

Laboratory of Fungal Biology and Biotechnology

Fungal Biology and Biotechnology Group (FBBG) was established in 1993 in the Faculty of Biology, Yerevan State University. Since 2005 it was reorganized into Laboratory of Fungal Biology and Biotechnology (FBBL). Research interests of FBBL are mainly directed to the studies of biology and biotechnological potential of medicinal mushrooms as natural sources of bioactive compounds and enzymes used in developing novel mushrooms-based biotech-products.

Fungal Culture Collections of the Yerevan State University (FCC-YSU) preserving in FBBL comprises 148 species and 523 strains of mushrooms and filamentous fungi, as well as genetically identified collections of 32 species and 144 strains, including collections of *Pleurotus ostreatus*, *Flammulina velutipes*, coprinoid and polyporoid mushrooms.

Studies of taxonomy and phylogeny, as well as morphological, ecological and growth characteristics of collections and their medicinal properties are carried out in collaboration with several European and American universities. Collaboration with University of Göttingen and University of Jena (Germany) was focused on molecular taxonomy and phylogeny, biological characteristics and biotechnological potential of coprinoid mushrooms, their bioactive compounds and medicinal (antioxidant, antifungal, mitogenic/regenerative, antibacterial, antiprotozoal, proteolytic/fibrinolytic) properties. Two coprini species *Coprinopsis strossmayeri* and *Coprinellus* aff. *radians* were originally described for Armenian mycobiota. The project to study genetic resources, genotypic diversity, biological characteristics and medicinal properties of wood-destroying polypore mushrooms (Basidiomycota, Polyporales) particularly from genera *Ganoderma*, *Fomes*, *Trametes* and *Fomitopsis* is in progress with collaboration of Urbino and Bologna Universities (Italy), as well as Lomonosov Moscow State University (Russia). Using molecular methods species *Ganoderma adspersum* was originally described in territory of Armenia. Studies of biodiversity of macroscopic fungi, particularly their medicinal properties are carried out in the territory of Northern Iran with collaboration of Agriculture and Natural Resources Research Center of Mazandaran, as well. The projects to study biodiversity of Armenian hypogean Ascomycetes and keratinophilic (geophilic) fungi are ongoing in collaboration with University of Bologna (Italy) and Museum Nationale d'Histoire de Nature, Paris (France), respectively. Among 12 hypogean Ascomycetes species described by rDNA-ITS sequences analyses 10 have originally been reported in Armenia including species *Tuber rapaeodorum*, *Tuber rufum* and *Tuber scruposum*. More than 42 strains of keratinophilic fungi belonging to 12 species, potentially pathogenic for humans/animals were originally described from Armenian soils.

Research of FBBL was supported by several international grants from NATO, DAAD and other organizations (ANSEF, ESF, ISTC, RFBR, etc.). The FBBL's team includes Post-docs, Ph.D., Masters and Undergraduate students actively involved in international research collaboration.