

New records of Pyrenomycetes from the Czech Republic I

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A list of 10 lignicolous, herbaceous and coprophilous Pyrenomycetes, *Antennularia salisburgensis* (Niessl) Höhn., *Cryptodiaporthe aesculi* (Fuckel) Petrak, *Enchnoa subcorticalis* (Peck) Barr, *Gnomonia comari* P. Karst., *Kirschsteiniothelia aethiops* (Berk. et Curtis) Hawksw., *Kriegeriella mirabilis* Höhn., *Massaria pyri* Otth, *Nitschkia cupularis* (Fr.: Fr.) P. Karst., *Pleophragmia leporum* Fuckel and *Valsaria foedans* (P. Karst.) Sacc., collected in the Czech Republic for the first time is presented. All of them occur rarely and the lignicolous species *Enchnoa subcorticalis* so far known only from North America was collected in Europe for the first time. Descriptions, illustrations and taxonomical and ecological notes are added. The systematic position of these species is arranged according to the system suggested by Eriksson and Hawksworth (1993).

Key words: new records, lignicolous, herbaceous and coprophilous Pyrenomycetes, Czech Republic.

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Je předložen seznam 10 dřevních, bylinných a koprofilních pyrenomycetů, *Antennularia salisburgensis* (Niessl) Höhn., *Cryptodiaporthe aesculi* (Fuckel) Petrak, *Enchnoa subcorticalis* (Peck) Barr, *Gnomonia comari* P. Karst., *Kirschsteiniothelia aethiops* (Berk. et Curtis) Hawksw., *Kriegeriella mirabilis* Höhn., *Massaria pyri* Otth, *Nitschkia cupularis* (Fr.: Fr.) P. Karst., *Pleophragmia leporum* Fuckel a *Valsaria foedans* (P. Karst.) Sacc., které byly poprvé sbírány v České republice. Všechny druhy se vyskytují zřídka a druh *Enchnoa subcorticalis* dosud uváděný pouze ze Severní Ameriky byl poprvé sbírán také v Evropě. Seznam je doplněn popisy, ilustracemi a taxonomickými a ekologickými poznámkami. Zařazení jednotlivých druhů do systému je podle Erikssona a Hawkswortha (1993).

THE LIST OF THE SPECIES

Abbreviations: M. R. = Martina Réblová, M. S. = Mirko Svrček.

Antennularia salisburgensis (Niessl) Höhn., Öster. Bot. Zeitschr. 63: 233, 1913.

Fig 1 a.

Syn.: *Gibbera salisburgensis* Niessl, Hedwigia 26: 33, 1887.

≡ *Eriosphaeria salisburgensis* (Niessl) Neger, Ber. Deutsch. Bot. Ges. 19: 471, 1901.

≡ *Coleroa salisburgensis* (Niessl) Höhn., Sitz. K. Akad. Wiss. Wien, math.—nat. Kl. 116: 115, 1907.

= *Chaetomium pusillum* Strauss, Deutschl.-Fl. 3: 3, 1853 [non Fries 1829].

= *Gibbera straussii* Zahlbruckner, Ann. Naturhist. Mus. Wien 18: 355, 1903.

Specimen examined: West Bohemia: Slavkovský les, Mt. Vlčí kámen (880 m a.s.l.) near Mariánské Lázně; on living and withering leaves of *Erica carnea*, 27. VII.1949, leg. et det. M. S. (PRM).

For full description see Petrak (1947).

Notes: According to the Bohemian find the species forms superficial, black ascomata 150–200 μm wide on a brown hyphal mat on withering leaves, covered with pointed, thick-walled, almost black coloured setae up to $160 \times 6\text{--}7 \mu\text{m}$. Ascospores $18\text{--}22 \times 5.5\text{--}6 \mu\text{m}$, pale brown, oblong clavate, two celled with the septum slightly above the middle.

The genus *Antennularia* Reichenbach (Consp. Reg. Veg. Trent. 1: 5, 1828) differs from the genus *Gibbera* Fr. (Summa Veg. Scand. p. 402, 1849) in the presence of a superficial hyphal mat. According to Müller and Arx (1962) 12 species are known, in Europe only 5, all exclusively on leaves of Ericaceae (*Erica* spp., *Arctostaphylos* and *Rhododendron*) and Rosaceae (*Rosa pendulina*). Some of them were revised and fully described by Petrak (1947). *Antennularia salisburgensis* is the only species of this genus so far known in Bohemia.

Habitat: The fungus occurs on withering lower leaves of *Erica* spp. (mostly on *Erica carnea*).

Anamorph: still unknown.

Known hosts: *Erica carnea*, *E. tetralix*.

Distribution: Europe: Austria, Czech Republic, Great Britain. (The collections of *A. salisburgensis* on *Erica tetralix* from Great Britain have slightly larger ascospores ($18\text{--}23 \times 6\text{--}8 \mu\text{m}$) according to Dennis (1978) but agree in the 4-spored asci typical of *A. salisburgensis*.)

Systematic position: Venturiaceae E. Müller et Arx ex Barr, Dothideales Lindau.

Cryptodiaporthe aesculi (Fuckel) Petrak, Ann. Mycol. 19: 118, 1921. Fig 2 a.

Syn.: *Cryptospora aesculi* Fuckel, Symb. Mycol. p.193, 1870.

Specimen examined: Southern Bohemia: site called "Malý Chuchelec" near Kaplice; on fallen branch of *Aesculus hippocastanum*, 17. V. 1974, leg. R. Podlahová, det. M. S. (M-87).

For full description and synonymy refer to Müller and Arx (1962).

Notes: *Cryptodiaporthe aesculi* has clavate asci, $75 \times 12 \mu\text{m}$, rounded above with a distinct refractive apical ring and cylindric to fusiform ascospores, $20\text{--}24 \times 4\text{--}6 \mu\text{m}$, narrowly rounded at the ends, 2-celled and hardly constricted at the septum. According to data from the literature (Wehmeyer 1933, Munk 1957) a minute hyaline appendage was seen at each end of the ascospores in fresh material. We did not observe this character on our specimen. The minute hyaline appendages, a very subtle structure, are distinct predominantly in young ascospores, but as they mature appendages disappear.

Habitat: *Cryptodiaporthe aesculi* rarely grows on dead branches and twigs, especially on scars left after leaves have fallen off. The anamorph occurs in winter, the teleomorph in spring on the same parts of twigs as its anamorph.

Anamorph: *Diplodina aesculi* (Sacc.) Sutton (Sutton 1980).

Known host: *Aesculus hippocastanum*.

Distribution: Europe: Czech Republic, Denmark, Germany, Great Britain, Netherlands; temperate North America.

Systematic position: Valsaceae Tul. et C. Tul., Diaporthales Nannf.

Enchnoa subcorticalis (Peck) Barr, *Rhodora* 71: 198, 1969.

Fig 6 a-c.

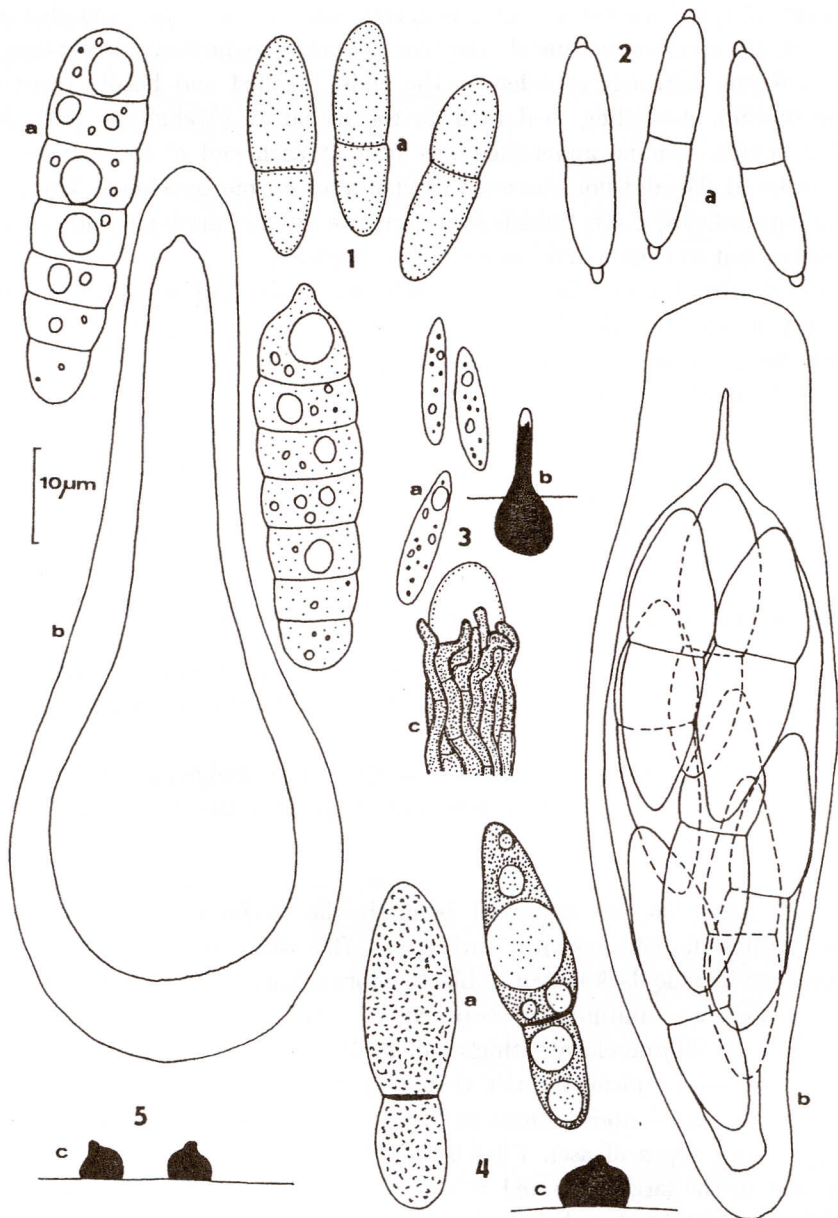
Syn.: *Sphaeria subcorticalis* Peck, *New York State Mus. Rep.* 28: 77-78, 1876.

≡ *Trichosphaeria subcorticalis* (Peck) Sacc., *Syll. Fung.* 1: 454, 1882.

Specimen examined: Central Bohemia: Ruda near Rakovník, woodland "Leontýn, Druhý luh"; on bark of fallen branch of *Quercus petraea*, 29. XI. 1992, leg. et det. M. R. (Herb. M. R.).

Notes: Ascomata are scattered beneath the periderm of the host, subglobose with wide base, collapsing when dry, $700\text{--}1330 \mu\text{m}$ wide, surrounded by a subiculum; hyphae dark brown to black, unbranched, septate, thick-walled, $4.5\text{--}5.5 \mu\text{m}$ wide. Asci unitunicate, 8-spored, of two sizes: 1) $90\text{--}136$ (30-50 pars sporifera) $\times 10\text{--}20 \mu\text{m}$, clavate, thick-walled, flattened above, long-stipitate, stipe strongly developed, apical ring not visible; 2) $25.4\text{--}28.4 \times 4\text{--}4.8 \mu\text{m}$, cylindrical, thin-walled, rounded above, short-stipitate, apical ring not visible. Ascospores similar in both types of asci, $7.2\text{--}9.6 \times 2\text{--}2.4 \mu\text{m}$, irregularly clustered in the upper part of the larger asci and biseriate in the smaller asci, greenish-hyaline, cylindric to allantoid, rounded at the ends, 1-celled or with pseudoseptum, with several oil drops. (The description is based on the Bohemian find.)

The species of the genus *Enchnoa* Fr. are still little known and are because of their inconspicuous appearance seldom collected. *Enchnoa subcorticalis* can easily be distinguished from other species of the genus *Enchnoa* by the dimensions of its ascospores and the asci of two sizes. Bigelow and Barr (1969) recorded the



Figs 1-5. 1. *Antennularia salisburgensis* (Niessl) Höhn.: a-ascospores. 2. *Cryptodiaporthe aesculi* (Fuckel) Petrak: a-ascospores. 3. *Gnomonia comari* P. Karst.: a-spores, b-ascus immersed in the substrate, c-superficial hyphae of the beak. 4. *Kirschsteiniothelia aethiops* (Berk. et Broome) Hawksw.: a-ascospores, one spore with several oil drops and the second one with superficial ornamentation, b-ascus with ascospores, c-ascoma. 5. *Kriegeriella mirabilis* Höhn.: a-ascospores, b-empty ascus, c-ascomata.

Del.: M. Réblová

larger asci sized 55–100 (44–55 pars sporifera) \times 10–16.5 μm , but in the Bohemian collection the asci were larger. The dimensions of the ascospores and the smaller asci coincide with the data of Bigelow and Barr (1969).

So far, several species of the genus *Enchnoa* Fr. have been described, e.g. *E. alniella* P. Karst., *E. floccosa* (Fr.) P. Karst., *E. friesii* Fuckel, *E. glis* (Berk. et Broome) Fuckel, *E. infernalis* (Fr.) Fuckel, *E. lanata* Fr., *E. mucida* Starb. and *E. subcorticalis* (Peck) Barr. Further investigations will reveal their correct taxonomic position, how many of the described species are distinct species of the genus *Enchnoa* and how many are synonyms. It is obvious from a few data from the literature (Fuckel 1870, Winter 1887, Munk 1957, Barr 1985) and from the fact that members of *Enchnoa* are collected less often than other species of the order Calosphaeriales and some of them are known from the original description only, that this genus requires a critical revision.

Habitat: The ascomata of the genus *Enchnoa* develop beneath the periderm of their host tree and are usually associated with other Pyrenomyces. Munk (1957) recorded *E. infernalis* on dead branches of *Quercus* associated with *Diatrype stigma* (Hoffm.: Fr.) Fr., *Valsa intermedia* Nitschke and *Lopadostoma gastrinum* (Fr.) Trav. Barr (1969, 1985) reported *E. subcorticalis* from old branches of *Carpinus* and *Quercus* among remnants of stromatic Pyrenomyces. In the material from the Czech Republic the ascomata of *E. subcorticalis* on fallen branches grew among the stromata of *Diatrypella quercina* (Pers.: Fr.) Cooke.

Anamorph: still unknown.

Known hosts: *Carpinus caroliniana*, *Quercus petraea*, *Quercus* sp.

Distribution: Europe: Czech Republic; North America: USA (Louisiana, Massachusetts, New York, Ontario). Recently, the species was found in Europe for the first time.

Systematic position: Calosphaeriaceae Munk, Calosphaeriales Barr.

Gnomonia comari P. Karst., Bidr. Kann. Finnlands Nat. och Folk 23: 22, 1873.

Fig 3 a–c.

Syn.: *Gnomonia occulta* Kirschstein, Verh. bot. Ver. Prov. Brandenb. 48: 58, 1906.

Specimen examined: Central Bohemia: Praha-Zadní Kopanina, valley "Radotínské údolí", meadows near mill "Taslerův mlýn"; on decayed leaves of *Potentilla anserina*, 10. IX. 1991, leg. et det. M. S. (PRM).

For full description and synonymy refer to Monod (1983).

Notes: The material collected on *Potentilla anserina* in Bohemia had ascomata of about 200 μm wide, immersed in the tissue of dead leaves, subglobose, black,

long-beaked, with a straight bristle-like beak, 200–250 μm long and 35–50 μm thick, erumpent from the underside of the leaves. The superficial hyphae of the beak were 2.5–4 μm wide, black-brown, septate, flexuose at their apices. Peridium was composed of rather thin-walled, dark blackish-brown, angulose cells up to 12 μm in diam. Asci 30–35 \times 6–8 μm , 8-spored, thin-walled; ascospores 10–12 \times 2.5–3 μm , lying parallel in the ascus, narrowly fusiform, with several guttules, hyaline.

This is the only collection of this *Gnomonia* known in Bohemia with certainty.

Habitat: On dead leaves, petioles and stems of herbaceous Rosaceae.

Anamorph: *Zythia fragariae* Laibach (causes Leaf Blotch diseases of *Fragaria* and *Geum*, fide Dennis 1978) and *Sporonema* sp. (fide Monod 1983).

Known hosts: In Europe mostly on *Potentilla* (*Comarum*) *palustre*, in Bohemia so far only on *Potentilla anserina*.

Distribution: Europe: Czech Republic, Denmark, Finland, Great Britain, Sweden; North America: U. S. A.; New Zealand.

Systematic position: Valsaceae Tul. et C. Tul., Diaporthales Nannf.

Kirschsteiniothelia aethiops (Berk. et M. A. Curtis) Hawksw., Bot. Jour. Linn. Soc. 91: 182, 1985. Fig 4 a–c.

Syn.: *Sphaeria aethiops* Berk. et M. A. Curtis, Grevillea 32: 143, 1876.

= *Kirschsteiniella applanata* (Fr.) Petrak, Ann. Mycol. 21: 331, 1923. auct. angl.

= *Microthelia incrustans* (Ellis et Everh.) Corlett et S. Hughes, New Zeal. Jour. Bot. 16: 360, 1978.

Specimens examined: Central Bohemia: Svatý Jan pod Skalou near Karlštejn, site called "Propadlé vody"; on dead hard wood of fallen branch of *Carpinus betulus*, 4. VI. 1976, leg. et det. M. S. (PRM); Karlštejn; on rotten wood of *Carpinus betulus*, 31. VIII. 1980, leg. et det. M. S. (PRM) — Moravia: Podhoří near Hranice na Moravě; on dead wood of *Fagus sylvatica*, III. 1914, leg. et det. F. Petrak, Flora Bohem. et Morav. exs., No. 1040, (PRM 650818, PRM 650819) — Central Slovakia: Slovenské rudohorí Mts., Muráňská planina, valley Hrdzavá dolina near Muráň; on decorticated wood of *Carpinus betulus*, 18. IX. 1995, leg. et det. M. R. (Herb. M. R.); Slovenské rudohorí Mts., Muráňská planina, nature reserve Poludnica near Muráň; on decorticated wood of *Fagus sylvatica*, 22. IX. 1995, leg. et det. M. R. (Herb. M. R.);

For full description and further synonyms refer to Hawksworth (1985).

Notes: The species is well characterized by the superficial, subconical, carbonaceous, black ascomata with broad base and prominent papilla, thick-walled asci and inequally 1-septate ascospores. In our collections the ascomata were 300–500 μm wide, asci 100–120 \times 15–19 μm large, 1 to 4 spored, interthelial filaments

hyaline, 1–1.5 μm wide, branched, numerous. Ascospores 28–30(–32) \times 8–10(–13) μm large, ellipsoidal, more pointed above, constricted at the septum, the upper cell wider than the lower, blakish-brown, with large oil drops and several small ones, thick-walled (0.5–1 μm), the wall under oil immersion minutely punctate or with short longitudinal flexuous lines.

The ascomata grew together with its anamorph, consisting of joined conidia up to 250 \times 12–16 μm , 4–5-septate, thick-walled, dark brown. The collection from Karlštejn as well as that from Moravia correspond to this.

The species, recorded also as *Amphisphaeria applanata* does not seem to be rare but is probably easily overlooked.

Habitat: Exclusively on hard wood of various deciduous trees and shrubs.

Anamorph: *Dendryphiopsis atra* (Corda) S. Hughes, (Hughes 1953).

Known hosts: *Alnus*, *Carpinus*, *Corylus*, *Fagus*, *Populus*, *Quercus*.

Distribution: temperate regions of Europe: Czech Republic, Denmark, Germany, Great Britain, Poland, Slovak Republic, Sweden; North America.

Systematic position: Pleosporaceae Nitschke, Dothideales Lindau.

Kriegeriella mirabilis Höhn., Ann. Mycol. 16: 39, 1918.

Fig 5 a–c.

Syn.: = *Extrawettsteinina pinastri* Barr, Contr. Univ. Mich. Herb. 9: 538, 1972.

Specimen examined: Central Bohemia: Brdské hřebeny Mts., Dobřichovice, on the slopes of Mt. Červená hlína (467 m a.s.l.); on fallen needles of *Pinus sylvestris* (associated with apothecia of *Desmazierella acicola* Lib.), 5. V.1991, leg. et det. M. S. (PRM).

For description refer to Barr (1972).

Notes: Ascomata are 100–150 μm wide, superficial, hemispherical to conical on a flat broad base, black, smooth, with a distinctly acute apical papilla sometimes somewhat curved. The ascomatal wall consists of dark greyish-brown coloured cells radiating from the small ostiolum. Asci few (6–8 per ascoma), saccate or broadly lageniform, 8-spored, 65–110 \times 35–42 μm , strongly thick-walled. Ascospores 25–34 \times 8–10 μm , oblong, cylindric, straight or curved, 4–6-septate, pluriguttulate, slightly constricted at the thin septa, the upper cell obtuse, the basal cell often larger, hyaline, at maturity pale grey. (The description is based on the Bohemian find.)

The genus *Kriegeriella* Höhn. includes two species, *K. mirabilis* Höhn. (type of the genus) and *K. minuta* (Barr) von Arx et Müller (on needles of *Juniperus communis*).

Habitat: In Bohemia this species was found on fallen decaying needles of *Pinus sylvestris*, lying on mossy ground overgrown with scarce tufts of the grass

Avenella flexuosa (= *Deschampsia flexuosa*), in a mixed wood of *Pinus sylvestris* and *Picea abies*. In PRM, there are three specimens collected and identified by D. W. Minter in Bohemia on needles of *Pinus nigra* and *Pinus sylvestris* associated with *Urceolella trichodea* (Phill. et Plowr.) Dennis and *Verticicladium trifidum* Preuss as new records for Czechoslovakia (Minter 1981). According to Minter (1981) the fungus occurs probably commonly, usually on trash needles and twigs, rarely on trash cones. Ellis and Ellis (1985) recorded *Kriegeriella mirabilis* also on *Pinus nigra* var. *maritima* in Great Britain. From Austria it was described on *Pinus nigra* (Höhnelt 1918).

Anamorph: still unknown.

Known hosts: *Pinus nigra* (incl. var. *maritima*), *P. sylvestris*, *P. strobus*.

Distribution: Europe: Austria, Czech Republic, Germany, Great Britain, Sweden; North America: U. S. A. (Massachusetts).

Systematic position: Pleosporaceae Nitschke, Dothideales Lindau.

Massaria pyri Otth in L. R. Tul. et C. Tul., Sel. Fung. Carpol. 2: 237, 1863.

Fig 8 a-b.

Syn.: *Cladosphaeria pyri* Otth, Mitteil. Naturf. Ges. Bern 1868: 51, 1869.

≡ *Massaria inquinans* (Tode: Fr.) De Not. forma *pyri* (Otth) Jaczewski, Bull. Herb. Boissier 2: 680, 1894.

= *Pseudovalsa occulta* Ellis, Proc. Acad. Sci. Phil. 1895: 27, 1895.

≡ *Aglaospora occulta* (Ellis) Farlow, Bibl. Index North Amer. Fungi 1(1): 166, 1905.

= *Massaria pruni* Wehmeyer, Univ. Michigan Stud. Sci., Ser. 14: 131, 1941.

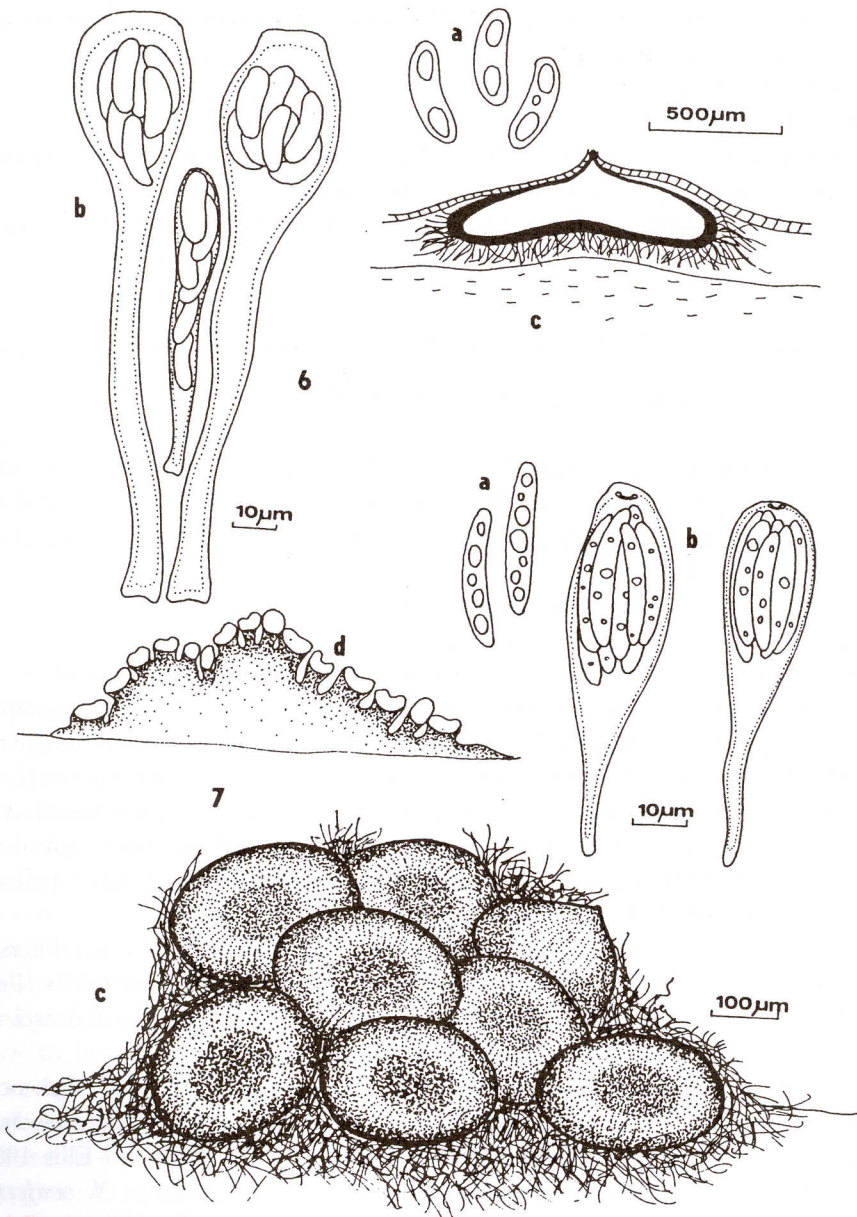
Synonymy is provided according to Shoemaker and Leclair (1975).

Specimen examined: Central Bohemia: Praha-Zadní Kopanina, valley "Radošínské údolí"; on dead branches of *Pyrus communis*, 25. III.1953, leg. et det. M. S. (PRM).

For detailed description see Munk (1957) and Barr (1979).

Notes: *Massaria pyri* is very similar to *M. inquinans* (Tode: Fr.) De Not. which occurs on *Acer campestre* and *A. pseudoplatanus* and differs in the larger size of the ascospores: 80-90(100) × 18-23(30) μm. In our collection the ascospores of *Massaria pyri* were 60-78 × 17-21 μm large, fusiform, at first 2-celled and at maturity predominantly 4-celled, slightly constricted at the middle septum and surrounded by a large gelatinous sheath.

According to Winter (1887) *M. pyri* is regarded as a less known and doubtful species.



Figs 6–7. 6. *Enchnoa subcorticalis* (Peck) Barr: a-ascospores, b-asci of two sizes with ascospores, c-habit sketch of ascoma. 7. *Nitschkia cupularis* (Fr.: Fr.) P. Karst.: a-ascospores, b-asci with ascospores, c-group of ascomata sitting on the subiculum, d-vertical section of ascomata and subiculum.

Del.: M. Réblová

Habitat: *M. pyri* occurs rarely on fallen limbs and branches or on dead branches still connected with their parent tree.

Anamorph: Unknown.

Known hosts: *Pyrus communis*, *Malus sylvestris*, *Prunus*.

Distribution: Europe: Czech Republic, France, Germany; North America: Canada (Ontario), U. S. A. (New Jersey, New York).

Systematic position: Massariaceae Nitschke, Pyrenulales Fink ex Hawksw. et Eriksson.

Nitschkia cupularis (Fr.: Fr.) P. Karst., Mycol. Fennica 2: 81, 1873. Fig 7 a-d.

Syn.: *Sphaeria cupularis* Fr.: Fr., Syst. Mycol. 2: 416, 1823.

Specimen examined: Central Bohemia: Týřovice near Rakovnik, nature reserve "Týřovické skály", in the valley between Mt. Roudný (524 m a.s.l.) and Mt. Vysoký (510 m a.s.l.); on fallen trunk of *Fagus sylvatica*, 16. XI.1991, leg. et det. M. R. (Herb. M. R.).

For description and further synonyms refer to Nannfeldt (1975).

Notes: In our collection the ascomata were superficial, gregarious in clusters or forming dark crusts on bark or decorticated wood, subglobose with distinct papilla, collapsing inwards when dry, 300-500 μm wide, black, surface finely roughened, seated on a blackish subiculum, hyphae septate, branched. Asci unitunicate, 24-40 pars sporifera \times 8-9.6 μm , clavate, thin-walled, short stipitate, rounded at the apex, ascospores irregularly clustered in the upper part of the ascus, apical ring visible as two refractive bodies. Ascospores 12.8-14 \times 2-2.4 μm , hyaline, cylindrical to allantoid, rounded at the ends, 1-celled, with several oil drops.

N. cupularis is closely related to *N. grevillei* (Rehm) Nannf. which differs by smaller ascospores: 6-9 \times 1.5-2.5 μ . The species *Acanthonitschkia tristis* (Pers.: Fr.) Nannf. is also similar but differs in having smaller ascospores and asci and setose ascomata.

Habitat: The members of the genus *Nitschkia* Otth in Tul. et C. Tul. occur especially on bark and rotten wood of trees and shrubs and are often associated with other Pyrenomycetes (Winter 1887, Nannfeldt 1975, Ellis and Ellis 1985), e.g. *N. brevispina* (Munk) Nannf., *N. collapsa* (Romell) Chenant., *N. confertula* (Schw.) Nannf., *N. cupularis* (Fr.: Fr.) P. Karst., *N. exilis* (Alb. & Schw.) Fuckel and *N. grevillei* (Rehm) Nannf. Some species live parasitically on other Pyrenomycetes: *N. grevillei* on *Peroneutypa heteracantha* and *N. parasitans* (Schw.) Nannf. on *Nectria cinnabarina*.

N. cupularis occurs and grows very seldom on bark and wood of many deciduous trees, especially in near-natural forests.

Anamorph: According to Fuckel (1870) *Fusarium* sp. is regarded as the anamorph of *N. cupularis*. Karsten (1885) also mentioned *Phoma fuckelii* Sacc. as the anamorph. Both of these connections have not yet been confirmed in culture.

Known hosts: *Acer pseudoplatanus*, *Aesculus hippocastanum*, *Carpinus betulus*, *Fagus sylvatica*, *Padus*, *Prunus mahaleb*, *Ribes*, *Rubus*, *Sambucus*, *Syringa*, *Tilia*, *Ulmus*.

Distribution: Europe: Austria, Czech Republic, France, Germany, Great Britain, Poland, Sweden. *Nitschkia cupularis* is likely to occur in North America but has not yet been reported.

Systematic position: Nitschkiaceae (Fitzp.) Nannf., Sordariales Chad. ex Hawksw. et Eriksson.

Pleophragmia leporum Fuckel, Symb. Mycol. p. 243, 1870.

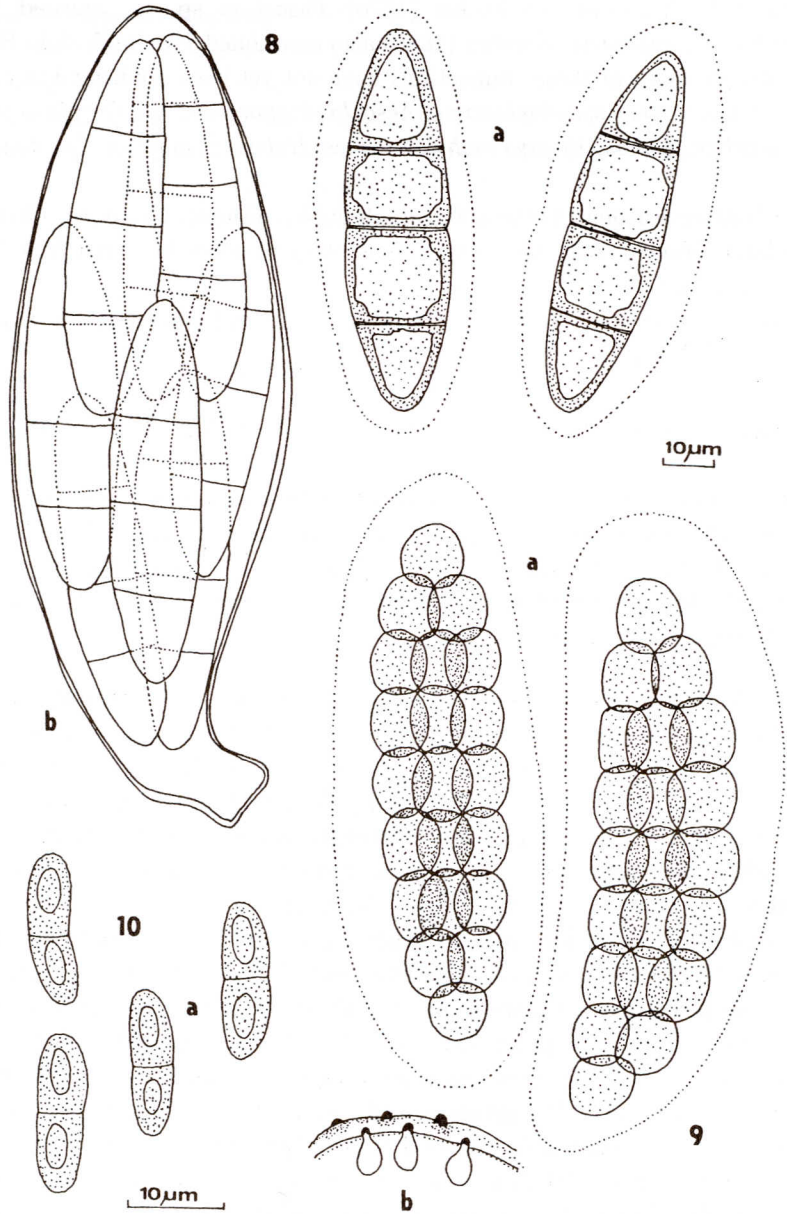
Fig. 9 a-b.

Specimens examined: Central Bohemia: Brdské hřebeny Mts., Dobřichovice, in the ravine "Buková rokle"; on old dung of *Capreolus capreolus*, 5. V.1995, leg. et det. M. S. (PRM). — Germany: Sachsen, Königstein; on dung (of *Capreolus* ?), very rare, 27. IV.1883, leg. et det. W. Krieger (Fungi saxonici Exsic. No. 34, PRC).

For description see Winter (1887).

Notes: The find from Dobřichovice had scattered ascomata, entirely immersed in the substrate, relatively large (800–1000 μm wide), black and smooth, only the tip of the neck protruding. Asci incomplete (damaged), 18 μm broad, oblong to cylindrical. Ascospores 45–50 \times 10–13 μm , oblong, mostly slightly curved with 9 transverse and 2 longitudinal septa, strongly constricted, the individual cells broadly ellipsoidal or subglobose, sometimes angled, umber-brown or almost black, enclosed in a hyaline gelatinous sheath, 5–6 μm thick.

Our collection is the first one in Bohemia known with certainty. The find of A. Bayer (1924) from Jáchymov (Krušné hory Mts.) cultivated in April 1919 on only one piece of older hare dung should be revised. *Pleophragmia leporum* seems to be a very rare pyrenomycete, originally described by Fuckel (1870) according to only one find on rotten hare dung and edited in the set of exsiccata Fungi rhenani No. 2272. The genus is well characterized by dictyoseptate brown coloured ascospores composed of several rows of cells. Von Arx and Müller (1975) synonymized this genus with *Sporormia* De Not. but we do not accept this opinion. Krieger's specimen revised by M. Svrček possessed bitunicate asci, thick-walled (2–2.5 μm) and 20–22 μm broad and oblong ascospores 40–45 \times 9–10.5 μm , 9-septate, very dark brown or almost black with one longitudinal septum. Another species in Europe is *Pleophragmia ontariensis* Cain (1934) recorded from Sweden (Eriksson 1992) and France (Breton 1965). *Pleophragmia pleospora* Kirschstein, found on roe-deer dung in Germany, the description of which we know from Migula's work (1913)



Figs 8–10. 8. *Massaria pyri* Otth: a-ascospores, b-ascus with ascospores. 9. *Pleophragmia leporum* Fuckel: a-ascospores, b-vertical section of ascomata and substrate. 10. *Valsaria foedans* (P. Karst.) Sacc.: a-ascospores.

Del.: M. Réblová

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