

Rare and new *Laboulbeniales* from Poland. II.

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A new genus *Fanniomyces* gen. nov., with a typical species *Fanniomyces ceratophorus* (Whisler) comb. nov., differing from the genus *Stigmatomyces* by a sympodially branched antheridial appendage. *Stigmatomyces pedunculatus* sp. n. on *Leptocera* sp. and *Stigmatomyces trianguliapicalis* sp. n. on *Parydra fossarum* have been described and the first stands of *S. hydrelliae* Th. and *S. scaptomyzae* Th. in Europe are given.

Fungi of the genus *Stigmatomyces* which are parasites of *Diptera* are very poorly known in Europe. With the exception of the fairly frequent *Stigmatomyces Baeri* only a single stands are known for *Stigmatomyces eutomophilus* (Peck) Th. (Thaxter 1896; Blair 1947), *S. purpureus* Th. (Biffen 1908), *S. papuanus* Th. (= *S. italicus* Spegazzini 1915), *S. ephydrae* Mercier et Poisson (1927) and *S. Haranti* Dainat (1970). Systematic investigations will indubitably increase the number of species of this genus known in Europe. A proof of this statement is the fact that the autor has found during a relatively short time (1970 - 1971) five species of the genus *Stigmatomyces* in Poland, that is as many as are known in the rest of Europe.

Stigmatomyces ceratophorus Whisler, which has been recently found in Poland (Majewski 1971), has been excluded from the review above. This fungus, described in the United States by Whisler (1968) on *Fannia canicularis* (L.) differs considerably from all other species hitherto included in the genus *Stigmatomyces* by the structure of its antheridial appendage. It seems that a new genus should be formed for this species:

Fanniomyces gen. nov.

Receptaculum ex duabus cellulis altera alteri superposita constat, quarum prima cellulae pedunculi perithecii et pedunculi appendicis oriuntur. Perithecium sessile. Axis appendicis antheridialis sympodia-

liter ramosus, antheridia singula in extremis ramis. Spora unicam septam habet.

Receptacle consisting of two superposed cells, the upper giving rise to a single perithecium and to an appendage. The perithecium sessile. The axis of the appendage sympodially branched, the single antheridia on the tips of the branches. Spores once septate.

Type species: *Fanniomyces ceratophorus* (Whisler) comb. n., basionym: *Stigmatomyces ceratophorus* Whisler, Mycologia 60: 68.1968.

Etymology: from the fly genus *Fannia* R.-D., on which the type species was found.

This genus resembles the genus *Stigmatomyces* by the structure of its receptaculum, perithecium and stalk cells. The structure of its antheridial appendage is particular and different from that encountered in other *Laboulbeniales*.

STIGMATOMYCES KARSTEN

Stigmatomyces Baeri (Knoch) Peyritsch

On *Musca domestica* (L.) (*Muscidae*): Warsaw — Mokotów, in an apartment, 20.9.1971 (TM Nr. 660 - 662), 21.9.1971 (Nr. 663), 1.10.1971 (Nr. 725), 11.10.1971 (Nr. 726); Warsaw — Krakowskie Przedmieście, the University, 27.9.1971 (Nr. 666, 667). Fig. 1, 2.

This fungus was fairly abundant in Warsaw during the last autumn, in general it seems to be rather rare. Flies from various sources were previously examined and proved to be free from the parasite.

This fungus has previously been collected in the USSR (Leningrad — Knoch 1868, Charkov — Sorokin 1871, Smila near Kiev — Wize 1929), in Czechoslovakia (Prague — Beck 1903), Austria (Vienna — Peyritsch 1871), Germany (Munich — Karsten 1880 - 1883), Netherlands (on *Homalomyia canicularis* = *Fannia canicularis*, Thaxter 1931) and Switzerland (Ruffieux after Stadelmann and Poelt 1962). It has also been found in South Africa (Capstadt — Peyritsch 1874). Specimens found in Warsaw fully agree with the descriptions of Peyritsch (1871) and Thaxter (1896).

Stigmatomyces hydrelliae Thaxter

On *Hydrellia griseola* (Fall.), (*Ephydridae*): Wetlina, Lesko county, in shrubs on the banks of the river Wetlinka, 27.6.1970 (TM Nr. 350); Augustów, banks of Białe Lake, 9.8.1970 (Nr. 401 - 408); Szczecin — Arconian Forest, bank of a nursery, 3.9.1971 (Nr 652, 653). Fig. 3 - 5.

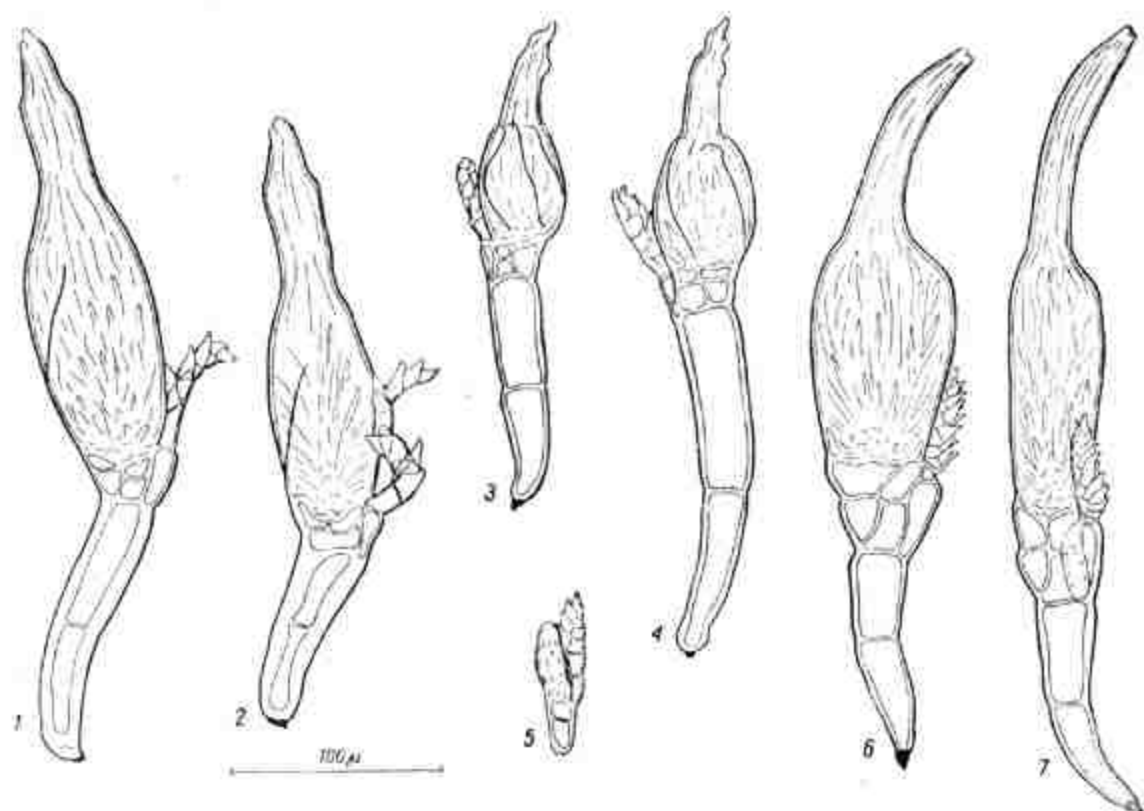


Fig. 1 - 7. 1, 2: *Stigmatomyces Baeri* (Knoch) Peyr. on *Musca domestica* (Warszawa). 3 - 5: *S. hydrelliae* Th. on *Hydrellia griseola* (3, 4 — Szczecin, 5 — Augustów). 6, 7: *S. scaptomyzae* Th. on *Scaptomyza pallida* (6 — Sielec Stary, 7 — Augustów).

The numerous specimens of this fungus collected from three stands from different parts of Poland agree in general with the description and figures of Thaxter (1908). Their dimensions are: perithecium 85 - 115 μ , appendage 37 - 50 μ , receptacle 75 - 180 μ , total length 170 - 285 μ . They are thus in general longer than the specimens described by Thaxter, which were 150 - 185 μ long. This is mainly due to the longer receptaculum found in Polish species (the receptacle of Thaxter's specimens was 55 - 65 μ long). This is confirmed by a comparison of drawings of typical specimens (Thaxter 1908 pl. XLVI fig. 19 - 21) and specimens from Poland (Fig. 3 - 4).

Stigmatomyces pedunculatus sp. nov.

Habitus rectus vel paene rectus. Receptaculum hyalinum, proportionaliter breve, ex duabus cellulis eadem paene longitudine constans. Cellula pedunculi appendicis hyalina, proportionaliter longa, eadem longitudine quam cellula pedunculi perithecii aliquoties longior quam latior. Exterior paries eiusdem cellulae paene rectus vel sub basim appendicis curvatus. Appendix arcuata, hyalina vel paulo flava, excepto cellula

inferiore axis quae fusca flavo colore suffusa est, eadem longitudine qua cellulae basales perithecii. Appendix etiam brevior esse potest. Axis ependicis ex (7) 10 - 16 cellulis constat. Cellulae hae oblique altera alteri superpositae sunt, firmiter angustatae, profundis scissuris inter se divisae sunt. Earum externi parietes crassi sunt. Antheridia in inferiore parte ependicis oriuntur, eorumque longiora colla oblique in altum diriguntur. Antheridia superiora saepe sterilia atque irregulariter crassa sunt. Cellula pedunculi perithecii hyalina, cum cellula pedunculi ependicis tota coniuncta est, sed a cellulis suprapositis obliquo pariete divisa est. Cellulae basales perithecii proportionaliter longae sunt, pedunculum bene formatum constituunt, hyalinae vel in superiore parte fuscae flavo colore suffusae sunt; quarum una proxima ependicis et duae externae altera alteri posita, paene eadem sunt. Perithecium leve, fuscum, flavo colore suffusum, venter magis fuscus, atque magis et regulariter rotundatus. Collum perithecii paulo longius vel saepe bis vel ter longius quam venter, aperte apparet et leviter angustius fit. Apex colli saepe repente angustatus, rotundatus vel planus, sine labiis.

Straight or nearly straight. Receptacle hyaline, relatively short, the two cells nearly equal. The stalk-cell of the appendage hyaline, relatively large, as long as the stalk-cell of the perithecium, several times longer than broad, its outer margin nearly straight or curved nearly the base of the appendage. The appendage arcuated, hyaline or yellowish except the lower cell of the axis, which is yellowish brown, as long or shorter than the basal cells of the perithecium. The axis of the appendage consisting of (7) 10 - 16 cells; they are obliquely superposed, much flattened, separated by deep constrictions, its distal walls are thick. The antheridia borne on the inner side of the appendage, their very long necks extending obliquely upward; the upper antheridia often infertile, becoming irregularly swollen. The stalk-cell of the perithecium hyaline, wholly united with the stalk-cell of the appendage, separated from the cells above it by an oblique septum. Basal cells of the perithecium relatively very large, forming a well defined stalk, hyaline or coloured above, consisting of an inner cell next the appendage and two superposed outer cells, which are subequal. Perithecium yellowish brown, the venter darker, rather strongly and regularly inflated, its surface smooth, the neck somewhat longer than the venter or often 2 - 3 times longer, abruptly distinguished, tapering slightly. The tip usually abruptly narrowed, rounded or flattened, without lips.

Perithecium (130 -) 160 - 275 μ , appendage (40 -) 60 - 105 μ , receptaculum 45 - 85 μ , basal cells of the perithecium 60 - 220 μ , total length (226 -) 350 - 600 μ .

On *Leptocera* sp. (*Sphaeroceridae*): Sielc Stary, Maków Mazowiecki county, banks of drying pond near the Narew river, 26.8.1971 (TM Nr.

627 - 628, 630 - 634); Kołowo, Gryfino county, border of a pond in a field, 4.9.1971 (Nr. 656); Tarczyn, Grójec county, banks of nurseries, 13.10.1971 (Nr. 727 - 732; Nr. 730 — holotype). Fig. 8 — holotype, fig. 9 - 10 — isotypes, fig. 11 - 12 — paratypes.

This fungus was found on flies from a large and not well elaborated genus, belonging (according to Dr Nowakowski) to one species, which has probably not yet been described. The fungi occurred on the abdomen of the insects — generally on its upper part of females and on the genital organs of males, and on the legs of males. The specimens on the surface of the abdomen were often larger than those on the legs; specimens from genital organs of the males were the smallest, often with a bent receptaculum and strongly shortened basal cells of the perithecium (Fig. 10). The considerable differences in dimensions in this species are mainly due to differences in the length of basal cells of the perithecium, and to a lesser degree to differences in the length of the perithecial neck.

22 species of the genus *Stigmatomyces* have been found on Diptera from the family *Sphaeroceridae* (syn. *Borboridae*, *Cypselidae*) in America, Africa and Asia (Thaxter 1908, 1931). Most of them (14 species) are parasites of the genus *Leptocera* Olivier (*Limosina* auct.). *Stigmatomyces pedunculatus* differs considerably from some of them by many structural details. It resembles some species more closely, but even these lack a distinct stalk, which is formed in *S. pedunculatus* of the basal cells of the perithecium, and by a shorter antheridial appendage. These traits also distinguish *S. pedunculatus* from *S. papuanus* Thaxter from Italy, which is a parasite of *Borborus* sp. (Thaxter 1931). The newly described species resembles closely *S. limosinae* Thaxter, but has a different tip of the perithecium (without lips or projections), a curved appendage made up of 10 - 16 cells (the axis of the appendage in *S. limosinae* consist of about 10 cells) and a swollen venter.

Stigmatomyces scaptomyzae Thaxter

On *Scaptomyza* (*Parascaptomyza*) *pallida* (Zett.) (*Drosophilidae*): Augustów, bank of Biale Lake, 9.8.1970 (TM Nr. 409 - 411); Gniewniewice, Nowy Dwór Maz. county, bushes near the Vistula, 5.9.1970 (Nr. 413); Warsaw — Marymont, on compost, 3.7.1971 (Nr. 608); Warsaw — Mokotów, in an apartment, 10.8.1971 (Nr. 611); Sielc Stary, Maków Maz. county, banks of drying pond near the Narew, 26.8.1971 (Nr. 625 - 626). Fig. 6 - 7.

Specimens from Poland fully correspond to Thaxter's description and figures (1908). Their dimensions are: perithecium 150 - 235 μ , appendage 40 - 55 μ , receptaculum 85 - 105 μ , total length 240 - 365 μ .

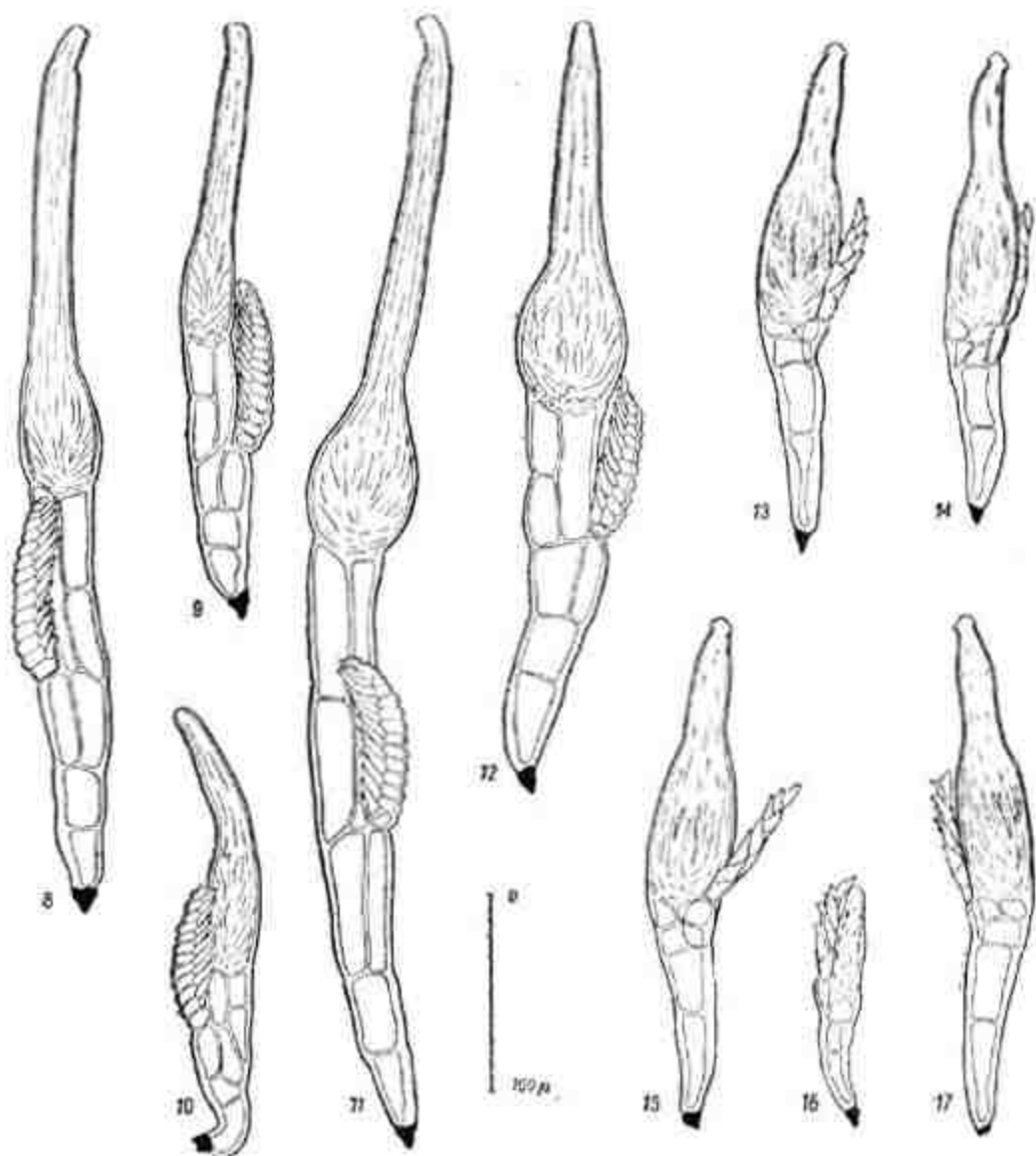


Fig. 8 - 17. 8 - 12: *Stigmatomyces pedunculatus* sp. n. on *Leptocera* sp. (8 — holotype, 9 - 10 — isotypes, Tarczyn; 11 — paratype, Sielc Stary; 12 — paratype, Kolowo). 13 - 17: *S. trianguliapicalis* sp. n. on *Parydra fossarum* (Sielc Stary); 13 — holotype, 14 - 17 — isotypes.

This fungus is common in North America on *Scaptomyza graminum* Fall., it has also been found on *Scaptomyza* sp. in Venezuela (Thaxter 1908).

Stigmatomyces trianguliapicalis sp. nov.

Receptaculum fere rectum, hyalinum vel paene hyalinum, cellula basalis paulo longior cellula subbasali, repente angustior ad basim. Cellula pedunculi appendicis atque venter perithecii fuscus flavo colore suffusus vel magis fuscus. Exterior finis cellulae pedunculi appendicis

paulo rotundior infra basim appendicis ad extra. Appendix eiusdem coloris atque eadem fere longitudine quam venter perithecii. Axis appendicis ex quattuor (?) cellulis constat. Antheridia, excepto antheridio extremo, in duabus paulo visibilibus lineis ordinata sunt. Cellula pedunculi perithecii latior quam longior et magis pallescens quam duae subaequales cellulae supra positae, attamen eiusdem coloris quam venter perithecii. Venter perithecii rectus, regulariter ovatus, levis. Collum perithecii rectum, proportionaliter crassum, magis pallescens quam venter et paene tam longum quam venter vel paulo minus ventre, ad apicem angustius fit. Apex colli plane assymmetricus atque triangulariter crassus, sine labiis.

Receptacle nearly straight, hyaline or subhyaline, basal cell slightly longer than the subbasal, abruptly narrower above the foot. The stalk-cell of the appendage concolours with dark yellowish brown venter or somewhat darker, the distal edge slightly prominently rounded outward beside the insertion of the appendage. The appendage concolours with the venter, about as long as the venter. The axis of the appendage consisting of four (?) cells. Antheridia except the culminant in two indistinct lines. Stalk-cell of the perithecium shorter as broad, paler than the two subequal cells above, concolours with the venter. The venter straight, nearly symmetrically ovoid, its surface smooth. The neck straight, relatively thick, paler, about as long as the venter or somewhat shorter, narrower at the tip. The tip distinctly asymmetrically triangularly swollen, without lips.

Perithecium 137 - 142 μ , receptacle 72 - 85 μ , appendage 62 - 75 μ , total length 237 - 260 μ .

On *Parydra fossarum* Hal. (*Ephydridae*): Siele Stary, Maków Maz. county, the bank of a drying pond near the Narew, 26.8.1971, on the hind leg of a male (TM Nr. 629, holotype). Fig. 13 — holotype, fig. 14 - 17 — isotypes.

A considerable number of fungi of the genus *Stigmatomyces* have been described on flies of the family *Ephydridae*, 37 in all, two of which were from Europe (Dainat 1970). The above-described *Stigmatomyces trianguliapicalis* bears a general resemblance to some known species (*S. ambiguus* Thaxter, *S. ilythae* Thaxter, *S. separatus* Thaxter — after Thaxter 1931) but differs from them by the structure of its anteridial appendage and the tip of the perithecium. The last trait is especially characteristic of this species and distinguishes it from all other representatives of the genus.

It is worth mentioning that this fungus differs considerably from species described in North and Central America on members of the genus *Parydra* Stenhammar (*Stigmatomyces borealis* Thaxter, *S. curvirostris* Thaxter, *S. lingulatus* Thaxter, *S. parydrae* Thaxter, *S. pinguis*

Thaxter, *S. protrudens* Thaxter — descriptions after Thaxter 1931).

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Rzadkie i nowe *Laboulbeniales* z Polski. II.

Streszczenie

Opisano nowy rodzaj *Fanniomyces* gen. n. z typowym gatunkiem *Fanniomyces ceratophorus* (Whisler) comb. n.; różni się on od *Stigmatomyces* rozgałęzionym sympodialnie wyrostkiem plemniowym. Poza tym opisano *Stigmatomyces pedunculatus* sp. n. na *Leptocera* sp. i *S. trianguliapicalis* sp. n. na *Parydra fossarum* oraz podano pierwsze w Europie stanowiska *S. hyärelliae* Th. i *S. scaptomyzae* Th.