

## Biodiversity of Sciaridae (Diptera) in Ukraine

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### Article info

Received 03.01.2022

Received in revised form 29.01.2022

Accepted 31.01.2022

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**Babytskiy, A. I., Bezsmertna, O. O., Protsenko, Y. V., Pavliuk, S. D., & Rubanovska, N. V. (2022). Biodiversity of Sciaridae (Diptera) in Ukraine. *Biosystems Diversity*, 30(1), 12–21. doi:10.15421/012202**

Sciarids (Diptera, Sciaridae) or black fungus gnats are small, mainly dark coloured insects whose larvae usually develop in rotting plant remains permeated by fungal hyphae. Typical habitats for sciarids are shaded forests and wet meadows, but some species can migrate from natural biotopes to anthropogenic ecosystems and live as synanthropes. We have investigated ecological and chorological features of sciarids in Ukraine since 2012. Within this work, we collected imagoes during expeditions and excursions in different biotopes using the Malaise trap, by the method of sweeping and with exhauster directly from substrate. Collected imagoes were placed into 5 mL vials with 70% ethanol. In the lab fixed material was dehydrated in absolute ethanol and mounted on the slides in Euparal. Previous registrations are based on 6 field collections, two of them were carried out in the XIX century, 4 observations of “army worms” and two pest records. From published material of these collections 78 sciarid species were known from 17 genera in 8 more or less specified localities of Ukraine. Our sciarid study in the country expanded the data on registered sciarids by adding 18 new species and enriched information about the distribution of sciarids by 86 new findings of previously known species in 12 regions (Volyn, Cherkasy, Chernihiv, Ivano-Frankivsk, Kharkiv, Khmelnytsk, Kyiv, Lviv, Odesa, Poltava, Rivne and Ternopil) of Ukraine. The current checklist of Sciaridae of Ukraine contains 96 species from 17 genera in 168 localities. Through comparison with Germany, whose sciarid fauna is studied much better, for Ukraine we can predict the presence approximately 400 sciarid species, so the species diversity of Sciaridae in Ukraine still poorly known for the known species does not exceed 25 percent of presumed existing species here. The majority of sciarid findings are registered in different types of broadleaf forest biotopes, only a few species have been found also in grassland habitats. Some sciarid species show synanthropic attraction and have been registered in anthropogenic habitats, for example *Brachysia fenestralis* (pest of cultivated plants in greenhouses), *Corynoptera dentiforceps*, *Scatopsciara atomaria* and *Corynoptera tridentata*. Larvae of *Brachysia placida* develop in rotten wood, also development of *Corynoptera membranigera* preimaginal phases possibly takes place in the fruit bodies of fungi (*Neoboletus luridiformis*, *Russula* sp.) and Mycetozoa (*Fuligo septica*).

**Keywords:** Sciaroidea; black fungus gnats; species diversity; distribution.

### Introduction

Black fungus gnats or sciarids are small (length of imago up to 8 mm), mainly dark coloured insects from the Sciaridae Billberg, 1820 family (Diptera). Sciarid larvae usually develop in rotting plant remains permeated by fungal hyphae. Typical habitats for sciarids are shaded forests and wet meadows, but some species can migrate from the natural biotopes to anthropogenic ecosystems and live as synanthropes (Broadley et al., 2018). The world fauna includes more than 2,200 sciarid species from 83 genera (Roscov et al., 2017). Menzel & Mohrig (2000) published the latest Palearctic sciarid fauna revision in 2000 and listed there 836 sciarid species from 28 genera. In Europe 32 genera and 673 sciarid species are registered (Menzel & Heller, 2013).

The comprehensive faunistic research on sciarids in Ukraine has not been carried out before (www.catalogueoflife.org). These gnats were only studied in: 1930s – by Bukowski and Lengersdorf in Crimea, 1960s – by Mamaev with Krivosheina and 1990s – by Dmitrieva in Transcarpathia (Zakarpatska Region) (Bukowski & Lengersdorf, 1936; Mohrig et al., 1979; Menzel & Mohrig, 1998). From the other regions of Ukraine only a few sciarid findings were known before: five species were registered in Lviv Region by Nowicki, three species were first described from Podolia by Winnertz and per one species was known from Ivano-Frankivsk Re-

gion, the western regions, excluding the Carpathians by Osmola and Odesa Region by Nepomyashcha and Uzhevska (Verkhratskyi, 1864; Nowicki, 1864, 1865, 1868; Winnertz, 1868; Osmola, 1970; Nepomyashcha & Uzhevska, 2010). In total, according to the literature, 17 genera and 78 sciarid species were recorded in our country.

There are many natural biotopes with convenient conditions for sciarid development in Ukraine. First of all, one should note the forest ecosystems, located in the Forest and the Forest-Steppe zones which cover ca. 55% of Ukrainian territory. Moreover, the primeval beech forests of the Ukrainian Carpathians and the ancient oak forests of Polissya are especially promising as natural refugia where endemic and relict Sciaridae probably survive. Also, wet meadows and coastal ecosystems of Ukraine are very interesting as sciarid natural habitats and need to be studied in the framework of sciarid biodiversity research.

In comparison with the well-known sciarid fauna of Germany the species list of Sciaridae registered in Ukraine is remarkably poor. As of 1999 in Germany 342 sciarid species were recorded, but in Ukraine only 78 species were known (Menzel, 1999). Given that the area of Ukraine exceeds the area of Germany almost by 246 000 km<sup>2</sup> and our country is characterized by not worse conditions for sciarids' development, we can expect that the biodiversity richness of Sciaridae in Ukraine will be at least not poorer than in Germany and we can predict the presence up to 400

sciarid species in our country. Thus, it can be concluded that only up to 25% of the species diversity of Sciaridae in Ukraine was known and, of course, needed further research.

## Materials and methods

Material was collected during expeditions and excursions from 2013 to 2018 in different forest, meadow and coastal natural habitats and in anthropogenic biotopes of Ukraine. Adult males were collected by the Malaise trap, sweeping with entomological nets and with aspirator directly from a substrate. Collected gnats were kept in 5 mL vials with 70% ethanol. In the laboratory, males were dehydrated in absolute ethanol and mounted on slides in Euparal.

The morphology was studied with MBS-9 and Biolam D11 microscopes equipped with Nikon D90 camera; images processed using NKRemote Version 2.2.1, AxioVision Version 4.6.3 and Photoshop CC 2018 programs; pictures stacked by Helicon Focus 6.7.1 open source software. A map was created using QGIS (version 3.10.10). All of the studied material is kept in Andriy Babytskiy's Private Collection, Kyiv (PABK) and deposited to the public on the Ukrainian Biodiversity Information Network (Babytskiy, A. (2018). Sciaridae dataset. Dataset ID #3861. In: UkrBIN: Ukrainian Biodiversity Information Network [public project & web application]. UkrBIN, Database on Biodiversity Information. Available from: [www.ukrbn.com](http://www.ukrbn.com)). All new findings are given with individual catalogue numbers of the vouchers in the UkrBIN or the PABK collection numbers (e.g., 225, UkrBIN-795774). Previously published material is provided by appropriate citations.

The nomenclature and systematics follow the revision of Palaearctic Sciaridae (Menzel & Mohrig, 2000) and Revision of the Black Fungus Gnats (Diptera: Sciaridae) of North America (Mohrig et al., 2013) with consideration of separate genera revisions (Hippa et al., 2010; Vilkamaa & Menzel, 2019).

## Results

Since 2012, we have studied the ecological and chorological peculiarities of sciarids in Ukraine. By now, we have accumulated data on the Ukrainian sciarid fauna, previously known sciarid species' localities in our country and supplemented the species list with our own findings. The list of new findings of sciarids in Ukraine is given below.

*Bradysia fenestralis* (Zetterstedt, 1838). Material examined. Ukraine, Kyiv City: Heroiv Oborony St., 13, camp. 4 of NULES: 50.384069°N, 030.497033°E altitude ca. 190 m a.s.l., found dead in dry condition on the window sill, IV decade of 09.2015, 1 ♂, leg. A. Babytskiy (No 134, UkrBIN-795840).

*Bradysia fungicola* (Winnertz, 1867). Material examined. Ukraine, Volyn Region: outskirts of Zhabka, Tsumanska Puscha National Nature Park, old arboretum: 50.81919°N, 025.43038°E altitude ca. 210 m a.s.l., mixed forest with domination of oak, hornbeam, pine, sweeping on grass along the road, 29.06.2017, 1 ♂, leg. A. Babytskiy (No 233, UkrBIN-795930); Ukraine, Ternopil Region: outskirts of Luchka, "Myshkovytska Dacha" tract: 49.40917°N, 025.61360°E altitude ca. 375 m a.s.l., broadleaf oak forest of Western Podolia (G 1.212), wet plot with tall and dense grass and federation of *Formica rufa* Linnaeus, 1761, 07.05.2017, 1 ♂, leg. A. Babytskiy (No 189, UkrBIN-795886); Ukraine, Kyiv City: Holo-siivskiy National Nature Park: 50.37381°N, 030.50764°E altitude ca. 160 m a.s.l., broadleaf maple-hornbeam forest, sweeping above rotten trunk, 15.06.2017, 1 ♂, leg. A. Babytskiy (No 333); Ukraine, Kyiv City: Holo-siivskiy National Nature Park: 50.37381°N, 030.50764°E altitude ca. 160 m a.s.l., broadleaf maple-hornbeam forest, sweeping above rotten wood, litter and undergrowth, 21.08.2017, 1 ♂, leg. A. Babytskiy (No 414); Ukraine, Ternopil Region: outskirts of Strusiv, near "Zorepad" children's camp: 49.33878°N, 025.63311°E altitude ca. 350 m a.s.l., hornbeam forest, sweeping near the road above litter and sparse grass with *Carex pilosa* Scop., seedlings of *Acer platanoides* L., 19.06.2018, 1 ♂, leg. A. Babytskiy (No 607).

*Bradysia placida* (Winnertz, 1867). Material examined. Ukraine, Rivne Region: outskirts of Romelky: 51.272667°N, 26.171944°E altitude ca. 165 m a.s.l., hornbeam forest near Kyiv-Kovel highway, sweeping

about litter and sparse vegetation, 10.09.2017, 1 ♂, leg. A. Babytskiy (No 261, UkrBIN-795953); Ukraine, Lviv Region: Stare Selo: 49.21899°N, 024.40241°E altitude ca. 340 m a.s.l., beech forest, sweeping above grass near forest road and lawn, 13.08.2016, 1 ♂, leg. A. Babytskiy (No 89, UkrBIN-795827); Ukraine, Volyn Region: outskirts of Solovychi, countryside: 51.06260°N, 024.48169°E altitude ca. 180 m a.s.l., anthropogenic transformed dry meadow, with planted pines, birches and other trees, sweeping above the grass and near trees, 30.04.2018, 1 ♂, leg. A. Babytskiy (No 549).

*Bradysia trivittata* (Staeger, 1840). Material examined. Ukraine, Volyn Region, outskirts of Solovychi, countryside: 51.06260°N, 024.48169°E altitude ca. 180 m a.s.l., anthropogenic transformed dry meadow with domination of *Hieracium* L. and admixture of *Trifolium* L., *Equisetum arvense* L., *Sedum acre* L., *Dactylis glomerata* L. planted with pines, birches and other, Malaise trap, set near manure heap, 12.08.2015, 1 ♂, leg. A. Babytskiy (No 138, UkrBIN-795844); Ukraine, Volyn Region, outskirts of Solovychi, countryside: 51.06260°N, 024.48169°E altitude ca. 180 m a.s.l., anthropogenic transformed dry meadow with domination of *Hieracium* L. and admixture of *Trifolium* L., *Equisetum arvense* L., *Sedum acre* L., *Dactylis glomerata* L. planted with pines, birches and other, with aspirator from Malaise trap, set near manure heap, 08.08.2015, 1 ♂, leg. A. Babytskiy (No 145, UkrBIN-795847); Ukraine, Ternopil Region, outskirts of Skomorokhy, left bank of Strypa River: 48.90773°N, 025.39594°E altitude ca. 205 m a.s.l., hanging swamp, sweeping on grass, 09.08.2016, 1 ♂, leg. A. Babytskiy (No 82, UkrBIN-795799); Ukraine, Odesa Region, outskirts of Lebedivka, shore of the Black Sea: 45.82236°N, 030.14138°E altitude ca. -7 m a.s.l., sandy beach under bluff, with aspirator, 20.07.2016, 1 ♂, leg. A. Babytskiy (No 97, UkrBIN-795812); Ukraine, Odesa Region, outskirts of Lebedivka, Tuzly Lagoons National Nature Park: 45.84788°N, 030.14001°E altitude ca. 2 m a.s.l., bank of lagoon, sweeping above soliter of ash, 19.07.2017, 1 ♂, leg. A. Babytskiy (No 297); Ukraine, Odesa Region, outskirts of Lebedivka, Tuzly Lagoons National Nature Park: 45.83316°N, 030.14468°E altitude ca. 15 m a.s.l., Gleditsia forest, sweeping near the road, on grass and trees, 16.07.2017, 1 ♂, leg. A. Babytskiy (No 299); Ukraine, Volyn Region, outskirts of Solovychi, countryside: 51.06260°N, 024.48169°E altitude ca. 180 m a.s.l., anthropogenic transformed dry meadow planted with pines, birches and other trees, sweeping on grass and near trees, 30.04.2018, 91 ♂, leg. A. Babytskiy (No 451-72; 474-84, 486-94; 496; 498-517; 519-25; 527-42; 544-8); Ukraine, Ternopil Region, outskirts of Kasperivtsi, Dniester Canyon National Nature Park, right bank of Seret River: 48.68012°N, 025.85049°E altitude ca. 195 m a.s.l., coastal hornbeam forest on the steep slope, exposure of siliceous rocks, sweeping, 22.06.2018, 1 ♂, leg. A. Babytskiy (No 663); Ukraine, Volyn Region, outskirts of Svitle, forest along the Kovel-Kyiv highway: 51.255722°N, 025.294125°E altitude ca. 165 m a.s.l., two plots of broadleaf forest – alder-birch and oak-linden, sweeping above leaf litter, on grass, rotten woods, stumps covered with moss, 30.09.2018, 1 ♂, leg. A. Babytskiy (No 823); Ukraine, Kharkiv Region, outskirts of Novomlynsk, Dvorchanskyy National Nature Park, right bank of Oskil River: 49.898702°N, 037.751903°E altitude ca. 80 m a.s.l., meadow with sedges, sweeping, 04.07.2018, 2 ♂, leg. V. Klietionkin (No 835-6); Ukraine, Ternopil Region, Mykulyntsi, Ternopilska Str., 20: 49.40111°N, 025.60138°E altitude ca. 335 m a.s.l., countryside, ex larvae from wet woods, set 28.06.2018, 09.07.2018, 1 ♂, leg. A. Babytskiy (No 693); Ukraine, Kyiv Region, outskirts of Rzhyshev: 49.96208°N, 031.12972°E altitude ca. 135 m a.s.l., wet ravine, overgrowth with broadleaf forest, tree dominants – birch, alder, elm, bush dominant – hazel, on the edge – robinia, route sweeping on grasses, above litter and rotten wood, 23.06.2020, 2 ♂, leg. A. Babytskiy (No 3350, 3363).

*Corynoptera dentata* (Bukowski & Lengersdorf, 1936). Material examined. Ukraine, Kyiv City: Holo-siivskiy National Nature Park, near the road along Blakytynoho Str.: 50.38486°N, 030.50846°E altitude ca. 185 m a.s.l., hornbeam-oak forest with *Acer pseudoplatanus* L. in undergrowth, on fallen rotten trunk, with aspirator, 30.07.2015, 1 ♂, leg. A. Babytskiy (No 135, UkrBIN-795841); Ukraine, Volyn Region, outskirts of Klu-bochyn, Tsumanska Puscha National Nature Park: 50.96230°N, 025.83071°E altitude ca. 205 m a.s.l., hornbeam-oak forest, sweeping on grass and near rotten trunks, 27.06.2017, 1 ♂, leg. A. Babytskiy (No 217,

UkrBIN-795913); Ukraine, Volyn Region, between Berestiane and Kholonevychi, "Piilo" tract, Tsumanska Puscha National Nature Park: 50.99890°N, 025.93088°E altitude ca. 175 m a.s.l., hornbeam forest, sweeping near rotten aspen trunks, 28.06.2017, 3 ♂, leg. A. Babytskiy (No 229-31, UkrBIN-795926-8); Ukraine, Ternopil Region, outskirts of Kasperivtsi, Dniester Canyon National Nature Park, right bank of Seret River: 48.67661°N, 025.85291°E altitude ca. 205 m a.s.l., coastal hornbeam forest on the steep slope, near a spring, sweeping on grass, maple undergrowth, above shrubs (*Cornus* sp., *Euonymus* sp. etc.) and stones covered with mosses, 22.06.2018, 1 ♂, leg. A. Babytskiy (No 654); Ukraine, Kyiv Region, outskirts of Rzhyshev: 49.96208°N, 031.12972°E altitude ca. 135 m a.s.l., wet ravine, overgrowth with broadleaf forest, tree dominants – birch, alder, elm, bush dominant – hazel, on the edge – robinia, route sweeping on grasses, above litter, mosses and rotten wood, 22.06.2020, 2 ♂, leg. A. Babytskiy (No 3322-3); Ukraine, Kyiv Region, outskirts of Rzhyshev: 49.96208°N, 031.12972°E altitude ca. 135 m a.s.l., wet ravine, overgrowth with broadleaf forest, tree dominants – birch, alder, elm, bush dominant – hazel, on the edge – robinia, route sweeping on grasses, above litter and rotten wood, 23.06.2020, 1 ♂, leg. A. Babytskiy (No 3356); Ukraine, Kyiv Region, outskirts of Rzhyshev, biostation "Hlyboki Balyky": 49.96121°N, 031.11927°E altitude ca. 80 m a.s.l., wet ravine with swampy stream at the bottom, overgrowth with alder forest, bush dominant – *Swida* sp., grass cover mosaic – the slopes of the ravine are almost bare, covered only with moss and litter, at the bottom of the ravine – tall grass, route sweeping on grasses and above litter, 24.06.2020, 1 ♂, leg. A. Babytskiy (No 3378).

*Corynoptera dentiforceps* (Bukowski & Lengersdorf, 1936). Material examined. Ukraine, Volyn Region, Turisk, B. Khmelnytskoho Str., 8: 51.079814°N, 024.530391°E altitude ca. 185 m a.s.l., countryside, near walnut tree (*Juglans regia* L.) with rotten remains of branch, with aspirator, 19.08.2016, 1 ♂, leg. A. Babytskiy (No 96, UkrBIN-795811); Ukraine, Volyn Region, Turisk, B. Khmelnytskoho Str., 8: 51.079814°N, 024.530391°E altitude ca. 185 m a.s.l., countryside, near walnut tree (*Juglans regia* L.) with rotten remains of branch, with aspirator, 04.05.2015, 1 ♂, leg. A. Babytskiy (No 160, UkrBIN-795859).

*Corynoptera flavicauda* (Zetterstedt, 1855). Material examined. Ukraine, Ternopil Region: outskirts of Luchka, "Zapust" tract: 49.40437°N, 025.61119°E altitude ca. 330 m a.s.l., broadleaf oak forest of Western Podolia (G 1.212), edge of the tract, on the old forest road along the slope with NW exposure, sweeping on grass, 07.05.2017, 1 ♂, leg. A. Babytskiy (No 173, UkrBIN-795871).

*Corynoptera inundata* Fritz, 1982. Material examined. Ukraine, Ternopil Region, outskirts of Skomorokhy, left bank of Strypa River: 48.90773°N, 025.39594°E altitude ca. 205 m a.s.l., hanging swamp, sweeping on grass, 09.08.2016, 1 ♂, leg. A. Babytskiy (No 83, UkrBIN-795800).

*Corynoptera luteofusca* (Bukowski & Lengersdorf, 1936). Material examined. Ukraine, Volyn Region, outskirts of Zhabka, Tsumanska Puscha National Nature Park, old arboretum: 50.81919°N, 025.43038°E altitude ca. 210 m a.s.l., mixed forest with domination of oak, hornbeam, pine, sweeping on grass along the road, 29.06.2017, 1 ♂, leg. A. Babytskiy (No 234, UkrBIN-795931).

*Corynoptera membranigera* (Kieffer, 1903). Material examined. Ukraine, Ternopil Region: between Luchka and Volia, "Zapust" tract: 49.40546°N, 025.61394°E altitude ca. 340 m a.s.l., hornbeam-oak forest, with aspirator on the fruit body of *Neoboletus luridiformis* (Rostk.) Gelardi, Simonini & Vizzini, 2014, 06.07.2015, 2 ♂, leg. A. Babytskiy (No 53-4, UkrBIN-795781-2); Ukraine, Ivano-Frankivsk Region: between Nezysko and Luka, left bank of Dniester: 48.78383°N, 025.25209°E altitude ca. 170 m a.s.l., cereal meadow near the forest and surrounded on one side by tall grass with *Urtica dioica* L., *Aegopodium podagraria* L. and with admixture of *Plantago major* L., *Taraxacum campyloides* G. E. Haglund etc., sweeping and with aspirator, 10.08.2016, 1 ♂, leg. A. Babytskiy (No 92, UkrBIN-795808); Ukraine, Ternopil Region: between Luchka and Volia, "Zapust" tract: 49.40593°N, 025.61580°E altitude ca. 340 m a.s.l., hornbeam-oak forest, with aspirator on the fruit body of *Russula* sp., 03.07.2015, 2 ♂, 1 ♀, leg. A. Babytskiy (No 106-7, UkrBIN-795820-1); Ukraine, Ternopil Region: between Luchka and Volia, "Zapust" tract: 49.40591°N, 025.61581°E altitude ca. 340 m a.s.l., hornbeam-oak forest, with aspirator on the fruit body of *Fuligo septica* (L.) F. H. Wigg (1780) f.

*flava*, which developed on leaf litter, 03.07.2015, 9 ♂, leg. A. Babytskiy (No 43-4, UkrBIN-795777-8; 108-9, UkrBIN-795822-3); Ukraine, Ternopil Region: between Luchka and Volia, "Zapust" tract: 49.40572°N, 025.61362°E altitude ca. 340 m a.s.l., hornbeam-oak forest, wet ravine with *Carpinus betulus* L., sweeping between the hills, 03.07.2015, 1 ♂, leg. A. Babytskiy (No 49, UkrBIN-795780); Ukraine, Volyn Region, outskirts of Klubochyn, Tsumanska Puscha National Nature Park: 50.96522°N, 025.77657°E altitude ca. 215 m a.s.l., hornbeam-oak forest, sweeping on *Vinca minor* L. grass, 27.06.2017, 1 ♂, leg. A. Babytskiy (No 206, UkrBIN-795903); Ukraine, Volyn Region, outskirts of Sokyrychi, Tsumanska Puscha National Nature Park: 50.87516°N, 025.51393°E altitude ca. 210 m a.s.l., hornbeam forest with admixture of pines and old larches, sweeping on grass (populations of *Pteridium* sp., *Dryopteris* sp. and *Aegopodium podagraria* L.) and litter with rotten wood, 28.06.2017, 3 ♂, leg. A. Babytskiy (No 223-4, UkrBIN-795919-20); Ukraine, Volyn Region, outskirts of Klubochyn, Tsumanska Puscha National Nature Park: 50.96447°N, 025.77727°E altitude ca. 215 m a.s.l., hornbeam forest with admixture of *Betula pendula* Roth. and three trees of *Betula obscura* A. Kotula, sweeping on grass, 27.06.2017, 1 ♂, leg. A. Babytskiy (No 200, UkrBIN-795897); Volyn Region, outskirts of Zhabka, Tsumanska Puscha National Nature Park: 50.81466°N, 025.42506°E altitude ca. 230 m a.s.l., mixed broadleaf-pine forest, sweeping along forest road, excluding wayside vegetation, 29.06.2017, 1 ♂, leg. A. Babytskiy (No 243, UkrBIN-795940); Ukraine, Ternopil Region: between Luchka and Volia, "Zapust" tract: 49.40601°N, 025.61579°E altitude ca. 340 m a.s.l., hornbeam-oak forest, on the overripe fruiting body of *Russula* sp., 03.07.2015, 1 ♂, leg. A. Babytskiy (No 51); Ukraine, Ternopil Region: outskirts of Luchka, "Zapust" tract: 49.40420°N, 025.61105°E altitude ca. 325 m a.s.l., hornbeam-oak forest, W edge of the tract, sweeping above litter and rotten wood, 18.06.2018, 1 ♂, leg. A. Babytskiy (No 568); Ukraine, Ternopil Region: outskirts of Luchka, "Zapust" tract: 49.40447°N, 025.61140°E altitude ca. 330 m a.s.l., hornbeam-oak forest, sweeping above litter, 18.06.2018, 1 ♂, leg. A. Babytskiy (No 570); Ukraine, Ternopil Region: outskirts of Luchka, "Zapust" tract: 49.40451°N, 025.61254°E altitude ca. 345 m a.s.l., hornbeam-oak forest, sweeping above litter without grass, 18.06.2018, 18 ♂, leg. A. Babytskiy (No 572; 574-6; 578-80; 584-6; 589-91; 593-6; 598); Ukraine, Ternopil Region: outskirts of Strusiv, near "Zorepad" children's camp: 49.33881°N, 025.63246°E altitude ca. 350 m a.s.l., hornbeam-oak forest, sweeping along forest road, 19.06.2018, 1 ♂, leg. A. Babytskiy (No 600); Ukraine, Ternopil Region: outskirts of Strusiv, near "Zorepad" children's camp: 49.33878°N, 025.63311°E altitude ca. 350 m a.s.l., hornbeam forest, sweeping near the road above litter and sparse grass with *Carex pilosa* Scop., seedlings of *Acer platanoides* L., 19.06.2018, 7 ♂, leg. A. Babytskiy (No 601-2; 604-6; 608-9); Ukraine, Ternopil Region: outskirts of Strusiv, near "Zorepad" children's camp: 49.33839°N, 025.63538°E altitude ca. 355 m a.s.l., hornbeam forest, sweeping above litter, wetter plot than nearest areas, 19.06.2018, 3 ♂, leg. A. Babytskiy (No 611; 614-5); Ukraine, Ternopil Region: outskirts of Strusiv, near "Zorepad" children's camp: 49.33764°N, 025.63538°E altitude ca. 360 m a.s.l., hornbeam-larch forest, sweeping above litter with needles, cones and branches of larch, 19.06.2018, 3 ♂, leg. A. Babytskiy (No 617-9); Ukraine, Ternopil Region: outskirts of Strusiv, near "Zorepad" children's camp: 49.33638°N, 025.63387°E altitude ca. 375 m a.s.l., hornbeam-oak forest, sweeping above litter with single plants and rotten covered with moss stumps and trunks, 19.06.2018, 4 ♂, leg. A. Babytskiy (No 621-2; 624; 627); Ukraine, Ternopil Region: outskirts of Lucka, "Myshkovytska dacha" tract: 49.40665°N, 025.61123°E altitude ca. 340 m a.s.l., hornbeam-oak forest, anthropogenic load part of the tract, bordering the village, peripheral area, sweeping above leaf litter with sparse grass, 20.06.2018, 1 ♂, leg. A. Babytskiy (No 636); Ukraine, Ternopil Region: outskirts of Lucka, "Myshkovytska dacha" tract: 49.40715°N, 025.61195°E altitude ca. 360 m a.s.l., hornbeam-oak forest, sweeping on grass and above rotten wood, 20.06.2018, 4 ♂, leg. A. Babytskiy (No 637-8; 640-1); Ukraine, Ternopil Region: outskirts of Lucka, "Myshkovytska dacha" tract: 49.40878°N, 025.61436°E altitude ca. 375 m a.s.l., hornbeam-oak forest, route sweeping from the middle to the periphery of the tract on grass and above rotten wood, sometimes covered with mosses, 20.06.2018, 1 ♂, leg. A. Babytskiy (No 642); Ukraine, Ternopil Region: outskirts of Stru-

siv: 49.34376°N, 025.62999°E altitude ca. 410 m a.s.l., hornbeam-oak forest, sweeping along the forest road on grass and above litter, 30.06.2018, 3 ♂, leg. A. Babytskiy (No 702; 709; 724); Ukraine, Ternopil Region: outskirts of Strusiv: 49.33495°N, 025.63931°E altitude ca. 380 m a.s.l., young birch-hornbeam-oak forest, sweeping on grass and above litter, 30.06.2018, 1 ♂, leg. A. Babytskiy (No 734); Ukraine, Ternopil Region: outskirts of Lucka, “Zapust” tract: 49.40443°N, 025.61215°E altitude ca. 340 m a.s.l., hornbeam-oak forest, sweeping on grass and above leaf litter, 27.06.2018, 10 ♂, leg. A. Babytskiy (No 672; 675-8; 682-6); Ukraine, Ternopil Region: outskirts of Druzhba: 49.34654°N, 025.66220°E altitude ca. 370 m a.s.l., hornbeam forest with admixture of birch and merry tree, sweeping on grass, about leaf litter, shrubs and rotten wood, 28.06.2018, 1 ♂, leg. A. Babytskiy (No 700); Ukraine, Ternopil Region: outskirts of Volia, E edge of “Hrabyna” tract: 49.38776°N, 025.62919°E altitude ca. 360 m a.s.l., hornbeam-oak forest, sweeping beside the tract edge on grass and about the litter, 02.07.2018, 1 ♂, leg. A. Babytskiy (No 771); Ukraine, Ternopil Region: outskirts of Volia, N edge of “Hrabyna” tract, bordering the village: 49.38903°N, 025.62634°E altitude ca. 350 m a.s.l., light and moist forest edge of hornbeam-oak forest with domination of hornbeam and pine and admixture *Acer platanoides* L., sweeping on dense grass, 02.07.2018, 1 ♂, leg. A. Babytskiy (No 791); Ukraine, Kyiv Region, outskirts of Rzhyshev: 49.93739°N, 031.04703°E altitude ca. 140 m a.s.l., maple-robiniya anthropogenic plantation with domination of ruderals in the grass level (*Urtica dioica* L., *Daucus carota* L.), sweeping on grass and above the litter, 22.06.2020, 1 ♂, leg. A. Babytskiy (No 3328); Ukraine, Kyiv Region, outskirts of Rzhyshev: 49.96208°N, 031.12972°E altitude ca. 135 m a.s.l., wet ravine, overgrowth with broadleaf forest, tree dominants – birch, alder, elm, bush dominant – hazel, on the edge – robiniya, route sweeping on grasses, above litter, mosses and rotten wood, 23.06.2020, 2 ♂, leg. A. Babytskiy (No 3364; 3367).

*Corynoptera tetrachaeta* Tuomikoski, 1960. Material examined. Ukraine, Volyn Region, outskirts of Zhabka, Tsumanska Puscha National Nature Park, old arboretum: 50.81466°N, 025.42506°E altitude ca. 230 m a.s.l., mixed broadleaf-pine forest, sweeping along the road, excluding wayside vegetation, 29.06.2017, 1 ♂, leg. A. Babytskiy (No 241, UkrBIN-795938); Ukraine, Ternopil Region, outskirts Druzhba: 49.34526°N, 025.65677°E altitude ca. 370 m a.s.l., hornbeam-oak forest, road with cereal grasses, sweeping on grasses, above shrubs, 03.08.2017, 2 ♂, leg. A. Babytskiy (No 280, 283).

*Corynoptera tridentata* Hondru, 1968. Material examined. Ukraine, Ternopil Region: outskirts of Luchka, “Zapust” tract: 49.40437°N, 025.61119°E altitude ca. 330 m a.s.l., broadleaf oak forest of Western Podolia (G 1.212), edge of the tract, on the old forest road along the slope with NW exposure, sweeping on grass, 07.05.2017, 2 ♂, leg. A. Babytskiy (No 172, UkrBIN-795870; 183, UkrBIN-795880); Ukraine, Ternopil Region: outskirts of Luchka, “Myshkovytska Dacha” tract: 49.40917°N, 025.61360°E altitude ca. 375 m a.s.l., broadleaf oak forest of Western Podolia (G 1.212), wet plot with tall and dense grass and federation of *Formica rufa* Linnaeus, 1761, 07.05.2017, 4 ♂, leg. A. Babytskiy (No 187, UkrBIN-795884; 191-3, UkrBIN-795888-90); Ukraine, Ternopil Region: Mykulyntsi, Ternopilska st., 20: 49.40126°N, 025.60140°E altitude ca. 295 m a.s.l., vegetable garden (area ca. 5 m<sup>2</sup>) in the countryside with potato and onion, beside cluttered rabbit hutch and toilet, Malaise trap directed to the rabbit hutch, worked from 17:30 19.06 to 9:00 21.06, 19-21.06.2016, 2 ♂, leg. A. Babytskiy (No 110-1, UkrBIN-795824-5); Ukraine, Ternopil Region, outskirts of Kasperivtsi, bank of Kasperivtsi Reservoir: 48.67120°N, 025.85270°E altitude ca. 170 m a.s.l., meadow plot on the bank covered by forest, edge of the forest tract, sweeping on grass of meadow, without trees or bushes, 22.06.2018, 1 ♂, leg. A. Babytskiy (No 645).

*Cratyna (Cratyna) ambigua* (Lengersdorf, 1934). Material examined. Ukraine, Cherkasy Region: outskirts of Vyhraiv, left bank of Ros River: 49.42680°N, 031.13279°E altitude ca. 120 m a.s.l., mixed forest with domination of pine, alder, *Acer negundo* L. and admixture of hawthorn, pear and poplar, sweeping, 14.07.2016, 1 ♂, leg. A. Babytskiy (No 125, UkrBIN-795834); Ukraine, Ternopil Region: outskirts of Luchka, “Zapust” tract: 49.40437°N, 025.61119°E altitude ca. 330 m a.s.l., broadleaf oak forest of Western Podolia (G 1.212), edge of the tract, on the old forest

road along the slope with NW exposure, sweeping on grass, 07.05.2017, 1 ♂, leg. A. Babytskiy (No 168, UkrBIN-795866); Volyn Region, outskirts of Zhabka, Tsumanska Puscha National Nature Park: 50.81466°N, 025.42506°E altitude ca. 230 m a.s.l., mixed broadleaf-pine forest, sweeping along forest road, excluding wayside vegetation, 29.06.2017, 1 ♂, leg. A. Babytskiy (No 240, UkrBIN-795937); Ukraine, Lviv Region: Stare Selo: 49.21899°N, 024.40241°E altitude ca. 340 m a.s.l., beech forest, canyon with *Asplenium scolopendrium* L. overgrowth, sweeping on grass in canyon and nearest forest, 13.08.2016, 1 ♂, leg. A. Babytskiy (No 67); Ukraine, Ternopil Region: outskirts of Strusiv, near “Zorepad” children's camp: 49.33764°N, 025.63538°E altitude ca. 360 m a.s.l., hornbeam-larch forest, sweeping above litter with needles, cones and branches of larch, 19.06.2018, 1 ♂, leg. A. Babytskiy (No 620); Ukraine, Ternopil Region: outskirts of Luchka, “Zapust” tract: 49.40446°N, 025.61120°E altitude ca. 330 m a.s.l., broadleaf oak forest of Western Podolia (G 1.212), edge of the tract, on the old forest road along the slope with NW exposition, sweeping on grass, 27.05.2017, 1 ♂, leg. A. Babytskiy (No 671); Ukraine, Ternopil Region: outskirts of Lucka, “Zapust” tract: 49.40443°N, 025.61215°E altitude ca. 340 m a.s.l., hornbeam-oak forest, sweeping on grass and above leaf litter, 27.06.2018, 1 ♂, leg. A. Babytskiy (No 680); Ukraine, Ternopil Region: outskirts of Strusiv: 49.34376°N, 025.62999°E altitude ca. 410 m a.s.l., hornbeam-oak forest, sweeping along the forest road on grass and above litter, 30.06.2018, 2 ♂, leg. A. Babytskiy (No 706; 729); Ukraine, Ternopil Region: outskirts of Volia, E edge of “Hrabyna” tract: 49.38776°N, 025.62919°E altitude ca. 360 m a.s.l., hornbeam-oak forest, sweeping beside the tract edge on grass and about the litter, 02.07.2018, 2 ♂, leg. A. Babytskiy (No 775; 777); Ukraine, Ternopil Region: outskirts of Volia, S edge of “Zapust” tract: 49.40038°N, 025.62152°E altitude ca. 350 m a.s.l., hornbeam-oak forest, sweeping along the forest road in the ravine and above oak seedlings in forest, 02.07.2018, 2 ♂, leg. A. Babytskiy (No 815; 822).

*Epidapus (Epidapus) atomarius* (De Geer, 1778). Material examined. Ukraine, Lviv Region: Stare Selo: 49.21899°N, 024.40241°E altitude ca. 340 m a.s.l., beech forest, sweeping above grass near forest road and lawn, 13.08.2016, 1 ♂, leg. A. Babytskiy (No 87, UkrBIN-795804); Ukraine, Kyiv Region, outskirts of Rzhyshev, biostation “Hlyboki Balyky”: 49.96121°N, 031.11927°E altitude ca. 80 m a.s.l., wet ravine with swampy stream at the bottom, overgrowth with alder forest, bush dominant – *Swida* sp., grass cover mosaic – the slopes of the ravine are almost bare, covered only with moss and litter, at the bottom of the ravine – tall grass, route sweeping on grasses and above litter, 24.06.2020, 1 ♂, leg. A. Babytskiy (No 3385).

*Hemineurina inflata* (Winnertz, 1867). Material examined. Ukraine, Ternopil Region: outskirts of Luchka, “Zapust” tract: 49.40437°N, 025.61119°E altitude ca. 330 m a.s.l., broadleaf oak forest of Western Podolia (G 1.212), edge of the tract, on the old forest road along the slope with NW exposure, sweeping on grass, 07.05.2017, 1 ♂, leg. A. Babytskiy (No 184, UkrBIN-795881).

*Leptosciarella (Leptosciarella) scutellata* (Staeger, 1840). Material examined. Ukraine, Lviv Region: Stare Selo: 49.21899°N, 024.40241°E altitude ca. 340 m a.s.l., beech forest, canyon with *Asplenium scolopendrium* L. overgrowth, sweeping on grass in canyon and nearest forest, 13.08.2016, 1 ♂, leg. A. Babytskiy (No 66, UkrBIN-795790); Ukraine, Cherkasy Region: outskirts of Kaniv, Kaniv Nature Reserve: 49.72734°N, 031.51852°E altitude ca. 205 m a.s.l., hornbeam-oak forest with admixture of maple, sweeping on grass with lots of rotten branches, 20.06.2015, 1 ♂, leg. A. Babytskiy (No 132, UkrBIN-795838); Ukraine, Ternopil Region: outskirts of Luchka, “Zapust” tract: 49.40437°N, 025.61119°E altitude ca. 330 m a.s.l., broadleaf oak forest of Western Podolia (G 1.212), edge of the tract, on the old forest road along the slope with NW exposure, sweeping on grass, 07.05.2017, 3 ♂, leg. A. Babytskiy (No 167, UkrBIN-795865; 169, UkrBIN-795867; 171, UkrBIN-795869); Ukraine, Ternopil Region: outskirts of Luchka, “Zapust” tract: 49.40440°N, 025.61119°E altitude ca. 330 m a.s.l., broadleaf oak forest of Western Podolia (G 1.212), near ancient forest road, on the slope of the hill, sweeping on grass around rotten remains of pine trunk, 07.05.2017, 3 ♂, leg. A. Babytskiy (No 175-7, UkrBIN-795872-4); Ukraine, Ternopil Region: outskirts of Luchka, “Zapust” tract: 49.40483°N, 025.61241°E altitude ca. 340 m a.s.l., broadleaf oak forest of Western Podolia

(G 1.212), slope of hill with NW exposure, sweeping on grass and above rotten stump, 07.05.2017, 2 ♂, leg. A. Babytskiy (No 178-9, UkrBIN-795875-6); Ukraine, Ternopil Region: outskirts of Luchka, “Zapust” tract: 49.40493°N, 025.61218°E altitude ca. 340 m a.s.l., broadleaf oak forest of Western Podolia (G 1.212), wet ravine, near the source of the spring and concrete bridge across the ravine, sweeping on grass, 07.05.2017, 1 ♂, leg. A. Babytskiy (No 182, UkrBIN-795879); Ukraine, Ternopil Region: outskirts of Luchka, “Myshkovytska Dachka” tract: 49.40917°N, 025.61360°E altitude ca. 375 m a.s.l., broadleaf oak forest of Western Podolia (G 1.212), wet plot with tall and dense grass and federation of *Formica rufa* Linnaeus, 1761, 07.05.2017, 2 ♂, leg. A. Babytskiy (No 186, UkrBIN-795883; 190, UkrBIN-795887); Ukraine, Volyn Region, outskirts of Sokyrychi, Tsumanska Puscha National Nature Park: 50.87516°N, 025.51393°E altitude ca. 210 m a.s.l., hombeam forest with admixture of pines and old larches, sweeping on grass (populations of *Pteridium* sp., *Dryopteris* sp. and *Aegopodium podagraria* L.) and litter with rotten wood, 28.06.2017, 3 ♂, leg. A. Babytskiy (No 218-20, UkrBIN-795914-6); Ukraine, Rivne Region, outskirts of Novosilky, tract along the Kovel–Kyiv highway: 50.599260°N, 26.475941°E altitude ca. 210 m a.s.l., pine-bilberry forest with admixture of oak and hombeam, in the undergrowth – *Frangula alnus* Mill. and hazel, sweeping on grass and bilberry, above rotten remains of trees and fruit bodies of *Lactarius* Pers. in different ages, 10.09.2017, 1 ♂, leg. A. Babytskiy (No 259, UkrBIN-795952); Ukraine, Ternopil Region: outskirts of Strusiv: 49.34376°N, 025.62999°E altitude ca. 410 m a.s.l., hombeam-oak forest, sweeping along the forest road on grass and above litter, 30.06.2018, 1 ♂, leg. A. Babytskiy (No 721); Ukraine, Ternopil Region: outskirts of Strusiv: 49.33495°N, 025.63931°E altitude ca. 380 m a.s.l., young birch-hombeam-oak forest, sweeping on grass and above litter, 30.06.2018, 1 ♂, leg. A. Babytskiy (No 736); Ukraine, Ternopil Region: outskirts of Lucka, “Zapust” tract: 49.40443°N, 025.61215°E altitude ca. 340 m a.s.l., hombeam-oak forest, sweeping on grass and above leaf litter, 27.06.2018, 1 ♂, leg. A. Babytskiy (No 674); Ukraine, Ternopil Region: outskirts of Strusiv: 49.33495°N, 025.63931°E altitude ca. 380 m a.s.l., young birch-hombeam-oak forest, sweeping on grass and above litter, 30.06.2018, 1 ♂, leg. A. Babytskiy (No 745); Ukraine, Kyiv Region, outskirts of Rzhyschiv: 49.96208°N, 031.12972°E altitude ca. 135 m a.s.l., wet ravine, overgrowth with broadleaf forest, tree dominants – birch, alder, elm, bush dominant – hazel, on the edge – robinia, route sweeping on grasses, above litter and rotten wood, 23.06.2020, 1 ♂, leg. A. Babytskiy (No 3357); Ukraine, Kyiv Region, outskirts of Rzhyschiv, biostation “Hlyboki Balyky”: 49.96121°N, 031.11927°E altitude ca. 80 m a.s.l., wet ravine with swampy stream at the bottom, overgrowth with alder forest, bush dominant – *Swida* sp., grass cover mosaic – the slopes of the ravine are almost bare, covered only with moss and litter, at the bottom of the ravine – tall grass, route sweeping on grasses and above litter, 24.06.2020, 1 ♂, leg. A. Babytskiy (No 3392).

*Pseudolycoriella (Pseudolycoriella) brunnea* (Bukowski & Lengersdorf, 1936). Material examined. Ukraine, Ternopil Region, outskirts of Skomorokhy, left bank of Strypa River: 48.90773°N, 025.39594°E altitude ca. 205 m a.s.l., hanging swamp, sweeping on grass, 09.08.2016, 1 ♂, leg. A. Babytskiy (No 80, UkrBIN-795798).

*Scatopsiara (Scatopsiara) atomaria* (Zetterstedt, 1851). Material examined. Ukraine, Lviv Region: outskirts of Sykhiv: 49.21297°N, 023.96483°E altitude ca. 340 m a.s.l., beech-hombeam forest, in the lering, sweeping on cereal grass with *Carex capillaris* L. and admixture of *Polygonum* L. and Lamiaceae, 13.08.2016, 1 ♂, leg. A. Babytskiy (No 95, UkrBIN-795810); Ukraine, Volyn Region, Turiisk, B. Khmelnytskoho st., 8: 51.079814°N, 024.530391°E altitude ca. 185 m a.s.l., countryside, on the brick wall of toilet near heap of manure and walnut tree (*Juglans regia* L.), with aspirator, 03.05.2015, 1 ♂, leg. A. Babytskiy (No 162, UkrBIN-795861); Ukraine, Volyn Region, Turiisk, B. Khmelnytskoho st., 8: 51.079814°N, 024.530391°E altitude ca. 185 m a.s.l., countryside, near walnut tree (*Juglans regia* L.) with rotten remains of branch, with aspirator, 02.05.2015, 2 ♂, leg. A. Babytskiy (No 164, UkrBIN-795863); Ukraine, Kyiv Region, outskirts of Rzhyschiv, biostation “Hlyboki Balyky”: 49.96121°N, 031.11927°E altitude ca. 80 m a.s.l., wet ravine with swampy stream at the bottom, overgrowth with alder forest, bush dominant – *Swida* sp., grass cover mosaic – the slopes of the ravine

are almost bare, covered only with moss and litter, at the bottom of the ravine – tall grass, route sweeping on grasses and above litter, 24.06.2020, 1 ♂, leg. A. Babytskiy (No 3386).

*Scatopsiara (Scatopsiara) calamophila* Frey, 1948. Material examined. Ukraine, Khmelnytskyi Region: outskirts of Hrushka, country array “Sadova akatsia”, right bank of Dniester River: 48.57664°N, 026.99941°E altitude ca. 130 m a.s.l., coastal overgrowth of trees with domination of willow, *Amorpha fruticosa* L. and admixture of *Hippophae rhamnoides* L. and *Swida* L., sweeping above the trees, 03.05.2015, 1 ♂, leg. A. Babytskiy (No 255, UkrBIN-795948).

*Scatopsiara (Scatopsiara) multispina* (Bukowski & Lengersdorf, 1936). Material examined. Ukraine, Ternopil Region: outskirts of Volia, “Za levadoiu” tract: 49.38771°N, 025.62899°E altitude ca. 320 m a.s.l., hombeam-oak forest, sweeping above the compost heap near the forest road, 04.07.2015, 3 ♂, leg. A. Babytskiy (No 104-5, UkrBIN-795818-9).

*Scatopsiara (Scatopsiara) pusilla* (Meigen, 1818). Material examined. Ukraine, Chernihiv Region: between Desna and Yevmyinka, swampy valley of Desna River: 50.84802°N, 030.79790°E altitude ca. 100 m a.s.l., swamp covered with *Carex* L. and *Caltha palustris* L. with shrubs overgrowth (willow and *Amorpha fruticosa* L. as dominants) sweeping above shrubs and rotten scorched willow branches, 09.07.2017, 2 ♂, leg. A. Babytskiy (No 256-7, UkrBIN-795949-50).

*Schwenckfeldina carbonaria* (Meigen 1830). Material examined. Ukraine, Ivano-Frankivsk Region: between Nezvysko and Luka, left bank of Dniester River: 48.78303°N, 025.25203°E altitude ca. 195 m a.s.l., coastal beech forest, sweeping around the source of the spring on trees and grass, 10.08.2016, 1 ♂, leg. A. Babytskiy (No 58, UkrBIN-795785); Ukraine, Kyiv City: Holosiivskiy National Nature Park: 50.37381°N, 030.50764°E altitude ca. 160 m a.s.l., broadleaf maple-hombeam forest, sweeping above rotten wood, litter and undergrowth, 21.08.2017, 2 ♂, leg. A. Babytskiy (No 412-3).

*Sciara hemerobioides* (Scopoli, 1763). Material examined. Ukraine, Ternopil Region: outskirts of Volia, “Za levadoiu” tract: 49.38771°N, 025.62899°E altitude ca. 320 m a.s.l., hombeam-oak forest, sweeping above the compost heap near the forest road, 04.07.2015, 1 ♀, leg. A. Babytskiy (No 45, UkrBIN-795779); Ukraine, Ivano-Frankivsk Region: between Nezvysko and Luka, left bank of Dniester River: 48.78303°N, 025.25203°E altitude ca. 195 m a.s.l., coastal beech forest, sweeping around the source of the spring on trees and grass, 10.08.2016, 1 ♂, leg. A. Babytskiy (No 56, UkrBIN-795784); Ukraine, Ternopil Region: outskirts of Mykulyntsi: 49.40361°N, 025.60682°E altitude ca. 290 m a.s.l., grassland meadow near vegetable gardens, on the path from the highway down the road embankment, by hand, 27.06.2018, 1 ♀, leg. A. Babytskiy (No 670).

*Sciara ruficauda* Meigen, 1818. Material examined. Ukraine, Kyiv Region, outskirts of Rzhyschiv: 49.96208°N, 031.12972°E altitude ca. 135 m a.s.l., wet ravine, overgrowth with broadleaf forest, tree dominants – birch, alder, elm, bush dominant – hazel, on the edge – robinia, route sweeping on grasses, above litter and rotten wood, 23.06.2020, 1 ♂, leg. A. Babytskiy (No 3330); Ukraine, Kyiv Region, outskirts of Rzhyschiv, biostation “Hlyboki Balyky”: 49.96121°N, 031.11927°E altitude ca. 80 m a.s.l., wet ravine with swampy stream at the bottom, overgrowth with alder forest, bush dominant – *Swida* sp., grass cover mosaic – the slopes of the ravine are almost bare, covered only with moss and litter, at the bottom of the ravine – tall grass, route sweeping on grasses and above litter, 24.06.2020, 1 ♂, leg. A. Babytskiy (No 3382).

*Zygoneura (Zygoneura) sciarina* Meigen, 1830. Material examined. Ukraine, Ivano-Frankivsk Region: between Nezvysko and Luka, left bank of Dniester River: 48.78303°N, 025.25203°E altitude ca. 195 m a.s.l., shoreline beech forest, sweeping around the source of the spring on trees and grass, 10.08.2016, 1 ♂, leg. A. Babytskiy (No 55, UkrBIN-795783); Ukraine, Ternopil Region: between Zahaitsi and Novosilka: 49.27673°N, 025.17162°E altitude ca. 330 m a.s.l., bank of lake, coastal shrubs overgrowth with willow, *Acer negundo* L. and hawthorn and *Swida* sp. in the undergrowth, with aspirator from rotten willow trunk covered by moss 19.06.2016, 1 ♀, leg. A. Babytskiy (No 129, UkrBIN-795836).

Thus, we have registered new findings for 23 sciarid species in Ukraine in the 11 regions, namely Ternopil (15 species), Kyiv, Volyn (10 species each), Ivano-Frankivsk, Lviv (4 species each), Cherkasy (2 species),

Chernihiv, Kharkiv, Khmelnytskyi, Odessa and Rivne (1 species each). The most of findings are registered in the different types of broadleaf forest biotopes, only a few species have been found in meadowy or anthropogenic ecosystems. One grouping of the registered species is characterized by narrow environmental valence and occurred only in one or a few natural habitats. The species which were registered only in the forest habitats include *B. fungicola* (registered in old arboretum and oak, hornbeam and maple forests), *C. dentata* (hornbeam-oak, birch and alder forests), *C. flavicauda* (oak forest), *C. luteofusca* (old arboretum), *C. tetrachaeta* (old arboretum and hornbeam forest), *C. (C.) ambigua* (pine-alder, oak, beech, hornbeam forests), *E. (E.) atomarius* (beech and alder forests), *H. inflata* (oak forest), *L. scutellata* (beech, hornbeam, oak birch-alder and pine-bilberry forests), *S. (S.) multispina* (hornbeam forest), *S. carbonaria* (beech and maple-hornbeam forests) and *S. ruficauda* (birch-alder forest).

Other species we collected in the ecotone habitats, as *S. (S.) calamophila* (coastal willow synusia), *C. inundata* and *P. (P.) brunnea* (hanging swamp on the travertine in broadleaf forest). Only in the grassland habitat we collected *S. (S.) pusilla* (swampy valley of Desna River).

For another species group a slightly wider environmental valence was inherent and they were registered in different types of habitats. *Bradysia placida* was registered in the different broadleaf forests (hornbeam, alder-oak and birch), but also, we collected it on the meadow, hanging swamp, sandy beach and bank of a lagoon. In addition, this species occurred in the countryside near a house. *Corynoptera membranigera* was indicated in hornbeam, oak, birch, maple-robinia and broadleaved-coniferous forests and in the forestry meadow where its imagoes tend to inhabit wet areas such as ravines, tall or dense grasses, and be distributed on hortobium (grass level), dendrobium (trees and shrubs level) and herpetobium (leaves litter, fungal fruit bodies and rotten wood level), where their larvae evidently develop. Some specimens of *C. membranigera* male imago were collected on the fungus (*N. luridiformis*, *Russula* sp.) and Mycetozoa (*F. septica*) fruit bodies, which can imply possible existence of trophic links between *C. membranigera* larvae and specified organisms (Babyskiy et al., 2018a). *Corynoptera tridentata* was registered in oak forest, on a meadow and in an anthropogenic vegetable garden, *S. (S.) atomaria* was

collected in birch-hornbeam, alder forests and countryside, *S. hemerobioides* – in the hornbeam-oak, beech forests and meadowy grassland near a road, *Z. (Z.) sciarina* – in beech forest and on the bank of a lake, overgrown by willow trees.

Some sciarid species showed synanthropic attraction and have been registered in anthropogenic habitats. One of them was *B. fenestralis*, which we found only on the windowsill of the university campus. This sciarid was previously recorded as a tomato and cucumber pest, also it was found in a greenhouse with decorative plants in the Altay and in a vegetable store in Kazakhstan (Gerbachevskaja, 1963, 1969; Komarova, 2003; Sataeva, 2006). *C. dentiforceps* and *S. (S.) atomaria* were found in the countryside near the rotten remains of a branch of a walnut tree, which may indicate trophic links of their larvae with rotten wood. From rotten wood, collected in the countryside, male imagoes of *B. placida* were bred from the larvae. Also *C. tridentata* was collected in a vegetable garden.

In general, we can conclude that registered sciarids are mostly forest species, but can develop in grassland biotopes with sufficient moisture level and plant remains.

## Discussion

According to the results of literature analysis and our research, the current list of sciarids recorded in Ukraine contains 96 species from 17 genera. All previously recorded species and our findings with confirmed identification are listed below. It should be noted that the list contains only previously published data and findings given in this article. Information about found but unpublished sciarid species and unverified material is not included in the list. Approximately, we expect the presence of about 400 sciarid species in the fauna of Ukraine.

Findings of the species known from the literature and our findings that have been published before are provided with appropriate citations, published findings in this article are provided with the numbers of the specimens in the PABK. The number of registered sciarid species in the different regions of Ukraine is shown in the map (Fig. 1).

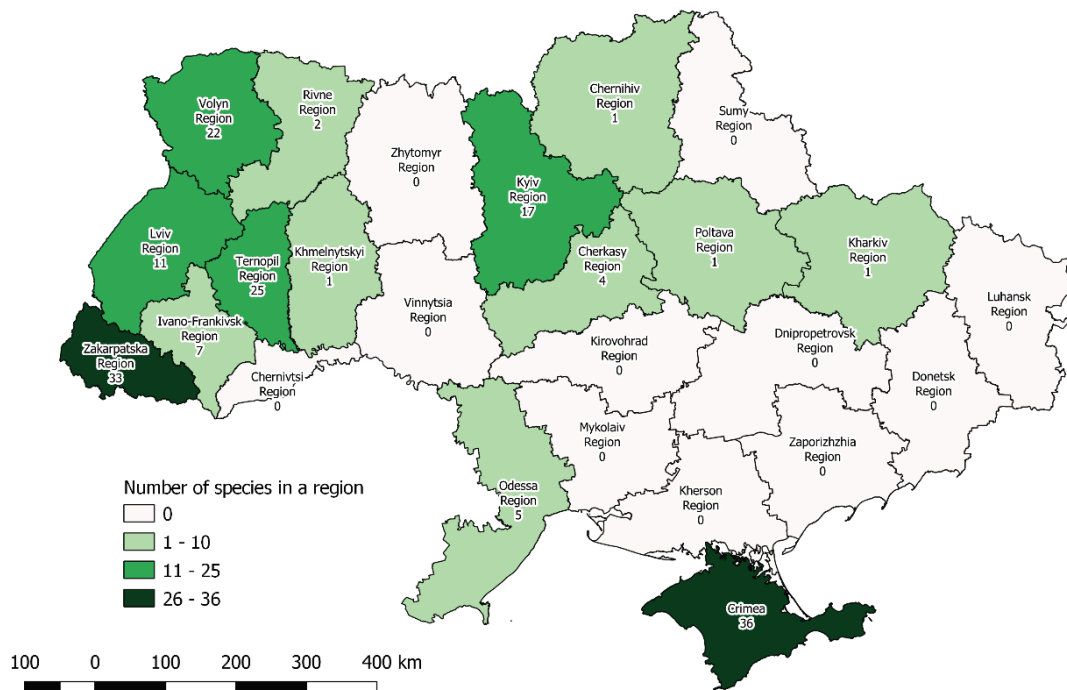


Fig. 1. Map with number of registered sciarid species in the different regions of Ukraine

### Genus *Bradysia* Winnertz, 1867

1. *B. alpicola* (Winnertz, 1867). Localities: Crimea (Gerbachevskaja, 1969 [as *B. morio* (Fabr., 1794)]), Zakarpatska Region (Krivosheina & Mohrig, 1986 [as *B. mutabilis* (Lengersdorf, 1926)]).

2. *B. angustocularis* Mohrig & Krivosheina, 1989. Localities: Volyn Reg. (Babyskiy et al., 2020).

3. *B. bicolor* (Meigen, 1818). Localities: Lviv Reg. (Nowicki, 1864; Nowicki, 1865 [both as *Sciara bicolor* Meigen, 1818]).

4. *B. brevispina* Tuomikoski, 1960. Localities: Volyn Reg. (Babytskiy et al., 2020).
5. *B. cinerascens* (Grzegorzek, 1884). Localities: Lviv, Volyn, Cherkasy Regs (Babytskiy et al., 2020).
6. *B. fenestralis* (Zetterstedt, 1838). Localities: not specified (Gerbachevskaja-Pavluchenko, 1986), Kyiv Reg. (PABK-134).
7. *B. fungicola* (Winnertz, 1867). Localities: not specified (Gerbachevskaja-Pavluchenko, 1986), Crimea (Gerbachevskaja, 1969), Zakarpatska Region (Krivosheina & Mohrig, 1986), Volyn Reg. (PABK-233), Ternopil Reg. (PABK-189; 607), Kyiv Reg. (PABK-333; 414).
8. *B. impatiens* (Johannsen, 1912). Localities: Kyiv, Volyn Regs (Babytskiy et al., 2019a [as *B. difformis* Frey, 1948]).
9. *B. leucopeza* Mohrig & Mamaev, 1989. Localities: Zakarpatska Region (Mohrig, Krivosheina & Mamaev, 1989b).
10. *B. longispina* Mohrig & Mamaev, 1989. Localities: Zakarpatska Region (Mohrig et al., 1989a; Rudzinski & Ševčík, 2012).
11. *B. microspina* Mohrig & Krivosheina, 1989. Localities: Poltava Reg. (Babytskiy et al., 2020).
12. *B. nervosa* (Meigen, 1818). Localities: not specified (Gerbachevskaja-Pavluchenko, 1986), Crimea (Gerbachevskaja, 1969; Krivosheina & Mohrig, 1986).
13. *B. nitidicollis* (Meigen, 1818). Localities: Lviv Reg. (Nowicki, 1864; Nowicki, 1865 [both as *Sciara aprilina* Meigen, 1818]).
14. *B. pallipes* (Fabricius, 1787). Localities: not specified (Gerbachevskaja-Pavluchenko, 1986), Crimea (Gerbachevskaja, 1969) [both as *B. picipes* (Zetterstedt, 1838)].
15. *B. pilistriata* Frey, 1948. Localities: Odesa Reg. (Nepomyashcha & Uzhevska, 2010).
16. *B. placida* (Winnertz, 1867). Localities: not specified (Gerbachevskaja-Pavluchenko, 1986), Crimea (Gerbachevskaja, 1969; Krivosheina & Mohrig, 1986) [all as *B. fimbriata* Tuomikoski, 1960], Rivne Reg. (PABK-261), Lviv Reg. (PABK-89), Volyn Reg. (PABK-549).
17. *B. polonica* (Lengersdorf, 1929). Localities: Ternopil Reg. (Babytskiy et al., 2020).
18. *B. procera* (Winnertz, 1868). Localities: Podolia (Winnertz, 1868 [as *Sciara procera* Winnertz, 1868]; Menzel & Mohrig, 1998; Menzel & Mohrig, 2000).
19. *B. rufescens* (Zetterstedt, 1852). Localities: not specified (Gerbachevskaja-Pavluchenko, 1986; Komarova, 2003; Komarov, 2011).
20. *B. trivittata* (Staeger, 1840). Localities: not specified (Gerbachevskaja-Pavluchenko, 1986 [as *Sciara spectrum* Winnertz, 1867]), Volyn Reg. (PABK-138; 145; 451-72; 474-84, 486-94; 496; 498-517; 519-25; 527-42; 544-8; 823), Ternopil Reg. (PABK-82; 663; 693), Odesa Reg. (PABK-97; 297; 299), Kharkiv Reg. (PABK-835-6). Kyiv Reg. (PABK-3350; 3363).
21. *B. vagans* (Winnertz, 1868). Localities: Podolia (Winnertz, 1868 [as *Sciara vagans* Winnertz, 1868]; Menzel & Mohrig, 2000).
22. *B. vernalis* (Zetterstedt, 1851). Localities: Crimea (Gerbachevskaja, 1969; Krivosheina & Mohrig, 1986).
- Genus *Claustropyga* Hippa, Vilkamaa & Mohrig, 2003**
23. *C. abblanda* (Freeman, 1983). Localities: Zakarpatska Region (Hippa, Vilkamaa & Mohrig, 2003).
24. *C. acanthostyla* (Tuomikoski, 1960). Localities: not specified (Komarova, 2012).
25. *C. clausa* (Tuomikoski, 1960). Localities: Zakarpatska Region (Krivosheina & Mohrig, 1986 [as *Corynoptera clausa* Tuomikoski, 1960]).
26. *C. stenophora* Hippa et al., 2003. Localities: Zakarpatska Region (Hippa et al., 2003).
- Genus *Corynoptera* Winnertz, 1867**
27. *C. bistrispina* (Bukowski & Lengersdorf, 1936). Localities: Crimea (Bukowski & Lengersdorf, 1936 [as *Neosciara bistrispina* Bukowski & Lengersdorf, 1936]; Gerbachevskaja, 1969; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986; Menzel & Mohrig, 2000; Hippa et al., 2010).
28. *C. bulgarica* Mohrig & Mamaev, 1992. Localities: Zakarpatska Region (Hippa & Vilkamaa, 1994 [as *Camptochaeta bulgarica* (Mohrig & Mamaev, 1992)]).
29. *C. concinna* (Winnertz, 1867). Localities: Kyiv, Odesa Regs (Babytskiy et al., 2019b).
30. *C. dentata* (Bukowski & Lengersdorf, 1936). Localities: Crimea (Bukowski & Lengersdorf, 1936 [as *Neosciara dentata* Bukowski & Lengersdorf, 1936]; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986; Menzel & Mohrig, 2000), Volyn Reg. (PABK-217; 229-31), Kyiv Reg. (PABK-135; 3322-3; 3356; 3378), Ternopil Reg. (PABK-654).
31. *C. dentiforceps* (Bukowski & Lengersdorf, 1936). Localities: Crimea (Bukowski & Lengersdorf, 1936 [as *Neosciara dentiforceps* Bukowski & Lengersdorf, 1936]; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986; Hippa & Vilkamaa, 1994 [as *Camptochaeta dentiforceps* (Bukowski & Lengersdorf, 1936)]; Menzel & Mohrig, 2000), Volyn Reg. (PABK-96; 160).
32. *C. deserti* Heller & Menzel, 2006. Localities: Crimea (Bukowski & Lengersdorf, 1936 [as *Neosciara minutula* Bukowski & Lengersdorf, 1936]; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986; Hippa & Vilkamaa, 1994 [as *Camptochaeta minutula* (Bukowski & Lengersdorf, 1936)]).
33. *C. fatigans* (Johannsen, 1912). Localities: Ternopil, Ivano-Frankivsk Regs (Babytskiy et al., 2019b).
34. *C. flavicauda* (Zetterstedt, 1855). Localities: Crimea (Gerbachevskaja, 1969; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986), Ternopil Reg. (PABK-173).
35. *C. forcipata* (Winnertz, 1867). Localities: Crimea (Gerbachevskaja, 1969; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986).
36. *C. furcifera* Mohrig & Mamaev, 1987. Localities: Volyn Reg. (Babytskiy & Bezsmertna, 2021).
37. *C. hypopygialis* (Lengersdorf, 1926). Localities: Ternopil Reg. (Babytskiy et al., 2019b).
38. *C. imundata* Fritz, 1982. Localities: Zakarpatska Region (Camaño Portela et al., 2008), Ternopil Reg. (PABK-83).
39. *C. luteofusca* (Bukowski & Lengersdorf, 1936). Localities: Crimea (Bukowski & Lengersdorf, 1936 [as *Neosciara luteofusca* Bukowski & Lengersdorf, 1936]; Gerbachevskaja, 1969; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986; Menzel & Mohrig, 2000; Komarova, 2003; Hippa et al., 2010; Komarov, 2011; Mohrig et al., 2012), Volyn Reg. (PABK-234).
40. *C. membranigera* (Kieffer, 1903). Localities: Ivano-Frankivsk Reg. (PABK-92); Kyiv Reg. (PABK-3328; 3364; 3367); Ternopil Reg. (PABK-43-4; 49; 51; 53-4; 106-9; 568; 570; 572; 574-6; 578-80; 584-6; 589-91; 593-6; 598; 600-2; 604-6; 608-9; 611; 614-5; 617-9; 621-2; 624; 627; 636-8; 640-2; 672; 675-8; 682-6; 700; 702; 709; 724; 734; 771; 791); Volyn Reg. (PABK-200; 206; 223-4; 243) (Babytskiy et al., 2018a).
41. *C. polana* Rudzinski, 2009. Localities: Zakarpatska Region (Hippa et al., 2010).
42. *C. praeparvula* Mohrig & Krivosheina, 1983. Localities: Volyn Reg. (Babytskiy et al., 2019b).
43. *C. saetistyla* Mohrig & Krivosheina, 1985. Localities: Zakarpatska Region (Hippa et al., 2010).
44. *C. serena* (Winnertz, 1868). Localities: Podolia (Winnertz, 1868; Gerbachevskaja-Pavluchenko, 1986 [both as *Sciara serena* Winnertz, 1868]; Menzel & Mohrig, 2000).
45. *C. subparvula* Tuomikoski, 1960. Localities: Ternopil, Volyn, Odesa Regs (Babytskiy et al., 2019b).
46. *C. subtilis* (Lengersdorf, 1929). Localities: Crimea (Bukowski & Lengersdorf, 1936 [as *Neosciara longicornis* Bukowski & Lengersdorf, 1936]; Gerbachevskaja, 1969; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986; Komarova, 2003 [all as *Corynoptera longicornis* (Bukowski & Lengersdorf, 1936)]; Hippa et al., 2010; Komarov, 2011).
47. *C. tetrachaeta* Tuomikoski, 1960. Localities: Zakarpatska Region (Hippa et al., 2010), Volyn Reg. (PABK-241), Ternopil Reg. (PABK-280; 283).
48. *C. trepida* (Winnertz, 1867). Localities: Zakarpatska Region (Hippa et al., 2010).
49. *C. tridentata* Hondru, 1968. Zakarpatska Region (Hippa et al., 2010), Ternopil Reg. (PABK-110-1; 172; 183; 187; 191-3; 645).
- Genus *Cratyna* Winnertz, 1867**
- Subgenus *Cratyna* Winnertz, 1867 s. str.**
50. *C. (C.) ambigua* (Lengersdorf, 1934). Localities: Crimea (Bukowski & Lengersdorf, 1936 [as *Neosciara latiforceps* Bukowski & Len-

gersdorf, 1936]; Gerbachevskaja, 1969; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986 [all as *Plastosciara latiforceps* (Bukowski & Lengersdorf, 1936)]; Komarova, 2003 [as *Cratyna latiforceps* Bukowski & Lengersdorf, 1936]; Menzel & Mohrig, 2000; Camaño Portela et al., 2008; Komarov, 2011), Cherkasy Reg. (PABK-125), Lviv Reg. (PABK-67); Ternopil Reg. (PABK-168; 620; 671; 680; 706; 729; 775; 777; 815; 822), Volyn Reg. (PABK-240).

51. *C. (C.) atra* Winnertz, 1867. Localities: Zakarpatska Region (Krivosheina & Mohrig, 1986 [as *Plastosciara pictiventris* (Kieffer, 1898)]).

52. *C. (C.) fulvicauda* (Felt, 1897). Localities: Cherkasy, Kyiv, Ternopil Regs (Babytskiy & Bezsmertna, 2021).

53. *C. (C.) subalpina* (Mohrig & Mamaev, 1990). Localities: Zakarpatska Region (Mohrig et al., 1990 [as *Plastosciara subalpina* Mohrig & Mamaev, 1990]).

#### **Subgenus *Peyerimhoffia* Kieffer 1903**

54. *C. (P.) vagabunda* (Winnertz, 1867). Localities: Kyiv, Volyn, Odesa Regs (Babytskiy et al., 2018b [as *Peyerimhoffia vagabunda* (Winnertz, 1867)]).

#### **Genus *Dichopygina* Vilkamaa et al., 2004**

55. *D. nigrohalteralis* (Frey, 1948). Localities: Crimea (Gerbachevskaja, 1969; Krivosheina & Mohrig, 1986; Komarova, 2003; Komarov, 2011 [all as *Corynoptera nigrohalteralis* Frey, 1948]).

#### **Genus *Epidapus* Haliday, 1851**

##### **Subgenus *Epidapus* Haliday, 1851 s. str.**

56. *E. (E.) atomarius* (De Geer, 1778). Localities: not specified (Gerbachevskaja-Pavluchenko, 1986; Komarov, 2011), Crimea (Gerbachevskaja, 1969), Kyiv Reg. (PABK-3385), Lviv Reg. (PABK-87).

57. *E. (E.) alnicola* (Tuomikoski 1957). Localities: not specified (Gerbachevskaja-Pavluchenko, 1986 [as *Caenosciara (Bonessia) alnicola* (Tuomikoski, 1957), Zakarpatska Region (Krivosheina & Mohrig, 1986 [as *Caenosciara alnicola* (Tuomikoski, 1957)]).

58. *E. (E.) microthorax* (Bömer, 1903). Localities: Zakarpatska Region (Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986 [both as *Epidapus gracilicornis* (Lengersdorf, 1926)]; Menzel & Mohrig, 2000).

59. *E. (E.) lucifuga* Mohrig, 1970. Localities: not specified (Gerbachevskaja-Pavluchenko, 1986 [as *Caenosciara (Bonessia) lucifuga* Mohrig, 1970), Zakarpatska Region (Krivosheina & Mohrig, 1986 [as *Caenosciara lucifuga* Mohrig, 1970]).

##### **Subgenus *Pseudoepidapogyna* Vimmer, 1926**

60. *E. (P.) carpaticus* (Mohrig & Mamaev, 1985). Localities: Zakarpatska Region (Mohrig et al., 1985 [as *Pseudoepidapus carpaticus* Mohrig & Mamaev, 1985]).

#### **Genus *Hemineurina* Frey, 1942**

61. *H. inflata* (Winnertz, 1867). Localities: Crimea (Gerbachevskaja, 1969; Krivosheina & Mohrig, 1986 [both as *Lycoriella vittigera* (Zetterstedt, 1851)], Ternopil Reg. (PABK-184).

62. *H. modesta* (Staeger, 1840). Localities: not specified (Gerbachevskaja-Pavluchenko, 1986 [as *Lycoriella (Hemineurina) modesta* (Staeger, 1840)]).

#### **Genus *Leptosciarella* Tuomikoski, 1960**

##### **Subgenus *Leptosciarella* Tuomikoski, 1960 s. str.**

63. *L. (L.) pilosa* (Staeger, 1840). Localities: Crimea (Gerbachevskaja, 1969; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986 [all as *Trichosia pilosa* Staeger, 1840]), Zakarpatska Region (Mohrig & Menzel, 1997).

64. *L. (L.) scutellata* (Staeger, 1840). Localities: Crimea (Gerbachevskaja, 1969 [as *Trichosia scutellata* (Staeger, 1840)]; Gerbachevskaja-Pavluchenko, 1986 [as *Trichosia (Leptosciarella) scutellata* (Staeger, 1840); Krivosheina & Mohrig, 1986 [as *Trichosia elegans* (Winnertz, 1867)]; Komarova, 2003 [as *Leptosciarella elegans* (Winnertz, 1867)]; Komarov, 2011), Zakarpatska Region (Krivosheina & Mohrig, 1986 [as *Trichosia elegans* (Winnertz, 1867)]), Lviv Reg. (PABK-66), Ternopil Reg. (PABK-167; 169; 171; 175-9; 182; 186; 190; 674; 721; 736; 745), Cherkasy Reg. (PABK-132), Kyiv Reg. (PABK-3357; 3392), Volyn Reg. (PABK-218-20), Rivne Reg. (PABK-259) (Babytskiy et al., 2018c).

65. *L. (L.) subpilosa* (Edwards, 1925). Localities: Zakarpatska Region (Krivosheina & Mohrig, 1986 [as *Trichosia subpilosa* (Edwards, 1926)]).

#### **Genus *Lycoriella* Frey, 1942**

66. *L. ingenua* (Dufour, 1839). Localities: not specified (Gerbachevskaja-Pavluchenko, 1986 [as *Lycoriella (Lycoriella) solani* (Winnertz, 1871)], Kyiv, Volyn Regs (Babytskiy et al., 2019a).

67. *L. lundstromi* (Frey, 1948). Localities: Volyn, Ternopil Regs (Babytskiy & Bezsmertna, 2021).

68. *L. latilobata* Menzel & Mohrig, 2000. Localities: Zakarpatska Region (Menzel & Mohrig, 2000).

#### **Genus *Phyxia* Johannsen, 1912**

69. *P. scabiei* (Hopkins 1895). Localities: not specified (Gerbachevskaja, 1963; Gerbachevskaja-Pavluchenko, 1986; Komarova, 2003), Western regions exclude Carpathian (Osmola, 1970), Ternopil Reg. (Babytskiy et al., 2019a).

#### **Genus *Pseudolycoriella* Menzel & Mohrig, 1998**

##### **Subgenus *Pseudolycoriella* Menzel & Mohrig, 1998 s. str.**

70. *P. (P.) brunnea* (Bukowski & Lengersdorf, 1936). Localities: Crimea (Bukowski & Lengersdorf, 1936 [as *Neosciara brunnea* Bukowski & Lengersdorf, 1936]; Krivosheina & Mohrig, 1986 [as *Corynoptera brunnea* (Bukowski & Lengersdorf, 1936)]; Gerbachevskaja-Pavluchenko, 1986 [as (Unplaced species) *brunnea* Bukowski & Lengersdorf, 1936]), Zakarpatska Region (Mohrig et al., 1979 [as *Plastosciara (Decembrina) arboricola* Mohrig & Mamaev, 1979]; Krivosheina & Mohrig, 1986 [as *Plastosciara arboricola* Mohrig & Mamaev, 1979]; Menzel & Mohrig, 2000), Ternopil Reg. (PABK-80).

71. *P. (P.) morenae* (Strobl, 1900). Localities: Crimea (Bukowski & Lengersdorf, 1936 [as *Neosciara longiseta* Bukowski & Lengersdorf, 1936]; Gerbachevskaja-Pavluchenko, 1986 [as (Unplaced species) *longiseta* Bukowski & Lengersdorf, 1936]; Krivosheina & Mohrig, 1986 [as *Lycoriella longiseta* (Bukowski & Lengersdorf, 1936)]; Menzel & Mohrig, 2000).

72. *P. (P.) paludum* (Frey, 1948). Localities: Volyn, Kyiv, Ternopil Regs (Babytskiy & Bezsmertna, 2021).

#### **Genus *Scatopsiara* Edwards 1927**

##### **Subgenus *Scatopsiara* Edwards, 1927 s. str.**

73. *S. (S.) atomaria* (Zetterstedt, 1851). Localities: not specified (Komarova, 2003 [as *Scatopsiara vivida* (Winnertz, 1867)]; Komarov, 2011), Crimea (Gerbachevskaja, 1969; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986 [all as *Scatopsiara vivida* (Winnertz, 1867)]), Kyiv Reg. (PABK-3386), Lviv Reg. (PABK-95), Volyn Reg. (PABK-162; 164).

74. *S. (S.) calamophila* Frey, 1948. Localities: Zakarpatska Region (Krivosheina & Mohrig, 1986), Kholmehnytskyi Reg. (PABK-255).

75. *S. (S.) curviforceps* (Bukowski & Lengersdorf, 1936). Localities: Crimea (Bukowski & Lengersdorf, 1936 [as *Neosciara curviforceps* Bukowski & Lengersdorf, 1936]; Gerbachevskaja-Pavluchenko, 1986 [as (Unplaced species) *curviforceps* Bukowski & Lengersdorf, 1936]; Krivosheina & Mohrig, 1986 [as *Corynoptera curviforceps* (Bukowski & Lengersdorf, 1936)]; Menzel & Mohrig, 2000).

76. *S. (S.) multispina* (Bukowski & Lengersdorf, 1936). Localities: Crimea (Bukowski & Lengersdorf, 1936 [as *Neosciara multispina* Bukowski & Lengersdorf 1936]; Gerbachevskaja, 1969; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986; Menzel & Mohrig, 2000; Komarova, 2012), Ternopil Reg. (PABK-104-5).

77. *S. (S.) neglecta* Menzel & Mohrig, 1998. Localities: not specified (Komarov, 2011), Zakarpatska Region (Menzel & Mohrig, 1998).

78. *S. (S.) pusilla* (Meigen, 1818). Localities: Crimea (Gerbachevskaja, 1969; Krivosheina & Mohrig, 1986; Komarova, 2003 [as *Scaptosciara pusilliformis* Mohrig & Krivosheina, 1986]), Chemihiv Reg. (PABK-256-7).

79. *S. (S.) tricuspidata* (Winnertz, 1867). Localities: Crimea (Gerbachevskaja, 1969; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986; Komarov, 2011).

80. *S. (S.) vitripennis* (Meigen, 1818). Localities: not specified (Gerbachevskaja-Pavluchenko, 1986; Komarova, 2003; Komarov, 2011; Komarova, 2012).

#### **Genus *Schwenckfeldina* Frey, 1942**

81. *S. carbonaria* (Meigen 1830). Localities: not specified (Gerbachevskaja-Pavluchenko, 1986), Crimea (Gerbachevskaja, 1969), Ivano-Frankivsk Reg. (PABK-58), Kyiv Reg. (PABK-412-3).

### Genus *Sciara* Meigen, 1803

82. *S. analis* Schiner, 1864. Localities: Crimea (Gerbachevskaja, 1969; Antonova, 1978; Gerbachevskaja-Pavluchenko, 1986; Komarova, 2012), Lviv Reg. (Nowicki, 1864; Nowicki, 1865).

83. *S. hemerobioides* (Scopoli, 1763). Localities: Crimea (Gerbachevskaja, 1969; Antonova, 1978; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986; Komarova, 2012), Lviv Reg. (Nowicki, 1864; Nowicki, 1865 [both as *S. thomae* (Linnaeus, 1767)]), Ivano-Frankivsk Reg. (PABK-56), Temopil Reg. (PABK-45; 670).

84. *S. humeralis* Zetterstedt, 1851. Localities: not specified (Gerbachevskaja-Pavluchenko, 1986; Komarova, 2003; Komarova, 2011; Komarova, 2012), Crimea (Gerbachevskaja, 1969; Antonova, 1978).

85. *S. militaris* Nowicki, 1868. Localities: Lviv Reg. (Nowicki, 1868; Menzel & Mohrig, 2000), Ivano-Frankivsk Reg. (Verkhratskyi, 1864; Nowicki, 1868).

86. *S. ruficauda* Meigen, 1818. Localities: not specified (Gerbachevskaja-Pavluchenko, 1986; Komarova, 2012), Crimea (Gerbachevskaja, 1969; Antonova, 1978), Kyiv Reg. (PABK-3330; 3382).

### Genus *Trichosia* Winnertz, 1867

#### Subgenus *Trichosia* Winnertz, 1867 s. str.

87. *T. (T.) confusa* Menzel & Mohrig, 1997. Localities: not specified (Gerbachevskaja-Pavluchenko, 1986 [as *Trichosia trochanterata* (Zetterstedt, 1851)]), Crimea (Krivosheina & Mohrig, 1986 [as *Trichosia trochanterata* (Zetterstedt, 1851)]), Zakarpatska Region (Krivosheina & Mohrig, 1986 [as *Trichosia trochanterata* (Zetterstedt, 1851)]); Menzel & Mohrig, 2000).

88. *T. (T.) edwardsi* (Legensdorf 1930). Localities: not specified (Camaño Portela et al., 2008).

89. *T. (T.) flavicoxa* Tuomikoski, 1960. Localities: Zakarpatska Region (Krivosheina & Mohrig, 1986).

90. *T. (T.) morio* (Fabricius, 1794). Localities: Crimea (Gerbachevskaja, 1969; Krivosheina & Mohrig, 1986 [both as *Trichosia caudata* (Walker, 1848)]), Zakarpatska Region (Krivosheina & Mohrig, 1986 [as *Trichosia caudata* (Walker, 1848)]).

### Genus *Xylosciara* Tuomikoski, 1957

#### Subgenus *Xylosciara* Tuomikoski, 1957 s. str.

91. *X. (X.) heptacantha* Tuomikoski, 1957. Localities: Ivano-Frankivsk, Kyiv, Temopil Regs (Babytskiy & Bezsmertna, 2021).

92. *X. (X.) phryganophila* (Frey, 1948). Localities: Zakarpatska Region (Krivosheina & Mohrig, 1986).

93. *X. (X.) spinata* (Petty, 1918). Localities: Zakarpatska Region (Krivosheina & Mohrig, 1986; Hippa & Vilkkamaa, 2004 [both as *Xylosciara (Xylosciara) betulae* Tuomikoski, 1960]).

#### Subgenus *Protoxylosciara* Tuomikoski, 1960

94. *X. (P.) longiforceps* (Bukowski & Lengersdorf, 1936). Localities: Crimea (Bukowski & Lengersdorf, 1936 [as *Neosciara longiforceps* Bukowski & Lengersdorf, 1936]; Gerbachevskaja, 1969; Gerbachevskaja-Pavluchenko, 1986; Krivosheina & Mohrig, 1986; Menzel & Mohrig, 2000; Hippa & Vilkkamaa, 2004).

### Genus *Zygoneura* Meigen, 1830

#### Subgenus *Zygoneura* Meigen, 1830 s. str.

95. *Z. (Z.) sciarina* Meigen, 1830. Localities: Crimea (Gerbachevskaja, 1969; Krivosheina & Mohrig, 1986), Zakarpatska Region (Krivosheina & Mohrig, 1986), Ivano-Frankivsk Reg. (PABK-55), Temopil Reg. (PABK-129).

#### Subgenus *Pharetratula* Mamaev, 1968

96. *Z. (Ph.) bidens* (Mamaev, 1968). Localities: Zakarpatska Region (Mamaev, 1968; Krivosheina & Mohrig, 1986 [both as *Pharetratula bidens* Mamaev, 1968]).

Therefore, according to the literature 78 sciarid species from 17 genera were recorded in Ukraine before. These species were known from 107 records – 80 sciarid findings with more or less specified localities of Ukraine and 25 unspecified, with only mark “Ukraine”. The registered sciarid species in Ukraine which were known from the 8 more or less specified localities included 26 species known only from Crimea, 26 – only from Transcarpathia (Zakarpatska Region), 8 were registered both in Crimea and Transcarpathia, 2 species were known from Crimea and Lviv Region, 3 species were recorded only in Lviv Region, 1 species were recorded in Ivano-Frankivsk Region, 3 – in Podolia, 1 was registered on

the bank of the Dniester River without a specified region and 1 was only known in the western regions, excluding the Carpathians. Also, *Bradysia pilistriata* has been recorded as a serious pest of mushrooms in Odesa Region (Nepomyashcha & Uzhevskaja, 2010), but the identification of this species needs confirmation (Babytskiy et al., 2020). Moreover, 8 sciarid species were known from Ukraine without specified localities.

We have expanded the data on sciarids registered in Ukraine by adding 18 species, namely *Bradysia angustocularis*, *B. brevispina*, *B. cinerascens*, *B. impatiens*, *B. microspina*, *B. polonica*, *Corynoptera concinna*, *C. fatigans*, *C. furcifera*, *C. hypopygialis*, *C. membranigera*, *C. praeparvula*, *C. subparvula*, *Cratyna (Cratyna) fulvicauda*, *Cratyna (Peyerimhoffia) vagabunda*, *Lycoriella lundstromi*, *Pseudolycoriella (Pseudolycoriella) paludum* and *Xylosciara (Xylosciara) heptacantha*. So, the current checklist of Sciaridae of Ukraine contains 96 species. Also new information about sciarid distribution was enriched by 86 findings of previously known species and according to current data for all 96 sciarid species 168 localities are known. The greatest number of the species is registered in Crimea (36), Zakarpatska Region (33), Temopil Region (25) and Volyn Region (22). For the other regions a smaller number of sciarid species is known – in Kyiv Region 17 species are registered, in Lviv Region – 11 in Ivano-Frankivsk Region – 7 in Odesa Region – 5 in Cherkasy Region – 4 in Rivne Region – 2 and Poltava, Kharkiv, Khmelnytsk and Chernihiv regions each have only 1 registered sciarid species (Fig. 1). Up to now, for the other regions of Ukraine the sciarid fauna still unknown. This case shows rather not the richness of the sciarid diversity in individual regions, but the degree of their study.

### Conclusions

Sciaridae was an extremely poorly studied family of Diptera in Ukraine. Previous registrations were based on 6 field collections, two of them were carried out in the XIX century, 4 observations of “army worms” and two pest records. From published material of these collections 78 sciarid species from 17 genera were known in 8 more or less specified localities of Ukraine. Our sciarid study in the country expanded the data on registered sciarids by adding 18 species and enriched information about sciarid spreading by 86 new findings of previously known species in 12 regions (Volyn, Cherkasy, Chernihiv, Ivano-Frankivsk, Kharkiv, Khmelnytsk, Kyiv, Lviv, Odesa, Poltava, Rivne and Temopil) of Ukraine. The current checklist of Sciaridae of Ukraine contains 96 species from 17 genera in 168 localities. In comparison with Germany, whose sciarid fauna is studied much better, for Ukraine, we can predict the presence of approximately 400 sciarid species, so the species diversity of Sciaridae in Ukraine is still poorly known and only about 25 percent of the species presumed to exist here are known. The majority of sciarid findings are registered in different types of broadleaf forest biotopes, only a few species have been found also in grassland habitats. Some sciarid species showed synanthropic attraction and have been registered in anthropogenic habitats, as *B. fenestralis* (pest of cultivated plants in greenhouses), *C. dentiforceps*, *S. (S.) atomaria* and *C. tridentata*. Larvae of *B. placida* develop in rotten wood, also development of *C. membranigera* preimaginal phases possibly takes place in the fruit bodies of fungi (*N. luridiformis*, *Russula* sp.) and Mycetozoa (*F. septica*).

We consider it our pleasant obligation to express sincere gratitude to our colleagues and friends who supported our work, among them, Valery Komeyev (I. I. Schmalhausen Institute of Zoology, NAS of Ukraine, Kyiv, Ukraine) for his ongoing help, scientific guidance and valuable advice, Frank Menzel (Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany) for his kind help in identification of the specimens and Pekka Vilkkamaa (Finnish Museum of Natural History, Helsinki, Finland) for valuable advice in identification of some specimens. We also thank two anonymous reviewers for their valuable comments.

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