

Peziza vacekii*, a new name for *P. tiliacea

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Study of the rediscovered holotype of *Plicaria tiliacea* confirms that this species belongs to the genus *Peziza*. Type studies show that it is similar to but different from *Peziza prosthetica* and *Peziza obtusapiculata*. *Peziza vacekii*, nom. nov., is proposed to replace *Peziza tiliacea* (Vacek) J. Moravec 1985, a later homonym of *P. tiliacea* Fr.: Fr. 1822.

Key words: *Pezizales*, nomen novum, nomenclature, taxonomy.

Vacek (1949) described *Plicaria tiliacea* Vacek from a collection on decaying wood of *Tilia* sp. Reviewing the taxonomy of this apparently rare species, Moravec (1985) wrote, “...I was informed that the type is not available in PRM...”). He did not, however, doubt the existence of a specimen or the validity of the species which he moved to the genus *Peziza* Dill. ex Fr.: Fr. That redistribution is problematic because it was not based on a type study, and because it resulted in an illegitimate later homonym of *Peziza tiliacea* Fr.: Fr. [Fries 1822, current name *Encoelia tiliacea* (Fr.: Fr.) P. Karst., www.indexfungorum.org, accessed 24 June 2012, www.speciesfungorum.org, accessed 24 June 2012]. As part of our recent work on this genus, we have located the type in PRM.

The present paper reports an examination of that type, comparing the material with types of two similar species, *Peziza prosthetica* Dissing & Sivertsen and *Peziza obtusapiculata* J. Moravec.

Material and methods

Material

Plicaria tiliacea: CZECH REPUBLIC, Karlštejn (Bohemia), ad truncum frondosum (*Tilia*), 29. Feb 1946, *leg. et det.* V. Vacek, PRM 733835, holotype.

Peziza prosthetica: NORWAY, Nordland, Rana, Ørtfjellmoen, Tørbekken, map sheet 2027 IV, VP 86, in a steep brook bed, on calcareous soil, among

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mosses together with *Peziza gerardii* Cooke, 24 Aug 1981, *leg. et det.* H. Dissing and S. Sivertsen MO 81.100, TRH holotype; C-F- 87723 isotype.

Peziza obtusapiculata (as *obtuseapiculata*): CZECH REPUBLIC, Moravia, District Brno Útěchov, ad lignum putridum sub corticem trunci (? *Carpinus betulus*) in *Querceto-Carpineto* cum *Betula alba*, 10 May 1975, *leg. et det.* J. Moravec PRM 832208, holotype.

Methods

Measurements and descriptions of microscopic characters were made using material mounted in water, rehydrated when necessary with 5 % KOH. Melzer's reagent and Cotton blue in lactic acid were also used. An Optika optical microscope (BK 1301 model), with 40 × or 100 × (immersion oil) objectives was used to study the morphology of specimens and photograph them. Spore dimensions were calculated by measuring 50 spores judged to be mature.

Results

Plicaria tiliacea Vacek, Stud. Bot. Čechoslov. 10 (4): 131. 1949. – Fig. 1.

Type composed of ascomata in good condition. Medullary excipulum 200–250 µm thick; comprised of textura globulosa and, in some zones, globulosa-angularis, composed of rounded or slightly angular cells, 15–19 µm in diam., some of them elongate (up to 12 × 17 µm), more or less pale brown. Ectal excipulum up to 300 µm thick, with structure similar to the medullary excipulum (however, some cells with a markedly angular outline seen), but with larger cells, 35–40 × 20–24 µm, more or less dark reddish-brown, and darker than those of the medullary excipulum; with granular, bundled and dark brown pigments in the whole section. Subhymenium not obvious. Asci 270–300 × 12–15 µm, cylindrical, amyloid at the tip and up to 10 µm downwards, with 8 spores arranged uniseriately. Ascospores (14)16–17 × (8.5)9–10 µm (without ornamentation), ± narrowly elliptical, with punctiform or slightly elongate warts (0.5–1 µm long and up to 0.5 µm high) and obtuse apiculi, in some cases like skull-caps, 1–2.5 µm high and 3–4 µm wide, hyaline or pale brownish-yellow, thick-walled, 1 oil-drop. Paraphyses club-shaped and up to 8 µm wide at the tip, cylindrical in the lower part and 3.5–4.5 µm wide, unbranched, septate.

Peziza prosthetica Dissing & Sivertsen, Nord. J. Bot. 3(3): 418–419. 1983. – Fig. 2.

Holotype in poor condition: the envelope containing one small piece of wood which, after re-hydrating, showed only the presence of globose, gelatinous bodies. The following description based on the isotype also being so scanty that only a small fragment could be examined. Medullary excipulum 80–120 µm thick; comprised of a mixture of textura epidermoidea and globulosa-angularis, with irregularly elongate and swollen cells, variable in outline, some of them club-shaped or sausage-shaped (up to 30 ×

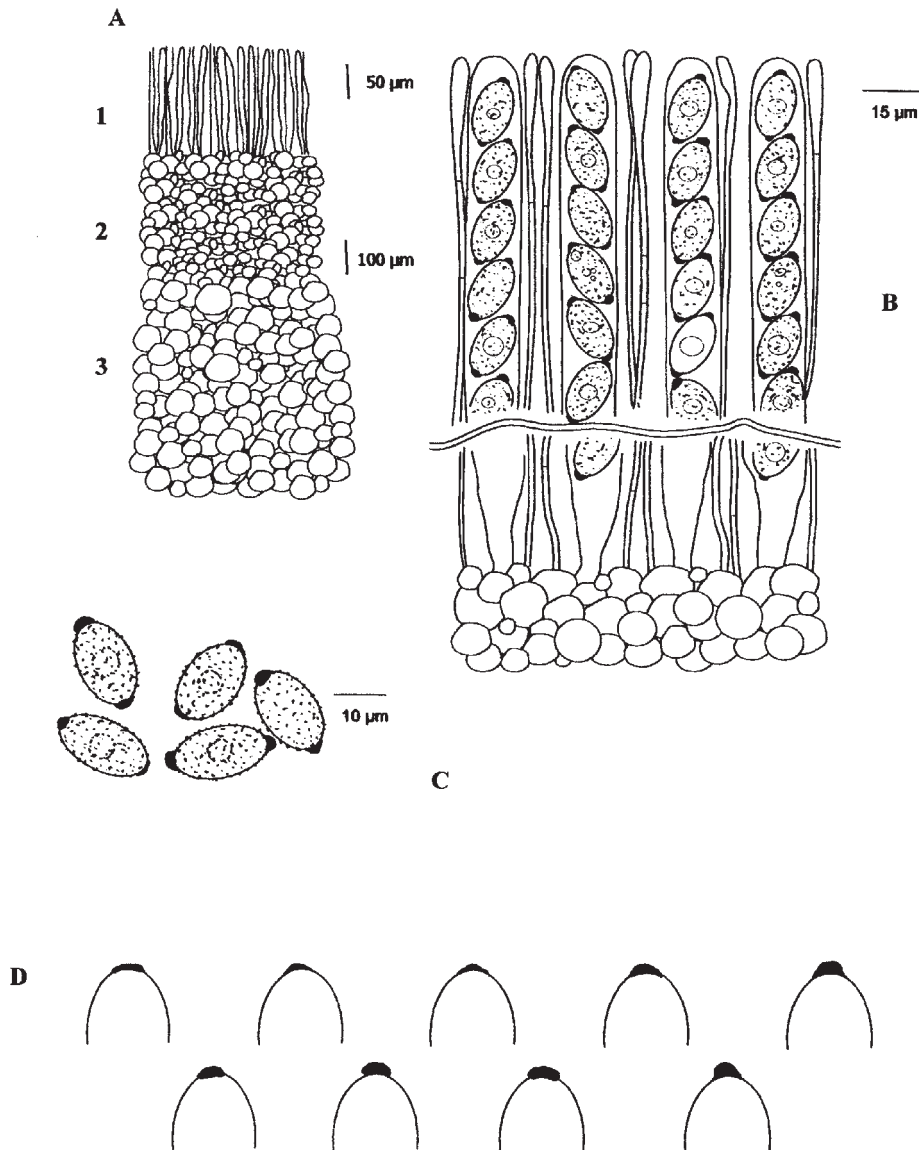


Fig. 1. *Peziza vacekii*, holotype. **A.** Vertical section of an ascoma, 1. Hymenium, 2. Medullary excipulum, 3. Ectal excipulum; **B.** Hymenium (asci, paraphyses, ascospores and a partial view of the medullary excipulum); **C.** Released ascospores; **D.** Variability of the apiculi. – Del. G. Medardi).

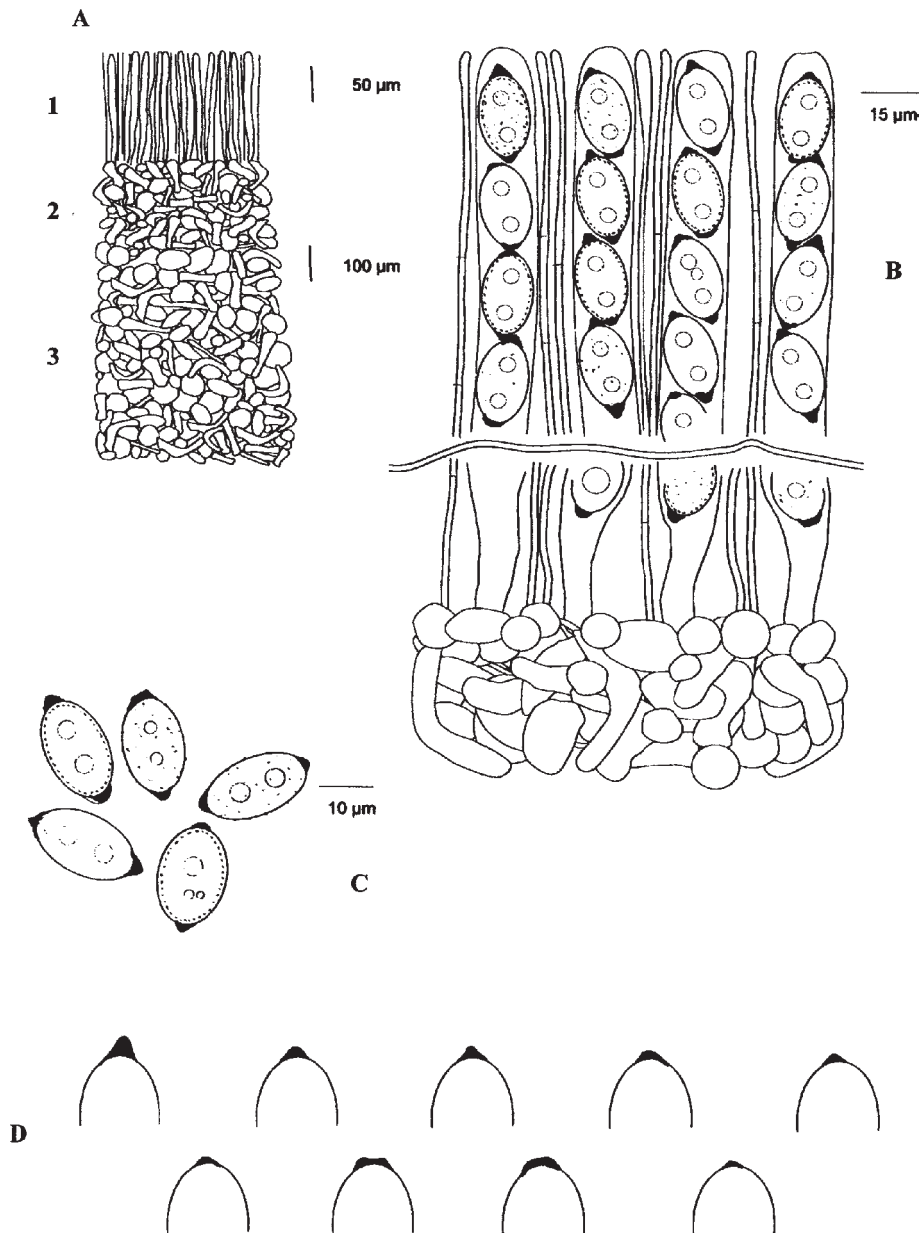


Fig. 2. *Peziza prosthetica*, isotype. **A.** Vertical section of an ascoma, 1. Hymenium, 2. Medullary excipulum, 3. Ectal excipulum; **B.** Hymenium (asci, paraphyses, ascospores and a partial view of the medullary excipulum); **C.** Released ascospores; **D.** Variability of the apiculi. – Del. G. Medardi.

18 μm), or rounded-angular and then 30–50 μm in diam., with reddish-brown pigments present in the wall. Ectal excipulum 250–280 μm thick, with no clearly defined textura, cells similar to those of the medullary excipulum, rather complicate in arrangement, in some instances thinner and more elongate (with elements 27–28 \times 11–13 μm), mixed with other rounded-angular cells, 10–15 μm in diam.; with brown intraparietal and intracellular pigments, darker than those of the medullary excipulum. Subhymenium not obvious. Ascii 290–310 \times 12–15 μm , cylindrical, amyloid, with 8 spores arranged uniseriately. Ascospores 18–20 \times 9–10(11.5) μm (without ornamentation), \pm narrowly elliptical, some sub-citriform, apparently smooth, but actually weakly warted, with obtuse-sharp to flattened apiculi, 1–3 μm high and wide (in some cases showing two slight horn-shaped protrusions), the most part thick-walled (wall about 1 μm thick), containing 2 droplets, hyaline. Paraphyses cylindrical or subcylindrical, 3.5–4(6) μm wide, unbranched, septate.

Peziza obtusapiculata J. Moravec, Česká Mykol. 38(2): 121 (1984) – Fig. 3.

Type composed of ascomata in good condition. Medullary excipulum 300–350 μm thick; textura globulosa-angularis, composed of angular or irregularly elongate cells, 15–20 \times 30–35 μm , 60 \times 18 μm or 90–100 \times (10)15–18 μm , hyaline or very pale brown. Ectal excipulum 300–350(400) μm thick, textura globulosa composed of rounded cells, 15–30 μm in diam., or more or less widely elliptical, 15–20 \times 30–35 μm , with presence of few interwoven hyphae; all the layer appearing more or less dark brown due to intracellular and parietal pigments. Subhymenium well differentiated, of textura globulosa (up to 80 μm thick), with rounded cells up to 20 μm in diam. Ascii 250–300(350) \times 14–18 μm , cylindrical or subcylindrical, amyloid, with 8 spores arranged uniseriately. Ascospores 16–18 \times (8)8.5–10(15) μm (without apiculi), with \pm close and rounded or angular speckled warts (0.5–1 μm wide and 0.5–1 μm high), sometimes longer, and two triangular or rose spine-shaped apiculi, sometimes with one or more thin protrusions 1–3(6) μm long. Paraphyses club-shaped and 9–10 μm wide at the tip, cylindrical in the lower part and 3–4 μm wide, unbranched, septate, thin- or thick-walled, dark brown or blackish-brown at the tip; some cells enlarged.

Discussion

Macroscopic characters of soft-bodied ascomycetes often cannot be reliably determined from rehydrated specimens, but our examination of the types gave no reason to doubt the descriptions of these characters provided by Vacek (1949, p. 131) for *Plicaria tiliacea*, by Dissing & Sivertsen (1983, pp. 418–419) for *Peziza prosthetica*, and by Moravec (1984, p. 121) for *Peziza obtusapiculata*.

Our description of the microscopic characters of *Plicaria tiliacea* corresponds well with that by Vacek (1949), except for some small differences in

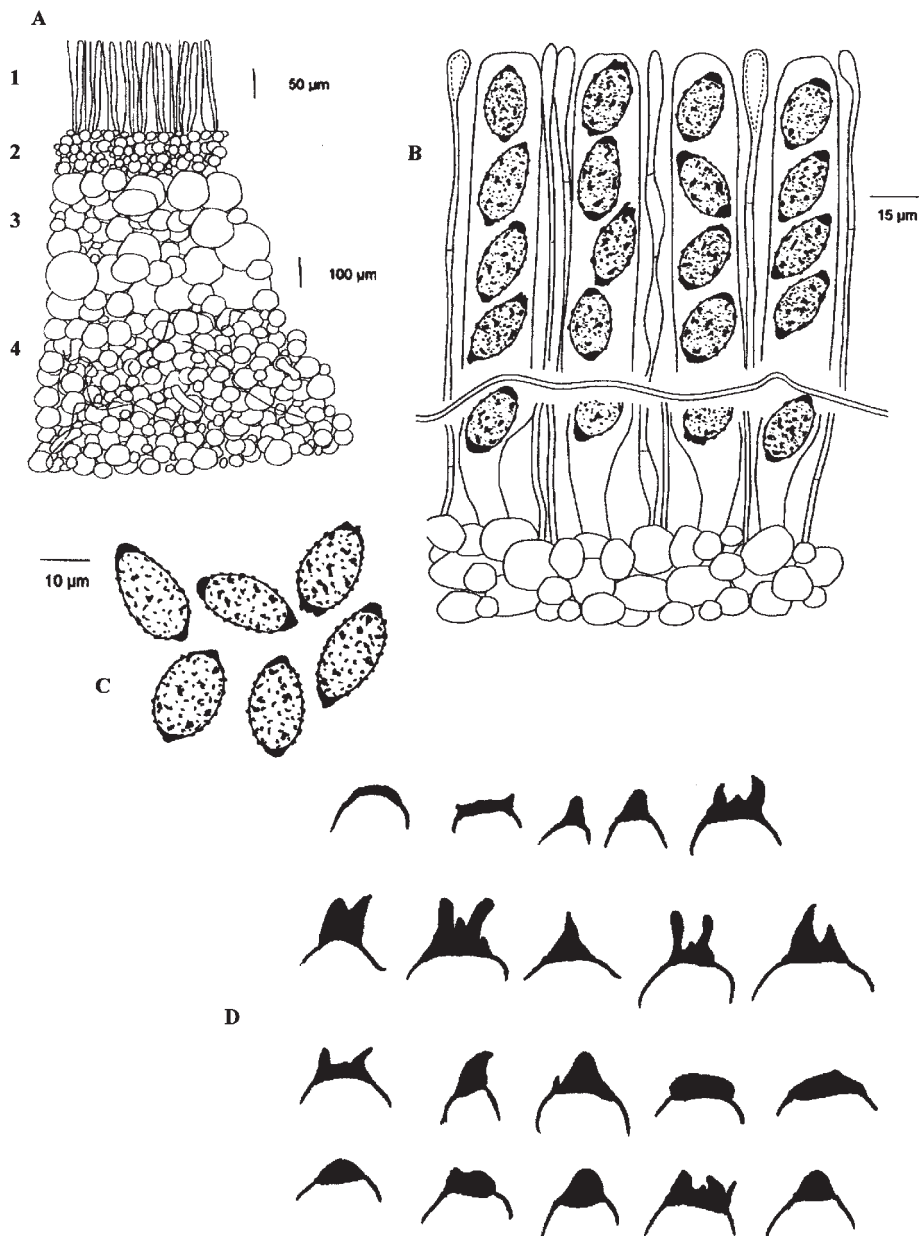


Fig. 3. *Peziza obtusapiculata*, holotype. **A.** Vertical section of an ascoma, 1. Hymenium, 2. Subhymenium, 3. Medullary excipulum, 4. Ectal excipulum; **B.** Hymenium (asci, paraphyses, ascospores and a partial view of the subhymenium); **C.** Released ascospores; **D.** Variability of the apiculi. – Del. G. Medardi.

dimensions and our observation of fine warts on the spore surface, not mentioned by Vacek, but noted by Moravec (1985).

Our description of the microscopic characters of *Peziza prosthetica* shows some differences from that by Dissing & Sivertsen (1983), particularly in respect of layers of the flesh and dimensions of their cells. Despite making several sections, we were unable to distinguish a differentiated subhymenium, but rather we saw one continuous region of tissue starting below the asci and reaching to the external layer. This was made-up of a mixture of textura epidermoidea and globulosa-angularis, reflecting that described by the authors for the medullary excipulum, but with cells to some extent more stretched and larger.

The ectal excipulum was also noted to be different, in some zones similar to the original description (cells rounded-angular), but also mixed with portions composed of a textura similar to that found in the medullary excipulum. These divergences could perhaps be due to the condition of the sample and to its rather reduced dimensions. Through this study we can, however, be sure that *Plicaria tiliacea* and *Peziza prosthetica* are not conspecific, based on the different dimensions and the type of spore ornamentation, and the dissimilar architecture of the flesh.

Peziza obtusapiculata is found growing on soil, sometimes also in association with degraded wood. The type material is microscopically rather similar to the other two species. It differs from *P. vacekii* by differently shaped apiculi and by the architecture of the flesh composed of three layers. Further, the ascospores are smaller than those of *P. prosthetica*.

The genera *Peziza* and *Plicaria* Fuckel are distinguished by ascospore shape, ascospores of *Plicaria* being globose, while those of *Peziza* being longer than wide (Norman & Egger 1996). On that basis, our observations of *Plicaria tiliacea* confirm the redistribution of this species by Moravec (1985) to *Peziza*. The illegitimate name, *Peziza tiliacea* (Vacek) Moravec is replaced below:

Nomen novum

Peziza vacekii Cacialli, Lantieri & Medardi, **nom. nov.**

MycoBank no.: MB 800845

Basionym. – *Plicaria tiliacea* Vacek, Stud. Bot. Čechoslov. 10(4): 131.1949.

Replaced synonym. – *Peziza tiliacea* (Vacek) J. Moravec, Agarica 6(12): 59. 1985 [nom. illegit., Art. 53.3, non *P. tiliacea* Fr.: Fr., Syst. Myc. 2(1): 76–77.1822].

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