Pak. J. Bot., 36(3): 669-671, 2004.

CALVATIA AHMADII SP.NOV., FROM PAKISTAN

A.N. KHALID AND S.H. IQBAL

Department of Botany, University of Punjab
Lahore-54590, Pakistan
e-mail: drankhalid@yahoo.com

Abstract

Calvatia ahmadii sp. nov., is described and illustrated from Pakistan. The fungus is characterized by horizontally chambered exoperidium, not pitted and branched capillitium and smooth basidiospores.

Introduction

During a survey of Macromycetes of Pakistan, a new species of the Genus *Calvatia* (Gasteromycetes) was collected which was found different from the known species of the region. In the present paper this species is described as *Calvatia ahmadii* sp. nov. The type specimen is deposited in Sultan Ahmad Mycological Herbarium, Punjab University, Lahore, Pakistan, while the Isotype at PREM.

***Calvatia ahmadii* sp. nov., A.N. Khalid and S.H. Iqbal**
Figs. 1 & 2

Etym: Renowned Mycologist S. Ahmad

Taxonomic description

Sporophora Pyriformia, apica usque et 7.0 cm lata, tota 9.5 cm alta, breviter radicantia. Basis sterilisdistincta, persistens. Cellata, a gleba perdiaphragma separature, Exoperidium in areolas hexagonales divisam, laureo brunneum, tenue, fragile, maturiatate in fragmenta irregularia, dilabitur. Gleba ulveracea, maturitate purpureobrunea. Hyphae capillitii 2-6 µm crassae, aseptate, non-foreate, non-cynophilae. Sporae globosae, glabrae, breviter pedicellatae, 4-5 µm diam., pedicellis 1-2 µm logis.

Holotypus: Pakistan NWFP, Swat valley, Sultan Ahmad Mycological Herbarium, Punjab University, Lahore EA 2194, Isotype PREM.

Sporophores pyriform, upto 9.5 cm in height and 7.0 cm in diam., at the top, with a short stalk. Exoperidium hexagonally chambered, bay brown, thin fragile, irregularly breaking away at maturity. Sterile base well developed, persistent, cellular, separated from gleba by a diaphragm. Gleba pulerulent becoming purple brown at maturity. Basidiospores globose smooth, shortly pedicellate, 4-5 µm in diam., pedicel 1-2 µm long (Fig. 2). Capillitium 2-6 µm aseptate, not pitted, cynophilous if heated in lactophenol/cotton blue.

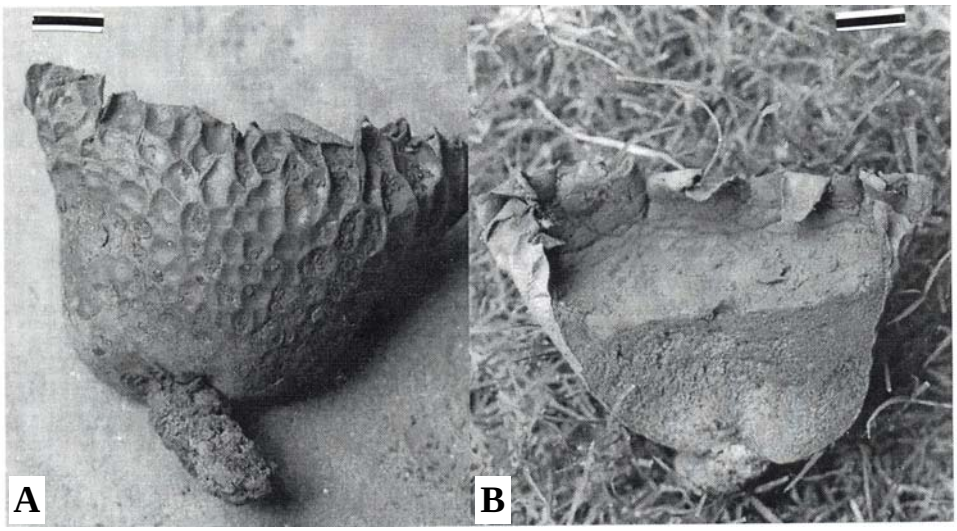

Fig. 1. A. Basidiocarp of *Calvatia ahmadii* sp. nov., showing hexagonally chambered exoperidium and stalk, B. L.S. of basidiocarp showing glebba (Bar = 1cm).

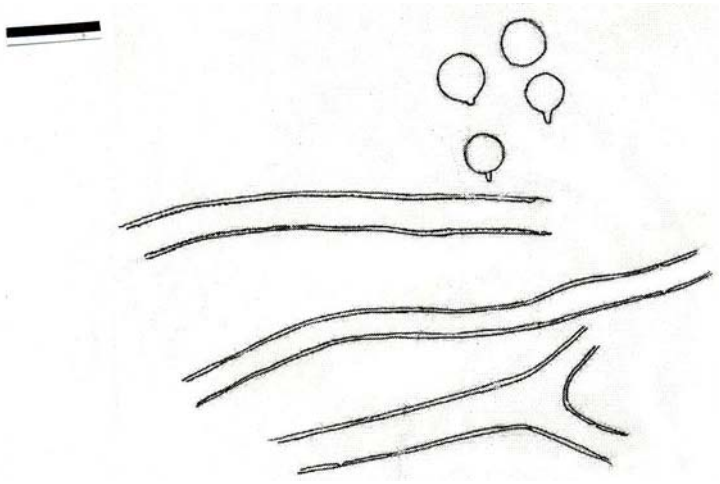

Fig. 2. *Calvatia ahmadii* sp.nov., pedicellata Basidiospores and aseptate capillitial threads (Bar = 7 µm).

Holotype

Pakistan, NWFP, Swat valley, Sultan Ahmad Mycological Herbarium, Punjab University, Lahore # EA 2194, Isotype: PREM.

Material examined: Only the type specimen.

Calvatia Fr., can be distinguished from its related genera such as *Bovista* Diel: *Bovisella* Morgan and *Lycoperdon* Pers., by its fragile endoperidium, breaking up into segments at maturity and thus exposing the gleba mass (Ahmad, 1952).

Calvatia spp., possessing rarely pitted capillitium can be considered close relatives of *C. ahmadii* like *C. pachyderma* (PK) Morgan and *C. booniana* Smith. But in two of the species capillitium is branched and interwoven and septate. Furthermore, their spores are ornamented. Occurrence of exoperidium marked into polygonal areas by depressed lines and rarely pitted capillitium in *C. sigillata* (Cragin) Morgan bring this species closer to *C. ahmadii* (Smith *et al*., 1981). However, in our newly described fungus, exoperidium is hexagonally chambered. Moreover, capillitium in *C. ahmadii* is non-pitted and branched. Larger size of basidocarp is another difference from *C. sigillata* where the basidiocarp is upto 4 cm in length. *Calvatia excipuliformis* can be considered another relative of *C. ahmadii* but unpitted capillitium and smooth spore wall separate it from *C. ahmadii*.

Acknowledgements

The authors wish to thank Dr. L. Marvanova, Czech collection of microorganisms, Masaryk University, Czech Republic for the Latin diagnosis.

References

Ahmad, S. 1952. *Gasteromycetes of West Pakistan*. Punjab University, Lahore.

Smith, A.H., H.V. Smith and N.S. Weber. 1981. *How to know the non-gilled Mushrooms*? The Pictured Key. Nature Series, Iowa.

(Received for publication 20 July 2004)