

Oligoporus folliculocystidiatus, a new polypore species allied to Oligoporus cerifluus

FRANTIŠEK KOTLABA¹ and PETR VAMPOLA²

¹Na Petřinách 10, 162 00 Praha 6, Czech Republic;

²Žižkova 87, 586 01 Jihlava, Czech Republic

Kotlaba F. and Vampola P. (1993): Oligoporus folliculocystidiatus, a new polypore species allied to Oligoporus cerifluus. Czech Mycol. 47: 59–62

A new species of the Polyporaceae, Oligoporus folliculocystidiatus Kotl. et Vampola is described from a collection of several carpophores near Borovsko in Central Bohemia (Czech Republic). This species is remarkable for its numerous small lustrous drops of resinous matter on the pileal surface and on the pore edges as well as the thin-walled hymenial cystidia with a widely clavate to globose shape of upper parts.

Key words: Polypores, Oligoporus folliculocystidiatus, Czech Republic

Kotlaba F. and Vampola P. (1993): Oligoporus folliculocystidiatus, nový druh choroše z příbuzenstva Oligoporus cerifluus. Czech Mycol. 47: 59–62

Je popsán nový druh chorošů Oligoporus folliculocystidiatus Kotl. et Vampola podle nálezu několika plodnic na pařezu smrku ztepilého (*Picea abies*) v údolí řeky Želivky u Borovska ve středních Čechách (24. V. 1964, leg. F. Kotlaba).

Tento druh tvoří jednoleté, až 2,5 cm široké kloboukaté plodnice, které jsou v mládí kápoité, v dospělosti okrouhle terčovité a v jednom místě hřbetem přirostlé k substrátu. Plodnice rostou jednotlivě nebo 2–4 srůstají dohromady. Povrch klobouků i rourky jsou nejprve bělavé nebo krémové, později bledě žluté.

Význačnými rozlišovacími znaky jsou četné drobné lesklé kapičky resinózní hmoty na povrchu klobouků a ostří rourek a zejména unikátní tenkostěnné hymeniální cystidy, které jsou v horní části široce kyjovité až nápadně kulovité. I když tyto znaky téměř vylučují možnost omylu při determinaci, autoři přesto diskutují nejdůležitější rozlišovací znaky několika podobných druhů.

The first author collected an interesting polypore in the valley of the river Želivka near the village Borovsko at Dolní Kralovice (an serpentine area) in Central Bohemia (Czech Republic) in 1964, which was at that time identified as *Tyromyces revolutus* and was published as *T. cerifluus*, being one of the three Czechoslovak finds (Kotlaba 1984).

Almost 30 years later, the second author studied the types of *Polyporus cerifluus* Berk. et Curt. (K) and *Polystictus revolutus* Bres. (S), simultaneously revising the collections from the territory of the former Czechoslovakia. This revision showed that the collection from near Borovsko belonged to another species, which is here described as new.

Oligoporus folliculocystidiatus Kotlaba et Vampola, sp. nov.

Carposomata annua, solitaria vel duo usque quatuor con crescentia, pileata, rotundato-discoidea, dorso umbonato adnata, margine distincte involuto, albida,

cremea vel pallide lutea; superficies pilei adpresse velutina usque fibrillosa, in recentibus alba, in siccatis lutea, cum guttulis resinosis lucidis melleis (praecipue ad marginem pilei).

Hymenophorum tubulosum, poris irregulariter angulatis, parvis (3-5 per 1 mm), ostiolis oculo lente armato distincte laciniatis et guttulis parvulis resinosis, lucidulis, pallide melleis praeditis.

Trama in recentibus alba, mollis, in siccatis eburnea, fragilis; sapor lenis.

Systema hypharum monomiticum; hyphae generativae sparse remiferae, fibrillatae, tenuiter usque crasso-tunicatae (nonnumquam subsolidae), 2-6 μm crassae. Subhymenium tenue, parum evolutum. Basidia angusto-clavata, tetraterigmatica, 10-16 \times 4-6 μm . Basidiosporae oblongo-ellipsoideae usque breviter cylindricae, apice rotundatae, ad apiculum celeriter contractae, laeves, tenuiter tunicatae, hyalinae, nec amyloideae, nec dextrinoideae neque cyanophilae, 4.3-6.3 \times 2-2.8 μm . Cystidia robusta (raro tenera), aliquantum polymorpha, plerumque pedicellato plus minusve late-obovata, tenuiter tunicata, 15-25 \times 3-13 μm . Chlamydosporae ellipsoideae, crasso-tunicatae, laeves, hyalinae, 4-6.5 \times 3-4.3 μm .

Holotypus: Bohemia, Borovsko prope Dolní Kralovice, in valle rivi Želivka, ad codicem *Piceae abietis*, 24. V. 1964, leg. F. Kotlaba, in herbario Musei Nationalis Praegae asservatur (PRM 604499).

Carpophores are annual, pileate, solitary or 2-4 growing together, rounded or elongated, up to 2.5 cm wide, attached by a dorsal constriction of the pileus and adpressed at maturity, with an involute margin, whitish, then cream or pale yellow, nearly cucullar when young and elongated into some sort of a false stipe up to 0.5 cm long at the point of attachment. Pileal surface is finely velutinous to adpressed hairy-felted with small lustrous resinous drops of a light honey colour, whitish when fresh, cream to pale yellow when dried (herbaria), with young carpophores somewhat wrinkled, especially at the margin, later finely radially furrowed. A membranaceous sterile margin of pilei of young cucullate carpophores is loosely hanging but adult carpophores have a margin rather repandous and strikingly involute. Tubes are thin-walled, up to 5 mm long, with lacinate edges. Pores are irregularly angulate, 3-5 per mm, whitish when young, later pale yellow and up to deep yellow in exsiccates; context is whitish, soft when fresh, without any change from the context to the tubulotrampa; taste mild (on exsiccate). The imperfect state, as a whitish, initially finely arachnoideus, later a powdery layer, is often possible to observe on wood near the perfect carpophores.

Hyphal system monomitic with clamped generative hyphae, which are 2-6 μm wide, sparsely ramified, locally sparsely and coarsely encrusted. The hyphal walls swell inwardly in KOH solution with the lumen gradually disappearing. Similar hyphae occur in both context and tubulotrampa with only the tips of the thin-walled hyphae on the tube edges sometimes differing by their clavate-dilated shape and up to 8 μm thick. The hymenium is formed of basidia, basidiola and rather

plentiful cystidia. Basidia are tetrasterigmatic, clavate-like, with a basal clamp, $10-16 \times 4-6 \mu\text{m}$. Cystidia, which are the most striking microfeature, are locally plentiful, thin-walled, mostly widely clavate to globose in their upper parts; exceptionally it is possible to find deformed cystidia which are constricted-clavate or irregularly cylindrical.

Basidiospores are elongated ellipsoid to short-cylindrical with a sharply pointed apiculus, smooth, thin-walled, hyaline, inamyloid, indextrinoid and acyanophilous, $4.3-6.3 \times 2-2.8 \mu\text{m}$. Chlamydospores are ellipsoid, thick-walled, under the microscope pale yellow, $4-6.5 \times 3-4.3 \mu\text{m}$.

As mentioned above, quite unique and for correct identification, the most important features are the small lustrous drops of a resinous matter on the pileal surface and edges of pores as well as thin-walled, clavate-spherical to globose cystidia in the hymenium. These features are very significant and in *Oligoporus* this species cannot be mistaken during identification. In spite of this fact, we list several species of polypores, in which some distinguishing features may be similar.

Oligoporus balsameus (Peck) Gilbn. et Ryv. exceptionally may possess carpophores of a similar discoid shape. Microscopically, however, it differs in the shape of the cystidia which are most often spindle-like, sometimes with a more thickened wall. As, however, already mentioned by Kotlaba and Pouzar (1968), the cystidia of *O. balsameus* are rather variable in shape and, moreover, it is often necessary to examine several preparations under microscope to find them.

Oligoporus cerifluus (Berk. et Curt.) Gilbn. et Ryv. differs by somewhat smaller spores and by the absence of cystidia. We can confirm that this species is really identical with *Polystictus revolutus* Bres., and from *O. folliculocystidiatus* it is distinguishable also by the subhymenial layer, which is formed by strikingly twisted hyphae with plentiful short excrescences; this layer is well figured by David (1980).

Oligoporus leucomalellus (Murrill) Gilbn. et Ryv. has softer carpophores when fresh, which are very fragile after drying and, in herbaria, are often crushed. Microscopically it differs by the slender spores and by the presence of gloeocystidia in the hymenium. Gloeocystidia are mostly clavate and contain a yellowish, light-refracting substance.

Oligoporus lowei (Pil. ex Pil.) Gilbn. et Ryv. differs primarily by its slender spores and the absence of cystidia in the hymenium.

Perfect carpophores of *Oligoporus tychogaster* (F. Ludwig) R. et O. Falck may sometimes also have a similar shape. The imperfect state, with chlamydospores, of this species is better known and also more abundant than the perfect carpophores, which are only rarely found. From *O. folliculocystidiatus* it is distinguishable by hyphae, which are always thin-walled, and, also, the hymenium, which contains no other elements apart from the basidia.

Oligoporus minusculoides (Pil. ex Pil.) Gilbn. et Ryv. has carpophores, which also develop from one very small place but are strikingly smaller and the hymenophore

is often only formed of a few tubes. Microscopically, it differs mainly by narrowly spindle-like cystidioles in the hymenium and its consistently thin-walled hyphae.

Regarding the distribution and ecology of *O. folliculocystidiatus*, it is impossible to form any conclusions from the single collection. Nevertheless we suppose that this polypore occurs on conifers in the whole northern temperate zone; it most probably causes a brown rot of wood. In spite of the fact that this new polypore is described on the basis of a single find of only a few carpophores from one locality in Bohemia, we suppose that it surely grows also in other countries, but has been confused with other similar species. The revision of herbaria or further new collections may confirm our assumptions.

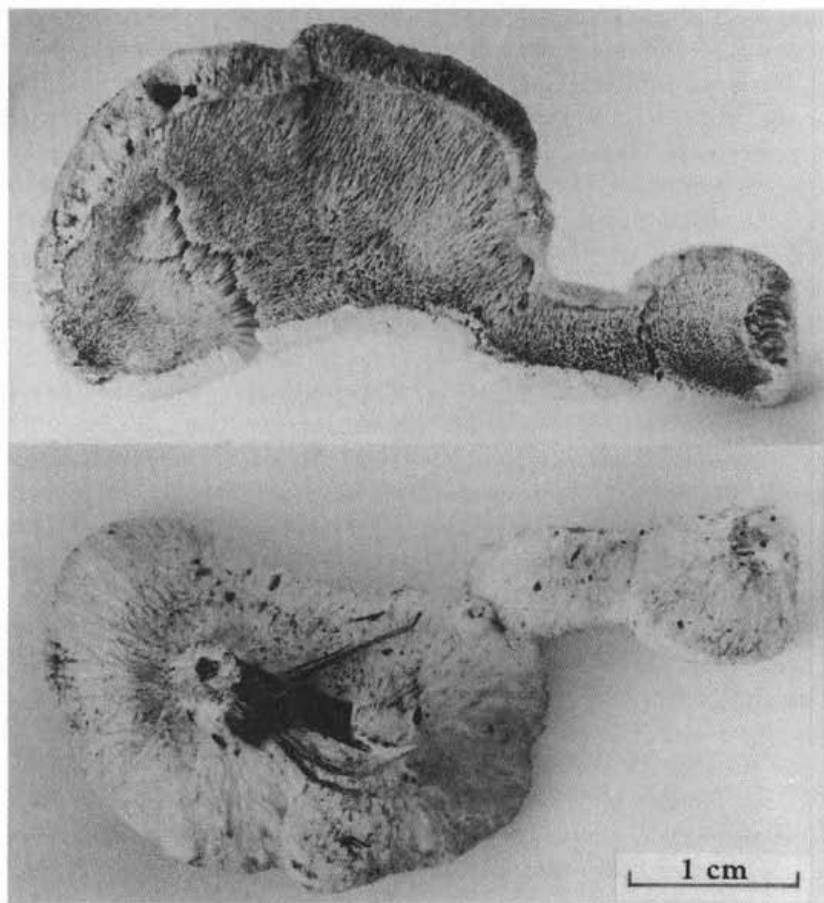


Fig. 1. *Oligoporus folliculocystidiatus* Kotl. et Vampola – Holotypus. Borovsko at Dolní Kralovice (Central Bohemia), on a stump of *Picea abies*, 29. V. 1964, leg. F. Kotlaba (PRM 604499). Photo P. Vampola

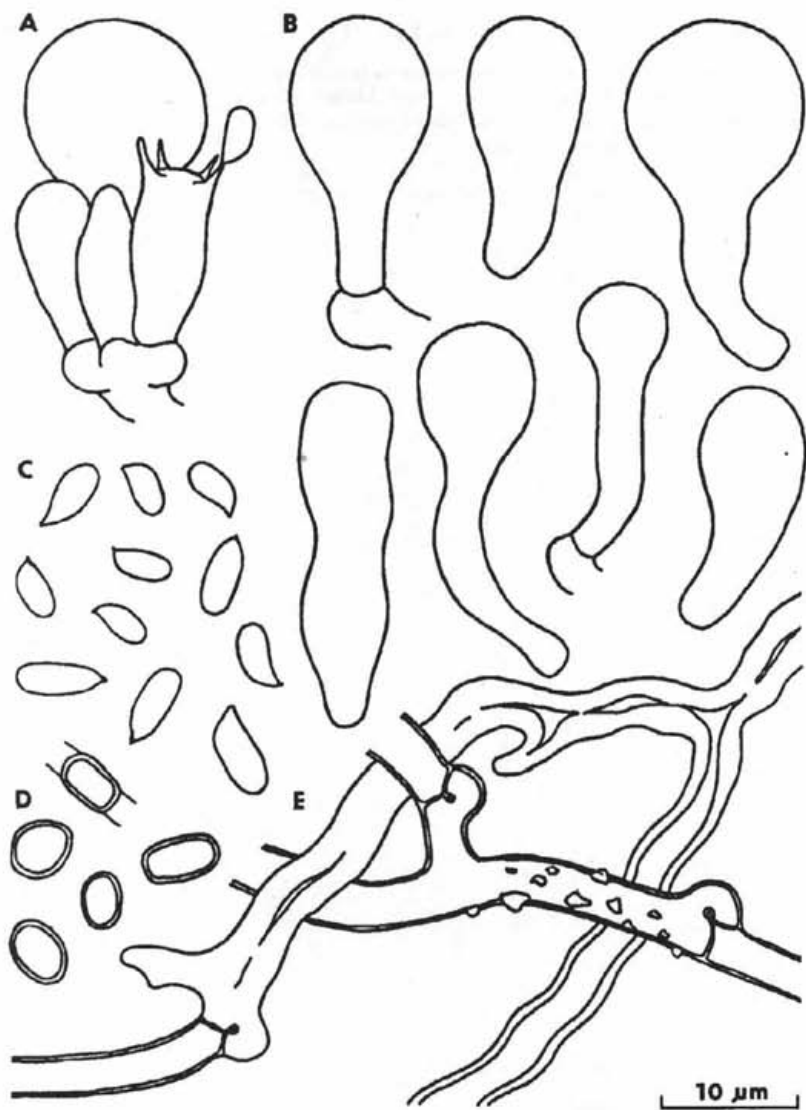


Fig. 2. *Oligoporus folliculocystidiatus* Kotl. et Vampola. A) fragment of hymenium, B) cystidia, C) basidiospores, D) chlamydospores, E) generative hyphae
Del. P. Vampola

Acknowledgements

The authors are grateful to MUDr. J. Herink for his help with Latin diagnosis.

REFERENCES

- DAVID A. (1980): Étude du genre *Tyromyces* sensu lato: repartition dans les genres *Leptoporus*, *Spongiporus* et *Tyromyces* sensu stricto. – Bull. Mens. Soc. Linn., Lyon, 49: 6–56.
- KOTLABA F. (1984): Zeměpisné rozšíření a ekologie chorošů (Polyporales s. l.) v Československu. – 194 p., 123 map in append., Praha.
- KOTLABA F. and POUZAR Z. (1968): *Tyromyces balsameus* (Peck) Murrill – bělochoroš cystidonosný v Čechách. – Česká Mykol., Praha, 22: 121–128.