

Macrofungi of Ağrı Province

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Abstract: Macrofungi were collected during field trips in the Ağrı district between 1997 and 2000. At the end of field and laboratory studies, 45 taxa belonging to 3 classes and 18 families were identified. Three of these, *Pluteus ephebeus* (Fr.:Fr.) Gill. (*Pluteaceae*), *Coprinus auricomus* Pat. (*Coprinaceae*) and *Inocybe tigrina* Heim. (*Cortinariaceae*), are new records for the mycoflora of Turkey.

Key Words: Macrofungi, Flora, Taxonomy, Ağrı, Turkey

Ağrı Yöresinin Makrofungusları

Özet: Ağrı yöresinde, 1997-2000 yılları arasında yapılan arazi çalışmaları ile bazı makrofungus örnekleri toplanmıştır. Arazi ve laboratuvar çalışmaları sonunda 3 sınıf ve 18 familya içinde dağılım gösteren toplam 45 makrofungus taksonu tanımlanmıştır. Bunlardan *Pluteus ephebeus* (*Pluteaceae*), *Coprinus auricomus* (*Coprinaceae*) ve *Inocybe tigrina* (*Cortinariaceae*) türleri Türkiye mantar florası için yeni kayıttır.

Anahtar Sözcükler: Makrofunguslar, Flora, Taksonomi, Ağrı, Türkiye

Introduction

Many studies have been carried out on the macrofungus flora of Turkey (Baytop, 1994, Baytop & Mat, 1998, Mat & Gücin, 2000). There have been no previous studies on macrofungi growing in Ağrı. The study materials were collected between 1997 and 2000 in the province of Ağrı (Figure 1). During field studies, colour slides of the macrofungus specimens were taken in their natural habitats. After relevant notes were taken on their morphological and ecological features, they were put in specially prepared boxes and taken to the herbarium.

We identified the specimens using the literature on macrofungi by Phillips (1981), Moser (1983), Buczacki (1989), Breitenbach & Kränzlin (1984-1994), Ellis & Ellis (1990) and Jordan (1995). The specimens are kept in the Herbarium of Yüzüncü Yıl University, Department of Biology.

Results

Forty-five macrofungi taxa of belonging to 18 families were identified. These taxa, their localities, collection dates and herbarium registration numbers (D: Demirel, U: Uzun, K: Kaya) are listed below. New records are indicated by an asterisk (*).

MYXOMYCETES

Reticulariaceae

1. *Reticularia lycoperdon* Bull.

Patnos, Üçöymak village, on wood of willow trees, 10. 05. 2000. K. 1857.

ASCOMYCETES

Helvellaceae

2. *Helvella queletii* Bres.

Taşlıçay, under poplar trees, 06.06.2000, D. K. 1634, Patnos, the bank of Çorum River, under willow trees, 03.06.2000, K. 1891.

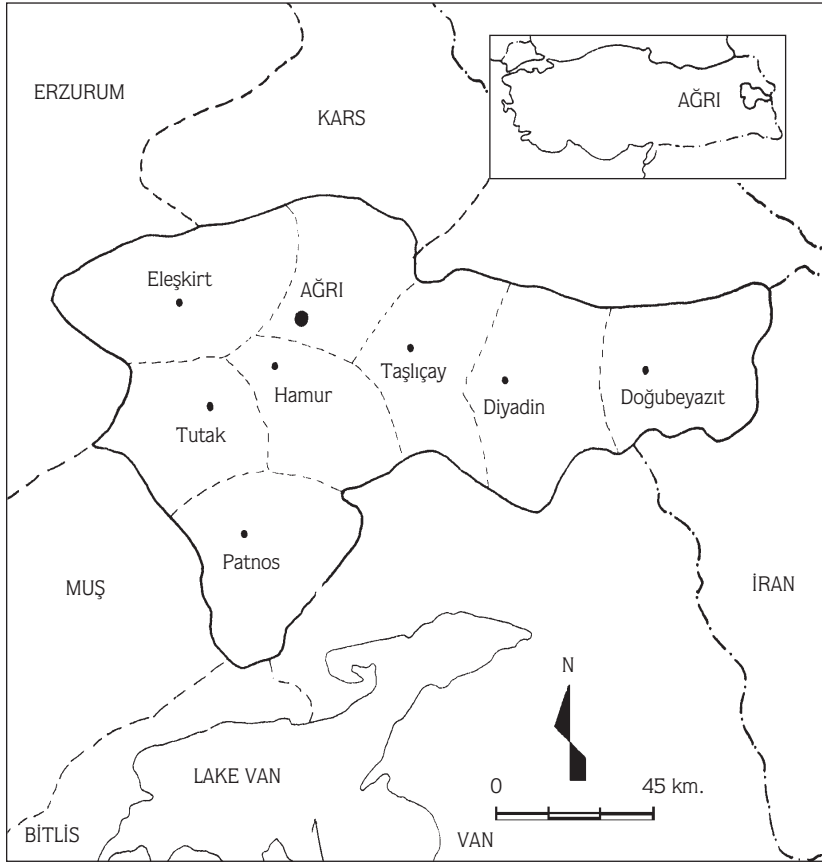


Figure 1. The study area.

3. *Helvella lacunosa* Afz. ex Fr.

Taşlıçay, under willow trees, 06.06.2000, D. K. 1635.

Morchellaceae

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

Taşlıçay, under willow trees, 06.06.2000, D. K. 1636.

Pezizaceae

5. *Peziza rependa* Fr.: Fr.

Patnos, Gökoğlu village, under willow trees, 04.06.2000, K 1902.

BASIDIOMYCETES

Polyporaceae

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

Taşlıçay, Esendere area, on stumps of poplar trees, 11.06.1998, D.U. 1127.

7. *Polyporus squamosus* Fr.

Eleşkirt, on stumps of willow trees, 23.10.1999, D.U.K. 1495, Patnos, Gökoğlu village, on stumps of willow trees, 07.05.2000, K. 1850. Eleşkirt, on stumps of poplar trees, 05.06.2000, D.K. 1621, Patnos, Eskikonak village, on stumps of willow trees, 14.05.2000, K. 1875.

8. *Funalia trogii* (Berk.) Bond & Sing.

Ağrı, on stumps of poplar trees, 23.10.1999, D.U.K. 1493, Doğubeyazıt, on stumps of poplar trees, 06.06.2000, D. K. 1042.

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

Ağrı, on stumps of willow trees, 23.10.1999, D.U.K. 1491. Patnos, Eskikonak village, on wood of willow trees, 10.05.2000, K 1853.

Hymenochaetaceae

10. *Phellinus igniarius* (L.: Fr.) Quél.

Tutak, Esmer village, on wood of living willows,

01.06.2000, D.K. 1515, Taşlıçay, on trunks of willows,
06.06.2000, D.K. 1630.

Lycoperdaceae

11. *Bovista plumbea* Pers.: Pers.

Doğubayazıt, steppe, 23.10.1999, D.U.K. 1485,
Patnos, foot of Süphan Mountain, steppe, 03.06.2000,
K. 1888.

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

Taşlıçay, under poplar trees, 23.10.1999, D.U.K.
1489, Patnos, foot of Süphan Mountain, steppe,
18.06.2000, K. 1917.

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

Eleşkirt, under poplar trees, 24.10.1999, D.U.K.
1498.

Pleurotaceae

14. *Pleurotus eryngii* (DC.: Fr.) Quél.

Tutak, around Erdal village, steppe, 01.06.2000,
D.K. 1522, Eleşkirt, steppe, 05.06.2000, D.K. 1619,
foot of Tendürek Mountain, steppe, 06.06.2000, D.K.
1645. Patnos, foot of Süphan Mountain, steppe,
07.05.2000, K. 1849.

15. *Pleurotus ostreatus* (Jacq.: Fr.) Kummer

Ağrı, on stumps of poplar trees, 23.10.1999, D.U.K.
1492, Eleşkirt, on stumps of poplar trees, 24.10.1999,
D.U.K. 1499. Tutak, Sarıgöze village, on stumps of
poplar trees, 01.06.2000, D.K. 1517, Tutak, Erdal
village, on stumps of poplar trees, 01.06.2000, D.K.
1523, Ağrı, on stumps of poplar trees, 05.06. 2000,
D.K. 1624.

16. *Lentinus tigrinus* (Bull.: Fr.) Fr.

Doğubayazıt, on stumps of poplar trees, 23.10.1999,
D.U.K. 1486, Eleşkirt, on stumps of willow trees,
24.10.1999, D.U.K. 1497, Patnos, Gökoğlu village, on
stumps of poplar trees, 04.06.1997, D.U. 896.

Tricholomataceae

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

Patnos, under poplar trees, 01.06.2000, D.K. 1505,
Tutak, under poplar trees, 01.06.2000, D.K. 1509, Ağrı,
under poplar trees, 05.06.2000, D.K. 1627.

18. *Marasmius oreades* (Bolt.: Fr.) Fr.

Tutak, under poplar trees, 01.06.2000, D.K. 1508,
Taşlıçay, under poplar trees, 06.06.2000, D.K. 1631.

Strophariaceae

19. *Stropharia coronilla* (Bull.: Fr.) Quél.

Tutak, Esmer village, on soil among grass, meadows,
01.06.2000, D.K. 1510.

20. *Pholiota cerifera* (Karst.) Karst.

Taşlıçay, on wood of willow trees, 11.06.1998, D.U.
1130, Doğubayazıt, on wood of willow trees,
23.10.1999, D.U.K. 1484.

Pluteaceae

(* 21. *Pluteus ephebeus* (Fr.: Fr.) Gill.

Patnos, Eskikonak village, under willow trees,
12.05.2000, K. 1864.

22. *Pluteus romellii* (Britz.) Sacc.

Tutak, Sarıgöze village, on stumps of poplar trees,
01.06.2000, D.K. 1518.

23. *Volvariella speciosa* (Fr.: Fr.) Sing.

Taşlıçay, steppe, 06.06.2000, D.K. 1629. Patnos,
around Değirmendüzü village, meadows, 14.05.2000, K.
1873.

Agaricaceae

24. *Agaricus arvensis* Schaeff.: Fr..

Patnos, Eskikonak village, garden, 10.05.2000, K.
1858.

25. *Agaricus campestris* L.: Fr.

Tutak, around Erdal Village, meadows, 01.06.2000,
D.K. 1525, Eleşkirt, steppe, 05.06.2000, D.K. 1618,
Tendürek Mountain, steppe, 06.06.2000, D.K. 1646.

26. *Agaricus xanthodermus* Genevier

Eleşkirt, under poplar trees, D.U.K. 1494, Patnos,
Eskikonak village, under willow and poplar trees,
10.05.2000, K.1855.

Coprinaceae

27. *Coprinus atramentarius* (Bull.: Fr.) Fr.

Ağrı, under poplar trees, 23.10.1999, D.U.K. 1490,
Patnos, under poplar trees, 01.06.2000, D.K. 1507,
Ağrı, under poplar trees, 05.06.2000, D.K. 1626,
Doğubayazıt, under poplar trees, 06.06.2000, D.K.
1643.

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

Taşlıçay, Taşköker village, under poplar trees, 11.06.1998, D.K. 1129, Patnos, under poplar trees, 01.06.2000, D.K. 1506, Tutak, steppe, 01.06.2000, D.K. 1511, Ağrı, under poplar trees, 05.06.2000, D.K. 1623, Taşlıçay, under poplar trees, 06.06.2000, D.K. 1632.

29. *Coprinus micaceus* (Bull.: Fr.) Fr.

Hamur, under willow trees, 31.05.1997, D.U. 914, Taşlıçay, around poplar stumps, 23.10.1999, D.U.K. 1488, Ağrı, around poplar stumps, 05.06.2000, D.K. 1622, Doğubayazıt, around poplar stumps, 06.06.2000, D.K. 1644.

30. *Coprinus disseminatus* (Pers.: Fr.) S.F.Gray

Patnos, Gökoğlu village, under poplar trees, 01.06.2000, D.K. 1503.

(* 31. *Coprinus auricomus* Pat.

Patnos, Gökoğlu village, under willow trees, 07.05.2000, K. 1847

32. *Coprinus plicatilis* (Curt.: Fr.) Fr.

The bank of Patnos River, under willow trees, 13.05.2000, D.U.K. 1496.

33. *Psathyrella candolleana* (Fr.: Fr.) Mre.

Taşlıçay, Taşköker village, under poplar trees, 11.06.1998, D.U. 1128, Doğubayazıt, under poplar trees, 06.06.2000, D.K. 1641, Tutak, Sarıgöze village, under poplar trees, 01.06.2000, D.K. 1520.

34. *Psathyrella obtusata* (Fr.) A.H.Smith.

Taşlıçay, under poplar trees, 06.06.2000, D.K. 1637.

35. *Panaeolus sphinctrinus* (Pers.: Fr.) Schroet.

Tutak, Sarıgöze village, on dung, 01.06.2000, D.K. 1521.

Bolbitiaceae

36. *Agrocybe dura* (Bolt.) Sing.

Tutak, Dönertaş village, meadows, 01.06.2000, D.K. 1516, Patnos, Gökoğlu village, meadows, 01.06.2000, D.K. 1504.

37. *Agrocybe paludosa* (Lge.) Kühn. & Romagn.

Tutak, Esmer village, under willow trees, 01.06.2000, D.K. 1514.

38. *Agrocybe pediades* (Fr.) Quél.

Doğubayazıt, steppe, 11.06.1998, D.U. 1132, Tutak, Esmer village, meadows, 01.06.2000, D.K. 1513, Tutak, around Erdal village, steppe, 01.06.2000, D.K. 1524.

39. *Conocybe rickeniana* Sing. ex P.D.Ort.

Taşlıçay, under willow trees, 06.06.2000, D.K. 1638.

Paxillaceae

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

Taşlıçay, Taşköker village, under poplar trees, 11.06.1998, D.U. 1136, Eleşkirt, under poplar trees, 05.06.2000, D.K. 1620.

Boletaceae

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

Taşlıçay, under poplar trees, 11.06.1998, D.U. 1138.

Cortinariaceae

42. *Hebeloma mesophaeum* (Pers.: Fr.) Quél.

Patnos, on the road between Patnos and Malazgirt, under poplar trees, 04.06.2000, K. 1904.

43. *Inocybe fastigiata* (Schaeff.: Fr.) Quél.

Taşlıçay, under poplar trees, 23.10.1999, D.U.K. 1487.

(* 44. *Inocybe tigrina* Heim

Taşlıçay, under willow trees, 06.06.2000, D.K. 1639, Patnos, Üçoymak village, under willow trees, 03.06.2000, K. 1892.

Schizophyllaceae

45. *Schizophyllum commune* Fr.

Eleşkirt, on dead wood of poplar trees, 24.10.1999, D.U.K. 1500.

Discussion

In this study a total of 45 macrofungi taxa belonging to 3 classes and 18 families were identified in Ağrı province. Twenty-one (47%) species are considered as edible, 19 (42%) species as inedible and 5 (11%) species as poisonous. *Pleurotus eryngii* and *Agaricus campestris* are well known and eaten by local people. However, 5% of available edible fungi was being consumed as food. This figure is quite low. According to official records poisonings have not been observed in the district so far. This might indicate that people are wary of unknown species of macrofungi.

A comparison of previous studies of macrofungi carried out in the provinces near Ağrı and the macrofungus specimens collected from Ağrı for this study show some similarities: Van has 44% similarity (Mat & Baytop, 1998); Diyarbakır 42% (Mat & Baytop, 1998); Şenkaya 36% (Mat & Gücin, 2000); Sarıkamış 31% (Mat & Gücin, 2000); Elazığ 29% (Baytop, 1994); and Malatya 27% (Mat & Baytop, 1998); The similarity among populations is because these three provinces are geographically close to each other and have similar ecological conditions.

Although most of the macrofungi were collected from habitats where poplars and willows are dominant trees, the area is not rich in woody plant species due to the climate. Macrofungal spread is relatively poor. The most common species in the area are *Funalia trogii*, *Polyporus squamosus*, *Lepista personata*, *Lentinus tigrinus*, *Pleurotus eryngii*, *P. ostreatus*, *Agaricus campestris*, *Coprinus atramentarius*, *C. comatus* and *C. micaceus*.

As a result three new records have been added to the mycoflora of Turkey. These are *Pluteus epebeus*, *Coprinus auricomus* and *Inocybe tigrina*.

References

- Baytop A (1994). Türkiye'nin Makrofungusları İle İlgili Bir Yayın Listesi, Tr J of Botany 18: 175-185.
- Baytop A & Mat A (1998). Türkiye'nin Makrofungusları ile İlgili bir yayın listesi, (Ek Liste 1.), In: Mat A., (ed) Türkiye'de Mantar Zehirlenmeleri ve Zehirli Mantarlar. Ankara: Tübitak Başvuru Kitapları.
- Breitenbach J & Kränzlin F (1984-1994). Fungi of Switzerland, Volume 1-4, Lucerne: Verlag Mycologia.
- Buczacki S (1989). Fungi of Britain and Europe, London: Collins Ltd.
- Ellis M B & Ellis J P (1990). Fungi without Gills (Hymenomycetes and Gasteromycetes), London: Chapman and Hall.
- Jordan M (1995). The Encyclopedia of Fungi of Great Britain and Europe, UK: David & Charles Book. Co.
- Mat A & Gücin F (2000). Türkiye'nin Makrofungusları ile İlgili bir yayın listesi, (Ek Liste 2.), In: Mat A., (ed) Türkiye'de Mantar Zehirlenmeleri ve Zehirli Mantarlar. İstanbul: Nobel Tıp Kitabevleri Ltd. Şti.
- Moser M (1983). Keys to Agarics and Boleti, London: Gustav Fisher Verlag.
- Phillips R (1981). Mushrooms and Other Fungi of Great Britain and Europe, London: Pan Books Ltd.