

# Studies in the Gasteromycetes I.

## A new species of *Bovista*.

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With 3 text-figures.

The genus *Bovista* differs from all the other members of the family *Lycoperdaceae* in having a characteristic capillitium which consists of separate, branching threads. As frequently stated in literature (Cf.

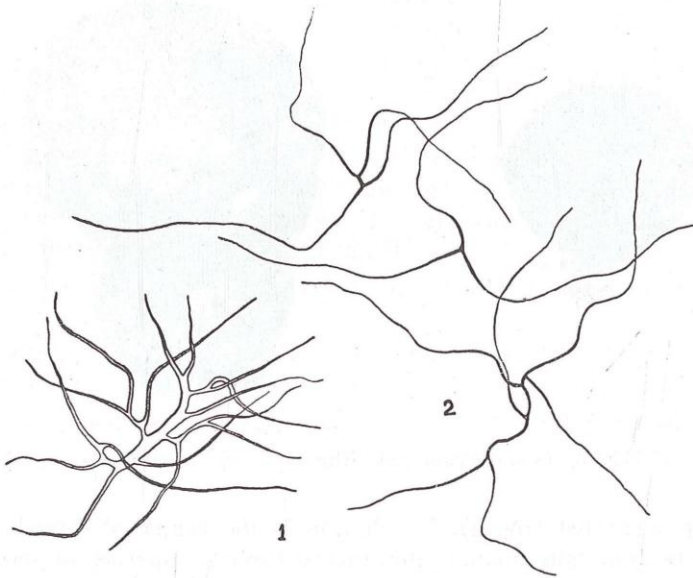


Fig. 1 and 2. — Capillitium.

Lloyd, Coker, and Couch, Ed Fischer and Cunningham) the form of the capillitium threads is also characteristic, each with a thick central axis and dichotomous tapering branches (fig. 1). This is indeed true for all the species with the exception of *Bovista lateritia* Berk. In this species the capillitium consists of long slender branching

threads which at first sight appear to be of the *Lycoperdon* type. The threads, however, are separate, but so long, slender and interwoven that they cannot be easily separated from one another.

Another species of *Bovista*, recently collected by the writer from Murree and described below, has the *Bovista lateritia* type of capillitium. The threads are separate and not at all differentiated into thick central axis and slender pointed dichotomous branches. The capillitium threads in the new species though very long are less extensively branched and so can

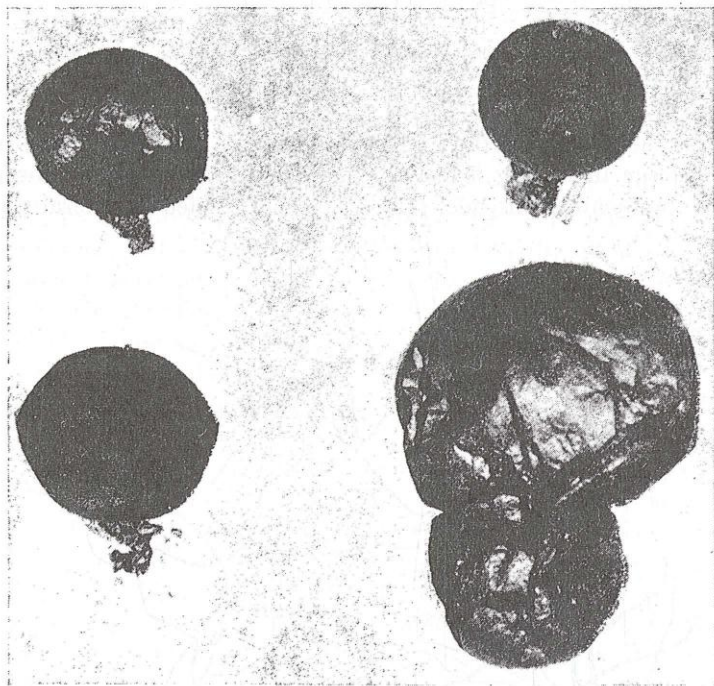


Fig. 3. *Bovista concinna* Ahmad n. sp. — Habitus.

be easily separated (fig. 2). In addition to the branched threads there also occur numerous simple, unbranched threads tapering at the ends.

The two species differ markedly in the colour of the endoperidium and the gleba. *Bovista lateritia* has a brick red endoperidium and rust coloured gleba, whereas *B. concinna* Ahmad n. sp. has wood brown (Ridge way) endoperidium and warm sepia to bister (R) gleba. The exoperidium in the latter species is a fine granular coat, olive brown to clove brown (R). As in *Bovista lateritia* the spores are globose and verrucose but the spines on the epispore are embedded in an amorphous substance which swells up in KOH.

**Bovista concinna** Ahmad sp. nov.

Globosa, depresso-globosa, raro pyriformis, 1,5—4,2 cm diam.; exoperidium granulosum, olivaceum, in vertice obscure castaneo-brunneum, basin versus parum pallidius coloratum, in maturitate e vertice deorsum omnino dirumpens; endoperidium tenue, flaccidum, papyraceum, leve, ostiolo bene definito, primum subprominulo, postea, applanato, orbiculari vel elliptico apertum; subgleba tenuis, minute cellulosa; gleba fuliginea; capillitii fila separata, longa, simplicia vel ramosa, paulatim attenuata, lumine angustissimo, 3,4—4  $\mu$  crassa; sporae globosae, cum verrucis 5,5—7  $\mu$  diam., pedicellatae, pedicellis hyalinis, rectis vel curvulis, postice attenuatis, 8,5—22,5  $\mu$  longis; episporio obscure castaneo-brunneo, verrucoso, verrucis in massa amorpho KOH ope turgescente immersis.

Sporophore 1,5—4,2 cm. in diameter, epigeous, globose, depressed globose or rarely pyriform; exoperidium granular, olive brown to clove brown (R) at the top, somewhat yellowish near the base, completely flaking away at maturity from the apex downwards; endoperidium thin, flaccid, papyraceous, smooth, wood brown (R) in colour, dehiscing by a definite mouth which slightly projects in the beginning but becomes a plane circular or elliptic aperture with age; sub-gleba scanty, of minute cells; gleba warm sepia to bister (R); capillitium threads separate, long, simple or branched, tapering at the ends, with a very narrow lumen, 3,4—4  $\mu$  thick, spores globose, 5,5—7  $\mu$  in diameter including the verrucae; pedicellate, pedicel hyaline, straight or slightly curved, tapering, 18,5—22,5  $\mu$  long; episporium dark chestnut brown, verrucose, the verrucae embedded in an amorphous substance which swells in KOH.

Habitat: Solitary or gregarious on vegetable debris under trees of *Taxus baccata*.

Locality: Upper Topa, Murree, elevation 6000 ft. August 31, 1948, S. Ahmad no. 2522, type.

I am under many obligations to Dr. F. Petrak for going through the manuscript and rendering the diagnosis of the new species. into latin.

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Zeitschrift/Journal: [Sydowia](#)

Jahr/Year: 1949

Band/Volume: [3](#)

Autor(en)/Author(s): Ahmad Sultan

Artikel/Article: [Studies in the Gasteromycetes I A new species of Bovista. 333-335](#)