

Macrofungal diversity of Ilgaz Mountain National Park and its environs (Turkey)

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Abstract

The current research is based on macrofungi collected from Ilgaz Mountain National Park and its environs between 2004 and 2008. As a result of field and laboratory studies, 220 taxa belonging to 59 families were identified. Nineteen taxa belong to *Ascomycota* and 201 to *Basidiomycota*. Three — *Bisporella subpallida*, *Tricholoma bufonium*, *Leucogyrophana pseudomollusca* — represent new records for Turkish mycobiota.

Key words — biodiversity, mushrooms, taxonomy

Introduction

Ilgaz Mountain National Park is located in a transitional zone between Central Anatolia and the North-West Black Sea region within the boundaries of Çankırı and Kastamonu provinces of Turkey. The national park, which covers 1089 hectares and is situated in the A4 grid (see Davis 1965), has a great importance in terms of its flora, wildlife, geographical location, and natural landscape (Kuter 2008). Among the 109 bryophyte and 630 higher plant taxa identified within national park boundaries, 64 taxa are only indigenous to Ilgaz Mountain (Abay & Çetin, 2003) (Figure1).

The region is typical of mountain ranges within the preontic zone of northwest Anatolia. Most of the area is covered with conifer forests, although angiosperm forests also exist at lower elevations. Fir (*Abies nordmanniana* subsp. *bornmuelleriana* (Mattf.) Coode & Cullen) is the dominant species, sometimes forming mixed stands with beech (*Fagus orientalis* Lipsky), Scots pine (*Pinus sylvestris* L.), and oak (*Quercus petraea* (Matt.) Liebl.). Black pine (*Pinus nigra* J.F. Arnold) and Scots pine are widespread in the western regions of the study area. The southern mountain slopes are influenced by a Mediterranean climate with semi-arid and very cold weather regimes while the northern slopes are under the influence of an oceanic climate (Akman et al. 1983).

Many studies have been conducted on macromycota of Turkey and some of which are still in progress. Tracing 416 published studies, Sesli & Denchev (2009) listed 1814 taxa occurring in Turkey. Covering the recent data (Akata et al. 2009, Aktaş et al. 2009, Baş Sermenli & Işıloğlu 2009, Doğan 2009, Ghobad-Nejhad et al. 2009, Işıloğlu et al. 2009, Kaya 2009a,b,c,d, Sesli & Castellano 2009, Sesli et al. 2009, Solak et al. 2009, Uzun et al. 2010) they have updated the checklist and the total number of presented macromycete taxa of Turkey increased to 1929. New additions were also made to this data by Işıloğlu et al. (2010) and Uzun et al. (2010). Around the study area, some mycological studies were conducted by Pilát (1932a,b, 1933, 1937). But there has not,

however, yet been any detailed mycological research devoted to Ilgaz Mountain National Park and its environs.

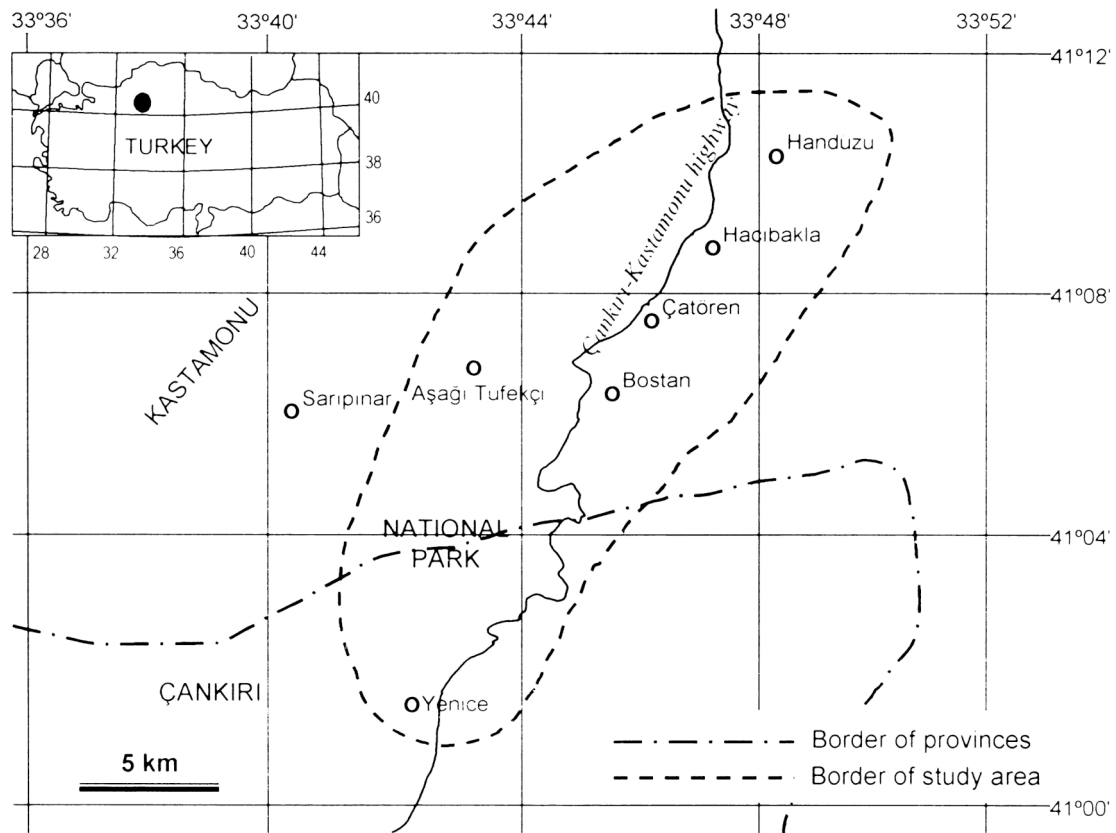


Figure 1. Macrofungi collecting area

Materials and methods

The macrofungi samples of this study were collected from 26 localities (Table 1) in Ilgaz Mountain National Park and its environs between 2004 and 2008. Relevant morphological and ecological characters were recorded for the fungi, which were photographed in their natural habitats. In the herbarium, the fungi were further examined and microscopic characters were measured in Melzer's reagent, 5% KOH, H₂O, and H₂SO₄. Identification of the specimens was performed according to Breitenbach & Kränzlin (1984–2000), Calonge (1998), Ellis & Ellis (1990), Hansen & Knudsen (1992–2000), Heilmann-Clausen et al. (1998), Holec (2001), Kränzlin (2005), Moser (1983), Ryvarden & Gilbertson (1993) and Sagnari (1998, 2005). All specimens were deposited at the herbarium of Ankara University (ANK).

Results

As a result of the present study, 220 taxa were identified and named according to the taxonomic conventions of Cannon & Kirk (2007), Kirk et al. (2008), and Index fungorum (www.speciesfungorum.org; accessed 1 January 2010) and they are listed in alphabetical order. Taxa are presented in alphabetical order and are listed together with notes on habitat, geographical position, locality, collection date, and accession numbers

(A: Akata). Three taxa, *Bisporella subpallida* (Rehm) Dennis 1978, *Tricholoma bufonium* (Pers.) Gillet 1874, and *Leucogyrophana pseudomollusca* (Parmasto) Parmasto 1967 are new records for Turkey and are marked with an asterisk (*).

Ascomycota Caval.-Sm.

Helotiales Nannf

Helotiaceae Rehm.

Ascocoryne cylichnium (Tul.) Korf.: on beech stump, locality 5, 05.11.2007, A. 1,337.

Bisporella citrina (Batsch) Korf & S.E. Carp.: on beech branch, locality 5, 05.11.2007, A. 1,351.

**Bisporella subpallida* (Rehm) Dennis: on beech stump, locality 17, 20.10.2007, A. 1,271.

Hymenoscyphus calyculus (Sowerby) W. Phillips: on beech branch, locality 25, 04.11.2008, A. 1,865.

Hyaloscyphaceae Nannf.

Lachnellula subtilissima (Cooke) Dennis: on fir branch, locality 3, 23.07.2005, A. 897; on fir branch, locality 17, 20.10.2007, A. 1,263; on fir branch, locality 17, 20.10.2007, A. 1,312.

Pezizales J. Schröt.

Caloscyphaceae Harmaja

Caloscypha fulgens (Pers.) Boud.: in fir forest, locality 12, 10.05.2006, A. 1,058.

Discinaceae Benedix

Gyromitra gigas (Krombh.) Cooke: in fir forest, locality 12, 10.05.2006, A. 1,057.

Gyromitra infula (Schaeff.) Quél.: on fir stump, locality 3, 10.10.2004, A. 722.

Morchellaceae Rehm.

Morchella elata Fr.: in fir forest, locality 11, 15.05.2007, A. 1,385.

Pezizaceae Dumort

Peziza depressa Pers.: in fir forest edge, locality 1, 06.07.2006, A. 1,118.

Sarcosphaera coronaria (Jacq.) J. Schröt.: in fir forest, locality 2, 09.07.2005, A. 820.

Pyronemataceae Corda

Aleuria aurantia (Pers.) Fuckel: on fir forest edge, locality 3, 10.10.2004, A. 717.

Humaria hemisphaerica (Hoffm.) Fuckel: on fir stump, locality 3, 22.07.2005, A. 863.

Scutellinia scutellata (L.) Lambotte: on fir stump, locality 5, 23.07.2005, A. 872.

Tarzetta cupularis (L.) Svrcek: under oak, locality 5, 06.07.2006, A. 1,121.

Xylariales Nannf.

Diatrypaceae Nitschke

Diatrype disciformis (Hoffm.) Fr.: on beech branch, locality 5, 05.11.2007, A. 1,354.

Diatrype stigma Sacc.: on beech branch, locality 5, 05.11.2007, A. 1,358.

Xylariaceae Tul. & C. Tul.

Hypoxylon fragiforme (Pers.) J. Kickx f.: on beech branch, locality 17, 22.10.2007, A. 1,290.

Xylaria hypoxylon (L.) Grev.: on fir stump, locality 5, 05.11.2007, A. 1,366.

Basidiomycota Whittaker ex Moore

Agaricales Underw.

Agaricaceae Chevall

Agaricus arvensis Schaeff.: in fir forest, locality 7, 22.09.2005, A. 954.

Agaricus augustus Fr.: in fir forest, locality 3, 23.07.2005, A. 889.

Bovista plumbea Pers.: in fir forest, locality 3, 25.06.2004, A. 697.

- Chlorophyllum rhacodes* (Vittad.) Vellinga: in fir forest, locality 26, 05.11.2008, A. 2005.
- Coprinus comatus* (O.F. Müll.) Pers.: in grass and pastureland, locality 7, 22.09.2005, A. 957.
- Crucibulum laeve* (Huds.) Kambly: on fir stump, locality 17, 04.11.2007, A. 1,326.
- Cyathus striatus* (Huds.) Willd.: on fir stump, locality 19, 21.10.2007, A. 1,279.
- Cystoderma carcharias* (Pers.) Fayod: in fir forest, among needle litter, locality 26, 06.11.2008, A. 2,078.
- Cystodermella granulosa* (Batsch) Harmaja: in fir and beech forest, locality 21, 06.10.2008, A. 1,486.
- Lepiota aspera* (Pers.) Quéf.: in fir and beech forest, locality 17, 20.10.2007, A. 1,276.
- Lepiota clypeolaria* (Bull.) P. Kumm.: in fir and black pine forest, under Fir, locality 26, 05.11.2008, A. 2,014.
- Lepiota cristata* (Bolton) P. Kumm.: in fir and beech forest, under beech, locality 25, 04.11.2008, A. 1,864.
- Lepiota ignivolvata* Bousset & Joss. ex Joss.: in fir and beech forest, under beech, locality 21, 06.10.2008, A. 1,510.
- Leucoagaricus leucothites* (Vittad.) Wasser: in fir and beech forest, under beech, locality 17, 20.10.2007, A. 1,258.
- Lycoperdon excipuliforme* (Scop.) Pers.: in fir forest, locality 22, 03.11.2008, A. 1,823.
- Lycoperdon lividum* Pers.: in fir and black pine forest, under fir, locality 9, 07.10.2005, A. 988; in fir and black pine forest, under fir, locality 26, 05.11.2008, A. 2,006.
- Lycoperdon molle* Pers.: in fir forest, locality 26, 05.11.2008, A. 1,976.
- Lycoperdon perlatum* Pers.: in fir forest, locality 4, 09.07.2005, A. 780.
- Lycoperdon pyriforme* Schaeff.: on fir stump, locality 3, 10.10.2004, A. 715.
- Lycoperdon utriforme* Bull.: in grass and pastureland, locality 14, 11.05.2005, A. 1,072.
- Macrolepiota excoriata* (Schaeff.) Wasser: in pastureland, locality 17, 04.11.2007, A. 1,328.
- Macrolepiota konradii* (Huijsman ex P.D. Orton) M.M. Moser: in fir forest edge, locality 2, 05.10.2008, A. 1,473.
- Macrolepiota procera* var. *procera* (Scop.) Singer: in pastureland, locality 10, 08.10.2005, A. 1,023.
- Amanitaceae** R. Heim ex Pouzar
- Amanita citrina* var. *citrina* (Pers.) Pers.: in fir and beech forest, under beech, locality 17, 17.07.2007, A. 1,240.
- Amanita excelsa* var. *excelsa* (Fr.) P. Kumm.: in oak forest, locality 5, 06.07.2006, A. 1,101.
- Amanita muscaria* var. *muscaria* (L.) Lam.: in fir forest, locality 8, 06.11.2007, A. 1,378; under black pine, locality 26, 06.11.2008, A. 2,096.
- Amanita pantherina* (DC.) Krombh: in fir forest, locality 7, 22.09.2005, A. 945; in fir forest, locality 14, 11.05.2005, A. 1,074.
- Amanita phalloides* (Vaill. ex Fr.) Link.: in oak forest, locality 5, 06.07.2006, A. 1,138.
- Amanita rubescens* var. *rubescens* Pers.: in fir forest, locality 5, 05.11.2007, A. 1,360.
- Amanita vaginata* (Bull.) Lam.: in oak forest, locality 11, 06.07.2006, A. 1,087.
- Cortinariaceae** R. Heim ex Pouzar
- Cortinarius cinnamomeus* (L.) Fr.: under black pine, locality 26, 06.11.2008, A. 2092.
- Cortinarius evernius* (Fr.) Fr.: in fir forest, locality 26, 06.11.2008, A. 2065.
- Cortinarius mucosus* (Bull.) Cooke: under black pine, locality 26, 05.11.2008, A. 1961.

Cortinarius sanguineus (Wulfen) Fr.: on fir stump, locality 2, 11.07.2005, A. 853.

Cortinarius semisanguineus (Fr.) Gillet: under black pine, locality 26, 06.11.2008, A. 2,057.

Cortinarius triformis Fr.: under black pine, locality 26, 06.11.2008, A. 2,060.

Entolomataceae Kotl. & Pouzar

Entoloma chalybeum var. *lazulinum* (Fr.) Noordel.: under juniper, locality 26, 06.11.2008, A. 2,042.

Hydnangiaceae Gäum. & C.W. Dodge

Laccaria laccata (Scop.) Cooke: in fir and beech forest, locality 25, 04.11.2008, A. 1,870; in fir forest, locality 26, 06.11.2008, A. 2,035.

Hygrophoraceae Lotsy

Hygrocybe virginea var. *fuscescens* (Bres.) Arnolds: in pastureland, locality 26, 05.11.2008, A. 1,938.

Hygrophorus agathosmus (Fr.) Fr.: in fir forest, locality 26, 06.11.2008, A. 2,049.

Hygrophorus chrysodon (Batsch) Fr.: in fir forest, locality 22, 03.11.2008, A. 1,794.

Hygrophorus hypothejus (Fr.) Fr.: in fir forest, locality 22, 03.11.2008, A. 1,789.

Hygrophorus pudorinus (Fr.) Fr.: in fir forest, locality 26, 05.11.2008, A. 2,020.

Inocybaceae Jülich

Crepidotus mollis (Schaeff.) Staude: on oak branch, locality 5, 05.10.2008, A. 1,466.

Flammulaster erinaceellus (Peck) Watling: on willow branch, locality 5, 05.11.2007, A. 1,341.

Inocybe asterospora Qué!.: in oak forest, locality 5, 06.07.2006, A. 1,116.

Inocybe geophylla var. *geophylla* (Pers.) P. Kumm.: in fir forest, locality 5, 23.07.2005, A. 876; in fir forest, locality 25, 04.11.2008, A. 1,896.

Inocybe geophylla var. *lilacina* Gillet: in fir forest, locality 25, 04.11.2008, A. 1911.

Inocybe praetervisa Qué!.: in oak forest, locality 5, 06.07.2006, A. 1,117.

Inocybe rimosa (Bull.) P. Kumm.: in fir forest, locality 9, 07.10.2005, A. 982; in oak forest, locality 5, 06.07.2006, A. 1,170.

Tubaria romagnesiana Arnolds: in oak forest edge, locality 5, 05.10.2008, A. 1,427.

Lyophyllaceae Jülich

Lyophyllum connatum (Schumach.) Singer: in fir forest edge, locality 2, 24.06.2004, A. 687.

Lyophyllum decastes (Fr.) Singer: in fir forest, locality 24, 03.11.2008, A. 1,853.

Marasmiaceae Roze ex Kühner

Gymnopus dryophilus (Bull.) Murrill: in oak forest, locality 5, 05.10.2008, A. 1,455.

Marasmius androsaceus (L.) Fr.: on fir branch, locality 19, 21.10.2007, A. 1,278.

Megacollybia platyphylla (Pers.) Kotl. & Pouzar: on fir stump, locality 15, 07.07.2006, A. 1,208.

Mycenaceae Overeem

Mycena epipterygia (Scop.) Gray: in fir forest, among mosses, locality 17, 22.10.2007, A. 1,289.

Mycena galopus var. *galopus* (Pers.) P. Kumm.: in fir forest, among mosses, locality 17, 20.10.2007, A. 1,259.

Mycena maculata P. Karst.: on fir stump, locality 17, 20.10.2007, A. 1,274.

Mycena pura (Pers.) P. Kumm.: in fir forest, locality 2, 24.06.2004, A. 616.

Mycena renati Qué!.: on oak stump, locality 5, 05.10.2008, A. 1,450.

Mycena rosea (Schumach.) Gramberg: in fir and beech forest, locality 21, 06.10.2008, A. 1,511.

Mycena rosella (Fr.) P. Kumm.: in fir forest, on needle litter, locality 26, 06.11.2008, A. 2,025.

Panellus mitis (Pers.) Singer: on fir branch, locality 7, 17.09.2005, A. 915.

Xeromphalina caudicinalis (With.) Kühner & Maire: in fir forest, needle litter, locality 17, 20.10.2007, A. 1,268.

Physalacriaceae Corner

Armillaria mellea (Vahl: Fr.) Kumm.: on fir stump, locality 3, 10.10.2004, A. 716.

Armillaria ostoyae (Romagn.) Herink: on fir stump, locality 11, 09.10.2005, A. 1,031.

Oudemansiella melanotricha (Dörfelt) M.M. Moser: on fir root, locality 7, 17.09.2005, A. 926; on fir root, locality 10, 08.10.2005, A. 1,006.

Xerula radicata (Relhan) Dörfelt: on beech root, locality 23, 02.11.2008, A.1,742.

Pleurotaceae Kühner

Pleurotus ostreatus (Jacq.) P. Kumm.: on fir stump, locality 7, 22.09.2005, A. 940.

Pluteaceae Kotl. & Pouzar

Pluteus atromarginatus (Konrad) Kühner: on fir stump, locality 2, 10.07. 2005, A. 828.

Psathyrellaceae Vilgalys, Moncalvo & Redhead

Coprinellus disseminatus (Pers.) J.E. Lange: on oak stump, locality 5, 07.07.2006, A. 1,200.

Coprinellus domesticus (Bolton) Vilgalys et al.: on oak stump, locality 5, 05.11.2007, A. 1,338; on oak stump, locality 5, 05.10.2008, A. 1,458.

Coprinellus impatiens (Fr.) J.E. Lange: in oak forest, on leaf litters, locality 23, 02.11.2008, A. 1,732.

Coprinellus micaceus (Bull.) Vilgalys et al.: on oak stump, locality 5, 09.10.2008, A. 1645; on oak stump, locality 23, 02.11.2008, A. 1,755.

Coprinopsis lagopus var. *lagopus* (Fr.) Redhead et al.: in fir and beech forest, locality 17, 20.10.2007, A. 1,265.

Coprinopsis nivea (Pers.) Redhead et al.: on dung, locality 2, 08.10.2008, A. 1,608.

Panaeolus acuminatus (Schaeff.) Quél.: in fir forest, locality 21, 10.10.2008, A. 1,685.

Panaeolus papilionaceus var. *papilionaceus* (Bull.) Quél.: on dung, locality 5, 09.10.2008, A. 1,674.

Psathyrella prona f. *prona* (Fr.) Gillet,: in oak forest edge, locality 5, 09.10.2008, A. 1,638.

Schizophyllaceae Quél.

Schizophyllum commune Fr.: in fir forest, on fir branch locality 17, 20.10.2007, A. 1,262.

Strophariaceae Singer & A.H. Sm.

Agrocybe vervacti (Fr.) Singer: in meadow, locality 9, 07.10.2005, A. 985.

Galerina atkinsoniana A.H. Sm.: in fir forest edge, among mosses, locality 2, 10.07.2005, A. 831.

Galerina marginata (Batsch) Kühner: on fir stump, locality 11, 09.10.2005, A. 1,034.

Gymnopilus penetrans (Fr.) Murrill: on fir stump, locality 10, 08.10.2005, A. 1,023.

Gymnopilus picreus (Pers.) P. Karst.: on fir stump, locality 26, 06.11.2008, A. 2,050.

Gymnopilus sapineus (Fr.) Murrill: on fir stump, locality 17, 04.11.2007, A. 1,321.

Hebeloma mesophaeum (Pers.) Quél.: in fir forest, locality 2, 08.10.2008, A. 1,619.

Hebeloma sinapizans (Fr.) Sacc.: under willow, locality 5, 05.11.2007, A. 1,334.

Hypholoma fasciculare var. *fasciculare* (Huds.) P. Kumm.: on fir stump, locality 5, 23.07.2005, A. 868; on fir stump, locality 11, 09.10.2005, A. 1,025.

Kuehneromyces mutabilis (Schaeff.) Singer & A.H. Sm.: on fir stump, locality 1, 24.06.2004, A. 602.

Leratiomyces squamosus var. *squamosus* (Pers.) Bridge & Spooner: in fir forest, locality 17, 04.11.2007, A. 1,311.

Pholiota gummosa (Lasch) Singer: in fir forest, locality 2, 24.06.2004, A. 664; in fir forest, locality 10, 08.10.2005, A. 1024.

Pholiota limonella (Peck) Sacc.: on fir trunk, locality 8, 23.09.2005, A. 980.

Pholiota lucifera (Lasch) Quél.: on fir root, locality 21, 06.10.2008, A. 1,537.

Pholiota squarrosa (Bull.) P. Kumm.: on fir root, locality 2, 24.06.2004, A. 675.

Stropharia aeruginosa (Curtis) Quél.: in fir forest edge, locality 17, 04.11.2007, A. 1,317.

Tricholomataceae R. Heim ex Pouzar

Clitocybe fragrans (With.) P. Kumm.: in fir forest, among needle litter, locality 4, 09.07.2005, A. 769.

Clitocybe gibba (Pers.) P. Kumm.: in oak forest, locality 5, 06.07.2006, A. 1,152.

Clitocybe metachroa (Fr.) P. Kumm.: in fir and beech forest, locality 25, 04.11.2008, A. 1,892.

Clitocybe nebularis (Batsch) P. Kumm.: in fir forest, locality 11, 09.10.2005, A. 1,036.

Clitocybe odora (Bull.) P. Kumm.: in fir forest, locality 21, 06.10.2008, A. 1,508.

Clitocybe phyllophila (Pers.) P. Kumm.: in fir forest, locality 17, 04.11.2007, A. 1,308.

Clitocybe sinopica (Fr.) P. Kumm.: in fir forest, locality 2, 24.06.2004, A. 651.

Collybia tuberosa (Bull.) P. Kumm.: in fir forest, locality 17, 20.10.2007, A. 1,267; in fir forest, locality 17, 22.10.2007, A. 1,300.

Lepista nuda (Bull.) Cooke: in fir forest, locality 7, 17.09.2005, A. 921; in fir forest, locality 5, 05.11.2007, A. 1,339.

Lepista flaccida (Sowerby) Pat.: in fir forest, locality 26, 05.11.2008, A. 2,011.

Melanoleuca cognata var. *cognata* (Fr.) Konrad & Maubl.: in fir forest, locality 2, 23.09.2005, A. 978.

Melanoleuca graminicola (Velen.) Kühner & Maire: in fir forest edge, locality 3, 12.06.2005, A. 747.

Melanoleuca stridula (Fr.) Singer: in fir and beech forest, locality 17, 04.11.2007, A. 1,318.

Pseudoclitocybe cyathiformis (Bull.) Singer: in fir forest, locality 7, 07.10.2005, A. 999.

Tricholoma aurantium (Schaeff.) Ricken: in fir forest, locality 3, 12.06.2005, A. 749.

Tricholoma batschii Gulden: in fir forest, locality 2, 24.06.2004, A. 674.

**Tricholoma bufonium* (Pers.) Gillet: in fir forest, locality 25, 04.11.2008, A. 1,898.

Tricholoma equestre var. *equestre* (L.) P. Kumm.: in fir forest, locality 2, 23.09.2005, A. 960.

Tricholoma imbricatum (Fr.) P. Kumm.: under black pine, locality 22, 03.11.2008, A. 1,798.

Tricholoma saponaceum var. *saponaceum* (Fr.) P. Kumm.: in fir forest, locality 7, 22.09.2005, A. 938; in fir forest, locality 14, 11.05.2005, A. 1,071.

Tricholoma myomyces (Pers.) J.E. Lange: in fir forest, locality 22, 07.10.2008, A. 1,561.

Tricholomopsis rutilans (Schaeff.) Singer: on fir stump, locality 7, 17.09.2005, A. 933.

Auriculariales J. Schröt.

Auriculariaceae Fr.

Exidia plana Donk: on willow branch, locality 5, 05.11.2007, A. 1,335.

Exidia recisa (Ditmar) Fr.: on willow branch, locality 17, 04.11.2007, A. 1,325.

Exidia truncata Fr.: on oak branch, locality 5, 05.11.2007, A. 1,342.

Guepinia helvelloides (DC.) Fr.: in fir forest edge, locality 2, 24.06.2004, A. 648.

Pseudohydnum gelatinosum (Scop.:Fr.) Karst.: on fir stump, locality 11, 09.10.2005, A. 1,029.

Boletales E.-J. Gilbert

Boletaceae Chevall.

Boletus chrysenteron Bull: in fir forest, locality 2, 10.07.2005, A. 774.

Boletus erythropus var. *erythropus* Pers.: in fir forest, locality 7, 07.10.2005, A. 994.

Boletus reticulatus Schaeff: in fir forest, locality 14, 11.05.2006, A. 1091.

Tylopilus felleus (Bull.) P. Karst.: in fir forest, locality 20, 06.11.2007, A. 1,368.

Diplocystidiaceae Kreisel

Astraeus hygrometricus (Pers.) Morgan: in oak forest, locality 5, 05.11.2007, A. 1,356.

Gomphidiaceae Maire ex Jülich

Chroogomphus rutilus (Schaeff.) O.K. Mill.: under black pine, locality 2, 23.09.2005, A. 972.

Gomphidius glutinosus (Schaeff.) Fr.: in fir forest, locality 2, 23.09.2005, A. 958.

Hygrophoropsidaceae Kühner

**Leucogyrophana pseudomollusca* (Parmasto) Parmasto: on fir stump, locality 17, 20.10.2007, A. 1,272.

Rhizopogonaceae Gäum. & C.W. Dodge

Rhizopogon luteolus Fr. & Nordholm: under Scots pine, locality 3, 10.10. 2004, A. 739; under Scots pine, locality 21, 06.10.2008, A. 1,539.

Suillaceae Besl & Bresinsky

Suillus collinitus (Fr.) Kuntze: under black pine, locality 12, 10.05.2006, A. 1,068.

Suillus granulatus (L.) Roussel: under Scots pine, locality 21, 06.10.2008, A. 1,493.

Suillus luteus (L.) Roussel: : under Scots pine, locality 22, 07.10. 2008, A. 1,550.

Tapinellaceae C. Hahn

Tapinella atrotomentosa (Batsch) Šutara: on fir stump, locality 6, 16.09.2005, A. 898.

Cantharellales Gäum.

Cantharallaceae J. Schröt.

Cantharellus cibarius Fr.: in oak forest, locality 11, 06.07.2006, A. 1,097.

Clavulinaceae Donk

Clavulina cinerea (Bull.) J. Schröt: in fir forest, locality 5, 06.07.2006, A. 1,168.

Clavulina coralloides (L.) J. Schröt.: in fir and beech forest, locality 25, 04.11.2008, A. 1,871.

Hydnaceae Chevall

Hydnum repandum L.: in fir forest, locality 7, 17.09.2005, A. 923.

Dacrymycetales Lindau

Dacrymycetaceae J. Schröt

Calocera cornea (Batsch) Fr.: on beech stump, locality 17, 17.07.2007, A.1,246.

Calocera viscosa (Pers.) Fr.: on fir stump, locality 7, 17.09.2005, A. 908.

Dacrymyces stillatus Nees: on beech stump, locality 17, 17.07.2007, A. 1,245.

Gastrales K. Hosaka & Castellano

Gastraceae Corda

Geastrum fimbriatum Fr.: in fir and beech forest, locality 21, 06.10.2008, A. 1,518; in fir and beech forest, locality 17, 04.11.2008, A. 1,887.

Geastrum triplex Jungh: In fir forest, locality 3, 10.10.2004, A. 712.

Gloeophyllales Thorn

Gloeophyllaceae Jülich

Gloeophyllum sepiarium (Wulfen) P. Karst.: on fir stump, locality 10, 08.10.2005, A. 1,019.

Gomphales Jülich

Clavariadelphaceae Corner

Clavariadelphus truncatus (Quél.) Donk: in fir forest, locality 21, 10.10.2008, A. 1,676.

Gomphaceae Donk

Ramaria flaccida (Fr.) Bourdot: in fir forest, locality 26, 05.11.2008, A. 1,990.

Ramaria flava (Schaeff.) Quél.: in fir forest, locality 2, 24.06.2004, A. 610; in fir forest, locality 22, 07.10.2008, A. 1,594.

Hymenochaetales Oberw.

Hymenochaetaceae Imazeki & Toki

Phellinus hartigii (Allesch. & Schnabl) Pat.: on fir, locality 3, 12.06.2005, A. 763; on fir, locality 13, 10.05.2006, A. 1,056; on fir stump, locality 16, 16.07.2007, A. 1,231.

Phellinus pomaceus (Pers.) Maire: on plum branch, locality 5, 05.11.2007, A. 1,367.

Schizoporaceae Jülich

Schizopora paradoxa (Schrad.) Donk: on beech branch, locality 17, 17.07.2007, A. 1,242.

Phallales E. Fisch.

Phallaceae Corda

Mutinus caninus (Huds.) Fr.: in oak forest, locality 5, 06.07.2006, A. 1,145.

Phallus hadriani Vent.: in oak forest, locality 5, 06.07.2006, A. 1,134.

Polyporales Gäum.

Fomitopsidaceae Jülich

Daedalea quercina (L.) Pers.: on oak stump, locality 5, 06.07.2006, A. 1,151.

Fomitopsis pinicola (Sw.) P. Karst.: on fir, locality 1, 24.06.2004, A. 608; on fir trunk, locality 3, 25.06.2004, A. 692; on fir stump, locality 3, 12.06.2005, A. 761; on fir stump, locality 13, 10.05.2006, A. 1,053; on fir stump, locality 16, 10.07.2007, A. 1,223.

Ischnoderma benzoinum (Wahlenb.) P. Karst.: on fir stump, locality 3, 25.06.2004, A. 696.

Phaeolus schweinitzii (Fr.) Pat.: on fir stump, locality 3, 23.07.2005, A. 893.

Postia caesia (Schrad.) P. Karst.: on fir stump, locality 17, 04.11.2007, A. 1,314.

Ganodermataceae Donk

Ganoderma adpersum (Schulzer) Donk: on fir stump, locality 5, 05.11.2007, A. 1,354.

Ganoderma applanatum (Pers.) Pat.: on fir stump, locality 2, 24.06.2004, A. 655.

Ganoderma carnosum Pat.: on fir stump, locality 10, 08.10.2005, A. 1,021.

Ganoderma lucidum (Curtis) P. Karst.: on oak stump, locality 5, 06.07.2006, A. 1,149.

Meruliaceae Rea

Bjerkandera adusta (Willd.) P. Karst.: on willow, locality 5, 05.10.2008, A. 1,412.

Phanerochaetaceae Jülich

Phanerochaete sordida (P. Karst.) J. Erikss. & Ryvarden: on fir bark, locality 18, 17.07.2007, A. 1,248.

Phanerochaete velutina (DC.) Parmasto: on fir bark, locality 19, 21.10.2007, A. 1,283.

Polyporaceae Fr. ex Corda

Cerrena unicolor (Bull.) Murrill: On oak branch, locality 5, 05.11.2007, A. 1363.

Neolentinus lepideus (Fr.) Redhead & Ginns: on fir stump, locality 3, 23.07.2005, A. 885.

Fomes fomentarius (L.) J. Kickx f.: on birch, locality 5, 23.07.2005, A. 880.

Polyporus arcularius Batsch. Fr.: on beech branch, locality 17, 20.10.2007, A. 1,264.

Polyporus squamosus (Huds.) Fr.: on oak stump, locality 5, 05.11.2007, A. 1,343.

Trametes hirsuta (Wulfen) Lloyd: on oak branch, locality 11, 06.07.2006, A. 1,098.

Trametes versicolor (L.) Lloyd: on oak stump, locality 5, 07.11.2008, A. 2,102.

Trichaptum abietinum (Dicks.) Ryvarden: on fir branch, locality 20, 06.11.2007, A. 1,371.

Sparassidiaceae Herter.

Sparassis crispa (Wulfen) Fr.: on fir base, locality 3, 10.10.2004, A. 708.

Russulales Kreisel ex P.M. Kirk, P.F. Cannon & J.C. David

Auriscalpiaceae Maas Geest.

Auriscalpium vulgare Gray: on pine cone, locality 21, 06.10.2008, A.1,485.

Lentinellus cochleatus (Pers.) P. Karst.: on fir wood, locality 7, 22.09.2005, A. 936.

Bondarzewiaceae Kotl. & Pouzar

Bondarzewia montana (Qué.) Singer: on fir root, locality 3, 10.10.2004, A. 910; on fir stump, locality 12, 10.05.2006, A. 1,040.

Heterobasidion annosum (Fr.) Bref.: on fir stump, locality 17, 22.10.2007, A. 1,307.

Hericiaceae Donk

Hericium coralloides (Scop.) Pers.: on fir trunk, locality 7, 17.09.2005, A. 912.

Russulaceae Lotsy

Lactarius aurantiacus (Pers.) Gray: in fir forest, locality 10, 08.10.2005, A. 1,016

Lactarius circellatus Fr.: in oak forest edge, locality 5, 06.07.2006, A. 1,103.

Lactarius deliciosus (L.) Gray: under Scots pine, locality 25, 04.11.2008, A. 1,921.

Lactarius piperatus (L.) Pers.: in oak forest, locality 5, 06.07.2006, A. 1,153.

Lactarius salmonicolor R.Heim & Leclair: in fir forest, locality 2, 10.07.2005, A. 829.

Lactarius scrobiculatus (Scop.) Fr.: in fir forest, locality 11, 06.07.2006, A. 1,078.

Russula acrifolia Romagn.: in oak forest, locality 5, 07.07.2006, A. 1,198.

Russula anthracina Romagn.: in fir forest, locality 5, 07.07.2006, A. 1,184.

Russula aurea Pers.: in oak forest, locality 11, 06.07.2006, A. 1,083; in oak forest, locality 5, 06.07.2006, A. 1,175.

Russula chloroides (Krombh.) Bres.: in fir forest, locality 5, 07.07.2006, A. 1,188.

Russula cyanoxantha (Schaeff.) Fr.: in oak forest, locality 5, 06.07.2006, A. 1,136.

Russula delica Fr.: in oak forest, locality 11, 09.10.2005, A. 1,027.

Russula grata Britzelm.: in oak forest, locality 5, 06.07.2006, A. 1,113.

Russula turci Bres.: in fir forest, locality 2, 24.06.2004, A. 650; in fir forest, locality 15, 07.07.2006, A. 1,201.

Stereaceae Pilát

Stereum hirsutum (Willd.) Pers.: on oak branch, locality 5, 23.07.2005, A. 869.

Stereum rameale (Schwein.) Burt: on oak branch, locality 5, 06.07.2006, A. 1,147.

Thelephorales Corner ex Oberw.

Bankeraceae Donk

Hydnellum caeruleum (Hornem.) P.Karst.: in fir forest, locality 11, 06.07.2006, A. 1,092.

Thelephoraceae Chevall.

Thelephora caryophyllea (Schaeff.) Pers.: under willow, locality 5, 05.10.2008, A. 1,438.

Tomentella fibrosa (Berk. & M.A. Curtis) Kõljalg: in fir and beech forest, on beech stump, locality 17, 04.11.2007, A. 1,320.

Tremellales Fr.

Tremellaceae Fr.

Tremella mesenterica Retz.: on beech branch, locality 5, 05.11.2007, A. 1,340.

Acknowledgments

We are indebted to the Scientific and Technical Research Council of Turkey for supporting this research financially (TBAG 104 T 289). We also thank Mitko Karadelev, Abdullah Kaya, and Zacharoula Gonou-Zagou for presubmission review.

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Table 1. Localities of macrofungi samples

No	Localities	Coordinates	Altitudes (m)
1	Ilgaz Mountain National Park (Doruk)	N 41° 04' - E 33° 43'	1800
2	Ilgaz Mountain National Park (Baldiran)	N 41° 05' - E 33° 45'	1650
3	Ilgaz Mountain National Park (Baldiran)	N 41° 05' - E 33° 45'	1600
4	Ilgaz Mountain National Park (Şadıman Hill)	N 41° 03' - E 33° 44'	1800
5	Ilgaz Mountain (Aşağı Tüfekçi)	N 41° 06' - E 33° 44'	1400
6	Ilgaz Mountain (Yenice)	N 41° 01' - E 33° 43'	1450
7	Ilgaz Mountain National Park (Baldiran)	N 41° 05' - E 33° 45'	1700
8	Ilgaz Mountain National Park (Derbent)	N 41° 04' - E 33° 44'	1820
9	Ilgaz Mountain (Yenice)	N 41° 02' - E 33° 43'	1400
10	Ilgaz Mountain National Park (Baldiran)	N 41° 05' - E 33° 45'	1800
11	Ilgaz Mountain (Aşağı Tüfekçi)	N 41° 06' - E 33° 44'	1420
12	Ilgaz Mountain National Park (Derbent)	N 41° 04' - E 33° 44'	1780
13	Ilgaz Mountain National Park (Haydarın Hill)	N 41° 03' - E 33° 42'	1800
14	Ilgaz Mountain National Park (Karakeçilik Hill)	N 41° 03' - E 33° 41'	1880
15	Ilgaz Mountain (Bostan)	N 41° 05' - E 33° 46'	1640
16	Ilgaz Mountain (Obruk)	N 41° 07' - E 33° 47'	1440
17	Ilgaz Mountain (Hacıbakla)	N 41° 07' - E 33° 46'	1500
18	Ilgaz Mountain National Park (Çatmalı Hill)	N 41° 04' - E 33° 43'	1630
19	Ilgaz Mountain (Obruk)	N 41° 07' - E 33° 48'	1420
20	Ilgaz Mountain National Park (Zellikkırı Spring)	N 41° 05' - E 33° 41'	1400
21	Ilgaz Mountain (Obruk)	N 41° 07' - E 33° 47'	1200
22	Ilgaz Mountain (Saraycık)	N 41° 08' - E 33° 50'	1200
23	Ilgaz Mountain (Aşağı Tüfekçi)	N 41° 06' - E 33° 44'	1380
24	Ilgaz Mountain (Saraycık)	N 41° 08' - E 33° 51'	1430
25	Ilgaz Mountain (Saraycık)	N 41° 08' - E 33° 50'	1360
26	Ilgaz Mountain (Handüzü plateau)	N 41° 09' - E 33° 50'	1580