mirror in the carrying pallet gives underside view of the insect and labels. For videos, see http://digitarium.fi/en.

All specimens with their labels will be imaged, and specimen data will be transcribed from the images using Digitarium's internet-based transcription portal DigiWeb+. Distance workers from around the world can use DigiWeb+ to offer their transcription services.

Presently in Finland, four imaging lines are used to digitize national collections, and their combined theoretical capacity is 800,000 specimens per year. The images and data are freely and openly available through the Finnish Biodiversity Information Facility (FinBIF) portal https://laji.fi/.

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FUNGARIUM OF YUGRA STATE UNIVERSITY AND ITS DATABASE
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ФУНГАРИЙ ЮГОРСКОГО УНИВЕРСИТЕТА И ЕГО БАЗА ДАННЫХ
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The Fungarium is a systematic reference collection of fungi (Hawksworth, 2010) organized as part of the Biological Collection of Yugra State University (BC YSU) (https://fungariumysu.org). The collection is registered in Index Herbariorum under the acronym YSU (the Fungarium collection's acronym is YSU-F accordingly). The BC YSU does not represent an offi-

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cial subdivision within the university and is currently a project of the Environmental Dynamics and global Climate Change department (EDCC).

The collection was started as part of the biodiversity study program of EDCC YSU and a PhD work of one of its staff members. It was later supplemented by collections of several mycologists working in the area. The majority of specimens in the collection were collected by N. Filippova and T. Bulyonkova. A total of 17 specialists took part in specimen identification through direct work in the Fungarium, in other laboratories with loaned material, or through discussions on mycological forums in the Internet.

The main purpose of the Fungarium is to initiate and facilitate systematic studies of fungi of the taiga zone of Western Siberia. It also serves for education and can be used by specialists in different applied disciplines.

Specimens in the collection are accumulated by direct observation and extraction of fruiting structures of fungi. There are two major approaches: observation and collection of fruiting structures of larger fungi (macromycetes) by naked eye, and lens observations of substrates followed by extraction of smaller fruiting structures of discomycetes, hyphomycetes, pyrenomycetes etc. (Wu et al., 2004). Fruitbodies of larger fungi are photographed and their growing conditions are described in the field, extracted from the substrate and packed in aluminium foil to be processed in the laboratory later on the day of collection. Macro-morphological features of fruitbodies are described according to schemes required for specific systematic groups. Spore prints are obtained when the number of sporocarps is sufficient. Fruitbodies are dried after processing in a drying oven under 50 °C and stored as exsiccata in Ziploc plastic bags and marked Kraftpaper envelopes.

About a third of the collection specimens has been cited in one to four publications. A total of 120 publications were prepared using the specimens of Fungarium, including journal papers (14), descriptions in the Red Book of Khanty-Mansiautonomous District (11 species) and publications of specimens on Internet mycological sites.

The database of YSU Fungarium is developed using Specify 6 software and its web version, Specify 7 (http://specifyx.specifysoftware.org/). Currently the database holds 4443 collection objects, 11588 preparations, and 3 Type specimens (1 isotype, 1 holotype and 1 paratype). Preparations stored in the database include: dried cultures – 3, dried specimens – 3975, drawings – 111, macrophotographs*in situ* – 974, macrophotographs*in studio* – 3151, measuring data – 361, microphotographs under stereo lens – 1126, microphotographs under transmitted light microscope – 1737, habitat images – 74.

Database elements are developed according to the recommended standards (Farr & Farr, 2004) and include: (Table).

<div align="right">**Table.**</div>

An example of fields format in main tables of the YSU Fungarium database

Field	Format	Description (from Specify 6 with additions)	Link to related tables
Collection object table			
Catalog number	5 digits, non-incremented	The number that identifies an individual specimen.	
Accession number	5 digits, non-incremented	A consignment of specimens acquired either by field collecting of staff members, gifts, purchases, or exchange with another institution.	
Alternative catalog numbers	string	Alt. catalog numbers in other collections, separated by commas.	
Cataloger	pick list	Name of cataloger; cataloger records are stored in the Agent table.	Agent table
Cataloged date	date	Date the object was cataloged.	
Preparations	pick list	Preparation information describes the type of stored specimens and their number and status (loaned or not).	Preparation table
Attachments	any attached files	An attachment for a collection object (macro- and microphotographs, measurements files, etc.).	Attachment table and attached files
Collection ob-	pick list	Refers to a citation for a	Reference work

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ject citations			Collection Object.	table
Collecting event table				
Collection method	pick list		A method, which is used to obtain the specimen (such as lens observations, permanent plot, random walk, substrate cultivation, wet chambers).	
Collection date	date		The date of collecting event.	
Locality	string		The name of the location where a specimen was collected or observed.	Geography tree
Vegetation type	text		Vegetation and habitat where specimen was collected.	
Collectors	pick list		Collectors.	Agent table
Substrate	pick list		Substrate where specimen was collected (bark, berry, branch, burnt soil, etc. - totally 36 substrate types)	
Substrate remarks	text		The descriptive characteristics of the substrate.	
Host plant	pick list		The host plant where the fungus was collected.	Taxon tree of Plants
Determination table				
Taxon	pick list		The determined name of the specimen.	Taxon tree of Fungi
Qualifier	pick list		A term to qualify the identification of the taxon name when doubts have arisen as to its identity or as a comparison to a given name (e.g. "cf." or "aff.").	

Addendum	pick list	An element added to the taxon name to indicate a concept or citation for that name (s.l., s.str.)	
Determined date	date	Date the object was determined.	
Determiner	pick list	Name of determiner; records are stored in the Agent table.	Agent table
Type status	pick list	A pick list of all available type designations: Holotype, Paratype, Neotype etc.	
Morphological description	text	Morphological description made during collection and/or determination of the specimen, linked to a particular determination event.	

The collection is gradually growing and is open to prospective users such as taxonomists interested in work with a particular group of fungi represented in the region. For this purpose, an online database of the collection was launched in 2016 in Specify 7 software hosted on the Yugra State University server. The online database has open access through a guest username (*ugrabiodb*) and password (*ugrabiodb*) (available at http://bio.ugrasu.ru/).

It is crucial to continue the development of the Fungarium database and for this purpose we set the following objectives: 1) development of the taxonomical tree (currently manual) based on the Index Fungorum database; 2) improvement of an online interface of database search in Specify 7 for guest users; 3) improvement of animage storage/browsing system, as images are an essential part of fungal collections; 4) possible connection to GBIF for import of data from the YSU Fungarium database to the global database.

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