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Morphology of some rare and threatened Polish *Basidiomycota*

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W o j e w o d a W.: *Morphology of some rare and threatened Polish Basidiomycota*. Acta Mycol. 38 (1/2): 3-20, 2003.

Morphological analysis and orginal illustrations of microscopic elements of 20 species of *Basidiomycota* (19 of *Basidiomycetes* and 1 of *Urediniomycetes*) are the subject of this article. The species are rare in Poland according to recent distributional maps. The maps of 17 of them: *Amylocorticium cebennese, A. subincarnatum, A. subsulphureum, Bovista paludosa, Clavariadelphus truncatus, Clavulicium macounii, Conohypha albocremea, Daedaleopsis tricolor, Fomitiporia hippophaeicola, Hymenochaete cruenta, Irpicodon pendulus, Punctularia strigisozonata, Scotomyces subviolaceus, Syzygospora pallida, Thanatephorus sterigmaticus, Trichaptum biforme* and *Tubulicrinis borealis,* were published by W o j e w o d a (2002) in the "Atlas of the geographical distribution of fungi in Poland", Fasc. 2. The further 3 maps of *Coniophora olivacea, Helicobasidium pupureum* and *Veluticeps ambigua* will be published soon in the same series in Fasc. 3.

Key words: *Basidiomycetes, Urediniomycetes*, threatened fungi, distribution, morphology

INTRODUCTION

In 2002 the second fascicle of the "Atlas of the distribution of fungi in Poland" was published. Distribution maps with notes on taxonomy and ecology of 17 species of *Basidiomycetes* rare in Poland were given (W o j e w o d a 2002a-o; W o j e w o d a et al. 2002). Further 3 species (among them *Helicobasidium purpureum* from the class *Urediniomycetes*) will be presented in the next (3) fascicle of this "Atlas". The present paper gives the information about their macro- and microscopic features, as well as illustrations. The illustration of one species (*Punctularia strigosozonata*) has been published earlier (W o j e w o d a 2001).

EXAMINED SPECIES

Amylocorticium cebennese (Bourdot) Pouzar
Česká Mykol. 13(1): 11. 1959
Corticium cebennese Bourdot, Rev. Sci. Bourb. Centr. Fr. 23: 7. 1910.

Morphology of examined specimens. Basidiocarp corticioid, effused, athelioid, membranaceous. Hymenophore smooth, white when fresh, more light yellowish when dry. Margin (under lens) finely fibrillose. Rhizomorphs absent. Hyphal system monomitic. Hyphae 3.8-6.7 mm wide, thin-walled, with clamps. Cystidia absent. Basidia 25-30 x 4-6 μm, clavate, with a basal clamp, and 4 sterigmata. Basidiospores 5-7 x 2-3 μm, allantoid, smooth, thin-walled, amyloid (Fig. 1 A-C, Białowieża Primeval Forest, KRAM-F 34348).

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002a).

Amylocorticum subincarnatum (Peck) Pouzar
Česká Mykol. 13(1): 11. 1959
Corticium subincarnatum Peck, N. Y. St. Mus. Ann. Rep. 42: 124. 1889.

Morphology of examined specimens. Basidiocarp corticioid, effused, athelioid, membranaceous. Hymenophore first even and yellow, then somewhat tubercular, and reddish. Hyphal system monomitic. Hyphae 2.5-3.5 μm wide, thin-walled, with clamps. Cystidia 40-60 x 3.5-4.5 μm, cylindrical, thin-walled, smooth, some with clamped septa, projecting above the hymenium up to 25 μm. Basidia 15-18 x 3.5-5 μm, clavate, with a basal clamp, and 4 sterigmata. Basidiospores 4.5-5.5 x 2-2.5 μm, ellipsoid, smooth, with slightly thickened walls, amyloid (Fig. 1 D-G, Augustów Primeval Forest, Kozi Rynek reserve, KRAM-F 14329).

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002b).

Amylocorticum subsulphureum (P. Karst.) Pouzar
Česká Mykol. 13(1): 11. 1959
Corticium subsulphureum P. Karst., Medd. Soc. Fauna Fl. Fenn. 6: 12. 1881.

Morphology of specimens. Basidiodocarp corticioid. According to Bresadola (1903) hyphae in sybhymenium 3-4 μm wide. Basal hyphae up to 6 μm wide. Cystidia 6-8 μm wide, thin-walled, sinuous, not frequent. Basidia 20-25 x 5-5 μm, clavate. Basidiospores 7-9 x 2-3 μm, cylindrical-suballantoid (near Międzyrzec Podlaski, specimens not seen).

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002c).

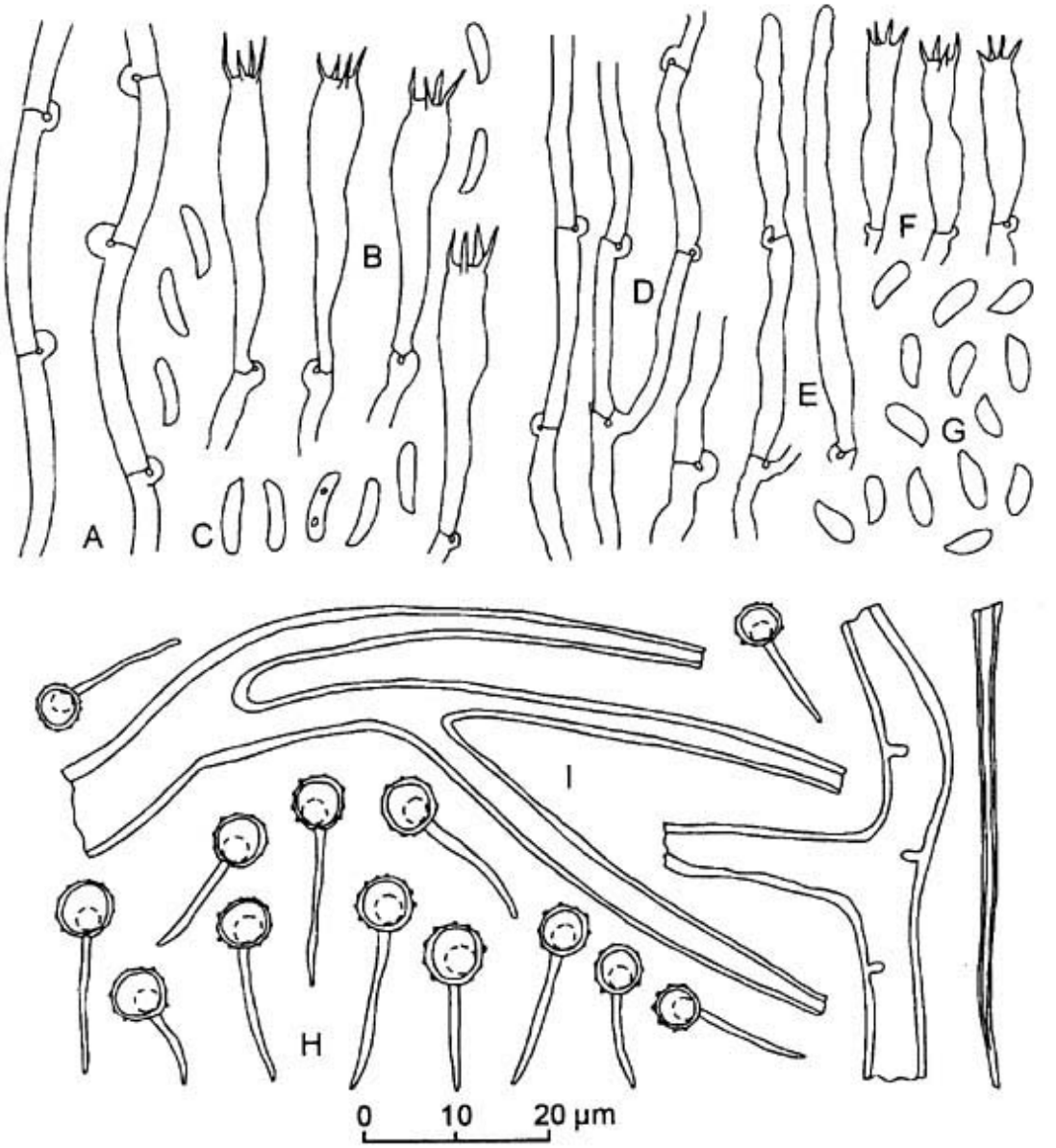

Fig. 1. *Amylocorticium cebennense*: A – hyphae, B – basidia, C – basidiospores; *Amylocorticium subincarnatum*: D – hyphae, E – cystidia, F – basidia, G – basidiospores; *Bovista paludosa*: H – basidiospores, I – capillitium.

Bovista paludosa Lév.
Ann. Sci. Nat. Ser. 3, 5: 163. 1846

Morphology of examined specimens. Basidiocarp 1.2-5.5 cm high, mostly pyriform, first white and smooth, later dark brown to almost black. Capillitium Bovista-type, strongly dichotomously branched, elastic. Capillitial threats 5-12 µm wide, brown, thick-walled. Basidiospores 3.5-5 µm in diameter, globose or subglobose, punctate with fine warts, pedicellate; pedicels 6-4 µm long, stright, hyaline (Fig. 1 H-I, Beskid Niski Mts, Modynianka Mt., near Kąclowa, KRAM-F 18309).

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002d).

Clavariadelphus truncatus (Quél.) Donk
Rev. Niederl. Homobas. Aphyll. 2: 73. 1933
Clavaria truncata Quél., Enchir.: 221. 1886.

Morphology of examined specimens. Basidiocarp clavarioid, clavate, 6-8 x 2-3 cm, with truncate, folded-wrinkled head, brown-yellow, with lilac tint. Flesh white, spongy, soft, turning lilac-brown when cut, odor weak, pleasant, taste milky, sweetish. Hyphal system monomitic. Hyphae 3-5 wide, thin-walled, hyaline, septate, septa with clamps. Cystidia absent. Basidia 50-100 x 7.7-9.7 μm, slenderly clavate,

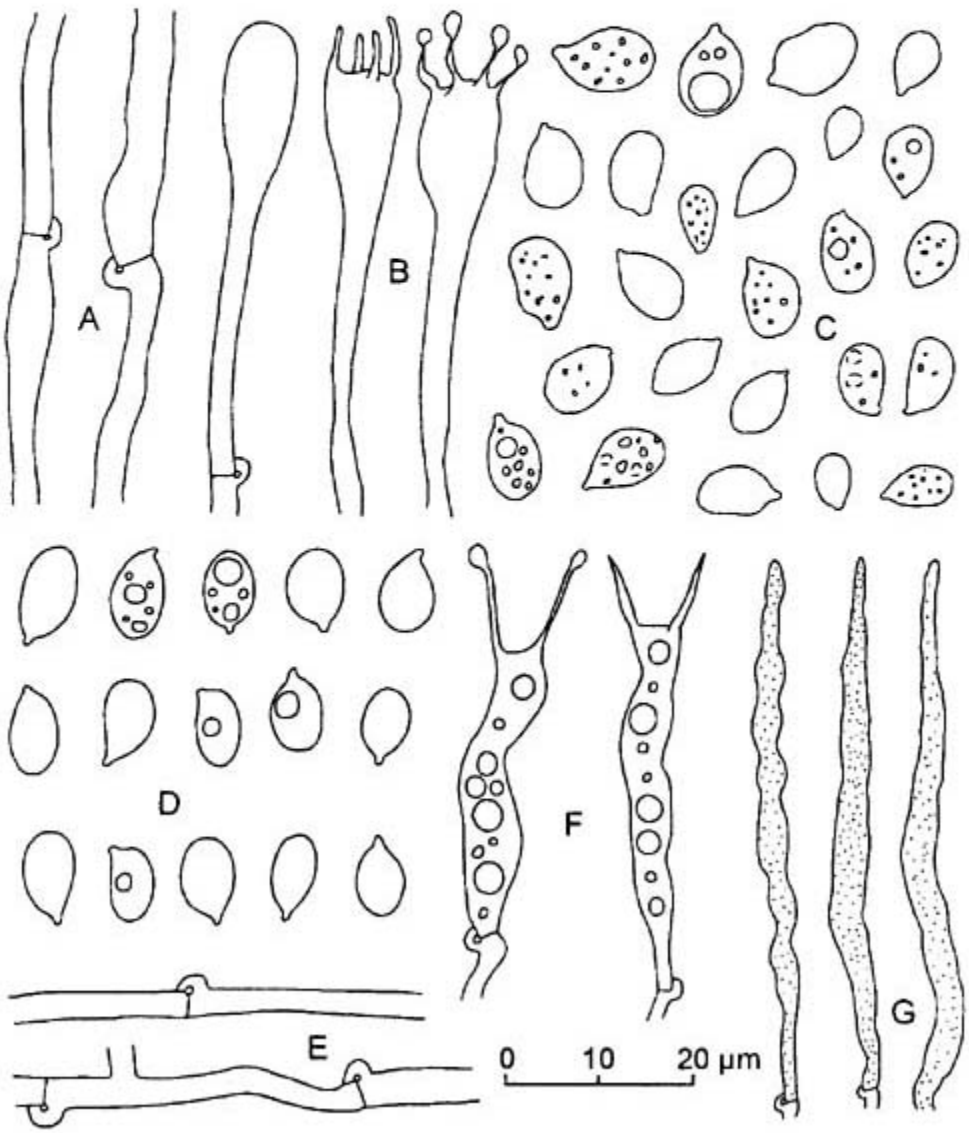

Fig. 2. *Clavariadelphus truncatus*: A – hyphae, B – basidia, C – basidiospores; *Clavulicium macounii*: D – basidiospores, E – hyphae, F – basidia, G – cystidia.

with a basal clamp, and 4 sterigmata. Basidiospores 7.7-10 x 4.8-7.7 μm, elliptical, smooth, hyaline, thin-walled, non-amyloid, with drops or coarse granular content (Fig. 2 A-C, Tatra National Park, near Hala Stoły meadow, KRAM-F 32692).

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002e).

Clavulicium macounii (Burt) J. Erikss. et Boidin ex Parmasto
Consp. Syst. Cortic.: 165. 1968
Corticium macounii Burt, Ann. Missouri Bot. Gard. 13: 256.

Morphology of examined specimens. Basidiocarp corticioid, resupinate, smooth, ochraceous or gray-ochraceous, with flesh tint, very similar to the colour of *Radulomyces confluens*. Hyphal system monomitic. Hyphae 2-3 μm wide, thin-walled, hyaline, with clamps. Gloeocystidia 50-60 μm x 3-5 μm, narrow, sinuous, thin-walled, not projecting. Basidia 30-45 x 6-8 μm, clavate to subcylindrical, with a basal clamp, and 2 sterigmata. Basidiospores 8-11 x 6-7 μm, ellipsoid to obovate, smooth, thin-walled, hyaline, non-amyloid (Fig. 2 D-G, Wieliczka Foothills, between Barwałd and Łękawica, near Wadowice, KRAM-F 18975).

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002f).

Coniophora olivacea (Pers.: Fr.) P. Karst.
Bidrag Till Känn. Finl. Nat. Folk 37: 162. 1882
Thelephora olivacea Pers., Mycol. Eur. 1: 143. 1822. – *T. olivacea* Pers.: Fr., Elench. Fung. 1: 197. 1828.

Selected keys, descriptions and illustrations. Bondartseva and Parmasto (1986: 157, Fig. 42), Breitenbach and Kränzlin (1886: 206, Pl. 237), Christiansen (1960: 321, Fig. 318), Cunningham (1963: 244, Fig. 141), Domański (1975: 49, Pl. LIV), Harmsen et al. (1997: 289, Fig. 596), Jülich (1984: 234), Jülich and Stalpers (1980: 80).

Morphology of examined specimens. Basidiocarp corticioid, resupinate, effused, adnate, hypochnoid to floccose, soft, first cream coloured or yellowish, later pale ochraceous or ochraceous-yellow. Hyphal system monomitic. Hyphae 3-6 μm wide, thin-walled, richly branched, most often without clamps. Clamps sometimes present but very rare. Cystidia 70-155 x 8-13 μm, cylindrical, smooth or covered with crystals, thick-walled except of apical part, septate, more or less sinuous, numerous. Basidia 20-35 x 5-8 μm, slendery-clavate, with 4 sterigmata. Basidiospores 9.5-15 x 4.8-7.2 μm, ellipsoid, naviculate to obovate, often flattened on one side, apices round or slightly acuminate, smooth, hyaline to slightly yellowish, first thin- then thick-walled, non-amyloid (Fig. 6 I-L, W Sudetes Mts, near Komarno, KRAM-F 52689).

Remarks. Information on ecology, distribution, further synonyms, taxonomy and threat of this species will be published in the third fascicle of the "Atlas of the geographical distribution of fungi in Poland".

Conohypha albocremea (Höhn. et Litsch.) Jülich
Persoonia 8(3): 304, Fig. 9. 1975
Corticium albocremeum Höhn. et Litsch., Wiesn. Festschr., Wien: 61: 1908.

Morphology of examined specimens. Basidiocarp corticioid, resupinate, effused, smooth, adnate, white or cream-coloured, thin. Hyphal system monomitic. Basal hyphae up to 5 µm wide, subhymenial ones 14-25 x 12-14 µm, almost isodiametric, thin-walled, hyaline. All hyphae with clamps at all septa. Cystidia absent. Basidia 20-30 x 5.7-7.2 µm, cylindrical or clavate, sometimes slightly sinuous or constricted, with 4 sterigmata, 3.6-4.8 µm long. Basidiospores 6-9.6 x 4.8-6 µm, ellipsoid, with prominent oblique apiculus, smooth, thin-walled, hyaline, non-amyloid (Fig. 3 A-D, Orawa-Nowy Targ Basin, Bór na Czerwonem reserve, KRAM-F 34508).

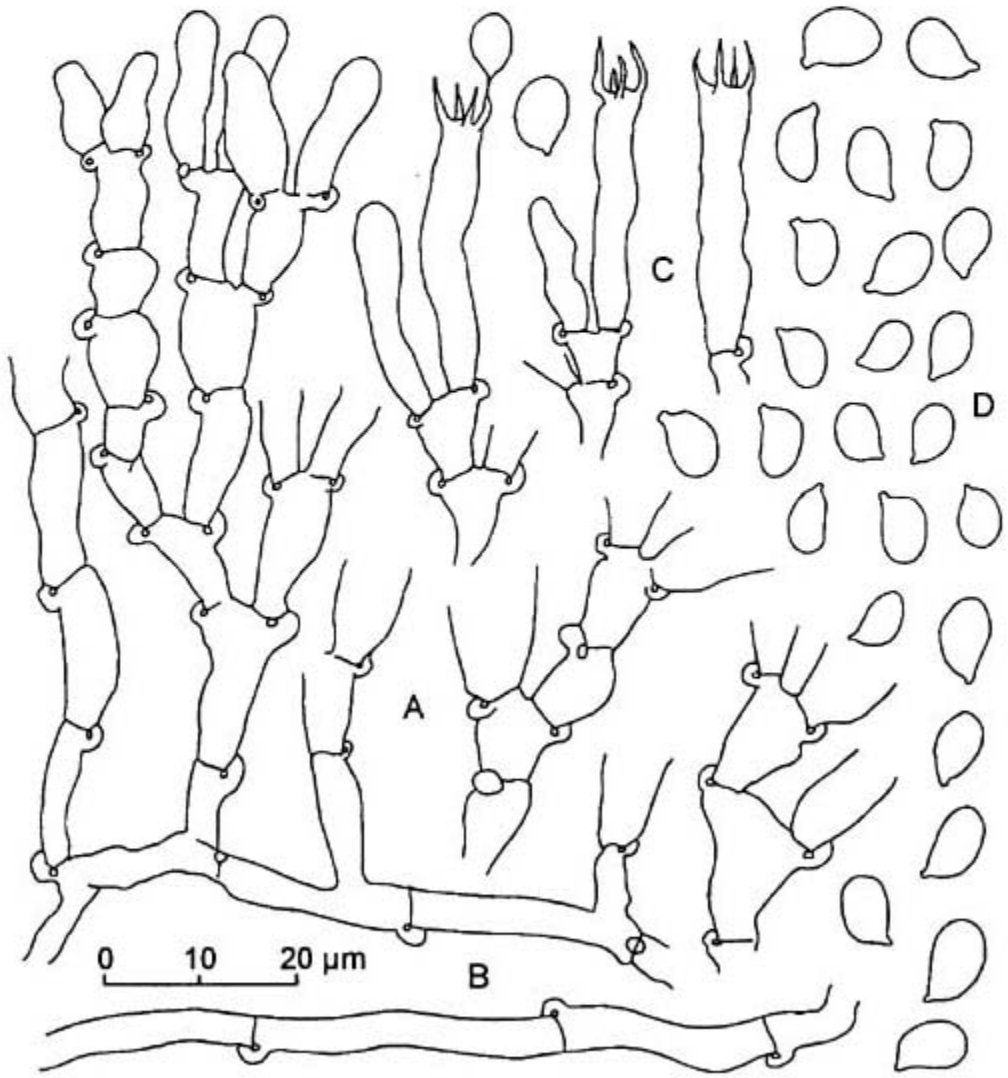

Fig. 3. *Conohypha albocemea*: A – subhymenial hyphae, B – hypha of subiculum, C – basidia, D – basidiospores.

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002g).

Daedaleopsis tricolor (Bull.: Fr.) Bondartsev et Singer
Ann. Mycol. 39: 64. 1941
Agaricus tricolor Bull., Hist. De Champ. 2: 380, Fig. 2. 1791.

Morphology of examined specimens. Basidiocarp pileate, up to 12 cm wide and long, 1-2.5 cm thick at the base, concentrically zonate, first gray to pale

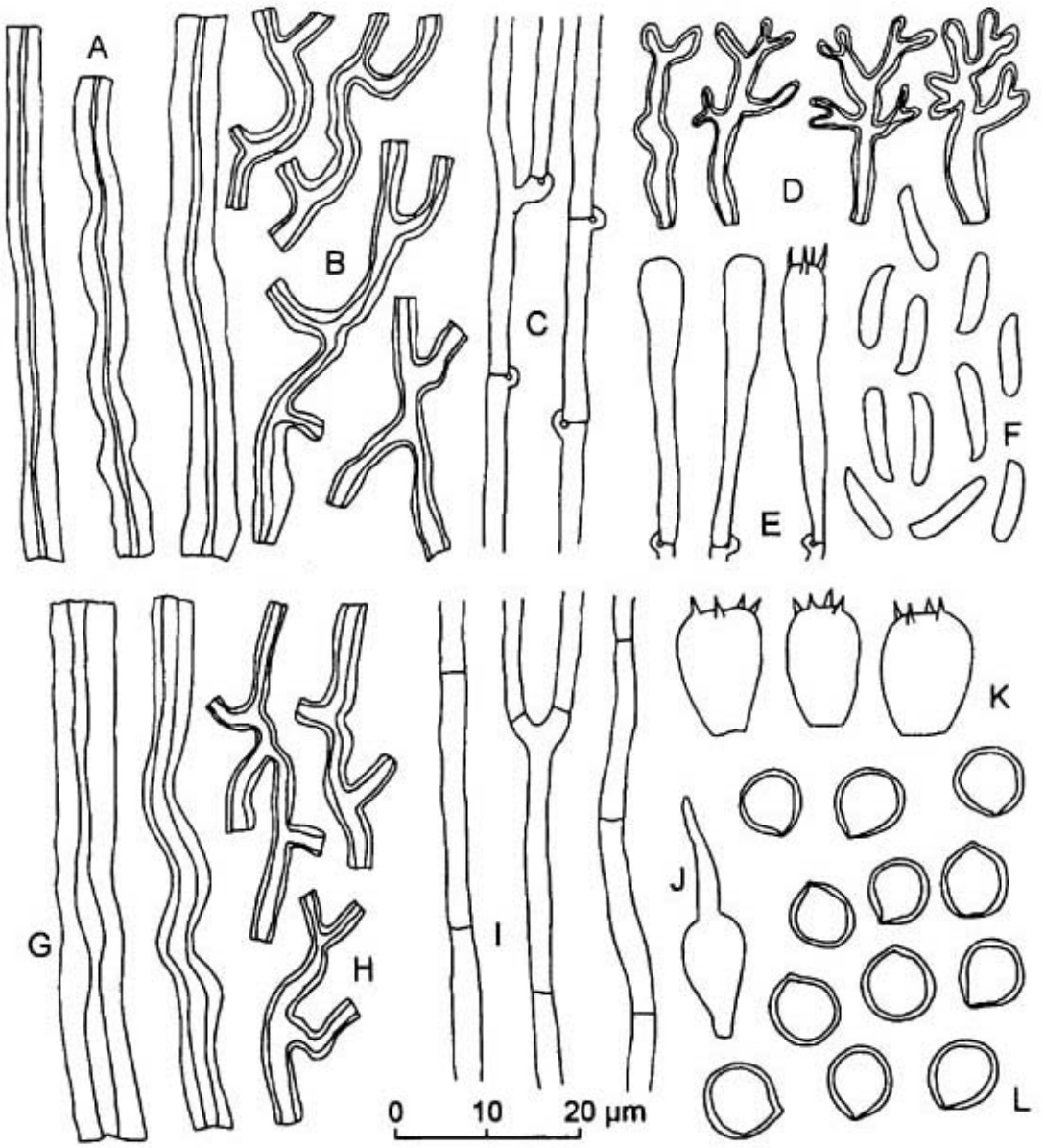

Fig. 4. *Daedaleopsis tricolor*: A – skeletal hyphae, B – binding hyphae, C – generative hyphae, D – dendrohyphidia, E – basidia, F – basidiospores; *Fomitiporia hippophaeicola*: G – skeletal hyphae, H – binding hyphae, I – generative hyphae, J – cystidial element, K – basidia, L – basidiospores.

brown, later becoming red, lamellate; lamellc 9-16 per cm. Contex pale brown. Dendrohyphidia up to 25 μm long, branched, hyaline, thick-walled. Hyphal system trimitic. Generative hyphae hyaline, thin-walled, with clamps. Binding and skeletal hyphae thick-walled, without clamps. Cystidia absent. Basidia 25-40 x 3.5-5 μm, clavate, with 4 sterigmata, and basal clamp. Basidiospores 8-10 x 2-2.5 μm, cylindric, slightly curved, smooth, thin-walled, hyaline, non-amyloid (Fig. 4 A-F, Beskid Niski Mts, Magura National Park, Świerzówka stream valley near Krempna, KRAM-F 52244).

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002h).

Fomitiporia hippophaeicola (Jahn) Fiasson et Niemelä
Karstenia 24: 25. 1984
Phelinus hippophaeicola Jahn, Mem. New York Bot. Garden 28: 1976.

Morphology of examined specimens. Basidiocarp pileate, 3-8 x 2.5-4 x 1.5-4 cm. Hymenophore porose. Hyphal system dimitic. Generative hyphae 1-2 μm, hyaline, thin-walled. Clamps, cystidia and setae absent. Basidia 10-15 x 6-10 μm, clavate, with 4 sterigmata. Basidiospores 5.8-7.7 x 4.8-6.8 μm, subglobose, smooth, thick-walled, hyaline, dextrinoid, non-amyloid (Fig. 4 G-L, Baltic coast, Mielno near Koszalin, KRAM-F 52120)

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002i).

Helicobasidium purpureum Pat.
Bull. Soc. Bot. France 32: 172. 1885
H. brebissonii (Desm.) Donk, Taxon, 7: 164. 1958
(*Urediniomycetes* according to Kirk et al. 2001)

Selected keys, descriptions and illustrations. Breitenbach and Kränzlin (1886: 54, Pl. 9), Ellis and Ellis (1990: 101, Fig. 189); Jülich (1984: 399), Roberts (1999: 157, Fig. 82); Wojewoda (1977: 229, Fig. 86; 1981: 190, Pl. LIX).

Morphology of examined specimens. Basidiocarp corticioid, resupinate, effused, hypochnoid, membranaceous, attached loosely to the substrate, purple-brown, smooth or undulating-tuberculate, with soft consistency. Hyphal system monomitic. Hyphae 3-8-10.5μm wide, thin- to somewhat thick-walled, hyaline in hymenium, becoming purple to brownish in subhymenium and subiculum, without clamps. Cystidia absent. Basidia 60-120 x 6-8 μm, hypha-like, tubular, curved, transversely septate, bent over hoodlike to helical, with 2-4 subulate to cylindrical sterigmata. Basidiospores 9.5-14.5 x 4.8-7 μm, elliptical, oblong to suballantoid, smooth, thin-walled, hyaline, to slightly lilac-brownish, non-amyloid, germinating by germ tube (Fig. 5, Wielka Kępa reserve near Bydgoszcz, POZM sine numero).

Remarks. Information on ecology, distribution, further synonyms, taxonomy, and threat of this species will be published in the third fascicle of the "Atlas of the distribution of fungi in Poland".

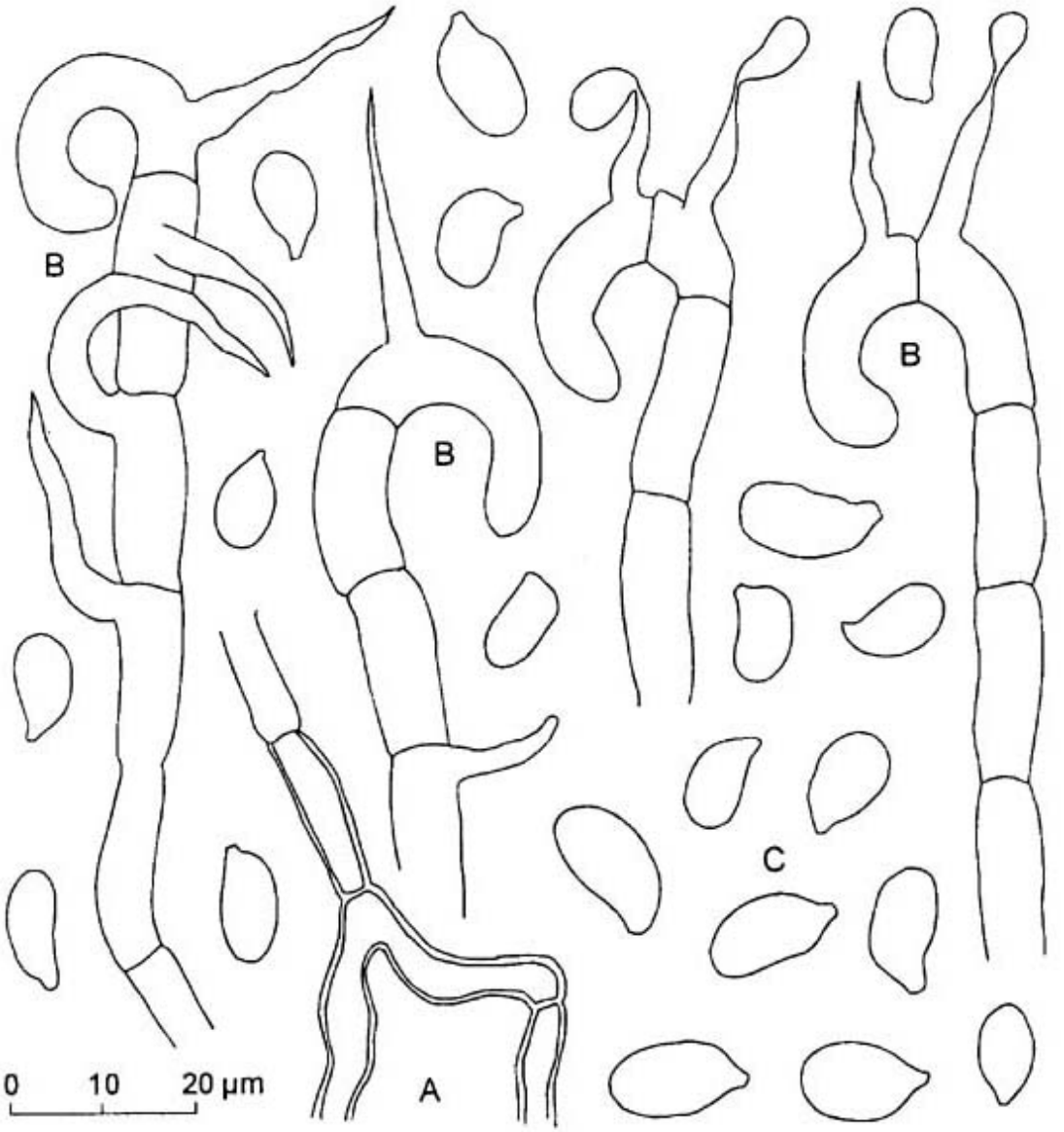

Fig. 5. *Helicobasidium purpureum*: A – hyphae, B – basidia, C – basidiospores.

Hymenochaete cruenta (Pers.: Fr.) Donk
Persoonia 1(1): 51. 1959
H. mougeoti (Fr.) Cooke, Grevillea 8: 147. – *Thelephora cruenta* Pers., Syn. Meth. Fung.: 575. 1801 – *T. cruenta* Pers.: Fr., Syst. Mycol. 1: 444. 1821.

Morphology of examined specimens. Basidiocarp resupinate, forming crustose patches up to 5 x 2.5 cm Hymenophore tuberculate-verrucose, bright red when young, later brown-red to brown. Hyphal system monomitic. Hyphae 1.5-4.8 µm wide, thin- to thick-walled, hyaline to brown, without clamps. Cystidia absent. Setae up to 100 x 3.8-9.7 µm, subulate, thick-walled, embedded in the hymenium also exserted up to 40 µm, brown. Basidia 20-25 x 3-4.5 µm, clavate with 4 sterigmata, without basal clamp. Basidiospores 5.5-8 x 2-3.5 µm, cylindrical, smooth, thin-walled,

hyaline, non-amyloid (Fig. 6 A-E, Pieniny National Park: Flaki Mt. near Krościenko nad Dunajcem, KRAM-F 15011).

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda et al. (2002).

Irpicodon pendulus (Alb. et Schwein.) Pouzar
Folia Geobot. Phytotax. 1: 371. 1966
Sistotrema pendulum Alb. et Schwein., Consp. Fung. Lusatiae: 261-262, Pl. 6, Fig. 7. 1805.

Morphology of examined specimens. Basidiocarp 1-2.5 cm in diameter, dimidiate, thin, ochraceous, annual. Hymenophore irpicoid, with irre-

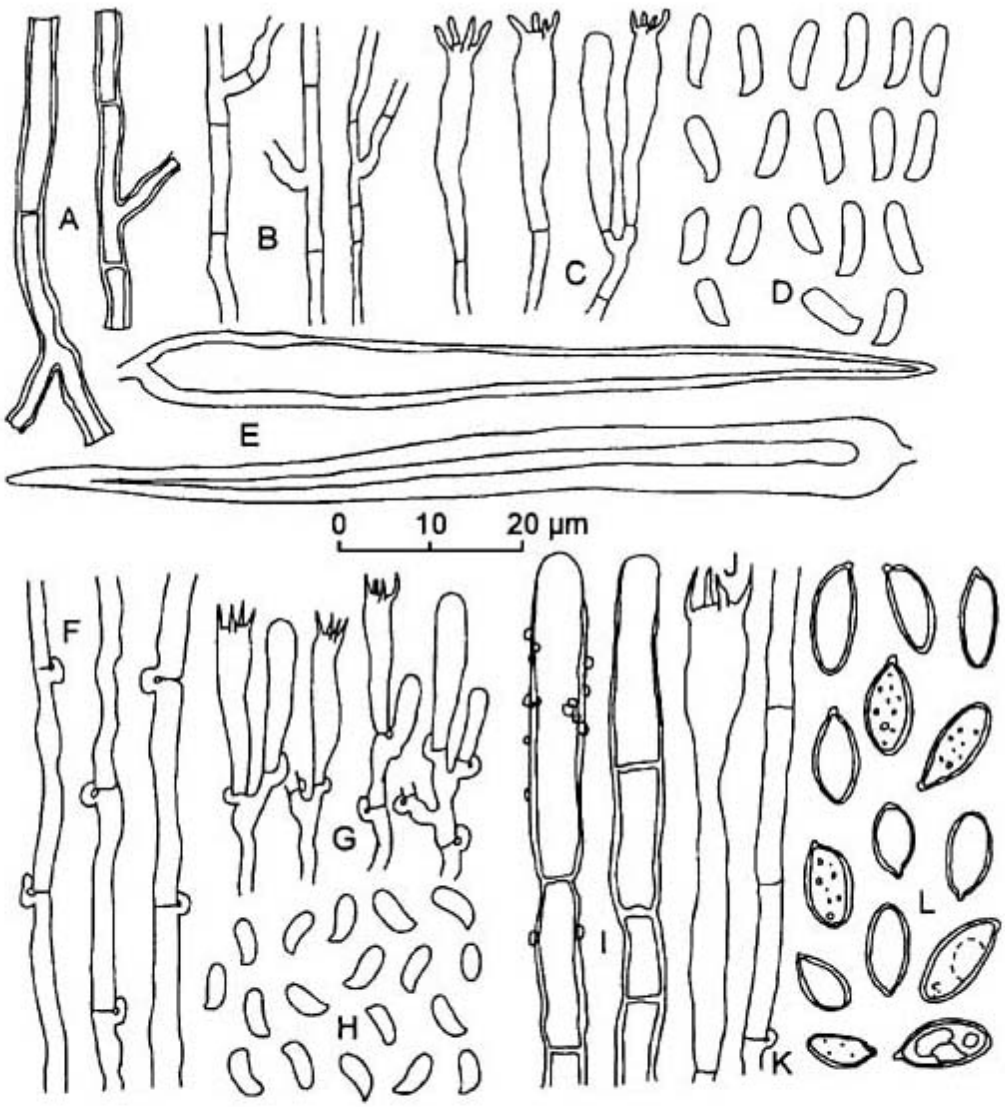

Fig. 6. *Hymenochaete cruenta*: A – skeletal hyphae, B – generative hyphae, C – basidia, D – basidiospores, E – setae; *Irpicodon pendulus*: F – hyphae, G – basidia, H – basidiospores; *Coniophora olivacea*: I – cystidia, J – basidium, K – hypha, L – basidiospores.

gular, cylindrical aculei. Hyphal system monomitic. Hyphae 3-6.7 1 μm wide, thin-walled, hyaline, with clamps at all septa. Cystidia absent. Basidia 12-16 x 3-5 μm, clavate with 4 sterigmata, and basal clamp. Basidiospores 3.8-5 x 2-2.5 μm, subcylindrical or suballantoid, smooth, thin-walled, hyaline, amyloid (Fig. 6 F-H, Jegiel reserve near Wyszków, WA 632061).

According to Bresadola (1903), basidiospores of specimens collected near Międzyrzec Podlaski 4-4.5 x 2 μm, oblong, hyaline.

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002j).

Punctularia strigisozonata (Schwein.) B. H. B. Talbot
Bothalia 7(1): 143. 1958
Merulius strigosozonatus Schwein., Trans. Am. Phil. Soc. N.s. 4: 160. 1834.

Morphology of examined specimens. See: Wojewoda (2001: 501, Fig. 1).

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002k).

Scotomyces subviolaceus (Peck) Jülich
Persoonia 10(3): 334. 1979
Hydrabasidium subviolaceum (Peck) J. Erikss. et Ryvarden, The *Corticiaceae* of North Europe 5: 897, Figs 451-452. 1978. – *Hypochnus subviolaceus* Peck, Ann. Rep. State Bot. 1893: 25. 1894.

Morphology of examined specimens. Basidiocarp resupinate, effused, even, grayish-olive to violaceous or blackish, becoming paler when dry. Hyphal system monomitic. Hyphae 2-4μm wide, thin-walled, hyaline or fuscous, with clamps. Cystidia absent. Basidia 30-36 x 5-10 μm, subclavate or cylindrical, with 2-4 sterigmata. Basidiospores 7.2-9 x 3.5-6 μm, subglobose to ovoid, thin-walled, hyaline, smooth, non-amyloid (Fig. 7 A-C, Sanok-Turcza Mts, Kamienna Laworta Mt., near Ustrzyki Dolne, KRAM-F 18318).

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002l).

Syzygospora pallida (Hauerslev) Ginns
Mycologia 78(4): 631. 1986
Christiansenia pallida Hauerslev, Friesia 9: 43. 1969.

Morphology of examined specimens. Basidiocarp gelatinous, hyaline and very small, after drying almost disappearing. Hyphal system monomitic. Hyphae 2-5μm wide, thin-walled, hyaline, with clamps. Cystidia absent, bulbous structures (term according to Kotiranta and Saarenoksa 1993) present, according to Hauerslev (1969) there are haustoria. Basidia 66-78 x 7-8 μm, clavate, with 4 sterigmata and basal clamp. Basidiospores 6.5-8.5 x 4.8-6 μm, broadly ovate to subglobose, thin-walled, hyaline, smooth, non-amyloid, with prominent apiculus.

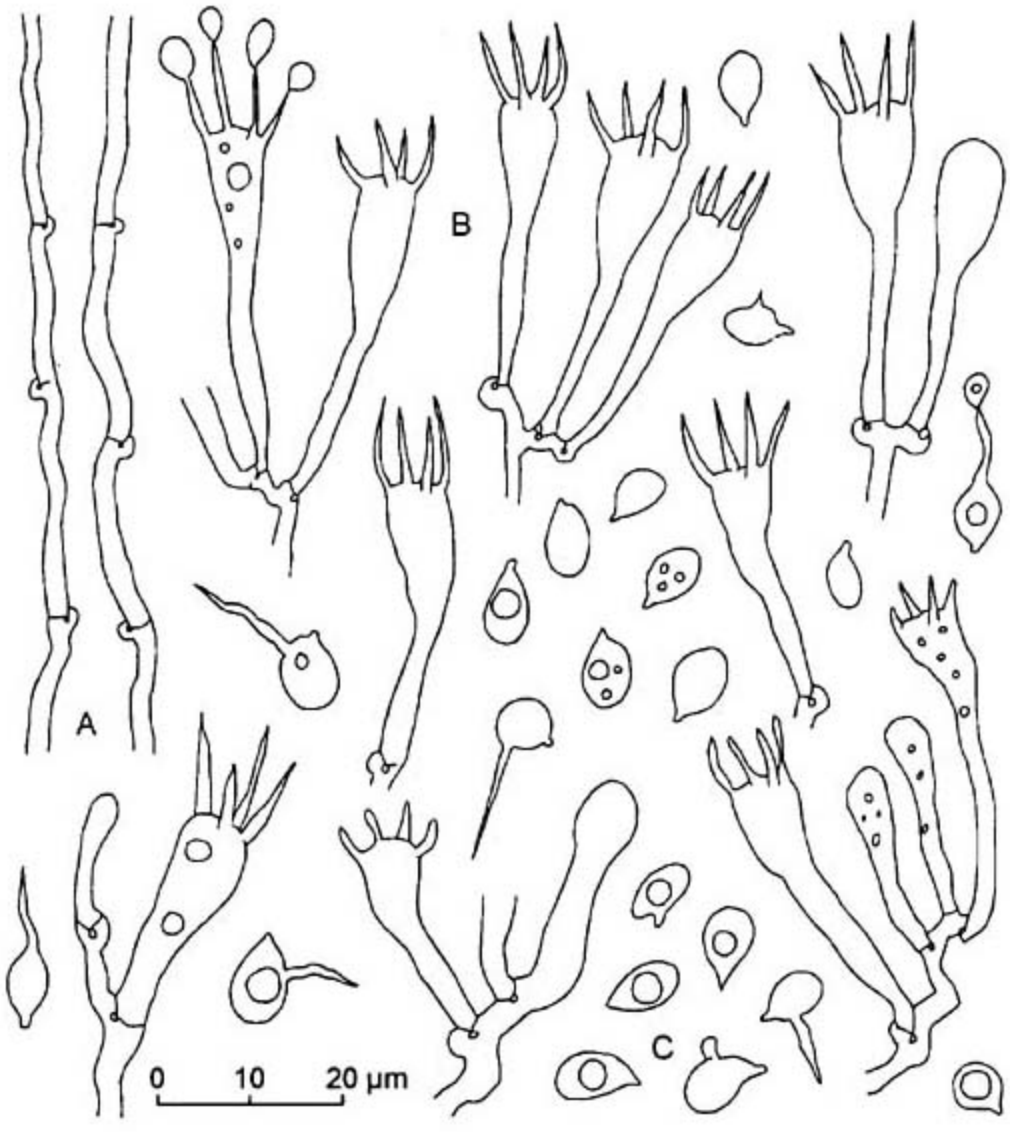

Fig. 7. *Scotomyces subviolaceus*: A – hyphae, B – basidia, C – basidiospores.

Conidiophores with clamps. Conidia 4.8-8.5 x 2.5-4 µm, numerous, narrowly ellipsoid to cylindrical, thin-walled, hyaline, smooth (Fig. 8 A-E Wiśnickie Foothills, Machulec Mt., near Czchów, KRAM-F 18183).

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002m).

Thanatephorus sterigmaticus (Bourdot) P. H. B. Talbot
Persoonia 3: 390. 1965
Cotricium sterigmaticum Bourdot, Rev. Sci. Bourbon. 35: 4. 1922.

Morphology of examined specimens. Basidiocarp arachnoid, mebranaceous, whitis to pale ochraceous. Hyphal system monomitic. Hyphae 7-24 x 6-10.8 µm, thin-walled, hyaline, without clamps. Cystidia absent. Basidia

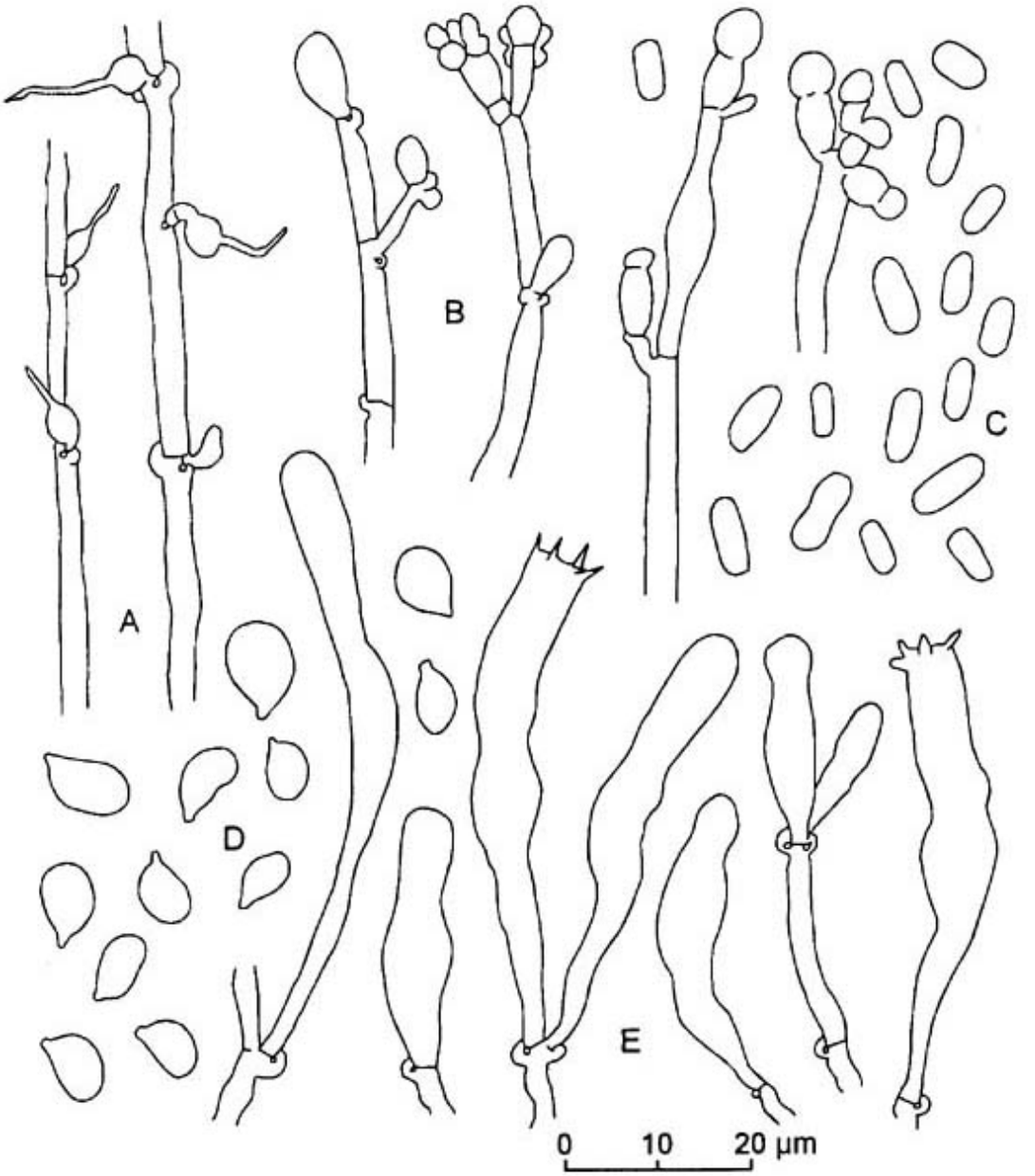

Fig. 8. *Syzygospora pallida*: A – hyphae with "haustorial" elements, B – conidiophores, C – conidia, D – basidiospores, E – basidia.

14.5-27.5 x 8-11 µm, short cylindrical, ellipsoid, oblong or subclavate, with 2-sterigmata. Basidiospores 8.5-21.5 x 6-10.8 µm, elliptical, often curved, thin-walled, hyaline, smooth, non-amyloid, producing secondary spores (Fig. 9 A-C, Ciężkowice Foothills, Jeżów near Ciężkowice, KRAM-F 18308).

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002n).

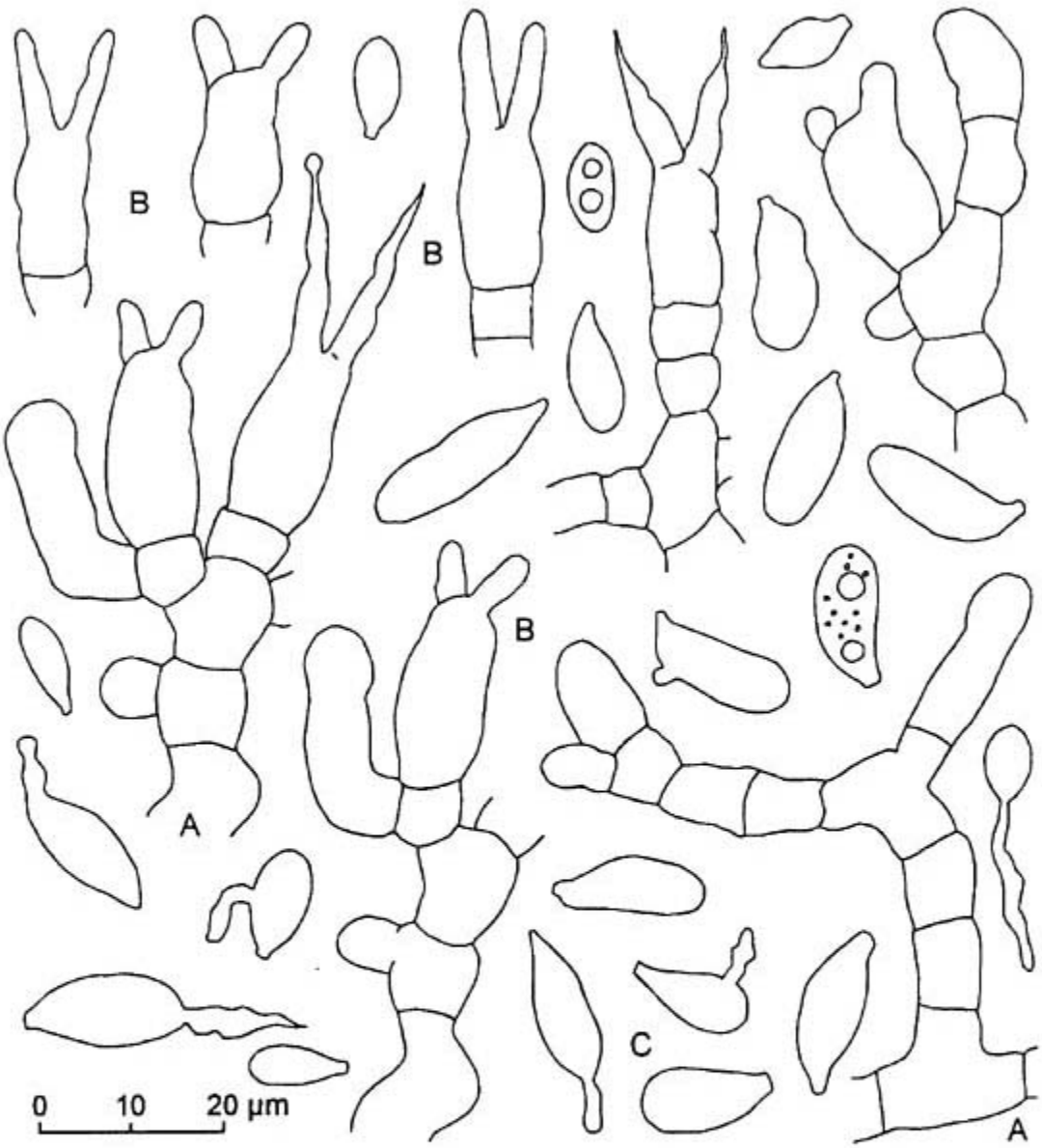

Fig. 9. *Thanathephorus sterigmaticus*: A – subhymenial hyphae, B – basidia, C – basidiospores.

Trichaptum biforme (Fr. in Klotzsch) Ryvarden
Nor. J. Bot. 19: 237. 1972
Polyporus bicolor Fr. in Klotzsch, Linnaea 8: 486. 1833.

Morphology of examined specimens. Basidiocarp up to 5 cm wide and 3 cm thick, sessile, coriaceous, dimidiate to flabelliform or petaloid, often narrowed at the base. Pileus surface gray to buff, villous, velvety-tomentose, hirsute to glabrous with age, zonate, with thin, acute margin. Hymenophore poroid, often becoming irpiciform, purple to violaceous or pale buff. Context white. Pilei most often imbricate. Pores angular, 3-5 per mm. Hyphal system dimitic. Generative hyphae 2-6 µm in diameter, septate, with clamps, hyaline, thin-walled. Cystidia 20-30 x 3-3.5 µm , fusoid,

slightly thick-walled, sometimes capitate, apically incrusted (incrustation up to 7.7 µm in diameter), projecting to 20 µm, hyaline, with basal clamp, very abundant. Basidia 10-20 x 3.5-5 µm, clavate, thin-walled, with 4 sterigmata, and a basal clamp. Basidiospores 4.8-7 x 2-3 µm, cylindric or suballantoid, smooth, thin-walled, hyaline, non-amyloid (Fig. 10 A-E, Beskid Niski Mts, Magura National Park, Ostrzeż Mt. near Bednarka, KRAM-F 52321).

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda et al. (2002).

Tubulicrinis borealis J. Erikss.
Symb. Bot. Upsal. 16: 79. 1958.

Morphology of examined specimens. Basidiocarp resupinate, effuse, up to 100 µm thick, mambranaceous. Hymenophore even, first whitish and greyish white, later pale ochraceous. Hyphal system monomitic. Hyphae 1.5-4 µm wide, thin- or thick-walled, hyaline, with clamps. Lyocystidia 40-70 x 4-8 µm, cylindrical, very thick-walled, with capillarylumen narrow, apically thin-walled, mostly encrusted with crystalline matter, distinctly amyloid. Basidia 10-16 x 3.5-4 µm, clavate or subclavate, somewhat thick-walled except for the upper part, with 4 sterigmata and a basal clamp, strongly amyloid. Basidiospores 4-6.5 x 1.5-2.5 µm, allantoid, ellipsoid or subcylindrical thin-walled, hyaline, smooth, non-amyloid (Fig. 10 J-M, Beskid Sądecki Mts, Wielka Roztoka stream valley, near Rytro, KRAM-F 18315).

Remarks. For ecology, distribution, further synonyms, taxonomy and threat, see Wojewoda (2002o).

Veluticeps ambigua (Peck) Hjortst. et Tellería
Mycotaxon 37: 54. 1990
Stereum ambiguum Peck, Ann. Rep. New York State Mus. 47: 145. 1894.
– *Columnocystis ambigua* (Peck) Pouzar, Česká Mykol. 13: 17. 1959.

Morphology of examined specimens. Basidiocarp 2-3 mm thick, resupinate, rarely effused-reflexed, stereoid. Hymenophore dark ochraceous to yellowish-brown, finely velutinous. Hyphal system dimitic. Skeletal hyphae 2.5-4.8 µm wide, thick-walled, dark brown. Generative hyphae 2-4.8 µm wide, thin- to slightly thick-walled, hyaline to pale brown. Clamps absent. Cystidia (skeletocystidia) abundant, 110-240 x 5.8-13.5 µm, thick-walled, yellow, pale brown to reddish-brown, often with delicate or large crystals, emergent up to 60-100 µm absent, bulbous structures (term according to Kotiranta and Saarenoksa 1993) present. Basidia 50-60 x 4-5 µm, subclavate to cylindrical, with 4 sterigmata. Basidiospores 9.5-15.5 x 2.5-4.3 µm, cylindrical, narrowly ellipsoid, to fusoid, smooth, first hyaline and thin-walled, then yellowish and some thick-walled, non-amyloid (Fig. 10 F-I, Augustów Primeval Forest, Kozi Rynek reserve, near Augustów, KRAM-F 32939).

Remarks. Information about ecology, distribution, further synonyms, taxonomy, and threat will be given in the third fascicle of the "Atlas of the geographical distribution of fungi in Poland".

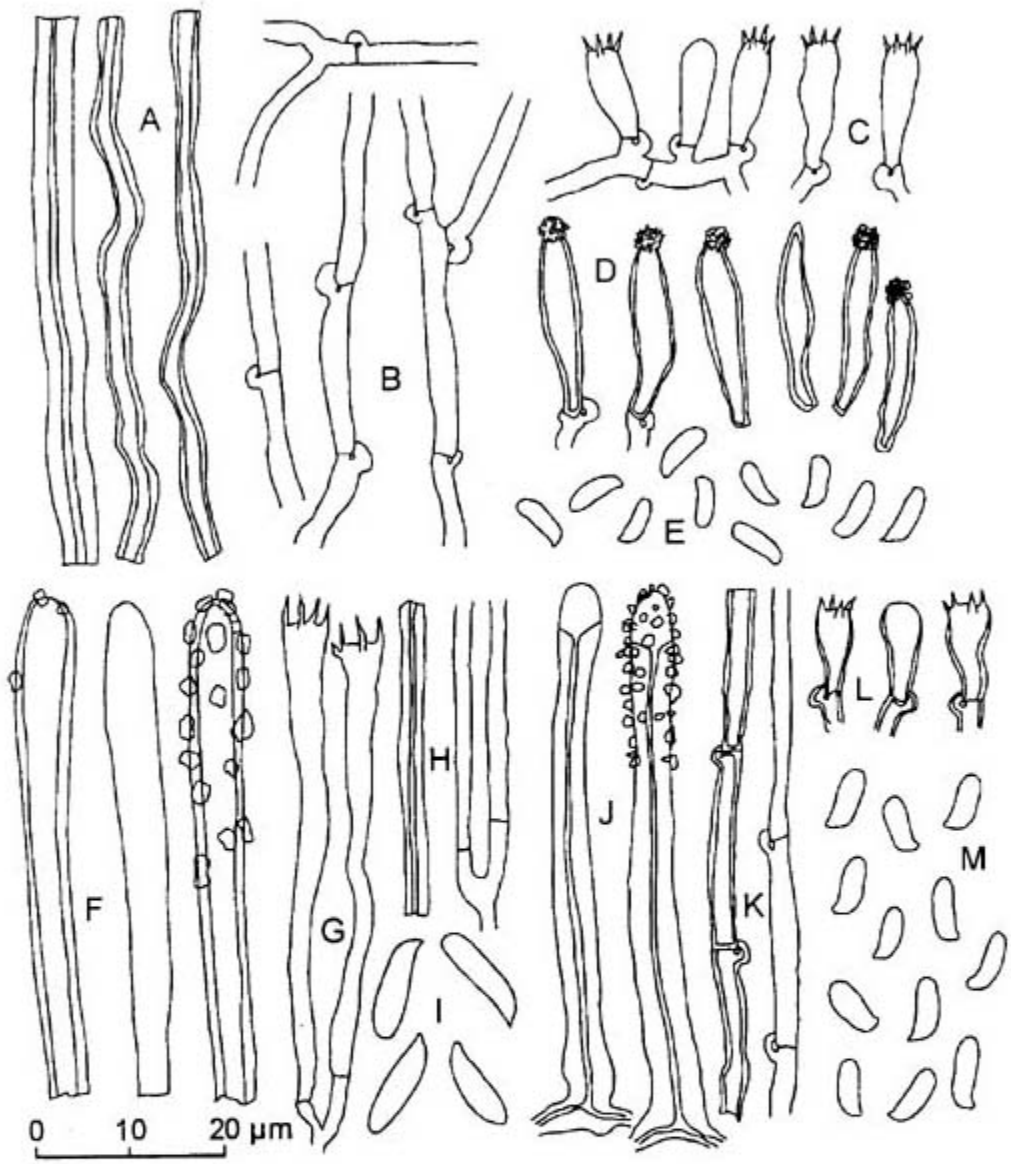

Fig. 10. *Trichaptum biforme*: A – skeletal hyphae, B – generative hyphae, C – basidia, D – cystidia, E – basidiospores; *Veluticeps ambigua*: F – skeletocystidia, G – basidia, H – hyphae, I – basidiospores; *Tubulicrinis borealis*: J – lyocystidia, K – hyphae, L – basidia, M – basidiospores.

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Morfologia niektórych rzadkich i zagrożonych polskich gatunków *Basidiomycota*

Streszczenie

W artykule uwzględniono 20 rzadkich i zagrożonych w Polsce gatunków *Basidiomycota* (19 z klasy *Basidiomycetes* i 1 z klasy *Urediniomycetes)*, opracowanych w serii „Atlas of the geographical distribution of fungi in Poland". 17 z nich: *Amylocorticium cebennense*, *A. subincarnatum*, *A. subsulphureum*, *Bovista paludosa*, *Clavariadelphus truncatus*, *Clavulicium macounii*, *Conohypha albocremea*, *Daedaleopsis tricolor*, *Fomitiporia hippophaeicola*, *Hymenochaete cruenta*, *Irpicodon pendulus*, *Punctularia strigosozonata*, *Scotomyces subviolaceus*, *Syzygospora pallida*, *Thanatephorus sterigmaticus*, *Trichaptum biforme* i *Tubulicrinis borealis*, opracowano w wydanym w r. 2002 przez Instytut Botaniki im. W. Szafera PAN, drugim fascykule z wymienionej serii. 3 gatunki: *Coniophora olivacea*, *Helicobasidium purpureum* i *Veluticeps ambigua*, będą opublikowane w kolejnym, trzecim fascykule „Atlasu". W „Atlasie" uwzględnia się taksonomię, ekologię i rozmieszczenie geograficzne, jako podstawę do ustalenia rzadkości i stopnia zagrożenia gatunku w Polsce. Celem tego artykułu jest przedstawienie pełnej charakterystyki kartowanych gatunków przez zamieszczenie ich opisów i oryginalnych ilustracji cech makro- i mikromorfologicznych.