

SOME DATES ABOUT DISTRIBUTION AND CONSERVATION OF THREATENED MUSHROOMS IN ARMENIA

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In Armenia the biota of fungi numbers about 4000 species, among them 1200 species belonged to macromycetes from *Ascomycotina* and *Basidiomycotina*. Nowadays, for the purpose of developing and publishing the next edition of the Red Data List, Armenian botanists and mycologists created the list of rare species of plant and mushrooms. The first edition of the Red Data Book of Armenia (published in 1989) does not include any fungal species. In Armenia there is no specific legislation for the conservation of rare and threatened species of mushrooms.

In the process of building up a database on fungi, I make an inventory of fungi and assess their conservation status. The databases indicate species designation according to the IUCN's Red Data List along with other remarks and data on the status. Based on previous personal observations of various species growing in threatened areas I have prepared a preliminary list of endangered fungal species with the hope to be included in the next edition of the Red Data Book of Armenia. A list of 31 species of threatened species I have already presented to the Ministry of Nature Protection of Armenia. The mapping project is planned for the future - to produce annotated grid maps for Armenia with special consideration of threatened species of mushrooms.

It should be pointed out that the number of mushroom species in Red List of Armenia reflects the present state in the country. There is also evidence of relict fungi species occurring in deserts and steppes including *Podaxis pistillaris*, *Battarea phalloides*. Such mushrooms as *Battarea phalloides* and *Asterophora lycoperdoides* belong to the extinct categories.

A preliminary RED LIST of the macroscopic fungi of Armenia

S. G. Nanagulyan

<p style="text-align: center;">Mycota Ascomycotina Discomycetes Pezizales Sarcosomataceae Sarcosoma globosum (Schmiedel) Casp. Tuberales Tuberaceae Tuber aestivum Vitt.</p> <p style="text-align: center;">Basidiomycotina Homobasidiomycetes Aphyllorphomycetidae Aphyllorphorales s.l. Boletopsidaceae Boletopsis leucomelas (Pers.)Fay. Clavariaceae Clavariadelphus pistillaris (Fr.)Donk Hericiaceae Hericium coralloides (Fr.) S.F.Gray Hericium erinaceum (Bull.:Fr.)Pers. Poriaceae Hapalopilus croceus (Pers.:Fr.)Donk Haploporus odoratus (Sommerf.:Fr.)Bor- dartsev & Singer</p> <p style="text-align: center;">Agaricomycetidae Agaricales s.l. Agaricaceae Agaricus tabularis Pk Agaricus xanthodermus Gen. Cystoderma amianthina (Scop.:Fr.) Fay. Leucoagaricus macrorhizus Locq.: Horak Macrolepiota puellaris (Fr.)Mos. Coprinaceae Montagnea arenaria (DC:Fr.)Zeller</p> <p style="text-align: center;">Amanitales Amanitaceae Amanita gemmata (Fr.)Bert. Amanita muscaria (L.:Fr.)Hook. Amanita phalloides (Vail.:Fr.)Secr.</p>	<p style="text-align: center;">Boletales Boletaceae Boletus edulis Bull:Fr. Boletus satanas Lenz Suillus grevillei (Klotzsch)Sing.</p> <p style="text-align: center;">Strobilomycetaceae Strobilomyces floccopus (Vahl:Fr.)Karst.</p> <p style="text-align: center;">Tricholomatales Pleurotaceae Phyllotopsis subnidulans (Overh.)Sing. Tricholomataceae Asterophora lycoperdoides (Bull.) Ditm.: S.F.Gray Collybia cookei (Bres.)J.D.Arnold Rhodotus palmatus (Bull.:Fr.)R.Mre</p> <p style="text-align: center;">Gasteromycetes Lycoperdales Geastraceae Myriostoma coliforme (Dicks.:Pers.)Cda</p> <p style="text-align: center;">Phallales Phallaceae Dictiophora duplicata (Bosc)E.Fish. Mutinus caninus (Pers.)Fr.</p> <p style="text-align: center;">Podaxales Podaxaceae Podaxis pistillaris (L.:Pers.)Morse</p> <p style="text-align: center;">Sclerodermatales Astreaceae Astraeus hygrometricus (Pers.)Morg.</p> <p style="text-align: center;">Tulostomatales Battareaceae Battarea phalloides Dicks.: Pers.</p>
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Distribution and ecology of 5 species of macrofungi from Armenia, proposed by the ECFF for the Bern Convention

1. Hapalopilus croceus (Pers.:Fr.)Donk

Status: Most rare species in Armenia.

Distribution in Armenia: It is known one site from Ijevan floristic region (northeastward), this species had been collected more than 30 years ago.

Habitat: On alive and/or mostly on dead trunks from *Castanea* and *Quercus*, on 1100-1700m altitude.

Care: Should be necessary to explore up-to-date condition, to protect of old forests and to restrict the forest exploitation on sites of this species. The species has been included in “The Preliminary Red List of Macromycetes of Armenia” for including in Red Data Book of Armenia.

References: Nanagulyan, S.G. 1997. Macromycetes of Armenia (specific, spatial and functional structure). Doct. Sc. Thesis. Yerevan State University. - 412.

2. Haploporus odorus (Sommerf.: Fr.) Bondartsev et Singer

Status: Rare species in Armenia.

Distribution in Armenia: It is known one record from Ijevan floristic region.

Habitat: On dead wood of *Acer* in deciduous forest on 1600m altitude.

Care: Necessary to protect the forest’s ecosystems for conservation of natural populations. The species has been included in “The Preliminary Red List of Macromycetes of Armenia” for including in Red Data Book of Armenia.

References: Nanagulyan, S.G. 1997. Macromycetes of Armenia (specific, spatial and functional structure). Doct. Sc. Thesis. Yerevan State University. - 412.

3. Hericium erinaceum (Bull.:Fr.)Pers.

Status: Rare species in Armenia.

Distribution in Armenia: Three sites are known in Northeastern (Ijevan floristic region) and in southern (Zangezur) areas of Armenia.

Habitat: On alive trunks of *Quercus* and *Fagus* on 1000-1400m altitude.

Care: Protection of deciduous forests with *Quercus* and *Fagus*, it is necessary and the conservation in culture collections. The species has been included in “The Preliminary Red List of Macromycetes of Armenia” for including in Red Data Book of Armenia.

References: Nanagulyan, S.G. 1997. Macromycetes of Armenia (specific, spatial and functional structure). Doct. Sc. Thesis. Yerevan State University. - 412.

4. Myriostoma coliforme (Dicks.: Pers.) Cda

Status: Most rare species in Armenia.

Distribution in Armenia: A single location is known from Sevan floristic region.

Habitat: On sandy soils on 1800-2000m altitude.

Care: It is necessary to explore up-to-date condition of populations and to carry out protection of this species. The species has been included in “The Preliminary Red List of Macromycetes of Armenia” for including in Red Data Book of Armenia.

References: Nanagulyan, S.G., Osipyanyan, L.L. 2000. Conspectus of mushrooms of Armenia. Gasteromycetes. Yerevan: Acad. Sci. Press. - 52p.

5. *Sarcosoma globosum* (Schmiedel) Casp.

Status: Rare species for Armenia.

Distribution in Armenia: Two locations are known from mountainous areas of Ijevan's and Sevan's floristic regions.

Habitat: On sandy soils, under *Sorbus*. Deciduous forests, arenaceous semi-desert on 1850-2000m altitude.

Care: It is necessary to explore up to date condition of populations and to protect sites of this species. The species has been included in "The Preliminary Red List of Macromycetes of Armenia" for including in Red Data Book of Armenia.

References: Nanagulyan, S.G. 1997. Macromycetes of Armenia (specific, spatial and functional structure). Doct. Sc. Thesis. Yerevan State University. - 412.

Siranoush G. Nanagulyan, July 2002
and Beatrice Senn-Irlet, WSL Switzerland, October 2002