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Article in *Chornomorski Botanical Journal* · May 2023

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## Notes to lichen-forming and lichenicolous fungi in Ukraine III

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### Funding information

National Research Foundation of  
Ukraine project № 2020.01/0140

### Co-ordinating Editor

Sergiy Kondratyuk

### Data

Received: 19 December 2022

Revised: 10 March 2023

Accepted: 27 March 2023

doi: 10.32999/ksu1990-  
553X/2023-19-1-2



### 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, exclusions, and confirmations to the Ukrainian administrative regions of 64 species of lichen-forming and 20 species of lichenicolous fungi in the 57 genera of *Acarospora*, *Agonimia*, *Arthonia*, *Bacidia*, *Botryolepraria*, *Caloplaca*, *Candelaria*, *Ceratobasidium*, *Circinaria*, *Clauzadea*, *Coenogonium*, *Endococcus*, *Epithamnolia*, *Erythricium*, *Flavoplaca*, *Illosporopsis*, *Intralichen*, *Ionaspis*, *Laetisaria*, *Lathagrium*, *Lecania*, *Lendemeriella*, *Lichenochora*, *Lichenodiplis*, *Llimoniella*, *Parmeliopsis*, *Peltigera*, *Petractis*, *Phaeophyscia*, *Physcia*, *Placynthium*, *Platismatia*, *Polyblastia*, *Polychidium*, *Polyzozia*, *Porina*, *Protoparmeliopsis*, *Pyrenidium*, *Pyrenochaeta*, *Pyrenodesmia*, *Punctelia*, *Rinodina*, *Rhizocarpon*, *Roselliniella*, *Rusavskia*, *Scytinium*, *Spirographa*, *Stigmidium*, *Taeniolella*, *Telogalla*, *Toninia*, *Tremella*, *Trichoconis*, *Xanthocarpia*, *Xanthoriicola*, *Verrucaria*. Among them 29 species are the first time reported to the Chernivtsi region, 12 species new to the Sumy region, 10 species new to the Ternopil region, 7 species new to the Ivano-Frankivsk region, 5 species new to the Kyiv and Zhytomyr regions, 4 species new to the Lviv, Cherkasy, Kharkiv, Kherson, Odesa and Volyn regions, 3 species new to the Donetsk region, two species new to the Zakarpattia region, one species new to the Dnipropetrovsk, Khmelnytskyi, Kirovograd, Poltava regions as well as one species new to Autonomous Republic of Crimea. The paper includes recent records of lichens and lichenicolous fungi from National Nature Parks of Ukraine: Carpathian, Holosiivsky, Kamianska Sich, Skolivsi Beskydy, Tsumanska Pushcha, Verkhovynsky as well as Carpathian Biosphere Reserve and Cheremosky Regional Landscape Park.

### KEYWORDS

biodiversity, new records, *Polychidium*, *Telogalla*, *Trichoconis*

### CITATION

Darmostuk, V.V., Khodosovtsev, A.Ye., Gromakova, A.B., Sira, O.Ye. & Bezsmertna, O.O. (2022). Notes to lichen-forming and lichenicolous fungi in Ukraine III. *Chornomorski Botanical Journal* 19(1): 58–75. doi: 10.32999/ksu1990-553X/2023-19-1-2

## INTRODUCTION

This paper continues publications on noteworthy finds of lichens and lichenicolous fungi from different administrative regions of Ukraine (Darmostuk & Khodosovtsev 2020, Darmostuk *et al.* 2021). In this series of papers, we are reporting the results of the analysis of recent collections and the revision of herbarium specimens. The main aim of the new series is providing a substantial contribution to the knowledge of the diversity of lichens and lichenicolous fungi of Ukraine. Mainly, the paper includes recent records of lichens and lichenicolous fungi from National Nature Parks of Ukraine: Carpathian, Cheremosky, Holoivsky, Kamianska Sich, Skolivski Beskydy, Tsumanska Pushcha, Verkhovynsky as well as Carpathian Biosphere Reserve and Cheremosky Regional Landscape Park.

## MATERIAL AND METHODS

The specimens of lichens and lichenicolous fungi were examined by lens ( $\times 10$ ) in nature and standard microscopy techniques using microscopes Optica-1, MICROMED-2 and Zeiss Axioscope in the laboratory. Cases where specimens were 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  $\mu\text{m}$  for ascospores, asci, conidia, conidiogenous cells, conidiophores, and ascomatal and pycnidial wall cells, and 5  $\mu\text{m}$  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 some taxa that distinguish them from similar species. All examined specimens are deposited in the lichenological herbarium of Kherson State University (KHER), V.N. Karazin Kharkiv National University (CWU) and in the private herbarium of the first author (herb. VD). The nomenclature follows Index Fungorum ([www.indexfungorum.org](http://www.indexfungorum.org)).

## SPECIES RECORDS

### LICHEN-FORMING FUNGI

#### *Acarospora cervina* A. Massal.

The lichen is common in southern parts of Ukraine (Kondratyuk *et al.* 2021), but rarely reported in western part of the country. This is the first record of the species from Chernivtsi region.

**Specimen examined. Ukraine. Chernivtsi Region,** Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N, 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15171 with *Polyozosia semipallida* and *Rusavskia elegans*).

#### *Agonimia tristicula* (Nyl.) Zahlbr.

The lichen is not rare in Carpathian Mts. (Kondratyuk *et al.* 2021), but its sterile small squamules are sometimes overlooked. It is the first record from the Chernivtsi and Ivano-Frankivsk regions.

**Specimens examined. Ukraine. Chernivtsi Region,** Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.738880° N, 24.98913° E, on mosses, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15158 with *Phaeophyscia endococcina*); **Ivano-Frankivsk Region,** Verkhovyna District, polonyna Preluchny, Vasylkova Mts, Verkhovynsky National Nature Park, alt. 1507 m, 47.80454° N, 24.89699° E, NFD 21-11, on mosses, 2 July 2021, leg. & det. A. Khodosovtsev (KHER).

#### *Arthonia reniformis* (Pers.) Röhl.

This species was reported from a few localities in Lviv and Zakarpattia regions (Kondratyuk *et al.* 2021). This is the first record for the Ternopil region.

**Specimen examined. Ukraine. Ternopil Region,** Berezhany District, near village Posukhiv, alt. 351 m, 49.41444° N, 24.93393° E, on *Acer* bark, 22 January 2021, leg. & det. V. Darmostuk, O. Sira (herb. VD 1203).

***Aspicilia viridescens* (A. Massal.) Hue**

Recently, the lichen was reported from different location in Cherkasy, Dnipropetrovsk, Mykolaiv, Rivne and Zaporizhzhia regions (Darmostuk & Khodosovtsev 2020). It is the first report from the Zhytomyr region.

**Specimen examined. Ukraine. Zhytomyr Region**, Korostyshiv District, near Gorodske village, right bank of the Teteriv river, alt. 150 m, 50.37415° N, 29.18147° E, on siliceous rock, 12 August 2021, leg. & det. A. Khodosovtsev (KHER 15155 with *Lecidea sarcogynoides*).

***Athallia holocarpa* (Ach.) Arup, Fröden & Söchting**

The species is morphologically similar to the *Athallia pyracea*, *A. cerinelloides*, *Fominiella skii*, *Flavoplaca oasis*, *Rehmanniella syvashica*, *Seawardiella lobulata* and *Xanthocarpia crenulatella* (Vondrák et al. 2012). However, specimens stored under the name “*Caloplaca holocarpa*” in Ukrainian herbariums need comprehensive revision. The species is the first time report from the Zhytomyr region.

**Specimen examined. Ukraine. Zhytomyr Region**, Korostyshiv District, near Gorodske village, right bank of the Teteriv river, alt. 145 m, 50.37438° N, 29.18226° E, on siliceous rock, 12 August 2021, leg. & det. A. Khodosovtsev (KHER 15160).

***Bacidia rubella* (Hoffm.) A. Massal.**

This is a not rare species in Ukraine, but there is no previous report from the Sumy region (Kondratyuk et al. 2021).

**Specimen examined. Ukraine. Sumy Region**, Sumy District, near Vakalivschyna village, alt. 185 m, 51.03595° N, 34.92560° E, on *Acer* bark, 15 July 2020, V. Darmostuk (non coll.).

***Bacidina sulphurella* (Samp.) Hauck & V. Wirth**

This species was reported from two locations in Carpathians (Czarnota et al. 2018, Maliček et al. 2018). This is the first report from plain part of Ukraine.

**Specimens examined. Ukraine. Kyiv Region**, Kyiv city, Feofania park, near monastery, alt. 158 m, 50.34593° N, 30.48619° E, on *Carpinus betulus*, 16 October 2022, leg. & det. A. Khodosovtsev (KHER 15221); Holosiivsky National Nature Park, Teremky, alt. 188 m, 50.35982° N, 30.45092° E, on *Prunus avium*, 3 September 2022, leg. & det. A. Khodosovtsev (KHER 15222); same location, alt. 188 m, 50.360563° N, 30.452122° E, on *Betula pendula*, 17 October 2022, leg. & det. A. Khodosovtsev (KHER 15223); **Ternopil Region**, Berezhany District, near Posukhiv village, alt. 262 m, 49.41187° N, 24.96832° E, on *P. avium*, 10 August 2019, leg. & det. V. Darmostuk (herb. VD 1038).

***Botryolepraria lesdainii* (Hue) Canals, Hern.-Mar., Gómez-Bolea & Llimona**

The species known from Autonomous Republic of Crimea, Chernivtsi, Kherson, Khmelnytskyi and Zakarpattia regions (Kondratyuk et al. 2021, Kherson 2023). The lichen reports for the first time for Cherkasy region.

**Specimen examined. Ukraine. Cherkasy Region**, Uman District, Buky village, Butsky Canyon, alt. 170 m, 49.09085° N, 30.39849° E, on carbonate tuffs in the granite fissures, 16 January 2023, leg. & det. A. Khodosovtsev (KHER 15308).

***Caloplaca cerina* (Hedw.) Th. Fr.**

Previously, B. Kaschmensky (1906) reported this species from the Sumy region as «*Placodium gilvum*». This is the first record of this species in the Sumy region since 1906.

**Specimen examined. Ukraine. Ternopil Region**, Berezhany District, near Posukhiv village, alt. 309 m, 49.41047° N, 24.94718° E, on *Populus* bark, 4 November 2021, leg. & det. V. Darmostuk, O. Sira (herb. VD 1136).

***Caloplaca monacensis* (Leder.) Lettau**

This species was reported from the Carpathian and Crimea Mts., as well as the southern part of Ukraine (Kondratyuk et al. 2021). The lichen is the first time report from the Sumy region.

**Specimen examined. Ukraine. Sumy Region**, Sumy District, near Khrapivschyna village, alt. 193 m, 51.09077° N, 34.93415° E, on *Populus* bark, 16 July 2020, leg. & det. V. Darmostuk, Sira O. (herb. VD 828).

***Caloplaca obscurella*** (J.Lahm ex Korb.) Th. Fr.

This species was reported from scattered localities in Ukraine (Kondratyuk *et al.* 2021). It is the first records from Donetsk, Kyiv, Odesa and Ternopil regions.

**Specimens examined. Ukraine. Donetsk Region**, Nikolske District, near Nazarivka village, Kam'iani Mohyly Nature Reserve, alt. 398 m, 47.314584° N, 37.082991° E, on *Salix* bark, 30 April 2013, leg. & det. A. Khodosovtsev (KHER 8494); **Kyiv District**, Kyiv city, Holosiivsky National Nature Park, Teremky, alt. 205 m, 50.36151° N, 30.44949° E, on *Acer*, 17 December 2022, A. Khodosovtsev (non coll.); same location, alt. 205 m, 50.35927° N, 30.44867° E, on *Quercus robur*, 6 March 2006, leg. & det. A. Khodosovtsev (KHER 15384); same location, Holosiivsky Forest, alt. 179 m, 50.37435° N, 30.50586° E, on *Acer*, 16 November 2022, A. Khodosovtsev (non coll.); Feofania park, near monastery, alt. 159 m, 50.34595° N, 30.48614° E, on *Acer*, 27 October 2022, leg. & det. Khodosovtsev (KHER 15220); **Odesa Region**, Ovidiopol' District, Karolino-Bugaz village, Park Gaiok, alt. 15 m, 46.15595° N, 30.54316° E, on *Robinia* bark, 6 September 2021, leg. & det. V. Darmostuk (herb. VD 1149); Tarutyne District, near Vesela Dolyna village, ethnographic complex «Frumushyka-Nova», alt. 110 m, 46.29538° N, 29.4127° E, on *Robinia* bark, 2 May 2014, leg. & det. A. Khodosovtsev, V. Darmostuk (KHER 9183); **Ternopil Region**, Berezhany District, near Berezany town, alt. 351 m, 49.45587° N, 24.90281° E, on *Betula* bark, 23 January 2021, leg. & det. V. Darmostuk (KHER 12519).

***Caloplaca stillicidiorum*** (Vahl) Lyngé

This lichen was reported from a few localities in several administrative regions of Ukraine (Oxner 1993, Darmostuk *et al.* 2021, Kondratyuk *et al.* 2021). The species is the first time report for the Donetsk region.

**Specimen examined. Ukraine. Donetsk Region**, Lyman District, near Zakitne village, Kreidova Flora branch of Ukrainian Steppe Nature Reserve, alt. 112 m, 48.88911° N, 37.939105° E, on mosses of the soil, 05 May 2017, leg. & det. A. Gromakova (CWU 203537).

***Candelaria concolor*** (Dicks.) Stein

This is a not rare species in Ukraine, but there is no previous report from the Dnipropetrovsk and Sumy regions (Kondratyuk *et al.* 2021).

**Specimens examined. Ukraine. Dnipropetrovsk Region**, Novomoskovsk District, near Andriivka village, Samarskyi forest, alt. 75 m, 48.76162° N, 35.42937° E, on *Fraxinus* bark, 9 July 2018, V. Darmostuk (non coll.); **Sumy Region**, Sumy District, Kyianytsia village, Lischynskyi park, alt. 187 m, 51.07252° N, 34.90875° E, on *Quercus* bark, 16 July 2020, leg. & det. V. Darmostuk, O. Sira (herb. VD 824).

***Circinaria calcarea*** (L.) A. Nordin, S. Savić et Tibell

This is a widespread species in areas with carbonaceous outcrops in Ukraine, but it is rare in the Chernivtsi region (Kondratyuk *et al.* 2021). This is the second report from this region.

**Specimen examined. Ukraine. Chernivtsi Region**, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, 1135 m, 47.73888° N, 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15191).

***Circinaria hoffmanniana*** (S. Ekman & Fröberg ex R. Sant.) A. Nordin

The lichen is often confused with *Circinaria contorta*, but this species has more or less continuous olivaceous thallus without pruina or slightly pruinosis apothecia. It was collected on carbonaceous rocks in Ukraine (Kondratyuk *et al.* 2021) and rare in Carpathians. The species is the first time report from the Chernivtsi region.

**Specimen examined. Ukraine. Chernivtsi Region**, Vyzhnytskyi District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N, 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15174 with *Laundonia flavovirescens*).

***Cladonia gracilis*** Sandst.

It is a widespread species in Ukraine (Kondratyuk *et al.* 2021), but this is the first time reported from Kivertsy National Natural Park «Tsumanska Pushcha» (Khodosovtsev *et al.* 2022).

**Specimen examined. Ukraine. Volyn Region**, Lutsk District, Kivertsi National Nature Park «Tsumanska Pushcha», near village Trostianets, Muravyshche forestry, 58 quartal, board 7, alt. 209 m, 50.96805° N, 25.59725° E, on soil, 24 August 2022, leg. O. Bezsmertna, G. Gerasymchuk, N. Merlenko, A. Babytskiy, det. A. Khodosovtsev (KHER 15228).

***Cladonia mitis*** Sandst.

This is common lichen in Ukraine ([Kondratyuk \*et al.\* 2021](#), [Khodosovtsev \*et al.\* 2021](#)), but has never been reported from Kivertsi National Natural Park «Tsumanska Pushcha» ([Khodosovtsev \*et al.\* 2022](#)).

**Specimen examined. Ukraine. Volyn Region**, Lutsk District, Kivertsi National Nature Park «Tsumanska Pushcha», near village Trostianets, Muravyshche forestry, 58 quartal, board 7, alt. 209 m, 50.96805° N, 25.59725° E, on soil, 24 August 2022, leg. O. Bezsmertna, G. Gerasymchuk, N. Merlenko, A. Babytskiy, det. A. Khodosovtsev (KHER 15226 with *Roselliniella cladoniae*).

***Cladonia phyllophora*** Hoffm.

This is a rarely collected species of the genus *Cladonia* in Ukraine ([Kondratyuk \*et al.\* 2021](#)). It is the first time record from the Volyn region.

**Specimen examined. Ukraine. Volyn Region**, Lutsk District, Kivertsi National Nature Park «Tsumanska Pushcha», near village Trostianets, Muravyshche forestry, 58 quartal, board 7, alt. 209 m, 50.96805° N, 25.59725° E, on soil, 24 August 2022, leg. O. Bezsmertna, G. Gerasymchuk, N. Merlenko, A. Babytskiy, det. A. Khodosovtsev (KHER 15227).

***Clauzadea metzleri*** (Körb.) Clauzade & Cl. Roux ex D. Hawksw.

The lichen was not mentioned for Kherson region by [Kondratyuk \*et al.\* \(2021\)](#), though reported earlier by [Khodosovtsev \*et al.\* \(2019\)](#). Here we report it for the first time from Kamianska Sich National Nature Park.

**Specimen examined. Ukraine. Kherson Region**, Beryslav District, village Mylove, Kamianska Sich National Nature Park, dark plot, UA2D23, alt. 33 m, 47.05495° N, 33.58765° E, 5 June 2021, leg. D. Shyryayeva, det. A. Khodosovtsev (KHER 15116).

***Coenogonium pineti*** (Ach.) Lücking & Lumbsch

This is a not rare species in Ukraine, but there were no previous reports from the Ternopil region ([Kondratyuk \*et al.\* 2021](#)).

**Specimen examined. Ukraine. Ternopil Region**, Berezhany District, near Posukhiv village, alt. 365 m, 49.40226° N, 24.95462° E, on *Pinus* bark, 11 November 2021, leg. & det. V. Darmostuk, O. Sira (herb. VD 1107).

***Flavoplaca oasis*** (A. Massal.) Arup, Frödén & Søchting

The lichen was collected in different regions of Ukraine ([Kondratyuk \*et al.\* 2021](#)). It grows on *Bagliettoa* species and directly on calciferous rocks and concrete. This is the first record for the Chernivtsi region.

**Specimen examined. Ukraine. Chernivtsi Region**, Verkhovyna District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15178).

***Involucropyrenium breussii*** A.B. Gromakova et S.Y. Kondr.

Recently, the lichen was described from the territory of Ukraine ([Gromakova & Kondratyuk 2017](#)). It is the first report of this species outside the type locality.

**Specimen examined. Ukraine. Kherson Region**, Genichesky District, near village Vasylivka, alt. 3 m, 46.18805° N, 33.99154° E, UAS 14, 25 May 2021, leg. & det. A. Khodosovtsev (KHER).

***Ionaspis odora*** (Ach. ex Schaer.) Stein.

The lichen was reported from the Ivano-Frankivsk region by M.F. Makarevich in 1947 and by M. Servít and J. Nádvorník from the Zakarpattia region in 1932 ([Kondratyuk \*et al.\* 2021](#)), but probably the species is not rare in Carpathian Mts.

**Specimens examined. Ukraine. Ivano-Frankivsk Region**, Nadvirna District, Nesamovyte lake, alt. 1760 m, 48.12175° N, 24.539947° E, NFD 21-20, on sandstone, 1 August 2021, leg. & det. A. Khodosovtsev (KHER); **Zakarpattia Region**, Rakhiv District, Carpathian Biosphere Reserve, Ivor Lake, alt. 1630 m, 48.22889° N, 24.23331° E, NFD 21-31, on sandstone, 4 August 2021, leg. & det. A. Khodosovtsev (KHER).

***Lathagrium cristatum* (L.) Otálora, P.M. Jørg. & Wedin**

The species is known from a few localities in Carpathians Mts. (Kondratyuk *et al.* 2021). This is the first record from Chernivtsi region.

**Specimen examined. Ukraine. Chernivtsi Region**, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N, 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15182).

***Lathagrium fuscovirens* (With.) Otálora, P.M. Jørg. & Wedin**

Previous, one collection was by U. Bielczyk & J. Kiszka (2000) from Carpathians Mts. This is the first report from Cheremosky National Park and the second report from the Chernivtsi region.

**Specimen examined. Ukraine. Chernivtsi Region**, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15179).

***Lecanora campestris* (Schaer.) Hue**

The species is known from different regions in Ukraine on siliceous rocks (Kondratyuk *et al.* 2021), but has never been collected in the Zhytomyr region before.

**Specimen examined. Ukraine. Zhytomyr Region**, Korostyshiv District, near village Gorodske, right bank of the Teteriv river, alt. 149 m, 50.37415° N, 29.18147° E, on siliceous rock, 12 August 2021, leg. & det. A. Khodosovtsev (KHER 15164).

***Lecania croatica* (Zahlbr.) Kotlov**

*Lecania croatica* was reported from several administrative regions in the central and western parts of Ukraine (Kondratyuk *et al.* 2021, Khodosovtsev *et al.* 2022). It is the first record for the Ternopil region.

**Specimens examined. Ukraine. Ternopil Region**, Berezhany District, near Berezany town, alt. 407 m, 49.41625° N, 24.92811° E, on *Carpinus* bark, 22 January 2021, leg. & det. V. Darmostuk (KHER 14778 14803, 14809); near Rai village, alt. 331 m, 49.42835° N, 24.90369° E, on *Acer* bark, 12 September 2021, leg. & det. V. Darmostuk (herb. VD 1161); near Lisnyky village, Chortiv Stone Landmark, alt. 374 m, 49.44361° N, 24.87° E, on *Fagus* bark, 9 August 2019, leg. & det. V. Darmostuk (herb. VD 030); near Posukhiv village, alt. 324 m, 49.40771° N, 24.94683° E, on *Carpinus* bark, 7 January 2020, leg. & det. V. Darmostuk (herb. VD 915).

***Lecanora gangaleoides* Nyl.**

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

**Specimen examined. Ukraine. Zhytomyr Region**, Korostyshiv District, near vill. Gorodske, right bank of the Teteriv river, alt. 151 m, 50.37415° N, 29.18147° E, on siliceous rock, 12 August 2021, leg. & det. A. Khodosovtsev (KHER 15158 with *Hypogymnia physodes*, *Lepra albescens*, *Lepraria incana*).

***Lecidea fuscoatra* (L.) Ach.**

This is a common saxicolous species in Ukraine, but there is no previous report from the Kharkiv region (Kondratyuk *et al.* 2021).

**Specimen examined. Kharkiv Region**, Barvinkiv District, near Zavody village, alt. 135 m, 49.159276° N, 37.045657° E, on siliceous stone, 10 May 2010, leg. & det. A. Gromakova (CWU°200317).

***Lecidea sarcogynoides* Körb.**

Recently, the lichen was reported from Dnipropetrovsk, Mykolaiv and Zaporizhzhia regions (Khodosovtsev & Darmostuk, 2020, Darmostuk *et al.* 2021). This is the first report for the Zhytomyr region.

**Specimen examined. Ukraine. Zhytomyr Region**, Korostyshiv District, near village Gorodske, right bank of the Teteriv river, 151 m alt, 50.37415° N, 29.18147° E, on siliceous rock, 12 August 2021, leg. & det. A. Khodosovtsev (KHER 15155 with *Circinaria viridescens*).

***Lendemiella borealis*** (Vain.) S.Y. Kondr.

*Lendemiella borealis* was reported only from the Teteriv River Basin (Zhytomyr region) (Kapets 2020). The lichen is the first time report for the Donetsk region.

**Specimen examined. Ukraine. Donetsk Region**, Lyman District, near Zakitne village, Kreidova Flora branch of Ukrainian Steppe Nature Reserve, alt. 156 m, 48.88984° N, 37.94301° E, on *Populus* bark, 6 May 2017, leg. A. Gromakova, det. A. Gromakova, A. Khodosovtsev, V. Darmostuk (CWU 202918).

***Parmeliopsis ambigua*** (Hoffm.) Nyl.

This is not a rare species in Ukraine, but there have been no previous records from the Ternopil region (Kondratyuk *et al.* 2021).

**Specimen examined. Ukraine. Ternopil Region**, Berezhany District, near village Posukhiv, alt. 370 m, 49.40348° N, 24.95188° E, on *Prunus* twig, 8 January 2022, leg. & det. V. Darmostuk, O. Sira (herb. VD 1198).

***Peltigera extenuata*** (Nyl. ex Vain.) Lojka

*Peltigera extenuata* is predominantly sterile sorediate species which is characterized by C+ and KC+ pink reaction of medulla and soredia. This species was reported only from the Lviv region (Pirogov 2010, 2011). This is the first collection from the lowland part of Ukraine.

**Specimens examined. Kharkiv Region**, Zmiiv District, near Zmiiv town, alt. 112 m, 49.712898° N, 36.358168° E, on soil, 23 September 2022, leg. & det. A. Gromakova (CWU 203553).

***Peltigera horizontalis*** (Huds.) Baumg.

This species is common in the Carpathian and Crimea Mts., but they are rare in the lowland part of Ukraine (Kondratyuk *et al.* 2021). It is the first report for the Ternopil region.

**Specimen examined. Ukraine. Ternopil Region**, Berezhany District, near village Posukhiv, alt. 333 m, 49.39650° N, 24.95521° E, on *Corylus* bark, 25 September 2021, leg. & det. V. Darmostuk, O. Sira (herb. VD 1118).

***Petractis clausa*** (Hoffm.) Krempelh.

Previously, this species was reported from a few localities in the Autonomous Republic of Crimea, Ivano-Frankivsk and Zakarpattia regions (Kondratyuk *et al.* 2021). The species is the first time report from the Ternopil region.

**Specimens examined. Ukraine. Ternopil Region**, Berezhany District, near Posukhiv village, Lysonia Mt., alt. 366 m, 49.42048° N, 24.99032° E, on limestone pebbles, 29 August 2021, leg. & det. V. Darmostuk (herb. VD 1130); near Potutory village, alt. 344 m, 49.39805° N, 24.96043° E, on limestone pebbles, 10 August 2019, leg. & det. V. Darmostuk (herb. VD 1039).

***Phaeophyscia endococcina*** (Körb.) Moberg

This is a rare lichen previously reported from Zakarpattia (Makarevich *et al.* 1982, Coppins *et al.* 1998), Cherkasy (Kondratyuk & Navrotska 1992) regions and the Autonomous Republic of Crimea (Khodosovtsev 2003). The lichen is the first time report for the Chernivtsi region.

**Specimen examined. Ukraine. Chernivtsi Region**, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N, 24.98913° E, on limestone 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15158).

***Physcia caesia*** (Hoffm.) Fürnr.

The species is common in Ukrainian Carpathians (Kondratyuk *et al.* 2021), but was never collected from North Bukovyna. The species is the first time report from the Chernivtsi region.

**Specimen examined. Ukraine. Chernivtsi Region**, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N, 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15188).

***Placynthium asperellum*** (Ach.) Trevis.

Previously, this rare species was reported from the Autonomous Republic of Crimea on the cliff of Paragylmen Mts. (Khodosovtsev 2006). It is the first record from the Chernivtsi region.

**Specimen examined. Ukraine. Chernivtsi Region**, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N, 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15173).

***Platismatia glauca*** (L.) W.L. Culb. & C.F. Culb.

This is a not rare species in Ukraine, but there are no previous records from the Ternopil region (Kondratyuk *et al.* 2021).

**Specimen examined. Ukraine. Ternopil Region**, Berezhany District, near Posukhiv village, alt. 267 m, 49.40545° N, 24.94411° E, on *Prunus* bark, 12 January 2020, V. Darmostuk (non coll.).

***Polyblastia plicata*** (A. Massal.) Lönnr.

This lichen was reported from one location in the Zakarpattia region (Makarevych *et al.* 1982). This is the first record for the Ivano-Frankivsk region and second record from Ukraine.

**Specimen examined. Ukraine. Ivano-Frankivsk Region**, Verkhovyna District, polonyna Preluchny, Vasyilkova Mts, Verkhovynsky National Nature Park, alt. 1507 m, 47.80454° N, 24.89699° E, NFD 21-11, 2 July 2021, leg. & det. A. Khodosovtsev (KHER).

***Polychidium muscicola*** (Sw.) S.O. Gray

In Ukraine, the lichen has been reported from Zakarpattia (Suza 1932–1935), Khmelnytskyi (Oxner 1925) and Kherson (Khodosovtsev & Khodosovtseva 2014) regions. It is the first time record for the Chernivtsi region.

**Specimen examined. Ukraine. Chernivtsi Region**, Vyzhnytsia village Sarata, Cheremosky Regional Landscape Park, alt. m, 47.73888° N, 24.98913° E, on mosses, on limestone, alt. 1134 m, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15179).

***Polyozosia agardhiana*** (Ach.) S.Y. Kondr., L. Lőkös et Farkas

This lichen was recorded from numerous localities in the Autonomous Republic of Crimea (Khodosovtsev 2000, 2002a,b, 2003, Khodosovtsev & Bogdan 2006). Here we report it for the first time from the Ukrainian Carpathians.

**Specimen examined. Ukraine. Chernivtsi Region**, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, 47.73888° N, 24.98913° E, alt. 1113 m, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15170 with *Bagliettoa calciseda*, *Rinodina immersa*).

***Polyozosia albescens*** (Hoffm.) S.Y. Kondr., L. Lőkös et Farkas

This species is common in Ukraine, but there has been no previous records from the Sumy region (Kondratyuk *et al.* 2021).

**Specimen examined. Ukraine. Sumy Region**, Sumy District, Kyianytsia village, Lischynskyi park, alt. 187 m, 51.07252° N, 34.90875° E, on concrete, 16 July 2020, V. Darmostuk (non coll.).

***Polyozosia semipallida*** (H. Magn.) S.Y. Kondr., L. Lőkös et Farkas

The species was reported from Donetsk, Dnipropetrovsk, Kirovograd, Kherson, Odesa and Sumy regions (Kondratyuk *et al.* 2021). The species is the first time report from the Chernivtsi region.

**Specimens examined. Ukraine. Chernivtsi Region**, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N, 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15171 with *Rusavskia elegans*; KHER 15192).

***Polycauliona ucrainica*** (S.Y. Kondr.) Frödén, Arup & Søchting

The lichen has been omreported from different regions of Ukraine (Kondratyuk *et al.* 2021), but there were no records fr the Ivano-Frankivsk region.

**Specimen examined. Ukraine. Ivano-Frankivsk Region**, Kolomyia District, Kolomyia town, alt. 277 m, 48.51464° N, 25.02758° E, bank of the Prut river, on *Salix* bark, 2 October 2022, A. Khodosovtsev (non coll.).

***Porina leptalea* (Durieu & Mont.) A.L.Sm.**

Previously, this species has been reported from a few localities in the Carpathian Mts. ([Kondratyuk et al. 2021](#)). The species is the first time reported from the Lviv region.

**Specimen examined.** Ukraine, Lviv Region, Skole District, near Skole village, alt. 911 m, 49.04829° N, 23.47274° E, on *Fagus* bark, 9 September 2021, leg. & det. V. Darmostuk, O. Sira (herb. VD 1156).

***Protoparmeliopsis muralis* (Schreb.) M. Choisy**

This is a common species in Ukraine, but there were no previous records from the Sumy region ([Kondratyuk et al. 2021](#)).

**Specimen examined.** Ukraine. Sumy Region, Sumy District, near Velyki Luky village, Mykhailivska Tsilyna Reserve, alt. 162 m, 50.74556° N, 34.16751° E, on concrete, 12 July 2020, V. Darmostuk (non coll.).

***Protoparmeliopsis versicolor* (Pers.) M. Choisy**

Recently, the specimens stored under the name «*Protoparmeliopsis muralis*» in KHER herbarium have been revised and it appeared that *Protoparmeliopsis garovaglii* and *P. versicolor* are much more widely distributed in south part of Ukraine than it was thought previously ([Darmostuk et al. 2021](#)). It is the first report from the Chernivtsi region.

**Specimen examined.** Ukraine. Chernivtsi Region, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N, 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15181).

***Pyrenocarpon montinii* (A. Massal.) Trevis. (= *Psorotichia montinii* (A. Massal.) Forssell)**

In Ukraine, this species has been reported from Kherson ([Khodosovtsev & Darmostuk 2018](#), [Khodosovtsev et al. 2019](#)) and Kharkiv ([Gromakova 2018](#)) regions. The species is the first time report for the Chernivtsi region.

**Specimen examined.** Ukraine. Chernivtsi Region, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15176).

***Pyrenodesmia albopruinosa* (Arnold) S. Y. Kondr.**

The lichen has been reported from one location in the Autonomous Republic of Crimea ([Kopachevskaya 1963](#)). This species is morphologically similar to *P. alociza*, but differs by the absence of extracellular oil in hymenium. This is the first record for the lowland part of Ukraine.

**Specimen examined.** Ukraine. Kherson Region, Beryslav District, village Mylove, Kamianska Sich National Nature Park, alt. 33 m, 47.05495° N, 33.58765° E, dark plot, UA2D23, 5 June 2021, leg. D. Shyryayeva, det. A. Khodosovtsev (KHER 15120).

***Pyrenodesmia chalybaea* (Fr.) A. Massal.**

This lichen is widespread in southern Ukraine ([Kondratyuk et al. 2021](#)), but has been reported only twice from Carpathian Mts. ([Makarevich 1947](#), [Makarevich et al. 1982](#)). It is the first report from the Chernivtsi region.

**Specimen examined.** Ukraine. Chernivtsi Region, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N, 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15170).

***Punctelia subrudecta* (Nyl.) Krog**

This species is not rare in Ukrainian Carpathians and has been reported from several localities in the lowland part of Ukraine ([Kondratyuk et al. 2021](#)). Here we report it for the first time from Khmelnytskyi, Ternopil regions and Kivertsy National Natural Park «Tsumanska Pushcha» (Volyn region).

**Specimens examined.** Ukraine. Khmelnytskyi Region, Kam'yanets District, near Stara Ushytsia village, 48.58509° N, 27.15372° E, on *Quercus* bark, 13 May 2018, leg. & det. A. Khodosovtsev, V. Darmostuk (KHER 12398); Ternopil Region, Berezhany District, near Posukhiv village, alt. 267 m, 49.40545° N, 24.94411° E, on *Prunus*, 12 January 2020, V. Darmostuk (herb. VD 918); near Rai village, alt. 331 m, 49.42835° N, 24.90369° E,

on *Salix* bark, 22 January 2019, leg. & det. V. Darmostuk (KHER 12573, herb. VD 102); **Volyn Region**, Lutsk District, Kivertsi National Nature Park «Tsumanska Pushcha», near village Berestyany, Partyzany forestry, 41 square, 8 board, alt. 214 m, 50.96203° N, 25.59568° E, on *Quercus robur*, 28 June 2022, leg. O. Bezsmertna, det. A. Khodosovtsev (KHER).

***Ramalina intermedia*** (Delise ex Nyl.) Nyl.

The lichen has been reported as rare from Khmelnytskyi, Kirovograd and Mykolaiv region (Bielczyk *et al.* 2005, Khodosovtsev & Darmostuk 2017, Khodosovtsev *et al.* 2019b). Here we report it for the first time from the Zhytomyr region.

**Specimen examined. Ukraine. Zhytomyr Region**, Korostyshiv District, near Gorodske village, right bank of the Teteriv river, alt. 151 m, 50.37415° N, 29.18147° E, on siliceous rock, 12 August 2021, leg. & det. A. Khodosovtsev (KHER 15159).

***Rinodina immersa*** (Körb) Arnold

The lichen is common on limestone in the Autonomous Republic of Crimea, but rare in the lowland part of Ukraine (Kondratyuk *et al.* 2021). *Rinodina immersa* has been reported from Kherson, Khmelnytskyi and Ternopil regions (Khodosovtsev *et al.* 2019a, Kondratyuk *et al.* 2021). This is the first record from Ukrainian Carpathians.

**Specimen examined. Ukraine. Chernivtsi Region**, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15170 with *Bagliettoa calciseda*, *Polyozosia agardhiana*).

***Rinodina pityrea*** Ropin & H. Mayrhofer

The lichen was known from Dnipropetrovsk, Donetsk, Kherson, Kirovograd, Mykolaiv and the Autonomous Republic of Crimea (Kondratyuk *et al.* 2021). Here we report it for the first time from Kyiv region and Kamianska Sich National Nature Park (Kherson region).

**Specimens examined. Ukraine. Kyiv Region**, Kyiv, Teremky, Teremkyvska str., alt. 185 m, 50.37081° N, 30.45414° E, on *Populus*, 12 August 2022, A. Khodosovtsev (non coll.); this location, alt. 174 m, 50.380487° N, 30.457987° E, 26 February 2023, leg. & det. A. Khodosovtsev (KHER 15361); **Kherson Region**, Kamianska Sich National Nature Park, alt. 23 m, 47.08635° N, 33.64871° E, on *Robinia*, 1 December 2022, leg. & det. A. Khodosovtsev (KHER 15224).

***Rhizocarpon lavatum*** (Fr.) Hazsl.

The lichen was known from a few localities in Ukrainian Carpathians (Kondratyuk *et al.* 2021). The species is a first time report from the Ivano-Frankivsk region.

**Specimens examined. Ukraine. Ivano-Frankivsk Region**, Nadvirna District, Nesamovyte lake, alt. 1760 m, 48.12175° N, 24.53996° E, NFD 21-20, on sandstone, 1 August 2021, leg. & det. A. Khodosovtsev (KHER); same location, alt. 1768 m, 48.12169° N, 24.54016° E, NFD 21-19, on sandstone, 1 August 2021, leg. & det. A. Khodosovtsev (KHER).

***Rusavskia elegans*** (Link) S.Y. Kondr. et Kärnefelt

This lichen is widespread in the lowland part of Ukraine, but rarely reported in Carpathian Mts (Kondratyuk *et al.* 2021). New for the Chernivtsi region.

**Specimen examined. Ukraine. Chernivtsi Region**, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15171 with *Polyozosia semipallida*).

***Scytinium intermedium*** (Arnold) Otálora, P.M. Jørg. & Wedin

The lichen has been reported from Vinnytsya, Lviv, Khmelnytskyi, Kyiv, Ternopil, Zakarpattia regions and the Autonomous Republic of Crimea (Kondratyuk *et al.* 2021). Here we report it for the first time from the Ivano-Frankivsk region.

**Specimen examined. Ukraine. Ivano-Frankivsk Region**, Verkhovyna District, polonyna Preluchny, Vasyilkova Mts, Verkhovynsky National Nature Park, alt. 1507 m, 47.80454° N 24.89699° E, NFD 21-11, 2 July 2021, leg. & det. A. Khodosovtsev (KHER).

***Staurothele frustulenta*** Vainio

The species was known from Chernivtsi, Donetsk, Khmelnytsky, Kirovograd, Mykolaiv and Zakarpattia regions (Kondratyuk *et al.* 2021). This is the first record from Ivano-Frankivsk region.

**Specimen examined. Ukraine. Ivano-Frankivsk Region, Kolomyia District, Kolomyia, alt. 277 m, 48.51464° N, 25.02758° E, bank of the Prut river, on concrete, 2 October 2022, A. Khodosovtsev (non coll.).**

***Toninia candida*** (F. Weber) Th. Fr.

In the Ukrainian Carpathians, the lichen has been reported from two localities in Chernivtsi region by M.F. Makarevich (1955) and Zakarpattia region by A. M. Oxner (1968). This is the third locality of the species in the west part of Ukraine.

**Specimen examined. Ukraine. Chernivtsi Region, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N, 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15186).**

***Toninia opuntiioides*** (Vill.) Timdal

In Ukraine, the lichen was collected from a few localities the Autonomous Republic of Crimea, Kherson and Ternopil regions (Kondratyuk *et al.* 2021). This is the first record from the Chernivtsi region.

**Specimen examined. Ukraine. Chernivtsi Region, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N, 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15190).**

***Xanthocarpia crenulatella*** (Nyl.) Frödén, Arup & Søchting

The lichen is widespread in Ukraine on carbonaceous and anthropogenic stony substrates (Kondratyuk *et al.* 2021). However, it has not been previously recorded from Chernivtsi and Ivano-Frankivsk regions.

**Specimens examined. Ukraine. Chernivtsi Region, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N, 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15177); Ivano-Frankivsk Region, Kolomyia District, Kolomyia town, alt. 277 m, 48.51464° N, 25.02758° E, bank of the Prut river, on concrete, 2 October 2022, A. Khodosovtsev (non coll.).**

***Verrucaria dolosa*** Hepp

The species was reported from a few localities in several administrative regions of Ukraine, but there is no previous report from the Kharkiv region (Kondratyuk *et al.* 2021).

**Specimen examined. Ukraine. Kharkiv Region, Dvorichna District, in the vicinity of Dvorichna village, alt. 104 m, 49.8343° N, 37.67547° E, on chalk broken stone, 10 August 2019, leg. & det. A. Gromakova (CWU 203548).**

***Verrucaria* cfr. *macrostoma*** Dufour ex DC.

The species of *Verrucaria nigrescens* complex which needs critical revision. Our specimen was collected on concave carbonaceous surfaces and is characterized by large brown areoles lacking soredia at the edges. It known from Autonomous Republic of Crimea, Dnipropetrovsk, Kherson, Khmelnytsky, Lugansk, Lviv, Mykolaiv, Odesa and Zakarpattia region (Kondratyuk *et al.* 2021). *Verrucaria* cfr. *macrostoma* is a first time report from the Chernivtsi region.

**Specimen examined. Ukraine. Chernivtsi Region, Vyzhnytsia District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N, 24.98913° E, on limestone, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15193).**

## LICHENICOLOUS FUNGI

***Ceratobasidium bulbillifaciens*** Diederich & Lawrey

Previously, it lichenicolous fungus was collected in Kherson and Mykolaiv region (Darmostuk & Khodosovtsev 2017). The species reports for the first time from Cherkasy region.

**Specimen examined. Ukraine. Cherkasy Region**, Uman District, Buky village, Butsky Canyon, alt. 170 m, 49.090847° N, 30.398497° E, on *Physcia caesia*, on vertical granite surfaces, 16 January 2023, leg. & det. A. Khodosovtsev (KHER 15307).

***Endococcus propinquus*** (Körb.) D. Hawksw.

In Ukrainian Carpathians, this fungus was reported by M. Servít & J. Nádvorník (1932). This is the first report in Ukrainian Carpathians since 1932 and a new record for the Ivano-Frankivsk region.

**Specimen examined. Ukraine. Ivano-Frankivsk Region**, Nadvirna District, Nesamovyte Lake, alt. 1760 m, 48.12175° N, 24.53994° E, NFD 21-20, on *Porpidia caesiocinerea*, on sandstone, 1 August 2021, leg. & det. A. Khodosovtsev (KHER).

***Epithamnolia xanthoriae*** (Brackel) Diederich & Suija

This species was recently reported to Ukraine from the Ternopil region (Darmostuk & Sira 2022). The species is the first time record from the Sumy region.

**Specimen examined. Ukraine. Sumy Region**, Sumy District, near Vakalivschyna village, alt. 153 m, 51.03306° N, 34.92886° E, on thallus and apothecia of *Massjukiella polycarpa*, on wood, 17 July 2020, leg. & det. V. Darmostuk (herb. VD 793).

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

This is a common species in Ukraine. It known from Chernivtsi, Kharkiv, Kherson, Kirovograd, Kyiv, Mykolaiv, Poltava, Ternopil and Zhytomyr regions (Kondratyuk *et al.* 2021, Estonian 2023c,d, iNaturalist 2023i), but there has been no previous records from Sumy region and Holosiivsky National Nature Park (Kyiv).

**Specimens examined. Ukraine. Kyiv city**, Holosiivsky National Nature Park, alt. 205 m, Teremky, 50.36474° N, 30.45165° E, on *Physcia adscendens*, on *Acer*, 12 December 2022, leg. & det. A. Khodosovtsev (KHER); same location, 50.358788° N 30.4476° E, on *Physcia adscendens*, 22 January 2022, A. Khodosovtsev (non coll.); **Sumy Region**, Sumy District, near Velyki Luky village, Mykhailivska Tsilyna Reserve, alt. 180 m alt., 50.74768° N 34.17522° E, on *Xanthoria parietina*, on *Fraxinus* bark, 12 July 2020, V. Darmostuk (non coll.); near Khrapivschyna village, alt. 194 m, 51.09077° N 34.93415° E, on *P. adscendens*, on *Populus*, 16 July 2020, V. Darmostuk (non coll.).

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

The lichenicolous fungus was registered in Chernivtsi, Chernihiv, Kharkiv, Kherson, Kyiv, Mykolaiv, Sumy, Poltava, Zakarpattia, Zhytomyr region (Kondratyuk *et al.* 2021, Estonian 2023a,b, iNaturalist 2023a,b,c,d), but never recorded from Cherkasy and Rivne regions.

**Specimen examined. Ukraine. Cherkasy Region**, Uman District, Buky village, Butsky Canyon, alt. 170 m, 49.09085° N, 30.39849° E, on *Physcia caesia*, on vertical granite surfaces, 16 January 2023, A. Khodosovtsev (non coll.); **Rivne Region**, Sarna District, Rivne Nature reserve, Karasynske protected area, square 62, alt. 153 m, 51.39007° N, 26.85055° E, releve 2, on *Populus tremula*, 10 November 2022, A. Khodosovtsev (non coll.).

***Intralichen baccisporus*** D. Hawksw. & M.S. Cole

The lichenicolous fungus was reported from Kharkiv, Kherson, Lviv, Mykolaiv, Odesa and Zakarpattia regions (Kondratyuk *et al.* 2021). It species is the first time report from the Chernivtsi region.

**Specimen examined. Ukraine. Chernivtsi Region**, Verhovyna District, village Sarata, Cheremosky Regional Landscape Park, alt. 1135 m, 47.73888° N, 24.98913° E, on *Xanthocarpia crenulatella*, 3 July 2021, leg. & det. A. Khodosovtsev (KHER 15197).

***Laetisaria lichenicola*** Diederich, Lawrey & Van den Broeck

Previously, this species has been reported from Kharkiv, Kherson, Mykolaiv, Ternopil and Zakarpattia regions (Darmostuk & Khodosovtsev 2020, Darmostuk & Sira 2020, Darmostuk 2021). We report it here for the first time from Kyiv, Sumy regions and Kamianska Sich National Nature Park (Kherson region).

**Specimens examined (all on *Physcia adscendens*).** **Ukraine. Kyiv Region**, Kyiv city, Holosiivsky National Nature Park, Holosiivsky Forest, alt. 187 m, 50.35660° N, 30.48259° E, on *Tilia*, 8 September 2022, A. Khodosovtsev (non coll.); **Kherson Region**, Beryslav district near Kachkarivka village, Kamianska Sich National Nature Park, alt. 33 m, 47.076089° N, 33.712107° E, on *Prunus*, 22 February 2022, A. Khodosovtsev (non coll.); **Sumy Region**, Sumy District, near Khrapivschyna village, alt. 194 m, 51.09077° N, 34.93415° E, on *Populus*, 16 July 2020, leg. & det. V. Darmostuk, O. Sira (herb. VD 830).

***Lichenochora obscuroides*** (Linds.) Triebel & Rambold

This is a common species in Ukraine, but there has been no previous records from Chernivtsi and Sumy regions (Darmostuk et al. 2021).

**Specimens examined (all on *Phaeophyscia orbicularis*).** **Ukraine, Chernivtsi Region**, Kel'mentsi District, near Bernovo village, alt. 129 m, 48.48399° N, 26.66079° E, on *Populus* twig, 19 May 2019, leg. & det. V. Darmostuk (herb. VD 1205); **Sumy Region**, Sumy District, near Velyki Luky village, Mykhailivska Tsilyna Reserve, alt. 180 m, 50.74768° N, 34.17522° E, on *Fraxinus* twig, 12 July 2020, leg. & det. V. Darmostuk (herb. VD 1008); near Vakalivschyna village, alt. 153 m, 51.03306° N, 34.92886° E, on *Fraxinus*, 16 July 2020, V. Darmostuk (non coll.); Seredyno-Budy District, near Ochkyno village, alt. 126 m, 52.25433° N, 33.39024° E, on *Salix* twig, 1 August 2016, leg. & det. V. Darmostuk, A. Khodosovtsev (KHER 10167, 10171, 10422).

***Lichenodiplis lecanorae*** (Vouaux) Dyko & D. Hawksw.

It is a common lichenicolous fungus in Ukraine (Kondratyuk et al. 2021), but there has been no records from Odesa and Poltava regions.

**Specimens examined. Ukraine. Odesa Region**, Ovidiopol' District, Karolino-Bugaz village, Park Gaiok, alt. 15 m, 46.15595° N, 30.54316° E, on *Lecanora saligna*, on *Robinia* bark, 6 September 2021, leg. & det. V. Darmostuk (herb. VD 1152); **Poltava Region**, Pyryatyn District, near Kaplyntsi village, Pyryatynskyi National Nature Park, alt. 115 m, 50.30367° N, 32.51699° E, on *L. saligna*, on *Quercus* bark, 5 May 2016, leg. & det. V. Darmostuk, A. Khodosovtsev (KHER 9814).

***Pyrenidium actinellum*** Nyl.

The lichenicolous fungus has been reported only from a few localities in Ukraine (Kondratyuk et al. 2021). This is a second record from Ukrainian Carpathians.

**Specimen examined. Ukraine. Zakarpattia Region**, Rakhiv District, Carpathian Biosphere Reserve, Ivor Lake, alt. 1630 m, 48.22889° N, 24.2333° E, NFD 21-31, on *Trapelia placodioides*, on sandstone, 4 August 2021, leg. & det. A. Khodosovtsev (KHER).

***Pyrenochaeta xanthoriae*** Diederich

This is a common *Xanthoria*-dwelling species reported from several administrative regions of Ukraine (Darmostuk et al. 2021, Kondratyuk et al. 2021). New for the Chernivtsi and Odesa regions.

**Specimens examined (all on *Xanthoria parietina*).** **Ukraine. Chernivtsi Region**, Kel'mentsi District, near Bernovo village, alt. 129 m, 48.48399° N, 26.66079° E, on *Prunus* twig, 19 May 2019, leg. & det. V. Darmostuk (KHER 14708 sub *Trichoconis hafellneri*); **Odesa Region**, Ovidiopol' District, Karolino-Bugaz village, Park Gaiok, alt. 15 m, 46.15595° N 30.54316° E, on *Robinia* bark, 6 September 2021, leg. & det. V. Darmostuk (herb. VD 1152)

***Roselliniella cladoniae*** (Anzi) Matzer & Hafellner

Previously, this fungus was reported on *Cladonia* spp. from a few localities in the Ivano-Frankivsk and Khmelnytskyi regions (Kukwa & Zwolicki 2000, Bielczyk *et al.* 2005). Here we report it for the first time from the Sumy and Volyn regions.

**Specimens examined. Ukraine. Sumy Region**, Seredyno-Budy District, near Ochkyno village, alt. 146 m, 52.25111° N, 33.38726° E, on *Cladonia rangiformis*, on soil, 5 August 2016, leg. & det. V. Darmostuk, A. Khodosovtsev (KHER 10176, 10177); **Volyn Region**, Lutsk District, Kivertsi National Nature Park «Tsumanska Pushcha», near village Trostianets, Muravyshe forestry, 58 square, board 7, alt. 210 m, 50.96805° N, 25.59725° E, on *Cladonia mitis*, on soil, 24 August 2022, leg. O. Bezsmertna, G. Gerasymchuk, N. Merlenko, A. Babytskiy, det. A. Khodosovtsev (KHER 15226).

***Spirographa lichenicola*** (D. Hawksw. & B. Sutton) Flakus, Etayo & Miądl.

This species has been reported in the anamorphic state from Kherson, Zakarpattia and Zhytomyr regions (Darmostuk & Khodosovtsev 2017, Kapets & Kondratyuk 2019, Darmostuk *et al.* 2018). The species reports for the first time from the Lviv region.

**Specimen examined. Ukraine. Lviv Region**, Skole District, near Skole village, Zelena Mt., alt. 1145 m, 49.05393° N 23.43761° E, on apothecia of *Lecanora symmicta*, on *Sorbus* bark, 9 September 2021, leg. & det. V. Darmostuk, O. Sira (herb. VD 1142).

***Stigmatidium pumilum*** (Lettau) Matzer & Hafellner

The species known from Zhytomyr and Zakarpattia region (Kondratyuk *et al.* 2021). It is the first time report from Cherkasy region.

**Specimen examined. Ukraine. Cherkasy Region**, Uman District, Buky village, Butsky Canyon, alt. 170 m, 49.090847° N, 30.398497° E, on *Physcia caesia*, on vertical granite surfaces, 16 January 2023, leg. & det. A. Khodosovtsev (KHER 15307).

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

This hyphomycete is commonly found on *Graphis scripta* and has been reported from Khmelnytskyi, Ternopil, Zakarpattia and Zhytomyr regions (Darmostuk & Khodosovtsev 2017, Malíček *et al.* 2018, Darmostuk & Sira 2020). It is the first time report from the Lviv region.

**Specimen examined. Ukraine. Lviv Region**, Skole District, near Skole village, alt. 911 m, 49.04829° N, 23.47274° E, on *Graphis scripta*, on *Fagus* bark, 9 September 2021, leg. & det. V. Darmostuk, O. Sira (herb. VD 1146).

***Teloggalla olivieri*** (Vouaux) Nik. Hoffm. & Hafellner

Previously, this species has been reported on *Xanthoria parietina* from Ivano-Frankivsk, Ternopil and Zakarpattia regions (Darmostuk & Khodosovtsev 2017, Darmostuk & Sira 2020). The species is the first time record for the Kharkiv region.

**Specimen examined. Ukraine. Kharkiv Region**, Zmiiv District, near Vyrishalnyi village, alt. 119 m, 49.72499° N, 36.35805° E, on *Xanthoria parietina*, on *Acer* bark, 28 April 2020, leg. & det. V. Darmostuk, A. Gromakova (herb. VD 772).

***Tremella caloplacae*** (Zahlbr.) Diederich s. lat.

This species was recently reported to Ukraine from the Ternopil region on the apothecia of *Rusavskia elegans* (Darmostuk & Sira 2022). *Tremella caloplacae* grows on different species of Teloschistaceae and represent the species complex which needs further investigations (Diederich *et al.* 2022). It records for the first time from the Kherson region.

**Specimens examined. Ukraine. Kherson Region**, Beryslav District, near Zaporizhzhia village, Popova Yama Landmark, alt. 16 m, 47.29169° N, 33.23744° E, on apothecia of *Xanthoria parietina*, 18 October 2021, leg. O. Sira, det. V. Darmostuk (KHER 14722, herb. VD 1140).

***Tremella cladoniae*** Diederich & M.S. Christ.

Previously, this species has been reported from the several localities in Zakarpattia region (Kondratyuk *et al.* 2021). The species reports for the first time from the Lviv region.

**Specimen examined. Ukraine. Lviv Region,** Skole District, near Skole village, alt. 911 m, 49.04829° N 23.47274° E, on *Cladonia coniocraea*, on *Fagus* bark, 9 September 2021, leg. & det. V. Darmostuk, O. Sira (herb. VD 1143).

***Trichoconis hafellneri* U. Braun, Khodos., Darmostuk & Diederich**

This hyphomycetes was described on *Athallia pyracea* and *Xanthoria parietina* from Kherson and Poltava regions (Braun et al. 2016). Recently, *T. hafellneri* was reported from Kharkiv and Ternopil regions (Darmostuk 2021, Darmostuk & Sira 2022). The lichenicolous fungus is the first time record from the Chernivtsi region.

**Specimen examined. Ukraine. Chernivtsi Region,** Kel'mentsi District, near Bernovo village, alt. 130 m, 48.48399° N, 26.66079° E, on *Prunus* twig, 19 May 2019, leg. & det. V. Darmostuk (KHER 14708).

***Xanthoriicola physciae* (Kalchbr.) D. Hawksw.**

This lichenicolous fungus is common in Ukraine mostly reported on *Xanthoria parietina* (Darmostuk & Khodosovtsev 2017, 2020, Gromakova & Darmostuk 2021). The species is the first time report from Autonomous Republic of Crimea, Chernivtsi, Kirovohrad, Sumy and Odesa regions.

**Specimens examined (all on *Xanthoria parietina* if not indicated different host). Ukraine. Autonomous Republic of Crimea,** Nyzhnioghorsk District, near Serovo village, alt. 46 m, 45.33159° N, 34.67588° E, on *Massjukiella polycarpa*, on *Robinia* bark, 7 May 2003, leg. & det. A. Khodosovtsev (KHER 1102); **Chernivtsi Region,** Kel'mentsi District, Makarivka village, alt. 137 m, 48.57471° N, 26.74516° E, on *Juglans* bark, 19 May 2019, V. Darmostuk (non coll.); near Bernovo village, alt. 130 m, 48.48399° N, 26.66079° E, on *Prunus* twig, 19 May 2019, V. Darmostuk (non coll.); **Kirovohrad Region,** Dolyns'ka District, Veseli Bokovenky arboretum, alt. 162 m, 48.22498° N, 32.86265° E, on *Fraxinus* bark, 8 May 2019, V. Darmostuk (non coll.); **Sumy Region,** Sumy District, near Velyki Luky village, Mykhailivska Tsilyna Reserve, alt. 180 m, 50.74768° N, 34.17522° E, on *Fraxinus* bark, 12 July 2020, leg. & det. V. Darmostuk (herb. VD 854); near Vakalivschyna village, alt. 176 m, 51.03397° N, 34.92510° E, on *Malus*, 15 July 2020, V. Darmostuk (non coll.); **Odesa Region,** Lyman District, near Port village, alt. 56 m, 46.71231° N, 31.03045° E, on *Populus* bark, 30 August 2018, leg. & det. V. Darmostuk (KHER 12132); Tarutyne District, near Borodyno village, Tarutynskyi Step, alt. 115 m, 46.28299° N, 29.41334° E, on *Morus*, 2 May 2014, leg. & det. A. Khodosovtsev, V. Darmostuk (KHER 9025); Tatarbunary District, near Tsarychanka village, Tuzlovski Lymany National Nature Park, alt. 11 m, 45.85261° N, 29.97176° E, on *Acer*, 2 May 2014, V. Darmostuk (non coll.).

#### ACKNOWLEDGEMENTS

Oleksandr Khodosovtsev is grateful to researchers of the Center for Molecular Medicine (UMC Utrecht, The Netherlands), especially Prof. Saskia van Mil and Dr. Anna Mukha for present of the microscope “Zeiss Axioscope” to Kherson State University (Ukraine) that made it possible to continue working with lichens and lichenicolous fungi in Kyiv during the temporary occupation of Kherson by Russian troops; Dr. Anna Kuzemko, Prof. Illia Chorney, Dr. Vasyl Budjak, Prof. Ivan Moysiienko, Dr. Ivan Danylyk, Dr. Roman Kish, Dr. Olga Chusova, Dr. Oksana Kucher, Dr. Daria Shyriaeva, Dr. Yulia Vashenyak, Dr. Denys Vynokurov for help during field expeditions. The study of Oleksandr Khodosovtsev was financially supported by National Research Foundation of Ukraine (NRFU) (project № 2020.01/0140) and the Ukrainian Nature Conservation Group (UNCG) for field study.

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## РЕЗЮМЕ

Дармостук, В.В., Ходосовцев, О.Є., Громакова, А.Б., Сіра, О.Є. & Безсмертна, О.О. (2023). Нотатки до знахідок лишайників та ліхенофільних грибів України III. *Чорноморський ботанічний журнал* 19(1): 58–75. doi: 10.32999/ksu1990-553X/2023-19-1-2

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 з родів *Acarospora*, *Agonimia*, *Arthonia*, *Bacidia*, *Caloplaca*, *Candelaria*, *Circinaria*, *Clauzadea*, *Coenogonium*, *Endococcus*, *Epithamnolia*, *Erythricium*, *Flavoplaca*, *Intralichen*, *Ionaspis*, *Laetisaria*, *Lathagrium*, *Lecania*, *Lendemeriella*, *Lichenochora*, *Lichenodiplis*, *Llimoniella*, *Myriolecis*, *Parmeliopsis*, *Peltigera*, *Petractis*, *Phaeophyscia*, *Physcia*, *Placynthium*, *Platismatia*, *Polyblastia*, *Polychidium*, *Polyozosia*, *Porina*, *Protoparmeliopsis*, *Pyrenidium*, *Pyrenochaeta*, *Pyrenodesmia*, *Punctelia*, *Rinodina*, *Rhizocarpon*, *Roselliniella*, *Rusavskia*, *Scytinium*, *Spirographa*, *Taeniolella*, *Telogalla*, *Toninia*, *Tremella*, *Trichoconis*, *Xanthocarpia*, *Xanthoriicola*, *Verrucaria*. Серед них 29 видів лишайників та ліхенофільних грибів є новими для Чернівецької області, 12 видів – для Сумської області, 10 видів – для Тернопільської області, 7 видів – для Івано-Франківської області, 5 видів – для Київської та Житомирської областей, 4 види нових для Львівської, Харківської, Херсонської, Одеської та Волинської областей, три види нові для Донецької області, два види нових для Закарпатської області, по одному виду для Дніпропетровської, Хмельницької, Кіровоградської, Полтавської областей, а також один вид новий для Автономної Республіки Крим.

*Ключові слова:* біорізноманіття, нові знахідки, *Polychidium*, *Telogalla*, *Trichoconis*.