

Lichenicolous fungi of the steppe zone of Ukraine: taxonomic diversity and phylogenetic notes

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Abstract. Lichenicolous fungi represent an essential, but still insufficiently studied, component of the mycobiota of Europe. The steppe zone of Ukraine, despite its high ecological heterogeneity and conservation importance, has remained particularly underexplored. In this study, we provide a comprehensive revision of lichenicolous fungi occurring in the steppe zone of Ukraine based on extensive field collections from the last decade and a critical evaluation of published data. A total of 168 species are confirmed for the region, including ten species reported here for the first time from Ukraine: *Arthonia urceolata*, *Endococcus verrucosus*, *Gonatophragmium lichenicola*, *Lichenostigma chlaroterae*, *Llanorella ramalinae*, *Nesolechia fusca*, *Spirographa skorinae*, *Tremella celata*, *T. parietinae*, and *Zyzygomyces physconiae*. Molecular data further clarify the phylogenetic position of *Phoma candelariellae*, which forms an isolated lineage within *Phaeosphaeriaceae*. We introduce the new genus *Phomella* and provide a new combination, *Phomella candelariellae*. Several previously unknown host associations are documented, including *Calogaya saxicola* as a new host for *Chaetopyrena penicillata*; *Cetraria aculeata* for *Cladosporium licheniphilum*; *Circinaria hispida*, *Xanthoparmelia camtschadalis*, and *X. pokornyi* for *Didymocyrtis cladoniicola*; *Xanthoria monofoliola* for *Didymocyrtis epiphyscia*; *Xanthoparmelia camtschadalis* for both *Epithamnolia xanthoriae* and *Nesolechia fusca*; and *Xanthoria parietina* for *Protocreopsis globulosa*. *Plowrightia mereschkowskyi* is considered a new synonym for *Arthonia urceolata*.

Key words: biodiversity, new genus, *Phaeosphaeriaceae*, *Phomella*, *Plowrightia*, southern Ukraine

Introduction

Lichenicolous fungi represent a highly specialized ecological group of organisms that inhabit lichens, utilizing them as substrates and often as nutritional sources. They exhibit a broad spectrum of interaction with their hosts, ranging from commensalism to strong parasitism (Diederich et al. 2018, 2022, 2024). More than 2,500 species of lichenicolous fungi are currently known worldwide, distributed across multiple classes of the *Ascomycota* and, less frequently, the *Basidiomycota* (Diederich et al. 2025). Despite their ecological and evolutionary

significance, these fungi remain insufficiently explored in many regions and ecosystems, and their diversity is still far from fully documented.

In Ukraine, lichenicolous fungi were first recorded in the second half of the 19th century, mainly as supplementary notes in lichen surveys or general mycological works (Hazslinszky 1884; Boberski 1886; Krupa 1888; Chernov 1895). For much of the 20th century, reports remained sporadic, and no dedicated studies were conducted (Bodiak 1907; Vouaux 1913; Gizhytska 1929; Hawksworth 1992). During the last few decades, interest in lichenicolous fungi has increased substantially, resulting in a considerable increase in the number of reported species – from 88 in Kondratyuk et al. (1999) to 106 in Oxner (2010), and further to 271 in Kondratyuk et al. (2021). Nevertheless, the known diversity is still incomplete, as many regions remain insufficiently studied and the application of molecular methods continues to reveal new and previously overlooked taxa. In recent years, numerous new species have been described or newly documented for Ukraine using combined morphological and molecular approaches, increasing the

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total number of species to 315 (Khodosovtsev 2023; Darmostuk et al. 2023, 2024a, b; Khodosovtsev et al. 2024; Crous et al. 2025).

The aim of this work is to summarize and revise current knowledge of lichenicolous fungi in the steppe zone of Ukraine, which is one of the most threatened and most affected regions by the Russian military invasion, based on extensive collections made during the past ten years, as well as from literature data.

Material and methods

Sampling area

The steppe zone represents the largest zonal biome in Ukraine, covering approximately 240,000 km², or about 40% of the country's territory. Owing to its considerable extent and heterogeneity in physical and geographical conditions, the region encompasses a wide diversity of habitats. In the northern part of the steppe zone, the landscape is moderately dissected by valleys and gullies, whereas in the Donbas region and on the Kerch Peninsula it becomes more rugged, with pronounced uplands and ridge-like structures. Average elevations range from 230 to 250 m, with the highest point reaching 367 m at Mohyla Mechetna on the Donetsk Ridge (Marynych & Shyshchenko 2005). The dominant soil-forming substrate across the zone is loess, consisting of fine clay particles (35–55%) and enriched with carbonates. This loess cover typically overlies Pontian and Sarmatian limestones, while in central Ukraine it rests upon acidic rocks of the Ukrainian Crystalline Shield. The Donetsk Ridge is composed of Carboniferous sedimentary formations, including sandstones, mudstones, siltstones, limestones, and coal seams. Sedimentary and crystalline rocks frequently emerge at the surface as extensive massifs, ridges, or cliffs, particularly along rivers and gullies. Chalk deposits are exposed on the southern spurs of the Central Russian Upland along the right banks of the Oskil, Krasna, Aidar, Derkul, and Siverskyi Donets (Marynych et al. 1985). Climatically, the steppe zone is characterized by moderate continental conditions. Mean annual air temperatures range from 8 to 11°C, with average July temperatures of 20 to 22°C and average January temperatures between –7 and 0°C. Annual precipitation varies from 400 to 550 mm, of which the majority (250–350 mm) falls during the warm period between April and October (Lypynskyi et al. 2003). Such heterogeneity in geomorphological and climatic conditions has resulted in a high diversity of habitat types within the steppe zone (Fig. 1), including meadows, true and petrophytic steppes, extensive psammophytic grasslands, shrub communities, and small remnants of natural forests (Didukh 2020).

Taxon sampling and morphological studies

This study is based on 1,054 specimens of lichenicolous species deposited at herbaria CWU, KHER, KRAM, KW, and the personal herbarium of V. Darmostuk (herb. VD). Morphological and anatomical characters were examined using standard stereo and compound microscopes (Optica

Italica, MICROMED-2, Nikon SMZ 800 and 80i DIC, Leica S9i and S9D). Measurements were made with an accuracy of 0.2 µm for conidia, spores, conidiogenous cells, cell walls and hyphae; of 5 µm for the pycnidial or ascomatal wall; and of 10 µm for conidiomata or ascomata. Microscopic examinations were done in water, in 10% KOH (K), in Lugol's iodine solution, directly (I) or after pretreatment with KOH (K/I), and in Congo Red. Measurements are given as (min.–) $\bar{x}$ –SD– $\bar{x}$ +SD (–max.), where $\bar{x}$ is the average and SD the standard deviation.

Pure cultures were obtained from a conidial mass for some acremonium- (two cultures) and phoma-like (four cultures) species (Bomar & Knöpfel 1992). Potato dextrose agar (PDA) was used for isolation of the fungal colonies (Crous et al. 2009). Fungal cultures were deposited in the culture collection of the Kherson State University, but they are no longer accessible.

DNA extraction, PCR amplification, and DNA sequencing

Conidiomata of the fungi were removed from the host thallus and carefully cleaned in double-distilled water on a microscope slide under sterile conditions to remove host tissues and other visible impurities using ultra-thin tweezers and a razor blade. DNA was extracted from 4 to 8 clean pycnidia, depending on each specimen, using the QIAamp DNA Investigator Kit (Qiagen, Germany) following the manufacturer's instructions. From cultures, DNA was extracted from an approximately 2 × 2 mm fragment of colonia using modified CTAB-method (Tarieiev et al. 2011). We amplified and sequenced nuc rDNA internal transcribed spacers (ITS = ITS1 + 5.8S + ITS2) and nuc rDNA large subunit (LSU) using the primer pairs ITS1F and LR5 or ITS1F/ITS4 and LR0R/LR5 (White et al. 1990; Gardes & Bruns 1993), a fragment of the region coding for protein synthesis elongation factor 1 alpha (*tef1-a*) with the primer pair EF1-1983F and EF1-2228R (Rehner & Samuels 1995). The polymerase chain reaction (PCR) conditions, visualization of amplicons, and preparation of samples can be found in Darmostuk et al. (2025). PCR products were sequenced in both directions by Macrogen Inc. (Amsterdam, the Netherlands). The newly generated sequences were carefully checked, assembled, and edited manually using Geneious Pro 8.0 (Biomatters Ltd., MA, USA) and were deposited in GenBank. Detailed information on the sequences used in this study is provided in Table 1. All generated sequences were first subjected to NCBI BLAST nucleotide searches (Altschul et al. 1990) to discard potential contamination by unrelated fungi.

Phylogenetic analyses of *Phaeosphaeriaceae*

To assess the phylogenetic placement of the studied taxa, we performed a phylogenetic analysis of the *Phaeosphaeriaceae*. The dataset included 76 specimens belonging to 49 species within the family, as well as two specimens of *Quixadomyces hongheensis* (*Parapyrenochaetaceae*), which were selected as outgroups. Alignments

for each region (ITS, LSU, *tefl-a*) were generated using MAFFT (Kato & Standley 2013), as implemented on the GUIDANCE2 web server (Penn et al. 2010). The single-locus phylogenies of *Phaeosphaeriaceae* for all loci were generated (results not shown) to detect incongruences in topology. PartitionFinder 2 (Lanfear et al. 2017) was used to select the best partition scheme for our dataset and substitution models for each partition. A single substitution model was selected for each region (GTR+I+G for ITS1 and ITS2; JC+I for 5.8S and the second codon position of *tefl-a*; TVMEF+I+G for the LSU; F81+I+G for the first and third codon position of

tefl-a) under a greedy search algorithm and the Akaike information criterion (AIC) (Lanfear et al. 2012). The same partitioning scheme and substitution models were applied in both maximum likelihood (ML) and Bayesian inference (BI) analyses. Maximum likelihood (ML) analyses were carried out using a heuristic search as implemented in IQ-TREE 2.1.2 on CIPRES Science Gateway, and 1,000 ultrafast bootstrap replicates were selected to estimate branch support (Minh et al. 2020). A Bayesian inference (BI) phylogenetic tree was generated in MrBayes 3.2.6 on CIPRES Science Gateway (Ronquist et al. 2012). The posterior probabilities were calculated



Figure 1. Different habitats of the steppe zone of Ukraine: A, B – granite outcrops in National Nature Park Buzkyi Gard (Mykolaiv region) and Nature Reserve Kamyani Mogyly (Donetsk region); C – sand dunes (Kherson region); D – chalk outcrops (Kharkiv region); E – limestone outcrops (Kherson region); F – loess outcrops (Kherson region).

Table 1. GenBank and voucher accession numbers included in the phylogenetic analyses. Newly generated sequences are marked in bold.

Species	Voucher or strain	(ex-)types	Substrate	Country	ITS	LSU	<i>tef-a</i>
<i>Acronium egyptiacum</i>	KHER 9763		<i>Enchylium tenax</i>	Ukraine	PZ052527	–	–
<i>Chaetopyrena penicillata</i>	Darmostuk 1001		<i>Calogaya saxicola</i>	Ukraine	PZ052528	–	–
<i>Dematiopileospora mariae</i>	MFLU 16-0121	T	<i>Clematis vitalba</i>	Italy	MT310621	MT214576	MT394635
<i>Dematiopileospora mariae</i>	MFLUCC 13-0612		<i>Ononis spinosa</i>	Italy	KX274244	KJ749653	–
<i>Dematiopileospora salsolae</i>	MFLUCC 17-0828	T	<i>Salsola</i> sp. branches	Uzbekistan	MG828889	MG829007	MG829201
<i>Didymocyrtis cladonicola</i>	Diederich 16915		<i>Cladonia</i> sp.	Spain	JQ238626	JQ238628	–
<i>Didymocyrtis cladonicola</i>	Diederich 16924		<i>Parmelina tiliacea</i>	Spain	JQ238629	JQ238631	–
<i>Didymocyrtis cladonicola</i>	van den Broeck 4662		<i>Cladonia</i> sp.	Belgium	JQ318014	JQ318016	–
<i>Didymocyrtis cladonicola</i>	KHER 11312		<i>Melanelixia subargentifera</i>	Ukraine	PZ052534	–	–
<i>Didymocyrtis cladonicola</i>	KHER 11416		<i>Xanthoparmelia pokornyi</i>	Ukraine	PZ052535	–	–
<i>Didymocyrtis cladonicola</i>	Darmostuk 1047		<i>Xanthoparmelia camtschadalis</i>	Ukraine	PZ052533	–	–
<i>Didymocyrtis consimilis</i>	Gardiennet 12041		<i>Caloplaca cerina</i>	France	KT383813	KT383796	–
<i>Didymocyrtis consimilis</i>	Freebury 1324		<i>Caloplaca cerina</i>	Canada	JQ238635	JQ238637	–
<i>Didymocyrtis consimilis</i>	Freebury 135		<i>Caloplaca cerina</i>	Canada	JQ238641	JQ238643	–
<i>Didymocyrtis epiphyscia</i> s.l.	Ertz 17411 (BR)		<i>Physcia adscendens</i>	Belgium	KT383820	KT383799	–
<i>Didymocyrtis epiphyscia</i> s.l.	Ertz 17414 (BR)		<i>Xanthoria parietina</i>	Belgium	KT383821	–	–
<i>Didymocyrtis foliaceiphila</i>	Diederich 17108		<i>Cladonia squamosa</i>	Belgium	JQ238638	JQ238640	–
<i>Didymocyrtis foliaceiphila</i>	Ertz 15257		<i>Parmelia sulcata</i>	Belgium	JQ318002	JQ318004	–
<i>Didymocyrtis foliaceiphila</i>	Ertz 15258		<i>Parmelia sulcata</i>	Belgium	JQ318005	JQ318007	–
<i>Dlhawksworthia alliariae</i>	MFLUCC 13-0070	T	<i>Alliaria petiolata</i>	Italy	KX494876	KX494877	–
<i>Dlhawksworthia clematidicola</i>	MFLUCC 14-0910	T	<i>Clematis vitalba</i>	Russia	MG828901	MG829011	–
<i>Dlhawksworthia flavoparmelia</i>	CGMCC3.20307	T	<i>Flavoparmelia caperata</i>	China	MW528748	MW528737	MZ357051
<i>Fusariella hughesii</i>	KHER 12160		<i>Xanthoria monofoliola</i>	Ukraine	PZ052529	–	–
<i>Lichenohendersonia cetrariae</i>	KRAM L-75118	T	<i>Cetraria aculeata</i>	Ukraine	PV273879	PV273881	PV289755
<i>Lichenohendersonia cetrariae</i>	KRAM L-75119		<i>Cetraria aculeata</i>	Ukraine	PV273880	PV500578	–
<i>Neosetophoma poaceicola</i>	RCEF20004		<i>Polygonatum cyrtoneura</i>	China	OR985032	OR985059	OR989982
<i>Neosetophoma poaceicola</i>	MFLUCC 16-0886	T	grass litter	Thailand	KY568986	KY550382	–
<i>Neosetophoma samarorum</i>	CBS 138.96	T	<i>Phlox paniculata</i>	Netherlands	KF251160	GQ387578	–
<i>Nodulosphaeria aconiti</i>	MFLUCC 13-0728	T	<i>Aconitum vulparia</i>	Italy	KU708848	KU708844	KU708852
<i>Nodulosphaeria gutturalum</i>	MFLUCC 15-0069	T	<i>Scabiosa</i> sp.	Italy	KY496746	KY496726	KY514394
<i>Nodulosphaeria scabiosae</i>	MFLUCC 14-1111	T	<i>Scabiosa</i> sp.	Italy	KU708850	KU708846	KU708854
<i>Ophiophaerella aquatica</i>	MFLUCC 14-0033	T	decaying submerged wood	Thailand	KX767088	KX767089	MG520911
<i>Ophiophaerella herpotricha</i>	A66		bermudagrass	USA	KC841050	KC841050	KC841113
<i>Ophiophaerella korrae</i>	ATCC 56289		kentucky bluegrass	USA	KC848509	KC848509	KC848515
<i>Paraphoma chrysanthemicola</i>	CBS 522.66	T	<i>Chrysanthemum</i> × <i>morifolium</i>	UK	KF251166	GQ387582	–
<i>Paraphoma chrysanthemicola</i>	CBS 172.70		<i>Chrysanthemum</i> × <i>morifolium</i>	Netherlands	KF251165	GQ387583	–
<i>Paraphoma radicina</i>	CBS 111.79	T	<i>Matus sylvestris</i>	Netherlands	FJ427058	EU754191	GU349076
<i>Paraphoma radicina</i>	CBS 102875		<i>Solanum lycopersicum</i>	Germany	KF251173	EU754190	–
<i>Parastagonospora alloumiseptata</i>	MFLUCC 13-0386	T	<i>Dactylis glomerata</i>	Italy	KU058711	KU058721	MG520914

<i>Parastagonospora avenae</i>	CBS 289.69		<i>Lolium perenne</i>	Germany	KF251174	KF251678	–
<i>Parastagonospora avenae</i>	CBS 290.69	T	<i>Lolium perenne</i>	Germany	KF251175	KF251679	–
<i>Parastagonospora dactylidis</i>	MFLUCC 13-0375		dead stem of <i>Dactylis</i>	Italy	KU058712	KU058722	–
<i>Parastagonospora dactylidis</i>	MFLUCC 13-0376	T	dead stem of <i>Dactylis</i>	Italy	KU058713	KU058723	MG520916
<i>Parastagonospora fusiformis</i>	MFLUCC 13-0215	T	<i>Dactylis glomerata</i>	Italy	KX926418	KX910088	–
<i>Parastagonospora italica</i>	MFLUCC 13-0377	T	<i>Dactylis</i> sp.	Italy	KU058714	KU058724	MG520915
<i>Parastagonospora nigrans</i>	CBS 307.79		<i>Zea mays</i>	Switzerland	KF251184	KF251687	KF253142
<i>Parastagonospora nodorum</i>	CBS 110109		<i>Lolium perenne</i>	Denmark	KF251177	KF251681	–
<i>Parastagonospora phragmitis</i>	CPC 32057	T	<i>Phragmites</i> sp.	Australia	MK539958	MK540029	–
<i>Parastagonospora poae</i>	CBS 135091	T	<i>Poa</i> sp.	Netherlands	KF251179	KF251683	–
<i>Parastagonospora poae</i>	CBS 135089	T	<i>Poa</i> sp.	Netherlands	KF251178	KF251682	–
<i>Parastagonospora poagena</i>	CBS 137677	T	<i>Poa</i> sp.	Netherlands	KJ869116	KJ869174	–
<i>Parastagonospora uniseptata</i>	MFLUCC 13-0387	T	<i>Daucus</i> sp.	Italy	KU058715	KU058725	MG520917
<i>Parastagonospora yunnanensis</i>	CGMCC 3.24527	T	<i>Lolium perenne</i>	China	PQ046302	PQ046315	PQ058300
<i>Parastagonospora yunnanensis</i>	CGMCC 3.24528		<i>Lolium perenne</i>	China	PQ046303	PQ046316	PQ058301
<i>Phaeopshaeria acaceae</i>	MFLU 17-0496	T	<i>Acacia</i> sp.	China	KY768869	KY768868	MW082602
<i>Phaeopshaeria ampeli</i>	MFLUCC 18-1641	T	leaves of <i>Ficus ampelas</i>	Taiwan	MK503797	MK503808	MK503802
<i>Phaeopshaeria ampeli</i>	MFLUCC 19-0150		leaves of <i>Ficus ampelas</i>	Taiwan	MK503798	MK503809	MK503803
<i>Phaeopshaeria cycadis</i>	KUMCC 18-0161	T	<i>Cycas</i> sp.	China	MK356378	MK356352	MK359069
<i>Phaeopshaeria chiangraina</i>	MFLUCC 13-0231	T	<i>Oryza sativa</i>	Thailand	KM434270	KM434280	KM434298
<i>Phaeopshaeria musae</i>	CBS 120026		<i>Musa</i> sp.	Mauritius	DQ885894	GU301862	GU349037
<i>Phaeopshaeria thyrsae</i>	CBS 110110	T	<i>Oryza sativa</i>	South Korea	KF251186	KF251688	ON419509.
<i>Phaeopshaeria thyrsae</i>	MFLUCC 10-0563	T	<i>Thysanolaena maxima</i>	Thailand	KM434266	KM434276	KM434295
<i>Phaeopshaertiopsis agapanthi</i>	CBS 141287	T	leaves of <i>Agapanthus</i> sp.	France	KX228260	MH878206	MK540157
<i>Phaeopshaertiopsis agapanthi</i>	CBS 141316		leaves of <i>Agapanthus</i> sp.	France	KX228259	KX228310	–
<i>Phaeopshaertiopsis glaucopunctata</i>	CBS 653.86		<i>Ruscus aculeatus</i>	Switzerland	KF251199	KF251702	–
<i>Phomella candelariellae</i>	Darmostuk 336		<i>Candelariella aurella</i>	Ukraine	PZ052530	PZ052538	PZ053765
<i>Phomella candelariellae</i>	KHER 12158		<i>Candelariella aurella</i>	Ukraine	PZ052531	–	–
<i>Phomella candelariellae</i>	KHER 12167		<i>Candelariella aurella</i>	Ukraine	PZ052532	–	–
<i>Quixadomyces hongheensis</i>	KUMCC 20-0215	T	<i>Dodonaea viscosa</i>	China	MW264215	MW541822	MW256816
<i>Quixadomyces hongheensis</i>	HKAS 112346		<i>Dodonaea viscosa</i>	China	MW541826	MG829066	MW556134
<i>Trichonectriella aff. rhabdospora</i>	KHER 10666		<i>Cetraria aculeata</i>	Ukraine	PZ052526	–	–
<i>Wojnowiciella cissampeli</i>	CPC 27455	T	leaves and twigs of <i>Cissampelos capensis</i>	South Africa	KX228272	KX228323	LT990616
<i>Wojnowiciella dactylidis</i>	CBS:145077		unidentified palm (<i>Arecaceae</i>)	New Zealand	MK442631	MK442566	MK442724
<i>Wojnowiciella eucalypti</i>	CBS 139904	T	<i>Eucalyptus grandis</i>	Colombia	KR476741	MH878662	LT990617
<i>Wojnowiciella kunningensis</i>	KUMCC 18-0159	T	<i>Lonicera maackii</i>	China	MK356380	MK356354	MK359071
<i>Wojnowiciella kunningensis</i>	KUMCC 18-0160	T	<i>Lonicera maackii</i>	China	MK356381	MK356355	MK359072
<i>Xenophoma microspora</i>	FMR 17947	T	plant debris in freshwater	Spain	OU612365	OU612364	OU600606
<i>Xenophoma punctellae</i>	Lawrey 3704	T	<i>Punctelia rudecta</i>	USA	JQ238617	JQ238619	KP170686
<i>Yunnanensis phragmitis</i>	MFLUCC 17-0315		grass litter	China	MF684862	MF684863	MF683624
<i>Yunnanensis phragmitis</i>	MFLUCC 17-1361	T	<i>Phragmites australis</i>	China	MF684869	MF684865	MF683625

by sampling trees using the Markov chain Monte Carlo (MCMC) approach. Two independent parallel runs were randomly started, each with four incrementally heated chains (the temperature parameter for MCMC chains was 0.15). The MCMC was allowed to run for 100 million generations, sampling every 1,000th tree and discarding the first 25% of the sampled trees as a burn-in factor. The analysis was stopped when the standard deviation of split frequencies dropped below 0.01. The resulting ML and BI phylogenetic trees were visualized in iTOL 7.4.2 (Letunic & Bork 2024) and Inkscape 0.92 (<https://inkscape.org/>). The final tree topology was based on the 50% majority-rule consensus tree from the BI analysis, with Bayesian posterior probabilities (BPP) and maximum likelihood bootstrap (MLB) values indicated above branches. Branches with Bayesian posterior probability values >0.97 and maximum likelihood bootstrap values >70 were considered supported.

Results

Phylogenetic results

In this study, 12 new sequences (10 ITS, one LSU, and one *tefl-a*) were generated from six species of lichenicolous fungi (*Acremonium egyptiacum*, *Chaetopyrena penicillata*, *Didymocyrtis cladoniicola*, *Fusariella hughe-sii*, *Phoma candelariellae*, and *Trichonectriella* aff. *rhabdospora*). The sequences of *Didymocyrtis cladoniicola* and *Phoma candelariellae* were used for phylogenetic analyses, whereas sequences from the other species were used for species identification and NCBI BLAST searches.

The multi-gene dataset of the family *Phaeosphaeriaceae* included 2,249 characters (502 of ITS, 850 of LSU, 897 of *tefl-a*), of which 743 were parsimony-informative sites, 104 were singleton sites, and 1,702 were constant sites. The phylogenetic tree showed a similar topology from ML and BI analyses and, therefore, the BI tree was selected to represent and discuss the phylogenetic relationships among taxa (Fig. 2).

In our phylogenetic analyses, three specimens of *Phoma candelariellae* clustered in a well-supported clade (1/100) and showed a sister relationship to the genera *Dlhawksworthia*, *Nodulosphaeria*, and *Dematiopleospora*. This clade was not related to other lichenicolous phoma-like genera within the family, such as *Didymocyrtis* and *Xenophoma*. The four species of the genus *Didymocyrtis* included in the analyses clustered together in a strongly supported clade (1/100), forming a sister lineage to the genus *Parastagonospora*. Newly generated sequences of *Didymocyrtis cladoniicola* from *Parmelia sulcata*, *Xanthoparmelia camtschadalis*, and *X. pokornyi* grouped within a well-supported clade together with other specimens of *D. cladoniicola*. Two specimens of *Lichenohendersonia cetrariae* formed a well-supported clade within *Phaeosphaeriaceae*, although their relationships to other genera in the family remain unresolved.

Taxonomic results

**Arthonia urceolata* (Elenkin) Calat., Barreno & V.J. Rico (Fig. 3)

= *Plowrightia mereschkowskyi* Vouaux, *Bull. Soc. Mycol. France* 28: 194. 1912, syn. nov.

Description (based on examined specimens). Ascomata apothecioid, arising in groups, immersed in the host thallus, with a dark brown or black, epruinose and flat disk, rarely convex in mature ascomata, 0.1–0.2 mm diam, infected zones frequently becoming darker. Epithecium pale or medium brown. Hymenium hyaline or pale brown, I+ purple. Hypothecium scarcely developed, 10–20 µm tall, hyaline or pale brown, mostly I+ blue. Interascal filaments branched and anastomosing, 2–3 µm wide. Asci clavate, 8-spored, (38–)42–52(–55) × (14.8–)15.2–18.8(–20.4) µm (n = 15). Ascospores 1-septate, hyaline, ellipsoidal, with lower cell attenuated and narrower than the upper one, smooth, (12.2–)13.2–15.8(–17) × (4.6–)5.4–6.4(–7.0) µm (n = 25). Conidiomata not observed.

Notes. *Arthonia urceolata* (as *Conidella urceolata*) was originally described on vagrant *Aspicilia* from the alpine region of the Tian Shan (Elenkin 1901). This species is characterized by ascomata arising in groups and immersed in the host thallus, mostly with a flat disk, a thin hypothecium that is I+ blue, and a hymenium I+ purple, 8-spored clavate, asci and 1-septate, hyaline ascospores, (12–)13–16(–18) × (4.5–)5–6 µm (Elenkin 1901; Calatayud et al. 2004).

Plowrightia mereschkowskyi is another poorly known species described from a single specimen collected on Mount Bogdo in Russia (Vouaux 1912). The species was reported on *Circinaria hispida* and is characterized by scattered or grouped, immersed ascomata, I+ wine-red hymenium, 8-spored, clavate, asci, and 1-septate, ellipsoid, hyaline ascospores, 12–18 × 5–6 µm (Vouaux 1912). This species differs from other *Plowrightia* species by its aggregated, uniloculate ascomata (vs. multiloculate ascomata in *Plowrightia*), clavate asci with distinctly thick apical part (vs. cylindrical asci with relatively thin apical part), as well as lichenicolous lifestyle (vs. parasitic or saprobic on leaves and twigs) (Pem et al. 2024).

An analysis of the protologues of both species indicates congruent morphological features, such as an I+ reddish-purple reaction of the hymenium, consistent ascospore dimensions, and identical host preferences. Although the type specimen of *Plowrightia mereschkowskyi* could not be located, we examined material of a lichenicolous fungus on *Circinaria hispida* collected from Mount Bogdo (KW-L23589) and identified it as *Arthonia urceolata*. Given the occurrence of *A. urceolata* at the type locality of *P. mereschkowskyi*, along with their morphological similarity and identical host range, we propose *P. mereschkowskyi* as a younger heterotypic synonym of *A. urceolata*.

Specimens examined. UKRAINE. Kherson region, Chaplyn's'kyi district, near Grygorivka village, 46.24539°N, 33.73792°E, 3 m (here and below elevation above sea level), on *Circinaria*

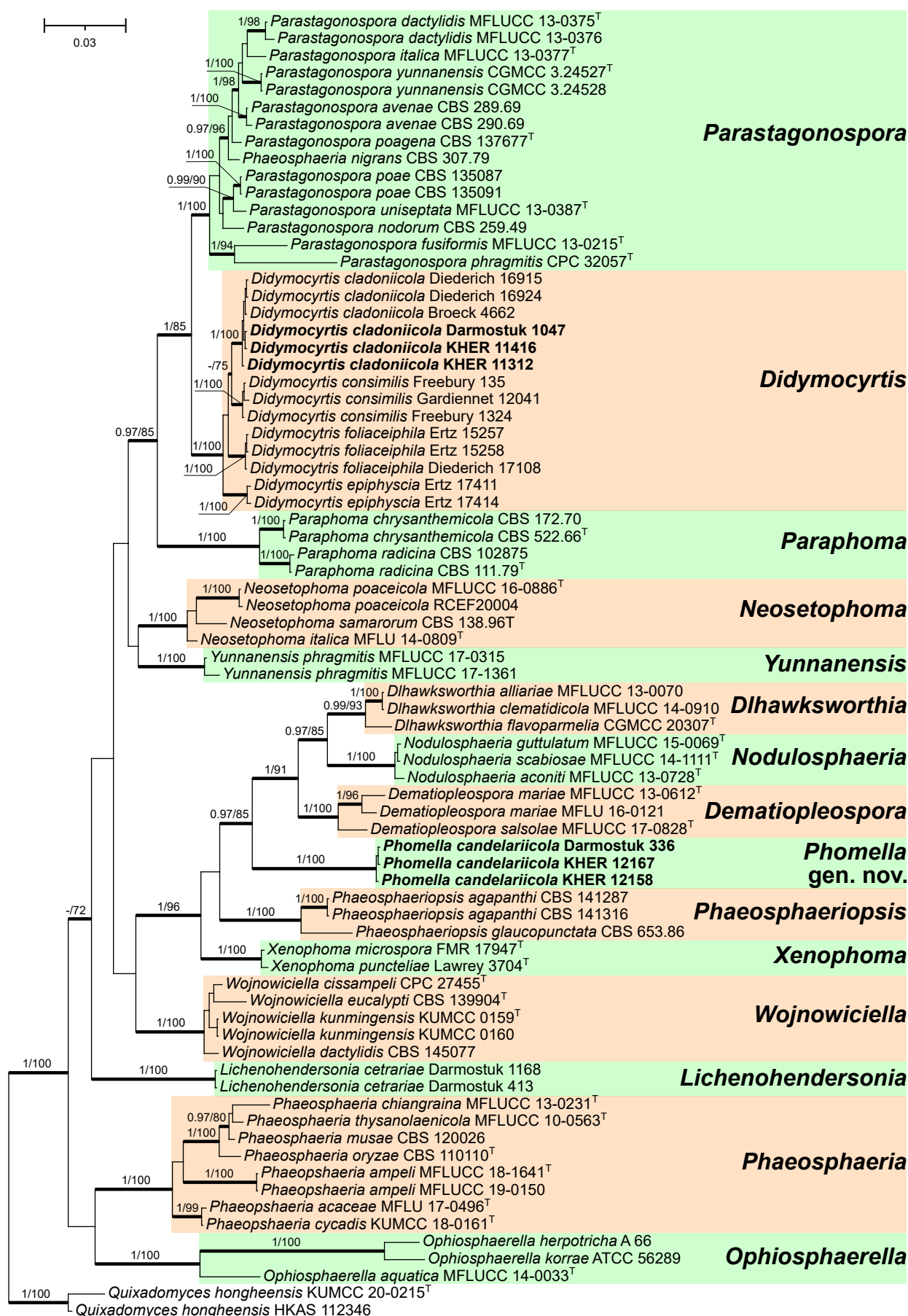


Figure 2. Phylogenetic relationships of *Phaeosphaeriaceae* (new sequences highlighted with bold font) inferred from Bayesian Inference analysis (BI) of a combined ITS, LSU and *tef1-a* data set. Two specimens of *Quixadomyces hongheensis* were used as the outgroup. Thickened branches represent either Bayesian posterior probabilities ≥ 0.97 and/or bootstrap support values $\geq 70\%$. Sequences from material with a type status are indicated by superscript T.

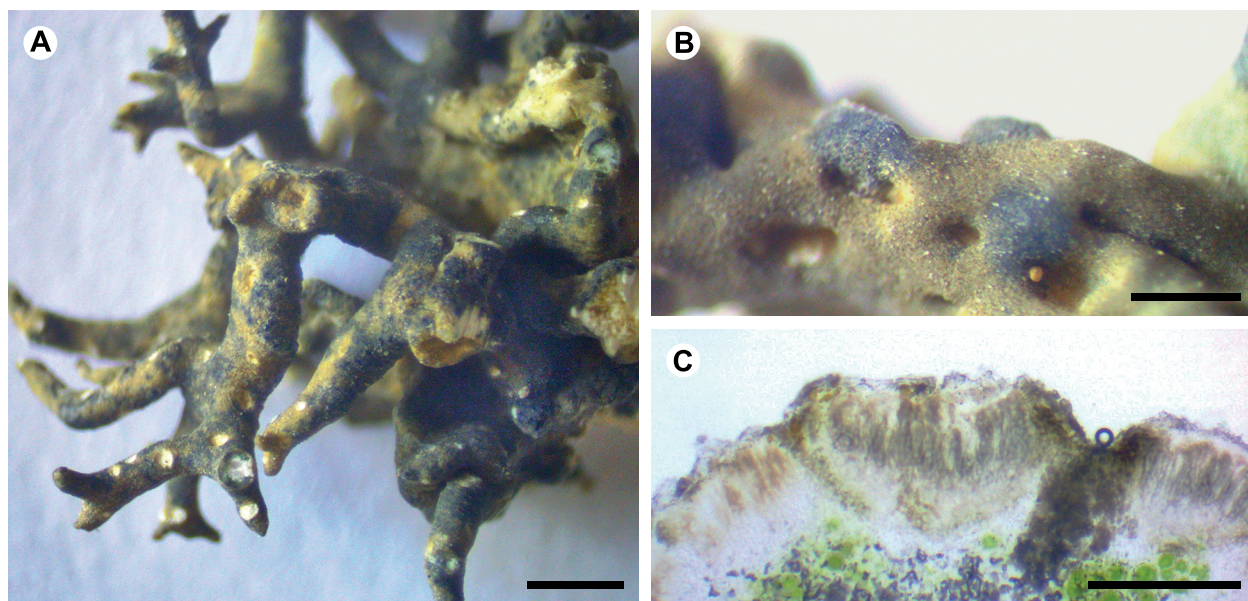


Figure 3. *Arthonia urceolata* (KHER 11652): A, B – ascomata on the lichen host; C – cross-section through ascomata (in water). Scales: A = 1 mm; B = 100 μ m; C = 50 μ m.

hispida, on soil, 6 Jul. 2018, V. Darmostuk (KHER 11652). russia. Mount Bogdo, open slope, on *C. hispida*, on soil, 1 May 1926, collector unknown (KW-L23589).

***Phomella* Darmostuk, gen nov.**

MycoBank MB 862575

Diagnosis: Similar to *Didymocyrtis* and *Xenophoma* in its phoma-like morphology, but distinguished by its unilocular black pycnidia, ampulliform to cylindrical conidiogenous cells, subglobose conidia, as well as by its distinct phylogenetic position within the *Phaeosphaeriaceae*.

Type: *Phomella candelariellae* (Z. Kocakaya & Halıcı) Darmostuk ($\equiv$ *Phoma candelariellae* Z. Kocakaya & Halıcı).

Etymology. Referring to the morphological similarity with the genus *Phoma*.

Description. Conidiomata phoma-like, with unilocular, ostiolate, black, globose pycnidia. Conidiomatal wall composed of 3–5 layers of pseudoparenchymatous cells, the outer cells dark brown and the inner ones paler, darker in KOH. Conidiophores lacking. Conidiogenous cells attached to the conidiomatal wall and lining the cavity, hyaline, ampulliform to cylindrical, conidiogenesis phialidic, not proliferating. Conidia hyaline, subglobose, simple, smooth-walled, with rounded ends.

Notes. The traditional concept of phoma-like fungi encompasses species characterized by pycnidia with ampulliform conidiogenous cells and aseptate, hyaline conidia, occurring on a wide range of hosts (e.g., Hou et al. 2020). Lichenicolous representatives of this group are polyphyletic and currently classified in several unrelated genera, including *Briancoppinsia* (*Arthoniaceae*), *Didymocyrtis*, and *Xenophoma* (both in *Phaeosphaeriaceae*) (Diederich et al. 2012; Trakunyingcharoen et al. 2014; Ertz et al. 2015). However, several species historically described in *Phoma* remain poorly known or lack molecular data, leaving their systematic placement unresolved (Diederich et al. 2025). Molecular analyses

demonstrate that material identified as *Phoma candelariellae* represents an independent lineage within the *Phaeosphaeriaceae*, distinct from *Didymocyrtis* and *Xenophoma*. Accordingly, this species is accommodated in the monotypic genus *Phomella*, currently comprising only *Phomella candelariellae*.

***Phomella candelariellae* (Z. Kocakaya & Halıcı)**

Darmostuk, comb. nov.

(Fig. 4)

MycoBank MB 862576

Basionym: *Phoma candelariellae* Z. Kocakaya & Halıcı.

Type: Turkey, Eskişehir, Sivrihisar, northwest of Sivrihisar, 39°27'16"N, 31°31'36"E, alt. 1260 m, on apothecia of *Candelariella aurella*, 22 Jul. 2012, M.G. Halıcı MGH3.274 (EUH, non vidi).

Description (based on examined specimens). Conidiomata pycnidial, scattered or arising in groups on the apothecia of the host lichen, immersed to becoming partially erumpent, black in macroscopic view, subglobose to almost globose, 80–130 μ m diam., ostiolate, ostiole ~12 μ m diam. Conidiomatal wall 10–14 μ m thick, composed of 2–5 layers of pseudoparenchymatous cells, outer cells dark brown, 4–6 $\times$ 5.5–7 μ m, inner cells paler, 4.5–6.5 μ m wide, darker in KOH. Conidiogenous cells lining the inner wall of the pycnidial cavity, short ampulliform to subglobose, hyaline, smooth, (4.0–)4.4–6.2(–7.0) $\times$ (3.0–)3.2–4.6(–5.2) μ m (n = 15), conidiogenesis phialidic. Conidia simple, arising singly, subglobose to globose, hyaline, generally 1-guttulate (not observed in older specimens), smooth-walled, (3.2–)4.0–5.2(–5.8) $\times$ (2.8–)3.6–4.6(–5.2) μ m, l/w = (1.0–)1.2–1.4(–1.7) (n = 50).

Culture characteristics. Colonies on PDA are round, dense, and evenly expanding, with a smooth surface, reaching 12–16 mm in diameter after 7 days of cultivation; surface bright orange and the lower side dull to dirty orange; colony margin ochraceous and loosely structured,

aerial mycelium sparse and poorly developed; colony center distinctly tuberculate.

Host, distribution and ecology. This species is currently known from numerous localities in Turkey and Ukraine, but given the wide distribution of its host (*Candelariella aurella*), may be overlooked (Kocakaya et al. 2015; Kondratyuk et al. 2020; Darmostuk et al. 2021). *Phomella candelariellae* seems to be a pathogenic species, as infected apothecial discs of the host become discolored and turn blackish.

Notes. *Phomella candelariellae* is morphologically similar to *Xenophoma puncteliae* described on *Punctelia rudecta* from the USA (Lawrey et al. 2012). The later species can be distinguished by smaller conidiomata, 40–60 µm diam. (vs. 80–130 µm in *P. candelariellae*), smaller conidia, (2.3–)2.5–3.0(–3.1) × (1.9–)2.0–2.4(–2.6) µm

[vs. (3.2–)4.0–5.2(–5.8) × (2.8–)3.6–4.6(–5.2) µm in *P. candelariellae*], and different lichen hosts. Additionally, *Phomella candelariellae* resemble the recently described *Didymocyrtis microxanthoriae*, which differs by a wider conidiomata wall, 20–25 µm wide (vs. 10–14 µm in *P. candelariellae*), somewhat smaller conidia, (2.5–)3.0–3.7(–4.0) × (2.4–)2.6–2.9(–3.0) µm (vs. (3.2–)4.0–5.2(–5.8) × (2.8–)3.6–4.6(–5.2) µm in *P. candelariellae*], and growing on *Xanthoria parietina* (Suija et al. 2021).

Specimens examined (all on *Candelariella aurella*). UKRAINE. Kherson region, Beryslavs'kyi district, near Tiahynka village, 46.75421°N, 33.04958°E, 9 m, on limestone, 31 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11604); Bilozers'kyi district, near Olexandrivka village, 46.67836°N, 32.12792°E, 37 m, on concrete, 9 Jan. 2018, V. Darmostuk (KHER 11326); ibid., 46.69919°N, 32.13333°E, 40 m, on concrete, 9 Jan. 2018, V. Darmostuk & O. Khodosovtsev (KHER 11384); ibid., 46.69861°N, 32.12608°E, 40 m, on concrete, 11 Jan. 2018,

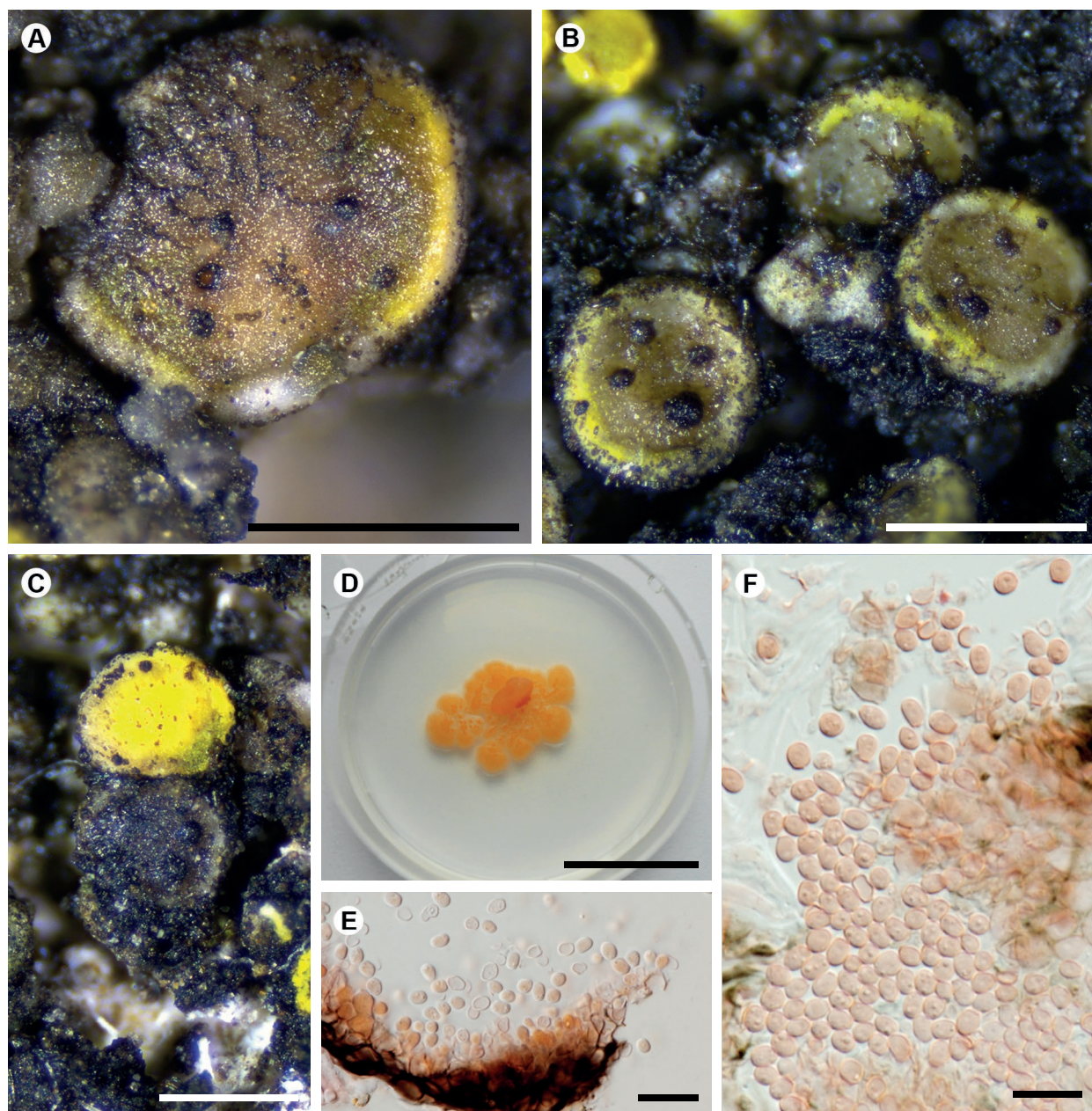


Figure 4. *Phomella candelariellae* (Darmostuk 1028): A–C – pycnidia on the lichen host; D – 7-days colony on potato dextrose agar (PDA); E – wall with conidiogenous cells (in Congo Red); F – conidia (in Congo Red). Scales: A–C = 0.5 mm; D = 2 cm; E, F = 10 µm.

V. Darmostuk & O. Khodosovtsev (KHER 11327, 11328); Kak-hovs'kyi district, magistral channel, 46.61284°N, 33.71571°E, 41 m, on concrete, 15 Nov. 2006, O. Khodosovtsev (KHER 3184); 10 km W from Askania-Nova village, 46.54467°N, 33.7275°E, 36 m, on concrete, 15 Nov. 2006, O. Khodosovtsev (KHER 3169); W from Askania-Nova village, 46.46274°N, 33.77177°E, 26 m, on concrete, 15 Nov. 2006, O. Khodosovtsev (KHER 3183); 4.5 km W from Zaozerne village, 46.58982°N, 33.81592°E, 43 m, on concrete, 15 Nov. 2006, O. Khodosovtsev (KHER 3181); Khersons'ka city council, right bank of Virio-vchyna village, 46.66804°N, 32.55691°E, 6 m, on concrete, 24 Sept. 2006, O. Khodosovtsev (KHER 3162); Velykoolek-sandrivs'kyi district, Mala Olexandrivka village, 47.29533°N, 33.27511°E, 27 m, on concrete, 29 Sept. 2018, V. Darmostuk (KHER 12167); Mykolaiv region, Kazankivs'kyi district, near Novoskelevatka village, 48.01333°N, 32.95541°E, 84 m, on limestone, 8 May 2019, V. Darmostuk 117 (herb. VD); near Granitne village, 47.97101°N, 32.7984°E, 112 m, on granite, 8 May 2019, V. Darmostuk 1028 (herb. VD); Ochakivs'kyi district, Berezan Island, 46.5991°N, 31.41165°E, 9 m, on concrete, 20 Jul. 2018, V. Darmostuk & O. Khodosovtsev (KHER 11678); near Parutyne village, ancient city Olbia, 46.68969°N, 31.90484°E, 34 m, on limestone, 27 Mar. 1996, O. Khodosovtsev (KHER 6883a); Zhytomyr region, Narodyts'kyi district, near Narodychi village, Drevlianskyi Nature Reserve, 51.18056°N, 29.16512°E, 148 m, on roofing slate, 20 Oct. 2018, O. Orlov (herb. VD).

The list of species

The list comprises 168 species known from the steppe zone of Ukraine, accompanied by notes on their morphology and distribution, as well as examined specimens. Species that were previously published based on a single specimen are provided without a list of examined specimens. Species reported for the first time from Ukraine are indicated by an asterisk (*).

Abrothallus caerulescens I. Kotte

Notes. This species is locally abundant in Ukraine and its distribution is mostly related to siliceous outcrops (e.g., Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined (all on *Xanthoparmelia conspersa*). UKRAINE. Dnipropetrovsk region, Kryvorizkyi district, Kryvyi Rih city, ravine on the bank of Demurina river, 47.92508°N, 33.52675°E, 102 m, on shales, 17 Oct. 2007, O. Khodosovtsev & G. Naumovych (KHER 1495); Solonyans'kyi district, near Zvonetske village, 48.2505°N, 35.18381°E, 67 m, on granite, 1 Jul. 2018, V. Darmostuk 389 (herb. VD); Mykolaiv region, Novobuz'kyi district, near Rozanivka village, 47.77821°N, 32.38475°E, 65 m, on granite, 18 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 10984); Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 47.99527°N, 31.00167°E, 51 m, on granite, 21 Sept. 2019, V. Darmostuk 274 (herb. VD); Voznesens'kyi district, near Trykraty village, near river Arbuzyinka, 47.70575°N, 31.4316°E, 55 m, on granite, 21 Oct. 2016, O. Khodosovtsev & V. Darmostuk (KHER 10607); Zaporizhzhia region, Pryazovs'kyi district, near Makivka village, 47.01626°N, 35.95256°E, 46 m, on granite, 8 Aug. 2010, T. Zavyalova (KHER 4405).

Abrothallus suecicus (Kirschst.) Nordin s.lat.

Notes. The examined specimens are characterized by immersed, globose, black pycnidia, up to 80 µm diam., subcylindrical conidiogenous cell with 2–3 annelation and hyaline, aseptate, pyriform conidia with truncate base, $(3.2\text{--}3.4\text{--}5.6\text{--}6.0) \times (2.0\text{--}2.2\text{--}3.0\text{--}3.4)$ µm ($n = 25$). Apothecia were not observed in Ukrainian collections. The anamorphic stage fits with the description provided by Hawksworth (1981), but requires further studies as it may represent another closely related species (Suija et al. 2026). This species has been reported from a few localities in southern Ukraine (Darmostuk & Khodosovtsev 2017).

Specimens examined (all on *Ramalina polymorpha*). UKRAINE. Mykolaiv region, Brats'kyi district, near Aktove village, 47.71794°N, 31.47955°E, 57 m, on granite, 1 May 2016, O. Khodosovtsev & V. Darmostuk (KHER 9711); near Petropavlivka village, 47.72055°N, 31.48465°E, 77 m, on granite, 1 May 2016, O. Khodosovtsev & V. Darmostuk (KHER 9714); ibid., 47.72294°N, 31.48344°E, 73 m, on granite, 1 May 2016, O. Khodosovtsev & V. Darmostuk (KHER 11625); Voznesens'kyi district, near Trykraty village, 47.70592°N, 31.43083°E, 57 m, on granite, 21 Oct. 2016, O. Khodosovtsev & V. Darmostuk (KHER 10583).

Abrothallus teloschistis Brackel, Pérez-Ortega & Suija

Notes. In Ukraine, this species has been reported based on a single specimen on *Seiophora lacunosa* from the Autonomous Republic of Crimea (Khodosovtsev & Darmostuk 2016a).

Acaroconium punctiformis Kocourk. & D. Hawksw.

Notes. This coelomycete has been reported from two localities in southern Ukraine (Khodosovtsev & Darmostuk 2018; Khodosovtsev et al. 2019a).

Specimens examined (all on *Sarcogyne regularis*). UKRAINE. Kherson region, Vysokopil's'kyi district, Natalino village, 47.47802°N, 33.34475°E, 32 m, on limestone, 5 May 2018, V. Darmostuk & O. Khodosovtsev (KHER); Zaporizhzhia region, Melitopol district, Troyitska balka, 47.07155°N, 35.43394°E, 80 m, on limestone pebbles, 23 Oct. 2008, O. Khodosovtsev & T. Zavyalova (KHER 10845).

Acremonium egyptiacum (J.F.H. Beyma) W. Gams

Notes. *Acremonium egyptiacum* is frequently reported as being associated with food contamination and human disease (e.g., Hou et al. 2023). The examined specimen is characterized by pale pink loose colonia on thallus and apothecia of the host, long tapering, simple conidiogenous cells, $30\text{--}35 \times 2\text{--}3$ µm and hyaline, aseptate, subglobose to ellipsoidal conidia, $(4.2\text{--}4.8\text{--}6.0\text{--}7.2) \times (2.0\text{--}2.2\text{--}2.4\text{--}2.8)$ µm ($n = 20$).

Based on a megablast search of NCBI nucleotide database, the closest hit using the ITS sequence are two specimens of *Acremonium egyptiacum* (GenBank: MH858456.1; Identities = 531/534 (99%), Gaps = 1/534 (0%) and GenBank: MH864727.1; Identities = 530/534 (99%), Gaps = 1/534 (0%)). This represents the first record of this species occurring on a lichen host.

Specimen examined. UKRAINE. Kherson region, Velykoolleksandrivskyi district, Mala Olexandrivka village, 47.29433°N, 33.27436°E, 26 m, on *Enchylium tenax*, on calcareous soil, 5 Feb. 2018, V. Darmostuk (KHER 9763).

Adelococcus interlatens (Arnold) Matzer & Hafellner

Notes. In Ukraine, this species has been reported based on a single specimen on *Sarcogyne regularis* from the Kherson region (Darmostuk & Khodosovtsev 2019).

Arthonia apotheciorum (A. Massal.) Alm. s.lat.

Notes. This species name used in wide sense and also included *Arthonia galactinaria* Leight. and *A. lecanorina* auct. followed Ukrainian checklist (Kondratyuk et al. 2021). This is a widespread species in Ukraine that grows on *Myriolecis* hosts (Darmostuk & Khodosovtsev 2017).

Specimens examined. UKRAINE. Autonomous Republic of Crimea, Chornomorskyi district, Atlesh, 45.47341°N, 32.71178°E, 30 m, on *Myriolecis pruinosa*, on limestone, 15 Aug. 1995, O. Khodosovtsev (KHER 9636, 9637); Leninskyi district, Makivka village, near Opuk mountain, 45.04082°N, 36.22352°E, 176 m, on *M. albescens*, on limestone, 8 Aug. 1994, O. Redchenko (KHER 11646); Zaporizhzhia region, Melitopol's'kyi district, near Troitske village, Troitska ravine, 47.06959°N, 35.41641°E, 50 m, on *M. albescens*, on limestone, 23 Oct. 2008, O. Khodosovtsev (KHER 1458); Mykolaiv region, Ochakiv's'kyi district, near Parutyn village, ancient city Olbia, 46.6899°N, 31.8963°E, 39 m, on *M. albescens*, on concrete, 28 Mar. 1995, O. Khodosovtsev (KHER 5305a); Berezan island, 46.60007°N, 31.41074°E, 6 m, on *M. albescens*, on concrete, 20 Jul. 2018, V. Darmostuk (KHER 11662); ibid., 46.59971°N, 31.41113°E, 6 m, on *M. albescens*, on concrete, 20 Jul. 2018, V. Darmostuk (KHER 11671); Snihuriv's'kyi district, near Hrechanyvka village, 46.93715°N, 32.79675°E, 5 m, on *M. dispersa*, on limestone, 12 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 12467); Kherson region, Beryslav's'kyi district, near Dudchany village, 47.10755°N, 33.68382°E, 39 m, on *M. albescens*, on limestone, 14 Jun. 2017, V. Darmostuk (KHER 12191); Bilozers'kyi district, near Dariivka village, 46.76367°N, 32.78132°E, 1 m, on *M. albescens*, on limestone, 9 Aug. 2008, G. Naumovych & L. Gavrylenko (KHER 9385, 9453, 9454); Chaplins'kyi district, Askania-Nova, arboretum, 46.46525°N, 33.87045°E, 20 m, on *M. crenulata*, on limestone, 27 Sept. 2014, O. Khodosovtsev (KHER 7791); Heniches'kyi district, Kuiuk-Tuk Island, 46.12048°N, 34.45021°E, 5 m, on *M. albescens*, on concrete, 6 Oct. 2018, V. Darmostuk (KHER 12123); Holoprystans'kyi district, Black Sea Biosphere Reserve, Tendra Island, 46.24342°N, 31.6494°E, 1 m, on *M. crenulata*, on shells, 30 Apr. 2009, O. Khodosovtsev (KHER 8095); Kalanchats'kyi district, park near Rozdolne village, 46.16387°N, 33.22858°E, 13 m, on *M. hagenii*, on *Fraxinus* bark, 24 Oct. 2017, V. Darmostuk & O. Khodosovtsev (KHER 10931); Kakhov's'kyi district, near Tsukury village, 46.69217°N, 33.41019°E, 18 m, on *M. crenulata*, on limestone, 15 Nov. 2006, O. Khodosovtsev (KHER 3160); Kherson city council, Malyy Potiomkin Island, 46.59732°N, 32.57442°E, 3 m, on *M. hagenii*, on *Fraxinus* bark, 11 Jul. 2018, V. Darmostuk (KHER 11680, 11688); right bank of Viriovychna river, 46.66346°N, 32.55786°E, 5 m, on *M. dispersa*, on concrete, 24 Jun. 2006, O. Khodosovtsev (KHER 3170); Novovorontsovs'kyi district, near Zolota Balka village, 47.33895°N, 33.96602°E, 80 m, on *M. dispersa*, on limestone, 30 May 2018, V. Darmostuk (KHER 11623); Velykooleksandriv's'kyi district, Mala Olexandrivka village, 47.29407°N, 33.27389°E, 27 m, on *M. crenulata*, on limestone, 8 Jul. 2014,

V. Darmostuk (KHER 9371); Bobrovyi Kut, 47.08252°N, 32.92708°E, 28 m, on *M. semipallida*, on limestone, 31 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 14480); Odesa region, Lymanskyi district, near Kairy village, 46.92756°N, 30.9766°E, 20 m, on *M. dispersa*, on limestone, 5 Mar. 1996, O. Khodosovtsev (KHER 5316).

**Arthonia urceolata* (Elenkin) Calat., Barreno & V.J. Rico

Notes on the examined specimens are provided in the Taxonomic results.

Arthonia varians (Davies) Nyl.

Notes. This species is widespread in the steppe zone of Ukraine and its distribution appears to be limited by its host species (e.g., Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined (all on *Glaucomaria rupicola*). UKRAINE. Donetsk region, Nikolskyi district, near Nazariivka village, Nature Reserve Kamyani Mogyly, 47.30585°N, 37.0742°E, 190 m, on granite, 8 Jul. 2017, V. Darmostuk (KHER 11912); Mykolaiv region, Brats'kyi district, Petropavlivskyi Canyon, 47.724°N, 31.48039°E, 61 m, on granite, 26 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 10690); Domaniv's'kyi district, Buzky Gard National Nature Park, 47.79462°N, 31.17289°E, 15 m, on granite, 6 May 2020, O. Khodosovtsev (KHER 13952); Novobuz's'kyi district, near Sofiivka village, 47.68322°N, 32.33231°E, 46 m, on granite, 28 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11715); near Rozanivka village, 47.79326°N, 32.37929°E, 59 m, on granite, 28 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10989); Pervomais'kyi district, Mygia village, 48.03907°N, 30.94513°E, 102 m, on granite, 27 May 2017, V. Darmostuk (KHER 12101); Voznesens'kyi district, near Trykraty village, 47.70617°N, 31.43372°E, 54 m, on granite, 27 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11634, 11636); near Aktove village, 47.71458°N, 31.46238°E, 49 m, on granite, 26 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 10688); ibid., 47.71241°N, 31.46627°E, 56 m, on granite, 7 May 2020, O. Khodosovtsev (KHER 13958); Dnipropetrovsk region, Kryvoriz'ka city council, Krasna ravin, 48.10362°N, 33.51197°E, 85 m, on siliceous stone, 10 Jul. 2018, V. Darmostuk (KHER 11692); Zaporizhzhia region, Chernihiv's'kyi district, near Stulnevo village, waterfall on the Kaikulak River, 47.25857°N, 36.05859°E, 98 m, on granite, 28 Jun. 2018, O. Khodosovtsev & V. Darmostuk (KHER 12424); Tokmats'kyi district, near Udarnyk village, 47.04691°N, 35.84378°E, 50 m, on granite, 7 Jun. 2009, T. Zavyalova & O. Khodosovtsev (KHER 1473).

Ascochyta candelariellicola D. Hawksw. & Kalb

Notes. This is a poorly known species that has been reported only from Mexico and Ukraine (Hawksworth & Kalb 1992; Darmostuk & Khodosovtsev 2019).

Specimens examined (all on *Candelariella aurella*). UKRAINE. Kherson region, Kalanchak district, Khorly village, 46.04528°N, 33.17572°E, 9 m, on *Populus*, 8 Aug. 2017, V. Darmostuk (KHER 11316); Mykolaiv region, Ochakiv's'kyi district, Berezan Island, 46.59913°N, 31.41147°E, 9 m, on concrete, 20 Jul. 2018, O. Khodosovtsev & V. Darmostuk (KHER 11663).

Athelia arachnoidea (Berk.) Jülich

Notes. *Athelia arachnoidea* is a common species in Ukraine, particularly in urban areas. The fungus infects

a wide range of corticolous lichens, as well as bryophytes and free-living algae (Kondratyuk et al. 2021).

Specimens examined. UKRAINE. Autonomous Republic of Crimea, Sovetskyi district, near Dmytrivka, 45.48076°N, 35.02241°E, 6 m, on *Physcia adscendens*, on *Robinia* bark, 6 Jun. 2003, O. Khodosovtsev (KHER 1110); Leninskyi district, near Olenivka village, 45.30303°N, 33.27323°E, 61 m, on *P. adscendens*, on *Robinia* bark, 19 Jun. 2010, O. Khodosovtsev (KHER 4670); Dnipropetrovsk region, Solonyans'kyi district, Bashmachka ravine, 48.19834°N, 35.00957°E, 130 m, on *P. tenella*, on *Quercus* bark, 1 Jul. 2018, V. Darmostuk 383 (herb. VD); Kherson region, Beryslavs'kyi district, Kozak Island, 46.77305°N, 33.32607°E, 10 m, on *Xanthoria parietina*, on *Salix* bark, 21 Jul. 2017, O. Khodosovtsev & V. Darmostuk (KHER 11739); Holoprystans'kyi district, near Burkuty village, 46.39566°N, 32.82278°E, 18 m, on *P. adscendens*, on *Quercus* bark, 10 Nov. 2007, O. Khodosovtsev (KHER 3721, 9585); Black Sea Biosphere Reserve, Tendra Island, 46.24032°N, 31.63864°E, 1 m, on *X. monofoliosa*, on *Artemisia*, 30 Apr. 2009, O. Khodosovtsev (KHER 7297, 7299); Kalanchats'kyi district, Khorly village, 46.07772°N, 33.29381°E, 10 m, on *X. parietina*, on *Populus* bark, 8 Aug. 2017, V. Darmostuk (KHER 11897); Rozdolne village, park S.B. Falts-Fein, 46.16436°N, 33.2285°E, 11 m, on *P. adscendens*, on *Fraxinus* bark, 24 Oct. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11256); Khersons'ka city council, Park near Kherson State University, 46.64691°N, 32.63087°E, 52 m, on *X. parietina*, on *Populus* bark, 7 Nov. 2006, O. Khodosovtsev (KHER 3753); Oleshkivskyi district, near Chebulda village, 46.59906°N, 32.95484°E, 17 m, on *P. adscendens*, on *Robinia* bark, 8 Mar. 2008, O. Khodosovtsev (KHER 3691); Skadovs'kyi district, near Promin, 46.34246°N, 32.76092°E, 32 m, on *X. parietina*, on *Populus* bark, 5 Dec. 2015, O. Khodosovtsev & Yu. Khodosovtseva (KHER 9628); Luhansk region, Bilovods'kyi district, near Baranykivka village, 49.17325°N, 39.78765°E, 138 m, on *P. adscendens*, on *Quercus* bark, 12 Apr. 2018, O. Liubka (CWU 203305); Mykolaiv region, Pervomais'kyi district, Skarzhinskogo Summer farm, 48.04965°N, 31.01941°E, 103 m, on *Oxneria* sp., on *Fraxinus* bark, 1 Jul. 2020, O. Khodosovtsev (KHER 14180); near Lviv village, 47.89548°N, 31.09788°E, 40 m, on *X. parietina*, on *Fraxinus* bark, 5 Jul. 2020, V. Darmostuk 755 (herb. VD); Voznesens'kyi district, Trykraty village, Park Labitynt, 47.70916°N, 31.40784°E, 55 m, on *P. adscendens*, on *Quercus* bark, 21 Oct. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10539, 10566); Yelanets'kyi district, near Veselyi Podil village, 47.5593°N, 32.01963°E, 70 m, on *Candelariella xanthostigma*, on granite, 14 Apr. 2009, T. Boiko (KHER 4136); Odesa region, Lymanskyi district, near Port village, 46.71592°N, 31.04314°E, 53 m, on *Phaeophyscia orbicularis*, on *Robinia* bark, 30 Aug. 2018, V. Darmostuk 173 (herb. VD); Ovidiopol's'kyi district, Karolino-Bugaz village, Park Gaiok, 46.15595°N, 30.54316°E, 15 m, on *P. dubia*, on *Robinia* bark, 6 Sept. 2021, V. Darmostuk 1148 (herb. VD); *ibid.*, on *X. parietina*, 6 Sept. 2021, V. Darmostuk 1147 (herb. VD); Zaporizhzhia region, Melitopol's'kyi district, near Novopylypivka village, Staroberdyanskyi forest, 46.93454°N, 35.49352°E, 24 m, on *P. adscendens*, on *Quercus* bark, 23 Oct. 2008, T. Zavyalova (KHER 4170, 4354); Yakymivs'kyi district, near Bohatyr village, Altahirskyi forest, 46.62792°N, 35.26886°E, 23 m, on *X. parietina*, on *Quercus* bark, 22 Oct. 2008, T. Zavyalova (KHER 4308); *ibid.*, 46.61939°N, 35.24201°E, 25 m, on *X. parietina*, on *Quercus* bark, 25 Aug. 2018, V. Darmostuk 669 (herb. VD).

Athelidium pyriforme (M.P. Christ.) Oberw.

Notes. This is a common saprotrophic species on forest debris, which has also been reported as a facultatively lichenicolous species on *Cetraria aculeata* (Khodosovtsev et al. 2018a).

Brackelia lunkei Zhurb.

Notes. The species is known from the boreal forest of Asia and North America, as well as from petrophilic grassland habitats in Ukraine (Zhurbenko & Pino-Bodas 2017; Darmostuk et al. 2018).

Specimen examined. UKRAINE. Kherson region, Velykool-eksandrivs'kyi district, near Bilogorka village, 47.20534°N, 33.13539°E, 41 m, on *Cladonia rangiformis*, on soil, 2 May 2017, G. Naumovych (KHER 10694).

Briancoppinsia cytospora (Vouaux) Diederich, Ertz, Lawrey & van den Boom

Notes. This species has been recorded from only a few localities in Ukraine (Darmostuk & Khodosovtsev 2017; Malíček et al. 2018; Darmostuk et al. 2021). However, given its wide European distribution (Diederich et al. 2012), it is likely overlooked in Ukraine.

Specimens examined (all on *Parmelia sulcata*). UKRAINE. Kherson region, Holoprystans'kyi district, near Burkuty village, 46.3996°N, 32.82735°E, 22 m, on *Quercus* brach, 18 Nov. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10316); *ibid.*, 46.38633°N, 32.82892°E, 19 m, on *Quercus* bark, 28 Dec. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11095).

Bryostigma molendoi (Heufl. ex Arnold) S.Y. Kondr. & Hur

Notes. The species has been reported from scattered localities in southern Ukraine (Darmostuk et al. 2018, 2021).

Specimens examined. UKRAINE. Kherson region, Velykool-eksandrivs'kyi district, near Zapovit village, 47.09901°N, 32.97331°E, 16 m, on *Variospora aurantia*, on limestone, 2 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 12478); Mykolaiv region, Kazankivs'kyi district, N of Marianivka village, 47.62164°N, 32.90468°E, 57 m, on *Caloplaca* sp., on limestone, 8 May 2019, V. Darmostuk 1027, 1030a (herb. VD); Zaporizhzhia region, Tokmats'kyi district, near Udarnyk village, 47.05019°N, 35.84297°E, 61 m, on *Xanthocarpia crenulatella*, on limestone, 8 Aug. 2010, T. Zavyalova (KHER 6298).

Buelliella poetschii Hafellner

Notes. This species has been reported from a few localities in the Autonomous Republic of Crimea, as well as Dnipropetrovsk, Mykolaiv, and Ternopil regions (Darmostuk & Khodosovtsev 2017; Darmostuk et al. 2021).

Specimens examined (all on *Endocarpon psorodeum*). UKRAINE. Dnipropetrovsk region, Kryvoriz'ka city council, Skeli MODRu, 47.89503°N, 33.31334°E, 50 m, on siliceous stone, 18 Oct. 2007, O. Khodosovtsev & G. Naumovych (KHER 8348); Mykolaiv region, Novobuz'kyi district, near Rosanivka village, 47.78151°N, 32.37931°E, 60 m, on granite, 28 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11188).

Catillaria nigroclavata (Nyl.) J. Steiner

Notes. This lichen-forming species is widely distributed in Ukraine, but rarely reported as a facultatively lichenicolous fungus (Diederich et al. 2018; Kondratyuk et al. 2021).

Specimen examined. UKRAINE. Kherson region, Chaplins'kyi district, Askania-Nova, arboretum, 46.45768°N, 33.87466°E, 30 m, on *Physconia grisea*, on *Fraxinus* bark, 27 Sept. 2014, O. Khodosovtsev (KHER 7817).

Cercidospora loboathalliae Nav.-Ros. & Calat.

Notes. This species has been reported only from two closely situated localities on the thallus of *Loboathallia radiosa* (Darmostuk 2016). *Cercidospora loboathalliae* may be an overlooked species due to its visual similarity to the pycnidia of the host.

Specimens examined (all on *Loboathallia radiosa*). UKRAINE. Kherson region, Velykooleksandrivs'kyi district, Mala Olexandrivka village, 47.29564°N, 33.27511°E, 25 m, on limestone, 5 Mar. 2015, V. Darmostuk (KHER 9055); near Zaporizhzhia village, 47.29415°N, 33.22929°E, 31 m, on limestone, 10 Jan. 2016, V. Darmostuk (KHER 10932).

Cercidospora macrospora (Uloth) Hafellner & Nav.-Ros.

Notes. This is a widespread species in Ukraine growing on *Protoparmeliopsis muralis* (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined (all on *Protoparmeliopsis muralis*). UKRAINE. Dnipropetrovsk region, Kryvoriz'kyi district, near Chkalivka village, 48.05577°N, 33.26908°E, 70 m, on granite, 11 Oct. 2008, G. Naumovych, O. Khodosovtsev & O. Smetana (KHER 9459); Donetsk region, Nikolskyi district, near Nazarivka village, Nature Reserve “Kamyani Mogyly”, 47.3061°N, 37.07148°E, 192 m, on granite, 30 Apr. 2013, V. Darmostuk & O. Khodosovtsev (KHER 8285a); Tel'manivs'kyi district, Kalmiuskyi reserve, 47.4796°N, 37.89436°E, 50 m, on granite, 28 Apr. 2013, V. Darmostuk & O. Khodosovtsev (KHER 8378); Volnovas'kyi district, near Petrivske village, 47.67323°N, 37.16817°E, 156 m, on siliceous stone, 18 Apr. 2006, O. Nadyeina (KW); Kharkiv region, Lozivs'kyi district, near Nadezhdivka village, 49.10014°N, 36.58133°E, 93 m, on sandstones, 12 May 2013, A. Gromakova (CWU 202610); Kherson region, Beryslavs'kyi district, near Tyahynka village, 46.76791°N, 33.04081°E, 11 m, on limestone, 31 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 12593); Luhansk region, Lutuhyns'kyi district, near Verkhnia Orichivka village, 48.35975°N, 39.33591°E, 130 m on siliceous stone, 4 May 2005, O. Nadyeina (KW); near Volnukhine village, 48.35405°N, 39.28156°E, 168 m, on siliceous stone, 6 May 2005, O. Nadyeina (KW); near Mariivka village, 48.34011°N, 39.36686°E, 140 m, on siliceous stone, 3 May 2005, O. Nadyeina (KW); near Uspenka village, 48.38163°N, 39.14012°E, 142 m, on siliceous stone, 3 May 2005, O. Nadyeina (KW); Sverdlovs'kyi district, near Provallia village, 48.15105°N, 39.84104°E, 145 m, on siliceous stone, 23 Jul. 2005, O. Nadyeina (KW); Mykolaiv region, Pervomais'kyi district, Mygia village, 48.00972°N, 30.98653°E, 70 m, on granite, 16 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 11991); Yelans'kyi district, near Vodiano-Loryno village, 47.57714°N, 32.11063°E, 56 m, on granite, 13 Apr. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10923); near Vozsiyatske village, 47.67764°N, 32.12055°E, 60 m, on granite, 25 Nov. 2008, T. Boiko (KHER 9653); Zaporizhzhia region,

Melitopol's'kyi district, near Terpinnya village, 46.95033°N, 35.46956°E, 12 m, on sandstone, 13 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 12417); *ibid.*, 46.95028°N, 35.46988°E, 13 m, on sandstone, 4 Oct. 2007, O. Khodosovtsev & T. Zavyalova (KHER 14234); Tokmats'kyi district, near Tokmak village, 47.26384°N, 35.76835°E, 70 m, on granite, 16 Aug. 1995, O. Khodosovtsev (KHER 9649); Yakymivs'kyi district, near Novodanylivka village, 46.66333°N, 35.05326°E, 20 m, on granite, 12 Jun. 2007, T. Zavyalova (KHER 6284); Zaporiz'kyi district, near Ivano-Hannivka village, waterfall on the Mokra Moskovka river, 47.85166°N, 35.39004°E, 51 m, on granite, 28 Jun. 2018, O. Khodosovtsev & V. Darmostuk (KHER 12431).

Cercidospora cf. *macrospora* (Uloth) Hafellner & Nav.-Ros.

Notes. The examined specimens are characterized by 4(–8)-spored asci, (68–)70–80(–88) × (11.0–)11.8–13(–13.8) µm (n = 15), and 1-septate, hyaline, ellipsoidal to fusiform ascospores, frequently with attenuated lower cells, not constricted at the septum, (25.4–)26.2–30.4(–33.2) × (5.6–)6.4–7.6(–8.4) µm, l/w ratio (3.2–)3.6–4.6(–5.6) (n = 30). These specimens differ from *Cercidospora macrospora* in having wider asci (vs. 9–11 µm in *C. macrospora*) and larger, slightly heteropolar ascospores (vs. mostly 20–25 × 4–6 µm following Calatayud et al. 2013). The ascospore dimensions are more similar to those of *Cercidospora crozalsiana*, which has longer asci, 85–120 µm, and grows on *Squamaria* spp. (Calatayud et al. 2013). A taxon with similarly large ascospores may have been reported as *C. crozalsiana* from the Zhytomyr region of Ukraine (Kapets & Kondratyuk 2019).

Specimens examined (all on *Protoparmeliopsis muralis*). UKRAINE. Dnipropetrovsk region, Solonyans'kyi district, near Zvonetske village, 48.24574°N, 35.18473°E, 53 m, on granite, 10 Jul. 2018, V. Darmostuk (KHER 11700); Kherson region, Velykooleksandrivs'kyi district, near Zaporizhzhia village, 47.28838°N, 33.21358°E, 23 m, on limestone, 3 May 2018, V. Darmostuk (KHER 11702); Mykolaiv region, Snihurivs'kyi district, near Novovasylivka village, 47.01166°N, 32.79936°E, 11 m, on limestone, 12 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 12469).

Cercidospora solearispota Calat., Nav.-Ros. & Hafellner

Notes. This species has been reported only from a few localities in southern Ukraine (Darmostuk 2016; Darmostuk & Khodosovtsev 2020).

Specimens examined. UKRAINE. Mykolaiv region, Novobuz'kyi district, near Rozanivka village, 47.79475°N, 32.37981°E, 62 m, on *Aspiciliella intermutans*, on granite, 28 May 2017, V. Darmostuk (KHER 11614); Zaporizhzhia region, Melitopol's'kyi district, near Myrne village, Kamyana mogyla, 46.95004°N, 35.47038°E, 13 m, on *Aspicilia* sp., on sandstone, 4 Oct. 2007, T. Zavyalova & O. Khodosovtsev (KHER 4202).

Cercidospora xanthoriae (Wedd.) R. Sant.

Notes. This species has been reported only from a few localities in southern Ukraine (Darmostuk 2016; Kondratyuk et al. 2021).

Specimens examined. UKRAINE. Mykolaiv region, Pervomais'kyi district, near Kuripchyne village, 48.00402°N,

31.0243°E, 118 m, on *Rufoplaca subpallida*, on granite, 9 Jul. 2020, V. Darmostuk 686 (herb. VD); Voznesens'kyi district, near Aktove village, 47.70963°N, 31.47789°E, 51 m, on *Calopluca* sp., on granite, 21 Oct. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10320).

***Chaetopyrena penicillata* (Fuckel) Höhn.**

Notes. *Chaetopyrena penicillata* is a saprotrophic or endophytic species that was only recently documented as growing on lichens (Darmostuk et al. 2022). *Calogaya saxicola* is reported here as a new host for *C. penicillata*.

Specimens examined. UKRAINE. Kherson region, Holoprystans'kyi district, Kardashynka village, 46.56004°N, 32.61099°E, 4 m, on *Xanthoria parietina*, on *Salix* bark, 28 Dec. 2015, O. Khodosovtsev (KHER 10840, 10841, 10842, 10843, 10844); Mykolaiv region, Bereznehuvats'kyi district, W of Kaluha village, 47.3727°N, 32.90926°E, 63 m, on *Calogaya saxicola*, on limestone, 7 May 2019, V. Darmostuk 1001 (herb. VD); Brats'kyi district, near Vysoka hora village, Dubova balka, 47.89088°N, 31.61359°E, 92 m, on *Physcia stellaris*, on *Acer* twig, 21 Oct. 2020, V. Darmostuk 906 (herb. VD); Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 47.99527°N, 31.00167°E, 51 m, on *Peltigera rufescens*, on soil, 21 Sept. 2019, V. Darmostuk 281, 282 (herb. VD).

***Cladophialophora parmeliae* (Etayo & Diederich) Diederich & Unter.**

Notes. This fungus is known from numerous parmelioid hosts worldwide and it has been reported on *Xanthoparmelia conspersa* from a single locality in southern Ukraine (Khodosovtsev & Darmostuk 2017a; Diederich et al. 2024).

***Cladosporium licheniphilum* Heuchert & U. Braun**

Notes. This fungus is not rare in southern Ukraine, and has been mainly reported on *Polycauliona* and *Xanthoria* species (e.g., Darmostuk & Khodosovtsev 2017, 2021). *Cetraria aculeata* is reported here as a new host for *Cladosporium licheniphilum*. This is the first record from the Odesa region.

Specimens examined. UKRAINE. Kherson region, Holoprystans'kyi district, near Promin village, 46.34542°N, 32.77891°E, 34 m, on *Xanthoria parietina*, on *Populus* bark, 5 Apr. 2008, O. Khodosovtsev (KHER 6187); *ibid.*, 21 Nov. 2015, O. Khodosovtsev (KHER 9430, 9770); *ibid.*, 28 Apr. 2017, O. Khodosovtsev (KHER 10669); Kardashynka village, 46.56004°N, 32.61099°E, 4 m, on *X. parietina*, on *Armeniaca* bark, 6 Jan. 2015, O. Khodosovtsev (KHER 9501); near Burkut village, 46.38658°N, 32.83062°E, 20 m, on *Cetraria aculeata*, on sand, 21 Nov. 2015, O. Khodosovtsev (KHER 9767); *ibid.*, 46.36361°N, 32.81156°E, 27 m, on *X. parietina*, on *Quercus* bark, 20 May 2016, O. Khodosovtsev, V. Darmostuk & N. Maluga (KHER 9965); Khersons'ka city council, Dymytrova park, 46.65208°N, 32.56151°E, 21 m, on *X. parietina*, on *Populus* bark, 6 Jan. 2016, O. Khodosovtsev (KHER 9772); Velykoolleksandrivs'kyi district, Mala Olexandrivka village, 47.29092°N, 33.26611°E, 11 m, on *X. parietina*, on *Populus* bark, 5 Jan. 2017, V. Darmostuk 166 (herb. VD); near Velyka Oleksandrivka, Nedohirskiy forest, 47.31924°N, 33.24804°E, 23 m, on *X. parietina*, on *Fraxinus* bark, 27 Dec. 2020, V. Darmostuk (KHER 14781); near Zaporizzia village, Popova Yama Landmark, 47.29169°N, 33.23744°E, 17 m, on *X. parietina*,

on *Ulmus* bark, 18 Oct. 2021, V. Darmostuk 1137 & O. Sira (herb. VD); Mykolaiv region, Brats'kyi district, near Vysoka Hora village, Dubova balka, 47.8902°N, 31.61327°E, 94 m, on *Polycauliona polycarpa*, on *Fraxinus* bark, 21 Oct. 2020, V. Darmostuk 939 (herb. VD); Pervomais'kyi district, near Katerynka village, 47.9305°N, 30.72328°E, 85 m, on *X. parietina*, on *Fraxinus* bark, 4 Jul. 2020, V. Darmostuk 751 (herb. VD); Odesa region, Bolgrad district, Vesela Dolyna village, 46.23736°N, 29.29189°E, 144 m, on *X. parietina*, on *Fraxinus pennsylvanica*, 17 Oct. 2025, O. Khodosovtsev 16677 (KW-L76322).

***Clypeococcum cetrariae* Hafellner**

Notes. This species was described on *Cetraria islandica* and subsequently reported on *C. aculeata* and *C. laevigata* (Hafellner 1994; Khodosovtsev et al. 2018a; Zhurbenko et al. 2019). The distribution of the fungus in southern Ukraine is strongly related to psammophytic habitats (Khodosovtsev et al. 2018a).

Specimens examined (all on *Cetraria aculeata*). UKRAINE. Kherson region, Holoprystans'kyi district, near Promin village, 46.36219°N, 32.79458°E, 29 m, on sand, 5 Jul. 2017, O. Khodosovtsev (KHER 10662, 10663); Mykolaiv region, Ochakivs'kyi district, near Pokrovka village, 46.48842°N, 31.66209°E, 2 m, on sand, 18 Jul. 2016, V. Darmostuk (KHER 10134, 10921).

***Clypeococcum cladonema* (Wedd.) D. Hawksw.**

Notes. *Clypeococcum cladonema* is known from a few localities in Ukraine (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined (all on *Xanthoparmelia pokornyi*). UKRAINE. Kherson region, Holoprystans'kyi district, Black Sea Biosphere Reserve, Solonoozerny, 46.4584°N, 31.98614°E, 1 m, on sand, 5 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10696); Mykolaiv region, Ochakivs'kyi district, near Pokrovka village, 46.48116°N, 31.65867°E, 2 m, on sand, 6 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10697).

***Clypeococcum hypocenomyces* D. Hawksw.**

Notes. This species is common in artificial pine forest where its host is abundant (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined (all on *Hypocenomyce scalaris*). UKRAINE. Dnipropetrovsk region, Novomoskovs'kyi district, near Andriivka village, Samarskiy forest, 48.7638°N, 35.48565°E, 75 m, on *Pinus* bark, 9 Jul. 2018, V. Darmostuk (KHER 11716); Kherson region, Oleshkivskiy district, near Radensk village, 46.55935°N, 32.87478°E, 22 m, on *Pinus* bark, 20 Nov. 2016, V. Darmostuk (KHER 10317); near Nechaevo village, 46.59071°N, 32.76711°E, 8 m, on *Pinus* bark, 1 Apr. 2018, O. Khodosovtsev (KHER 12151).

***Codonmyces lecanorae* Calat. & Etayo s.lat.**

Notes. The examined specimens are characterized by aseptate conidia (vs. 1-septate in the protologue Calatayud & Etayo 1999) and recognized as *Codonmyces lecanorae* s.lat. following Diederich et al. (2024). This species is widespread species in southern Ukraine that can be recognized in the field by the distinct blackening of the infected apothecia of *Protoparmeliopsis muralis* (Darmostuk & Khodosovtsev 2017, 2020).

Specimens examined (all on *Protoparmeliopsis muralis*). UKRAINE. Donetsk region, Tel'manivs'kyi district, Kalmiuske branch of the Ukrainian Steppe Reserve, 47.49959°N, 37.93549°E, 42 m, on granite, 28 Apr. 2013, V. Darmostuk & O. Khodosovtsev (KHER 9238, 9283); Volnovas'kyi district, near Petrivske village, 47.67323°N, 37.16817°E, 156 m, on siliceous stone, 18 Apr. 2006, O. Nadyeina (KW); Kharkiv region, Lozivs'kyi district, near Nadezhdivka village, 49.10014°N, 36.58133°E, 93 m, on sandstones, 12 May 2013, A. Gromakova (CWU 202611); Kherson region, Bilozers'kyi district, Fedorivka village, 46.80576°N, 32.8089°E, 21 m, on limestone, 1 Apr. 2018, V. Darmostuk (KHER 11986); Velykooleksandrivs'kyi district, Mala Olexandrivka village, 47.29326°N, 33.27406°E, 34 m, on limestone, 28 May 2015, V. Darmostuk (KHER 9053, 9380); *ibid.*, 47.29552°N, 33.2746°E, 21 m, on limestone, 30 Jan. 2022, V. Darmostuk 1087 & O. Sira (herb. VD); Luhansk region, Lutuhyns'kyi district, near Uspenka village, 48.38163°N, 39.14012°E, 142 m, on siliceous stone, 3 May 2005, O. Nadyeina (KW); near Verkhnia Orichivka village, 48.35975°N, 39.33591°E, 130 m, on siliceous stone, 4 May 2005, O. Nadyeina (KW); Mykolaiv region, Novobuz'kyi district, near Novyi Buh city, 47.79729°N, 32.41676°E, 58 m, on granite, 28 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 12655); Snihurivs'kyi district, near Evgenivka village, 47.09158°N, 32.89891°E, 2 m, on limestone, 25 Sept. 2008, O. Khodosovtsev & G. Naumovych (KHER 9447, 9466); near Yasna Poliana village, 46.97753°N, 32.80896°E, 1 m, on limestone, 6 May 2018, V. Darmostuk & O. Khodosovtsev (KHER 11626); Yelanets'kyi district, near Vodyano-Loryne village, near the dam, Hromokliya River, 47.57623°N, 32.09846°E, 30 m, on granite, 9 May 2008, T. Boyko (KHER 14310).

Dacampia cladoniicola Halıcı & A.Ö. Türk

Notes. This species is known from scattered localities in Europe on *Cladonia* spp. (Halıcı et al. 2008; Zimmermann & Feusi 2023). In Ukraine, it has been reported from a few localities in southern Ukraine (Khodosovtsev 2011; Khodosovtsev et al. 2019b).

Specimens examined. UKRAINE. Kherson region, Oleshkivskyi district, near Proletarka village, 46.63705°N, 32.96983°E, 13 m, on *Cladonia foliacea*, on sand, 5 Apr. 2008, O. Khodosovtsev (KHER 6177); Mykolaiv region, Voznesens'kyi district, near Trykraty village, 47.70557°N, 31.4415°E, 40 m, on *Cladonia* sp., on granite, 10 Nov. 2018, V. Darmostuk & O. Sira (KHER 12176); Zaporizhzhia region, Pryazovs'kyi district, near Makivka village, 47.02068°N, 35.96909°E, 69 m, on *C. foliacea*, on sand, 10 Jun. 2009, O. Khodosovtsev & T. Zavyalova (KHER 4232).

Didymellopsis perigena (Nyl.) Grube & Hafellner

Notes. This species has been reported from numerous localities in the steppe zone of Ukraine and is mostly found in dry xerophytic habitats (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021). This is the first record from the Luhansk region.

Specimens examined (all on *Placidium squamulosum*, unless otherwise indicated). UKRAINE. Kharkiv region, Balakliis'kyi district, near Piatyhrske village, 49.43275°N, 36.66308°E, 98 m, on soil, 3 Aug. 2010, A. Gromakova (CWU 202176); Dvorichans'kyi district, near Kolodiazne village, 49.99532°N, 37.68161°E, 127 m, on chalk soil, 12 May 2012, A. Gromakova (CWU 202887, 202888); near Dvorichna village, 49.95639°N, 37.799°E, 107 m, on *Endocarpon* sp., on chalk soil, 18 Sept.

2016, A. Gromakova (CWU); Kherson region, Bilozers'kyi district, near Mykilske village, 46.72433°N, 32.85764°E, 30 m, on loess outcrops, 31 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11595); Mykolaiv region, Ochakivs'kyi district, between Katalino and Novobuz'ke villages, 46.75782°N, 31.87554°E, 28 m, on *Megaspora verrucosa*, on loess outcrops, 2 Aug. 2018, V. Darmostuk & O. Khodosovtsev (KHER 11651); Luhansk region, Bilovods'kyi district, near Uzliissia village, 49.17332°N, 39.80499°E, 96 m, on *Endocarpon* sp., on soil, 12 Apr. 2018, O. Liubka, (CWU 203565); Zaporizhzhia region, Melitopol's'kyi district, near Tymofiivka village, 46.73603°N, 35.33359°E, 18 m, on soil, 2 Oct. 2007, O. Khodosovtsev & T. Zavyalova (KHER 8721).

Didymellopsis pulposi (Zopf) Grube & Hafellner

Notes. This is a common species on *Collemataceae* hosts in southern Ukraine (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined (all on *Enchylium tenax*, unless otherwise indicated). UKRAINE. Autonomous Republic of Crimea, Leninskyi district, near Vulkanivka village, 45.14124°N, 35.94054°E, 68 m, on soil, 7 May 2013, O. Khodosovtsev & Yu. Khodosovtseva (KHER 4389); Dnipropetrovsk region, Kryvoriz'ka city council, Skeli MODRu, Orline Gnizdo Landmark, 47.88733°N, 33.30781°E, 36 m, on soil, 3 Jul. 2018, O. Khodosovtsev & V. Darmostuk (KHER 11994); Donetsk region, Lymanskyi district, near Zakitne village, 48.88942°N, 37.94195°E, 140 m, on soil, 6 May 2017, A. Gromakova (CWU 202602, 202917); Kharkiv region, Dvorichans'kyi district, near Dvorichna village, 49.82753°N, 37.67511°E, 115 m, on chalk soil, 21 Aug. 2012, A. Gromakova (CWU 202177); Kherson region, Bilozers'kyi district, near Mykilske village, 46.72914°N, 32.8616°E, 38 m, on loess outcrops, 13 Feb. 2011, O. Khodosovtsev (KHER 6180); near Stanislav village, 46.57163°N, 32.16982°E, 30 m, on loess outcrops, 19 Aug. 2003, O. Khodosovtsev (KHER 7156); Velykooleksandrivs'kyi district, Mala Oleksandrivka village, 47.29267°N, 33.27355°E, 32 m, on *Lathagrium cristatum*, on limestone, 26 Feb. 2017, V. Darmostuk (KHER 10929); *ibid.*, Rusova Ravine, 47.27194°N, 33.23548°E, 30 m, on *Collema* sp., on soil, 6 Mar. 2015, V. Darmostuk (KHER 12172, 12185); Mykolaiv region, Snihurivs'kyi district, near Galoganivka village, 46.91403°N, 32.84959°E, 22 m, on *Scytinium schraderi*, on soil, 6 May 2018, V. Darmostuk (KHER 11641); *ibid.*, 46.91619°N, 32.84853°E, 11 m, on soil, 7 May 2019, V. Darmostuk 451 (herb. VD); Odesa region, Lyman village, 45.89243°N, 29.97032°E, 5 m, on soil, 2 May 2014, V. Darmostuk & O. Khodosovtsev (KHER 9503).

Didymocyrtis cladoniicola (Diederich, Kocourk. & Etayo) Ertz & Diederich

Notes. *Didymocyrtis cladoniicola* is a common and widespread species that has been reported from numerous lichens (Ertz et al. 2015; Kondratyuk et al. 2021). *Circinaria hispida*, *Xanthoparmelia camtschadalis*, and *X. pokorny* are reported here as new hosts for *D. cladoniicola*.

Specimens examined. UKRAINE. Autonomous Republic of Crimea, Leninskyi district, near Opuk village, 45.06867°N, 35.91185°E, 29 m, on *Xanthoparmelia camtschadalis*, on soil, 10 Jul. 2007, N. Zagorodniy (KHER 11317); Kherson region, Chaplyns'kyi district, near Pershokonstantynivka village, 46.24328°N, 33.73075°E, 7 m, on *Circinaria hispida*, on soil, 6 Jul. 2018, V. Darmostuk (KHER 11734); Heniches'kyi

district, Biriuchy Island, 46.16172°N, 35.18931°E, 2 m, on *Cladonia foliacea*, on soil, 5 Sept. 2018, V. Darmostuk 168 (herb. VD); Holoprystans'kyi district, Black Sea Biosphere Reserve, Solonoozerny, 46.45745°N, 32.0048°E, 1 m, on *Cetraria aculeata*, on sand, 5 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10667, 10854); *ibid.*, 46.45852°N, 32.00319°E, 1 m, on *X. pokornyii*, on sand, 5 May 2016, V. Darmostuk & O. Khodosovtsev (KHER 10852); *ibid.*, 46.46477°N, 31.94944°E, 2 m, on *C. aculeata*, on sand, 29 Feb. 2008, O. Umanets (KHER 8735); *ibid.*, 46.47103°N, 31.93519°E, 2 m, on *C. rangiformis*, on sand, 2 Feb. 2008, O. Khodosovtsev (KHER 11381); *ibid.*, 46.45882°N, 31.97307°E, 1 m, on *C. arbuscula*, on sand, 5 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 10855); N from Gryazne lake, 46.47103°N, 31.93519°E, 2 m, on *C. foliacea*, on sand, 29 Feb. 2008, O. Umanets (KHER 3671, 3682); Tendra Island, 46.2403°N, 31.63296°E, 2 m, on *Cladonia* sp., 6 Oct. 2017, V. Darmostuk (KHER 12157); *ibid.*, 46.24055°N, 31.62795°E, 1 m, on *C. foliacea*, on sand, 5 Oct. 2017, V. Darmostuk & O. Khodosovtsev (KHER 12582); Shelemenski lakes, 46.37649°N, 32.79396°E, 28 m, on *C. foliacea*, on sand, 5 Jan. 2017, O. Khodosovtsev & V. Darmostuk (KHER 11789); near Burkuty village, 46.40179°N, 32.83572°E, 23 m, on *Evernia prunastri*, on *Quercus* bark, 5 Jan. 2018, O. Khodosovtsev & V. Darmostuk (KHER 11790); *ibid.*, 46.40334°N, 32.84546°E, 21 m, on *Melanelixia subargentifera*, on *Quercus* bark, 7 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11312); *ibid.*, 46.3926°N, 32.5104°E, 22 m, on *C. aculeata*, on sand, 5 Jan. 2017, O. Khodosovtsev (KHER 11166); *ibid.*, 46.38218°N, 32.81532°E, 32 m, on *C. foliacea*, on sand, 10 Nov. 2007, O. Khodosovtsev (KHER 3718); *ibid.*, 46.3631°N, 32.81634°E, 26 m, on *C. aculeata*, on sand, 23 Jun. 2017, O. Khodosovtsev (KHER 10665); *ibid.*, 46.36484°N, 32.80203°E, 30 m, on *X. pokornyii*, on sand, 5 Jan. 2017, O. Khodosovtsev (KHER 11416); near Geroiske village, 46.49578°N, 31.92172°E, 4 m, on *C. aculeata*, on soil, 5 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 10851); near Ivanivka village, 46.40749°N, 32.14384°E, 4 m, on *C. aculeata*, on soil, 25 Jun. 2017, V. Darmostuk (KHER 11308); near Stara Zburievka village, *Alnus* forest, 46.46835°N, 32.39263°E, 2 m, on *C. foliacea*, on soil, 8 Feb. 2008, O. Umanets (KHER 3675, 3676, 3677, 3678); near Promin village, 46.36475°N, 32.77277°E, 32 m, on *C. foliacea*, on sand, 21 Nov. 2015, V. Darmostuk, O. Khodosovtsev & N. Maliuga (KHER 9999, 10005); *ibid.*, 46.3528°N, 32.7911°E, 33 m, on *Parmelia sulcata*, on *Quercus* bark, 5 Jan. 2017, V. Darmostuk & O. Khodosovtsev (herb. VD); Yagarlytskyi Kut, 46.33192°N, 31.89991°E, 1 m, on *C. rangiformis*, on soil, 6 Dec. 2007, O. Khodosovtsev (KHER 4860); Oleshkivskyi district, near Nechiaevo village, 46.57794°N, 32.7749°E, 10 m, on *E. prunastri*, on *Pinus* bark, 12 Apr. 2018, V. Darmostuk (KHER 11730); near Radensk village, 46.57987°N, 33.00462°E, 14 m, on *C. rangiformis*, on sand, 8 Nov. 2014, O. Khodosovtsev (KHER 7946, 7960); *ibid.*, 46.56586°N, 32.87783°E, 20 m, on *C. aculeata*, on sand, 20 Nov. 2016, V. Darmostuk (KHER 10328); *ibid.*, 46.5634°N, 32.87846°E, 17 m, on *C. foliacea*, on sand, 20 Nov. 2016, V. Darmostuk (KHER 10333, 10334); near Sagy village, Sagy reserve, 46.61277°N, 32.828°E, 13 m, on *C. foliacea*, on sand, 20 Oct. 2015, O. Umanets (KHER 14711); Novotroits'kyi district, Churiuk Island, 46.13095°N, 34.26931°E, 2 m, on *C. rangiformis*, on soil, 6 Oct. 2018, V. Darmostuk (KHER 12112); near Proletarka (current Chebulda) village, 46.6167°N, 32.97551°E, 15 m, on *C. foliacea*, on sand, 5 Apr. 2008, O. Khodosovtsev (KHER 8097, 8103, 8105); Novotroits'kyi district, Katara cape, 46.12763°N, 34.03901°E, 5 m, on *C. foliacea*, on soil, 24 Apr. 2010, O. Khodosovtsev (KHER 2364); Velykooleksandrivskyi district, near Bilousove village, 47.30685°N, 33.24253°E, 25 m, on *C. foliacea*, on soil,

4 Jan. 2018, V. Darmostuk (KHER 11402); near Bobroviy Kut village, 47.08252°N, 32.92708°E, 28 m, on *C. rangiformis*, on soil, 31 May 2017, V. Darmostuk (KHER 10947, 11737); near Zaporizhzhia village, 47.28838°N, 33.21358°E, 23 m, on *X. camtschadalis*, on soil, 3 May 2018, V. Darmostuk (KHER 11696); *ibid.*, 47.2897°N, 33.21484°E, 32 m, on *X. camtschadalis*, on soil, 11 Apr. 2021, V. Darmostuk 1047 (herb. VD); near Zelenyi Gai village, 47.15334°N, 32.96064°E, 24 m, on *Cladonia* sp., on soil, 6 May 2018, V. Darmostuk (KHER 12044); Mykolaiv region, Berezhuvats'kyi district, near Bila Krynytsa village, 47.2341°N, 33.09782°E, 26 m, on *C. furcata*, on soil, 7 May 2019, V. Darmostuk 452 (herb. VD); Mykolaivs'kyi district, near Gurivka village, 47.11067°N, 31.84747°E, 17 m, on *C. rei*, on soil, 11 Jul. 2018, V. Darmostuk (KHER 11687); near Kovalivka and Andriivka villages, Southern Bug river valley, sandy grasslands, 47.3155°N, 31.68402°E, 13 m, on *C. rei*, on sand, 25 Jul. 2020, D. Shyriaeva (KHER 14862); Ochakivs'kyi district, near Vasylivka village, 46.53217°N, 31.7631°E, 8 m, on *C. aculeata*, on sand, 6 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10891); *ibid.*, 46.51522°N, 31.80875°E, 1 m, on *C. aculeata*, on sand, 6 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10897, 10898); *ibid.*, 46.52663°N, 31.76286°E, 10 m, on *X. pokornyii*, on sand, 6 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10890); near Pokrovka village, 46.48453°N, 31.66588°E, 1 m, on *C. foliacea*, on sand, 3 May 2008, O. Khodosovtsev (KHER 3668); between Katalino and Novobuz'ke villages, 46.75754°N, 31.87502°E, 32 m, on *Fulgensia desertorum*, on soil, 2 Aug. 2018, V. Darmostuk (KHER 11656); Pervomais'kyi district, near Mygia village, 48.0191°N, 30.96981°E, 72 m, on *C. furcata*, on soil, 21 May 2018, D. Shyriaeva (KHER 12134); near Kuripchene village, National Nature Park Buzkyi Gard, 47.9705°N, 31.03775°E, 44 m, on *C. aculeata*, on soil, 21 Sept. 2019, V. Darmostuk 284 (herb. VD); *ibid.*, 47.99323°N, 31.01128°E, 60 m, on *Caloplaca arenaria*, on granite, 1 Jul. 2020, V. Darmostuk 704 (herb. VD); Snihurivskyi district, S of Barativka village, 46.93629°N, 32.7883°E, 15 m, on *C. aculeata*, on soil, 16 Apr. 2021, V. Darmostuk 981 (herb. VD); *ibid.*, on *C. rangiformis*, on soil, 16 Apr. 2021, V. Darmostuk 983 (herb. VD); Voznesens'kyi district, near Aktove village, 47.70819°N, 31.48331°E, 70 m, on *C. rangiformis*, on soil, 1 May 2016, V. Darmostuk & O. Khodosovtsev (KHER 9753); Zaporizhzhia region, Polohivskyi district, near Konsky Rozdory village, 47.37413°N, 36.42508°E, 172 m, on *C. foliacea*, on soil, 8 Jul. 2018, V. Darmostuk (KHER 11722).

Didymocyrtis epiphyscia Ertz & Diederich s.lat.

Notes. All examined specimens are characterized by narrow conidia 2.5–3 µm and corresponds to the *Didymocyrtis epiphyscia* s.lat. sensu Ertz et al. (2015). This is a common species in southern Ukraine, frequently collected on *Physcia* and *Xanthoria* species (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021). *Xanthoria monofolia* is a new host for *Didymocyrtis epiphyscia*.

Specimens examined. UKRAINE. Kherson region, Bilozers'kyi district, near Olexandrivka village, 46.69861°N, 32.12608°E, 40 m, on *Xanthoria parietina*, on *Quercus* bark, 11 Jan. 2018, V. Darmostuk & O. Khodosovtsev (KHER 11393); Holoprystans'kyi district, Black Sea Biosphere Reserve, Tendra Island, 46.24069°N, 31.63747°E, 1 m, on *X. monofolia*, on *Artemisia*, 5 Oct. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11313); *ibid.*, on *X. tendraensis*, on shells (KHER 11225); *ibid.*, 46.24069°N, 31.63747°E, 1 m, on *Physcia adscendens*, on *Artemisia*, 30 Apr. 2009, O. Khodosovtsev (KHER

7301); *ibid.*, 46.22828°N, 31.66758°E, 1 m, on *X. monofoliola*, on *Artemisia*, 6 Oct. 2017, O. Khodosovtsev & V. Darmostuk (KHER 12260); *ibid.*, 46.24055°N, 31.62792°E, 1 m, on *X. monofoliola*, on *Artemisia*, 5 Oct. 2017, V. Darmostuk & O. Khodosovtsev (KHER 12589); near Burkuty village, 46.38218°N, 32.81532°E, 32 m, on *X. parietina*, on *Quercus* bark, 20 May 2016, O. Khodosovtsev (KHER 9762); *ibid.*, 46.39543°N, 32.81579°E, 18 m, on *X. parietina*, on *Quercus* bark, 21 Nov. 2015, O. Khodosovtsev (KHER 9768); Nestruivka park, 46.43707°N, 32.23196°E, 1 m, on *X. parietina*, on *Fraxinus* bark, 18 Oct. 2018, V. Darmostuk (KHER 12163); Kalanchats'kyi district, Park near Khorly village, 46.0865°N, 33.30297°E, 5 m, on *X. parietina*, on *Populus* bark, 7 Aug. 2017, V. Darmostuk (KHER 11647); Park in Rozdolne village, 46.16513°N, 33.23149°E, 3 m, on *X. parietina*, on *Fraxinus* bark, 28 Nov. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11269); *ibid.*, 46.16691°N, 33.22837°E, 6 m, on *X. parietina*, on *Fraxinus* bark, 24 Oct. 2017, O. Khodosovtsev & V. Darmostuk (KHER 11272); Khersons'ka city council, Viriovychna ravine, 46.69857°N, 32.60583°E, 7 m, on *X. parietina*, on *Armeniaca* bark, 4 Oct. 2015, V. Darmostuk (KHER 9359); Oleshkivskyi district, near Burkuty village, 46.40074°N, 32.84532°E, 22 m, on *X. parietina*, on *Populus* bark, 8 Apr. 2008, O. Khodosovtsev (KHER 9339); near Sagy village, 46.61715°N, 32.82489°E, 14 m, on *X. parietina*, on plant debris, 8 Apr. 2016, V. Darmostuk (KHER 11080); Velykooleksandrivs'kyi district, Mala Olexandrivka village, 47.29158°N, 33.27681°E, 50 m, on *X. parietina*, on *Prunus* bark, 10 Mar. 2018, V. Darmostuk (KHER 11684); near Zaporizhzhia village, 47.2938°N, 33.22834°E, 25 m, on *X. parietina*, on *Ulmus* bark, 10 Mar. 2018, V. Darmostuk (KHER 11309); Mykolaiv region, Arbusyns'kyi district, near Kuripchynne village, 47.99213°N, 31.02179°E, 98 m, on *P. adscendens*, on *Prunus*, 1 Jul. 2020, V. Darmostuk 743 (herb. VD); Ochakivs'kyi district, near Pokrovske village, 46.52574°N, 31.64262°E, 2 m, on *X. parietina*, on *Populus* bark, 4 Oct. 2015, O. Khodosovtsev (KHER 9264); Pervomais'kyi district, near Romanova Balka village, 47.93663°N, 31.04437°E, 60 m, on *P. stellaris*, on *Prunus* twig, 5 Jul. 2020, V. Darmostuk 718 (herb. VD); Snihurivs'kyi district, near Halohanivka village, 46.92729°N, 32.85772°E, 31 m, on *Xanthoria parietina*, on *Ulmus* twig, 17 Apr. 2016, O. Khodosovtsev (KHER 9757a).

Didymocyrtis foliaceiphila (Diederich, Kocourk. & Etayo) Ertz & Diederich

Notes. Recently, *Didymocyrtis foliaceiphila* has been reported from Ternopil and Kharkiv regions on *Punctelia subrudecta* and *Cladonia arbuscula*, respectively (Darmostuk & Sira 2020; Darmostuk 2021a). Below are the first reports of the species for Dnipropetrovsk and Kherson regions.

Specimens examined. UKRAINE. Dnipropetrovsk region, Solonyans'kyi district, near Zvonetske village, 48.2505°N, 35.18381°E, 67 m, on *Physcia dimidiata*, on granite, 1 Jul. 2018, V. Darmostuk 405 (herb. VD); Kherson region, Bilozers'kyi district, near Tyahynka village, 46.76869°N, 33.03296°E, 31 m, on *Squamarina cartilaginea*, on limestone, 1 Jun. 2017, O. Khodosovtsev (KHER 11659).

Didymocyrtis ramalinae (Roberge ex Desm.) Ertz, Diederich & Hafellner

Notes. This species is common on *Ramalina polymorpha* in habitats with siliceous outcrops (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021). Infection by the

fungus frequently causes dark necrotic spots on the host thallus bearing numerous pycnidia.

Specimens examined (all on *Ramalina polymorpha*). UKRAINE. Dnipropetrovsk region, Kryvoriz'ka city council, Krasna ravine, 48.10362°N, 33.51197°E, 85 m, on siliceous rock, 10 Jul. 2018, V. Darmostuk (KHER 11720); Kryvoriz'kyi district, near Chkalivka village, 48.01722°N, 33.28354°E, 80 m, on granite, 11 Oct. 2008, O. Khodosovtsev, G. Naumovych & O. Smetana (KHER 9465); Solonyans'kyi district, near Zvonetske village, Regional Landscape Park Dniprovi Porohy, 48.2505°N, 35.18381°E, 67 m, on granite, 1 Jul. 2018, O. Khodosovtsev & V. Darmostuk 391 (KHER 12784; herb. VD); Mykolaiv region, Brats'kyi district, near Kryva Pustosh village, 47.92099°N, 31.68337°E, 122 m, on granite, 28 Jun. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10083); Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 47.9705°N, 31.03775°E, 44 m, on granite, 21 Sept. 2019, V. Darmostuk 290 (herb. VD); near Romanova Balka village, Loc. M0507.02, 47.93927°N, 31.04265°E, 54 m, on granite, 5 Jul. 2020, V. Darmostuk 745 (herb. VD); Zaporizhzhia region, Melitopol's'kyi district, near Myrne village, Kamyana Mogyla, 46.95028°N, 35.46935°E, 11 m, on sandstone, 4 Oct. 2007, O. Khodosovtsev & T. Zavyalova (KHER 4185); Pryazovs'kyi district, near Makivka village, 47.02092°N, 35.96836°E, 70 m, on granite, 4 Oct. 2007, O. Khodosovtsev & T. Zavyalova (KHER 4302).

Didymocyrtis trassii Suija, Darmostuk & Khodos.

Notes. This species is known so far only from psammophytic habitats of southern Ukraine, where it grows on *Cetraria aculeata* (Khodosovtsev et al. 2018a).

Specimens examined (all on *Cetraria aculeata*). UKRAINE. Kherson region, Holoprystans'kyi district, way between villages Burkuty and Promin, 46.36475°N, 32.77277°E, 32 m, on sand, 21 Nov. 2015, O. Khodosovtsev (KHER 9325, 9326, 9327); near Burkuty village, Chalbaska arena, 46.36747°N, 32.77491°E, 32 m, on sand, 8 Apr. 2008, O. Khodosovtsev (KHER 8734); *ibid.*, 46.39405°N, 32.80991°E, 20 m, on sand, 18 Nov. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10329, 10330, 10675); village of Gladkovka, 46.42063°N, 32.59411°E, 29 m, on sand, 28 Jun. 2017, O. Khodosovtsev (KHER 10672); near Ivanivka village, 46.41033°N, 32.0833°E, 5 m, on sand, 25 Jun. 2017, V. Darmostuk (KHER 10673); Oleshkivskyi district, Kozachelagerska arena, 46.61797°N, 32.97011°E, 16 m, on sand, 5 Apr. 2008, O. Khodosovtsev (KHER 3665).

Diplotomma parasiticum (B.de Lesd.) Diederich, Cl.Roux & Van Haluwyn

Notes. This lichenicolous *Diplotomma* species is growing on the apothecia of *Myriolecis albescens* and has been reported from a single locality in Ukraine (Kondratyuk et al. 2021).

Specimen examined. UKRAINE. Odesa region, Lymanskyi district, near Kairy village, 46.92698°N, 30.97667°E, 25 m, on *Myriolecis albescens*, on limestone, 5 Feb. 1996, O. Khodosovtsev (KHER 5316).

Endococcus fusiger Th. Fr. & Almq.

Notes. This species has been reported from a few localities in Mykolaiv and Zaporizhzhia regions of Ukraine (Darmostuk & Khodosovtsev 2017; Khodosovtsev et al. 2019b).

Specimens examined (all on *Rhizocarpon distinctum*). UKRAINE. Mykolaiv region, Novobuz'kyi district, near Rozanivka village, 47.77902°N, 32.38229°E, 60 m, on granite, 28 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10956); Voznesens'kyi district, near Aktove village, 47.70743°N, 31.47448°E, 38 m, on granite, 26 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10686).

Endococcus macrosporus (Hepp ex Arnold) Nyl.

Notes. *Endococcus macrosporus* has been reported on yellow *Rhizocarpon* spp. from a few localities in southern Ukraine (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021). The species is reported here as new to the Donetsk region.

Specimens examined. UKRAINE. Donetsk region, Nikolskyi district, near Nazariivka village, Nature Reserve 'Kamyani Mogyly', 47.30059°N, 37.0729°E, 170 m, on *Rhizocarpon geographicum*, on granite, 8 Jul. 2018, V. Darmostuk (KHER 11726); Mykolaiv region, Pervomais'kyi district, near Kuripchyne village, 47.99791°N, 31.01045°E, 80 m, *R. viridiatrum*, on granite, 1 Jul. 2020, V. Darmostuk 695 (herb. VD); Voznesens'kyi district, near Trykraty village, 47.70405°N, 31.43455°E, 53 m, on *R. geographicum*, on granite, 30 Apr. 2017, V. Darmostuk & O. Khodosovtsev (KHER 10704).

Endococcus rugulosus Nyl.

Notes. This species has been reported in Ukraine from various hosts, e.g., *Aspicilia* spp., *Circinaria* spp. and *Verrucaria* spp. (Fedorenko et al. 2007; Nadyeina 2009). We revised the specimens labeled as *Endococcus rugulosus* from southern Ukraine and accepted only those occurring on *Verrucariaceae* hosts following Sérusiaux et al. (1999).

Specimens examined (all on *Verrucaria nigrescens*). UKRAINE. Kherson region, Beryslavs'kyi district, near Burhunka village, 46.79179°N, 33.23083°E, 17 m, on limestone, 18 Jul. 2008, O. Khodosovtsev & L. Gavrylenko (KHER 7689, 11785); near Tyahynka village, 46.75802°N, 33.04715°E, 10 m, on limestone, 21 Aug. 1994, O. Khodosovtsev (KHER 804).

**Endococcus verrucosus* Hafellner

Ascomata perithecioid, globose, immersed in the host thallus, with the black, protruding ostiolar region, 5–7 per areole, 150–200 µm diam. Ascomatal wall pale brown, 20–30 µm thick at the base, distinctly thickened near the ostiole, composed of a few layers of flattered cells. Periphysoids hyaline, septate, 2–2.5 µm wide. Asci broadly clavate, 8-spored, (40.8–)42.2–56.4(–58.2) × (14.6–)15.4–17.6(–18.2) µm (n = 12). Ascospores 1-septate, brown, broadly ellipsoidal, with rounded to slightly pointed ends, not constricted at the septum, thin walled, surface minutely granulate, (12.8–)13.6–16.4(–17) × (7.2–)7.6–8.4(–9.0) µm (n = 30).

Notes. *Endococcus verrucosus* was described on *Circinaria caesiocinerea* agg. from Norway and subsequently reported from many European countries, as well as from Asia and North America (e.g., Hafellner 1994; Brackel 2014). Numerous published Ukrainian records of *Endococcus propinquus* and *E. rugulosus* on *Aspicilia* hosts likely belong to this species and require revision (Fedorenko et al. 2007; Nadyeina 2009).

Specimens examined. UKRAINE. Dnipropetrovsk region, Kryvoriz'kyi district, near Chkalovka village, right bank of the river Ingulets, 48.021°N, 33.29159°E, 64 m, on *Aspicilia* sp., on granite, 11 Oct. 2008, O. Khodosovtsev, G. Naumovych & O. Smetana (KHER 14888); near Pavlivka village, 47.98613°N, 33.01258°E, 73 m, on *Circinaria caesiocinerea*, on granite, 8 May 2019, V. Darmostuk 1015 (herb. VD); Solonyans'kyi district, near Zvonetske village, Regional Landscape Park Dniprovi Porohy, 48.25541°N, 35.17694°E, 67 m, on *Aspicilia* sp., on granite, 1 Jul. 2018, O. Khodosovtsev & V. Darmostuk (KHER 12794, 12795); ibid., 48.25051°N, 35.18381°E, 65 m, on *Aspicilia* sp., on granite, 1 Jul. 2018, V. Darmostuk 400a (herb. VD); Donetsk region, Donetsk region, Nikolskyi district, near Vesele village, Polovetskyi Step Regional Landscape Park, 47.16654°N, 36.93222°E, 76 m, on *Aspiciliella intermutans*, on granite, 29 Apr. 2013, V. Darmostuk & O. Khodosovtsev (KHER 9408); near Nazariivka village, Nature Reserve 'Kamyani Mogyly', 47.30585°N, 37.0742°E, 190 m, on *Aspicilia cinerea*, on granite, 8 Jul. 2018, V. Darmostuk (KHER 11913); Mykolaiv region, Novobuz'kyi district, near Rozanivka village, 47.79661°N, 32.3963°E, 55 m, on *A. intermutans*, on granite, 28 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10978); Pervomais'kyi district, Buzky Gard National Nature Park, village Lviv, 47.88979°N, 31.09966°E, 56 m, on *A. intermutans*, on granite, 5 Jul. 2020, O. Khodosovtsev (KHER 14055); Yelanets'kyi district, near Vodiano-Loryno village, 47.59897°N, 32.11468°E, 56 m, on *Aspicilia* sp., on granite, 15 Jul. 2009, T.O. Boiko & O. Khodosovtsev (KHER 9655); Zaporizhzhia region, Melitopol's'kyi district, near Myrne village, Kamyana Mogyla, 46.94979°N, 35.46886°E, 14 m, on *A. cinerea*, on granite, 4 Oct. 2007, O. Khodosovtsev & T. Zavyalova (KHER 9495); Pryazovs'kyi district, near Makivka village, 47.02069°N, 35.96938°E, 70 m, on *Aspicilia* sp., on granite, 8 Oct. 2009, O. Khodosovtsev & T. Zavyalova (KHER 9656).

Epicladonia sandstedei (Zopf) D. Hawksw.

Notes. This gall-forming fungus has been reported from numerous localities in Ukraine (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined. UKRAINE. Kherson region, Velykool-eksandrivs'kyi district, near Mala Olexandrivka village, Rusova Ravine, 47.27084°N, 33.23867°E, 44 m, on *Cladonia rangiformis*, on soil, 10 Jan. 2016, V. Darmostuk (KHER 9512); Vysokopil's'kyi district, near Nataliino village, 47.45837°N, 33.27092°E, 70 m, on *C. furcata*, on soil, 9 May 2019, V. Darmostuk 456 (herb. VD).

Epicladonia stenospora (Harm.) D. Hawksw.

Notes. This is a rarely reported, but locally abundant species in southern Ukraine (Darmostuk & Khodosovtsev 2017). It is reported here as new to the Kherson region.

Specimens examined (all on *Cladonia foliacea*). UKRAINE. Kherson region, Holoprystans'kyi district, near Burkuty village, 46.36579°N, 32.82613°E, 27 m, on sand, 5 Jan. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11165); Oleshkivskyi district, near Radensk village, 46.58307°N, 32.86691°E, 15 m, on sand, 20 Nov. 2016, V. Darmostuk (KHER 10331, 10335, 10336); near Sagy village, 46.62317°N, 32.83466°E, 13 m, on sand, 4 Oct. 2016, G. Naumovych (KHER 10156); Velykool-eksandrivs'kyi district, near Mala Olexandrivka village, Rusova Ravine, 47.26944°N, 33.23822°E, 36 m, on soil, 12 Apr. 2021, V. Darmostuk (KHER 14786).

Epicoccum nigrum Link.

Notes. This is a saprotrophic fungus, which has numerous reports on lichens (Diederich et al. 2018).

Specimens examined. UKRAINE. Kherson region, Velykoolleksandrivs'kyi district, near Velyka Olexandrivka village, 47.31745°N, 33.24985°E, 25 m, on *Xanthoria parietina*, on *Fraxinus* bark, 21 Oct. 2017, V. Darmostuk (KHER 10935); Vysokopil's'kyi district, near Nataliino village, 47.45837°N, 33.27092°E, 70 m, on *Xanthoparmelia camtschadalis*, on soil, 9 May 2019, V. Darmostuk 455a (herb. VD).

Epithamnolia khersonica Darmostuk & Suija

Notes. This recently described species is currently known only from the type locality in southern Ukraine and from Canada (Diederich et al. 2024). The previous report of *Epithamnolia rangiferina* from Ukraine actually belongs to this species (Darmostuk & Khodosovtsev 2019).

Specimen examined. UKRAINE. Kherson region, Oleshkivskiy district, near Nechaevo village, 46.58251°N, 32.76927°E, 9 m, on *Cladonia foliacea*, on sand, 12 Apr. 2018, V. Darmostuk (KHER 11639a).

Epithamnolia xanthoriae (Brackel) Diederich & Suija (Fig. 5B)

Notes. This species was recently reported from Ternopil and Sumy regions (Darmostuk & Sira 2022; Darmostuk et al. 2023). It is reported here as the new to the Kherson region. *Xanthoparmelia camtschadalis* is a new host for *Epithamnolia xanthoriae*.

Specimen examined. UKRAINE. Kherson region, Vysokopil's'kyi district, near Nataliino village, 47.45837°N, 33.27092°E, 70 m, on *Xanthoparmelia camtschadalis*, on soil, 9 May 2019, V. Darmostuk 455 (herb. VD).

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

Notes. This is a common species that has been reported from numerous corticolous lichen hosts (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021). However, the species has never been reported from Luhansk and Odesa regions.

Specimen examined. UKRAINE. Kharkiv region, Balakliiskiy district, Balakliia town, 49.45671°N, 36.84524°E, 89 m, on *Physcia stellaris*, on *Tilia* bark, 14 Feb. 2017, A. Gromakova & N. Baryshnikova (CWU 202612); Kherson region, Holoprystans'kyi district, Kardashynka village, 46.5573°N, 32.59294°E, 5 m, on *P. adscendens*, on *Armeniaca* bark, 6 Jan. 2015, O. Khodosovtsev (KHER 6325, 8617); near Burkuty village, 46.4027°N, 32.80755°E, 19 m, on *P. tenella*, on *Quercus* bark, 10 Nov. 2007, O. Khodosovtsev (KHER 13990); Beryslavs'kyi district, near Burhunka village, Burhunska ravine, 46.79769°N, 33.22003°E, 18 m, on *P. stellaris*, on *Armeniaca* bark, 18 Jul. 2008, O. Khodosovtsev & G. Naumovych (KHER 8472, 8473); Oleshkivskiy district, near Kostogryzovo village, 46.46053°N, 32.80199°E, 16 m, on *Polycauliona polycarpa*, on *Quercus* bark, 21 Nov. 2015, V. Darmostuk & O. Khodosovtsev (KHER 9533); Skadovs'kyi district, near Promin village, 46.34146°N, 32.80696°E, 33 m, on *Xanthoria parietina*, on *Quercus* bark, 20 May 2016, V. Darmostuk & O. Khodosovtsev (KHER 9617, 9942); Velykooleksandrivs'kyi district, Mala Olexandrivka

village, 47.29255°N, 33.27324°E, 30 m, on *X. parietina*, on *Juglans* bark, 2 Jul. 2015, V. Darmostuk (KHER 9484); *ibid.*, 47.29791°N, 33.25615°E, 39 m, on *P. adscendens*, on *Malus* bark, 8 Dec. 2012, V. Darmostuk (KHER 9027); Luhansk region, Milovs'kyi district, near Kyrnosove village, 49.22062°N, 39.96939°E, 84 m, on *P. aipolia*, on *Quercus* bark, 16 Oct. 2022, O. Liubka (CWU 203608); Mykolaiv region, Arbuszys'kyi district, near Kuripchyne village, 47.99213°N, 31.02179°E, 98 m, on *P. stellaris*, on *Prunus* bark, 1 Jul. 2020, V. Darmostuk 748 (herb. VD); Brats'kyi district, near Vysoka hora village, Dubova balka, 47.89088°N, 31.61359°E, 92 m, on *P. stellaris*, on *Fraxinus* bark, 21 Oct. 2020, V. Darmostuk 904 (herb. VD); Berezans'kyi district, near Tashyne village, 46.88322°N, 31.18924°E, 64 m, on *Anaptychia ciliaris*, on *Robinia* bark, 3 Jul. 2019, V. Darmostuk 160 (herb. VD); Novoodes'kyi district, Nova Odesa town, 47.3167°N, 31.78122°E, 38 m, on *X. parietina*, on *Malus* bark, 25 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 11749); Odesa region, Bolgrad district, Vesela Dolyna village, 46.23736°N, 29.29189°E, 144 m, on *X. parietina*, on *Fraxinus pennsylvanica*, 17 Oct. 2025, O. Khodosovtsev 16679 (KW-L76320).

Fusariella hughesii Chab.-Frydm.

Notes. This species was recently reported in Ukraine on plant debris from the National Nature Park Dvorichansky in Kharkiv region (Crous et al. 2023). The examined specimen is characterized by white loose colonia on the host thallus, simple, subcylindrical conidiogenous cells, 20–35 × 2.5–3 µm, and hyaline, 3-septate, subcylindrical, not constricted at the septum conidia (11.2)15.8–18.6(–20.4) × (2.4–)2.6–3.0(–3.6) µm (n = 25).

Based on a megablast search of NCBI's GenBank nucleotide database, the closest hit using the ITS sequence was two specimens of *Fusariella hughesii* strain CN136F9 (GenBank: OP596144; Identities = 514/514 (100%), Gaps = 0/514 (0%) and culture CBS 149074 (GenBank: OQ990108; Identities = 512/514 (99%), Gaps = 0/514 (0%)). This record is the first report of this species on a lichen host.

Specimen examined. UKRAINE. Kherson region, Novotroits'kyi district, Churiuk Island, 46.08534°N, 34.26426°E, 1 m, on *Xanthoria monofoliola*, on plant debris, 6 Oct. 2018, V. Darmostuk (KHER 12160).

**Gonatophragmium lichenophilum* F. Berger & U. Braun. (Fig. 5A)

Notes. This species was described on *Xanthoria parietina*, but later also reported from *Physcia* spp. (Berger et al. 2015; Diederich et al. 2024). *Xanthomendoza huculica* is a new host for *Gonatophragmium lichenophilum*.

Specimens examined (all on *Xanthoria parietina*, unless otherwise indicated). UKRAINE. Kherson region, Holoprystans'kyi district, near Burkuty village, 46.39044°N, 32.82756, 20 m, on *Populus* bark, 5 Dec. 2015, O. Khodosovtsev (KHER 9758); near Promin village, 46.34542°N, 32.77891°E, 34 m, on *Populus* bark, 05 Dec. 2015, O. Khodosovtsev & Yu. Khodosovtseva (KHER 9623, 9627); Oleshkivskiy district, near Promin village, 46.34456°N, 32.84325°E, 24 m, on *Populus* bark, 21 Nov. 2015, A. Khodosovtsev, V. Darmostuk, G. Naumovych, V. Klymenko, N. Maliuga (KHER 9615); Mykolaiv region, Pervomais'kyi district, near Kuripchyne village, 48.00402°N, 31.0243°E, 118 m, on *Quercus* bark, 1 Jul. 2020, V. Darmostuk 727 (herb. VD);

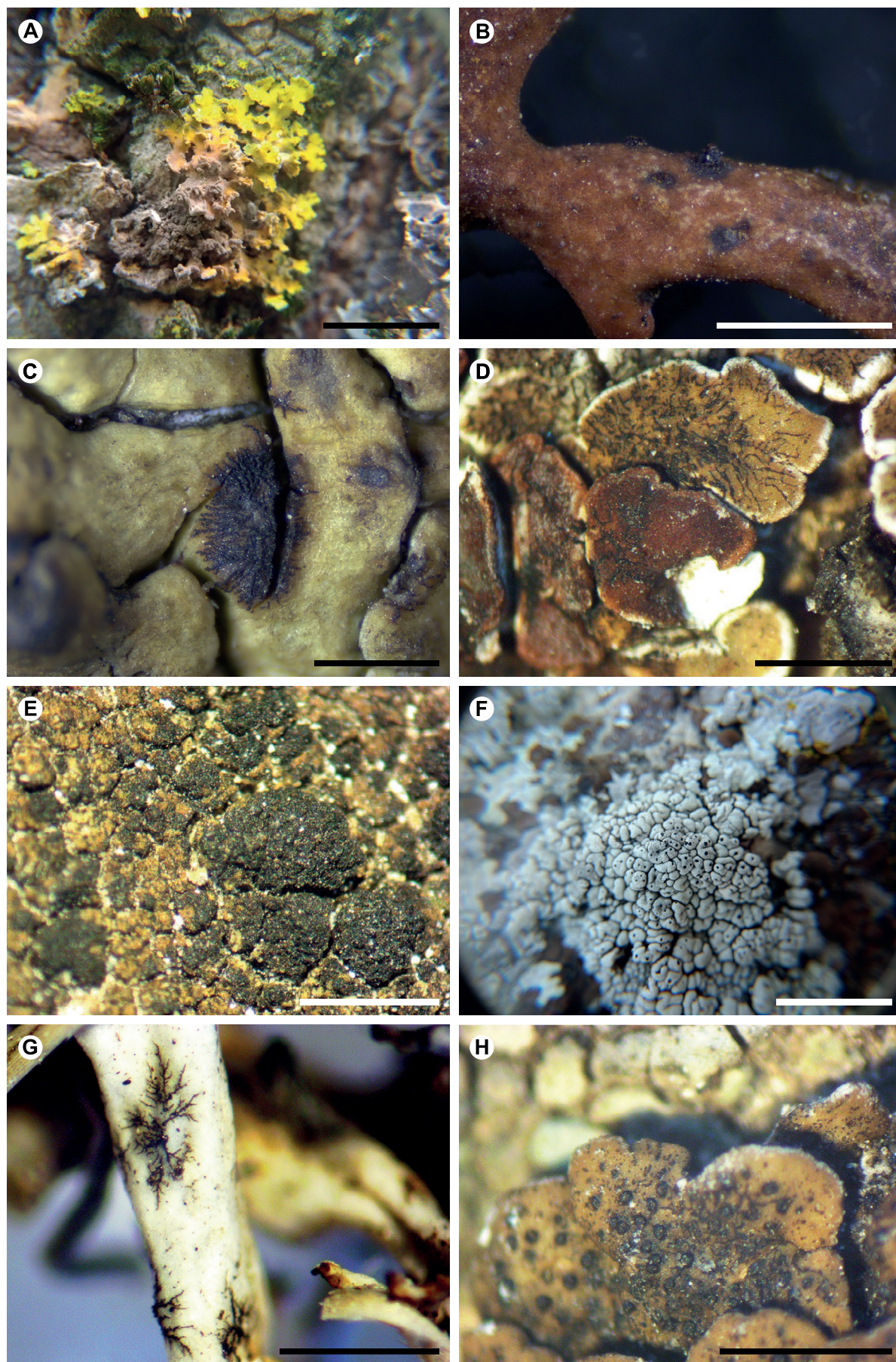


Figure 5. Selected lichenicolous fungi: A – *Gonatophragmium lichenophilum* (KHER 10547); B – *Epithamnolia xanthoriae* (Darmostuk 455); C – *Lichenostigma elongatum* (Darmostuk 392); D – *Lichenostigma svandae* (Darmostuk 996); E – *Opegrapha opaca* (Darmostuk 1117a); F – *Rosellinula frustulosae* (Darmostuk 1000); G – *Sphaerellothecium aculeatae* (Darmostuk 716); H – *Stigmidium rouxianum* (Darmostuk 995). Scales: A=1 cm; B–D, G, H=0.5 mm; E=1 mm; F=0.5 cm.

ibid., on *Xanthomendoza huculica*, 1 Jul. 2020, V. Darmostuk 1173 (herb. VD); Voznesens'kyi district, near Trykraty village, 47.70495°N, 31.4113°E, 73 m, on *Fraxinus* bark, 21 Oct. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10547); Odesa region, Bolgrad district, Vesela Dolyna village, 46.23736°N, 29.29189°E, 144 m, on *Physcia stellaris*, on *Fraxinus pennsylvanica*, 17 Oct. 2025, O. Khodosovtsev 16672 (KW-L76317).

Gyalectiphila achromatica (B. Sutton) Cl. Roux & Diederich

Notes. This species has been reported on sterile crustose lichen with *Trentepohlia* from a single locality in Ukraine (Darmostuk et al. 2018).

Gyalectiphila intermedia (Cl. Roux & Etayo) Cl. Roux & Diederich

Notes. This fungus is associated with *Pachyphiale* species and has been reported from numerous localities in Ukraine (Khodosovtsev & Darmostuk 2017b; Darmostuk & Khodosovtsev 2021). However, the species may still be overlooked due to its inconspicuous colonies on the host.

Specimens examined (all on *Pachyphiale carneola*). UKRAINE. Kherson region, Chaplyns'kyi district, Askania Nova Biosphere Reserve, arboretum, 46.45865°N, 33.87038°E, 34 m, on *Fraxinus* bark, 1 Dec. 2015, O. Khodosovtsev (KHER 9378.a); Holoprystans'kyi district, near Burkuty village, 46.39501°N, 32.8115°E, 22 m, on *Quercus* bark, 21 Oct. 2015, O. Khodosovtsev & V. Darmostuk (KHER 9568.a); Kalanchats'kyi district, park near Khorly village, 46.08952°N, 33.30408°E, 4 m, on *Fraxinus* bark, 30 Jun. 2017, O. Khodosovtsev & V. Darmostuk (KHER 11649, 10755); Mykolaiv region, Brats'kyi district, near Vysoka hora village, Dubova balka, 47.89088°N, 31.61359°E, 92 m, on *Acer* bark, 21 Oct. 2020, V. Darmostuk 899 (herb. VD); Kryvoozers'kyi district, near Tryduby village, 48.08415°N, 30.39536°E, 171 m, on *Quercus* bark, 3 Jul. 2020, V. Darmostuk 717 (herb. VD); Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 48.00309°N, 30.97984°E, 70 m, on *Fraxinus* bark, 21 Sept. 2019, V. Darmostuk 239 (herb. VD).

Homostegia piggotii (Berk. & Broome) P. Karst.

Notes. This species is rarely reported in Ukraine (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021). It is newly reported for the Zaporizhzhia region.

Specimens examined (all on *Parmelia sulcata*). UKRAINE. Kherson region, Holoprystans'kyi district, near Burkuty village, 46.39426°N, 32.82554°E, 18 m, on *Fraxinus*, 22 Jul. 1994, O. Khodosovtsev (KHER 9424); ibid., 46.3984°N, 32.83377°E, 20 m, on *Quercus* bark, 25 Dec. 2014, V. Darmostuk & O. Khodosovtsev (KHER 8580); Velykooleksandrivs'kyi district, near Mala Olexandrivka village, Rusova Ravine, 47.27325°N, 33.23132°E, 31 m, on *Robinia* bark, 7 Mar. 2015, V. Darmostuk (KHER 9242); Nedohirskiy forest, 47.31884°N, 33.24745°E, 23 m, on *Quercus* bark, 7 Nov. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11320); Zaporizhzhia region, Yakymivs'kyi district, Altayr forest, 46.61216°N, 35.27845°E, 23 m, on *Quercus* bark, 22 Oct. 2008, T. Zavyalova (KHER 4325).

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

Notes. This is widespread species in Ukraine (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined (all on *Physcia adscendens*, unless otherwise indicated). UKRAINE. Kherson region, Holoprystans'kyi district, near Burkuty village, 46.39511°N, 32.82545°E, 19 m, on *Quercus* bark, 21 Nov. 2015, V. Darmostuk & O. Khodosovtsev (KHER 9550, 9574); Velykooleksandrivs'kyi district, near Mala Olexandrivka village, 47.30172°N, 33.25969°E, 28 m, on *P. tenella*, on *Pinus* twig, 12 Oct. 2019, V. Darmostuk 663 & O. Sira (herb. VD); Landscape Reserve 'Ingulets', 47.2978°N, 33.2967°E, 40 m, 10 Apr. 2021, V. Darmostuk 1046 (herb. VD); near Zaporizhzhia village, 47.27454°N, 33.22879°E, 30 m, on *Quercus* bark, 10 Jan. 2016, V. Darmostuk (KHER 9652); Mykolaiv region, Voznesens'kyi district, near Trykraty village, 47.70528°N, 31.41023°E, 72 m, on *Quercus* bark, 21 Oct. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10319, 10576); Odesa region, Bolgrad district, Vesela Dolyna village, 46.23736°N, 29.29189°E, 144 m, on *Physcia adscendens*, on *Fraxinus pennsylvanica*, 17 Oct. 2025, O. Khodosovtsev (non collected).

Intralichen baccisporus D. Hawksw. & M.S. Cole s.lat.

Notes. *Intralichen baccisporus* represents a complex of scarcely distinguishable hyphomycetous fungi and clearly requires critical revision. Diederich et al. (2024) demonstrated that this name can be confidently applied to specimens occurring on *Xanthomendoza trachyphylla* and may also be applicable to fungi associated with members of the *Teloschistaceae*. In Ukraine, this name has been applied to lichenicolous fungi occurring on various hosts and therefore, we refer to these specimens here as *Intralichen baccisporus* s.lat.

Specimens examined. UKRAINE. Dnipropetrovsk region, Kryvoriz'ka city council, near Ingulets river, 47.89484°N, 33.34777°E, 45 m, on *Acarospora insolata*, on siliceous rock, 11 Oct. 2008, O. Khodosovtsev, G. Naumovych & O. Smetana (KHER 9456, 9457, 9458); Kharkiv region, Balakliiskiy district, near Protopopivka village, 49.27565°N, 36.91661°E, 90 m, on *Calogaya decipiens*, on limestone, 26 Aug. 2013, A. Gromakova (CWU 202906); Kherson region, Beryslavs'kyi district, near Burhunka village, 46.80003°N, 33.21827°E, 18 m, on *Xanthocarpia crenulatella*, on limestone, 18 Jul. 2008, O. Khodosovtsev & G. Naumovych (KHER 7735); near Kamyanska Balka village, 47.05098°N, 33.579°E, 33 m, on *Variospora aurantia*, on limestone, 2 Jun. 2017, V. Darmostuk (KHER 12585); near Mykolaivka village, 46.78366°N, 33.23938°E, 13 m, on *Athallia inconnexa*, on limestone, 4 Jun. 2017, V. Darmostuk (KHER 12174); near Tiahynka village, 46.76393°N, 33.04552°E, 10 m, on *Psorotichia montinii*, on limestone, 5 Mar. 2021, V. Darmostuk 992a (herb. VD); near Shyroka Balka village, 46.57747°N, 32.18167°E, 26 m, on *A. skii*, on plant debris, 1 Apr. 2017, V. Darmostuk (KHER 12195); Chaplyns'kyi district, near Pershokonstantynivka village, 46.23916°N, 33.7195°E, 6 m, on *Myriolecis hagenii*, on *Halocneum* twig, 12 Jun. 2008, O. Khodosovtsev (KHER 4881); Heniches'kyi district, Kuik-Tuk Island, 46.12048°N, 34.45021°E, 5 m, on *C. saxicola*, on concrete, 6 Oct. 2018, V. Darmostuk (KHER 12122); Holoprystans'kyi district, Tendra Island, 46.22737°N, 31.67609°E, 2 m, on *M. albescens*, on concrete, 6 Oct. 2017, V. Darmostuk (KHER 12162); Novotroits'kyi district, Churiuk Island, 46.13095°N, 34.26931°E, 2 m, on *Rehmanniella syvashica*, on *Halocneum* twig, 6 Oct. 2018, V. Darmostuk (KHER 12115); Khersons'ka city council, near Viriovchyna river, 46.69531°N, 32.59698°E, 13 m, on *X. crenulatella*, on limestone, 20 Sep. 2005, O. Khodosovtsev (KHER 3177); Velykooleksandrivs'kyi district, near Kalinindorf station, 47.1634°N, 32.95275°E, 47 m, on *X. crenulatella*, on limestone, 18 Mar. 1993, O. Khodosovtsev

(KHER 9650); near Mala Olexandrivka village, 47.29293°N, 33.27331°E, 30 m, on *A. cervina*, on limestone, 12 Oct. 2008, O. Khodosovtsev & G. Naumovych (KHER 9462); Mykolaiv region, Berezans'kyi district, Tylihul'skyi estuary, 46.66027°N, 31.19719°E, 1 m, on *X. crenulatella*, on limestone, 2 May 1996, O. Khodosovtsev (KHER 9849); Voznesens'kyi district, near Aktove village, 47.7107°N, 31.46607°E, 56 m, on *Lecanora* sp., on granite, 26 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11184); Yelanets'kyi district, near Uralske village, 47.58758°N, 32.02048°E, 58 m, on *Lecania turicensis*, on limestone, 1 Dec. 2007, O. Khodosovtsev & T. Boiko (KHER 7851); Snihurivs'kyi district, near Evgenivka village, 47.10188°N, 32.91029°E, 5 m, on *X. crenulatella*, on limestone, 25 Sept. 2008, O. Khodosovtsev, G. Naumovych, I. Moysiienko, O. Lytvynenko (KHER 9448); near Ivano-Kepino village, 47.03093°N, 32.8177°E, 30 m, on *C. saxicola*, on limestone, 2 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 12474); Zaporizhzhia region, Melitopol's'kyi district, near Troitske village, Troitska ravine, 47.06738°N, 35.40705°E, 80 m, on *Caloplaca* sp., on limestone, 23 Oct. 2008, O. Khodosovtsev & T. Zavyalova (KHER 1466); Tokmats'kyi district, near Udar'nyk village, 47.05019°N, 35.84297°E, 48 m, on *Bryostigma molendoi*, on limestone, 8 Aug. 2010, T. Zavyalova (KHER 6298a).

Intralichen lichenicola (M.S. Christ. & D. Hawksw.) D. Hawksw. & M.S. Cole

Notes. This is a common intrahymenial parasite on *Candelariella* spp. The name has been applied to species occurring on various hosts, but as suggested by Diederich (2021), records from other hosts may represent distinct, though similar, species.

Specimens examined. UKRAINE. Kharkiv region, Balaklii'skyi district, near Protopenivka village, 49.25407°N, 36.90435°E, 90 m, on *Candelariella aurella*, on limestone, 14 May 2014, A. Gromakova (CWU 202939); Kherson region, Bilozers'kyi district, near Stanislav village, 46.5886°N, 32.12445°E, 22 m, on *C. aurella*, on *Ephedra* twig, 12 Aug. 2004, O. Khodosovtsev (KHER 3118); Chaplins'kyi district, Askania-Nova, arboretum, 46.45615°N, 33.87744°E, 33 m, on *C. aurella*, on limestone, 16 Jan. 2015, O. Khodosovtsev (KHER 8531); Luhansk region, Antratsyiv's'kyi district, near Malomykolaivka village, 48.32059°N, 39.00378°E, 172 m, on *C. vitellina*, on siliceous stone, 6 May 2005, O. Nadyeina (KW); Lutuhyn's'kyi district, near Volnukhine village, 48.35405°N, 39.28156°E, 148 m, on *C. vitellina*, on siliceous stone, 6 May 2005, O. Nadyeina (KW); Sverdlov's'kyi district, near Provallia village, 48.15105°N, 39.84104°E, 145 m, on *C. vitellina*, on siliceous stone, 23 Jul. 2005, O. Nadyeina (KW); Mykolaiv region, Ochakiv's'kyi district, Berezan island, 46.60157°N, 31.41048°E, 4 m, on *C. aurella*, on concrete, 20 Jul. 2018, O. Khodosovtsev & V. Darmostuk (KHER 2954); Novoodes'kyi district, near Novomykolaivka village, 47.43525°N, 31.71196°E, 36 m, on *C. vitellina*, on granite, 25 Nov. 2008, T. Boiko (KHER 7852); Voznesens'kyi district, near Aktove village, Aktivskyi canyon, 47.69487°N, 31.4396°E, 42 m, on *C. vitellina*, on granite, 1 May 2016, O. Khodosovtsev & V. Darmostuk (KHER 9727); Yelanets'kyi district, near Uralske village, 47.54522°N, 32.03848°E, 40 m, on *C. aurella*, on limestone, 9 May 2005, T. Boiko (KHER 9651, 9654); Zaporizhzhia region, Melitopol's'kyi district, near Zarichne village, 46.99538°N, 35.47795°E, 18 m, on *C. aurella*, on granite, 2 Oct. 2009, T. Zavyalova & O. Khodosovtsev (KHER 4157).

Katherinomyces cetrariae Khodos.

Notes. This species was originally described from Ukraine on *Cetraria aculeata*, but was later reported from numerous unrelated host species (Khodosovtsev et al. 2016a; Diederich et al. 2024).

Specimens examined. UKRAINE. Kherson region, Holoprystans'kyi district, village Burkuty, 46.36747°N, 32.7749°E, 32 m, on *Cetraria aculeata*, on sand, 9 Apr. 2008, O. Khodosovtsev (KHER 5461); Zaporizhzhia region, Chernihiv's'kyi district, near Kamianka village, 47.23654°N, 36.02812°E, 96 m, on *Lecidea fuscoatra*, on granite, 19 Jul. 1995, A.V. Yena (KHER 6387); near Novopoltavka village, 47.27076°N, 36.26472°E, 190 m, on *L. fuscoatra*, on granite, 2 Oct. 2007, T. Zavyalova & O. Khodosovtsev (KHER 4363); ibid., 47.26889°N, 36.26331°E, 190 m, on *L. fuscoatra*, on granite, 2 Oct. 2007, T. Zavyalova & O. Khodosovtsev (KHER 4401).

Laetisaria lichenicola Diederich, Lawrey & Van den Broeck

Notes. This species has been reported from numerous localities in southern Ukraine (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021). It is reported for the first time from Luhansk and Odesa regions.

Specimens examined (all on *Physcia adscendens*). UKRAINE. Kherson region, Bilozers'kyi district, near Mykilske village, 46.73453°N, 32.85849°E, 33 m, on *Robinia* bark, 31 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11597); near Sofiivka village, 46.59787°N, 32.24227°E, 30 m, on *Robinia* bark, 14 Dec. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10318); Holoprystans'kyi district, Black Sea Biosphere Reserve, Solonoozerny, 46.45745°N, 31.99747°E, 1m, on *Quercus* bark, 8 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10906); near Burkuty village, 46.39441°N, 32.80877°E, 21 m, on *Quercus* bark, 22 Apr. 2021, V. Darmostuk (KHER 14842); Kalanchats'kyi district, park near Khorly village, 46.08835°N, 33.30446°E, 5 m, on *Fraxinus* bark, 30 Jun. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11049); park near Rozdolne village, 46.16345°N, 33.22739°E, 14 m, on *Fraxinus* bark, 30 Jun. 2017, V. Darmostuk & O. Khodosovtsev (KHER 10741); Velykooleksandrivs'kyi district, near Mala Olexandrivka village, 47.29413°N, 33.26595°E, 12 m, on *Populus* bark, 27 Nov. 2016, V. Darmostuk (KHER 10313); Luhansk region, Milov's'kyi district, near Kyrnosove village, 49.23738°N, 39.97014°E, 112 m, on *Quercus* bark, 16 Oct. 2022, O. Liubka (CWU 203634); Mykolaiv region, Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 47.99527°N, 31.00167°E, 51 m, on *Prunus* bark, 21 Sept. 2019, V. Darmostuk 277 (herb. VD); near Romanova Balka village, 47.93663°N, 31.04437°E, 60 m, on *Prunus* bark, 5 Jul. 2020, V. Darmostuk 761 (herb. VD); Odesa region, Bolgrad district, Vesela Dolyna village, 46.23736°N, 29.29189°E, 144 m, on *Fraxinus pennsylvanica*, 17 Oct 2025, O. Khodosovtsev 16676 (KW-L76323).

Lawalreea lecanorae Diederich

Notes. This species has been reported only from a few localities in Ukraine (Darmostuk & Khodosovtsev 2019; Darmostuk et al. 2021).

Specimens examined. UKRAINE. Kherson region, Bilozers'kyi district, near Stanislav village, 46.57607°N, 32.18132°E, 24 m, on *Myriolecis hagenii*, on *Ephedra* twig, 30 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 11318); Kalanchats'kyi district, Khorly village, 46.07743°N, 33.29408°E,

10 m, on *M. hagenii*, on *Populus* bark, 8 Aug. 2017, V. Darmostuk (KHER 11889.a); *ibid.*, 46.0771°N, 33.29538°E, 10 m, on *M. hagenii*, on *Populus* bark, 8 Aug. 2017, O. Khodosovtsev & V. Darmostuk (KHER 11316); Zaporizhzhia region, Melitopol's'kyi district, near Terpinnya village, 46.95033°N, 35.46956°E, 12 m, on *M. dispersa*, on granite, 28 Jun. 2018, V. Darmostuk, O. Khodosovtsev, Y. Didukh (KHER 14709).

Lichenochora caloplacae Zhurb.

Notes. This species has been reported from a few localities in southern Ukraine (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined. UKRAINE. Dnipropetrovsk region, Solonyans'kyi district, near Zvonetske village, 48.24575°N, 35.18471°E, 54 m, on *Kuettlingeria xerica*, on granite, 10 Jul. 2018, V. Darmostuk (KHER 12138); Kherson region, Bilozers'kyi district, near Sofiivka village, 46.59736°N, 32.24336°E, 28 m, on *Athallia skii*, on plant debris, 14 Sept. 2009, O. Khodosovtsev & L. Gavrylenko (KHER 7574); *ibid.*, 46.59736°N, 32.24336°E, 28 m, on *A. skii*, on plant debris, 14 Dec. 2017, O. Khodosovtsev & V. Darmostuk (KHER 10326); Holoprysytans'kyi district, Black Sea Biosphere Reserve, Tendra Island, 46.23187°N, 31.65066°E, 1 m, on *Caloplaca sterilis*, on wood, 5 Oct. 2017, O. Khodosovtsev & V. Darmostuk (KHER 12215); Mykolaiv region, Novoodes'kyi district, near Mykhailivka village, 47.413°N, 31.61226°E, 28 m, on *Caloplaca raesaenii*, on plant debris, 26 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11035); Ochakiv's'kyi district, Berezan island, 46.60103°N, 31.41069°E, 5 m, on *A. skii*, on plant debris, 20 Jul. 2018, V. Darmostuk (KHER 11676).

Lichenochora hypanica S.Y. Kondr., Lökös & Hur

Notes. This species was originally described from the Mykolaiv region (Kondratyuk et al. 2014), with subsequent records from the Kharkiv region (Gromakova 2018). Fernández-Brime et al. (2020) suggested that *Lichenochora hypanica* is a synonym of *Arthopyrenia symbiotica* (Nyl.) Zahlbr., but further studies are required to confirm this conclusion.

Specimens examined. UKRAINE. Kharkiv region, Dvorychans'kyi district, near Kamianka village, 49.97483°N, 37.85034°E, 94 m, on *Endocarpon pusillum*, on chalk soil, 21 Aug. 2012, A. Gromakova (CWU 202613); Mykolaiv region, Pervomais'kyi district, near Lviv village, 47.89548°N, 31.09788°E, 40 m, on *E. psorodeum*, on granite, 5 Jul. 2020, V. Darmostuk 726 (herb. VD); Voznesens'kyi district, near Aktove village, 47.70533°N, 31.47463°E, 45 m, on *E. psorodeum*, on granite, 26 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11183).

Lichenochora obscuroides (Linds.) Triebel & Rambold

Notes. This species is widespread in Ukraine, but not frequently reported from the steppe zone (e.g., Kondratyuk et al. 2021).

Specimens examined (all on *Phaeophyscia orbicularis*). UKRAINE. Dnipropetrovsk region, Novomoskovs'kyi district, near Andriivka village, Samarskyi bir, 48.7638°N, 35.48565°E, 80 m, on *Populus* bark, 9 Jul. 2018, V. Darmostuk (KHER 11718); Kherson region, Velykooleksandrivs'kyi district, near Zaporizhzhya village, Popova Yama Landmark, 47.29148°N, 33.23829°E, 18 m, on *Ulmus* bark, 11 Apr. 2021, V. Darmostuk (KHER 14723); Mykolaiv region, Brats'kyi district, near Vysoka

hora village, Dubova balka, 47.89088°N, 31.61359°E, 92 m, on *Fraxinus* bark, 21 Oct. 2020, V. Darmostuk 902 (herb. VD); 47.88661°N, 31.61099°E, 90 m, on *Acer* bark, 21 Oct. 2020, O. Khodosovtsev, V. Darmostuk & V. Klymenko (KHER 14100); Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 48.00309°N, 30.97984°E, 54 m, on *Acer* bark, 21 Sept. 2019, V. Darmostuk 263 (herb. VD); Voznesens'kyi district, Ratsynska Dacha, 47.61628°N, 31.55731°E, 118 m, on *Fraxinus* bark, 5 May 2020, O. Khodosovtsev (KHER 13518).

Lichenochora wassereri S.Y. Kondr.

Notes. This species is known on *Xanthocarpia lactea* from a single locality in Ukraine (Khodosovtsev & Darmostuk 2016a). Previously, *Lichenochora wassereri* has been reported from Sweden, Israel (Navrotskaya et al. 1996) and Russia (Urbanavichus & Urbanavichene 2014).

Lichenochora weillii (Werner) Hafellner & R. Sant.

Notes. This is a not rare species in southern Ukraine (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined (all on *Physconia grisea*). UKRAINE. Dnipropetrovsk region, Solonyans'kyi district, Bashmachka ravine, 48.19834°N, 35.00957°E, 130 m, on *Quercus* bark, 1 Jul. 2018, V. Darmostuk 380 (herb. VD); Kherson region, Holoprysytans'kyi district, near Burkuty village, 46.39441°N, 32.80877°E, 21 m, on *Quercus* bark, 22 Apr. 2021, V. Darmostuk (KHER 14840); *ibid.*, 46.39685°N, 32.83366°E, 19 m, on *Fraxinus* bark, 18 Nov. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10311); Novovorontsovs'kyi district, Novovorontsovka city, 47.50872°N, 33.92347°E, 22 m, on *Fraxinus* bark, 30 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11366); Mykolaiv region, Brats'kyi district, Bratske city, Zhovtkevych park, 47.87157°N, 31.57273°E, 85 m, on *Fraxinus* bark, 20 Oct. 2020, V. Darmostuk 892 (herb. VD); *ibid.*, 47.87257°N, 31.57092°E, 85 m, on *Quercus* bark, 4 May 2020, O. Khodosovtsev & V. Klymenko (KHER 14197); Kryvoozers'kyi district, near Tryduby village, 48.08415°N, 30.39536°E, 171 m, on *Quercus*, 3 Jul. 2020, V. Darmostuk 730 (herb. VD); Voznesens'kyi district, Ratsynska Dacha, 47.61628°N, 31.55731°E, 118 m, on *Fraxinus* bark, 28 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11640); near Trykraty village, 47.70646°N, 31.41551°E, 61 m, on *Fraxinus* bark, 27 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11633).

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

Notes. The species was reported from two localities in Zaporizhzhia and Zhytomyr regions (Darmostuk et al. 2018, 2024b; Darmostuk 2019b).

Specimen examined. UKRAINE. Zaporizhzhia region, Melitopol's'kyi district, near Terpinnya village, 46.95058°N, 35.46982°E, 26 m, on *Cladonia* sp., sandstone, 27 Apr. 2017, V. Darmostuk (KHER 10699).

Lichenconium erodens M.S. Christ. & D. Hawksw.

Notes. This is a common species that has been reported from numerous unrelated lichen hosts (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined. UKRAINE. Kherson region, Beryslavs'kyi district, Kozak Island, 46.77127°N, 33.32987°E, 10 m, on *Parmelia sulcata*, on *Acer* bark, 21 Jul. 2017, V. Darmostuk (KHER 10756); Holoprysytans'kyi district, near

Bekhtery village, 46.23933°N, 32.28729°E, 8 m, on *Hypogymnia physodes*, on *Quercus* bark, 27 Jul. 2017, V. Darmostuk & O. Khodosovtsev (KHER 10792); Novochornomorje forest, 46.21968°N, 32.27972°E, 10 m, on *Quercus* bark, 17 Oct. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11243); near Burkuty village, Chalbaska arena, 46.22552°N, 32.49542°E, 18 m, on *Evernia prunastri*, on *Quercus* bark, 9 Apr. 2008, O. Khodosovtsev (KHER 8102); near Burkuty village, 'Dubova kolka', 46.38628°N, 32.83124°E, 21 m, on *E. prunastri*, on *Quercus* bark, 21 Nov. 2015, A. Khodosovtsev, V. Darmostuk, G. Naumovych, N. Maliuga (KHER 9578, 9582, 9591); near Burkuty village, 46.4173°N, 32.88084°E, 19 m, on *P. sulcata*, on *Robinia* bark, 25 Dec. 2014, O. Khodosovtsev (KHER 8582, 8586); *ibid.*, 46.3992°N, 32.79552°E, 19 m, on *Ramalina fraxinea* and *E. prunastri*, on *Fraxinus* bark, 10 May 2019, V. Darmostuk 113 & O. Khodosovtsev (herb. VD); near Ivanivka village, 46.41071°N, 32.14236°E, 6 m, on *E. prunastri*, on *Betula* bark, 24 Jun. 2017, V. Darmostuk (KHER 11648); near Promin village, 46.34614°N, 32.79542°E, 33 m, on *E. prunastri*, on *Quercus* bark, 24 Jun. 2017, V. Darmostuk (KHER 9586, 11079); near Rybalche village, 46.49004°N, 32.14793°E, 3 m, on *Ramalina europaea*, on *Quercus* bark, 14 Jun. 2019, V. Darmostuk 415a (herb. VD); Oleshkivskiy district, near Chebulda village, 46.63877°N, 32.95516°E, 11 m, on *R. pollinaria*, on *Populus* bark, 20 Mar. 2008, O. Khodosovtsev (KHER 3700); near Radensk village, 46.56096°N, 32.87525°E, 18 m, on *H. physodes*, on *Pinus* twig, 20 Nov. 2016, V. Darmostuk (KHER 11084); Velykooleksandrivskiy district, near Mala Olexandrivka village, 47.3023°N, 33.29007°E, 45 m, on *P. sulcata*, on *Quercus* bark, 11 Jul. 2017, V. Darmostuk (KHER 11291); *ibid.*, 47.3023°N, 33.29007°E, 45 m, on *R. pollinaria*, on *Quercus* bark, 18 Mar. 2017, V. Darmostuk (KHER 11415); near Zaporizhia village, Popova Yama Landmark, 47.29169°N, 33.23744°E, 17 m, on *P. sulcata*, on *Quercus* bark, 18 Oct. 2021, V. Darmostuk 1139 & O. Sira (herb. VD); Mykolaiv region, Novobuz'kiy district, near Rozanivka village, 47.77892°N, 32.38424°E, 66 m, on *Xanthoparmelia pulla*, on granite, 28 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10955); Ochakivskiy district, near Pokrovka village, 46.48772°N, 31.66845°E, 4 m, on *Cetraria aculeata*, on sand, 18 Jul. 2016, V. Darmostuk (KHER 10133); near Vasylivka village, 46.50742°N, 31.77854°E, 1 m, on *H. physodes*, on *Alnus* bark, 6 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10869); Pervomais'kiy district, near Katerynka village, 47.93541°N, 30.7272°E, 78 m, on *R. farinacea*, on *Quercus* bark, 4 Jul. 2020, V. Darmostuk 691 (herb. VD); near Kuripchene village, National Nature Park Buzkiy Gard, 47.99527°N, 31.00167°E, 51 m, on *R. intermedia*, on granite, 21 Sept. 2019, V. Darmostuk 273 (herb. VD); Voznesensk'kiy district, Aktivskiy canyon, 47.71241°N, 31.46627°E, 56 m, on *X. pulla*, on granite, 26 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 10679); near Trykraty village, 47.70547°N, 31.43403°E, 54 m, on *X. pulla*, on granite, 21 Oct. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10582, 10608); Zaporizhzhia region, Chernihivskiy district, near Kalynivka village, 47.03212°N, 36.00522°E, 84 m, on *R. polymorpha*, on granite, 8 Aug. 2010, O. Khodosovtsev (KHER 1476); Melitopol's'kiy district, near Myrne village, Kamiana Mogyla, 46.95018°N, 35.47006°E, 14 m, on *Candelariella coralliza*, on sandstone, 4 Oct. 2007, T. Zavyalova & O. Khodosovtsev (KHER 4178); *ibid.*, 46.95018°N, 35.47006°E, 14 m, on *R. polymorpha*, on sandstone, 4 Oct. 2007, T. Zavyalova & O. Khodosovtsev (KHER 4227); Yakymivskiy district, near reserve Altahyrskiy, 46.61105°N, 35.21839°E, 20 m, on *Ramalina* sp., on *Quercus* bark, 24 Aug. 2018, O. Khodosovtsev & V. Darmostuk (KHER 14368); Altayr forest, 46.6139°N, 35.27883°E, 22 m,

on *Ramalina* sp., on *Robinia* bark, 22 Oct. 2008, T. Zavyalova (KHER 4235, 4236).

***Lichenocodium lecanorae* (Jaap) D. Hawksw.**

Notes. This is a common species that has been reported from numerous unrelated lichen hosts (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined. UKRAINE. Dnipropetrovsk region, Apostolivskiy district, near Tokivske village, 47.68658°N, 33.94015°E, 35 m, on *Protoparmeliopsis muralis*, on granite, 21 Jul. 2008, O. Khodosovtsev & L. Gavrylenko (KHER 7651); Kherson region, Bilozers'kiy district, near Fedorivka village, 46.80578°N, 32.8089°E, 20 m, on *P. muralis*, on limestone, 1 Apr. 2018, V. Darmostuk (KHER 11987); Holopryshtynskiy district, Black Sea Biosphere Reserve, Solonoozerny, 46.46023°N, 31.96784°E, 4 m, on *Glaucomaria carpinea*, on *Quercus* bark, 08 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10899, 10908); *ibid.*, 46.45915°N, 31.95479°E, 4 m, on *G. carpinea*, on *Quercus* bark, 08 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 10937); near Burkuty village, 46.38826°N, 32.83596°E, 23 m, on *G. carpinea*, on *Quercus* bark, 10 Nov. 1994, O. Khodosovtsev (KHER 9423, 9841); near Mali Kopani village, 46.43029°N, 32.74615°E, 22 m, on *G. carpinea*, on *Quercus* bark, 21 Nov. 2015, V. Darmostuk & O. Khodosovtsev (KHER 9538); Kalanchats'kiy district, Khorly village, 46.07843°N, 33.29386°E, 10 m, on *Myriolecis albescens*, on concrete, 8 Jul. 2017, V. Darmostuk (KHER 11622); Velykooleksandrivskiy district, near Davydiv Brid village, 47.23658°N, 33.21145°E, 41 m, on *P. muralis*, on limestone, 2 Oct. 1994, O. Khodosovtsev (KHER 9639); near Mala Olexandrivka village, Rusova Ravine, 47.27317°N, 33.23139°E, 32 m, on *G. carpinea*, on *Gleditsia* bark, 25 Sept. 2015, V. Darmostuk (KHER 9233); Vysokopil's'kiy district, near Arkhanhelske village, Arkhanhelskiy forest, 47.41815°N, 33.36795°E, 20 m, on *G. carpinea*, on *Gleditsia* bark, 3 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 12637); Mykolaiv region, Berezhnivats'kiy district, near Yakovlivka village, 47.17691°N, 32.93081°E, 50 m, on *G. carpinea*, on *Prunus* twig, 7 May 2019, V. Darmostuk 450 (herb. VD); Novobuz'kiy district, near Rozanivka village, 47.79662°N, 32.37988°E, 48 m, on *P. muralis*, on granite, 28 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 11736); near Sofiivka village, 47.69318°N, 32.36977°E, 41 m, on *M. dispersa*, on granite, 29 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11650); Pervomais'kiy district, near Kuripchyne village, 48.00402°N, 31.0243°E, 118 m, on *G. carpinea*, on *Fraxinus* bark, 1 Jul. 2020, V. Darmostuk 759 (herb. VD); Snihurivskiy district, near Olexandrivka village, 46.85497°N, 32.77696°E, 15 m, on *P. muralis*, on limestone, 2 May 2018, V. Darmostuk (KHER 11725); Voznesensk'kiy district, near Aktove village, 47.70923°N, 31.47648°E, 41 m, on *G. carpinea*, on *Fraxinus* bark, 21 Oct. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10540, 10546); Odesa region, Lymanskyy district, near Kairy village, 46.92698°N, 30.97667°E, 25 m, on *P. muralis*, on limestone, 5 Feb. 1996, O. Khodosovtsev (KHER 9700); Zaporizhzhia region, Chernihivskiy district, near Novopoltavka village, 47.26544°N, 36.25991°E, 185 m, on *Acarospora fuscata*, on granite, 2 Oct. 2007, O. Khodosovtsev & T. Zavyalova (KHER 4407); 47.26544°N, 36.25991°E, 185 m, *P. muralis*, on granite, 2 Oct. 2007, O. Khodosovtsev & T. Zavyalova (KHER 4410).

***Lichenocodium lichenicola* (P. Karst.) Petr. & Syd.**

Notes. This species has been reported from scattered localities mostly in southern Ukraine (Darmostuk 2019b).

Specimens examined (all on *Physcia tenella*, unless otherwise indicated). UKRAINE. Kherson region, Beryslavs'kyi district, near Tyahynka village, 46.75805°N, 33.04765°E, 6 m, on *Prunus* twig, 31 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11603); Holoprystans'kyi district, near Burkuty village, 46.38949°N, 32.82792°E, 20 m, on *Fraxinus* bark, 28 Dec. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11311); *ibid.*, 46.38886°N, 32.83681°E, 20 m, on *Quercus* bark, 28 Dec. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11094.a); Velykooleksandrivs'kyi district, near Mala Olexandrivka village, 47.30172°N, 33.25969°E, 28 m, on *Pinus* twig, 12 Oct. 2019, V. Darmostuk 659 & O. Sira (herb. VD); Mykolaiv region, Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 47.99527°N, 31.00167°E, 51 m, on *Physcia adscendens*, on *Prunus* twig, 21 Sept. 2019, V. Darmostuk 278 (herb. VD).

Lichenocodium pyxidatæ (Oudem.) Petr. & Syd.

Notes. This is not a rare species in Lower Dnipro sand dunes, reported mostly on *Cladonia foliacea* (Darmostuk 2019b).

Specimens examined (all on *Cladonia foliacea*, unless otherwise indicated). UKRAINE. Kherson region, Holoprystans'kyi district, Black Sea Biosphere Reserve, Solonoozerny, 46.46479°N, 31.93923°E, 1 m, on sand, 5 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10853); near Burkuty village, 46.3958°N, 32.83666°E, 20 m, on sand, 5 Jan. 2017, O. Khodosovtsev & V. Darmostuk (KHER 11791); *ibid.*, 46.36602°N, 32.80954°E, 20 m, on sand, 9 Apr. 2008, O. Khodosovtsev (KHER 6178, 1179, 10004); *ibid.*, 46.36602°N, 32.80954°E, 20 m, on sand, 18 Nov. 2016, O. Khodosovtsev & V. Darmostuk (KHER 11666); Novotroits'kyi district, Churiuk Island, 46.08323°N, 34.24452°E, 8 m, on *Cladonia furcata*, on soil, 6 Oct. 2018, V. Darmostuk (KHER 12128); Oleshkivskiy district, near Radensk village, 46.58241°N, 32.86811°E, 14 m, on sand, 22 Oct. 2015, V. Darmostuk 132 (herb. VD).

Lichenocodium usneae (Anzi) D. Hawksw.

Notes. This fungus has been reported from scattered localities in the Autonomous Republic of Crimea, Zakarpattia and Zhytomyr regions (Darmostuk 2019b).

Specimens examined. UKRAINE. Autonomous Republic of Crimea, Leninskyi district, near Soliane village, 45.33981°N, 35.39532°E, 1 m, on *Seiophora lacunosa*, on soil, 10 Jun. 2003, O. Khodosovtsev (KHER 1050, 8219, 9310).

Lichenocodium xanthoriae M.S. Christ.

Notes. This is a common species on *Polycauliona* and *Xanthoria* in southern Ukraine (Darmostuk 2019b).

Specimens examined. UKRAINE. Kherson region, Beryslavs'kyi district, near Tyahynka village, 46.75919°N, 33.04552°E, 20 m, on *Polycauliona polycarpa*, on *Robinia* twig, 31 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11605); near Respublikanets village, Kamianska balka, 47.08252°N, 33.56773°E, 44 m, on *P. polycarpa*, on *Robinia* twig, 30 Sept. 2015, V. Darmostuk (KHER 9504a); Holoprystans'kyi district, near Burkuty village, 46.39524°N, 32.83107°E, 22 m, on *Xanthoria parietina*, on *Quercus* bark, 18 Nov. 2016, V. Darmostuk & O. Khodosovtsev (KHER 11171); *ibid.*, 46.38891°N, 32.83699°E, 22 m, on *X. parietina*, on *Quercus* bark, 5 Jan. 2017, O. Khodosovtsev (KHER 1444); 46.39441°N, 32.80877°E, 21 m, on *X. parietina*, on *Quercus* bark, 22 Apr.

2021, V. Darmostuk (KHER 14844); near Kokhany village, 46.5282°N, 32.60463°E, 4 m, on *P. polycarpa*, on *Robinia* bark, 12 Sept. 2015, N. Maliuga (KHER 9215); Kalanchats'kyi district, park near Rozdolne village, 46.16516°N, 33.22678°E, 9 m, on *X. parietina*, on *Fraxinus* bark, 24 Oct. 2017, V. Darmostuk & O. Khodosovtsev (KHER 10933); Velykooleksandrivs'kyi district, near Mala Olexandrivka village, Rusova Ravine, 47.27226°N, 33.23296°E, 35 m, on *P. polycarpa*, on *Gleditsia* bark, 25 Sept. 2015, V. Darmostuk (KHER 9232, 11410); *ibid.*, 47.26944°N, 33.23822°E, 36 m, on *P. polycarpa*, on *Robinia* bark, 12 Apr. 2021, V. Darmostuk (KHER 14785); near Zaporizhzhya village, Popova Yama Landmark, 47.29148°N, 33.23829°E, 18 m, on *X. parietina*, on *Ulmus* twig, 11 Apr. 2021, V. Darmostuk (KHER 14726); Mykolaiv region, Brats'kyi district, near Vysoka hora village, Dubova balka, 47.89088°N, 31.61359°E, 92 m, on *P. polycarpa*, on *Fraxinus* bark, 21 Oct. 2020, V. Darmostuk 905 (herb. VD); Novoodes'kyi district, near Mykhailivka village, 47.39088°N, 31.62722°E, 10 m, on *P. polycarpa*, on *Prunus* twig, 26 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10942); Ochakivs'kyi district, near Pokrovka village, 46.4898°N, 31.66143°E, 2 m, on *P. polycarpa*, on *Eleagnus* twig, 16 Jul. 2016, V. Darmostuk (KHER 10119, 10132, 11319); Yelanets'kyi district, Yelanetskyi step Natural Reserve, 47.65761°N, 31.90254°E, 102 m, on *P. polycarpa*, on *Prunus* twig, 9 Apr. 2005, T. Boyko (KHER 10298); Zaporizhzhia region, Yakymivs'kyi district, near reserve Altahyrskiy, 46.61105°N, 35.21839°E, 20 m, on *P. polycarpa*, on *Robinia* twig, 24 Aug. 2018, O. Khodosovtsev & V. Darmostuk (KHER 14364).

Lichenodiplis lecanorae (Vouaux) Dyko & D. Hawksw.

Notes. This is a common species that has been reported from numerous unrelated lichen hosts (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined (all on *Lecanoropsis saligna*, unless otherwise indicated). UKRAINE. Autonomous Republic of Crimea, Leninskyi district, Arabat Split, 45.35986°N, 35.36501°E, 1 m, on wood, 11 Jun. 2003, O. Khodosovtsev (KHER 12152); Donetsk region, Volnovas'kyi district, near Petrivske village, 47.67323°N, 37.16817°E, 156 m, on *Acer* bark, 18 Apr. 2006, O. Nadyeina (KW 64032); Kherson region, Bilozers'kyi district, near Alexandrovka village, 46.68546°N, 32.10716°E, 18 m, on *Quercus* bark, 9 Jan. 2018, V. Darmostuk (KHER 11386); Chaplyns'kyi district, Askania-Nova, arboretum, 46.45798°N, 33.87427°E, 31 m, on *Betula* bark, 25 Aug. 2014, O. Khodosovtsev (KHER 8457); Holoprystans'kyi district, near Burkuty village, 46.39685°N, 32.83366°E, 19 m, on *Pinus* twig, 18 Nov. 2016, V. Darmostuk & O. Khodosovtsev (KHER 11152); Black Sea Biosphere Reserve, Tendra Island, 46.24255°N, 31.65231°E, 1 m, on *Ephedra* twig, 30 Apr. 2009, O. Khodosovtsev (KHER 7302); *ibid.*, 46.2417°N, 31.65072°E, 1 m, on *Xanthocarpia lactea*, on shells, 6 Oct. 2017, V. Darmostuk (KHER 11315); Solonoozerny, 46.45665°N, 31.97967°E, 32 m, on *Quercus* bark, 5 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10909); Novotroits'kyi district, Kuiuk-Tuk Island, 46.10087°N, 34.24469°E, 10 m, on wood, 6 Oct. 2018, V. Darmostuk (KHER 12139); Oleshkivskiy district, near Radensk village, 46.56545°N, 32.97732°E, 20 m, on *Betula* bark, 20 Mar. 2008, O. Khodosovtsev (KHER 3704, 7933, 7936, 10481); near Sagy village, 46.61678°N, 32.8306°E, 14 m, on *Thymus* twig, 8 Apr. 2016, V. Darmostuk (KHER 11644); Velykooleksandrivs'kyi district, near Mala Olexandrivka village, 47.29758°N, 33.25624°E, 38 m, on *Pinus* twig, 6 Oct. 2012, V. Darmostuk (KHER 8979); *ibid.*, 47.29472°N, 33.26195°E, 24 m, on *Pinus* twig, 31 Oct. 2015, V. Darmostuk 129 (herb. VD); near Zaporizhzhia

village, 47.29421°N, 33.22559°E, 40 m, on *Pinus* twig, 28 Dec. 2015, V. Darmostuk (KHER 10850); Vysokopil's'kyi district, near Arkhanhelske village, Arkhanhelskyi forest, 47.41815°N, 33.36795°E, 20 m, on *Fraxinus* bark, 3 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 12284); near Zarichne village, 47.4443°N, 33.36655°E, 18 m, on *Thymus* twig, 12 Oct. 2008, O. Khodosovtsev & G. Naumovych (KHER 9455); Luhansk region, Sverdlovs'kyi district, near Provallia village, 48.15105°N, 39.84104°E, 145 m, on *Acer* bark, 23 Jul. 2005, O. Nadyeina (KW-L63909); Mykolaiv region, Pervomais'kyi district, Skarzshinskogo Summer farm, 48.04965°N, 31.01941°E, 103 m, on *Juniperus* bark, 1 Jul. 2020, O. Khodosovtsev (KHER 14189); Odesa region, Ovidiopol's'kyi district, Karolino-Bugaz village, Park Gaiok, 46.15595°N, 30.54316°E, 15 m, on *Robinia* bark, 6 Sept. 2021, V. Darmostuk 1152 (herb. VD); Bolgrad district, Vesela Dolyna village, 46.23736°N, 29.29189°E, 144 m, on *Athallia cerinella*, on *Fraxinus pennsylvanica*, 17 Oct 2025, O. Khodosovtsev 16681 (KW-L76319).

***Lichenohendersonia cetrariae* Darmostuk**

Notes. This is a recently described species, so far known only from the type locality in the Mykolaiv region (Crous et al. 2025).

Specimens examined. UKRAINE. Mykolaiv region, Snihurivskyi district, near Yasna Poliana village, 46.98133°N, 32.83878°E, 16 m, dry steppe slope with on limestone pebbles, on thallus of terricolous *Cetraria aculeata*, 30 Apr. 2021, V. Darmostuk 413 (KRAM L-75118); ibid., V. Darmostuk 1158 (KRAM L-75119).

***Lichenohendersonia squamarinae* Calat. & Etayo**

Notes. *Lichenohendersonia squamarinae* is a poorly known species that has been reported only from Spain and Ukraine (Calatayud & Etayo 2001; Darmostuk et al. 2018).

Specimens examined (all on *Squamarina lentigera*). UKRAINE. Kherson region, Bilozers'kyi district, near Shyroka Balka village, 46.5766°N, 32.18419°E, 12 m, on loess outcrops, 01 Apr. 2017, V. Darmostuk (KHER 10657); Mykolaiv region, Ochakivs'kyi district, near Katalyno village, 46.75793°N, 31.87411°E, 30 m, loess outcrops, 2 Aug. 2018, V. Darmostuk (KHER 11668).

***Lichenohendersonia* aff. *squamarinae* Calat. & Etayo (Fig. 6)**

Notes. The examined specimen is characterized by globose, immersed, dark conidiomata, 60–100 µm, ampulliform conidiogenous cells and 3-septate, brown, ellipsoidal, not constricted at the septum conidia, (13–)14–16(–17) × (4–)4.4–5(–5.4) µm (n = 30). This specimen is very similar to *Lichenohendersonia squamarinae*, but was found on *Agrestia zerovii* (vs. *Squamarina lentigera* for *L. squamarinae*). Therefore, based on different host selection, we include this specimen as *Lichenohendersonia* aff. *squamarinae*.

Specimen examined. UKRAINE. Kharkiv region, Dvorichans'kyi district, near Dvorichna village, 49.95639°N, 37.799°E, 107 m, on *Agrestia zerovii*, on chalk soil, 10 Aug. 2018, A. Gromakova (CWU 203551b).

***Lichenohendersonia varians* Calat. & Etayo**

Notes. Our specimen is characterized by globose, immersed conidiomata, 80–120 µm, ampulliform conidiogenous cells and 3-septate, dark brown, ellipsoidal, strongly constricted at the septum conidia, (10.2–)11.4–14.6(–15.2) × (4.8–)5.0–5.8(–6.2) µm (n = 30). The species is known for a single locality in Ukraine (Khodosovtsev & Darmostuk 2016a). This is a poorly known fungus that has been reported on several lichen hosts and probably represents a species complex (Calatayud & Etayo 2001).

Specimen examined. UKRAINE. Zaporizhzhia region, Pryazovs'kyi district, near Makivka village, 47.02655°N, 35.9503°E, 68 m, on *Candelariella vitellina*, on *Robinia* bark, 8 Aug. 2010, T. Zavyalova (KHER 6293).

***Lichenopeltella coppinsii* Earl.-Benn. & D. Hawksw.**

Notes. This species has been reported on *Verrucaria muralis* from a single locality in Ukraine (Darmostuk 2021b).

****Lichenostigma chlaroterae* (F. Berger & Brackel) Ertz & Diederich**

Notes. An examined specimen is characterized by subspherical to ellipsoidal conidia, (5.6–)6.8–10.8(–13.2) × (5.2–)6.4–8.6(–10.8) µm, composed of (3–)4–10 cells, in optical section 4–6 cells, cells (2.5–)3.3–4.5(–6) µm diam. This species has been reported from numerous localities in Europe, North America and Asia, growing mainly on *Lecanora* s.lat. (Berger & Brackel 2011; Diederich et al. 2024).

Specimen examined. UKRAINE. Kherson region, Bilozers'kyi district, near Olexandrivka village, 46.6986°N, 32.12608°E, 39 m, on *Glaucomaria carpinea*, on *Robinia* bark, 11 Jan. 2018, V. Darmostuk & O. Khodosovtsev (KHER 11576).

***Lichenostigma cosmopolites* Hafellner & Calat.**

Notes. This is a common species in Ukraine growing on *Xanthoparmelia* spp. (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined (all on *Xanthoparmelia conspersa*). UKRAINE. Autonomous Republic of Crimea, Karadag Reserve, Magnitnyi Range, near Chortiv Kamin Mts., 44.94099°N, 35.21687°E, 340 m, on siliceous stone, 17 Aug. 2004, S. Kondratyuk (KW L-204164); Dnipropetrovsk region, Kryvoriz'kyi district, near Kryvyi Rig, 48.1224°N, 33.60129°E, 56 m, on granite, 17 Oct. 2007, O. Khodosovtsev & G. Naumovych (KHER 11873); near Veseli Terny, 48.11804°N, 33.56504°E, 100 m, on granite, on 17 Jul. 2017, Yu. Lysogor (KHER 10926); Donetsk region, Nikolskyi district, near Nazarivka village, Nature Reserve 'Kamyani Mogyly', 47.30641°N, 37.07028°E, 195 m, on granite, 13 May 2011, A. Khodosovtsev, A. Gromakova, O. Nadyeina (KHER 4601); Mykolaiv region, Brats'kyi district, near Kryva Pustosh village, 47.92532°N, 31.70103°E, 105 m, on granite, 28 Jun. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10087); Novobuz'kyi district, near Rozanivka village, 47.77841°N, 32.38373°E, 61 m, on granite, 28 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10968, 10990); Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 47.96895°N, 31.03937°E, 46 m, on granite, 21 Sept. 2019, V. Darmostuk 322 (herb. VD); near Mygia village, 48.00972°N, 30.98653°E, 70 m, on granite, 16 May 2018,

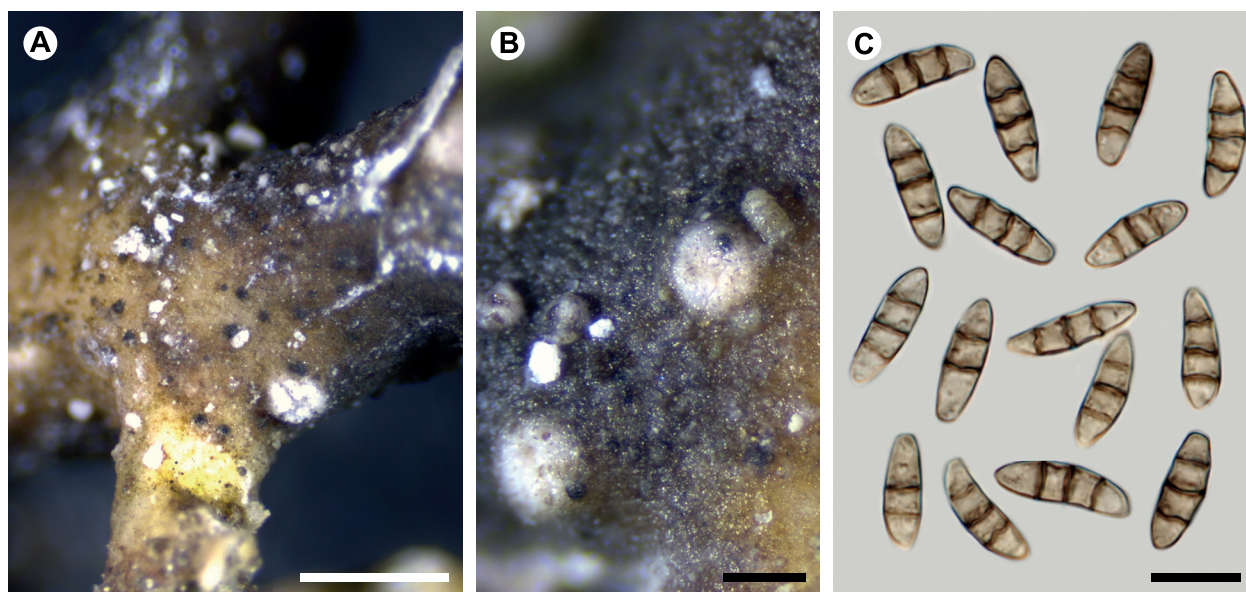


Figure 6. *Lichenohendersonia* aff. *squamarinae* (CWU 203551b): A, B – pycnidia on the lichen host; C – conidia (in water). Scales: A = 0.5 mm; B = 250 µm; C = 10 µm.

O. Khodosovtsev & V. Darmostuk (KHER 11992); Voznesens'kyi district, near Aktove village, 47.70896°N, 31.47902°E, 56 m, on granite, 21 Oct. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10606); *ibid.*, 47.70891°N, 31.47902°E, 58 m, on granite, 21 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10691); *ibid.*, 47.70893°N, 31.47902°E, 58 m, on granite, 21 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11630); *ibid.*, 47.70896°N, 31.47902°E, 56 m, on granite, 21 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11632); *ibid.*, 47.70968°N, 31.47452°E, 45 m, on granite, 27 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10701); Zaporizhzhia region, Chernihiv's'kyi district, near Chernihivka village, 47.18818°N, 36.2479°E, 147 m, on granite, 2 Oct. 2007, O. Khodosovtsev & T. Zavyalova (KHER 4300); near Stulneve village, 47.25857°N, 36.05859°E, 98 m, on granite, 28 Jun. 2018, V. Darmostuk (KHER 11705).

Lichenostigma dimelaenae Calat. & Hafellner

Notes. This species is locally abundant at the known localities in the Mykolaiv region (Darmostuk et al. 2018).

Specimens examined (all on *Dimelaena oreina*). UKRAINE. Mykolaiv region, Brats'kyi district, near Petropavlivka village, Petropavlivskiy canyon, 47.71997°N, 31.48126°E, 64 m, on granite, 26 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 11296); Pervomais'kyi district, near Kuripchyne village, 47.99323°N, 31.01128°E, 60 m, on granite, 1 Jul. 2020, V. Darmostuk 706 (herb. VD); *ibid.*, 47.70968°N, 31.47452°E, 45 m, on granite, 27 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10709, 10710).

Lichenostigma elongatum Nav.-Ros. & Hafellner

(Fig. 5C)

Notes. This is a common species in Ukraine, which was originally described on *Aspicilia* and *Lobothallia* spp. (Navarro-Rosinés & Hafellner 1996). The specimens on *Protoparmeliopsis muralis* are also included here based on morphological similarity, but require further studies.

Specimens examined. UKRAINE. Dnipropetrovsk region, Kryvoriz'ka city council, 47.88114°N, 33.28489°E, 26 m, on

Lobothallia radiosa, on siliceous stone, 18 Oct. 2007, O. Khodosovtsev & G. Naumovych (KHER 9452); Solonyans'kyi district, near Zvonetske village, Regional Landscape Park Dniprovi Porohy, 48.25541°N, 35.17694°E, 67 m, on *Aspicilia* sp., on granite, 1 Jul. 2018, O. Khodosovtsev & V. Darmostuk (KHER 12796); *ibid.*, 48.2505°N, 35.18381°E, 67 m, on *Protoparmeliopsis muralis*, on granite, 1 Jul. 2018, V. Darmostuk 392 (herb. VD); Donetsk region, Nikolskyi district, near Nazariyka village, Nature Reserve Kamyani Mogyly, 47.3061°N, 37.07148°E, 192 m, on *Circinaria caesiocinerea*, on granite, 30 Apr. 2013, V. Darmostuk & O. Khodosovtsev (KHER 8285b); Telmanivs'kyi district, reserve Kalmiyskyi, 47.51891°N, 37.96723°E, 62 m, on *P. muralis*, on granite, 28 Apr. 2013, V. Darmostuk & O. Khodosovtsev (KHER 8366, 9283); Kherson region, Beryslavs'kyi district, near Burhunka village, 46.80851°N, 33.21323°E, 20 m, on *L. radiosa*, on limestone, 18 Jul. 2008, O. Khodosovtsev & G. Naumovych (KHER 7710); near Novokairy village, 47.01548°N, 33.58998°E, 37 m, on *P. muralis*, on limestone, 1 Apr. 2009, O. Khodosovtsev & L. Gavrylenko (KHER 7652); Bilozers'kyi district, near Mykilske village, 46.7225°N, 32.85998°E, 17 m, on *L. radiosa*, on limestone, 9 Aug. 2008, O. Khodosovtsev & L. Gavrylenko (KHER 7642); Velykooleksandriys'kyi district, Mala Olexandrivka village, 47.29393°N, 33.27372°E, 24 m, on *L. radiosa*, on limestone, 4 Jan. 2018, V. Darmostuk (KHER 11403); *ibid.*, 47.30096°N, 33.27206°E, 25 m, on *L. radiosa*, on limestone, 12 Oct. 2008, O. Khodosovtsev & G. Naumovych (KHER 9461); near Zaporizhzhia village, 47.28838°N, 33.21358°E, 23 m, on *L. radiosa*, on limestone, 3 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 11703); Kharkiv region, Lozivs'kyi district, near Nadezhdivka village, 49.10014°N, 36.58133°E, 93 m, on *P. muralis*, on sandstones, 11 May 2013, A. Gromakova (CWU 202615); Luhansk region, Antratsyivs'kyi district, near Malomykolaivka village, 48.32059°N, 39.00378°E, 172 m, on *P. muralis*, on siliceous stone, 6 May 2005, O. Nadyeina (KW); Lutuhyn's'kyi district, near Verkhnia Orichivka village, 48.35975°N, 39.33591°E, 130 m, on *C. caesiocinerea*, on siliceous stone, 4 May 2005, O. Nadyeina (KW); Mykolaiv region, Berezhnevats'kyi district, near Pryshyb village, 47.21422°N, 32.84981°E, 15 m, on *L. radiosa*, on limestone, 31 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11310); Pervomais'kyi district, near Kuripchene village, National Nature Park

Buzkyi Gard, 47.97263°N, 31.03151°E, 62 m, on *C. caesiocinerea*, on granite, 21 Sept. 2019, V. Darmostuk 298 (herb. VD); Snihurivs'kyi district, near Snihurivka village, 47.06609°N, 32.77107°E, 58 m, on *L. radiosa*, on limestone, 22 May 1992, O. Khodosovtsev (KHER 10305); Yelanets'kyi district, Yelanetskyi step Natural Reserve, 47.55752°N, 32.02747°E, 53 m, on *L. radiosa*, on limestone, 1 Dec. 2007, T. Boiko (KHER 11874); near Elanets city, 47.54646°N, 32.04015°E, 37 m, on *L. radiosa*, on limestone, 9 Apr. 2015, T. Boiko (KHER 11620); Voznesens'kyi district, near Aktove village, 47.70618°N, 31.47538°E, 47 m, on *Aspicilia cinerea*, on granite, 26 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10682, 11629); near Trykraty village, 47.70472°N, 31.4361°E, 62 m, on *A. cinerea*, on granite, 21 Oct. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10596); Odesa region, Lymanskyi district, near Kairy village, 46.92687°N, 30.97769°E, 12 m, on *L. radiosa*, on limestone, 2 May 1996, O. Khodosovtsev (KHER 9699); near Kalynivka village, 46.89638°N, 31.0087°E, 47 m, on *P. muralis*, on limestone, 2 May 1995, O. Khodosovtsev (KHER 12576); Zaporizhzhia region, Chernihivs'kyi district, near Trudove, 47.25337°N, 35.99687°E, 86 m, on *A. cinerea*, on granite, 2 Oct. 2007, O. Khodosovtsev & T. Zavyalova (KHER 4304); near Stulnevo village, waterfall on the Kainkulak River, 47.25857°N, 36.05859°E, 98 m, on *A. cinerea*, on granite, 28 Jun. 2018, O. Khodosovtsev & V. Darmostuk (KHER 12425); Melitopol's'kyi district, near Udachne village, 46.80081°N, 35.24811°E, 15 m, on *P. muralis*, on granite, 8 Oct. 2008, O. Khodosovtsev (KHER 6297); Zaporiz'ka city council, Khortytsa Island, Black rock, 47.81678°N, 35.08696°E, 27 m, on *P. muralis*, on granite, 29 Jun. 2018, O. Khodosovtsev & V. Darmostuk (KHER 12434).

Lichenostigma gracile Calat., Nav.-Ros. & Hafellner

Notes. This species has been reported on *Acarospora fuscata* from scattered localities in Ukraine (Darmostuk & Khodosovtsev 2017; Darmostuk et al. 2021).

Specimens examined (all on *Acarospora fuscata*). Donetsk region, Nikolskyi district, near Nazarivka village, Nature Reserve 'Kamyani Mogyly', 47.30585°N, 37.0742°E, 190 m, on granite, 8 Jul. 2018, V. Darmostuk & O. Khodosovtsev (KHER 11910); *ibid.*, 47.30768°N, 37.07934°E, 190 m, on granite, 12 May 2011, A. Khodosovtsev, A. Gromakova, O. Nadyeina (KHER 8254); Mykolaiv region, Voznesens'kyi district, near Aktove village, 47.71159°N, 31.46168°E, 57 m, on granite, 1 May 2016, O. Khodosovtsev & V. Darmostuk (KHER 9739); Zaporizhzhia region, Melitopol's'kyi district, near Terpinnya village, historical and archaeological reserve 'Kam'yana Mohyla', 46.95028°N, 35.46988°E, 13 m, on sandstone, 4 Oct. 2007, O. Khodosovtsev & T. Zavyalova (KHER 14235).

Lichenostigma maureri Hafellner

Notes. This species has been reported from scattered localities in Ukraine, but it is probably overlooked (Darmostuk & Khodosovtsev 2017).

Specimens examined. UKRAINE. Kherson region, Holoprysytans'kyi district, near Burkuty village, 46.39405°N, 32.80991°E, 20 m, on *Pseudevernia furfuracea*, on *Quercus* twig, 21 Nov. 2015, V. Darmostuk & O. Khodosovtsev (KHER 9548, 9556, 10006); Velykooleksandrivs'kyi district, Nedohirskyi forest, 47.31615°N, 33.25349°E, 25 m, on *Ramalina pollinaria*, on *Fraxinus* twig, 5 May 2019, V. Darmostuk 411a (herb. VD).

Lichenostigma rouxii Nav.-Ros., Calat. & Hafellner

Notes. *Lichenostigma rouxii* is a rare species in Ukraine that has been reported from the Crimea Peninsula and the Kherson region (Kondratyuk 2005; Darmostuk & Khodosovtsev 2020).

Specimen examined. UKRAINE. Kherson region, Bilozers'kyi district, near Tiagynka village, 46.76862°N, 33.03424°E, 32 m, on *Squamarina cartilaginea*, on limestone, 1 Jun. 2017, V. Darmostuk 414 & O. Khodosovtsev (herb. VD).

Lichenostigma svandae Vondrák & Šoun (Fig. 5D)

Notes. This species is not frequent in southern Ukraine, but locally abundant (Vondrák & Šoun 2007; Darmostuk & Khodosovtsev 2017, 2020). It was previously reported from the Autonomous Republic of Crimea as *Lichenostigma gracile* (Kondratyuk 2005).

Specimens examined (all on *Acarospora cervina*). UKRAINE. Autonomous Republic of Crimea, NW of Sudak city, E slope of Lysa Hora, 44.85595°N, 34.95331°E, 207 m, on limestone, 15 Aug. 2004, S. Kondratyuk (KW L-204158.1); Kherson region, Beryslavs'kyi district, near Tyahynka village, 46.75802°N, 33.04715°E, 10 m, on limestone, 21 Aug. 1994, O. Khodosovtsev (KHER 804a); *ibid.*, 46.75802°N, 33.04715°E, 10 m, on limestone, 3 Mar. 2017, V. Darmostuk (KHER 11600, 11601); *ibid.*, 46.76788°N, 33.04136°E, 10 m, on limestone, 4 Mar. 2021, V. Darmostuk 996 (herb. VD); Bilozers'kyi district, Fedorivka village, 46.80576°N, 32.8089°E, 21 m, on limestone, 1 Apr. 2018, V. Darmostuk (KHER 11980); Mykolaiv region, Snihurivs'kyi district, near Evgenivka village, 47.07794°N, 32.88645°E, 18 m, on limestone, 25 Sept. 2009, O. Khodosovtsev, G. Naumovych, I. Moysiyenko & O. Smetana (KHER 9471, 9472); Odesa region, Lymanskyi district, near Kalynivka village, 46.89619°N, 31.00831°E, 53 m, on limestone, 2 May 1995, O. Khodosovtsev (KHER 12592).

Lichenothelia renobalesiana D. Hawksw. & V. Atienza

Notes. This species has been reported from scattered localities in southern Ukraine, mostly related to *Bagliettoa* on limestone pebbles (Darmostuk & Khodosovtsev 2017, 2020; Darmostuk et al. 2021).

Specimens examined (all on *Bagliettoa calciseda*). UKRAINE. Kherson region, Beryslavs'kyi district, National Nature Park Kam'yanska Sich, Konsulivske horodyshche, 46.99056°N, 33.65238°E, 27 m, on limestone, 22 May 2020, O. Khodosovtsev (KHER 14584); Bilozers'kyi district, near the village of Mykylske, National Nature Park Nyzhnodynprovskyi, 46.72405°N, 32.85845°E, 18 m, on limestone, 1 Jun. 2017, O. Khodosovtsev & V. Darmostuk (KHER 14574); Mykolaiv region, Ochakivs'kyi district, near Katalyno village, 46.75793°N, 31.8741°E, 30 m, on limestone, 2 Aug. 2018, V. Darmostuk (KHER 11669).

Lichenothelia rugosa (G. Thor) Ertz & Diederich

Notes. This is a rare species in Ukraine that is only been known from two localities in the Kherson region (Gavrylenko 2012). This is the first record from the Mykolaiv region.

Specimens examined. UKRAINE. Kherson region, Beryslavs'kyi district, near Burhunka village, Burhunska ravine, 46.79443°N, 33.2306°E, 20 m, on *Diploschistes candidissimus*, on limestone, 18 Jul. 2008, O. Khodosovtsev & L. Gavrylenko

(KHER 7726); Mykolaiv region, Snihuriv's'kyi district, S of Barativka village, 46.93629°N, 32.78831°E, 15 m, on *D. diacapsis*, on soil, 16 Apr. 2021, V. Darmostuk 982 (herb. VD).

****Llanorella ramalinae*** Alstrup & Olech ex Diederich & Brackel

Notes. This recently described species appears to be common on *Ramalina* spp. and has been reported from numerous localities in Europe, Macaronesia, Central America, Oceania, and Antarctica (Diederich et al. 2024).

Specimen examined. UKRAINE. Mykolaiv region, Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 48.00309°N, 30.97984°E, 70 m, on *Ramalina europaea*, on *Fraxinus* bark, 21 Sept. 2019, V. Darmostuk 239 (herb. VD).

Llimoniella adnata Hafellner & Nav.-Ros.

Notes. This species is known on *Placidium squamulosum* from a single locality in Ukraine (Darmostuk & Khodosovtsev 2019).

Marchandiomyces corallinus (Roberge) Diederich & D. Hawksw.

Notes. This is a common species, which has been reported from numerous unrelated lichen hosts (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined. UKRAINE. Kharkiv region, Balakliiskiy district, Balakliia town, 49.45671°N, 36.84524°E, 89 m, on *Phaeophyscia orbicularis*, on *Tilia* bark, 14 Feb. 2017, A. Gromakova & N. Baryshnikova (CWU 202616); *ibid.*, 49.45094°N, 36.83564°E, 121 m, on *Physcia stellaris*, on *Tilia* bark, 14 Feb. 2017, A. Gromakova & N. Baryshnikova (CWU 202916); Kherson region, Chaplyns'kyi district, Askania-Nova, arboretum, 46.45787°N, 33.87377°E, 33 m, on *Phaeophyscia orbicularis*, on *Fraxinus* bark, 25 Aug. 2014, O. Khodosovtsev (KHER 8434); Holoprystans'kyi district, near Burkuty village, 46.3872°N, 32.82525°E, 21 m, on *Physcia tenella*, on *Fraxinus* bark, 10 Nov. 2007, O. Khodosovtsev (KHER 4828); Velykool-eksandriv's'kyi district, Mala Olexandrivka village, 47.29162°N, 33.27674°E, 49 m, on *Phaeophyscia orbicularis*, on *Juglans* bark, 2 Jul. 2015, V. Darmostuk (KHER 9190, 11073); *ibid.*, 47.29258°N, 33.26456°E, 13 m, on *Xanthoria parietina*, on *Populus* bark, 13 Feb. 2016, V. Darmostuk (KHER 9900); *ibid.*, 47.29435°N, 33.26418°E, 19 m, on *X. parietina*, on *Ulmus* twig, 22 Jan. 2017, V. Darmostuk (KHER 14449); near Maxima Hor-koho village, 47.09261°N, 33.27636°E, 67 m, on *X. parietina*, on *Populus* bark, 8 Jul. 2017, O. Khodosovtsev & V. Darmostuk (KHER 11741); near Velyka Olexandrivka village, 47.31455°N, 33.24428°E, 18 m, on *X. parietina*, on *Fraxinus* bark, 21 Oct. 2017, V. Darmostuk (KHER 10829, 10832); *ibid.*, 47.31615°N, 33.25349°E, 30 m, on *Physconia enteroxantha*, on *Fraxinus* bark, 5 May 2019, V. Darmostuk 410 (herb. VD); Nedohirskiy forest, 47.31924°N, 33.24804°E, 23 m, on *X. parietina*, on *Fraxinus* twig, 27 Dec. 2020, V. Darmostuk (KHER 14782); near Zaporizhzhya village, Popova Yama Landmark, 47.29148°N, 33.23829°E, 18 m, on *X. parietina*, on *Ulmus* twig, 11 Apr. 2021, V. Darmostuk (KHER 14724); Mykolaiv region, Brats'kyi district, near Aktove village, 47.71814°N, 31.48187°E, 66 m, on *Ramalina polymorpha*, on granite, 28 Jun. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10291); near Petropavlivka village, 47.72362°N, 31.48388°E, 74 m, on *Bellemerea cupreolata*, on granite, 27 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11911); Pervomais'kyi district, near Lviv village, 47.90675°N,

31.07981°E, 50 m, on *Physcia stellaris*, on *Prunus* twig, 5 Jul. 2020, V. Darmostuk 719 (herb. VD); Voznesens'kyi district, near Aktove village, 47.70863°N, 31.47866°E, 55 m, on *Protoparmelia badia*, on granite, 21 Oct. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10601); near Trykraty village, 47.70749°N, 31.41328°E, 60 m, on *Phaeophyscia orbicularis*, on *Fraxinus* bark, 27 May 2017, V. Darmostuk (KHER 11621); *ibid.*, 47.71219°N, 31.40661°E, 57 m, on *Phaeophyscia orbicularis*, on *Fraxinus* bark, 10 Nov. 2018, V. Darmostuk & O. Sira (KHER 12179); Odesa region, Lymanskyi district, near Port village, 46.71592°N, 31.04314°E, 53 m, on *X. parietina*, on *Juglans* bark, 30 Aug. 2018, V. Darmostuk 163 (herb. VD).

Merismatium decolorans (Rehm) Triebel

Notes. This species is known on *Cladonia furcata* from a single locality in Ukraine (Darmostuk & Khodosovtsev 2019).

Specimen examined. UKRAINE. Kherson region, Novotroits'kyi district, Churiuk Island, 46.08373°N, 34.25853°E, 5 m, on *Cladonia furcata*, on soil, 6 Oct. 2018, V. Darmostuk (KHER 12124).

Microsphaeropsis caloplacae Etayo & Yazici

Notes. *Microsphaeropsis caloplacae* is a poorly known species, which has been reported from the type locality in Turkey and from Ukraine (Etayo & Yazici 2009; Khodosovtsev & Darmostuk 2017a).

Specimen examined. Kherson region, Bilozers'kyi district, near Sofiivka village, 46.60109°N, 32.26142°E, 13 m, on *Seawardiella lobulata*, on *Ephedra* twig, 14 Dec. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10327).

Monodictys epilepraria Kukwa & Diederich

Notes. This is a rather frequent fungus on *Lepraria* spp. (Diederich et al. 2024). It has been reported from scattered localities in Ukraine (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimen examined. UKRAINE. Zaporizhzhia region, Melitopol's'kyi district, near Terpinnya village, historical and archaeological reserve Kam'yana Mohyla, 46.95028°N, 35.46988°E, 13 m, *Lepraria* sp., on sandstone, 4 Oct. 2007, O. Khodosovtsev & T. Zavyalova (KHER 14238).

Muellerella erratica (A. Massal.) Hafellner & Volk. John

Notes. This is a rarely reported species in southern Ukraine, which is probably overlooked and confused with *Muellerella lichenicola* (Darmostuk et al. 2021).

Specimens examined. UKRAINE. Autonomous Republic of Crimea, Chornomorskyi district, Tarkhankut peninsula, 45.40524°N, 32.52884°E, 60 m, on *Aspicilia* sp., on limestone, 12 Aug. 1995, O. Khodosovtsev (KHER 10306); Kherson region, Beryslavs'kyi district, near Burhunka village, 46.79624°N, 33.23189°E, 25 m, on *Aspicilia* sp., on limestone, 27 Oct. 1993, O. Khodosovtsev (KHER 2062); *ibid.*, 46.79192°N, 33.23014°E, 15 m, on *Aspicilia desertorum*, on limestone, 1 Jun. 2017, O. Khodosovtsev (KHER 12133); Bilozers'kyi district, near Poniativka village, 46.72653°N, 32.8596°E, 32 m, on *Athallia inconnexa*, on limestone, 9 Aug. 2008, O. Khodosovtsev & L. Gavrylenko (KHER 7582); Novovorontsovs'kyi district, near Havrylivka village, 47.20451°N, 33.8368°E, 58 m, on *A. inconnexa*, on limestone, 30 May 2018, V. Darmostuk & O. Khodosovtsev

(KHER 11628); Vysokopil's'kyi district, near Nataliino village, 47.48087°N, 33.26785°E, 43 m, on *Pyrenodesmia variabilis*, on limestone, 5 May 2018, V. Darmostuk & O. Khodosovtsev (KHER 11704); Velykooleksandrivs'kyi district, Mala Olexandrivka village, 47.29384°N, 33.27475°E, 26 m, on *Acarospora cervina*, on limestone, 12 Oct. 2008, O. Khodosovtsev & G. Naumovych (KHER 9463); Mykolaiv region, Snihurivs'kyi district, near Evgenivka village, 47.09097°N, 32.8929°E, 3 m, on *A. cervina*, on limestone, 25 Sept. 2008, O. Khodosovtsev, G. Naumovych, I. Moysiyenko & O. Lytvynenko (KHER 9443, 9446); *ibid.*, 47.08153°N, 32.89138°E, 27 m, on *Rinodina calcarea*, on limestone, 23 Sept. 2008, O. Khodosovtsev, G. Naumovych, I. Moysiyenko & O. Lytvynenko (KHER 9445); near Novovasylivka village, 47.01166°N, 32.79936°E, 12 m, on *Circinaria calcarea*, on limestone, 12 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 12472).

Muellerella lichenicola (Sommerf.) D. Hawksw.

Notes. This is a common species in southern Ukraine, which has been reported on various lichen hosts (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined. UKRAINE. Autonomous Republic of Crimea, Leninskyi district, Chokrak, 45.44049°N, 36.25261°E, 76 m, on *Verrucaria nigrescens*, on limestone, 9 Jul. 1996, O. Redchenko (KW 66661); Kerch, Mitridat, 45.38663°N, 36.54779°E, 82 m, on *Caloplaca* sp., on limestone, 8 Aug. 1994, O. Khodosovtsev (KHER 2058, 2059, 2060, 2061); Dnipropetrovsk region, Kryvoriz'kyi district, near Chkalivka village, 48.20595°N, 33.62972°E, 115 m, on *V. nigrescens*, on limestone, 11 Oct. 2008, O. Khodosovtsev, G. Naumovych & O. Smetana (KHER 9469); Donetsk region, Novoazovs'kyi district, near Guselschikove village, 47.16381°N, 38.09388°E, 13 m, on *Variospora aurantia*, on limestone, 18 Jul. 1925, Yu. Klovov (KW-L4178a); Starobeshivs'kyi district, 47.72025°N, 38.01247°E, 170 m, on *V. aurantia*, on limestone, 1 Apr. 1956, A.M. Oxner (KW 4177a); Kherson region, Beryslavs'kyi district, near Burhunka village, 46.80841°N, 33.21526°E, 10 m, on *Lecania turicensis*, on limestone, 18 Jul. 2008, O. Khodosovtsev & L. Gavrylenko (KHER 11787); near Lvove village, 46.78653°N, 33.14007°E, 6 m, on *Aspicilia* sp., on limestone, 20 Aug. 1994, O. Khodosovtsev (KHER 11866); Bilozers'kyi district, near Poniativka village, 46.7303°N, 32.86676°E, 50 m, on *Circinaria calcarea*, on limestone, 23 Aug. 1994, O. Khodosovtsev (KHER 400); Holoprystans'kyi district, Black Sea Biosphere Reserve, Tendra Island, 46.2324°N, 31.64901°E, 2 m, on *A. skii*, on wood, 5 Oct. 2017, O. Khodosovtsev & V. Darmostuk (KHER 12211); *ibid.*, 46.22828°N, 31.66758°E, 2 m, on *Amandinea punctata*, on wood, 6 Oct. 2017, O. Khodosovtsev & V. Darmostuk (KHER 12255, 12274); Novovorontsovs'kyi district, near Osokorivka village, 47.46318°N, 33.86767°E, 42 m, on *Xanthocarpia crenulatella*, on limestone, 3 Jun. 2017, O. Khodosovtsev & V. Darmostuk (KHER 11713); Velykooleksandrivs'kyi district, near Davydiv Brid village, 47.23953°N, 33.21476°E, 45 m, on *Caloplaca* sp., on limestone, 2 Oct. 1994, O. Khodosovtsev (KHER 10153); near Mala Olexandrivka village, Rusova Ravine, 47.26758°N, 33.2416°E, 40 m, on *Aspicilia* sp., on limestone, 23 Jul. 2014, V. Darmostuk (KHER 9395); near Zapovit village, 47.0973°N, 32.97466°E, 28 m, on *C. calcarea*, on limestone, 30 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11915); Vysokopil's'kyi district, near Ivanivka village, 47.47802°N, 33.34483°E, 30 m, on *Rinodina bischoffii*, on limestone, 25 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 14551); Mykolaiv region, Berezhnevats'kyi district, near Bila Krynytsya village, 47.22866°N, 33.05976°E, 28 m, on *Xanthocarpia crenulatella*, on limestone,

6 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 11729); near Vysun village, 47.28254°N, 32.81288°E, 27 m, on *Aspicilia* sp., on limestone, 7 May 2019, V. Darmostuk 1018 (herb. VD); Novoodes'kyi district, near Mykhailivka village, 47.41031°N, 31.62225°E, 23 m, on *Circinaria contorta*, on limestone, 27 May 2017, V. Darmostuk (KHER 12159); Ochakivs'kyi district, Berezan Island, 46.59988°N, 31.40997°E, 7 m, on *C. contorta*, on concrete, 20 Jul. 2018, V. Darmostuk & O. Khodosovtsev (KHER 11667); *ibid.*, on *Candelariella aurella*, on concrete, 20 Jul. 2018, V. Darmostuk & O. Khodosovtsev (KHER 11665); Snihurivs'kyi district, near Galoganivka village, 46.91592°N, 32.85133°E, 13 m, on *Lecania turicensis*, on limestone, 6 May 2018, V. Darmostuk 026a & O. Khodosovtsev (herb. VD); near Novovasylivka village, 47.01166°N, 32.79936°E, 12 m, on *V. aurantia*, on limestone, 12 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 12468); Odesa region, Lymanskyi district, near Port village, 46.71592°N, 31.04314°E, 53 m, on *Xanthocarpia crenulatella*, on limestone, 30 Aug. 2018, V. Darmostuk 174 (herb. VD); near Volkove, 46.87103°N, 31.05893°E, 65 m, on *C. contorta*, on limestone, 2 May 1996, O. Khodosovtsev (KHER 9698); Zaporizhzhia region, Melitopol's'kyi district, near Troitske village, 47.06741°N, 35.4122°E, 82 m, on *Xanthocarpia crenulatella*, on limestone, 23 Oct. 2008, O. Khodosovtsev & T. Zavyalova (KHER 1456).

Muellerella pygmaea (Körb.) D. Hawksw.

Notes. This is a common species in southern Ukraine, where it has been reported mostly on non-calicolous lichens (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined. UKRAINE. Dnipropetrovsk region, Kryvoriz'ka city council, Krasna ravine, 48.10362°N, 33.51197°E, 85 m, on *Acarospora fuscata*, on siliceous stone, 10 Jul. 2018, V. Darmostuk (KHER 11721); Shyrokivs'kyi district, near Chkalivka village, 47.78001°N, 33.26631°E, 30 m, on *Lobothallia alphoplaca*, on granite, 11 Oct. 2008, G. Naumovych (KHER 9460); Donetsk region, Nikolskyi district, near Nazarivka village, Nature Reserve Kamyani Mogyly, 47.30421°N, 37.07458°E, 190 m, on *Candelariella vitellina*, on granite, 8 Jul. 2018, V. Darmostuk & O. Khodosovtsev (KHER 11727); *ibid.*, 47.30488°N, 37.07468°E, 185 m, on *Acarospora* sp., on granite, 8 Jul. 2018, V. Darmostuk (KHER 11909); *ibid.*, 47.30585°N, 37.0742°E, 190 m, on *Lecidea fuscoatra*, on granite, 8 Jul. 2018, V. Darmostuk (KHER 11906); Tel'manivs'kyi district, near Granitne village, 47.41958°N, 37.8674°E, 60 m, on *Bellemerea cupreoatra*, on granite, 28 Apr. 2013, O. Khodosovtsev & V. Darmostuk (KHER 9405); Luhansk region, Lutuhyns'kyi district, near Verkhnia Orichivka village, 48.35975°N, 39.33591°E, 130 m, on *B. cupreoatra*, on siliceous stone, 4 May 2005, O. Nadyeina (KW); Luhansk region, Sverdlovs'kyi district, near Provallia village, 48.15105°N, 39.84104°E, 145 m, on *B. cupreoatra*, on granite, 23 Jul. 2005, O. Nadyeina (KW); Mykolaiv region, Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 47.9705°N, 31.03775°E, 44 m, on *L. fuscoatra*, on granite, 21 Sept. 2019, V. Darmostuk 286 (herb. VD); Voznesens'kyi district, near Aktove village, 47.70565°N, 31.42605°E, 48 m, on *L. fuscoatra*, on granite, 26 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 10677); *ibid.*, 47.71341°N, 31.46378°E, 52 m, on *L. fuscoatra*, on granite, 1 May 2016, O. Khodosovtsev & V. Darmostuk (KHER 9717); Zaporizhzhia region, Bilmatskyi district, near Rozivka village, Kamiani Mohyly, 47.31269°N, 37.07253°E, 190 m, on *B. cupreoatra*, on granite, 14 Sept. 1953, A. Oxner (KW); Chernihivs'kyi district, near Stulnevo village, waterfall on the Kainkulak River, 47.25857°N, 36.05859°E,

98 m, on *B. cupreoatra*, on granite, 28 Jun. 2018, O. Khodosovtsev & V. Darmostuk (KHER 12419); Melitopol's'kyi district, near Terpinia village, historical and archaeological reserve Kam'yana Mohyla, 46.95014°N, 35.46892°E, 14 m, on *Candelariella vitellina*, on sandstone, 4 Oct. 2007, O. Khodosovtsev & T. Zavyalova (KHER 4212); *ibid.*, 46.95028°N, 35.46988°E, 13 m, on *Circinaria caesiocinerea*, on sandstone, 4 Oct. 2007, O. Khodosovtsev & T. Zavyalova (KHER 14232).

**Nesolechia fusca* (Triebe & Rambold) Pérez-Ort.

Notes. This species has been reported from numerous localities in Europe, North America, Africa and Australia on various parmelioid hosts (Triebe et al. 1995). *Xanthoparmelia camtschadalis* is a new host species.

Specimen examined. UKRAINE. Mykolaiv region, Berezhuvats'kyi district, near Novohryhorivka village, steppe ravine, 47.2341°N, 33.09782°E, 27 m, on *Xanthoparmelia camtschadalis*, on soil, 7 May 2019, V. Darmostuk & O. Khodosovtsev (KHER 14852).

Opegrapha opaca Nyl. (Fig. 5E)

Notes. This is a rare species in southern Ukraine growing on *Verrucaria nigrescens* (Darmostuk 2021; Kondratyuk et al. 2021).

Specimens examined (all on *Verrucaria nigrescens*). UKRAINE. Kherson region, Beryslav's'kyi district, near Mykolaivka village, 46.78702°N, 33.23808°E, 22 m, on limestone, 19 Jul. 2008, O. Khodosovtsev & L. Gavrylenko (KHER 11783); near Novokairy village, 47.03559°N, 33.57653°E, 32 m, on limestone, 19 Apr. 1994, O. Khodosovtsev (KHER 12189); Bilozers'kyi district, near Mykilske village, 46.72405°N, 32.85745°E, 29 m, on limestone, 31 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11596); Velykooleksandrivs'kyi district, near Zapovit village, 47.09659°N, 32.96634°E, 19 m, on limestone, 2 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 12678); Mykolaiv region, Berezhuvats'kyi district, near Vysun village, 47.28254°N, 32.81288°E, 27 m, on limestone, 7 May 2019, V. Darmostuk 1017a (herb. VD).

Phacothecium varium (Tul.) Trevis.

Notes. This species was previously reported from several localities in Ukraine (e.g., Darmostuk & Khodosovtsev 2017). However, only the record from the Kherson region has been confirmed by recent collections (Darmostuk & Khodosovtsev 2021).

Specimen examined. UKRAINE. Kherson region, Kalanchats'kyi district, park in Rozdolne village, 46.16659°N, 33.22677°E, 7 m, on *Xanthoria parietina*, on *Fraxinus* bark, 24 Oct. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11254).

Phaeospora lecanorae Eitner

Notes. This is a rarely reported species in Ukraine that is known from the Autonomous Republic of Crimea and the Kherson region (Khodosovtsev et al. 2007; Darmostuk & Khodosovtsev 2021).

Specimen examined. UKRAINE. Kherson region, Kalanchats'kyi district, Khorly village, 46.07915°N, 33.29731°E, 8 m, on *Myriolecis albescens*, on concrete, 8 Aug. 2017, V. Darmostuk (KHER 10934).

Phomella candelariellae (Z. Kocakaya & Halıcı) Darmostuk

Notes on the examined specimens are provided in the Taxonomic results.

Phoma peltigerae (P. Karst.) D. Hawksw.

Notes. This species was recently reported as a new to Ukraine from the Ternopil region (Darmostuk & Sira 2022). This is the second record of the fungus in Ukraine.

Specimen examined. UKRAINE. Mykolaiv region, Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 47.99527°N, 31.00167°E, 51 m, on *Peltigera rufescens*, on soil, 21 Sept. 2019, V. Darmostuk 280 (herb. VD).

Pleospora xanthoriae Khodos. & Darmostuk

Notes. *Pleospora xanthoriae* was described from southern Ukraine on *Xanthoria parietina* (Khodosovtsev & Darmostuk 2019b), and subsequently reported from Hungary (Varga et al. 2021).

Specimens examined (all on *Xanthoria parietina*). UKRAINE. Kherson region, Holoprystans'kyi district, Black Sea Biosphere Reserve, Solonoozerna, N of Lake Gryazne, 46.2733°N, 31.5738°E, sand dunes, on growing on plant debris, 29 Feb. 2008, O. Umanets (KHER 9319); Chalbaska arena, Promin village, Shelemenski lakes, 46.34583°N, 32.81861°E, 31 m, on *Populus* bark, 5 Dec. 2015, O. Khodosovtsev (KHER 9330).

Polycoccum aksoyi Halıcı & V. Atienza

Notes. This species has been reported from scattered localities in India, the Netherlands, Turkey, and Ukraine (Halıcı & Candan 2007; Darmostuk & Golovenko 2016; Joshi et al. 2024; van der Kolk et al. 2024).

Specimen examined. UKRAINE. Dnipropetrovsk region, Kryvoriz'kyi district, near Rakhmanivka village, 48.13753°N, 33.50741°E, 130 m, on *Aspicilia* sp., on siliceous stone, 26 Jun. 2014, E. Golovenko (KHER 9633).

Polycoccum psoromatis (A. Massal.) Hafellner
[= *Clypeococcum psoromatis* (A. Massal.) Etayo]

Notes. This species is known from three localities on the Crimea Peninsula so far (Darmostuk & Khodosovtsev 2019).

Specimens examined (all on *Squamaria cartilaginea*). UKRAINE. Autonomous Republic of Crimea, Chornomorsk district, Tarkhankut peninsula, 45.25335°N, 32.32206°E, on soil, 12 Sept. 1994, O. Khodosovtsev (KHER 4952 sub *Squamaria cartilaginea*); Edukuyskii (Leninskii) district, cape Opuk, 45.02304°N, 36.13276°E, on limestone, 11 Sept. 1994, O. Khodosovtsev (KHER 12147); Meganom Cape, on soil, 26 Jun. 2008, S. Kondratyuk (KW).

Polycoccum pulvinatum (Eitner) R. Sant.

Notes. The species has been reported from scattered localities in Ukraine (Darmostuk & Khodosovtsev 2017).

Specimens examined (all on *Physcia caesia*). UKRAINE. Dnipropetrovsk region, Apostolivs'kyi district, near Tokivske village, 47.68511°N, 33.94261°E, 30 m, on granite, 3 Jul. 2018, V. Darmostuk 387 (herb. VD); Solonyans'kyi district, near Zvonetske village, 48.2505°N, 35.18381°E, 67 m, on granite,

1 Jul. 2018, V. Darmostuk 390 (herb. VD); Mykolaiv region, Novobuz'kyi district, near Razanivka village, 47.77962°N, 32.38162°E, 56 m, on granite, 29 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10953, 10997); Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 47.96895°N, 31.03937°E, 46 m, on granite, 21 Sept. 2019, V. Darmostuk 320 (herb. VD).

Polycoccum teresum Halıcı & K. Knudsen

Notes. This species has been reported on *Xanthoria calicicola* from a single locality in the Crimea Peninsula (Khodosovtsev 2011).

Pronectria caloplacae Khodos., Vondrák & Naumovich

Notes. This is a rarely reported species, which was described from southern Ukraine (Khodosovtsev et al. 2012) and recently found also from Switzerland (Zimmermann & Feusi 2023).

Specimens examined (all on *Flavoplaca austroclitina*). UKRAINE. Kherson region, Bilozers'kyi district, near Olexandrivka village, 46.69796°N, 32.12755°E, 40 m, on concrete, 11 Jan. 2018, V. Darmostuk & O. Khodosovtsev (KHER 11577); Kakhovs'kyi district, 1 km W from the village Zaozerne, bank of the water channel Kachovskiy kanal, 46.59409°N, 33.86271°E, 39 m, on concrete, 15 Nov. 2006, O. Khodosovtsev (KHER 6248).

Pronectria casaresii Etayo

Notes. This is a rarely reported species on *Evernia prunastri*, which is so far known from Spain and Ukraine (van den Boom & Etayo 2014; Khodosovtsev & Darmostuk 2017a).

Pronectria dillmaniae Zhurb.

Notes. This fungus was tentatively reported from Ukraine on *Placidium squamulosum* based on a poorly developed specimen (Khodosovtsev & Darmostuk 2017a). Overall, the species appears to be rare, as it has only been recorded from a few locations in Norway, Ukraine, and the USA (Zhurbenko et al. 2005; Khodosovtsev & Darmostuk 2017a; Frisch et al. 2022).

Pronectria diplococca Kocourk., Khodos., Naumovich, Vondrák & Motiej.

Notes. This species has been reported from a few localities in Ukraine, but it is probably overlooked due to its small size and seasonality patterns (Khodosovtsev et al. 2012; Darmostuk 2021a).

Specimens examined. UKRAINE. Kherson region, Bilozers'kyi district, village Nikolskoye, left bank of the river Ingulets, 46.71741°N, 32.81422°E, 18 m, on *Collema* sp., on soil, 13 Feb. 2011, O. Khodosovtsev & Yu. Khodosovtseva (KHER 6243, 6244, 6245); Sofievka village, 46.59435°N, 32.23812°E, 20 m, on *Collema* sp., on loess outcrop, O. Khodosovtsev & Yu. Khodosovtseva (KHER 6246, 6247).

Pronectria leptaleae (J. Steiner) Lowen

Notes. This species has been reported from a few localities in southern Ukraine (Darmostuk 2021a; Darmostuk & Khodosovtsev 2021).

Specimens examined (all on *Physcia stellaris*). Mykolaiv region, Brats'kyi district, near Vysoka Hora village, Dubova balka, 47.8902°N, 31.61327°E, 94 m, on *Acer* bark, 21 Oct. 2020, V. Darmostuk 940 (herb. VD); Voznesens'kyi district, near Trykraty village, 47.70655°N, 31.40903°E, 63 m, on *Fraxinus* bark, 21 Oct. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10322).

Pronectria xanthoriae Lowen & Diederich

Notes. This is a rare species in Ukraine and known from only two localities in Dnipropetrovsk and Mykolaiv regions (Darmostuk et al. 2018; Khodosovtsev & Khodosovtseva 2022).

Specimen examined. UKRAINE. Mykolaiv region, Ochakiv'skyi district, near Pokrovske village, 46.52508°N, 31.64342°E, 5 m, on *Xanthoria parietina*, on *Populus* bark, 6 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10689).

Protocreopsis globulosa Darmostuk

Notes. This species was recently described from the Kharkiv region on *Lecania cyrtella* (Crous et al. 2024). This is the second record of this species in Ukraine and *Xanthoria parietina* is a new host.

Specimen examined. UKRAINE. Mykolaiv region, Pervomais'kyi district, near Katerynka village, 47.93541°N, 30.72721°E, 78 m, on *Xanthoria parietina*, on *Populus* bark, 4 Jul. 2020, V. Darmostuk 735 (herb. VD).

Pyrenidium actinellum Nyl. s.lat.

Notes. This is a rarely reported species in Ukraine, which was known on several unrelated hosts (Darmostuk & Khodosovtsev 2017; Gromakova 2018; Zitenyuk & Khodosovtsev 2024).

Specimens examined. UKRAINE. Autonomous Republic of Crimea, Leninskyi district, Opuk Mts, 45.0375°N, 36.22361°E, 156 m, on *Endocarpon* sp., on soil, 11 Aug. 1994, O. Khodosovtsev (KHER 6164); Dnipropetrovsk region, Kryvoriz'ka city council, Skeli Modru, 47.88888°N, 33.30666°E, 37 m, on *Aspicilia* sp., on siliceous stone, 18 Oct. 2007, O. Khodosovtsev & G. Naumovych (KHER 3927); Kharkiv region, Dvorichans'kyi district, near Novomlynske village, 49.90099°N, 37.74971°E, 108 m, on *Enchylium tenax*, on chalk soil, 04 Sept. 2012, A. Gromakova (CWU 202617).

Pyrenochaeta xanthoriae Diederich

Notes. This is a common species in southern Ukraine growing on *Xanthoria parietina* (Darmostuk & Khodosovtsev 2017; Darmostuk et al. 2023).

Specimens examined (all on *Xanthoria parietina*). UKRAINE. Dnipropetrovsk region, Novomoskovs'kyi district, near Andriivka village, Samarskiy forest, 48.7638°N, 35.48565°E, 75 m, on *Populus* bark, 9 Jul. 2018, V. Darmostuk (KHER 11719); Kherson region, Beryslavs'kyi district, near Mykolaivka village, Kozak Island, 46.77355°N, 33.30219°E, 5 m, on *Populus* bark, 21 Jul. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11743); Bilozers'kyi district, near Sofiivka village, 46.5961°N, 32.2427°E, 25 m, on *Robinia* bark, 14 Dec. 2016, V. Darmostuk (KHER 10922); Holoprystans'kyi district, Tendra Island, 46.24184°N, 31.63674°E, 1 m, on *Ephedra* twig, 30 Apr. 2009, O. Khodosovtsev (KHER 7315); near Promin village, 46.34914°N, 32.79491°E, 24 m, on *Populus* bark, 5 Dec.

2015, Yu. Khodosovtseva & O. Khodosovtsev (KHER 9612, 9622); Oleshkivskiy district, near Pidstepne village, 46.65142°N, 32.89145°E, 14 m, on *Populus* bark, 5 Apr. 2008, O. Khodosovtsev (KHER 4096); Velykooleksandriv's'kiy district, near Maxima Horkoho village, 47.09261°N, 33.27636°E, 67 m, on *Populus* bark, 8 Jul. 2017, O. Khodosovtsev & V. Darmostuk (KHER 11740); near Zaporizhzhia village, 47.29236°N, 33.21751°E, 43 m, on *Ulmus* twig, 30 Apr. 2017, V. Darmostuk (KHER 10924); near Velyka Olexandrivka village, 47.31898°N, 33.2514°E, 25 m, on *Quercus* bark, 21 Oct. 2017, V. Darmostuk (KHER 10825); Mykolaiv region, Ochakiv's'kiy district, near Pokrovske village, 46.52703°N, 31.63986°E, 2 m, on *Populus* bark, 4 Oct. 2015, O. Khodosovtsev (KHER 9261); Pervomais'kiy district, near Lviv village, 47.90675°N, 31.07981°E, 50 m, on *Prunus* twig, 5 Jul. 2020, V. Darmostuk 720 (herb. VD); Odesa region, Ovidiopol's'kiy district, Karolino-Bugaz village, Park Gaiok, 46.15595°N, 30.54316°E, 15 m, on *Populus* bark, 6 Sept. 2021, V. Darmostuk 1154 (herb. VD); Bolgrad district, Vesela Dolyna village, 46.23736°N, 29.29189°E, 144 m, on *Fraxinus pennsylvanica*, 17 Oct 2025, O. Khodosovtsev 16673 (KW-L76321).

Rhizoctonia bulbillifaciens (Diederich & Lawrey) R.P. O'Donnell, C.C. Linde & T.W. May (= *Ceratobasidium bulbillifaciens* Diederich & Lawrey)

Notes. Although not rare in southern Ukraine, this species is likely overlooked due to its small, inconspicuous bulbils. It is frequently found on corticolous lichens (Khodosovtsev & Darmostuk 2016a; Khodosovtsev et al. 2018b).

Specimens examined. UKRAINE. Kherson region, Bilozers'kiy district, near Alexandrivka village, 46.69673°N, 32.11161°E, 24 m, on *Xanthoria parietina*, on *Robinia* bark, 9 Jan. 2018, V. Darmostuk & O. Khodosovtsev (KHER 11390); Holoprystans'kiy district, near Burkuty village, 46.38564°N, 32.52688°E, 27 m, on *X. parietina*, on *Populus* bark, 9 Apr. 2008, O. Khodosovtsev (KHER 9507); Tendra Island, 46.2345°N, 31.64141°E, 1 m, on *Calogaya decipiens*, on concrete, 6 Oct. 2017, V. Darmostuk (KHER 12184, 12197); Velykooleksandriv's'kiy district, Mala Olexandrivka village, 47.29306°N, 33.27238°E, 21 m, on *Circinaria contorta*, on limestone, 8 Jul. 2014, V. Darmostuk (KHER 9489); near Zaporizzia village, Popova Yama Landmark, 47.29169°N, 33.23744°E, 17 m, on *X. parietina*, on *Ulmus* bark, 18 Oct. 2021, V. Darmostuk 1138 & O. Sira (herb. VD); Mykolaiv region, Domaniv's'kiy district, near Koshtove, 47.68608°N, 31.07749°E, 195 m, on *Lasallia pustulata*, on granite, 8 Jun. 2004, I. Moysiienko (KHER 1387).

Roselliniella lecideae Darmostuk, Khodos. & Naumovich

Notes. This species is known so far from the type locality in southern Ukraine (Darmostuk et al. 2018).

Specimens examined (all on *Lecideia fuscoatra*). UKRAINE. Dnipropetrovsk region, Kryvoriz'ka city council, right bank of river Demurina, 47.93955°N, 33.40069°E, 44 m, on siliceous stone, 17 Oct. 2007, O. Khodosovtsev & G. Naumovych (KHER 10706, 10707).

Rosellinula frustulosae (Vouaux) R. Sant. (Fig. 5F)

Notes. This species was described from the Crimea Peninsula (Vouaux 1913). Currently, *Rosellinula frustulosae* is known from several localities in southern Ukraine (Darmostuk et al. 2018; Darmostuk & Khodosovtsev 2020).

Specimens examined (all on *Lecanora argopholis*). UKRAINE. Kherson region, Beryslav's'kiy district, W of Tiahynka village, 46.76788°N, 33.04136°E, 10 m, on limestone, 4 Mar. 2021, V. Darmostuk 1000 (herb. VD); Velykooleksandriv's'kiy district, near Zelenyi Gai village, 47.15381°N, 32.95936°E, 31 m, on limestone, 6 May 2018, V. Darmostuk & O. Khodosovtsev (KHER 11674); Mykolaiv region, Voznesens'kiy district, near Trykraty village, 47.70523°N, 31.43227°E, 50 m, on granite, 27 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10705).

Sarcopyrenia cylindrospora (P. Crouan & H. Crouan) M.B. Aguirre

Notes. This species was previously known from two localities in Ukraine (Khodosovtsev & Zavyalova 2008; Darmostuk et al. 2021). It is reported here as new for the Dnipropetrovsk region.

Specimen examined. UKRAINE. Dnipropetrovsk region, Apostoliv's'kiy district, near Tokivske village, river Kamianka, 47.69121°N, 33.93467°E, 35 m, on *Aspicilia cinerea*, on granite, 21 Jul. 2008, O. Khodosovtsev & L. Gavrylenko (KHER 11786).

Sistotrema brinkmannii (Bres.) J. Erikss.

Notes. This saprotrophic species was reported once as a facultative lichenicolous fungus on *Xanthoria parietina* (Darmostuk et al. 2018).

Sphaerellothecium aculeatae Khodos., Gavrylenko & Klymenko (Fig. 5G)

Notes. This species was described based on numerous specimens from the Lower Dnipro sand dunes (Khodosovtsev et al. 2016a). We found this fungus to be rarer in other regions, despite the local abundance of its host (Darmostuk et al. 2021).

Specimens examined (all on *Cetraria aculeata*). UKRAINE. Mykolaiv region, Ochakiv's'kiy district, near Vasylivka village, 46.53224°N, 31.75174°E, 6 m, on sand, 6 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10893); Pervomais'kiy district, near Romanova Balka village, 47.93663°N, 31.04437°E, 60 m, on soil, 5 Jul. 2020, V. Darmostuk 716 (herb. VD); Snihuriv's'kiy district, near Yasna Poliana village, 46.95359°N, 32.84419°E, 22 m, on soil, 6 May 2019, V. Darmostuk 1168a (herb. VD); Kherson region, Holoprystans'kiy district, near Promin village, 46.36193°N, 32.7976°E, 27 m, on sand, 5 Jul. 2017, O. Khodosovtsev (KHER 9960, 9961); *ibid.*, 46.36196°N, 32.7976°E, 27 m, on sand, 5 Jul. 2017, O. Khodosovtsev (KHER 10000, 10001, 10002, 10770, 11071); near Burkuty village, 46.36973°N, 32.81079°E, 24 m, on sand, 10 Nov. 2010, O. Khodosovtsev (KHER 8732); 46.36747°N, 32.77491°E, 32 m, on sand, 9 Apr. 2008, O. Khodosovtsev (KHER 8605, 8606, 8733); *ibid.*, 46.37857°N, 32.81625°E, 24 m, on sand, 18 Nov. 2016, O. Khodosovtsev & V. Darmostuk (KHER 11645); Black Sea Biosphere Reserve, Solonoozerny, 46.46094°N, 31.95816°E, 1 m, on sand, 5 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 10856); *ibid.*, 46.46568°N, 31.94897°E, 1 m, on sand, 5 May 2017, O. Khodosovtsev (KHER 11382); near Ivanivka village, 46.41095°N, 32.17389°E, 5 m, on sand, 24 Jun. 2017, V. Darmostuk (KHER 11304); near Kardashynka village, 46.55899°N, 32.6224°E, 5 m, on sand, 10 May 2015, O. Khodosovtsev (KHER 8607); Oleshkivskiy district, near Radensk village, 46.62602, 33.00227°E, 14 m, on sand, 5 Apr. 2008, O. Khodosovtsev (KHER 5462, 5463, 5464); Kozachelager-skaya arena, 46.61797°N, 32.97011°E, 16 m, on sand, 5 Apr. 2008, O. Khodosovtsev (KHER 8604).

Sphaerellothecium cf. *atryneae* (Arnold) Roux & Triebel

Notes. This species is tentatively reported for Ukraine on *Lecanora polytropa* based on a record from the Mykolaiv region (Darmostuk et al. 2018).

Sphaerellothecium pumilum (Lettau) Nav.-Ros., Cl. Roux & Hafellner

Notes. This species has been reported from a few localities in southern Ukraine, but it is probably overlooked due to the inconspicuous ascomata (Darmostuk & Khodosovtsev 2020).

Specimens examined (all on *Physcia caesia*). UKRAINE. Dnipropetrovsk region, Solonyans'kyi district, near Zvonetske village, 48.2505°N, 35.18381°E, 67 m, on granite, 1 Jul. 2018, V. Darmostuk 399 (herb. VD); Mykolaiv region, Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 47.96895°N, 31.03937°E, 46 m, on granite, 21 Sept. 2019, V. Darmostuk 319 (herb. VD).

Sphinctrina leucopoda Nyl.

Notes. This is a rarely reported species in Ukraine, being known from Mykolaiv and Zakarpattia regions (Malíček et al. 2018; Darmostuk & Khodosovtsev 2020).

Specimens examined. UKRAINE. Mykolaiv region, Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 47.96895°N, 31.03937°E, 46 m, on *Glaucoparia rupicola*, on granite, 21 Sept. 2019, V. Darmostuk 311 (herb. VD); ibid., 47.9822°N, 31.02017°E, 69 m, on *Lecanora orosthea*, on granite, 1 Jul. 2020, O. Khodosovtsev (KHER 13976).

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

Notes. The species is not frequently reported in Ukraine on *Lecanora* and *Flavoparmelia* (Darmostuk et al. 2018, 2023). However, specimens other than from parmelioid hosts may represent a different species as discussed by Flakus et al. (2019).

Specimen examined. UKRAINE. Kherson region, Velykooleksandrivs'kyi district, near Mala Olexandrivka village, 47.29912°N, 33.25461°E, 47 m, on *Flavoparmelia caperata*, on *Acer* bark, 30 Apr. 2017, V. Darmostuk (KHER 10653).

**Spirographa skorinae* Tsuryskau, Brackel, Flakus & Kukwa

Notes. Our specimens are characterized by hyaline, aseptate, triangular (Y-shaped) conidia composed of a thick main axis with truncate base, $(8.0\text{--}8.2\text{--}12.4\text{--}(13.0) \times (2.0\text{--}2.2\text{--}2.6\text{--}(2.8) \mu\text{m}$ ($n=25$), with a narrow appendage at the base, and two gradually tapering divergent arms, $(6.8\text{--}7.8\text{--}10.2\text{--}(12.6) \times (1.4\text{--}1.6\text{--}2.2\text{--}(3.0) \mu\text{m}$ ($n=30$). The species was recently described from Belarus, Germany and Poland (Manawasinghe et al. 2025). The specimen KHER 9504 was published as *Cornutispora ciliata* by Khodosovtsev & Darmostuk (2016a), but it belongs to *Spirographa skorinae*.

Specimens examined (all on *Polycauliona polycarpa*). UKRAINE. Kherson region, Beryslavs'kyi district, near Republicanets village, Kamianska balka, 47.08252°N, 33.56773°E,

44 m, on *Robinia* bark, 30 Sept. 2015, V. Darmostuk (KHER 9504); Velykooleksandrivs'kyi district, near Mala Olexandrivka village, 47.29911°N, 33.25461°E, 47 m, on *Pinus* twig, 04 Jan. 2018, V. Darmostuk (KHER 11400).

Stigmidium bellemerei Cl. Roux & Nav.-Ros.

Notes. So far, this species is known on *Lecania turicensis* from a single locality in Ukraine (Darmostuk & Khodosovtsev 2019).

Stigmidium clauzadei Cl. Roux & Nav.-Ros.

Notes. *Stigmidium clauzadei* has been reported from numerous localities in Ukraine (Darmostuk & Khodosovtsev 2020; Darmostuk 2021b; Darmostuk et al. 2024a). The species has inconspicuous ascomata and may have been overlooked.

Specimens examined. UKRAINE. Donetsk region, Slavyansk district, Pryshyb village, cretaceous slopes, 49.02878°N, 37.63957°E, 104 m, on *Verrucaria viridula*, on chalk, 11 May 2023, O. Khodosovtsev (KHER 15495); Mykolaiv region, Novoodes'kyi district, near Mykhailivka village, 47.39059°N, 31.62776°E, 9 m, on *V. viridula*, on limestone, 26 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10799); Zaporizhzhia region, Melitopol's'kyi district, near Troitske village, Troitska ravine, 47.06103°N, 35.43336°E, 84 m, on *Verrucaria* sp., on limestone, 7 Jul. 2018, V. Darmostuk (KHER 11964).

Stigmidium fuscatae (Arnold) R. Sant.

Notes. This species has been reported from numerous localities in Ukraine, mostly associated with granite outcrops (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined (all on *Acarospora fuscata*). UKRAINE. Donetsk region, Nikolskyi district, near Nazariivka village, Nature Reserve 'Kamyani Mogyly', 47.30757°N, 37.07465°E, 180 m, on granite, 8 Jul. 2018, V. Darmostuk (KHER 11916); Mykolaiv region, Novobuz'kyi district, near Rozanivka village, 47.77953°N, 32.38249°E, 65 m, on granite, 27 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10991); Pervomais'kyi district, Mygia village, 48.00801°N, 30.98621°E, 67 m, on granite, 16 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 11990); near Romanova Balka village, 47.93927°N, 31.04265°E, 54 m, on granite, 5 Jul. 2020, V. Darmostuk 744 (herb. VD); Voznesens'kyi district, near Aktove village, 47.71245°N, 31.46394°E, 52 m, on granite, 21 Oct. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10595); near Trykraty village, 47.70557°N, 31.4415°E, 40 m, on granite, 10 Nov. 2018, V. Darmostuk & O. Sira (KHER 12182).

Stigmidium mycobilimbiae Cl. Roux, Triebel & Etayo

Notes. This species has previously been reported from the Odesa region (Khodosovtsev et al. 2016b). It is here newly recorded for the Autonomous Republic of Crimea.

Specimens examined (all on *Mycobilimbia sabuletorum*). UKRAINE. Autonomous Republic of Crimea, Leninskyi district, Koralavski quarries, on mosses, 9 Jul. 1996, O. Redchenko (KHER 14304); Odesa region, Lymanskyi district, near Kaity village, 46.9262°N, 30.97802°E, 16 m, on limestone, 2 May 1995, O. Khodosovtsev (KHER 10145, 10146).

Stigmidium ramalinae (Müll.Arg.) Etayo & Diederich

Notes. So far, this species is known on *Ramalina fraxinea* from a single locality in Ukraine (Darmostuk & Khodosovtsev 2019).

Stigmidium rouxianum Calat. & Triebel (Fig. 4H)

Notes. This fungus has been reported from a few localities in the Autonomous Republic of Crimea, Kherson and Khmelnytskyi regions of Ukraine (Darmostuk & Khodosovtsev 2017).

Specimen examined. UKRAINE. Kherson region, Beryslav's'kyi district, W of Tiahynka village, 46.76788°N, 33.04136°E, 10 m, on *Acarospora cervina*, on limestone, 4 Mar. 2021, V. Darmostuk 995 (herb. VD).

Stigmidium stygnospila (Minks) R. Sant.

Notes. So far, this species is known on *Dermatocarpon miniatum* from a single locality in Ukraine (Darmostuk et al. 2018).

Stigmidium squamariae (B. de Lesd.) Cl. Roux & Triebel

Notes. This species is rather rare, but locally abundant in southern Ukraine (Darmostuk & Khodosovtsev 2017; 2020).

Specimens examined (all on *Protopermelioopsis muralis* unless otherwise indicated). UKRAINE. Kherson region, Beryslav's'kyi district, near Tyahynka village, 46.76783°N, 33.04118°E, 10 m, on limestone, 31 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11599, 11602); W of Tiahynka village, 46.76393°N, 33.04552°E, 10 m, on limestone, 5 Mar. 2021, V. Darmostuk 990 (herb. VD); Velykooleksandriv's'kyi district, near Zapovit village, 47.09901°N, 32.97331°E, 16 m, on limestone, 2 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 12477); near Zaporizhzhia village, 47.28965°N, 33.21473°E, 32 m, on limestone, 30 Apr. 2017, V. Darmostuk (KHER 11301); Luhansk region, Lutuhyn's'kyi district, near Uspenka village, 48.38163°N, 39.14012°E, 142 m, on siliceous stone, 3 May 2005, O. Nadyeina (KW); Mykolaiv region, Snihuriv's'kyi district, near Olexandrova village, 46.85497°N, 32.77696°E, 15 m, on limestone, 2 May 2018, V. Darmostuk (KHER 11709); near Galoganivka village, 46.92158°N, 32.8615°E, 34 m, on limestone, 6 May 2018, V. Darmostuk (KHER 11672); Ochakiv's'kyi district, ancient city Olbia, 46.68982°N, 31.90336°E, 27 m, on *Myriolecis albescens*, on concrete, 25 Mar. 1995, O. Khodosovtsev (KHER 5305.b); ibid., 7 Oct. 2016, V. Darmostuk (KHER 10150); Voznesens's'kyi district, near Aktove village, 47.70627°N, 31.44117°E, 51 m, on granite, 21 Oct. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10321).

Stigmidium tabacinae (Arnold) Triebel (incl. *Stigmidium glebarum* (Arnold) Hafellner)

Notes. In Ukraine, this species was reported under the two names *Stigmidium glebarum* and *Stigmidium tabacinae* (Bielczyk et al. 2005; Boiko 2008; Khodosovtsev et al. 2016b; Darmostuk et al. 2021). However, these two species are only tentatively separated due to overlapping morphological features and unclear host selections (Arnold 1881; Triebel 1989; Triebel & Scholz 2001). Therefore, we include all specimens under the name *Stigmidium tabacinae* following Triebel & Scholz (2001).

Specimens examined. UKRAINE. Dnipropetrovsk region, Novomoskov's'kyi district, near Spaske village, 48.66482°N, 35.0038°E, on *Thalloidima* sp., on soil, 13 Sept. 2020, O. Khodosovtsev (KHER 14517); Kherson region, Velykooleksandriv's'kyi district, near Zaporizhzhia village, 47.28838°N, 33.21358°E, 23 m, on *Thalloidima opuntioides*, on limestone, 3 May 2018, V. Darmostuk (KHER 11710); Mykolaiv region, Snihuriv's'kyi district, near Lymantsi village, 46.84785°N, 32.82416°E, on *T. sedifolium*, on soil, 6 May 2019, V. Darmostuk 662 (herb. VD); Yelanets's'kyi district, Yelanetskyi step Natural Reserve, 47.55984°N, 32.02414°E, on *T. physaroides*, on limestone, 1 Dec. 2007, T. Boiko (KHER 11875); ibid., 47.55906°N, 32.02769°E, on *T. physaroides*, on limestone, 1 Dec. 2009, T. Boiko (KHER 11887); Odesa region, Lyman's'kyi district, near Kaity village, 46.9262°N, 30.97802°E, 16 m, on *T. opuntioides*, on limestone, 2 May 1995, O. Khodosovtsev (KHER 9710, 10372); ibid., on *T. sedifolium*, on soil, 2 May 1995, O. Khodosovtsev (KHER 9701).

Stigmidium xanthoparmeliarum Hafellner

Notes. The species is frequent in southern Ukraine, and its distribution is largely associated with siliceous outcrops (Naumovich & Darmostuk 2015; Darmostuk & Khodosovtsev 2020).

Specimens examined (all on *Xanthoparmelia conspersa*). UKRAINE. Dnipropetrovsk region, Kryvoriz's'kyi district, near Chkalivka village, 48.01475°N, 33.28572°E, 70 m, on siliceous stone, 11 Oct. 2008, O. Khodosovtsev, G. Naumovych & O. Smetana (KHER 9464); near Kolomiitseve village, 48.07499°N, 33.54255°E, 53 m, on siliceous stone, 17 Oct. 2007, O. Khodosovtsev & G. Naumovych (KHER 9505, 9506); Donetsk region, Nikolskyi district, near Nazariivka village, Nature Reserve 'Kamyani Mogyly', 47.30934°N, 37.07906°E, 172 m, on granite, 13 May 2011, O. Khodosovtsev (KHER 12187); Mykolaiv region, Brats's'kyi district, near Aktove village, 47.71795°N, 31.48208°E, 53 m, on granite, 1 May 2016, V. Darmostuk & O. Khodosovtsev (KHER 9725); Mykolaiv region, Yelanets's'kyi district, near Vodiano-Loryno village, 47.57216°N, 32.10551°E, 60 m, on granite, 10 Apr. 2016, V. Darmostuk & O. Khodosovtsev (KHER 9754); Zaporizhzhia region, Chernihiv's'kyi district, near Stulnevo village, 47.25857°N, 36.05859°E, 98 m, on granite, 28 Jun. 2018, V. Darmostuk & O. Khodosovtsev (KHER 11701); Zaporiz'ka city council, Khortytsa Island, Black rock, 47.81678°N, 35.08696°E, 27 m, on granite, 29 Jun. 2018, O. Khodosovtsev & V. Darmostuk (KHER 12436).

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

Notes. This hyphomycetous species has been reported from a few localities in southern Ukraine on several hosts (Darmostuk & Khodosovtsev 2017; Darmostuk et al. 2018).

Specimens examined. UKRAINE. Kherson region, Holoprys'tans's'kyi district, Black Sea Biosphere Reserve, Solonoozerny, 46.46094°N, 31.95816°E, 1 m, on *Glaucomaria carpinea*, on *Quercus* bark, 5 May 2017, V. Darmostuk (KHER 10700); Velykooleksandriv's'kyi district, Mala Olexandrivka village, 47.29149°N, 33.27721°E, 50 m, on *Physconia distorta*, on *Morus* bark, 22 Jan. 2017, V. Darmostuk (KHER 11074); Mykolaiv region, Ochakiv's'kyi district, Volyzhyn forest, 46.53438°N, 31.71666°E, 1 m, on *G. carpinea*, on *Quercus* bark, 29 Jan. 1994, O. Khodosovtsev (KHER 9848).

Taeniolella phaeophysciae D. Hawksw.

Notes. This is a frequently reported species in Ukraine growing on *Phaeophyscia orbicularis* (Darmostuk & Khodosovtsev 2017, 2020). This species is the first time reported from Odesa region.

Specimens examined (all on *Phaeophyscia orbicularis*). UKRAINE. Kherson region, Chaplyns'kyi district, Askania-Nova, arboretum, 46.45975°N, 33.87587°E, 30 m, on *Quercus* bark, 23 Aug. 2014, O. Khodosovtsev (KHER 8430, 8470); Kalanchats'kyi district, park near Rozdolne village, 46.16341°N, 33.22661°E, 12 m, on *Fraxinus* bark, 30 Jun. 2017, V. Darmostuk & O. Khodosovtsev (KHER 10747); Oleshkivskiy district, near Burkuty village, 46.41557°N, 32.84362°E, 19 m, on *Salix* bark, 11 Oct. 2011, O. Khodosovtsev (KHER 4879); *ibid.*, 29 Dec 2017, O. Khodosovtsev & V. Darmostuk (KHER 11102); Velykooleksandrivs'kyi district, near Bilousove village, Nedohirskiy forest, 47.31593°N, 33.24181°E, 23 m, on *Fraxinus* bark, 21 Oct. 2017, V. Darmostuk & O. Khodosovtsev (KHER 10828); Mykolaiv region, Berezans'kyi district, near Tashyne village, 46.88322°N, 31.18924°E, 64 m, on *Acer* bark, 3 Jul. 2019, V. Darmostuk 161 (herb. VD); Pervomais'kyi district, near Romanova Balka village, 47.93663°N, 31.04437°E, 60 m, on *Acer* bark, 5 Jul. 2020, V. Darmostuk 739 (herb. VD); Voznesens'kyi district, Labirynt area "Trykratskyi lis", 47.71174°N, 31.40641°E, 60 m, on *Fraxinus* bark, 9 Apr. 2021, O. Khodosovtsev & V. Klymenko (KHER 14717); Odesa region, Bolgrad district, Vesela Dolyna village, 46.23736°N, 29.29189°E, 144 m, on *Fraxinus pennsylvanica*, 17 Oct. 2025, O. Khodosovtsev 16683 (KW-L76318).

Taeniolella rolfii Diederich & Zhurb.

Notes. This species has been reported from a few localities in southern Ukraine (Khodosovtsev et al. 2018).

Specimens examined (all on *Cetraria aculeata*). UKRAINE. Kherson region, Holoprystans'kyi district, near Promin village, 46.35894°N, 32.77912°E, 33 m, on sand, 5 Jan. 2017, O. Khodosovtsev (KHER 10911, 11082, 11083); Khrestova saga, 46.44554°N, 32.04275°E, 1 m, on sand, 25 Jun. 2017, V. Darmostuk (KHER 11307); near Burkuty village, 46.37615°N, 32.79469°E, 28 m, on sand, 25 Apr. 2017, O. Khodosovtsev (KHER 10912).

Toninia talparum Timdal

Notes. This is a rare species in Ukraine, which has been reported from Kherson, Khmelnytskyi and Mykolaiv regions (Zelenko 2005; Darmostuk & Khodosovtsev 2020).

Specimens examined (all on *Lecania turicensis*). UKRAINE. Kherson region, Beryslavs'kyi district, near Mylove village, 47.06414°N, 33.58893°E, 72 m, on limestone, 2 Jun. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11051); Mykolaiv region, Snihurivs'kyi district, near Galoganivka village, 46.90909°N, 32.84826°E, 35 m, on limestone, 6 May 2018, V. Darmostuk & O. Khodosovtsev (KHER 11679).

**Tremella celata* Pérez-Ort., Millanes, V.J. Rico & J.C. Zamora

Notes. This is an inconspicuous species on *Ramalina fraxinea*, which forms resupinate, diffuse galls and 1(–3)-septate basidia that occasionally have a short stalk-like base (Zamora et al. 2016). The species has been reported from

a few localities in France, Spain and Sweden, but it is probably overlooked (Diederich et al. 2022).

Specimen examined. UKRAINE. Kherson region, Holoprystans'kyi district, near Promin village, 46.39448°N, 32.80922°E, 34 m, on *Ramalina fraxinea*, on *Fraxinus* bark, 21 Nov. 2015, V. Darmostuk 1900 (herb. VD).

**Tremella parietinae* Freire-Rallo, Diederich, Millanes & Wedin

Notes. This is a recently described species, which was segregated from *Tremella caloplacae* complex (Freire-Rallo et al. 2023). The species was reported from Kherson region as *Tremella caloplacae* (Darmostuk et al. 2023) and here *T. parietinae* is formally reported as the new to Ukraine.

Specimens examined (all on *Xanthoria parietina*). UKRAINE. Kherson region, Velykooleksandrivs'kyi district, near Zaporizhzhya village, Popova Yama Landmark, 47.29148°N, 33.23829°E, 18 m, on *Ulmus* twig, 11 Apr. 2021, V. Darmostuk (KHER 14722); *ibid.*, 47.29169°N, 33.23744°E, 17 m, on *Ulmus* twig, 18 Oct. 2021, V. Darmostuk 1140 & O. Sira (herb. VD).

Trichoconis physciicola Brackel (= *Trichoconis hafellneri* U. Braun, Khodos., Darmostuk & Diederich)

Notes. *Trichoconis hafellneri* was originally described from southern Ukraine (Braun et al. 2016), but recently Diederich et al. (2024) showed that the species is a younger synonym of *T. physciicola*.

Specimens examined (all on *Xanthoria parietina*). UKRAINE. Kherson region, Holoprystans'kyi district, near Promin village, 46.3462°N, 32.83248°E, 34 m, on *Populus* bark, 21 Nov. 2015, V. Darmostuk & O. Khodosovtsev (KHER 3929, 9328, 9430, 9431, 9432); near Burkuty village, 46.39405°N, 32.80992°E, 21 m, on *Populus* bark, 18 Nov. 2016, O. Khodosovtsev & V. Darmostuk (KHER 14645); *ibid.*, 46.3992°N, 32.79552°E, 21 m, on *Populus* bark, 10 May 2019, V. Darmostuk 111 & O. Khodosovtsev (herb. VD); Velykooleksandrivs'kyi district, near Mala Olexandrivka village, 47.30562°N, 33.28751°E, 42 m, on *Salix* bark, 17 Oct. 2021, V. Darmostuk 1132 & O. Sira (herb. VD); *ibid.*, 47.29552°N, 33.2746°E, 21 m, on *Salix* bark, 30 Jan. 2022, V. Darmostuk 1086 & O. Sira (herb. VD).

Trichonectriella aff. *rhabdospora* (W. Gams) Darmostuk

Notes. The examined specimens are characterized by conidiogenous cells 30–50 µm long, absent or very short unbranched conidiophores ~2–5 µm long, and 0(–1) septate conidia (4.1–)5.1–7.3(–9.3) × (1.5–)1.8–2.8(–3.0) µm (n=80). The relative frequency of 1-septate conidia was 6%.

Based on a megablast search of NCBI's GenBank nucleotide database, the closest hit using the ITS sequence was two specimens, *Trichonectriella rhabdospora* strain CBS 438.66 (GenBank: MH858850; Identities = 507/522 (97%), Gaps = 1/522 (0%) and *Trichonectriella everniae* strain CPC 40760 (GenBank: OK664736; Identities = 490/500 (98%), Gaps = 1/500 (0%)). However, we obtained only one ITS sequence, that is not enough to evidently distinguish this species from others in the genus, therefore we do not formally describe it here waiting for more data become available.

Specimens examined (all on *Cetraria aculeata*). UKRAINE. Kherson region, Holoprystans'kyi district, Burkuty village,

46.402814°N, 32.802051°E, 18 m, on sand, 28 Apr. 2017, O. Khodosovtsev (KHER 12103); *ibid.*, 46.37014°N, 32.78261°E, 19 m, on sand, 21 May 2016, O. Khodosovtsev & V. Darmostuk (KHER 11154); on way between Burkuty village and Promin village, 46.3599°N, 32.79511°E, 27 m, on sand, 28 Apr. 2017, O. Khodosovtsev (KHER 10666); *ibid.*, 46.35656°N, 32.79091°E, 31 m, on sand, 28 Apr. 2017, O. Khodosovtsev (KHER 10668); *ibid.*, 46.36196°N, 32.79697°E, 28 m, on sand, 28 Apr. 2017, O. Khodosovtsev (KHER 11157); Oleshkivskiy district, Landscape Reserve “Sagy”, 46.61944°N, 32.82331°E, 14 m, on sand, 10 May 2016, O. Khodosovtsev (KHER 10286); *ibid.*, 46.61778°N, 32.8342°E, 13 m, on sand, 10 May 2016, O. Khodosovtsev & V. Darmostuk (KHER 10288); Mykolaiv region, Ochakiv’skiy district, near Vasilivka village, National Park Biloberezhzha Svyatoslava, 46.52782°N, 31.76805°E, 3 m, on sand, 6 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10892); *ibid.*, 46.53198°N, 31.76442°E, 2 m, on sand, 6 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 10896).

Trichonectriella rubefaciens (Ellis & Everh.) Darmostuk, Etayo & Flakus

Notes. This species has been reported from a few localities and forms locally abundant populations on *Parmelia sulcata* (Darmostuk & Khodosovtsev 2017).

Specimens examined (all on *Parmelia sulcata*). UKRAINE. Kherson region, Holoprystans’kiy district, near Burkuty village, 46.39201°N, 32.8322°E, 21 m, on *Quercus* branch, 8 Jul. 2015, O. Khodosovtsev (KHER 9269, 9270, 9271, 9272); *ibid.*, 46.39201°N, 32.8322°E, 21 m, on *Quercus* branch, 28 Dec. 2017, O. Khodosovtsev & V. Darmostuk (KHER 11101); *ibid.*, 46.39474°N, 32.81004°E, 22 m, on *Quercus* branch, 21 Nov. 2015, O. Khodosovtsev & V. Darmostuk (KHER 9593).

Trichothecium roseum (Pers.) Link

Notes. This saprophytic fungus is widespread on different dead plant substrates, and reported also from lichen hosts (Darmostuk et al. 2018; Diederich et al. 2024).

Specimens examined. UKRAINE. Mykolaiv region, Brats’kiy district, Bratske city, Zhovtkevych park, 47.87157°N, 31.57273°E, 85 m, on *Physconia grisea*, on *Fraxinus* bark, 20 Oct. 2020, V. Darmostuk 893 (herb. VD); Kherson region, Khersons’ka city council, near Kherson State Agrarian University, park, 46.64167°N, 32.58571°E, 40 m, on *Xanthoria parietina*, on *Quercus* bark, 29 Oct. 2015, V. Volobueva (KHER 9525); Velykooleksandrivs’kiy district, Mala Olexandrivka village, 47.2917°N, 33.27678°E, 49 m, on *X. parietina*, on *Juglans* bark, 13 Jan. 2017, V. Darmostuk (KHER 10708).

Unguiculariopsis groenlandiae (Alstrup & D. Hawksw.) Etayo & Diederich

Notes. This is a locally abundant species in southern Ukraine on *Xanthocarpia borysthenica* (Kondratyuk et al. 2006).

Specimens examined. UKRAINE. Kherson region, Bilozers’kiy district, near Shyroka Balka village, 46.5774°N, 32.18186°E, 24 m, on *Xanthocarpia borysthenica*, on loess outcrops, 19 Aug. 2002, O. Khodosovtsev (KHER 11548, 11549).

Unguiculariopsis lucaniae Brackel

Notes. This species was recently reported as new to Ukraine from the Ternopil region (Darmostuk & Sira

2022). The present record represents the first report of this species from the Mykolaiv region.

Specimens examined. UKRAINE. Mykolaiv region, Per-vomais’kiy district, near Kuripchene village, National Nature Park Buzkyi Gard, 48.00309°N, 30.97984°E, 70 m, on *Lecania cyrtella*, on *Fraxinus* bark, 21 Sept. 2019, V. Darmostuk 264 (herb. VD).

Unguiculariopsis thallophila (P. Karst.) W.Y. Zhuang

Notes. This species has been reported from a few localities in the Dnipropetrovsk region of Ukraine (Darmostuk & Naumovich 2016). However, it is known primarily from corticolous *Lecanora* spp., and records on *Protoparmeliopsis muralis* require further study.

Specimens examined (all on *Protoparmeliopsis muralis*). UKRAINE. Dnipropetrovsk region, Kryvoriz’ka city council, Krasna ravine, 48.10362°N, 33.51197°E, 85 m, on siliceous outcrops, 10 Jul. 2018, V. Darmostuk (KHER 11691, 11708); near Chkalivka village, 48.01329°N, 33.28646°E, 68 m, on siliceous outcrops, 5 May 2008, G. Naumovych & O. Khodosovtsev (KHER 6962).

Weddellomyces epicallopisma (Wedd.) D. Hawksw.

Notes. *Weddellomyces epicallopisma* has been reported from a few localities in southern Ukraine (Darmostuk & Khodosovtsev 2019). This is the first record of this species from the Mykolaiv region.

Specimens examined. UKRAINE. Autonomous Republic of Crimea, Edykuy (Leninskyi) district, near Mts Opuk, 45.0425°N, 36.22519°E, 178 m, on *Variospora aurantia*, on limestone, 9 Jun. 1983, E. Kopachevskaya & N. Beznis (KW-L53290); Kherson region, Bilozers’kiy district, near Olexandrivka village, 46.69971°N, 32.13291°E, 41 m, on *Flavoplaca austrocitrina*, on concrete, 9 Jan. 2018, V. Darmostuk (KHER 11653); Velykooleksandrivs’kiy district, Mala Olexandrivka village, 47.28846°N, 33.26804°E, 31 m, on *Athallia inconnexa*, on limestone, 29 Sept. 2018, V. Darmostuk (KHER 12137); Mykolaiv region, Bereznehuvs’kiy district, near Vysun village, 47.28254°N, 32.81288°E, 27 m, on *Caloplaca* sp., on limestone, 7 May 2019, V. Darmostuk 1017 (herb. VD).

Weddellomyces heterochrous Nav.-Ros. & Cl. Roux

Notes. This species has been reported only from two localities in Ukraine (Nadyeina & Halıcı 2012; Darmostuk & Khodosovtsev 2020).

Specimen examined. UKRAINE. Mykolaiv region, Snihurivs’kiy district, near Novovasylivka village, 47.01166°N, 32.79936°E, 12 m, on *Circinaria calcarea*, on limestone, 12 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 12471).

Xanthoriicola physciae (Kalchbr.) D. Hawksw.

Notes. This is a common species in Ukraine (Darmostuk & Khodosovtsev 2017; Kondratyuk et al. 2021).

Specimens examined (all on *Xanthoria parietina*, unless otherwise indicated). UKRAINE. Dnipropetrovsk region, Novomoskovs’kiy district, near Andriivka village, Samarskiy forest, 48.7638°N, 35.48565°E, 75 m, on *Acer* bark, 9 Jul. 2018, V. Darmostuk (KHER 11658, 11717); Solonyans’kiy district, Bashmachka ravine, 48.19834°N, 35.00957°E, 130 m, on *Quercus* bark, 1 Jul. 2018, V. Darmostuk 381 (herb. VD); Kherson

region, Bilozers'kyi district, Fedorivka village, 46.80576°N, 32.8089°E, 21 m, on *Armeniaca* bark, 1 Apr. 2018, V. Darmostuk (KHER 11977); Chaplyns'kyi district, Askania-Nova, arboretum, 46.45737°N, 33.87178°E, 37 m, on *Fraxinus*, 6 Jul. 2018, V. Darmostuk (KHER 11733); Heniches'kyi district, near Strilkove village, 45.86691°N, 34.90726°E, 2 m, on *Quercus* bark, 5 Jul. 2016, O. Khodosovtsev (KHER 10294); Holoprystans'kyi district, Hola Prystan, 46.53543°N, 32.52489°E, 3 m, on *Eleagnus* twig, 11 Nov. 2007, O. Khodosovtsev (KHER 7262); near Burkuty village, 46.38742°N, 32.82243°E, 21 m, on *Quercus* bark, 21 May 2016, V. Darmostuk & O. Khodosovtsev (KHER 9579, 9939); road to Austrian mark, Tendra Island, 46.24206°N, 31.63835°E, 1 m, on *X. monofoliola*, on *Artemisia*, 30 Apr. 2009, O. Khodosovtsev (KHER 7296); *ibid.*, 46.2403°N, 31.63296°E, 1 m, on *X. monofoliola*, on *Artemisia*, 6 Oct. 2017, V. Darmostuk (KHER 12154); *ibid.*, 46.22828°N, 31.66758°E, 1 m, on wood, 6 Oct. 2017, O. Khodosovtsev & V. Darmostuk (KHER 12251); Kalanchats'kyi district, park near Rozdolne village, 46.1648°N, 33.22752°E, 11 m, on *Fraxinus* bark, 24 Oct. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11276); Karadai, 46.11204°N, 33.20384°E, 1 m, on *X. monofoliola*, on plant debris, 5 Jun. 2018, V. Darmostuk (KHER 11661); Oleshkivskiy district, near Sagy village, 46.62093°N, 32.83709°E, 14 m, on *Thymus*, 11 Nov. 2014, V. Darmostuk (KHER 9005); Velykoolleksandrivs'kyi district, Mala Olexandrivka village, 47.29244°N, 33.27433°E, 38 m, on *Prunus* twig, 13 Feb. 2016, V. Darmostuk (KHER 10927); *ibid.*, 47.29085°N, 33.30595°E, 46 m, on *Quercus* bark, 7 Nov. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11288); near Zaporizhzhia village, 47.29181°N, 33.21533°E, 45 m, on *Ulmus* twig, 30 Apr. 2017, V. Darmostuk (KHER 11300); *ibid.*, 47.29148°N, 33.23829°E, 18 m, on *Ulmus* twig, 11 Apr. 2021, V. Darmostuk (KHER 14725); *ibid.*, 47.29169°N, 33.23744°E, 17 m, on *Ulmus* twig, 18 Oct. 2021, V. Darmostuk 1138a & O. Sira (herb. VD); Mykolaiv region, Berezans'kyi district, near Tashyne village, 46.88322°N, 31.18924°E, 64 m, on *Robinia* bark, 3 Jul. 2019, V. Darmostuk 159 (herb. VD); Mykolaivs'kyi district, near Gurivka village, 47.11067°N, 31.84747°E, 17 m, on *Armeniaca* bark, 11 Jul. 2018, V. Darmostuk (KHER 11686); Ochakivs'kyi district, Volyzhyn forest, 46.53645°N, 31.72097°E, 4 m, on *Quercus* bark, 29 Jan. 1994, O. Khodosovtsev (KHER 9840); near Pokrovske village, 46.52762°N, 31.64082°E, 2 m, on *Populus* bark, 17 Jul. 2016, V. Darmostuk (KHER 10120); near Pokrovka village, 46.50274°N, 31.68416°E, 4 m, on *Quercus* bark, 4 Oct. 2015, O. Khodosovtsev (KHER 9262); Novoodes'kyi district, steppe Mykhaylivskiy, 47.39893°N, 31.62319°E, 15 m, on *Quercus* bark, 26 May 2017, O. Khodosovtsev & V. Darmostuk (KHER 14462); Voznesens'kyi district, near Trykraty village, 47.70514°N, 31.41135°E, 70 m, on *Fraxinus* bark, 1 May 2016, V. Darmostuk & O. Khodosovtsev (KHER 9737); Odesa region, Lymanskyi district, near Port village, 46.71231°N, 31.03045°E, 52 m, on *Populus* bark, 30 Aug. 2018, V. Darmostuk (KHER 12132); Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 47.99527°N, 31.00167°E, 51 m, on *Prunus* bark, 21 Sept. 2019, V. Darmostuk 276 (herb. VD); *ibid.*, 47.97105°N, 31.03987°E, 54 m, on *Prunus* bark, 1 Jul. 2020, V. Darmostuk 765 (herb. VD); Bolgrad district, near Budjak village, 46.28299°N, 29.41334°E, 116 m, on *Thymus*, 2 May 2014, V. Darmostuk & O. Khodosovtsev (KHER 9025); Vesela Dolyna village, 46.23736°N, 29.29189°E, 144 m, on *Fraxinus pennsylvanica*, 17 Oct 2025, O. Khodosovtsev 16679 (KW-L76316); Zaporizhzhia region, Yakymivs'kyi district, near Bohatyr village, Althahirskiy forest, 46.61887°N, 35.29101°E, 22 m, on *Quercus* bark, 10 Aug. 2008, T. Zavyalova (KHER 4237).

Xenonectriella physciacearum F. Berger, E. Zimm. & Brackel

Notes. This species was recently reported as a new to Ukraine from the Ternopil region (Darmostuk & Sira 2022). This is the new record from the Mykolaiv region.

Specimen examined. UKRAINE. Mykolaiv region, Voznesens'kyi district, near Trykraty village, 47.71219°N, 31.40661°E, 57 m, on *Physconia grisea*, on *Fraxinus* bark, 10 Nov. 2018, V. Darmostuk & O. Sira (KHER 12183).

Zyzygomyces bachmannii (Diederich & M.S. Christ.) Diederich & Millanes

Notes. This species has been reported from a few localities in Ukraine where it forms locally abundant populations (Darmostuk & Khodosovtsev 2017, 2020).

Specimens examined (all on *Cladonia rangiformis*). UKRAINE. Kherson region, Holoprystans'kyi district, near Ivanivka village, 46.40547°N, 32.13338°E, 5 m, on soil, 24 Jun. 2017, V. Darmostuk (KHER 11306); near Burkuty village, 46.39441°N, 32.80877°E, 21 m, on sand, 22 Apr. 2021, V. Darmostuk (KHER 14843); Oleshkivskiy district, near Radensk village, 46.58241°N, 32.86811°E, 14 m, on sand, 22 Oct. 2015, V. Darmostuk 133, 135 (herb. VD); *ibid.*, 46.57465°N, 32.85264°E, 13 m, on soil, 20 Nov. 2016, V. Darmostuk (KHER 14710); Velykoolleksandrivs'kyi district, near Mala Olexandrivka village, 47.30172°N, 33.25969°E, 28 m, on soil, 12 Oct. 2019, V. Darmostuk 661 & O. Sira (herb. VD); Mykolaiv region, Pervomais'kyi district, near Kuripchene village, National Nature Park Buzkyi Gard, 47.99527°N, 31.00167°E, 51 m, on soil, 21 Sept. 2019, V. Darmostuk 279 (herb. VD).

Zyzygomyces physciacearum (Diederich) Diederich, Millanes & Wedin

Notes. This is rather frequent species in Ukraine, but it has been reported from a few localities in the steppe zone of Ukraine (e.g., Darmostuk et al. 2024b).

Specimens examined (all on *Physcia tenella*). UKRAINE. Kherson region, Holoprystans'kyi district, near Burkuty village, 46.38886°N, 32.8368°E, 22 m, on *Quercus* bark, 28 Dec. 2017, V. Darmostuk & O. Khodosovtsev (KHER 11094); *ibid.*, 46.38886°N, 32.8368°E, 22 m, on *Quercus* bark, 10 Nov. 2017, V. Darmostuk & O. Khodosovtsev (KHER 3720); *ibid.*, 46.38513°N, 32.82589°E, 22 m, on *Quercus* bark, 28 Dec. 2017, O. Khodosovtsev & V. Darmostuk (KHER 11090); *ibid.*, 46.3992°N, 32.79552°E, 21 m, on *Quercus* bark, 10 May 2019, V. Darmostuk 113b & O. Khodosovtsev (herb. VD).

**Zyzygomyces physconiae* Diederich, Millanes, P. Pinault & Brackel

Notes. This species has recently reported from France, Germany, Italy, the Netherlands, Spain, as well as from the USA (Diederich et al. 2022). The record of *Tremella phaeophysciae* on *Physconia* hosts from southern Ukraine belong to this species (Khodosovtsev & Darmostuk 2017a; Khodosovtsev et al. 2018b, 2019b; Darmostuk & Khodosovtsev 2021).

Specimens examined (all on *Physconia grisea*). UKRAINE. Kherson region, Holoprystans'kyi district, near Burkuty village, 46.38629°N, 32.82384°E, 22 m, on *Fraxinus* bark, 29 Dec 2017, V. Darmostuk & O. Khodosovtsev (KHER 11104, 11134); *ibid.*,

46.39441°N, 32.80877°E, 21 m, on *Fraxinus* bark, 22 Apr. 2021, V. Darmostuk (KHER 14841); Mykolaiv region, Voznesens'kyi district, near Trykraty village, 47.70636°N, 31.40913°E, 65 m, on *Fraxinus* bark, 21 Oct. 2016, V. Darmostuk & O. Khodosovtsev (KHER 10310, 11624); *ibid.*, 47.71219°N, 31.40661°E, 57 m, on *Fraxinus* bark, 10 Nov. 2018, V. Darmostuk & O. Sira (KHER 12180).

Zwackhiomyces berengerianus (Arnold) Grube & Triebel

Notes. The species has been reported from scattered localities in southern Ukraine (e.g., Darmostuk 2019a).

Specimens examined. UKRAINE. Autonomous Republic of Crimea, Leninskyi district, near village Vulkanivka, 45.15016°N, 35.94056°E, 72 m, on *Mycobilimbia* sp., on soil, 7 May 2011, O. Khodosovtsev (KHER 4377); Kherson region, Bilozers'kyi district, near Stanislav village, 46.57007°N, 32.16942°E, 16 m, on *Mycobilimbia sabuletorum*, on soil, 13 May 2017, G. Naumovych (KHER 11918); Odesa region, Lymanskyi district, near Kalynivka village, 46.89839°N, 31.02799°E, 52 m, on *M. sabuletorum*, on soil, 9 May 1996, O. Khodosovtsev (KHER 9648).

Zwackhiomyces calcariae (Flagey) Hafellner & Nik. Hoffm.

Notes. The species has been reported from scattered localities in Kherson and Mykolaiv regions (e.g., Darmostuk 2019a).

Specimens examined. UKRAINE. Kherson region, Beryslavs'kyi district, near Burhunka village, 46.79881°N, 33.22853°E, 9 m, on *Circinaria calcarea*, on limestone, 18 Jul. 2008, O. Khodosovtsev & L. Gavrylenko (KHER 11782, 11784); near Tyahynka village, 46.76874°N, 33.04211°E, 8 m, on *C. contorta*, on limestone, 31 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11085); Bilozers'kyi district, near Mykilske village, 46.7235°N, 32.85699°E, 32 m, on *C. contorta*, on limestone, 9 Aug. 2008, O. Khodosovtsev & L. Gavrylenko (KHER 7597).

Zwackhiomyces calcisedus Cl.Roux

Notes. The species has been reported on *Verrucaria nigrescens* from a single locality in the Kherson region (Darmostuk 2019a).

Zwackhiomyces coepulonus (Norman) Grube & R. Sant.

Notes. This is a common species in southern Ukraine, which has been reported from numerous localities (e.g., Darmostuk 2019a).

Specimens examined. UKRAINE. Autonomous Republic of Crimea, Leninskyi district, near Opuk Mt., 45.10221°N, 35.83038°E, 55 m, on *Xanthocarpia crenulatella*, on limestone, 10 Aug. 1994, O. Khodosovtsev (KHER 11867); Dnipropetrovsk region, Nikopol's'kyi district, near Myronivka village, 47.76939°N, 34.03758°E, 40 m, on *X. crenulatella*, on granite, 29 May 2007, I. Moysiienko, (KHER 11677); Kherson region, Beryslavs'kyi district, near Mykolaivka village, 46.78517°N, 33.24349°E, 11 m, on *X. crenulatella*, on limestone, 19 Jul. 2008, O. Khodosovtsev & G. Naumovych (KHER 7721); Bilozers'kyi district, near Fedorivka village, 46.80597°N, 32.79567°E, 6 m, on *X. crenulatella*, on limestone, 2 May 2018, V. Darmostuk & O. Khodosovtsev (KHER 11695); near Mykilske village, 46.74087°N, 32.85496°E, 43 m, on *Caloplaca raesaenii*, on *Ephedra* twig, 31 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11125); Velykooleksandrivs'kyi district,

Mala Olexandrivka village, 47.29405°N, 33.27379°E, 26 m, on *X. crenulatella*, on limestone, 8 Jul. 2014, V. Darmostuk (KHER 10624, 11068); near Zaporizhzhia village, 47.28838°N, 33.21358°E, 23 m, on *X. crenulatella*, on limestone, 3 May 2018, V. Darmostuk & O. Khodosovtsev (KHER 12130); Mykolaiv region, Novobuz'kyi district, near Sofivka village, 47.69295°N, 32.36651°E, 28 m, on *X. diffusa*, on granite, 28 May 2017, V. Darmostuk & O. Khodosovtsev (KHER 11643); Odesa region, Lymanskyi district, near Kairy village, 46.92646°N, 30.97862°E, 8 m, on *X. crenulatella*, on limestone, 2 May 1996, O. Khodosovtsev (KHER 2625, 11076).

Zwackhiomyces diderichii D. Hawksw. & Iturr.

Notes. In Ukraine, this species has been reported on *Cladonia rangiformis* from a single locality in the Kherson region (Khodosovtsev 2011).

Zwackhiomyces inconspicuus Grube & Hafellner

Notes. This is a rare species in Ukraine, which has been reported only from the Kherson region (Darmostuk 2019a).

Specimens examined (all on *Rinodina calcarea*). UKRAINE. Kherson region, Beryslavs'kyi district, near Tiahynka village, 46.76791°N, 33.04127°E, 15 m, on limestone, 04 Mar. 2021, V. Darmostuk 1207 (herb. VD); near Burhunka village, 46.78794°N, 33.23226°E, 16 m, on limestone, 18 Jul. 2008, O. Khodosovtsev & G. Naumovych (KHER 11788).

Zwackhiomyces khodosovtsevii Darmostuk

Notes. This species was originally described from southern Ukraine and subsequently reported from Germany (Darmostuk 2021b; Cezanne et al. 2023).

Specimens examined. UKRAINE. Kherson region, Velykooleksandrivs'kyi district, near Zapovit village, 47.09659°N, 32.96634°E, 19 m, on *Verrucaria* sp., on limestone, 2 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 12675); Vysokopil's'kyi district, near Arkhangelske village, 47.41255°N, 33.36254°E, 33 m, on *Verrucaria nigrescens*, on limestone, 3 May 2018, V. Darmostuk & O. Khodosovtsev (KHER 11919).

Zwackhiomyces lecanorae (Stein) Nik. Hoffm. & Hafellner

Notes. This species has been reported from numerous localities in southern Ukraine where it sometimes forms locally abundant populations (Darmostuk 2019a, 2021b).

Specimens examined. UKRAINE. Dnipropetrovsk region, Kryvoriz'kyi district, near Chkalivka village, 48.20595°N, 33.62972°E, 115 m, on *Verrucaria nigrescens*, on limestone, 11 Oct. 2008, O. Khodosovtsev, G. Naumovych & O. Smetana (KHER 9469.a); Kherson region, Beryslavs'kyi district, near Mykolaivka village, 46.78702°N, 33.23808°E, 22 m, on *V. nigrescens*, on limestone, 19 Jul. 2008, O. Khodosovtsev & L. Gavrylenko (KHER 11783.a); Bilozers'kyi district, near Tyahynka village, 46.76864°N, 33.03364°E, 29 m, on *Bagliettoa calciseda*, on limestone, 8 Aug. 2010, O. Khodosovtsev & L. Gavrylenko (KHER 7538); near Burhunka village, 46.82476°N, 33.21069°E, 17 m, on *Myriolecis dispersa*, on concrete, 18 Jul. 2008, L. Gavrylenko & O. Khodosovtsev (KHER 4941); *ibid.*, on *B. calciseda*, 18 Jul. 2008, L. Gavrylenko & O. Khodosovtsev (KHER 7680); near Dariivka village, 46.75943°N, 32.7843°E, 15 m, on *M. albescens*, on limestone,

9 Aug. 2008, G. Naumovych & O. Khodosovtsev (KHER 9474); near Sady village, 46.75643°N, 32.74448°E, 12 m, on *M. albescens*, on limestone, 31 Apr. 2007, G. Naumovych (KHER 8542); Khersons'ka city council, 46.62798°N, 32.62089°E, 5 m, on *M. dispersa*, on concrete, 14 Jun. 1996, O. Khodosovtsev (KHER 9428); Novovorontsovs'kyi district, near Osokorivka village, 47.45967°N, 33.8479°E, 51 m, on *M. dispersa*, on limestone, 3 Jun. 2017, O. Khodosovtsev & V. Darmostuk (KHER 11712); near Zolota Balka village, 47.37274°N, 33.9746°E, 19 m, on *M. albescens*, on limestone, 30 May 2018, V. Darmostuk (KHER 12045, 14702); Velykooleksandrivs'kyi district, Mala Olexandrivka village, 47.29533°N, 33.2751°E, 27 m, *M. albescens*, on concrete, 29 Sept. 2018, V. Darmostuk (KHER 12158); Mykolaiv region, Ochakivs'kyi district, Berezan Island, 46.60066°N, 31.41073°E, 7 m, on *M. albescens*, on concrete, 20 Jul. 2018, V. Darmostuk & O. Khodosovtsev (KHER 11673); Snihurivs'kyi district, near Evgenivka village, 47.08314°N, 32.91963°E, 18 m, on *M. semipallida*, on limestone, 25 Sept. 2008, G. Naumovych & O. Khodosovtsev (KHER 9450, 9451); Odessa region, Lymanskyi district, near Kairy village, 46.92668°N, 30.98053°E, 28 m, on *M. dispersa*, on limestone, 2 May 1996, O. Khodosovtsev (KHER 9702, 10148); *ibid.*, on *Protoparmeliopsis muralis*, 2 May 1996, O. Khodosovtsev (KHER 10149).

Zwackhiomyces lithoiceae (B. de Lesd.) Hafellner & Volk. John

Notes. This species has been reported from several localities in southern Ukraine on *Verrucaria* spp. (Darmostuk 2019a, 2021b).

Specimens examined. UKRAINE. Dnipropetrovsk region, Nikopol's'kyi district, near Sholokhove village, 47.67367°N, 34.03053°E, 9 m, on *Verrucaria* sp., on limestone, 29 May 2007, I. Moysiyenko (KHER 12588); Kherson region, Beryslavs'kyi district, near Burhunka village, 46.79318°N, 33.23031°E, 20 m, on *Verrucaria nigrescens*, on limestone, 19 Jul. 2008, O. Khodosovtsev & L. Gavrylenko (KHER 7599); near Kachkarovka village, National Nature Park Kamyanska Sich, 47.0803°N, 33.7244°E, 28 m, on *V. nigrescens*, on limestone, 15 Jun. 2020, O. Khodosovtsev (KHER 14091); Novovorontsovs'kyi district, near Osokorivka village, 47.47337°N, 33.83982°E, 50 m, on *Verrucaria* sp., on limestone, 30 Jul. 2017, O. Khodosovtsev & V. Darmostuk (KHER 10695); near Zolota Balka village, 47.34448°N, 33.96809°E, 58 m, on *V. nigrescens*, on limestone, 3 Jun. 2017, V. Darmostuk & O. Khodosovtsev (KHER 10816); Mykolaiv region, Domanivs'kyi district, National Nature Park Buzkyi Gard, Romanova Balka village, left bank of Pivdennyi Byg, 47.87867°N, 31.10866°E, 58 m, on *V. fuscoatroides*, on granite, 5 Jul. 2020, O. Khodosovtsev (KHER 14076); Snihurivs'kyi district, near Hrechanivka village, 46.93715°N, 32.79675°E, 5 m, on *V. polysticta*, on limestone, 12 May 2018, O. Khodosovtsev & V. Darmostuk (KHER 12465); Zaporizhzhia region, Zaporiz'ka city council, Khortytsa Island, 47.8243°N, 35.0733°E, 53 m, on *V. fuscoatroides*, on granite, 29 Jun. 2018, V. Darmostuk 404 (herb. VD).

Excluded or dubious species

Arthonia lecanorina (Almq.) R. Sant.

Notes. This species was reported as new for the steppe zone of Ukraine from the territory of the Burgunska ravine (Beryslav district, Kherson region) on *Myriolecis albescens* (Gavrylenko & Khodosovtsev 2009). However, revision of the specimen in KHER (7734) showed that it belongs to *Arthonia apotheciorum*.

Therefore, *Arthonia lecanorina* should be excluded from the list of lichenicolous fungi of the steppe zone of Ukraine.

Cornutispora ciliata Kalb

Notes. This species was reported on *Polycaulonia polycarpa* from the Kherson region (Khodosovtsev & Darmostuk 2016a). The detailed revision of the specimen showed that it belongs to the recently described species *Spirographa skorinae*. Therefore, *Cornutispora ciliata* should be excluded from the Ukrainian checklist of lichens and lichenicolous fungi.

Epithamnolia rangiferinae E. Zimm., Diederich & Suija

Notes. This fungus has been reported from the Kherson region on *Cladonia foliacea* (Darmostuk & Khodosovtsev 2019), but recent phylogenetic study showed that it represents a new species, *Epithamnolia khersonica* Darmostuk & Suija (Diederich et al. 2024). Therefore, *Epithamnolia rangiferinae* should be excluded from the Ukrainian checklist of lichens and lichenicolous fungi.

Phoma denigricans Hafellner

Notes. This fungus was reported by Kondratyuk et al. (1999) from the Zaporizhzhia region on *Protoparmelia badia*. The examined specimen (KHER 890) is characterized by immersed black subspherical pycnidia, 80–100 µm diam., ampulliform conidiogenous cells, 4–5.5 × 2.5–4 µm, and ellipsoid conidia, (4.5)5.0–7.5(–9.5) × (2.25–)2.75–3.75(–4.25) µm, l/w ratio (1.5–)2.0–2.8(–3.1) (n = 30). *Phoma denigricans* is restricted to *Lecanora epibryon* (Ertz et al. 2015) and therefore, our specimen needs further study.

Sclerococcum sphaerale (Ach. ex Ficin & Schubert) Fr.

Notes. The fungus was reported by Kondratyuk et al. (1999) from the Zaporizhzhia region without information on the host species or an herbarium number. We were unable to trace the material in Ukrainian herbaria and given the rarity of potential hosts (*Pertusaria* spp.) in southern Ukraine, we consider this record dubious.

Stigmidium congestum (Körb.) Triebel

Notes. This species was reported from southern Ukraine on *Lecanora flotoviana* (Naumovich & Darmostuk 2015). However, this lichenicolous fungus is predominantly known from corticolous *Lecanora* s.lat. (Roux & Triebel 1994), and because the original specimen cannot be traced, we consider this record dubious.

Stigmidium schaeereri (A. Massal.) Trevis.

Notes. The species has been reported from the steppe zone in several lichenological publications (Khodosovtsev 1999; Kondratyuk et al. 1999; Khodosovtsev & Redchenko 2002). The revision of the original specimens in KHER (5301, 5305) showed that they belong to *S. squamariae*. Therefore, *Stigmidium schaeereri* should be excluded from the Ukrainian checklist of lichens and lichenicolous fungi.

Teloggalla olivieri (Vouaux) Nik. Hoffm. & Hafellner

Notes. This species was cited by Kondratyuk et al. (1999) for the Kherson region with reference to the original source (Navrotskaya et al. 1996). However, in that publication, the list of examined specimens includes only a record from the Ivano-Frankivsk region. Therefore, we cannot include this species in the list of lichenicolous fungi of the steppe zone of Ukraine.

Tremella phaeophysciae Diederich & M.S. Christ.

Notes. This species has been reported from southern Ukraine on *Physconia grisea* (Khodosovtsev & Darmostuk 2017a;

Khodosovtsev et al. 2018b, 2019b). The revision of the specimens showed that they belong to the recently described *Zyzygomyces physconiae*. Therefore, *Tremella phaeophysciae* should be excluded from the list of lichenicolous fungi of the steppe zone of Ukraine.

Discussion

The lichenicolous fungi of the steppe zone of Ukraine have been intensively studied during the last decade and the current list comprises 168 species. Among them, ten species (*Arthonia urceolata*, *Endococcus verrucosus*, *Gonatophragmium lichenicola*, *Lichenostigma chlaroterae*, *Llanorella ramalinae*, *Nesolechia fusca*, *Spirographa skorinae*, *Tremella celata*, *T. parietinae*, and *Zyzygomyces physconiae*) are newly reported for Ukraine. The present study significantly expands the knowledge about lichenicolous fungi in the region by summarizing published data, revising herbarium collections, and documenting several previously unknown host associations. These results confirm that the lichenicolous mycobiota of the steppe zone of Ukraine is taxonomically diverse and includes numerous taxa otherwise known from scattered localities in arid or xeric environments.

Lichenicolous species are characterized by disjunct areals, but with locally abundant population. Together with insufficient documentation of this group in many regions and habitats, it resulted in unclear distributional patterns and macroregional specificity. The majority of the reported species are more or less widely distributed in Europe and did not show specific distributional patterns. However, based on available data, we found several records that represent noteworthy geographical findings that may point to broader distributional tendencies. Such species as *Dacampia cladoniicola*, *Lichenohendersonia squamarinae*, *Lichenostigma svandae*, *Phomella candelariellae* have distributions limited to dry habitats mainly in the Mediterranean and Black Sea regions, despite their hosts having been distributed much wider (Calatayud & Etayo 2001; Vondrák & Šoun 2007; Halıcı et al. 2008; Kocakaya et al. 2015). At the same time, some records (*Ascochyta candelariellicola*, *Brackelia lunkei*, *Pronectria dillmaniae*) are quite interesting as these species are known based only a few scattered localities from other continents (Hawksworth & Kalb 1992; Zhurbenko & Pino-Bodas et al. 2017; Darmostuk et al. 2018). Such disjunct distributions likely reflect insufficient sampling and long-standing under-documentation of lichenicolous fungi rather than true biogeographical patterns.

The most species-rich genera of lichenicolous fungi in the region are *Stigidium* (10 species), *Zwackhiomyces* (9), *Lichenostigma* (8), *Lichenocodium* (7), and *Pronectria* (6). Other genera are represented mostly by 1–2 species. Such representation may depend on multiple factors, including as high diversity or broad distribution of genera and therefore larger numbers of recorded species, in the case of *Stigidium* and *Lichenocodium* (Diederich et al. 2025). At the same time, the host diversity in the region may influence the potential range of the lichenicolous fungi found on them. This may explain the high

diversity of species for *Lichenostigma* and *Zwackhiomyces*, which are mostly growing on saxicolous crustose species in arid habitats (e.g., Calatayud et al. 2002; Brackel 2014).

The most frequent species in our material were *Didymocyrtis cladoniicola* (62 vouchers), *Xanthoriicola physciae* (33), *Lichenocodium erodens* (33), *Lichenostigma elongatum* (29), and *Muellerella lichenicola* (29). Among these, *Lichenocodium erodens* and *Xanthoriicola physciae* are generally common species associated with widespread hosts, particularly representatives of *Parmeliaceae* and *Xanthoria*, respectively. In contrast, *Lichenostigma elongatum* and *Muellerella lichenicola* are well-known components of dry, open habitats across Europe, and their relative abundance in the study region is therefore expected (Navarro-Rosinés & Hafellner 1996; Triebel 1989). *Didymocyrtis cladoniicola* appears to be common in the steppe zone of Ukraine, occurring on the wide range of predominantly terricolous hosts. This species is considered an aggressive parasite, causing discolored necrotic lesions on infected thalli (Ertz et al. 2015). Heavy infections of terricolous lichen communities in southern Ukraine have previously been described as “phomosis of *Cladonia*” (Khodosovtsev & Umanets 2009). Most other species represented by a few collections and 41 species were singletons. Such patterns are typical for lichenicolous fungi, when the majority of species is represented by a small number of records due to dispersed population or influence of microclimatic conditions (Lawrey & Diederich 2003; Łubek et al. 2019).

Lichenicolous fungi display a wide range of host specificity, from strictly host-specific taxa to species with broad host ranges. Host specificity often remains uncertain in under-studied groups, due to taxonomic challenges in both fungi and their hosts, as well as limited molecular and distributional data. In total, the lichenicolous fungi of the steppe zone of Ukraine were found on 137 lichen species belonging to 74 genera. The genera with the highest numbers of reported lichenicolous species were *Xanthoria* (22 species), *Physcia* (14), *Cetraria* (11), *Cladonia* (11), and *Xanthoparmelia* (10). This pattern is consistent with the general tendency for common, widely distributed corticolous genera to host large numbers of lichenicolous fungi. However, terricolous genera also support a substantial proportion of the diversity, a pattern typical of dry and arid habitats and likely reflecting regional specificity of the lichenicolous mycobiota.

Molecular data have become essential for resolving the systematics of lichenicolous fungi and for identifying phylogenetic affinities with other ecological groups of fungi. Even molecular data for these fungi from the steppe zone of Ukraine is limited, it allows us to identify several new species and new records, as well as to clarify host associations. Sequence data showed for the first time that two species, *Acremonium egyptiacum* and *Fusariella hughesii*, are also lichenicolous, occurring on *Enchylium tenax* and *Xanthoria monofoliola*, respectively. These findings evidently support the idea that lichens represent an important and widely exploited substrate for various fungal lineages. Moreover, the newly generated sequences

allow us to expand the known range for *Didymocyrtis cladoniicola* by confirming that it also infects *Xanthoparmelia camtschadalis* and *X. pokornyi*.

Based on newly generated molecular data, we clarified the phylogenetic position of the species *Phoma candelariellae*. This is a poorly known and probably overlooked species, which has been reported on apothecia of *Candelariella aurella* from Turkey and Ukraine (Kocakaya et al. 2015; Kondratyuk et al. 2020; Darmostuk et al. 2021). Diederich et al. (2025) listed this species under *Didymocyrtis* without providing a formal combination, but commented on a potential conspecificity with *D. consimilis*. Our phylogenetic analyses show that this species forms a distinct lineage within *Phaeosphaeriaceae*, supporting its recognition as a separate monotypic genus, *Phomella*. These results are consistent with previous suggestions that phoma-like lichenicolous fungi are polyphyletic and highlight the critical importance of molecular data for correct species delimitation and for assessing potential transfers to other genera (e.g., Ertz et al. 2015).

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