

1-1-2003

## Macrofungi of Erzurum Province

KENAN DEMİREL

ABDULLAH KAYA

YUSUF UZUN

Follow this and additional works at: <https://journals.tubitak.gov.tr/botany>



Part of the [Botany Commons](#)

---

### Recommended Citation

DEMİREL, KENAN; KAYA, ABDULLAH; and UZUN, YUSUF (2003) "Macrofungi of Erzurum Province," *Turkish Journal of Botany*. Vol. 27: No. 1, Article 2. Available at: <https://journals.tubitak.gov.tr/botany/vol27/iss1/2>

This Article is brought to you for free and open access by TÜBİTAK Academic Journals. It has been accepted for inclusion in Turkish Journal of Botany by an authorized editor of TÜBİTAK Academic Journals. For more information, please contact [academic.publications@tubitak.gov.tr](mailto:academic.publications@tubitak.gov.tr).

## Macrofungi of Erzurum Province

Kenan DEMİREL

Yüzüncü Yıl University, Faculty of Arts & Science, Department of Biology, Van - TURKEY

Abdullah KAYA

Gaziantep University, Adıyaman Education Faculty, 02030, Adıyaman - TURKEY

Yusuf UZUN

Yüzüncü Yıl University, Faculty of Arts & Science, Department of Biology, Van - TURKEY

Received: 20.04.2001

Accepted: 18.09.2002

**Abstract:** This study was conducted on macrofungi specimens collected from Erzurum province between 1997 and 2000. As a result, 114 macrofungi species belonging to 29 families and two classes were identified. Two of them, *Melanoleuca humilis* (Pers.: Fr.) Sing. and *Tricholoma lascivum* (Fr.) Gill. (*Tricholomataceae*), are new records for the macrofungi flora of Turkey.

**Key Words:** Macrofungi, Flora, Erzurum, Turkey.

### Erzurum Yöresi Makrofungusları

**Özet:** Bu çalışma 1997 – 2000 yılları arasında Erzurum yöresinden toplanan makrofungus örnekleri üzerinde gerçekleştirilmiştir. Çalışma sonucunda iki sınıf ve 29 familya içinde yer alan 114 makrofungus türü teşhis edilmiştir. Bunlardan iki tanesi *Melanoleuca humilis* (Pers.:Fr.) Sing. ve *Tricholoma lascivum* (Fr.) Gill. (*Tricholomataceae*) türleri ülkemiz makromantar florası için yeni kayıttır.

**Anahtar Sözcükler:** Makrofungus, Flora, Erzurum, Türkiye

### Introduction

Erzurum is the fourth largest province in Eastern Anatolia with a surface area of 25066 km<sup>2</sup> (Fig. 1). Almost all of the area is over 1000 m in altitude and the highest peaks are mounts Dumlu (3200 m), Kargapazarı (3288 m), Kop (2900 m) and Mescit (3238 m). The vegetation is characterized mainly by steppes. However, especially around Şenkaya, Oltu, Olur and İspir *Pinus sylvestris* L. and some *Quercus* L. species have a wide distribution. In other parts of the study area, *Salix* L., *Populus* L. and *P. sylvestris* form the main tree vegetation.

The aim of this study was to determine the macrofungi taxa of Erzurum province and to make a contribution to the macrofungal flora of Turkey.

### Materials and Methods

The materials of this study were collected during field trips carried out in Erzurum province between 1997 and 2000. The locality and characteristics of the habitat were

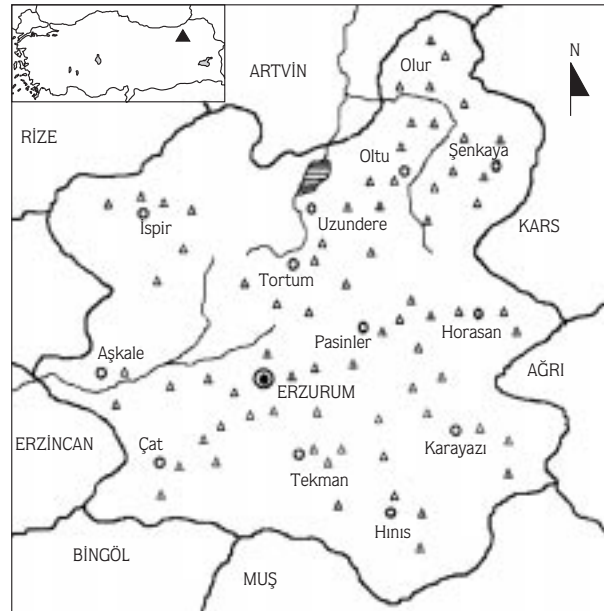


Figure 1. Macrofungi collecting sites

noted and colour slides taken during collection. Specimens were brought to the laboratory and dried after spore prints were obtained. They were then preserved in polyethylene bags containing thymol crystals.

Identification of the specimens was performed with the help of Phillips (1981), Breitenbach and Kränzlin (1984-1995), Buczacki (1989), Ellis & Ellis (1990), Moser (1993), Jordan (1995) and some studies carried out on the macrofungi flora of Turkey (Baytop, 1994; Mat & Gücin, 2000). The samples are kept in the Herbarium of Yüzüncü Yıl University, Department of Biology.

## Results

Species determined in the research area are given below. In the list D, K and U indicate Demirel, Kaya and Uzun respectively as collectors of a particular specimen.

An asterisk (\*) indicates new taxa for the Turkish Mycoflora.

## ASCOMYCETES

### Pezizaceae

1. *Sarcosphaera crassa* (Santi ex Steudel) Pouz.

Şenkaya, Sındıran village, pine forest, 13.06.1998, D.U.K. 1247.

### Helvellaceae

2. *Helvella lacunosa* Afz. ex Fr.

Şenkaya, Gaziler village, under *Salix* sp., 13.06.1998, D.U.K. 1282.

### Morchellaceae

3. *Morchella conica* (Pers.) Boud.

Şenkaya, Gaziler village, mixed wood, 13.06.1998, D.U.K. 1145; Oltu, pine forest, 15.06.1998, D.U.K. 1287.

4. *Morchella esculenta* (L.) Pers.

Şenkaya, Sındıran village, pine forest, 13.06.1998, D.U.K. 1277.

### Sphaeriaceae

5. *Daldinia concentrica* (Bolt.: Fr.) Ces. & de Not.

İspir, on *Quercus* stump, 05.09.1999, D. 1482.

## BASIDIOMYCETES

### Dacrymycetaceae

6. *Calocera cornea* (Batsch: Fr.) Fr.

Olur, Aloş village, on coniferous wood, 21.07.1999, D. 1322.

7. *Calocera viscosa* (Pers.: Fr.) Fr.

Olur, Altıköy village, mixed wood, 21.07.1999, D. 1338.

### Thelephoraceae

8. *Thelephora antocephala* Fr.

Şenkaya, Sındıran village, in coniferous forest, among mosses, 13.06.1998, D.U.K. 1263.

9. *Sarcodon scabrosus* (Fr.) Karst.

Olur, Altıköy village, mixed hardwood, 21.07.1999, D. 1330; Oltu, Ormanağzı village, mixed forest, 23.07.1999, D. 1375.

### Hymenochaetaceae

10. *Inonotus hispidus* (Fr.) Karst.

Tortum, on *Malus* sp., 20.07.1999, D.1303, İspir, on *Juglans* sp., 05.09.1999, D. 1466.

11. *Phellinus nigricans* (Fr.) Karst.

Şenkaya, Gaziler village, on *Populus* sp., 16.07.1997, D.U. 959.

12. *Phellinus tuberculatus* (Baumg.) Niemela

Olur, Altıköy village, on *Prunus* sp., 21.07.1999, D. 1344.

### Polyporaceae

13. *Funalia troqii* (Berk.) Bond & Sing.

Şenkaya, Değirmendüzü village, on *Populus* sp., 31.05.1997, U.893; Şenkaya, Taht village, 30.05.1997, U. 945; Gaziler village, 24.06.1997, U. 1096; Oltu, 14.06.1998, D.U.K. 1222; Tortum, 20.07.1999, D. 1304, Hınıs, 02.06.2000, D.K. 1539; Aşkale, 04.06.2000, D.K. 1599.

14. *Lenzites betulina* (L.: Fr.) Fr.

Olur, Beğendik village, on coniferous wood, 22.07.1999, D. 1353.

15. *Trametes versicolor* (Fr.) Pil.

Olur, Altıköy village, on *Quercus* stump, 21.07.1999, D. 1340; İspir, Çamlıkaya village, on *Quercus* sp., 16.08.1999, D. 1437.

16. *Trametes pubescens* (Schum.: Fr.) Pil.  
Şenkaya, Gaziler village, on *Populus* stump, 13.06.1998, D.U.K. 1207.

17. *Fomes fomentarius* (L.: Fr.) Fr.

Horasan, forest nursery, on *Salix* sp., 04.06.1997, D.U. 912; İspir, 03.06.1998, D. 1126, Şenkaya, Teketaşı village, on *Populus* sp., 13.06.1998, D.U.K. 1291; Oltu, Ormanağzı village, 23.07.1999, D. 1370, İspir, 05.09.1999, D. 1465; Hınıs, 02.06.2000, D.K. 1536; İspir, along İspir-Erzurum highway, 20.10.2000, D. 1821.

18. *Fomitopsis pinicola* (Fr.) Karst.

Uzundere, Yayla village, on *Picea* stump, 20.07.1999, D. 1307; Olur, Aloş village, 21.07.1999, D. 1316.

19. *Polyporus badius* (Pers.: S.F.Gray) Schw.

Olur, Altıköy village, on hardwood stump, 21.07.1999, D. 1342; İspir, Sırakonaklar village, 18.05.1999, D. 1399.

20. *Polyporus squamosus* (Huds.) Fr.

Şenkaya, Gaziler village, on *Salix* sp., 12.08.1997, U. 1297; Karayazı, Çelikli village, on *Populus* sp., 01.06.2000, D.K. 1533; Hınıs, 02.06.2000, D.K. 1535; Pasinler, 05.06.2000, D.K. 1613.

21. *Polyporus meridionalis* (David) Jahn

İspir, on dead twigs, 05.09.1999, D. 1477.

#### Schizophyllaceae

22. *Schizophyllum commune* Fr.

Tortum, on *Populus* sp., 20.07.1999, D. 1305, Uzundere, 20.07.1999, D. 1308.

#### Ganodermataceae

23. *Ganoderma lucidum* (Fr.) Karst.

Olur, Aloş village, on *Quercus* stump, 21.07.1999, D. 1317.

#### Clavariaceae

24. *Clavaria vermicularis* Fr.

Olur, Aloş village, under mixed wood, 21.07.1999, D. 1323.

#### Cantharellaceae

25. *Cantharellus cibarius* Fr.

Şenkaya, Gaziler village, mixed wood, 10.08.1997, U. 1298; Olur, Altıköy village 21.07.1999, D. 1348; Oltu,

Ormanağzı village, 23.07.1999, D. 1380; İspir, along İspir-Rize highway, coniferous forest, 05.09.1999, D. 1471.

26. *Cantharellus ferruginascens* Orton

Olur, Aloş village, mixed forest, 21.07.1999, D. 1321.

#### Astraeaceae

27. *Astraeus hygrometricus* (Pers.) Morg.

İspir, along İspir-Rize highway, coniferous forest, 05.09.1999, D. 1464.

#### Melanogastraceae

28. *Melanogaster broomeianus* Berk. ex Tul.

İspir, Çamlıkaya village, mixed forest, 16.08.1999, D. 1452.

#### Lycoperdaceae

29. *Bovista plumbea* Pers.: Pers.

Şenkaya, Gaziler village, meadow, 12.07.1997, U. 1301; Olur, Oğuzkent village, 22.07.1999, D. 1387.

30. *Calvatia utriformis* (Bull.: Pers.) Jaap

Şenkaya, Gaziler village, steppe, 16.07.1997, U.963; Gaziler village, Çakırbaba, meadow, 14.06.1998, D.U.K. 1201; Sındıran village, 13.06.1998, D.U.K. 1239; İspir, along İspir-Rize highway, 05.09.1999, D. 1458.

31. *Calvatia excipuliformis* (Pers.) Perdeck

Şenkaya, Sındıran village, mixed wood, 13.06.1998, D.U.K. 1215.

32. *Langermannia gigantea* (Batsch: Pers.) Rostkov.

Şenkaya, Gaziler village, 13.06.1998, D.U.K. 1288; İspir, along İspir-Rize highway, under *Populus* sp., 05.09.1999, D. 1459.

33. *Lycoperdon molle* Pers.: Pers.

Şenkaya, Sındıran village, mixed forest, 13.06.1998, D.U.K. 1217.

34. *Lycoperdon perlatum* Pers.

Şenkaya, Sındıran village, mixed forest, 13.06.1998, D.U.K. 1218; Olur, Altıköy village, 21.07.1999, D. 1335.

35. *Lycoperdon umbrinum* Pers.: Pers.

İspir, along İspir-Rize highway, coniferous forest, 05.09.1999, D. 1463.

36. *Lycoperdon atropurpureum* Vitt.

Şenkaya, Sındıran village, pine forest, 13.06.1998, D.U.K. 1255.

37. *Vascellum pratense* (Pers.) Kreisel

İspir, Çamlıkaya village, coniferous forest, 16.08.1999, D. 1451.

Rhizopogonaceae

38. *Rhizopogon luteolus* Fr.

İspir, Çamlıkaya village, coniferous forest, 16.08.1999, D. 1454.

Boletaceae

39. *Boletus luridus* Schaeff.: Fr.

Oltu, Ormanağzı village, coniferous forest, 23.07.1999, D. 1372.

40. *Boletus radicans* Pers: Fr.

Olur, Altıköy village, mixed wood, 21.07.1999, D. 1345.

41. *Boletus satanas* Lenz

Olur, Beğendik village, mixed hardwood, 22.07.1999, D. 1356; İspir, poplar grove, 05.09.1999, D. 1467.

42. *Leccinum scabrum* (Bull.: Fr.) S.F.Gray

Şenkaya, Gaziler village, mixed wood, 23.06.1999, D.U. 1302.

43. *Leccinum versipelle* (Fr.) Snell

Şenkaya, Gaziler village mixed wood, 12.09.1997, U. 1099.

44. *Suillus granulatus* (L.: Fr) Kuntze

Şenkaya, Gaziler village, coniferous forest, 12.08.1998, U. 1296; Olur, Altıköy village, 21.07.1999, D. 1346; Olur, Beğendik village, 22.07.1999, D. 1359.

45. *Suillus luteus* (L.) S.F.Gray

Uzundere, Yayla village, *Pinus sylvestris* forest, 14.06.1998, D.U.K. 1187; Erzurum, around Abdurrahman Gazi Türbesi, *Pinus sylvestris* nursery, 14.06.1998, D.U.K. 1220; Şenkaya, Sındıran village, coniferous forest, 13.06.1998, D.U.K. 1294; North slopes of Palandöken Mountain, 03.06.2000, D.K. 1580.

46. *Xerocomus chrysenteron* (Bull.) Quel.

Şenkaya, Gaziler village, mixed wood, 14.08.1997, U.965.

Paxillaceae

47. *Paxillus atrotomentosus* (Batsch.: Fr.) Fr.

Olur, Altıköy village, on *Abies* stump, 21.07.1999, D. 1347; Oltu, Ormanağzı village, on *Abies* stump, 23.07.1999, D. 1366; İspir, Sirakonaklar village, on *Abies* stump 15.08.1999, D. 1408.

48. *Paxillus involutus* (Batsch.: Fr.) Fr.

Şenkaya, Gaziler village, poplar grove, 23.06.1997, U. 1103; Şenkaya, Sındıran village, mixed wood, 13.06.1998, D.U.K. 1185; Gaziler village, 13.06.1998, D.U.K. 1206; Erzurum, Atatürk University campus, 03.06.2000, D.K. 1558.

Gomphidiaceae

49. *Chroogomphus rutilus* (Schaeff.: Fr.) O.K.Miller

Şenkaya, Sındıran village, pine forest, 13.06.1998, D.U.K. 1262; Olur, Altıköy village, 21.07.1999, D. 1349.

50. *Gomphidius roseus* L.: Fr.

Şenkaya, Sındıran village, mixed forest, 13.06.1998, D.U.K. 1180.

Tricholomataceae

51. *Armillaria tabescens* (Scop.: Fr.) Emel

İspir, İspir-Rize highway, on *Quercus* stump, 05.09.1999, D. 1475.

52. *Clitocybe gibba* (Pers.: Fr.) Kumm.

Şenkaya, Sındıran village, coniferous forest, 13.06.1998, D.U.K. 1258.

53. *Collybia marasmioides* (Britz.) Bresinsky & Stangl

Şenkaya, around Sındıran village, mixed forest, 13.06.1998, D.U.K. 1299.

54. *Lepista inversa* (Scop.: Fr.) Pat.

Şenkaya, Sındıran village, pine forest, 13.06.1998, D.U.K. 1253.

55. *Lepista irina* (Fr.) Bigelow

Şenkaya, Sındıran village, pine forest, 13.06.1998, D.U.K. 1264.

56. *Lepista personata* (Fr.: Fr.) Cke.

Erzurum, around Abdurrahman Gazi Türbesi, pine nursery, 03.06.2000, D.K. 1581; Pasinler, 05.06.2000, D.K. 1604; Köprüköy, 05.06.2000, D.K. 1615.

57. *Marasmius oreades* (Bolt.: Fr.) Fr.  
Şenkaya, Gaziler village, 13.06.1998, D.U.K. 1214, İspir, 6.08.1999, D. 1455; Pasinler, 05.06.2000, D.K. 1609; Köprüküy, 05.06.2000, D.K. 1616.
58. *Melanoleuca brevipes* (Bull.: Fr.) Pat.  
Şenkaya, Gaziler village, mixed forest, 13.06.1998, D.U.K. 1205.
59. \**Melanoleuca humilis* (Pers.: Fr.) Sing.  
Uzundere, Yayla village, pine forest, 14.06.1998, D.U.K. 1186.
60. *Mycena galericulata* (Scop.: Fr.) S.F.Gray  
İspir, on dead twigs, 05.09.1999, D. 1478.
61. *Omphalotus olearius* (DC.: Fr.) Sing.  
Şenkaya, Gaziler village, mixed forest, 13.06.1998, D.U.K. 1212.
62. *Oudemansiella mucida* (Schrad.: Fr.) v. Höhn.  
Olur, Aloş village, on stump, 21.07.1999, D. 1320.
63. *Tricholoma fracticum* (Britz.) Kreisel  
Şenkaya, Sındıran village, coniferous forest, 13.06.1998, D.U.K. 1295.
64. \**Tricholoma lascivum* (Fr.) Gill.  
Pasinler, under *Populus* sp., 05.06.2000, D.K. 1605, Köprüküy, 05.06.2000, D.K. 1617.
65. *Xerula radicata* (Relhan: Fr.) Dörfelt  
Olur, Aloş village, mixed forest, 21.07.1999, D. 1318; Olur, Altıköy village, 21.07.1999, D. 1333; İspir, Sırakonaklar village, under *Salix* sp., 15.08.1999, D. 1401.
- Pleurotaceae**
66. *Lentinus tigrinus* (Bull.: Fr.) Fr.  
Karayazı, Çelikli village, on *Populus* stump, 01.06.2000, D.K. 1534; Hınıs, 02.06.2000, D.K. 1537; Çat, 04.06.2000, D.K. 1593; İspir, along İspir-Erzurum highway 20.10.2000, D. 1820.
67. *Lentinus cyathiformis* (Schaeff.) Bres.  
Oltu, Ormanağzı village, on *Pyrus* sp., 23.07.1999, D. 1373.
68. *Pleurotus eryngii* (DC.: Fr.) Quel.  
Erzurum, Alabalık village, steppe, 14.06.1998, D.U.K. 1199; Şenkaya, Yukarı Gözebaşı village, 13.06.1998, D.U.K. 1289; along Hınıs-Tekman highway, 02.06.2000, D.K. 1541; Palandöken Mountain, 02.06.2000, D.K. 1551; Çat, 04.06.2000, D.K. 1587; Aşkale, 04.06.2000, D.K. 1597.
69. *Pleurotus ostreatus* (Jacq.: Fr.) Kummer  
Şenkaya, Yukarı Gözebaşı village, on *Salix* stump, 16.06.1997, U. 1114; Horasan, Azapsuyu picnic area, 03.06.2000, U. 1502; Hınıs, 02.06.2000, D.K. 1540; Erzurum, Atatürk University campus, 03.06.2000, D.K. 1563; Ilıca, 04.06.2000, D.K. 1594; Aşkale, 04.06.2000, D.K. 1601.
- Amanitaceae**
70. *Amanita alba* Gill.  
Şenkaya, Sındıran village, coniferous forest, 13.06.1998, D.U.K. 1293.
71. *Amanita echinocephala* (Vitt.) Quel.  
Olur, Altıköy, village, poplar grove, 21.07.1999, D. 1328.
72. *Amanita gemmata* (Fr.) Gill.  
Şenkaya, Sındıran village, coniferous forest, 13.06.1998, D.U.K. 1235; Olur, Altıköy village, 21.07.1999, D. 1326.
73. *Amanita fulva* (Schaeff.) Secr.  
Olur, Altıköy village, mixed forest, 21.07.1999, D. 1322.
74. *Amanita pantherina* (DC.: Fr.) Krbh.  
Şenkaya, Sındıran village, coniferous forest, 13.06.1998, D.U.K. 1271; Olur, Aloş village, 21.07.1999, D. 1319; Olur, Beğendik village, 22.07.1999, D. 1363.
75. *Amanita porphyria* Alb. & Schw.: Fr.  
Olur, Altıköy village, mixed forest, 21.07.1999, D. 1334.
76. *Amanita rubescens* (Pers.: Fr.) S.F.Gray  
Şenkaya, Gaziler village, mixed forest, 24.06.1997, U. 1094.
77. *Amanita vaginata* (Bull.: Fr.) Vitt.  
Şenkaya, Gaziler village, mixed forest, 24.06.1997, U. 1095.
- Pluteaceae**
78. *Volvariella speciosa* (Fr.: Fr.) Sing.  
Karayazı, Daragut village, meadow, 01.06.2000, D.K. 1531.



### Lepiotaceae

#### 79. *Lepiota erminea* Fr.

Şenkaya, Sındıran village, coniferous forest, 13.06.1998, D.U.K. 1257.

#### 80. *Lepiota cristata* (Bolt.: Fr.) Kumm.

Olur, Beğendik village, mixed forest, 22.07.1999, D. 1358; İspir, along İspir-Rize highway, streamside, 05.09.1999, D. 1461.

#### 81. *Macrolepiota heimi* Locq.: Bon

İspir, garden, 05.09.1999, D. 1460.

#### 82. *Macrolepiota konradii* (Huijism.: P.D.Orton) Mos.

Olur, Altıköy village, mixed forest, 21.07.1999, D. 1331.

#### 83. *Macrolepiota mastoidae* (Fr.) Sing.

Olur, Beğendik village, mixed forest, 22.07.1999, D. 1350.

#### 84. *Macrolepiota procera* (Scop.: Fr.) Sing.

Uzundere, Azort Yayla, pine forest, 20.07.1999, D. 1309; Oltu, Ormanağzı village, coniferous forest, 23.07.1999, D. 1374; İspir, along İspir-Rize highway 05.09.1999, D. 1468.

#### 85. *Macrolepiota puellaris* (Fr.) Mos.

İspir, along İspir-Rize highway, coniferous forest, 20.10.2000, D. 1826.

### Agaricaceae

#### 86. *Agaricus arvensis* Schaeff.: Fr.

Şenkaya, Gaziler village, Çakırbaba, steppe, 23.06.1997, U. 1101.

#### 87. *Agaricus benesii* (Pill.) Sing.

Şenkaya, Sındıran village, mixed forest, 13.06.1998, D.U.K. 1292.

#### 88. *Agaricus campestris* L.: Fr.

Uzundere, Azort Yayla, steppe, 14.06.1998, D.U.K. 1189; Erzurum, Alabalık village, 14.06.1998, D.U.K. 1200; Olur, Beğendik village, 22.07.1999, D. 1351; Olur, Oğuzkent village, 22.07.1999, D. 1386; İspir, 05.09.1999, 1474; Hınıs, Çiçekdağı village, 02.06.2000, D.K. 1544; Tekman, 02.06.2000, D.K. 1552; Palandöken Mountain, 02.06.2000, D.K. 1554; Çat, 04.06.2000, D.K. 1589, Aşkale, 04.06.2000, D.K. 1596.

#### 89. *Agaricus macrosporus* (Moll.) Moll.

Şenkaya, Yukarı Gözebaşı village, steppe, 13.06.1998, D.U.K. 1290.

#### 90. *Agaricus xanthodermus* Genevier

Pasinler, poplar grove, 05.06.2000, D.K. 1606.

### Coprinaceae

#### 91. *Coprinus atramentarius* (Bull.: Fr.) Fr.

Şenkaya, Gaziler village, in garden, 23.06.1997, U. 1110; Erzurum, Atatürk University campus, 03.06.2000, D.K. 1557; Aşkale, 04.06.2000, D.K. 1600; Pasinler, 05.06.2000, D.K. 1610; İspir, 20.10.2000, D. 1819.

#### 92. *Coprinus comatus* (Müll.: Fr.) S.F.Gray

Şenkaya, Gaziler village, 13.06.1998, D.U.K. 1281; along Hınıs-Tekman highway, 02.06.2000, D.K. 1542; Atatürk University campus, 03.06.2000, D.K. 1562; Pasinler, 05.06.2000, D.K. 1612.

#### 93. *Coprinus micaceus* (Bull.: Fr.) Fr.

Şenkaya, Taht village, on *Populus* stump, 30.05.1997, U. 915; Halıkışla village, 31.05.1997, U. 942; Horasan, 30.07.1997, U. 953; Karayazı, Çelikli village, 01.06.2000, D.K. 1532.

#### 94. *Coprinus niveus* (Pers.: Fr.) Fr.

İspir, on cow dung, 05.09.1999, D. 1472; Karayazı, Daragut village, 01.06.2000, D.K. 1527; Pasinler, 05.06.2000, D.K. 1608.

#### 95. *Panaeolus foenisecii* (Pers.: Fr.) Schroet.

Şenkaya, Taht village, in poplar grove, 30.05.1997, U. 909.

#### 96. *Psathyrella candolleana* (Fr.: Fr.) Mre.

Olur, Beğendik village, 22.07.1999, D. 1352; İspir, 05.09.1999, D. 1469.

### Bolbitiaceae

#### 97. *Agrocybe pediades* (Fr.) Fayod

Tekman, 10 km along the Tekman-Erzurum highway, steppe, 02.06.2000, D.K. 1549.

### Strophariaceae

#### 98. *Pholiota cerifera* (Karst.) Karst.

Şenkaya, Gaziler village, on *Salix* stump, 20.08.1997, U. 1115.

99. *Pholiota populnea* (Pers.: Fr.) Kuyp. & Tjall.  
İspir, on *Populus* stump, 20.10.2000, D. 1816; İspir, Maden village, 20.10.2000, D. 1817.

100. *Pholiota squarrosa* (Pers.: Fr.) Kumm.  
Olur, Altıköy village, under *Quercus* sp., 21.07.1999, D. 1337.

101. *Stropharia coronilla* (Bull.: Fr.) Quel.

Çat, steppe, 04.06.2000, D.K. 1590.

#### Cortinariaceae

102. *Inocybe fastigiata* (Schaeff.: Fr.) Quel.  
Şenkaya, Sındıran village, coniferous forest, 13.06.1998; D.U.K. 1266; Olur, Altıköy village, 21.07.1999, D. 1339; İspir, Sirakonaklar village, 15.08.1999, D. 1395.

#### Russulaceae

103. *Russula albonigra* (Krombh.) Fr.  
İspir, Çamlıkaya village, coniferous forest, 16.08.1999, D. 1424.

104. *Russula betularum* Hora  
Şenkaya, Gaziler village, mixed forest, 14.08.1997, U. 964; Oltu, Ormanağzı village, 23.07.1999, D. 1369.

105. *Russula cyanoxantha* Schaeff.: Fr.  
Şenkaya, Sındıran village, coniferous forest, 13.06.1998, D.U.K. 1259.

106. *Russula delica* Fr.  
Şenkaya, Gaziler village, mixed forest, 14.08.1997, U. 962; Olur, Oğuzkent village, 21.07.1999, D. 1313, Oltu, Ormanağzı village, 23.07.1999, D. 1376; İspir, Sirakonaklar village, 15.08.1999, D. 1398.

107. *Russula fellea* (Fr.) Fr.  
Şenkaya, Gaziler village, mixed forest, 15.08.1997, U. 1300.

108. *Russula foetens* (Pers.: Fr.) Fr.  
Uzindere, Azort Yayla, coniferous forest, 20.07.1999, D. 1311; İspir, Sirakonaklar village, 15.08.1999, D. 1419.

109. *Russula turci* Bres.  
İspir, Çamlıkaya village, coniferous forest, 16.08.1999, D. 1426.

110. *Lactarius deterrimus* Gröger  
Şenkaya, Sındıran village, coniferous forest, 13.06.1998, D.U.K. 1171.

111. *Lactarius deliciosus* (Fr.) S.F.Gray  
Şenkaya, Sındıran village, coniferous forest, 13.06.1998, D.U.K. 1265.

112. *Lactarius piperatus* Scop.: Fr.  
Olur, Beğendik village, mixed forest, 22.07.1999, D. 1354.

113. *Lactarius scrobiculatus* (Scop.: Fr.) Fr.  
İspir, Çamlıkaya village, coniferous forest, 16.08.1999, D. 1428.

114. *Lactarius vellereus* (Fr.) Fr.  
Olur, Altıköy village, mixed forest, 21.07.1999, D. 1327.

#### Discussion

As a result of this study, 114 macrofungi species belonging to 61 genera, 30 families and two classes were identified. Although 53% (60 species) of them are edible, only *Morchella conica*, *M. esculenta*, *Pleurotus eryngii*, *Agaricus campestris*, *A. macrosporus* and *Lactarius deliciosus* are collected and consumed by local residents. *P. eryngii* and *A. campestris* were observed to have economic importance in the area and are sold in public markets. The percentage of inedible and poisonous species are 33% (38 species) and 14% (16 species), respectively.

The macrofungi flora of Erzurum appears to be similar to that of neighbouring regions, especially those where forest habitats dominate (Demirel, 1999; Demirel & Uzun, 1999). This may be because of the similarity of the habitats. The great majority of the specimens collected were from the Şenkaya, Oltu, Olur and İspir districts. Similarities can be observed between the macromycota of some other closer provinces such as Van (Demirel, 1996) and Bitlis (Kaya, 2001), though this is not very significant because of ecological differences.

The most common species in the area are *Funalia trogii*, *Fomes fomentarius*, *Polyporus squamosus*, *Paxillus involutus*, *Suillus luteus*, *Lentinus tigrinus*, *Pleurotus eryngii*, *P. ostreatus*, *Agaricus campestris*, *Coprinus atramentarius*, *C. comatus*, *C. micaceus* and *Russula delica*.



With our study, two species, *Melanoleuca humilis* and *Tricholoma lascivum*, were added to the Turkish Mycoflora as new records.

## References

- Baytop A (1994). Türkiye'nin makrofungusları ile ilgili bir yayın listesi. *Tur J Bot* 18: 175-185.
- Breitenbach J, Kränzlin F (1984-1995). *Fungi of Switzerland* Vol 1-4 Lucerne: Verlag Mykologia.
- Buczacki S (1989). *Mushrooms and Toadstools of Britain and Europe*. London: W. Collins Sons & Co Ltd.
- Demirel K (1996). Van yöresi makrofungusları. *Tur J Bot* 20: 165-169.
- Demirel K (1999) Contributions to Turkish mycoflora from the Ardanuç district of Artvin Province. *Tur J Bot* 23: 405-409.
- Demirel K, Uzun Y (1999) Sarıkamış (Kars) yöresinin makrofunguslarına katkılar. *Hacettepe Fen ve Mühendislik Bilimleri Dergisi* 17: 121-132.
- Ellis MB, Ellis JB (1990). *Fungi without Gills (Hymenomyces and Gasteromyces)*. London: Chapman and Hall.
- Jordan M (1995). *The Encyclopedia of Fungi of Britain and Europe*. UK: David & Charles Book Co.
- Kaya A (2001) Contributions to the Macrofungi Flora of Bitlis Province. *Tur J Bot* 25: 379-383.
- Mat A, Gücin F (2000). Türkiye'nin Makrofungusları ile ilgili bir yayın listesi (Ek Liste 2). In: Mat A (ed.) *Türkiye'de Mantar Zehirlenmeleri Zehirli Mantarlar*. pp 212-217. Ankara: Tübitak Başvuru Kitapları.
- Moser M (1983). *Keys to Agarics and Boleti*. Stuttgart: Gustav Fischer.
- Phillips R (1981). *Mushrooms and Other Fungi of Great Britain & Europe*. London: Pan Books.

## Acknowledgements

The authors would like to thank Yüzüncü Yıl University Research Fund for its financial support.