

Morphological and Anatomical Characterization of *Morchella eximia* f. *schizocostata* Jct. Recorded for the First Time in Turkey

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Abstract: This study is based on the macrofungal specimens collected from Muğla province between the years 2000 and 2002. The morphological and ecological characteristics of the macrofungi have been recorded and they were photographed in their natural habitats. The macrofungal specimens have been brought to the laboratory. Their spore prints have been taken and asci, ascospores, hymenium, cystidia were photographed through a microscope. *Morchella eximia* f. *schizocostata* Jct. identified among these specimens has been recorded for the first time in Turkey. Morphological and anatomical features of this taxon were described and illustrated in this experimental study.

Key words: Morels, morphological characterization, anatomical characterization, *Morchella*

1 Introduction

Morchella is naturally distributed in countries situated on the Mediterranean coast, such as Italy, Spain, Greece and Turkey. It is found in sunny places, in pine forests, oak and ash trees, particularly burned areas, sometimes in clearings, often near piled-up bark, on sawdust or wood chippings, also in gardens, lawns and parks during the months of April and May especially after the rainfall.

Various species of *Morchella* have been exported to foreign countries from Turkey, especially to France, Sweden, Germany, England, Belgium, Netherland and the United States. As a result, morels have contributed to both the Turkish economy and local people. Forest villagers rise early to look for mushrooms and walk everywhere in the woodland. The collected mushrooms are sold to purchasers, and many morels have been taken by export firms. After a series of processes, they are exported fresh, dried and frozen.

Morels can be found in the Aegean, Mediterranean and Black Sea regions in our country. Muğla is a province in West Anatolia and its ecological features are convenient for *Morchella* species to exist. Therefore, these mushrooms have been collected in Muğla. Many studies on morels have been done in Turkey.^[1-3] All these articles have been examined and a new records of taxa belong to *Morchella* genus have been added to the Turkish Macromycota.

2 Materials and Methods

Specimens were collected during field trips in Muğla Province between 2000 and 2002. The morphological and ecological characteristics of the macrofungi were recorded and photographed in their natural habitats and then brought to the laboratory. Their spore prints were taken and spores were photographed. Dried specimens were numbered and placed in locked bags. In addition, they were put into a deep freeze for a week against internal and external parasite.

The specimens were identified with the help of macroscopic and microscopic features. Also previous literature by Marchand,^[4] Breitenbach and Kranzlin,^[5] and Jacquetant^[6] have been utilized. All specimens collected have

been kept into the fungarium of the Muğla University.

3 Results

3.1 Taxonomic description

3.1.1 Cap 45-60 mm tall, conic to oval, with dark brown to black longitudinal and radial ribs, alveolae regular, brownish.

3.1.2 Stalk 20-30 x 15 mm white to ochre, slightly wrinkled, hollow. The margin of the cap passes directly into the stalk without a sharp bend.

3.1.3 Flesh thin, white-grayish.

3.1.4 Odor pleasant.

3.1.5 Spores 20-23 x 12-14.5 μ , elliptical, hyaline, smooth.

3.1.6 Spore print cream.

3.1.7 Asci with eight spores.

3.1.8 Cystidia wide clavate.

3.1.9 Habitat on soils with carbon, fired area, conifer forest.

3.1.10 Distribution Muğla, Ula, Kestane mountain, 9.4.2002, FY. S. 88.

As a result of this study, *Morchella eximia* f. *schizocostata* Jct. was recorded for the first time in Turkey, and its anatomical and morphological introduced. Anatomical and morphological data are presented in Figures 1-3.



Figure 1. *Morchella eximia* f. *schizocostata* (a) fruiting body; (b) spores (x400)

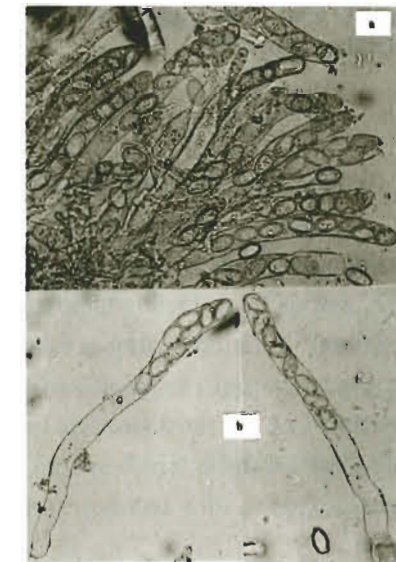


Figure 2. *Morchella eximia* f. *schizocostata* (a) hymenium (x200); (b) ascus (x 200)



Figure 3. *Morchella eximia* f. *schizocostata*
(a) paraphyses (x 400); (b) cystidia (x 400)

Recently, morels are under the threat of extinction due to over-collecting. Therefore, it is necessary to inform local people in the region how they should collect mushrooms. In addition, different business opportunities must be provided to forest villagers.

References

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