Pyrenopeziza velabitica
Pyrenopeziza velebitica Matočec, I. Kušan, Jadan, Tkalčec & Mešić, sp. nov.

Etymology. Named after the mountain, Velebit, on which it was collected.

Classification — Mollisiaceae, Helotiaceae, Leotiomyceset.

Ascospores apothecial, collectively or solitary erumpent in early stage of development, emerging from longitudinal crack of the twig periderm, when fully expanded speciously superficial, at first globular, then hemispherically expanding, deep cupulate when mature, ± circular from the top view, 0.4–1.3 mm and 0.3–0.7 mm diam, solitary or crowded. Hymenium steel grey, not wrinkled; margin sharp, whitish pubescent, entire, not lobed, permanently inrolled; excipular surface hazel brown, somewhat mealy rugulose. Hymenium 65–75 µm thick. Ascus cylindrical-ventricose with subconical apex, 68–79 × 8.5–10.5 µm, 55–61 × 5–6.5 µm, pars sponifica 28.5–34.5 µm, 8–(rarely 4)-spored, base cylindrical-truncate, arising from narrow repetitive croziers, apical apparatus moderately refractive in water, in Lugol’s solution apical ring strongly amyloid (30b) of Calycina-type. Ascospores subcubiform, bilaterally symmetrical, aseptate, (10–)10.5–12.5–14(–14.5) × 2.5–2.9 × 3(–3.5) µm, 19.5–11.5 × 2–2.5 µm, Q = (3–)3.5–4.3–5, Q = 3.5–4.5, hyaline, smooth, sporespall containing several small to medium sized lipid bodies, bi- triseriate when inside living asci, with abundant sheath enveloping whole spores when freshly ejected. Para- physses cylindrical-lanceolate, more rarely clavate, apical cell 30–66.5 × 3–5(–5.5) µm, 20–53.5 × 3–4 µm, containing several subhyaline, strongly refractive globose vascular bodies which readily coalesce in still living cells, wall thin and hyaline, sometimes covered with strongly refractive golden yellow patches. Subhymenium slightly differentiated from medullary excipulum, 5–7 µm thick at the upper flank, of hyaline densely packed small ± cylindrical cells 2.5–4(–7) µm wide. Medullary excipulum moderately gelatinised, very reduced at the upper flank, of hyaline textura porrecta, 8–12 µm thick; considerably thicker at the middle flank, of textura intricata-porrecta 14–23 µm thick; cells 2.5–4.5 µm wide. Ectal excipulum 52–68 µm thick at the middle flank, differentiated into two layers: inner layer 27–36 µm thick at the middle flank, of hyaline textura angularis with cells 4.5–17 × 4–11 µm; outer layer 24–30 µm thick at the middle flank, of brown textura globulosa-angularis with cells 5–11 × 4.5–10 µm. Outermost cells on the upper flank giving rise 1–4-celled hairs, (12.5–)20–60 µm long, running at high angle to the excipular surface, with ± moniliform cells 6–13.3 µm wide, wall tobacco-brownish; terminal cells broadest, clavate-rhomboid to shortly lanceolate, 12.5–28.5 × 8–13.5 µm, wall brown to rusty brown, covered with dark brown thick patchy warts. Hairs on marginal rim flexuous, undulate, smooth, hyaline and thin-walled, cylindrical to subclavulate, rapidly collapsing, 20–65 × 4–8 µm. Subicum abundant, hyphae arising from lower and basal flank, wavy, almost not branched, evenly septate, with occasional short knotty lateral protuberations, walis thickenened, smooth, but darker brown hyphae adpressed to the excipular surface and some distant lighter coloured hyphae finely warted, hyphae mostly greyish yellow to hazel brown, 12.5–4 µm wide. Ascus amyloidity corresponds to the system given in Baral (1987). For full description see MycoBank, under MB818668.

Distribution & Habitat — The species is known so far only from Mt Velebit, Croatia. All three existing collections are bound to the living branches of Lonicera borbasiana (Dipsaceae), in the alpine karstic habitat.

Notes — The genus Pyrenopeziza s.str. was erected by Fuckel (1870) for blackish, cupulate and hairy apothecial fungi with vertically striate structures on the excipular apothecium, inhabiting various kinds of dead herbaceous stems, leaves and petioles, canes, more rarely on wood and bark remnants. Approximately at the same time, in the middle of the 20th century, several authors dealt with the boundaries and the concept of the genus (viz. Hütter 1958, Gremmen 1958, Schüepp 1959). Today, more than 300 names are assigned to the genus but the modern comprehensive taxonomic analysis of the whole genus and its allies is still lacking. The generic name Pyrenopeziza is conserved against Cylindrosporium and Cylindrodochium (see May 2017). Although the genus is comprised of numerous species, the new species along with the most similar Pyrenopeziza lonicerae (Nannfeldt 1932) is easily recognizable by its robust apothecia with permanently inrolled sharp margin and thick excipulum consisting of continuous and thick cortex composed of several thick-walled cell-layers, marginal hairs exceeding 50 µm in length, lacking periphyses, amyloid asci, and occurring on woody plants (Lonicera spp.). Pyrenopeziza velebitica can be differentiated from P. lonicerae by: (1) larger spores (19.4–11.4 × 2–2.4 µm vs 18–10 × 2 µm); (2) differently shaped paraphyses (cylindrical-lanceolate to clavate, 13–4 µm diam vs filiform, to 2 µm diam); (3) longer asci (55–61 µm vs 50–55 µm); and 4) ± moniliform hair-like processes. Pyrenopeziza symphoricarpi occurs on a similar substrate (Symphoricarpos sp., Caprifoliaceae), but differs from P. velebitica and P. lonicerae in having inamyloid asci that are 50–60 µm long (Dennis 1963). The ITS sequence of P. velebitica was compared to DNA sequences of diverse generic representatives from mollisioid fungi downloaded from GenBank (see phylogenetic tree in MycoBank, under MB818668).

Colour illustrations. Croatia, Mt Velebit, alpine habitat in the Hajučki kukovi area, type locality; living ascospores and a dead ascospore; living asci, crozier cell, and dead asci in IKI; living and dead paraphyses; upper flank hairs; living ascomata; vertical median section of the excipulum. Scale bars = 1 mm (apothecia), 10 µm (microscopic structures).

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