TAXONOMICAL NOTES AND CHECKLISTS

Notes to lichen-forming and lichenicolous fungi in Ukraine IV

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ABSTRACT
Materials and methods: field observations and herbarium collections, microscope technique.
Nomenclature: Index Fungorum.
Results: In this contribution, new data concerning lichen-forming and lichenicolous fungi in Ukraine are presented. It includes new record and confirmations to the Ukrainian administrative regions of 62 species of lichen-forming and 14 species of lichenicolous fungi in the genera of *Abrothallus*, *Alyxoria*, *Anisomeridium*, *Arthonia*, *Arthopyrenia*, *Athallia*, *Athelia*, *Aspicilia*, *Bacidia*, *Bactrospora*, *Calogaya*, *Caloplaca*, *Catillaria*, *Celothelium*, *Chaenotheca*, *Didymocyrtis*, *Diplotomma*, *Diploschistes*, *Enchylium*, *Eopyrenula*, *Erythricium*, *Flavoplaca*, *Graphis*, *Heterocephalacria*, *Illosporiopsis*, *Kuettlingeria*, *Laetisaria*, *Lahmia*, *Lecania*, *Lecanora*, *Lepraria*, *Lichenoconium*, *Lichenostigma*, *Lichenothelia*, *Lobothallia*, *Montanelia*, *Peltigera*, *Pertusaria*, *Physcia*, *Physconia*, *Placidium*, *Placynthiella*, *Polyozosia*, *Pronectria*, *Protothelenella*, *Pterygiopsis*, *Punctelia*, *Ramalina*, *Rinodina*, *Scoliciosporum*, *Strangospora*, *Taeniolella*, *Talpapellis*, *Thelenella*, *Xylopsora*, *Verruculopsis* and *Verrucaria*. Among them 22 species are the first time reported to the Cherkasy region, 18 species new to the Kirovograd region, 13 species new to the Donetsk region, 11 species new to the Ivano-Frankivsk region, 5 species new to the Vinnytsa region, 4 species new to the Kharkiv region, 3 species new to the Ternopil region, two species new to the Sumy and Zhytomyr regions, one species new to the Chernivtsi, Kherson, Kyiv, Poltava and Rivne regions. The paper includes recent records of lichens and lichenicolous fungi from National Nature Parks of Ukraine: Buzkyi Gard, Carpathian, Holosiivsky, Homilshanski Lisy, Kholodnyi Yar, Svyati Gory as well as Kreidova Flora and Kaniv Nature Reserves and Velykoburlutskyi Steppe Regional Landscape Park.

KEYWORDS
biodiversity, new records, *Calicium*, *Montanelia*, *Protothelenella*, *Pterygiopsis*, *Punctelia*

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INTRODUCTION

This paper continues the publication series on noteworthy findings of lichens and lichenicolous fungi from different administrative regions of Ukraine (Darmostuk & Khodosovtsev 2020, Darmostuk *et al.* 2021, 2023). In this series of papers, we report the results of the analysis of recent collections and the revision of herbarium specimens. The primary aim of the new series is to provide a substantial contribution to the knowledge of the diversity of lichens and lichenicolous fungi of Ukraine. This study also includes recent records from National Nature Parks of Ukraine: Buzkyi Gard, Carpathian, Holosiivsky, Homilshanski Lisy, Kholodnyi Yar, Svyati Gory as well as Kreidova Flora and Kaniv Nature Reserves and Velykoburlutskyi Steppe Regional Landscape Park.

MATERIAL AND METHODS

The specimens of lichens and lichenicolous fungi were examined by a lens (×10) in nature and standard microscopy techniques using microscopes Optica-1, MICROMED-2 and Zeiss Axioscope in the laboratory. Cases where specimens were examined in the field and not collected, are marked as "non coll." in the paper. Microscopical examination was performed in water and 10% KOH (K). The measurements were made in water with an accuracy of 0.5 µm for ascospores, asci, conidia, conidiogenous cells, conidiophores, and ascomatal and pycnidial wall cells, and 5 µm for ascomata and pycnidia. The measurements are given as (min–)x–SD – x+SD(–max), where x is the average and SD is the standard deviation. We provide morphological features for rare and difficult-to-identify taxa that distinguish them from similar species. All examined specimens are deposited in the lichenological herbarium CWU, IF, KHER and KW, as well as in the private herbarium of the first author (hb. VD). The nomenclature follows Index Fungorum (www.indexfungorum.org).

Species records

Lichen-forming fungi

Alyxoria varia (Pers.) Ertz. & Tehler

The lichen is widely distributed in Ukraine (Kondratyuk *et al.* 2021), but this is the first record for the Kirovograd region.

Specimen examined. Ukraine. Kirovograd region, Znamyanka district, swamp "Black forest", alt. 177 m, 48.77660º N, 32.54516º E, on old *Quercus robur*, 17 October 2023, det. O. Khodosovtsev (non coll.).

Anisomeridium polypori (Ellis & Everh.) M.E. Barr

This is a rarely collected lichen known from the Sumy, Khmelnytskiy and Zakarpattia regions (Kondratyuk *et al.* 2021). This is the first record for the Vinnytsia region.

Specimen examined. Ukraine. Vinnytsia region, Koziatyn district, botanical reserve "Sestrynivska dacha", alt. 295 m, 49.76406º N, 28.87457º E, on *Ulmus laevis* and *Quercus robur*, 2015, leg. & det. N. Kapets (IF).

Arthonia apatetica (A. Massal.) Th. Fr.

The lichen was known from the Autonomous Republic of Crimea, as well as Mykolaiv, Kherson, Zakarpattia and Zhytomyr regions (Kondratyuk *et al.* 2021). This is the first record for the Donetsk region.

Specimen examined. Ukraine. Donetsk region, Slavyansk region, Pryshyb village, cretaceous slopes, alt. 104 m, 49.02878º N, 37.63957º E, on *Thymus*, 11 May 2023, leg. & det. O. Khodosovtsev (KHER 15501).

Arthonia radiata (Pers.) Ach.

In Ukraine, this lichen grows on the smooth bark of deciduous trees in forest and forest-steppe zones, but is rarely collected in the steppe zone (Kondratyuk *et al*. 2021). This is the first record for the Kirovograd region.

Specimen examined. Ukraine. Kirovograd region, Znamyanka district, Vodyane village, alt. 231 m, 48.74240º N, 32.57801º E, on *Carpinus betulus*, 17 October 2023, det. O. Khodosovtsev (non coll.).

Arthopyrenia analepta (Ach.) A. Massal.

The lichen is widely distributed in Ukraine (Kondratyuk *et al.* 2021). In Ivano-Frankivsk region, the lichen was reported only from Chyvchy Mountains. It is the first time report for the lowland part of the Ivano-Frankivsk region.

Specimen examined. Ukraine. Ivano-Frankivsk region, Ivano-Frankivsk district, forest near the Sokil village, alt. 233 m, 49.09472º N, 24.61251º N, on *Tilia cordata*, 8 October 2022, leg. & det. N. Kapets (IF).

Athallia pyracea (Ach.) Arup, Fröden & Søchting

It is a widespread lichen in Ukraine (Kondratyuk *et al.* 2021), but it has never been reported for Kirovograd region.

Specimen examined. Ukraine. Kirovograd region, Dolynska district, Gurivka village, alt. 107 m, 48.10994º N, 33.06331º E, on bark of *Pyrus communis*, 18 October 2023, det. O. Khodosovtsev (non coll.).

Athallia vitellinula (Nyl.) Arup, Frödén & Søchting

The lichen is rarely collected in Ukraine and previously known distribution was based on a few old records from the Autonomous Republic of Crimea (Mereschkovsky 1920) and Zakarpattia region (Szatala 1916, Nádvorník 1933), as well as on modern collection from Dnipropetrovsk region (Golovenko 2016). This is the first record for the Cherkasy region.

Specimen examined. Ukraine. Cherkasy region, Umansky district, Buky village, Buksy Canyon, alt. 175 m, 49.0965º N, 30.39716º E, on vertical surfaces of siliceous rocks, 11 January 2023, leg. O. Khodosovtsev & A. Kuzemko, det. O. Khodosovtsev (KHER 15448).

Aspicilia goettweigensis (Zahlbr.) Hue FIGURE 1a

The lichen was recently found in Ukraine from Mykolaiv region (Khodosovtsev *et al.* 2022). The species is characterized by convex bullate and hollow areoles, up to 1.5 mm wide, sometimes upright and subsquamulose (Paukov *et al.* 2016). The species is known from arid habitat of Europe. This is the second record of this lichen in Ukraine.

Specimen examined. Ukraine. Cherkasy region, Umansky district, Dubova village, alt. 129 m, 48.63656º N, 30.44974º E, on siliceous rocks, 12 April 2023, leg. & det. O. Khodosovtsev (KHER 15440).

Bacidia fuscoviridis (Anzi) Lettau

This species was reported from a few localities in the Autonomous Republic of Crimea, as well as Kherson, Sumy, Zakarpattia and Zaporizhzhia regions (Khodosovtsev 1999, Khodosovtsev & Postoyalkin 2006, Darmostuk 2016, Khodosovtsev *et al.* 2017, Khodosovtsev & Darmostuk 2020a). These are the first records for the Chernivtsi and Ternopil regions.

Specimens examined. Ukraine. Chernivtsi region, Kelmenetskyi district, near Nahoryany village, Shyshkovi horby Landmark, alt. 133 m, 48.54844º N, 26.78705º E, on carbonaceous outcrops, 12 May 2018, leg. & det. O. Khodosovtsev & V. Darmostuk (KHER 12341); **Ternopil region,** Buchatskyi district, near Stinka village, alt. 230 m, 48.91691º N, 25.23774º E, on limestone, 10 May 2018, leg. & det. O. Khodosovtsev & V. Darmostuk (KHER 11828).

Bactrospora dryina (Ach.) A. Massal.

The lichen was reported on old oaks from the Ivano-Frankivsk, Kyiv and Zakarpattia regions (Dymytrova & Kondratyuk 2012, Dymytrova 2013, Kondratyuk *et al.* 2021, Khodosovtsev 2023). These are the first records for the Kirovograd and Ternopil regions.

Specimens examined. Ukraine. Kirovograd region, Znamyanka district, swamp "Black forest", alt. 177 m, 48.77660º N, 32.54516º E, on old *Quercus robur*, 17 October 2023, det. O. Khodosovtsev (non coll.); **Ternopil**

region, Berezhanskyi district, near Berzhany town, Chortiv Kamin Landmark, alt. 368 m, 49.44361º N, 24.87001º E, on old *Quercus robur*, 9 September 2019, leg. & det. V. Darmostuk 043 (hb. VD).

Calogaya pusilla (A. Massal.) Arup, Frödén & Søchting

The lichen was rarely reported in Ukraine, but it is probably widespread on anthropogenic substrate. The species was known from the Autonomous Republic of Crimea, Dnipropetrovsk, Donetsk, Khmelnytskiy, Kherson, Mykolaiv and Odesa regions (Kondratyuk *et al.* 2021). This is the first record for the Cherkasy region.

Specimen examined. Ukraine. Cherkasy region, Umansky district, Buky village, Buksy Canyon, alt. 175 m, 49.0965º N, 30.39716º E, on vertical surfaces of siliceous rocks, 11 January 2023, leg. O. Khodosovtsev & A. Kuzemko, det. O. Khodosovtsev (KHER 15447).

Caloplaca sterilis Šoun, Khodos. & Vondrák

The lichen was known from the Autonomous Republic of Crimea, Kharkiv, Kherson and Odesa regions (Šoun *et al.* 2011, Gromakova 2014, Khodosovtsev *et al.* 2016). This is the first record for the Donetsk region.

Specimen examined. Ukraine. Donetsk region, Slavyansk district, Pryshyb village, cretaceous slopes, alt. 104 m, 49.02878º N, 37.63957º E, on *Thymus*, 11 May 2023, leg. & det. O. Khodosovtsev (KHER 15503).

Catillaria nigroclavata (Nyl.) Schuler

The lichen is widespread in Ukraine (Kondratyuk *et al.* 2021), but this is the first report for the Donetsk region.

Specimen examined. Ukraine. Donetsk region, Sloviansk district, Sviatohirsk, Svyati Hory National Nature Park, alt. 64 m, 49.02728º N, 37.53543º E, on *Populus tremula*, 11 May 2023, leg. & det O. Khodosovtsev (KHER 15515).

Calicium notarisii (Tul.) M. Prieto & Wedin FIGURE 1b

(= *Cyphelium notarisii* (Tul.) Blomb. ex Forssell)

Calicium notarisii is known from the Autonomous Republic of Crimea, Kyiv, Kharkiv and Zakarpattia regions in Ukraine (Kondratyuk *et al.* 2021). The species is morphologically similar to *C. tigillare* (Ach.) Pers. (= *Acolium tigillare* (Ach.) Gray). For a long time, *C. tigillare* has reported from Sviati Hory in Donetsk region based on the records by G. Shperk (1870) without modern finds (Nadyeina 2007). We found a population of *Calicium notarisii* on the bark of the oldest oak, so-called "600 years old", in Donetsk region with cover up to 20%. The latter species is rare, but has been reported from several habitats in the Siverskyi Donets river valley in the Kharkiv region (Gromakova 2014). In our opinion, G. Shperk may have considered the *Calicium notarisii* in a broad sense within *Calicium tigilare* (Shperk 1870). Moreover, in the middle of 19th century*Calicium notarisii* was reduced by T. Fries (1855) to variation *Trachylia tigillaris* var. *notarisii* (Tul.) Th. Fr. Therefore, the occurrence of *Calicium notarisii* (= *Acolium tigillare* sensu Shperk, non (Ach.) Gray) in the Svyati Hory National Nature Park, which is the only one in the Donetsk region, should be considered as confirmed by us after 153 years.

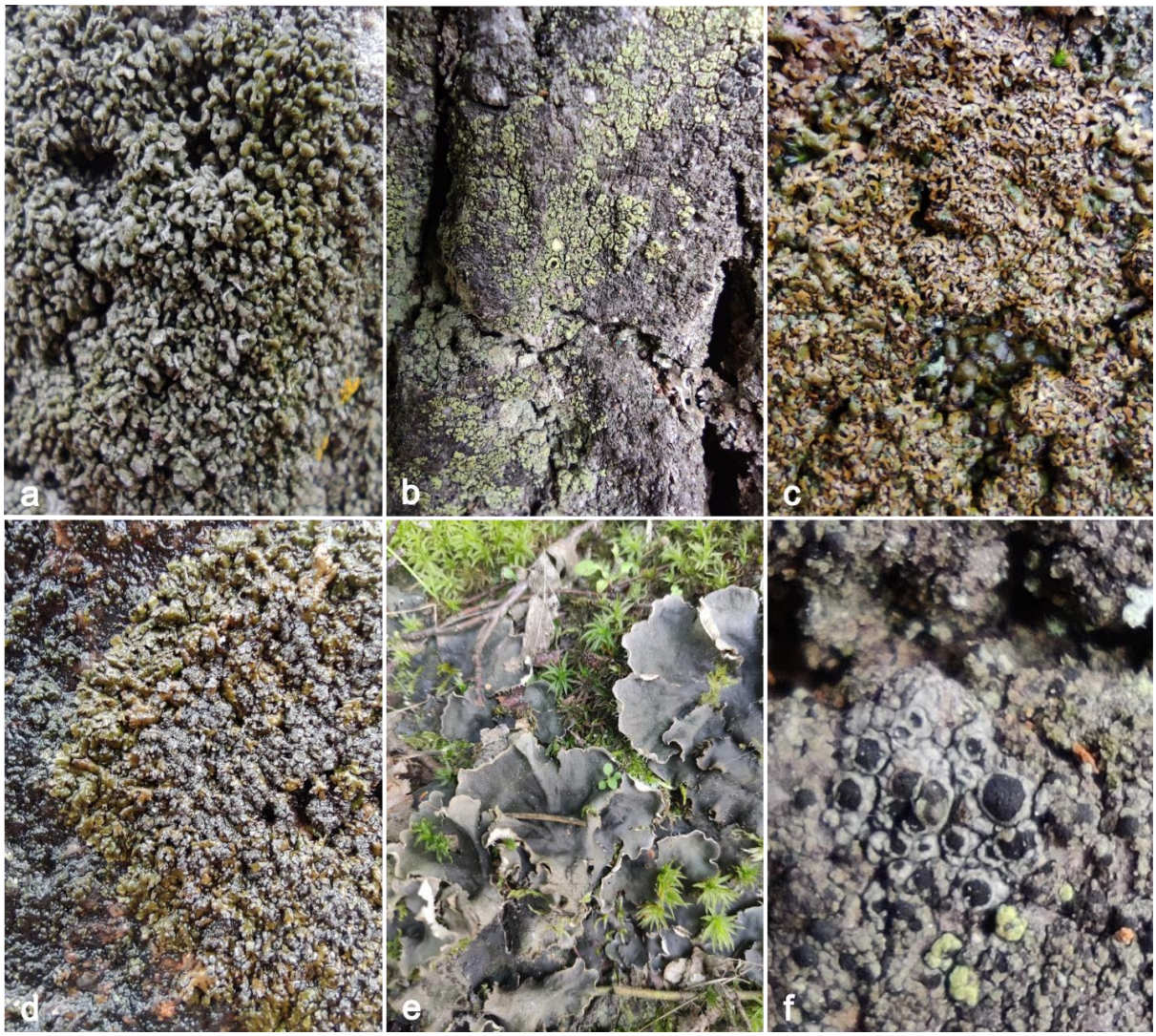

FIGURE 1. a – ***Aspicilia goettweigensis*****, b –** ***Calicium notarisii*****, c –** ***Montanelia panniformis*****, d –** ***Montanelia sorediata*****, e –** ***Peltigera praetextata*****, f –** ***Rinodina exigua*****. Photo by O. Khodosovtsev.**

Specimen examined. Ukraine. Donetsk region, Slavyansk district, Svyati Hory National Nature Park, Siversky Donets river valley, alt. 66 m, 49.02774º N, 37.53904º E, on old *Quercus robur* (655 cm circumference), 11 May 2023, leg. & det. O. Khodosovtsev (KHER 15507).

Chaenotheca furfuracea (L.) Tibell

This species was reported from several administrative regions of Ukraine mostly as corticolous species, with a few reports as saxicole (Kondratyuk *et al.* 2021). These are the first records for the Cherkasy and Poltava regions.

Specimens examined. Ukraine. Cherkasy region, Kanivskyi district, Kaniv city, Kaniv Nature Reserve, alt. 212 m, 49.72077º N, 31.50377º E, on deciduous root, 3 November 2007, leg. & det. O. Khodosovtsev (KHER 2110, 4829); **Poltava region,** Pyryatynskyi district, Mala Krucha village, alt. 96 m, 50.21422º N, 32.57034º E, on *Quercus robur* bark, 5 May 2016, det. V. Darmostuk (non coll.).

Cladonia asahinae J.W. Thomson

This species is considered a part of complicated *Cladonia chlorophaea* complex and it was reported, as new for Ukraine, from Dnipropetrovsk, Zaporizhzhia, Kirovohrad and Mykolaiv regions by Khodosovtsev *et al.* (2021). This is the first record for the Cherkasy region.

Specimens examined. Ukraine. Cherkasy region, Zvenyhorodka district, in the vicinity of Pishchana village, alt. 109 m, 48.78282º N, 30.88626º E, petrophytic steppe, 11 August 2023, leg. K. Lavrinenko, det. O. Khodosovtsev (KW 75758); Zvenyhorodka district, in the vicinity of Talne village, alt. 134 m, 48.90788º N, 30.67497º E, petrophytic steppe, 17 June 2023, leg. K. Lavrinenko, D. Borovyk, det. O. Khodosovtsev

(KW 75757); ibid., 48.91693º N, 30.66579º E, petrophytic steppe, 18 June 2023, leg. K. Lavrinenko, D. Borovyk, det. O. Khodosovtsev (KW 75756); Uman district, in the vicinity of Yurpil village, alt. 157 m, 48.99562º N, 30.54206º E, petrophytic steppe, 4 September 2023, leg. K. Lavrinenko & D. Borovyk, det. O. Khodosovtsev (KW 75755).

Cladonia cervicornis (Ach.) Flot.

This is a common species in Ukraine (Kondratyuk *et al.* 2021, Khodosovtsev *et al.* 2021), hovewer it has not been previously reported from the Kirovograd region.

Specimen examined. Ukraine. Kirovohrad region, Holovanivsk district, in the vicinity of Synyukha village, alt. 90 m, 48.196418º N, 30.85687º E, petrophytic steppe, 23 July 2023, leg. K. Lavrinenko, det. O. Khodosovtsev (KW 75754).

Cladonia conista (Nyl.) Robbins

This lichen was recently found in Ukraine (Khodosovtsev *et al.* 2021, Khodosovtsev & Khodosovtseva 2022). It is known from the Dnipropetrovsk, Kherson, Kirovograd, Mykolaiv, Vinnytsa and Zaporizhzhia regions. This is the first record for the Cherkasy region.

Specimen examined. Ukraine. Cherkasy region, Uman district, Korzhova village, alt. 142 m, 48.65927º N, 30.42467º E, on soil, 12 April 2023, det. O. Khodosovtsev (non coll.).

Cladonia furcata (Huds.) Schrad.

The lichen is a widespread in Ukraine (Kondratyuk *et al.* 2021), but this is the first report for the Kirovograd region.

Specimen examined. Ukraine. Kirovograd region, Dolynska district, Novogrygorovka Druga, alt. 85 m, 48.052331º N, 32.94034º E, on soil between siliceous outcrops, 18 October 2023, det. O. Khodosovtsev (non coll.).

Cladonia monomorpha Aptroot, Sipman & Herk

The lichen was collected in different regions of Ukraine (Khodosovtsev *et al.* 2021), but this is the first record for the Cherkasy region.

Specimen examined. Ukraine. Cherkasy region, Zvenyhorodka district, in the vicinity of Talne village, alt. 142 m, 48.916937º N, 30.665799º E, petrophytic steppe, on soil, 18 June 2023, leg. K. Lavrinenko & D. Borovyk, det. O. Khodosovtsev (KW 75753).

Cladonia portentosa (Dufour) Coem.

This species was reported from several localities in Ukraine (Kondratyuk *et al.* 2021, Khodosovtsev *et al*. 2021), but this is the first record for the Cherkasy region.

Specimen examined. Ukraine. Cherkasy region, Zvenyhorodka district, in the vicinity of Katerynopil town, alt. 126 m, 48.96296º N, 30.98203º E, petrophytic steppe, on soil, 8 July 2022, leg. K. Lavrinenko, A. Kuzemko, N. Pashkevych, O. Bezsmertna & O. Chusova, det. O. Khodosovtsev (KW 75753).

Diplotomma chlorophaeum (Hepp ex Leight.) Szatala

The lichen is known mainly from the old reports in the Autonomous Republic of Crimea, Kherson, Khmelnytskyi, Donetsk and Zakarpattia regions (Kondratyuk *et al.* 2021). Latest collection of this species are from the Autonomous Republic of Crimea and Mykolaiv region (Khodosovtsev 2003, Darmostuk *et al.* 2021). This is the first record for the Cherkasy region.

Specimen examined. Ukraine. Cherkasy region, Dubova village, alt. 129 m, 48.63656º N, 30.44974º E, on siliceous rocks, 12 April 2023, leg. & det. O. Khodosovtsev (KHER 15437).

Diploschistes muscorum (Scop.) R. Sant.

It is widespread parasitic lichen on *Cladonia* (Kondratyuk *et al.* 2021). Here we provide first records for Cherkasy, Kharkiv and Kirovograd regions.

Specimens examined (all on *Cladonia* sp.). Ukraine. Cherkasy region, Uman district, Korzhovyi Kut village, alt. 142 m, 48.65927º N, 30.42467º E, on soil, 12 April 2023, det. O. Khodosovtsev (non coll.); **Kharkiv region**, Chuhuiv district, Chemuzhivka village, alt. 122 m, 49.71881º N, 36.33037º E, on soil,

1 November 2012, leg. & det. A. Gromakova (CWU 200173); near Zmiiv town, alt. 108 m, 49.70422º N, 36.38693º E, 25 September 2016, leg. & det. A. Gromakova (CWU 202269); near Zidky village, alt. 86 m, 49.68416º N, 36.39996º E, on soil, 6 November 2019, leg. & det. A. Gromakova (CWU 203397); Velykyi Burluk district, Nesterivka village, Velykoburlutskyi Steppe Regional Landscape Park, alt. 153 m, 49.90861° N, 37.31028° E, on soil, 20 April 2006, leg. G. Savchenko, det. A. Gromakova (CWU 200172), Nova Oleksandrivka village, Velykoburlutskyi Steppe Regional Landscape Park, alt. 132 m, 49.91972° N, 37.31028° E, on soil, 20 October 2019, leg. G. Savchenko, det. A. Gromakova (CWU 203396); **Kirovograd region**, Dolynska district, Gurivka village, alt. 107 m, 48.10994º N, 33.06331º E, on soil, 18 October 2023, det. O. Khodosovtsev (non coll.).

Enchylium limosum (Ach.) Otalora, P.M. Jørg. & Wedin

This is rarely collected terricolous lichen in Ukraine. It was known from the Autonomous Republic of Crimea, Kharkiv, Kherson, Ivano-Frankivsk, Poltava, Ternopil and Zakarpattia regions (Kondratyuk *et al.* 2021). This is the first record for the Cherkasy region.

Specimen examined. Ukraine. Cherkasy region, Uman district, Korzhova village, alt. 142 m, 48.65927º N, 30.424674º E, on soil, 12 April 2023, leg. & det. O. Khodosovtsev (KHER 15435).

Eopyrenula leucoplaca (Wallr.) R. Harris

The lichen is rare in Ukraine (Kondratyuk *et al*. 2021), it grows on bark of deciduous trees in mature natural or semi-natural forest. These are the first records for the Kirovograd and Vinnytsa regions.

Specimens examined. Ukraine. Kirovograd region, Znamyanka district, swamp "Black forest", alt. 177 m, 48.77660º N, 32.54516º E, on old *Fraxinus excelsior*, 17 October 2023, det. O. Khodosovtsev (non coll.); **Vinnytsa region**, Khmilnytskyi district, Tryhuby village, alt. 339 m, 49.47199º N, 28.024051º E, on *Carpinus betulus*, 22 July 2023, leg. O. Khodosovtsev & A. Kuzemko, det. O. Khodosovtsev (KHER 15837).

Flavoplaca flavocitrina (Nyl.) Arup, Frödén & Søchting

The lichen was known from the Dnipropetrovsk, Kherson, Khmelnytskyi, Kirovograd, Lviv, Luhansk, Mykolaiv, Sumy and Zhytomyr regions (Kondratryuk *et al.* 2021). This is the first record for the Cherkasy region.

Specimen examined. Ukraine. Cherkasy region, Umansky district, Buky village, Buksy Canyon, 175 m, 49.0965º N, 30.39716º E, on vertical surfaces of siliceous rocks, 11 January 2023, leg. O. Khodosovtsev & A. Kuzemko (KHER 15449).

Fominiella skii (Khodos., Vondrák & Šoun) S.Y. Kondr., Upreti & Hur

This recently described lichen was known from the Autonomous Republic of Crimea, as well as Kherson, Kharkiv, Mykolaiv and Odesa regions (Vondrák *et al.* 2012, Gromakova 2013, Khodosovtsev *et al*. 2016). This is the first record for the Donetsk region.

Specimen examined. Ukraine. Donetsk region, Sloviansk region, Pryshyb village, cretaceous slopes, alt. 104 m, 49.02878º N, 37.63957º E, on *Thymus*, 11 May 2023, leg. & det. O. Khodosovtsev (KHER 15499).

Graphis scripta (L.) Ach.

This is a widespread lichen occuring in the forest zone (Kondratyuk *et al.* 2021), however in some of the regions it was rerely collected. The species was reported in the Vinnytsa region in end of 19th century (Rishavi 1872). Here we report it for the first time after 142 years.

Specimen examined. Ukraine. Vinnytsa region, Khmilnytskyi district, Tryhuby village, alt. 339 m., 49.47199º N 28.02405º E, on *Carpinus betulus*, 22 July 2023, alt. 339 m, leg. O. Khodosovtsev & A. Kuzemko, det. O. Khodosovtsev (KHER 15840).

Kuettlingeria atroflava (Turner) I.V. Frolov, Vondrák & Arup

It is a rarely collected lichen, occurring on exposed siliceous boulders near the soil surface. The species was known from the Autonomous Republic of Crimea, Zakarpattia, Zaporizhzhia and Zhytomyr regions (Kondratryuk *et al.* 2021). This is the first record for the Kirovograd region.

Specimen examined. Ukraine. Kirovograd region, Dolynska district, Gurivka village, alt. 107 m, 48.06448º N, 33.10232º E, on siliceous outcrops, 18 October 2023, det. O. Khodosovtsev (non coll.).

Lahmia kuntzei Körb.

This facultatively lichenized fungus was recently found in Kyiv and Rivne regions (Khodosovtsev 2023). This is the first record for the Donetsk region.

Specimen examined. Ukraine. Donetsk region, Sloviansk district, Sviatohirsk town, Svyati Hory National Nature Park, alt. 64 m, 49.02728º N, 37.53543º E, on *Populus tremula*, 11 May 2023, leg. & det. O. Khodosovtsev (KHER 15511).

Lecania croatica (Zahlbr.) Kotlov

The lichen was known from the Ivano-Frankivsk, Kyiv, Lviv, Ternopil and Volyn regions (Kondratyuk *et al.* 2021, Khodosovtsev *et al.* 2022, Darmostuk *et al.* 2023, Khodosovtsev 2023). These are the first records for the Cherkasy and Vinnytsa regions.

Specimens examined. Ukraine. Cherkasy region, Kholodnyi Yar, alt. 204 m, 49.15455º N, 32.23395º E, on *Carpinus betulus*, 25 March 2023, leg. O. Khodosovtsev & A. Kuzemko, det. O. Khodosovtsev (KHER 15844); **Vinnytsa region**, Khmilnytskyi district, Tryhuby village, alt. 339 m, 49.47199º N, 28.024051º E, on *Carpinus betulus*, 22 July 2023, leg. O. Khodosovtsev & A. Kuzemko, det. O. Khodosovtsev (KHER 15839).

Lecanora expallens Ach.

This is a widespread lichen in Ukraine (Kondratyuk *et al.* 2021), but it has never been reported for the Kirovograd region.

Specimen examined. Ukraine. Kirovograd region, Znamyanka district, swamp "Black forest", alt. 177 m, 48.77660º N, 32.54516º E, on old *Quercus robur*, 17 October 2023, det. O. Khodosovtsev (non coll.).

Lepraria borealis Loht. et Tønsberg

It is a widespread lichen on siliceous outcrops of the Ukrainian Crystalline Shield in the Cherkasy, Donetsk, Mykolaiv and Zaporizhzhia regions (Darmostuk & Khodosovtsev 2020, Khodosovtsev *et al.* 2022). This species was also rarely reported in the Autonomous Republic of Crimea (Kondratyuk *et al.* 2021). This is the first record for the Kirovograd region.

Specimen examined. Ukraine. Kirovograd region, Dolynska district, Novogrygorovka Druga, alt. 85 m, 48.05233º N, 32.94034º E, on soil between siliceous outcrops, 18 October 2023, det. O. Khodosovtsev (non coll.).

Lichenothelia convexa Hensen

It is a widespread fungus in Ukraine (Darmostuk & Khodosovtsev 2020, Khodosovtsev *et al.* 2022), but it has been never reported from the Kirovograd region.

Specimen examined. Ukraine. **Kirovograd region,** Dolynska district, Gurivka village, 48.10994º N, 33.06331º E, on siliceous rocks, 18 October 2023, det. O. Khodosovtsev (non coll.).

Lobothallia praeradiosa (Nyl.) Hafellner

This lichen was recently reported from Ukraine (Khodosovtsev *et al.* 2022). The species has intermediate morphology between *Lobothallia alphoplaca* and *L. radiosa*. *Lobothallia praeradiosa* differs from *L. alphoplaca* by flat or slightly convex lobes with not closely attached tips. Both species have more or less overlapping lobes. *Lobothallia radiosa* has closely attached, not overlapping flat lobes, with adpressed tips and mainly immersed, mature apothecia. *Lobothallia praeradiosa* was reported from the Cherkasy, Dnipropetrovsk, Mykolaiv and Zaporizhzhia regions. We list here all known herbarium specimens of *Lobothallia praeradiosa* from Ukraine, because of the lack of label information in Khodosovtsev *et al.* (2022).

Specimens examined. Ukraine. Cherkasy region, Kamyanskyi district, Kamianka village, Tiasmynskyi canyon, alt. 117 m, 49.04671º N, 32.06051º E, on granite, 12 October 2019, det. V. Darmostuk (non coll.); Uman district, Yurpil village , alt. 157 m, 48.99957º N, 30.52236º E, on siliceous rocks, 11 April 2023, leg.

O. Khodosovtsev & A. Kuzemko, det. O. Khodosovtsev (KHER 15444); **Dnipropetrovk region,** Solonyanskyi district, near Zvonetske village, alt. 66 m, 48.24575º N, 35.18476º E, on granite, 10 May 2018, leg. & det. O. Khodosovtsev & V. Darmostuk (KHER 11802); **Kirovohrad region**, Bobrynetskyi district, near Bobrynets town, alt. 100 m, 48.05848º N, 32.17876º E, on granite, 29 July 2016, leg. & det. O. Khodosovtsev & V. Darmostuk (KHER 10108); **Mykolaiv region**, Arbuzynskyi district, near Kuripchyne village, alt. 32 m, 47.99213º N, 31.02179º E, on granite, 1 July 2020, leg. & det. V. Darmostuk 707 (hb. VD); Novobuzkyi district, near Rosanivka village, alt. 103 m, 47.79573º N, 32.38181º E, on granite, 28 May 2017, leg. & det. O. Khodosovtsev & V. Darmostuk (KHER 10950); Voznesenskyi district, near Aktove village, alt. 42 m, 47.70531º N, 31.44236º E, on granite, 8 May 2020, leg. & det. O. Khodosovtsev (KHER 13897); Pervomaiskyi district, near Lviv village, alt. 38 m, 47.88979º N, 31.09966º E, on granite, 5 July 2020, leg. & det. O. Khodosovtsev (KHER 14052); Yelanetskyi district, near Vodiano-Loryno village, alt. 30 m, 47.59701º N, 32.11158º E, on granite, 9 May 2008, leg. T. Boiko, det. O. Khodosovtsev & V. Darmostuk (KHER 7869); **Zaporizhzhia region,** Zaporizhska city council, Khortytsia Island, alt. 13 m, 47.81495º N, 35.0892º E, on granite outcrops near water, 30 June 2018, det. V. Darmostuk (non coll.).

Montanelia panniformis (Nyl.) Divakar, A. Crespo, Wedin & Essl. FIGURE 1c

The lichen was reported once from Zakarpattia region (Servít & Nádvorník 1932). This is the first report for the lowland part of Ukraine.

Specimen examined. Ukraine. Cherkasy region, Uman district, Korzhovyi Kut village, alt. 142 m, 48.65927º N, 30.42467º E, on siliceous rocks, 12 April 2023, leg. & det. O. Khodosovtsev (KHER 15434).

Montanelia sorediata (Ach.) Divakar, A. Crespo, Wedin & Essl. FIGURE 1d

The lichen was known from the Autonomous Republic of Crimea, Chernivtsi, Ivano-Frankivsk, Mykolaiv, Zakarpattia and Zhytomyr regions (Kondratyuk *et al.* 2021, Khodosovtsev *et al.* 2022). This is the first record for the Cherkasy region.

Specimen examined. Ukraine. Cherkasy region, Uman district, Korzhovyi Kut village, alt. 142 m, 48.65927º N, 30.42467º E, on siliceous rocks, 12 April 2023, leg. & det. O. Khodosovtsev (KHER 15433).

Peltigera scabrosa Th. Fr.

The lichen is rare in Ukraine and was known only from Zakarpattia region (Kondratyuk *et al.* 2021). This is the first record for the Ivano-Frankivsk region.

Specimen examined. Ukraine. Ivano-Frankivsk region, Ivano-Frankivsk district, Bukivna village, forest on the steep slopes along the Dnister river, alt. 236 m, 48.96777º N, 24.98805º E, on soil, 23 May 2023, leg. & det. N. Kapets (IF 0089).

Peltigera praetextata (Flörke ex Sommerf.) Zopf FIGURE 1e

This lichen is a widespread in the Carpathian and Crimea Mountains in Ukraine, (Kondratyuk *et al.* 2021), but it is rare in the lowland part of Ukraine. In Kyiv region, this species was collected once by A.M. Oxner and M.Yu. Vagner from Holosiiv forest in the summer 1919. We collected *Peltigera praetextata* in the same forest after 104 years. We also provide first record for the Kirovograd region.

Specimens examined. Ukraine. Kirovohrad region, Holovanivsk district, in the vicinity of Lebedynka village, alt. 133 m, 48.45399º N, 30.60311º E, thermophilous forest with granitic outcrops, 5 September 2023, leg. K. Lavrinenko & D. Borovyk, det. O. Khodosovtsev (KW 75752); **Kyiv,** Holosiiv forest, Kytaivski stavky, alt. 135 m, 50.36591º N, 30.53564º E, 1 August 2023, leg. & det. O. Khodosovtsev (KHER 15847).

Pertusaria borealis Erichsen

This rare crustose lichen was reported only from Zakarpattia region (Kondratyuk *et al.* 2021, 2022). This is the first record for the Zhytomyr region.

Specimens examined. Ukraine. Zhytomyr region, Zhytomyr district, forest near the town of Korosty-shiv, alt. 186 m, 50.33666º N, 29.08251º E, on *Quercus robur*, 16 July 2014, leg. & det. N. Kapets (IF 00184, 00185).

Physcia caesia (Hoffm.) Fürnr.

The lichen is a common species on silicious outcrops (Kondratyuk *et al.* 2021), but it has never been reported previously for the Rivne and Sumy regions.

Specimens examined. Ukraine. Rivne region, Bereznivskyi district, near Sosnove village, alt. 190 m, 50.82623º N, 27.03135 º E, on siliceous outcrops, 16 May 2019, leg. & det. O. Khodosovtsev & V. Darmostuk (KHER 12862); **Sumy region,** Lebedynskyi district, near Velyki Luky village, alt. 28 m, 50.74556º N, 34.16751º E, on roof, 12 July 2020, leg. & det. V. Darmostuk 1010 (hb. VD);

Physconia detersa (Nyl.) Poelt

It is a widespread lichen in Ukraine (Kondratyuk *et al.* 2021), but it has never been reported for the Ivano-Frankivsk region.

Specimen examined. Ukraine. Ivano-Frankivsk region, Ivano-Frankivsk, city park, alt. 258 m, 48.91277º N, 24.69444º E, on *Acer platanoides*, 17 May 2020, leg. & det. N. Kapets (IF).

Physconia enteroxantha (Nyl.) Poelt

The lichen is common in Ukraine (Kondratyuk *et al.* 2021). These are the first records for the Ivano-Frankivsk and Kirovograd regions.

Specimen examined. Ukraine. Ivano-Frankivsk region, Ivano-Frankivsk dictrict, forest near the Sokil village, alt. 233 m, 49.09472º N, 24.61251º E, on *Tilia cordata*, 8 October 2022, leg. & det. N. Kapets (IF); **Kirovograd region**, Dolynska district, Gurivka village, alt. 107 m, 48.10994º N, 33.06331º E, on bark of *Quercus robur*, 18 October 2023, det. O. Khodosovtsev (non coll.).

Placidium squamulosum (Ach.) Breuss

This is a common terricolous lichen in Ukraine (Kondratyuk et *al.* 2021), but there were no previous reports from the Cherkasy and Kyiv regions.

Specimens examined. Ukraine. Kyiv region, Bila Tserkva district, in the vicinity of Kosiakivka village, alt. 184 m, 49.36729º N, 30.56748º E, on horizontal granite surface, 16 July 2023, leg. K. Lavrinenko, det. O. Khodosovtsev (KW 75750); **Cherkasy region**, Zvenyhorodka district, in the vicinity of Yampil village, alt. 117 m, 48.76089º N, 30.94212º E, petrophytic steppe, 19 June 2023, leg. K. Lavrinenko & D. Borovyk, det. O. Khodosovtsev (KW 75751); Uman district, Korzhovyi Kut village, alt. 151 m, 48.65916º N, 30.42984º E, on soil, 12 Apr 2023, leg. & det. O. Khodosovtsev (KHER 15432).

Placynthiella oligotropha (J.R. Laundon) Coppins & P. James

The species was reported from a few localities in several administrative regions of Ukraine (Kondratyuk *et al.* 2021). This is the first record for the Kharkiv region.

Specimens examined. Ukraine. Kharkiv region, Kharkiv district, near Tymchenky village, alt. 122 m, 49.76929º N, 36.1376º E, on soil, 2 August 2023, leg. & det. A. Gromakova (CWU 203640), Chuhuiv district, near Butivka village, alt. 107 m, 49.70567º N, 36.38582º E, on soil, 27 March 2020, leg. V. Darmostuk 463 & O. Sira, det. V. Darmostuk (hb. VD).

Polyozosia persimilis (Th. Fr.) S.Y. Kondr., Lőkös & Farkas

The species was rarely collected from the Autonomous Republic of Crimea, Dnipropetrovsk, Kherson, Kharkiv, Mykolaiv, Lviv and Sumy regions (Darmostuk *et al.* 2021, Kondratyuk *et al.* 2021). This is the first record for the Kirovograd region.

Specimen examined. Ukraine. Kirovograd region, Dolynska district, Gurivka village, 48.10994º N, 33.06331º E, on branches of *Pyrus communis*, 18 October 2023, det. O. Khodosovtsev (non coll.).

Polyozosia sambuci (Pers.) S.Y. Kondr., L. Lőkös et Farkas

This is a widespread lichens in Ukraine (Kondratyuk *et al.* 2021), especially on the branches and bark of the young deciduous trees. Here we report it for the first time from Kirovograd region.

Specimen examined. Ukraine. Kirovograd region, Dolynska district, Gurivka village, alt. 107 m, 48.10994º N, 33.06331º E, on branches of *Pyrus communis*, 18 October 2023, det. O. Khodosovtsev (non coll.).

Protothelenella sphinctrinoidella (Nyl.) H. Mayrhofer & Poelt

The lichen was reported only from two localities in the Zakarpattia region (Kondratyuk *et al.* 2021). This is the third location of this species in Ukraine.

Specimen examined. Ukraine. Ivano-Frankivsk region, Verkhovyna district, Carpathian National Nature Park, Mt. Pip Ivan Chornohirsky, alt. 1991 m, 48.04666º N, 24.62666º E, on moss and soil, 20 August 2018, leg. & det. N. Kapets (IF 00120).

Pterygiopsis affinis (A. Massal.) Henssen

This species was reported for the first time for Ukraine (Khodosovtsev *et al.* 2022) recently. However, examined specimens were not included into the releves data. This cyanolichen is characterized by rimose-areolate, black to dark olive-brown, small rosette thallus, up to 2 cm wide, with peripheral, distinctly elongated and radiating tips, 0.8(–0.9) × 0.3–0.5 mm. The lichen known from Southern Europe and Asia (South Korea).

Specimens examined. Ukraine. Mykolaiv region, Voznesenskyi district, Buzkyi Gard National Nature Park, Arbuzynskyi canyon, alt. 48 m, 47.70531º N, 31.44236º E, on granite, 8 May 2020, leg. & det. O. Khodosovtsev (KHER 13901, 13904).

Punctelia subrudecta (Nyl.) Krog

The lichen was found in numerous regions of Ukraine in the forest and forest-steppe zones (Kondratyuk *et al.* 2021), but it tends to disappear from the lowland part of Ukraine. The lichen has been reported twice in the Kyiv region (Oxner 2010, Dymytrova 2008). This is the second species found in the Holosiiv Forest in the last 90 years.

Specimens examined. Ukraine. Kyiv, Holosiivsky National Nature Park, Lisnyky, alt. 98 m, 50.29769º N, 30.55194º E, on *Alnus glutinosa*, 16 November 2023, det. O. Khodosovtsev (non coll.); Holosiiv forest, on *Carpinus betulus*, 6 August 1934, leg. & det. A. Oxner (KW 75743).

Ramalina calicaris (L.) Fr.

This is a widespread lichen in Ukraine (Kondratyuk *et al.* 2021), but it has never been reported for Ivano-Frankivsk region.

Specimen examined. Ukraine. Ivano-Frankivsk region, Ivano-Frankivsk dictrict, outskirts of the Oleshiv village, alt. 277 m, 48.94861º N, 24.97472º N, on *Quercus robur*, 23 May 2023, leg. & det. N. Kapets (IF 00095).

Ramalina europaea Gasparyan, Sipman & Lücking

The species was reported from the Chernivtsi, Kharkiv, Kherson, Kyiv and Mykolaiv regions (Khodosovtsev & Darmostuk 2020b, Darmostuk *et al.* 2021). This is the first report for the Kirovograd region.

Specimens examined. Ukraine. Kirovograd region, Dolynska district, Gurivka village, alt. 107 m, 48.10994º N, 33.06331º E, on *Quercus robur*, 18 October 2023, det. O. Khodosovtsev (non coll.); dendrological park "Veseli Bokovenky", alt. 116 m, 48.21198º N, 32.85198º E, on bark of *Quercus robur*, 8 May 2019, det. O. Khodosovtsev (non coll.).

Rinodina exigua (Ach.) S.O. Gray (= *Rinodina metabolica* var. *exigua* (Ach.) Körb.) FIGURE 1f

The species is rare, but found in different regions of the country (Kondratyuk *et al.* 2021). In Donetsk region, *Rinodina exigua* (as *R. metabolica* var. *exigua* (Ach.) Körb.) was reported by G. Sperk (1870) in the Svyati Gory on the pine bark. We report the first collection of this lichen from the Svyati Gory after 143 years.

Specimen examined. Ukraine. Donetsk region, Sloviansk district, Svyati Hory National Nature Park, Siversky Donets river valley, 49.02774º N, 37.53904º E, on old *Quercus robur* (655 cm circumference), 11 May 2023, leg. & det. O. Khodosovtsev (KHER 15506).

Scoliciosporum sarothamni (Vainio) Vězda

The lichen was known from the Autonomous Republic of Crimea, as well as Cherkasy, Ivano-Frankivsk, Kherson, Kirovograd, Khmelnitskiy, Luhansk, Mykolaiv, Sumy, Vinnytsa, Zakarpattia and Zaporizhzhia regions (Kondratyuk *et al.* 2021). This is the first report for Donetsk region.

Specimen examined. Ukraine. Donetsk region, Sloviansk district, Sviatohirsk town, Svyati Hory National Nature Park, alt. 63 m, 49.02728º N, 37.53543º E, on *Populus tremula*, 11 May 2023, leg. & det O. Khodosovtsev (KHER 15509).

Scoliciosporum gallurae Vězda et Poelt

The lichen was reported for the Dnipropetrovsk, Kherson, Kirovograd, Kyiv, Lugansk, Mykolaiv, Odesa, Poltava and Ternopil regions (Kondratyuk *et al.* 2021, Khodosovtsev 2023). This is the first report for the Cherkasy region.

Specimen examined. Ukraine. Cherkasy region, National Nature Park "Kholodnyi Yar", alt. 227 m, 49.14605 º N 32.21685º E, on *Carpinus betulus*, 25 Marth 2023, leg. & det. O. Khodosovtsev (KHER 15845).

Strangospora pinicola (A. Massal.) Körb.

This species was reported from several administrative regions of Ukraine (Kondratyuk *et al.* 2021). Here we report this species for the first time to the Kreidova Flora Nature Reserve (Donetsk region), as well as Kharkiv and Sumy regions.

Specimens examined. Ukraine. Donetsk region, Kramatorsk district, near Zakitne village, Kreidova Flora Nature Reserve, alt. 106 m, 48.89224° N, 37.93872° E, on *Pinus* bark, 06 May 2017, leg. & det. A Gromakova (CWU 202238); Lyman district, near Kryva Luka village, Kreidova Flora Nature Reserve, alt. 67 m, 48.87577° N, 37.87725° E, on *Pinus* bark, 06 May 2017, leg. & det. A. Gromakova (CWU 202239); **Kharkiv region**, Chuhuiv district, near Zmiiv town, alt. 120 m, 49.71329º N, 36.35418º E, on *Pinus sylvestris*, 10 November 2015, leg. & det. A. Gromakova (CWU 202292), *ibid*., alt. 88 m, 49.69441º N, 36.35955° E, on wood, 16 November 2020, leg. & det. V. Darmostuk 875 (hb. VD), near Lazukivka village, alt. 90 m, 49.71504° N, 36.42215° E, on deciduous treetrunk, 17 May 2020, leg. & det. V. Darmostuk 861 (hb. VD); near Haidary village, Homilshanski Lisy National Nature Park, alt. 191 m, 49.62001° N, 36.30756° E, on *Quercus robur*, 2 May 2020, det. V. Darmostuk & A. Gromakova (non coll.); **Sumy region**, Sumy district, near Vakalivschyna village, alt. 158 m, 51.03365° N, 34.92734° E, on deciduous treetrunk, 15 July 2020, leg. & det. V. Darmostuk 781 (hb. VD).

Thelenella pertusariella (Nyl.) Vain.

This rare, inconspicuous lichen was known from single location in Kyiv (Dymytrova 2013). This is the second locatity of this species in Ukraine.

Specimen examined. Ukraine. Vinnytsa region, Khmilnytskyi district, Tryhuby village, alt. 339 m., 49.47199º N 28.02405º E, on *Carpinus betulus*, 22 July 2023, alt. 339 m, leg. O. Khodosovtsev & A. Kuzemko, det. O. Khodosovtsev (KHER 15838).

Xylopsora caradocensis (Leight. ex Nyl.) Bendiksby & Timdal

This species was reported only from a few localities from Ukrainian Carpathians and Sumy region (Kondratyuk *et al*. 2021). This is the first report for the Kharkiv region.

Specimen examined. Ukraine. Kharkiv region, Chuhuiv district, near Mokhnach village, Mokhnachanskyi Forest Reserve, alt. 165 m, 49.75718º N, 36.52993º E, on *Quercus robur*, 20 May 2020, leg. & det. A. Gromakova & V. Darmostuk (CWU 203650).

Verrucaria fuscoatroides Servit

The lichen was known from Khmelnytskyi and Mykolaiv regions (Bielczyk *et al.* 2005, Khodosovtsev *et al.* 2022). This is the first record for the Kirovograd region.

Specimen examined. Ukraine. Kirovograd region, Dolynska district, village Gurivka, alt. 107 m, 48.06448º N, 33.10232º E, on siliceous outcrops, 18 October 2023, det. O. Khodosovtsev (non coll.).

Verruculopsis beltraminiana (A. Massal.) Cl. Roux s. lat.

This species was recently reported for the first time from Ukraine based on material from Mykolaiv region (Khodosovtsev *et al.* 2022). We refer to this complex specimens, which is morphologically similar to *Verruculopsis lecideoides*, but has larger ascospores, 17–22 × 7–10 µm (vs 11–16 × 5–7 µm in *V. lecideoides*). One of the specimens grow in the water track on granite surfaces with carbonaceous crust and rarely on limestone near water. These are the first records for the Chernivtsi and Kherson regions.

Specimens examined. Ukraine. Chernivtsi region, Kelmenetskyi district, near Nahoryany village, Shyshkovi horby Landmark, alt. 133 m, 48.54844º N, 26.78705º E, on carbonaceous outcrops, 12 May 2018, leg. & det. O. Khodosovtsev & V. Darmostuk (KHER 12341); **Kherson region,** Novovorontsovskyi district, near Havrylivka village, alt. 18 m, 47.37265º N, 33.97466º E, on limestone, 30 May 2018, leg. & det. O. Khodosovtsev (KHER 14045); **Mykolaiv region**, Arbuzynskyi district, near Kuripchyne village, alt. 32 m, 47.99213º N, 31.02179º E, on granite, 1 July 2020, leg. & det. O. Khodosovtsev (KHER 14045).

Verrucaria viridula (Schrad.) Ach.

The lichen was known from the Autonomous Republic of Crimea, Chernivtsi, Kherson, Lviv, Mykolaiv, Ternopil and Zakarpattia regions (Kondratyuk *et al.* 2021, Khodosovtsev *et al.* 2019a). This is the first record for the Donetsk region.

Specimen examined. Ukraine. Donetsk region, Slavyansk district, Pryshyb village, cretaceous slopes, alt. 104 m, 49.02878º N, 37.63957º E, on chalk, 11 May 2023, leg. & det. O. Khodosovtsev (KHER 15496).

Lichenicolous and non-lichenized fungi

Abrothallus caerulescens Kotte

This lichenicolous fungus was reported from Mykolaiv, Zaporizhzhia and Zhytomyr regions (Fedorenko 2006, Khodosovtsev *et al*. 2019b, Kapets & Kondratyuk 2019, Khodosovtsev & Darmostuk 2020a). This is the first report for the Cherkasy region.

Specimen examined. Ukraine. Cherkasy region, Uman district, Korzhovyi Kut village, alt. 142 m, 48.65927º N, 30.424674º E, on *Xanthoparmelia conspersa*, on granite, 12 Apr 2023, leg. O. Khodosovtsev & A. Kuzemko, det. O. Khodosovtsev (KHER 15432).

Athelia arachnoidea (Berk.) Julich

This is a widespread lichenicolous fungus, occurring on various species of lichens (Kondratyuk *et al.* 2021). This is the first report for the Ivano-Frankivsk region.

Specimens examined. Ukraine. Ivano-Frankivsk region, Ivano-Frankivsk, city park, 262 m, 48.91166º N, 24.69888º E, on *Parmelia sulcata*, 17 May 2020, leg. & det. N. Kapets (IF); Ivano-Frankivsk district, forest near the Sokil village, alt. 233 m, 49.09472º N, 24.61251º E, on *Physcia* sp., 8 October 2022, leg. & det. N. Kapets (IF).

Celothelium lutescens F. Berger & Aptroot

This non-lichenized fungus was recently found in Kyiv region (Khodosovtsev 2023). This is the first record for the Cherkasy region.

Specimen examined. Ukraine. Cherkasy region, Cherkasy district, National Nature Park "Kholodnyi Yar", alt. 206 m, 49.15854º N 32.25131º E, on *Prunus avium*, 25 March 2023, leg. & det. O. Khodosovtsev (KHER 15836).

Didymocyrtis epiphyscia Ertz & Diederich s. lat.

This lichenicolous fungus was known from numerous localities in the Autonomous Republic of Crimea, Kharkiv, Kherson Mykolaiv and Poltava regions (Darmostuk *et al.* 2021). This is the first report for the Donetsk region.

Specimen examined. Ukraine. Donetsk region, Sloviansk district, Sviatohirsk city, Svyati Hory National Nature Park, alt. 63 m, 49.02728º N, 37.53543º E, on *Physcia adscendens* growing on *Populus tremula*, 11 May 2023, leg. & det. O. Khodosovtsev (KHER 15513).

Erythricium aurantiacum (Lasch) D. Hawksw. & A. Henrici

This is a common species in Ukraine (Darmostuk *et al.* 2021, Kondratyuk *et al.* 2021), but it has been never reported from the Donetsk and Ivano-Frankivsk regions.

Specimens examined. Ukraine. Donetsk region, Sloviansk district, Sviatohirsk, Svyati Hory National Nature Park, alt. 63 m, 49.02778º N, 37.53547º E, on *Physcia stellaris* growing *Crataegus* sp., 11 May 2023, leg. & det. O. Khodosovtsev (KHER 15523); **Ivano-Frankivsk region**, Ivano-Frankivsk city, city park, alt. 262 m, 48.91166º N, 24.69888º E, on *Phaeophyscia orbicularis*, 17 May 2020, leg. & det. N. Kapets (IF)

Illosporiopsis christiansenii (B.L. Brady & D. Hawksw.) D. Hawksw.

This lichenicolous fungus was found in the Cherkasy, Chernivtsi, Chernihiv, Kharkiv, Kherson, Kyiv, Mykolaiv, Poltava, Rivne, Sumy, Zakarpattia and Zhytomyr regions (Darmostuk *et al.* 2021). This is the first report for the Donetsk region.

Specimen examined. Ukraine. Donetsk region, Sloviansk district, Sviatohirsk, Svyati Hory National Nature Park, alt. 62 m, 49.02777º N, 37.53547º E, on *Parmelia sulcata* growing on *Fraxinus sp.*, 11 May 2023, leg. & det. O. Khodosovtsev (KHER 15515).

Heterocephalacria physciacearum (Diederich) Millanes & Wedin

The funus was reported from the Authonomous Republic of Crimea, Kherson, Sumy, Ternopil and Zhytomyr regions (Darmostuk *et al.* 2021, Kondratyuk *et al.* 2021, Darmostuk & Sira 2022). This is the first report for Ivano-Frankivsk region.

Specimen examined. Ukraine. Ivano-Frankivsk region, Ivano-Frankivsk dictrict, forest near the Sokil village, alt. 240 m, 49.09511º N, 24.61511º E, on *Physcia tenella*, 8 October 2022, leg. & det. N. Kapets (IF).

Laetisaria lichenicola Diederich, Lawrey & Van den Broeck

This lichenicolous fungus was found in the Kharkiv, Kherson, Kyiv, Mykolaiv, Sumy Ternopil and Zakarpattia regions (Darmostuk *et al.* 2023). These are the first reports for the Donetsk and Kirovograd regions.

Specimens examined. Ukraine. Kirovograd region, Znamyanka district, swamp "Black forest", 48.77660º N, 32.54516º E, on *Physcia* spp. growing on branch of *Quercus robur*, 17 October 2023, det. O. Khodosovtsev (non coll.); **Donetsk region**, Slavyansk district, Svaytogirsk, Svyati Hory National Nature Park, alt. 62 m, 49.02777º N, 37.53547º E, on *Physcia adscendens* growing on *Fraxinus* sp., 11 May 2023, leg. & det. O. Khodosovtsev (KHER 15520).

Lichenoconium aeruginosum Diederich, M. Brand, Van den Boom & Lawrey

This rare lichenicolous fungus was found in Zaporizhzhia region once (Darmostuk *et al.* 2018, Darmostuk 2019, Kondratyuk *et al.* 2021). This is the second locatity of this species in Ukraine.

Specimen examined. Ukraine. Zhytomyr region, Zhytomyr district, Horodske village, near outcrops on the right bank of the Teteriv river, alt. 149 m, 55.37436º N, 29.18202º E, on *Cladonia squamosa*, 23 July 2014, leg. & det. N. Kapets (IF 00123).

Lichenostigma cosmopolites Hafellner & Calatayud

This is a widespread lichenicolous fungus growing on *Xanthoparmelia* species in the siliceous outcrop areas (Darmostuk & Khodosovtsev 2017, Khodosovtsev *et al.* 2022). This is the first report for the Cherkasy region.

Specimens examined. Ukraine. Cherkasy region, Uman district, Yurpil village, alt. 157 m, 48.99957º N, 30.52236º E, on *Xanthoparmelia stenophylla* growing on siliceous rocks, 11 April 2023, leg. O. Khodosovtsev & A. Kuzemko, det. O. Khodosovtsev (KHER 15442); Zvenyhorodka District, near Lashchova village, alt. 141 m, 48.94599º N, 30.63324º E, on *Xanthoparmelia stenophylla* growing on a sparsely vegetated slope with granitic rocky outcrops (aspect 260º, slope 16º), 18 June 2023, leg. K. Lavrinenko & D. Borovyk, det. O. Khodosovtsev (KW 75748); Talne town, alt. 142 m, 48.91694º N, 30.66579º E, on *Xanthoparmelia stenophylla*, rocky slopes of Hirskyi Tikych River valley, granitic outcrops (aspect 230º, slope 35º), 18 June 2023, leg. K. Lavrinenko & D. Borovyk, det. O. Khodosovtsev (KW 75749).

Pronectria oligospora Lowen & Rogerson

The specimen is characterized by 8-spored asci and hyaline, 1-septate ascospores, rarely disintegrated, narrower than in original description, (11.5–)12.0–17.0 (–18.5) × (2.5–)3.2–4.6(–5.0) µm vs 14–20(–22) × (2.5–)4–6 µm in the protologue (Lowen 1995). The surfaces of ascospores was delicate rugose, not smooth as in original description (Lowen 1995). However, the verrucose surfaces of ascospores was showed for specimens of *Pronectria oligospora* from the Netherlands (van der Kolk 2016). The species was reported from one location in Uzhansky National Nature Park (Zakarpattia region) by Kondratyuk & Coppins (2000). This is the second locatity of this species in Ukraine.

Specimen examined. Ukraine. Zakarpattia Region, Khust District, near Khust town, left bank of the Tissa river, landscape Lyumka, alt. 300 m, 48.16964º N, 23.25814º E, on *Puncelia subrudecta* growing on *Fagus sylvatica*, 22 August 1949, leg. M. Makarevuch, det. O. Khodosovtsev (KW 67306).

Stigmidium clauzadei Cl. Roux & Nav.-Ros.

This rare lichenicolous fungus was found in the Mykolaiv and Zaporizhzhia regions (Khodosovtsev *et al.* 2019a, Darmostuk & Khodosovtsev 2020, Darmostuk 2021). This record is the first for the Donetsk region.

Specimen examined. Ukraine. Donetsk region, Slavyansk district, Pryshyb village, cretaceous slopes, alt. 104 m, 49.02878º N, 37.63957º E, on *Verrucaria viridula* growing on chalk, 11 May 2023, leg. & det. O. Khodosovtsev (KHER 15495).

Stigmidium microspilum (Körb.) D. Hawksw.

The species was known from the Ternopil and Zakarpattia regions (Kondratyuk *et al.* 2021). It is the first report from Ivano-Frankivsk region.

Specimen examined. Ukraine. Ivano-Frankivsk region, Ivano-Frankivsk district, forest near the Sokil village , alt. 239 m, 49.09444º N, 24.61305º E, on *Graphis scripta*, 8 October 2022, leg. & det. N. Kapets (IF).

Taeniolella punctata M.S. Christ. & D. Hawksw

The lichenicolous fungus known from Khmelnytskiy, Ternopil, Zhytomyr and Zakarpattia regions (Darmostuk & Sira 2020, Kondratyuk *et al.* 2021). This is the first report for Ivano-Frankivsk region.

Specimen examined. Ukraine. Ivano-Frankivsk region, Ivano-Frankivsk district, forest near the Sokil village, alt. 239 m, 49.09444º N, 24.61305º E, on *Graphis scripta*, 8 October 2022, leg. & det. N. Kapets (IF).

Talpapellis beschiana (Diederich) Zhurb., U. Braun, Diederich & Heuchert

This lichenicolous fungus has been previously reported from the Zhytomyr region (Kapets & Kondratyuk 2019). Here we provide first records for the Cherkasy and Ternopil regions and in the Dnipro Upland in Central Ukraine.

Specimens examined. Ukraine. Cherkasy region, Zvenyhorodka district, in the vicinity of Korsun-Shevchenkivskyi city, alt. 92 m, 49.410266º N, 31.291070º E, on *Cladonia gracilis*, rocky outcrops in Ros River valley, flat granite rock surface, 17 June 2023, leg. K. Lavrinenko & D. Borovyk, det. O. Khodosovtsev (KW 75746, 75747); **Ternopil region,** Husyatynskyi district, near Sataniv village, alt. 368 m, 49.22218º N, 26.17583º E, on *Cladonia pocillum*, on soil, 11 August 2018, leg. Yu. Vasheniak, det. V. Darmostuk (KHER 12136).

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РЕЗЮМЕ

Дармостук, В.В., Громакова, А.Б., Капець, Н.В., Лавріненко, К.В., Боровик, Д.В., Куземко, А.А., Ходосовцев, О.Є. (2024). Нотатки до знахідок лишайників та ліхенофільних грибів України IV. *Чорноморський ботанічний журнал* 20 (1): 19–35. doi: 10.32999/ksu1990-553X/2024-20-1-2

У цьому повідомленні наведено нові дані щодо лишайників та ліхенофільних грибів в Україні. У ньому наведені нові записи, виключення та підтвердження для адміністративних областей України таксонів із родів *Abrothallus, Alyxoria, Anisomeridium, Arthonia, Arthopyrenia, Athallia, Athelia, Aspicilia, Bacidia, Bactrospora, Calogaya, Caloplaca, Catillaria, Celothelium, Chaenotheca, Didymocyrtis, Diplotomma, Diploschistes, Enchylium, Eopyrenula, Erythricium, Flavoplaca, Graphis, Heterocephalacria, Illosporiopsis, Kuettlingeria, Laetisaria, Lahmia, Lecania, Lecanora, Lepraria, Lichenoconium, Lichenostigma, Lichenothelia, Lobothallia, Montanelia, Peltigera, Pertusaria, Physcia, Physconia, Placidium, Placynthiella, Polyozosia, Pronectria, Protothelenella, Pterygiopsis, Punctelia, Ramalina, Rinodina, Scoliciosporum, Strangospora, Taeniolella, Talpapellis, Thelenella, Xylopsora, Verruculopsis* та *Verrucaria*. Серед них 22 видів лишайників та ліхенофільних грибів є новими для Черкаської області, 18 видів – для Кіровоградської області, 13 видів – для Донецької області, 11 видів – для Івано-Франківської області, 5 видів – для Вінницької області, 4 види – для Харківської області, 3 види – для Тернопільської області, два видих нових – для Сумської та Житомирської областей, по одному виду – для Київської, Полтавської, Рівненської, Чернівецької та Херсонської областей.

Ключові слова: біорізноманіття, нові знахідки *Calicium, Montanelia, Protothelenella, Pterygiopsis, Punctelia*