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Contributions to the macrofungal diversity of Atatürk Dam Lake basin

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Abstract: This study was carried out on macrofungi samples collected from Atatürk Dam Lake basin, especially from the southern coasts, within the boundaries of Şanlıurfa province between 2003 and 2013. A total of 122 taxa belonging to 38 families were identified. Six of them are new for the mycobiota of Turkey. *Sowerbyella rhenana* (Fuckel) J. Moravec is new at the genus level, while *Peziza pseudoviolacea* Donadini, *Peziza ripensis* E.C. Hansen, *Cheilymenia theleboloides* (Alb. & Schwein.) Boud., *Galeropsis desertorum* Velen. & Dvořák, and *Tulostoma melanocyclum* Bres. are new at species level.

Key words: Macrofungi, biodiversity, Adıyaman, Şanlıurfa, Turkey

1. Introduction

Atatürk Dam Lake, which is the biggest dam lake in Turkey with a surface area of 817 km^2, is situated in the southeastern Anatolian region and in square C7 according to Davis' grid square system. The lake has a large drainage area, mainly within the boundaries of Adıyaman and Şanlıurfa provinces (Figure 1). The region has a Mediterranean climate according to Emberger's formula (Akman, 1999) and falls in the Irano-Turanian phytogeographical sector within the Holarctic floral kingdom. The plant cover of the dam lake basin is a mixture of Mediterranean, southeastern, and eastern vegetation. Forest areas are characterized mainly by *Quercus* and planted *Pinus brutia* populations. Some species of *Salix*, *Populus*, *Platanus*, and *Tamarix* are dominant along the river and some stream banks. Although not widespread, various species of *Pistacia*, *Rhus*, *Paliurus*, *Prunus*, *Morus*, *Crataegus*, *Acacia*, *Cedrus*, *Amygdalus*, *Nerium*, and *Rosa* also exist in the region.

Checklists of Turkish macrofungi report 215 species assigned in 81 genera, 28 families, and 7 orders of Ascomycota and 1943 species assigned in 19 orders, 91 families, and 358 genera of Basidiomycota (Solak et al., 2007; Sesli and Denchev, 2008). Analysis of the same checklists also indicates that more than one-third (768) of the current taxa were reported from only 1 locality and almost one-fifth (410) from 2 localities. This indicates that there is still much to be done to obtain overall macrofungal data and distribution in Turkey.

To date, Kaya et al. (2008, 2010), Kaya (2009a, 2009b), and Gücin et al. (2010) have published studies with data on collections from the northern coasts of the dam lake, especially in Adıyaman Province. The current study was based on macrofungi specimens collected from the southern coasts of the dam lake within Şanlıurfa Province and those not recorded from Adıyaman before, and aims to determine the overall macrofungal diversity of the dam lake basin and to contribute to the knowledge of the mycobiota of Turkey.

2. Materials and methods

The macrofungi samples were collected from 57 localities (Table 1) during periodic fungal inventories conducted in the Atatürk Dam Lake basin between 2003 and 2013. During field study, macroscopic characteristics and field parameters of the specimens were recorded and color photographs were taken. At the fungarium, spore prints were obtained from mature specimens, and macroscopic and microscopic investigations were carried out. Identification of the specimens was performed according to Moser (1983), Breitenbach and Kränzlin (1984–2000), Miller and Miller (1988), Candusso and Lanzoni (1990), Jordan (1995), Pegler et al. (1995), Bessette et al. (1997), Antonín and Noordeloos (1997), and Kränzlin (2005). The samples were deposited at Karamanoğlu Mehmetbey University, Science Faculty, Department of Biology.

3. Results

The determined 122 taxa are listed alphabetically with habitat, locality, collection date, and accession numbers. Author citations are abbreviated according to

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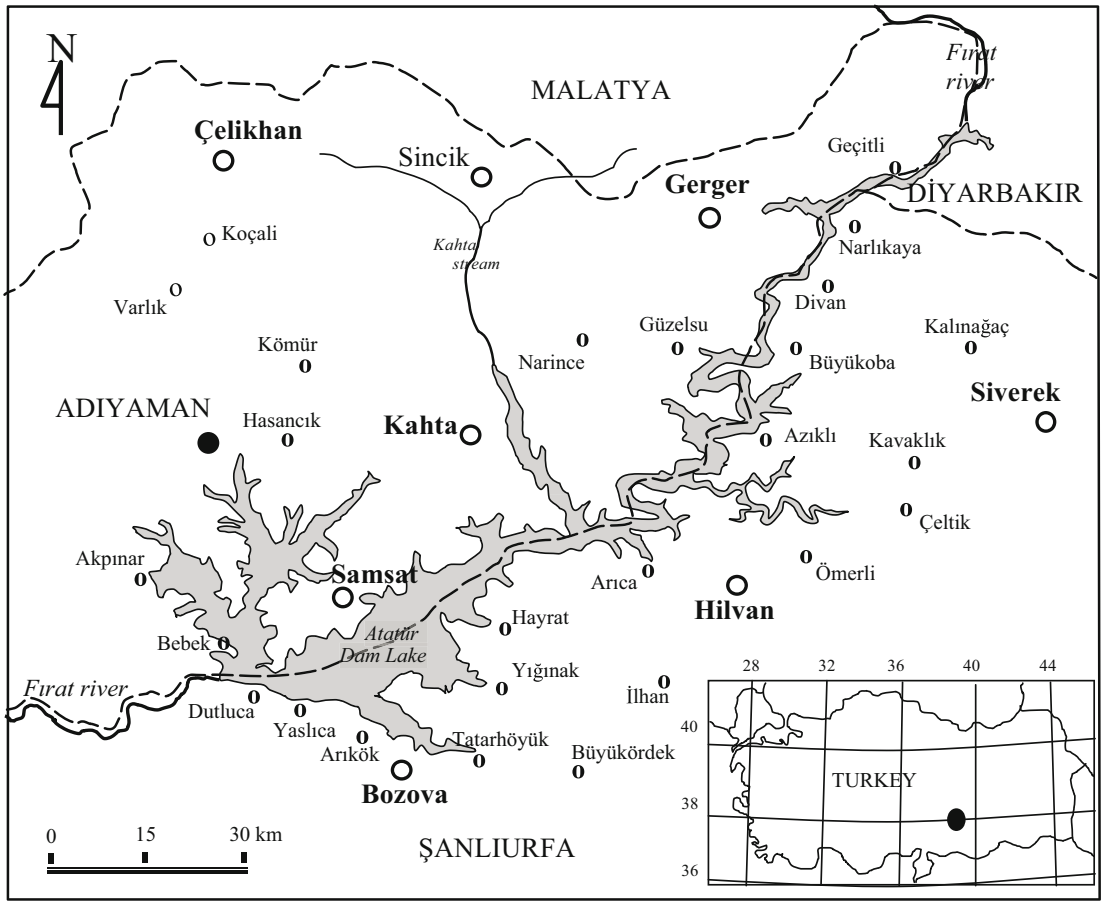

Figure 1. Macrofungi collection sites.

the Index Fungorum (http://www.indexfungorum.org/AuthorsOfFungalNames.htm) and the systematics of the taxa are in accordance with Cannon and Kirk (2007), Kirk et al. (2008), and the Index Fungorum (www.speciesfungorum.org; accessed 30 March 2014). Taxa new for Turkish mycobiota are described briefly.

Ascomycota Caval.-Sm.

Pezizales J. Schröt.

Helvellaceae Fr.

1. **Helvella acetabulum** (L.) Quél.: Under *Quercus* sp., locality 51, 10.04.2011, *K.* 7313.

2. **Helvella costifera** Nannf.: In pine forest, locality 27, 08.03.2009, *K.* 6014.

3. **Helvella leucomelaena** (Pers.) Nannf.: In pine forest, locality 7, 07.03.2008, *K.* 5213; locality 25, 08.03.2009, *K.* 6001; locality 8, 22.03.2009, *K.* 6117; locality 33, 11.04.2009, *K.* 6239; locality 35, 06.03.2010, *K.* 7125.

4. **Helvella leucopus** Pers.: On sandy soil on floodplain, locality 4, 08.03.2009, *K.* 6022; locality 41, 11.04.2009, *K.* 6236.

5. **Picoa lefebvrei** (Pat.) Maire: In soil, locality 17, 01.05.2010, *K.* 7181.

Morchellaceae Rchb.

6. **Morchella deliciosa** Fr.: Among leaf litter, locality 51, 09.04.2011, *K.* 7311.

7. **Morchella esculenta** (L.) Pers.: Under *Salix* sp. on floodplain, locality 4, 08.03.2009, *K.* 6021; locality 51, 10.04.2011, *K.* 7316.

Pezizaceae Dumort

8. **Peziza pseudoviolacea** Donadini: On ash in burned place, locality 57, 08.05.2003, *K.* 2260.

Fruit body 20–35 (50) mm in diameter, sessile, cup-shaped when young, plane to more or less domed when mature, hymenophore smooth, sometimes wavy, at first violet, then dark gray-purple, outer surface lighter (Figure 2a). Spores ellipsoid, smooth, hyaline, 13–15 × 8–9 µm. Asci 280–300 × 9–10 µm, cylindrical, 8-spored. Paraphyses cylindrical, considerably dilated at the top, where there is a purplish-brown pigment (Figure 2b).

9. **Peziza ripensis** E.C. Hansen: On dung, locality 56, 02.05.2010, *K.* 7195.

Fruit body 8–15 mm in diameter, subglobose, saucer-shaped at first, irregularly flattened when mature, hymenium pale to ocher yellow to brown. Outer surface

Table 1. Macrofungi collection localities.

1.	Şanlıurfa, Bozova, Arıkök village, 37°24′N, 38°26′E, 559 m.
2.	Şanlıurfa, Bozova, Avlak village, 37°19′N, 38°34′E, 780 m.
3.	Şanlıurfa, Bozova, Bağlıca village, 37°23′N, 38°28′E, 610 m.
4.	Şanlıurfa, Bozova, Center, 37°21′N, 38°31′E, 584 m.
5.	Şanlıurfa, Bozova, Center, 37°22′N, 38°32′E, 555 m.
6.	Şanlıurfa, Bozova, Center, 37°23′N, 38°33′E, 554 m.
7.	Şanlıurfa, Bozova, Çakmaklı village, 37°23′N, 38°27′E, 587 m.
8.	Şanlıurfa, Bozova, Dutluca village, 37°27′N, 38°20′E, 637 m.
9.	Şanlıurfa, Bozova, Dutluca village, 37°28′N, 38°20′E, 567 m.
10.	Şanlıurfa, Bozova, Dutluca village, 37°28′N, 38°21′E, 614 m.
11.	Şanlıurfa, Bozova, Dutluca village, 37°27′N, 38°22′E, 625 m.
12.	Şanlıurfa, Bozova, Dutluca village, 37°27′N, 38°21′E, 539 m.
13.	Şanlıurfa, Bozova, Eskin village, 37°28′N, 38°18′E, 439 m.
14.	Şanlıurfa, Bozova, Eskin village, 37°26′N, 38°19′E, 492 m.
15.	Şanlıurfa, Bozova, Eskin village, 37°28′N, 38°19′E, 533 m.
16.	Şanlıurfa, Bozova, Karaca village, 37°23′N, 38°40′E, 580 m.
17.	Şanlıurfa, Bozova, Karakaş village, 37°20′N, 38°28′E, 621 m.
18.	Şanlıurfa, Bozova, Taşlıdere village, 37°20′N, 38°31′E, 612 m.
19.	Şanlıurfa, Bozova, Yaslıca village, 37°26′N, 38°23′E, 596 m.
20.	Şanlıurfa, Bozova, Yaslıca village, 37°27′N, 38°22′E, 686 m.
21.	Şanlıurfa, Bozova, Yaslıca village, 37°26′N, 38°22′E, 602 m.
22.	Şanlıurfa, Bozova, Yaslıca village, 37°27′N, 38°23′E, 586 m.
23.	Şanlıurfa, Bozova, Yaslıca village, 37°26′N, 38°23′E, 598 m.
24.	Şanlıurfa, Bozova, Yaslıca village, 37°26′N, 38°24′E, 597 m.
25.	Şanlıurfa, Bozova, Yaslıca village, 37°25′N, 38°24′E, 608 m.
26.	Şanlıurfa, Center, Bölücek village, 37°24′N, 38°47′E, 857 m.
27.	Şanlıurfa, Center, Büyükördek village, 37°21′N, 38°40′E, 598 m.
28.	Şanlıurfa, Center, Çiftlik village, 37°22′N, 38°40′E, 563 m.
29.	Şanlıurfa, Center, Estağfirullah village, 37°27′N, 38°46′E, 659 m.
30.	Şanlıurfa, Center, Tatarhöyük village, 37°22′N, 38°38′E, 581 m.
31.	Şanlıurfa, Hilvan, Aşağıkülünçe village, 37°30′N, 38°50′E, 695 m.
32.	Şanlıurfa, Hilvan, Buğur village, 37°35′N, 39°04′E, 574 m.
33.	Şanlıurfa, Hilvan, Center, 37°35′N, 38°58′E, 608 m.
34.	Şanlıurfa, Hilvan, Kırbaşı village, 37°31′N, 38°53′E, 655 m.
35.	Şanlıurfa, Hilvan, Ömerli village, 37°37′N, 38°58′E, 590 m.
36.	Şanlıurfa, Hilvan, Uluyazı village, 37°38′N, 38°52′E, 570 m.

Table 1. (Continued).

37.	Şanlıurfa, Siverek, Aşağıyalankoz village, 37°43′N, 39°04′E, 549 m.
38.	Şanlıurfa, Siverek, Bahçe village, 37°55′N, 39°05′E, 650 m.
39.	Şanlıurfa, Siverek, Baki village, 37°55′N, 39°03′E, 560 m.
40.	Şanlıurfa, Siverek, Başdeğirmen village, 37°39′N, 39°12′E, 660 m.
41.	Şanlıurfa, Siverek, Beğdeş village, 37°52′N, 39°04′E, 700 m.
42.	Şanlıurfa, Siverek, Divan village, 37°54′N, 39°04′E, 649 m.
43.	Şanlıurfa, Siverek, Ediz village, 37°42′N, 39°16′E, 650 m.
44.	Şanlıurfa, Siverek, Ergen village, 37°53′N, 39°03′E, 830 m.
45.	Şanlıurfa, Siverek, Gözelek village, 37°43′N, 39°17′E, 695 m.
46.	Şanlıurfa, Siverek, Karakoyun village, 37°42′N, 39°14′E, 541 m.
47.	Şanlıurfa, Siverek, Kayalı village, 37°51′N, 39°00′E, 671 m.
48.	Şanlıurfa, Siverek, Kayalı village, 37°52′N, 39°00′E, 580 m.
49.	Şanlıurfa, Siverek, Kuşlugöl village, 37°50′N, 38°59′E, 620 m.
50.	Şanlıurfa, Siverek, Mezra village, 37°53′N, 39°00′E, 585 m.
51.	Şanlıurfa, Siverek, Mezra village, 37°53′N, 39°01′E, 690 m.
52.	Şanlıurfa, Siverek, Yapraklı village, 37°53′N, 39°02′E, 605 m.
53.	Adıyaman, Center, Altınşehir quarter, 37°44′N, 38°14′E, 630 m.
54.	Adıyaman, Center, Varlık village, 37°54′N, 38°16′E, 1267 m.
55.	Adıyaman, Center, Yeşilyurt quarter, 37°46′N, 38°17′E, 675 m.
56.	Adıyaman, Çelikhan, Pınarbaşı village, 38°01′N,38°12′E, 1330 m.
57.	Adıyaman, Çelikhan, Yukarıköy village, 38°02′N, 38°16′E, 1463 m.

covered with whitish woolly hairs, margin toothed (Figure 2c). Spores ellipsoid, smooth, grayish, usually with a central guttule, 15–16 × 9–10 µm (Figure 2d). Asci 220–250 × 15–16 µm, cylindrical, 8-spored. Paraphyses cylindrical, bifurcated. Hairs hyaline, rounded.

10. **Peziza violacea** Pers.: On soil among grass on floodplain, locality 5, 12.02.2009, *K.* 5895.

11. **Sarcosphaera coronaria** (Jacq.) J. Schröt.: In pine forest, locality 22, 22.04.2012, *K.* 7444.

12. **Terfezia boudieri** Chatin: In soil, locality 26, 11.04.2009, *K.* 6240; locality 17, 01.05.2010, *K.* 7180; locality 34, 10.04.2011, *K.* 7321.

Pyronemataceae Corda

13. **Cheilymenia theleboloides** (Alb. & Schwein.) Boud.: On dung, locality 55, 05.02.2011, *K.* 7280.

Fruit body 6–10 mm in diameter, cup- to saucer-shaped (Figure 3a), hymenium and the outer surface orange to olive yellow, margin darker with hyaline hairs, turned outward when mature. Stalkless. Spores 14–19 × 9–10.5 µm, elliptic, hyaline, smooth without drops (Figure 3b). Asci 245 × 13 µm, 8-spored. Paraphyses slender, cylindrical, thickening towards the tips. Hairs hyaline, thin-walled, and septate.

14. **Geopora arenicola** (Lév.) Kers: Among grass, locality 12, 06.12.2008, *K.* 5887; locality 14, 08.03.2009, *K.* 5993; locality 21, 08.03.2009, *K.* 6002; locality 35, 10.04.2011, *K.* 7318.

15. **Sowerbyella rhenana** (Fuckel) J. Moravec: On mossy soil in pine forest, locality 9, 10.12.2009, *K.* 6820.

Fruit body, 10–25 mm in diameter, cup-shaped, cup compressed or regular, shallowly broadly cupulate to almost plane when mature (Figure 3c). Hymenium bright to yellow orange, outer surface with hyaline, appressed inconspicuous hairs. Margin incurved first, floating and cracking with age. Stem 5–18 × 2–5 mm, concolorous with outer surface. Spores 18–24 × 9–11.5 µm, ellipsoid (Figure 3d). Asci cylindrical, 8-spored. Paraphyses curved or straight.

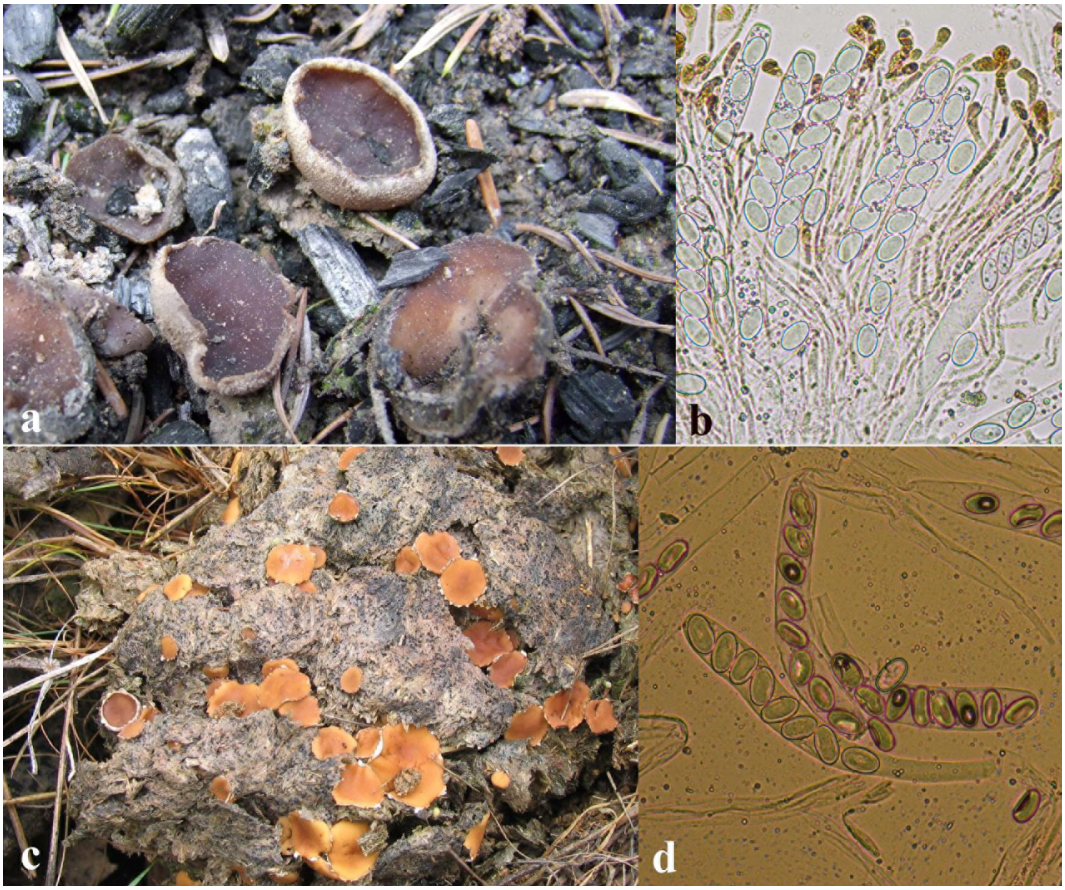

Figure 2. *Peziza pseudoviolacea:* a- ascocarps, b- ascospores. *Peziza ripensis*: c- ascocarps, d- ascospores.

Basidiomycota Whittaker ex Moore

Agaricales Underw.

Agaricaceae Chevall.

16. **Agaricus campestris** L.: In manured meadow, locality 25, 16.12.2007, *K.* 5203; locality 12, 06.12.2008, *K.* 5802; locality 21, 17.12.2008, *K.* 5864; locality 20, 08.03.2009, *K.* 6005; locality 38, 17.11.2012, *K.* 7575.

17. **Bovista plumbea** Pers.: In pasture, locality H2, 06.03.2010, *K.* 7130.

18. **Coprinus comatus** (O.F. Müll.) Pers.: Among grass, locality 18, 28.11.2008, *K.* 5562; locality 33, 28.11.2008, *K.* 5554; locality 9, 10.12.2009, *K.* 6825.

19. **Crucibulum laeve** (Huds.) Kambly: On dead twigs, locality 33, 11.04.2009, *K.* 6238.

20. **Cyathus olla** (Batsch) Pers.: On cow dung, locality 8, 06.12.2008, *K.* 5768; remains of grass, locality 52, 10.04.2011, *K.* 7315.

21. **Cystodermella cinnabarina** (Alb. & Schwein.) Harmaja: In pine forest, locality 9, 18.11.2012, *K.* 7607.

22. **Cystodermella granulosa** (Batsch) Harmaja: Among leaf litter under *Quercus* sp., locality 50, 22.11.2008, *K.* 5501.

23. **Lepiota cristata** (Bolton) P. Kumm.: Among herbs on floodplain, locality 5, 22.11.2009, *K.* 6763.

24. **Leucoagaricus leucothites** (Vittad.) Wasser: In grass at pine forest edge, locality 35, 22.11.2008, *K.* 5507; locality 5, 05.11.2009, *K.* 6473.

25. **Leucocoprinus birnbaumii** (Corda) Singer: On nutrient-rich soil among leaf litter, locality 53, 29.03.2010, *K.* 7134.

26. **Lycoperdon molle** Pers.: In grass, locality 12, 06.12.2008, *K.* 5794; locality 38, 01.12.2012, *K.* 7671; locality 47, 01.12.2012, *K.* 7707.

27. **Macrolepiota excoriata** (Schaeff.) Wasser: Among grass, locality 12, 06.12.2008, *K.* 5795; locality 44, 17.11.2012, *K.* 7571; locality 43, 17.11.2012, *K.* 7585.

28. **Macrolepiota mastoidea** (Fr.) Singer: In pine forest, locality 11, 17.12.2008, *K.* 5879.

29. **Macrolepiota procera** (Scop.) Singer: Among leaf litter, under *Quercus* sp., locality 51, 17.11.2012, *K.* 7556.

30. **Tulostoma melanocyclum** Bres.: On sandy soil in pine forest clearing, locality 8, 24.12.2009, *K.* 6891.

Fruit body 25–40 mm high, spore case 8–10.5 mm

Figure 3. *Cheilymenia theleboloides*: a- ascocarps, b- ascospores. *Sowerbyella rhenana*: c- ascocarps, d- ascospores.

in diameter, subglobose, depressed beneath, with a torn collar-like zone around stipe apex, endoperidium cream to pale straw (Figure 4a), peristome apical, circular, slightly raised, darker. Stipe 25–35 × 2–3 mm, cylindrical or slightly tapered below, brownish, rooting. Spores 5–6.5 µm, verruculose (Figure 4b).

Amanitaceae R. Heim ex Pouzar

31. **Amanita vaginata** (Bull.) Lam.: Under *Quercus* sp.: locality 52, 01.12.2012, *K.* 7679.

32. **Amanita vittadinii** (Moretti) Vittad: Among grass in pine forest clearing, locality 8, 11.11.2009, *K.* 6541.

Bolbitiaceae Singer

33. **Bolbitius titubans** (Bull.) Fr.: On decaying grass remains, locality 38, 01.12.2012, *K.* 7674.

34. **Conocybe apala** (Fr.) Arnolds: In manured grass, locality 29, 08.03.2009, *K.* 6019; locality 21, 24.12.2009, *K.* 6868; locality 34, 06.03.2010, *K.* 7126; locality 42, 17.11.2012, *K.* 7573; locality 40, 17.11.2012, *K.* 7588.

35. **Conocybe rickenii** (Jul. Schäff.) Kühner: On damp, nutrient-rich soil, locality 4, 22.11.2009, *K.* 6771.

36. **Galeropsis desertorum** Velen. & Dvořák: Among grass, locality 12, 06.12.2008, *K.* 5766.

Cap 10–23 mm, oblong ovate at first, narrowly cylindrical when mature, light, dry clay and ocher-yellow or dark brown when dry (Figure 4c). Flesh whitish-gray, hard. Stipe 25–50 × 1–1.5 mm, cylindrical, hollow, usually curved at the bottom, smooth, whitish. Spores 12.5–17 × 8–10.5 µm, almond shaped (Figure 4d), smooth, light brown to yellowish. Basidia clavate, ovoid or ellipsoid.

Cortinariaceae R. Heim ex Pouzar

37. **Galerina graminea** (Velen.) Kühner: Among grass in pine forest, locality 8, 06.12.2008, *K.* 5810; among grass, locality 44, 17.11.2012, *K.* 7567.

Entolomataceae Kotl. & Pouzar

38. **Entoloma rusticoides** (Gillet) Noordel.: On soil in pine forest, locality 8, 11.11.2009, *K.* 6545.

39. **Entoloma sericeum** Quél.: Among grass in pine forest clearing, locality 9, 06.12.2008, *K.* 5821.

40. **Entoloma hirtipes** (Schumach.) M.M. Moser: Among leaf litter under *Quercus* sp., locality 50, 17.11.2012, *K.* 7541.

Hydnangiaceae Gäum. & C.W. Dodge

41. **Laccaria laccata** (Scop.) Cooke: Among leaf litter in *Quercus* sp. forest, locality 54, 06.05.2010, *K.* 7269.

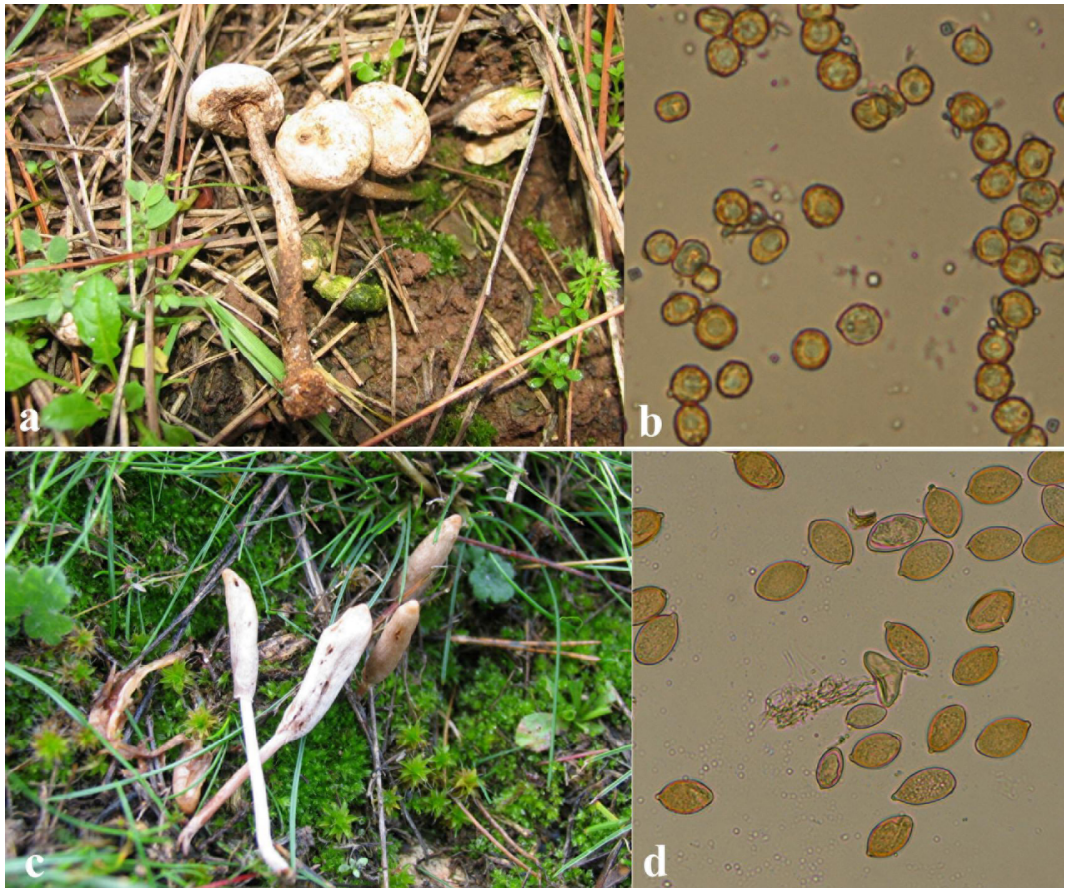

Figure 4. *Tulostoma melanocyclum*: a- basidiocarps, b- basidiospores. *Galeropsis desertorum*: c- basidiocarps, d- basidiospores.

42. **Laccaria macrocystidiata** (Migl. & Lavorato) Pázmány: locality 9, 18.11.2012, *K.* 7604.

Hygrophoraceae Lotsy

43. **Ampulloclitocybe clavipes** (Pers.) Redhead, Lutzoni, Moncalvo & Vilgalys: Among leaf litter under *Quercus* sp., locality 39, 01.12.2012, *K.* 7665.

Incertae cedis

44. **Panaeolus ater** (J.E. Lange) Kühner & Romagn: Among grass, locality 50, 01.12.2012, *K.* 7718.

45. **Panaeolus fimicola** (Pers.) Gillet: In manured grass, locality 15, 06.12.2008, *K.* 5763.

46. **Panaeolus papilionaceus** (Bull.) Quél.: On decaying manure among grass, locality 2, 29.04.2010, *K.* 7179; locality 47, 17.11.2012, *K.* 7531; locality 52, 01.12.2012, *K.* 7677.

Inocybaceae Jülich

47. **Crepidotus variabilis** (Pers.) P. Kumm.: On decaying wood, locality 52, 01.12.2012, *K.* 7683.

48. **Inocybe bongardii** (Weinm.) Quél.: In pine forest, locality 11, 17.12.2008, *K.* 5867; locality 22, 08.03.2009, *K.* 6004; locality 30, 08.03.2009, *K.* 6008; locality 28, 29.04.2010, *K.* 7177; locality 33, 01.12.2012, *K.* 7754.

49. **Inocybe geophylla** (Bull.) P. Kumm.: In pine forest, locality 9, 18.12.2012, *K.* 7598.

50. **Phaeomarasmius erinaceus** (Pers.) Scherff. ex Romagn.: On *Quercus* sp. stump, locality 52, 22.11.2008, *K.* 5503.

Marasmiaceae Roze ex Kühner

51. **Crinipellis scabella** (Alb. & Schwein.) Murrill: Among herbs in pine forest, locality 9, 11.11.2009, *K.* 6540.

52. **Macrocystidia cucumis** (Pers.) Joss.: Among grass, in pine forest, locality 15, 16.12.2007, *K.* 5175; locality 21, 16.12.2007, *K.* 5195.

53. **Marasmius anomalus** Lasch ex Rabenh.: Roadside among grass, locality 19, 08.03.2009, *K.* 6020; locality 33, 22.11.2008, *K.* 5509.

54. **Marasmius wynneae** Berk. & Broome: Among leaf litter under *Quercus* sp., locality 49, 17.11.2012, *K.* 7515.

Mycenaceae Overeem

55. **Hemimycena lactea** (Pers.) Singer: On needle litter in pine forest, locality 21, 24.12.2009, *K.* 6872.

56. **Mycena seynii** Quél.: On pine cones, locality 9, 10.12.2009, *K.* 6848.

57. **Mycena pura** (Pers.) P. Kumm.: Among leaf litter in pine forest, locality 8, 18.11.2012, *K.* 7599.

58. **Xeromphalina cauticinalis** (With.) Kühner & Maire: Among leaf litter in pine forest, locality 21, 24.12.2009, *K.* 6849.

Omphalotaceae Bresinsky

59. **Gymnopus dryophilus** (Bull.) Murrill: On needle litter in pine forest, locality 6, 28.11.2008, *K.* 5559; among leaf litter under *Quercus* sp., locality 49, 17.11.2012, *K.* 7514.

60. **Omphalotus illudens** (Schwein.) Bresinsky & Besl: On *Quercus* sp. stump, locality 44, 22.11.2008, *K.* 5505.

Physalacriaceae Corner

61. **Armillaria mellea** (Vahl) P. Kumm.: On *Populus* sp. stump, locality 51, 01.12.2012, *K.* 7664.

Pleurotaceae Kühner

62. **Hohenbuehelia petaloides** (Bull.) Schulzer: On decaying wood, locality S10, 01.12.2012, *K.* 7700.

63. **Pleurotus ostreatus** (Jacq.) P. Kumm.: On *Populus* sp. stump, locality 5, 28.11.2008, *K.* 5559; locality 51, 01.12.2012, *K.* 7734.

Pluteaceae Kotl. & Pouzar

64. **Pluteus podospileus** Sacc. & Cub.: On decaying wood, locality 52, 01.12.2012, *K.* 7685.

65. **Pluteus romellii** (Britzelm.) Sacc.: In grass around *Populus* sp. stump, locality 4, 11.04.2007, *K.* 4405.

66. **Volvopluteus gloiocephalus** (DC.) Vizzini, Contu & Justo: Among grass on flood plain, locality 23, 24.12.2009, *K.* 6873; locality 36, 28.11.2008, *K.* 5556; locality 31, 17.12.2008, *K.* 5849; locality 52, 01.12.2012, *K.* 7679.

67. **Volvariella hypopithys** (Fr.) Shaffer: In pine forest, locality 8, 29.04.2010, *K.* 7175.

Psathyrellaceae Vilgalys, Moncalvo & Redhead

68. **Coprinellus callinus** (M. Lange & A.H. Sm.) Vilgalys, Hopple & Jacq. Johnson: On manured soil among grass, locality AD3, 14.11.2009, *K.* 6586.

69. **Coprinellus disseminatus** (Pers.) J.E. Lange: Around buried *Populus* sp. stump, locality 4, 07.03.2008, *K.* 5214; locality 51, 10.04.2011, *K.* 7314.

70. **Coprinellus micaceus** (Bull.) Vilgalys, Hopple & Jacq. Johnson: Around *Salix* sp., locality 5, 12.02.2009, *K.* 5895.

71. **Coprinopsis atramentaria** (Bull.) Redhead, Vilgalys & Moncalvo: Floodplain, locality 4, 22.11.2009, *K.* 6779.

72. **Coprinopsis cinerea** (Schaeff.) Redhead, Vilgalys & Moncalvo: On decaying dung, locality 3, 07.03.2008, *K.* 5211.

73. **Coprinopsis macrocephala** (Berk.) Redhead, Vilgalys & Moncalvo: On cow dung, locality 8, 06.12.2008, *K.* 5806.

74. **Coprinopsis nivea** (Pers.) Redhead, Vilgalys & Moncalvo: On cow manure, locality 9, 24.12.2009, *K.* 6888; locality 32, 10.04.2011, *K.* 7317.

75. **Coprinopsis radicans** (Romagn.) Redhead, Vilgalys & Moncalvo.: On manure, locality 55, 05.02.2011, *K.* 7281.

76. **Parasola auricoma** (Pat.) Redhead, Vilgalys & Hopple: Among grass, locality 4, 12.02.2009, *K.* 5893.

77. **Parasola kuehneri** (Uljé & Bas) Redhead, Vilgalys & Hopple: Among grass, locality 5, 11.04.2007, *K.* 4404.

78. **Parasola plicatilis** (Curtis) Redhead, Vilgalys & Hopple: On soil among grass, locality 47, 17.11.2012, *K.* 7525; locality 52, 01.12.2012, *K.* 7681.

79. **Psathyrella bipellis** (Quél.) A.H.Sm.: Among grass, locality 5, 01.01.2010, *K.* 7005.

80. **Psathyrella candolleana** (Fr.) Maire: Around *Salix* sp., locality 5, 12.02.2009, *K.* 5894; locality 47, 17.11.2012, *K.* 7523; locality 51, 01.12.2012, *K.* 7738.

Schizophyllaceae Quél.

81. **Schizophyllum commune** Fr.: On decaying wood, locality 1, 07.03.2008, *K.* 5212; locality 35, 10.04.2011, *K.* 7319.

Strophariaceae Singer & A.H.Sm.

82. **Agrocybe cylindracea** (DC.) Maire: On *Salix* sp. stump, locality 5, 07.03.2008, *K.* 5215; locality 45, 11.04.2009, *K.* 6234; locality 51, 01.12.2012, *K.* 7739.

83. **Agrocybe dura** (Bolton) Singer: On soil among grass, locality 5, 11.04.2007, *K.* 4403.

84. **Psilocybe coprophila** (Bull.) P. Kumm.: On decaying dung, locality 22, 05.11.2009, *K.* 6460; locality 50, 11.04.2009, *K.* 6232; locality 47, 17.11.2012, *K.* 7516.

85. **Stropharia caerulea** Kreisel: On nutrient-rich soil among grass, locality 8, 11.11.2009, *K.* 6554.

86. **Stropharia coronilla** (Bull. ex DC.) Quél.: In grass, locality 21, 16.12.2007, *K.* 5191; locality 12, 06.12.2008, *K.* 5770; locality 16, 22.11.2009, *K.* 6762; locality 43, 17.11.2012, *K.* 7579; locality 52, 01.12.2012, *K.* 7678.

87. **Protostropharia semiglobata** (Batsch) Redhead, Moncalvo & Vilgalys: On cow dung among grass, locality 47, 17.11.2012, *K.* 7522; locality 38, 17.11.2012, *K.* 7577.

Tricholomataceae R. Heim ex Pouzar

88. **Arrhenia rickenii** (Hora) Watling: On moss-covered ground in pine forest, locality 13, 16.12.2007, *K.* 5179; locality 8, 06.12.2008, *K.* 5786; locality 35, 17.11.2012, *K.* 7595.

89. **Arrhenia spathulata** (Fr.) Redhead: On moss, locality 8, 06.12.2008, *K.* 5761; locality 51, 22.11.2008, *K.* 5499.

90. **Arrhenia velutipes** (P.D. Orton) Redhead, Lutzoni, Moncalvo & Vilgalys: On soil among grass, locality 4, 28.11.2008, *K.* 5561.

91. **Clitocybe dealbata** (Sowerby) P.Kumm.: Among mossy ground, locality 9, 16.12.2007, *K.* 5190.

92. **Lepista nuda** (Bull.) Cooke: Among leaf litter in pine forest, locality 15, 16.12.2007, *K*. 5176; locality 21, 16.12.2007, *K*. 5197; locality 12, 06.12.2008, *K*. 5829; under *Quercus* sp., locality 48, 01.12.2012, *K*. 7719.

93. **Melanoleuca exscissa** (Fr.) Singer: In pasture, locality 8, 22.03.2009, *K*. 6830; locality 52, 01.12.2012, *K*. 7682.

94. **Melanoleuca melaleuca** (Pers.) Murrill: Among grass, locality 8, 01.12.2012, *K*. 7682.

95. **Melanoleuca stridula** (Fr.) Singer: Among leaf litter in pine forest, locality 8, 24.12.2009, *K*. 6885.

96. **Myxomphalia maura** (Fr.) Hora: On damp soil in pine forest, locality 8, 17.12.2008, *K*. 5854.

97. **Omphalina rivulicola** (J. Favre) Lamoure: On damp soil in pine forest, locality 8, 06.12.2008, *K*. 5791.

98. **Pseudoclitocybe cyathiformis** (Bull.) Singer: Among grass, locality 12, 06.12.2008, *K*. 5780; locality 38, 01.12.2012, *K*. 7670.

99. **Tricholoma batschii** Gulden: Among needle litter in pine forest, locality 8, 11.11.2009, *K*. 6539.

100. **Tricholoma terreum** (Schaeff.) P. Kumm.: In pine forest, locality 24, 08.03.2009, *K*. 6000; locality 9, 10.12.2009, *K*. 6806; locality 35, 01.12.2012, *K*. 7772.

Tubariaceae

101. **Tubaria conspersa** (Pers.) Fayod: Among grass, locality 4, 08.03.2009, *K*. 6116; locality 39, 01.12.2012, *K*. 7667.

102. **Tubaria romagnesiana** Arnolds: On damp soil among woody debris, locality 50, 17.11.2012, *K*. 7531.

Boletales E.-J. Gilbert

Diplocystidiaceae Chevall.

103. **Astraeus hygrometricus** (Pers.) Morgan: Among leaf litter under *Quercus* sp., locality 50, 01.12.2012, *K*. 7722.

Gomphidiaceae Maire ex Jülich

104. **Chroogomphus rutilus** (Schaeff.) O.K. Mill.: In pine forest, locality 8, 18.11.2012, *K*. 7609.

Hygrophoropsidaceae Kühner

105. **Hygrophoropsis aurantiaca** (Wulfen) Maire: On decaying wood, locality 5, 28.11.2008, *K*. 5563.

Rhizopogonaceae Gäum. & C.W. Dodge

106. **Rhizopogon luteolus** Fr.: In pine forest, locality 35, 22.11.2008, *K*. 5508; locality 23, 08.03.2009, *K*. 6003.

Suillaceae Besl & Bresinsky

107. **Suillus luteus** (L.) Roussel: In pine forest, locality 10, 06.12.2008, *K*. 5775; locality 6, 22.11.2009, *K*. 6780; locality 33, 22.11.2008, *K*. 5510.

Tapinellaceae C. Hahn

108. **Tapinella panuoides** (Batsch) E.-J. Gilbert: On decaying pine stump, locality 8, 17.12.2008, *K*. 5852.

Cantharellales Gäum.

Clavulinaceae Donk

109. **Clavulina coralloides** (L.) J. Schröt.: Among leaf litter, locality 51, 01.12.2012, *K*. 7748.

Hymenochaetales Oberw.

Hymenochaetaceae Imazeki & Toki

110. **Phellinus igniarius** (L.) Quél: On *Salix* sp. trunk, locality 4, 18.11.2012, *K*. 7618.

111. **Phellinus pomaceus** (Pers.) Maire: On *Prunus* sp. trunk, locality 12, 17.12.2008, *K*. 5853.

Polyporales Gäum.

Ganodermataceae Donk

112. **Ganoderma lucidum** (Curtis) P. Karst.: On *Salix* sp. stump, locality 4, 22.11.2009, *K*. 6770.

Meruliaceae Rea

113. **Bjerkandera adusta** (Willd.) P. Karst.: On *Populus* sp. stump, locality 5, 29.04.2010, *K*. 7178; locality 51, 01.12.2012, *K*. 7729.

114. **Merulius tremellosus** Schrad.: On decaying wood, locality 8, 01.02.2009, *K*. 5892.

Polyporaceae Fr. ex Corda

115. **Trametes trogii** Berk.: On *Populus* sp. stump, locality 51, 22.11.2008, *K*. 5500.

116. **Lentinus tigrinus** (Bull.) Fr.: Around *Salix* sp. stump, locality 4, 22.11.2009, *K*. 6767; locality 46, 06.03.2010, *K*. 7116; locality 37, 06.03.2010, *K*. 7119.

117. **Polyporus arcularius** (Batsch) Fr.: Among grass, locality 47, 01.12.2012, *K*. 7705.

118. **Trametes versicolor** (L.) Lloyd: On hardwood remain, locality 51, 01.12.2012, *K*. 7619.

Russulales Kreisel ex P.M. Kirk, P.F. Cannon & J.C. David

Auriscalpiaceae Maas Geest.

119. **Lentinellus flabelliformis** (Bolton) S. Ito: On pine cones, locality 21, 16.12.2007, *K*. 5209.

Russulaceae Lotsy

120. **Lactarius deliciosus** (L.) Gray: In pine forest, locality 8, 18.11.2012, *K*. 7610.

121. **Russula emetica** (Schaeff.) Pers.: Among leaf litter in *Quercus* sp. forest, locality 54, 06.05.2010, *K*. 7240.

Stereaceae Pilát

122. **Stereum hirsutum** (Willd.) Pers.: On *Quercus* sp. stump, locality 13, 06.03.2010, *K*. 7115; locality 34, 06.03.2010, *K*. 7129; locality 51, 01.12.2012, *K*. 7731.

4. Discussion

The current study was mainly based on macrofungi collected from Şanlıurfa province and presents 122 macrofungi taxa belonging to 38 families and 7 orders. All the taxa are new records for the district from which they were recorded. Compiling the overall data together with the previously recorded data, Atatürk Dam Lake basin hosts a total of 224 taxa belonging to Ascomycota (27 Pezizales) and Basidiomycota (165 Agaricales, 11 Boletales, 1 Cantharellales, 1 Geastrales, 3 Hymenochaetales, 10 Polyporales, 5 Russulales, and 1 Thelephorales).

Table 2. Similarity percentages of neighboring studies with Atatürk Dam Lake basin.

	Number of identical taxa	Total taxa	Similarity percentage (%)
Işıloğlu and Öder (1995)	24	54	44.44
Kaşık et al. (2003)	32	93	34.4
Kaya (2005)	41	77	53.25
Kaya et al. (2009)	42	110	38.18
Uzun et al. (2009)	35	78	44.87
Kaya (2009c)	38	105	36.19
Kaya et al. (2012)	43	53	81.13
Solak et al. (2014)	15	47	31.91

Six of the 122 taxa are new records for the mycobiota of Turkey. Among them, *Sowerbyella rhenana* (Fuckel) J. Moravec is new at the genus level, while *Peziza pseudoviolacea* Donadini, *Peziza ripensis* E.C. Hansen, *Cheilymenia theleboloides* (Alb. & Schwein.) Boud., *Galeropsis desertorum* Velen. & Dvořák, and *Tulostoma melanocyclum* Bres. are new at the species level.

Forty of the 122 taxa are edible, but only 6 taxa, *Terfezia boudieri*, *Agaricus campestris*, *Coprinus comatus*, *Pleurotus ostreatus*, *Volvopluteus gloiocephalus*, and *Lentinus tigrinus*, are collected and consumed in the region by local people. Among these taxa, the most popular and the only economically important one is *T. boudieri*.

The macrofungal composition of the region was also compared with the findings of the studies conducted in its close environs and some similarities were observed. These studies and the similarity percentages are given in Table 2. The reason for this similarity may be the common climate and vegetation.

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