

***Toментella spinosipora* Čížek sp. nov. (Thelephoraceae),
a new species from the Czech Republic**

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Čížek K. (2004): *Toментella spinosipora* Čížek sp. nov. (Thelephoraceae), a new species from the Czech Republic. – *Czech Mycol.* 56: 253–258

Toментella spinosipora Čížek spec. nov., a new species of the genus *Toментella* sect. *Alytosporium* (Link) Køljalg (*Thelephoraceae*) is described. It has been collected in the nature reserve Klapice near Radotín in Prague. It is characterised by spores which are globose in front view, some broadly ovoid in lateral view, and by the ornamentation consisting of thin, straight, up to almost 3 μm long spines. Hyphae and basidia are thick-walled, brown coloured. In the basal layer of the subiculum thick-walled, incrustated hyphae with frequent clamp-connections are dominant (clamps are lacking in the subhymenium and medial layers of the subiculum).

Key words: *Toментella spinosipora* spec. nov., basidiomycetes, *Thelephoraceae*, *Toментella* sect. *Alytosporium*

Čížek K. (2004): *Toментella spinosipora* Čížek sp. nov. (Thelephoraceae), nový druh popsaný z České republiky. – *Czech Mycol.* 56: 253–258

Je popsán nový druh rodu *Toментella* sect. *Alytosporium* (Link) Køljalg (*Thelephoraceae*), a sice *Toментella spinosipora* Čížek; byl nalezen v přírodní rezervaci Klapice u Radotína v Praze. Je charakterizován výtrusy z frontálního pohledu kulatými, bočně někdy široce oválnými, s tenkými, téměř 3 μm dlouhými ostny. Hyfy a bazidie jsou tlustostěnné, hnědě zbarvené. Ve spodní vrstvě subikula dominují tlustostěnné inkrustované hyfy s častými přezkami, zatímco přezky chybí v subhymeniu a v mediální vrstvě subikula.

In the nature reserve Klapice near Radotín in Prague (a part of the Protected Landscape Area Bohemian Karst), a species of *Toментella* has been collected which is not identical to any *Toментella* species known to date. The locality is a thermophilous oak (*Quercus petraea*) forest mixed with hornbeam (*Carpinus betulus*) on the top of a calcareous rock. Such localities are rich sources of various species of *Toментella* and are rather well known in this respect. Nevertheless, there exists only one collection of this significant species.

Toментella spinosipora Čížek sp. nov.

Diagnosis latina: Carposomata resupinata, late effusa, usque 0,5 mm crassa, sat arcte adhaerentia, solum sicut fragmenta parva separabilia, tenuiter tomentosa

cum hymenio glabro, obscure badioferrugineo ambitu sterile. Subiculum arachnoideo fibrillosum hymenio concolore. Systema hypharum monomiticum, hyphae basales subiculi crasse tunicatae 2-3,5 μm seu 4-5 μm latae, brunneae, saepe incrustatae, cum septis saepe fibulatis, hyphae parte media subiculi 2-3 μm latae, crasse tunicatae, brunneae, septatae, fibulis absentibus. Subhymenium praecipue e hyphis 3,5-5 μm , septis simplicibus, crasse tunicatis, in KOH brunneis cum cellulis brevibus. Basidia 45-60 \times 7-10 μm , utriformia, nonnumquam late clavata, in dimidio inferiore crasse tunicata, pariete brunneolo postea pallidiore, basim cum septo simplice, in apice cum sterigmatibus hamatis quatuoribus. Sporae 7-9 μm , in facie frontali globosae, in circumscriptione regulares, in facie laterali subglobosae, usque late ovoideae, in solutione KOH brunneolae, spinis rectis angustis 2,5-3 μm longis regulariter obductae. Hyphae, basidia et sporae in solutione Melzeri partim dextrinoideae et in CB partim cyanophilae. Coloratio coeruleo-viridis hypharum et basidiorum in solutione KOH deest.

Holotypus: Bohemia centralis, area tuta "Klapice" prope Radotín (urbs Praha), 340 m s. m.; *Quercus petraea*, truncus iacens, 30. IX. 2002, leg. Z. Pouzar, PRM 900456, in herbario Musaei Nationalis Pragae asservatur.

DESCRIPTION

Carpophores resupinate, up to 0.5 mm thick, firmly adherent to the substratum, separable only in small fragments, compactly mucedinoid or felt-like, hymenium glabrous, dark brownish ferruginous. Subiculum arachnoid fibrillose, of the same colour as the hymenium. Sterile margin narrow, brownish grey with short rhizoids and hyphal cords.

Hyphal system monomitic; hyphae 2-4.5(-5) μm wide, cylindrical, mostly irregular in transversal section, thick-walled, with simple septa, without clamps, but in the layer close to the substratum often with clamps, often long-celled, sparsely ramified, some glabrous, but often distinctly incrustated, brown in KOH. Richly represented are also cylindrical, straight, thick-walled, 2-3 μm broad hyphae with simple septa, which have long as well as short cells, pale to brown coloured in KOH.

Hyphal cords of subiculum rhizoids and margin of carpophore locally free, but mostly densely tangled, 15-60 μm wide, composed of one or more strands. Walls brown to yellowish in KOH.

Subhymenium dominated by 3.5-5 μm wide hyphae with simple septa, with short cells, thick-walled with walls brown in KOH.

Basidia 45-60 \times 7-10 μm , utriform, in central part constricted, some clavate, in lower half thick-walled; at base with a simple septum, with four hooked sterigmata. Wall of younger basidia brown in KOH, at maturity comparatively paler.

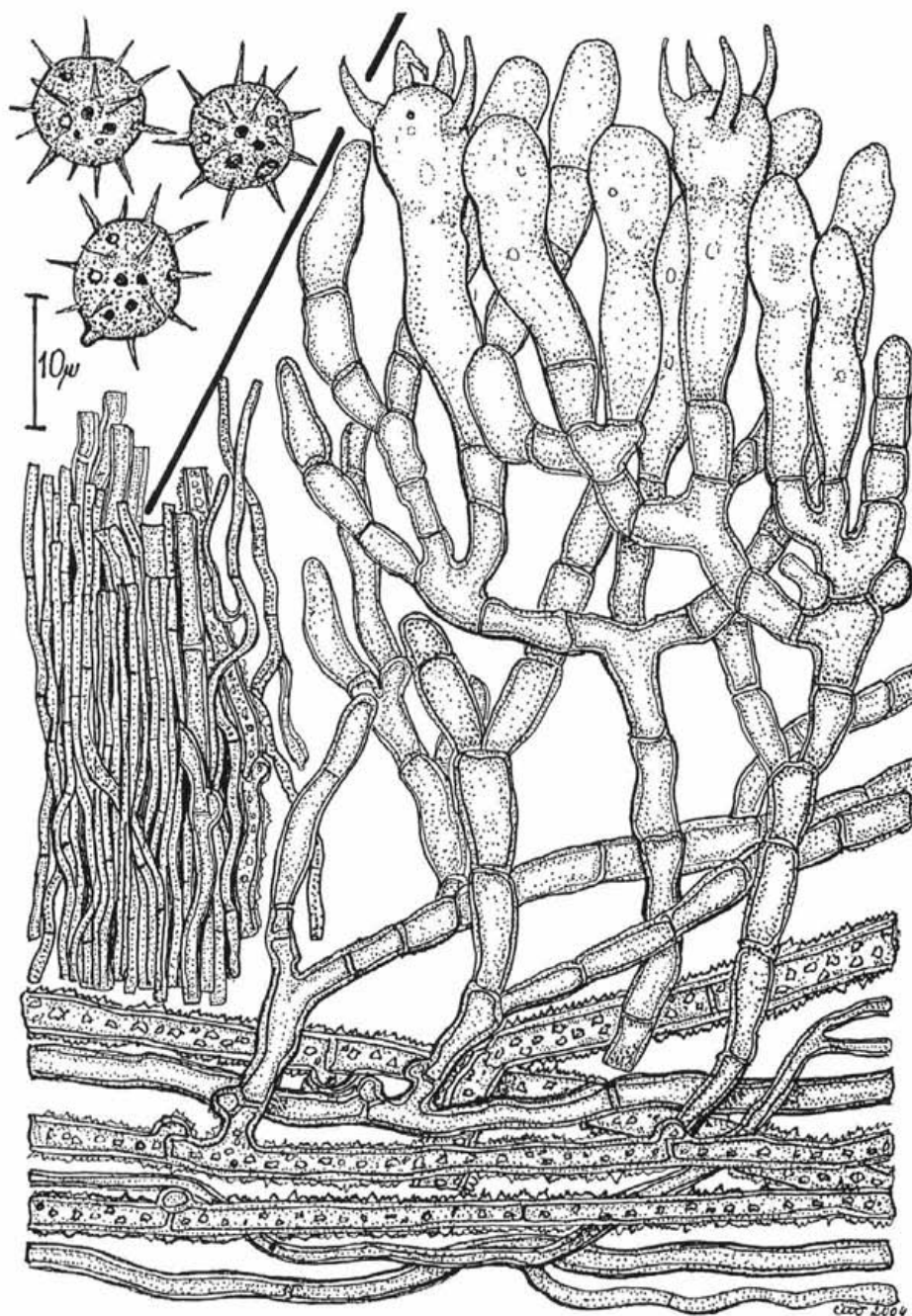


Fig. 1. *Tomentella spinosisporea*, holotype (PRM 900456). Anatomy of carpophore with basal hyphae and hyphal cord (left), basidia and spores. Del. K. Čížek.

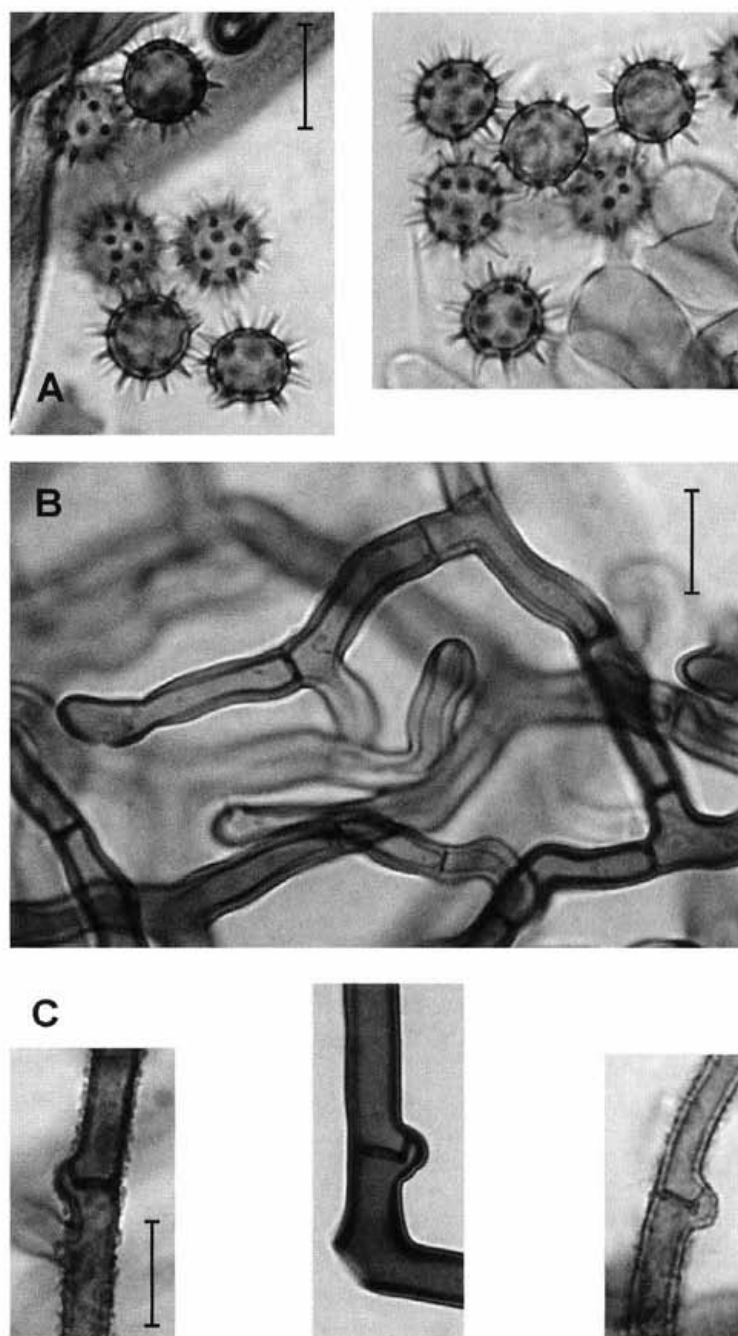


Fig. 2. A: spores, B: hyphae without clamps, C: basal hyphae with clamps. Microphotographs by Jan Holec. Scale bar = 10 μ m.

Spores 7–9 μm , in front view globose, regular in circumference, in lateral view subglobose to broadly elliptic; wall brownish in KOH; covered with narrow, straight, regularly arranged, 2.5–3 μm long spines.

Hyphae, basidia and spores with walls partially dextrinoid in Melzer's reagent (especially in younger state), cyanophilous in cotton blue. Bluish-green coloration of hyphae and basidia in KOH solution not observed.

DISCUSSION

When Svrček (1958, 1960) separated the genus *Tomentellastrum* Svrček from *Tomentella* Pat., he pointed out that there exists a rather wide variability and a deficiency of reliable distinguishing characters at the species level in this group. Larsen (1981), author of a monograph of the genus *Tomentellastrum*, emphasised the regularity vs. irregularity of the spore outline and also the general spore form, i.e. whether the spores are elongated along one axis or not (together with the character of spore ornamentation as proposed by him earlier, Larsen 1974).

The most recent approach, represented by Kõljalg (1996), returns species of *Tomentellastrum* back to the genus *Tomentella* Pat. as the section *Alytosporium* (Link) Kõljalg, and resulted in the acceptance of three broadly defined species. In this concept, the spore shape in front view is preferred as the main distinguishing character. In the section *Alytosporium* this is either lobate, triangular, globose or elliptic. Another character is the shape of spores in lateral view together with spore size and length of their spines, the presence or absence of clamps and the colour reaction in a 3 % KOH solution.

I apply Kõljalg's criteria here when delimiting the new species *Tomentella spinosispora*. Spores of this species are 7–9 μm in diam., entirely globose in front view, subglobose to broadly oval in lateral view, long spinose. This spore character of is so far unknown (yet unpublished) in this section. As a further specific distinguishing feature the presence of clamps on basal, incrustated hyphae, the rather thick walls of the basidia and the byssoid character of the hymenial surface could be considered. The closest species *Tomentella badia* (Link) Stalpers has, when compared with our species, spores lobed or triangular or only some irregularly globose in front view. Basidia in a 3 % KOH solution are green, basal hyphae incrustated and almost without clamps. *Tomentella cinereoumbrina* (Bres.) Stalpers, a rare species in our country, has spores, when compared with *T. spinosispora*, obtusely triangular and aculeate in front as well as lateral view with only short spines. Clamps are only scattered in the subhymenium and on bases of the basidia. In morphology of hyphae our new species approaches somewhat the complex of *Tomentella fuscocinerea* (Pers.: Fr.) Donk. In this species, however, spores are obtusely triangular in front view and broadly ellipsoid in lateral view.

Toментella spinosipora has been compared not only with the rather broadly defined species (Kõljalg 1996) and subspecies of subgen. *Alytosporium* (incl. the genus *Toментellastrum*), but also with formerly recognised species like *Toментella fimbriata* M. P. Christ. and *Toментella macrospora* Höhn. et Litsch., which were collected in the Czech Republic and are documented in herbaria. None of these species has been found to be identical with *Toментella spinosipora*.

ACKNOWLEDGEMENTS

I would like to thank Zdeněk Pouzar (Prague) for his assistance with the preparation of the text of this article and Jan Holec (Prague) for the microphotographs.

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