

Medicinal Mushrooms in the Komarov Botanical Institute Basidiomycetes Culture Collection BIN (Russia)

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The Komarov Botanical Institute Basidiomycetes Culture Collection LE (BIN) preserves and maintains dikaryon strains of various taxonomic and ecological groups of Basidiomycetes originating from different geographical regions. Originally the Collection was founded, and focused its activity, on macromycetes cultures as prospective sources of biologically active substances, mainly enzymes, polysaccharides, and low molecular weight compounds. Later, the Collection altered the tendency of its development toward conservation *ex situ* of mycobiota diversity. According to the theoretical concepts of the development of the Collection formulated several years ago, cultures of mushrooms with biological activity, including medicinal mushrooms, are of considerable importance in the constitution of the LE (BIN) Collection. In recent years the Collection not only preserved the cultures that can be considered as medicinal mushrooms, but also increased the number of species and strain varieties.

Today such medicinal mushrooms as *Dicyophora duplicata* (Bosk) E. Fisch. (3), *Flammulina velutipes* (Curt.: Fr.) P. Karst. (15), *Fomes fomentarius* (L.: Fr.) Fr. (6), *Fomitopsis pinicola* (Schw.: Fr.) P. Karst. (9), *Ganoderma lucidum* (Curt.: Fr.) P. Karst. (14), *Grifola frondosa* (Dicks.: Fr.) S. F. Gray (4), *Hericium erinaceus* (Bull.: Fr.) Pers. (3), *Heterobasidion annosum* (Fr.) Bref. (5), *Hypholoma fasciculare* (Huds.) Quél. (3), *Hypsizygus ulmarius* (Bull.) Redhead (4), *Inonotus obliquus* (Pers.: Fr.) Bond. et Sing. (6), *Laetiporus sulphureus* (Bull.: Fr.) Murr. (3),

Lampteromyces japonicus (Kawam.) Sing. (3), *Lentinus edodes* (Berk.) Sing. (8), *Lenzites betulina* (L.: Fr.) Fr. (3), *Phellinus igniarius* (L.) Quél. (5), *Piptoporus betulinus* (Bull.: Fr.) P. Karst. (5), *Pleurotus ostreatus* (Jacq.: Fr.) Kumm. (4), *P. pulmonarius* (Fr.: Fr.) Quél. (12), *Pycnoporus cinnabarinus* (Jacq.) Fr. (3), *Schizophyllum commune* Fr.: Fr. (5), *Trametes hirsuta* (Wulf.) Pil. (5), *T. suaveolens* (L.) Fr. (3), *T. versicolor* (L.: Fr.) Lloyd (5), and some others are maintained in the LE (BIN) Collection. The strain variety of the listed species is shown in parentheses. Some of these species are well known both in folk medicine and in scientific studies and possess a wide spectrum of biologically active substances. Others are mentioned only in folk medicine and may be of interest in future investigations of their therapeutic effect.

Cultures of toxic and hallucinogenic mushrooms such as *Amanita citrina* Pers., *A. muscaria* (L.) Hook., *A. phalloides* Fr., *Galerina marginata* (Batsch) Kühn., *Psilocybe cyanescens* Wakef., and *P. semilanceata* (Fr.) Quél. are also preserved in the Collection.

Recent studies on *Flammulina* and *Pleurotus* species enabled us to carry out taxonomic verification of LE (BIN) cultures from these genera according to the biological species concept. *Flammulina* is represented in the Collection not only by *F. velutipes* as before, but also by *F. ononidis* Arnolds, *F. rossica* Readhead et Petersen, *F. populicola* Readhead et Petersen, and *F. fennae* Bas. *Pleurotus calyptatus* Lindbl., *P. cor-*

nucopiae (Paul.) Roll., *P. cystidiosus* O. K. Mill., *P. dryinus* (Pers.) Fr., *P. eryngii* (DC.) Gill., *P. ostreatus* (Jacq.: Fr.) Kumm., and *P. pulmonarius* (Fr.) Quél. represent the *Pleurotus*. *Pleurotus columbinus* Quél., *P. f. florida*, and *P. salignus* (Schrad.) Quél. belong to the same biological spe-

cies as *P. ostreatus*. *Pleurotus sajor-caju* (Fr.) Sing. appeared to be *P. pulmonarius*.

Cultures from the LE (BIN) Collection are available for research and practical purposes both by exchange and commercial collaboration.