

Macrofungi Determined in Gölbaşı (Adıyaman) District

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Abstract: Macrofungi specimens were collected from Gölbaşı (Adıyaman) district in 2000-2003. As a result of field and laboratory studies, 77 taxa belonging to 22 families in the classes *Ascomycetes* and *Basidiomycetes* were identified. Five of them, *Cyathus stercoreus* (Schw.) de Toni, *Entoloma rusticoides* (Gill.) Noordel., *Pluteus dietrichii* Bres., *Coprinus dilectus* Fr. and *Panaeolus guttulatus* Bres., are new records for Turkey.

Key Words: Macrofungi, Flora, Gölbaşı (Adıyaman), Turkey

Gölbaşı (Adıyaman) Yöresinde Belirlenen Makrofunguslar

Özet: Gölbaşı (Adıyaman) sınırları içinde 2000-2003 yıllarında makrofungus örnekleri toplandı. Arazi ve laboratuvar çalışmaları sonucunda, *Ascomycetes* ve *Basidiomycetes* sınıfları içinde yer alan 22 familyaya ait 77 takson belirlendi. Bunlardan 5 tanesi, *Cyathus stercoreus* (Schw.) de Toni, *Entoloma rusticoides* (Gill.) Noordel., *Pluteus dietrichii* Bres., *Coprinus dilectus* Fr. ve *Panaeolus guttulatus* Bres. Türkiye için yeni kayıttır.

Anahtar Sözcükler: Makrofunguslar, Flora, Gölbaşı (Adıyaman), Türkiye

Introduction

Gölbaşı is a district of Adıyaman in south-east Anatolia, surrounded by Doğanşehir (Malatya) to the north, Araban (Gaziantep) to the south, Besni and Tut (Adıyaman) to the east and Çağlayancerit and Pazarçık (Kahramanmaraş) to the west (Figure 1). To our knowledge, no studies on macrofungal flora have been carried out in the area. The aim of the study was to contribute to the macrofungi flora of the district.

The climate of the area is Mediterranean according to Emberger's formula (Akman, 1999). The rainfall in the region is 408-908 mm and the annual average temperature is 13.9 °C. Since the abundance of water increases the humidity, Gölbaşı, Azaplı and İnekli lakes and Göksu river make the climate of the area more suitable for macrofungi growth.

Plant cover and field features are also suitable for macrofungal growth. Forest areas are characterised by species of *Pinus* L., *Quercus* L., *Salix* L., *Populus* L., *Pistacia* L., *Paliurus* Mill. and *Tamarix* L. Although *Pinus*

sp. seem to be dominant in Göksu valley and its surroundings, in general, *Quercus* sp. are the dominant trees in the region.

Phytogeographically, the research area falls into the Irano-Turanian flora sector.

Materials and Methods

The study material was collected in Gölbaşı (Adıyaman) district between 2000 and 2003. During field trips, necessary morphological and ecological characteristics of the macrofungi were recorded and they were photographed in their natural habitats. Then the specimens were taken to the laboratory and spore prints were obtained. After the microscopic investigation, they were identified with the help of the following literature: Phillips (1981), Moser (1983), Miller & Miller (1988), Breitenbach & Kränzlin (1984 - 2000), Ellis & Ellis (1990), Candusso & Lanzoni (1990), Buczacki (1992), Jordan (1995), Pegler et al. (1995), Bessette et al. (1997), Cappelli (1997) and Antonin & Noordeloos (1997).

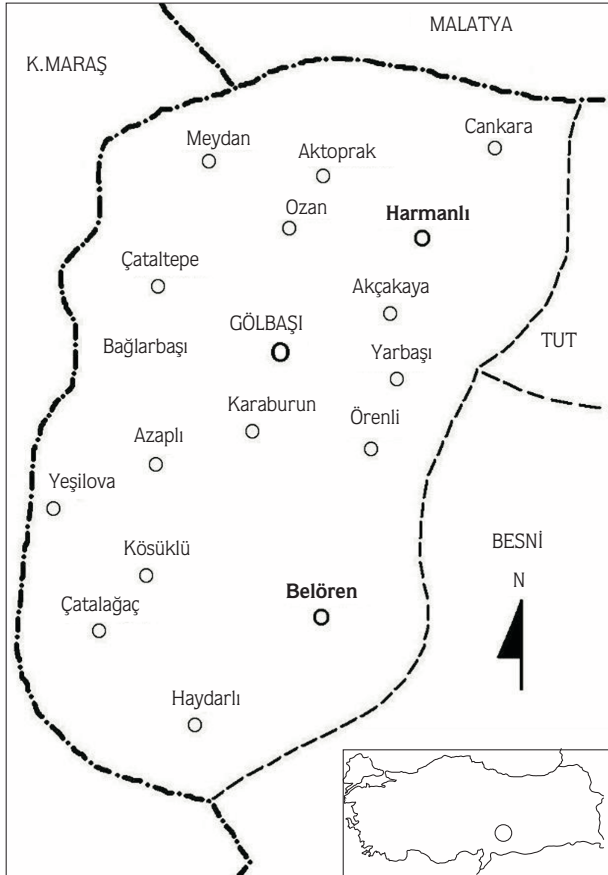


Figure 1. Macrofungi collection sites.

The specimens are kept in Gaziantep University, Adıyaman Education Faculty.

Results

Ascomycetes

Morchellaceae

1. *Morchella deliciosa* (Fr.) Boud.

Ozan village, pine forest, 31.03.2001, K. 1356.

2. *M. elata* (Fr.) Boud.

Ozan village, under *Populus* sp. 04.05.2003, K. 2209; Aktoprak village, 04.05.2003, K. 2236.

3. *M. esculenta* (L.) Pers.

Harmanlı town, Karaçantalı, Göksu river bank, mixed wood, 31.03.2001, K. 1349.

4. *Mitrophora semilibera* (DC ex Fr.) Lév.

Harmanlı town, Küncülük, Göksu river bank, mixed

wood, 31.03.2001, K. 1342.

5. *Verpa conica* Swartz ex Pers.

Harmanlı town, Küncülük, Göksu river bank, mixed wood, 31.03.2001, K. 1341.

Helvellaceae

6. *Helvella lacunosa* Afz. ex Fr.

Harmanlı town, Karaçantalı, Göksu river bank, in mixed forest, 31.03.2001, K. 1351; Ozan village, in meadow, 20.05.2001, K. 1465 Belören town, stream bed, 20.05.2001, K. 1476; Yavuz Selim district, in meadow, 14.04.2002, K. 1595.

7. *H. leucopus* Pers.

Ozan village, meadow, 20.05.2001, K. 1466; Belören town, 20.04.2001, under *Populus* sp. K. 1471; Köşüklü village, 04.05.2003, K. 2237.

8. *H. queletii* Bres.

Harmanlı town, Karaçantalı, Göksu river bank, in mixed forest, 31.03.2001, K. 1352; Ozan village, in meadow, 20.05.2001, K. 1469; Köşüklü village, 04.05.2003, K. 2235.

9. *Paxina acetabulum* (L. ex St. Amans) O.Kuntze

Ozan village, pine forest edge, 13.04.2002, K. 1593.

10. *P. leucomelas* (Pers.) O.Kuntze

Aktoprak village, in pine forest, 31.03.2001, K. 1356.

11. *P. costifera* (Nannf.) Stangl

Cankara village, Paşaköprüsü, in pine forest, 31.03.2001, K. 1337.

Basidiomycetes

Ganodermataceae

12. *Ganoderma applanatum* (Pers. ex Wallr.) Pat.

Karaburun village, on *Quercus* sp. 17.03.2002, K. 1520.

Polyporaceae

13. *Bjerkandera adusta* (Fr.) Karst.

Harmanlı town, Küncülük, on *Populus* stump, 31.03.2001, K. 1368.

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

Aktoprak village, on *Prunus* sp. 24.11.2002, K. 1943.

15. *Funalia troqii* (Berk.) Bond & Sing.
Örenli village, on *Populus* stump, 30.11.2002, K. 1948; Akçakaya village, on *Populus* stump, 04.05.2003, K. 2200.
16. *Polyporus arcularius* Batsch.: Fr.
Haydarlı village, around *Quercus* sp., 20.04.2003, K. 2032.
17. *P. rhizophilus* (Pat.) Sacc.
Haydarlı village, in pasture, 24.04.2003, K. 2116.
18. *P. squamosus* (Huds.) Fr.
Belören town, on *Salix* stump, 20.05.2001, K. 1365.
19. *Trametes versicolor* (Fr.) Pil.
Karaburun village, on *Quercus* sp., 17.03.2002, K. 1519; Yarbaşı village, on *Quercus* sp., 04.04.2003, K. 1959.
- Schizophyllaceae**
20. *Schizophyllum commune* Fr.
Harmanlı town, on decaying *Prunus* stump, 27.04.2003, K. 2110.
- Hymenochaetaceae**
21. *Phellinus igniarius* (L.: Fr.) Quél.
Cankara village, on *Salix* sp., 24.05.2003, K. 2267.
22. *P. tuberculatus* (Baumg.) Niemelä
Haydarlı village, on *Prunus* sp., 20.04.2003, K. 2033.
- Tulostomataceae**
23. *Tulostoma brumale* Pers.: Pers.
Cankara village, Paşaköprüsü, pine forest edge, 04.05.2003, K. 2211.
- Sclerodermataceae**
24. *Scleroderma verrucosum* (Bull.) Pers.
Aktoprak village, Göksu river bank, under mixed wood, 16.11.2002, K. 1924.
- Nidulariaceae**
25. *Cyathus olla* Batsch: Pers.
Yarbaşı village, under mixed wood, 27.04.2003, K. 2125.
26. *C. stercoreus* (Schw.) de Toni in Sacc.
Aktoprak village, manured soil, 04.05.2003, K. 2221.

Lycoperdaceae

27. *Bovista plumbea* Pers.: Pers.
Bağlarbaşı village, in pasture, 20.04.2003, K.2023; Çatalağaç village, in meadow, 20.04.2003, K. 2031; Akçakaya village, 04.05.2003, K. 2196.
28. *Lycoperdon molle* Pers.: Pers.
Aktoprak village, around *Quercus* sp., 20.05.2001, K. 1460.

Rhizopogonaceae

29. *Rhizopogon luteolus* Fr.
Ozan village, in pine forest, 31.03.2002, K. 1354; Aktoprak village, in pine forest, 20.05.2001, K. 1457; Harmanlı town, on sandy soil, 27.04.2003, K. 2109.

Boletaceae

30. *Suillus luteus* (L.) S.F.Gray
Aktoprak village, in pine forest, 16.11.2002, K. 1922.

Pleurotaceae

31. *Lentinus tigrinus* (Bull.: Fr.) Fr.
Gölbaşı Vocational High School Campus area, around *Populus* stump, 14.11.2000, K. 1074; Bağlarbaşı village, around *Populus* stump, 20.04.2003, K. 2024; Çöplü village, 23.11.2002, K. 1936; Harmanlı town, around *Populus* stump, 27.04.2003, K. 2119.
32. *Pleurotus eryngii* (DC: Fr) Quél.
Harmanlı town, on remains of *Ferulago* sp., 27.04.2003, K. 2115.

P. ostreatus (Jacq.: Fr.) Kummer

- Gölbaşı Vocational High School Campus area, on *Populus* stump, 03.11.2000, K. 1067; Aktoprak village, 16.11.2002, K. 1923; Yukarı Çöplü village, 23.11.2002, K. 1936; Harmanlı town, 27.04.2003, K. 2119.

Tricholomataceae

34. *Lepista nuda* (Bull. Fr.) Cke.
Ozan village, in pine forest, 13.04.2002, K. 1579.
35. *L. personata* (Fr.: Fr.) Cke.
Belören town, under *Populus* sp., 06.04.2001, K. 1381.
36. *Marasmius oreades* (Bolt.: Fr.) Fr.
Around YİBO, in meadow, 31.03.2001, K. 1360.

37. *Melanoleuca excissa* (Fr.) Sing.

Belören town, in meadow, 06.04.2001, K. 1383; Akçakaya village, on steppe, 04.05.2003, K. 2202.

38. *M. stridula* (Fr.) Sing.

Çataltepe village, around *Quercus* sp., 04.05.2003, K. 2231.

39. *Omphalina pyxidata* (Bull.:Fr.) Quéf.

Harmanlı town, Küncülük, Göksu river bank, in grass under mixed wood, 31.03.2001, K. 1347.

Entolomataceae

40. *Entoloma sinuatum* (Bull. ex. Fr.) Kumm.

Belören town, in mixed forest, 06.04.2001, K. 1386.

41. *E. rusticoides* (Gill.) Noordel.

Yarbaşı village, around *Quercus* sp., 27.04.2003, K. 2122.

Pluteaceae

42. *Pluteus romelli* (Britz.) Sacc.

Ozan village, on *Populus* stump, 20.05.2001, K. 1468; Aktoprak village, 04.05.2003, K. 2203.

43. *P. dietrichii* Bris. (Syn.: *P. rimulosus* Kühn.& Romagn.)

Ozan village, on decaying *Populus* stump, 04.05.2003, K. 2206.

44. *Volvariella bombycina* (Schaeff.: Fr.) Sing.

Cankara village, on *Populus* stump, 24.05.2003, K. 2266.

45. *V. speciosa* (Fr.: Fr.) Sing.

Belören town, stream bank, in poplar grove, 04.04.2001, K. 1382.

Lepiotaceae

46. *Lepiota cristata* (Bolt.: Fr.) Kumm.

Harmanlı town, Küncülük, in Göksu river bank, under mixed wood, 24.11.2002, K. 1941.

47. *Macrolepiota excoriata* (Schaeff.: Fr.) Wass.

Örenli village, steppe, 30.11.2002, K. 1948.

Agaricaceae

48. *Agaricus campestris* L.: Fr.

Örenli village, in pasture, 30.11.2002, K. 1950.

Coprinaceae

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

Ozan village, in poplar grove, 31.03.2003, K. 2238.

50. *C. auricomus* Pat.

Aktoprak village, in meadow, 04.05.2003, K. 2217

51. *C. comatus* (Müll.: Fr.) S.F.Gray

Ozan village, forest edge, 31.03.2001, K. 1355; Belören town, on steppe, 06.04.2001, K. 1380; Akçakaya village, 04.05.2003, K. 2198; Köşüklü village, 04.05.2003, K. 2238.

52. *C. dilectus* Fr.

Harmanlı town, Küncülük, Göksu river bank, under mixed wood, on sandy soil, 24.11.2002, K. 1940.

53. *C. disseminatus* (Pers.: Fr.) S.F.Gray

Harmanlı town, Küncülük, around *Salix* sp., 31.03.2001, K. 1346; Aktoprak village, 04.05.2003, K. 2219.

54. *C. micaceus* (Bull.: Fr.) Fr.

Harmanlı town, Küncülük, around *Populus* sp., 31.03.2001, K. 1343; Ozan village, 20.05.2001, K. 1467; Harmanlı village, 27.04.2003, K. 2117.

55. *C. niveus* (Pers.: Fr.) Fr.

Çataltepe village, on decaying cow dung, 04.05.2003, K. 2233.

56. *Panaeolus campanulatus* (Bull.: Fr.) Quéf.

Yarbaşı village, in pasture, 27.04.2003, K. 2127.

57. *P. guttulatus* Bres.

Harmanlı village, around decaying *Eleagnus* stump, 27.04.2003, K. 2114.

58. *P. papilionaceus* (Bull.: Fr.) Quéf

Harmanlı town, in steppe, on remains of dung, 20.04.2003, K. 2034; Yarbaşı village, 27.04.2003, K. 2123.

59. *P. sphinctrinus* (Fr.) Quel.

Çataltepe village, in meadow, on remains of dung, 04.05.2003, K. 2232.

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

Gölbaşı Vocational High School Campus area, around *Populus* stump, 14.11.2000, K. 1073; Azaplı village, 20.04.2003, K. 2026; Yarbaşı village, 27.04.2003, K. 2121.

Bolbitiaceae

61. *Agrocybe cylindraceae* (DC.:Fr.) Mre.

Aktoprak village, on *Populus* stump, 13.04.2002, K. 1576; Yukarı Çöplü village, 23.11.2002, K. 1934.

62. *A. dura* (Bolt.) Sing.

Çatalağaç village, in pasture, 20.04.2003, K. 2029.

63. *A. splendida* Clç.

Kösüklü village, in steppe, 04.05.2003, K. 2241.

64. *Bolbitius vitellinus* (Pers.: Fr.) Fr.

Yavuz Selim district, meadow, on decaying remains of straw, 31.03.2001, K. 1357.

65. *Conocybe lactea* (Lge.) Métr.

Çatalağaç village, around remains of cow dung, 20.04.2003, K. 2025.

66. *C. moseri* Watl. var. *moseri*

Bağlarbaşı village, in steppe, 20.04.2003, K. 2025.

67. *C. subovalis* (Kühn. ex) Kühn. & Watl.

Mimar Sinan district, in meadow, 17.03.2002, K. 1518.

68. *C. tenera* (Schaeff.: Fr.) Fay.

Yarbaşı village, in steppe, 04.04.2003, K. 1960.

Strophariaceae

69. *Hypholoma fasciculare* (Huds: Fr.) Kumm.

Yarbaşı village, around *Quercus* sp., 27.04.2003, K. 2126.

70. *Pholiota graminis* (Quél.) Sing.

Meydan village, in decaying remains of broad leaves, 17.11.2002, K. 1929.

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

Yavuz Selim district, in meadow, 31.03.2001, K. 1338 Aktoprak village, in steppe, 20.05.2001, K. 1458; Karaburun village, in steppe, 20.04.2003, K. 2028.

72. *Tubaria hiemalis* Romagn. ex Bon.

Hacılar village, on decaying plant remains, 04.05.2003, K. 2225.

73. *T. romagnesiana* Arnolds.

Harmanlı town, on nutrient-rich soil, 27.04.2003, K. 2113.

Cortinariaceae

74. *Cortinarius diasemospermus* Lamoure var. *diasemospermus*

Aktoprak village, Göksu river bank, on sandy soil in poplar grove, 16.11.2002, K. 1925.

75. *Hebeloma sinapizans* (Paulet: Fr.) Gill.

Aktoprak village, Göksu river bank, under *Populus* sp., 16.11.2002, K. 1921.

76. *Inocybe bongardii* (Weinm.) Quél. var. *piscidora* (Donadini & Rioussset) Kuyper

Cankara village, Paşaköprüsü, in pine forest, 04.05.2003, K. 2212.

77. *I. fastigiata* (Schaeff. Fr.) Quél.

Meydan village, under mixed wood, 17.11.2002, K. 1928.

Discussion

In this study, 77 macrofungi taxa, in 22 families and 45 genera were identified. Eleven of them belonged to *Ascomycetes* and 66 to *Basidiomycetes*. When compared, these results bear similarities to the findings of studies carried out in neighbouring regions (Işıloğlu, 1995; Yıldız & Ertekin, 1997; Kaya et al., 2004).

Thirty of the 77 species are edible, but the percentage of local consumption is very low. *Coprinus comatus* (Müll.: Fr.) S.F.Gray, *Agaricus campestris* L.: Fr., *Pleurotus eryngii* (DC: Fr) Quél. and *P. ostreatus* (Jacq.: Fr.) Kummer were found to be eaten by local residents. Although the members of *Morchella* sp. are not known by the locals, during spring *Morchella deliciosa* (Fr.) Boud., *M. elata* (Fr.) Boud. and *M. esculenta* (L.) Pers. are collected especially from Göksu river bank by the mushroom hunters of companies which collect and export the fruit bodies. The hunters stated that they collected approximately 5 kg (dry weight) per year, but they failed to give an exact amount since the collection of the morel covered a vast area.

Eighteen percent (14 species) of the taxa are poisonous and 43% (33 species) are inedible but none of them are known by the local people. The species which are not familiar to them are considered poisonous and they avoid collecting and consuming such kinds of mushroom. No incidents have been recorded from the area.

Cyathus stercoreus (Schw.) de Toni in Sacc. (*Nidulariaceae*), *Entoloma rusticoides* (Gill.) Noordel. (*Entolomataceae*), *Pluteus dietrichii* Bres. (*Pluteaceae*), *Coprinus dilectus* Fr. and *Panaeolus guttulatus* Bres. (*Coprinaceae*) were added as new records to the Turkish macrofungal flora.

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