

## Rare and new *Laboulbeniales* from Poland

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The present paper is the first attempt of adding some new data to the Polish *Laboulbeniales* flora since the excellent publications of J. and W. Siemaszko (1928, 1931, 1933). None of the species discussed in the present study have been quoted by these authors, they are, therefore, new for the flora of Poland. They were collected (with the exception of *Asaphomyces tubanticus*) by the author in the period 1968—1970, mostly in the environs of Warsaw and in the Białowieża primeval forest.

### *Asaphomyces tubanticus* (Middelhoek et Boelens) Scheloske

On *Cutops nigricans* Spence (*Coleoptera*, *Catopidae*), det. W. Szymszko: Białowieża National Park, *Quercus-Carpinetum*, division 399, 25.2.1949 (collections of Institute of Forest Research, Białowieża).

Only several immature specimens were found on the elytra of one specimen of the host. Species known from the Netherlands (Middelhoek 1949), Hungary (Bánhegyi 1950) and Germany (Scheloske 1969).

### *Chaetarthrionomyces crassappendicatus* Scheloske

On *Chaetarthria seminulum* Herbst. (*Col.*, *Hydrophilidae*): Dziekanów Polski, Nowy Dwór Mazowiecki county, melioration ditch east of the village, 12.6.1969.

Species recently described by Scheloske (1969) from Germany. The specimens found in Dziekanów agree with the description and drawings of Scheloske, only the appendage is composed usually of 5—6 cells, very seldom of seven (according to Scheloske it consists of 6—7 cells). The fungus may easily be overlooked, it is possible that it occurs more frequently than would appear from the reports up to date.

### *Coreomyces elongatus* Speg.

On *Sigara (Subsigara) falleni* (Fieb.) and *Sigara (Callicorixa) praeusta* (Fieb.) (*Hemiptera*, *Corixidae*), det. Y.A. Popov: Białowieża, pond, 10.10.1969.

Two immature specimens (ca. 500  $\mu$  long) were found on lower side of left elytra. Species known from Italy (Spegazzini 1918) and Germany (Scheloske 1969).

*Laboulbenia elaphri* Speg.

On *Elaphrus cupreus* Duft. (Col., Carabidae), det. T. Plewka; Białowieża National Park, Alnetum at border of division 400, 19.7.1968, 8.6.1970; *Quercus-Carpinetum* in division 399, 6.6.1970 (fig. 1).

The rare fungi of the *Laboulbenia* genus on *Elaphrus* Fabr. species aroused the interest of mycologists, as proved by the relatively large number of species described in Europe: *Laboulbenia elaphri* Spegazzini (1915a) on *E. cupreus*, *L. elaphricola* J. et W. Siemaszko (1928) on *E. riparius*, *L. Bännigeri* Baumgartner (1951) on *E. cupreus* and *L. buehlmannii* Poelt (1952) on *E. cupreus*. Lately Bánhegyi (1964) analysed in detail on the basis of Hungarian material the previously described species and gave an exhaustive description of the fungus found by himself on *E. riparius*. He considers all the described species (with the exception of *L. elaphricola* J. et W. Siem.) to be identical.

Rather numerous specimens (ca. 30) collected in the Białowieża National Park closely resemble the fungus described by Bánhegyi from Hungary. In some characters, however, they differ from the so far described fungi found on *Elaphrus*. They are, namely, somewhat larger (337—554  $\mu$  from base to tip of perithecium) than the Hungarian specimens (Bánhegyi 1964: 270—400  $\mu$ ), those from Germany (Baumgartner 1951: 300—355  $\mu$ ) and from Belgium (Spegazzini 1915a: 250  $\mu$ ), they also are slimmer. The arrangement of antheridia is also somewhat different; in the here presented material no antheridia aggregated in bundles were found at the end of short branchings as on drawing of *Laboulbenia Bännigeri* (Baumgartner 1951), and on the photograph of the Hungarian specimen (Bánhegyi 1964). The antheridia occurred singly or by twos as lateral branchings of the inner appendages; such an arrangement of antheridia is found on the drawing of Poelt (1952) and, although not very distinct, on the photograph of Bánhegyi (1964). The above mentioned differences are not, however, very essential, considering the high variability and plasticity of these fungi. The species found in Białowieża may, in the author's opinion, be considered as identical with those described by Spegazzini, Baumgartner, Poelt and Bánhegyi; it should bear the oldest name of *Laboulbenia elaphri* Speg. The fungus does not, however, resemble and neither do the above described ones, *Laboulbenia elaphricola* J. et W. Siem. Bánhegyi (1964) believes that the systematic position of the latter might be established after examination of the type specimen; this, unfortunately, is impossible since the collections of the Siemaszko's were

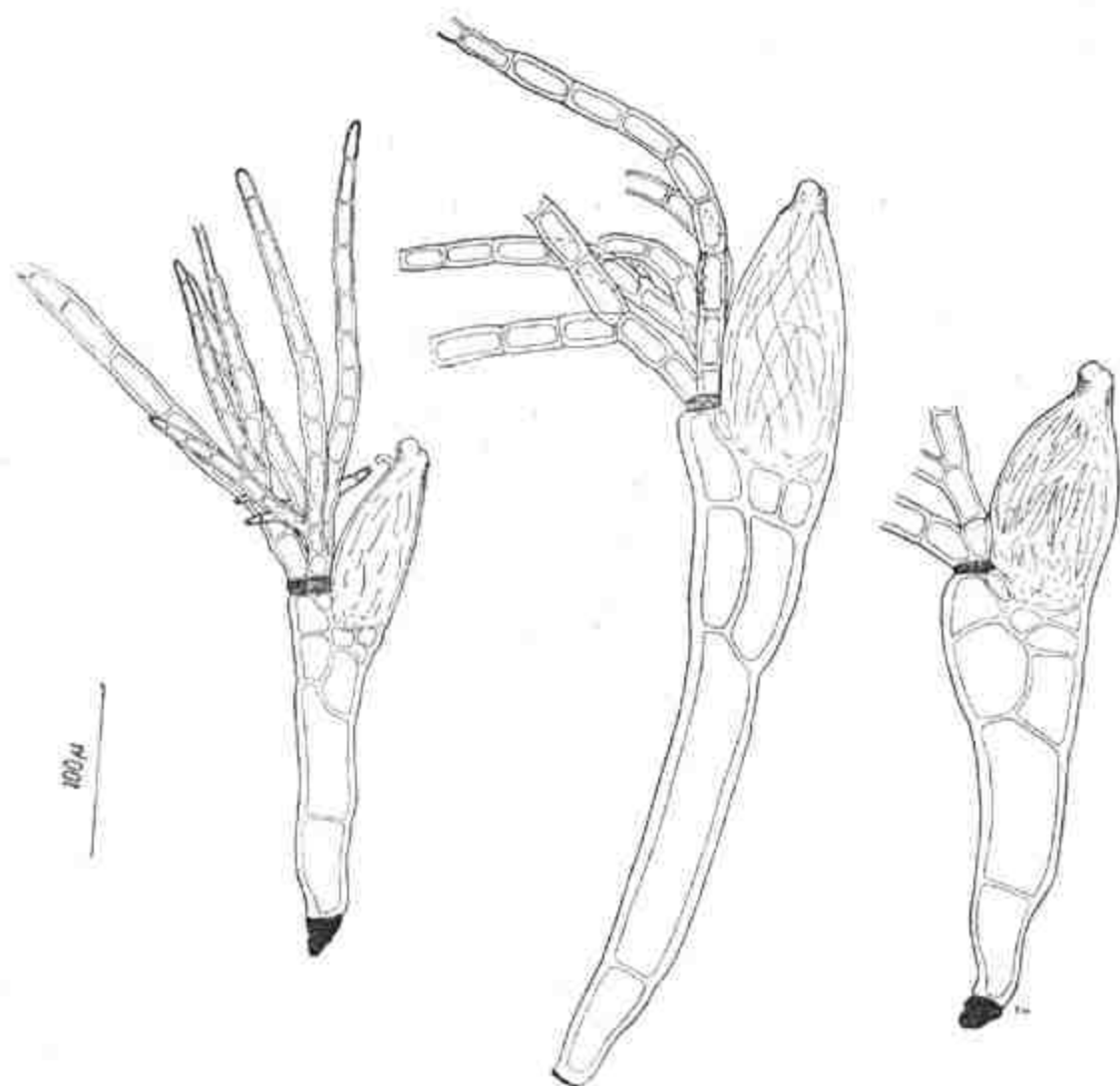


Fig. 1. *Laboulbenia elaphri* Speg. on *Elaphrus cupreus*, Białowieża National Park.

destroyed during World War. Therefore the systematic position of *L. elaphricola* still remains unclear. It should be added that *Laboulbenia elaphri* in Poland is not frequent; numerous specimens of beetles of the genus *Elaphrus* from various localities were free from this parasite.

#### *Laboulbenia metableti* Scheloske

On *Metabletus truncatellus* L. (Col., Carabidae), det. T. Plewka: Białowieża, rotten trunk by pond, 8.5.1968 (fig. 6).

Two specimens of the fungus were found on the elytra of the host, one of them was deformed. The typical specimen length was 190 μ, peri-

thecium  $75\mu$ . The species is known only from Germany where it has been recently described by Scheloske (1969).

*Misgomyces coneglanensis* (Speg.) Thaxter

On *Laccobius minutus* L. (Col., Hydrophilidae): Białowieża, in pool on Polana Białowieska, 10.5.1968.

The four specimens found on the lower part of the elytra at the suture agree well in appearance with the description and drawing of Scheloske (1969); the material differs somewhat from *Misgomyces coneglanensis* (Speg.) Th. and *M. elegans* (Speg.) Th., combining the characters of both (19—23 appendage cells — the trait of *M. elegans*, perithecium but little bent — trait of *M. coneglanensis*). Maybe these names are synonymous, but this can be decided — as stated by Scheloske — only after analysing a more extensive material of this rare species.

*Misgomyces coneglanensis* has been reported from Italy by Spegazzini (1915b) and from Germany by Scheloske (1969); *M. elegans* is only known from Italy (Spegazzini 1915b).

*Misgomyces heteroceri* Maire

On *Heterocerus fuscus* Kiesw. (Col., Heteroceridae), det. T. Plewka: Smrock, Maków Maz. county, edge of drying small water body, 2.8.1968; (fig. 2).

The material from Poland, like the German specimens (Scheloske 1969), differs from Maire's diagnosis (1920). The fungi are longer ( $365\text{--}485\mu$ ), they have a long receptacle ( $260\text{--}323\mu$ ) composed of 6—8 cells with smooth walls.

The species has so far been only reported from Algeria (Maire 1920) and Germany (Scheloske 1969).

*Misgomyces trichopterophilus* (Thaxter) Thaxter

On *Acrotichis* sp. (Col. Ptiliidae): Dziekanów Leśny, Nowy Dwór Maz. county, in cow dung on a pasture, 29.7.1970 (fig. 4).

The specimens from Dziekanów — like those of Spegazzini (1915b) — have a short receptaculum consisting of several (4—6) cells and an appendage ending in one, or less frequently two, sterile branches, they resemble, therefore, from among the fungi drawn by Thaxter (1908, pl. 51) the specimen in fig. 17.

The species is known from the United States, Chile and Argentina (Thaxter 1931), from Italy (Spegazzini 1915b) and from Germany (Scheloske 1969).

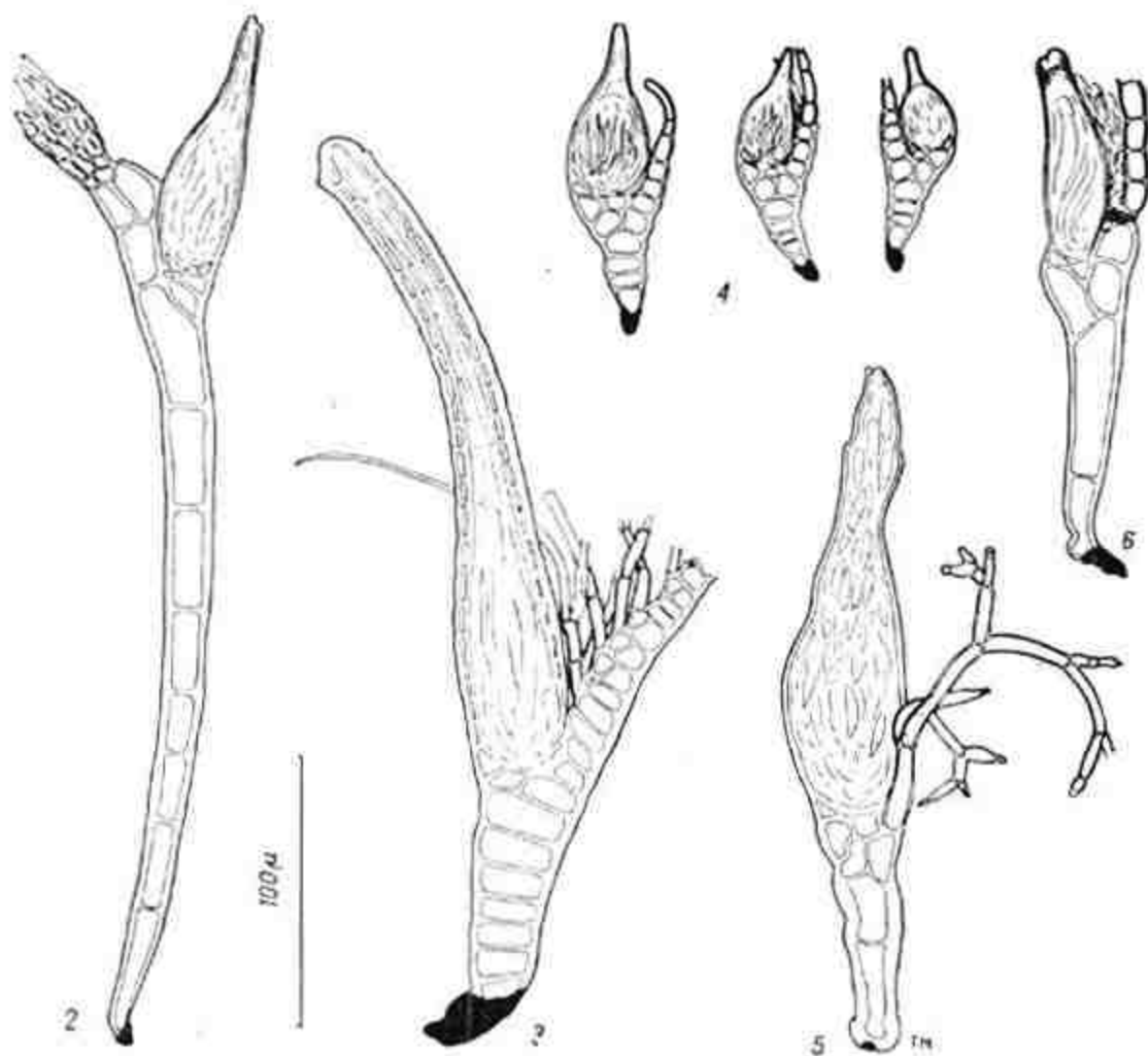


Fig. 2—6. 2 — *Misgomyces heteroceri* Maire on *Heterocerus fuscus*, Smrock; 3 — *Rhynchophoromyces anacaenae* Schel. on *Anacaena limbata*, Sieraków reservation; 4 — *Misgomyces trichopterophilus* (Th.) Th. on *Acrotrichis*, Dziekanów Leśny; 5 — *Stigmatomyces ceratophorus* Whisler on *Fannia canicularis*, Warszawa; 6 — *Laboulbentia metableti* Schel. on *Metabletus truncatellus*, Białowieża.

### *Rhynchophoromyces anacaenae* Scheloske

On *Anacaena limbata* F. (Col., Hydrophilidae): Sieraków reservation in Kampinos National Park, stream in Alnetum, 24.4.1970 (fig. 3).

The material here described corresponds to the description and drawing of Scheloske (1969). The secondary branches are mostly more or less destroyed, it is visible, however, that they frequently are dichotomically branched like in *Rhynchophoromyces hydrobii*; Scheloske (1969) mentions that they are filamentous and unbranched. The dimensions of the here described specimens are smaller than of those



of Scheloske (length 300, 313, 337  $\mu$ , length of perithecium 220—240  $\mu$ ) but only one of the three specimens found was  $\pm$  mature.

The species is so far known only from Germany. It is probably very rare in Poland, although the host is common. In a large group of beetles from various sites only one infected individual was found.

### **Rhynchophoromyces hydrobii** n. sp.

*Habitus fuscus fulvo colore infectus, perithecia maturorum individuorum obscuriora. Receptaculum solito plus minusve aduncum, constat ex 15—26 cellulis (numerantur ad basim summi perithecii); cellulae excepta basali cellula valde compressae. Appendix primaria magis tenua, constat ex 9—17 cellulis plus minusve isodiametricis, saepe irregularibus, cellulae basales saepe septatae, dividentes minores triangulares cellulas ex quibus paucae appendices secundariae oriuntur, dichotomice ramosae cum multis longis et tenuis, rare iterumque dichotomice ramosis hialinis filis. Perithecium unum vel frequenter duo perithecia, inferius pierumque immaturum, rarissime occurrunt tria perithecia. Si alterum perithecium oritur, cellulae quaedam receptaculi supra perithecium divisae sunt, dividentes ad exorients perithecium parvas cellulas ex quibus appendices secundariae ramosae nascuntur, nempe similes appendici primariae. Perithecia valde prolongata, recta vel leviter flexa, parum apparente ventre perithecii et proportionaliter crasso collo praedita sunt, composita vero ex 23—35 seriebus cellularum imagine obliqua fere quadratarum. In basi perithecii saepe iterata appendix secundaria oritur.*

*Longitudo a basi usque ad summum perithecium 300—435  $\mu$ , longitudo receptaculi 120—180  $\mu$ , perithecium 160—290  $\times$  33—53  $\mu$ , appendix primaria 86—115  $\mu$ , appendices secundariae ad 260  $\mu$ .*

Brownish-yellow, perithecia of mature specimens darker. Receptacle usually more or less bent consisting of 15—26 cells (counting to the base of the highest perithecium); cells with the exception of the basal one greatly flattened. Appendage thinner, composed of 9—17 cells more or less isodiametric, frequently irregular. The basal cells of the appendage are as a rule divided with small triangular cells separated, from which several dichotomic branches grow with numerous long and thin, seldom branched dichotomically hyaline branchlets. Perithecia generally two, less frequently one, exceptionally three. If a second perithecium forms, several cells of the receptacle above it are divided forming small cells, from which dichotomic branches grow like on the appendage. Perithecia greatly elongated, straight or slightly bent, with slightly inflated venter and relatively thick neck, built of 23—35 rows of cells almost square in cross section. At base of perithecium frequently an additional branch grows.

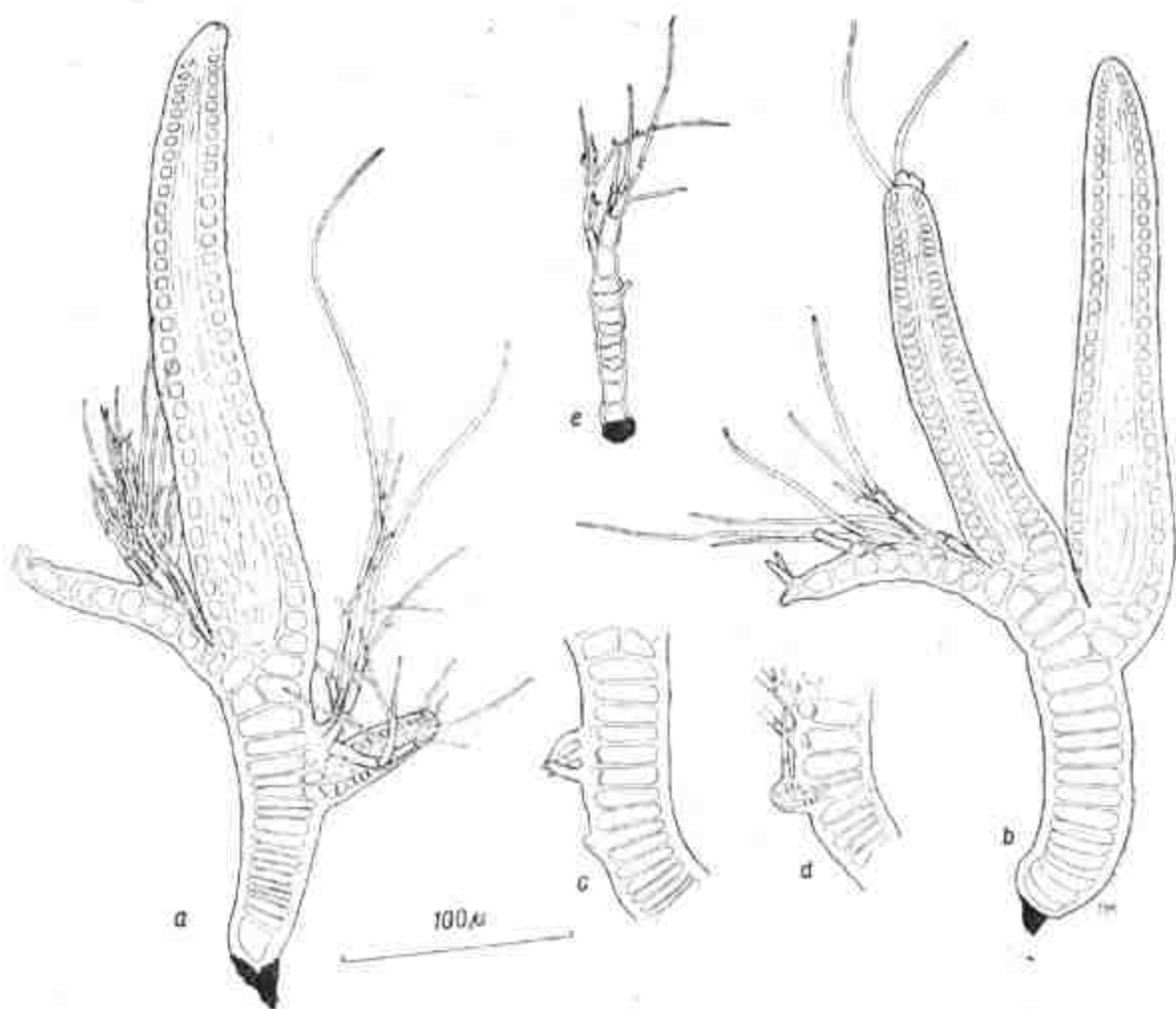


Fig. 7. *Rhynchophoromyces hydrobii* Majewski n. sp. on *Hydrobius fuscipes*, Łomianki Dolne. *a* — specimen with two perithecia, one mature, the other immature (holotype); *b* — specimen with two mature perithecia (isotype); *c* — middle part of receptacle in initial stage of formation of second perithecium, higher lying cells are beginning to form branches; *d* — somewhat later stage of second perithecium formation, branch forming at its base visible; *e* — young specimen, on branches antherozoids are seen (*d-e* paratypes).

Length from base to tip of perithecium 300—435  $\mu$ , length of receptacle 120—180  $\mu$ , parithecium 160—290  $\times$  33—53  $\mu$ , appendage 86—115  $\mu$ , branches up to 260  $\mu$ .

On metasternum of *Hydrobius fuscipes* L. (Col., Hydrophilidae): Łomianki Dolne, Nowy Dwór Maz. county, small water body south of village, 24.4.1970, leg. T. Majewski (fig. 7a — holotype, fig. 7b — isotype); the same site, on metasternum and in suture between prothorax and elytra, 5.5.1970 (fig. 7c,d,e).

During two excursions, on three beetle specimens about 20 mature specimens of the fungus were found. This species differs from *Rhynchophoromyces anacaenae* Scheloske found at the same time at a small

distance by the frequent formation of two or even three perithecia and by the cells of the perithecium wall which are square in cross section (in *Rh. anacaenae* — judging from the specimens found by the author — they are strongly flattened). The shape and type of branching of branches and branchlets seem on the other hand similar.

From the remaining six species of the genus *Rhynchophoromyces* known so far (Thaxter 1931) the new species differs also by the first of the mentioned characters (all the others only form one perithecium) and by the thicker less elongated neck of the perithecium.

### *Stigmatomyces ceratophorus* Whisler

On *Fannia canicularis* (L.) (Diptera, Muscidae): Warszawa, Mokotów, in apartment, 24.9.1969; Warszawa, in Department of Systematic and Geography of Plants, Warsaw University, 25.9.1969 (fig. 5).

It is the first time in Europe that this fungus recently described in the United States has been found. It corresponds strictly to the descriptions and drawing of Whisler in his paper (1968), only the dimensions are somewhat smaller: length from base to apex of perithecium 170—245  $\mu$  (according to Whisler 230—400  $\mu$ ) and length of perithecium 100—165  $\mu$  (according to Whisler 135—225  $\mu$ ).

### SUMMARY

Ten species of fungi of the order *Laboulbeniales* new for Poland are described. They were found by the author mostly in the environs of Warsaw and in the Bia-łowieża primeval forest. A new species *Rhynchophoromyces hydrobii* n. sp. is also described.

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## Rzadkie i nowe *Laboulbeniales* z Polski

### Streszczenie

W pracy podano 10 nowych dla Polski gatunków grzybów z rzędu *Laboulbeniales*, znalezionych przez autora przeważnie w okolicach Warszawy i w Białowieży, oraz opisano *Rhynchophoromyces hydrobii* n. sp.