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MATERIALS TO THE SPIDER FAUNA (ARANEAE) OF THE STEPPE GULLIES OF THE LOWER DNIPRO VALLEY

Іосипчук, А. М. Матеріали до фауни павуків (Araneae) степових балок долини нижнього Дніпра. *Вісті Харківського ентомологічного товариства*. 2023. Т. XXXI, вип. 2. С. 26–38. DOI: 10.36016/KhESG-2023-31-2-3.

На сьогодні, через значне сільськогосподарське використання земель півдня України, справжні степи збереглися тільки на охоронюваних територіях або у балкових екосистемах, зокрема на правому березі Дніпра. У статті наданий анований список видів павуків степових балок долини нижнього Дніпра, який складається з 126 видів з 23 родин. Уперше для Херсонської області наведено три види: *Attulus inopinabilis* (Logunov, 1992), *Harpactea alexandrae* Lazarov, 2006 та *Ero koreana* Paik, 1967. *Steatoda paykulliana* (Walckenaer, 1806) підтверджена у списку павуків Херсонської області. Виділено шість видів, що потребують охорони. Порівняння фауни павуків досліджених балок і балкових систем інших регіонів виявило відносну ізольованість локальної фауни. Її нинішня збереженість викликає сумніви через бойові дії й окупацію території російськими військами у 2022 р. 1 таб., 24 назв.

Ключові слова: Херсонська область, Україна, охоронювані природні території.

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Today, due to the significant agricultural use of the lands of southern Ukraine, true steppes have been preserved only in protected areas or in the gully ecosystems, especially on the right bank of the Dnipro. The paper presents an annotated list of spider species of the steppe gullies in the lower Dnipro valley. The list includes 126 species from 23 families. Three species are new to Kherson Region: *Attulus inopinabilis* (Logunov, 1992), *Harpactea alexandrae* Lazarov, 2006, and *Ero koreana* Paik, 1967. *Steatoda paykulliana* (Walckenaer, 1806) is confirmed in the Kherson regional list. Six species were identified as requiring protection. A comparison of the spider faunas of the studied gullies and the gully systems of other regions indicated the relative isolation of the local fauna. Its current preservation is a concern due to hostilities and the occupation of the territory by Russian troops in 2022. 1 tab., 24 refs.

Keywords: Kherson Region, Ukraine, protected nature areas.

Іосипчук, А. М. Матеріали к фауне пауков (Araneae) степных балок долины Нижнего Днепра. *Известия Харьковского энтомологического общества*. 2023. Т. XXXI, вып. 2. С. 26–38. DOI: 10.36016/KhESG-2023-31-2-3.

На сегодня, из-за значительного сельскохозяйственного использования земель юга Украины, настоящие степи сохранились только на охраняемых территориях или в балочных экосистемах, в частности — на правом берегу Днепра. В статье приводится аннотированный список видов пауков степных балок долины нижнего Днепра, который включает 126 видов из 23 семейств. Впервые для Херсонской области приведено три вида: *Attulus inopinabilis* (Logunov, 1992), *Harpactea alexandrae* Lazarov, 2006 и *Ero koreana* Paik, 1967. *Steatoda paykulliana* (Walckenaer, 1806) подтверждена в региональном списке Херсонской области. Выделены шесть видов, нуждающихся в охране. Сравнение фауны пауков исследованных балок и балочных экосистем других регионов показало относительную изолированность локальной фауны. Её нынешняя сохранность вызывает сомнения из-за военных действий и оккупации территории российскими войсками в 2022 г. 1 таб., 24 назв.

Ключевые слова: Херсонская область, Украина, охраняемые природные территории.

Introduction. The lower Dnipro area has long been used for intensive agriculture. In Kherson Region, the area of agricultural land is almost two million hectares, which is the largest area of arable land in Ukraine. This resulted in high transformation and insularization of natural habitats, which survived mainly in protected areas or places inconvenient for agricultural use, such as gullies, steep river banks, saline marshes, etc. (Moysiyenko, Kuns, Dayneko, 2019). The gullies are covered with steppe vegetation, but they also host natural shrub thickets in the bottoms and forest plantations on the tops and slopes.

Dry grasslands are one of the most transformed biomes on the planet although they harbor rich biodiversity and can provide a vast range of ecosystem services (Baumann *et al.*, 2020; Hobohm, Janišová, Vahle, 2021). Maintenance of their sustainable development requires comprehensive study and efficient conservation management. Spiders as a diverse and widespread component of the steppe biota (Polchaninova, 2021) can serve as bioindicators of natural and anthropogenic changes in temperate grasslands (Orlofske, Ohnesorg, Debinski, 2011; Solascasas *et al.*, 2022).

The spiders of the left-bank part of Kherson Region were studied from the 1980s to the early 2000s mainly in nature reserves. A total of 350 species were recorded (Polchaninova, Prokopenko, 2013, 2019). The author conducted research in national nature parks ‘Dzharylhatskyi’ and ‘Oleshkivski Pisky’ in 2017–2020 (Iosypchuk, Orlova, 2018; Iosypchuk, Polchaninova, Orlova-Hudim, 2020), which added one new species to the regional fauna (*Attulus ammophilus* (Thorell, 1875)). The data on spiders from the right bank of the lower Dnipro

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valley are very poor. Forty-four species were found in a steppe gully near the village of Osokorivka (Prokopenko, Zhukov, 2018), interim results of the investigation of the Kamianska Sich National Nature Park (46 species) were published in conference materials (Iosypchuk, 2019, 2021), and one species was included in the list of new and rare spider records from Ukraine (Polchaninova *et al.*, 2021a).

The present paper **aims** to compile an annotated list of spiders inhabiting steppe gullies of the right-bank part of the lower Dnipro valley and to identify species of conservation concern.

Materials and methods. The lower Dnipro valley has an asymmetric structure. The right bank of the Dnipro is high and dissected by gullies. The topography is similar near the Dnipro estuary, but the terrace consists of loess loam, while the river bank has limestone deposits. At the same time, the left bank is flat and low, the gully system is not developed there (Bondarchuk, 1949). In terms of geobotanical zoning, the area in question lies in the bunchgrass steppe subzone of the steppe zone of Ukraine (Barbarych, 1977).

The material was collected in May–June 2019, June–July 2020, and April–September 2021. I investigated gullies in the Kherson Region near the villages of Sofiivka (Sofiivska Balka, Nyzhniodniprovskiy National Nature Park), Respublikanets, Novokairy and Sukhanove (Kamianska Sich National Nature Park), and Shyroka Balka (Shyroka Balka Local Importance Botanical Preserve). In Table 1 I give the abbreviations of the studied habitats, their geographical coordinates, the nearest villages, brief descriptions of the habitats, and the specialists who collected and identified the material.

Table 1. Collecting localities and brief habitat description

Abbreviation	Nearest village	Geographic coordinates		Habitat description	Collected by	Identified by
		Decimal latitude	Decimal longitude			
FORB-BUNCHGRASS and BUNCHGRASS STEPPES						
FBs1	Sofiivka	46.598434	32.237176	Low eastern slope, forb-bunchgrass vegetation	AI, NP	AI, NP
FBs2		46.597903	32.237523	Low eastern slope dominated by <i>Stipa</i> sp.	AI, NP	AI, NP
FBs3		46.597651	32.238118	Low western slope dominated by <i>Galatella</i> sp.	AI, NP	AI, NP
FBs4		46.597734	32.237518	Top of the gully, forb-bunchgrass steppe	AI	AI
FBs5	Respublikanets	47.014624	33.658492	High eastern slope, dominated by forbs	AI, NP	AI, NP
FBs6		47.014669	33.657265	High northern slope, forb-grass steppe	AI, NP	AI, NP
FBs7		46.999152	33.653065	Medium-height southeastern slope, forb steppe	AI, NP	AI, NP
FBs8		47.007131	33.642954	Secondary steppe of the top of a transformed gully	AI, NP	AI, NP
FBs9		47.015281	33.658512	High eastern slope dominated by <i>Galatella</i> sp.	AI, NP	AI, NP
FBs10		47.017128	33.657503	Low southern slope, bunchgrass steppe	AI, NP	AI, NP
FBs11		47.028093	33.654527	High southern slope, bunchgrass steppe	AI	AI
FBs12		47.028646	33.654058	High southern dominated by <i>Galatella</i> sp.	AI	AI
MESOPHILE / MEADOW STEPPE						
Ms1	Sofiivka	46.597681	32.237888	Gully bottom with high herbage	AI, NP	AI, NP
Ms2	Respublikanets	47.017441	33.657221	Mesic forb steppe in a shallow depression on the flat interfluves	AI, NP	AI, NP
Ms3		47.007118	33.642628	Glade in the forest plantation	AI, NP	AI, NP
Ms4		47.028278	33.654222	High northern slope with high forb-grass vegetation	AI	AI
Ms5	Sukhanove	47.111761	33.566095	Low northeastern slope with medium-height herbage	AI	AI
Ms6	Shyroka Balka	46.575067	32.180289	Gully bottom with high herbage	AI	AI, NP
LOESS OUTCROPS						
LO1	Shyroka Balka	46.575663	32.181927	Top of the gully with sparse herbage	AI	AI
LO2		46.576278	32.183611	Northern medium-high slope with sparse herbage	AI	AI
LIMESTONE OUTCROPS						
LS1	Novokairy	47.047500	33.581694	Southern medium-height slope with sparse herbage	AI	AI
LS2		47.050583	33.578444	Northeastern high slope with sparse herbage	AI	AI
STEPPE SCRUB COMMUNITIES						
SH1	Respublikanets	47.001983	33.645288	Border of shrubs and steppe pasture on the top of the gully	AI, NP	AI, NP
SH2		46.999508	33.653457	Edge of shrub thickets on the medium-height southeastern slope	AI, NP	AI, NP
SH3		47.027493	33.654298	Top of the gully, forb-grass steppe with sparse shrubs	AI	AI
SH4		47.014069	33.657605	Top of the gully, forb-grass steppe with dense shrubs	AI, NP	AI, NP
SH5		47.014724	33.658143	Shrubs and trees at the bottom of a narrow south-facing gully	AI, NP	AI, NP
PLANTATIONS OF DECIDUOUS TREES						
F1	Sofiivka	46.597777	32.237247	Forest shelterbelt	AI, NP	AI, NP
F2	Respublikanets	47.007118	33.642628	Forest plantation	AI, NP	AI, NP

Note. * abbreviations: AI — A. M. Iosypchuk; NP — N. Yu. Polchaninova.

Three standard methods were used for sampling:

(1) hand collecting — we used this method to find spiders in the litter, on and under tree bark, and under stones;

(2) sweep-netting — 60 sweeps with an entomological net with a diameter of 30 cm in areas with sufficiently high vegetation. Most of these samples were taken near the pitfall trap transections;

(3) pitfall trapping — we used 200 ml plastic cups with 3% formalin solution as a fixative. The traps were set in a line of 9 traps per habitat with an interval of approximately 10 m and an average exposure of 25 days.

In total, 1,687 adults were collected; the material is temporarily deposited in the private collections of A. M. Iosypchuk and N. Yu. Polchaninova.

Spiders are listed alphabetically by families and within the families according to the nomenclature of the World Spider Catalogue (2023). Each species is provided with the following information: abbreviation of the habitat (Table 1); number of male/female individuals or number of juveniles; abbreviation of the collection method (pt — pitfall trapping; sn — sweep-netting; hc — hand collecting) and date(s) of collection. New records from Kherson Region are marked with two asterisks (**), and new records from the study area with one asterisk (*).

Spider fauna of the steppe gullies of the lower Dnipro valley was compared with those of the gully systems northward and westward of the study area: three localities near Kryvyi Rih City, Dnipropetrovsk Region (Polchaninova *et al.*, 2021b) and two localities of the Yelanets Steppe Nature Reserve, Mykolaiv Region (Polchaninova, 2021). Both sites are located in the south of the forb-bunchgrass steppe subzone of the steppe zone, and the gullies harbor the same mosaic of steppe, meadow, and woody vegetation, as the gullies in the lower Dnipro valley. The comparison did not include forest plantations, shelterbelts, and/or arboreal and shrub vegetation in the gully bottoms. I used the Sørensen similarity index (Sørensen, 1948) as widely applied in ecological and faunistic studies.

Results and discussions. A total of 126 spider species from 23 families were found in the gullies of the study area. The family Gnaphosidae was the most species-rich (31 species, 24.4% of the fauna), Salticidae made up 16.5%, Thomisidae — 11.8%, while the share of other families did not exceed 10%. Of these, 10 families were represented by one species each (0.8%). The prevalence of Gnaphosidae is a characteristic feature of the spider fauna of the southern steppes (Prokopenko, Zhukov, 2018; Polchaninova, 2021). As a rule, Salticidae and Thomisidae are second-abundant, accompanied by Lycosidae or Araneidae (Polchaninova, 2021). A very low number of Linyphiidae species in the present list is explained by the absence of early spring and autumnal hand collecting required for Linyphiidae sampling, especially in dry habitats.

Family ARANEIDAE Clerck, 1757

* *Araneus diadematus* Clerck, 1757

Material. F2, 22–23.06.2019, hc — 7 juv.

Argiope bruennichi (Scopoli, 1772)

Material. SH1, 22.05.2019, sn — 7 juv; FBs7, 22.06.2019, sn — 7 juv; FBs5, 23.06.2019, sn — 5 juv; SH5, same date, sn — 2 juv; Ms2, same date, sn — 3 juv.

* *Argiope lobata* (Pallas, 1772)

Material. Ms2, 22–23.06.2019, hc — 1 juv; Ms2, 23.06.2019, sn — 1 juv.

* *Cyclosa oculata* (Walckenaer, 1802)

Material. FBs10, 22–24.05.2019, hc — 1 ♀.

* *Gibbaranea bituberculata* (Walckenaer, 1802)

Material. F2, 22–24.05.2019, hc — 1 ♀, 1 ♂.

* *Larinioides patagiatus* (Clerck, 1757)

Material. FBs9, 22–23.06.2019, hc — 1 ♀.

Larinioides suspicax (O. Pickard-Cambridge, 1876)

Material. FBs6, 22.05.2019, sn — 1 ♂; FBs5, 23.05–22.06.2019, pt — 1 ♀; Ms4, 17.06.2020, sn — 1 ♂; Ms4, same date, hc — 1 ♂; Ms2, 22–23.06.2019, hc — 1 ♀.

Mangora acalypha (Walckenaer, 1802)

Material. FBs8, 24.05.2019, sn — 1 juv; Ms3, same date, sn — 5 juv; Ms2, 22–24.05.2019, hc — 1 ♂.

***Neoscona adianta* (Walckenaer, 1802)**

Material. FBs7, 23.05.2019, sn — 19 juv; SH1, 22.06.2019, sn — 1 ♀, 1 juv; SH2, same date, sn — 7 ♀♀, 4 ♂♂, 7 juv; FBs7, same date, sn — 8 ♀♀, 12 ♂♂, 17 juv; FBs5, 23.06.2019, sn — 5 juv; SH5, same date, sn — 4 juv; Ms2, same date, sn — 8 ♀♀, 10 ♂♂, 49 juv; FBs5, 22–23.06.2019, hc — 2 ♀♀, 2 ♂♂; FBs1, 25.06.2019, sn — 1 ♀; Ms6, 10.06.2020, sn — 1 ♀, 1 juv; SH2, 15.06.2020, sn — 4 ♀♀, 28 juv; FBs9, 17.06.2020, sn — 6 juv; Ms4, same date, sn — 14 ♀♀, 3 ♂♂, 14 juv; FBs11, same date, sn — 4 ♀♀, 15 juv; FBs11, same date, hc — 1 juv; SH3, same date, sn — 23 ♀♀, 2 ♂♂, 30 juv; FBs12, 18.06.2020, sn — 44 juv.

Family ATYPIDAE Thorell, 1870

***Atypus muralis* Bertkau, 1890**

Material. SH5, 23.05–22.06.2019, pt — 9 ♂♂; FBs1, 08–25.06.2019, pt — 1 ♂; F1, same date, pt — 1 ♂.

Family CHEIRACANTHIIDAE Wagner, 1887

***Cheiracanthium erraticum* (Walckenaer, 1802)**

Material. SH5, 21.05.2019, sn — 1 ♀, 2 ♂♂; FBs6, 22.05.2019, sn — 1 ♀; SH4, same date, sn — 2 ♂♂; Ms2, 23.06.2019, sn — 1 ♀.

*** *Cheiracanthium mildei* L. Koch, 1864**

Material. SH4, 22.05.2019, sn — 2 ♀.

Family DICTYNIDAE O. Pickard-Cambridge, 1871

*** *Dictyna arundinacea* (Linnaeus, 1758)**

Material. Ms3, 22–24.05.2019, hc — 1 ♀.

Family DYSDERIDAE C. L. Koch, 1837

**** *Harpactea alexandrae* Lazarov, 2006**

Material. FBs1, 25.05–08.06.2019, pt — 2 ♂♂; FBs2, same date, pt — 4 ♂♂; FBs3, same date, pt — 2 ♂♂; F1, same date, pt — 4 ♂♂; LO1, 10.06–03.07.2020, pt — 1 ♂; FBs4, 10.04–29.04.2021, pt — 1 ♂.

***Harpactea azowensis* Charitonov, 1956**

Material. FBs5, 23.05–22.06.2019, pt — 1 ♂.

***Harpactea rubicunda* (C. L. Koch, 1838)**

Material. SH5, 23.05–22.06.2019, pt — 1 ♂; FBs7, same date, pt — 2 ♀♀; FBs9, 15.06–03.07.2020, pt — 3 ♀♀.

Family ERESIDAE C. L. Koch, 1845

***Eresus* sp.**

Material. FBs9, 23.05–22.06.2019, pt — 1 ♂.

Family GNAPHOSIDAE Banks, 1892

***Aphantaulax trifasciata* (O. Pickard-Cambridge, 1872)**

Material. SH2, 22.06.2019, sn — 1 ♀; F1, 25.06.2019, sn — 1 ♂; FBs11, 17.06.2020, hc — 1 ♂.

***Berlandina cinerea* (Menge, 1872)**

Material. FBs5, 23.05–22.06.2019, pt — 5 ♀♀, 5 ♂♂; SH5, same date, pt — 1 ♂; FBs9, same date, pt — 1 ♀, 3 ♂; Ms2, same date, pt — 3 ♂♂; FBs10, same date, pt — 3 ♀♀, 10 ♂♂; SH2, same date, pt — 2 ♀♀, 9 ♂♂; FBs7, same date, pt — 3 ♂♂; FBs8, same date, pt — 1 ♂; FBs1, 25.05–08.06.2019, pt — 1 ♀, 2 ♂♂; FBs2, same date, pt — 2 ♀♀, 7 ♂♂; FBs3, same date, pt — 2 ♀♀, 2 ♂♂; FBs2, 08–25.06.2019, pt — 1 ♀; FBs5, 15.06–03.07.2020, pt — 1 ♀; FBs4, 10.04–29.04.2021, pt — 2 ♂♂.

***Civizelotes caucasicus* (L. Koch, 1866)**

Material. FBs5, 23.05–22.06.2019, pt — 1 ♀, 1 ♂; Ms2, same date, pt — 1 ♂; SH1, same date, pt — 1 ♂; FBs2, 25.05–08.06.2019, pt — 1 ♂; FBs3, same date, pt — 3 ♀♀, 1 ♂; FBs1, 08–25.06.2019, pt — 1 ♂; FBs2, same date, pt — 1 ♀; F1, same date, pt — 1 ♂; LO1, 10.06–03.07.2020, pt — 1 ♀.

***Civizelotes gracilis* (Canestrini, 1868)**

Material. SH1, 23.05–22.06.2019, pt — 1 ♂; FBs7, same date, pt — 1 ♂; Ms3, same date, pt — 1 ♀; Ms1, 25.05–08.06.2019, pt — 9 ♂♂; FBs7, 15.06–03.07.2020, pt — 1 ♂.

***Drassodes lapidosus* (Walckenaer, 1802)**

Material. FBs5, 23.05–22.06.2019, pt — 2 ♂♂; SH5, same date, pt — 1 ♀; FBs9, same date, pt — 1 ♂; Ms2, same date, pt — 2 ♀♀; SH2, same date, pt — 4 ♂♂; FBs7, same date, pt — 2 ♀♀, 9 ♂♂; FBs1, 25.05–08.06.2019, pt — 2 ♀♀, 3 ♂♂; FBs2, same date, pt — 5 ♂♂; FBs3, same date, pt — 5 ♂♂; FBs3, 08–25.06.2019, pt — 1 ♀; SH2, 15.06–03.07.2020, pt — 1 ♀, 2 ♂♂.

***Drassodes pubescens* (Thorell, 1856)**

Material. FBs1, 25.05–08.06.2019, pt — 3 ♂♂; FBs4, 05.09–19.09.2021, pt — 2 ♀♀; Ms1, 21.07–5.09.2021, pt — 2 ♀♀.

***Drassyllus praeficus* (L. Koch, 1866)**

Material. SH5, 23.05–22.06.2019, pt — 1 ♂; Ms2, same date, pt — 1 ♀; SH2, same date, pt — 2 ♂♂; F2, same date, pt — 1 ♀; FBs1, 25.05–08.06.2019, pt — 1 ♂; Ms1, same date, pt — 2 ♀♀, 8 ♂♂; F1, same date, pt — 1 ♀, 1 ♂; F1, 08–25.06.2019, pt — 5 ♀♀; FBs7, 15.06–03.07.2020, pt — 2 ♀♀.

* ***Drassyllus vinealis* (Kulczyński, 1897)**

Material. Ms2, 23.05–22.06.2019, pt — 1 ♀.

* ***Gnaphosa dolosa* Herman, 1879**

Material. Ms1, 25.05–08.06.2019, pt — 1 ♀.

***Gnaphosa leporina* (L. Koch, 1866)**

Material. Ms1, 25.05–08.06.2019, pt — 1 ♂.

***Gnaphosa lucifuga* (Walckenaer, 1802)**

Material. FBs2, 25.05–08.06.2019, pt — 1 ♂; FBs2, 08–25.06.2019, pt — 1 ♂.

* ***Gnaphosa mongolica* Simon, 1895**

Material. SH2, 23.05–22.06.2019, pt — 1 ♂; FBs7, same date, pt — 2 ♂♂.

***Gnaphosa opaca* Herman, 1879**

Material. FBs5, 23.05–22.06.2019, pt — 1 ♂; FBs9, same date, pt — 1 ♀, 1 ♂; LO2, 10.06–03.07.2020, pt — 1 ♀; LS1, 15.06–03.07.2020, pt — 1 ♀, 2 ♂♂.

***Gnaphosa taurica* Thorell, 1875**

Material. FBs5, 23.05–22.06.2019, pt — 1 ♀; SH5, same date, pt — 3 ♂♂; SH1, same date, pt — 1 ♀, 2 ♂♂; FBs8, same date, pt — 1 ♀; Ms1, 25.05–08.06.2019, pt — 1 ♂; LS1, 15.06–03.07.2020, pt — 1 ♀.

***Gnaphosa* sp.**

Material. SH2, 15.06–03.07.2020, pt — 1 ♀.

***Haplodrassus bohemicus* Miller et Buchar, 1977**

Material. FBs5, 23.05–22.06.2019, pt — 2 ♀♀, 1 ♂; SH5, same date, pt — 2 ♂♂; Ms2, same date, pt — 3 ♀♀; SH1, same date, pt — 1 ♂; SH2, same date, pt — 1 ♀, 2 ♂♂; F2, same date, pt — 4 ♀♀; FBs1, 25.05–08.06.2019, pt — 4 ♀♀, 4 ♂♂; FBs2, same date, pt — 1 ♂; FBs3, same date, pt — 2 ♀♀; Ms1, same date, pt — 7 ♂♂; F1, same date, pt — 4 ♂♂; Ms1, 08–25.06.2019, pt — 2 ♀♀; F1, same date, pt — 2 ♀♀, 2 ♂♂; FBs4, 29.04–05.06.2021, pt — 1 ♀; F1, 29.04–05.06.2021, pt — 1 ♂.

***Haplodrassus dalmatensis* (L. Koch, 1866)**

Material. FBs5, 23.05–22.06.2019, pt — 1 ♀, 2 ♂♂; FBs9, same date, pt — 1 ♂; FBs10, same date, pt — 1 ♀; SH2, same date, pt — 1 ♂; FBs7, same date, pt — 2 ♂♂; FBs3, 25.05–08.06.2019, pt — 1 ♀; LO1, 10.06–03.07.2020, pt — 1 ♀; LO2, same date, pt — 1 ♀; SH2, 15.06–03.07.2020, pt — 1 ♀.

* ***Haplodrassus kulczynskii* Lohmander, 1942**

Material. F1, 08–25.06.2019, pt — 1 ♀.

***Haplodrassus minor* (O. Pickard-Cambridge, 1879)**

Material. FBs1, 25.05–08.06.2019, pt — 2 ♀♀, 2 ♂♂; FBs3, same date, pt — 1 ♂; Ms1, same date, pt — 1 ♂; F1, same date, pt — 3 ♀♀, 1 ♂.

***Haplodrassus signifer* (C. L. Koch, 1839)**

Material. Ms1, 25.05–08.06.2019, pt — 1 ♂; F1, same date, pt — 1 ♂; FBs3, 10.04–29.04.2021, pt — 1 ♂.

***Marinarozelotes malkini* (Platnick et Murphy, 1984)**

Material. SH2, 23.05–22.06.2019, pt — 1 ♀, 4 ♂♂; FBs7, same date, pt — 1 ♂; Ms3, same date, pt — 1 ♂; FBs1, 25.05–08.06.2019, pt — 1 ♂; FBs3, same date, pt — 4 ♂♂; F1, same date, pt — 3 ♂♂; FBs1, 08–25.06.2019, pt — 1 ♂; FBs2, same date, pt — 1 ♂; FBs3, same date, pt — 1 ♂; F1, same date, pt — 5 ♂♂.

* ***Micaria albovittata* (Lucas, 1846)**

Material. FBs3, 25.05–08.06.2019, pt — 1 ♂; Ms1, same date, pt — 3 ♀♀; Ms1, 08.06.2019, sn — 1 ♀.

***Micaria bosmansii* Kovblyuk et Nadolny, 2008**

Material. FBs8, 23.05–22.06.2019, pt — 1 ♀; LS1, 15.06–03.07.2020, pt — 1 ♀; SH2, same date, pt — 1 ♂; FBs7, same date, pt — 1 ♂.

* ***Nomisia aussereri* (L. Koch, 1872)**

Material. FBs3, 05.09–19.09.2021, pt — 1 ♂.

* ***Trachyzelotes pedestris* (C. L. Koch, 1837)**

Material. Ms1, 25.05–08.06.2019, pt — 1 ♂; F1, same date, pt — 7 ♀, 21 ♂♂; FBs1, 08–25.06.2019, pt — 1 ♀.

* ***Zelotes electus* (C. L. Koch, 1839)**

Material. SH5, 23.05–22.06.2019 pt — 1 ♀, 1 ♂; F1, 08–25.06.2019, pt — 3 ♀♀, 25 ♂♂.

***Zelotes eugenei* Kovblyuk, 2009**

Material. SH1, 23.05–22.06.2019, pt — 1 ♀; FBs1, 25.05–08.06.2019, pt — 1 ♀; FBs2, same date, pt — 3 ♀♀; FBs3, same date, pt — 1 ♀; Ms1, same date, pt — 2 ♀♀; F1, same date, pt — 7 ♀♀; F1, 08–25.06.2019, pt — 5 ♀♀, 2 ♂♂; Ms1, 10.04–29.04.2021, pt — 1 ♀; Ms1, 21.07–05.09.2021, pt — 2 ♂♂; Ms1, 05.09–19.09.2021, pt — 1 ♂.

* ***Zelotes fuscus* (Thorell, 1875)**

Material. Ms1, 25.05–08.06.2019, pt — 1 ♀; F1, same date, pt — 1 ♂.

* ***Zelotes longipes* (L. Koch, 1866)**

Material. Ms2, 23.05–22.06.2019, pt — 1 ♀; FBs10, same date, pt — 1 ♀; Ms1, 05.09–19.09.2021, pt — 2 ♂.

* ***Zelotes mundus* (Kulczyński, 1897)**

Material. FBs2, 25.05–08.06.2019, pt — 2 ♂♂; Ms1, same date, pt — 1 ♂.

* ***Zelotes segrex* (Simon, 1878)**

Material. FBs9, 23.05–22.06.2019, pt — 2 ♂♂; SH1, same date, pt — 1 ♂; SH2, same date, pt — 1 ♂; FBs7, same date, pt — 1 ♀, 2 ♂♂; FBs1, 25.05–08.06.2019, pt — 1 ♂; FBs2, same date, pt — 1 ♂; FBs3, same date, pt — 2 ♂♂.

Family LINYPHIIDAE Blackwall, 1859

* ***Agyneta rurestris* (C. L. Koch, 1836)**

Material. FBs7, 23.05–22.06.2019, pt — 1 ♀.

* ***Bathyphantes gracilis* (Blackwall, 1841)**

Material. Ms1, 25.05–08.06.2019, pt — 2 ♂♂.

* ***Linyphia* sp.**

Material. SH5, 23.06.2019, sn — 1 juv.

Family LIOCRANIDAE Simon, 1897

* ***Agroeca cuprea* Menge, 1873**

Material. FBs3, 25.05–08.06.2019, pt — 3 ♀♀; Ms1, same date, pt — 1 ♀; F1, 08–25.06.2019, pt — 2 ♀♀; F1, 10.04–29.04.2021, pt — 1 ♂.

Family LYCOSIDAE Sundevall, 1833

***Alopecosa cursor* (Hahn, 1831)**

Material. FBs5, 23.05–22.06.2019, pt — 1 ♀, 1 ♂; FBs9, same date, pt — 1 ♂; Ms2, same date, pt — 3 ♀♀; SH2, same date, pt — 1 ♀; FBs7, same date, pt — 3 ♀♀; FBs8, same date, pt — 1 ♀; FBs2, 25.05–08.06.2019, pt — 5 ♀♀; FBs3, same date, pt — 3 ♀♀; FBs3, 08–25.06.2019, pt — 1 ♀; LO1, 10.06–03.07.2020, pt — 1 ♀; FBs1, 10.04–29.04.2021, pt — 6 ♂♂; FBs4, same date, pt — 3 ♂♂; Ms1, same date, pt — 1 ♀, 2 ♂♂; FBs3, same date, pt — 2 ♀♀, 8 ♂♂; FBs1, 29.04–05.06.2021, pt — 1 ♀, 2 ♂♂.

***Alopecosa farinosa* (Herman, 1879)**

Material. FBs1, 25.05–08.06.2019, pt — 13 ♀; Ms1, same date, pt — 2 ♀; FBs1, 10.04–29.04.2021, pt — 6 ♀, 24 ♂; FBs4, same date, pt — 7 ♀, 35 ♂; Ms1, same date, pt — 1 ♀, 28 ♂; FBs3, same date, pt — 3 ♀, 38 ♂; F1, same date, pt — 1 ♂; FBs1, 29.04–05.06.2021, pt — 1 ♀, 1 ♂; FBs4, same date, pt — 2 ♀, 6 ♂; FBs3, same date, pt — 1 ♀, 8 ♂; F1, same date, pt — 1 ♂.

***Alopecosa kovblyuki* Nadolny et Ponomarev, 2012**

Material. FBs5, 23.05–22.06.2019, pt — 2 ♀♀; SH5, same date, pt — 1 ♀; Ms2, same date, pt — 4 ♀♀; FBs10, same date, pt — 1 ♀; FBs7, same date, pt — 2 ♀♀; FBs1, 25.05–08.06.2019, pt — 1 ♀; FBs3, same date, pt — 1 ♀; FBs1, 08–25.06.2019, pt — 2 ♀♀; Ms1, same date, pt — 1 ♀; FBs7, 15.06–03.07.2020, pt — 1 ♀; FBs1, 10.04–29.04.2021, pt — 7 ♂♂; FBs4, same date, pt — 7 ♂♂; Ms1, same date, pt — 4 ♂♂; FBs3, same date, pt — 9 ♂♂; FBs3, 05.06–21.07.2021, pt — 1 ♀; Ms1, 05.09–19.09.2021, pt — 4 ♂♂.

***Alopecosa pulverulenta* (Clerck, 1757)**

Material. Ms1, 25.05–08.06.2019, pt — 11 ♀♀; FBs1, 10.04–29.04.2021, pt — 1 ♂; Ms1, same date, pt — 10 ♂♂; FBs3, same date, pt — 1 ♀; F1, same date, pt — 3 ♂♂; F1, 29.04–05.06.2021, pt — 1 ♂.

***Alopecosa taeniopus* (Kulczyński, 1895)**

Material. Ms2, 15.06–03.07.2020, pt — 1 ♀.

* ***Hogna radiata* (Latreille, 1817)**

Material. FBs3, 25.05–08.06.2019, pt — 1 ♀; FBs1, 21.07–05.09.2021, pt — 2 ♂.

***Pardosa agrestis* (Westring, 1861)**

Material. FBs7, 23.05–22.06.2019, pt — 1 ♀, 2 ♂; Ms1, 25.05–08.06.2019, pt — 1 ♂.

* ***Pardosa pontica* (Thorell, 1875)**

Material. FBs4, 05.09–19.09.2021, pt — 1 ♀.

***Trochosa ruricola* (De Geer, 1778)**

Material. Ms1, 25.05–08.06.2019, pt — 3 ♂♂; Ms1, 08–25.06.2019, pt — 1 ♀.

***Trochosa terricola* Thorell, 1856**

Material. SH5, 23.05–22.06.2019, pt — 1 ♂.

Family MIMETIDAE Simon, 1881

** ***Ero koreana* Paik, 1967**

Material. FBs2, 08–25.06.2019, pt — 1 ♀.

Family MITURGIDAE Simon, 1886

* ***Zora pardalis* Simon, 1878**

Material. Ms3, 23.05–22.06.2019, pt — 1 ♀.

Family OXYOPIDAE Thorell, 1869

* ***Oxyopes heterophthalmus* (Latreille, 1804)**

Material. SH4, 22.05.2019, sn — 1 ♂; Ms3, 24.05.2019, sn — 2 juv; Ms1, 08.06.2019, sn — 1 ♀; FBs1, same date, sn — 1 ♀, 1 ♂; FBs1, 25.06.2019, sn — 1 ♀; FBs4, 05.06.2021, hc — 1 ♂.

***Oxyopes lineatus* Latreille, 1806**

Material. SH5, 21.05.2019, sn — 1 juv; FBs6, 22.05.2019, sn — 1 juv; SH4, same date, sn — 5 juv; SH1, same date, sn — 1 juv; Ms3, 24.05.2019, sn — 5 juv; FBs8, same date, sn — 4 juv; Ms3, same date, sn — 5 juv; FBs1, 08.06.2019, sn — 2 juv; FBs7, 22.06.2019, sn — 1 ♀; FBs1, 25.05–08.06.2019, pt — 1 juv; FBs1, 08–25.06.2019, pt — 1 ♀; FBs2, same date, pt — 1 ♀; FBs12, 18.06.2020, sn — 2 ♀♀; Ms5, same date, sn — 3 ♂♂; FBs4, 19.09.2021, sn — 2 juv; Ms1, same date, sn — 2 juv.

Family PHILODROMIDAE Thorell, 1869

* ***Rhysodromus histrio* (Latreille, 1819)**

Material. FBs7, 22–23.06.2019, hc — 1 ♀; FBs1, 25.06.2019, sn — 1 ♀.

***Thanatus arenarius* L. Koch, 1872**

Material. FBs5, 23.05–22.06.2019, pt — 3 ♀♀, 7 ♂♂; Ms2, same date, pt — 1 ♀, 3 ♂♂; FBs10, same date, pt — 1 ♀, 7 ♂♂; FBs7, same date, pt — 6 ♂♂; FBs2, 25.05–08.06.2019, pt — 1 ♀, 2 ♂♂; FBs3, same date, pt — 1 ♂; F1, same date, pt — 1 ♀; FBs1, 08–

25.06.2019, pt — 2 ♂♂; **Ms1**, same date, pt — 1 ♂; **FBs1**, 10.04–29.04.2021, pt — 1 ♂; **Ms1**, same date, pt — 1 ♂; **FBs4**, 05.09–19.09.2021, pt — 3 ♂♂.

* ***Thanatus atratus* Simon, 1875**

Material. **FBs1**, 25.05–08.06.2019, pt — 1 ♀, 5 ♂; **Ms1**, same date, pt — 5 ♂♂; **FBs2**, 08–25.06.2019, pt — 1 ♀, 6 ♂♂; **FBs3**, same date, pt — 1 ♀, 3 ♂♂; **FBs3**, same date, pt — 4 ♂♂; **Ms6**, 10.06.2020, sn — 1 ♂; **LO1**, 10.06–03.07.2020, pt — 5 ♂♂; **Ms6**, same date, pt — 1 ♂; **FBs1**, 10.04–29.04.2021, pt — 1 ♀; **FBs1**, 21.07–05.09.2021, pt — 5 ♂♂; **Ms1**, same date, pt — 3 ♀♀; **FBs3**, 05.09–19.09.2021, pt — 1 ♀.

***Thanatus oblongiusculus* (Lucas, 1846)**

Material. **SH1**, 22.06.2019, sn — 1 ♀; **Ms2**, 23.06.2019, sn — 6 ♀♀, 1 ♂, 2 juv.

* ***Thanatus vulgaris* Simon, 1870**

Material. **FBs2**, 25.05–08.06.2019, pt — 1 ♂; **FBs3**, same date, pt — 1 ♂; **FBs3**, 08–25.06.2019, pt — 2 ♂♂; **F1**, same date, pt — 1 ♀.

Family PHRUROLITHIDAE Banks, 1892

* ***Phrurolithus festivus* (C. L. Koch, 1835)**

Material. **Ms3**, 23.05–22.06.2019, pt — 1 ♀; **F1**, 25.05–08.06.2019, pt — 1 ♀, 3 ♂♂; **FBs1**, 08–25.06.2019, pt — 1 ♀.

Family PISAURIDAE Simon, 1890

* ***Pisaura mirabilis* (Clerck, 1757)**

Material. **SH5**, 22–24.05.2019, hc — 1 ♀; **SH5**, 23.05–22.06.2019, pt — 1 ♂; **SH5**, 22–23.06.2019, hc — 1 ♀.

***Pisaura novicia* (L. Koch, 1878)**

Material. **F1**, 25.05–08.06.2019, pt — 1 ♂; **Ms1**, 08–25.06.2019, pt — 1 ♀.

Family SALTICIDAE Blackwall, 1841

***Aelurillus m-nigrum* Kulczyński, 1891**

Material. **LO1**, 10.06–03.07.2020, pt — 1 ♂; **FBs9**, 15.06–03.07.2020, pt — 1 ♀.

***Aelurillus v-insignitus* (Clerck, 1757)**

Material. **FBs4**, 10.04–29.04.2021, pt — 1 ♀; **FBs3**, same date, pt — 1 ♂; **FBs4**, 29.04–05.06.2021, pt — 2 ♀♀; **FBs3**, same date, pt — 1 ♂.

***Asianellus festivus* (C. L. Koch, 1834)**

Material. **FBs5**, 23.05–22.06.2019, pt — 2 ♂♂; **Ms2**, same date, pt — 1 ♀; **SH1**, same date, pt — 1 ♀; **FBs7**, 15.06–03.07.2020, pt — 2 ♀♀; **F1**, 10.04–29.04.2021, pt — 1 ♀.

** ***Attulus inopinabilis* (Logunov, 1992)**

Material. **LS1**, 15.06–3.07.2020, pt — 1 ♂.

* ***Attulus zimmermanni* (Simon, 1877)**

Material. **SH1**, 23.05–22.06.2019, pt — 1 ♂; **Ms1**, 25.05–08.06.2019, pt — 1 ♂; **F1**, same date, pt — 2 ♀♀, 1 ♂; **F1**, 08–25.06.2019, pt — 1 ♂; **F1**, 29.04–05.06.2021, pt — 1 ♂.

* ***Carrhotus xanthogramma* (Latreille, 1819)**

Material. **FBs5**, 21.05.2019, sn — 1 ♀.

***Euophrys frontalis* (Walckenaer, 1802)**

Material. **SH1**, 23.05–22.06.2019, pt — 1 ♂; **SH2**, 15.06–03.07.2020, pt — 1 ♀.

* ***Evarcha arcuata* (Clerck, 1757)**

Material. **FBs10**, 22–24.05.2019, hc — 1 ♂; **Ms1**, 19.09.2021, sn — 1 ♀.

* ***Heliophanus cupres* (Walckenaer, 1802)**

Material. **SH5**, 23.05–22.06.2019, pt — 2 ♂♂; **FBs8**, 24.05.2019, sn — 10 ♂♂; **FBs7**, 22.06.2019, sn — 1 ♂; **FBs7**, 23.06.2019, sn — 1 ♀; **Ms2**, same date, sn — 2 ♀♀.

***Heliophanus flavipes* (Hahn, 1832)**

Material. FBS6, 22.05.2019, sn — 1 ♀, 1 ♂; Ms2, 23.06.2019, sn — 4 ♀♀; FBS1, 25.06.2019, sn — 1 ♀; SH3, 17.06.2020, sn — 1 ♀.

***Heliophanus lineiventris* (Hahn, 1832)**

Material. FBS5, 23.05–22.06.2019, pt — 1 ♀; FBS5, 23.06.2019, sn — 1 ♀; FBS7, same date, sn — 1 ♀; FBS1, 25.06.2019, sn — 3 ♀♀; FBS7, 17.06.2020, sn — 1 ♀.

* ***Heliophanus patagiatus* Thorell, 1875**

Material. FBS8, 24.05.2019, sn — 1 ♀, 1 ♂.

* ***Leptorchestes berolinensis* (C. L. Koch, 1846)**

Material. SH1, 23.05–22.06.2019, pt — 1 ♂.

* ***Macaroeris flavicomis* (Simon, 1885)**

Material. F1, 08–25.06.2019, pt — 1 ♂.

* ***Pellenes brevis* (Simon, 1868)**

Material. FBS5, 23.05–22.06.2019, pt — 1 ♀, 1 ♂; FBS7, same date, pt — 1 ♀, 1 ♂; FBS12, 18.06.2020, sn — 1 ♀.

* ***Pellenes seriatus* (Thorell, 1875)**

Material. SH2, 23.05–22.06.2019, pt — 1 ♀; FBS7, 22.06.2019, sn — 2 ♀; SH5, 23.06.2019, sn — 1 ♀; FBS1, 25.05–08.06.2019, pt — 1 ♀; FBS1, 08–25.06.2019, pt — 1 ♀; FBS4, 29.04–05.06.2021, pt — 1 ♀; FBS4, 19.09.2021, sn — 1 juv.

* ***Philaeus chrysops* (Poda, 1761)**

Material. F2, 22–24.05.2019, hc — 2 ♂♂; FBS1, 25.05–08.06.2019, pt — 1 ♀; Ms1, 08–25.06.2019, pt — 1 ♀.

* ***Phlegra fasciata* (Hahn, 1826)**

Material. FBS2, 25.05–08.06.2019, pt — 1 ♂; FBS2, 08–25.06.2019, pt — 1 ♂.

* ***Pseudeuophrys obsoleta* (Simon, 1868)**

Material. FBS3, 25.05–08.06.2019, pt — 1 ♂; Ms1, same date, pt — 1 ♂; F1, same date, pt — 3 ♂♂.

***Salticus scenicus* (Clerck, 1757)**

Material. Ms3, 24.05.2019, sn — 2 juv; FBS1, 25.06.2019, sn — 1 ♀; FBS7, 15.06–03.07.2020, pt — 1 ♀.

* ***Talavera petrensis* (C. L. Koch, 1837)**

Material. FBS8, 23.05–22.06.2019, pt — 1 ♂.

Family TETRAGNATHIDAE Menge, 1866

***Tetragnatha nigrita* Lendl, 1886**

Material. SH5, 17.06.2020, hc — 1 ♂.

Family THERIDIIDAE Sundevall, 1833

***Asagena phalerata* (Panzer, 1801)**

Material. FBS7, 23.05–22.06.2019, pt — 2 ♂♂.

* ***Euryopsis quinqueguttata* Thorell, 1875**

Material. FBS7, 23.05–22.06.2019, pt — 2 ♀♀.

* ***Euryopsis saukea* Levi, 1951**

Material. FBS9, 23.05–22.06.2019, pt — 1 ♂.

* ***Latrodectus tredecimguttatus* (Rossi, 1790)**

Material. Ms1, 25.06.2019, sn — 1 ♂.

* ***Parasteatoda lunata* (Clerck, 1757)**

Material. F2, 22–23.06.2019, hc — 1 ♀; F1, 25.06.2019, sn — 1 ♀.

* ***Parasteatoda tepidariorum* (C. L. Koch, 1841)**

Material. F2, 22–23.06.2019, hc — 2 ♀♀; Ms4, near the forest plantation, 17.06.2020, sn — 1 ♂.

* *Steatoda albomaculata* (De Geer, 1778)

Material. FBs3, 08–25.06.2019, pt — 1 ♂.

* *Steatoda paykulliana* (Walckenaer, 1806)

Material. FBs1, 10.04–29.04.2021, pt — 2 ♂♂; FBs3, same date, pt — 1 ♂.

Family THOMISIDAE Sundevall, 1833

Bassaniodes robustus (Hahn, 1832)

Material. SH5, 23.05–22.06.2019, pt — 4 ♂♂.

* *Ebrechtella tricuspida* (Fabricius, 1775)

Material. SH1, 22.05.2019, sn — 1 ♀; SH1, 22.06.2019, sn — 1 ♀, 4 ♂♂; FBs7, same date, sn — 1 ♀; Ms2, 23.06.2019, sn — 1 ♀.

Heriaeus horridus Tystshenko, 1965

Material. LO1, 10.06–03.07.2020, pt — 1 ♀, 48 ♂♂; LO2, same date, pt — 1 ♀, 7 ♂♂, 1 juv; Ms6, same date, pt — 2 ♂♂.

Heriaeus oblongus Simon, 1918

Material. FBs5, 23.06.2019, sn — 2 ♀♀.

Ozyptila praticola (C. L. Koch, 1837)

Material. F1, 25.05–08.06.2019, pt — 7 ♀♀; F1, 08–25.06.2019, pt — 12 ♂♂.

Ozyptila pullata (Thorell, 1875)

Material. FBs3, 05.09–19.09.2021, pt — 1 ♀.

Ozyptila scabricula (Westring, 1851)

Material. FBs5, 23.05–22.06.2019, pt — 2 ♀♀; FBs10, same date, pt — 2 ♀♀; FBs1, 08–25.06.2019, pt — 1 ♀; Ms1, same date, pt — 1 ♀; FBs4, 10.04–29.04.2021, pt — 1 ♂; Ms1, 21.07–05.09.2021, pt — 1 ♂.

Runcinia grammica (C. L. Koch, 1837)

Material. FBs5, 21.05.2019, sn — 3 juv; SH5, same date, sn — 12 juv; FBs6, 22.05.2019, sn — 45 juv; SH4, same date, sn — 16 juv; SH1, same date, sn — 15 juv; FBs7, 23.05.2019, sn — 25 juv; FBs8, 24.05.2019, sn — 12 juv; Ms1, 08.06.2019, sn — 5 ♀♀, 2 ♂♂, 4 juv; FBs1, same date, sn — 6 ♀♀, 6 ♂♂, 7 juv; SH1, 22.06.2019, sn — 1 ♀; SH2, same date, sn — 4 ♀♀, 3 ♂♂; FBs7, same date, sn — 2 ♀♀, 1 ♂, 2 juv; FBs5, 23.06.2019, sn — 1 ♀; SH5, same date, sn — 1 ♀, 3 ♂♂; Ms2, same date, sn — 7 ♀♀, 5 ♂♂, 3 juv; FBs10, 23.05–22.06.2019, pt — 1 ♀; SH2, same date, pt — 1 ♀; FBs1, 25.06.2019, sn — 1 ♀; LO1, 10.06.2020, sn — 1 ♀; SH2, 15.06.2020, sn — 4 ♀♀, 2 juv; FBs9, 17.06.2020, sn — 2 ♀♀, 6 juv; LS1, same date, sn — 2 ♀♀, 1 juv; Ms4, same date, hc — 1 ♂; FBs11, same date, sn — 5 ♀♀, 2 juv; FBs11, same date, hc — 1 juv; SH3, same date, sn — 3 ♀♀, 3 ♂♂; FBs12, 18.06.2020, sn — 18 ♀♀, 2 juv; FBs12, same date, hc — 1 ♀; Ms5, same date, sn — 6 juv; FBs4, 19.09.2021, sn — 2 juv.

* *Spiracme striatipes* (L. Koch, 1870)

Material. FBs7, 22–24.05.2019, hc — 1 ♀; FBs1, 25.05–08.06.2019, pt — 2 ♀♀; FBs2, same date, pt — 2 ♀♀; FBs3, same date, pt — 1 ♀; FBs4, 29.04–05.06.2021, pt — 1 ♀; FBs4, 05.09–19.09.2021, pt — 1 ♂; FBs4, 19.09.2021 sn — 1 ♀, 6 ♂♂.

Thomisus onustus Walckenaer, 1805

Material. SH5, 21.05.2019, sn — 2 ♀♀, 2 ♂♂, 5 juv; FBs6, 22.05.2019, sn — 5 ♀♀, 2 ♂♂, 3 juv; SH4, same date, sn — 2 ♀♀, 3 juv; SH1, same date, sn — 1 juv; FBs7, 23.05.2019, sn — 6 ♂♂, 1 juv; FBs8, 24.05.2019, sn — 1 ♀, 3 ♂♂, 5 juv; Ms3, same date, sn — 1 juv; Ms1, 08.06.2019, sn — 1 ♀, 2 ♂♂, 1 juv; FBs1, same date, sn — 3 ♂, 2 juv; SH2, 22.06.2019, sn — 1 ♀; Ms2, 23.06.2019, sn — 1 ♀, 1 ♂; FBs1, 25.06.2019, sn — 1 ♀; SH2, 15.06.2020, sn — 1 ♂; Ms4, 17.06.2020, hc — 1 ♀; SH3, same date, sn — 1 ♀; FBs4, 19.09.2021, sn — 2 juv; Ms1, same date, sn — 1 juv.

* *Xysticus acerbus* Thorell, 1872

Material. FBs5, 23.05–22.06.2019, pt — 1 ♀; FBs7, same date, pt — 1 ♀; FBs1, 25.05–08.06.2019, pt — 1 ♂; FBs2, same date, pt — 1 ♀; FBs1, 10.04–29.04.2021, pt — 1 ♀, 1 ♂; FBs4, same date, pt — 7 ♂♂; Ms1, same date, pt — 2 ♂♂; FBs3, same date, pt — 1 ♀, 6 ♂♂; FBs1, 29.04–05.06.2021, pt — 1 ♀, 2 ♂♂; FBs4, same date, pt — 1 ♀, 2 ♂♂; FBs3, same date, pt — 2 ♂♂.

Xysticus cristatus (Clerck, 1757)

Material. FBs7, 22–24.05.2019, hc — 1 ♀; F1, 25.05–08.06.2019, pt — 1 ♂.

Xysticus kochi Thorell, 1872

Material. SH5, 21.05.2019, sn — 1 ♂; Ms1, 08.06.2019, sn — 1 ♀; FBs1, same date, sn — 1 ♀; FBs10, 23.05–22.06.2019, pt — 1 ♂; SH2, same date, pt — 1 ♀; F2, same date, pt — 1 ♀; FBs1, 25.05–08.06.2019, pt — 1 ♀; FBs2, same date, pt — 1 ♀; FBs3, same date, pt — 1 ♀, 1 ♂; Ms4, 17.06.2020, hc — 1 ♀; FBs1, 10.04–29.04.2021, pt — 2 ♂♂; Ms1, same date, pt — 3 ♂♂; FBs3, same date, pt — 1 ♀, 5 ♂♂; FBs4, 29.04–05.06.2021, pt — 2 ♂♂; FBs4, 19.09.2021, sn — 5 juv.

***Xysticus laetus* Thorell, 1875**

Material. FBs3, 10.04–29.04.2021, pt — 1 ♂.

* ***Xysticus marmoratus* Thorell, 1875**

Material. FBs9, 23.05–22.06.2019, pt — 2 ♀.

Family TITANOECIDAE Lehtinen, 1967

* ***Nurscia albomaculata* (Lucas, 1846)**

Material. FBs3, 25.06.2019, sn — 1 juv.

* ***Nurscia albosignata* Simon, 1874**

Material. FBs3, 08–25.06.2019, pt — 1 ♂; Ms1, 21.07–05.09.2021, pt — 1 ♂.

***Titanoeca schineri* L. Koch, 1872**

Material. FBs2, 25.05–08.06.2019, pt — 1 ♂; F1, same date, pt — 1 ♂; FBs1, 08–25.06.2019, pt — 1 ♂; F1, same date, pt — 1 ♀, 13 ♂; FBs9, 15.06–03.07.2020, pt — 1 ♀, 1 ♂; SH2, same date, pt — 1 ♂; FBs7, same date, pt — 1 ♀.

***Titanoeca ukrainica* Guryanova, 1992**

Material. FBs9, 23.05–22.06.2019, pt — 2 ♂♂.

* ***Titanoeca veteranica* Herman, 1879**

Material. FBs1, 25.05–08.06.2019, pt — 1 ♂; FBs2, same date, pt — 2 ♂♂.

Family ULBORIDAE Thorell, 1869

***Uloborus walckenaerius* Latreille, 1806**

Material. FBs8, 24.05.2019, sn — 1 juv; Ms3, same date, sn — 1 juv; Ms2, 23.06.2019, sn — 1 ♀; SH2, 15.06.2020, hc — 1 ♀; Ms2, same date, hc — 1 ♀; LS1, 17.06.2020, sn — 1 ♀; LS2, same date, hc — 1 ♀; Ms4, same date, hc — 2 ♀♀; FBs11, same date, sn — 1 ♀; SH3, same date, sn — 1 ♂; FBs12, 18.06.2020, sn — 1 ♀, 1 juv.

Family ZODARIIDAE Thorell, 1881

***Zodarion thoni* Nosek, 1905**

Material. FBs5, 23.05–22.06.2019, pt — 6 ♀♀, 7 ♂♂; FBs9, same date, pt — 3 ♀♀; FBs10, same date, pt — 1 ♀; SH1, same date, pt — 3 ♀♀, 1 ♂; SH2, same date, pt — 8 ♀♀, 5 ♂♂; FBs7, same date, pt — 17 ♀♀, 29 ♂♂; FBs8, same date, pt — 6 ♀♀; FBs2, 25.05–08.06.2019 pt — 4 ♀♀, 25 ♂♂; FBs3, same date, pt — 13 ♀♀, 37 ♂♂; Ms1, same date, pt — 3 ♂♂; FBs1, 08–25.06.2019, pt — 4 ♂♂; FBs2, same date, pt — 8 ♀♀, 18 ♂♂; FBs3, same date, pt — 6 ♀♀, 13 ♂♂; F1, same date, pt — 1 ♂; SH2, 15.06–03.07.2020, pt — 4 ♀♀; FBs7, same date, pt — 1 ♀.

Three spider species were recorded for the first time from Kherson Region. *Harpactea alexandrae* is known from Bulgaria, Romania (Nentwig *et al.*, 2023), and Krasnodar Krai of Russia (Ponomarev *et al.*, 2018). In Ukraine, it has been reported from Crimea (Kovblyuk, Kastrygina, 2013). Sofiiivska Balka represents the northernmost limits of the species range. The range of *Attulus inopinabilis* stretches from southern Ukraine (Novokairy is the westernmost locality) to Kazakhstan and Kyrgyzstan and southward to northern Iran (Logunov, 2023). *Ero koreana* is widely distributed from Bulgaria and Ukraine to Korea and Japan (Nentwig *et al.*, 2023). We confirmed the finding of *Steatoda paykulliana* from Kherson Region, which was previously considered doubtful due to the lack of collecting material. The records of 62 species are new to the right-bank part of Kherson Region. The identifications of *Eresus kollari* Rossi, 1846 from Osokorivka (Prokopenko, Zhukov, 2018) and *Gnaphosa ukrainica* Ovtsharenko, Platnick, Song, 1992 from Kamianska Sich (Iosypchuk, 2019; Polchaninova *et al.*, 2021a) need to be verified.

Two other rare species for Ukraine should be noted. *Nurscia albosignata* was recorded from Kherson Region and Crimea (Polchaninova, Prokopenko, 2013, 2019; Kovblyuk *et al.*, 2016). Although it is spread widely and quite numerous in Crimea (Kovblyuk *et al.*, 2016), only two localities in mainland Ukraine are known, both in Kherson Region (Polchaninova, Prokopenko, 2013, present data). The species is spread from Greece to Kyrgyzstan and southward to Cyprus (Kovblyuk *et al.*, 2016); the northern border of its range runs through the south of Kherson Region. *Heriaeus horridus* was recorded by a single individual from Shyroka Balka in Kherson Region (Polchaninova *et al.*, 2021a). Later I collected 60 individuals from this locality, indicating that the species is abundant at the western edge of its range but has a patchy distribution.

I consider *Harpactea alexandrae* and *Nurscia albosignata* as the species of conservation concern, since their findings in Ukraine are limited to only two regions; *Attulus inopinabilis*, *Ero koreana*, *Heriaeus horridus*, and *Steatoda paykuliana* also require protection due to their mosaic distribution in threatened habitats.

I found 74 spider species in the grassland habitats near the Dnipro estuary (Sofiivska Balka and Shyroka Balka) and 77 species upstream along the Dnipro riverbed (Kamianska Sich). Only 37 species were common in both sites (Sørensen index = 0.49). Of these, *Thomisus onustus*, *Runcinia grammica*, and *Oxyopes lineatus* were widely spread and abundant in the herbage, while *Berlandina cinerea*, *Drassodes lapidosus*, *Haplodrassus bohemicus*, *Alopecosa cursos*, *A. kovblyuki*, *Thanatus arenarius*, *Xysticus kochi*, and *Zodarion thoni* occurred on the ground. *Neoscona adianta* was collected mainly in Kamianska Sich; *Thanatus atratus* and *Zelotes eugenei*, in contrast, were more abundant in Sofiivska Balka. *Civizelotes caucasicus* occurred in more xerophytic conditions near the estuary, while *Xysticus acerbus* inhabited south-southwestern slopes dominated by forbs in Kamianska Sich and different habitats in Sofiivska Balka. In this gully, the proximity of the Dnipro estuary explains the presence of a number of mesophilous species (*Agroeca cuprea*, *Alopecosa farinosa*, *A. pulverulenta*, *Drassodes pubescens*, *Haplodrassus signifer*, *Zelotes fuscus*), which are absent from Kamianska Sich, located on the high river bank and flat interfluvies. Xerophilous species with southern distribution were also more abundant in Sofiivska Balka, which indicates a mixed character of its spider assemblages.

Comparison of the spider faunas of the studied gullies with those of the gully systems of Mykolaiv Region (Yelanets Steppe, 104 species) and Dnipropetrovsk Region (Kryvyi Rih vicinity, 95 species) showed significant differences. Forty-seven species out of 186 (25.2%) occurred at the three sites. Forty-five species (24.1%) were recorded from Kherson Region only. The large number of local species indicates a mosaic distribution of spiders in the steppe gullies, resulting from the relative isolation of their habitats. The spider faunas of Kryvyi Rih and Yelanets Steppe were the most similar (Sørensen index = 0.68), perhaps due to their more northerly location in the forb-bunchgrass steppe subzone, while that of the gullies near the Dnipro estuary was the most specific (Sørensen index is equal to 0.44–0.45 in comparison with the above faunas).

Conclusions. The spider fauna of the studied gullies consists of species widely spread in the steppes of Ukraine, as well as rare species occurring locally. The fauna is enriched by mesophilous species preferring gully bottoms, scrubs, and forest plantations. Insularization of the steppe habitats leads to the weakening of species exchange and faunistic specificity of each locality. Conservation of steppe biodiversity requires a net of protected areas. The area in question was occupied by the Russian troops for more than eight months. It is currently unknown how the consequences of hostilities (fires, flooding, destruction of soil and vegetation cover, toxic effects of substances from destroyed ammunition or military vehicles) have affected the biodiversity of the damaged areas and whether the above-mentioned species have survived their influence.

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