

MACROFUNGI OF TAVAS (DENİZLİ) DISTRICT

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ABSTRACT

Macrofungi samples have been collected during the field trips carried out in Tavas (Denizli) between in 1999-2001. As a result of field and laboratory studies totally 45 taxa belong to 21 families were identified. 9 of these belong to *Ascomycetes* and 36 to *Basidiomycetes*.

Keywords: Macrofungi, Taxonomy, Tavas, Denizli

TAVAS (DENİZLİ) İLÇESİNİN MAKROFUNGUSLARI

ÖZET

1999-2001 yıllarında, Tavas İlçesinde (Denizli) yapılan arazi çalışmalarında makrofungus örnekleri toplanmıştır. Arazi ve laboratuvar çalışmaları sonucu 21 familyaya ait 45 takson teşhis edilmiştir. Bunlardan 9'u *Ascomycetes* ve 36'sı *Basidiomycetes* sınıfına aittir.

Anahtar Kelimeler: Makrofunguslar, Taksonomi, Tavas, Denizli

1. INTRODUCTION

Many studies on the macrofungi flora of Turkey have been carried out and some of them are continuing. However, The macrofungi flora of Turkey has not yet been completed.

Tavas, is a town in the province of Denizli and chosen as the investigation area (Figure 1). After a review of the relevant literature, it appears that no previous macrofungi studies have been carried out in this area.

The aim of this study was to identify edible and poisonous species and contribute more data on macrofungi flora of Turkey. The climate of Tavas is generally semi-dry terrestrial and typically mediterranean-alpine climate type [1]. There are a number of trees such as *Pinus brutia*, *P. nigra* mixed

Juniperus oxycedrus, *Quercus coccifera*, these trees is dominant forest plants while *Populus alba* and *Salix triandra* trees are growing near streams and these suitable climate and the type of vegetation make it very favourable place for the growth of macrofungi.

2. MATERIAL AND METHOD

The materials for this study were collected on field trips carried out from Tavas district between 1999-2001. In the field, some ecological and morphological properties of specimens were noted and photographed. Then the specimens were taken to the laboratory. The spore prints were obtained and spore dimensions measured with an ocular micrometer for identification. As a result of the field and laboratory studies, all taxa were identified with the help of references; Bresinsky and Besl [2], Breitenbach and Kränzlin [3], Grunert and Grunert [4], Moser [5].

All materials have been kept at Pamukkale University, Science and Art Faculty, Laboratory of Biology Department, in Denizli.

3. RESULTS

The macrofungi taxa consisting of 45 taxa belongig to 19 families are identified. These taxa, their localities, distributions, collection dates, fungarium numbers are given below. "T", "G" and "U" are the abbreviation of the authors in the citations of herbarium specimens.

ASCOMYCETES

MORCHELLACEAE

1. *Morchella conica* var. *conica* (Pers.) Bound.
Pınarlık village, in *P. brutia* forest, 29.05.2001, T,G 398.
2. *Morchella elata* Fr.
Seki village, near road, 29.05.2001, T,G 399.
3. *Morchella esculenta* (L.) Pers.
Bıçakçı village, in pine forest, 29.04.2001, U 116.

PEZIZACEAE

4. *Peziza vesiculosa* Bull.
Seki village, near the road, 23.03.2001, U, T, G 254, Karahisar district, 23.03.2001 U,T,G 264.
5. *Sarcosypha coccinea* (Jacq.) Sacc.
Aydoğdu village, in black pine forest, 26. 02. 2001, U 185, 191.
6. *Sarcosphaera coronaria* (Jacq.) J. Schröt.
Aydoğdu village, in mixed pine forest, 29.05.2001, T, G 340.

HELVELLACEAE

7. *Helvella acetabulum* (L.) Quél.

Pınarlar village, in pine forest, 24. 04. 2001, U 166.

8. *Helvella lacunosa* Afzel.

Pınarlık village, near stream, 29.05.2001, T, G 341.

DISCINACEAE

9. *Gyromitra esculenta* (Pers.) Fr.

Pınarlık village, in pine forest, 27. 04. 2000, U 244.

BASIDIOMYCETES**POLYPORACEAE**

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

Kızılcabölük district, on poplar trees, 21.05.2001, U 186.

11. *Fomes fomentarius* (L.) J.J. Kickx

Yahşiler village, on pine trunks, 15.12.2000, U, 121.

12. *Trametes gibbosa* (Pers.) Fr.

Yahşiler village, on poplar trunks, 29.05.2001, T, G 342.

SCHIZOPHYLLACEAE

13. *Schizophyllum commune* Fr.

Sarıabat village, on *Morus alba* trees, 25.05.2001, U 178.

HYMENOGYMIACEAE

14. *Phellinus torulosus* (Pers.) Bourdot & Galzin

Pınarlar village, on *Platanus* sp. 21.01.2001, U 153.

GEASTRACEAE

15. *Geastrum triplex* Jungh.

Karahisar village, 02.01.2001 U 16, Yahşiler village, in grass, 01.12. 2000,

U 4, Sarıabat village, in grass, 09.02.2001, U 45, Garipköy, in grass,

11.03.1999, U 85.

LYCOPERDACEAE

16. *Lycoperdon molle* Pers.

Tekke village, in grass in pine forest, 29.01.2001, U 33, Akyar village, in grass in pine forest, 09.12.2000, U 30.

17. *Lycoperdon perlatum* Pers.

Derinkuyu village, 17.04.2001, U 257, Akyar village, the bank of the stream, 05.04.2001, U 189.

18. *Handkea utrifomis* (Bull.) Pers.

Yoran plateau, in grass, 26.04.2001, U 267.

19. *Bovista plumbea* Pers.

Kızılcabölük, in grass, 21.03.2001, U 213, 243, Yoran plateau, on grass, 26.04.2001, U 199, Konak district, in grass, 12.04.2001, U 255.

RHIZOPOGONACEAE

20. *Rhizopogon luteolus* Fr.

Kızılcıca forest, in mixed forest, 13.12.2000, U 78, Garipeköy, 06.03.2001, U 110, Yoran plateau, in mixed forest, 10.05.2001, U 27.

21. *Rhizopogon roseolus* (Corda) Th. Fr.

Seki village, 15.05.2001, U 122, Konak district, in mixed forest, 23.05.2001, U 332, Akyar village, in pine forest, 01.12.2000, U 175, Karataş village, in pine forest, 12.10.2000, U 150.

GOMPHIDIACEAE

22. *Chroogomphus rutilus* (Schaeff.) O. K. Mill.

Pınarlık village, in pine forest, 02.06.2001, U 215, Kızılcabölük district, in pine forest, 29.05.2001, U 182.

PLEUROTACEAE

23. *Pleurotus ostreatus* (Jacq.) P. Kumm.

Aydoğdu village, on poplar trees, 07.03.2001, U 80, Sarabat village, on poplar trees, 05.12.2000, U 24.

24. *Pleurotus eryngii* (DC.) Gillet

Dede mountain, in grass, 22.05.2001, U 149.

HYDNANGIACEAE

25. *Laccaria laccata* (Scop.) Fr.

Pınarlar village, in pine forest, 21.05.2001, U 227.

TRICHOLOMATACEAE

26. *Lepista nuda* (Bull.) Cooke

Kızılcıca district, in mixed forest, 21.03.2001, U 222, Derinkuyu village, 25.04.2001, U 373.

27. *Clitocybe geotropa* (Bull.) Quél.

Yahşiler village, in pine forest, 23.05.2001, U 343.

28. *Tricholoma terreum* (Schaeff.) Quél.

Bahçeköy village, in pine forest, 22.12.2000, U 199, Eski hamamlar district, 15.02.2001, U 283.

29. *Tricholoma ustale* (Fr.) P. Kumm.

Derinkuyu village, in pine forest, 29.05.2001, T, G 345.

30. *Mycena strobilicola* J. Favre & Kühner
Karahisar village, in pine forest, 05.01.2001, U 22.
31. *Melanoleuca excissa* var. *excissa* (Fr.) Singer
Karahisar village, in pine forest, 29.05.2001, T,G 347.
32. *Melanoleuca graminicola* (Velen.) Kühner & Maire
Karahisar village, in pine forest, 29.05.2001, T,G 347.

MARASMIACEAE

33. *Armillaria mellea* (Vahl) P. Kumm.
Derinkuyu village, in pine forest, 29.05.2001, T, G 343.
34. *Armillaria tabescens* (Scop.) Emel
Bahçeköy village, in pine forest, 29.05.2001, T, G 344.

AGARICACEAE

35. *Agaricus bisporus* (J.E. Lange) Pilát.
Seki village, 17.11.2001, U 117, Pınarlık village, near stream, 25.04.2001, U 276.
36. *Agaricus campestris* L.
Çakıroluk district, in pine forest, 25.05.2001, U 245.
37. *Macrolepiota procera* (Scop.) Singer
Derinkuyu village, near the road, 10 km., 29.05.2001, U 271

PLUTEACEAE

38. *Amanita phalloides* (Vaill. ex Fr.) Link
Avdan village, in pine forest, 25.05.2001, U 132.

COPRINACEAE

39. *Coprinus atramentarius* (Bull.) Fr.
Derinkuyu village, near the road, 20.05.2001, U 194.
40. *Coprinus comatus* (O. F. Müll.) Gray
Pınarlık village, near stream, 11.02.2001, U 186, Eski hamamlar district, 08.03.2001, U 213.
41. *Coprinus micaceus* (Bull.) Fr.
Sarıabat village, near stream, 05.05.2001, U 136.

BOLBITIACEAE

42. *Agrocybe cylindracea* (DC.) Gillet
Aydoğdu village, on poplar trees, 29.04.2001, U 71, Kızılcabölük district, on poplar trees, 08.04.2001, U 325.

CORTINARICEAE

43. *Inocybe rimosa* (Bull.) P. Kumm.
Karahisar, in pine forest, 05.01.2001, U 29.

RUSSULACEAE

44. *Lactarius deterrimus* Gröger

Akyar village, in pine forest, 22.11.2000, U 16, Pınarlık village, in pine forest, 22.11.2000, U 29.

45. *Lactarius deliciosus* (L.) Gray

Akyar village, in pine forest, 29.05.2001, T, G 350.

4. CONCLUSION AND DISCUSSION

In this study, 45 macrofungi taxa belonging to 21 families collected in Tavas Province were identified. Nine of these belong to *Ascomycetes* and 36 to *Basidiomycetes*. The distribution of the 45 species in to families is as follows: *Tricholomataceae* 7, *Lycoperdaceae* 4, *Coprinaceae* 3, *Polyporaceae* 3, *Morchellaceae* 3, *Helvellaceae* 2, *Pezizaceae* 3, *Pleurotaceae* 2, *Agaricaceae* 3, *Marasmiaceae* 2, *Rhizopoganaceae* 2, *Russulaceae* 2, *Hymenochaetaceae* 1, *Cortinariaceae* 1, *Bolbitiaceae* 1, *Gomphidiaceae* 1, *Discinaceae* 1, *Hydnangiaceae* 1, *Pluteaceae* 1, *Gaeastraceae* 1 and *Schizophyllaceae* 1. Fifteen percent of macrofungi we found belong to *Tricholomataceae*. Pine, mixed forests and meadows are very suitable conditions for members of *Tricholomataceae*. *Tricholomataceae*, *Lycoperdaceae*, *Morchellaceae*, *Coprinaceae*, *Pezizaceae* and *Helvellaceae* are similar to those of earlier studies carried out near our research area [6,7,8,9]. This may be because of similarities in vegetation, climate and plant flora (Table 1).

Nineteen taxa of edible macrofungi are known and *Morchella elata*, *M. conica* var. *conica*, *M. esculenta*, *H. lacunosa*, *Peziza vesiculosa*, *Laetiporus sulphureus*, *Polyporus squamosus*, *Rhizopogon roseolus*, *Chroogomphus rutilus*, *Pleurotus ostreatus*, *P. eryngii*, *Tricholoma terreum*, *Agaricus campestris*, *A. bisporus*, *Coprinus micaceus*, *C. comatus*, *Agrocybe cylindracea*, *Lactarius deliciosus* and *L. deterrimus* are eaten by the local people.

The poisonous taxa are four: *Amanita phalloides*, *Gyromitra esculenta*, *Inocybe rimosa* and *Tricholoma ustale*. There have been no reports of deaths from mushroom poisoning in this area, because local people collect only well-known mushrooms.

Finally, the macrofungi taxa of Tavas were added to the Turkish macrofungi flora.

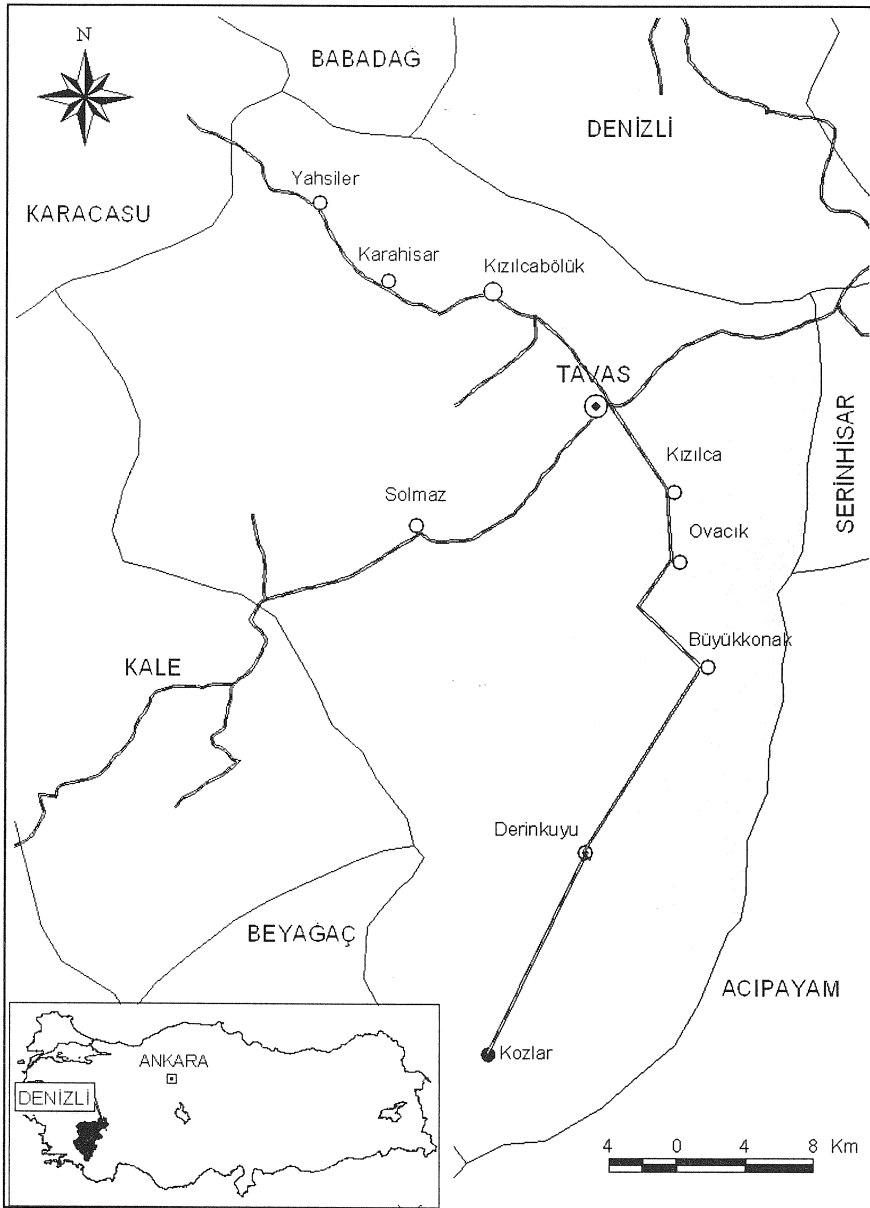


Figure 1. Collection Areas

Table 1. Distribution of families.

FAMILIES	Afyon 1996	Işıoğlu & Öder 1995	Solak at all. 1999	Gezer 2000	Tavas
<i>Morchellaceae</i>	3	3	6	3	3
<i>Discinaceae</i>					1
<i>Helvellaceae</i>	2	3	5	1	2
<i>Pezizaceae</i>		1	1	2	3
<i>Hymenochaetaceae</i>			3	4	1
<i>Schizophyllaceae</i>	1	1		1	1
<i>Polyporaceae</i>	7	5	5	3	3
<i>Gaeastraceae</i>			2	1	1
<i>Lycoperdaceae</i>	2	3	6	4	4
<i>Rhizopogonaceae</i>		2	2	2	2
<i>Gomphidiaceae</i>		1	1	1	1
<i>Pleurotaceae</i>		3	1	1	2
<i>Hydnangiaceae</i>					1
<i>Tricholomataceae</i>	2	24	35	21	7
<i>Marasmiaceae</i>					2
<i>Pluteaceae</i>	1	8		1	1
<i>Agaricaceae</i>	4	11	4	4	3
<i>Coprinaceae</i>	3	9	1	6	3
<i>Bolbitiaceae</i>	1	3	2	1	1
<i>Cortinariaceae</i>	1	7	2	2	1
<i>Russulaceae</i>	6	16	5	7	2
Total	33	100	81	65	45

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