Macrofungal diversity of Uşak province inTurkey

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Abstract— This paper was based on macrofungal specimens collected from Uşak, in years of 2006–2007. Field and laboratory studies revealed a total of 124 taxa belonging to 36 families and 2 classes. 11 taxa belong to *Ascomycetes* and 113 to *Basidiomycetes*. Nine of them; *Coprinopsis echinospora*, *Cystoderma simulatum*, *Hohenbuehelia semi-infundibuliformis*, *Hygrophorus capreolarius*, *Inocybe leucoblema*, *Leucocoprinus lanzonii*, *Marasmius chordalis*, *Mycena renati*, and *Russula rhodopus* are new records for Turkey.

Key words- biodiversity, Ascomycota, Basidiomycota

Introduction

The plant flora of Turkey is well-known, but it has been evident from the literature that macrofungal flora of Turkey is far from being well documented (Solak et al. 2007). Each study in this subject will aid to illuminate macrofungal flora of Turkey, and our aim in this study is to contribute to this process. Uşak is a province, located in the western part of Turkey, bordered by Denizli on the south, Kütahya on the north, Manisa on the west, and Afyonkarahisar on the east (Figure 1). The climate of Uşak province is Mediterranean-alpine and semi-dry terrestrial type. The annual average temperature is 12.3°C and the annual rainfall is about 540 mm. The investigated area is a natural habitat of number of trees, dominant forest plants, such as *Pinus brutia, Pinus nigra, Pinus nigra* subsp. *pallasiana, Pinus sylvestris, Juniperus excelsa, Juniperus foetidissima, Juniperus oxycedrus* var. *oxycedrus*, *Quercus coccifera, Quercus ilex, Quercus ithaburensis* ssp. *macrolepis, Platanus orientalis, Tilia* sp., *Cornus* sp., *Acer* sp., *Carpinus* sp., *Salix* sp., *Styrax officinalis, Vitex agnus*, and *Pistacia terebinthus*. The study area's climate and vegetation are favourable for macrofungi. The aim of this study is to determine macrofungi species in the research area and thus provide more data on the macrofungi of Turkey.

Materials and Methods

Macrofungi were collected in Uşak between 2006 and 2007. The field studies were conducted mostly in autumn and spring, since during these periods the climatic conditions are most suitable for carpophore formation. Relevant morphological and ecological characteristics of the macrofungi were recorded and photographed in their natural habitats. The local consumption of macrofungi and their local names were recorded by interviewing local people. Then they were carried to the laboratory for further investigation. Spore prints were prepared and spores photographed. Some reagents (Melzer's reagent, 5% KOH, H₂SO₄, cotton blue, etc.) were used for identification. The specimens were identified by examining their macroscopic and microscopic features, using references by Breitenbach & Kränzlin (1984, 1986, 1991, 1995, 2000), Bresinsky & Besl (1990), Capelli (1984), Ellis & Ellis (1990), Marchand (1971, 1973, 1975, 1977, 1980, 1982, 1983, 1986), Moser (1983), Pacioni (1985), Phillips (1981), Watling (1982) and Watling & Gregory (1987, 1989). Taxa were assigned to classes and families according to CABI Bioscience Databases (2007). Dried specimens were numbered and placed in sealed bags. In addition they were put into a deep freeze for a week to protect against internal and external parasite attacks. All collected specimens are now deposited at Pamukkale University, Education Faculty, Science Department Laboratory, in Denizli.

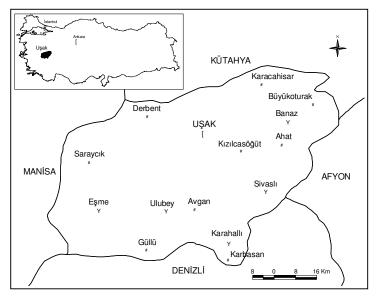


Figure 1. Collection Areas

Results

In our study 124 taxa belonging to 36 families were identified. These taxa are presented with their localities, habitats, collection dates and accession numbers. The new records are presented with their descriptions.

LIST OF TAXA

ASCOMYCOTINA

Discinaceae

1. *Gyromitra esculenta* (Pers.) Fr.: Banaz district, Hamamboğazı village, in pine forest, around stumps of pine, 16.04.2007, Türkoğlu 3614, 3615; Murat Mountain, Maden deresi village, in pine forest, around stumps of pine, 12.05.2007, Türkoğlu 3665, 3666; Gürlek village, in pine forest, around stumps of pine, 12,05.2007, Türkoğlu 3678; Bahadır village, in pine forest, around stumps of pine, 12,05.2007, Türkoğlu 3678; Bahadır village, in pine forest, around stumps of pine, 12,05.2007, Türkoğlu 3679.

Helvellaceae

2. *Helvella acetabulum* (L.) Quél.: Banaz district, Hamamboğazı village, under *Salix alba*, on the ground, 07.04.2007, Türkoğlu 3590; Murat Mountain, Maden deresi village, under *Salix alba*, on the ground, 12.05.2007, Türkoğlu 3667; Bahadır village, in pine forest, 12,05.2007, Türkoğlu 3680; Eşme district, Güllü town, in grass, 17.04.2007, Türkoğlu 3619.

3. *Helvella lacunosa* Afzel.: Banaz district, Gedikler village, on the edge of a path, 07.04.2007, Türkoğlu 3585; Bahadır village, in pine forest, 12,05.2007, Türkoğlu 3681; Eşme district, Güllü district, on borders of paths, 17.04.2007, Türkoğlu 3620.

Morchellaceae

4. *Morchella angusticeps* Peck: Banaz disrict, Gedikler village, in pine forest, in waste places, 07.04.2007, Türkoğlu 3591; Murat Mountain, Maden deresi village, in pine forest, 12.05.2007, Türkoğlu 3668-3669; Bahadır village, in pine forest, 12,05.2007, Türkoğlu 3682; Eşme district, Güllü town, in pine forest, 17.04.2007, Türkoğlu 3621.

5. *Morchella distans* Fr.: Banaz district, Hamamboğazı village, in pine forest, 07.04.2007, Türkoğlu 3589; Murat mountain, Maden deresi around, in pine forest, 12.05.2007, Türkoğlu 3671; Bahadır village, in pine forest, 12,05.2007, Türkoğlu 3684; Eşme district, Güllü town, in pine forest, 17.04.2007, Türkoğlu 3623.

6. *Morchella elata* Fr.: Sivaslı district, Sazak village, in pine forest, 07. 04.2007, Türkoğlu 3583; Eşme district, Güllü town, in pine forest, 17.04.2007, Türkoğlu 3624; Banaz district, Murat mountain, Maden deresi village, in pine forest, 12.05.2007, Türkoğlu 3672; Bahadır village, in pine forest, 12,05.2007, Türkoğlu 3685.

7. *Morchella esculenta* (L.) Pers.: Sivaslı district, Yenierice village, in pine forest, 07.04.2007, Türkoğlu 3582; Eşme district, Güllü town, in pine forest, 17.04.2007, Türkoğlu 3624; Banaz, district Murat mountain, Maden deresi village, in pine forest, 12.05.2007, Türkoğlu 3673; Bahadır village, in pine forest, 12,05.2007, Türkoğlu 3686.

8. *Morchella vulgaris* (Pers.) Boud.: Banaz district Gedikler village, in pine forest, 07.04.2007, Türkoğlu 3592; Murat mountain, Maden deresi village, in pine forest, 12.05.2007, Türkoğlu 3670; Bahadır village, in pine forest, 12,05.2007, Türkoğlu 3683; Eşme district, Güllü town, in pine forest, 17.04.2007, Türkoğlu 3622.

Pezizaceae

9. Sarcosphaera coronaria (Jacq.) J. Schröt.: Banaz district, Hamamboğazı village, in pine forest, 07.04.2007, Türkoğlu 3593; Bahadır village, in pine forest, 12,05.2007, Türkoğlu 3687; Eşme district, Güllü town, in pine forest, 17.04.2007, Türkoğlu 3625.

Pyronemataceae

10. *Flavoscypha cantharella* (Fr.) Harmaja: Banaz district, Ahır Mountain, in pine forest, 12.11.2006, Türkoğlu 3257; 13.10.2007, Türkoğlu 3926; Yukarıkarahisar village, in pine forest, 02.12.2007, Türkoğlu 4001; Eşme district, Güllü town, in pine forest, 04.11.2007, Türkoğlu 3946.

11. *Geopora sumneriana* (Cooke) M. Torre: Banaz district, Murat Mountain, Maden deresi village, in pine forest, 12.05.2007, Türkoğlu 3674; Bahadır village, in pine forest, 12,05.2007, Türkoğlu 3688; Gürlek village, in pine forest, 12,05.2007, Türkoğlu 3689.

BASIDIOMYCOTINA

Agaricaceae

12. Agaricus arvensis Schaeff.: Banaz district, Gürlek village, in field area, 06.11.2006, Türkoğlu 3174; Ahır Mountain, in pine forest, 13.10.2007, Türkoğlu 3927; Yukarıkarahisar village, in pine forest, 02.12.2007, Türkoğlu 4002; Eşme district, Güllü town, in pine forest, 04.11.2007, Türkoğlu 3947.

13. *Agaricus bisporus* (J.E. Lange) Pilát: Banaz district, Murat Mountain, Dümendere village, in grass, 06.11.2006, Türkoğlu 3184; Ahır Mountain, in pine forest, 13.10.2007, Türkoğlu 3927; Yukarıkarahisar village, in pine forest, 02.12.2007, Türkoğlu 4003.

14. *Agaricus bitorquis* (Quél.) Sacc.: Banaz district, Bahadır village, Doğan yuvası village, in pine forest, 06.11.2006, Türkoğlu 3185; Ahır Mountain, in pine forest, 13.10.2007, Türkoğlu 3928; Yukarıkarahisar village, in pine forest, 02.12.2007, Türkoğlu 4004.

15. Agaricus essettei Bon: Banaz district, Murat Mountain, Dümendere village, in pine forest, 06.11.2006, Türkoğlu 3186; Ahır Mountain, in pine forest, 13.10.2007, Türkoğlu 3929; Yukarıkarahisar village, in pine forest, 02.12.2007, Türkoğlu 4005; Eşme district, Güllü town, in pine forest, 04.11.2007, Türkoğlu 3948;

16. Agaricus pilatianus (Bohus) Bohus: Banaz district, Ahat town in pine forest, in grass, 13.11.2006, Türkoğlu 3236; Ahır Mountain, in pine forest, in grass, 13.10.2007, Türkoğlu 3930; Yukarıkarahisar village, in pine forest, 02.12.2007, Türkoğlu 4006.

17. *Agaricus squamuliferus* var. *squamuliferus* (F.H. Møller) Pilát: Banaz district, Gedikler village, in pine forest, in grass, 13.11.2006, Türkoğlu 3229; Ahır Mountain, in pine forest, in grass, 13.10.2007, Türkoğlu 3931; Yukarıkarahisar village, in pine forest, 02.12.2007, Türkoğlu 4007; Eşme district, Güllü town, in pine forest, in grass, 04.11.2007, Türkoğlu 3949.

18. *Chlorophyllum rhacodes* (Vittad.) Vellinga: Ulubey district, Avgan town, in pine forest, among grases, 06.12.2006, Türkoğlu 3473; Banaz district, Ahır Mountain, in pine forest, 13.10.2007, Türkoğlu 3934; Gürlek village, in field area, 03.11.2007, Türkoğlu 3941.

19. *Coprinus comatus* (O.F. Müll.) Pers.: Banaz district, Hamamboğazı village, in riverbed, 16.04.2007, Türkoğlu 3616; Hatipler village, in grass, 02.12.2007, Türkoğlu 4009.

20. Coprinus patouillardii Quél. f. patouillardii: Sivaslı district, bank of the Banaz stream, in burned place, 05.12.2006, Türkoğlu 3457; Banaz district, Ahır Mountain, in pine forest, in burned place, 13.10.2007, Türkoğlu 3932; Gürlek village, in burned place, 03.11.2007, Türkoğlu 3940; Hatipler village, on stump of poplar trees, 02.12.2007, Türkoğlu 4012.

21. *Lepiota clypeolaria* (Bull.) P. Kumm.: Sivaslı district, bank of the Banaz stream, on leaf litter, 05.12.2006, Türkoğlu 3458; Banaz, Gürlek village, in field area, 03.11.2007, Türkoğlu 3941; Hatipler village, in field area, 02.12.2007, Türkoğlu 4013.

22. Lepiota cristata (Bolton) P. Kumm.: Karahallı district, Buğdaylı village, under oak trees, among grasses, 05.11.2006, Türkoğlu 3104; Karbasan town, under oak trees, among grasses, 02.12.2007, Türkoğlu 4014.

23. *Leucoagaricus barssii* (Zeller) Vellinga: Banaz district, Hatipler village, in garden, 06.11.2006, Türkoğlu 3160; Karahallı district, Karbasan town, under oak trees, among grasses, 02.12.2007, Türkoğlu 4016.

24. *Leucoagaricus leucothites* (Vittad.) M.M. Moser ex Bon: Karahallı district, Buğdaylı village, under oak trees, among grasses, 05.11.2006, Türkoğlu 3106; Karbasan town, under oak trees, among grasses, 02.12.2007, Türkoğlu 4015.

25. *Leucocoprinus lanzonii Bon, Migl. & Brunori: Cap 2-4 cm, hemispheric-convex at first, later conic-convex, plane, surface silky, covered from the margin inward with distant, fine, light brownish scales on a cream-white to cream-yellowish background, squamules at center and brownish, margin radially striate and splite when old. Flesh white, spongy-soft, thin, odor fungoid, taste mild. Lamellae cream-colored when young, later yellowish, free, edges smooth. Stipe 4-5 X 0.2-0.3 cm, cylindrical, slightly bulbouse, hollow, surface white when young, later cream to yellowish-white, Spores elliptic, smooth, hyaline, dextrinoid, thick-walled, 5-5.5 X 3.5-4 μ m. Spore print white. Banaz-Uşak road, 10. km, under oak trees, among grasses, 06.11.2006, Türkoğlu 3167.

26. *Macrolepiota konradii* (Huijsman ex P.D. Orton) M.M. Moser: Karahallı district, Karbasan town, among grasses, 05.11.2006, Türkoğlu 3151; Karbasan town, under oak trees, among grasses, 02.12.2007, Türkoğlu 4017.

27. *Macrolepiota procera* (Scop.) Singer var. *procera*: Banaz district-Uşak road, 10th km, in pine forest, Türkoğlu 3187; Ulubey district, Avgan town, in pine forest, 06.11.2006, Türkoğlu 3193; Kızılcasöğüt town, in pine forest, among grases, Türkoğlu 3198; Banaz district, Ahır Mountain, in pine forest, 13.10.2007, Türkoğlu 3933; Eşme district, Güllü town, in pine forest, 04.11.2007, Türkoğlu 3950; Karahallı district, Karbasan town, under oak trees, among grasses, 02.12.2007, Türkoğlu 4017.

Astraeaceae

28. *Astraeus hygrometricus* (Pers.) Morgan : Banaz district, Murat mountain, Tepedelen village, in field area, 12.05.2007, Türkoğlu 3674.

Bolbitiaceae

29. Agrocybe cylindracea (DC.) Gillet: Ulubey district, Bank of Banaz stream, on poplar, 05.11.2006, Türkoğlu 3116; Avgan town road, on poplar, 05.11.2006, Türkoğlu 3117; Eşme district, Yeşilkavak village, on poplar, 26.11.2006, Türkoğlu 3338; Hanyeri village, on poplar, 26.11.2006, Türkoğlu 3354. Sivaslı district, bank of the banaz stream, on stump of poplar trees, 06.10.2007, Türkoğlu 3917.

30. *Agrocybe dura* (Bolton) Singer: Banaz district, Yenice village, in field area, 16.04.2007, Türkoğlu 3617.

Boletaceae

31. *Boletus edulis* Bull.: Sivaslı district, Selçikler village, under oak trees, 05.12.2006, Türkoğlu 3459; Karahallı district, Karbasan town, under oak trees, among grasses, 02.12.2007, Türkoğlu 4018.

32. *Boletus calopus* Pers.: Banaz district, Halaçlar village, under oak trees, 12.11.2006, Türkoğlu 3264; Karahallı district, Karbasan town, under oak trees, among grasses, 02.12.2007, Türkoğlu 4019.

33. *Chalciporus piperatus* (Bull.) Bataille: Sivaslı-Uşak road, 5th km, in pine forest, 05.11.2006, Türkoğlu 3108; Eşme district, Güllü town, in pine forest, 10.11.2007, Türkoğlu 3951.

Crepidotaceae

34. *Crepidotus mollis* (Schaeff.) Staude: Sivaslı district, the bank of Banaz stream, on stump of poplar, Türkoğlu 3110; bank of the Banaz stream, on stump of poplar trees, 06.10.2007, Türkoğlu 3918; Eşme district, Ahmetler village, on stump of poplar trees, 29.09.2007, Türkoğlu 3900; Banaz district, Gürlek village, on stump of poplar trees, 03.11.2007, Türkoğlu 3942.

Inocybaceae

35. *Inocybe leucoblema Kühner: Cap 2-5 cm, hemispherical at first, later convex to somewhat plane and slightly umbonate, surface light ocher-brown, sometimes with an olive tint, sometimes darker in the center, finely radially fibrillose but not squamose, pruinose from the white, fibrillose veil, glabrescent when old, only the margin stil with fibrillose remnants of the cortina hanging from it, margin even to

undulating. **Flesh** ocher-yellow to light brownish, thin, odor sourish, herbaceous, taste mild. **Lamellae** light olive-yellow when young, later ocher-to red brown. **Stipe** 5-7 X 5-8 cm, hollow, flexible, surface light ocher, white-fibrillose when young, later glabrescent, but sometimes an indistinct annular zone. Spores elliptical to slightly fabiform, smooth, pale yellow, thick-walled, 9-12 X 5-6 µm. **Spore print** redbrown. Sivaslı-Uşak road, 10th km, in pine forest, 5.11.2006, Türkoğlu 3125; Eşme district, Güllü town, in pine forest, 10.11.2007, Türkoğlu 3952.

36. *Inocybe rimosa* (Bull.) P. Kumm.: Banaz district, Hamamboğazı village, in pine forest, 16.04.2007, Türkoğlu 3618; Ahır Mountain, in pine forest, 13.10.2007, Türkoğlu 3935; Eşme district, Güllü town, in pine forest, 10.11.2007, Türkoğlu 3953.

Entolomataceae

37. *Entoloma scabrosum* (Fr.) Noordel.: Sivaslı district, Erice village, in pine forest, 05.12.2006, Türkoğlu 3460; Banaz district, Ahır Mountain, in pine forest, 13.10.2007, Türkoğlu 3936; Eşme district, Güllü town, in pine forest, 10.11.2007, Türkoğlu 3953.

Ganodermataceae

38. *Ganoderma lucidum* (Curtis) P. Karst.: Sivaslı district, Erice village, in pine forest, on stump, 05.12.2006, Türkoğlu 3461; Eşme district, Ahmetler village, on stump of pine, 29.09.2007, Türkoğlu 3901.

Geastraceae

39. *Geastrum pectinatum* Pers.: Karahallı district, Ağaçbeyli village, under oak trees, 06.11.2006, Türkoğlu 3183; Karbasan town, under oak trees, among grasses, 02.12.2007, Türkoğlu 4020.

40. *Geastrum rufescens* Pers.: Sivaslı district, Kızılcasöğüt town, under oak trees, 12.11.2006, Türkoğlu 3259; Karahallı district, Karbasan town, under oak trees, among grasses, 02.12.2007, Türkoğlu 4021. **Gloeophyllaceae**

Gloeophyllaceae

41. *Gloeophyllum abietinum* (Bull.) P. Karst.: Eşme district, Güllü town, in pine forest, 26.11.2006, Türkoğlu 3335; 10.11.2007, Türkoğlu 3954; Banaz district, Ahır Mountain, in pine forest, 13.10.2007, Türkoğlu 3937.

Gomphidiaceae

42. Chroogomphus rutilus (Schaeff.) O.K. Mill.: Sivaslı district, Erice village, in pine forest, 13.11.2006, Türkoğlu 3265; Eşme district, Güllü town, in pine forest, 10.11.2007, Türkoğlu 3955.

Hapalopilaceae

43. *Bjerkandera adusta* (Willd.) P. Karst.: Karahallı district, Karbasan town, on poplar trees, 05.11.2006, Türkoğlu 3135; Eşme district, Ahmetler village, on stump of poplar trees, 29.09.2007, Türkoğlu 3902; Sivaslı district, bank of the banaz stream, on stump of poplar trees, 06.10.2007, Türkoğlu 3919.

Hydnangiaceae

44. *Laccaria laccata* (Scop.) Cooke: Banaz district, Gümüle around, in pine forest, 3.11.2006, Türkoğlu 3258; Eşme district, Güllü town, in pine forest, 11.11.2007, Türkoğlu 3956.

Hygrophoraceae

45. *Hygrophorus agathosmus* (Fr.) Fr.: Banaz district, Gümüle village, in pine forest, among grasses, 13.11.2006, Türkoğlu 3266; Eşme district, Güllü town, in pine forest, 11.11.2007, Türkoğlu 3957.

46. *Hygrophorus hedrychii* (Velen.) K. Kult: Banaz district, Hatipler town, in pine forest, among grasses, 13.11.2006, Türkoğlu 3267; Eşme district, Güllü town, in pine forest, 11.11.2007, Türkoğlu 3958.

47. *Hygrophorus capreolarius Kalchbr.: Cap 3-6 cm, hemispherical-conic at first, later convex to plane, surface dry to slightly viscid, finely granular-squamose on a wine-red to pink-violet background, scales concolorous with the background to darker, usually with small blackish spots when old, margin incurved for a long time. Flesh lilac, thin. Lamellae pink-wine-red to purple-red, adnate to decurrent, edges smooth. Stipe 3-6 X 0.6-1.5 cm, cylindric, tapered at base, surface longitudinally fibrillose on a light to dark wine-red background, Spores elliptic, smooth, hyaline, with drops, 6-8 X 4-5 μm. Spore print white. Banaz district, Yenice village, in pine forest, 12.11.2006, Türkoğlu 3242.

48. *Hygrophorus ligatus* Fr.: Banaz district, Yenice village, in pine forest, among grasses, 3.11.2006, Türkoğlu 3268; Eşme district, Güllü town, in pine forest, 11.11.2007, Türkoğlu 3959.

Hymenochaetaceae

49. *Coltricia perennis* (L.) Murrill: Banaz district, Yenice village, in pine forest, among grasses, 05.12.2006, Türkoğlu 3462; Eşme district, Güllü town, in pine forest, 11.11.2007, Türkoğlu 3960.

50. *Phellinus igniarius* (L.) Quél.: Banaz district, Murat mountain, Tepedelen village, in pine forest, on stumps of pine, 12.05.2007, Türkoğlu 3675; Eşme district, Ahmetler village, on stump of pine, 29.09.2007, Türkoğlu 3903.

51. *Phellinus pomaceus* (Pers.) Maire: Banaz district, Burhaniye village, in pine forest, on stumps of pine, 13.11.2006, Türkoğlu 3275. Murat mountain, Tepedelen village, in pine forest, on stumps of pine, 12.05.2007, Türkoğlu 3676. Eşme district, Ahmetler village, on stump of pine, 29.09.2007, Türkoğlu 3904.

Lycoperdaceae

52. Langermannia gigantea (Batsch) Rostk.: Banaz district, Ahatlı town, in pine forest, 13.11.2006, Türkoğlu 3275; Eşme district, Güllü town, in pine forest, 11.11.2007, Türkoğlu 3961.

53. *Lycoperdon lividum* Pers.: Karahallı district, Buğdaylı village, under oak trees, 05.11.2006, Türkoğlu 3001; Banaz district, Ahat town, in pine forest, 12.11.2006, Türkoğlu 3230; Eşme district, Güllü town, in pine forest, 11.11.2007, Türkoğlu 3963.

54. *Lycoperdon molle* Pers.: Sivaslı district, Selçikler village, under oak trees, 06.11.2006, Türkoğlu 3170; Banaz district, Hamamboğazı village, in pine forest, 12.11.2006, Türkoğlu 3256; Eşme district, Güllü town, in pine forest, 11.11.2007, Türkoğlu 3963.

55. *Lycoperdon nigrescens* Wahlenb.: Banaz district, Hamamboğazı around, in pine forest, 12.11.2006, Türkoğlu 3239; Eşme district, Güllü town, in pine forest, 11.11.2007, Türkoğlu 3962.

56. Lycoperdon perlatum Pers.: Karahallı district, Buğdaylı village, under oak trees, 5.11.2006, Türkoğlu 3103; Sivaslı district, Erice village, in pine forest, 12.11.2006, Türkoğlu 3155; Banaz district, Ahat town, in pine forest, 12.11.2006, Türkoğlu 3239; Eşme district, Güllü town, in pine forest, 17.11.2007, Türkoğlu 3964.

Marasmiaceae

57. *Armillaria mellea* (Vahl) P. Kumm.: Karahallı district, Alfaklar village, stumps of poplar, 6.11.2006, Türkoğlu 3187; Sivaslı district, bank of the banaz stream, on stump of poplar trees, 06.10.2007, Türkoğlu 3920.

58. *Armillaria tabescens* (Scop.) Emel: Karahallı district, Avgan town, stumps of poplar, 6.11.2006, Türkoğlu 3199; Sivaslı district, bank of the banaz stream, on stump of poplar trees, 06.10.2007, Türkoğlu 3921.

59. **Marasmius chordalis* Fr.: Cap 10-25 cm, hemispherical at first, later convex and plane, center depressed, surface smooth, dull, white-powdered, sometimes slightly radially undulating, cream-colored when young, later becoming brownish, margin acute. Flesh white, thin, odor pleasantly spicy. Lamellae white to cream-colored, soon with reddish spots, broadly adnate. Stipe 5-11 X 0.1-0.2 cm, cylindric, beige-brown when young, dark-brown when old, with fine gray-whitish powder, apex paler to whitish, solid when young, later hollow. Spores elliptic, smooth, hyaline, with drops, 8-11 X 5-7 µm. Spore print white. Karahallı district, the bank of Çılandıraz stream, among grasses, 05.11.2006, Türkoğlu 3150.

Mycenaceae

60. *Mycena abramsii* (Murrill) Murrill: Banaz district, Yenice village, in pine forest, 06.12.2006, Türkoğlu 3468; Eşme district, Güllü town, in pine forest, 01.12.2007, Türkoğlu 3986.

61. *Mycena aetites* (Fr.) Quél.: Banaz district, Yenice village, in pine forest, 06.12.2006, Türkoğlu 3469; 01.12.2007, Türkoğlu 3999; Eşme district, Güllü town, in pine forest, 01.12.2007, Türkoğlu 3987.

62. *Mycena pura* (Pers.) P. Kumm.: Banaz district, Hamamboğazı village, in pine forest, 6.11.2006, Türkoğlu 3148; Eşme district, Güllü town, in pine forest, 01.12.2007, Türkoğlu 3988.

63. *Mycena renati Quél.: Cap 1-2 cm, campanulate-conic-hemispherical, surface smooth, dull, radially fibrillose, flesh-colored to pink-brownish, umbo darker, margin smooth to striate and paler to whitish. Flesh whitish, thin, odor like chlorine when fresh, later raphanoid, taste raphanoid. Lamellae whitish when young, later turning pink, decurrent, edges smooth. Stipe 2-6 X 0.1-0.2 cm, cylindric, tubular, hollow, fragile, smooth, gold-yellow to orange-yellow, apex paler, base slightly tomentose. Spores elliptic, smooth, hyaline, with drops, 6.5-10 X 5-7 μ m. Spore print white. Banaz district, Hamamboğazı village, in pine forest, 6.11.2006, Türkoğlu 3145; Yenice village, in pine forest, 01.12.2007, Türkoğlu 3999.

64. *Mycena rubromarginata* (Fr.) P. Kumm. var. *rubromarginata*: Banaz district, Hamamboğazı village, in pine forest, 12.11.2006, Türkoğlu 3245; Eşme district, Güllü town, in pine forest, 01.12.2007, Türkoğlu 3989.

65. Mycena strobilicola J. Favre & Kühner: Karahallı district, Buğdaylı village, in grass, 06.11.2006, Türkoğlu 3132.

66. Mycena viridimarginata P. Karst.: Sivaslı district, Kızılcasöğüt village, in pine forest, 06.11.2006, Türkoğlu 3162; Eşme district, Güllü town, in pine forest, 01.12.2007, Türkoğlu 3990. Omphalotaceae

67. Omphalotus olearius (DC.) Singer: Karahallı district, Karayakuplu village, on stumps of pine, 05.11.2006, Türkoğlu 3169.

Paxillaceae

68. Paxillus involutus (Batsch) Fr.: Banaz district, Yenice village, in pine forest, in grasses, 05.12.2006, Türkoğlu 3462; Esme district, Güllü town, in pine forest, 17.11.2007, Türkoğlu 3965. Pleurotaceae

69. *Hohenbuehelia semi-infundibuliformis (P. Karst.) Singer: Cap 2-4 cm, ligulate to semiinfundibuliform, undulating, surface bald, almost greasy, dark chocolate-brown at first, later paler. Flesh white, soft, thin. Lamellae white, long decurrent. Stipe laterally attached, white. Spores rounded, smooth, hyaline, 5-6 µm. Spore print whitish. Banaz district, Ahat town, in pine forest, on ground in woods and burned areas, 06.11.2006, Türkoğlu 3146-3147; Hamamboğazı village, in pine forest, 12.11.2006, Türkoğlu 3226; Eşme district, Güllü town, in pine forest, 17.11.2007, Türkoğlu 3966.

70. Pleurotus eryngii (DC.) Gillet: Karahallı district, Kırkyaren village, among grasses, Türkoğlu 3105; Esme district, Güllü town, among grasses, 26.11.2006, Türkoğlu 3339; Banaz district, Gürlek village, in field area, 03.11.2007, Türkoğlu 3943.

71. Pleurotus ostreatus (Jacq.) P. Kumm.: Sivaslı district, Kızılcasöğüt town, on poplar, Türkoğlu 3118; bank of the Banaz stream, on stump of poplar trees, 06.10.2007, Türkoğlu 3922; Banaz district, Hamamboğazı village, on poplar, Türkoğlu 3262.

Pluteaceae

72. Amanita ovoidea (Bull.) Link: Karahallı district, Alfaklar village, in grass, 05.11.2006, Türkoğlu 3107; Banaz district, Gürlek village, in field area, 03.11.2007, Türkoğlu 3943.

73. Amanita spissa (Fr.) P. Kumm.: Banaz district, Yenice village, in pine forest, 05.12.2006, Türkoğlu 3464; Eşme district, Güllü town, in pine forest, 17.11.2007, Türkoğlu 3967.

74. Amanita vaginata (Bull.) Lam. var. vaginata: Esme district, Güllü town, in pine forest, 17.11.2007, Türkoğlu 3968; Benliçam village, in pine forest, 06.12.2006, Türkoğlu 3465.

75. Pluteus aurantiorugosus (Trog) Sacc.: Karahallı district, the bank of Banaz stream, on burried wood, 5.11.2006, Türkoğlu 3111; on wood, 02.12.2007, Türkoğlu 4022.

76. Volvariella gloiocephala (DC.) Boekhout & Enderle: Esme district, Kayapınar village, in field area, 26.11.2006, Türkoğlu 3347; Hanyeri village, in field area, 26.11.2006, Türkoğlu 3351; Karahallı village, the bank of Banaz stream, in grass, 02.12.2007, Türkoğlu 4023.

77. Volvariella murinella (Quél.) M.M. Moser: Karahallı district, Bekiköy village, among grasses, 5.11.2006, Türkoğlu 3109; the bank of Banaz stream, on wood, 02.12.2007, Türkoğlu 4023; Banaz district, Gürlek village, in field area, 03.11.2007, Türkoğlu 3944.

Polyporaceae

78. Fomes fomentarius (L.) J.J. Kickx: Sivaslı district, the bank of Banaz stream, on stump of poplar trees, 6.11.2006, Türkoğlu 3188; 06.10.2007, Türkoğlu 3923; Esme district, Ahmetler village, on stump of poplar trees, 29.09.2007, Türkoğlu 3905.

79. Funalia trogii (Berk.) Bondartsev & Singer: Sivaslı district, the bank of Banaz stream, on poplar trees, 6.11.2006, Türkoğlu 3189; 06.10.2007, Türkoğlu 3924; Eşme district, Ahmetler village, on stump of poplar trees, 29.09.2007, Türkoğlu 3906.

80. Lentinus tigrinus (Bull.) Fr.: Sivaslı district, Kızılcasöğüt town, on burried wood, 6.11.2006, Türkoğlu 3190; Karahallı district, the bank of Banaz stream, on wood, 02.12.2007, Türkoğlu 4024.

Polyporus squamosus (Huds.) Fr.: Banaz district, Murat mountain, Tepedelen village, in pine 81. forest, on stumps of pine, 12.05.2007, Türkoğlu 3677.

82. Trametes versicolor (L.) Lloyd: Banaz district, Yenice village, in pine forest, on rotten wood, 05.12.2006, Türkoğlu 3463.

Psathyrellaceae

83. Coprinellus disseminatus (Pers.) J.E. Lange: Banaz district, Derbent village, on buried wood, in riverbed, 13.11.2006, Türkoğlu 3263; Hatipler village, on stump of poplar trees, 02.12.2007, Türkoğlu 4010; Sivaslı district, bank of the Banaz stream, on stump of poplar trees, 06.10.2007, Türkoğlu 3915.

84. *Coprinellus micaceus* (Bull.) Vilgalys, Hopple & Jacq. Johnson: Sivaslı district, bank of the banaz stream, on stump of poplar trees, 06.11.2006, Türkoğlu 3120; 06.10.2007, Türkoğlu 3916; Banaz district, Gürlek village, on stump of poplar trees, 03.11.2007, Türkoğlu 3939; Hatipler village, on stump of poplar trees, 02.12.2007, Türkoğlu 4011.

85. *Coprinopsis atramentaria* (Bull.) Redhead, Vilgalys & Moncalvo: Eşme district, Ahmetler village, on stump of poplar trees, 26.11.2006, Türkoğlu 3352; Sivaslı district, the bank of the Banaz stream, on stump of poplar trees, 06.10.2007, Türkoğlu 3914; Banaz district, Gürlek village, on stump of poplar trees, 03.11.2007, Türkoğlu 3938; Hatipler village, on stump of poplar trees, 02.12.2007, Türkoğlu 4008.

86. *Coprinopsis echinospora (Buller) Redhead, Vilgalys & Moncalvo: Cap 1-3.5 X 0.5-1 cm, clindrical at first, later plane, eventually with an uplifted margin, when young surface entirely covered with a white, fibrillose-floccose veil on a mouse-gray to olive-brown background, glabrescent and beige-dark gray when old, radially striate, center gray-brown, margin hung with white fibrils of the veil when young, fimbriate when old. Flesh gray-white, thin, taste mild. Lamellae white when young, then gray to black, free, edges smooth. Stipe 2-8 X 0.1-0.5 cm, cylindrical, enlarged toward the base, hollow, fragile, surface white-fibrillose-floccose at firt, later white powder on a light gray background. Spores lentiform, verrucose, dark red-brown, white germ pore, 9-11 X 5.5-7 μ m. Spores print black. Ulubey district canyon, on stumps of poplar, 5.11.2006, Türkoğlu 3144. Sivaslı district, bank of the banaz stream, on stump of poplar trees, 06.10.2007, Türkoğlu 3925.

87. *Psathyrella candolleana* (Fr.) Maire: Ulubey district, the bank of Banaz stream, on dead wood, 5.11.2006, Türkoğlu 3119-3121; Karahallı district, the bank of Banaz stream, on wood, 02.12.2007, Türkoğlu 4025.

88. *Psathyrella marcescibilis* (Britzelm.) Singer: Ulubey district canyon, in grass, 15.04.2006, Türkoğlu 3611; Banaz district, Gürlek village, in field area, 03.11.2007, Türkoğlu 3945.

Rhizopogonaceae

89. *Rhizopogon luteolus* Fr. & Nordholm: Banaz district, Ahır Mountain, pine forest, 12.11.2006, Türkoğlu 3269; Eşme district, Güllü town, in pine forest, 17.11.2007, Türkoğlu 3969.

90. *Rhizopogon roseolus* (Corda) Th. Fr.: Banaz district, Ahır Mountain, in pine forest, 12.11.2006, Türkoğlu 3172; Eşme district, Güllü town, in pine forest, 17.11.2007, Türkoğlu 3970. **Russulaceae**

91. *Lactarius deliciosus* (L.) Gray: Banaz district- Ankara road, 40th km, in pine forest, 13.11.2006, Türkoğlu 3270; Cambort village, in pine forest, 08.12.2007, Türkoğlu 4026; Murat Mountain, in pine forest, 08.12.2007, Türkoğlu 4029; Büyükoturak town, in pine forest, 08.12.2007, Türkoğlu 4031; Eşme district, Güllü town, in pine forest, 24.11.2007, Türkoğlu 3971.

92. *Lactarius salmonicolor* R. Heim & Leclair: Sivaslı-Banaz road 25th km, in pine forest, 5.11.2006, Türkoğlu 3137; Eşme district, Güllü town, in pine forest, 24.11.2007, Türkoğlu 3972; Banaz district, Cambort village, in pine forest, 08.12.2007, Türkoğlu 4027; Murat Mountain, in pine forest, 08.12.2007, Türkoğlu 4028; Büyükoturak town in pine forest, 08.12.2007, Türkoğlu 4030.

93. *Russula delica* Fr.: Banaz district, Ahır Mountain, in pine forest, 6.11.2006, Türkoğlu 3157; Eşme district, Güllü town, in pine forest, 24.11.2007, Türkoğlu 3973.

94. *Russula cyanoxantha* (Schaeff.) Fr.: Banaz district, Ahat town, in pine forest, 6.11.2006, Türkoğlu 3178; Eşme district, Güllü town, in pine forest, 24.11.2007, Türkoğlu 3974.

95. *Russula olivacea* (Schaeff.) Fr.: Banaz district, Hamamboğazı village, in pine forest, 6.11.2006, Türkoğlu 3179; Eşme district, Güllü town, in pine forest, 24.11.2007, Türkoğlu 3975.

96. **Russula rhodopus** Zvára: **Cap** 4-6.5 cm, hemispherical at first, later plane and sometime venosetuberculose in center, cherry-red, blood-red, shiny even dry, somewhat darker in the center, margin acute, cuticle. **Flesh** white, odor fruity, taste somewhat acrid to acrid. Lamellae whitish to cream-colored when young, later ocher-yellow. Stipe 5-7 X 1.5-2.5 cm, slightly clavate, solid, apex and base white, middle part flushed red. **Spores** subglobose to elliptical, 7-9 X 6-7.5 μm. Banaz district, Hamamboğazı village, in pine forest, 6.11.2006, Türkoğlu 3180.

97. *Russula torulosa* Bres.: Banaz district, Ahat town, in pine forest, 6.11.2006, Türkoğlu 3192; Eşme district, Güllü town, in pine forest, 25.11.2007, Türkoğlu 3976.

Schizophyllaceae

98. *Schizophyllum commune* Fr.: Banaz district, Murat mountain, Tahtalık village, in pine forest, on stumps of pine, 12.05.2007, Türkoğlu 3677; Eşme district, Ahmetler village, on stump of pine, 29.09.2007, Türkoğlu 3907.

Stereaceae

99. Stereum hirsutum (Willd.) Pers.: Banaz district, Yenice village, in pine forest, on branches of oak trees, 05.12.2006, Türkoğlu 3464.

100. *Stereum sanguinolentum* (Alb. & Schwein.) Fr.: Eşme district, Ahmetler village, on stump of oak trees, 26.11.2006, Türkoğlu 3355.

Strophariaceae

101. *Hypholoma fasciculare* (Fr.) P. Kumm.: Eşme district, Yeşilkavak village, on stump of poplar trees, 26.11.2006, Türkoğlu 3345.

102. *Pholiota highlandensis* (Peck) A.H. Sm. & Hesler: Ulubey district, the bank of Banaz stream, on dead stumps of willow trees, Türkoğlu 3115.

Suillaceae

103. *Suillus collinitus* (Fr.) Kuntze: Karahallı district, Buğdaylı village, under oak trees, 5.11.2006, Türkoğlu 3112.

104. *Suillus granulatus* (L.) Roussel: Sivaslı district, Kızılcasöğüt town, in pine forest, Türkoğlu 3164; Banaz district, Ahatköy village, in pine forest, 12.11.2006, Türkoğlu 3238; Eşme district, Güllü town, in pine forest, 25.11.2007, Türkoğlu 3977.

Tricholomataceae

105. *Clitocybe bresadolana* Singer: Banaz district, Ahatköy village, in pine forest, 12.11.2006, Türkoğlu 3251; Eşme district, Güllü town, in pine forest, 25.11.2007, Türkoğlu 3978.

106. *Clitocybe costata* Kühner & Romagn.: Ulubey district, the bank of Banaz stream, along roadside, Türkoğlu 3143; Sivaslı district, the bank of Banaz stream, in grass, 6.11.2006, Türkoğlu 3171-3173.

107. *Clitocybe odora* (Bull.) P. Kumm.: Karahallı-Ulubey road, in grass, 25th km, in pine forest, Türkoğlu 3147; Eşme district, Benliçam village, in pine forest, in grass, 26.11.2006, Türkoğlu 3326; Güllü town, in pine forest, 25.11.2007, Türkoğlu 3979.

108. *Clitocybe subspadicea* (J.E. Lange) Bon & Chevassut: Karahallı district, Buğdaylı village, under oak trees, among litter, 5.11.2006, Türkoğlu 3124.

109. *Cystoderma cinnabarinum* (Alb. & Schwein.) Fayod: Banaz district, Hamamboğazı village, in pine forest, 6.11.2006, Türkoğlu 3163; Eşme district, Güllü town, in pine forest, 25.11.2007, Türkoğlu 3980.

110. **Cystoderma simulatum* P.D. Orton: **Cap** 1.5-2.5 cm, convex when young, later campanulate to plane, surface radially wrinkled, dull, finely granulose to verrucose, ocher-brown to reddish-brown, paler toward the margin, margin has white veil remnants for a long time. **Flesh** whitish, thin. **Lamellae** white at first, later cream-colored, adnexed, edges slightly crenate. **Stipe** 4-6 X 0.3-0.5 cm, cylindrical, hollow, elastic, surface above the annular zone white and white-powdered, surface below red-brown granulose-squamose on a whitish background, annular zone floccose-squamose. **Spores** elliptical, smooth, hyaline, 4-5 X 2-2.5 µm. **Spore print** light yellowish. Eşme district, Benliçam village, in pine forest, 26.11.2006, Türkoğlu 3331.

111. *Gymnopus dryophilus* (Bull.) Murrill: Karahallı district, Karbasan town, under oak trees, 5.11.2006, Türkoğlu 3102; Çılandıraz River, 5.11.2006, Türkoğlu 3126; Eşme district, Güllü town, under oak trees, 01.12.2007, Türkoğlu 3981.

112. *Lepista nuda* (Bull.) Cooke: Sivaslı district, Ereceçiftliği village, in garden, among litter, 6.11.2006, Türkoğlu 3181; Eşme district, Güllü town, in pine forest, 01.12.2007, Türkoğlu 3982.

113. *Lyophyllum decastes* (Fr.) Singer: Banaz district, Ahat town, in pine forest, 12.11.2006, Türkoğlu 3255; Eşme district, Güllü town, in pine forest, 01.12.2007, Türkoğlu 3983.

114. *Melanoleuca exscissa* (Fr.) Singer var. *exscissa*: Karahallı district, Avgan town, in grass, 6.11.2006, Türkoğlu 3131.

115. *Melanoleuca graminicola* (Velen.) Kühner & Maire: Banaz district, Yenice village, in pine forest, 05.12.2006, Türkoğlu 3466; Eşme district, Güllü town, in pine forest, 01.12.2007, Türkoğlu 3984.

116. *Melanoleuca stridula* (Fr.) Singer: Banaz district, Yenice village, in pine forest, 06.12.2006, Türkoğlu 3467; 01.12.2007, Türkoğlu 4000; Eşme district, Güllü town, in pine forest, 01.12.2007, Türkoğlu 3985.

117. *Omphalina pyxidata* (Bull.) Quél.: Eșme district, Kultur park, in grass, 26.11.2006, Türkoğlu 3340.

118. *Tricholoma arvernense* Bon: Karahallı district, Buğdaylı village, in grass, 6.11.2006, Türkoğlu 3136; Banaz district, Yenice village, in pine forest, 01.12.2007, Türkoğlu 3998.

119. *Tricholoma batschii* Gulden: Karahallı district, Buğdaylı village, 6.11.2006, Türkoğlu 3142; Banaz-Ankara road, 30th km, in pine forest, 13.11.2006, Türkoğlu 3272; Banaz district, Yenice village, in pine forest, 01.12.2007, Türkoğlu 3995, 3997.

120. *Tricholoma focale* (Fr.) Ricken: Banaz district, Yenice village, in pine forest, 06.12.2006, Türkoğlu 3470; 01.12.2007, Türkoğlu 3996.

121. *Tricholoma myomyces* (Pers.) J.E. Lange: Karahallı district, Buğdaylı village, in pine forest, 6.11.2006, Türkoğlu 3133; Alfaklar village, in pine forest, 6.11.2006, Türkoğlu 3158; Banaz district, Yenice village, in pine forest, 01.12.2007, Türkoğlu 3994.

122. *Tricholoma stans* (Fr.) Sacc.: Banaz district, Ahat town, in pine forest, 12.11.2006, Türkoğlu 3243; Yenice village, in pine forest, 01.12.2007, Türkoğlu 3993; Eşme district, Güllü town, in pine forest, 26.11.2006, Türkoğlu 3330.

123. *Tricholoma sulphurescens* Bres.: Banaz district, Yenice village, in pine forest, 06.12.2006, Türkoğlu 3471; 01.12.2007, Türkoğlu 3992.

124. *Tricholoma sulphureum* (Bull.) P. Kumm. var. *sulphureum*: Banaz district, Yenice village, in pine forest, 06.12.2006, Türkoğlu 3472; 01.12.2007, Türkoğlu 3991.

Discussion

In this study, 124 macrofungi taxa belonging to 36 families collected from Uşak province were reported. Eleven of these belong to *Ascomycetes* and 113 to *Basidiomycetes*. Eleven (9%) of the taxa, 9% of the belong to *Ascomycetes* and 113(91%) to *Basidiomycetes*.

The distribution of the taxa and their families are: *Tricholomataceae* 20, *Agaricaceae* 16, *Mycenaceae* 7, *Russulaceae* 7, *Pluteaceae* 6, *Psathyrellaceae* 6, *Lycoperdaceae* 5, *Morchellaceae* 5, *Polyporaceae* 5, *Hygrophoraceae* 4, *Hymenochaetaceae* 3, *Boletaceae* 3, *Marasmiaceae* 3, *Pleurotaceae* 3, *Bolbitiaceae* 2, *Geastraceae* 2, *Helvellaceae* 2, *Inocybaceae* 2, *Pyronemataceae* 2, *Rhizopogonaceae* 2, *Stereaceae* 2, *Strophariaceae* 2, *Suillaceae* 2, *Astraeaceae* 1, *Crepidotaceae* 1, *Discinaceae* 1, *Entolomataceae* 1, *Ganodermataceae* 1, *Goophyllaceae* 1, *Goophyllaceae* 1, *Hapalopilaceae* 1, *Hydnangiaceae* 1, *Omphalotaceae* 1, *Paxillaceae* 1, *Pezizaceae* 1, and *Schizophyllaceae* 1.

When compared, the macrofungi of Uşak province were found to have similarities with the findings of studies conducted in other neighbouring regions (Işıloğlu & Watling 1992, Solak et al. 2000, Gezer 2000, Köse et al. 2006). This may have been because of similarities in vegetation, climate and plant flora.

Thirty of the 124 taxa are edible, but only Agaricus bisporus, A. bitorquis, Agrocybe cylindracea, Chroogomphus rutilus, Lactarius deliciosus, L. salmonicolor, Langermannia gigantea, Lepista nuda, Macrolepiota procera, Morchella angusticeps, M. conica, M. distans, M. elata, M. esculenta, Pleurotus eryngii, P. ostreatus, Polyporus squamosus, Rhizopogon luteolus, R. roseolus, Russula delica, and Tricholoma myomyces are known as edible mushrooms by local people. It was also found that the carpophores of Lactarius deliciosus, Morchella angusticeps, M. conica, M. distans, M. elata, M. esculenta, M. esculenta, Pleurotus eryngii, and Tricholoma myomyces were collected and sold by villagers.

Ten percent (8 species) of the taxa are poisonous and 68% (86 species) are inedible but none of them are recognised by local people. No poisoning incidents were recorded from the area.

Lignicolous macrofungi represented 21% of the species (27 species) in the area. Some live as parasites on live trees and cause organic product loss and structural damage to the host trees. The most common taxa were *Armillaria, Fomes, Ganoderma, Phellinus, Schizophyllum commune, Stereum*, and *Trametes*.

Nine of 124; Coprinopsis echinospora, Cystoderma simulatum, Hohenbuehelia semi-infundibuliformis, Hygrophorus capreolarius, Inocybe leucoblema, Leucocoprinus lanzonii, Marasmius chordalis, Mycena renati, and Russula rhodopus are new records for Turkey.

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