

MACROFUNGI DISTRIBUTION OF MUT PROVINCE IN TURKEY

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Abstract

Macrofungi samples collected from different localities of Mut province in 1999-2001, particularly in the months of autumn and spring showed the occurrence of 95 species belonging to 46 genera and 28 families. Of these, 11 species belong to Ascomycetes and 84 belong to Basidiomycetes. Distribution and habitat features of identified species are given.

Introduction

Studies on the macrofungi have recently increased in Turkey. Some researchers have worked on the macrofungi distribution of Turkey (Işıloğlu & Watling 1992; Işıloğlu & Öder 1995; Kaşık & Öztürk 2000; Kaşık *et al.*, 2000, 2005; Öztürk *et al.*, 2000; Karadelev & Doğan 2003; Doğan *et al.*, 2005; 2006), but the studies on macrofungi have not been completed yet.

There are about 1500 known species of macrofungi in Turkey (Doğan, 2001). The numbers of macrofungi in Europe continent are about 8000 species (Eccf, 2001). When we compare the macrofungi species between Turkey and Europe, we can notice that the macrofungi species are insufficient for Turkey. The numbers of macrofungi species are very less than Europe, while plant flora and climatic features of Turkey are very similar and more than Europe. For this reason, studies on macrofungi are very important to complete the fungal distribution since many regions have not been explored. The reason for selecting the Mut province is that study on macrofungi has been carried out and also that the geographic features are very different and very suitable for the growth of macrofungi.

The Mut province covers 2.554 km². Its southern and northern parts consist of mountain, western and eastern parts are lowland. The most common plants and their altitudes in the research area are *Pinus brutia* Ten (0-900 m, red pine); *Pinus nigra* J.F.Arn. subsp. *nigra* var. *caramanica* (Loudon) Rehder (900-1800 m, black pine); *Cedrus libani* A.Rich. (1200-1800 m, cedar); *Abies cilicica* (Ant.& Kotschy) Carr. subsp. *isaurica* Coode & Cullen (1200-1800 m, fir); *Juniperus excelsa* M.Bieb (1000-1800 m); *Quercus ithaburensis* Decne subsp. *macrolepis* (Kotschy) Hedge & Yalt. (1000-1500 m); *Q. cerris* Willd. (1000-1500 m); *Q. petraea* (Mattuschka)Liebl (1000-1500 m); *Q. coccifera* L. (1000-1500 m); *Populus nigra* L., (300-1800 m, poplar); *P. tremula* L. (400-1800 m); *Salix alba* L. (400-1800 m); *Tamarix* L. sp.(300-500 m); *Morus* L. sp. (400-1000 m); *Juglans regia* L. (400-1000 m, walnut); *Platanus orientalis* L. (400-1000 m); *Thymus* L. sp. (1000-1800 m); *Astragalus* L. sp. (1000-1800 m) and *Ferula* L. sp. (1000-1800 m).

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Materials and Methods

The materials for this study were collected on the field trips carried out from Mut province in 1999-2001. The habitat and morphological characteristics of the macrofungi in the localities were recorded and photographed for diagnosis. For each species, a diagnosis was prepared using the habitat, morphological and microscopic characteristics. The specimens were identified after reference; to Bresinsky & Besl (1984); Breitenbach & Kränzlin (1984, 1986, 1991, 1995, 2000); Dähncke (1993); Ellis & Ellis (1990); Grünert & Grünert (1984, 1991); Hennig & Kreisel (1987); Michael *et al.*, (1983, 1985, 1986, 1987); Moser (1983); Pace (1998); Pacioni (1993); Phillips (1981); Watling (1973, 1982) and Watling & Gregory (1989). After macrofungi specimens were identified and dried, they were preserved in polythene bags. The herbarium samples are kept at Selçuk University, Fungarium of Mushroom Research, and Application Centre in Konya, Turkey.

Results

The distributions, habitats, altitudes, dates of collection and collecting numbers are given for each species.

ASCOMYCETES

Helotiaceae

1. *Bisporella citrina* (Batsch) Korf & S.E. Carp.

Material examined; Mut-Göksu Town, Karaöz Deresi place, on Red pine branch, 500 m, 18.02.2000, *D* 419.

Helvellaceae

2. *Helvella leucomelaena* (Pers.) Nannf.

Material examined; Mut-Ermenek road side, in Black pine forest, 1060 m, 12.04.1999, *D* 132.

3. *Helvella queletii* Bres.

Material examined; Mut-Göksu Town, water edge, in *Populus tremula* remnants, 550 m, 18.05.2001, *D* 1204.

4. *Helvella spadicea* Schaeff.

Material examined; Mut-Dağpazarı Village water edge, in Poplar trees remnants, 1550 m, 25.05.2000, *D* 713.

Morchellaceae5. *Morchella conica* Pers. var. *deliciosa* Fr.

Material examined; Mut-Dağpazarı Village, Dandi place, in Black pine forest, 1750 m, 18.05.2001, *D 1187*.

6. *Morchella elata* Fr.

Material examined; Mut-Çamlıca Village, in Red pine forest, 555 m, 12.04.1999, *D 136*.

7. *Morchella esculenta* Pers.: St. Amans var. *umbrina* Boud.

Material examined; Mut-Dağpazarı Village, edge of bridge, in *Populus nigra* remnants, 1500 m, 25.05.2000, *D 722*.

8. *Morchella esculenta* Pers.: St. Amans var. *vulgaris* Pers.

Material examined; Mut-Dağpazarı Village, in Black pine forest, 1550 m, 25.05.2000, *D 723*.

9. *Ptychoverpa bohemica* (Kromb.) Boud.

Material examined; Mut-Dağpazarı Village, water edge in *Populus nigra* remnants, 1550 m, 27.04.2000, *D 496*.

Nectriaceae10. *Nectria cinnabarina* (Tode) Fr.

Material examined; Mut-Dağpazarı village, Dandi place, on Black pine branch, 1700 m, 18.05.2001, *D 195*.

Pyronemataceae11. *Geopora sumneriana* (Cooke) M. Torre

Material examined; Mut-Dağpazarı Village, Dandi place, in Cedar forest, 1750 m, 25.05.2000, *D 706*, 18.05.2001, *D 1188*; Mut-Gökçetaş Plateau, in Cedar forest, 1700 m, 06.05.2001, *D 1181*.

BASIDIOMYCETES**Agaricaceae**12. *Agaricus campestris* L.

Material examined; Mut-Gökçetaş Village Sumakkuşağı Plateau, in Cedar forest on goat manure place, 1700 m, 04.05.2000, *D 540* ; 26.05.2000, *D 735*.

13. *Agaricus macrosporus* Mont.

Material examined; Mut-Dağpazarı Village, in Black pine forest, 1500 m, 27.04.2000, D 487.

14. *Lepiota alba* Beeli

Material examined; Mut-Gökçetaş Village, Sumakkuşağı Plateau, in Black pine forest, 1700 m, 26.05.2000, D 727.

15. *Lepiota magnispora* Murrill

Material examined; Mut-Dağpazarı Village road, 3 km to Dağpazarı, in Black pine forest, 1350 m, 26.05.2000, D 737.

Bolbitiaceae16. *Agrocybe cylindracea* (DC.) Gillet

Material examined; Mut-Göksu Town, Kıravga place, on Poplar trunks, 450 m, 04.05.2000, D 556.

17. *Agrocybe vervacti* (Fr.) Singer

Material examined; Mut-Dağpazarı, Çataloluk place, in Black pine forest, 1400 m, 27.04.2000, D 486; Dağpazarı Söğütözü place, in Cedar forest, 1700 m, 25.05.2000, D 717; Sertavul Village, in Walnut garden, 1500 m, 04.05.2000, D 550.

18. *Conocybe rickenii* (Jul. Schäff.) Kühner

Material examined; Mut-Çamlıca Village, in Red pine forest, 870 m, 12.04.1999, D 137; Gökçetaş Village Sumakkuşağı place, in *J. excelsa* forest, 1700 m, 26.05.2000, D 731.

19. *Conocybe rickeniana* P.D. Orton

Material examined; Mut-Göksu Town, Kıravga place, in Poplar trees, 450 m, 18.05.2001, D 1209.

Coprinaceae20. *Coprinus comatus* (O.F. Müll.) Gray

Material examined; Mut-Dağpazarı Village Söğütözü place, in cedar forest, 1700 m, 25.05.2000, D 691.

21. *Coprinus disseminatus* (Pers.) Gray

Material examined; Mut-Göksu Town, Kıravga place, on Willow trunks, 450 m, 04.05.2000, D 262.

22. *Coprinus domesticus* (Bolton) Gray

Material examined; Mut-Dağpazarı, edge of bridge, in Black pine forest, 1500 m, 27.04.2000, D 498.

23. *Coprinus micaceus* (Bull.) Fr.

Material examined; Mut-Dağpazarı Village, Söğütözü place, in Willow trees, 1700 m, 25.05.2000, D 699; Dağpazarı Village, water edge, in Willow trees, 1500 m, 25.05.2000, D 719; 18.05.2001, D 1202.

24. *Coprinus niveus* (Pers.) Fr.

Material examined; Mut-Gökçetaş Village, Sumakkuşağı Plateau, in Cedar forest, 1700 m, 04.05.2000, D 544.

25. *Coprinus picaceus* (Bull.) Gray

Material examined; Mut-Çamlıca Village, in Red pine forest, 870 m, 12.04.1999, D 138.

26. *Coprinus plicatilis* (Curtis) Fr.

Material examined; Mut-Göksu Town, Kıravga place, in Red pine forest, 450 m, 04.05.2000, D 560.

27. *Coprinus radiatus* (Bolton) Gray

Material examined; Mut-Göksu Town, Kıravga place, in Red pine forest, 450 m, 04.05.2000, D 558.

28. *Panaeolus olivaceus* F.H. Møller.

Material examined; Mut-Çamlıca Village, in Red pine forest, 870 m, 12.04.1999, D 140.

29. *Psathyrella candolleana* (Fr.) Maire

Material examined; Mut-Çamlıca Village, in Poplar trees, 870 m, 02.04.1999, D 141; Sertavul in Walnut garden, 1500 m, 04.05.2000, D 552.

30. *Psathyrella marcescibilis* (Britzelm.) Singer

Material examined; Mut-Dağpazarı Village, bridge edge, in Willow trees, 1500 m, 27.04.2000, D 493, 494; 25.05.2000, D 716.

31. *Psathyrella obtusata* (Pers.) A.H. Sm.

Material examined; Mut-Dağpazarı Village, water edge, in Poplar trees, 1500 m, 27.04.2000, D 491.

32. *Psathyrella ochracea* (Romagn.) M.M. Moser

Material examined; Mut-Çamlıca Village, in Poplar trees, 1165 m, 10.04.1999, D 90.

33. *Psathyrella spadiceogrisea* (Schaeff.) Maire

Material examined; Mut-Dağpazarı Dandi place, in Cedar forest, 1700 m, 27.04.2000, D 492.

34. *Psathyrella tephrophylla* (Romagn.) M.M. Moser

Material examined; Mut-Dağpazarı Village, Değirmen Place, in Black pine forest, 1300 m, 27.04.2000, D 490; Sertavul, in Walnut garden, 1500 m, 04.05.2001, D 547; Dağpazarı Village, in Willow trees, 1500 m, 25.05.2000, D 717; Göksu Town Kıravga place, in Poplar trees, 450 m, 18.05.2001, D 1212.

Cortinariaceae35. *Crepidotus mollis* (Schaeff.) Staudé

Material examined; Mut-Göksu Town, Kıravga Place, water edge, on Poplar trees, 450 m, 18.05.2001, D 1215.

36. *Gymnopilus penetrans* (Fr.) Murrill

Material examined; Mut-Dağpazarı Dandi place, on Cedar trunks, 1700 m, 18.05.2001, D 1184, 1190.

37. *Hebeloma mesophaeum* (Pers.) Fr.

Material examined; Mut-Dağpazarı Dandi place, in pine forest, 1700 m, 25.05.2000, D 700, 701, 702.

38. *Inocybe dulcamara* (Alb. & Schwein.) P. Kumm.

Material examined; Mut-Dağpazarı Village, Söğütözü place, in Cedar forest, 1700 m, 25.05.2000, D 714.

39. *Inocybe rimosa* (Bull.) P. Kumm.

Material examined; Mut-Dağpazarı Village, Dandi place, in Cedar forest, 1700 m, 18.05.2001, D 1189.

40. *Inocybe fuscidula* Bres.

Material examined; Mut-Dağpazarı water edge, in Poplar trees, 1500 m, 18.05.2001, D 1208.

41. *Inocybe geophylla* (Pers.) P. Kumm.

Material examined; Mut-Dağpazarı Village, Dandi place, in Cedar forest, 1700 m, 18.05.2001, *D* 1183.

42. *Inocybe muricellata* Bres.

Material examined; Mut-Gökçetaş Village, Sumakkuşağı Plateau, in Cedar forest, 1750 m, 26.05.2000, *D*, 724, 729, 730.

43. *Inocybe lacera* (Fr.) P. Kumm.

Material examined; Mut-Silifke road, in Poplar trees, 1000 m, 10.04.1999, *D* 87, 88.

44. *Inocybe fraudans* (Britzelm.) Sacc.

Material examined; Mut-Dağpazarı Village, Dandi place, in Cedar forest, 1700 m, 18.05.2001, *D* 1191.

45. *Inocybe queletii* Konrad

Material examined; Mut-Dağpazarı upper road, in Black pine forest, 1400 m, 26.05.2000, *D* 738.

Dacrymycetaceae

46. *Calocera cornea* (Batsch) Fr.

Material examined; Mut-Dağpazarı Dandi place, on Cedar branch, 1700 m, 18.05.2001, *D* 1196.

Entolomataceae

47. *Entoloma hirtipes* (Schumach.) M.M. Moser

Material examined; Mut-Gökçeseki Village, Sumakkuşağı Plateau, in Black pine forest, 1700 m, 04.05.2000, *D* 540.

Fomitopsidaceae

48. *Postia stiptica* (Pers.) Jülich

Material examined; Mut-Dağpazarı, Dandi place, on Cedar trunks, 1700 m, 18.05.2001, *D* 1197.

49. *Postia tephroleuca* (Fr.) Jülich

Material examined; Mut-Dağpazarı Village, Dandi place, on Cedar trunks, 1750 m, 25.05.2000, *D* 710.

Geastraceae50. *Geastrum fimbriatum* Fr.

Material examined; Mut-Dağpazarı Village, Dandi place, in Black pine forest, 1750 m, 18.05.2001, *D 1198*.

51. *Geastrum rufescens* Pers.

Material examined; Mut-Gökçetaş Plateau, in Cedar forest, 1700 m, 06.09.2001, *D 1178*.

Gloeophyllaceae52. *Gloeophyllum abietinum* (Bull.) P. Karst.

Material examined; Mut-Çamlıca Village, on Black pine trunks, 700 m, 28.04.2000, *D 500*; Mut-Göksu Town Karaöz Deresi place, on Black pine trunks, 700 m, 18.02.2000, *D 417*.

53. *Gloeophyllum sepiarium* (Wulfen) P. Karst.

Material examined; Mut-Dağpazarı Village, Dandi place, on Cedar trunks, 1750 m, 18.05.2001, *D 1199*.

54. *Gloeophyllum trabeum* (Pers.) Murrill

Material examined; Mut-Göksu Town, Kıravga place, on Red pine trunks, 650 m, 05.11.1999, *D 250*; Mut-Göksu Town Karaöz Deresi place, on Red pine trunks, 700 m, 18.02.2000, *D 418*.

Gomphidiaceae55. *Chroogomphus rutilus* (Schaeff.) O.K. Mill.

Material examined; Mut-Ermenek road, in Black pine forest, 1060 m, 12.04.1999, *D 133, 135*.

Hapalopilaceae56. *Bjerkandera adusta* (Willd.) P. Karst.

Material examined; Mut-Sertavul, in the garden, on Poplar trunks, 1500 m, 04.05.2000, *D 551*; Mut-Göksu Town Kıravga place water edge, on Poplar trunks, 600 m, 18.05.2001, *D 1217*.

Hymenochaetaceae57. *Inonotus rheades* (Pers.) Bondartsev & Singer

Material examined; Mut-Dağpazarı Village, water edge, on Poplar tree trunks, 1550 m, 18.05.2001, D 1219.

58. *Inonotus tamaricis* (Pat.) Maire

Material examined; Mut-Göksu town, water edge, on *Tamarix* sp., 500 m, 04.05.2000, D 557.

59. *Phellinus igniarius* (L.) Quél.

Material examined; Mut-Dağpazarı Village, water edge, on Poplar trunks, 1550 m, 27.04.2000, D 497.

Lycoperdaceae60. *Calvatia cyathiformis* (Bosch) Morgan

Material examined; Mut-Gökçetaş Village, Güzelyurt Sumakkuşağı Plateau, in *J. excelsa* forest, 1700 m, 04.05.2000, D 541, 26.05.2000, D 733.

61. *Langermannia gigantea* (Batsch) Rostk.

Material examined; Mut-Gökçetaş Village, Güzelyurt Sumakkuşağı Plateau, in *J. excelsa* forest 1700 m, 04.05.2000, D 542.

62. *Lycoperdon lividum* Pers.

Material examined; Mut-Dağpazarı road, 3 km to Dağpazarı, right side, in Black pine forest, 1250 m, 26.05.2000, D 740.

63. *Lycoperdon molle* Pers.,

Material examined; Mut-Dağpazarı road, 3 km to Dağpazarı, right side, in Black pine forest, 1250 m, 26.05.2000, D 745.

Marasmiaceae64. *Strobilurus stephanocystis* (Kühner & Romagn. ex Hora) Singer

Material examined; Mut-Dağpazarı Village, Dandi place, on Pine cones, 1700 m, 25.05.2000, D 709.

Pleurotaceae65. *Pleurotus eryngii* (DC.) Gillet

Material examined; Mut-Dağpazarı, Gökseki Plateau, under *Ferula* sp., 1600 m, 26.04.2000, D 484.

66. *Pleurotus ostreatus* (Jacq.) P. Kumm.

Material examined; Mut-Dağpazarı Village, Değirmentaşı place, on Poplar trunks, 1300 m, 27.04.2000, D 489.

67. *Pleurotus pulmonarius* (Fr.) Quél.

Material examined; Mut-Dağpazarı Village, Çataloluk place, on Poplar trunks, 1400 m, 27.04.2000, D 483.

Pluteaceae68. *Amanita ovoidea* (Bull.) Link

Material examined; Mut-Göksu Town, in Red pine forest, 700 m, 18.05.2001, D 1218.

69. *Amanita solitaria* (Bull.) Fr.

Material examined; Mut-Dağpazarı Village, near the fear tower, in Cedar forest, 1750 m, 25.05.2000, D 696; Mut-Dağpazarı upper road, in Black pine forest, 1350 m, 26.05.2000, D 741.

Polyporaceae70. *Fomes fomentarius* (L.) J.J. Kickx

Material examined; Mut-Dağpazarı, on Poplar trunks, 1550 m, 27.04.2000, D 495.

71. *Lentinus tigrinus* (Bull.) Fr.

Material examined; Mut-Göksu Town, Kıravga place, on Willow trunks, 04.05.2000, D 561.

72. *Pyrofomes demidoffii* (Lév.) Kotl. & Pouzar

Material examined; Mut-Gökseki place, on *J. excelsa*, 1600 m, 26.04.2000, D 485; Mut-Dağpazarı Village, upper road of 3 km to Dağpazarı, on *J. excelsa* 1600 m, 06.05.2001, D 1174.

73. *Trametes hirsuta* (Wulfen) Pilát

Material examined; Mut-Silifke road, on *Quercus* trunks, 1000 m, 10.04.1999, *D* 83.

74. *Trichaptum abietinum* (Dicks.) Ryvarden

Material examined; Mut-Dağpazarı Village, Dandi place, on Fir trunks, 1750 m, 27.04.2000, *D* 488; Diştaş Village, Gökçepınar Plateau, on Fir trunks, 1700 m, 06.05.2001, *D* 1175.

Rhizopogonaceae75. *Rhizopogon roseolus* (Corda) Th. Fr.

Material examined; Mut-Ermenek road, in Black pine forest, 1060 m, 12.04.1999, *D* 130, 131.

Sclerodermataceae76. *Astraeus hygrometricus* (Pers.) Morgan

Material examined; Mut-Alahan, road side, in Black pine forest, 1200 m, 27.04.2000, *D* 499.

Stereaceae77. *Stereum rugosum* Pers.

Material examined; Mut-Göksu Town, Karaöz Deresi place, water edge, on Black pine trunks, 700 m, 18.02.2000, *D* 420.

78. *Stereum subtomentosum* Pouzar

Material examined; Mut-Silifke road, on Black pine trunks, 1000 m, 10.04.1999, *D* 84.

Strophariaceae79. *Pholiota lucifera* (Lasch) Quél.

Material examined; Mut-Dağpazarı Söğütözü place, on Cedar trees, 1700 m, 25.05.2000, *D* 715.

Tricholomataceae80. *Clitocybe candida* Bres.

Material examined; Mut-Dağpazarı Village, Söğütözü place, in Cedar forest, 1700 m, 25.05.2000, *D* 692.

81. *Lepista saeva* (Fr.) P.D. Orton

Material examined; Mut-Dağpazarı Village, near the fear tower, in Cedar forest, 1750 m, 25.05.2000, *D* 695; Dandi Plateau, in Cedar forest, 1700 m, 18.05.2001, *D* 1184, 1185.

82. *Lepista sordida* (Fr.) Singer

Material examined; Mut-Gökçetaş Village, Sumakkuşağı Plateau, in Cedar forest, 1700 m, 18.05.2001, *D* 1203.

83. *Melanoleuca cognata* (Fr.) Konr. & Maubl. var. *typica* Kühn.

Material examined; Mut-Dağpazarı Village, Dandi place, in Cedar forest, 1700 m, 25.05.2000, *D* 703.

84. *Melanoleuca graminicola* (Velen.) Kühner & Maire

Material examined; Mut-Gökçetaş Village, Sumakkuşağı Plateau, in Cedar forest, 1700 m, 04.05.2000, *D* 545 ; Mut-Dağpazarı Village, Dandi place, in Cedar forest, 1700 m, 25.05.2000, *D* 708 ; 18.05.2001, *D* 1182, 1192.

85. *Melanoleuca melaleuca* (Pers.) Murrill

Material examined; Mut-Dağpazarı Söğütözü place, in Cedar forest, 1750 m, 25.05.2000, *D* 693.

86. *Melanoleuca polioleuca* (Fr.) G. Moreno

Material examined; Mut-Gökçetaş Village, in Cedar forest, 1700 m, 26.05.2000, *D* 732.

87. *Melanoleuca stridula* (Fr.) Singer

Material examined; Mut-Dağpazarı Village, Dandi place, in Cedar forest, 1700 m, 25.05.2000, *D* 704, 707.

88. *Melanoleuca substrictipes* Kühner

Material examined; Mut-Gökçetaş Village, Sumakkuşağı Plateau, in Cedar forest, 1700 m, 26.05.2000, *D* 739.

89. *Tricholoma arvernense* Bon

Material examined; Mut-Alahan Karabağ Şifalısu place, in Black pine forest, 1350 m, 04.05.2000, *D* 555.

90. *Tricholoma columbetta* (Fr.) P. Kumm.

Material examined; Mut-Gökçetaş Village, Sumakkuşağı Plateau, in Cedar forest, 1700 m, 26.05.2000, D 734.

91. *Tricholoma imbricatum* (Fr.) P. Kumm.

Material examined; Mut-Dağpazarı Village, 3 km to Dağpazarı, in Black pine forest, 1350 m, 26.05.2000, D 742; 06.05.2001, D 1173.

92. *Tricholoma portentosum* (Fr.) Quél.

Material examined; Mut-Gökçetaş Village, Sumakkuşağı Plateau, in Cedar forest, 1750 m, 26.05.2000, D 725.

93. *Tricholoma virgatum* (Fr.) P. Kumm.

Material examined; Mut-Diştaş Village, in Cedar forest, 1700 m, 06.05.2001, D 1179.

Tulostomataceae94. *Tulostoma brumale* Pers.

Material examined; Mut-Gökçetaş Village Sumakkuşağı Plateau, in *J. excelsa* forest, 1750 m, 26.05.2000, D 726; Mut-Dağpazarı Village entrance, in Black pine forest, 1250 m, 06.05.2001, D 1172; 18.05.2001, D 1220.

95. *Tulostoma fimbriatum* Fr.

Material examined; Mut-Dağpazarı, 3 km to Dağpazarı, right side, in Black pine forest, 1250 m, 26.05.2000, D 744.

Results and Discussion

The total number of registered macromycetes fungi are 95. These fungi belong mainly to the class Basidiomycetes and the class Ascomycetes. All the species belong to 28 families (Fig. 1) mainly *Coprinaceae* (15), *Tricholomataceae* (14), *Cortinariaceae* (11), *Morchellaceae* (5), *Polyporaceae* (5), *Agaricaceae*, *Bolbitiaceae* and *Lycoperdaceae* (4 for each). The species numbers of other families have less than four taxa.

Coprinaceae and *Tricholomataceae* are the biggest families. *Tricholomataceae* grows mainly in conifer forest while *Coprinaceae* grows in deciduous forest consisting of Poplar and Willow which constitute from water edges. Most of the members of *Cortinariaceae* are mycorrhizal with conifer trees (Cedar, Fir, and Black and Red pine). However, *Morchella* and *Helvella* species make a relationship with Red pines. Other macrofungi of tree parasites (*Gloeophyllaceae*, *Polyporaceae*, *Hymenochaetaceae* and *Stereaceae*) are cosmopolitan and grow as saprophytic or parasitic on conifer and deciduous tree types of stumps, branch and barks.

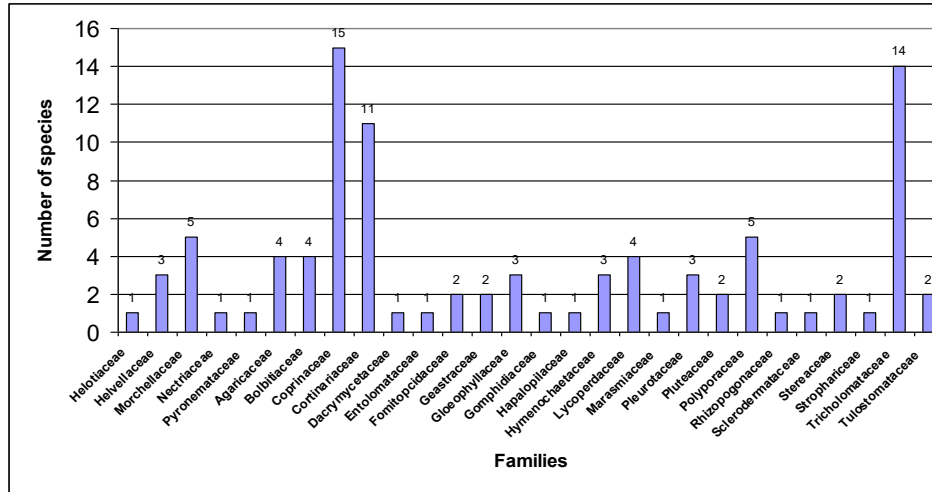


Fig. 1. Distribution of taxa as Families.

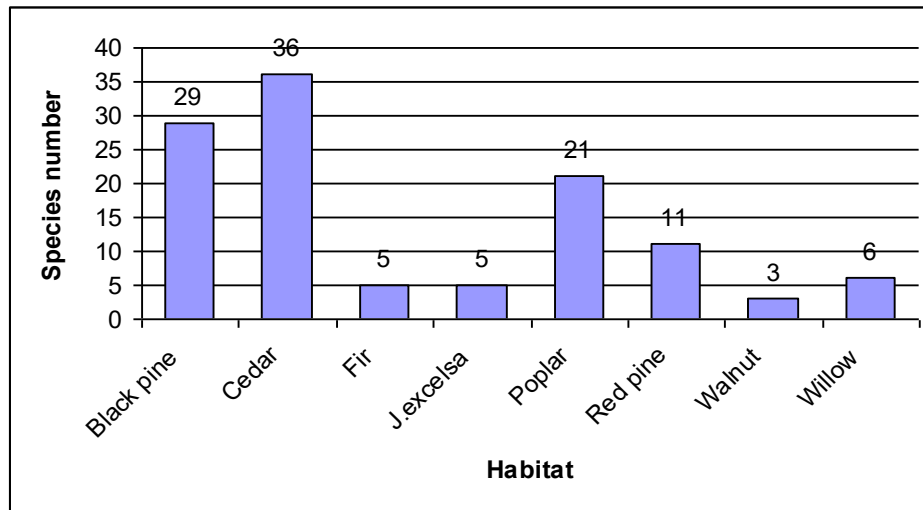


Fig. 2. Species distributions as Habitats.

The common habitats for collected macrofungi are highland areas that are cool and rainy in Fir, Cedar and Black pine forests. Most of the macrofungi grow up as mycorrhizal with Fir, Cedar and Black pine trees. These are Cedar with 36 species, Black pine with 29 species, Poplar with 21 species, Red pine with 11 species, Willow with 6 species, Fir and *J.excelsa* with 5 species, and Walnut with 3 species, respectively (Fig. 2).

Cedar forest represents about 60 % in total area. The age of forest is more than 100 years old. This forest is clear or mixed with fir trees. The needle litter layer is very abundant in this forest, hence fungi can find very suitable place to grow. The second common habitat is Black pine forest. Some part of it is natural and some part is under cultivation. It can compose as clear forest as well as mixed with red pines. Poplar and willow trees constitute generally water edges and their litter layers are very suitable habitat for fungi.

Comparing with some investigations made by some researchers near the region (Table 1) *Agaricaceae*, *Coprinaceae*, *Polyporaceae* and *Tricholomataceae* families show a similarity with Doğan (2001). *Tricholomataceae* family shows a similarity with Işıloğlu & Öder (1995). Species distributions of other families show relatively a parallelism with the other investigations. Some benefits are provided by the macrofungi distribution of Mut province and Turkey.

Table 1. Distributions of families.

Families	Işıloğlu & Watling 1992	Işıloğlu & Öder 1995	Afyon 1996	Öztürk et al., 2000	Kaşık & Öztürk 2000	Doğa n2001	Mut Province
<i>Agaricaceae</i>	3	4	2	4	4	7	4
<i>Amanitaceae</i>	3	8	1			3	
<i>Astraeaceae</i>	1					1	
<i>Bolbitiaceae</i>		3	3	1		13	4
<i>Boletaceae</i>	3	11			8	8	
<i>Coprinaceae</i>	8	9	2	2	6	34	15
<i>Corticaceae</i>						4	
<i>Cortinariaceae</i>	6	4	2	7	4	34	11
<i>Crepidotaceae</i>						2	
<i>Dacrymycetaceae</i>		1				1	1
<i>Entolomataceae</i>		1		1	1	6	1
<i>Fomitopsidaceae</i>							2
<i>Ganodermataceae</i>		1				1	
<i>Geastraceae</i>	1					5	2
<i>Gloeophyllaceae</i>							3
<i>Gomphaceae</i>		1				1	
<i>Gomphidiaceae</i>	1	1			2	2	1
<i>Hapalopilaceae</i>							1
<i>Helotiaceae</i>							1
<i>Helvellaceae</i>	2	3	1		1	5	3
<i>Hericiaceae</i>						1	
<i>Humariaceae</i>						3	
<i>Hygrophoraceae</i>	1	4				2	
<i>Hymenochaetaceae</i>	4				2	14	3
<i>Lepiotaceae</i>	4	7		3	4	13	
<i>Lycoperdaceae</i>	5	3	5	3	2	10	4
<i>Marasmiaceae</i>							1
<i>Morchellaceae</i>	2	3	1			8	5
<i>Nectriaceae</i>						1	1
<i>Paxillaceae</i>	1	3			1	1	
<i>Pezizaceae</i>	2	1		1		4	
<i>Pleurotaceae</i>	2	3	2		2	6	3
<i>Pluteaceae</i>	1	2	1			6	2
<i>Polyporaceae</i>	2	5	2	3	3	19	5
<i>Pyronemataceae</i>							1
<i>Ramariaceae</i>						3	
<i>Rhizopogonaceae</i>	2	2	1		1	2	1
<i>Russulaceae</i>	6	16	1			7	
<i>Schizophyllaceae</i>		1				1	
<i>Sclerodermataceae</i>							1
<i>Stereaceae</i>							2
<i>Strophariaceae</i>	2		1		1	17	1
<i>Terfeziaceae</i>						1	
<i>Thelephoraceae</i>		2		1		4	
<i>Tremellaceae</i>		1				1	
<i>Tricholomataceae</i>	13	25	6	5	3	67	14
<i>Tulostomataceae</i>			1			2	2
Total	73	125	32	32	43	322	95

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