ACTA MYCOLOGICA
vol. IX (1) : 111-124
1973

Rare and new *Laboulbeniales* from Poland. III

T. MAJEWSKI

Institute of Botany, Polish Academy of Sciences, Warsaw, Al. Ujazdowskie 4
Poland

M a j e w s k i T., *Rare and new Laboulbeniales from Poland. III.* Acta Mycol. IX (1): 111-124.
The sites are described at which ten species of *Laboulbeniales* were found. Five species are new to science: *Corethromyces niger* found on a beetle of the *Catopidae* family, *Dioicomyces myrmecophilus* on a representative of *Colydiidae*, *Misgomyces annae* and *M. flexus* on representatives of *Ptiliidae* and *Stichomyces europaeus* on a representative of *Staphylinidae*. The remaining species are new for the flora of Poland.

Asaphomyces cholevae Thaxter

Among numerous fungi collected on beetles of the genera *Catops* and *Sciodrepoides* from the collection of Docent W. S z y m c z a k o w s k i in Cracow, two forms may be distinguished differing by the number of perithecia and by the dimension and length of the appendages. Fungi with a simpler structure (Fig. 1*a-h*) have only one developed perithecium, the base of which grows out of the fifth cell of the receptacle (exceptionally from the fourth). On the cells of the fourth, later third and eventually of the second cell sterile appendages form which are primordia of the perithecium. They reach exceptionally (in old individuals) a length of 37 μ. Beside several exceptions, their transformation into additional perithecia was not noted. The length of specimens of this type is 115-175 μ, the length of the appendages to 120 μ. The latter are dichotomically branched (Fig. 1*e,f*), they are, however, seldom preserved as they break off early close to the base (Fig. 1 *a-d, g-h*).

The specimens found seem most closely related with *Asaphomyces cholevae* Thaxter (1931) described on *Choleva terminans* Lec. in the United States. The structure of the receptacle (with the exception of a slight torsion which is not always visible — *cf.* T h a x t e r 1931, p. 311 and pl. 39, Fig. 13) the dimensions of the fungus and the presence of only one mature perithecium are in agreement with the description of this species given by T h a x t e r. This author, however, does not mention

long dichotomically branched appendages. It is possible that his specimens were damaged; as already mentioned as a rule appendages are absent only their remains are visible which do not allow any conclusions as to their actual structure.

The above mentioned specimens of *Asaphomyces cholevae* were found on the following sites.

On *Catops coracinus* Kelln. (*Catopidae*): Ojców near Kraków, Sąspowska valley 30.6.1971 leg. A. Kosior (TM. 929, 930); Krynica, Nowy Sącz county (620 m), 28.4.1962 leg. W. Szymczakowski (TM. 938); on *Catops nigrita* Er.: Białowieża National Park, section 345, *Querco-Carpinetum*, 24-30.5.1956 leg. W. Szymczakowski (TM 937); on *Catops subfuscus* Kelln.: Ojców near Kraków, Jamki gorge, 18.5-15.6.1971 leg. A. Kosior (TM. 923, 926, 927); Ojców, Sąspowska valley, 22.5. 1971, 22.6.1971 leg. A. Kosior (TM. 924, 925, 928); Krynica, Nowy Sącz county (620 m), 24.6.1961 leg. W. Szymczakowski (TM. 941); on *Catops tristis* (Panz.): Tatra, Gąsienicowa valley (1480 m), 27.7-16.9.1954 leg. W. Szymczakowski (TM. 939, 940); on *Catops Westi* Krog.: Podgórki, Kraków county, 33.4-6.5.1971 leg. Z. Stebnicka (TM. 934); on *Sciodrepoides* fumatus (Spence): Podgórki, Kraków county, 10-18.5.1971 leg. W. Szymczakowski (TM. 933); on *S. watsoni* (Spence): Podgórki, Kraków county, 6-10.5.1971 leg. W. Szymczakowski (TM. 932). Fig. 1 *a-h*.

These are the first sites where this fungus was found in Europe. *Asaphomyces cholevae* occurs, however, also in France from where the author received, owing to the courtesy of dr. J. Balazuc, infected specimens of *Catops tristis* (Panz.) collected by him.

The larger (140-195 μ long) specimens found only on *Catops nigricans* (Spence) and *C. fuliginosus* Er. differ markedly from *Asaphomyces cholevae*. They have two or three perithecia and may be classified without greater doubts to *Asaphomyces tubanticus* (Middelhoek et Boelens) Scheloske (Fig. 1 *i-k*). The upper perithecium of this species, maturating earliest, grows — similarly as that in *A. cholevae* — usually from the fifth cell of the receptacle; below from the third and second cell there grows a second, and frequently a third one which as a rule do not have time to maturate. From the fourth receptacle cell a sterile process grows. This trait seems to be most important and sufficient for distinguishing these two species, and may be observed on young specimens (Fig. 1 *k*), in which the process on the fourth cell is always larger in *A. cholevae* than the one on the third cell, whereas in *A. tubanticus* it is smaller than the primordium of the perithecium on the third cell of the receptacle. Therefore, it seems better to treat *A. cholevae* and *A. tubanticus* as different species than — according to Balazuc (1971) — as synonyms.

The fungi found in Poland differ from the type material described by Middelhoek (1949) by long (up to 260 μ), branched appendages. It is however, probable that Middelhoek did not take into account

Fig. 1. *Asaphomyces cholevae* Thaxter on *Catops subfuscus* (*a* — Krynica, *b*, *c*, *g*, h — Ojców); on *Catops coracinus* (*d*, *e*, *f* — Krynica). *Asaphomyces tubanticus* (Middelhoek et Boelens) Scheloske on *Catops nigricans* (*i*, *j*, *k* — Kraków)

the variability of the species in all respects; this is also stressed by Scheloske (1969) when mentioning the branching of appendages in specimens from G.F.R.

It would seem that there exist intermediate forms between these two species. On *Catops tristis* from the Tatra mountains (TM. 940), beside typical specimens of *Asaphomyces cholevae*, four specimens were found of the same size, but with a well developed second perithecium directly beneath the highest one (that is — not like in *A. tubanticus* — on the second cell). Two of them had, besides, a shortened receptacle so that the upper perithecium grew out of the 3rd cell.

Asaphomyces tubanticus has already been reported from Poland on *Catops nigricans* (Majewski 1972). At present it was found once more on the same host in Cracow (Las Wolski, 1.1.1956 leg. S. Smreczyński, TM. 936) and on *C. fuliginosus* Er. (Cracow, Panieńskie Skały, 4.5. 1954 leg. W. Szymczakowski, TM. 935).

Corethromyces niger sp. n.

Habitus brevis et crassuss et colore fusco. Cellula basalis receptaculi solito fusca rubro lucenti colore suffusa, rarius paene hyalina, paulo latior quam longior, a cellula subbasali et cellula pedunculi perithecii transverse separata est. Cellula subbasalis receptaculi isodiametrica vel paulo elongata, coloris fuscae olivae, ad cellulam pedunculi perithecii sita est. Cellula pedunculi appendicis paene libera et hyalina a cellula subbasali transverse separata est. Axis appendicis paucis a cellulis constat. Antheridia non sunt inventa. Cellulae pedunculi perithecii latitudo longitudinem superat, quae cellula varias formas habet estque olivae fuscae colore, saepe a minus claris et irregularibus cellulis basalibus perithecii supra positis transverse separata est. Perithecium ovale, fuscae olivae colore, apice translucenti, cum duabus magnis labiis.

Longitudo a basi usque ad apicem perithecii 63-80 μ, perithecium 47-55×18-32μ, axis appendicis cum cellulae pedunculi appendicis ad 30 μ (?).

Habit stout, dark. Basal cell of receptacle usually bright red-brown, rarely nearly hyaline, not much broader than long, obliquely separated from the subbasal cell and from the stalk-cell of the perithecium. The subbasal cell isodiametric or somewhat elongated, dark olive-brown, lies beside the stalk-cell of the perithecium. Stalk-cell of the appendage nearly free, obliquely separated from the subbasal cell, subhyaline. Axis with few cells, antheridia have not been distinguished. Stalk-cell of the perithecium broader than long, variable in shape, dark oliver-brown, usually obliqely separated from the superposed, indistinct and irregular basal cells. Perithecium oval, dark olive-brown, the tip paler, with two great lips.

Total length 63-80 μ, perithecium 47-55×18-32 μ, appendage with stalk-cell up to 30 μ (?).

On *Ptomaphagus sericatus* (Chaud.) (*Col., Catopidae*): Ojców near Kraków. Sąspowska valley, 8.6.1971 leg. A. Kosior (TM. 919-921, No. 919 — holotype); 16.7.1971 leg. A. Kosior (TM. 922). Fig. 2 *a* — holotype, 2 b-*f* — isotypes.

This species differs markedly by its stout habit and dark colour of almost the entire thallus from all the representatives of the genus *Corethromyces* described to date. Unfortunately among the 50 specimens of this fungus not one could be found with unimpaired appedanges with antheridia, therefore it is difficult to conclude as to the eventual relationship of this fungus with other species. Its simple structure resembles somewhat that of some species also living on representatives of the family *Catopidae: Corethromyces silphidarum* Thaxter (Thaxter 1931, pl. 30, Fig. 6-7) and *C. curvatus* Thaxter (Thaxter 1931, pl. 30, Fig. 15-17). These species have a very similar position of the subbasal cell

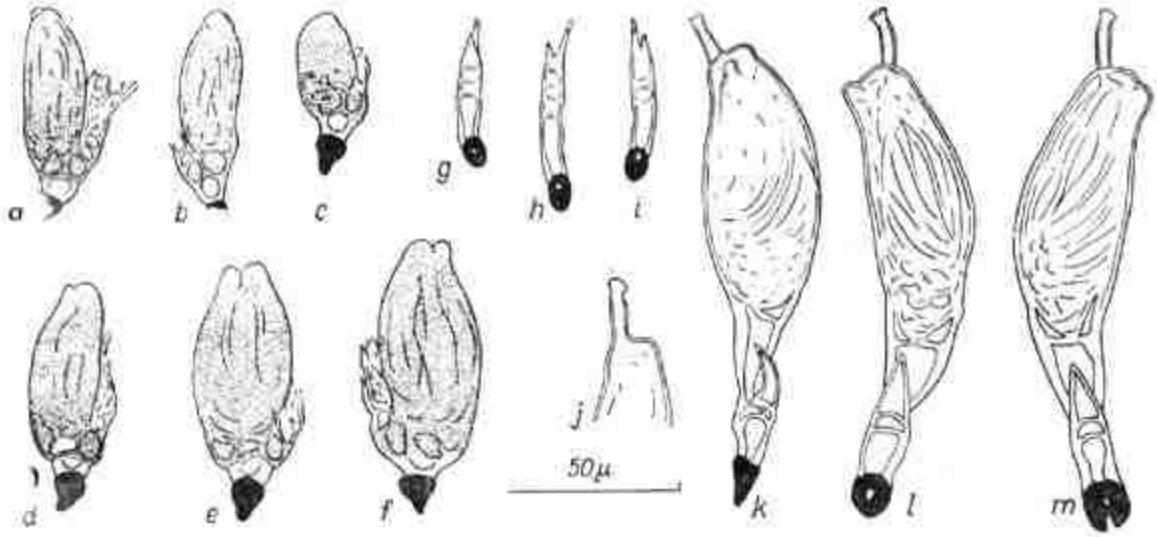

Fig. 2. *Corethromyces* niger sp. n. on *Ptomaphagus sericatus* (*a-f* — Ojców; *a* — holotype). *Dioicomyces myrmecophilus* sp. n. on *Myrmecoxenus subterraneus* (*g, h, i* — male individuals, *j* — tip of immature perithecium, *k* — female individual laterally, holotype, *l, m* — female individuals from above)

of the receptacle and stalk-cell of the perithecium in relation to one another: they lie next to each other and are connected (in other species of this genus the stalk-cell of the perithecium lies usually above the subbasal cell of the receptacle and is unattached).

Dioicomyces myrmecophilus sp. n.

Individuum masculinum. Pallidum fusco colore suffusum, leviter curvatum vel paene rectum, cellula basalis longior quam duae vel tres cellulae compressae, supra positae. Collum cellulae antheridialis ad latus situm atque sursum erectum est, gradatim in ventrem transit. Apud basim colli acutus et erectus processus oritur. Longitudo 42-52 μ.

Individuum femininum. Flavum fusco colore suffusum, leviter arcuatum. Cellula basalis receptaculi elongata, tamen cellula subbasalis compressa. Appendix in apice acuta atque paulo minor quam cellula pedunculi perithecii ad quam se vertit. Cellula pedunculi perithecii brevis et crassa, basi angustata atque fere tam longa quam receptaculum. Cellulae basales perithecii triangulatae et compressae sunt. Perithecium ad latus se vertit, longe ovatum, sine distincto collo, in apice compressum atque cum duobus processibus quorum alter rotundatus et brevissimus, alter longus et hyalinus atque fistulatim formatus est. Longitudo 110-132 μ, longitudo perithecii 70-87 μ, receptaculum 30-35 μ.

Male individual. Bright brownish, slightly bent or nearly straight, basal cell longer than the two or three cells above, which are flattened. Neck of antheridial cell erect, lateral, graduated into the venter, which rises above its base in a pointed, erect projection. Total length 42-52 μ.

Female individual. Yellow-brownish, slightly arcuated. Basal cell of the receptacle elongated, subbasal cell flattened, appendage pointed at tip, bent towards the stalk-cell and not much shorter than the latter. Stalk-cell of perithecium rather stout, narrower below, about as long as receptacle. Basal cells triangular, flattened. Perithecium bent sideways, oblong ovate, without distinct neck, flattened on tip and with two projections; the first very short, rounded, the second long (to 22 μ), tubular, hyaline.

Total length 110-132 μ, perithecia 70-87 μ, receptacle with foot 30-35 μ.

On *Myrmecoxenus subterraneus* Chevrl. (*Col., Colydiidae*): Sadówka, Nowy Dwór Mazowiecki county, in anthill of *Formica rufa* at edge of wood, 5.1.1972 (TM. 902-903), 8.1.1972 (TM. 907-918; Nr. 913 — holotype), leg. T. Majewski. Fig. 2 *k* — holotype, 2 *g-j*, *l-m* — isotypes.

From among more than 30 specimens of this species, most occurred on the edges of the elytra, particularly of the right one, less frequently on the edge of the abdomen or on the surface of the elytra.

This fungus differs distinctly from all the species of the genus *Dioicomyces* described to date and reviewed by Thaxter (1931). The most characteristic traits are: the presence of projections on the tip of the perithecium and relatively large dimensions of the projection at the base of the stalk-cell of the perithecium. This projection is not much smaller than the latter cell. Characteristic for the male individuals is a sharp projection on the antheridial cell, often not much shorter than its neck.

From Europe so far only two species of this genus are known: *D. endogaeus* Picard (1912) on a representative of the family *Carabidae* and *D. italicus* Spegazzini (1915) on a representative of the family *Anthicidae*.

Laboulbenia casnoniae Thaxter

On *Demetrias monostigma* Sam. (Col., *Carabidae*): Białowieża, Hajnówka county, bank of pond, 9.6.1970 leg. T. Majewski (TM. 315); Białowieża National Park, sector 369, bank of river Narewka, 10.5.1971 (TM. 550); on *Dromius sigma* Rossi: Białowieża Forest, sec. 574/602, by the river Leśna, 6.5.1971 (TM. 521). Fig. 3 *b*.

The fungus described by Thaxter (1896, p. 319, pl. 13, Figs. 22-23) from North America is also known from some European countries, Africa, Asia and Australia, it was, however, not found in Poland by the Siemaszkos. The specimens detected at present in the Białowieża Forest agree with the diagnosis and drawings of Thaxter (l.c.).

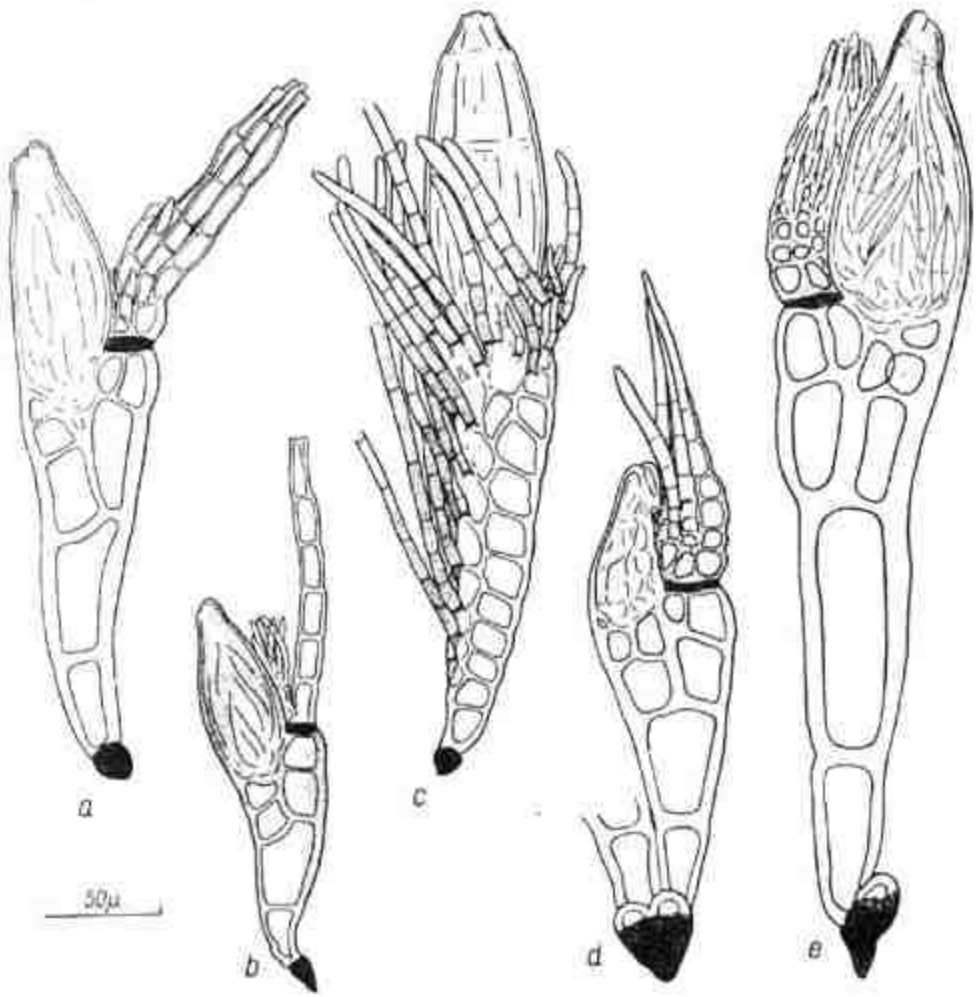

Fig. 3. *a* — *Laboulbenia slackensis* Cépède et Picard on *Pogonus persicus*, Owczary, *b* — *Laboulbenia casnoniae* Thaxter on *Demetrias monostigma*, Białowieża, *c* — *Rhachomyces Vayssierei* Lepesme on *Trechus cardioderus*, Wetlina. *d*, *e* — *Laboulbenia philonthi* Thaxter on *Philonthus fulvipes*, Aleksandrów

Laboulbenia philonthi Thaxter

On *Philonthus fulvipes* Fabr. (*Col.*, *Staphylinidae*): Białowieża, Hajnówka county, near pond, 8.5.1971 leg. T. Majewski (TM. 531); Janowo, Hajnówka county, bank of river Narewka, 9.5.1971 leg. T. Majewski (TM. 549); Aleksandrów near Łoś, Piaseczno county, bank of the river Jeziorka, 21.5.1971 leg. T. Majewski (TM. 579); on *Philonthus micans* Grav.: Białowieża National Park, sec. 369, bank of river Narewka 10.5. 1971 leg. T. Majewski (TM. 554). Fig. 3 *d*, *e*.

The specimens found in Poland differ somewhat from the original description and drawings of Thaxter (1869, p. 343-344, pl. 22, Figs. 26-30). The appendages, although similar in structure (distinctly different from that *Laboulbenia dubia* found in Poland by the Siemaszkos), are shorter and more delicate. Their length is at most 150 μ, whereas

in the specimens of Thaxter it reached 325 μ. The perithecia are somewhat smaller than in Thaxter's specimens (140-170 μ, Thaxter's 160-185 μ).

This species common in North and South America has only recently been detected in Europe (Scheloske 1969).

Laboulbenia slackensis Cépède et Picard

On *Pogonus persicus* Chaud. (*Col., Carabidae*): Szczebarków, Busko county, 20.5.1966 leg. T. Plewka (TM. 155); Owczary, Busko county, 13.6.1965, 22.5.1966 leg. T. Plewka (TM. 184, 186-194). Fig. 3*a*.

This species described in France by Cépède and Picard (1907; 1908, pl. III, Fig. 8) did not occur in Poland according to J. and W. Siemaszko (1931), since the range, of its hosts of the genus *Pogonus* does not reach so far north; later several sites with these beetles were found in Poland. *Laboulbenia slackensis* was found, beside France, in Spain and Marocco (J. and W. Siemaszko 1928) and in Italy, Thuringia, Greece (Colla 1926).

Misgomyces annae sp. n.

Hyalinus. Receptaculum proportionaliter breve, tribus e cellulis constat, ita ut altera alteri superponatur. Cellula inferiori, cuius longitudo latitudinem superat, ad basim se angustat, tamen cellulae supra positae paulo latiores quam longiores sunt. Appendix similis receptaculo sed angustior, arcuata, atque duabus vel tribus vel quattuor e cellulis constat, quarum una rotundata in apice est. Cellula basalis appendicis cum paulo minore cellula pedunculi perithecii conjuncta est. Cellulae basales perithecii parvae et minus clarae sunt. Perithecium ovale, paene symmetrum in breve collum se angustans et parvum atque compressum residuum trichogyni prope apicem infra basim colli habet.

Longitudo 41-54 μ, perithecia 22-27×11-12 μ, receptaculum 17-21 μ, appendix cum cellulae basalis appendicis 15-17 μ.

Hyaline. Receptacle relatively short, consisting of three superposed cells. Lower cell longer than broad, tapering to the foot, the superposed cells somewhat broader than long. Appendage similar to the receptacle but slender, arcuated, consisting of two to four superposed cells with one smaller cell rounded at the tip at the distal end. Basal cell of the appendage connected to the stalk-cell of the perithecium, which is somewhat smaller. Basal cells small, indistinct. Perithecium oval, nearly symmetrical, tapering to a very short neck, with a small flattened projection (remains of trichogyne?) near tip.

Total length 47-54μ, perithecia 22-27×11-12 μ, receptacle 17-21 μ, appendage including basal cell 15-17 μ.

On *Ptilium myrmecophilum* (Allib.) (*Col., Ptiliidae*): Sadówka, Nowy

Dwór Mazowiecki county, in anthill of *Formica rufa* at edge of wood, 5.1.1972 leg. T. Majewski (TM. 905 — holotype, 906). Fig. 4 *a* — holotype, 4 *b*, *c* — isotypes.

This fungus, as regards the structure of the thallus resembles the smallest and most simple in structure of the so far known representatives of the genus *Misgomyces*, *M. trichopterophilus* (Thaxter) Thaxter, and is found on beetles of the same family as the former (*Ptiliidae*). It may be considered as the result of far advanced specialisation towards a simplified structure and reduction of the thallus dimensions, thus adaptation to its exceptionally small host. For this reason the newly described species is classified to the genus *Misgomyces*, although its antheridia are not known.

Misgomyces annae differs from *M. trichopterophilus* by smaller dimensions, a shorter receptacle consisting of three cells and a very short neck of the perithecium. The few specimens of this fungus were collec-

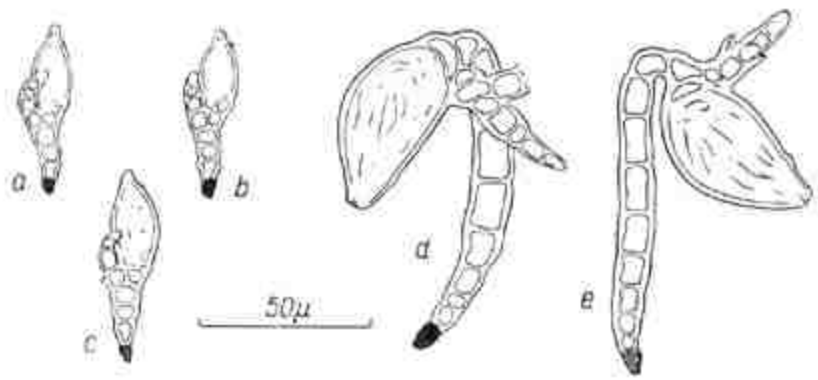

Fig. 4. *a-c* — *Misgomyces annae* sp. n. on *Ptilium myrmecophilum*, Sadówka (*a* — holotype). *d*, *e* — *Misgomyces flexus* sp. n. on *Ptenidium fuscicorne* Er., Kiełpin (*d* — holotype)

ted on the elytra of the host, particularly at their ends in pairs which separated during preparation.

This species is named in honour of my wife.

Misgomyces flexus sp. n.

Hyalinus excepto perithecio quod lento fuscum ac lucens est. Receptaculum elongatum novem vel decem cellulis constat ita ut altera alteri superponatur. Cellula inferior parva et ad basim se angustans. Cellulae supra positae saepe longiores quam latiores sunt. Cellula summa arcuata est. Appendix in duos ramos se dividit (?), paulo longioribus vel compresis atque receptaculo angustioribus e cellulis constat. Cellulae terminales appendicis rotundatae sunt, tamen cellula basalis appendicis cellulae pedunculi perithecii vel basi perithecii conjuncta est. Cellula pedunculi perithecii compressa est. Perithecium asymmetrum cum expressis labiis

ad rotundatum apicem se angustat, eiusque margo externa valde arcuata est, tamen margo interna paene recta parvum residuum trichogyni (?) habet. Apex perithecii deorsum versus est.

Longitudo receptaculi 90-93 μ, perithecium 47-52×25-27 μ, appendix cum cellula basalis 42 μ.

Hyaline, perithecium very bright brownish. Receptacle elongated, consisting of 9-10 superposed cells. Lower cell small, tapering to the foot, the superposed broader, usually longer than broad, distal cell curved strongly. Appendage once branched (?), consisting of somewhat elongated of flattened cells, which are slenderer than the receptacle. Distal cells rounted at tip, basal cell connected with the stalk-cell or the base of the perithecium. Stalk-cell of perithecium flattened. Perithecium asymmetrical, tapering distally to the rounded apex with distinct lips, its outer margin strongly convex, the inner one nearly straight, with a small protuberance (remains of trichogyne?). The apex of the perithecium points downwards.

Receptacle (total length) 90-93 μ, perithecium 47-52×25-27 μ, appendage including basal cell 42 μ.

On *Ptenidium fuscicorne* Er. (*Ptiliidae*): Kiełpin, Nowy Dwór Mazowiecki county, in litter at foot of alder next to small pond, 22.12.1971 leg. T. Majewski (TM. 899 — holotype). Fig. 4 *d* — holotype, 4 *e* — isotype.

The two specimens of this curious fungus on the lower surface of the abdomen of the host cannot be classified to any of the known species of *Laboulbeniales*, although they resemble — like *Misgomyces annae* — *Misgomyces trichopterophilus* in their structure. The new species differs, however, distinctly by the arcuate receptacle and unsymmetric perithecium without a demarcated neck. If a larger number of specimens with intact appendages is found some day, it may be necessary to transfer this fungus to another genus.

Rhachomyces Vayssierei Lepesme

On *Trechus cardioderus Putz.* (*Col., Carabidae*): Wetlina, Lesko county (Bieszczady Mts), bank of stream N-E slope of Dział, 24.6.1970 leg. T. Majewski (TM. 351-359). Fig. 3 c.

The numerous specimens found on the entire body surface of the beetles caught agree perfectly with the original description and drawing of Lepesme (1942) and the microphotograph of Bánhegyi (1950) and drawings of Balazuc (1970). This species is closely related to *Rhachomyces canariensis* Thaxter as stressed by Balazuc (1970). Unfortunately its publication is not valid — as is the case with many other species of French authors — from the point of view botanical nomenclature since Lepesme not give the latin diagnosis.

Rhachomyces Vayssierei has so far been known from France, Portugal, Italy, Yugoslavia, Bulgaria and Hungary, perhaps also from Turkey on numerous representatives of the genus *Trechus* (B a l a z u c 1970, 1971a). *Trechus cardioderus* is its new host.

Stichomyces europaeus sp. n.

Habitus fuscus flavo colore suffusus excepta cellula appendicis et appendicibus secundariis quarum cellulae hyaline vel paene hyaline sunt. Inter receptaculum et appendicem non est distinctio, tamen cellula basalis receptaculi bis longior quam latior est et ad basim se angustat. Cellula supra posita maiorem habet longitudinem quam latitudinem et similis cellulis appendicis est; ex ea in parte superiore unum perithecium laterale oritur. Appendix quinque vel sex altera alteri superpositibus paene similibus, magis latioribus quam longioribus cellulis constat. Cellula basalis appendicis sterilis est vel appendices secundarias format. Appendices secundariae e parvis cellulis oriuntur, quae pariete obliqua a cellula appendicis se separant et ex una vel paucis cellulis formantur. Similes appendices secundariae superioribus cellulis appendicis oriuntur. Cellula finalis appendicis paulo minor quam ceterae cum una vel duabus appendicibus secundariis in apice est. Antheridia in finibus appendicum secundariarum bina ad quina etiam in longioribus appendicibus secundaris, singula et intercalaria congregata sunt. Fractis appendicibus secundaris earum cellulae basales, quae ab appendice separatae sunt, proliferari possunt in steriles simplices appendices. Cellula pedunculi perithecii aliquoties longior quam latior est. Cellulae basales perithecii una comprehensae latiores sunt ac fere tam longae quam cellula pedunculi perithecii, interior earum cellula brevior quam duae cellulae externae est. Perithecium rectum, symmetrum ventrem magnum, collum breve ac indistinctum habet.

Longitudo ad apicem perithecii 190 μ, axis receptaculi et appendicis 110 μ, appendices secundariae cum antheridiis 17-37 μ.

Yellow-brown except for the stalk-cell and branchlets with antheridia, which are hyaline or almost hyaline. Receptacle and appendage undifferentiated, the basal cell of the receptacle twice longer than broad, tapering to the foot, the subbasal cell not much longer than broad and similar to the cells of the appendage, bearing distally and laterally a single perithecium. Appendage consisting of five to six superposed subequal cells which are slightly longer than broad. The basal cell is sterile or produces antheridial branchlets. They derive from small cells, which separated by oblique septa from the cells of the appendage and they are one or several-celled. Similar antheridial branchlets are produced on the superposed cells of the appendage. The terminal cell of the appendage somewhat smaller, bearing one or two terminal branchlets. Antheridia grouped in

twos to fives on the ends of branchlets, and — on the longer branchlets — single and intercalary. After breaking off the branchlets, the basal cells which separated from the appendage may overgrov into sterile, straight branches. Stalk-cell of the perithecium several times longer than broad. Basal cells collectively broader and nearly as long as the stalk-cell, inner cell shorter than the two outer ones. Perithecium straight, symmetrical, venter large, neck short, poorly outlined.

Total length to tip of perithecium 193 μ (holotype), axis of receptacle and appendage 110-132 μ, branchlets with antheridia 17-37 μ, basal cells and stalk-cell 70 μ.

On *Conosoma testaceum* (F.) (*Staphylinidae*): Kiełpin, Nowy Dwór Mazowiecki county, in mouldy wood at foot of old willow near lake, 22. 12.1971 leg. T. Majewski (TM 897). Fig. 5 *c* — holotype, 5 *a*, *b*, *d* — isotypes.

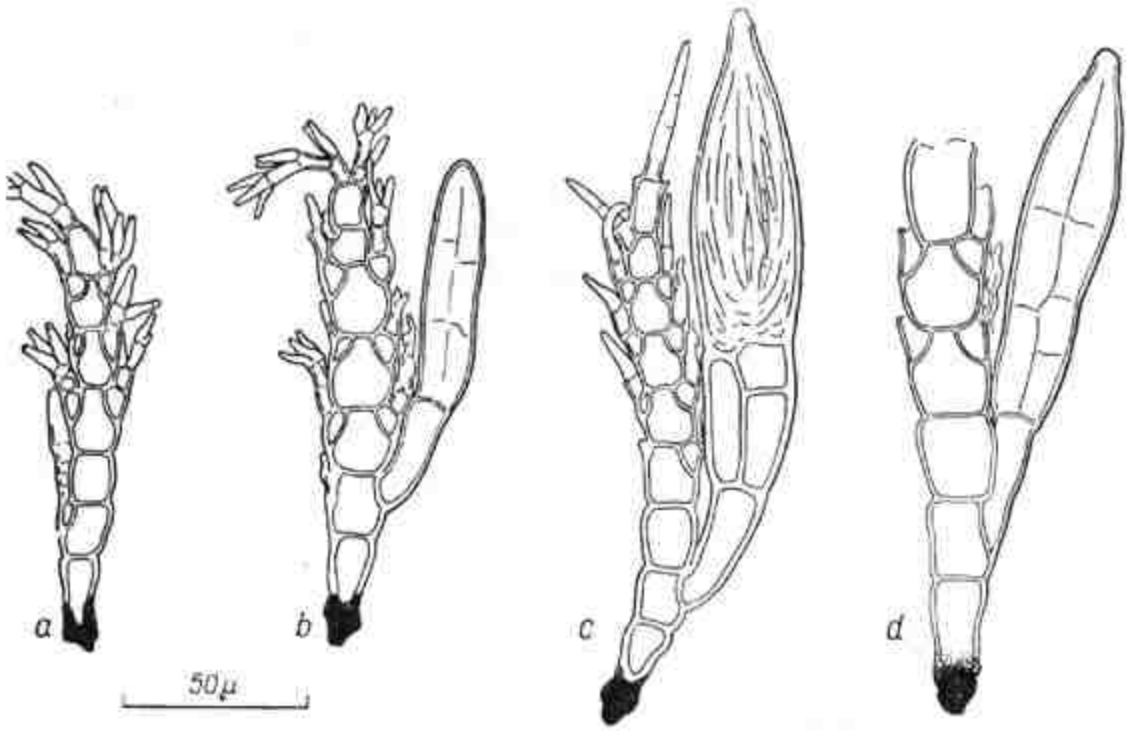

Fig. 5. *Stichomyces europaeus* sp. n. on *Conosoma testaceum*, Kiełpin (*c* — holotype)

The genus *Stichomyces* includes six species (*S. stilicolus* Thaxter = *Corethromyces stilicola* (Thaxter) Thaxter excluded) described by Thaxter (1908, 1931) on representatives of the genus *Conosoma* (*Col., Staphylinidae*) from North and South America, Africa and Indonesia. The newly described species *S. europaeus* differs from most others (*S. catalinae, S. lepidus, S. vesiculiferus*) by longer appendages, the upper half of which at least forms branches with antheridia. The appendage cells (which are strongly elongated) are of different shape in *S. capensis* and differ somewhat less in *S. sumatrae*. Most closely related seems to be

S. conosomae Thaxter, but its branches with antheridia have a simpler structure.

The few specimens of this fungus with only one mature perithecium were found on the elytra of the host.

The author is indebted to dr B. Burakowski who determined the beetles of the family *Ptiliidae*, to mgr T. Plewka who determined *Carabidae*, and to docent dr. A. Szujecki for determining *Staphylinidae*; the representatives of *Catopidae* were determined by docent dr. W. Szymczakowski who kindly made his rich collection of these beetles available to me. Thanks are due to mgr K. Nowak for his aid in the translation of the latin diagnoses.

REFERENCES

Balazuc J., 1970, Commentaires sur les *Rhachomyces* parasites des *Trechidae*, avec descriptions de formes nouvelles (*Ascomycetes, Laboulbéniales*), Ann. Soc. Ent. Fr., ser. 2, 6: 677-699.

Balazuc J., 1971, Laboulbéniales inédites, parasites de Carabiques et d'un Catopide, Nouv. Rev. Ent. 1: 245-254.

Balazuc J., 1971a, Notes sur les *Laboulbeniales*. III. Rectifications, synonymies et mises au point, Bull. mens. Soc. linn. Lyon 40: 168-171, 211-216.

Bánhegyi J., 1950, Ritka Laboulbeniák a Kárpátmedencéből, Ann. biol. Univ. Budapest, 1: 189-196.

Cèpède C., Picard F., 1907, Observations biologiques sur les Laboulbèniacées et diagnoses sommaires de quelques espèces nouvelles, C. r. Ass. fr. Av. Sc., 36 session de Reims 778-784.

Cépède C., Picard F., 1908, Contribution à la biologie et à la systématique des *Laboulbéniacées* de la flore française, Bull. Sci. France Belg. 42: 247-268, pl. III-IV.

Colla S., 1926, Laboulbeniali osservati nelle collezioni del R. Museo Zoologico di Torino, Mem. R. Accad. Naz. Lincei, cl. sci. fis., mat., nat. ser. 6, 2: 153-193, tav. I-IV.

Lepesme P., 1942, Revision des *Rhachomyces* paléarctiques (*Laboulbeniaceae*), Bull. Soc. mycol. Fr. 58: 57-80, pl. 2-6.

Majewski T., 1972, Rare and new *Laboulbeniales* from Poland, Acta Mycol. 7: 269-277.

Middelhoek A., 1949, *Laboulbeniaceae* in Nederland III, Nederl. Kruidk. Arch. 56: 249-260.

Picard F., 1912, Description de deux *Laboulbéniacées* nouvelles, parasites de Coléoptères, Bull. Soc. ent. Fr. 1912: 178-181.

Scheloske H. W., 1969, Beiträge zur Biologie, Ökologie und Systematik der *Laboulbeniales* (*Ascomycetes*), Parasitolog. Sch. Reihe 19: 1-176.

Siemaszko J. and Siemaszko W., 1928, Owadorosty polskie i palearktyczne, Pol. Pismo Ent. 6: 188-211, pl. VII.

Siemaszko J. and Siemaszko W., 1933, Owadorosty polskie i palearktyczne, III, Pol. Pismo Ent. 12: 115-138, pl. IX-X.

Spegazzini C., 1915, Segunda contribución al conocimiento de las *Laboulbeniales* Italianas, An. Mus. Nacion. Hist. Nat. Buenos-Aires 27: 37-74.

Thaxter R., 1896, Contribution toward a monograph of the *Laboulbeniaceae*, Mem. Amer. Acad. Arts Sci. 12: 187-429, pl. 1-26.

Thaxter R., 1908, Contribution toward a monograph of the *Laboulbeniaceae*. Part II, ibid. 13: 217-469, pl. 28-71.
Thaxter R., 1931, Contribution toward a monograph of the *Laboulbeniaceae* Part V, ibid. 16: 1-432, pl. 1-57.

Rzadkie i nowe *Laboulbeniales* z Polski. III

Streszczenie

W pracy opisano 5 nowych gatunków: *Corethromyces niger* na chrząszczu z rodziny *Catopidae*, *Dioicomyces myrmecophilus* na przedstawicielu *Colydiidae*, *Misgomyces annae* i *M. flexus* na przedstawicielach *Ptiliidae* i *Stichomyces europaeus* na przedstawicielu *Staphylinidae*. Pozostałe gatunki są nowe dla flory Polski.