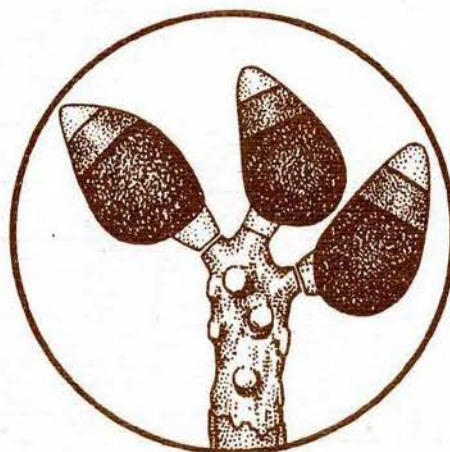


ISSN 0026-3648

РОССИЙСКАЯ АКАДЕМИЯ НАУК

МИКОЛОГИЯ И ФИТОПАТОЛОГИЯ

ТОМ 38
ВЫПУСК 6



2004



Санкт-Петербург
«НАУКА»

УДК 582.282.17(562.5)

© М. Н. Солак¹, Ф. Я. Эрсель¹, М. Ишилголу²

FIVE NEW RECORDS OF *MORCHELLA* SPECIES FOR TURKEY

СОЛАК М. Н., ЭРСЕЛЬ Ф. Я., ИШИЛОГЛУ М. ПЯТЬ НОВЫХ ДЛЯ ТУРЦИИ ВИДОВ РОДА *MORCHELLA*

Various species of *Morchella* are exported to foreign countries, especially to France, Sweden, Germany, England, Belgium, especially Netherland and U.S.A. The export gives a profit to Turkish economy. These mushrooms grow in Aegean, Mediterranean and Marmara regions. Ecological factors of Muğla province are suitable for *Morchella* species. This reason stimulated us to collect fungi in question in Muğla.

Many studies on the macrofungi of Turkey have been carried out (Mat, 2000). As a result of these studies, 16 taxa of the genus *Morchella* were recorded in Turkey.

The authors collected *Morchella* specimens during field trips in Muğla province at the period of 2000—2001. The ecological characteristics of the macrofungi were studied and fruit bodies were photographed in their natural habitats. Dried specimens have been numbered and placed in locked bags. Before the laboratory study all the specimens were put in deep freeze for a week to protect to internal and external parasite attacks. Their spore prints were also taken and spores were photographed.

The specimens were identified and their macro- and micromorphological features were described. The identification was made using Marchand (1973), Breitenbach-Kranzlin (1984) and Jacquetant (1984) key books. As a result of the taxonomic study five species and variations new for Tukey were found: *Morchella angusticeps* (Peck) Boud., *M. elata* Fr. var. *purpurascens* Krombh., *M. esculenta* Pers. ex St. Amans var. *umbrina* Vent., *M. eximia* Boud., *M. inamoena* Boud. All the specimens of these taxa are conserved at the herbarium of Muğla University. In following list all the *Morchella* species recorded for Turkey till now are considered, including both literature data and our new records. The descriptions of new recorded species are presented below.

List of *Morchella* taxa recorded for Turkey

1. *Morchella angusticeps*: Muğla, recorded first time for Turkey.
2. *Morchella conica* var. *conica*: Pötürge-Malatya (Gücin, 1987; Işiloğlu, Öder, 1995), Bursa (Solak, Gücin, 1990); Van (Demirel, Öztürk, 1994), Isparta (Afyon, 1994), Kozan-Adana (Işiloğlu, Öder, 1995), Sarıkamış-Kars (Öztürk et al., 1996), Beyşehir-Konya (Afyon, 1996b), Meram-Selçuklu-Konya (Afyon, 1996a), Seydişehir-Konya (Afyon, 1997b), Balya-Balıkesir (Askun, Işiloğlu, 1997), Savaştepe-Balıkesir (Yılmaz et al., 1997), Diyarbakir (Yıldız, Ertekin, 1997), Bekeilli-Denizli (Köse, Gezer, 1999), Antalya (Gezer, 2000).

¹ Muğla University, Ula Ali Koçman Vocational High School, Program of Fungi, 48640 ula, Muğla, Turkey, fyilmaz@mu.edu.tr.

² Muğla University, Science and Arts Faculty, Department of Biology, 48000 Muğla, Turkey.

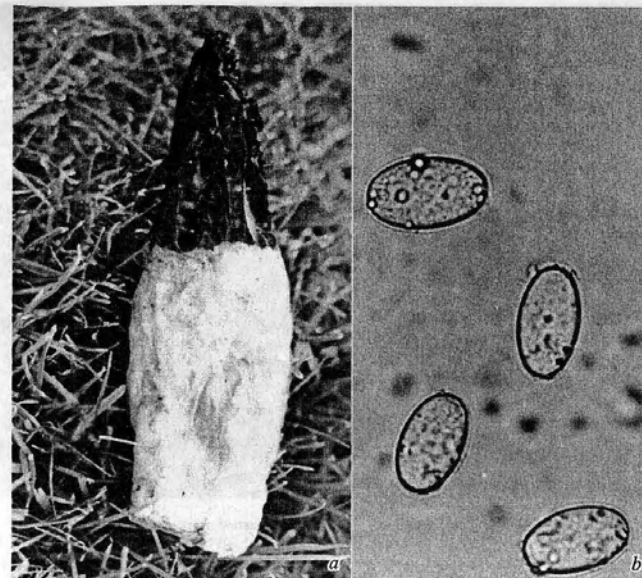


Fig. 1. *M. angusticeps*: a — fruit body (actual size), b — spores. 800x.

3. *M. conica* var. *costata*: Sarıkamış (Demirel, Uzun, 1996).
4. *M. conica* var. *deliciosa*: Between Sinop and Artvin (Öder, 1988), Bursa (Solak, Gücin, 1990), Elazığ (Gücin, 1990), Van (Demirel, Öztürk, 1994).
5. *M. conica* var. *intermedia*: Manisa (Gücin, 1982), Elazığ (Gücin, 1990).
6. *M. conica* var. *distans*: Elazığ (Gücin, 1990).
7. *M. costatata*: İzmir (Solak et al., 1999).
8. *M. crassipes*: Seydişehir-Konya (Afyon, 1997a).
9. *M. deliciosa*: Bergama-İzmir (Gücin, 1993), Seydişehir-Konya (Afyon, 1997a), Derbent-Konya (Afyon, 1997b), İzmir (Solak et al., 1999).
10. *M. distans*: Bergama-İzmir (Gücin, 1993), İzmir (Solak et al., 1999).
11. *M. elata* var. *elata*: Bergama-İzmir (Gücin, 1993), Isparta (Afyon, 1994), Beyşehir-Konya (Afyon, 1996b), Seydişehir-Konya (Afyon, 1997a), Sarıççek-Malatya (Işiloğlu, 1997), Derbent-Konya (Afyon, 1997b), İzmir (Solak et al., 1999).
12. *M. elata* Fr. var. *purpurascens* Krombh.: Muğla, recorded first time for Turkey.
13. *M. esculenta* var. *esculenta*: Manisa (Gücin, Öner, 1982), Akçaabat-Trabzon (Baydar, Sesli, 1994), Van (Demirel, Öztürk, 1994), Akdeniz (Işiloğlu, Öder, 1995), Sarıkamış-Kars (Öztürk et al., 1996), Sarıkamış (Demirel, Uzun, 1996), Beyşehir-Konya (Afyon, 1996a), Diyarbakir (Yıldız, Ertekin, 1997), Balya-Balıkesir (Aşkun, Işiloğlu, 1997), Savaştepe-Balıkesir (Yılmaz et al., 1997), Derbent-Konya (Afyon, 1997b), Antalya (Gezer, 1997), Trakya (Stojhev et al., 1998), Bekeilli-Denizli (Köse, Gezer, 1999), İzmir (Solak et al., 1999).
14. *M. esculenta* var. *alba*: Isparta (Afyon, 1994).
15. *M. esculenta* var. *crassipes*: Isparta (Afyon, 1994).
16. *M. esculenta* var. *rigida*: Elazığ (Gücin, 1990), Bergama-İzmir (Gücin, 1993).

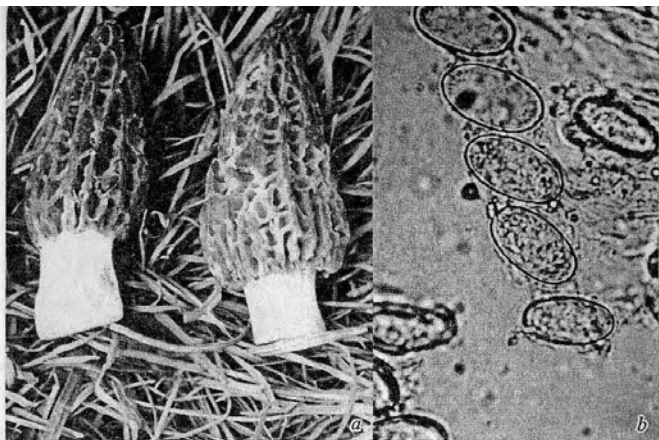


Fig. 2. *M. elata* var. *purpurascens*: a — fruit body (actual size), b — spores. 800×.

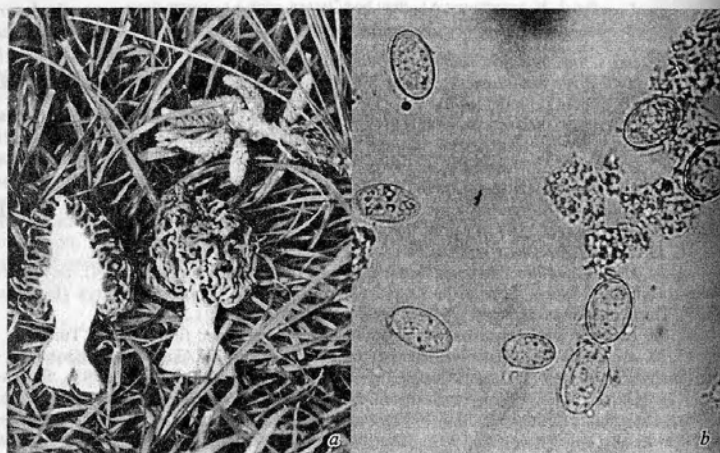


Fig. 3. *M. esculenta* var. *umbrina*: a — fruit body (3/4 of actual size), b — spores. 800×.

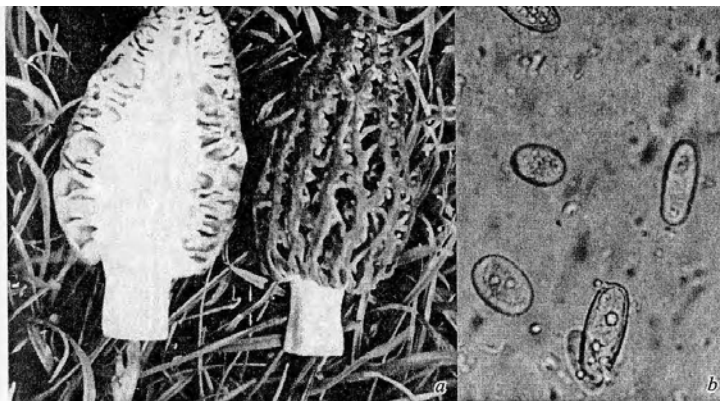


Fig. 4. *M. eximia*: a — fruit body (actual size), b — spores. 800×.

17. *M. esculenta* var. *rotunda*: Between Sinop and Artvin (Öder, 1988), Akçaabat-Trabzon (Baydar, Sesli, 1994).

18. *M. esculenta* var. *umbrina*: Muğla, recorded first time for Turkey.

19. *M. eximia*: Muğla, recorded first time for Turkey.

20. *M. inamoena*: Muğla, recorded first time for Turkey.

21. *M. rotunda*: Izmir (Solak et al., 1999).

Descriptions of new recorded *Morchella* species.

1. *Morchella angusticeps* (Peck) Boud.

Cap 30—40 mm, conical shaped, thin and tall, longitudinal ribs brownish black but turning black with age. Cap has usually 15 ribs, diminish number of ribs in base. Alveolate honey-brown and reddish brown (Fig. 1, a). Stalk 60—70 mm, cylindrical shaped, surface white to ochre, smooth when young, later on wrinkled and pinkish in some area, hollow. The margin of cap passes directly into the stalk without a sharp bend. Flesh white and tough. Spores 23—25 × 15—16 mkm, broadly ellipsoid, smooth (Fig. 1, b). Paraphyses branched, spherical when young, spindle shaped with age.

In forest, under *Pinus* and *Quercus*. Distribution, Muğla, Yaraş Village, 17 04 2001, 6; Yemişendere Village 17 04 2001, 10.

2. *M. elata* Fr. var. *purpurascens* Krombh.

Cap 45—60 mm, conical, apex sharp, light brown to reddish brown, ribs thick and regular, alveolate deep, narrow, longitudinal ribs which are connected by cross-ribs, alveolate of more light colour than ribs (Fig. 2, a). Stalk 30—40 mm, cylindrical shaped, white to cream, furfuraceous, sometimes broadened toward the base, hollow. Margin of cap is sharply bent inward and attached to stalk. Flesh whitish, less thick slightly smell, delicious. Spores 20—22.5 × 10—12.5 mkm, elliptical, hyaline, sometimes with small droplets (Fig. 2, b). Paraphyses branched, cylindrical shaped.

Habitat, under *Pinus brutia* L. Distribution, Muğla, Ula, Gölcük Village, 11 04 2001, 5.

3. *M. esculenta* Pers. ex St. Amans var. *umbrina* Vent.

Cap 30—40 mm, irregularly spherical to oval, ribs thick, irregular and dirty white, alveoli black-brown (Fig. 3, a). Stalk 20—30 mm, white, sometimes flecked with rust, cylindrical

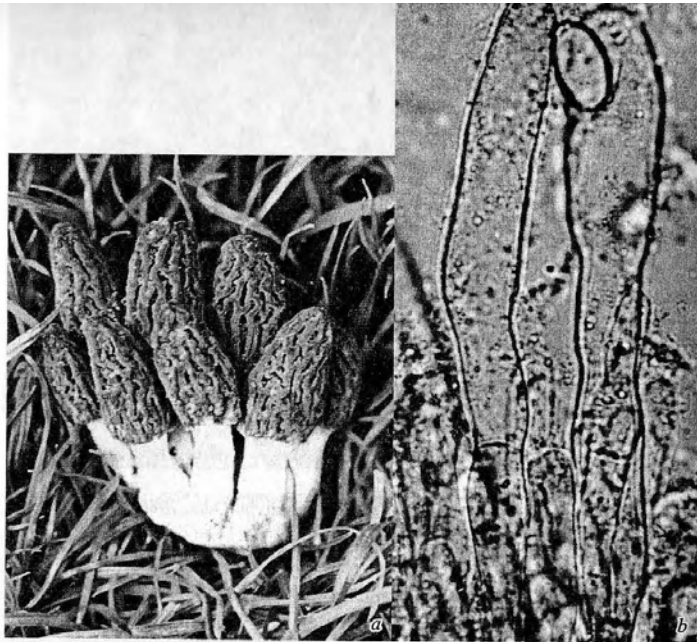


Fig. 5. *M. inamoena*: a — fruit body (3/4 of actual size), b — spores. 800 ×.

shaped, thickened toward the base, smooth to slightly wrinkled, hollow. Flesh elastic and mild. Spores 15—20 × 9—12 mkm, broadly ellipsoid, smooth, sometimes with small droplets (Fig. 3, b). Paraphyses septate and branched.

Habitat, under broadleaved forest. Distribution, Muğla, Milas, Sakarkaya Village, 10 04 2001, 3.

4. *M. eximia* Boud.

Cap 55—65 mm, ovoid, reddish brown, longitudinal ribs thick, brownish-black, alveolate long, regular and unusual connected. Stalk 15—25 mm white to pale yellowish and surface furfuraceous-granular. Margin of cap is sharply bent inward and attached to stalk (Fig. 4, a). Spores 20—22 × 12—13 mkm, narrow ellipsoid and ovoid (Fig. 4, b). Paraphyses 2—3 septate in base and spongy.

Habitat, coniferous forest. Distribution, Muğla, Dalaman, Osmaniye Village, 15 04 2001, 7.

5. *M. inamoena* Boud.

Cap 30—40 mm, the length of cap and stalk are the same, apex truncate, olive gray to brown, ribs thick and brownish black, alveolate irregular, of the same colour (Fig. 5, a). Stalk 30—40 mm, white and less wrinkled, surface dense furfuraceous and scaly. Spores 24—26 × 15—17 mkm, broadly ellipsoid (Fig. 5, b). Paraphyses branched and septate, apex thick.

Habitat: conifer and mixed forests. Distribution, Muğla, Fethiye, Üzümlü area, 14 04 2001, 6.

Afyon A. Isparta Yöresinin Yeneni Mantarları. Trakya Üniv., XII: Ulusal Biyoloji Kongresi, 6—8 Temmuz 1994. Botanik seksiyonu (Posterler) 2. 1994. P. 145—150.

Afyon A. Konya (Meram Selçuklu) Civarında Belirlenen Makroskopik Mantarlar // Tr. J. Bot. 1996a. Vol. 20. P. 259—262.

Afyon A. Macrofungi of Beyşehir District (Konya) // Tr. J. Bot. 1996b. Vol. 20. P. 527—530.

Afyon A. Macrofungi of Seydişehir District (Konya) // Tr. J. Bot. 1997a. Vol. 21. P. 173—176.

Afyon A. Mycoflora of Derbent District (Konya) // Tr. J. Bot. 1997b. Vol. 21. P. 217—220.

Aşkun T., Işıloğlu M. Macrofungi of Balya (Balıkesir) Country // Tr. J. Bot. 1997. Vol. 21. P. 279—284.

Baydar S., Sesli E. Trabzon İli Akçaabat Yöresinde Belirlenen Makromantarlar // Tr. J. Bot. 1994. Vol. 18. P. 99—101.

Breitenbach J., Kranzlin F. Fungi of Switzerland. Ascomycetes. Lucerne: Verlag Mycologia, 1984. Vol. 1.

Demirel K., Öztürk A. Van Yöresinde Yetişen Bazı Yeneni ve Zehirli Mantar Türleri. XII: Ulusal Biyoloji Kongresi, 6—8 Temmuz 1994. Botanik seksiyonu 2. Edirne, 1994. P. 151—156.

Demirel K., Uzun Y. Sarıkamış (Kars) Yöresinin Makrofunguslarına Katkıları. Hacettepe Üniv. Fen ve Mühendislik Bilimleri Dergisi. 1996. Vol. 17. P. 121—132.

Gezer K. Contributions to the Macrofungi Flora of Antalya Province // Tr. J. Bot. 2000. Vol. 24. P. 293—298.

Gücin F. Macrofungi of Pötürge (Malatya) in Eastern Anatolia // The J. Fırat University. 1987. Vol. 2 (1). P. 19—26.

Gücin F. Elazığ Çevresinde Belirlenen Makrofunguslar // Doğa-Tr. J. Bot. 1990. Vol. 14. P. 171—177.

Gücin F. Kozak Yaylasında (Bergama—İzmir) Yetişen ve İhraç Potansiyeli Olan Kuzu Göbeği (Morchella) Mantarlar // Ekoloji. 1993. Vol. 6. P. 22—27.

Gücin F., Öner M. Manisa İli Dahilinde Yetişen Makrofunguslar. Doğa Bilim Dergisi, Temel Bilimler. 1982. Vol. 6 (3). P. 91—96.

Işıloğlu M., Öder N. Contributions to the Macrofungi of Mediterranean Turkey // Tr. J. Bot. 1995a. Vol. 19. P. 603—609.

Işıloğlu M., Öder N. Malatya Yöresinin Makrofunguslar // Tr. J. Bot. 1995b. Vol. 19. P. 321—324.

Işıloğlu M. Macrofungi of Sarıççek Yaylası (Malatya) // Tr. J. Bot. 1997. Vol. 21(1). P. 63—65.

Jacquetant E. Les Morilles. Paris, 1984.

Köse S., Gezer K. Bekilli (Denizli) Yöresindeki Bazı Yeneni Makrofungus Türleri Üzerinde Taksonomik Araştırmalar: First Internat. Sympos. on Protection of Natural Environment and Ekrani Karaçam, 23—25 September 1999. Kütahya, Türkiye, 1999. P. 192—199.

Marchand A. Champignons du nord et du midi. T. 2: Les meilleurs comestibles. Société Mycologique des Pyrénées Méditerranéennes, Perpignan, 1973.

Mat A. Türkiye'de Mantar Zehirlenmeleri ve Zehirli Mantarlar. İstanbul: Nobel Tıp Kitabevleri Ltd. Şti., 2000.

Öder N. Karadeniz Bölgesinde (Sinop-Artvin İlleri Arasında) Yetişen Halkın Tanıdığı Bazı Önemli Yeneni Mantarlar Üzerinde Taksonomik Araştırmalar. S. Ü. Fen Edebiyat Fak. Fen Dergisi. 1988. Vol. 8. P. 215—257.

Öztürk A., Demirel K., Uzun Y. Sarıkamış (Kars) Yöresinde Yetişen Bazı Yeneni Mantarlar. II. Ekoloji ve Çevre Kongresi, Bildiri Kitabı. 11—13 Eylül 1995. Ankara, 1996. P. 389—394.

Solak M. H., Gücin F. Bursa Yöresinden Bazı Makrofunguslar, X: Ulusal Biyoloji Kongresi, Botanik Bildirileri, 18—20 Temmuz, Erzurum, 1990. Vol. 2. P. 163—171.

Solak M. H., Işıloğlu M., Gücin F., Gökler İ. Macrofungi of İzmir Province // Tr. J. Bot. 1999. Vol. 23. P. 383—390.

Stojhev G., Asan A., Gücin F. Some Macrofungi Species of European Part of Turkey // Tr. J. Bot. 1998. Vol. 22. P. 341—346.

Yıldız A., Ertekin A. S. Contributions to the Macrofungal Flora of Diyarbakır // Tr. J. Bot. 1997. Vol. 21. P. 119—122.

Yılmaz F., Öder N., Işıloğlu M. The Macrofungi of the Savaştepe (Balıkesir) District // Tr. J. Bot. 1997. Vol. 21(4). P. 221—230.

Mugla University
Turkey

Received 23 XII 2003

РЕЗЮМЕ

Материалом для работы послужили образцы видов рода *Morchella*, собранные в провинции Мугла в течение 2000—2001 гг. В результате лабораторного изучения собранных материалов выяснилось, что пять видов и разновидностей (*Morchella angusticeps*, *M. elata* var. *purpurascens*, *M. esculenta* var. *umbrina*, *M. eximia*, *M. inamoena*) оказались новыми для Турции. В статье приводится полный список (21 вид) грибов рода *Morchella*, известных в настоящее время для Турции, а также описания вновь найденных таксонов.

Рецензент — М. А. Бондарцева