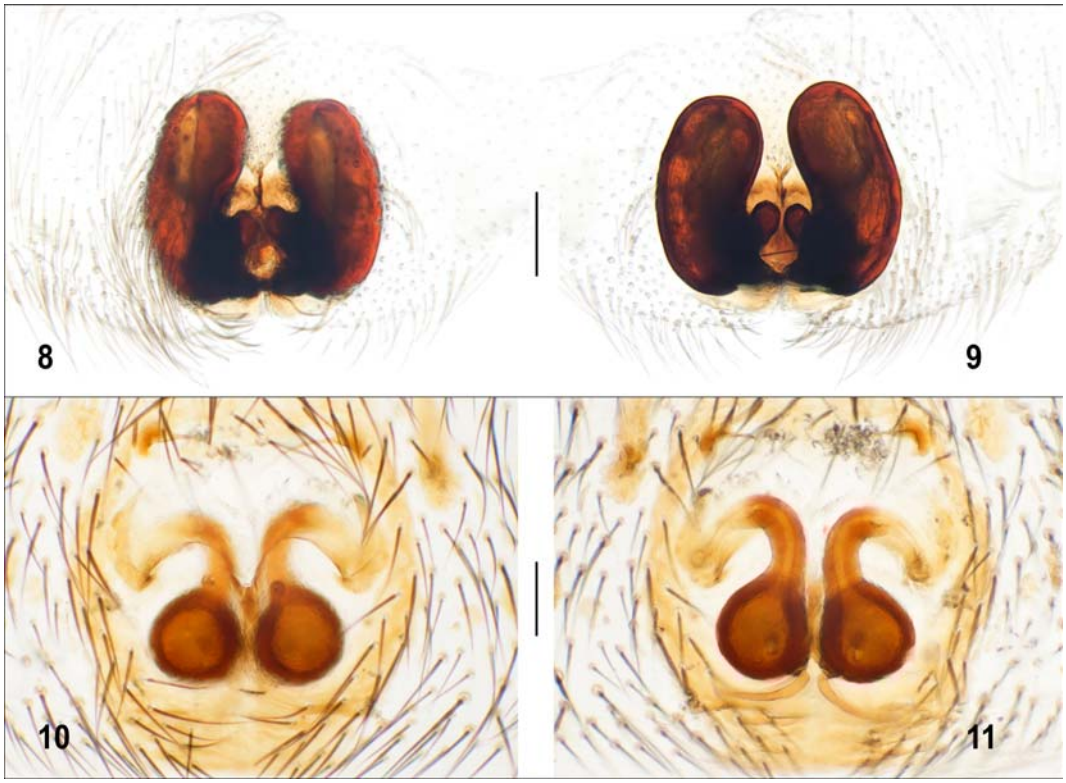
Zelotes mikhailovi Marusik in Eskov et Marusik, 1995
Figs 12–13.

Zelotes mikhailovi Marusik in Eskov et Marusik, 1995: 63, f. 30, 34–35, 41 (♂♀).

Zelotes mikhailovi: Ponomarev, 2018: 4, f. 7–8 (♂♀).

MATERIAL. 3♀♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017.

COMMENTS. The conformation of the epigyne of the studied specimens (Figs 12–13) undoubtedly indicates that



Figs 8–11. Epigynes of *Poecilochroa* cf. *senilis* (8, 9) and *Thachyzelotes cumensis* (10, 11): 8, 10 — ventral view; 9, 11 — dorsal view. Scale bars: Figs 8, 9 — 0.25mm; Figs 10, 11 — 0.2 mm.

Рис. 8–11. Эпигины *Poecilochroa* cf. *senilis* (8, 9) и *Thachyzelotes cumensis* (10, 11): 8, 10 — вид снизу; 9, 11 — вид сверху. Масштаб: рис. 8, 9 — 0,25 мм; рис. 10, 11 — 0,2 мм.

they belong to *Z. mikhailovi*. The species was described from East Kazakhstan Area [Eskov, Marusik, 1995], and then was found in Rostov Area of Russia [Ponomarev, Prishutova, 2017: *Zelotes* cf. *mikhailovi*; Ponomarev, 2018]. A new species to the fauna of Astrakhan Area.

Zelotes mundus (Kulczyński, 1897)

MATERIAL. 1♂, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. In the Lower Volga region, it was recorded from the vicinity of Volgograd [Ponomarev, Khnykin, 2013].

Zelotes segrex (Simon, 1878)

MATERIAL. 1♂, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017.

LINYPHIIDAE

Agyneta saaristoi Tanasevitch, 2000

MATERIAL. 1♂, wet forb meadow in willow stands, 29.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. In the Lower Volga region, it was recorded from the vicinity of Volgograd [Ponomarev *et al*., 2008].

Bathyphantes gracilis (Blackwall, 1841)

MATERIAL. 1♀, boggy forb-grass meadow, 30.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. Widely distributed in the Holarctic Region [WSC, 2018].

Diplostyla concolor (Wider, 1834)

MATERIAL. 1♀, boggy forb-grass meadow, 30.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. Widely distributed in the Holarctic Region [WSC, 2018].

Gnathonarium dentatum (Wider, 1834)

MATERIAL. 1♀, dry wormwood-grass meadow, 27.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. Widely distributed in the Palearctic Region [WSC, 2018].

Microlinyphia impigra (O. Pickard-Cambridge, 1871)

MATERIAL. 1♀, tall grass meadow along willow stands (*Salix* spp.), 27.06–3.07.2017; 1♀, willows, 3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. Widely distributed in the Holarctic Region [WSC, 2018].

Neriene clathrata (Sundevall, 1830)

MATERIAL. 1♀, willows, 3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. Widely distributed in the Holarctic Region [WSC, 2018].

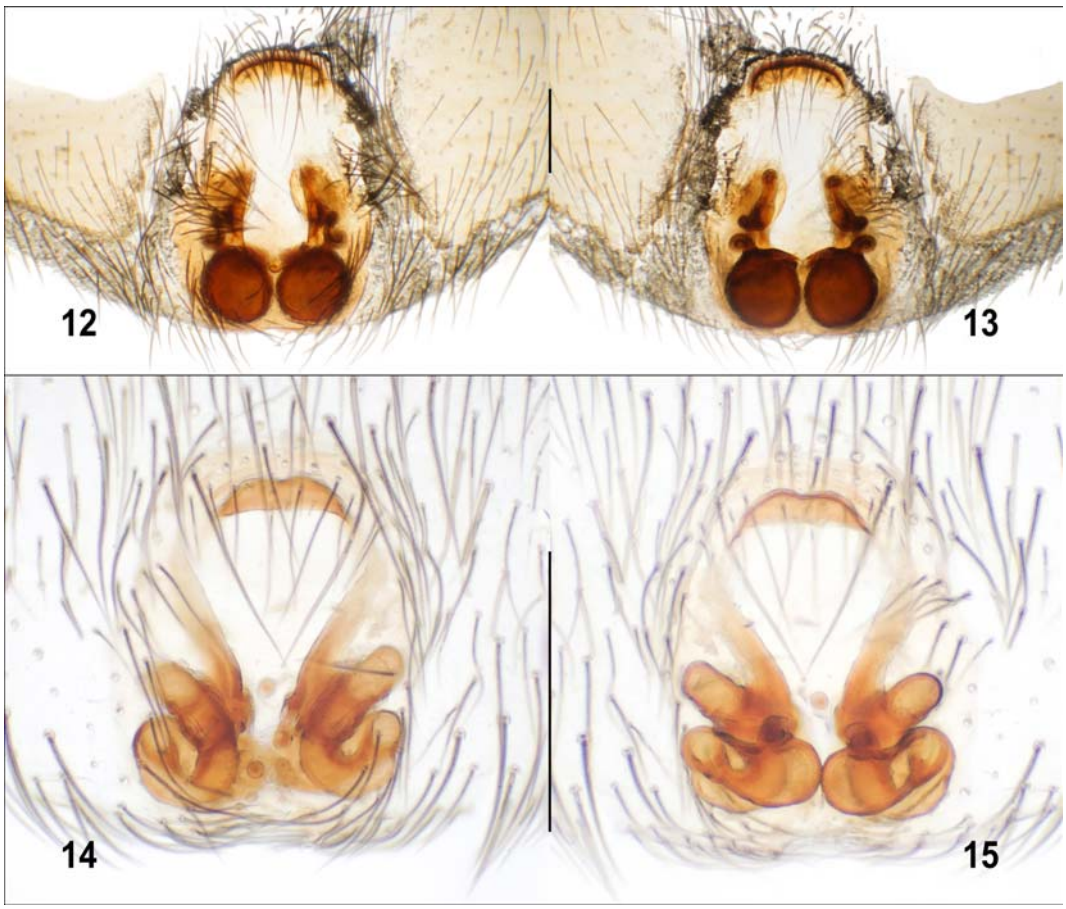
LIOCRANIDAE

Liocranoeca spasskyi Ponomarev, 2007

Figs 14–16.

Liocranoeca spasskyi Ponomarev, 2007a: 5, f. 2–3 (♂♀).

Liocranoeca spasskyi: Ponomarev, Belosludtsev et Dvadnenko, 2008: 173, f. 11–12 (♂).



Figs 12–15. Epigynes of *Zelotes mikhailovi* (12, 13) and *Liocranoeca spasskyi* (14, 15): 12, 14 — ventral view; 13, 15 — dorsal view. Scale bars: 0.25mm.

Рис. 12–15. Эпигины *Zelotes mikhailovi* (12, 13) и *Liocranoeca spasskyi* (14, 15): 12, 14 — вид снизу; 13, 15 — вид сверху. Масштаб: 0,25 мм.

MATERIAL. 1♂, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017; 10♂♂, 2♀♀, wet forb meadow in willow stands, 29.06–3.07.2017.

COMMENTS. The species was described from Rostov Area [Ponomarev, 2007a]; in the Caspian lowland, it was recorded from the Bogdo-Baskunchak Nature Reserve [Ponomarev *et al*., 2008] and northern Dagestan [Ponomarev *et al*., 2011]. Based on the conformation of copulatory organs (Figs 14–16), this species is very close to *L. striata* (Kulczyñski, 1881). However, compared to the latter species, *L. spasskyi* is large in size and has a different distributional pattern: viz., it is widespread in the Ponto-Caspian Region, preferring open saline biotopes.

LYCOSIDAE

Arctosa leopardus (Sundevall, 1832)

MATERIAL. 1♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 31♂♂, 7♀♀, wet forb meadow in willow stands, 29.06–3.07.2017.

Pardosa agrestis (Westring, 1861)

RECORDS. Astrakhan Reserve [Utochkin, 1971].

MATERIAL. 8♂♂, 1♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 7♂♂, 4♀♀, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017; 11♂♂, 1♀, wet forb meadow in willow stands, 29.06–3.07.2017; 1♂, 4♀♀, salted dry meadow with *Tamarix* sp., 26.06–3.07.2017; 1♂, cordon, meadow, 26.06–3.07.2017.

Pardosa jaikensis Ponomarev, 2007

MATERIAL. 2♂♂, 2♀♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. Described from western Kazakhstan [Ponomarev, 2007b], later recorded from northern Dagestan [Ponomarev *et al*., 2011] and Stavropol Territory [Ponomarev *et al*., 2017].

Pardosa prativaga (L. Koch, 1870)

MATERIAL. 22♂♂, 4♀♀, wet forb meadow in willow stands, 29.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. In the Lower Volga region, it was recorded from the vicinity of Volgograd [Ponomarev, Khnykin, 2013].

Pardosa saltans Töpfer-Hofmann, 2000

MATERIAL. 1♂, cordon, 26.06–3.07.2017.

COMMENTS. The first record of this species from the northern Caspian region.

Pirata piraticus (Clerck, 1758)

RECORDS. Astrakhan Reserve [Utochkin, 1971; Ponomarev *et al*., 2008].

Figs 16–17. Male palps of *Liocranoeca spasskyi* (16) and *Philodromus longipalpis* (17), ventral view. Scale bars: 0.5 mm.
Рис. 16–17. Пальпы самцов *Liocranoeca spasskyi* (16) и *Philodromus longipalpis* (17), вид снизу. Масштаб: 0,5 мм.

MATERIAL. 1♂, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 1♂, 2♀♀, boggy meadow with cattail (*Typha angustifolia*), 29.06.2017; 3♀♀, wet forb meadow in willow stands, 29.06–3.07.2017; 1♂, 4♀♀, reed thicket (*Phragmites australis*), 3.07.2017.

Piratula latitans (Blackwall, 1841)

MATERIAL. 7♂♂, 1♀, wet forb meadow in willow stands, 29.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. Distributed in Europe [Nentwig *et al*., 2018].

Trochosa ruricola (De Geer, 1778)

MATERIAL. 1♂, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 7♂♂, 3♀♀, wet forb meadow in willow stands, 29.06–3.07.2017.

Xerolycosa miniata (C.L. Koch, 1834)

RECORDS. Astrakhan Reserve [Ponomarev *et al*., 2008].

MATERIAL. 145♂♂, 14♀♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 2♂♂, salted meadow with *Tamarix* sp., 26.06–3.07.2017.

OXYOPIDAE

Oxyopes globifer Simon, 1886

MATERIAL. 1♂, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 1♂, 1♀, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017.

Oxyopes lineatus Latreille, 1806

MATERIAL. 4♂♂, 4♀♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 1♂, 2♀♀, dry wormwood-grass meadow, 27.06–3.07.2017; 14♂♂, 17♀♀, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017; 1♂, 4♀♀, tall grass meadow along willow stands (*Salix* spp.), 27.06–3.07.2017; 3♂♂, 4♀♀, salted forb-grass meadow, 2.07.2017; 1♂, 1♀, forb-grass meadow, 28.06–3.07.2017; 6♂♂, wet forb meadow in willow stands, 29.06–3.07.2017; 13♀♀, boggy forb-grass meadow, 30.06–3.07.2017; 1♂, 3♀♀, sweeping over *Tamarix* sp., 26.06–3.07.2017.

PHILODROMIDAE

Philodromus cespitum (Walckenaer, 1802)

MATERIAL. 1♀, cordon, meadow, 26.06–3.07.2017.

Philodromus longipalpis Simon, 1870
Fig. 17.

MATERIAL. 1♂, cordon, indoor, 26.06–3.07.2017.

COMMENTS. The shape of the tibial apophysis and the bulbus' conformation of the male from the Astrakhan Reserve (Fig. 17) are characteristic of *P. longipalpis* (cf. Fig. 17 and fig. 10 in Muster & Thaler [2004]). This species is distributed in southern Europe, Azerbaijan and Iran [WSC, 2018]. In Russia, the species was hitherto recorded from Moscow Area [Pokrovskiy, 1925], the coast of the Taganrog Gulf [Ponomarev, 2011] and the delta of Don River [Ponomarev *et al*., 2016]. Muster & Thaler [2004] characterized this species as having a widely Mediterranean (holomediterranean) range. The records of *P. longipalis* from the coast of Azov Sea and the delta of Volga River [Ponomarev, 2011; Ponomarev *et al*., 2016] do not contradict to this range type. Yet, the findings in Moscow Area [Pokrovskiy, 1925] extend the northern limit of species' range far beyond the Mediterranean region, and, in our opinion, should be considered erroneous.

Figs 18–20. Male palp (18) and epigyne (19, 20) of *Dolomedes plantarius*: 18, 19 — ventral view; 20 — dorsal view. Scale bars: fig. 18 — 0.5 mm; Figs 19, 20 — 0.25 mm.

Рис. 18–20. Пальпа самца (18) и эпигина (19, 20) *Dolomedes plantarius*: 18, 19 — вид снизу; 20 — вид сверху. Масштаб: рис. 18 — 0,5 мм; рис. 19, 20 — 0,25 мм.

Pulchellodromus ruficapillus (Simon, 1885)

RECORDS. Astrakhan Reserve [Utochkin, 1971: *Philodromus glaucinus*, misidentification].

MATERIAL. 1♂, 2♀♀, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017; 2♂♂, 5♀♀, tall grass meadow along willow stands (*Salix* spp.), 27.06–3.07.2017; 6♀♀, forb-grass meadow, 28.06–3.07.2017; 3♀♀, salted forb-grass meadow, 2.07.2017; 2♀♀, reed thicket (*Phragmites australis*), 3.07.2017; 1♂, sweeping over *Tamarix* sp., 26.06–3.07.2017; 1♂, dry wormwood-grass meadow, 27.06–3.07.2017.

Thanatus oblongiusculus (Lucas, 1846)

MATERIAL. 1♀, reed-sedge meadow, 28.06.2017.

Thanatus vulgaris Simon, 1870

RECORDS. Astrakhan Reserve [Utochkin, 1971; Ponomarev *et al*., 2008].

MATERIAL. 1♂, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017.

Tibellus maritimus (Menge, 1875)

RECORDS. Astrakhan Reserve [Utochkin, 1971; Efimik, 1999; Ponomarev *et al*., 2008].

MATERIAL. 1♀, dry wormwood-grass meadow, 27.06–3.07.2017.

Tibellus oblongus (Walckenaer, 1802)

RECORDS. Astrakhan Reserve [Utochkin, 1971; Efimik, 1999; Ponomarev *et al*., 2008].

MATERIAL. 1♂, 1♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 1♂, dry wormwood-grass meadow, 27.06–3.07.2017; 1♂, 2♀♀, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017; 3♂♂, 4♀♀, reed-sedge meadow, 28.06.2017.

PHOLCIDAE

Pholcus ponticus Thorell, 1875

RECORDS. Astrakhan Reserve [Ponomarev *et al*., 2008].

MATERIAL. 1♂, cordon, indoor, 26.06–3.07.2017.

PISAURIDAE

Dolomedes plantarius (Clerck, 1758)
Figs 18–20.

Dolomedes plantarius: Lecigne, 2016: 32, f. 5–10 (♂♀).

RECORDS. Astrakhan Reserve [Utochkin, 1971].

MATERIAL. 2♂♂, wet forb meadow in willow stands, 29.06–3.07.2017; 1♂, 2♀♀, reed thicket (*Phragmites australis*), 29.06–3.07.2017.

COMMENTS. In Europe, this species is considered rare [Nentwig *et al*., 2018] and even endangered. For example, in Belarus *D. plantarius* is included in the Red Book [Ivanov *et al*., 2017]. The conformation of copulatory organs of the studied specimens (Figs 18–20) are evidence that they indeed belong to *D. plantarius*. The data by Utochkin [1971] and our material (during a short period of fieldwork five mature individuals were collected) support the idea that in the Astrakhan Reserve *D. plantarius* is not a rare species.

Pisaura mirabilis (Clerck, 1758)

MATERIAL. 3♀♀, tall grass meadow along willow stands (*Salix* spp.), 27.06–3.07.2017; 1♀, forb-grass meadow, 28.06–3.07.2017.

SALTICIDAE

Asianellus festivus (C.L. Koch, 1834)

MATERIAL. 1♂, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. In the Lower Volga region, it was recorded from Volgograd Area [Logunov, Marusik, 2000].

Attulus distinguendus (Simon, 1868)

MATERIAL. 2♂♂, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. In the Lower Volga region, it was recorded from Volgograd Area [Simon, 1878].

Ballus chalybeius (Walckenaer, 1802)

MATERIAL. 1♀, boggy forb-grass meadow, 30.06–3.07.2017.

Euophrys frontalis (Walckenaer, 1802)

MATERIAL. 1♀, cordon, meadow, 26.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. Widely distributed in the Palearctic Region [WSC, 2018].

Heliophanus auratus C.L. Koch, 1835

RECORDS. Astrakhan Reserve [Ponomarev *et al*., 2008].

MATERIAL. 1♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 1♀, reed-sedge meadow, 28.06.2017; 1♂, forb-grass meadow, 28.06–3.07.2017; 1♀, reed thicket (*Phragmites australis*), 3.07.2017.

Logunyllus vittatus (Thorell, 1875)

MATERIAL. 1♀, reed-sedge meadow, 28.06.2017.

Pellenes brevis (Simon, 1868)

MATERIAL. 1♂, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. Distributed in southern Europe [Nentwig *et al*., 2018].

SPARASSIDAE

Micrommata virescens (Clerck, 1758)

RECORDS. Astrakhan Reserve [Utochkin, 1971].

MATERIAL. 1♀, dry wormwood-grass meadow, 26.06–3.07.2017.

TETRAGNATHIDAE

Pachygnatha clercki Sundevall, 1823

RECORDS. Astrakhan Reserve [Utochkin, 1971].

MATERIAL. 1♂, wet forb meadow in willow stands, 29.06–3.07.2017; 1♂, salted forb-grass meadow, 2.07.2017.

Pachygnatha degeeri Sundevall, 1830

RECORDS. Astrakhan Reserve [Ponomarev *et al*., 2008].

MATERIAL. 1♂, 1♀, wet forb meadow in willow stands, 29.06–3.07.2017.

Tetragnatha dearmata Thorell, 1873

RECORDS. Astrakhan Reserve [Ponomarev *et al*., 2008].

MATERIAL. 1♀, tall grass meadow along willow stands (*Salix* spp.), 27.06–3.07.2017; 1♀, reed thicket (*Phragmites australis*), 3.07.2017; 1♀, sweeping over *Tamarix* sp., 26.06–3.07.2017.

Tetragnatha montana Simon, 1874

RECORDS. Astrakhan Reserve [Utochkin, 1971: *Tetragnatha solandri*; Ponomarev *et al*., 2008].

MATERIAL. 1♂, 5♀♀, reed thicket (*Phragmites australis*), 3.07.2017.

Tetragnatha nigrita Lendl, 1886

MATERIAL. 1♀, reed thicket (*Phragmites australis*), 3.07.2017.

Tetragnatha shoshone Levi, 1981

RECORDS. Astrakhan Reserve [Sozontov, Esyunin, 2015: *Tetragnatha qiuae*].

MATERIAL. 1♂, 1♀, willows, 3.07.2017; 1♂, reed thicket (*Phragmites australis*), 3.07.2017.

Tetragnatha striata L. Koch, 1862

RECORDS. Astrakhan Reserve [Utochkin, 1971: *Eugnatha striata*; Ponomarev *et al*., 2008].

MATERIAL. 3♂♂, 2♀♀, thicket of cattail (*Typha angustifolia*), 29.06.2017; 3♂♂, 2♀♀, reed thicket (*Phragmites australis*), 3.07.2017.

THERIDIIDAE

Enoplognatha mordax (Thorell, 1875)

MATERIAL. 1♀, meadow with reed, 3.07.2017.

Kochiura aulica (C.L. Koch, 1838)

MATERIAL. 1♀, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. Distributed in southern Europe [Nentwig *et al*., 2018].

Latrodectus tredecimguttatus (P. Rossi, 1790)

MATERIAL. 1♂, cordon, on a building, 26.06–3.07.2017.

Parasteatoda tepidariorum (C.L. Koch, 1841)

MATERIAL. 1♀, tall grass meadow along willow stands (*Salix* spp.), 27.06–3.07.2017; 3♀♀, cordon, indoor, 26.06–3.07.2017.

Steatoda castanea (Clerck, 1758)

RECORDS. Astrakhan Reserve [Utochkin, 1971: *Teutana castanea*].

MATERIAL. 3♀♀, cordon, on a building, 26.06–3.07.2017.

THOMISIDAE

Ebrechtella tricuspidata (Fabricius, 1775)

RECORDS. Astrakhan Reserve [Utochkin, 1971: *Misumemops tricuspidatus*].

MATERIAL. 1♂, 1♀, dry wormwood-grass meadow, 27.06–3.07.2017; 1♀, willows, 3.07.2017; 1♂, cordon, meadow, 26.06–3.07.2017.

Heriaeus sp.
Figs 21–23.

MATERIAL. 1♂, tall grass meadow along willow stands (*Salix* spp.), 27.06–3.07.2017; 1♂, forb-grass meadow, 28.06–3.07.2017.

COMMENTS. Based on the conformation of copulatory organs of the studied males (Figs 21–22), they are very close to *H. graminicola*. However, peculiarities of their coloration (Fig. 23) do not allow us to identify these specimens as *H. graminicola* with certainty. It is likely that the males belong to *H. delticus* Utotschkin, 1985 described and known to date from a single female from the Astrakhan Reserve [Utochkin, 1985].

Figs 21–23. Male palp (21, 22) and male habitus (23) of *Heriaeus* sp.: 21 — ventral view; 22 –lateral view; 23 — dorsal view. Scale bars: Figs 21, 22 — 0.5 mm; fig. 23 — 2.5 mm.

Рис. 21–23. Пальпа (21, 22) и внешний вид (23) самца *Heriaeus* sp.: 21 — вид снизу; 22 — вид сбоку; 23 — вид сверху. Масштаб: рис. 21, 22 — 0,5 мм; рис. 23 — 2,5 мм.

Ozyptila praticola (C.L. Koch, 1837)

RECORDS. Astrakhan Reserve [Utochkin, 1971].

MATERIAL. 8♂♂, 1♀, wet forb meadow in willow stands, 29.06–3.07.2017.

Ozyptila simplex (O. Pickard-Cambridge, 1862)

MATERIAL. 1♂, reed-sedge meadow, 28.06.2017; 2♂♂, wet forb meadow in willow stands, 29.06–3.07.2017.

Runcinia grammica (C.L. Koch, 1837)

RECORDS. Astrakhan Reserve [Utochkin, 1971: *Runcinia lateralis*].

MATERIAL. 1♂, 2♀♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 2♂♂, dry wormwood-grass meadow, 27.06–3.07.2017; 1♂, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017; 3♂♂, 3♀♀, tall grass meadow along willow stands (*Salix* spp.), 27.06–3.07.2017; 4♀♀, reed-sedge meadow, 28.06.2017; 1♀, forb-grass meadow, 28.06–3.07.2017; 1♂, 1♀, salted forb-grass meadow, 2. 07.2017.

Thomisus onustus Walckenaer, 1805

RECORDS. Astrakhan Reserve [Utochkin, 1971: *Thomisus albus*].

MATERIAL. 1♂, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 2♀♀, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017; 1♂, tall grass meadow along willow stands (*Salix* spp.), 27.06–3.07.2017; 1♂, forb-grass meadow, 28.06–3.07.2017; 1♂, boggy forb-grass meadow, 30.06–3.07.2017; 1♂, salted forb-grass meadow, 2.07.2017.

Xysticus laetus Thorell, 1875

MATERIAL. 1♀, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017; 1♀, forb-grass meadow, 28.06–3.07.2017.

COMMENTS A new species to the fauna of Astrakhan Area. Distributed in southern Europe [Nentwig *et al*., 2018].

Xysticus mongolicus Schenkel, 1963

MATERIAL. 1♀, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. In the Lower Volga region, it was recorded from Volgograd Area [Ponomarev, Khnykin, 2013].

Xysticus ulmi (Hahn, 1831)

RECORDS. Astrakhan Reserve [Utochkin, 1971].

MATERIAL. 1♀, tall grass meadow along willow stands (*Salix* spp.), 27.06–3.07.2017.

TITANOECIDAE

Titanoeca turkmenia Wunderlich, 1995

MATERIAL. 1♀, saltmarsh with *Bassia sedoides* and *Tamarix* sp., 26.06–3.07.2017; 1♂, salted dry meadow with camel-thorn (*Alhagi pseudalhagi*) and *Tamarix* sp., 27.06–3.07.2017; 1♂, salted meadow with *Tamarix* sp., 26.06–3.07.2017.

COMMENTS. A new species to the fauna of Astrakhan Area. Described from Turkmenia [Wunderlich, 1995], it was recorded from the north-western part of Caspian lowland [Ponomarev *et al*., 2011].

A short-term field study of spider fauna which were conducted at the Damchik site of the Astrakhan Nature Reserve has yielded 89 species in 17 families, 30 species are new to the fauna of Astrakhan Area, 57 species are first found in the Astrakhan Reserve, three species remain undetermined or determined provisionally: *Haplodrassus* sp., *Poecilochroa* cf. *senilis*, *Heriaeus* sp.

Thus, based both on the original and literature-derived data, to date 124 species of spiders in 19 families have been known from the territory of the Astrakhan Reserve.

ACKNOWLEDGEMENTS. The work of A.V. Ponomarev and V.Yu. Shmatko made in the framework of the State task of the SSC RAS in 2018, state registration of the project No. 01201363191.

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Responsible editor D.V. Logunov