Introduction

Short geographical characterization of Ukraine

Ukraine is the second-largest country in Europe — it is 1.1 times larger than France and 7.5 times less than the European part of Russia, and has an area of 603 700 km^2 (233 088 square miles).

Ukraine occupies large part of the East European Plain. The area of the country consists of vast lowlands, plains, or eminences with flattened or dismembered relief, and not crossed by natural boundaries except of the Carpathian Mountains on the Southwest and the Crimean Mountain Chain near the Black Sea in the South. The altitudes hesitate from zero (the Black Sea level) to 2 060 m (Hoverla Mountain top in the East Carpathians).

Northern part of Ukraine belongs to the forest zone, nemoral subzone, and named Polissya (marshy woodlands). The predominating formations are forests composed of *Pinus sylvestris*, *Alnus glutinosa*, *Betula pubescens*, *Quercus robur*, with small areas occupied by *Betula pendula*, *Carpinus betulus*, and *Fraxinus excelsior*-dominated communities. To the South Polissya is gradually replaced by forest-steppe with massifs of *Pinus sylvestris* and *Quercus robur* forests. The Carpathians are densely covered by *Abies alba*, *Picea abies*, *Fagus sylvatica*, and *Carpinus betulus* forests. Mountain forests of Crimea are dominated by *Fagus orientalis*, *F. sylvatica*, *Fraxinus excelsior*, *Carpinus betulus*, *C. orientalis*, *Pinus hamata*, *P. pallasiana*, *Quercus petraea*, and *Q. pubescens* communities. The steppe zone occupies southern and eastern parts of Ukraine. Besides open steppe communities on watershed areas, the river valleys are covered by woody vegetation. The southernmost areas of the steppe zone adjacent to the Black Sea and Sea of Azov are belonged to deserted steppes, or hemi-deserts.

Soil cover of Ukraine divides on several zones: sod-podzol and waterlogged soils under forests of Polissya, chernozem soils in forest steppes and steppes, and castaneous, partly salt soil in dry (deserted) steppes. Brown and gray forest soils develop under broadleaf vegetation in the Carpathians and the Crimean Mountains.

The climate of Ukraine is for the most part of temperate continental type. Narrow seaside of southern Crimea is belonged to the zone of subtropical climate. Winters vary from cool near the Black Sea to cold inland; summers are warm over the greater part of the country, and hot in the South. For example, northern part of Ukraine may be characterized by temperatures in Kyiv (Kiev), the capital city. Average temperatures range here from –6^0 C (21^0 F) in winter to 19^0 C (67^0 F) in summer. Precipitations are irregularly distributed: with the highest value in the West and the North, less towards the East and the Southeast. Annual precipitations constitute about 500 mm (19.7 inches) for the most part of Ukraine, reaching more than 1200 mm in the Carpathians. Droughts are usual event in southern areas.

The concept of aphyllophoroid fungi accepted in this work

Volume of the group accepted by us in general corresponds to the former order Aphyllophorales Rea sensu Donk, 1964. The generalized term "aphyllophoroid fungi" is quite appropriate for naming of this artificial polyphyletic assemblage of taxa.

The taxa with typical clavarioid basidiomata, unsufficiently studied for Ukraine, and stipitate cantharelloid fungi *(Cantharellus, Craterellus*) were not included in the present checklist. Heterobasidiomycetous taxa resembling aphyllophoroid fungi and sometimes considered in the Aphyllophorales (the genera *Cerinomyces* and *Tulasnella*) were also omitted by us.

History of the investigation of aphyllophoroid fungi in Ukraine

The first data on Ukrainian aphyllophoroid fungi were published in the book "Voyage dans la Russie meridional et la Crimée" (1842), supported by famous Russian Maecenas A. Demidov. The chapter of this book "Observation medicales et énumeration des plantes recueillies en Tauride" was written by J.H. Léveillé and included some mycological data. Léveillé reported 18 species of aphyllophoroid fungi which are known now under the names *Bjerkandera adusta*, *Daedalea quercina*, *Fomes fomentarius*, *Ganoderma lipsiense*, *G. lucidum*, *Hericium coralloides*, *Heterobasidion annosum*, *Inonotus dryadeus*, *Peniophora cinerea*, *Perenniporia medulla-panis*, *Phellinus ferruginosus*, *Phlebia radiata*, *Polyporus leptocephalus*, *Pyrofomes demidoffii* (described by him as *Polyporus demidoffii* on the base of Crimean material and named in honor of sponsor of the book), *Schizophyllum commune*, *Stereum hirsutum*, *Trametes versicolor*, and *Trechispora mollusca*.

First native Ukrainian researcher of the fungi was V.M. Czerniaiev, professor of Kharkiv University. He began his work in 1816, long time before publication of Léveillé's article, but published his results only in 1845 under the title "Nouveaux Cryptogames de l'Ukraine et quelques mots sur la flore de ce pays". Six species of aphyllophoroid fungi were recorded by him: *Lenzites gigantea*, *Daedalea quercina*, *Fistulina hepatica*, *Gloeophyllum protractum*, *Hydnum melliodorum*, and *Trametes suaveolens*.

Since the middle of the 19th century some works on aphyllophoroid fungi of northern and western Ukraine were issued. The article on fungi of Ukrainian Left Bank Polissya including 16 species was published by J. Borsčów (1869). Then in 1871 the work of Ya.Ya. Val'ts and L. Rishavi on mycobiota of Right Bank Polissya was issued. The mycological finds from environs of Lviv were reported by G. Krupa (1886, 1888).

Beginning of the 20th century is characterized by significant increasing of activity on investigation of West Ukrainian lands belonging to Austro-Hungary. In 1907 H. Bobiyak published the list of aphyllophoroid fungi from Roztochchya region. Some later B. Namysłowski and K. Rouppert examined collection of H. Bobiyak and extended the knowledge about the Aphyllophorales of this region (Namysłowski, Rouppert, 1909). In 1914 B. Namysłowski wrote an article about fungi of

Halicyya (Roztochchya) and Bukovyna (West Forest-Steppe) based on materials of his expeditions. In 1910–1920s A. Wróblewski studied the fungi in Precarpathian region and West Forest-Steppe (Wróblewski, 1916, 1922), F. Petrak in the Central Carpathians and Roztochchya (Petrak, 1925), Ya.M. Kuda in Volyn' (West Polissya; Kuda, 1926).[1]

In the same period aphyllophoroid fungi were studied in northern lands of Ukraine — Left and Right Bank Polissya, belonged to Russian Empire and later to the USSR. In 1915 A.L. Yavorskii published report on the Aphyllophorales of Kyiv City. In 1920s the same region was studied by Z.K. Hizhyts'ka (Hizhyts'ka, 1926, 1929a, 1929b).

A number of aphyllophoroid fungi were collected by S.S. Ganeshin in Poltava province (Left Bank Forest-Steppe). These collections were examined by V.I. Bondartseva-Monteverde and results were published in a large work (Bondartseva-Monteverde, 1921; Ganeshin, Bondartseva-Monteverde, 1922). Famous Russian mycologist A.S. Bondartsev carried out the investigations of aphyllophoroid fungi near Darnitsa in Kyiv outskirts (Left Bank Polissya; Bondartsev, 1926, 1927).

Two remarkable works on the Aphyllophorales were published in 1940: "Hymenomycetes of the main woody species of Crimean Reserve" by S.A. Gutsevich and "Hymenomycetes Carpatorum orientalium" by A. Pilát.[2] Despite of small volume, these works have brought a great contribution in the present knowledge on aphyllophoroid fungi of Ukraine. Work of Czech mycologist A. Pilát remains unsurpassed by the quantity of species found for the first time for Ukraine (almost 150) till now.

In the 2nd half of the 20th century the objects for attention of mycologists are different natural regions of Ukraine. Most of floristic works concerned the forest-steppe zone. Fungi of Left Bank Forest-Steppe in period from 1950s till now were studied by V.M. Solomakhina (1954), R.V. Ganzha (1960, 1970), A.S. Bukhalo (1961a, 1961b), M.F. Smitskaya and G.L. Rozhenko (1974), E.K. Karpenko (1980), A.S. Usichenko, A.Yu. Akulov, and D.V. Leontyev (Usichenko, Akulov, Leontyev, 2001; Usichenko, 2002). Data on aphyllophoroid fungi of Donetsk Forest-Steppe were obtained by I.M. Soldatova (1974) and V.P. Isikov (1993), of Right Bank Forest-Steppe — by I.O. Rayevs'ka and K.M. Komarets'ka (1949), M.M. Prudenko and V.M. Solomakhina (1971a, 1971b, 1997, 1998, 1999), and of Western Forest-Steppe — by P.Ye. Sosin (1940) and O.V. Isayeva (1952).

Left and Right Bank Polissya attracted no less attention of mycologists. Fungi of Right Bank Polissya (mostly in Kyiv City) were being investigated by M.Ya. Zerova (1948), E.A. Vinohrads'ka (1958), P.M. Koretskij and I.M. Soldatova (1978). Western Polissya were covered by studies of V.M. Solomakhina (1956a, 1956b, 1957, 1958a,

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[1] Unfortunately, working on the checklist we had no possibility to become acquainted with publications of G. Krupa, B. Namysłowski, and A. Wróblewski, which are absent in libraries or kept in deep conservation, either are damaged in important places. Therefore data published by these authors were not included in the present list.

[2] Crimea and Transcarpathian region were out of administrative boundaries of Ukraine in this time.

1958b, 1959, 1960, 1961, 1965a, 1965b), V.P. Helyuta and V.P. Haiova (2001); Left Bank Polissya — by research of I.M. Soldatova (1984a, 1984b, 1985), A.S. Usichenko and A.Yu. Akulov (2001).

From 1950s a number of works were devoted to the fungi of Western regions of Ukraine, e.g. Transcarpathian region (Smitskaya, 1955, 1960, 1965, 1968; Lovas, 2000), the Carpathians and Precarpathian region (Gorovaya, 1979, 1908, 1982; Tribun, 1968, 1971a, 1971b, 1983, 1987a, 1987b), Roztochchya (Baziuk, 2000).

In the 1st half of the 20th century the aphyllophoroid fungi of Crimean Peninsula were studied by L.I. Vasil'eva-Pupysheva (1958), E.Z. Koval (1962), I.I. Maslov, I.S. Sarkina, T.V. Belich, and S.E. Sadogurskii (Maslov *et al.*, 1998; Sarkina, 2001), and V.P. Isikov (1977, 1981, 1988, 1994, 1997).

The steppe zone remained as "white spot" with respect to knowledge on biota of aphyllophoroid fungi until 1960s. Before this time only several species were recorded in this zone: A. Golubkov (1916) indicated the find of *Serpula lacrymans* in Kherson province (Left Bank Gramineous Steppe); G.G. Radzievsky (1952) reported the find of *Phellinus tuberculosus* in Right Bank Gramineous Steppe; *Schizophyllum commune*, *Polyporus rhizophilus*, and *P. squamosus* were found by M.Ya. Zerova in Right Bank Gramineous-Meadow Steppe and Right Bank Gramineous Steppe (Zerova, 1953, 1957). Later I.L. Dobrovol'skii and P.E. Sosin published for Right Bank Gramineous-Meadow Steppe 7 aphyllophoroid species (1960).

The species richness of the steppe zone of Ukraine were greatly elucidated after the series of works carried out in 1970s by I.M. Soldatova and S.P. Wasser. The first author focused his research mostly on steppes of the Left Bank part of Ukraine (Soldatova, 1971, 1972a, 1972b, 1973, 1974b, 1974c, 1974d, 1974e, 1975a, 1975b, 1976a, 1976c, 1977), the second — on Right Bank part lands (Wasser, 1971). Both authors have summarized their results in the monograph "Higher basidiomycetes of the steppe zone of Ukraine" (1977).[3] In 2000 additional data on aphyllophoroid fungi of the steppe zone (Left Bank Gramineous-Meadow Steppe) were published by M.P. Prydiuk.

A number of aphyllophoroid fungi are agents of woody plants diseases. So they are frequently considered in many publications of phytopathological subjects.[4] The main works on pathology of forest and garden plants concerning aphyllophoroid fungi are: Beilin (1951), Bratus and co-authors (1949, 1964, 1969), Chuprina (1970), Kharkevich (1952, 1959), Klyushnyk (1955, 1958), Kostyuk (1949), Krivoshei (1958), Lavitskaya (1958), Morochkovs'ka (1965, 1966), Pavlenko (1963), Shevchenko (1972), Stasevich (1999).

Some species of aphyllophoroid fungi are active destroyers of timber. "House fungi" and fungi on practical wood were described in works of S.M. Moskovets'

[3] Also the remarkable review work "Distribution of the Aphyllophorales order fungi in the Ukraine" has come from pen of I.M. Soldatova (1981).

[4] Usually in phytopathological works only the most widespread and harmful pathogens are considered. Working on the checklist we did not make an effort to embrace all spectrum of Ukrainian literature on forest pathology, restricting our attention to the publications where the geographical localities of species is more or less exactly indicated.

(1932), Z. Hizhyts'ka and M. Berehova (1934), and A.A. Demikhovs'ka (1959).

Data on Ukrainian aphyllophoroid fungi were partly published in monographs devoted to their various groups in the former USSR, e.g. by A.S. Bondartsev "The Polyporaceae of the European USSR and the Caucasia" (1953), T.L. Nikolajeva "Familia Hydnaceae" (1961), T.A. Davydkina "The Stereaceae of the Soviet Union" (1980), U. Kõljalg "Tomentella (Basidiomycota) and related genera in temperate Eurasia" (1996).

Until now, the most complete summary on aphyllophoroid fungi of Ukraine was the handbook by M.Ya. Zerova, G.G. Radzievsky, and S.V. Shevchenko "Identification guide to fungi of Ukraine, vol. 5, part 1" (1972). In further years a series of works devoted to mycobiota of selected areas were published, e.g. "Biodiversity of Carpathian Biosphere Reserve" (Dudka *et al*., 1997), "Annotated checklist of Crimean macromycetes" (Sarkina, 2001). These works have sufficiently supplemented the data on fungal diversity on these areas.

In 1996 the generalized digest "Fungi of Ukraine. A preliminary checklist" was issued by the mycologists of M.G. Kholodny Institute of Botany with assistance of CAB International Bioscience (Minter, Dudka, 1996). The data on aphyllophoroid fungi as geography, substrata, dates of earliest records, included in this work, were based on the M.G. Kholodny Institute of Botany Herbarium (KW). The important information from this book is reference (inventory) numbers helping to trace the aphyllophoroid specimens in KW herbarium. This herbarium is the largest fungal collection in Ukraine. The collections of M.Ya. Zerova, G.G. Radzievsky, S.P. Wasser, T.P. Tribun, I.M. Soldatova, M.F. Smitskaya, S.F. Morochkovs'kyi and others are deposited there. The preliminary checklist of the fungi of Ukraine had the large guiding significance for our work.

Format of the list

Each species entry (and also entries of intraspecific units) consists of the next consequence of data separated by signs "/" or "—": **Latin name** of the taxon — *Synonym(s)* under which the taxon was published for Ukraine or marked in herbarium[5] / Reference herbarium number(s), if available / Name(s) of author(s) and year of the earliest publication of the taxon for Ukraine / distribution in natural regions of Ukraine (see below); the regions are arranged in the order from the West to the East and from the North to the South (with numbered literature references in brackets).[6]

Identifications of species were carried out using modern taxonomic literature (e.g. Eriksson, Ryvarden, 1973, 1975, 1976; Eriksson *et al*., 1978, 1981, 1984; Davydkina, 1980; Jülich, Stalpers, 1980; Bondartseva, Parmasto, 1986; Hjortstam *et al*., 1987, 1988; Kõljalg, 1996; Bondartseva, 1998; Nuñez, Ryvarden, 2000, 2001).

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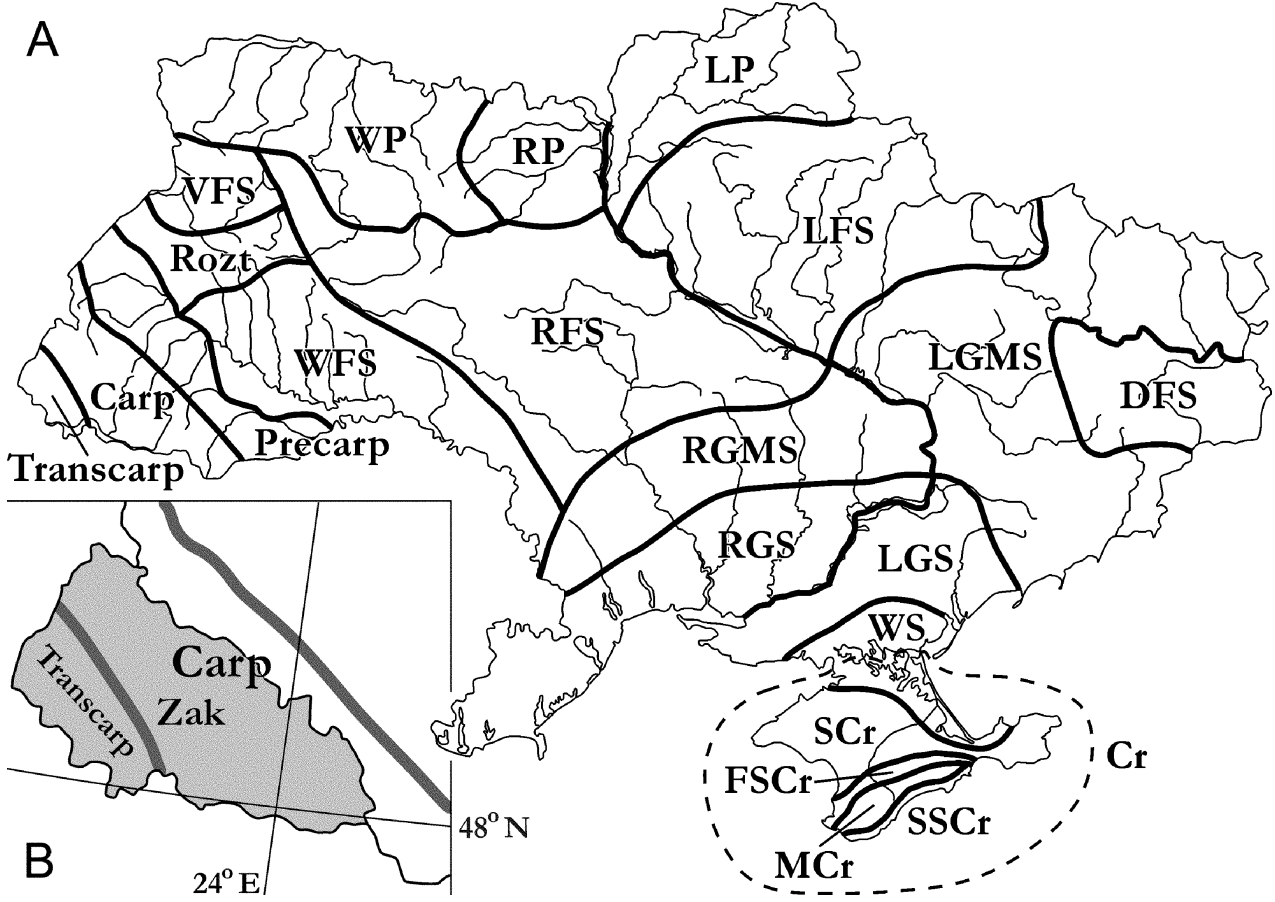
[5] The varietas and forms of a species which are perhaps not exceed the bounds of unheritable variability are typed in italics in the main species paragraph together with synonyms.

[6] The numbers of sources from which the geographical position of species locality was unclear in respect to natural regions, are printed in italics, e.g. separately — *(33)*, or in a string with other sources — (1, *33*, 55).


A
LP
WP
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Rozt
RFS
LGMS
WFS
DFS
Carp
Precarp
Transcarp
RGMS
RGS
LGS
WS
SCr
Cr
FSCr
SSCr
MCr
Transcarp
Carp
Zak
48° N
B
24° E

The taxa are arranged following the system accepted in the 9th edition of Ainsworth and Bisby's dictionary of the fungi (Kirk *et al*., 2001). Spelling of full and abbreviated forms of authors names of fungal taxa are following Kirk and Ansell (1992). The author's names which are absent in Kirk and Ansell's work and thus could not verified by us, are given in inverted commas (' ') in the form published in studied lite-rature sources. The degree of floristic newness of finds we determined by analysis of original publications. Unfortunately many of species in the checklist are still known for us only from literature because of the appropriate collections are lost or inaccessible, and so the single way was to rely upon the qualification of the author of a find. The species published for Ukraine for the first time are marked in the checklist with asterisk "*****".

The species were distributed in natural regions of Ukraine following botanic-geographical (geobotanical) division of the territory (Fig. 1 A; Zerova *et al*., 1972: 223). For naming of the regions (districts) in the text the next abbreviations are used:

WP —Western Polissya;
RP — Right Bank Polissya;
LP —Left Bank Polissya;
VFS — Volynska Forest-Steppe (Volyn' Forest-Steppe);
Rozt — Forests of Roztochchya and Opil'le;
Transcarp — Transcarpathian region (Transcarpathians, Transcarpathia, Zakarpattya);
Carp — Carpathians;
Precarp — Precarpathian region (Precarpathians, Prykarpattya);
WFS — Western Forest-Steppe;
RFS — Right Bank Forest-Steppe;
LFS — Left Bank Forest-Steppe;
RGMS — Right Bank Gramineous-Meadow Steppe;
LGMS — Left Bank Gramineous-Meadow Steppe;
DFS — Donetsk (Donets'k) Forest-Steppe;
RGS — Right Bank Gramineous Steppe;
LGS — Left Bank Gramineous Steppe;
WS — Wormwood Steppe;
SCr — Steppe Crimea;
FSCr —Forest-Steppe Crimea;
MCr — Mountain Crimea;
SSCr —South Seaside of Crimea.

In some cases other names for regions were used, depending on the exactness of literature data — Crimean Peninsula ("**Cr"**), "Podol'e", "Western Ukraine", "Ukraine".

In Nikolajeva (1961) and Davydkina (1980) the distribution of species is given in

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← **Fig. 1.** Geobotanical division of Ukraine (A; means of abbreviations are as indicated above) and comparison of the boundaries of Zakarpats'ka oblast (Zak) and Carpathian and Transcarpathian regions (B).

frameworks of floristic division of the USSR. From these sources we taken the data belonged to Verkhnednestrovskii, Srednedneprovskii, Prichernomorskii, and Crimean floristic districts, which are for the most part overlap with Ukraine. The correlation of Ukraine and districts of the "Flora of the USSR" is shown on Fig. 2.

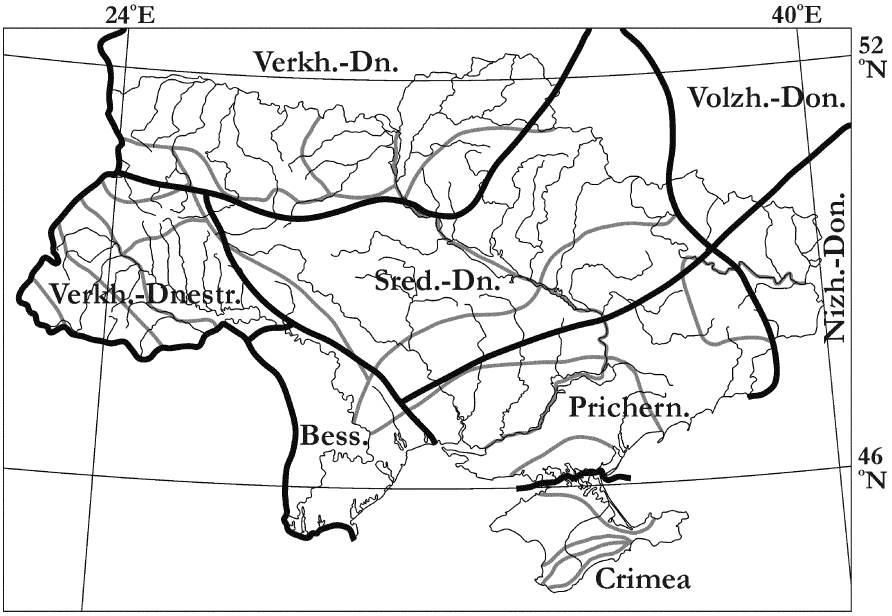

Fig. 2. Comparison of geobotanical division of Ukraine with floristic districts according to "Flora of the USSR". Floristic districts: **Verkh.-Dn.** — Verhkne-Dneprovskii (Upper Dnieper), **Verkh.-Dnestr.** — Verkhne-Dnestrovskii (Upper Dnestr), **Sred.-Dn.** — Sredne-Dneprovskii (Middle Dnieper), **Volzh.-Don.** — Volzhsko-Donskoi, **Bess.** — Bessarabskii, **Prichern.** — Prichernomorskii (Near Black Sea District), **Nizh.-Don.** — Nizhne-Donskoi (Low Don), **Crimea** — Crimean District.

Taxonomic structure of the biota of aphyllophoroid fungi of Ukraine

Based on data of literature and examined herbarium specimens, biota of aphyllophoroid fungi of Ukraine is represented by 461 species, 171 genera,[7] 36 families, and 7 orders of the class Hymenomycetes, phylum Basidiomycota (Tab. 1).

Polyporaceae and Hymenochaetaceae are the most species-rich and common for Ukraine. Such character of distribution is explained by the variety of life forms and modes of nutrition (obligate saprobes, facultative parasites, etc.). The second place

[7] Including 162 valid genera and 9 additional genera from the group of dubious species and names of unclear application .

Tab. 1. — Taxonomic structure of the biota of aphyllophoroid fungi of Ukraine

Order	Familia	Number of species	% of biota
Agaricales	Fistulinaceae	1	0.2
	Marasmiaceae	2	0.4
	Schizophyllaceae	6	1.3
Boletales	Coniophoraceae	11	2.4
Cantharellales	Botryobasidiaceae	6	1.3
	Hydnaceae	1	0.2
Hymenochaetales	Hymenochaetaceae	50	10.8
	Schizoporaceae	25	5.4
Polyporales	Albatrellaceae	3	0.7
	Atheliaceae	12	2.6
	Boreostereaceae	2	0.4
	Corticiaceae	4	0.9
	Cyphellaceae	5	1.1
	Cystostereaceae	2	0.4
	Fomitopsidaceae	23	5.0
	Ganodermataceae	3	0.7
	Gloeophyllaceae	5	1.1
	Hapalopilaceae	19	4.1
	Hyphodermataceae	10	2.2
	Meripilaceae	18	3.9
	Meruliaceae	25	5.4
	Phanerochaetaceae	15	3.3
	Podoscyphaceae	2	0.4
	Polyporaceae	57	12.4
	Sistotremataceae	7	1.5
	Steccherinaceae	17	3.7
	Xenasmataceae	1	0.2
Russulales	Auriscalpiaceae	1	0.2
	Bondarzewiaceae	4	0.9
	Echinodontiaceae	1	0.2
	Hericiaceae	7	1.5
	Lachnocladiaceae	8	1.7
	Peniophoraceae	16	3.5
	Stereaceae	19	4.1
Thelephorales	Bankeraceae	10	2.2
	Thelephoraceae	28	6.1
Doubtful species		5	1.1
Taxa with unknown correct name, dubious and confused names		30	6.5
In all		461	100

with respect to species richness is occupied by the next families: Thelephoraceae, Schizoporaceae and Meruliaceae, Fomitopsidaceae, Hapalopilaceae and Stereaceae, Meripilaceae. Each of these families constitutes approximately 4–6% of biota. The third group are the families constituting about 2–4% of biota: Steccherinaceae, Pe-

niophoraceae, Phanerochaetaceae, Atheliaceae, Coniophoraceae, Hyphodermataceae and Bankeraceae.

The families Lachnocladiaceae, Hericiaceae and Sistotremataceae, Schizophyllaceae and Botryobasidiaceae, Cyphellacae and Gloeophyllaceae constitute each about 1–2% of biota. This picture is quite naturally for Ukraine because the number of species in these families in global scale is relatively small, e.g. only 21 species in Botryobasidiaceae. The same principle remains for the families representing less than 1% of biota.

Distribution of aphyllophoroid fungi in different areas of Ukraine

The species diversity is rather unevenly studies for different natural areas of Ukraine, and varies from 1 to 314 per a region (Tab. 2). At the same time the differences in species richness is determined by variety of environmental conditions and

Tab. 2. — Number of species of aphyllophoroid fungi recorded in geobotanical regions (botanic-geographical districts) of Ukraine

Region	Number of species	% of biota
Western Polissya	79	17.1
Right Bank Polissya	168	36.4
Left Bank Polissya	207	44.9
Volyn' Forest- Steppe	12	2.6
Roztochchya	188	40.8
Transcarpathian region + SW macro-slope of the Carpathians*	314	68.1
Carpathians	223	48.4
Precarpathian region	90	19.5
Western Forest-Steppe	129	28.0
Right Bank Forest-Steppe	107	23.2
Left Bank Forest- Steppe	150	32.5
Right Bank Gramineous-Meadow Steppe	108	23.4
Left Bank Gramineous-Meadow Steppe	198	43.0
Donetsk Forest- Steppe	60	13.0
Rigth Bank Gramineous Steppe	119	25.8
Left Bank Gramineous Steppe	115	24.9
Wormwood Steppe	1	0.2
Crimean Steppe	42	9.1
Crimean Forest- Steppe	26	5.6
Mountain Crimea	147	31.9
South Seaside of Crimea	36	7.8
Total Crimea**	181	39.3

Remarks: *Evidently "Transcarpatian region" in sense of a number of authors includes the part of Carpathians lying to the southwest of the main watershed line (SW macro-slope), i.e. in the boundaries of Zakarpats'ka oblast (Fig. 1 B). **Including data without mention in which of natural areas of Crimea the species were found.

types of predominating ecosystems in each region (marshy woodlands, mountain forests, steppe forest islands, steppes, etc.). The natural regions of Ukraine were ranged in four groups by the number of recorded aphyllophoroid species (Fig. 3).

The most species-rich region is the Carpathian Mountains (including Transcarpathian region — see remark to Tab. 2), that is naturally due to high value of precipitations, high per cent of old growing forests and high portion of forested area.

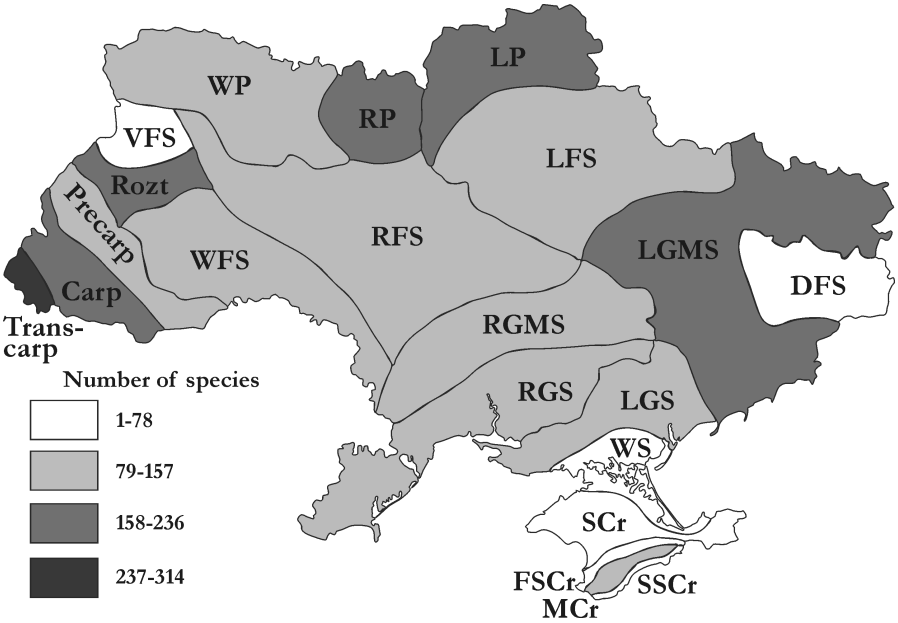

Fig. 3. Species diversity / the degree of floristic study of aphyllophoroid fungi in geobotanical regions of Ukraine.