

Pyrenopeziza velebitica



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

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

Classification — *Mollisiaceae*, *Helotiales*, *Leotiomyces*.

Ascomata apothecial, collectively or solitary erumpent in early stage of development, emerging from longitudinal crack of the twig periderm, when fully expanded speciosely superficial, at first globular, then hemispherically expanding, deep cupulate when mature, \pm circular from the top view, $\bar{0.4}$ – 1.3 mm and $\bar{0.3}$ – 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* $\bar{65}$ – 75 μm thick. *Asci* cylindrical-ventricose with subconical apex, $\bar{68}$ – 79×8.5 – 10.5 μm , $\dagger 55$ – 61×5 – 6.5 μm , *pars sporifera* $\bar{28.5}$ – 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 (3bb) of *Calycina*-type. *Ascospores* subcutuliform, bilaterally symmetrical, aseptate, $\bar{(10)}$ – 10.5 – 12.5 – 14 (– 14.5) $\times 2.5$ – 2.9 – 3 (– 3.5) μm , $\dagger 9.5$ – 11.5×2 – 2.5 μm , $\bar{Q} = (3)$ – 3.5 – 4.3 – 5 , $\dagger Q = 3.5$ – 4.5 , hyaline, smooth, sporoplasm containing several small to medium sized lipid bodies, bi- to triseriate when inside living asci, with abundant sheath enveloping whole spores when freshly ejected. *Paraphyses* cylindrical-lanceolate, more rarely clavate, apical cell $\bar{30}$ – 66.5×3 – 5 (– 5.5) μm , $\dagger 20$ – 53.5×3 – 4 μm , $\bar{}$ containing several subhyaline, strongly refractive globose vacuolar 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, $\bar{5}$ – 7 μm thick at the upper flank, of hyaline $\bar{}$ densely packed small \pm cylindrical cells $\bar{2.5}$ – 4 (– 7) μm wide. *Medullary excipulum* moderately gelatinised, very reduced at the upper flank, of hyaline *textura porrecta*, $\bar{8}$ – 12 μm thick; considerably thicker at the middle flank, of *textura intricata-porrecta* $\bar{14}$ – 23 μm thick; cells $\bar{2.5}$ – 4.5 μm wide. *Ectal excipulum* $\bar{52}$ – 68 μm thick at the middle flank, differentiated into two layers: inner layer $\bar{27}$ – 36 μm thick at the middle flank, of hyaline *textura angularis* with cells $\bar{4.5}$ – 17×4 – 11 μm ; outer layer $\bar{24}$ – 30 μm thick at the middle flank, of brown *textura globulosa-angularis* with cells $\bar{5}$ – 11×4.5 – 10 μm . Outermost cells on the upper flank giving rise 1–4-celled hairs, $\bar{(12.5)}$ – 20 – 60 μm long, running at high angle to the excipular surface, with \pm moniliform cells $\bar{6}$ – 13.3 μm wide, wall tobacco-brownish; terminal cells broadest, clavate-rhomboid to shortly lanceolate, $\bar{12.5}$ – 28.5×8.5 – 13 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 subclavate, rapidly collapsing, $\bar{20}$ – 65×4 – 8 μm . *Subiculum* abundant, hyphae arising from lower and basal flank, wavy, almost not branched, evenly septate, with occasional short knotty lateral protuberations, walls thickened, smooth, but darker brown hyphae adpressed to the excipular surface and some distant lighter coloured hyphae finely warted, hyphae mostly greyish

Colour illustrations. Croatia, Mt Velebit, alpine habitat in the Hajdučki 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).

yellow to hazel brown, $\dagger 2.5$ – 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* (*Dipsacales*), in the alpine karstic habitat.

Typus. CROATIA, Lika-Senj County, Sjeverni Velebit National Park, northern part of Mt Velebit, Hajdučki kukovi area, 850 m E-NE from Vratarski kuk peak (1676 m), 1530 m a.s.l., N44°46'05" E15°00'46"; on wounds and bark of semidecorticated twigs of still living *Lonicera borbasiana* (*Caprifoliaceae*), 28 May 2017, *N. Matočec* (holotype CNF 2/10097, ITS and LSU sequences GenBank MF593628 and MF593629, MycoBank MB818668).

Additional material examined. CROATIA, Lika-Senj County, Sjeverni Velebit National Park, northern part of Mt Velebit - 2 collections: Premužić trail, 1300 m SE from Veliki Zavižan peak (1676 m), 1520 m a.s.l., N44°47'36" E14°59'03", 24 June 2009, *I. Kušan & N. Matočec*, CNF 2/8237, and Hajdučki kukovi area, 900 m E-NE from Vratarski kuk peak (1676 m), 1570 m a.s.l., N44°46'02" E15°00'53", 28 May 2017, *N. Matočec*, CNF 2/10099; both collections on semi-decorticated twigs of still living *Lonicera borbasiana*.

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 surface, 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, Schüep 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 loniceræ* (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 paraphyses, amyloid asci, and occurring on woody plants (*Lonicera* spp.). *Pyrenopeziza velebitica* can be differentiated from *P. loniceræ* by: 1) larger spores ($\dagger 9.4$ – 11.4×2 – 2.4 μm vs $\dagger 8$ – 10×2 μm); 2) differently shaped paraphyses (cylindrical-lanceolate to clavate, $\dagger 3$ – 4 μm diam vs filiform, to 2 μm diam); 3) longer asci ($\dagger 55$ – 61 μm vs $\dagger 50$ – 55 μm); and 4) \pm moniliform hair-like processes. *Pyrenopeziza symphoricarpi* occurs on a similar substrate (*Symphoricarpos* sp., *Caprifoliaceae*), but differs from *P. velebitica* and *P. loniceræ* 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 mollisoid fungi downloaded from GenBank (see phylogenetic tree in MycoBank, under MB818668).

$\bar{}$ denotes living material.

\dagger indicates a dried specimen.