

Macrofungi of İzmir Province

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Abstract: This investigation was done basing on the macrofungi specimens collected from İzmir province situated in Eagean Region in the West Anatolia between 1992 and 1996. As a result of the studing of laboratory and field, 104 taxa belonging to 32 families were determined. One genus (*Lyophyllum* Karst.), 8 species (*Clitocybe bresadoliana* Sing., *Cystoderma granulosum* (Batsch: Fr.) Fay., *Lyophyllum favrei* Haller & Haller., *Melanoleuca paedida* (Fr.) Kühn. & Mre., *Mycena rosea* (Bull.) Gramberg., *Stereum ostrea* (Blume & Nees ex Fr.) Fr., *Strobilurus stephanocystis* (Hora) Sing., *Tricholoma pardalotum* Herink & Kotl.), and 1 variety (*Melanoleuca cognata* var. *typica* (Fr.) Konr. & Moubl.) from these taxa are new records for Turkish Mycoflora. All taxa were listed here in.

Key Words: Macrofungi, taxonomy, new records, Turkish Mycoflora.

İzmir Yöresinin Makrofungusları

Özet: Bu araştırma 1992-1996 yılları arasında Batı Anadolu'nun Ege bölgesinde yer alan İzmir ilinden toplanan mantar örneklerine dayanılarak yapılmıştır. Arazi ve laboratuvar çalışmaları sonucu 32 familyaya ait 104 takson belirlenmiştir. Bu taksonlardan 1 cins (*Lyophyllum* Karst.), 8 tür (*Clitocybe bresadoliana* Sing., *Cystoderma granulosum* (Batsch: Fr.) Fay., *Lyophyllum favrei* Haller & Haller., *Melanoleuca paedida* (Fr.) Kühn. & Mre., *Mycena rosea* (Bull.) Gramberg., *Stereum ostrea* (Blume & Nees ex Fr.) Fr., *Strobilurus stephanocystis* (Hora) Sing., *Tricholoma pardalotum* Herink & Kotl.), ve 1 varyete (*Melanoleuca cognata* var. *typica* (Fr.) Konr. & Moubl.) Türkiye için yeni kayıttır. Türlerin tamamı liste halinde verilmiştir.

Anahtar Sözcükler: Makrofunguslar, taksonomi, yeni kayıtlar, Türkiye Mikoflorası.

Introduction

Many studies on the macrofungi of Turkey have been carried out (1) and others are in progress. Edible and poisonous macrofungi can not be distinguish by the native people exactly. So far, two investigations have been made in the research area (2, 3). In the first study 6 species, in the second one 51 species of macrofungi were found.

The aim of this study is to determine macrofungi species in the research area and thus provide more data on the macrofungi flora of Turkey.

Description of The Research Area

İzmir city has 11973 km² space located in the west Anatolian part of Turkey. The city is surrounded by

Aegean Sea in the west, Balıkesir in the North, Manisa in the East, Aydın in the South (Figure 1).

The climate of İzmir is Mediterranean type (4). The annual avarage temperature is 14-18 °C. The landscape of İzmir consists of tectonic plains and east-west dimensioned mountains in which Bakırçay, Gediz, Küçük Menderes rivers flow.

In the study area the leathery leafed, 2-3 m high, tall dense scrub of evergreen shrubs represents the true macchie and is most widespread. It extends from the coast up to an altitude of 750 m. Other formation is called the phrygana in the district. It ranges from 0 to 500 m. and is dominated by *Sarcopoterium spinosum* (L.) Spach. The coniferous forests are represented mainly by two species in the area (*Pinus nigra* Arnold spp. *pallasiana*

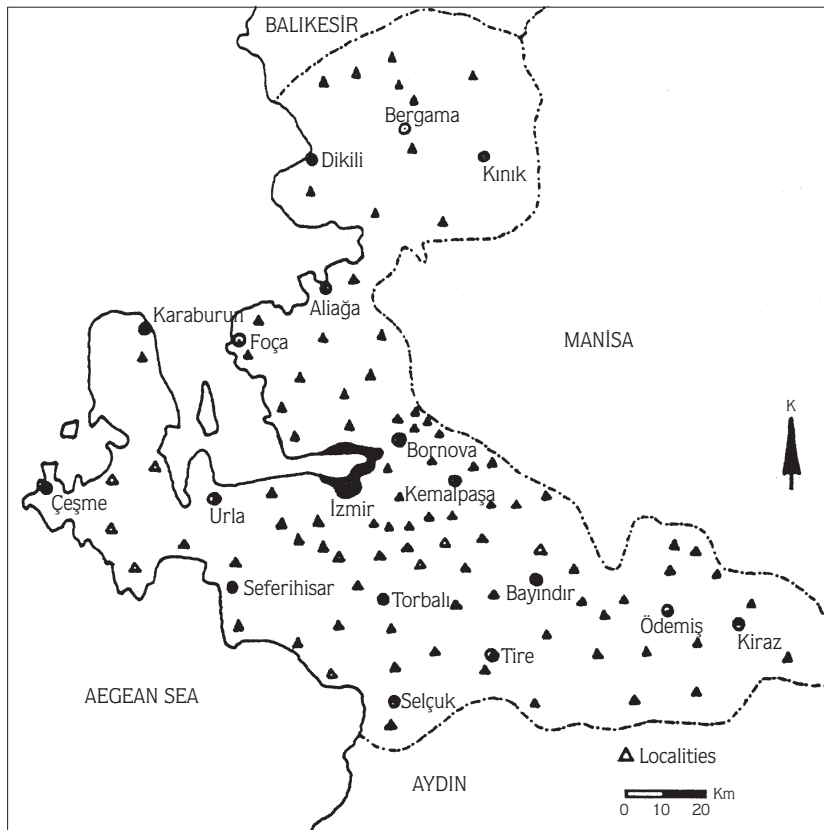


Figure 1. Collection sites in the province of Izmir in west of Turkey.

(Lamb.) Holmboe (Black pine) (900-1900 m) and *Pinus brutia* Ten. (Red pine) (0-900m). *Juniperus oxycedrus* L. ssp. *macrocarpa* (Sibth. et Sm.) Ball occurs mainly in Çeşme (5).

Material and Method

The materials for this study were collected during the some field trips between 1992 and 1996 in different seasons (Figure-1). The habitat and morphological characteristics of the macrofungi found in the localities were recorded and photographed for diagnosis. The macrofungi specimens were brought to the laboratory. Their spore prints were taken and dried. Dried specimens were numbered and placed in locked bags. In addition,

they have been put in deep freeze to protect to internal and external parasit attacks for a week.

The specimens were identified by their macroscopic and microscopic features and Marchand (6), Lincoff (7), Breitenbach and Kranzlin (8), Ellis and Ellis (9), Moser (10), Bon (11), Cappelli (12), Conducco (13), Dennis (14), Michael and Hennig (15), Philips, R. (16) and Pacioni, G. (17). All specimens are kept at the herbarium of Fatih University (Istanbul).

Results

Species found in the research area were given below. The numbers indicate the herbarium numbers.

(*) The new taxa for Turkish Mycoflora.

Ascomycetes

Fam. Helotiaceae

1- *Bisporella citrina* (Batsch: Fr.) Korf & Carpenter

Izmir: Belenbaşı, on the wood of broadleaved trees, 9.1.1994, S.711; Ödemiş,

Subatan Yaylası, on dead branches of broadleaved trees, 12.1.1994, S.759.

Fam. Morchellaceae

2- *Morchella costata* (Vent.) Boud.

Izmir: Bergama, Göbeller Köyü, Dallık area, in *Pinus pinea* forest, 16.4.1993,

S.584, S.587; Incecikler Köyü, in *Pinus brutia* forest, 17.4.1993, S.596; Bergama, Göbeller Köyü, in *Pinus pinea* forest, 23.4.1993, S.602.

3- *Morchella deliciosa* (Fr.) Jct.

Izmir: Bergama, Göbeller Köyü, Dallık area, in pine forest, 16.4.1993, S.589.

- 4- *Morchella distans* (Fr.) Boud.**
İzmir: Bergama, Göbeller Köyü, Dallık area, in *Pinus pinea* forest, 16.4.1993, S.588; 23.4.1993, S.599.
- 5- *Morchella elata* (Fr.) Bound.**
İzmir: Menderes, Görece Köyü, in pine forest, 19.4.1995, S.415; Bergama, İncecikler Köyü, in pine forest, 17.4.1993, S.595.
- 6- *Morchella esculenta* var. *rigida* Krombholz**
İzmir: Yamanlar, in the garden, 10.4.1995, S.416; Bergama, Göbeller Köyü, in *Pinus pinea* forest, 23.4.1993, S.601.
- 7- *Morchella rotunda* (Pers.) Bound.**
İzmir: Bergama, İncecikler Köyü, in *Pinus brutia* forest, 17.4.1993, S.594.
- Fam. Pezizaceae**
- 8- *Sarcosphaera crassa* (Santi ex Steudel) Pouz.**
İzmir: Buca, Belenbaşı Köyü, in pine forest, 22.3.1994, S.356.
- Fam. Helvellaceae**
- 9- *Discina perlata* (Fr.) Fries**
İzmir: Buca-Belenbaşı köyü, in pine forest, 28.2.1994, S.336.
- 10- *Gyromitra esculenta* (Pers.) Fr.**
İzmir: Bergama, Göbeller Köyü, in *Pine* forest, 23.4.1993, S.598; S.605.
- 11- *Helvella leucomelaena* (Pers.) Nannf.**
İzmir: Between İzmir and Manisa, near the river, in sandy soils, 20.4.1996, S.801; Bergama, Göbeller Köyü, Dallık area, in *Pinus pinea* forest, 16.4.1993, S.590.
- 12- *Helvella leucopus* Pers.**
İzmir: Bornova, Çiçekli Köyü, in pine forest, 21.4.1996, S.803.
- 13- *Paxina acetabulum* (L. ex St. Amans) O. Kuntze**
İzmir: Between İzmir and Manisa, in pine forest, 20.4.1996, S.802.
- Basidiomycetes**
- Fam. Tremellaceae**
- 14- *Tremella mesenterica* Retz. ex Hook.**
İzmir: Ödemiş-Subatan Yaylası, in pine forest, 12.1.1994, S.761.
- Fam. Corticiaceae**
- 15- *Stereum hirsutum* (Willd.: Fr.) S.F.Gray.**
İzmir: Yamanlar, in pine forest, 6.6.1993, S.10; Buca, Belenbaşı köyü, on oak, 24.11.1993, S.30, S.32; Buca, Belenbaşı, in pine forest, on the stump, 15.12.1993, S.62, S.63, S.67; Between Kemalpaşa and Torbalı, 16.12.1993, S.88, S.90; Ödemiş, Gökçen, on branches of the tree, 23.12.1993, S.119; Menderes, Çatalca, near the lake, 3.2.1994, S.281; Buca, Belenbaşı, on branches of the tree, 24.4.1994, S.362; Bergama, Yukarı Bey köyü, Kocaavlular area, in oak forest, 26.11.1994, S.619; S.633; Between İzmir and Manisa, on branches of the tree, 11.2.1996, S.800.
- *16- *Stereum ostrea* (Blume & Nees ex Fr.) Fr.**
İzmir: Buca, Milli Egemenlik Forest, on branches of oak, in pine forest, 2.3.1993, S.12.
- Fam. Sparassidiaceae**
- 17- *Sparassis crispa* Wulf.: Fr.**
İzmir: Ödemiş, Subatan Yaylası, on pine stumps, 12.1.1994, S.177.
- Fam. Polyporaceae**
- 18- *Fomes fomentarius* Fr.**
İzmir: Bergama, Yukarı Bey Köyü, Kocaavlular area, in oak forest, 26.11.1994, S.622; Ödemiş-Gölcük, near the lake, on *Salix* stump, 12.1.1994, S.747; Ödemiş near Bozdağ-Gölcük road, on deciduous tree, 12.5.1996, S.805.
- 19- *Funalia trogii* (Berk.) Bond. & Sing.**
İzmir: Buca, Kaynaklar, on the tree, 7.7.1994, S.369.
- 20- *Laetiporus sulphureus* (Fr.) Murr.**
İzmir: Yamanlar, Karagöl, on stump of *Salix* sp. 13.7.1993, S.22.
- 21- *Trametes pini* (Brot.) Fr.**
İzmir: Yamanlar, on pine, 4.6.1994, S.367; Bergama, Göbeller köyü, Dallık area, on *Pinus pinea*, 16.4.1993, S.592.
- 22- *Trametes versicolor* (Fr.) Pil.**
İzmir: Ege Üniversitesi, Botanik Garden, on the tree, 7.3.1994, S.353; Bergama, Yukarı Bey köyü, in oak forest, 26.11.1994, S.617.
- Fam. Schizophyllaceae**
- 23- *Schizophyllum commune* Fr.**
İzmir: Ege Üniversitesi, on olea tree, 14.8.1995, S.422.
- Fam. Hymenochaetaceae**
- 24- *Inonotus hispidus* (Fr.) Karst.**
İzmir-Karşıyaka, Nergiz, on stumps of mulberry, 30.10.1993, S.17.
- 25- *Phellinus igniarius* (L.: Fr.) Quél.**
İzmir: Ödemiş-Gölcük, near the lake, on stump of *Salix*, 12.1.1994, S.748.
- 26- *Phellinus torulosus* (Pers.) Bourd. et Galz.**
İzmir: Buca, Şirinyer-park, on deciduous tree, 31.3.1993; S.19; Buca, Belenbaşı Köyü, on the tree, 24.11.1993, S.33; 10.1.1994, S.697; Bergama, Yukarıbey Köyü, Çamurluklar area, 26.11.1994, S.630.
- Fam. Tulostomaceae**
- 27- *Tulostoma fimbriatum* Fr.**
İzmir: Between İzmir and Manisa, in pine forest, 7.1.1996, S.546.
- Fam. Sclerodermataceae**
- 28- *Pisolithus arhizus* (Pers.) Rausch.**
İzmir: Göbeller-Bergama 19 km. 26.11.1994, S.642.
- Fam. Nidulariaceae**
- 29- *Cyathus olla* Batsch: Pers.**
İzmir: Menderes, Çatalca, on twigs, 3.2.1994, S.264.
- Fam. Geastraceae**
- 30- *Geastrum pectinatum* Pers.**
İzmir: Yamanlar Dağı, Karagöl, on soil in coniferous forest, 10.12.1993, S.57;

Menderes, Efem Çukuru, in pine forest, 3.2.1994, S.294.

31- Geastrum triplex Jungh.

Izmir: Bergama-Kozak 10 km, Çınarlı picnic area, 29.11.1992, S.574.

Fam. Lycoperdaceae

32- Bovista plumbea Pers.

Izmir: Izmir-Manisa roadside 5 km, in pine forest, 20.4.1995, S.408, S.412; Yamanlar, in pasture, 17.4.1995, S.405.

33- Calvatia utriformis (Bull.: Pers.) Jaap

Izmir: Yamanlar, in pine forest, in pastures, 13.5.1995, S.417; Bergama, Göbeller köyü, Dallık area, in *Pinus pinea* forest, 16.4.1993, S.586; 23.4.1993, S.598, S.603.

34- Lycoperdon molle Pers

Izmir: Between Kemalpaşa and Torbalı, in pine forest, 16.12.1993, S.78b, S.79, S.81; Bergama-Kozak, Kermes Meydanı, 29.11.1992, S.580; Bergama, Yukarı Bey Köyü, Çamurluklar area, 26.11.1994, S.639.

35- Lycoperdon perlatum Pers.

Izmir: Buca, Belenbaşı Köyü, in mixed conifer forest, 24.11.1993, S.35; Roadside between Kemalpaşa-Torbalı, in pine forest, 16.12.1993, S.82, S.83; Between Bozdağ and Salihli, Allahdiyen, 23.12.1993, S.115; Bergama-Kozak 10. km, 29.11.1992, S.573; Kemalpaşa-Torbalı road, south of Nif mountain, 9.1.1994, S.681; Bergama-Göbeller 19. km, 26.11.1994, S.645; Ödemiş, Subatan Yaylası, in pine forest, 12.1.1994, S.760.

36- Lycoperdon pyriforme Schaeff.: Pers.

Izmir: Bergama-Kozak, Kermes Meydanı, 29.11.1992, S.579.

37- Lycoperdon umbrinum Pers.: Pers.

Izmir: Buca, Belenbaşı köyü, in pine forest, 15.12.1993, S.64.

Fam. Rhizopogonaceae

38- Rhizopogon luteolus Fr.

Izmir: Menderes, Yeniköy, in mixed

conifer forest, 5.2.1994, S.330; Menderes, Çatalca, near the lake, in mixed forest, 3.2.1994, S.267a; Buca, Belenbaşı Köyü, in pine forest, 30.12.1993, S.147, 21.1.1994, S.256; 22.3.1994, S.354; 10.1.1994, S.688, S.716; Kemalpaşa-Torbalı road, south of Nif Dağı, 9.1.1994, S.682.

39- Rhizopogon roseolus (Corda) T.M. Fries.

Izmir: Between Kemalpaşa-Torbalı, in pine forest, 16.12.1993, S.74; Menderes, Yeniköy, in open area of pine forest, 5.2.1994, S.308.

Fam. Boletaceae

40- Suillus bellinii (Inz.) Watling.

Izmir: Bergama, Kozak 10. km, 29.11.1992, S.569; Buca, Belenbaşı Köyü, in pine forest, 10.1.1994, S.690; 9.1.1994, S.712; Göbeller-Bergama 19. km, 26.11.1994, S.643.

41- Suillus bovinus (L.: Fr.) O. Kuntze.

Izmir: Buca, Belenbaşı Köyü, in pine forest, 30.12.1993, S.142; 21.12.1993, S.98; Radar road, Trazlı köyü, in pine forest, 18.1.1994, S.207; Menderes, Çatalca, in mixed forest, 3.2.1994, S.265; Menderes, Orhanlı, in open woodland, 5.2.1994, S.314; Yamanlar, Karagöl, in pine forest, 13.7.1993, S.7; Menderes, between Yeniköy and Çamönü, 5.2.1994, S.325; Bergama-Kozak 10. km, 29.11.1992, S.568.

Fam. Paxillaceae

42- Omphalotus olearius (DC.: Fr.) Singer

Izmir: Kemalpaşa, Aşağı Kızılca, in mixed forest, 17.11.1994, S.376; Buca, Belenbaşı Köyü, in pine forest, 30.12.1993, S.148; Bergama-Kozak road, 27.10.1992, S.566; Bergama-Kozak, Yukarı bey köyü, Kocaavlular area, in oak forest, 26.11.1994, S.618, Kemalpaşa, Karabel picnic area, in pine forest, 11.11.1995, S.429a.

Fam. Gomphidiaceae

43- Chroogomphus rutilus (Fr.) O.K. Miller.

Izmir: Menderes, Çatalca, near the lake, in mixed forest, 3.2.1994, S.268; Buca,

Belenbaşı Köyü, in pine forest, 1.2.1994, S.303. Kemalpaşa, Karabel picnic area, in pine forest, 11.11.1995, S.429b.

44- Pleurotus ostreatus (Jacquin: Fr.) Kummer

Izmir-Karabağlar, in the garden, on stumps of poplar, 27.11.1993, S.1; Ödemiş, Çağlayan yaylası, on the cut surface of hardwood stump, 12.1.1994, S.176.

Fam. Hygrophoraceae

45- Hygrophorus camarophyllus (Alb. & Schw.: Fr.) Dumeq,

Izmir: Menderes, Çatalca, near the lake, in mixed forest, 3.2.1994, S.280; Efem Çukuru, in pine forest, 3.2.1994, S.293.

46- Hygrophorus chrysodon (Fr.) Fr.

Izmir: Between Kemalpaşa and Torbalı, in pine forest, 10.1.1994, S.220.

47- Hygrophorus hypothejus (Fr.) Fr.

Izmir: Bergama-Kozak, Yukarı bey köyü, Çamurluklar area, 26.11.1994, S.637; Bergama, Göbeller Köyü, 26.11.1994, S.646; Kemalpaşa-Torbalı road, south of Nif Dağı, 9.1.1994, S.679.

Fam. Tricholomataceae

48- Clitocybe alexandri (Gill.) Kondrad

Izmir: Bergama, Kozak, Kermes Meydanı, 29.11.1992, S.581.

***49- Clitocybe bresadoliana** Sing.

Syn. *Clitocybe flaccida* ss. Bres.

Izmir: Menderes, Orhanlı, in forests, 5.2.1994, S.311; Yamanlar, Karagöl, in pine forest, 10.12.1993, S.46.

50- Clitocybe geotropa (Bull.: Fr.) Quél.

Izmir: Kemalpaşa, Çambel Köyü, in pine forest, 5.1.1994, S.174; Bornova, Belkahve, in forest, 5.1.1994, S.169; Buca, Kaynaklar Köyü, in mixed forest, S.258; Buca, Belenbaşı Köyü, in mixed conifer forest, 28.2.1994, S.337; Kemalpaşa, Karabel, in the picnic area, in pine forest, 17.11.1994, S.383; Buca, Belenbaşı Köyü, in coniferous forest, 21.12.1993, S.97; Menderes, Çatalca, near the lake, in mixed forest, 3.2.1994, S.282a; Menderes, Çatalca 6. km, 3.2.1994, S.289; Bergama-Kozak, Çınarlı picnic area,

29.11.1992, S.576; Bergama, Göbeller köyü, 9.1.1994, S.616; Yukarıbey Köyü, Çamurluklar area, 26.11.1994, S.624, S.634.

51- *Clitocybe odora* (Bull.: Fr.) Kumm.

Izmir: Buca, Belenbaşı köyü, in pine forest, 21.1.1994, S.252; 28.2.1994, S.343; 10.1.1994, S.692, S.707; 21.1.1994, S.252; 21.2.1993, S.94; Kemalpaşa, Kurudere, in open places of pine forest, S.379; Bergama, Yukarıbey köyü, Çamurluklar area, 26.11.1994, S.632.

52- *Clitocybe subspadicea* (Lge.) Bon & Chevassut.

Izmir: Menderes, Çatalca, near the lake, in mixed forest, 3.2.1994, S.267b; Menderes, Yeniköy, in pine forest, 5.2.1994, S.307, S.332; İzmir, Yaka köyü, in conifer forest, 20.4.1995, S.411.

53- *Clitocybe vermicularis* (Fr.) Qué.

Izmir: Buca, Belenbaşı köyü, in conifer forest, 12.5.1994, S.365, 28.2.1994, S.338; Yamanlar mountain, in pine forest, 17.4.1995, S.400.

54- *Collybia butyracea* (Fr.: Fr.) Kumm.

Izmir: Bergama-Kozak, Kermes meydanı, 29.11.1992, S.582; Bergama-Kozak, Göbeller köyü, 9.1.1994, S.608, S.614.

55- *Collybia dryophila* (Bull.: Fr.) Kummer.

Izmir: Buca, Belenbaşı Köyü, in pine forest, 24.11.1993, S.25; 3.12.1993, S.36; Between Kemalpaşa and Torbalı, in conifer forest, S.87; Between İzmir and Manisa, in pine forest, 18.11.1995, S.441.

56- *Collybia exsculpta* (Fr.) Gill.

Izmir: Buca, Belenbaşı köyü, in pine forest, 24.11.1993, S.26; 3.12.1993, S.37; Yamanlar, Karagöl, in conifer forest, 10.12.1993, S.53; Kemalpaşa, Halil beyli, near the roadside, 17.11.1994, S.373; Between Kemalpaşa and Torbalı, in coniferous forest, 16.12.1993, S.86. Kemalpaşa, Karabel picnic area, in pine forest, 11.11.1995, S.431; Between İzmir and Manisa, in coniferous forest, 18.11.1995, S.440.

57- *Collybia marasmioides* (Britz.) Bresinsky & Stangl.

Izmir: Bergama-Kozak 10. km, 29.11.1992, S.570; Bergama, Kozak, Kermes Meydanı, 29.11.1992, S.578.

58- *Cystoderma amianthinum* (Scop.: Fr.) Fay.

Izmir: Radar road, Trazlı Köyü, in conifer forest, 18.1.1994, S.203b; Efem çukuru, in pine forest, 3.2.1994, S.292; Between Bozdağ and Salihli, Allahdiyen, in open place, 23.12.1993, S.112; Bergama, Göbeller köyü, 9.1.1994, S.611; Bergama, Incecikler, Gelinalanı, 26.11.1994, S.649; Ödemiş, Çağlayan Yaylası, 12.1.1994, S.752.

59- *Cystoderma carcharias* (Pers.) Fay.

Izmir: Ödemiş, Subatan yaylası, in conifer forest, 12.1.1994, S.179.

60- *Cystoderma granulorum (Batsch: Fr.) Fay.

Syn. *Lepiota granulosa* (Batsch: Fr.) S.F. Gray

Izmir: Between Kemalpaşa and Torbalı, in conifer forests, 16.2.1993, S.75; Ödemiş, Subatan yaylası, in conifer forests, 12.1.1994, S.180.

61- *Flammulina velutipes* (Curt.: Fr.) Sing.

Izmir: Ödemiş, Gölçük, on stumps of decaying deciduous tree, 12.1.1994, S.175a; Ödemiş, Çağlayan Yaylası, in pine forest, 12.1.1994, S.749.

62- *Hemimycena pseudogracilis* (Kühn.) Sing.

Izmir: Buca, Belenbaşı Köyü, in pine forest, 3.12.1993, S.59.

63- *Laccaria altaica* Sing.

Izmir: Ödemiş, İlkurşun köyü, amongst grass, 12.1.1994, S.184; Menderes-Çatalca roadside 6. km, in open place, 3.2.1994, S.287; Menderes, Orhanlı, in open area of pine forest, 5.2.1994, S.316.

64- *Laccaria laccata* (Scop.: Fr.) Berk. & Br. var. *laccata* Fr.

Izmir: Radar road, Trazlı Köyü, in conifer forest, 18.1.1994, S.211. Bergama-Kozak

10. km, 29.11.1992, S.572; Bergama, Göbeller köyü, 9.1.1994, S.612; Bergama, Yukarıbey köyü, Çamurluklar area, 26.11.1994, S.626; Bergama-Göbeller 19. km, 26.11.1994, S.644; Ödemiş, Yeniköy, amongst grass, 12.1.1994, S.779, S.782.

65- *Lepista nuda* (Bull.: Fr.) Cooke.

Izmir: Buca, Belenbaşı Köyü, in conifer forest, 15.12.1993, S.61; Between Kemalpaşa and Torbalı, in pine forest, 16.12.1993, S.77. Bayındır, Karallı köyü, 21.12.1993, S.104; Bornova, Çiçekli köyü, in pine forest, 5.1.1994, S.168; Tire, Toptepe, in pine forest, 12.1.1994, S.197; Bergama, Yukarıbey köyü, Çamurluklar area, 26.11.1994, S.628; İzmir-Yamanlar, Karagöl, in coniferous forest, 9.1.1994, S.674; İzmir-Buca, Belenbaşı köyü, in pine forest, 10.1.1994, S.685; Bayındır, Pınarlı köyü, 9.1.1994, S.740; Tire, 12.1.1994, S.807.

66- *Lepista personata* (Fr.: Fr.) Cke.

Izmir: Bergama, Göbeller köyü, 9.1.1994, S.615; İzmir-Belkahve, Kavaklı dere, 9.1.1994, S.662; İzmir-Yamanlar, Karagöl, in coniferous forest, 9.1.1994, S.671; Buca, Belenbaşı köyü, in pine forest, 10.1.1994, S.686; Buca, Doğanlılar köyü, in pine forest, 10.1.1994, S.705.

67- *Lyophyllum favrei Haller & Haller.

Izmir: Buca, Belenbaşı Köyü, in conifer forest, 30.12.1993, S.151; Radar road, Trazlı Köyü, in pine forest, 18.1.1994, S.210. *Lyophyllum* is recorded for the first time from Türkiye as a new genus.

68- *Marasmius androsaceus* (L.: Fr.) Fr.

Izmir: Between İzmir-Manisa, in conifer forest, on the oak leaves, 18.11.1995, S.438; Ödemiş, Subatan Yaylası, in pine forest, 12.1.1994, S.763.

69- *Marasmius epiphyllum* (Pers.: Fr.) Fr.

Izmir: Between Manisa and İzmir, in conifer forest, on pine needles, 3.12.1995, S.456.

70- *Marasmius oreades* (Bolt.: Fr.) Fr.

Izmir: Bayındır road side, in pasture, 11.1.1994, S.238; Kemalpaşa entering from

Turgutlu, amongst grass, 17.11.1994, S.370; Bergama, Incecikler köyü, amongst grass, 17.4.1993, S.597; Yukarıbey köyü, Kocaavlular area, oak forest, 26.11.1994, S.623; Bayındır, Pınarlı köyü, 9.1.1994, S.737; Ödemiş, İlkurşun köyü, 12.1.1994, in pine forest, 12.1.1994, S.781; Tire, 12.1.1994, S.811.

71- *Melanoleuca cognata* var. *typica (Fr.) Konr. & Maubl.

Syn. *Melanoleuca arcuata* (Bull.: Fr.) Sing.

Izmir: Bayındır, Horunlu Köyü, in pine forest, 14.12.1993, S.72; Bornova, Osmangazi, in pasture, 5.1.1994, S.163; Buca, Belenbaşı Köyü, in conifer forest, 1.2.1994, S.305; Bayındır, Karallı Köyü, 21.12.1993, S.105.

72- *Melanoleuca paedida (Fr.) Kühn. & Mre.

Izmir: Bayındır, Horunlu Köyü, in pasture, 14.12.1993, S.69.

73- *Mycena epipterygia* (Scop.: Fr.) S.F.Gray

Izmir: Between Izmir and Manisa, in conifer forest, S.503; Ödemiş, Subatan Yaylası, in pine forest, 12.1.1994, S.757.

74- *Mycena polygramma* (Bull.: Fr.) S.F. Gray.

Izmir: Buca, Belenbaşı Köyü, in coniferous forest, 13.1.1994, S.192.

75- *Mycena pura* (Pers.: Fr.) Kummer

Izmir: Ödemiş, İlkurşun köyü, amongst grass, 12.1.1994, S.185; 12.1.1994, S.780; Kemalpaşa, Kurudere, in coniferous forest, 17.1.1994, S.381; Buca, Belenbaşı köyü, in pine forest, 10.1.1994, S.695, S.709.

76- *Mycena rosea (Bull.) Gramberg.

Izmir: Between Bozdağ and Salihli, Allahdiyen, near the shrub, 23.12.1993, S.113.

77- *Mycena strobilicola* Favre & Kühn.

Izmir: Buca, Belenbaşı Köyü, in conifer forest, on pine cones, 24.11.1993, S.29, S.23; Yamanlar, Karagöl, in conifer forest, on pine cones, 10.12.1993, S.52; Bergama, Yukarıbey köyü, Çamurluklar area, on cone of

Pinus pinea, 26.11.1994, S.627. Izmir: Between Izmir and Manisa, in coniferous forest, 11.11.1995, S.424.

78- *Strobilurus stephanocystis (Hora) Sing.

Izmir: Buca, Belenbaşı Köyü, in pine forest, on pine cones, 30.12.1993, S.136.

79- *Tricholoma caligatum* (Viv.) Rick.

Izmir: Buca, Belenbaşı Köyü, in conifer forest, 30.12.1993, S.143.

80- *Tricholoma fracticum* (Britz.) Kreisel

Izmir: Buca, Belenbaşı Köyü, in conifer forest, 30.12.1993, S.144; Yamanlar, Karagöl, in pine forest, 9.1.1994, S.666; Ödemiş, Subatan Yaylası, in conifer forest, 12.1.1994, S.765.

81- *Tricholoma pardalotum Herink & Kotl.

Syn. *Tricholoma pardinum* (Pers.) Quél.

Tricholoma tigrinum (Schaeff.: Fr.) Kumm.

Izmir: Menderes, Efem çukuru, in pine forest, 3.2.1994, S.300.

82- *Tricholoma terreum* (Schaeff.: Fr.) Kumm.

Izmir: Buca, Milli Egemenlik Forest, in conifer forest, S.3; Buca, Belenbaşı Köyü, in conifer forest, S.145; 10.1.1994, S.689; Menderes, Çatalca, near the lake, in mixed forest, 3.2.1994, S.272; Menderes, Radar road, Trazlı Köyü, in pine forest, 18.1.1994, S.219; Izmir, Belkahve, 9.1.1994, S.663; Menderes, Orhanlı, 5.2.1994, S.321; Buca, Kaynaklar, 9.1.1994, S.715.

83- *Xerula radicata* (Relhan: Fr.) Dörfelt

Izmir: Bergama-Kozak, Yukarıbey köyü, Kocaavlular area, in oak forest, 26.11.1994, S.621.

Fam. Pluteaceae

84- *Volvariella gloiocephala* (DC: Fr.) Boekhout & Enderle

Izmir: Bayındır, Furunlar köyü, in pastures, 28.12.1993, S.132; Bornova, Osmangazi, amongst grass, 5.1.1994, S.161; Bergama, Yukarıbey köyü, Çamurluklar area,

26.11.1994, S.636; Kemalpaşa-Torbalı road, south of Nif Dağı, 9.1.1994, S.677; Torbalı-Bayındır road 15. km, amongst grass, 9.1.1994, S.717; Bayındır, Pınarlı köyü, 9.1.1994, S.736, S.738; Ödemiş, Kaymakçı köyü, amongst grass, 12.1.1994, S.767, S.772; Ödemiş, Yeniköy, 12.1.1994, S.775; Tire, Gökçen, 12.1.1994, S.791.

Fam. Lepiotaceae

85- *Macrolepiota excoriata* (Fr.) Wasser

Izmir: Ödemiş, İlkurşun köyü, in pine forest, 12.1.1994, S.783.

86- *Macrolepiota gracilentata* (Krombh.) Wasser

Izmir: Bergama, Yukarıbey köyü, Çamurluklar area, 26.11.1994, S.631.

87- *Macrolepiota procera* (Scop.) Sing.

Izmir: Yamanlar, Karagöl, in conifer forest, 10.12.1993, S.42; Bayındır, Horunlu Köyü, in open places of mixed forest, 14.12.1993, S.70; Bayındır, Furunlar Köyü, in pasture, 28.12.1993, S.134; Karallı Köyü, amongst grass, 21.12.1993, S.103; Ödemiş, İlkurşun Köyü, in pasture, 12.1.1994, S.190; Bergama-Kozak, Çınarlı picnic area, 29.11.1992, S.575; Izmir-Belkahve, in poplar plantation, 9.1.1994, S.659; Bergama, Göbeller Köyü, 26.11.1994, S.640.

Fam. Agaricaceae

88- *Agaricus campestris* (L.) Fr.

Izmir: Yamanlar, Karagöl, in pine forest, 10.12.1993, S.41, S.47; Bayındır, Furunlar Köyü, in pasture, 28.12.1993, S.135; Bornova, Osmangazi, amongst grass, 5.1.1994, S.165; Kemalpaşa Halil Beyli, in pasture, 17.11.1994, S.374; Bornova, Osmangazi, in pasture, 10.12.1993, S.92; Bayındır, Karallı Köyü, in pasture, 21.12.1993, S.106; Kemalpaşa, Zeytincilik Araştırma Enstitüsü, 23.12.1993, S.123; Bayındır, Burkazkaveleri, in meadows, 28.12.1993, S.125; Urla, Gölçük, in pasture, 3.2.1994, S.291.

Fam. Coprinaceae

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

Izmir: Buca, Belenbaşı Köyü, in pine forest, 3.12.1993, S.40; Bergama-Kozak, Kermes Meydanı, in pasture, 29.11.1992, S.583.

Fam. Bolbitiaceae

90- *Agrocybe cylindracea* (DC.: Fr.) Maire

Izmir: Yamanlar, Karagöl, near the lake, on the base of trunks of *Salix*, 13.7.1993, S.15; Buca, Kaynaklar, on stumps, 7.7.1994, S.368; Kemalpaşa, Halil beyli, on the cut surface of hardwood stump, 17.11.1994, S.372; Buca, Şirinyer park, on stumps, 31.3.1993, S.18.

91- *Bolbitus vitellinus* (Pers.) Fr.

Izmir: Bayındır, amongst grass, on horse dung, 10.1.1994, S.731.

Fam. Strophariaceae

92- *Hypholoma fasciculare* (Huds.: Fr.) Kumm.

Izmir: Bergama-Kozak, Çınarlı picnic area, 29.11.1992, S.577.

93- *Pholiota carbonaria* (Fr.) Sing.

Izmir: Yamanlar, Karagöl, in the picnic area, on burned ground, 10.12.1993, S.45; Bergama, Göbeller Köyü, on burned ground, 9.1.1994, S.609, S.606, S.613.

94- *Stropharia aeruginosa* (Curtis: Fr.) Qué.

Izmir: Buca, Belenbaşı Köyü, in conifer forest, 30.12.1993, S.138; 10.1.1994, S.687; Menderes, Radar road, Trazlı köyü, in pine forest, 18.1.1994, S.208.

95- *Stropharia coronilla* (Bull.: Fr.) Qué.

Izmir: Yamanlar, Karagöl, in conifer forest, 10.12.1993, S.48; Bayındır, Horunlu Köyü, in pastures, 14.12.1993, S.68; Bornova, Osmangazi, in pastures, 5.1.1994, S.158, S.162; 10.1.1994, S.228; Bayındır, Karallı Köyü, amongst grass, 21.12.1993, S.100; Ödemiş, İlkurşun Köyü, in pastures, 12.1.1994, S.191; 12.1.1994, S.784; Bayındır-Torbalı 10. km, 10.1.1994, S.732; Bergama, Yukarıbey Köyü, Çamurluklar area, 26.11.1994, S.629; Between Kozak and Bergama 19. km, 26.11.1994, S.641.

96- *Stropharia semiglobata* (Batsch: Fr.) Qué.

Izmir: Kemalpaşa-Kurudere, in pine forest, 17.11.1994, S.381.

Fam. Crepidotaceae

97- *Crepidotus amygdalosporus* Kühn.

Izmir: Buca, Belenbaşı köyü, in coniferous forest, on pine branches, 24.11.1993, S.31.

Fam. Cortinariaceae

98- *Gymnopilus junonius* (Fr.) Orton

Izmir: Bergama, Kozak, Kermes Meydanı, 27.10.1992, S.567.

99- *Inocybe geophylla* (Sow.: Fr.) Kum.

Izmir: Bergama, Kozak, Yukarıbey köyü, Çamurluklar area, 26.11.1994, S.625; Between Kemalpaşa and Torbalı 6 km. in coniferous forest, 9.1.1994, S.655; Buca, Belenbaşı köyü, in coniferous forest, 10.1.1994, S.714.

Fam. Russulaceae

100- *Russula delica* Fr.

Izmir: Kemalpaşa, Çambel köyü, in conifer forest, 5.1.1994, S.173. Bergama, İncecikler köyü, Gelinalanı area, 26.11.1994, S.647. Kemalpaşa, Karabel picnic area, in pine forest, 11.11.1995, S.430.

101- *Lactarius deliciosus* (L.: Fr.) S.F. Gray

Izmir: Torbalı, Düğerlik köyü, in pine forest, 28.12.1993, S.131a; Pınarbaşı, Nif Dağı, 5.1.1994, S.170; Kemalpaşa, Çambel köyü, in conifer forest, 5.1.1994, S.172; Menderes, Radar road, Kavacık köyü, in pine forest, 18.1.1994, S.249; Menderes, Çatalca, near the lake, 3.2.1994, S.271; Bergama, Kozak, in pine forest, 29.11.1992, S.571; Bergama, İncecikler, Gelinalanı area, 26.11.1994, S.648.

102- *Lactarius deterrimus* Gröger

Izmir: Torbalı, Düğerlik Köyü, in pine forest, 28.12.1993, S.131a; Menderes, Radar road, Kavacık Köyü, in conifer forest, 18.1.1994, S.248.

103- *Lactarius salmonicolor* Heim & Lecl.

Izmir: Bergama, İncecikler, Gelinalanı area, 26.11.1994, S.650.

104- *Lactarius vellerus* (Fr.) Fr.

Izmir: Bergama, Yukarı Bey Köyü, Çamurluklar area, 29.11.1994, S.635.

Discussion and Conclusion

In the studies that were made beforehand in the Kozak Plateau (Bergama, İZMİR), 57 species of macrofungus were detected by Gücin (2), Gücin, Işıloğlu and Solak (3). With our study, the boundary of Izmir was detected and it is seen that 104 species of macrofungus grows up there, with the extending of working area, habitat and time period, it is possible to find species of macrofungus which grow in varying climatic conditions that are changing year by year. Even we found species of mushroom (January 1993) which we had not found in the previous term in that particular place.

Of, 12,5% of all the species of macrofungi that we determined belonged to Ascomycetes and 87,5% to

Basidiomycetes. These rates show curious parallelism between the previous studies conducted in other fields. For example, it seems that these rates are 4,7% Ascomycetes and 95,3% Basidiomycetes in Black sea; 8,9% Ascomycetes and 91,1% Basidiomycetes in the Aegean Region; 1,5% Ascomycetes and 98,5% Basidiomycetes in North-West of Marmara Region, 4,8% Ascomycetes and 95,2% Basidiomycetes in the Mediterranean (19-22).

Although the number of the species of edible macrofungi is 49, people in Izmir know 26 species of them. Some of these are sold in the market and they are named: *Lactarius deliciosus*, *L. deterrimus* (Locally known as, Çam melkisi, Çintar), *Clitocybe geotropa* (Et melkisi),

Macrolepiota procera (Dede mantarı), *Volvoriella gloiocephala* (Mantar), *Agaricus campestris* and *Stropharia coronilla* (Çayır Mantarı), *Pleurotus ostreatus* (Kavak Mantarı), and *Russula delica* (Beyaz Melki). *Agrocybe cylindracea* (Locally known as, Kavak mantarı), *Collybia dryophila* and *C. exculpta* (Mantar), *Lepista nuda* and *L. personata* (Mavi cincile), *Rhizopogon luteolus* and *R. roseolus* (Tavşan Böreği) are known locally, but are not sold at the market. Some regions of country show similiraty concerning this (19, 22, 26). Out 21 species of edible macrofungi, for example, in Black Sea Region 13 of them are known by local people (19).

Ten species of poisonous mushroom were determined. But the native people know *Amanita muscaria* (Locally

known as Sinek Mantarı), *Gyromitra esculenta* (Kuzu göbeği Ebesi) as poisonous. However, the rest of them is unknown by local people. The situation is valid for other region of our country (23-26). Out of 28 species of poisonous macrofungi, for example, in Nort-West Anatolia 3 of them are known by local people (26).

With our study 1 genus (*Lyophyllum*), 8 species (*Clitocybe bresadoliana*, *Cystoderma granulorum*, *Lyophyllum favrei*, *Melanoleuca paedida*, *Mycena rosea*, *Stereum ostrea*, *Strobilurus stephanocystis*, *Tricholoma pardalotum*) and 1 variety (*Melanoleuca cognata* var. *tipica*) were added as new record taxa to Turkish Mycoflora.

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