F. Schumm (2026):

# Images of Lichens
# *Vezda Lichenes Selecti Exsiccati part 23*

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With this volume, I continue the documentation of Vezda's works on exiccata, now with Lichenes Selecti as part 23. I have chosen the genus names that Vezda used, even though others are now more common. However, I also include the currently used names in the synonym list and the index. In addition, I have again made every effort to add species descriptions to the detailed information on the labels from the literature.

For the descriptions of europaean species I used mainly the excellent descriptions that are provided in Prof. Nimis ITALIC 8 under the URL:
**https://italic.units.it/**

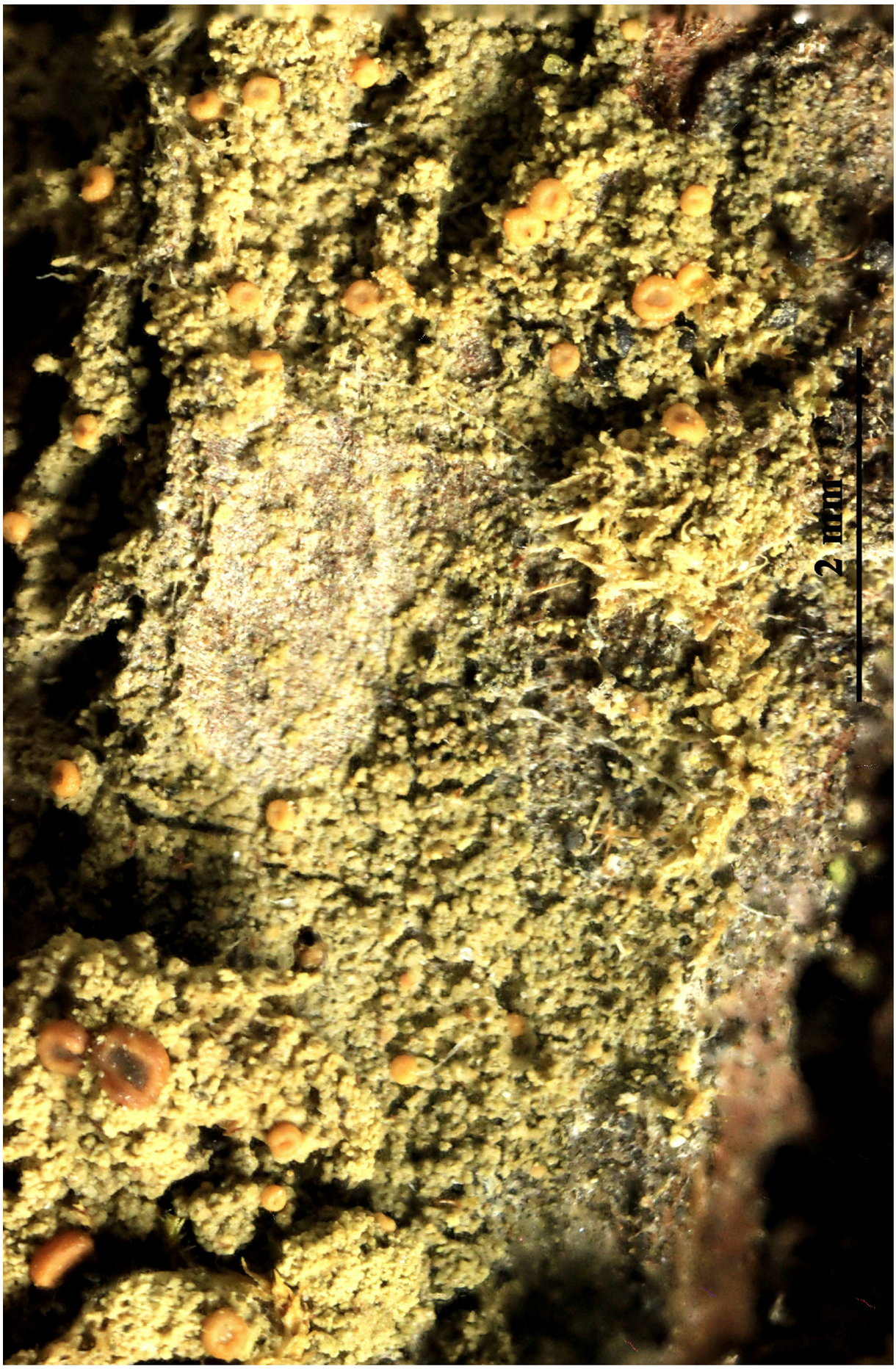
and the Australian Lichenslist under the Url:
**https://www.anbg.gov.au/abrs/lichenlist/lichenchecklist_e_o.html**

F. Schumm, 2026

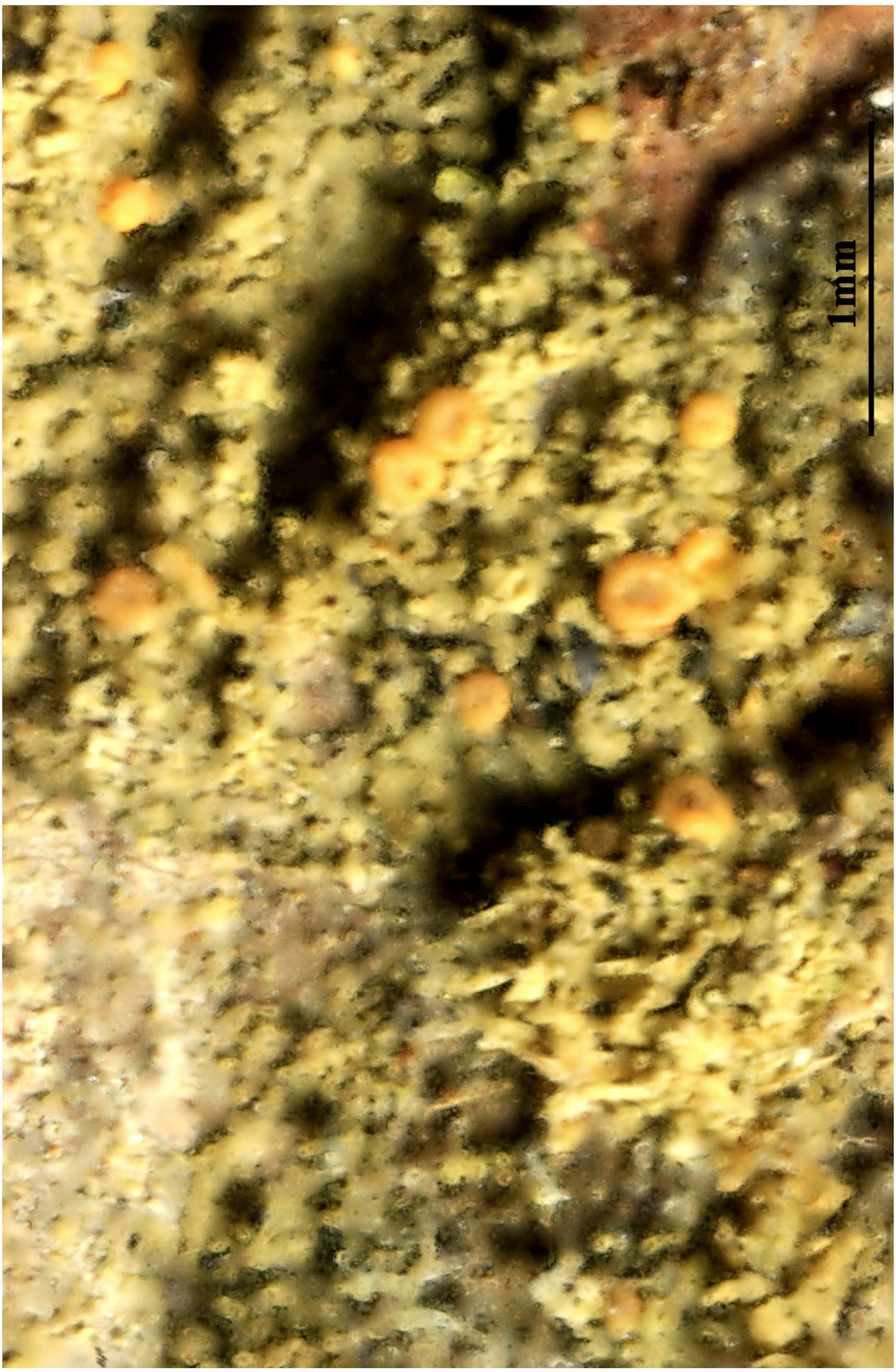
***Bacidia epixanthoides*** (Nyl.) Lettau, Hedwigia 52(3-4): 133 (1912)
= *Lecidea epixanthoides* Nyl. 1865
= *Biatora epixanthoides* (Nyl.) Diederich, Trav. Sci. Musée National d'Histoire Naturelle de Luxembourg 14: 57 (1989)
= *Mycobilimbia epixanthoides* (Nyl.) Hafellner & Türk Vitik., Ahti, Kuusinen, Lommi & T. Ulvinen ex Hafellner & Türk, Stapfia 76: 153, 2001.
= *Lecidea epixanthoides* Nyl. - Flora, 48: 5, 1865.

[VZ 1234], USA., Michigan, Oscoda County, secundum flumen Big Creek (East Branch) in austro-oriente ab urbe Mio. Sopra corticem et ad muscos ad basim *Thujae occidentalis* in silva uliginosa. Leg. R. C. Harris (no.8375), 14.9.1873. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1234.

Thallus crustose, endo- to episubstratic, continuous to granular-verrucose, forming more or less continuous, sorediate patches, sometimes with a subleprose appearance, without a distinct prothallus. Areoles greyish green, irregular, convex, 0.1-0.2 mm in diam.; continuous thallus parts tuberculate; soralia yellowish green to pale yellow, bursting from areoles or tubercles, irregular in outline, to 0.1-0.2 mm in diam., soon becoming confluent into a more continuous, subleprose crust; soredia farinose, 15-20(-30) µm in diam., often gathered into larger, irregular consoredia. Medulla not developed. Apothecia rare, biatorine, 0.4-1 mm across, constricted at base, pale flesh-coloured to blackish brown, with a finally strongly convex, often tuberculate disc, and a thin, paler, soon excluded proper margin. Proper exciple colourless in outer part, pinkish brown within, 60-80 µm wide; hymenium colourless or with small brown spots, 50-80(-100) µm high; hypothecium colourless, 120-240(-300) µm high. Asci 8-spored, clavate, with a K/I+ blue apical dome penetrated by a narrow, K/I– apical cushion surrounded by a narrow, deeply K/I+ blue zone, the wall K/I- but surrounded by a I+ red-brown, K/I+ blue outer layer, the ocular chamber relatively small, Biatora-type. Ascospores (1-)3-septate, hyaline, ellipsoid, 13-22(-25) x 4-7 µm. Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. Note: on mossy trunks of deciduous trees, more rarely on siliceous rocks.




***Bacidia epixanthoides***




***Bacidia epixanthoides***

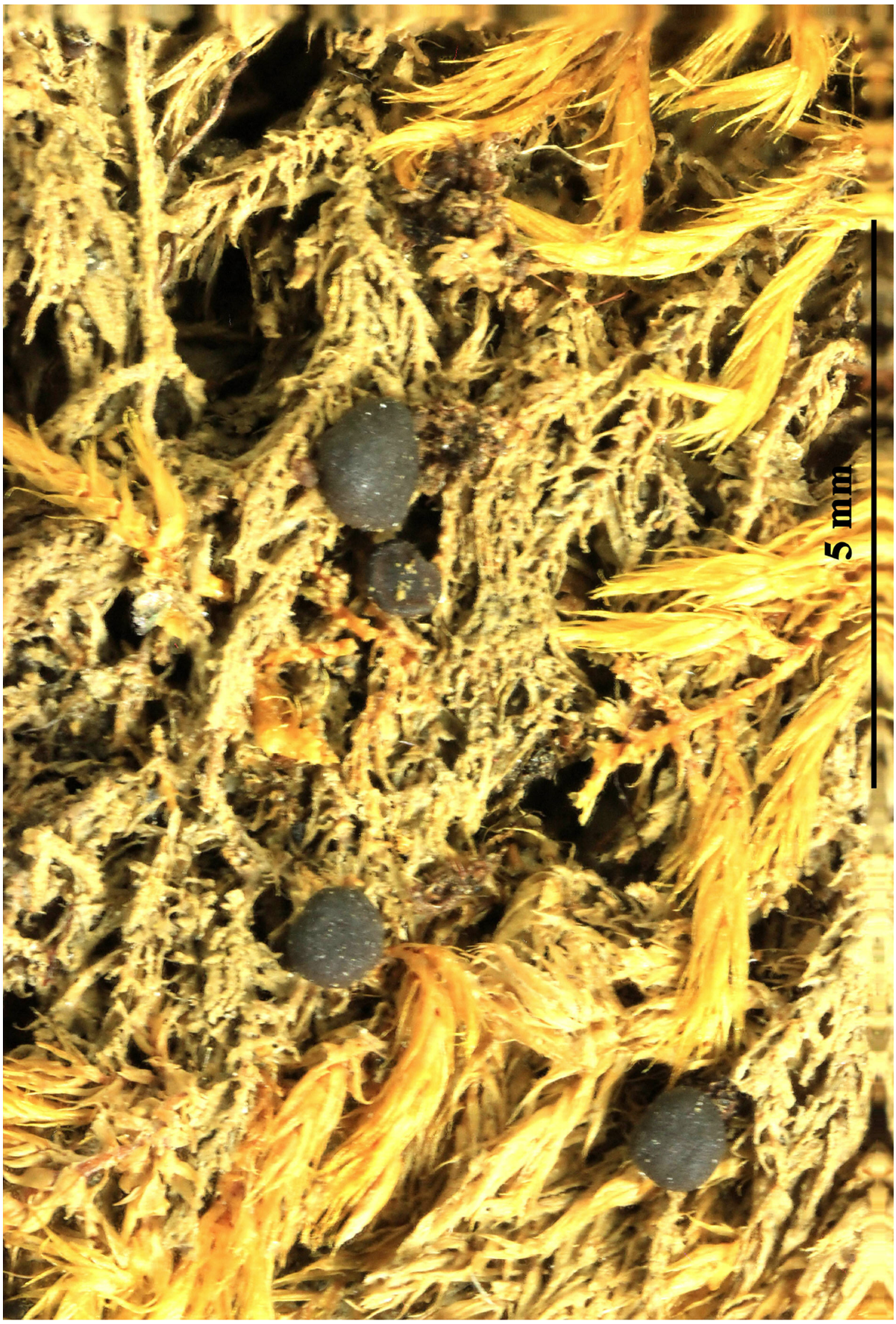
***Bacidia obscurata*** (Sommerf.) Zahlbr., in Engler & Prantl, Nat. Pflanzenfam., Teil. I (Leipzig) 1(1*): 135 (1905)
= *Lecidea sphaeroides b obscurata* Sommerf. 1826
= *Mycobilimbia obscurata* (Sommerf.) Rehm, Rabenh. Krypt.-Fl., Edn 2 (Leipzig) 1.3(lief. 32): 328 (1890) [1896]
= *Mycobilimbia tetramera* (De Not.) Hafellner & Türk, Vitik., Ahti, Kuusinen, Lommi & T. Ulvinen ex Hafellner & Türk, Stapfia, 76: 154, 2001.
= *Bilimbia tetramera* De Not. - Giorn. Bot. Ital., 1: 191, 1846.
= *Bacidia fusca* (A. Massal.) Du Rietz
= *Bacidia indurata* Zahlbr.
= *Bacidia obscurata* (Sommerf.) Zahlbr.
= *Bacidia tetramera* (De Not.) Coppins
= *Bilimbia fusca* A. Massal.
= *Bilimbia obscurata* (Sommerf.) Th. Fr.
= *Lecidea triplicans* Nyl.
= *Mycobilimbia fusca* (A. Massal.) Hafellner & V. Wirth
= *Mycobilimbia obscurata* (Sommerf.) Rehm

[VZ1763], Norvegia. Hordaland: Granvin, Kalhagsberget. Ad muscos. Leg. J. Havaas, 11.5.1949. Annot,; Trace of ursolic acid and traces of unidentified aliphatic substances, anal by C. F. Culberson. Ex A. VěZDA Lichenes Selecti Exsiccati Nr. 1763.

Thallus crustose, whitish to grey-green, continuous, mostly small-granulose to verrucose. Apothecia frequent, biatorine, sessile and constricted at base, 0.4-1.3 mm across, with a grey, dark reddish brown to blackish brown, long concave to flat disc which becomes convex in old apothecia, the margin thin but evident in young apothecia, persistent, only finally excluded, smooth, concolorous with or paler than disc, often somehow shiny. Proper exciple colourless or patchily reddish brown, 65-95 µm wide laterally; epithecium brownish to olive-brown, K-, N-; hymenium colourless, 70-110 µm high; paraphyses simple, coherent, c. 2 µm thick at mid-level, the apical cells slightly wider; hypothecium pale to reddish brown in upper part. Asci 8-spored, cylindrical-clavate, with a K/I+ blue apical dome penetrated by a narrow, K/I- apical cushion surrounded by a narrow, deeply K/I+ blue zone, the wal laterally vey thin, K/I- but surrounded by an I+ red-brown, K/I+ blue outer layer, the ocular chamber relatively small, Biatora-type. Ascospores (1-)3(-5)-septate, hyaline, ellipsoid-cylindrical to fusiform,

15-30 x 4-9 µm, without a distinct perispore. Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. Note: on mosses and plant debris on calcareous substrata, sometimes on bark, especially on basal parts of old trunks in open forests, and on other lichens (e.g. *Peltigera*); most frequent in the Alps, but reaching south along the Apennines to the mountains of Calabria.

***Bacidia obscurata***

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= *Mycobilimbia fusca* (A. Massal.) Hafellner & V. Wirth
= *Mycobilimbia obscurata* (Sommerf.) Rehm

[VZ1369], Gallia. Béarn. Pyrénées-Atlantiques: Bious-Artigues, Pic de Sesques, 20 km in australe a Laruns, 1300 m. Ad muscos emortuos in saxosis arenaceis. Leg. K. Kalb, 7.8.1975. Ex A, Vězda Lichenes Selecti Exsiccati Nr. 1369.

Thallus crustose, whitish to grey-green, continuous, mostly small-granulose to verrucose. Apothecia frequent, biatorine, sessile and constricted at base, 0.4-1.3 mm across, with a grey, dark reddish brown to blackish brown, long concave to flat disc which becomes convex in old apothecia, the margin thin but evident in young apothecia, persistent, only finally excluded, smooth, concolorous with or paler than disc, often somehow shiny. Proper exciple colourless or patchily reddish brown, 65-95 µm wide laterally; epithecium brownish to olive-brown, K-, N-; hymenium colourless, 70-110 µm high; paraphyses simple, coherent, c. 2 µm thick at mid-level, the apical cells slightly wider; hypothecium pale to reddish brown in upper part. Asci 8-spored, cylindrical-clavate, with a K/I+ blue apical dome penetrated by a narrow, K/I- apical cushion surrounded by a narrow, deeply K/I+ blue zone, the wal laterally vey thin, K/I- but surrounded by an I+ red-brown, K/I+ blue outer layer, the ocular chamber relatively small, Biatora-type. Ascospores (1-)3(-5)-septate, hyaline, ellipsoid-cylindrical to fusiform,

15-30 x 4-9 µm, without a distinct perispore. Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. Note: on mosses and plant debris on calcareous substrata, sometimes on bark, especially on basal parts of old trunks in open forests, and on other lichens (e.g. *Peltigera*); most frequent in the Alps, but reaching south along the Apennines to the mountains of Calabria.

***Bacidia obscurata***


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***Bacidia sabuletorum*** (Schreb.) Lettau, Hedwigia 52(3-4): 132 (1912)
= *Lichen sabuletorum* Schreb. 1771
= *Bilimbia sabuletorum* (Schreb.) Arnold, Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 19: 637 (1869)
= *Lichen sabuletorum* Schreb. - Spicil. Fl. Lips.: 134, 1771.
= *Bacidia arceutinella* Zahlbr.
= *Bacidia borborodes* (Körb.) Lettau
= *Bacidia fuscorubella var. propinqua* (Stizenb.) Trevis.
= *Bacidia hypnophila* (Ach.) Zahlbr.
= *Bacidia metamorphea* (Nyl.) Lettau
= *Bacidia propinqua* (Stizenb.) Arnold
= *Biatora propinqua* Stizenb.
= *Bilimbia arceutinoides* Anzi
= *Bilimbia borborodes* Körb.
= *Bilimbia hexamera* De Not.
= *Bilimbia hypnophila* (Ach.) Th. Fr.
= *Lecidea hypnophila* Ach.
= *Mycobilimbia sabuletorum* (Schreb.) Hafellner

[VZ1865], Bohemoslovacia. Moravis, distr. Brno: Veveří Bitýška, secus viam ad pagum Lažanky ductam, 300 m. Adterram et muscos in fossis viae. Leg, A. Vězda, 12.8.1982. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1865.

Thallus crustose, whitish, greenish white or pale grey, continuous or composed of 50-200 µm wide granules. Apothecia frequent, biatorine, single or more rarely clustered, sessile, up to 1(-1.2) mm across, with a pale pinkish brown to blackish brown, often piebald, at first sometimes flat but soon strongly convex, sometimes faintly pruinose disc, and a thin, smooth, concolorous, soon excluded proper margin. Proper exciple well-developed, up to 90 µm wide laterally, of stout, radiating hyphae in a gel matrix, usually dark red-brown in upper parts, pale reddish brown to colourless in lower parts, the dark-pigmented parts K+ purplish, N+ orange; epithecium almost colourless to brownish, K-; hymenium colourless or sometimes brown-streaked, 70-110(-130) µm high, I+ blue; paraphyses coherent, simple or sparingly branched in upper part, 2.5-3(-4) µm thick at mid-level, the apical cells more or less swollen, up to 5(-6) µm wide; subhymenium 60-75 µm high, greenish brown to pale golden brown; hypothecium 150-220 µm high, dark to rarely pale red-brown (K+ purplish, N+ orange) in upper part, mostly

colourless in lower part. Asci 8-spored, cylindrical-clavate, with a K/I+ blue apical dome penetrated by a narrow, K/I– apical cushion surrounded by an indistinct, apically often tapering, wall K/I– but surrounded by an I+ red-brown, K/I+ blue outer layer. Ascospores (3-)5-9(-10)-septate, hyaline, ellipsoid-cylindrical, (16-)18-40(-50) x (4-)5-8(-9) µm, with a gelatinous, finely warted perispore (best visible in old spores). Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a holarctic, mainly temperate lichen found on mosses overgrowing soil, calciferous rocks and tree bark, also found in urban areas (e.g. on walls), with a wide altitudinal range. For synonyms see Ekman (1996, 2023).

***Bacidia sabuletorum***


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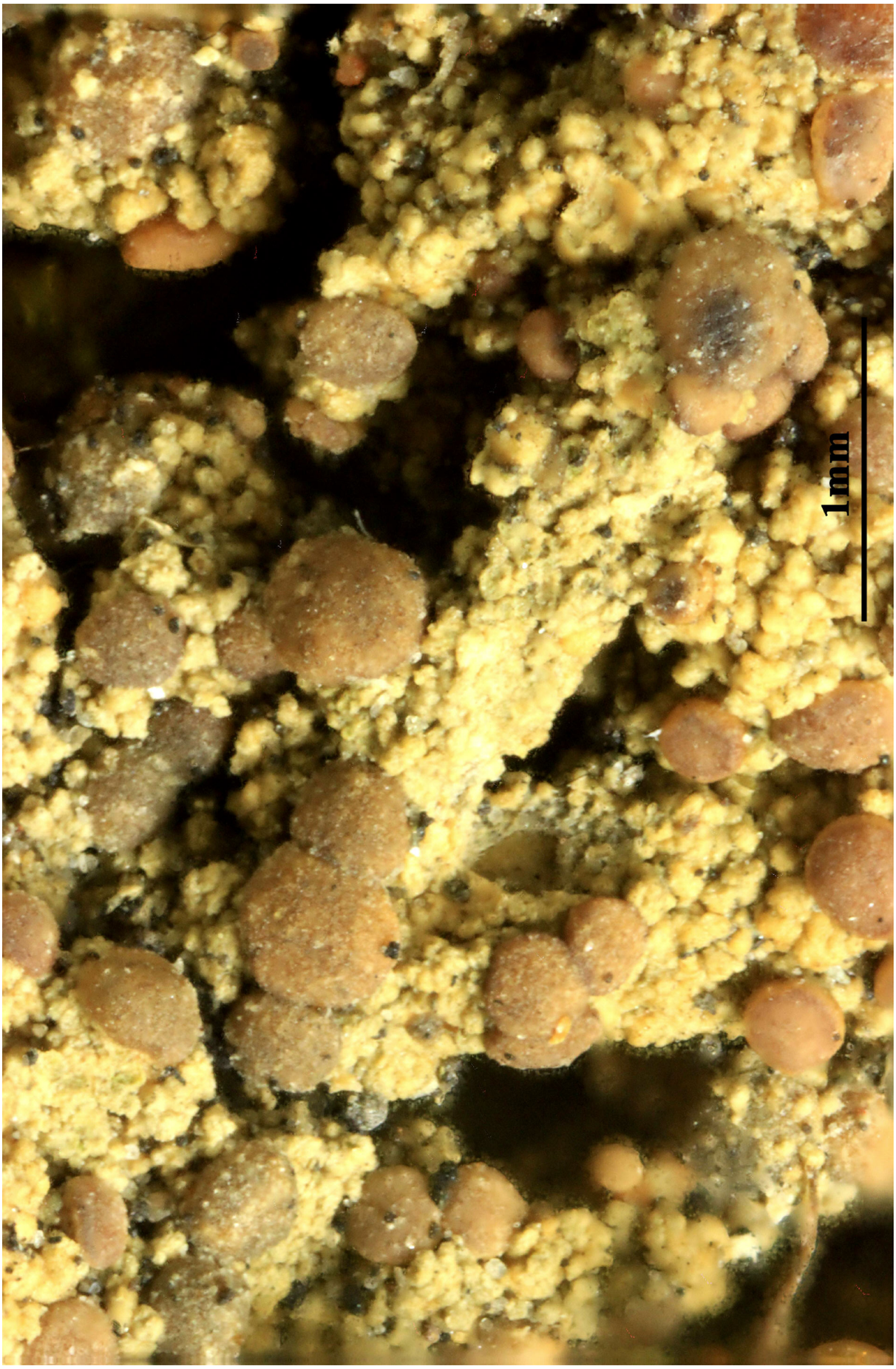
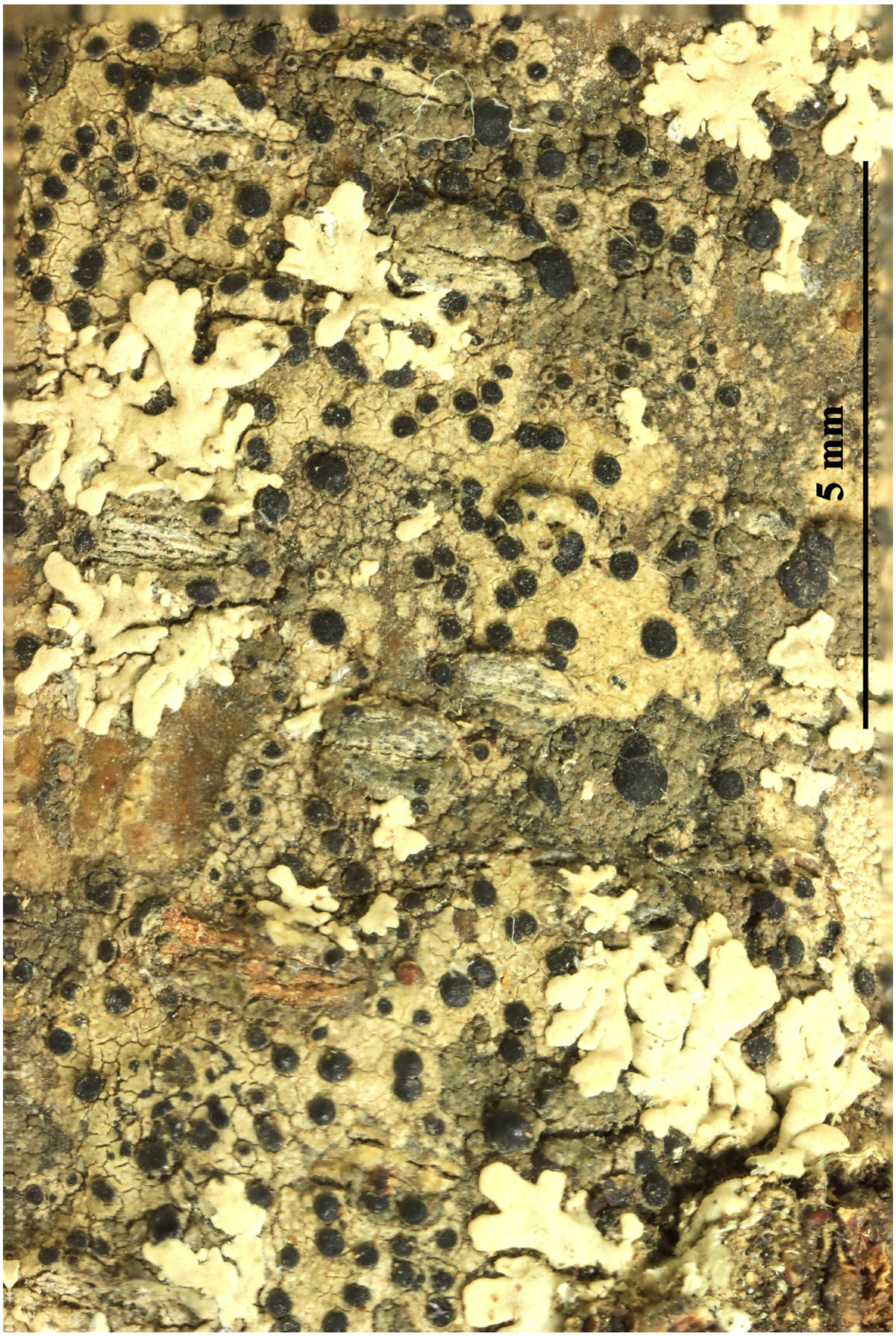



***Bacidia sabuletorum***

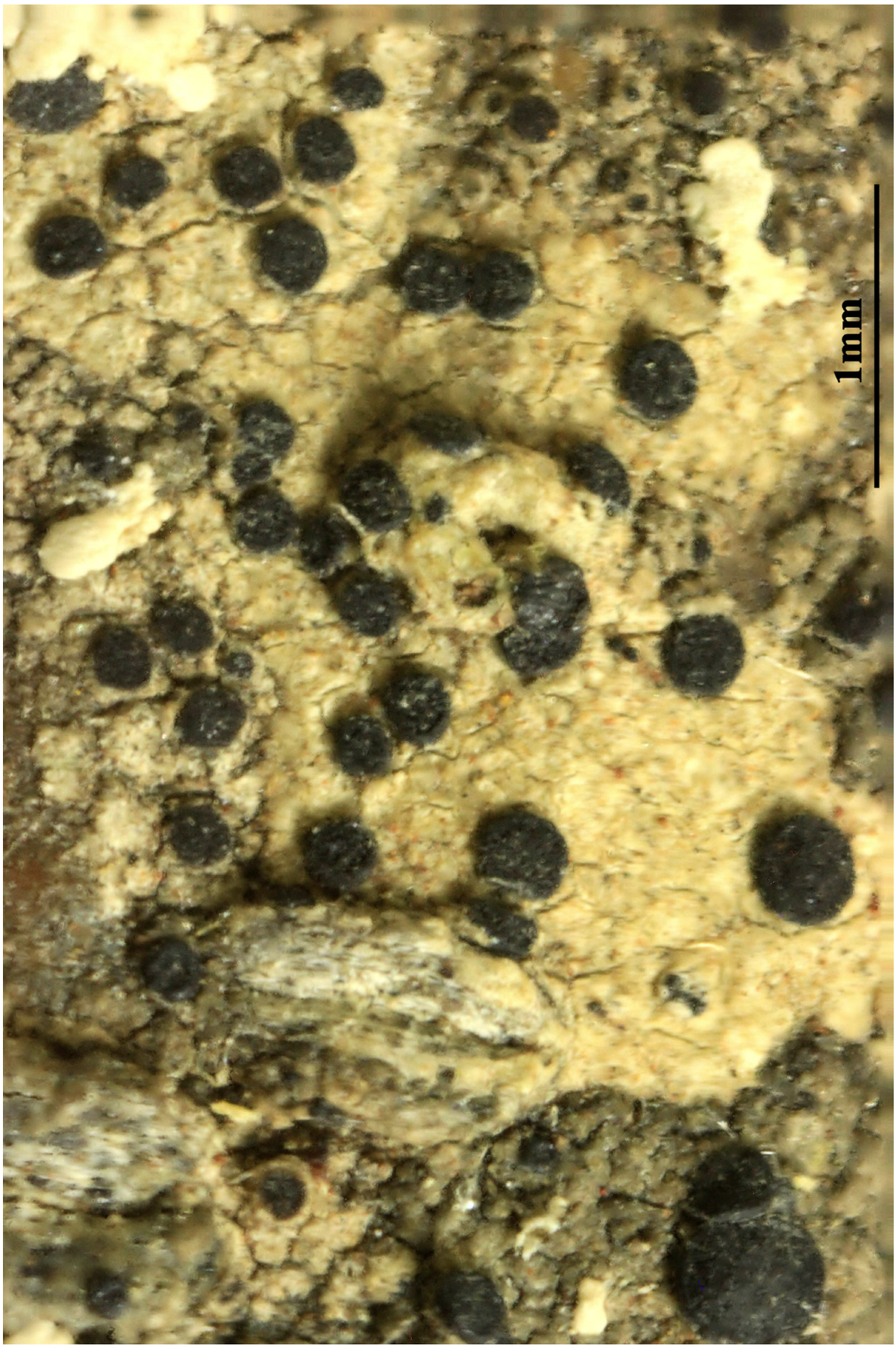
***Bacidia violascens*** Kalb & Vězda, Folia geobot. phytotax. 15(3): 309 (1980)
= *Mycobilimbia violascens* (Kalb & Vězda) Kalb, Lichenes Neotropici, Fascicle 14(nos 576-600): 9 (2011)

[VZ1733], Hawaii Insulae, Insula Kauai. Ad ramulos arboris (*Proposis* sp. cult.). Leg. O. et I. Degener (no. 34240) - Isotypus . Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1733.

Thallus epiphloeodes, modice crassus, verruculoso-inaequalis, fusco-cinereus, K-, Ca-, protothallo indistincto; ecorticatus, cellulis algarum globosis, 10-15 µm in diametro, verisimiliter ad Trebouxiam pertinentibus. Apothecia sat crebra, orbicularia, 0,5-0,8 mm lata, 0,1-0,2 mm alta, adnata, basi arete constricta, nigra, haud pruinosa, diu plana et bene marginata, margine paulum elevato, demum convexa, margine haud distincto. Excipulum ex hyphis radiantibus pro parte ramosis contextum, intus subhyalinum, extus fuscescentinigricans. Hypothecium pallidum. Hymenium 70-80 µm altum, hyalinum, superne (epithecio) nigro-fuscum vel violaceo-nigrum, K+ pulchre violaceum. Paraphyses rectae, simplices, crass. 1.5 .µm, apicibus capitatis, usque 5.5 µm crassis, fusco-violaceis, K+ pulchre violaceis. Asci cylindrico-clavati, membrana apice incrassata, 8-spori. Sporae ellipsoideae, rectae vel arcuatae, long. (18-) 22 (-26) µm, crass. 4-6 µm, transverse septatae, septis (3) 5. Species apotheciis nigris, diu planis, paraphysibus in apice globosis, hymenio superne atro, K+ pulchre violaceo sporisque ellipsoideis (3) 5-septatis praedita.




***Bacidia violascens***

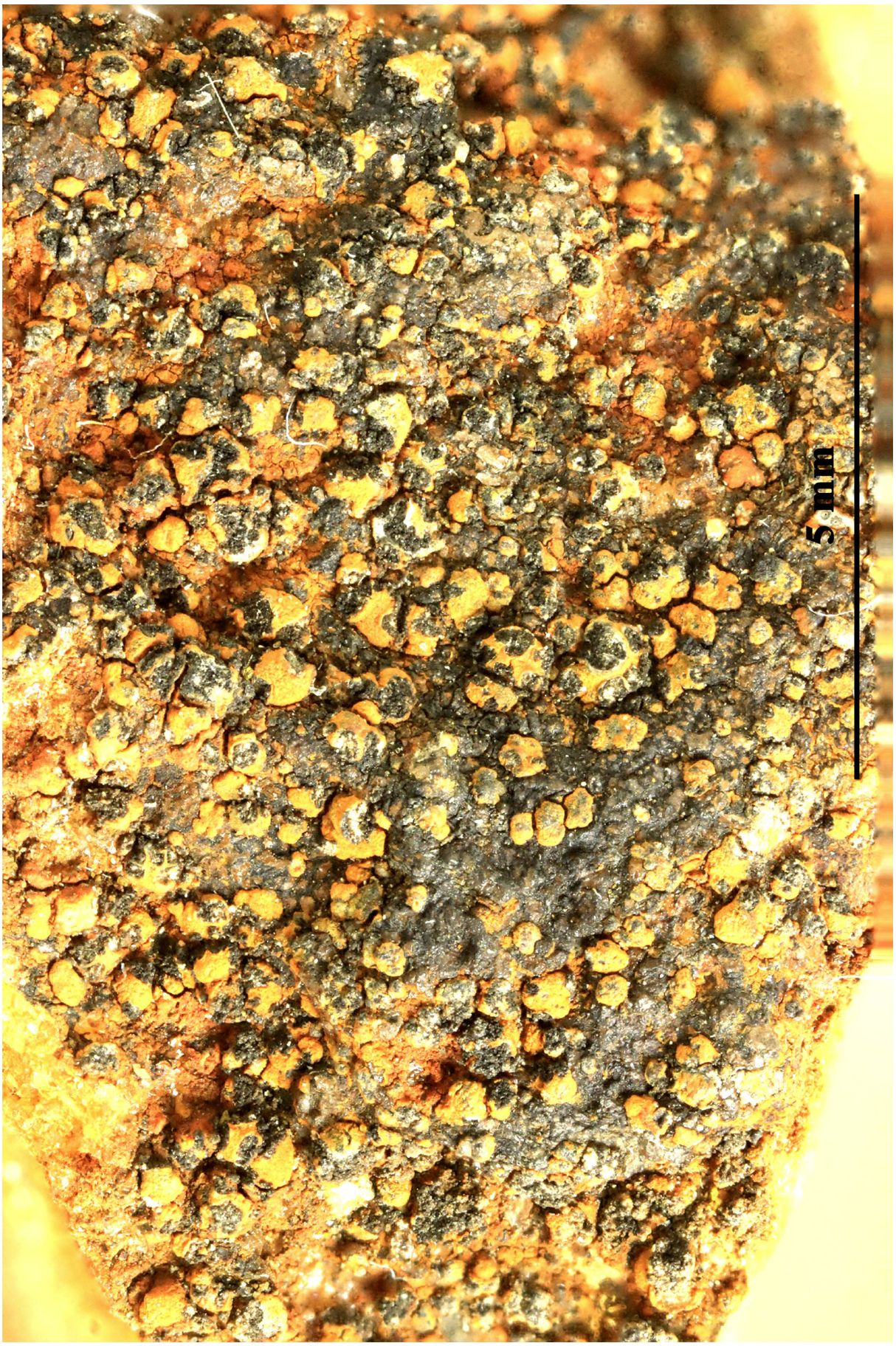



***Bacidia violascens***

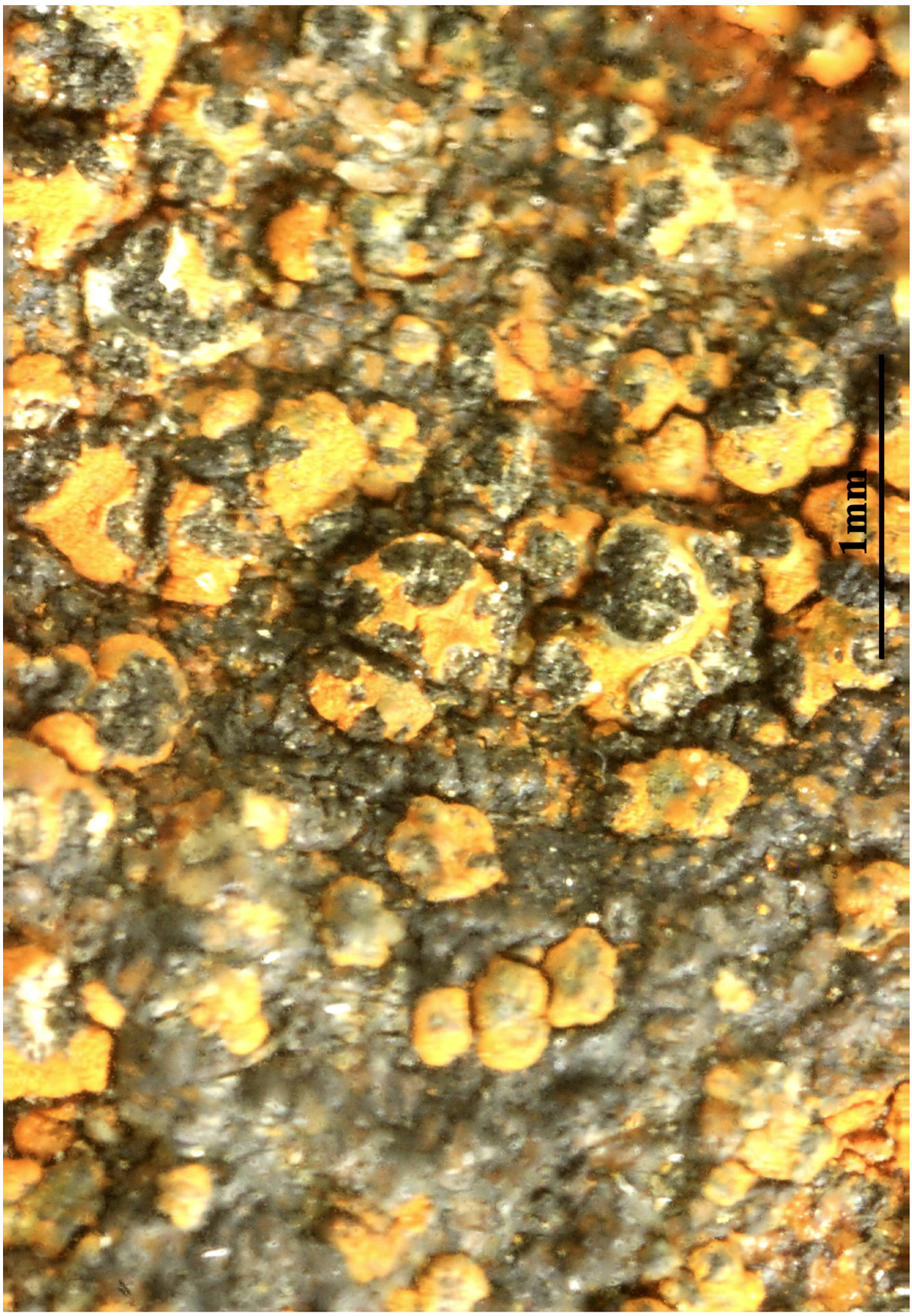
***Lecidea atrofulva*** Sommerf., Suppl. Fl. lapp. (Oslo): 143 (1826)
= *Miriquidica atrofulva* (Sommerf.) A.J. Schwab & Rambold, in Rambold & Schwab, Nordic J. Bot. 10(1): 118 (1990)
= *Lecidea atriuscula* H. Magn.

[VZ1533], Suecia. Härjedalen: Tännäs Paroecia. Gruvvålen prope Mittåkläppen, 900 m. In rupibus prope metalla cupri vetusta. Leg. R. Santesson (no. 25152), 27.8.1974. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1533. - TLC p39779: no lichen substance detected.

Description: Thallus crustose, episubstratic, of scattered, yellowish brown to rust-coloured, 0.2-1 mm wide, usually convex areoles arising on a grey to black prothallus, sorediate. Soralia 0.1-0.2(-0.3) mm across, relatively well-delimited, blue-grey to blackish, crateriform to tuberculate. Medulla white, I-. Apothecia very rare, lecideine, 0.2-0.6 mm across, sessile and constricted at base, with a brown-black to black, glossy, epruinose disc and a thin proper margin. Proper exciple dark brown to dark aeruginose green in outer part, colourless within, of radially arranged hyphae with swollen cells; epithecium olive-brown to pale brown; hymenium colourless, 45-65 µm high, I+ blue; paraphyses mainly simple, 1-2 µm thick at mid-level, the apical cells not markedly swollen, with a dark cap, 3-4.5 µm wide; hypothecium colourless. Asci 8-spored, clavate, approaching the Lecanora-type, but with a weakly amyloid tholus, lacking an amyloid zone above the axial body and with a thin outer amyloid wall layer. Ascospores 1-celled, hyaline, broadly ellipsoid to subglobose, 8-12 x 5-8 µm. Pycnidia black, immersed in the thallus. Conidia thread-like, curved, 18-22 x 0.5-0.9 µm. Photobiont chlorococcoid. Spot tests: thallus and soralia K+ yellow, C-, KC-, P+ yellow (reactions often more evident on and around the soralia). Chemistry: stictic acid (major), cryptostictic and sometimes norstictic acid (minor or traces). - Note: a circum- and bipolar lichen of metal-rich rocks, with optimum near and above treeline; mostly sterile and therefore perhaps overlooked in the Alps.




***Lecidea atrofulva***

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***Lecidea berengeriana*** (A. Massal.) Linds., Proc. Linn. Soc. London 9: 386 (1867)
= *Biatora berengeriana* A. Massal. 1852
= *Mycobilimbia berengeriana* (A.Massal) Hafellner & V.Wirth
= *Biatora cupreiformis* (Nyl.) Arnold
= *Biatora poetschiana* Körb.
= *Lecidea miscella* Sommerf. non Ach.
= *Lecidea strasseri* Zahlbr.

[VZ2309], Bohemoslovacia, Moravia, distr. Tišnov, in valle fluminis Svratka prope pagum Stěpánov, in pede montis Sokolí hora, alt. 480 m, supra muscos ad terram. Leg. A. Vězda, 10.07.1987. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2309.

Thallus crustose, tartareous white, greenish gray or pale ochre, thick, obscuring the form of the underlying plant remains, consisting of contiguous, granular, 0.1-0.3(-0.5) mm wide warts. Cortex poorly developed, hyaline, 5-10 µm thick, medulla mostly lacking, when developed I-; algal layer 70-100 µm thick. Apothecia lecideine, sessile, 0.5-1(-1.5) mm across, dark brown to black, rounded to somewhat deformed, with an initially concave to flat, then convex disc and a thin, smooth, finally excluded proper margin. Proper exciple thin, dark reddish brown within, colourless in outer part, laterally 50-80 µm, basally 95-250 µm wide, composed of radiating hyphae with 1-4.5 µm to apically 2-6.5 µm wide lumina; epithecium pale brown to reddish brown, often poorly delimited towards the hymenium, 5-15 µm high, K-, N-; hymenium colourless, sometimes with pale brown stripes, more rarely with blackish-blue granules of "hypnorum-blue", 55-75 µm high; paraphyses coherent, mostly simple, 1.5-2(-2.5) µm thick at mid-level, the apical cells distinctly capitate, up to 4(-6.5) µm wide, with brown-pigmented walls; subhymenium usually darker than the hypothecium, the latter reddish brown, usually without green granules, together 175-270 µm high. Asci clavate, with an I+ blue tholus and an internal, darker I+ tubular structure, the external gel I+ faintly blue, Porpidia-type. Ascospores 1-celled, hyaline, ellipsoid, (9-)11-17(-19) x 4-5(-6) µm, sometimes with a rough, c. 0.5 µm thick perispore. Conidia ellipsoid. Photobiont chlorococcoid, the cells 6-12 µm in diam. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. Note: a circumpolar, arctic-alpine to boreal-montane lichen found on mosses and plant debris over calcareous substrata; most common in the

Alps, but probably occurring throughout the Apennines. The species does not belong to Lecidea nor to Mycobilimbia and is closely related to Romjularia (Fryday & al. 2014).


***Lecidea berengeriana***


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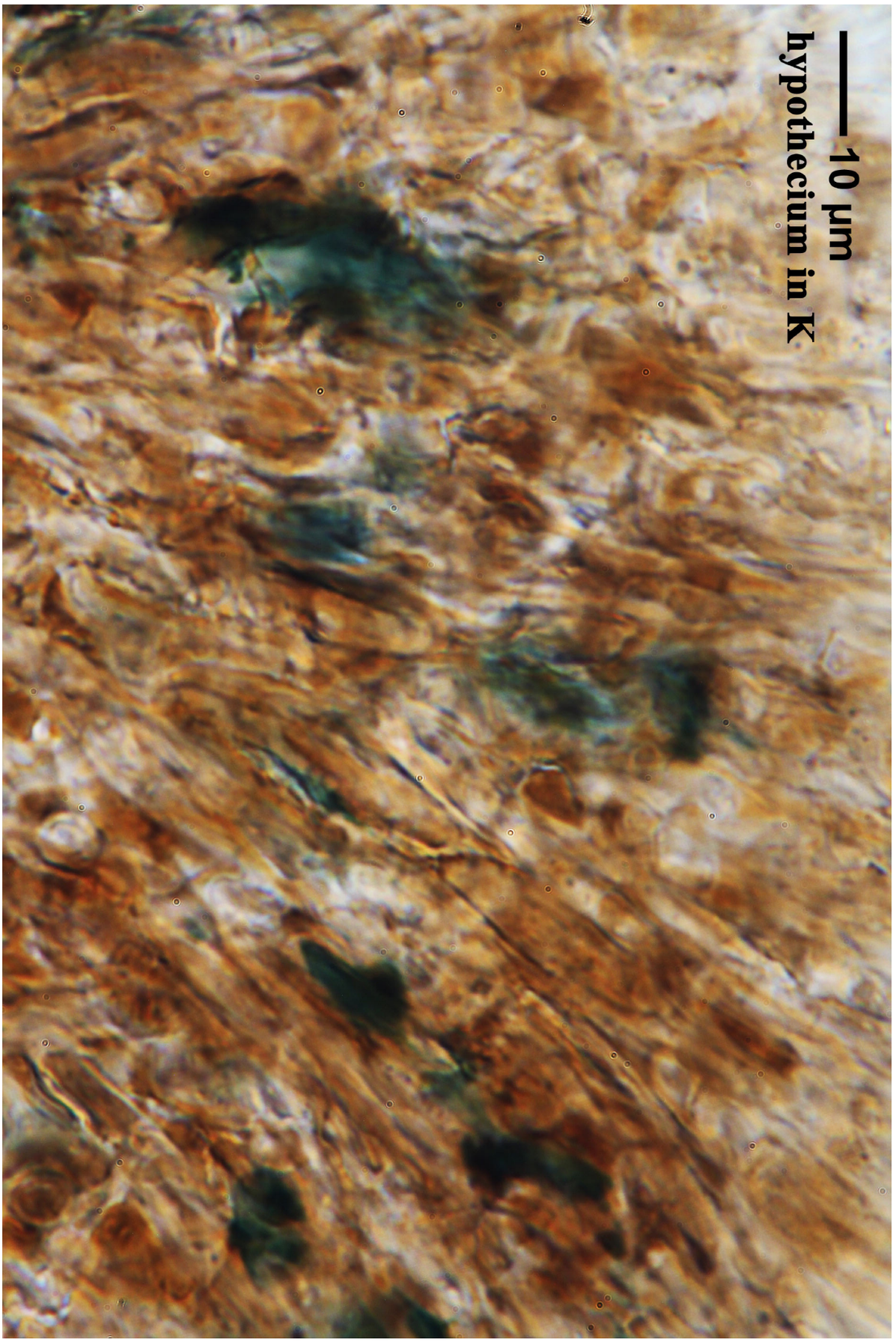


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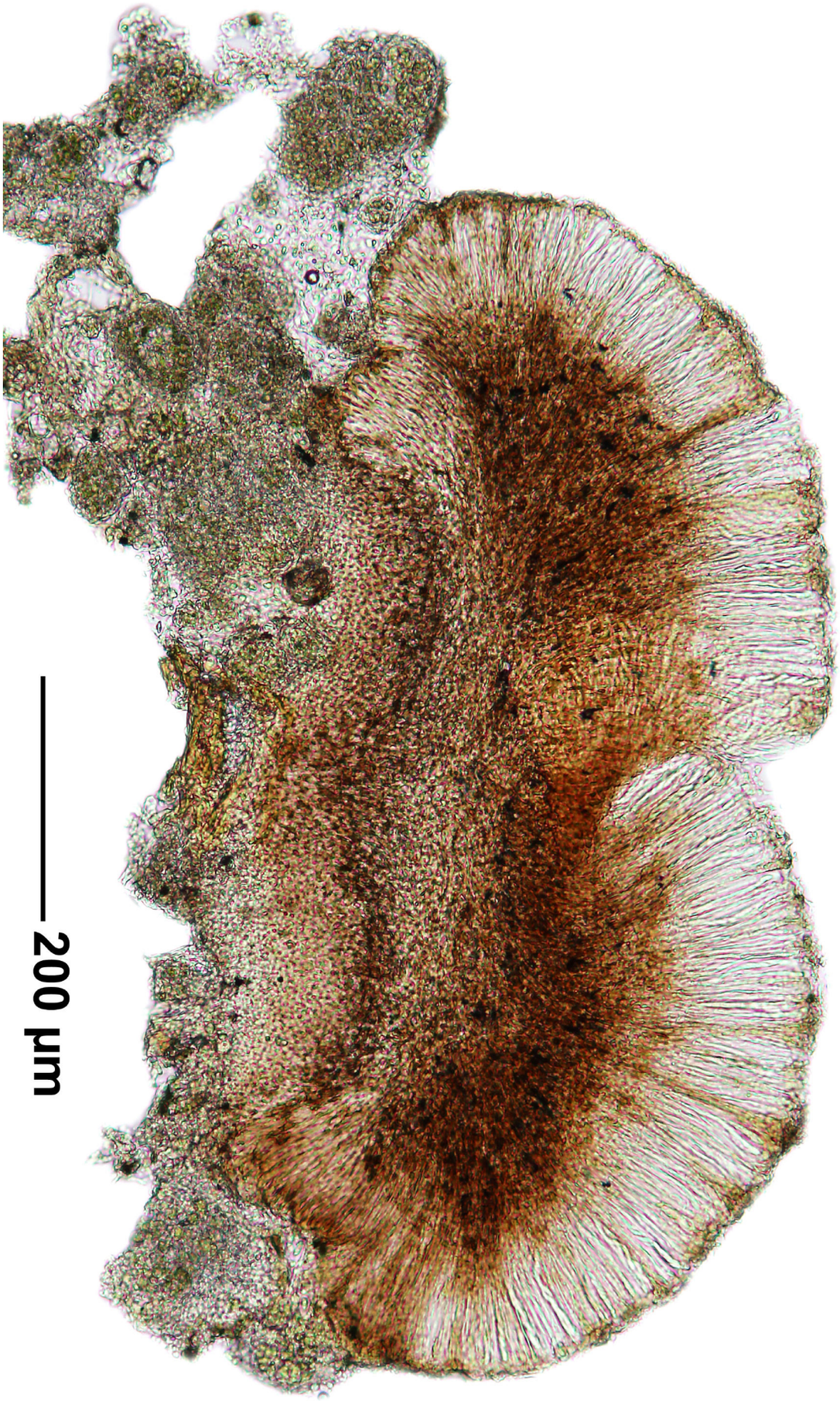


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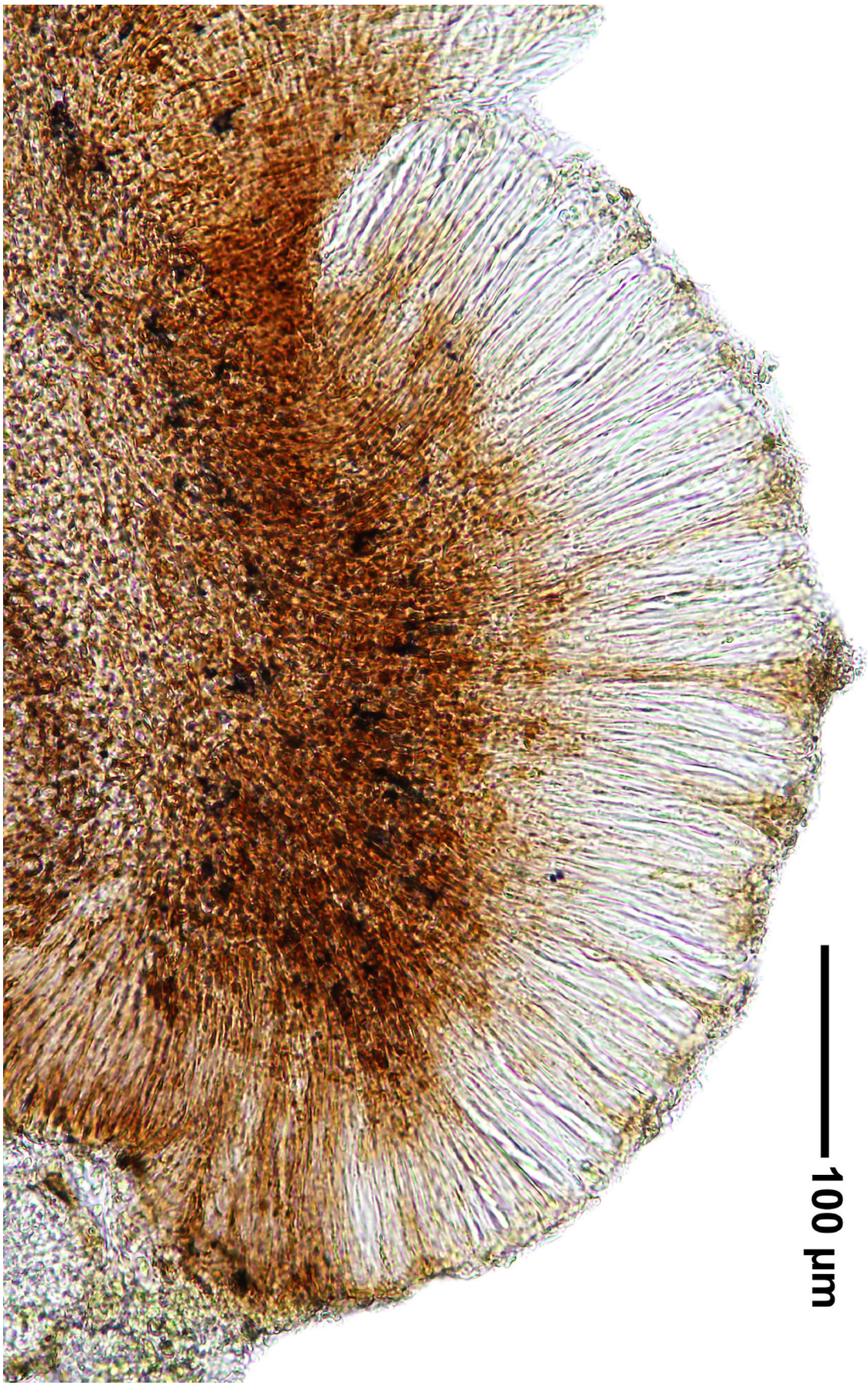


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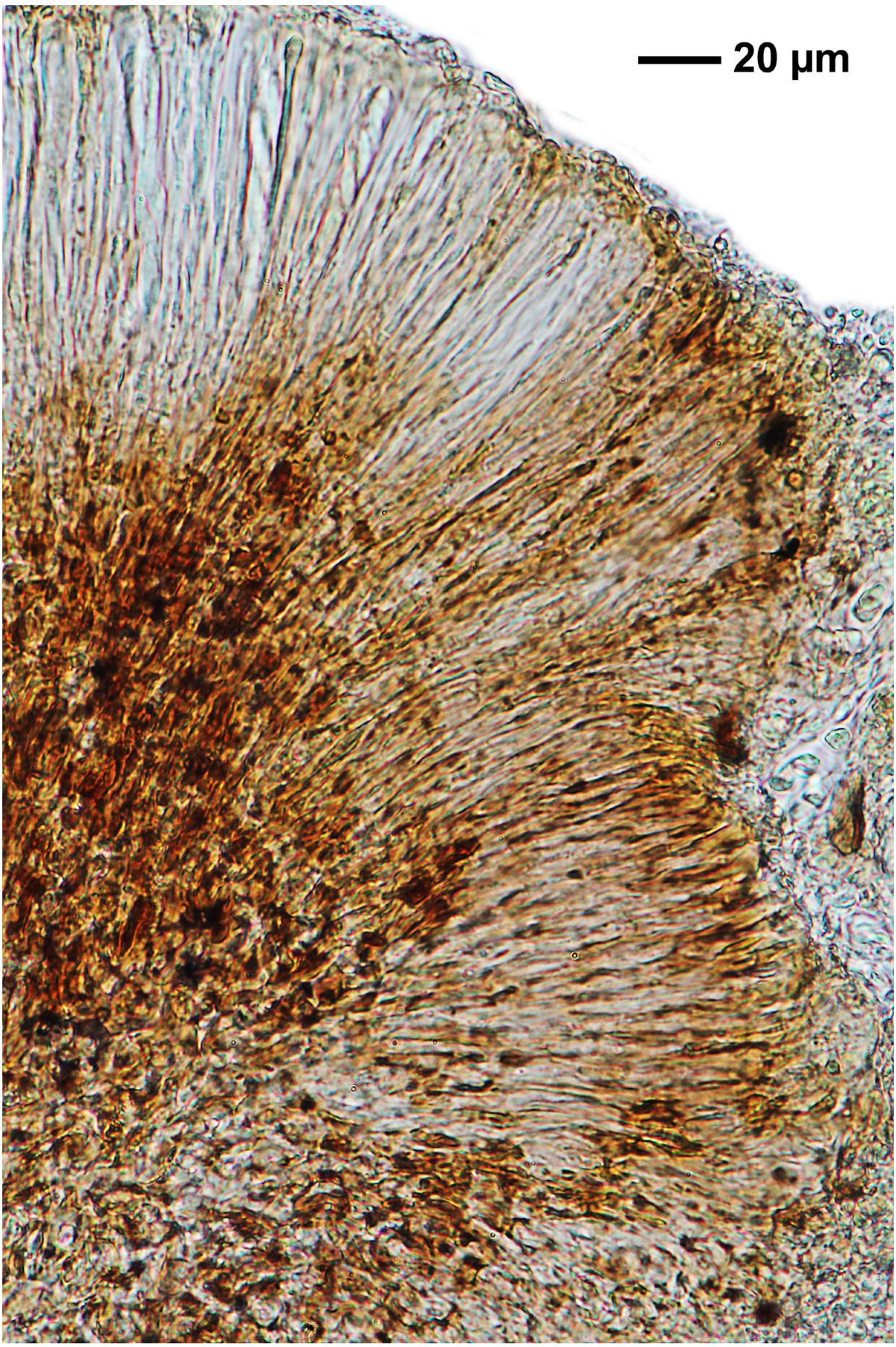


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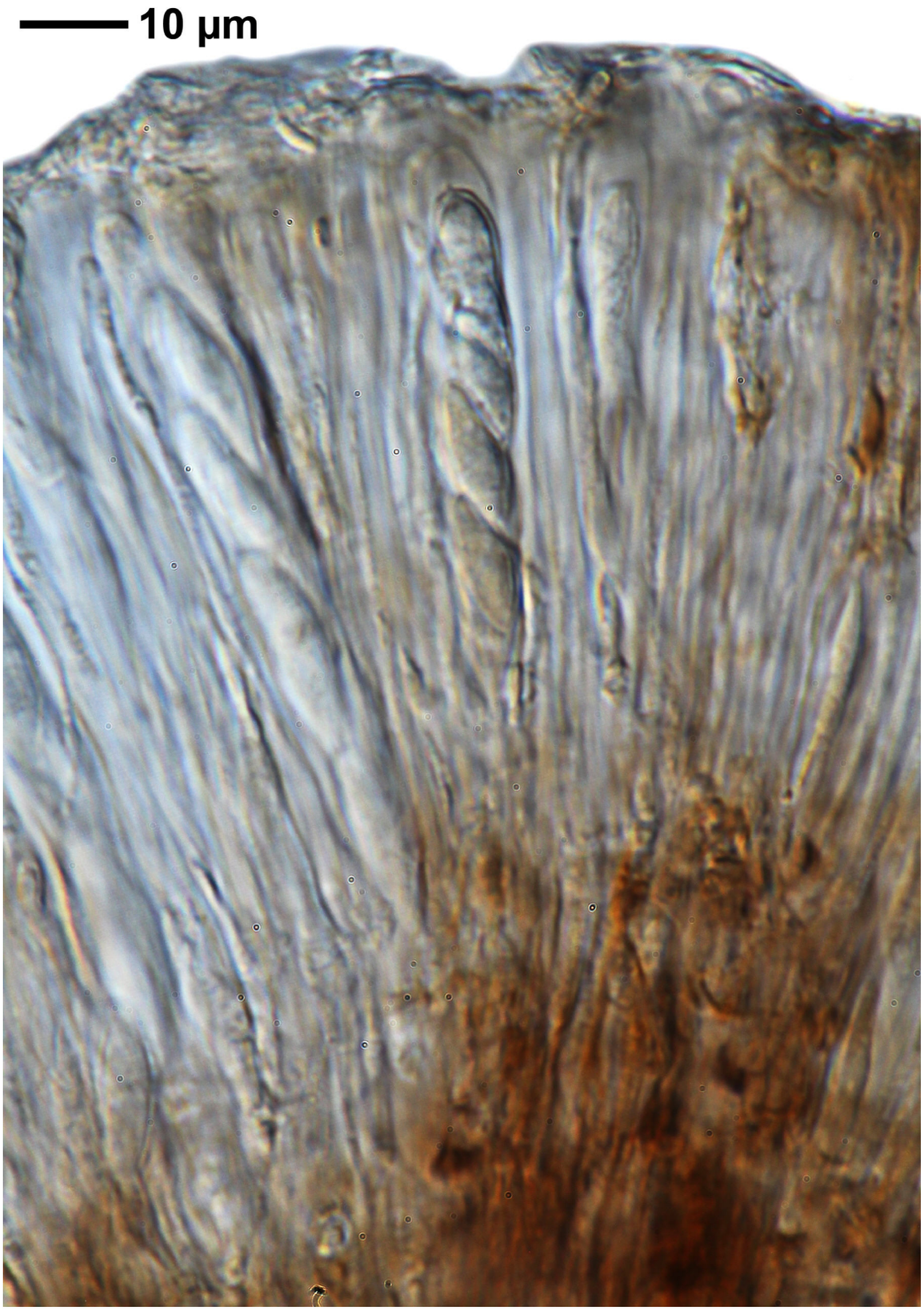


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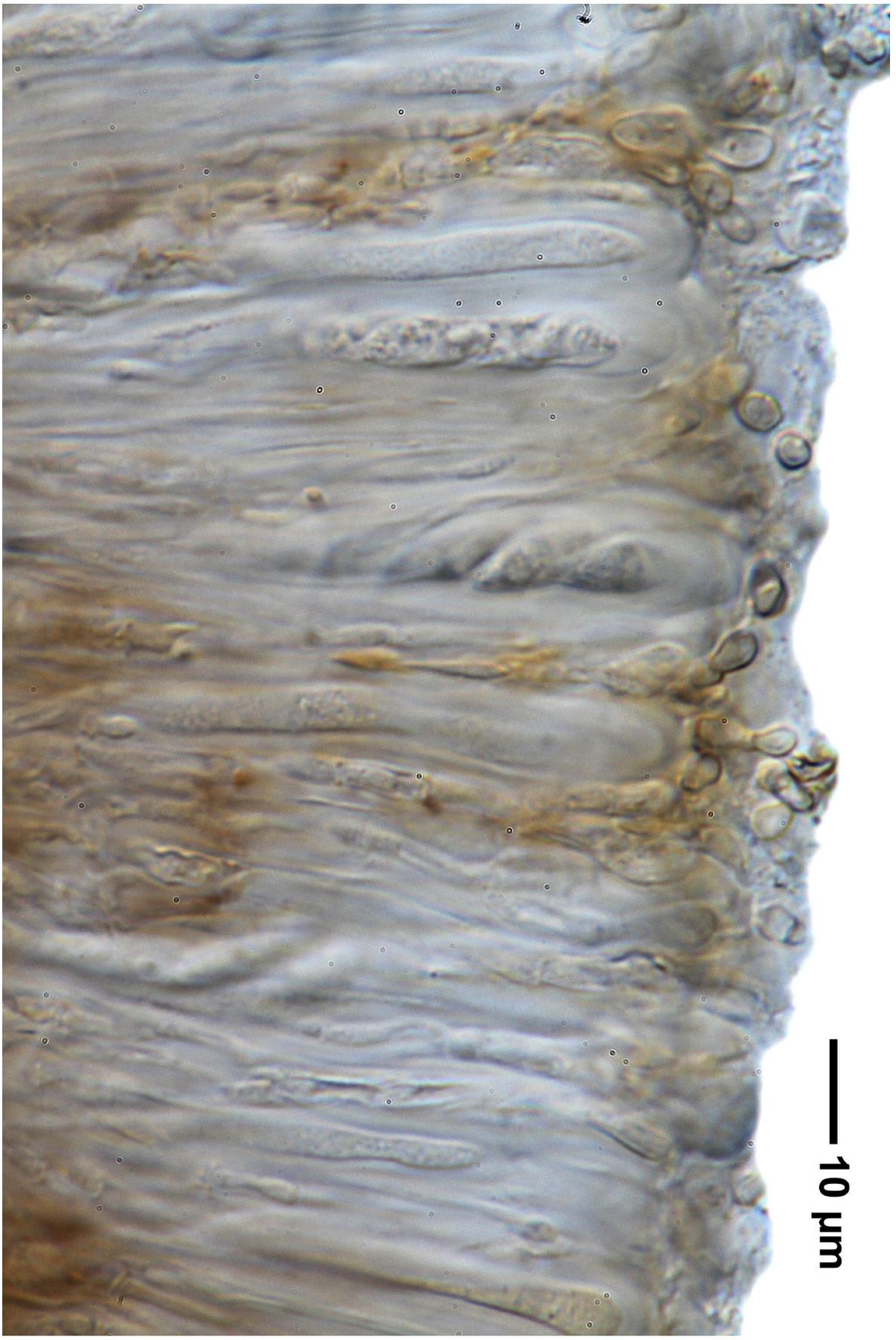


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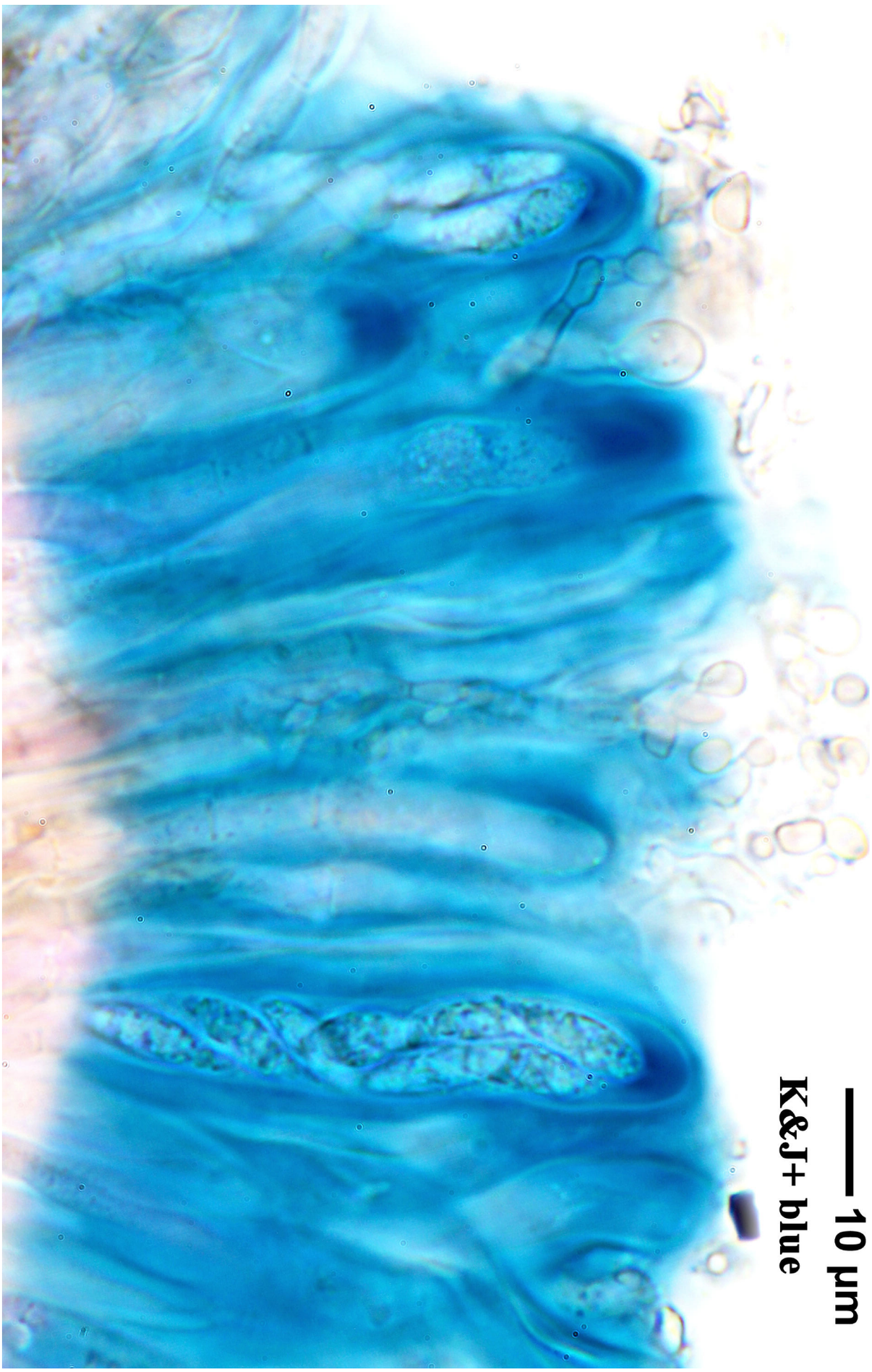
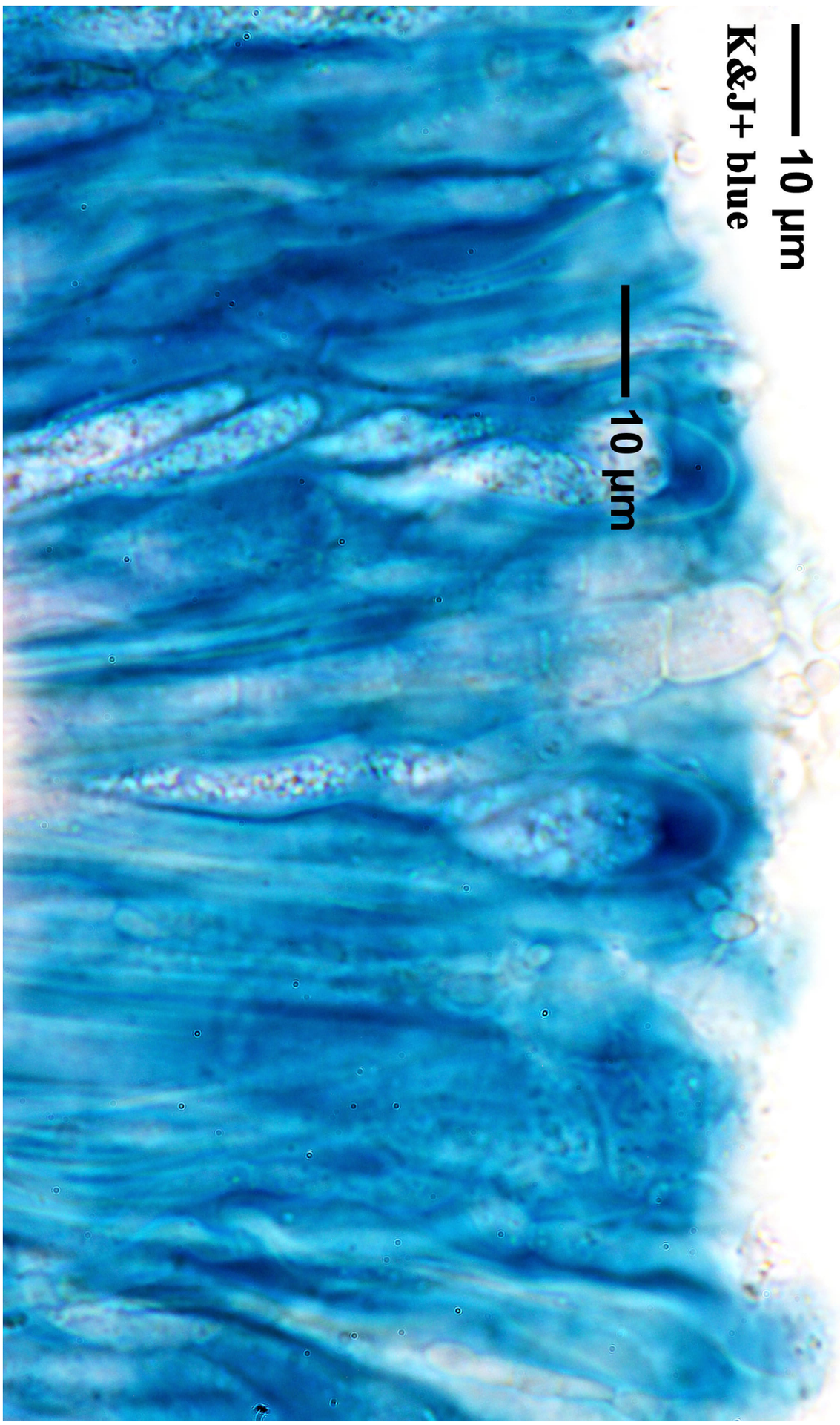
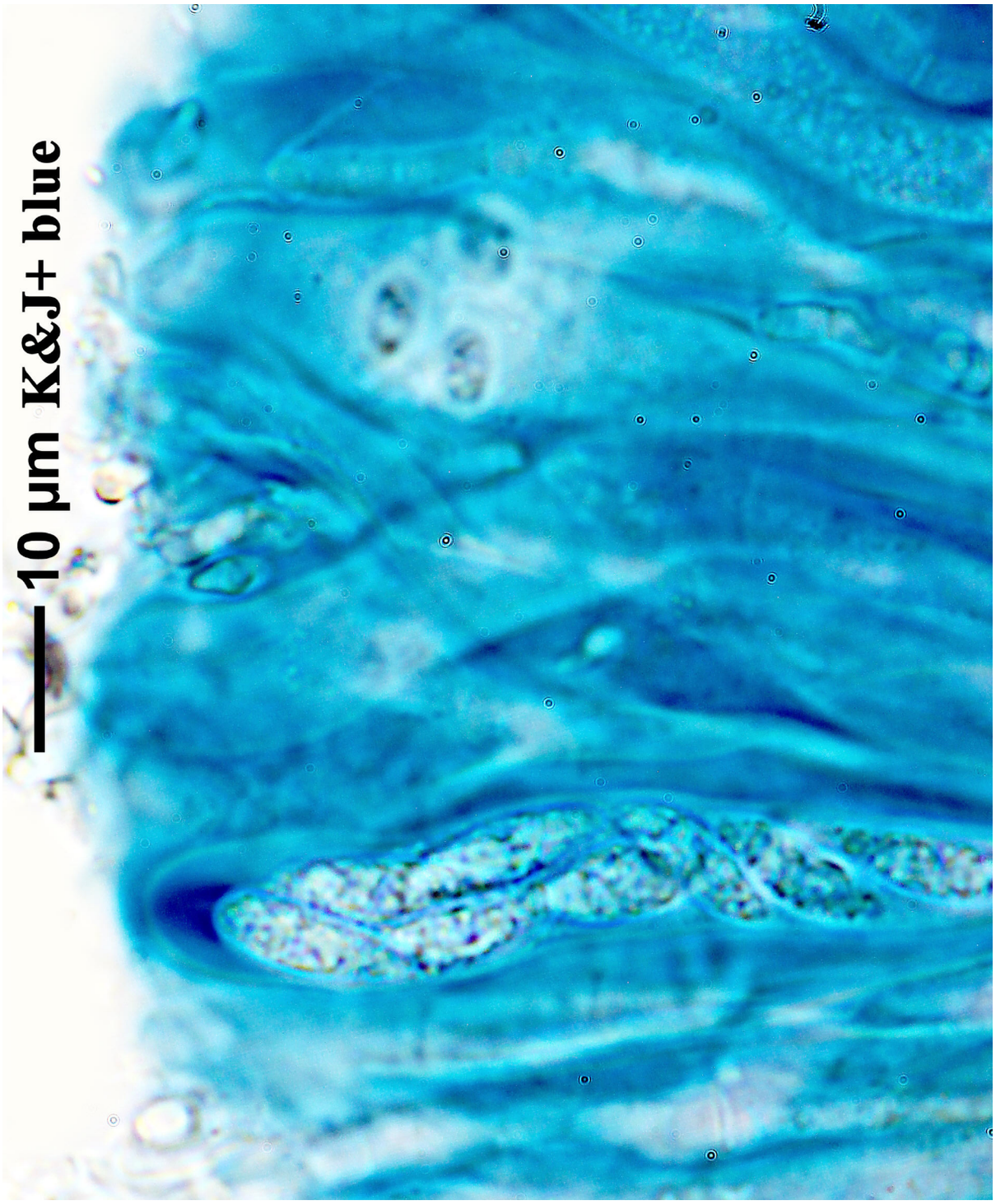



***Lecidea berengeriana***




***Lecidea berengeriana***




***Lecidea berengeriana***

***Lecidea garovaglii*** Schaer., Enum. critic. lich. europ. (Bern): 109 (1850)
= *Miriquidica garavaglioi* (Schaer.) Hertel & Rambold
= *Miriquidica garovaglii* (Schaer.) Hertel & Rambold Mitt. bot. Staatss. München, 23: 384, 1987
= *Lecidea garovaglii* Schaer. - Enum. Crit. Lich. Eur.: 109, 1850.
= *Biatora aenea var. garovaglii* (Schaer.) Jatta
= *Lecidea aenea* (Fr.) Nyl.
= *Lecidea aenea var. garovaglii* (Schaer.) Jatta
= *Lecidea atrobrunnea var. garovaglii* (Schaer.) Jatta
= *Lecidea glacialis* Lynge
= *Lecidea obscura* Ramond
= *Psora aenea* (Fr.) Anzi
= *Psora garovaglii* (Schaer.) Anzi

[VZ1456], Jugoslavia, Macedonia, distr. Skopje, Tetovo, Šar planina, in monte Popova Šapka, 2000 m, ad saxa schistosa. Leg. A. Věžda & V. Wirth, 10.08.1976. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1456. -Chemistry anal. F. Schumm by TPC (p398/7): nur norstictic keine miricidic acid!.

Thallus crustose, episubstratic, 0.5-1.7 mm thick, of flat to convex, 0.2-1(-2) mm wide, pale to dark brown, smooth, shiny areoles developing on a dark hypothallus, forming up to 8(-10) cm wide orbicular patches. Cortex brown in upper part, 12-35 µm thick, with a thick epinecral layer; medulla white, I-. Apothecia lecideine, rounded, sessile and constricted at base, (0.3-)1-1.5(-3.5) mm across, with a blackish brown to black, flat to convex, epruinose disc and a thin, raised, finally sometimes excluded proper margin. Proper exciple grey, dark green or olivaceous brown in outer part, paler within; epithecium brownish, olive brown to greenish, 10-15 µm thick; hymenium colourless or olivaceous green in upper part, 50-70 µm high, I+ blue; paraphyses coherent, mostly branched, rarely anastomosing, 1.7-2.3 µm thick at mid-level, the apical cells up to 3.5 µm wide; hypothecium colourless. Asci 8-spored, clavate, approaching the Lecanora-type, but with a weakly amyloid tholus, lacking an amyloid zone above the axial body and with a thin outer amyloid wall layer. Ascospores 1-celled, hyaline, ellipsoid to oblong, (9-)12-16(-19) x (4-)4.5-6(-7) µm. Pycnidia dark, immersed. Conidia thread-like, curved, 18-26 x c. 1 µm. Photobiont chlorococcoid. Spot tests: cortex K-, C-, KC-, P-; medulla K+ yellow, C-, KC-, P+ orange. Chemistry: miriquidic and stictic acids. - Note: a circumpolar, arctic-alpine species found on mineral-rich rocks wetted

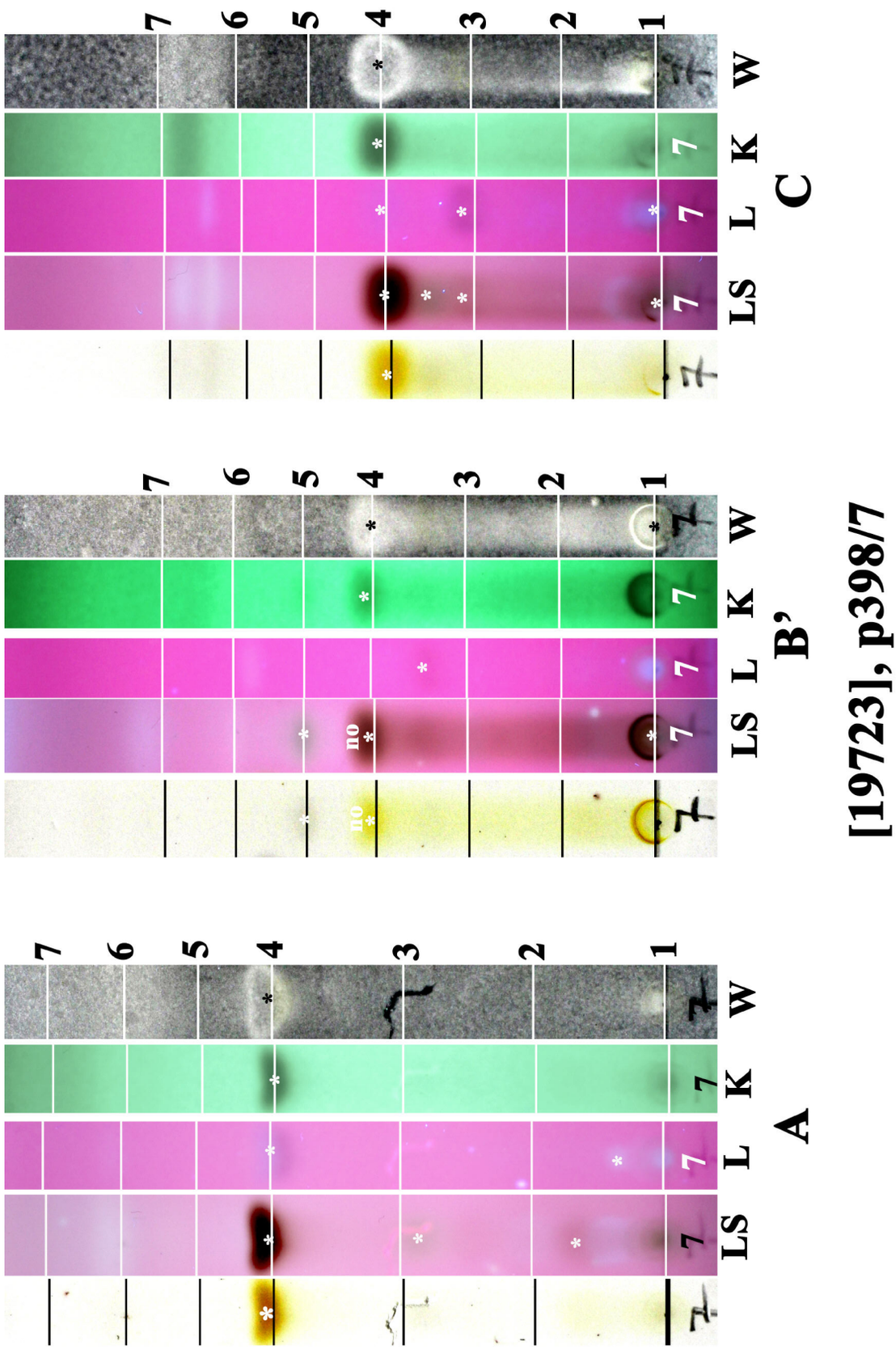
by rain in wind-exposed situations, such as on peaks and windy ridges in the Alps, usually near or above treeline, reaching the nival belt. The specific epithet is often spelled garovaglioi, but the latinised name of Santo Garovaglio (who wrote most of his works in Latin) was Garovaglius, whose genitive is garovaglii.


***Lecidea garovaglii***


***Lecidea garovaglii***


***Lecidea garovaglii***


***Lecidea garovaglii***




no: norstictic acid

***Lecidea garovaglii***

***Lecidea hypnorum*** Lib., Pl. crypt. Arduenna, Fasc. (Liège) 1(nos 1-100): no. 12 (1830)
= *Bryobilimbia hypnorum* (Lib.) Fryday, Printzen & S. Ekman, Lichenologist 46(1): 31 (2014)
= *Bryobilimbia hypnorum* (Lib.) Fryday, Printzen & S. Ekman Lichenologist, 46: 31, 2014.
= *Lecidea hypnorum* Lib. - Pl. Crypt. Arduen., 1: nr. 12, 1830.
= *Biatora atrofusca* Flot. ex Hepp
= *Biatora atrofusca var. templetonii* (Taylor) Walt. Watson
= *Biatora cartilaginea* Lönnr.
= *Biatora fusca var. atrofusca* (Hepp) Oxner
= *Biatora fusca var. tristior* (Nyl.) Hellb.
= *Lecidea atrofusca* (Hepp) Mudd
= *Lecidea sanguineoatra var. templetonii* (Taylor) Vain.
= *Lecidea templetonii* Taylor
= *Mycobilimbia hypnorum* (Lib.) Kalb & Hafellner

[VZ1953], USA. Michigan, Delta County, in peninsula dicta "Garden", Portage Bay, supra muscos ad terram arenosam prope lacum. Leg, et det. R. C. Harris (no.11760). Ex A. VěZDA Lichenes Sele3cti Exsiccati Nr. 1953.

Thallus crustose, thinly episubstratic, effuse, membranous or granulose, pale grey to ash grey, sometimes with a brownish tinge. Apothecia lecideine, sessile, 0.5-1.5 mm across, dark brown to black, sometimes confluent and forming larger tuberculate clusters, with a flat to finally convex disc and a raised, smooth, often flexuose, finally sometimes excluded proper margin. Proper exciple dark reddish brown, K-; epithecium pale brown, reddish brown or almost colourless; hymenium colourless, amyloid, 60-70 µm high, with scattered blue-violet (K+ green) granules which are often present also in the upper part of hypothecium; paraphyses mostly simple, coherent, 1.5-1.7 µm thick at base, the apical cells up to 2.5 µm; hypothecium dark reddish brown. Asci 8-spored, clavate, with a I+ blue tholus and an internal, darker I+ tubular structure, the external gel I+ faintly blue, Porpidia-type. Ascospores 0-1(-3)-septate, hyaline, ellipsoid, 9-17(-19) x (3-)4-6(-7) µm, with a finely warted epispore. Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC-, P-, UV+ white. Chemistry: without lichen substances. Note: a cool-temperate to arctic-alpine, probably circumpolar lichen found on mosses, plant debris, soil, bark and lignum, especially in upland areas with calcareous substrata.


***Lecidea hypnorum***


***Lecidea hypnorum***

***Micarea flagellispora*** Coppins & Kantvilas, Lichenologist 22(3): 281 (1990)

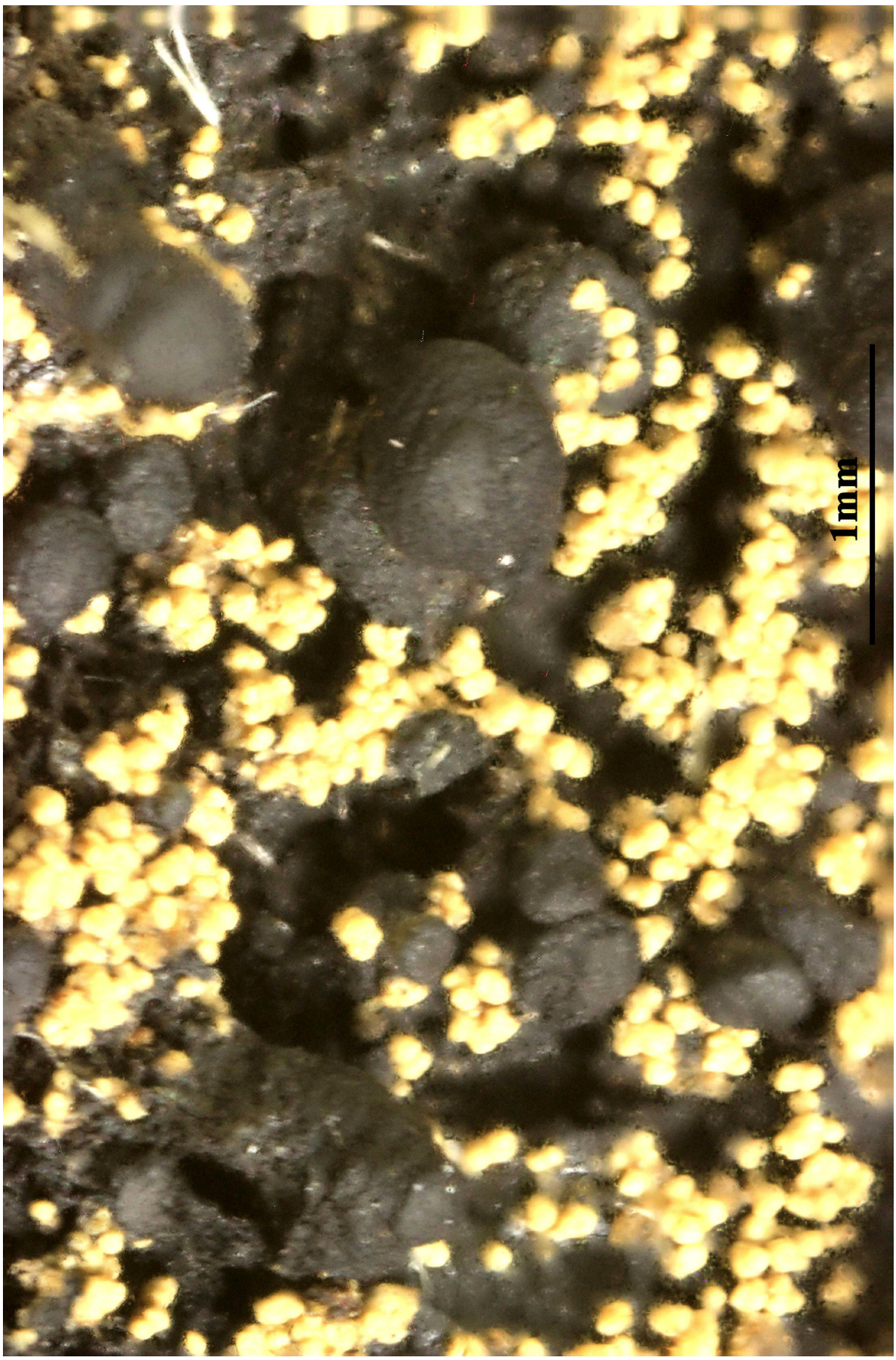
[VZ2453], Australia. Tasmania. Algonkian Mountains, lat. 42°24' merid., long. 146°03' occid., 950 m. Ad pantas emortuas destructas (*Richea scoparia*) in pluviisilva. Leg. G. Kantvilas (60/90), 1.3.1990. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2453.

Thallus effuse, of scattered to usually confluent areoles, often with a blackish prothallus forming a background to the areoles. Areoles (80-) 100-400 µm diam., convex to ± globose, whitish, greenish white, sometimes with a dull yellowish tinge, usually rather bright green when fresh, sometimes upper part of areoles tinged grey (due to cortical pigment) or discoloured brown (due to foreign dematiaceous hyphae ramifying through the cortex), matt; cortex or necral layer up to 8 µm tall, hyaline or dilute to dark green, K-, N+ red; medulla present in large areoles, hyaline. Prothallus of dark green hyphae (rarely also purplish), N+ red, 2-3-5µm wide. Photobiont cells micareoid, 4-7 µm diam. Cephalodia present, occasionally visible externally and resembling dark brown areoles, but mostly buried beneath the areoles or apothecia, c. 100-300 µm diam., containing disrupted filaments of Scytonema with cells 7-13 µm wide. Apothecia usually numerous, (01-)0-3-l mm diam., scattered to confluent, at first plane and weakly marginate, later usually becoming immarginate and convex-hemispherical, black or rarely brown-black, matt. Hymenium 65-85 µm tall, dilute greenish slate-grey (K + green intensifying) but pigment (K + green-black) coating the sides of asci and paraphyses; occasionally greenish pigment is replaced wholly or in part (especially in lower hymenium) by purplish brown pigments (K + green, or K+ purple-intensifying). Paraphyses numerous, branched, rather coherent in K when heavily pigmented, (l-)l-5-2 µm wide, sometimes widening to 2-5 µm towards apices. Asci cylindrical, 63-83 x 9-12 µm, 8-spored with ascospores spirally arranged; in K/I, with an amyloid outer layer, and an amyloid apical dome which is penetrated by a shallowly conical ocular chamber and a narrow apical cushion that ± reaches the upper wall. Ascospores 60-85 x 1-5-1-7 µm, narrowly acicular, sigmoid or flexuose, indistinctly 3-7-septate. Hypothecium 170-360 µm tall, blackish green (K+ green intensifying) or in part (rarely wholly) purplish brown-black (K+ green or, in part or wholly, K + purple-intensifying); of mostly vertically orientated hyphae c. 1.5-2-5 um wide intermixed with short-celled

ascogenous hyphae 2-3-5(-5) µm wide. Excipulum well-developed, concolorous with hypothecium; of radiating, branched hyphae, 1.5-2-5(-3-5) µm wide, rather coherent in K. Pycnidia rare, immersed within areoles to ± sessile, 80-200 µm diam., black, ± globose, ostiole eventually gaping; wall dark greenish or in part purplish (K + green); conidiogenous cells with irregularly swollen base and a flexuose, simple. Chemistry: Thallus K-, C-, KC-, P-, UV- or whitish; perlatolic acid by TLC. All mycobiont pigments N+ red. Ecology and distribution: Micarea flagellispora is known from subalpine altitudes (900-1290 m) on the mountains of southern and central Tasmania but may have been overlooked elsewhere. - Lichens associated with *Micarea flagellispora* include *Cladonia crispata, C. cervicornis* subsp. *verticillata*, *C. sarmentosa, C. southlandica* and *Siphula decumbens*. *Micarea flagellispora* is also known from the South Island of New Zealand.

***Micarea flagellispora***


***Micarea flagellispora***

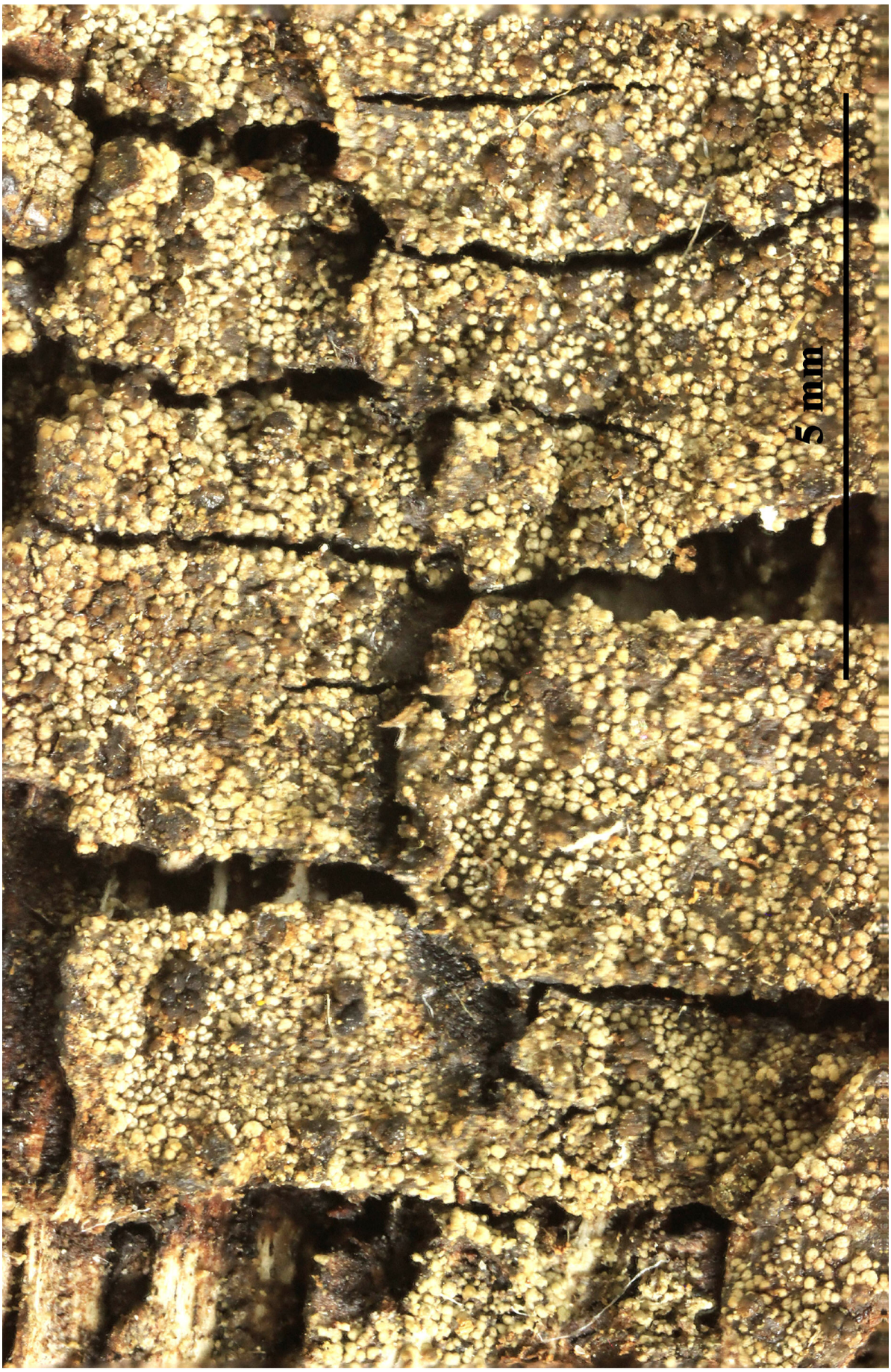



***Micarea flagellispora***

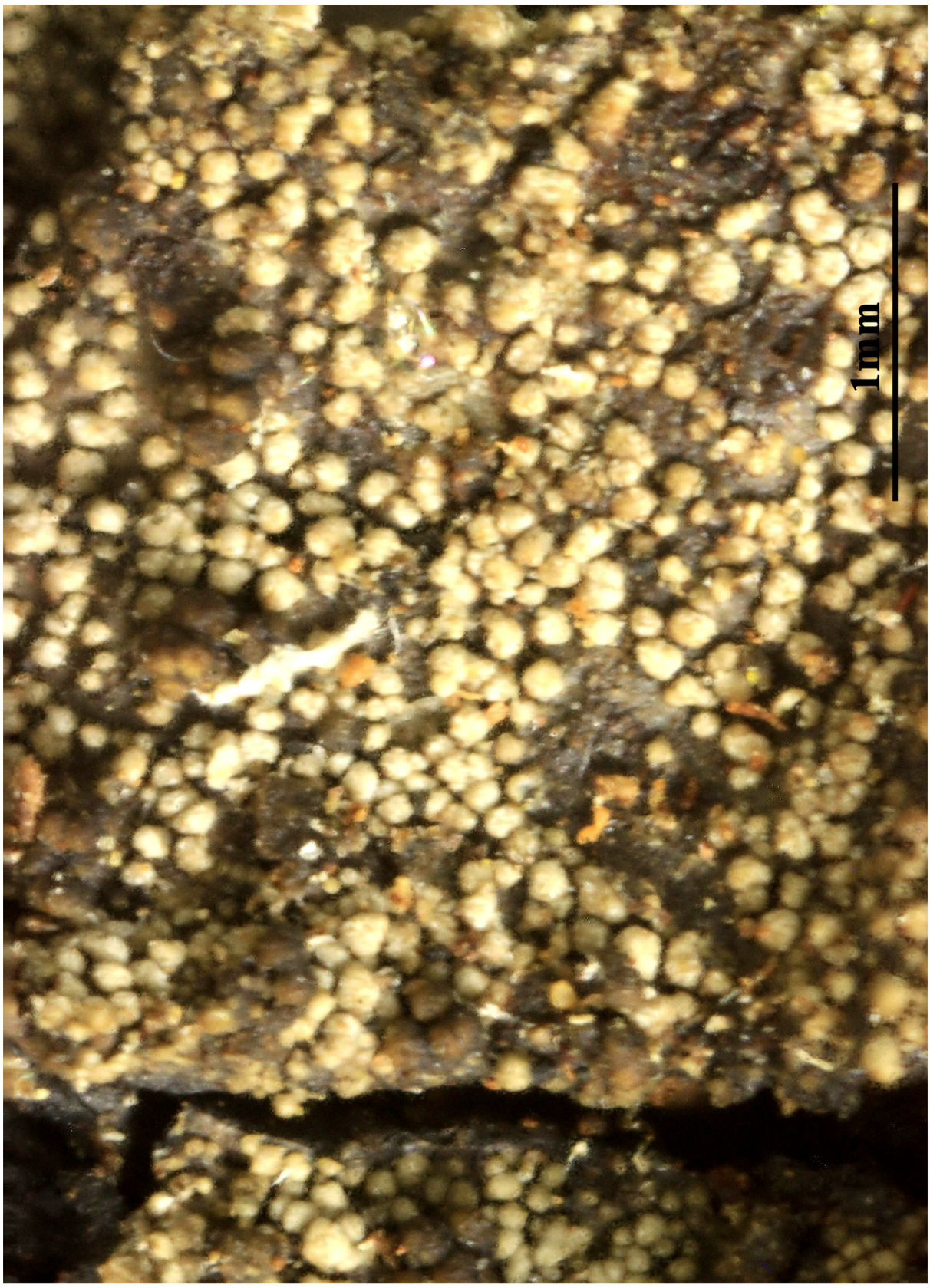
***Micarea glomerella*** (Nyl.) Hedl., Bih. K. svenska VetenskAkad. Handl., Afd. 3 18(no. 3): 75 (1892)
= *Lecidea anomala* subsp. *glomerella* Nyl. 1861
= *Bacidia sororians* (Nyl.) H. Olivier
= *Biatorina glomerella* (Nyl.) Arnold
= *Catillaria elachista* (Körb.) Vain.
= *Catillaria glomerella* (Nyl.) Th. Fr.
= *Lecidea poliococca* Nyl.
= *Lecidea sororians* Nyl.

[VZ1134], Gallia. Montes Pyrenaei occidentales. In valle Aldudes, Banca, in silva "la Hayra" dicta, 400 m. Lignicola ad truncum *Castaneae vulgaris*. Leg. J. Vivant, 13.4.1972, det. A. Vězda. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1134.

Thallus crustose, episubstratic, of convex to subglobose, greenish white to whitish grey, usually epruinose, corticate areoles, more rarely coarsely granulose. Apothecia micareoid, 0.1-0.3 mm across, sometimes confluent into tuberculate, to 0.6(-0.8) µm wide aggregates, with a dark brown to brown-black, strongly convex to hemispherical disc, without a distinct proper margin. Proper exciple indistinct; epithecium pale to dark brown, the pigment dissolving in K, sometimes K+ faintly violet, 15(-20) µm highe; hymenium colourless or with brownish vertical streaks, 30-50 µm high; paraphyses numerous, richly branched and anastomosing especially in upper part, 0.8-1.5 µm thick at mid-level, the apical cells to 2 µm wide; hypothecium pale yellowish brown, K-, N-. Asci 8-spored, clavate to cylindrical-clavate, in K/I with a blue outer layer and apical dome and unstained wall, the dome with an apical cushion. Ascospores (0-)1(-3)-septate, hyaline, narrowly fusiform or ovoid-fusiform, sometimes slightly curved, (8-)10-18(-24) x 2-3.5 µm. Pycnidia frequent, immersed to emergent, grey-brown, often paler around the ostiole, the wall pale olivaceous brown, K+ violet, C+ violet. Mesoconidia cylindrical or ovoid and slightly wider at one end, 3.5-4.5 x 1.2-1.7 µm; microconidia narrowly cylindrical, 4-6.5 x 0.7-1 µm. Photobiont micareoid, the cells 4-7(-8) µm wide. Spot tests: K- or K+ faintly violet, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a temperate to circumboreal-montane species with optimum on lignum, more rarely on acid bark, most frequent in *Castanea*-forests, often with *Chaenotheca ferruginea*.




***Micarea glomerella***



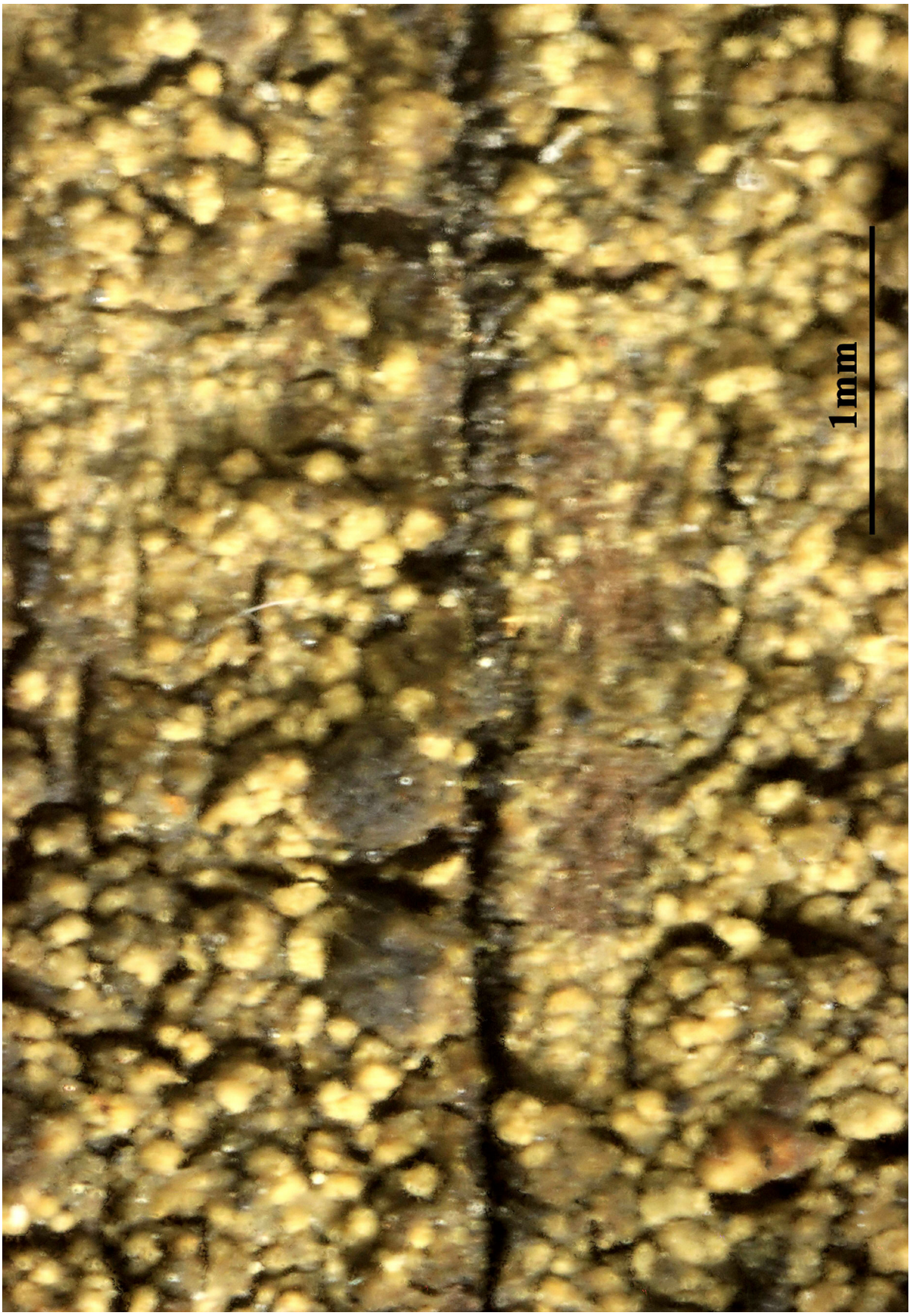

***Micarea glomerella***

***Micarea glomerella*** (Nyl.) Hedl., Bih. K. svenska VetenskAkad. Handl., Afd. 3 18(no. 3): 75 (1892)
= *Lecidea anomala* subsp. *glomerella* Nyl. 1861
= *Bacidia sororians* (Nyl.) H. Olivier
= *Biatorina glomerella* (Nyl.) Arnold
= *Catillaria elachista* (Körb.) Vain.
= *Catillaria glomerella* (Nyl.) Th. Fr.
= *Lecidea poliococca* Nyl.
= *Lecidea sororians* Nyl.

[VZ1379}, Bohemoslovacia. Moravia. Křižanov, in vicinitate piscinae Velký Chlostov prope pagum Ořechov, 550 m. Ad corticem *Pinorum*. Leg. A. Vězda, 1.10.1975. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1379.

Thallus crustose, episubstratic, of convex to subglobose, greenish white to whitish grey, usually epruinose, corticate areoles, more rarely coarsely granulose. Apothecia micareoid, 0.1-0.3 mm across, sometimes confluent into tuberculate, to 0.6(-0.8) µm wide aggregates, with a dark brown to brown-black, strongly convex to hemispherical disc, without a distinct proper margin. Proper exciple indistinct; epithecium pale to dark brown, the pigment dissolving in K, sometimes K+ faintly violet, 15(-20) µm highe; hymenium colourless or with brownish vertical streaks, 30-50 µm high; paraphyses numerous, richly branched and anastomosing especially in upper part, 0.8-1.5 µm thick at mid-level, the apical cells to 2 µm wide; hypothecium pale yellowish brown, K-, N-. Asci 8-spored, clavate to cylindrical-clavate, in K/I with a blue outer layer and apical dome and unstained wall, the dome with an apical cushion. Ascospores (0-)1(-3)-septate, hyaline, narrowly fusiform or ovoid-fusiform, sometimes slightly curved, (8-)10-18(-24) x 2-3.5 µm. Pycnidia frequent, immersed to emergent, grey-brown, often paler around the ostiole, the wall pale olivaceous brown, K+ violet, C+ violet. Mesoconidia cylindrical or ovoid and slightly wider at one end, 3.5-4.5 x 1.2-1.7 µm; microconidia narrowly cylindrical, 4-6.5 x 0.7-1 µm. Photobiont micareoid, the cells 4-7(-8) µm wide. Spot tests: K- or K+ faintly violet, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a temperate to circumboreal-montane species with optimum on lignum, more rarely on acid bark, most frequent in *Castanea*-forests, often with *Chaenotheca ferruginea*.


***Micarea glomerella***




***Micarea glomerella***

***Micarea hemipoliella*** (Nyl.) Vězda, Folia geobot. phytotax. 11(1): 100 (1976)
= *Lecidea hemipoliella* Nyl. 1875
= *Micarea denigrata* (Fr.) Hedl., Bih. K. svenska VetenskAkad. Handl., Afd. 3 18(no. 3): 78 (1892)

[VZ1430], Germania. Bavaria. Distr. Starnberg: In paludibus septentrionem versus a lacu Maisinger See. d folia *Cladii marisci* emortua. Leg. J. Poelt, 5.8.1976. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1430-

Thallus crustose, episubstratic, rarely endosubstratic and poorly evident, usually composed of convex, white to pale grey-green, smooth, ecorticate areoles, sometimes reacting K+ violet. Apothecia micareoid, sessile, 0.1-0.5 mm across, sometimes aggregated into up to 0.8 mm wide clusters, with a dark grey to black (pale grey to whitish in shade-forms), strongly convex, sometimes tuberculate, epruinose disc, without a proper margin or with a thin whitish margin evident only in young apothecia. Proper exciple indistinct or very thin, of paraphysis-like hyphae; epithecium hardly separate from the hymenium; hymenium olive-grey, brownish, olive-brown or dull grey in upper part, colourless in lower part, 25-40 µm high, the pigmented parts C+ pink; paraphyses numerous, branched and anastomosing, 1-1.7 µm thick, not capitate; hypothecium colourless, 60-110 µm high. Asci 8-spored, clavate to cylindrical-clavate, clavate, in K/I with a blue outer layer and apical dome and unstained wall, the dome with an apical cushion. Ascospores (0-)1(-2)-septate, often with slightly unequal cells, hyaline, narrowly ellipsoid, oblong-ellipsoid or fusiform with rounded ends, straight or slightly curved, (6-)8-14(-18) x 2-3.5(-4) µm. Pycnidia immersed to emergent-stalked, grey to black, the wall greenish, K+ violet, C+ red-violet. Conidia of three types: i) macroconidia, curved, (1-)3 septate, 12-24 x 1 µm; ii) mesoconidia, simple, 2.5-4.5 x 1-2 µm, extruded as a white mass from the ostiole; iii) microconidia, simple, 5-7.5 x 0.5-1 µm. Photobiont micareoid, thin-walled, the cells 4-7(-8) µm wide. Spot tests: thallus, apothecial and pycnidial sections K- or K+ faintly violet, C+ red, KC+ red, P- (reactions best visible under the microscope). Chemistry: gyrophoric acid. - Note: a cool-temperate to circumboreal-montane, very polymorphic species, most common on wooden poles in the mountains, on fallen trunks and stumps of coniferous and broad-leaved trees, rarer on the bark of conifers; widespread throughout the Alps and the Apennines.


***Micarea hemipoliella***

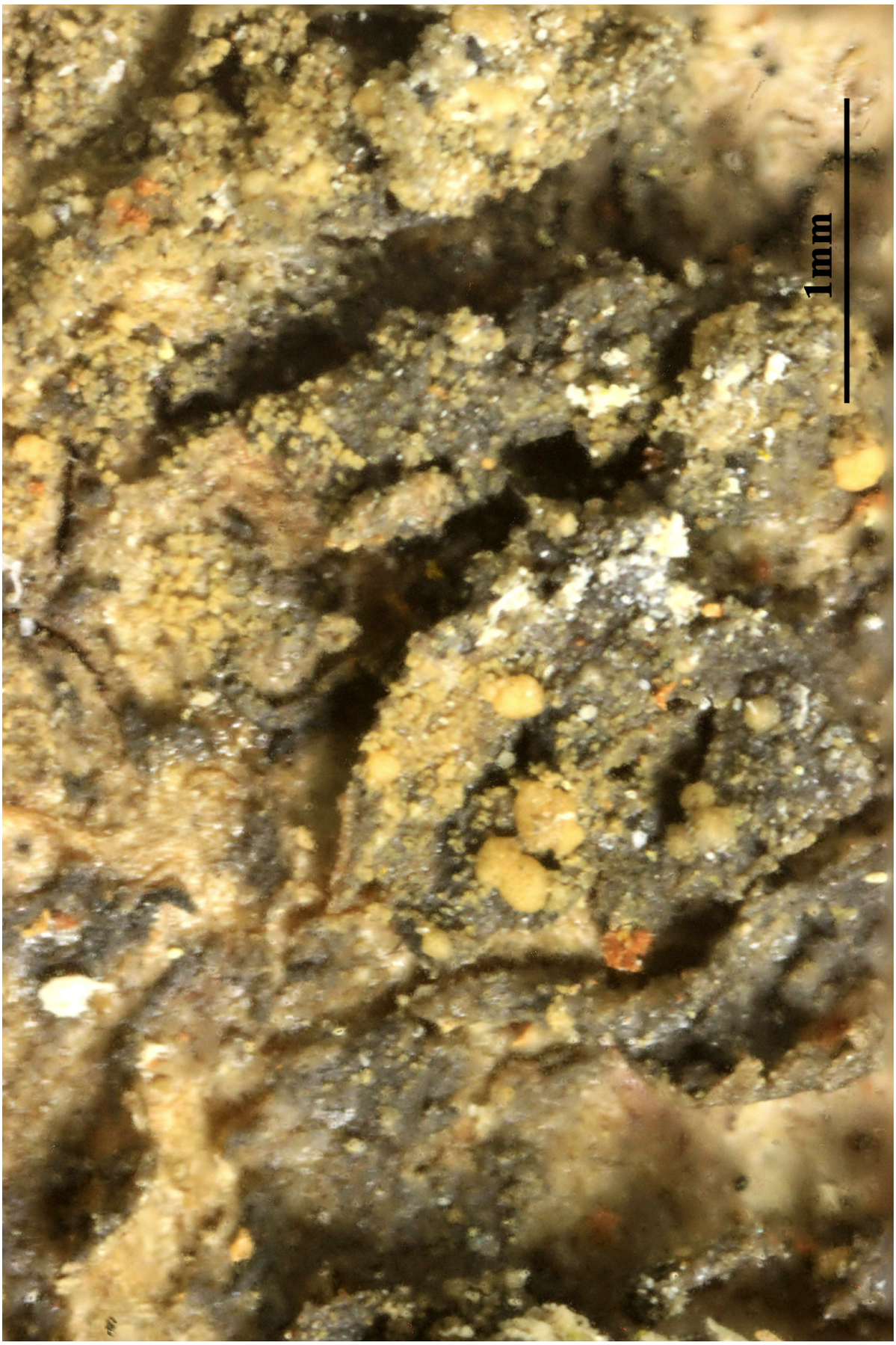

***Micarea hemipoliella***

***Micarea hemipoliella*** (Nyl.) Vězda, Folia geobot. phytotax. 11(1): 100 (1976)
= *Lecidea hemipoliella* Nyl. 1875
= *Micarea denigrata* (Fr.) Hedl., Bih. K. svenska VetenskAkad. Handl., Afd. 3 18(no. 3): 78 (1892)

[VZ1595], URSS. Transcaucasus, Colchis: distr. Sochi, in valle angusta rivi Agva (dextra fluminis Sochi), ad cataractas dictas "Orechovyje vodopady", 250 m. Ad corticem *Alni barbatae*. Leg. V. Vasák et A. Vezda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1595.

Thallus crustose, episubstratic, rarely endosubstratic and poorly evident, usually composed of convex, white to pale grey-green, smooth, ecorticate areoles, sometimes reacting K+ violet. Apothecia micareoid, sessile, 0.1-0.5 mm across, sometimes aggregated into up to 0.8 mm wide clusters, with a dark grey to black (pale grey to whitish in shade-forms), strongly convex, sometimes tuberculate, epruinose disc, without a proper margin or with a thin whitish margin evident only in young apothecia. Proper exciple indistinct or very thin, of paraphysis-like hyphae; epithecium hardly separate from the hymenium; hymenium olive-grey, brownish, olive-brown or dull grey in upper part, colourless in lower part, 25-40 µm high, the pigmented parts C+ pink; paraphyses numerous, branched and anastomosing, 1-1.7 µm thick, not capitate; hypothecium colourless, 60-110 µm high. Asci 8-spored, clavate to cylindrical-clavate, clavate, in K/I with a blue outer layer and apical dome and unstained wall, the dome with an apical cushion. Ascospores (0-)1(-2)-septate, often with slightly unequal cells, hyaline, narrowly ellipsoid, oblong-ellipsoid or fusiform with rounded ends, straight or slightly curved, (6-)8-14(-18) x 2-3.5(-4) µm. Pycnidia immersed to emergent-stalked, grey to black, the wall greenish, K+ violet, C+ red-violet. Conidia of three types: i) macroconidia, curved, (1-)3 septate, 12-24 x 1 µm; ii) mesoconidia, simple, 2.5-4.5 x 1-2 µm, extruded as a white mass from the ostiole; iii) microconidia, simple, 5-7.5 x 0.5-1 µm. Photobiont micareoid, thin-walled, the cells 4-7(-8) µm wide. Spot tests: thallus, apothecial and pycnidial sections K- or K+ faintly violet, C+ red, KC+ red, P- (reactions best visible under the microscope). Chemistry: gyrophoric acid. - Note: a cool-temperate to circumboreal-montane, very polymorphic species, most common on wooden poles in the mountains, on fallen trunks and stumps of coniferous and broad-leaved trees, rarer on the bark of conifers; widespread throughout the Alps and the Apennines.


***Micarea hemipoliella***




***Micarea hemipoliella***

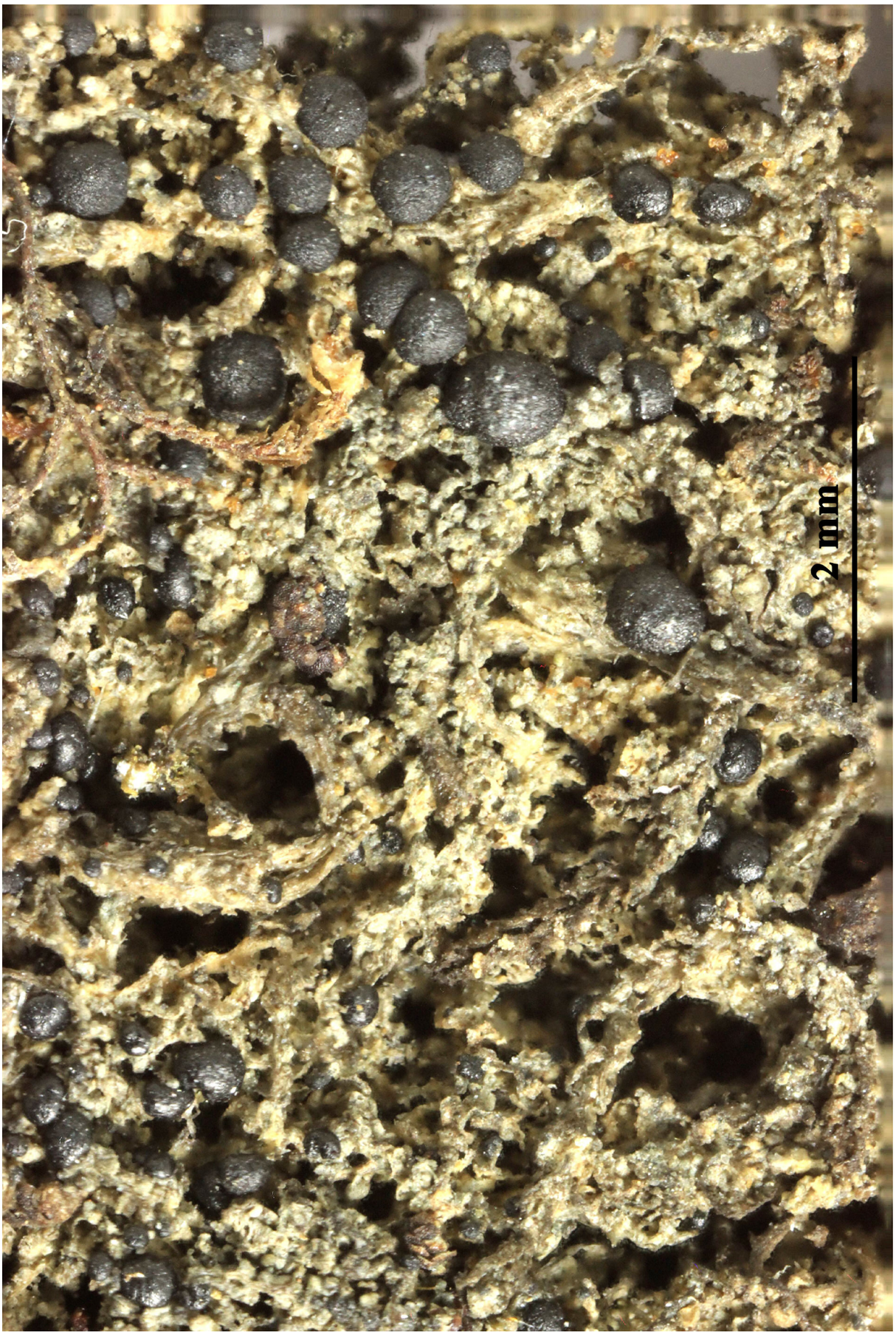
***Micarea lignaria*** (Ach.) Hedl. [as 'ligniaria'], Bih. K. svenska VetenskAkad. Handl., Afd. 3 18(no. 3): 82 (1892)
= *Lecidea lignaria* Ach. 1808
= *Bacidia gomphillacea* (Nyl.) Zahlbr.
= *Bacidia granulans* sensu H. Magn.
= *Bacidia lignaria* (Ach.) Lettau
= *Bacidia meizospora* (Nyl.) Zahlbr.
= *Bacidia milliaria* (Fr.) Sandst.
= *Bilimbia lignaria* (Ach.) A. Massal.
= *Bilimbia milliaria* (Fr.) Körb.
= *Lecidea geomaea* Taylor
= *Lecidea meizospora* Nyl.
= *Lecidea milliaria* Fr.
= *Micarea gomphillacea* (Nyl.) Vězda

[VZ1466], Romania, Carpates, montes Fagaraş: Simbata de Sus, in valle Simbata, prope casam alpinam, 1600 m. Supra muscos ad saxa silicea. Leg. A. Vězda, 10.7.1974. EX A. VĚZDA LICHENES SELECTI NR. 1466.

Thallus crustose, composed of whitish grey, ash- to more or less intensive greenish-grey, usually convex-granulose, 0.1-0.3 mm wide areoles, sometimes poorly developed. Areoles with a thick, hyaline, up to 25(-30) µm high amorphous layer. Apothecia micareoid, black or blue-black, sessile to substipitate, often tuberculate, 0.15-0.6(-0.9) mm across, with a convex to almost globose disc, without a proper margin. Proper exciple poorly developed and soon excluded, brownish in outer part, composed of branched, paraphysis-like hyphae; epithecium scarcely differentiated from the hymenium, usually intensive aeruginose or olive-green owing to the pigment present in the gel matrix and walls of paraphyses, K+ intensifying green; hymenium 50-75 µm high, colourless, or olivaceous to blue-green in upper and sometimes lower parts, the pigmented parts K-, N+ red, rarely with a few scattered, minute violaceous granules reacting K+ green; paraphyses numerous, 1.5-2 µm thick at mid-level, simple or sparingly branched in upper part, the apical cells 2.5-3 µm wide; hypothecium pale blue-green or olivaceous, K-, the central part often colourless or pale brown. Asci 8-spored, clavate to cylindrical-clavate, in K/I with a blue outer layer and apical dome and unstained wall, the dome with an apical cushion, 40-50 x 10-16 (-18) µm. Ascospores (3-)4-7-septate, hyaline, fusiform to nar-

rowly fusiform, straight or slightly curved, rounded at one end and acute at the other, (14-)16-36(-38) x (3.5-)4-6(-7) µm. Pycnidia more or less immersed, the wall green (K-) in upper parts, producing three types of conidia: a) curved, 3-7-septate macroconidia measuring 16-22 x c. 1 µm, b) cylindrical to obovoid mesoconidia measuring 4-7 x 1.5-2 µm, c) narrowly cylindrical microconidia measuring 5-7 x c. 0.8 µm. Photobiont micareoid, the cells 4-7 µm wide. Spot tests: thallus K-, C-, KC-, P+ orange-red; apothecial sections C-. Chemistry: thallus with argopsin. - Note: a widespread temperate to boreal-montane species, one of the most common of the genus in Italy, found on a wide variety of acid substrata such as plant remains, bark, and lignum, more rarely siliceous rocks, in humid situations.

***Micarea lignaria***




***Micarea lignaria***

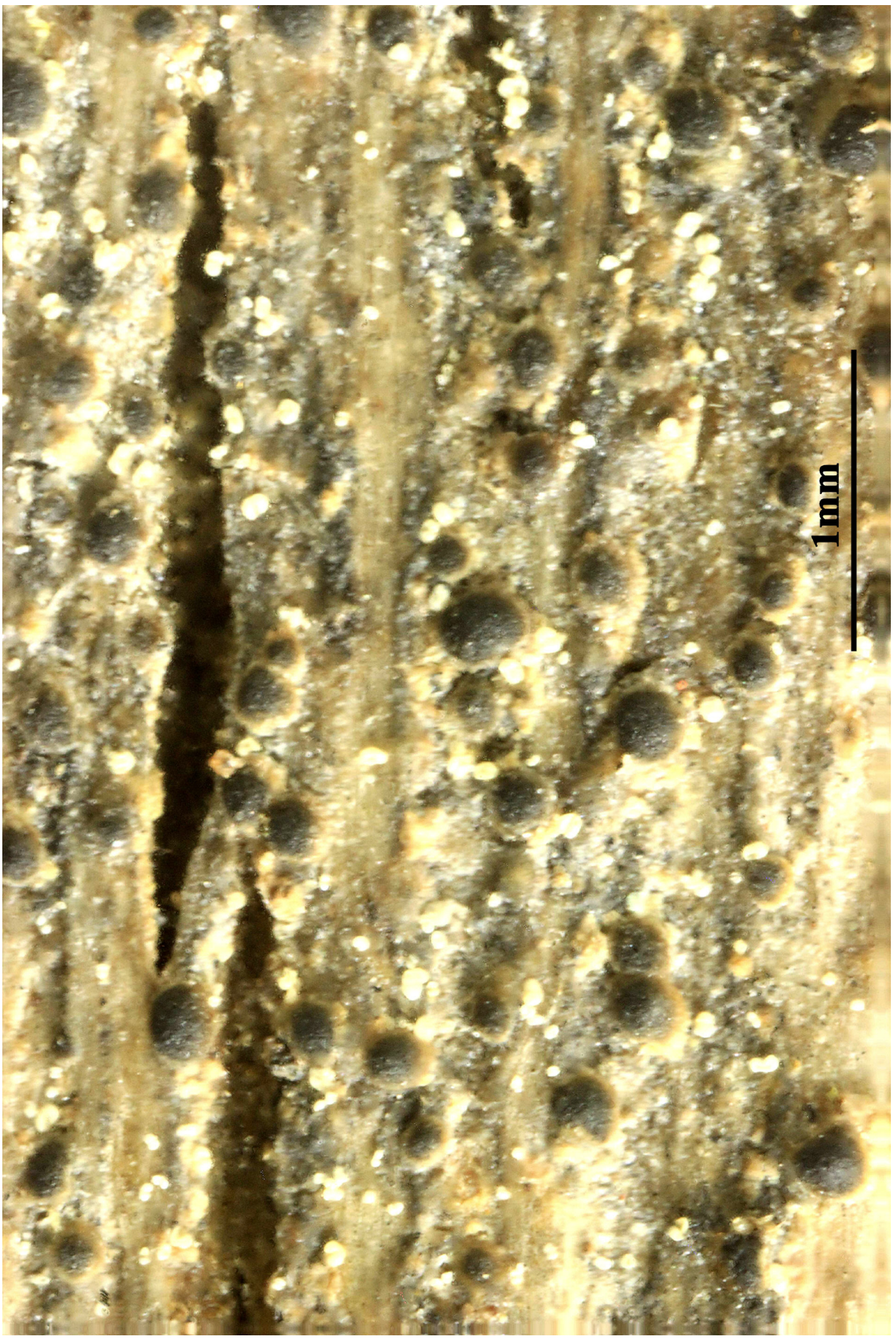

***Micarea lignaria***

***Micarea muhrii*** Coppins, Bull. Br. Mus. nat. Hist., Bot. 11(2): 160 (1983)
= *Micarea. vulpinaris* (Nyl .) Muhr (1987)

[VZ1954], Suecia. Vermlandia, par. Lungsund, Punbäcken, 170 m. Loco aperto ad truncum decorticatum supra vivum,. Isotypus - . Leg. L. E. Muhr (285), 15.7.1980, det. B. J. Coppins. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1954.

Thallus white to pale grey, ± with green tinge, immersed or forming convex, often coalescing areoles, 0.06-0.2 mm diam.; photobiont cells 4-7 µm diam. Apothecia 0.15 -0.46 mm diam., adnate, convex, grey-black, but pallid, reddish brown or brown-grey in shade morphs, imm-arginate but adnate rim often forming a narrow pallid zone; true exciple poorly developed, soon reflexed; hymenium 40-45 µm tall, colourless with upper part olivaceous, K-, N+ red; hypothecium dark reddish brown, K-, N-; paraphyses rather scanty, branched, especially in upper part, 1-1.5 µm wide or to 2 µm wide at apices. Asci 38-40 x 10- 12 µm . Ascospores 9-12 x 4-5 µm, ellipsoid, ovoid- or oblong-ellipsoid, simple. Pycnidia rare, c. 40-50 µm diam. , conidia cylindrical, 4-6 x 0.8-1 µm. Lichen products not detected by TLC. - On hard lignum of pine stump splashed by water, in native pinewood area; rare. Scotland, Scandinavia, Belgium, Czech Republic, Germany. *Micarea lutulata* and *M. parvula* differ in their convex, often tuberculate apothecia; the former also has smaller ascospores and larger-celled photobiont, whe-reas the latter has dimorphic paraphyses and a redbrown, N- upper hymenium. Both are mainly saxicolous, but *M. vulpinaris* has been found on boulders by
streams in Sweden.


***Micarea muhrii***

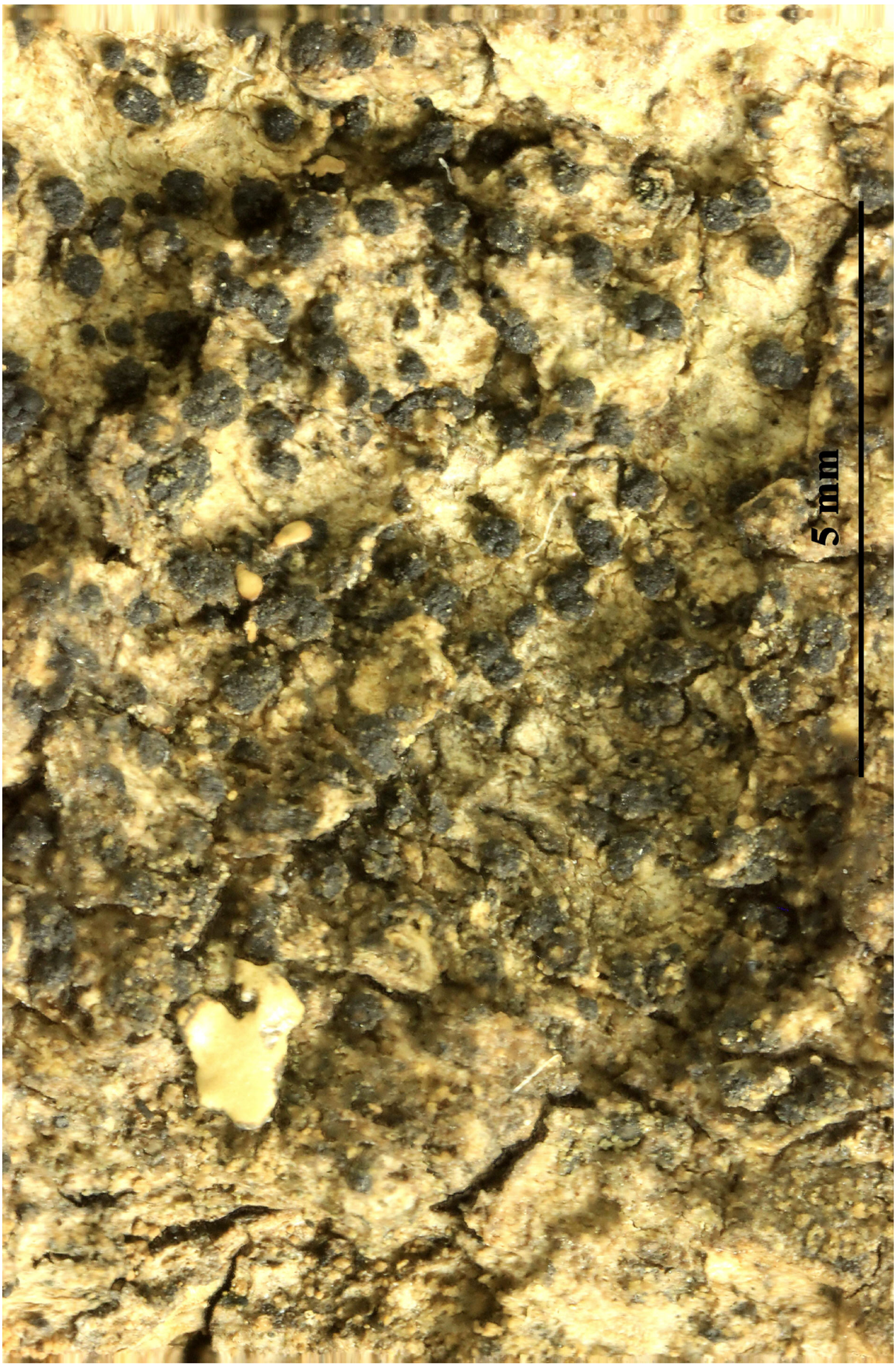



***Micarea muhrii***

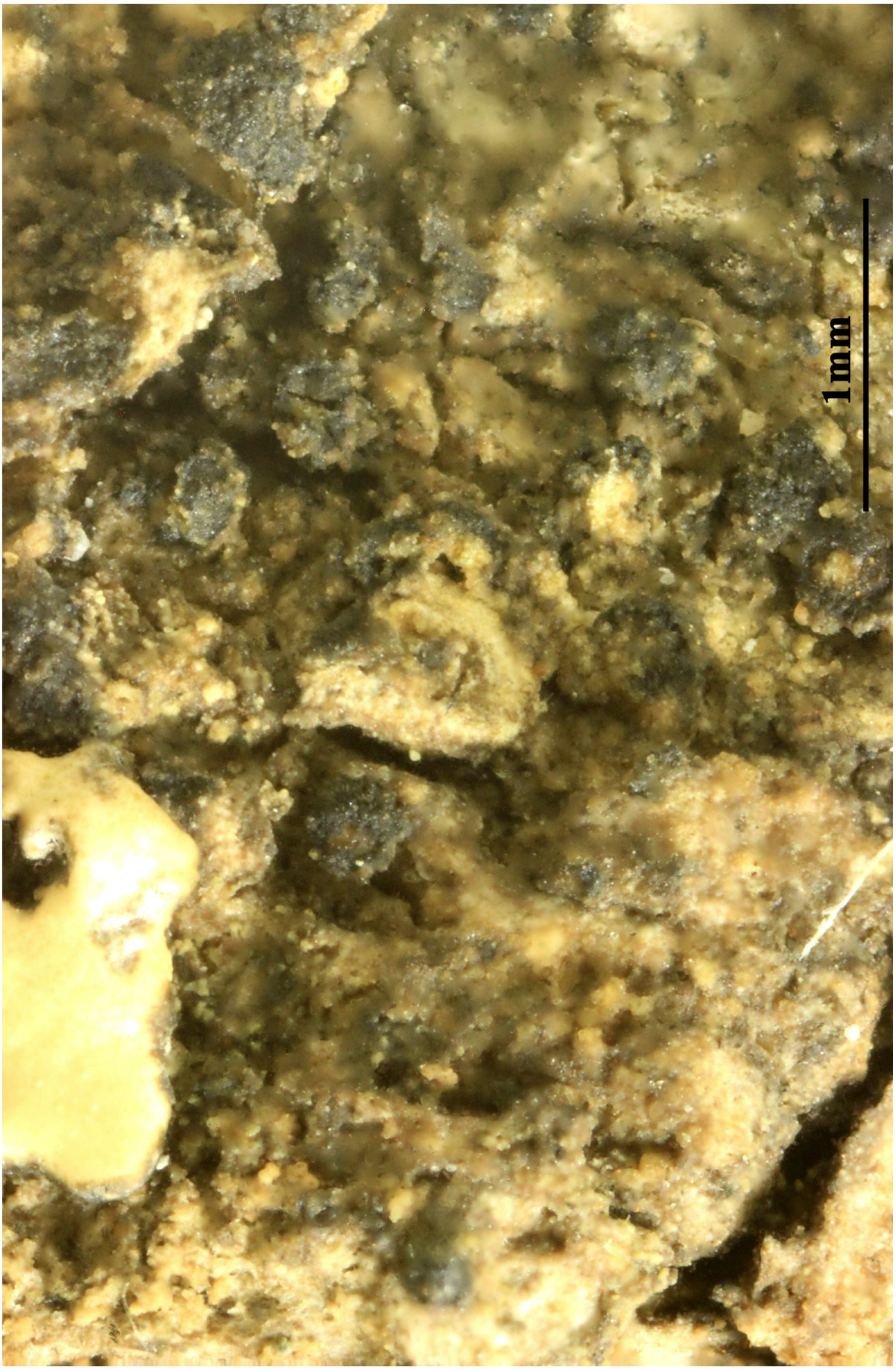
***Micarea nitschkeana*** (J. Lahm ex Rabenh.) Harm., Bull. Séanc. Soc. Sci. Nancy, Sér. 2 33: 64 (1899) [1898]
= *Bilimbia nitschkeana* J. Lahm ex Rabenh. 1861
= *Bacidia nitschkeana* (Rabenh.) Zahlbr.
= *Bacidia spododes* (Nyl.) Zahlbr.
= *Bilimbia spododes* (Nyl.) Arnold
= *Lecidea nitschkeana* (Rabenh.) Stizenb.
= *Lecidea spododes* Nyl.

[VZ2058], Bohemoslovacia. Slovacia, Carpati, montes Tatra Minor, in pede merid. montis Ďumbier, in valle prope Trangoška, 1300 m. Ad corticem Aceris pseudoplatani. Leg. E. Farkas et A. Vězda. Ex A. Vězda Lichenes Selecti Exsiccari Nr. 2058.

Thallus crustose, episubstratic, of convex areoles, rarely endosubstratic and indistinct, whitish-green to pale greenish-grey, ecorticate, usually forming small patches. Apothecia micareoid, sessile, 0.1-0.3(-0.5) mm across, dark grey to black (rarely paler in shade-forms), often confluent, with a strongly convex, epruinose disc, without a proper margin or (in young apothecia only) with a very thin, whitish, soon excluded margin. Proper exciple poorly developed, evident only in very young apothecia, of radiating, paraphysis-like hyphae, the outer part sometimes olivaceous green and K+ violet; epithecium olive-grey, K+ violet, C+ red-violet; hymenium colourless or greenish in upper part, 25-40 µm high, C+ pink; paraphyses numerous, branched and anastomosing, 1-1.5 µm thick, not capitate; hypothecium colourless, 30-40 µm high. Asci 8-spored, clavate to cylindrical-clavate, in K/I with a blue outer layer and apical dome and unstained wall, the dome with an apical cushion. Ascospores (1-)3(-4) septate, hyaline fusiform, slightly curved, (8-)10-17(-20) x 2-3.5(-4) µm. Pycnidia immersed to emergent, grey to black, the wall with a greenish, K+ violet pigment. Conidia of three types: a) macroconidia, curved, 1-3 septate, 12-24 x 1 µm; b) mesoconidia, 1-celled, 3.5-5 x 1-1.5 µm, and, c) microconidia, 1-celled, 5.5-7.5 x 0.7-0.8 µm. Photobiont micareoid, the cells 4-7 µm wide. Spot tests: thallus K-, C- or C+ red, KC- or KC+ red, P - (reactions best observed in thick microscopic sections). Chemistry: variable amounts of gyrophoric acid in thallus and apothecia, sometimes Sedifolia-grey pigment in apothecia and pycnidia. - Note: on twigs and small branches of conifers and, more rarely, of acid-barked deciduous trees and small shrubs, occasionally also on lignum. Known from a few localities in the Central Alps and the Northern Apennines.




***Micarea nitschkeana***




***Micarea nitschkeana***

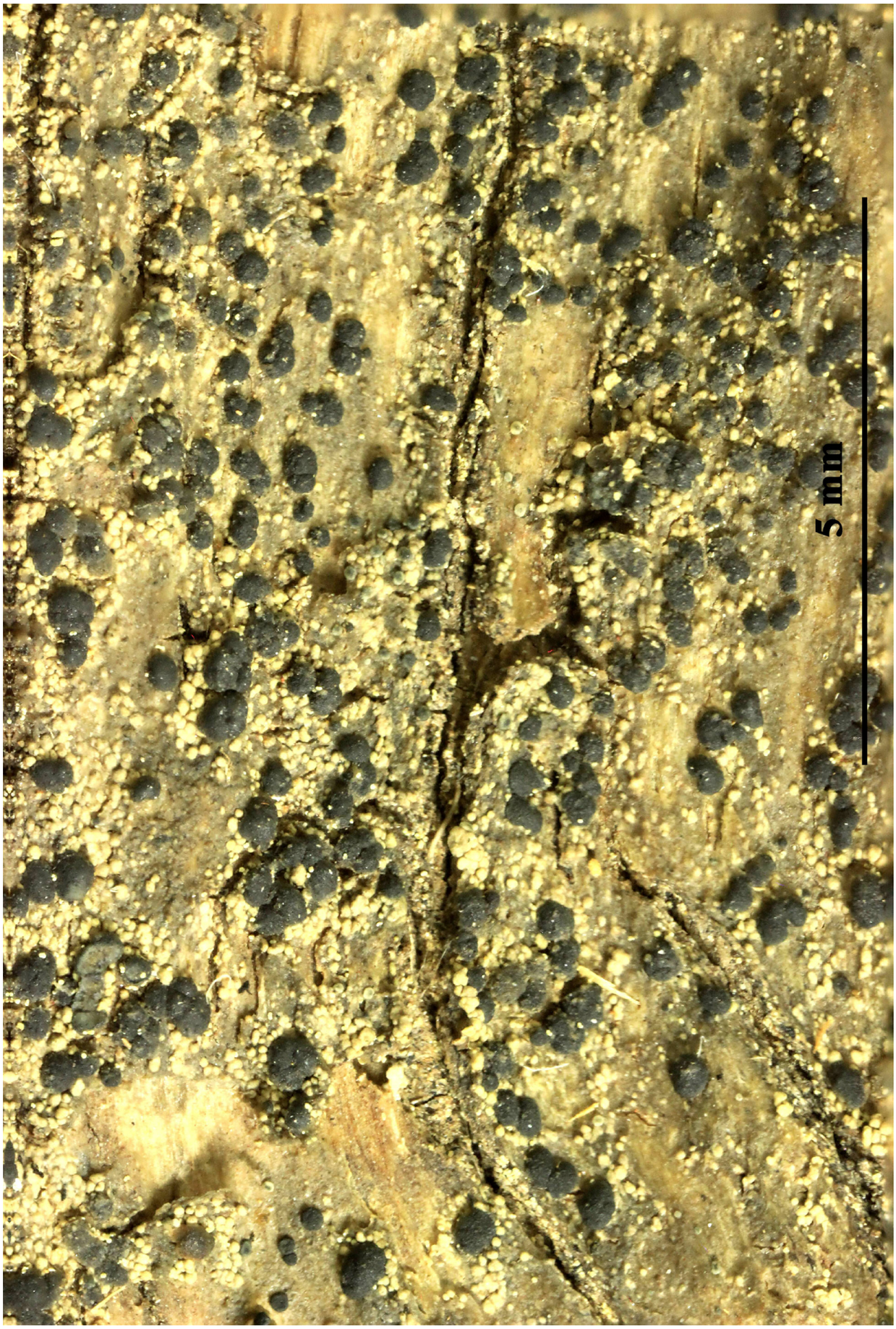
***Micarea peliocarpa*** (Anzi) Coppins & R. Sant., in Coppins & James, Lichenologist 11(2): 155 (1979)
= *Bilimbia peliocarpa* Anzi 1866
= *Bacidia albidolivens* (Nyl.) Zahlbr.
= *Bacidia hemipolioides* (Nyl.) Zahlbr.
= *Bacidia peliocarpa* (Anzi) Lettau
= *Bacidia trisepta* (Nägeli) Zahlbr.
= *Bacidia triseptatuloides* (Harm.) Zahlbr.
= *Bacidia violacea* (P. Crouan & H. Crouan ex Nyl.) Arnold
= *Bilimbia albicans* Arnold
= *Bilimbia hemipolioides* (Nyl.) A.L. Sm.
= *Bilimbia subviridescens* var. *trisepta* (Nägeli) A.L. Sm.
= *Bilimbia trisepta* (Nägeli) Hellb.
= *Lecidea albidolivens* Nyl.
= *Lecidea fraterculans* Nyl.
= *Lecidea hemipolioides* Nyl.
= *Lecidea triseptatula* Nyl.
= *Lecidea triseptatuloides* Harm.
= *Micarea trisepta* (Nägeli) Wetmore
= *Micarea violacea* (P. Crouan & H. Crouan ex Nyl.) Hedl.

[VZ2034], Jugoslavia, Cena Cora (Montenegro): montes Sinjovina in valle fluvii Tara prope pagum Dobrolovina, 800 m. Ad truncum pitridum. Leg. A. Vězda, 19.8.1984. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2034.

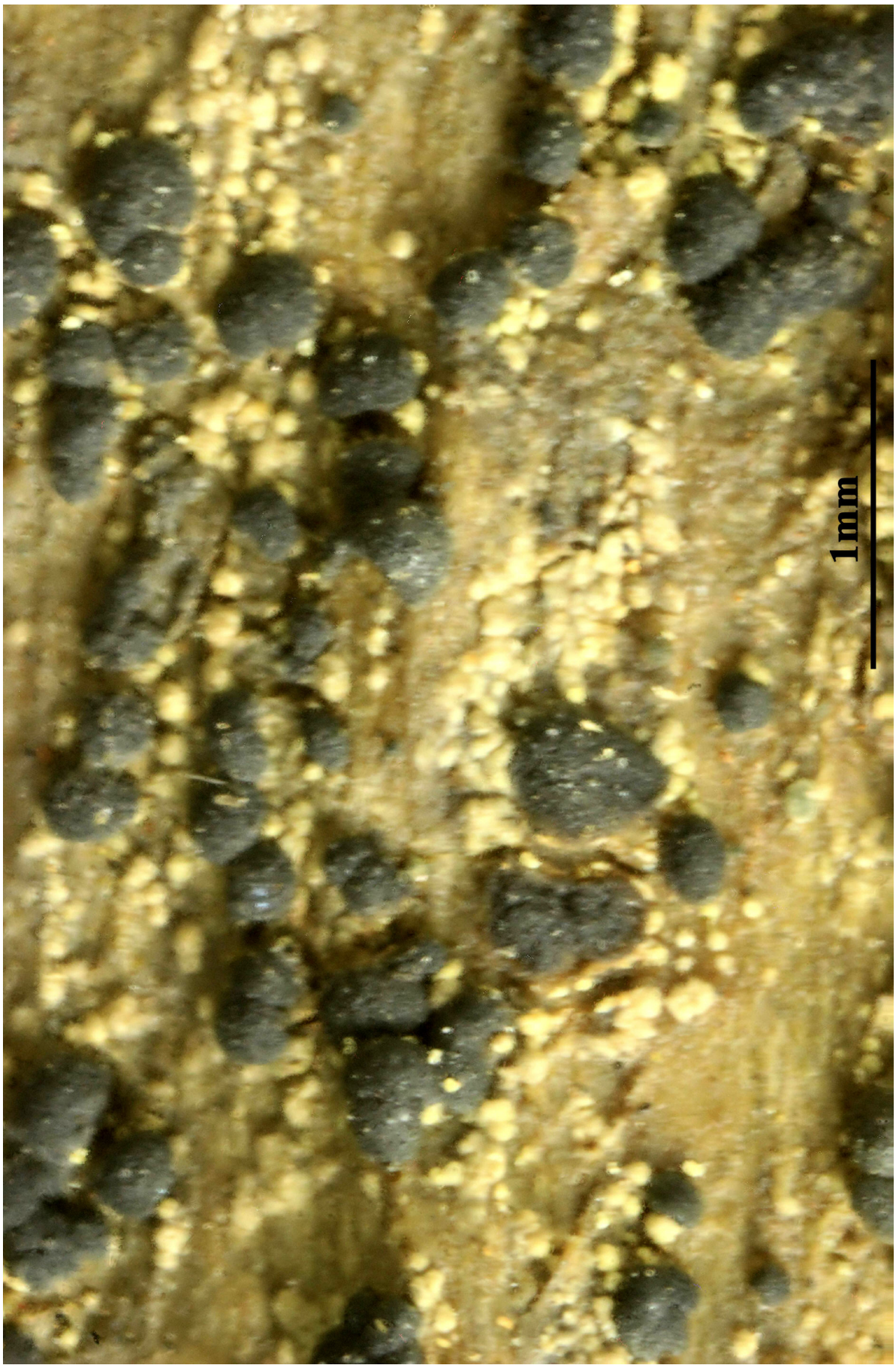
Thallus crustose, usually episubstratic, greenish white to blue-grey, of moderately to strongly convex, to 0.2 mm wide areoles, sometimes almost continuous but more or less cracked, rarely endosubstratic and poorly evident. Apothecia micareoid, rounded, sessile, not constricted at base, sometimes confluent and tuberculate, flat to convex, 0.15-0.7(-1) mm across, variously coloured, from completely whitish to greyish, lead-grey, grey-brown, blackish or black, or often piebald or bluish tinged, at first usually with a slightly paler margin, but later mostly immarginate. Proper exciple up to 50(-60) µm wide, colourless to straw-coloured, composed of densely branched and anastomosing, 1.8-2.5 µm wide, paraphysis-like hyphae; epithecium scarcely differentiated from the hymenium; hymenium 40-55 µm high, colourless, but in upper part slightly olivaceous straw-coloured, greyish-green to aeruginose-green in darker apothecia, K± greenish intensifying, C+ fleeting

orange-red, N+ red,; paraphyses conglutinated, branched and anastomosing, 1-1.5 µm thick at mid-level, the apical cells to 2.5 µm wide; hypothecium more or less colourless or pale yellow, 50-70 µm high. Asci 8-spored, clavate, in K/I with a blue outer layer and apical dome and unstained wall, the dome with an apical cushion, (25-)35-45(-50) x 12-15 µm. Ascospores (1-)3(-5)-septate, hyaline, fusiform-elongate, often slightly curved, (11-)15-23(-24) x 3-5(-6) µm. Pycnidia often present, of two types: a) small, 30-70 µm wide, immersed to ±sessile, whitish to dark olivaceous-green, producing thread-like to narrowly baciliform microconidia measuring 5-7.5(-8) x 0.4-0.7(-0.9) µm; b) immersed, 120-150 µm wide, often widely gaping, concolour with thallus around ostioles or greenish producing usually strongly curved, sometimes sigmoid, rarely also straight, mostly 3-septate macroconidia measuring 16-38(-50) x (1-)1.2-1.5(-1.7) µm; pycnidial walls C+ fleeting orange red, K- or K+ intensifying green when pigmented. Photobiont micareoid, the cells 4-8 µm wide. Spot tests: thallus and apothecial sections K-, C+ red, KC+ red, P-. Chemistry: gyrophoric acid. - Note: a temperate to boreal-montane, ecologically wide-ranging species found on the acid bark of deciduous (especially old oaks and *Fagus*) and coniferous trees, lignum, peaty soil, moribund bryophytes, and small siliceous pebbles.

***Micarea peliocarpa***




***Micarea peliocarpa***




***Micarea peliocarpa***

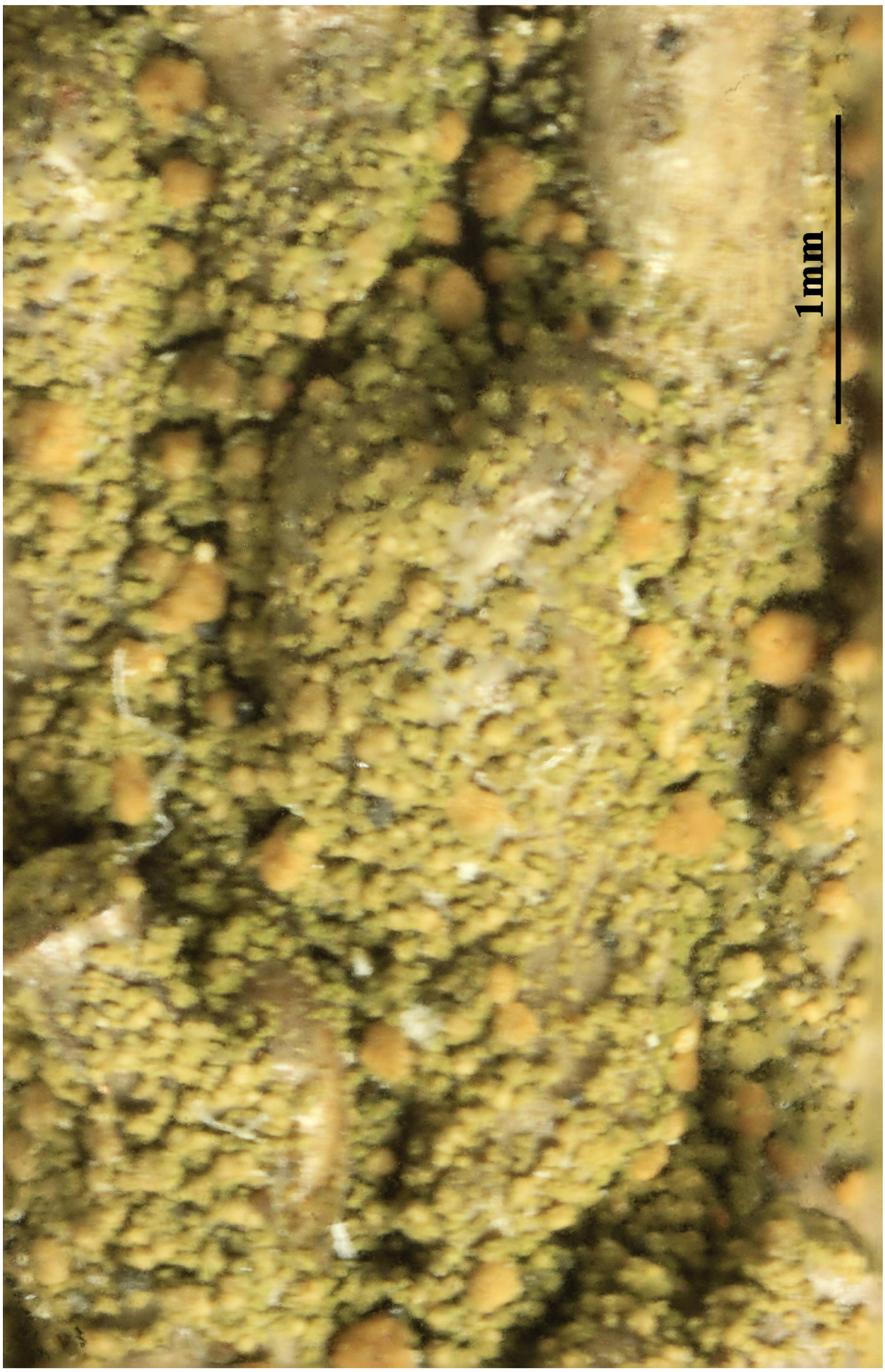
***Micarea prasina*** Fr., Syst. orb. veg. (Lundae): 257 (1825)
= *Bacidia subviridescens* (Nyl.) Zahlbr.
= *Biatorina prasina* (Fr.) Stein
= *Bilimbia subviridescens* (Nyl.) H. Olivier
= *Catillaria prasina* (Fr.) Th. Fr.
= *Catillaria prasiniza* (Nyl.) B. de Lesd.
= *Catillaria sordidescens* (Nyl.) Zahlbr.
= *Lecidea abdita* Erichs.

[VZ1467], Bohemoslovacia. Moravia, Kunštát, inter pagos Jasinov et Rudka, 500 m. Corticola in ramulis *Piceae excelsae*. Leg. A. Vězda, 27.9.1976. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1467.

Thallus crustose, thinly episubstratic, bright green to olive-green, subgelatinous when wet, granular, consisting of densely crowded, globose, to 12-40 µm wide goniocysts which sometimes coalesce forming up to 60 µm wide granules, the outer hyphae with a greenish, K+ violet pigment. Apothecia micareoid, round, sessile, not constricted at base, 0.2-0.4 mm across, creamy white, pale grey to partly dark grey, sometimes brownish, strongly convex, hemispherical to subglobose, sometimes tuberculate and up to 0.8 mm across, without a distinct proper margin. Epithecium colourless to grey, with crystals visible under polarized light, when pigmented K+ violet, C+ violet-red, N-; hymenium colourless, 30-60 µm high, sometimes with crystals; paraphyses numerous, richly branched and anastomosing, 0.5-1(-1.5) µm thick, the apical cells to 2 µm wide; hypothecium colourless or rarely very pale yellow. Asci 8-spored, clavate to cylindrical-clavate, with a K/I + pale blue apical dome with a dark blue tubular structure, 25-55 x 8-12 µm. Ascospores 0-1-septate, hyaline, ovoid to oblong-ellipsoid, 8-12(-14) x 3-4.5(-5.5) µm. Pycnidia frequent, white or grey around the ostiole, K+ and C+ more or less violet, of 2 types: a) mesopycnidia 50-150 µm wide, globose or barrel-shaped, with a wide ostiole, producing cylindrical to obpyriform mesoconidia measuring 4-6 x 1-1.5 µm; b) micropycnidia 30-60 µm wide, globose, producing bacilliform or narrowly fusiform microconidia measuring 4-5.5- x 0.5-1 µm. Photobiont micareoid, the cells 4.5-7 µm wide. Spot tests: thallus and apothecia K-, C-, KC-, P-, UV- (except for the pigment in the outer hyphae of the goniocysts and in the apothecia, which reacts K+ violet, C+ violet-red). Chemistry: micareic acid, variable amounts of Sedifolia-grey pigment in thallus and apothecia. -Note: a temperate to boreal-montane species

found on basal parts of old, acid-barked trees, more rarely on rotting wood or on siliceous rocks, with a rather wide ecological amplitude.


***Micarea prasina***

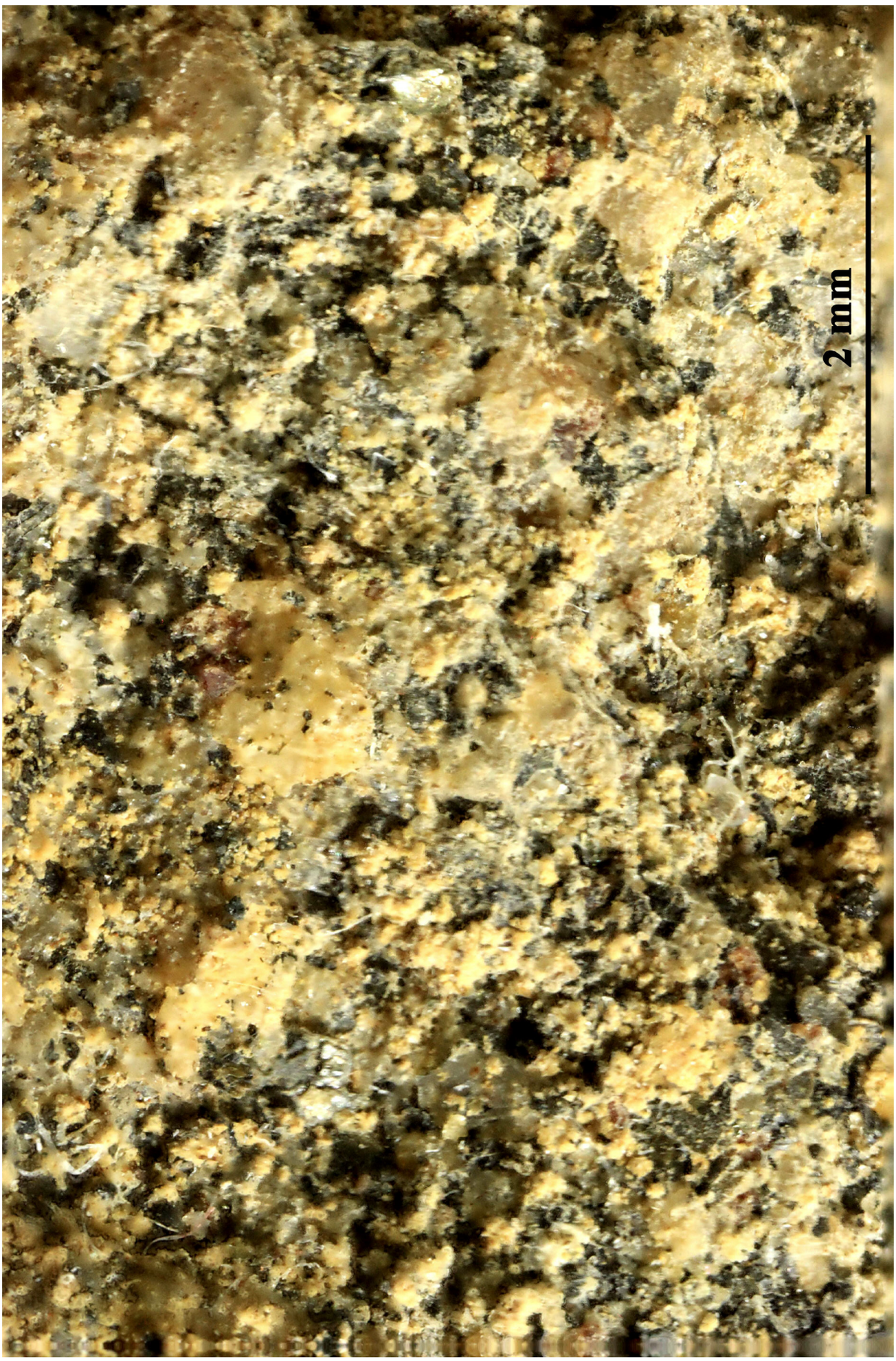



***Micarea prasina***

***Micarea sylvicola*** (Flot. ex Körb.) Vězda & V. Wirth, Folia geobot. phytotax. 11: 99 (1976)
= *Lecidea sylvicola* Flot. ex Körb. 1855
= *Brianaria sylvicola* (Flot. ex Körb.) S. Ekman & M. Svenss., Lichenologist 46(3): 292 (2014)
= *Biatora smaragdina* Arnold
= *Biatora sylvicola* (Körb.) Müll. Arg.
= *Lecidea aggerata* Mudd
= *Lecidea hellbomii* J. Lahm
= *Lecidea incincta* Nyl.
= *Lecidea sylvicola var. hellbomii* (J. Lahm.) Leight.
= *Lecidea vainioi* H. Magn.

[VZ2182], Norvegia. Sogn og Fjodane: Stadlandet, Leikanger. Ad saxum. Leg. J. S. Havaas. Ex A. Vezda Lichenes Selecti Exsiccati Nr. 2182.

Thallus crustose, episubstratic, brownish, greenish brown or bluish grey, rimose and sometimes almost areolate, finely granulose in marginal parts. Apothecia micareoid, sessile, not constricted at base, 0.2-0.5 mm across, sometimes confluent and forming up to 1.3 mm wide, tuberculate aggregates, with a convex-hemispherical, black to bluish black disc, from the beginning without a distinct proper margin. Proper exciple absent; epithecium colourless or greenish, K- or K+ intensifying green, N+ red; hymenium colourless or most often greenish, 40-65 µm high, K+ intensifying green; paraphyses scarce, of two types: the majority sparingly branched and 0.5-1.2(-1.5) µm thick, the others simple, often fasciculate, and (1.5-)2-2.5 µm thick; upper part of hypothecium dark green, K- or K+ intensifying green, N+ red, lower part purple-brown, K+ intensifying purple, of interwoven hyphae. Asci 8-spored, cylindrical-clavate, the I+ blue tholus with a wide, I+ dark blue tube structure that expands towards the top, without a pale axial body, Psora-type. Ascospores 1-celled, rarely 1-septate, hyaline, ellipsoid or ovoid-ellipsoid, (6-)7-10 x (2.5-)3.5-4.5 µm, thin-walled. Pycnidia to 0.2 mm across, black, immersed, the wall dark green and K+ intensifying green in upper part, brownish and K- in lower part. Conidia bacilliform to oblong-ovoid, often constricted in the middle, 3.5-6(-7) x 1.2-1.5 µm. Photobiont chlorococcoid, the cells thin-walled, globose, and (5-)8-12 µm wide, or ellipsoid and up to 15 x 10 µm. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: thallus without lichen substances. - Note: on shaded, humid, rain-sheltered surfaces of siliceous rocks, e.g. in forests.



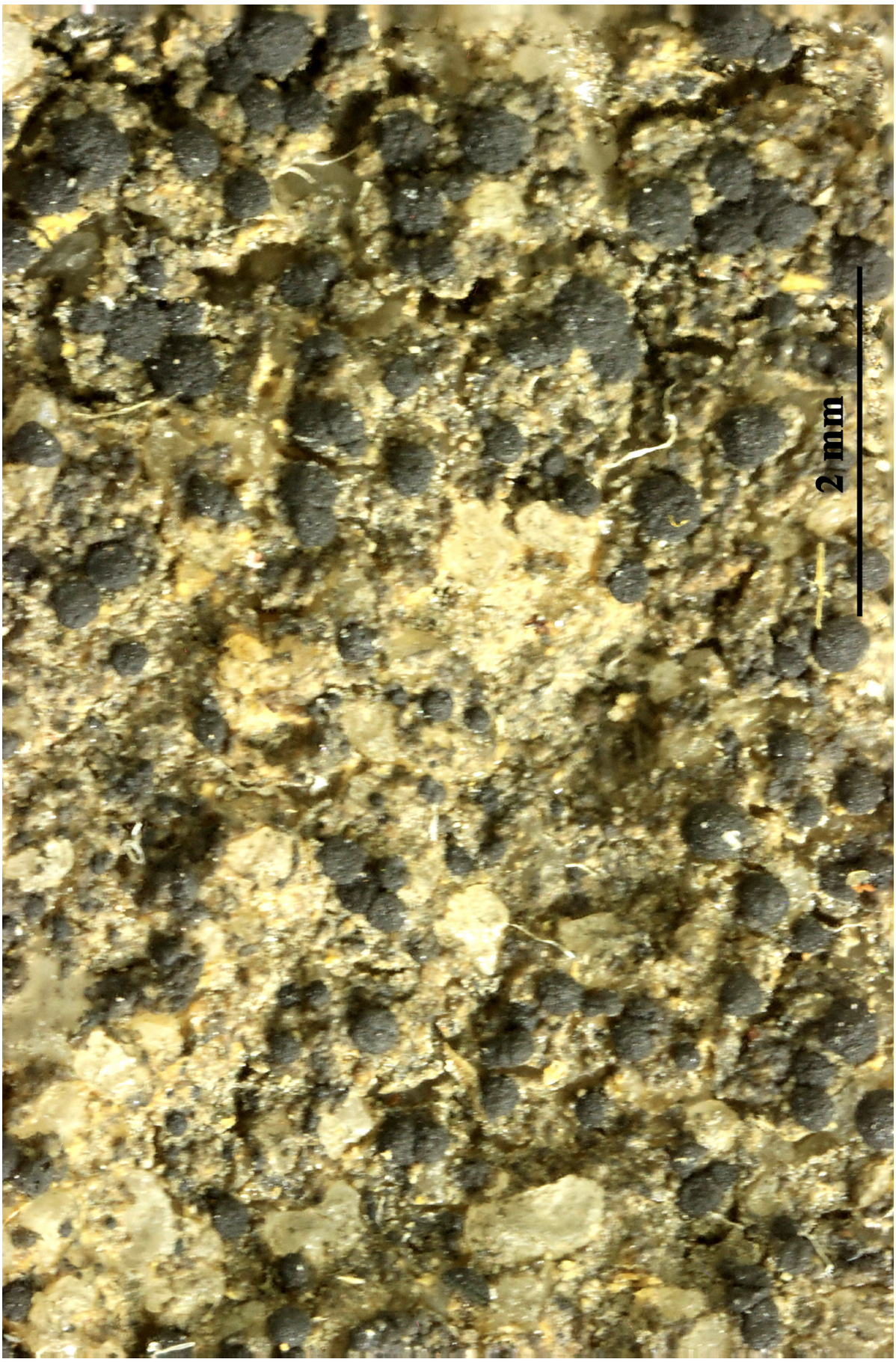

***Micarea sylvicola***


***Micarea sylvicola***

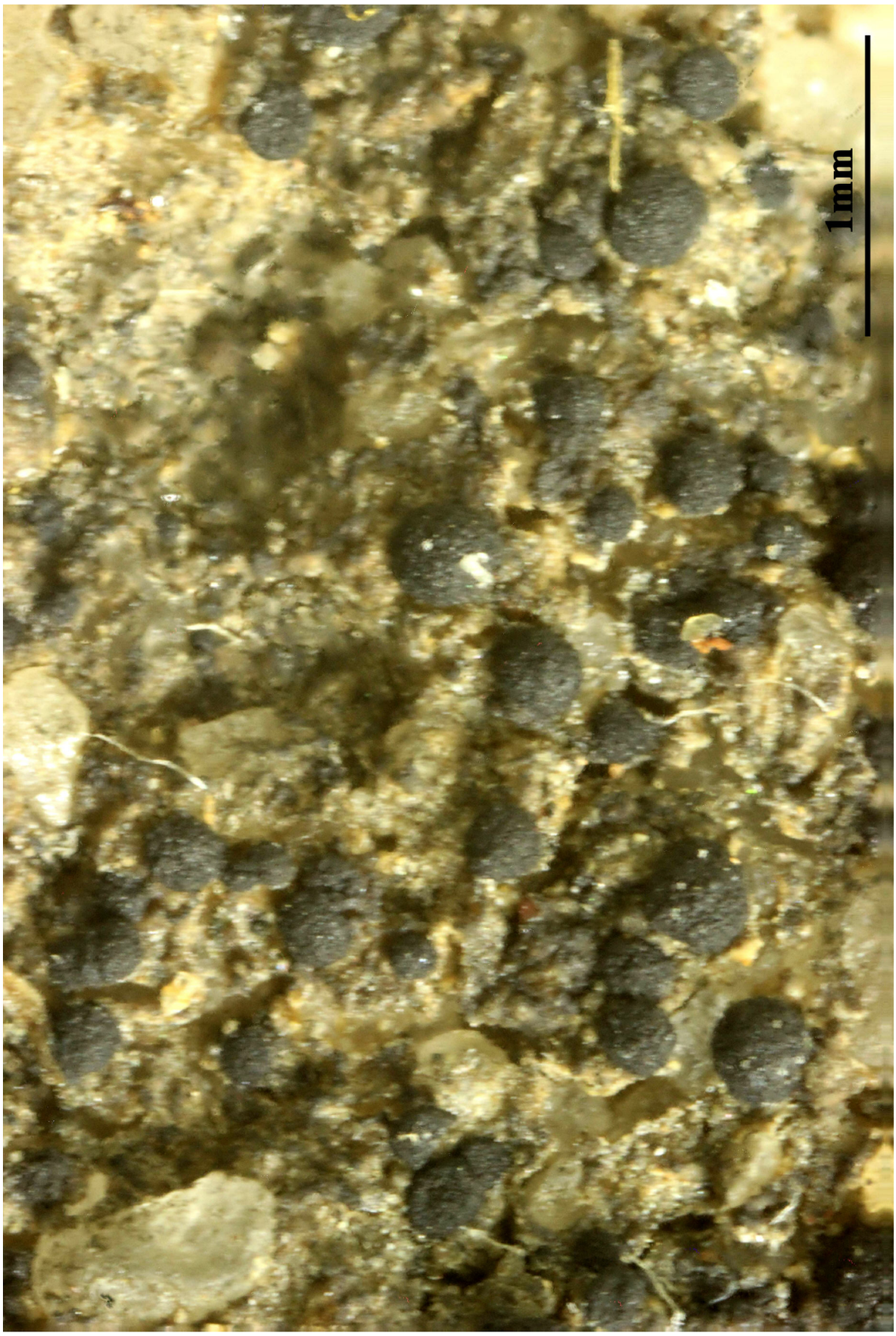
***Micarea ternaria*** (Nyl.) Vězda, Lichenes Selecti Exsiccati, Fasc. (Průhonice) 35: 3 (no. 858) (1970)
= *Lecidea sabuletorum f. ternaria* Nyl. 1861

[VZ1088], Bohemoslovacia. Bohemia orientalis. Distr. Litomyšl, in valle rivi Prosecký pozok prope Zderax, 480 m. Ad saxa arenacea. Leg. A. Vězda, 19.4.1972. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1088.

Thallus crustose, episubstratic, of scattered to confluent, whitish to ash-grey, usually convex or subglobose areoles. Apothecia micareoid, black or blue-black, sessile to substipitate, often tuberculate, 0.15-1 mm across, with a convex to almost globose disc, usually without a proper margin, but sometimes thinly marginate when young. Proper exciple poorly developed but evident in young apothecia, colourless or aeruginose green to olive-green in outer part, of radiating, branched and anastomosing hyphae; epithecium scarcely differentiated from the hymenium; hymenium 60-70 µm high, colourless but often with greenish vertical streaks in lower part, dark aeruginose green in upper part, the pigmented parts K-, N+ purple; paraphyses numerous, 1-1.8 µm thick at mid-level, simple or sparingly branched in upper part, the apical cells to 3 µm wide; hypothecium olivaceous or pale brown in upper part, colourless in lower part, up to 380 µm high. Asci 8-spored, clavate to cylindrical-clavate, with a K/I+ pale blue apical dome with a dark blue tubular structure. Ascospores (0-)1-3-septate, hyaline, fusiform, straight or slightly curved, 13-22(-24) x 3.5-5 µm. Pycnidia more or less immersed, the wall green (K-) in upper parts. Mesoconidia cylindrical to oblong-ellipsoid, sometimes slightly constricted in the middle, 4-7 x 1.2-2 µm. Photobiont micareoid, the cells 4-7 µm wide. Spot tests: thallus and apothecial sections K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: an arctic-alpine species growing on plant remains and siliceous rocks near and above treeline; the Italian sample was collected by Lojka between Paneveggio and Predazzo, on a porphyric boulder.




***Micarea ternaria***

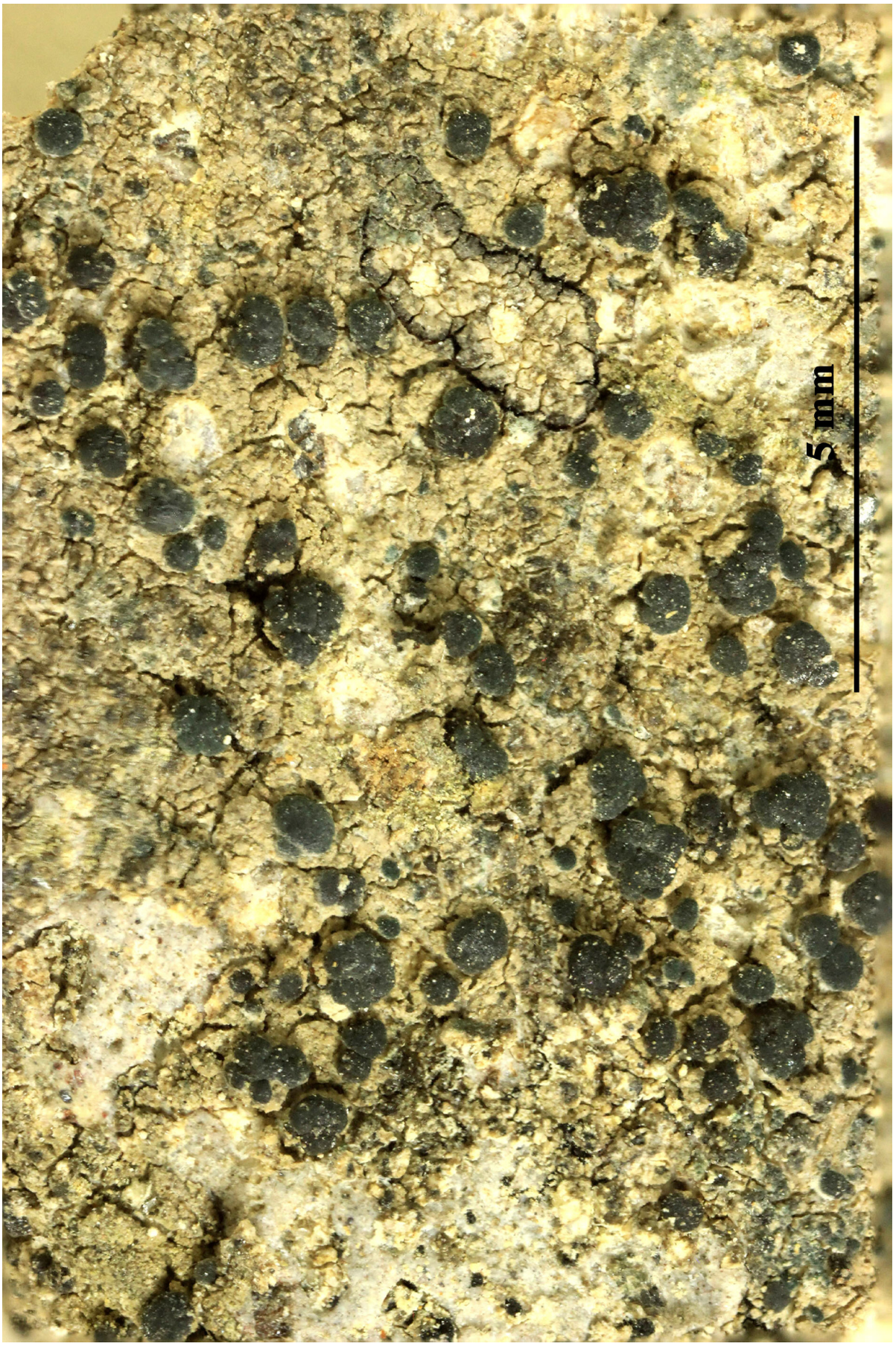



***Micarea ternaria***

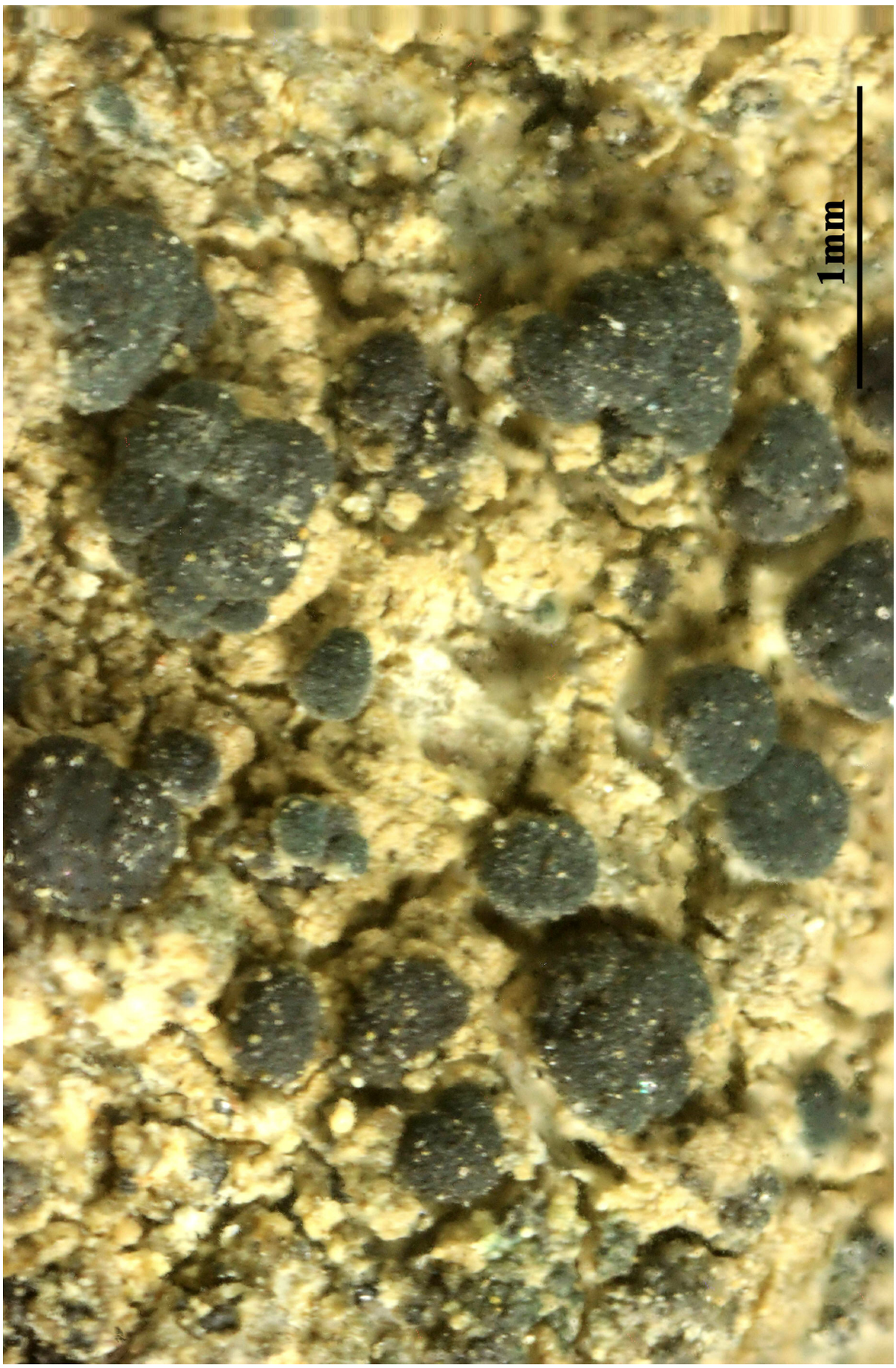
***Micarea tuberculata*** (Sommerf.) R.A. Anderson, Bryologist 77(1): 46 (1974)
= *Lecidea tuberculata* Sommerf. 1826
= *Brianaria tuberculata* (Sommerf.) S. Ekman & M. Svenss., Lichenologist 46(3): 292 (2014)
= *Lecidea botryocarpa* Nyl.
= *Lecidea latens* Taylor
= *Lecidea subinfidula* Nyl.

[VZ1341], Bohemoslovacia. Slovacia. Carpates, montes Kremnické pohorie, in valle rivi supra pagum Ihráč, 600 m. Adparietes altos rupium andesiticarum. Leg. A. Vězda, 18.9.1975. EX A. VĚZDA LICHENES SELECTI EXSWICCATI NR. 1341.

Thallus crustose, episubstratic, yellowish brown, greenish grey or greenish white, rimose and sometimes irregularly cracked and almost areolate, mostly finely granulose. Apothecia micareoid, sessile, not constricted at base, 0.15-0.3 mm across, sometimes confluent and forming up to 0.6 mm wide, tuberculate aggregates, with a convex-hemispherical, black to bluish black disc, from the beginning without a distinct proper margin. Proper exciple absent; epithecium colourless or greenish, K-, N+ red; hymenium blue-green, often with dark aeruginose-black vertical streaks, 30-40 µm high, K+ intensifying; paraphyses scarce, of two types: the majority sparingly branched and 0.5-1.5 µm thick (to 1.8 µm thick in the apical part), the others simple, often fasciculate, and (1.5-)2-3.5 µm thick, with globose, up to 4.5 µm wide terminal cells; hypothecium dark green and N+ red in upper part, olive-black in lower part, of interwoven hyphae, 80-120 µm high. Asci 8-spored, cylindrical-clavate, the I+ blue tholus with a wide, I+ dark blue tube structure that expands towards the top, without a pale axial body, Psora-type. Ascospores 1-celled or 1-septate, hyaline, oblong-ovoid or oblong-ellipsoid, thin-walled, 5.5-8(-9) x (1.3-)1.5-2.2.(-2.5) µm. Pycnidia to 0.2 mm across, immersed, the wall dark green, K+ intensifying. Conidia bacilliform, 3-4.5 x 1.1-1.4(-1.8) µm. Photobiont chlorococcoid, thin-walled, the cells globose and (5-)8-12 µm wide, or ellipsoid and up to 15 x 10 µm. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: thallus without lichen substances. - Note: on siliceous rocks in humid forests, but also on exposed roots, in rain-sheltered situations; reported from Trentino-Alto Adige but perhaps more widespread in the Italian Alps.




***Micarea tuberculata***




***Micarea tuberculata***

***Micarea turfosa*** (A. Massal.) Du Rietz, Svensk bot. Tidskr. 17: 94 (1923)
= *Biatora turfosa* A. Massal. 1852
= *Lecidea turfosa* (A. Massal.) Jatta
= *Lecidea verrucula* (Norman) Th. Fr.
= *Lecidella verrucula* (Norman) Stein
= *Micarea verrucula* (Norman) Hedl.
= *Oedemocarpus turfosus* (A. Massal.) Trevis.

[VZ1135], Bohemoslovacia. Bohemia. Sudetes occidentales (montes Corcontici) in furfosis secus viam prope casam alpinam Luční bouda dictam,1400 m. Ad terram furfosam humidam. Leg. A. Vězda, 13.10.1972. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1135.

Thallus crustose, episubstratic, continuous, blackish grey to brown-black, subgelatinous when wet, up to 70 µm thick, forming up to 3-5 cm wide patches, the outer hyphae with a dark green pigment reacting K-, N+ red. Apothecia micareoid, usually numerous and often confluent, 0.1-0.3(-0.4) mm across, black to rarely dark red-brown, with a convex to subglobose disc, without a distinct proper margin. Proper exciple poorly developed but usually visible in very young apothecia, reddish brown, of radiating, branched and anastomosing hyphae; epithecium and upper part of hymenium blue-green, K-, N+ red; hymenium 30-50 mm high, greenish in upper part, olivaceous-brown, fuscous brown or orange-brown in lower part; paraphyses numerous, branched and anastomosing, the walls in upper part olive-black to sordid green, surrounded by the dark olivaceous or aeruginose incrusted gel-matrix, 1.2-1.5(-2) µm thick at mid-level, the upper cells to 3.5 µm wide; hypothecium scarcely differentiated from the hymenium, mottled reddish brown, 60-140 µm high, K-, N- or N+ orange-brown. Asci 8-spored, clavate to cylindrical-clavate, with a K/I+ pale blue apical dome with a dark blue tubular structure, 35-45 x 10-12 µm. Ascospores (0-)1(-3)-septate, oblong-ellipsoid to spindle-shaped, sometimes slightly curved, (10-)12-21(-25) x (3.5-)4-5(-7) µm. Pycnidia immersed, inconspicuous, to 0.04 mm across, the wall sordid green, K-, N+ red. Microconidia cylindrical, 3.5-4.5 x c. µm. Photobiont micareoid, the cells 4-7 µm wide. Spot tests: thallus and apothecia K-, C-, KC-, P-, UV-. Chemistry. without lichen substances. - Note: a circumboreal-montane species found on acid peaty soil, terricolous bryophytes, more rarely on rotting wood in upland areas, reported from the Eastern Alps and the Northern-Central Apennines.


***Micarea turfosa***


***Micarea turfosa***

***M*icarea violacea** (P. Crouan & H. Crouan ex Nyl.) Hedl.
= *Micarea violacea* (Arnold) Hedl., Bih. K. svenska VetenskAkad. Handl., Afd. 3 18(no. 3): 80 (1892)
= *Bacidia friesiana var. violacea* Arnold 1864
= *Micarea peliocarpa* (Anzi) Coppins & R. Sant., in Coppins & James, Lichenologist 11(2): 155 (1979)
= *Bacidia albidolivens* (Nyl.) Zahlbr.
= *Bacidia hemipolioides* (Nyl.) Zahlbr.
= *Bacidia peliocarpa* (Anzi) Lettau
= *Bacidia trisepta* (Nägeli) Zahlbr.
= *Bacidia triseptatuloides* (Harm.) Zahlbr.
= *Bacidia violacea* (P. Crouan & H. Crouan ex Nyl.) Arnold
= *Bilimbia albicans* Arnold
= *Bilimbia hemipolioides* (Nyl.) A.L. Sm.
= *Bilimbia subviridescens* var. *trisepta* (Nägeli) A.L. Sm.
= *Bilimbia trisepta* (Nägeli) Hellb.
= *Lecidea albidolivens* Nyl.
= *Lecidea fraterculans* Nyl.
= *Lecidea hemipolioides* Nyl.
= *Lecidea triseptatula* Nyl.
= *Lecidea triseptatuloides* Harm.
= *Micarea trisepta* (Nägeli) Wetmore

[VZ1342], Bohemoslovacia. Moravia. Kunštát, inter pagos Rudka et Jasinov, 500 m. Ad lapides arenarios humidos in silva claara. Leg. A. Vězda, 28.9.1975. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1342.

Thallus crustose, usually episubstratic, greenish white to blue-grey, of moderately to strongly convex, to 0.2 mm wide areoles, sometimes almost continuous but more or less cracked, rarely endosubstratic and poorly evident. Apothecia micareoid, rounded, sessile, not constricted at base, sometimes confluent and tuberculate, flat to convex, 0.15-0.7(-1) mm across, variously coloured, from completely whitish to greyish, lead-grey, grey-brown, blackish or black, or often piebald or bluish tinged, at first usually with a slightly paler margin, but later mostly immarginate. Proper exciple up to 50(-60) µm wide, colourless to straw-coloured, composed of densely branched and anastomosing, 1.8-2.5 µm wide, paraphysis-like hyphae; epithecium scarcely differentiated from the hymenium; hymenium 40-55 µm high, colourless, but in upper part slightly olivaceous straw-coloured, greyish-green to aeruginose-green in darker apothecia, K± greenish intensifying, C+ fleeting

orange-red, N+ red,; paraphyses conglutinated, branched and anastomosing, 1-1.5 µm thick at mid-level, the apical cells to 2.5 µm wide; hypothecium more or less colourless or pale yellow, 50-70 µm high. Asci 8-spored, clavate, in K/I with a blue outer layer and apical dome and unstained wall, the dome with an apical cushion, (25-)35-45(-50) x 12-15 µm. Ascospores (1-)3(-5)-septate, hyaline, fusiform-elongate, often slightly curved, (11-)15-23(-24) x 3-5(-6) µm. Pycnidia often present, of two types: a) small, 30-70 µm wide, immersed to ±sessile, whitish to dark olivaceous-green, producing thread-like to narrowly baciliform microconidia measuring 5-7.5(-8) x 0.4-0.7(-0.9) µm; b) immersed, 120-150 µm wide, often widely gaping, concolour with thallus around ostioles or greenish producing usually strongly curved, sometimes sigmoid, rarely also straight, mostly 3-septate macroconidia measuring 16-38(-50) x (1-)1.2-1.5(-1.7) µm; pycnidial walls C+ fleeting orange red, K- or K+ intensifying green when pigmented. Photobiont micareoid, the cells 4-8 µm wide. Spot tests: thallus and apothecial sections K-, C+ red, KC+ red, P-. Chemistry: gyrophoric acid. - Note: a temperate to boreal-montane, ecologically wide-ranging species found on the acid bark of deciduous (especially old oaks and Fagus) and coniferous trees, lignum, peaty soil, moribund bryophytes, and small siliceous pebbles.

***M*icarea violacea**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***M*icarea violacea** (P. Crouan & H. Crouan ex Nyl.) Hedl.
= *Micarea violacea* (Arnold) Hedl., Bih. K. svenska VetenskAkad. Handl., Afd. 3 18(no. 3): 80 (1892)
= *Bacidia friesiana var. violacea* Arnold 1864
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= *Bacidia albidolivens* (Nyl.) Zahlbr.
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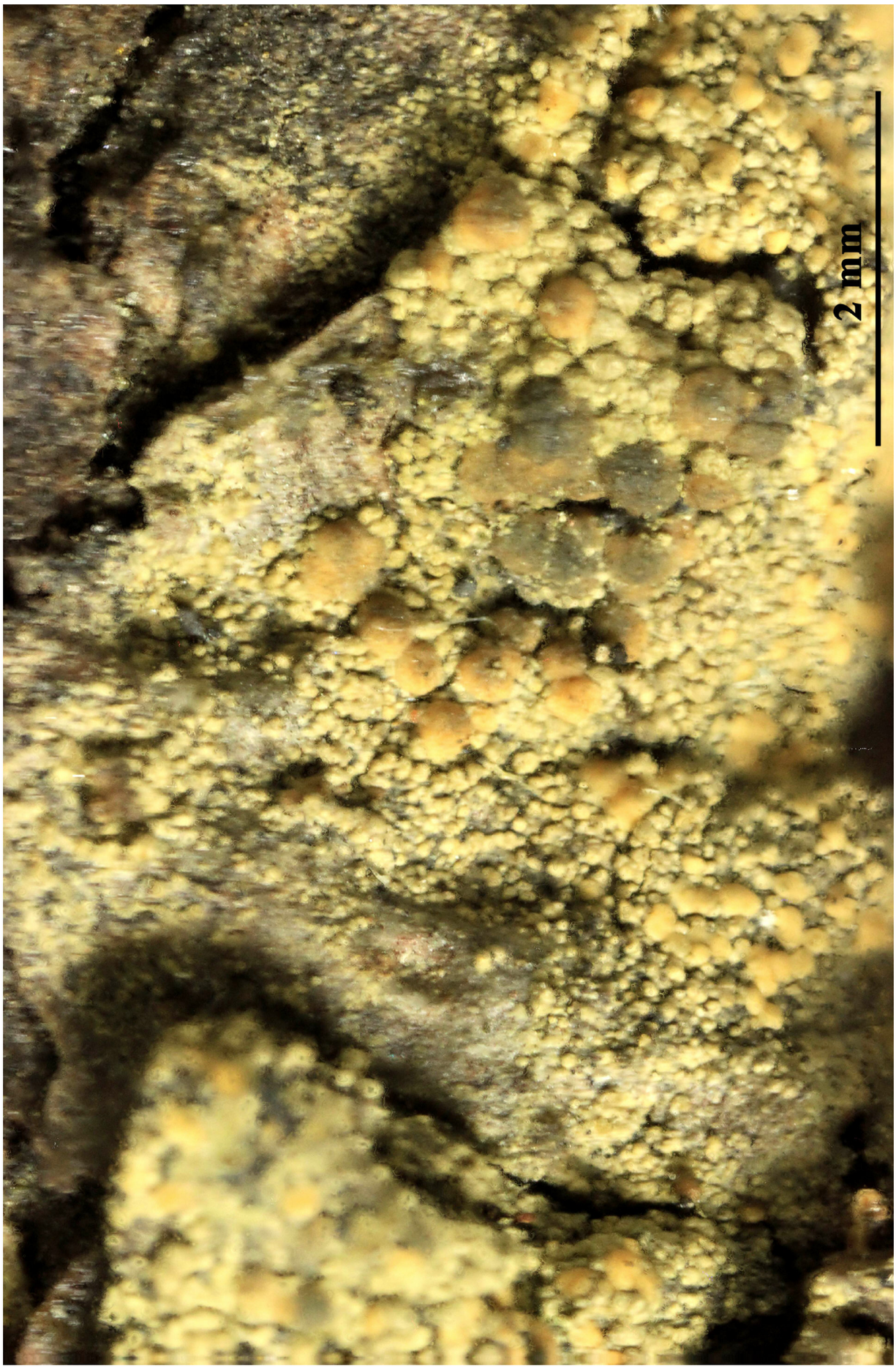
= *Bacidia trisepta* (Nägeli) Zahlbr.
= *Bacidia triseptatuloides* (Harm.) Zahlbr.
= *Bacidia violacea* (P. Crouan & H. Crouan ex Nyl.) Arnold
= *Bilimbia albicans* Arnold
= *Bilimbia hemipolioides* (Nyl.) A.L. Sm.
= *Bilimbia subviridescens* var. *trisepta* (Nägeli) A.L. Sm.
= *Bilimbia trisepta* (Nägeli) Hellb.
= *Lecidea albidolivens* Nyl.
= *Lecidea fraterculans* Nyl.
= *Lecidea hemipolioides* Nyl.
= *Lecidea triseptatula* Nyl.
= *Lecidea triseptatuloides* Harm.
= *Micarea trisepta* (Nägeli) Wetmore

[VZ1380], Bohemoslovacia. Moravia,Trebič, inter pagum Čechočovice et collem Bílá hora, 500 m. Ad corticem radicis *Pinorum* in silva clara humida. Leg. A. Vězda, 1.10.1975. Ex A. Vězda Lichenes Selecti Exsiccat Nr. 1380.

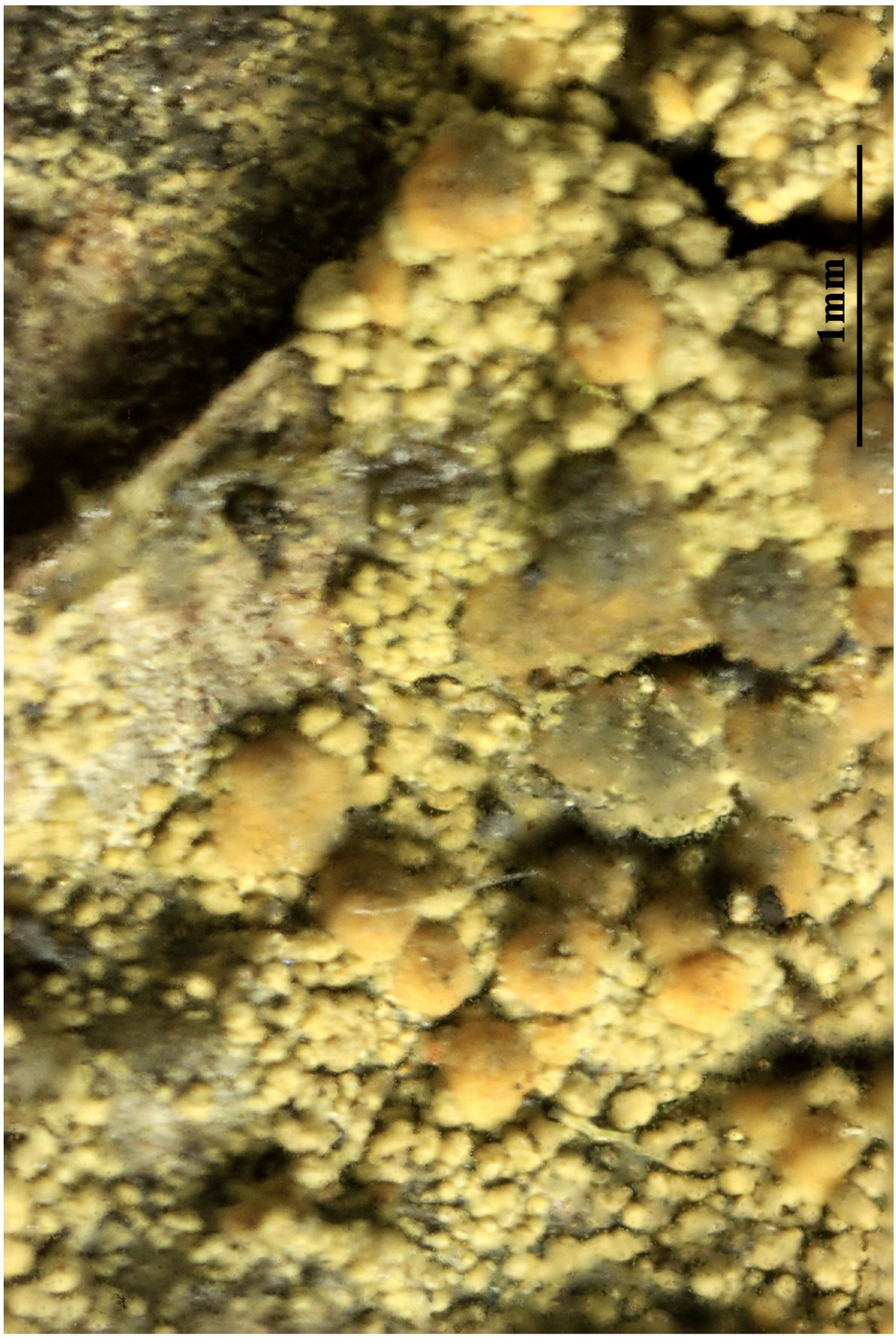
Thallus crustose, usually episubstratic, greenish white to blue-grey, of moderately to strongly convex, to 0.2 mm wide areoles, sometimes almost continuous but more or less cracked, rarely endosubstratic and poorly evident. Apothecia micareoid, rounded, sessile, not constricted at base, sometimes confluent and tuberculate, flat to convex, 0.15-0.7(-1) mm across, variously coloured, from completely whitish to greyish, lead-grey, grey-brown, blackish or black, or often piebald or bluish tinged, at first usually with a slightly paler margin, but later mostly immarginate. Proper exciple up to 50(-60) µm wide, colourless to straw-coloured, composed of densely branched and anastomosing, 1.8-2.5 µm wide, paraphysis-like hyphae; epithecium scarcely differentiated from the hymenium; hymenium 40-55 µm high, colourless, but in upper part slightly olivaceous straw-coloured, greyish-green to aeruginose-green in darker apothecia, K± greenish intensifying, C+ fleeting

orange-red, N+ red,; paraphyses conglutinated, branched and anastomosing, 1-1.5 µm thick at mid-level, the apical cells to 2.5 µm wide; hypothecium more or less colourless or pale yellow, 50-70 µm high. Asci 8-spored, clavate, in K/I with a blue outer layer and apical dome and unstained wall, the dome with an apical cushion, (25-)35-45(-50) x 12-15 µm. Ascospores (1-)3(-5)-septate, hyaline, fusiform-elongate, often slightly curved, (11-)15-23(-24) x 3-5(-6) µm. Pycnidia often present, of two types: a) small, 30-70 µm wide, immersed to ±sessile, whitish to dark olivaceous-green, producing thread-like to narrowly baciliform microconidia measuring 5-7.5(-8) x 0.4-0.7(-0.9) µm; b) immersed, 120-150 µm wide, often widely gaping, concolour with thallus around ostioles or greenish producing usually strongly curved, sometimes sigmoid, rarely also straight, mostly 3-septate macroconidia measuring 16-38(-50) x (1-)1.2-1.5(-1.7) µm; pycnidial walls C+ fleeting orange red, K- or K+ intensifying green when pigmented. Photobiont micareoid, the cells 4-8 µm wide. Spot tests: thallus and apothecial sections K-, C+ red, KC+ red, P-. Chemistry: gyrophoric acid. - Note: a temperate to boreal-montane, ecologically wide-ranging species found on the acid bark of deciduous (especially old oaks and Fagus) and coniferous trees, lignum, peaty soil, moribund bryophytes, and small siliceous pebbles.

***M*icarea violacea**




***M*icarea violacea**




***M*icarea violacea**

***Microcalicium arenarium*** (Hampe ex A. Massal.) Tibell, Bot. Notiser 131(2): 237 (1978)
= *Cyphelium arenarium* Hampe ex A. Massal. 1856

[VZ2412], Italia. Calabria. Catena Costiera, Sant'Angelo di Falconara Albanese, 920 m. Ad corticem radicis *Fagi silvaticae*. Leg. D. Puntillo, 16.7.1989. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2412.

Thallus not evident, not lichenized. Apothecia long-stalked, (0.6-)0.8-1.8(-2.5) mm tall, the stalk 0.08-0.12 mm thick, black or dark grey, smooth or coarsely granular from clusters of sclerotized hyphae, the outer part covered by groups of dark, sclerotized hyphae, the inner part of pale, periclinally arranged, interwoven hyphae. Capitulum spherical, 0.2-0.3 mm across. Exciple poorly developed, reddish brown in section, forming a small basal collar; paraphyses not sclerotized, dissolving early; mazaedium well-developed, not higher than the width of the capitulum, green-black. Asci 8-spored, broadly ellipsoid, formed in chains from ascogenous hyphae lacking croziers, with a single functional wall layer, deliquescing at maturity. Ascospores 1-septate, blue-green to green-brown, broadly ellipsoid, 6.7-8.2 x 2-2.9 µm, with a distinct ornamentation of spirally arranged ridges. Photobiont absent. Spot tests: exciple, stalk and ascospores K+ yellowish brown, N+ aeruginose. Chemistry: without lichen substances, except a green pigment. - Note: on silicicolous lichens, soil, rootlets, decorticated stumps and algal colonies beneath overhangs of siliceous rocks, often together with *Psilolechia lucida*; probably more widespread in the Alps than the few records would suggest, reaching up to the mountains of Calabria.

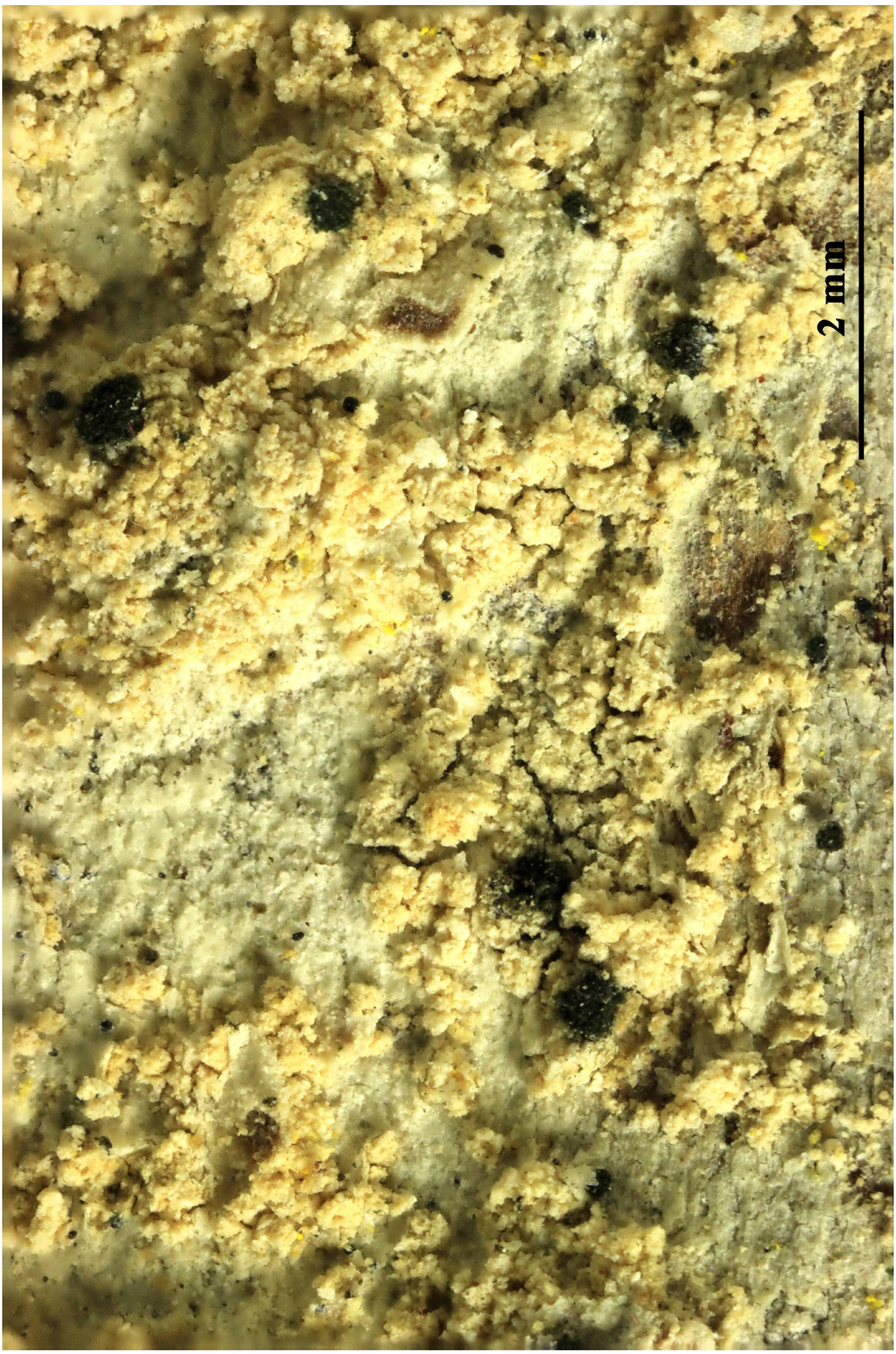

***Microcalicium arenarium***


***Microcalicium arenarium***

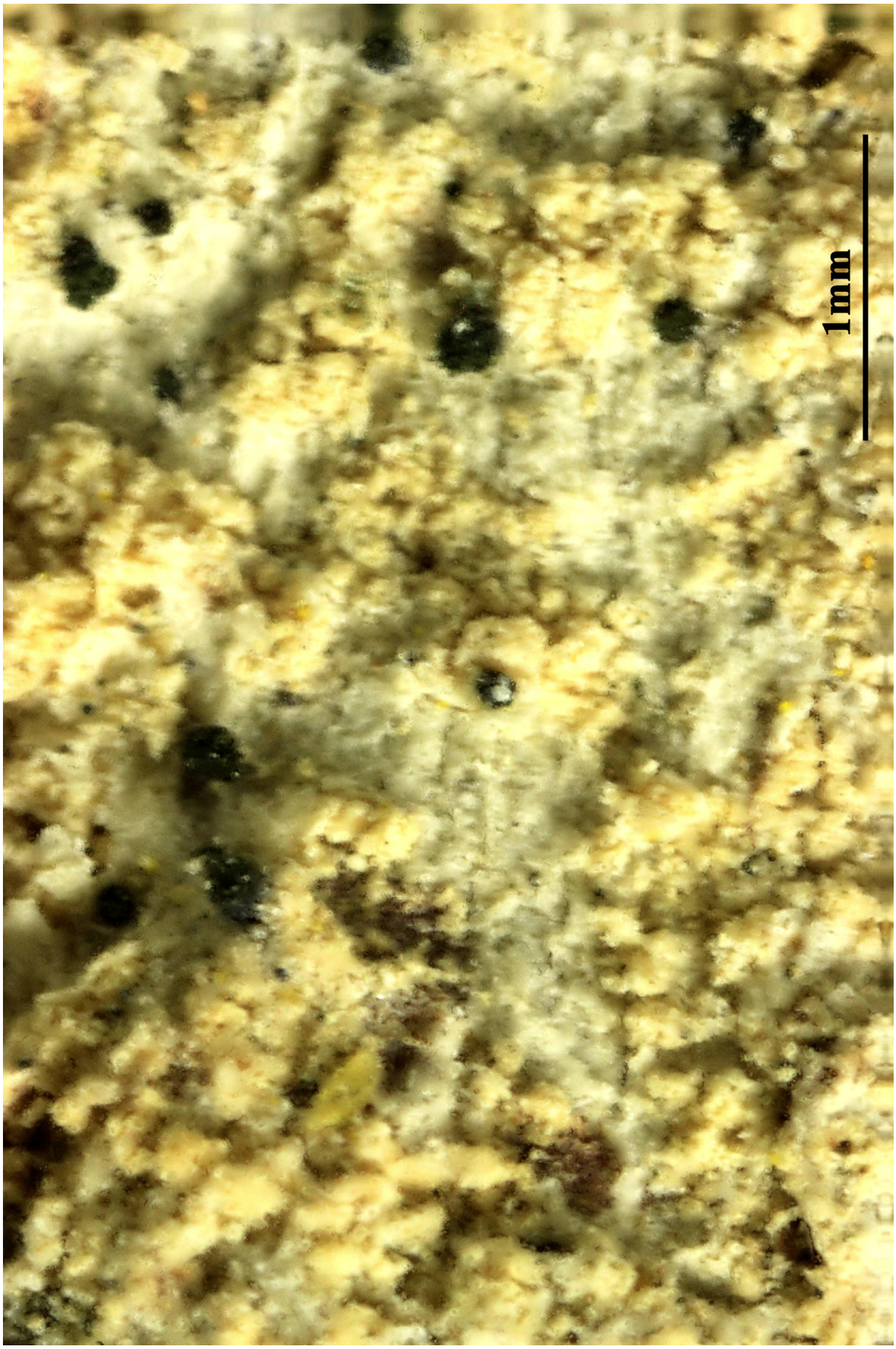
***Microcalicium disseminatum*** (Ach.) Vain., Acta Soc. Fauna Flora fenn. 57(no. 1): 77 (1927)
= *Cyphelium disseminatum* Ach. 1817
= *Calicium atomarium* Fr.
= *Calicium disseminatum* (Ach.) Fr.
= *Calicium microcephalum var. patelliforme* Schaer.
= *Calicium subpedicellatum* Schaer.
= *Calicium viridulum* (Ach.) Fr.
= *Cyphelium atomarium* Ach.
= *Cyphelium viridulum* Ach.
= *Microcalicium subpedicellatum* (Schaer.) Tibell
= *Strongylopsis commixta* Vain.
= *Strongylopsis discreta* Nádv.
= *Strongylopsis leucopus* Vain.
= *Strongylopsis stichococci* Vain.

[VZ2283], Germania, Bavaria, regio Berchtesgaden, montes "Lattengebirge"dicti, Rötelbachtal, 980 m. Ad corticem *Abietis albae*. Leg. R. Türk et H. Wunder, 8.9.1988. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2283.

Thallus not evident, not lichenized. Apothecia short-stalked to subsessile, 0.1-0.2 mm high, the stalk black, of irregularly interwoven hyphae. Capitulum broadly cylindrical to lenticular, 0.1-0.35 mm across. Exciple well-developed, dark aeruginose green in section, K+ reddish brown; mazaedium well-developed, markedly protruding and often column-like, 2-3 times longer than the width of the apothecium, green-black, with sclerotized, persisting paraphyses. Asci 8-spored, broadly ellipsoid, formed in chains from ascogenous hyphae lacking croziers, with a single functional wall layer, deliquescing at maturity. Ascospores 1-3(-7)-septate, bluish-green, narrowly ellipsoid to subcylindrical, (9-)11-13(-15) x 3-4.2 µm, with a distinct ornamentation of spirally arranged ridges. Pycnidia frequent, dark in upper part, pale in lower part, the wall blue-green, of thick-walled cells. Conidia hyaline, broadly ellipsoid to subglobose, 2-3 x 1.5-2 µm, formed from phialides. Photobiont absent. Spot tests: exciple, ascospores and pycnidial wall K+ brown, N+ aeruginose green. Chemistry: without lichen substances, except a green pigment. - Note: on lignum and bark of both deciduous a coniferous trees, parasitic on calicioid lichens, especially *Chaenotheca*-species, with the conidiomata forming much earlier than the ascomata, or saprophytic on bark, lignum and algal colonies; probably more widespread in the Alps.




***Microcalicium disseminatum***



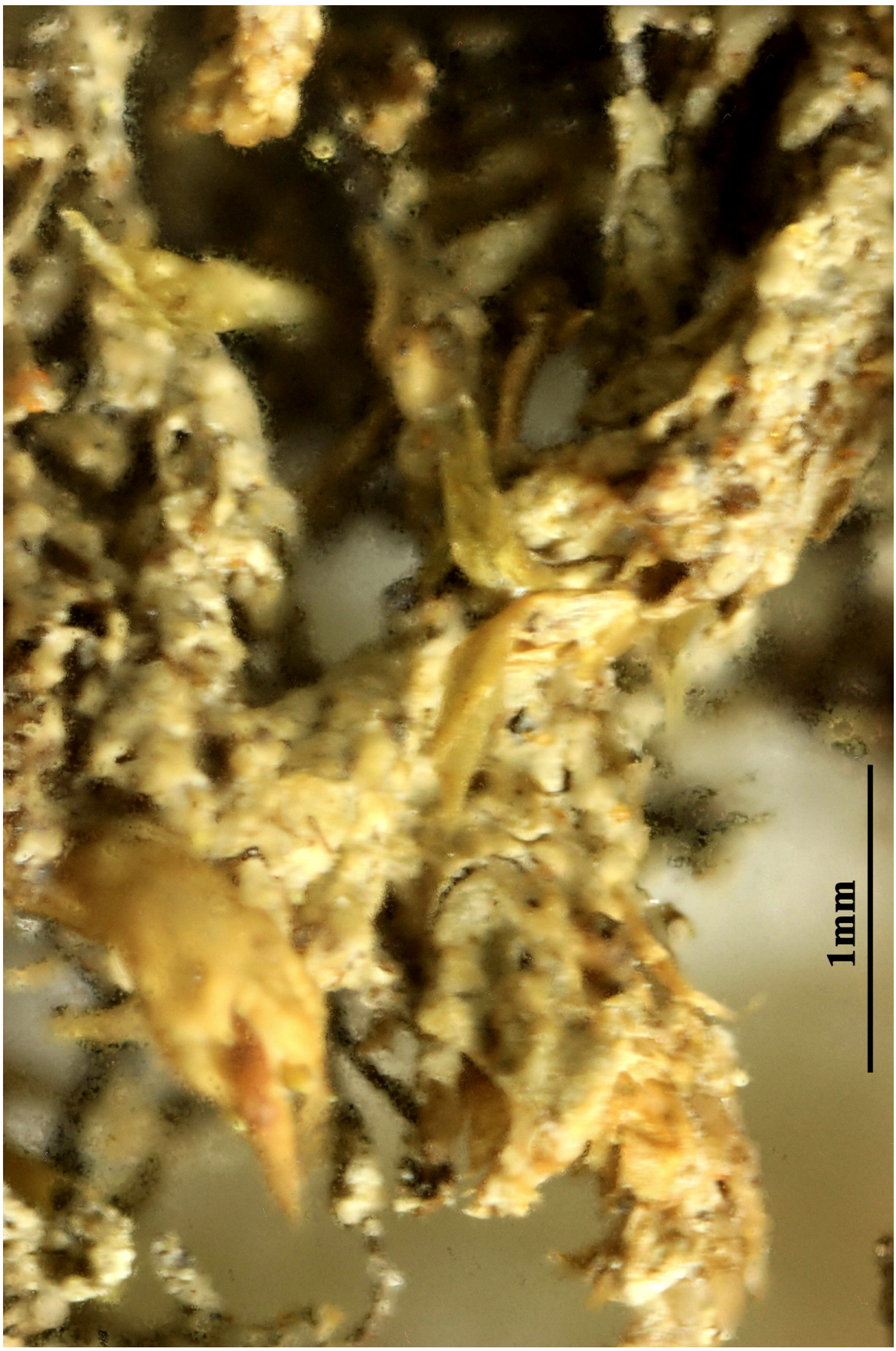

***Microcalicium disseminatum***

***Microglaena muscorum*** Th. Fr., Lich. arct. (Uppsala): 262 (1860)
= *Thelenella muscorum* (Th. Fr.) Vain., Term. Füz. 22: 341 (1899)
′= *Verrucaria muscorum* Fr. 1825
= *Chromatochlamys muscicola* (Ach.) Trevis.
= *Chromatochlamys muscorum* (Th. Fr.) H. Mayrhofer & Poelt
= *Microglaena holliana* A.L. Sm.
= *Microglaena lesdainii* (Harm.) Tav.
= *Microglaena macrospora* B. de Lesd.
= *Verrucaria muscicola* Ach.
= *Weitenwebera muscorum* (Th. Fr.) Körb.

[VZ1376], Jugoslavia. Macedonia, montes Baba prope Bitola, regio montes Pelister: in vallecula rivi Magarevo, prope hospitium, 1350 m. Ad muscos in saxosis graniticis. Leg. A. Vězda, 11.7.1975. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1376.

Description: Thallus crustose, thin, effuse, membrane-like or more rarely of convex to flat, up to 0.4 mm wide areoles, with a c. 25 μm thick, colourless epinecral layer, the hyphae of the photobiont layer K/I+ blue. Perithecia 0.3-0.7 mm across, immersed in the thallus, or with only the dark brown ostioles protruding, dispersed, globose to broadly pyriform. Exciple 50-70 μm thick, brownish in upper part, pale or colourless in lower part; paraphysoids 0.5-1.5 thick, persistent, delicate, branched and anastomosing; hymenial gel I-, K/I-. Asci 2-4-spored, cylindrical, fissitunicate, thick-walled, the inner wall thinner than the outer one, the apex with an internal beak, K/I-. Ascospores strongly muriform, at first colourless, then straw-coloured to pale brown, elongate-ellipsoid to subcylindrical, 60-110 x 20-27 μm, the outer wall hardly thicker than the septa. Photobiont chlorococcoid, the algal cells without a gelatinous sheath. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a holarctic lichen found on moribund pleurocarpous mosses on rocks and soil, more rarely on the basal parts of old trunks, with optimum in the montane belt.


***Microglaena muscorum***

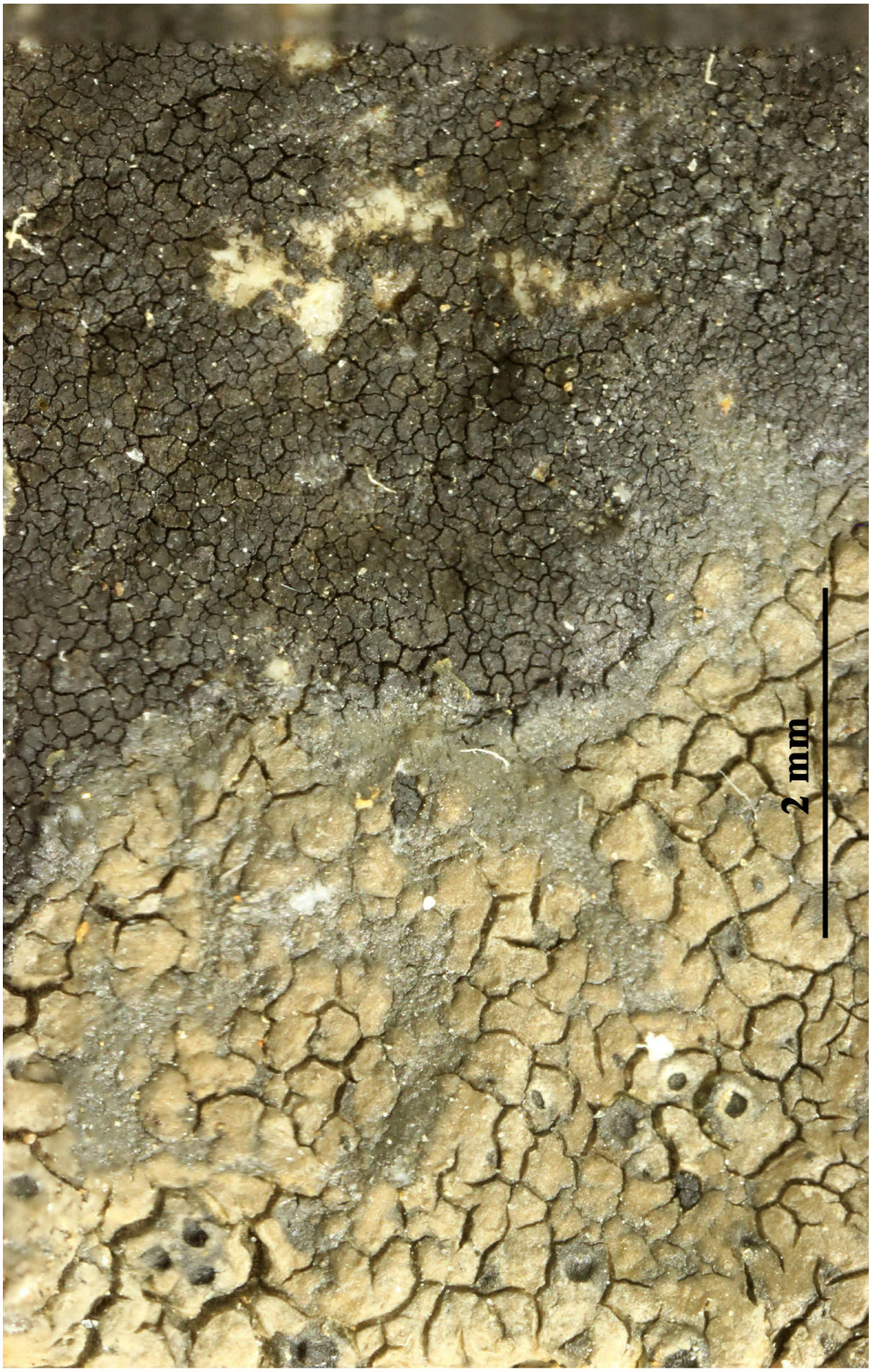



***Microglaena muscorum***

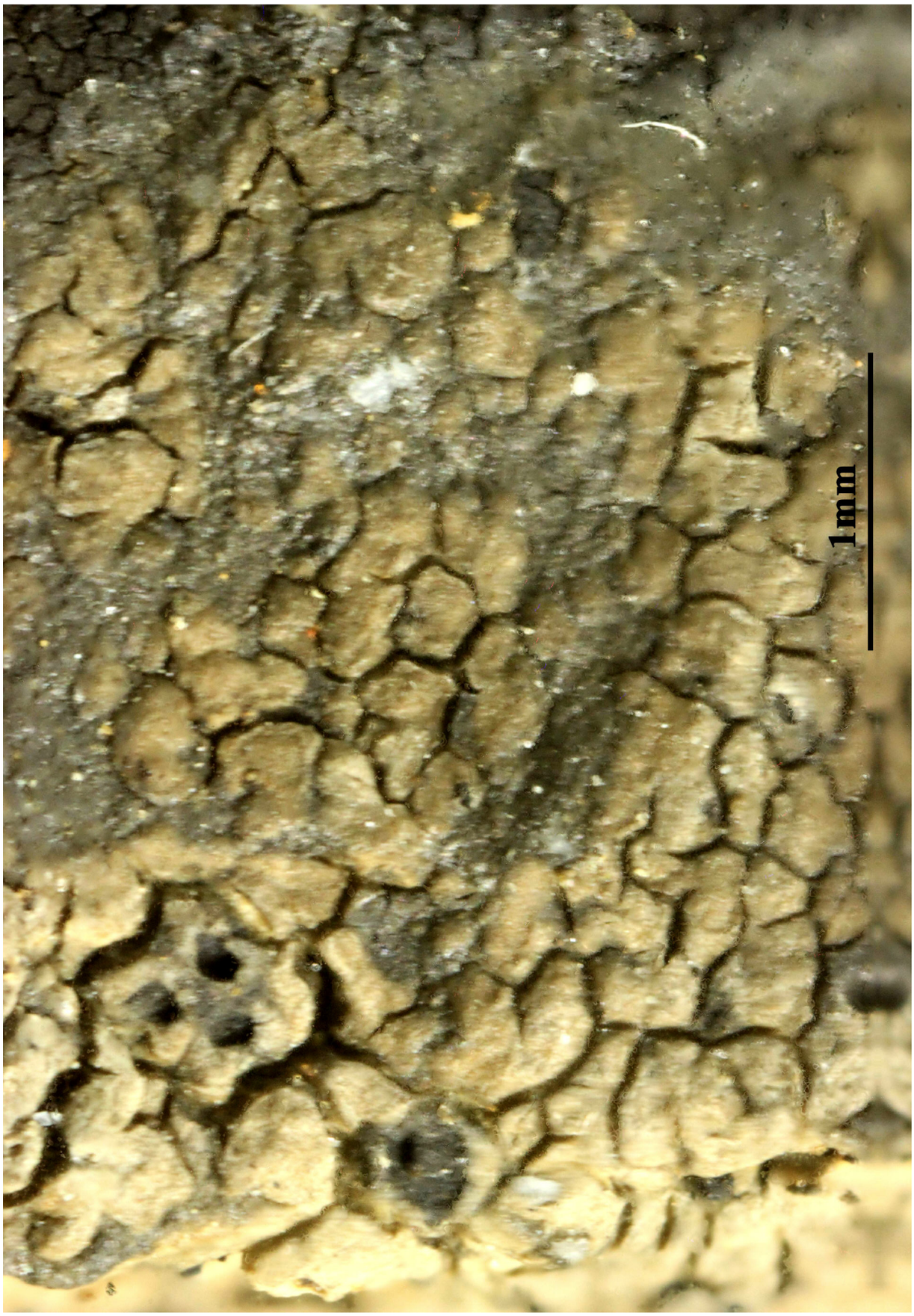
***Microthelia aterrima*** (Kremp. ex Anzi) Zahlbr., Cat. Lich. Univers. 1: 255 (1921) [1922]
= *Rinodina aterrima* Kremp. ex Anzi 1864
= *Lichenothelia scopularia* (Nyl.) D. Hawksw. Lichenologist, 13: 147, 1981.
= Verrucaria scopularia Nyl. - Not. Sällsk. Fauna. Fl. Fenn. Förh., 6: 282, 1861.
= *Anzia aterrima* (Anzi) Garov.
= *Buellia anthracina* Anzi
= *Microthelia anthracina* (Anzi) Arnold
= *Microthelia scopularia* (Nyl.) Blomb. & Forssell
=*Rinodina aterrima* Kremp. ex Anzi

[VZ1052], Gallia. Alsatia. Vosges, in monte Col de la Schlucht prope Münster. loco Hischsteine dicto, 1200 m. In saxosis graniticis. Leg. X. Llimona, D. Müller et V. Wirth. Ex A. VěZDA LICHENES SELECTI EXSICCATI NR. 1052.

Thallus crustose, black, not lichenized, episubstratic, continuous to areolate, entirely paraplectenchymatous, the cells with a dark brown wall, often destroying the thalli of crustose lichens. Perithecia black, 0.1-0.3 mm across, c. 2/3 immersed in the thallus, without involucrellum, with a finally largely gaping ostiole, so that at maturity they resemble lecideine apothecia with a thick proper magin. Perithecial wall dark reddish brown; paraphysoids branched and anastomosing, 2.5-4 µm thick. Asci 8-spored, clavate tu subcylindrical, bitunicate, thick-walled, apically thickened and with an internal apical beak when young, the wall I-. Ascospores 1-3 tranversely septate or submuriform, at first hyaline, then brown, ellipsoid to soleiform, 12-21 x 5-11 µm, with more or less unequal cells, constricted at the level of the primary septum, with a distinct, 1-2 µm thick gelatinous sheath. Pycnidia deeply immersed in the thallus. Conidia 1-celled, hyaline, 3.5-6 x 0.5-1 µm. Photobiont absent. Spot tests: all negative. Chemistry: without lichen substances. - Note: on metamorphic rocks, sometimes, but only in northern Europe, on rocks inundated by the sea; the Italian distribution seems to be restricted to the Alps.




***Microthelia aterrima***




***Microthelia aterrima***


***Microthelia aterrima***

***Miriquidica deusta*** (Stenh.) Hertel & Rambold, Mitt. bot. StSamml., Münch. 23: 383 (1987)
= *Lecidea deustata* Zahlbr.]
=*Lecidea fuscoatra var. deusta* Stenh. 1833
= *Lecidea secernens* H. Magn.

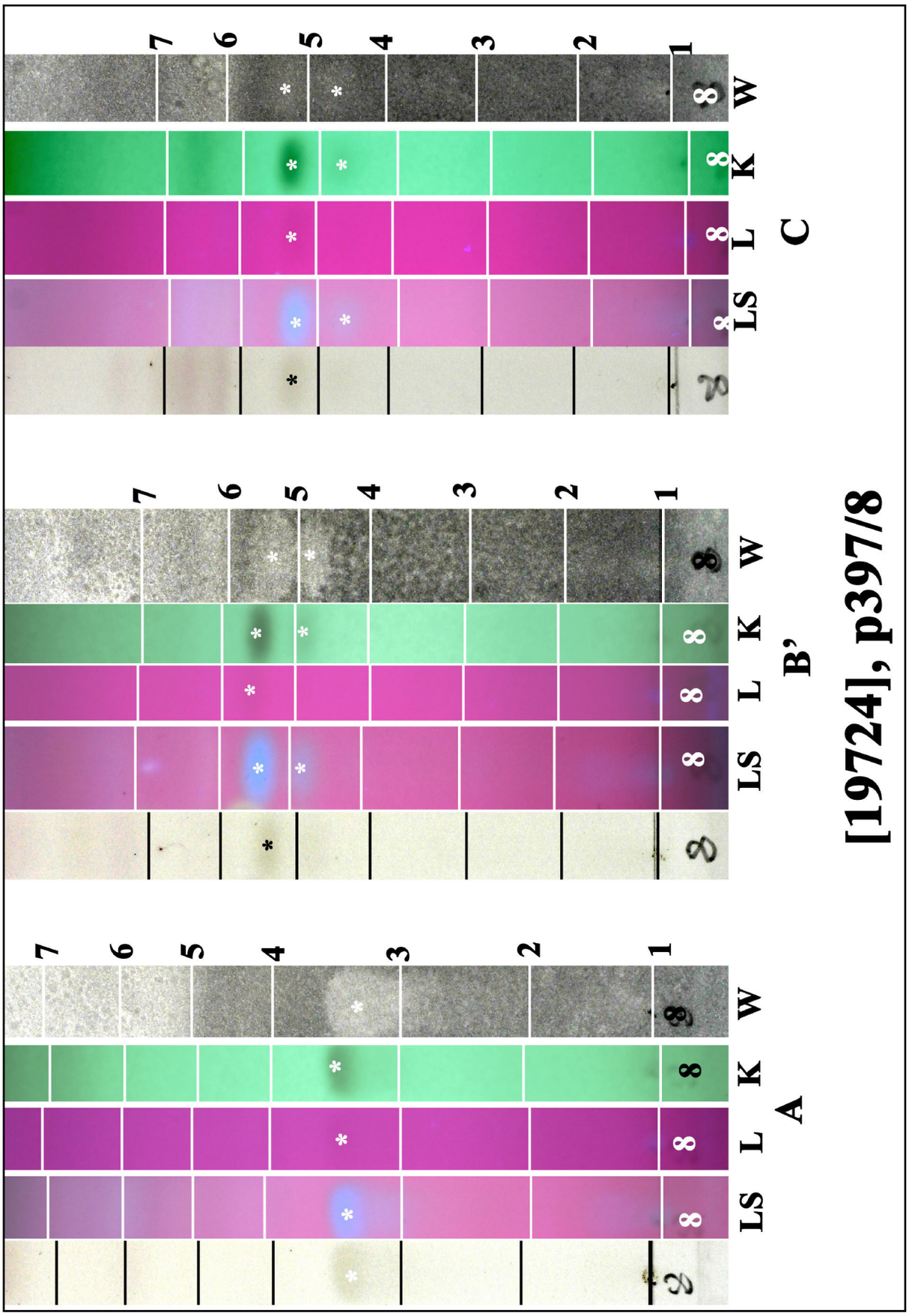
[VZ2414], Italia, Sardinia, Prov. Cagliari, Reservatum naturae "Monte Arcosu", supra domum forestalem "Casa Perdu Melis", loco "Concale Petuntu" dicto, 520 m, ad saxa silicea aprica. Leg. P. L. Nimis, C. Roux, M. Tretiach & A. Vězda, 29.08.1989. Ex A. VĚZDA LICHENES SELECTI EXSICCATI NR, 2414. - Chemistry (p397/8): Lobaric acid

Thallus crustose, episubstratic, 0.1-0.4 mm thick, areolate, consisting of angular to irregular, (0.3-)0.5-1(-1.5) mm wide, slightly concave to slightly convex, dark brown to black-brown, glossy areoles with whitish to finally blackish margins, more or less scattered on a conspicuous black hypothallus. Cortex overlain by a thick epinecral layer; medulla white, I-. Apothecia rare, lecideine, at first immersed, then slightly prominent, (0.4-)0.5-0.9(-1.2) mm across, with a flat to slightly convex, black, epruinose disc and a thin, rarely grey-pruinose proper margin. Proper exciple grey-brown to aeruginose green in outer part, pale grey within; epithecium blackish brown to olive-brown; hymenium colourless to yellowish, (30-)50-60 µm high, I+ blue; paraphyses sparingly branched and more or less anastomosing, 1.5-2 µm thick at mid-level, the apical cell clavate, 3-5.5 µm wide, with a dark cap; hypothecium colourless, yellowish or pale grey. Asci 8-spored, clavate, approaching the Lecanora-type, but with a weakly amyloid tholus, lacking an amyloid zone above the axial body and with a thin outer amyloid wall layer. Ascospores 1-celled, hyaline, ellipsoid to oblong, (8-)10-12(-14) x (3.5-)4-5.5(-7) µm. Pycnidia black, immersed. Conidia thread-like, curved, (18-)25-35 x (0.5)0.8-1 µm. Photobiont chlorococcoid. Spot tests: thallus and medulla K-, C-, KC-, P-. Chemistry: miriquidic acid, rarely additional lobaric acid. - Note: a much misunderstood and overlooked (being mostly sterile) species, with a probably western and southern distribution in Europe, which is fairly common in some parts of Italy (e.g. Sardinia) on exposed surfaces of base-rich siliceous rocks, with a wide altitudinal range, sometimes starting the life-cycle on other crustose lichens.


***Miriquidica deusta***


***Miriquidica deusta***


***Miriquidica deusta***




*Miriquidica deusta*

***Miriquidica nigroleprosa*** (Vain.) Hertel & Rambold
[= *Lecidea nigroleprosa* Vain.]
= *Miriquidica nigroleprosa* (Vain.) Hertel & Rambold var. *nigroleprosa* Mitt. bot. Staatss. München, 23: 388, 1987.
= *Lecanora nigroleprosa* Vain. - Meddeland. Soc. Fauna Fl. Fenn., 10: 208-209, 1883.
= *Lecidea nigroleprosa* (Vain.) H. Magn.

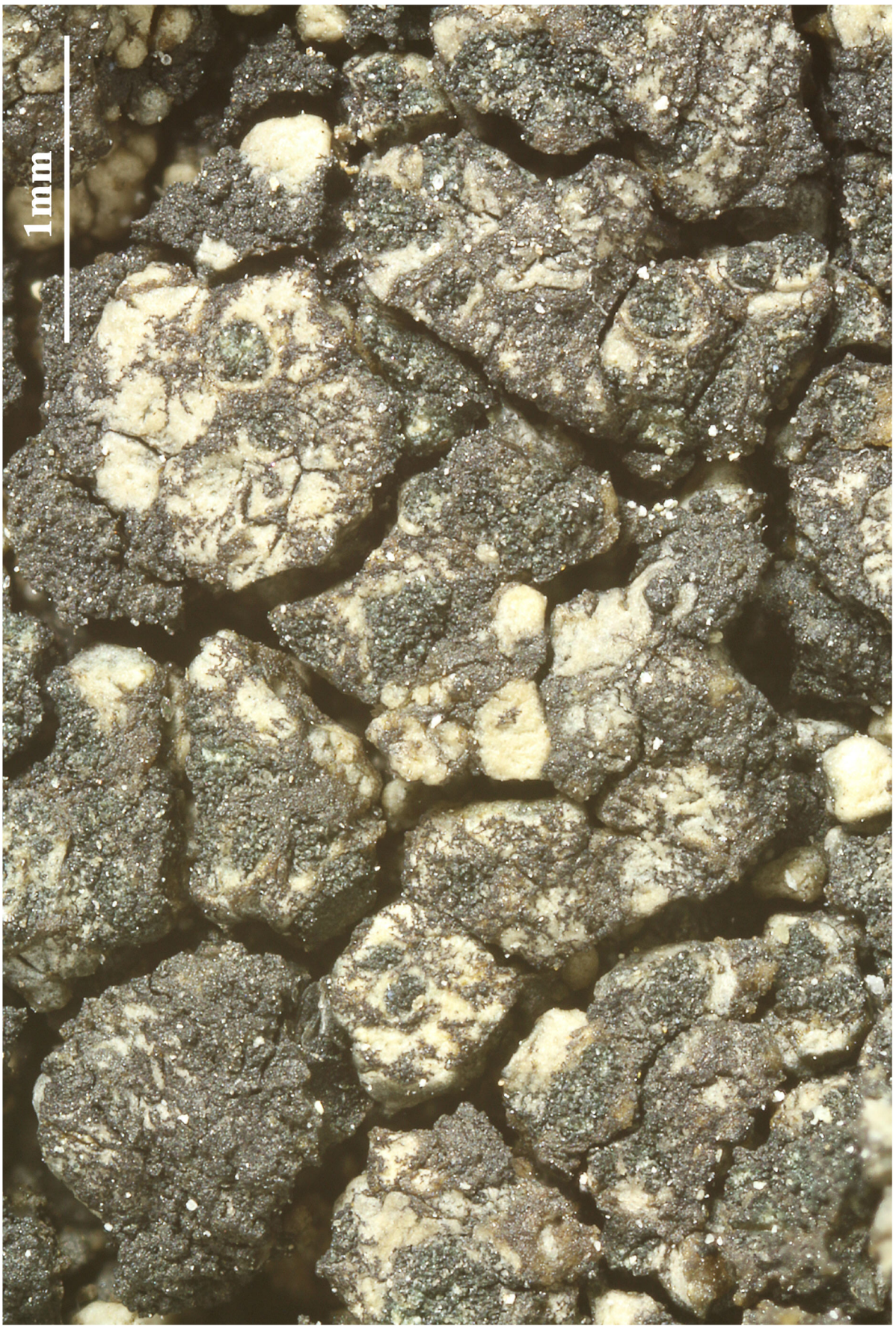
[VZ1108], Romania, Distr. Hunedoara, Montes Retezat, lacus Zanoaga, 1900 m. Aad saxa granitica. Leg. I, Pišút et A. Vězda, 6.6.1972. Ex A. VěZDA LICHENES SELECTI EXSICCATI NR.1108 - Chemistry anal. F. Schumm bY TLC (p397/5): psoromic acid, miriquidic acid

Thallus crustose, episubstratic, medium to dark grey, rarely cream to brownish white, somehow glossy, rimose-areolate, usually < 1 mm thick, forming up to 10 cm wide patches. Areoles dispersed or contiguous on a dark hypothallus, 0.2-0.8(-1.8) mm wide, flat to moderately convex, sometimes minutely lobate, often sorediate in central parts; soralia 0.1-0.2 mm across, concave to finally convex, black to dark bluish grey, whitish when abraded, sometimes confluent, the soredia 20-40 µm in diam, the external cells of cortex and exposed soredia olive-green, N+ violet-red. Cortex well-developed, olive-green to olive-brown, 5-25 µm thick, overlain by a 4-25(-40) µm thick epinecral layer; medulla white, I-. Apothecia rare, 0.4-1.3(-1.8) mm across, mostly sessile to subimmersed, dark purple-black, with a flat to convex, epruinose disc and a usually prominent, persistent proper margin. Proper exciple olive-green to olive-brown in outer part, colourless within; epithecium olive-green; hymenium colourless, (35-)40-70(-90) µm high; paraphyses usually simple or sparingly branched in upper part, c. 1.5 µm thick at mid-level, the apical cells slightly thickened and 2-4(-5) µm wide; hypothecium colourless to yellowish, 70-100 µm high. Asci 8-spored, clavate, approaching the Lecanora-type, but with a weakly amyloid tholus, lacking an amyloid zone above the axial body and with a thin outer amyloid wall layer. Ascospores 1-celled, hyaline, oblong or ellipsoid, (8-)10-15 x (4-)5-6.5 µm. Pycnidia black, immersed in the areoles. Conidia filiform, more or less curved, (5-)12-29(-31) x 0.5-1 µm. Photobiont chlorococcoid. Spot tests: medulla and soredia K-, C-, KC-, P-; soredia N+ violet-red.

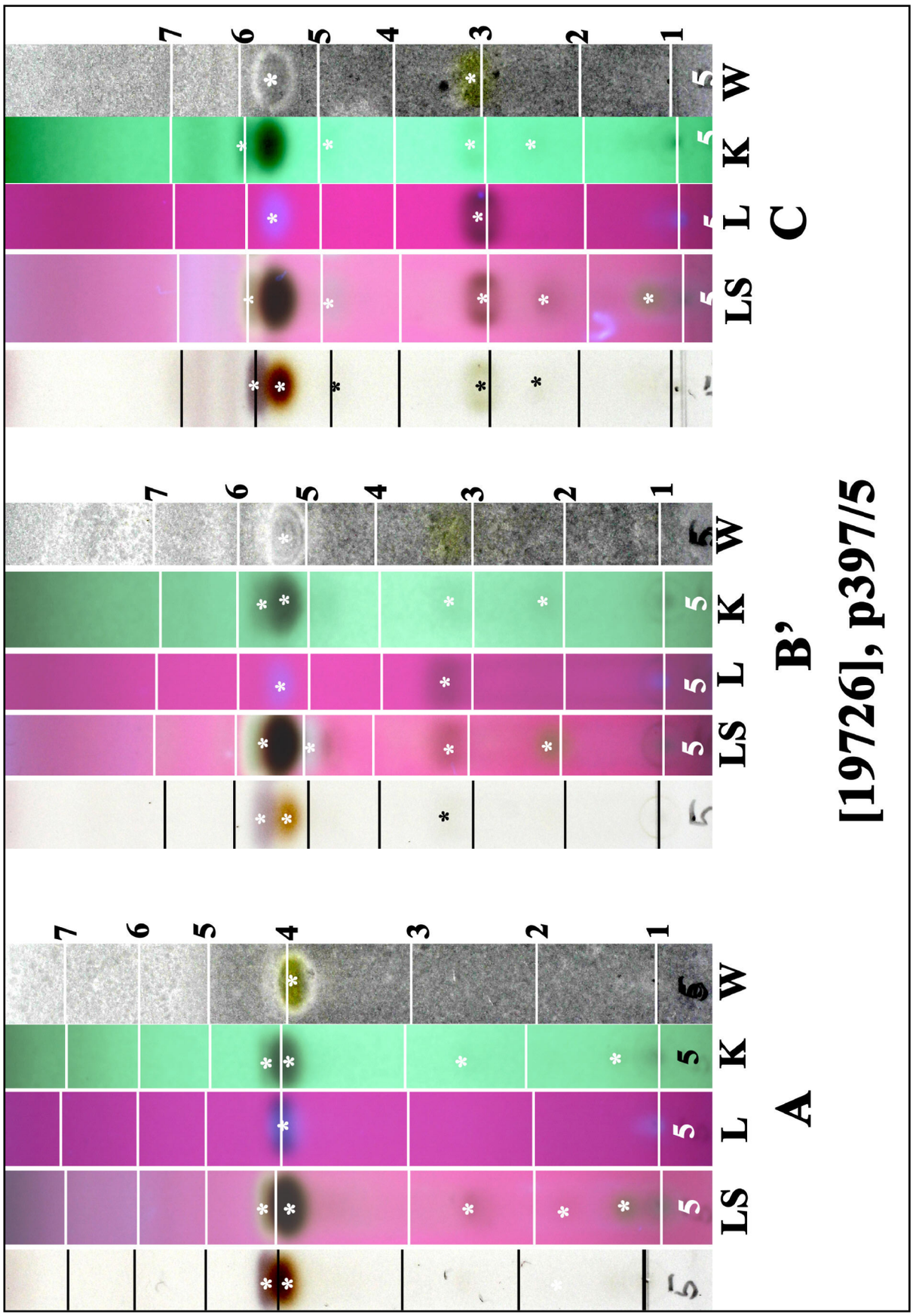
Chemistry: miriquidic acid, rarely replaced by lobaric acid. - -Note: on hard siliceous rocks (e.g. granite) in exposed situations such as windy ridges, starting the life-cycle on yellow Rhizocarpon-species; most often sterile, it has been largely overlooked in the Alps. The var. *liljenstroemii* (Du Rietz) Owe-Larsson & Rambold is known from the Austrian Alps and the Bretagne.

***Miriquidica nigroleprosa***


***Miriquidica nigroleprosa***




***Miriquidica nigroleprosa***



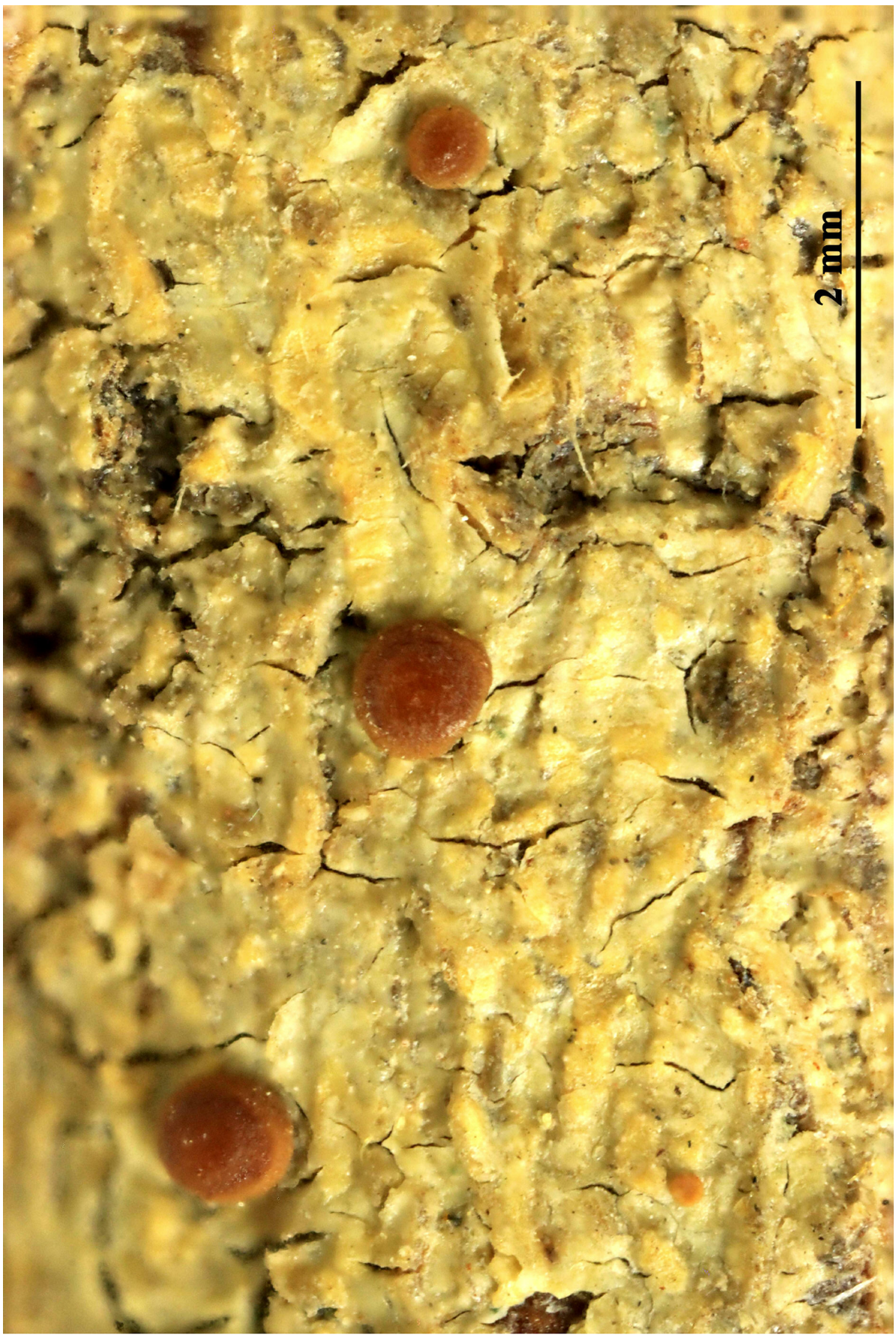

1: psoromic acid, 2: miriquidic acid, 3,4: unknown

***Miriquidica nigroleprosa***

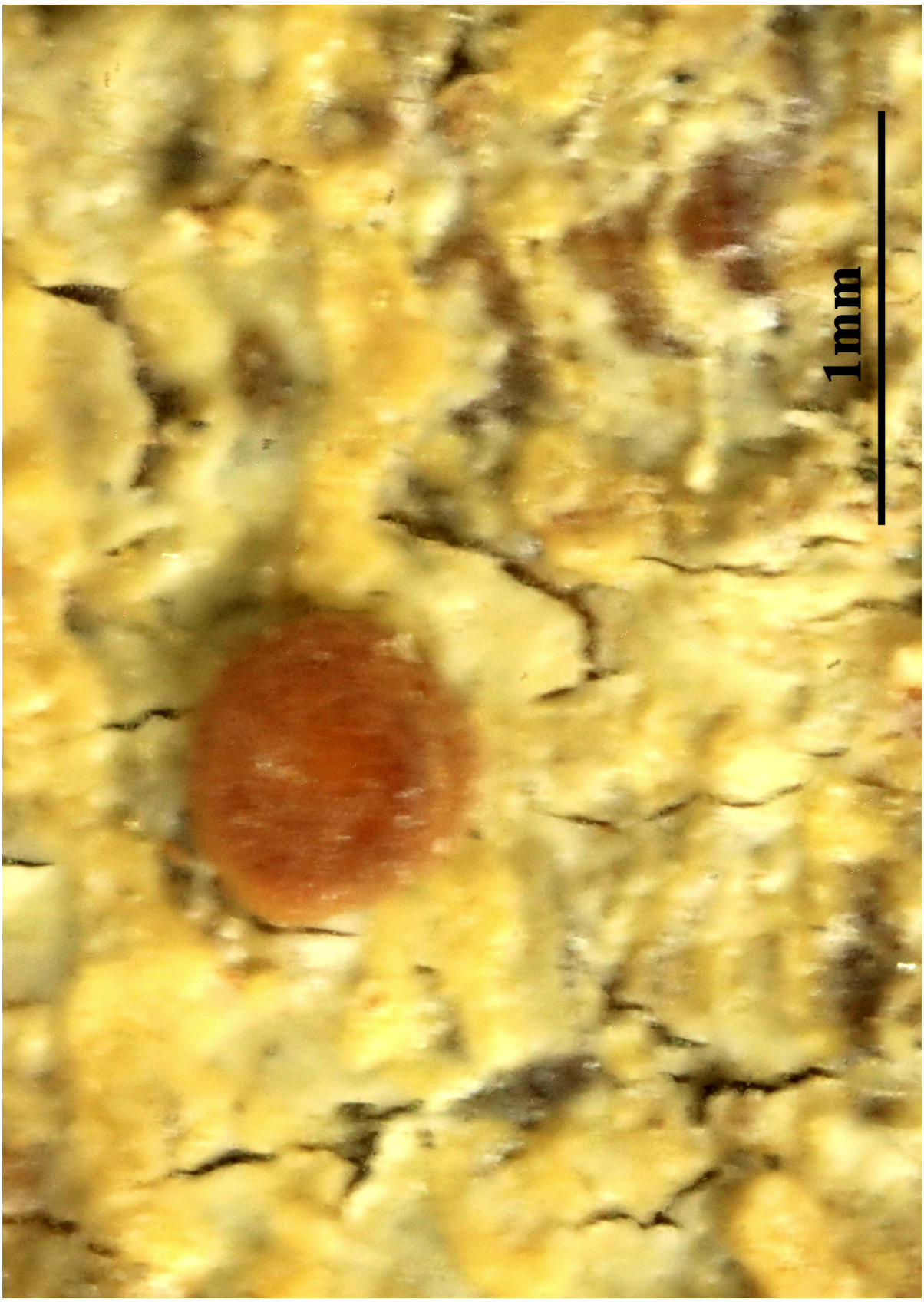
***Miltidea ceroplasta*** (C. Bab.) D.J. Galloway & Hafellner, in Hafellner, Beih. Nova Hedwigia 79: 308 (1984)
= *Biatora ceroplasta* C. Bab. 1855

[VZ2395], Australia. Tasmania. Anthony Road, lat. 41°50' austr., long. 145°38' orient., 560 m. Ad corticem arborum (*Eucryphia lucida*) in pluviisilva. Leg. G. Kantvilas (no. 8/89). Ex A. VěZDA Lichenes Selecti Exsiccati Nr. 2395.

Thallus continuous to rimose-areolate, thin to rather thick, pale grey, greenish grey, white or cream-coloured, with a thin hyaline epinecral layer. Apothecia to 2.5 mm diam.; disc orange-brown, yellow-orange, red or red-brown, epruinose, plane to convex, sometimes very markedly convex in older apothecia; margin thin, persistent or occasionally excluded in the oldest apothecia, typically entire, concolorous with the disc. Excipulum in section hyaline to pale yellow or orange, typically more intensely pigmented at the outer edge, K+ crimson or golden-yellow. Hymenium hyaline, I+ blue, densely inspersed with oil droplets that are insoluble in KOH, 90–120 µm thick, with a granular yellow-brown epihymenial layer 9–15 µm thick, K+ golden-yellow or crimson with the granules dissolving. Hypothecium hyaline to pale brown, 100–400 µm thick, sometimes massive and bulging out from beneath the hymenium, densely inspersed with oil droplets. Paraphyses 1–2 µm thick; apices slightly expanded to 2–3 µm, unpigmented. Asci 68–90 × 10–16 µm. Ascospores (13–) 17–25 × 7–12 µm, with a translucent gelatinous halo 2–4 µm thick. Pycnidia scattered, immersed in the thallus, visible as minute red dots resembling apothecial initials. Conidia c. 5 × 1 µm. CHEMISTRY: No substances detected in the thallus; the apothecia contain anthraquinone pigments. - Common and widespread in Tasmania.; occurs on the smooth bark of low branches and the upper trunks of trees in cool-temperate rainforest. Also known from New Zealand and Chile. Breuss & Brunnbauer (Ann. Naturhist. Mus. Wien 99B: 727–735, 1997) reported this species from Sri Lanka, an unexpected range extension.




***Miltidea ceroplasta***




***Miltidea ceroplasta***

***Miltidea ceroplasta*** (C. Bab.) D.J. Galloway & Hafellner, in Hafellner, Beih. Nova Hedwigia 79: 308 (1984)
= *Biatora ceroplasta* C. Bab. 1855

[VZ2413], Nova Zelandia. Coromandel: Peninsula Coromandel, in monte Maumaupaki (Camels Bag), ad orientem a Tapu, 450-750 m. Ad corticem arborum. Leg. H. Mayrhofer (no. 8141), H. Hertel, P. Buchanan et G. L. Samuels, 10.1.1985, det. J. Hafellner. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2413.

Thallus continuous to rimose-areolate, thin to rather thick, pale grey, greenish grey, white or cream-coloured, with a thin hyaline epinecral layer. Apothecia to 2.5 mm diam.; disc orange-brown, yellow-orange, red or red-brown, epruinose, plane to convex, sometimes very markedly convex in older apothecia; margin thin, persistent or occasionally excluded in the oldest apothecia, typically entire, concolorous with the disc. Excipulum in section hyaline to pale yellow or orange, typically more intensely pigmented at the outer edge, K+ crimson or golden-yellow. Hymenium hyaline, I+ blue, densely inspersed with oil droplets that are insoluble in KOH, 90–120 µm thick, with a granular yellow-brown epihymenial layer 9–15 µm thick, K+ golden-yellow or crimson with the granules dissolving. Hypothecium hyaline to pale brown, 100–400 µm thick, sometimes massive and bulging out from beneath the hymenium, densely inspersed with oil droplets. Paraphyses 1–2 µm thick; apices slightly expanded to 2–3 µm, unpigmented. Asci 68–90 × 10–16 µm. Ascospores (13–) 17–25 × 7–12 µm, with a translucent gelatinous halo 2–4 µm thick. Pycnidia scattered, immersed in the thallus, visible as minute red dots resembling apothecial initials. Conidia c. 5 × 1 µm. CHEMISTRY: No substances detected in the thallus; the apothecia contain anthraquinone pigments. - Common and widespread in Tasmania.; occurs on the smooth bark of low branches and the upper trunks of trees in cool-temperate rainforest. Also known from New Zealand and Chile. Breuss & Brunnbauer (Ann. Naturhist. Mus. Wien 99B: 727–735, 1997) reported this species from Sri Lanka, an unexpected range extension.


***Miltidea ceroplasta***

***Miltidea ceroplasta***

***Muellerella polyspora*** Hepp ex Müll. Arg., Mém. Soc. Phys. Hist. nat. Genève 16(2): 420 (1862)
= *Muellerella haplotella* (Nyl.) Arnold ex Zopf (1896)

[VZ2300], Svalbard. Isforden-Billerfjorden, Brucebyen, in litore. Ad lignum vetustum, in thallo lichenis vigens. J. Liška, 17.7.1988, det. A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2300.

Ascospores simple, narrowly ellipsoid to ellipsoid, 5–7 × 2–3.5 µm; type on a corticolous crustose lichen, mainly on *Arthonia radiata* and *Opegrapha atra*, but also reported on *Aspicilia elevata, Caloplaca cerina, Miriquidica subplumbea*, and *Verrucaria* sp. Lit.: Alstrup & Elvebakk (1996), Aptroot & Alstrup (1991), Hawksworth (1975), Müller (1862), Roux (2020), Triebel (1989),Santesson et al. (2004), Suija et al. (2009).


***Muellerella polyspora***


***Muellerella polyspora***

***Multiclavula corynoides*** (Peck) R.H. Petersen, Am. Midl. Nat. 77: 215 (1967)
= *Clavaria corynoides* Peck - Ann. Rep. N.Y. St. Mus. nat. Hist. 31: 39, 1878.

[VZ2150], Austria. Tirolia, Stubaier Alpen, loco Maria Waldrast dicto, 1700 m. Ad terram in fossis viae silvaticae. Leg. J. Poelt et A. Vězda, 25.7.1986. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2150.

Thallus crustose, episubstratic, forming a soft, gelatinous (when wet), green to grey-green film made of minute granules consisting of clumps of algal cells incompletely surrounded by hyphae. Basidiocarps not lichenized, ephemeral, simple, lobed or branched to sublacerate, 10-25 mm tall, geotropically oriented, often subspathulate or laterally compressed at apex, straw-coloured to pinkish, usually with a small, cap-like white spot at apex (best visible in the dry state), the hymenium extending over c. the upper two thirds. Basidia clavate, bearing a basal clamp, with 4-6 short sterigmata. Basidiospores 1-celled, hyaline, elongate-ovoid to cylindrical, smooth, thin-walled, 5-8.5 x 2-3.5 µm, with a small eccentric apiculus, I-. Photobiont chlorococcoid. Spot tests: all negative. Chemistry: thallus without lichen substances. - Note: a terricolous species with yellowish, straw-coloured to pinkish carpophores which are often subspathulate or laterally compressed toward the apex, and 4-6-sterigmate basidia; widespread in the Holarctic region, but most common in the boreal zone; in the Alps at higher elevations.


***Multiclavula corynoides***


***Multiclavula corynoides***

***Mycoblastus affinis*** (Schaer.) T. Schauer, in Poelt & Steiner, Sched. ad Lich. Alpium, 12: 230, 1964.
= *Lecidea affinis* Schaer. 1850
= *Lecidea affinis* Schaer. - Enum. Crit. Lich. Eur.: 132, 1850.
= *Lecidea melina* Kremp. ex Nyl.
= *Lecidea sanguinaria* var. *affinis* (Schaer.) Nyl.
= *Lecidea sanguinaria var. melina* Kremp. ex Nyl.
= *Megalospora affinis* (Schaer.) A. Massal.
= *Megalospora alpina* (Fr) Arnold
= *Mycoblastus alpinus* (Fr.) Hellb.
= *Mycoblastus melinus* (Kremp. ex Nyl.) Hellb.
= *Mycoblastus sanguinarius var. alpinus* (Fr.) Stein

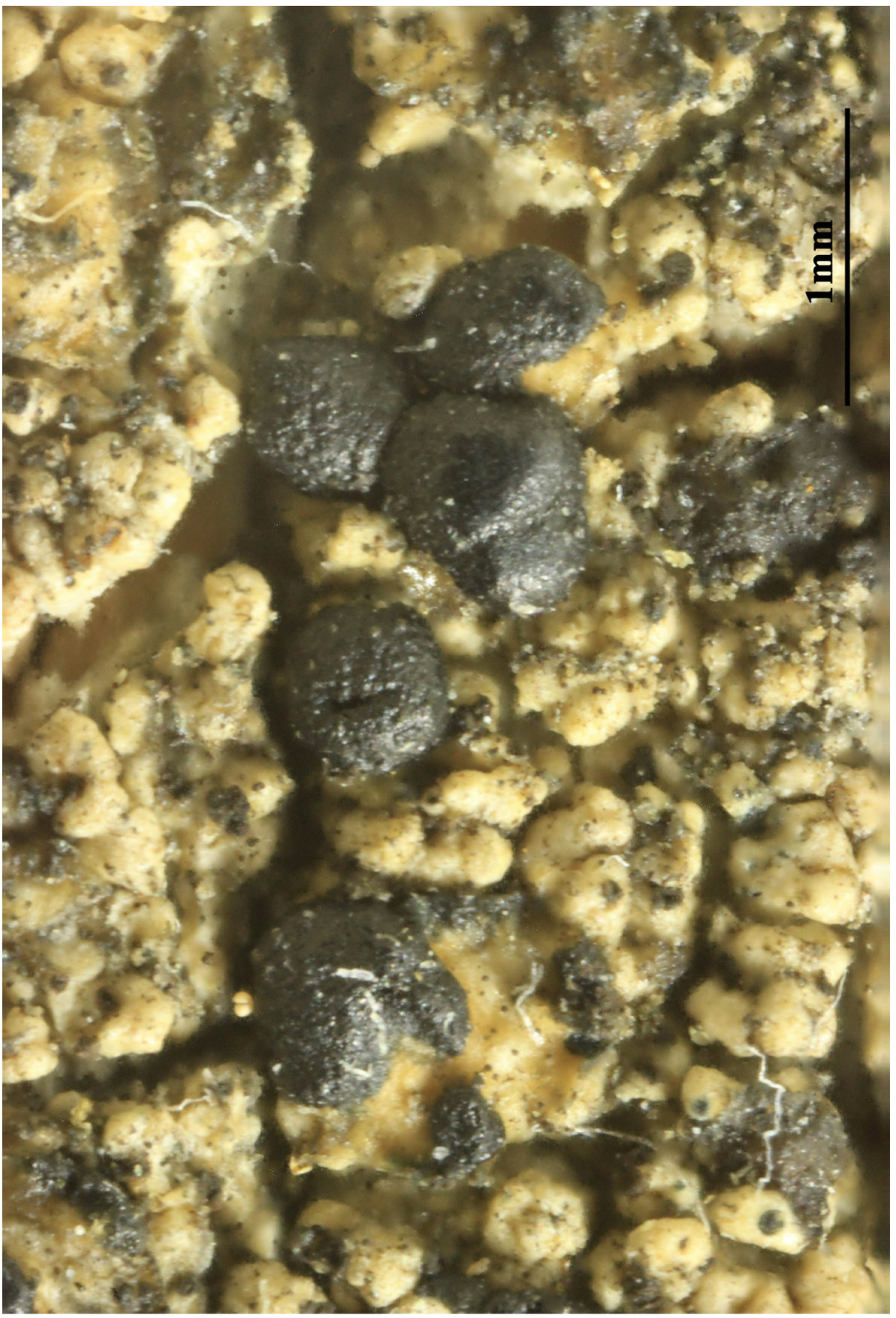
[VZ2362], Austria, Salisburgia, Klingelbergalm ad meridiem versus a Dientener Sattel, alt. 1540 m, ad lignum *Piceae abies*. Leg. R. Türk (8644), 11.06.1989. Ex A. Vězda Lichenes Selecti Exsiccasti Nr. 2362.

Thallus crustose, episubstratic, rather thick and granular-warted or thin and film-like, pale grey or green-grey, with or without soralia, forming regular or irregular. up to c. 10 cm wide patches, sometimes delimited by a thin, grey to blackish prothallus. Soralia (when present) at first scattered and punctiform, bright yellow or lemon-yellow, the colour contrasting with that of the other parts of thallus, bursting from low warts, discrete or occasionally a few fused, up to 2.5 mm across, crateriform, flat or convex, finally often subglobose and constricted at the base, the soredia mostly farinose, gathered into globose to ellipsoid, up to 50(-110) µm wide consoredia. Medulla distinct, white. Apothecia rare in sorediate forms, common in esorediate forms, biatorine, 0.5-1.5 mm across, black or bluish black, with a concave to finally strongly convex disc, emarginate. Epithecium blue-black, rarely partly olive-brown, non-granular, K-; hymenium colourless at least in lower part, K-, I+ blue; paraphyses branched and anastomosing; hypothecium colourless to yellowish brown, K+ red-brown. Asci (1-)2-spored, cylindrical-clavate, thick-walled, the apical dome K/I+ blue, with a distinct ocular chamber, the outer layer thickened and forming a K/I+ dark blue apical cap. Ascospores 1-celled, hyaline, ellipsoid with pointed apices, (40-)50-80(-100) x (25-)30-42 µm, thin-walled. Pycnidia black, the wall, the wall dark green in upper part, K-, N+ reddish, the conidiogenous cells short. Conidia bacilliform. Photobiont chlorococcoid.

Spot tests: K+ yellow (sometimes faintly), C- or C+ pale yellow (soralia), KC- or KC+ yellow (soralia), P-, UV- or UV+ white. Chemistry: cortex with atranorin, chloroatranorin and planaic acid; soralia with additional usnic acid and variable amounts of isousnic acid. - Note: an incompletely circumboreal-montane species found on old conifers, especially *Abies* and *Picea*, in open, humid, montane to subalpine woodlands, more rarely on lignum or siliceous rocks, perhaps more widespread in the Alps, but not common.

***Mycoblastus affinis***


***Mycoblastus affinis***




***Mycoblastus affinis***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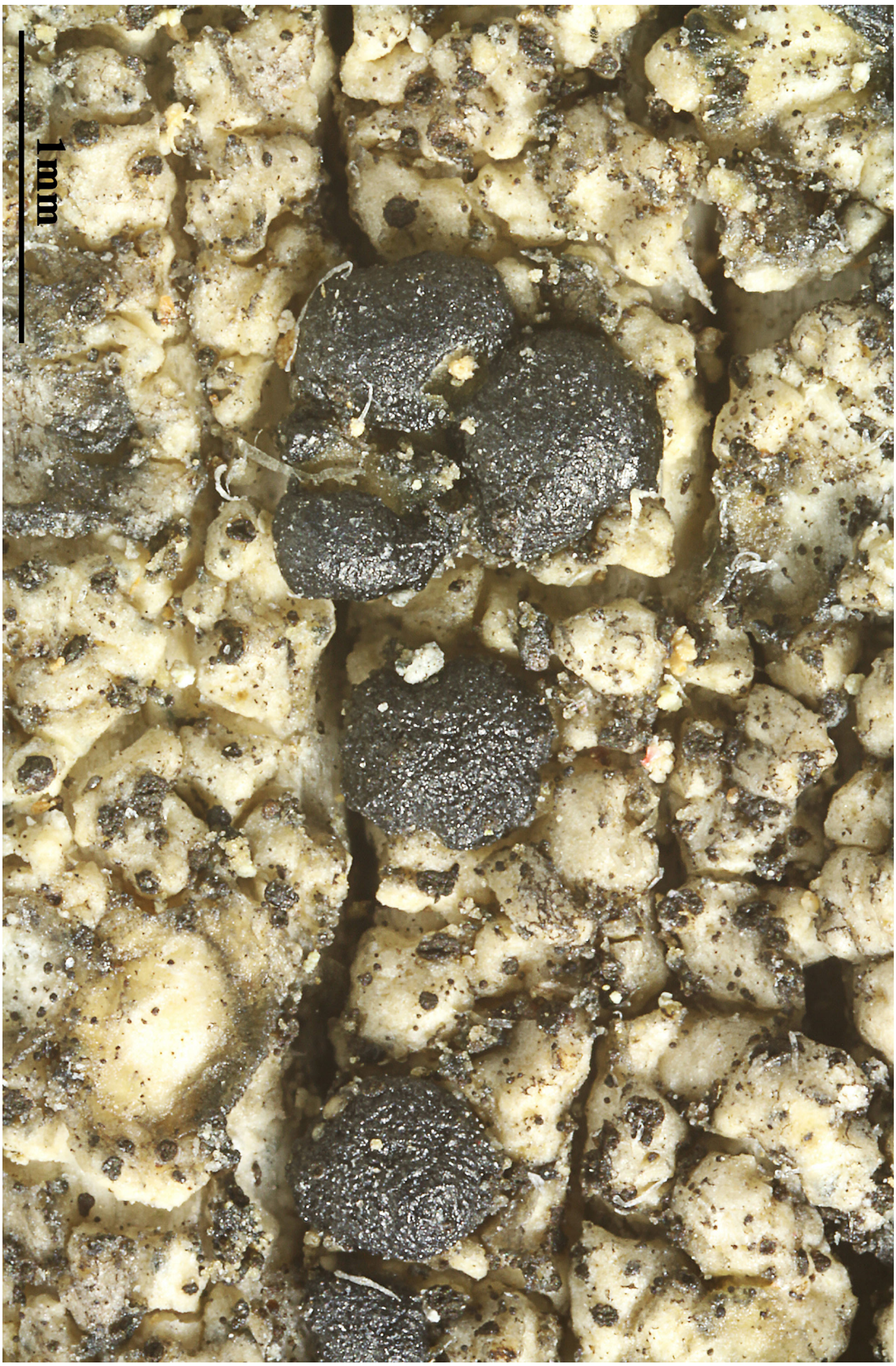
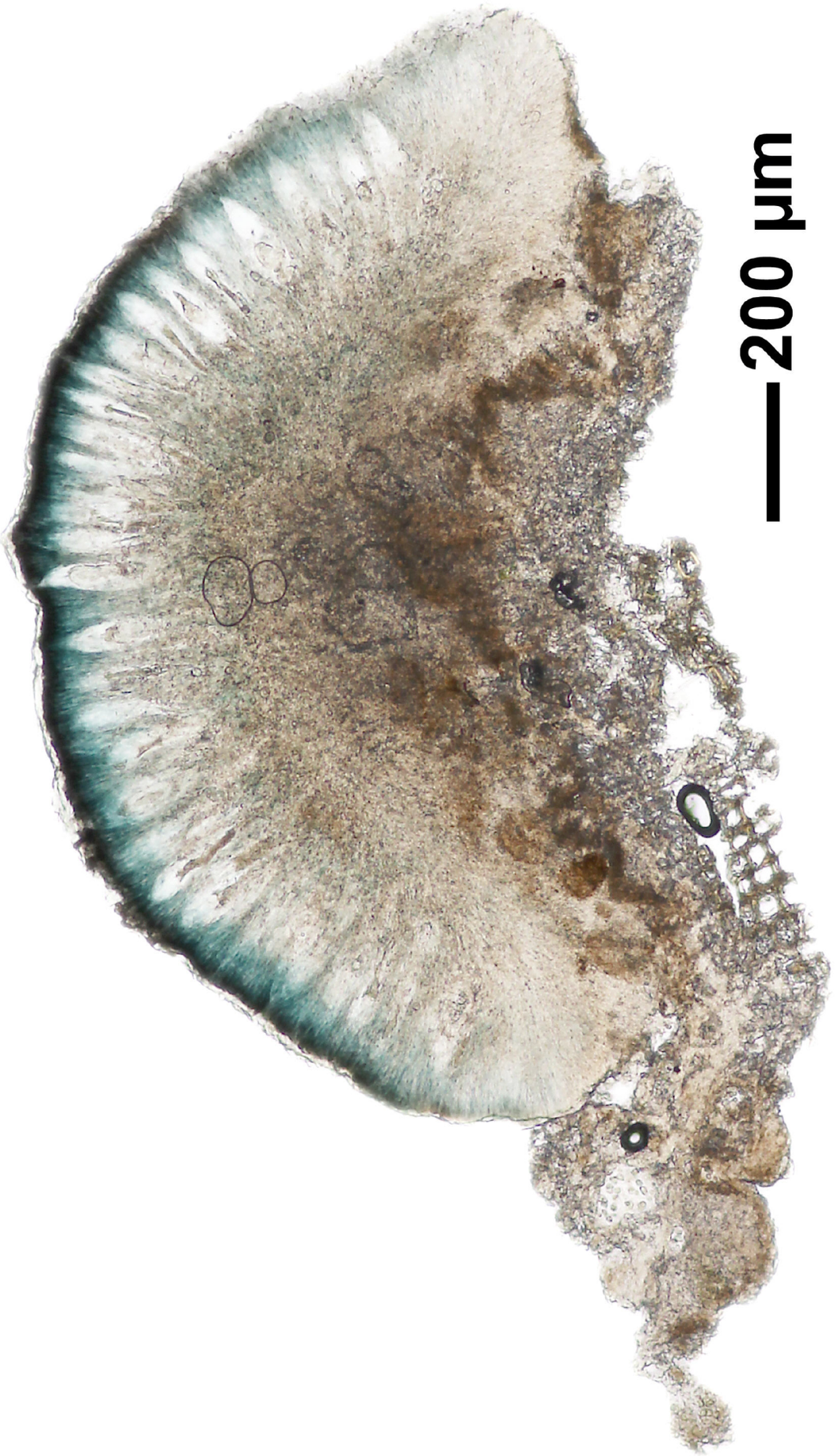
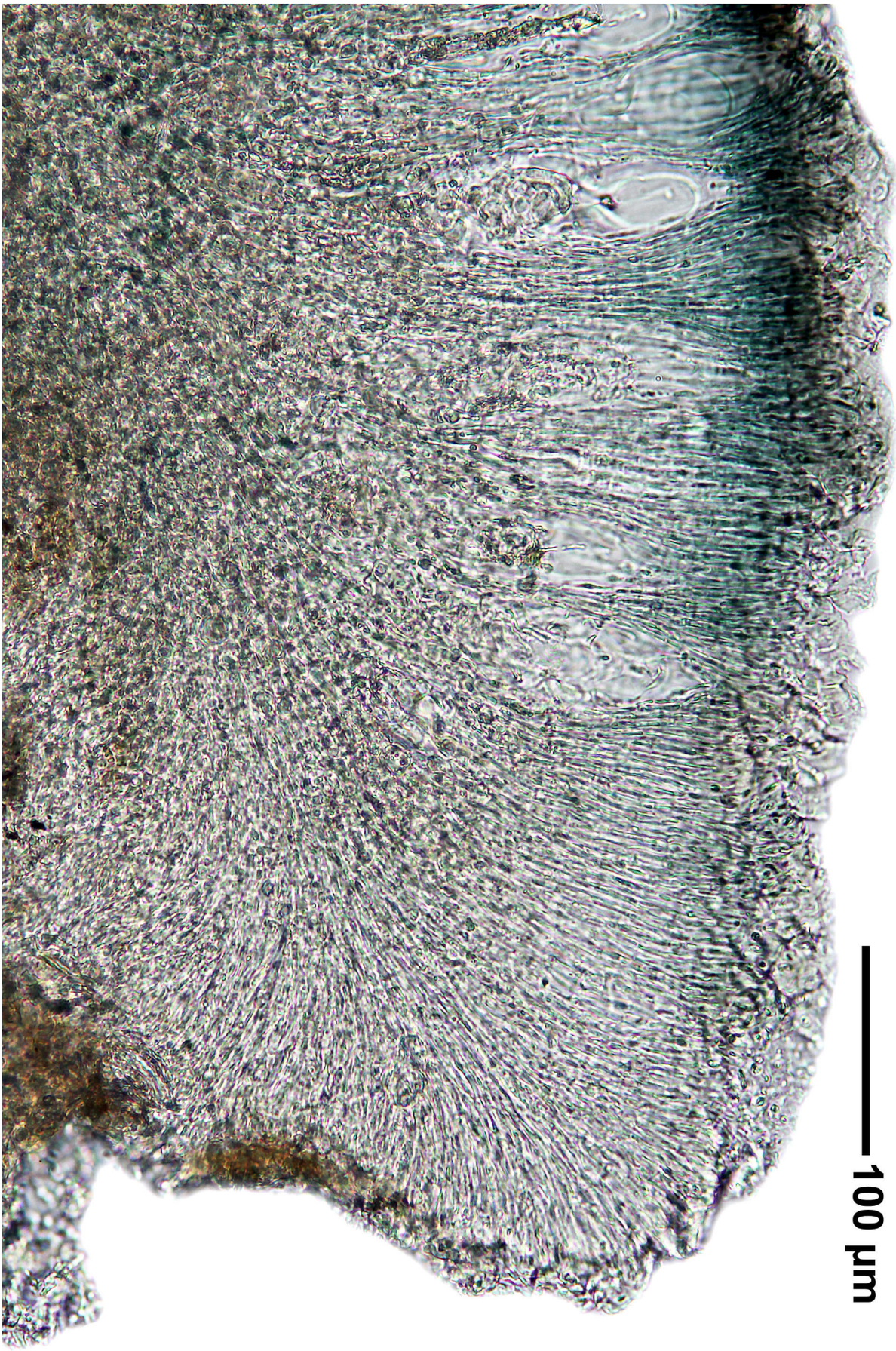


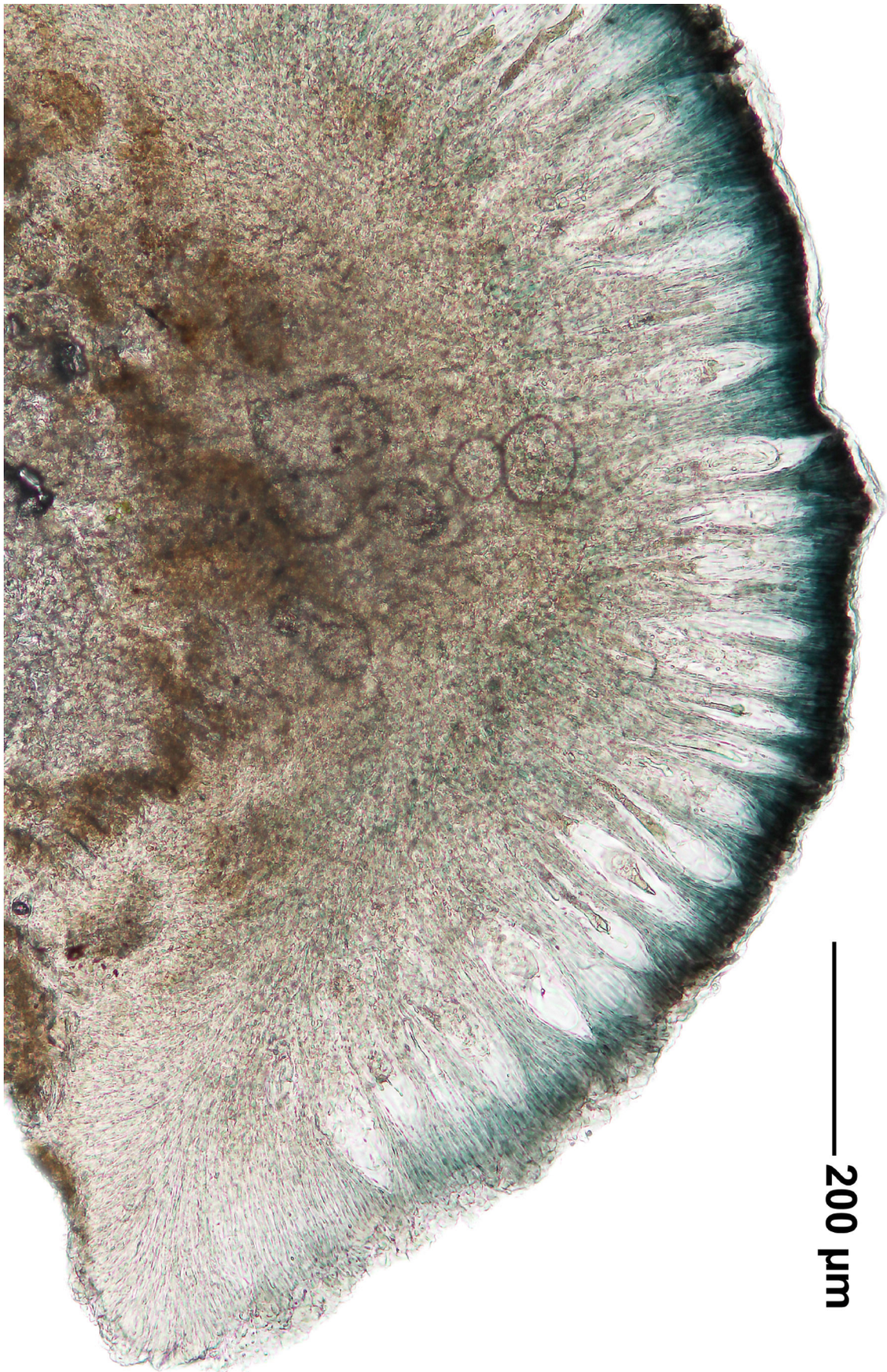

***Mycoblastus affinis***



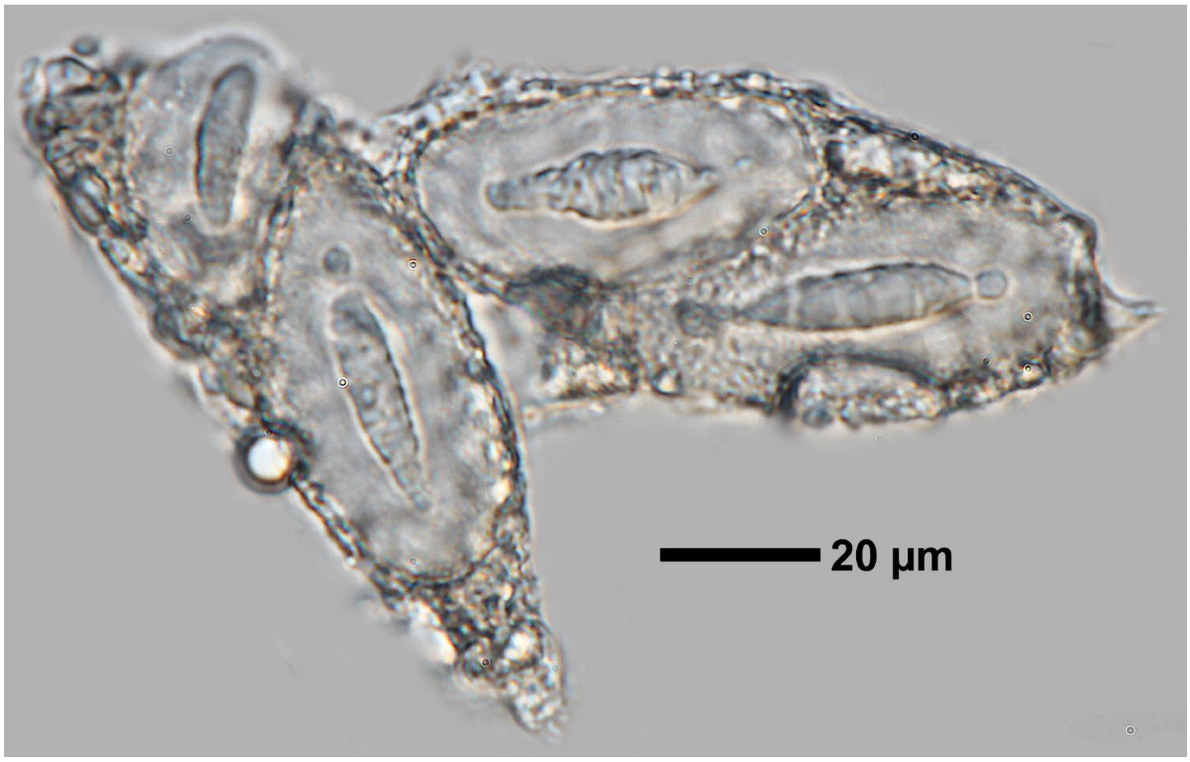

***Mycoblastus affinis***

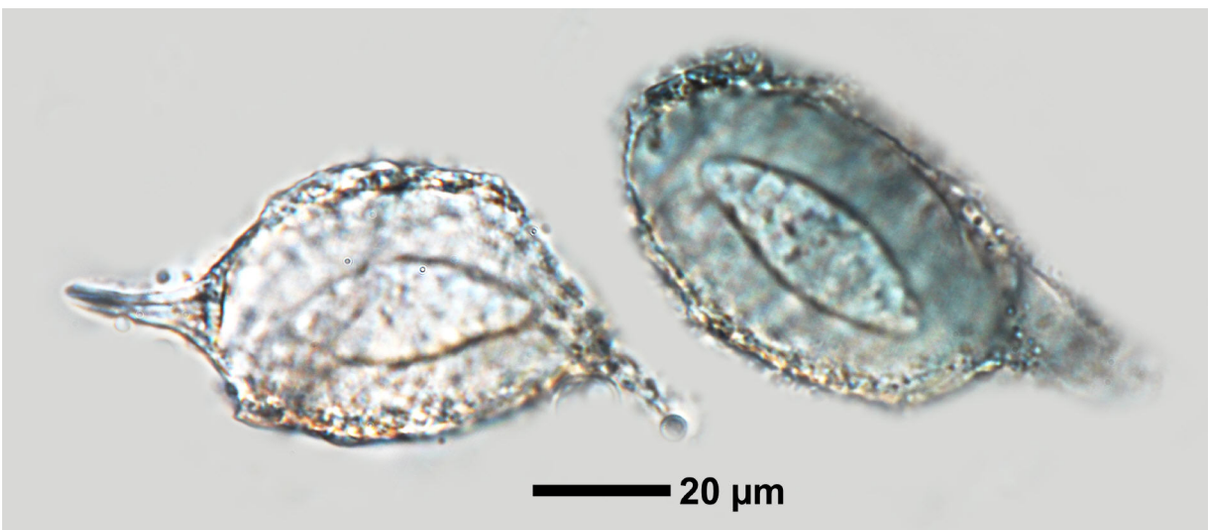



***Mycoblastus affinis***

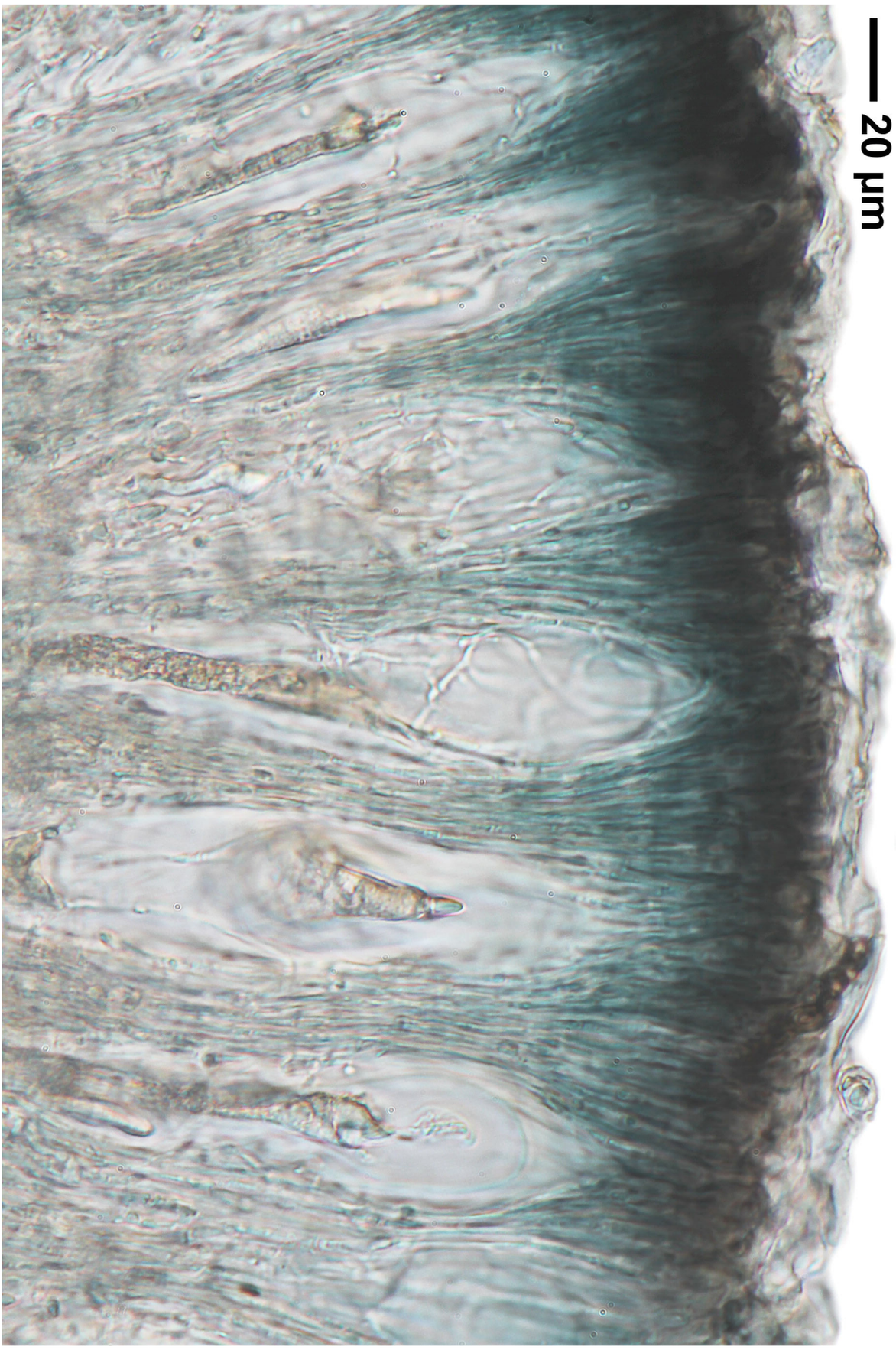



***Mycoblastus affinis***

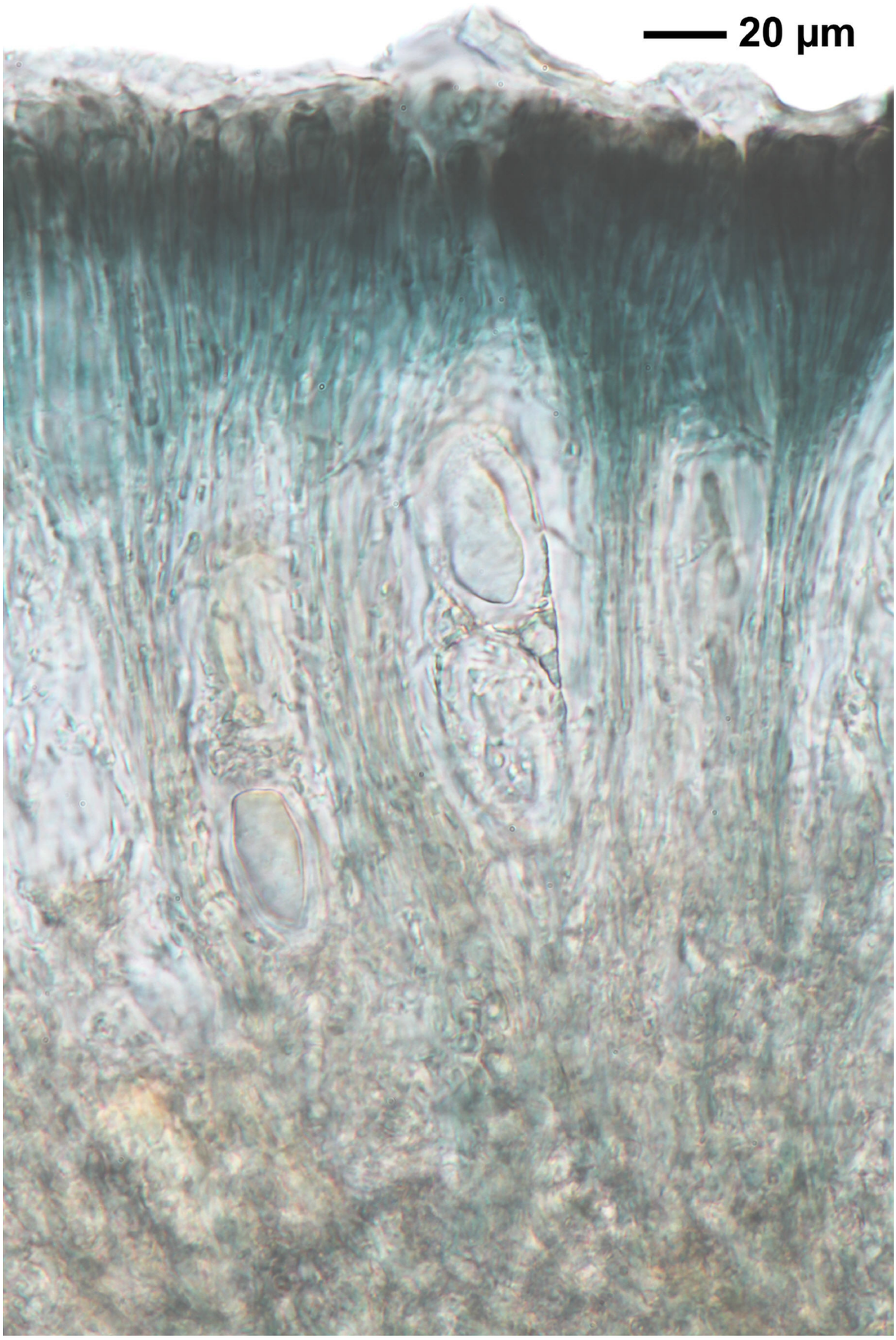


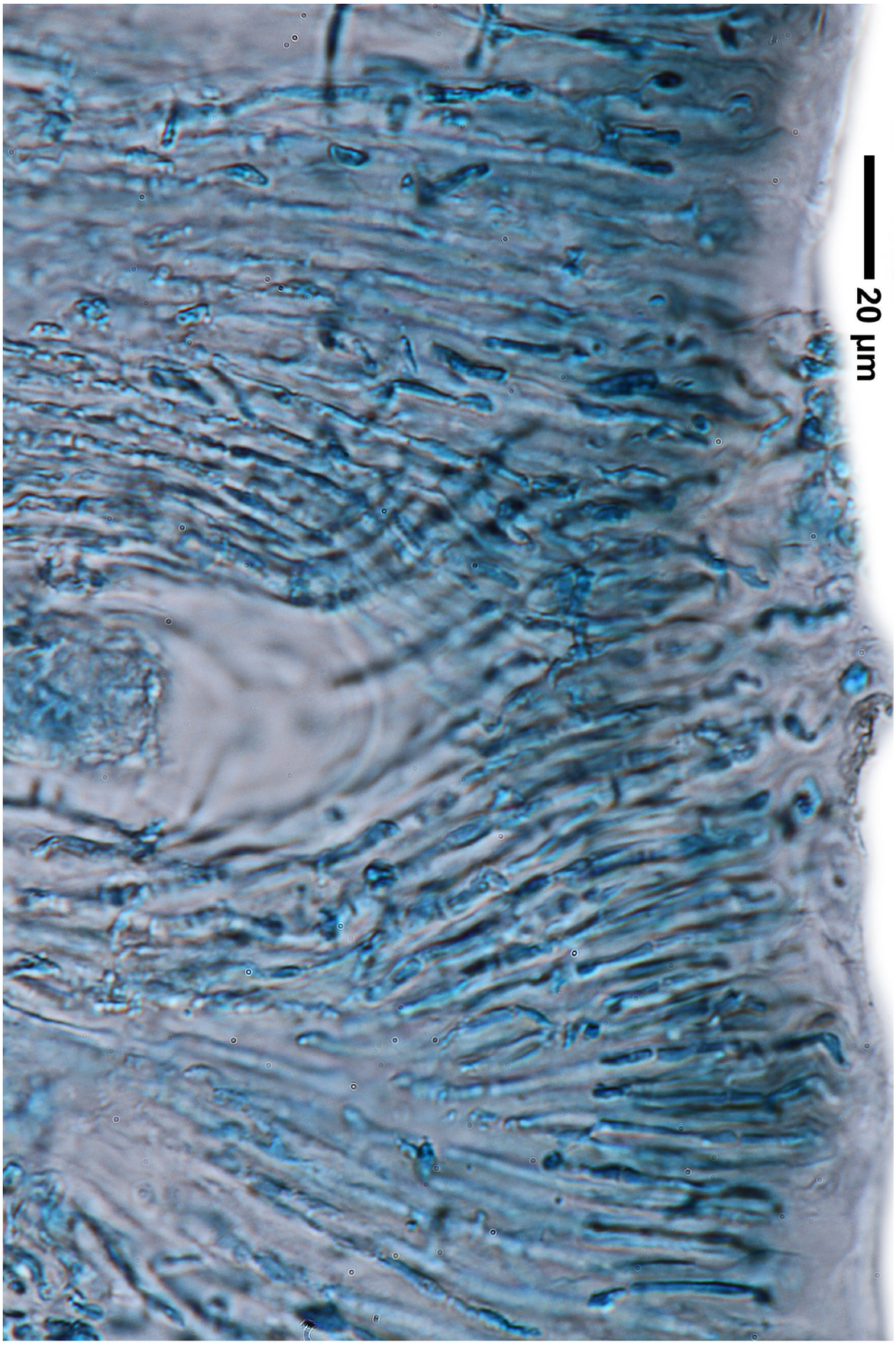

***Mycoblastus affinis***



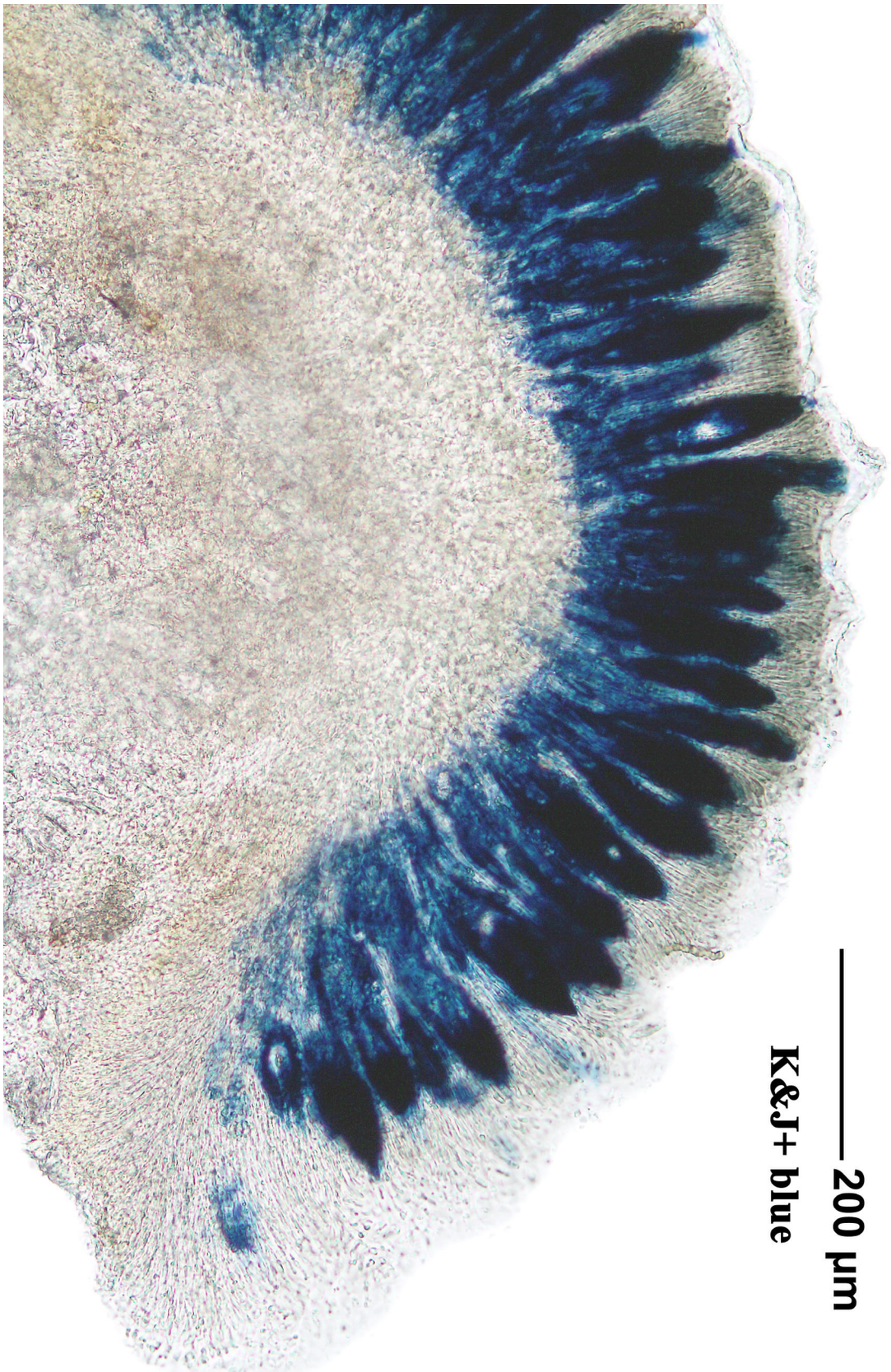

***Mycoblastus affinis***



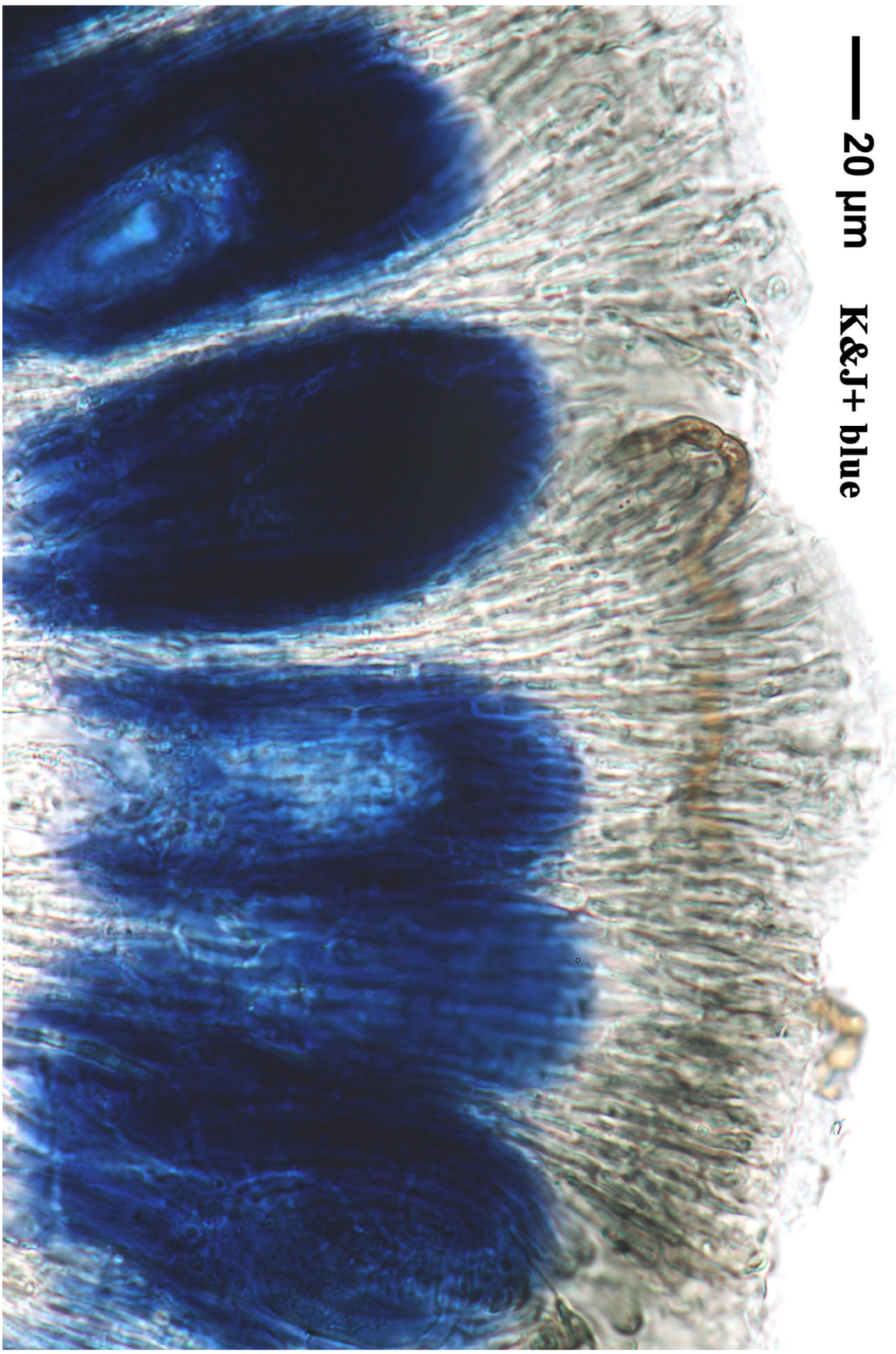

***Mycoblastus affinis***



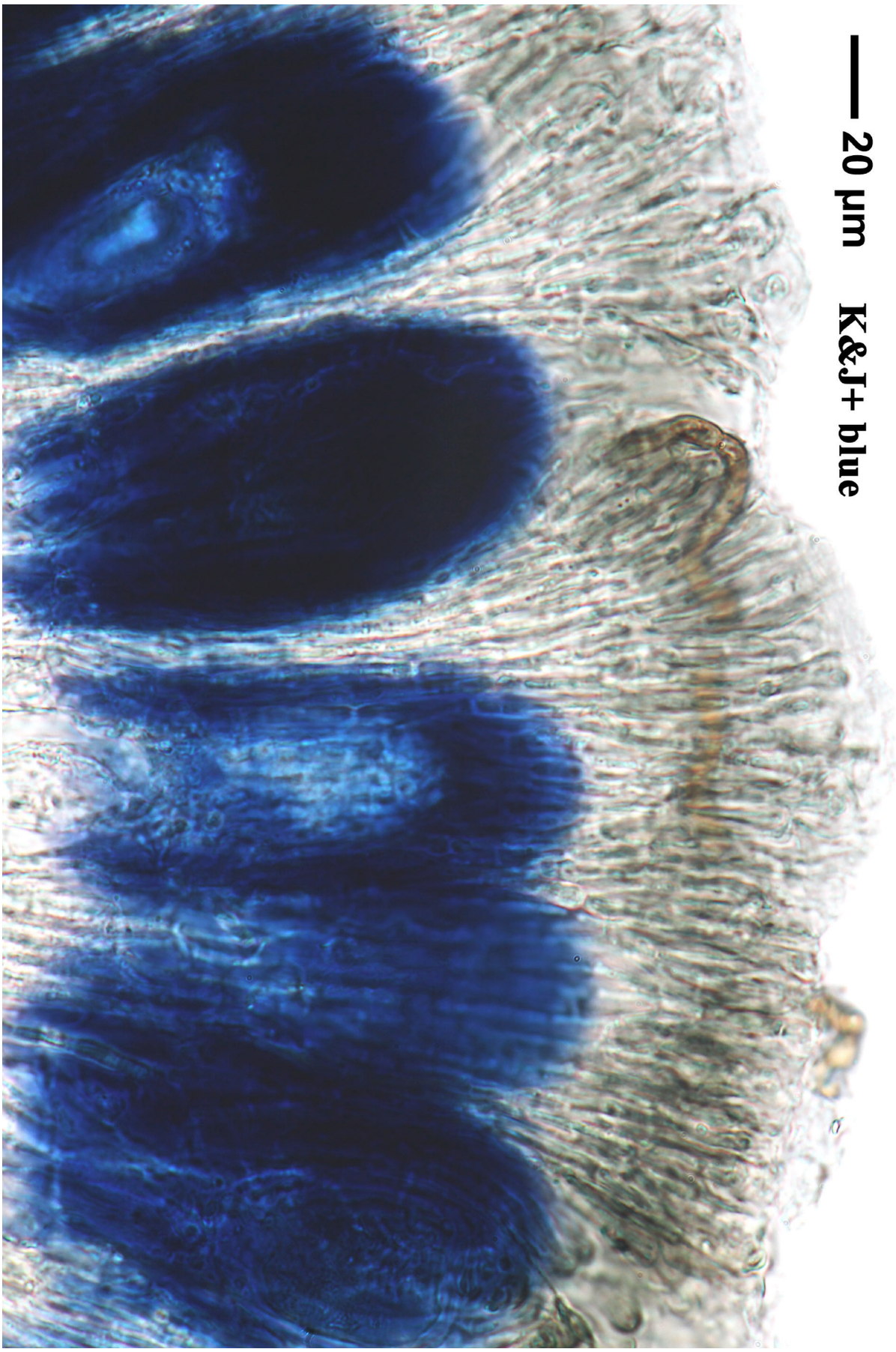

***Mycoblastus affinis***




***Mycoblastus affinis***




***Mycoblastus affinis***




***Mycoblastus affinis***

***Mycocalicium americanum*** (R. Sant.) Tibell, Symb. bot. upsal. 27(no. 1): 182 (1987)
= *Calicium americanum* R. Sant. 1943

[VZ2284], Australia. Queensland: in occidente viae inter Goondiwindi et Miles, 63.5 km ad septentriones a Goondiwini, 400 m, Ad lignum arboris. Leg. J. Hafellner et R. Rogers, 2.09.1983, det. J. Hafellner.. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 2284.

Saprobic, not lichenized. Thallus sterile mycelium immersed in the substrate, sometimes rendering it a greenish or greenish gray color, often paler than surrounding wood but usually blackened around the base of the ascomata. Apothecia dark brown to black, rather robust, 0.5-0.8 mm tall, with shining stalk often thickened towards the base; capitulum 0.3-0.6 mm in diam., lenticular to obconical; disc flat to slightly convex, with strongly incurved margin; exciple 60-90 µm thick, well-developed, consisting of irregularly interwoven hyphae with swollen walls, inner part hyaline, outer part reddish brown to brown, central part often with droplets or amorphous crystals of a yellowish red to red pigment located in the hyphal lumina; a thin layer of spores is often found on the surface of the apothecia; stalk short, 0.10-0.20 mm in diam., the central part consisting of largely periclinally arranged, pale hyphae with swollen walls and moderately branched and intertwined, 2-3 µm in diam., outer part of the stalk with strongly intertwined hyphae with thickened walls, outermost part of stalk reddish brown to brown, reddish parts of the ascomata K+ violet red and H+ slightly intensified reddish; hymenium dark brown above, 80-110 µm tall, lining the inner surface of the exciple and extending upwards along the inner edge of the exciple; paraphyses simple, filiform, 1-1.5 µm thick; hypothecium hyaline, poorly developed, obconical asci: cylindrical, 35-60 x 4.5-6 µm, with moderately and uniformly thickened apex c. 1.5 µm thick; ascospores dark brown, simple, fusiform to ellipsoid, 8-11 x 3.5-5 µm, with a minute, irregular ornamentation visible under the light microscope. Pycnidia not observed. Secondary metabolites none detected. - On old wood. World distribution: South America (Argentina, Brazil, Chile, Colombia, Dominican Republic, and Paraguay) and North America Sonoran distribution: Baja California and Baja California Sur. - Notes: Mycocalicium americanum is characterized by its robust ascomata, its incurved exciple edge, its smooth and epruinose exciple


***Mycocalicium americanum***

margins, its large spores, and the red pigment in the ascomata. It is quite similar to M. calicioides, which differs in having a yellow pruina on the capitulum, a rugose outer surface of the exciple, and a narrower disc. See Tibell (1987; 1996) for further details.


***Mycocalicium americanum***


***Mycocalicium americanum***

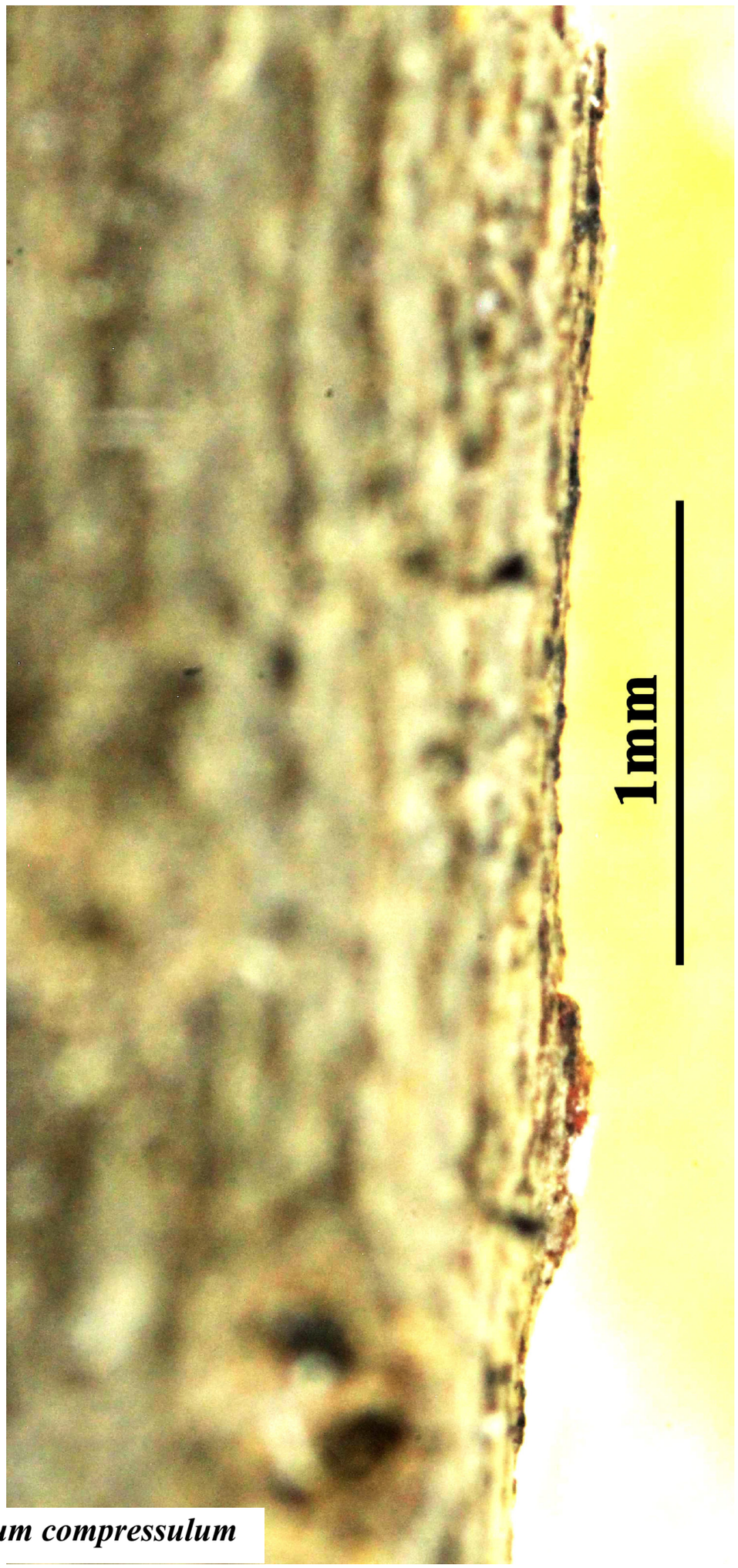

***Mycocalicium americanum***

***Mycocalicium compressulum*** (Nyl. ex Vain.) Szatala, Magy. Bot. Lapok 29: 63 (1930)
= *Mycocalicium praecedens* var. *compressulum* Nyl. ex Vain. 1927
= *Phaeocalicium compressulum* (Nyl. ex Vain.) A.F.W. Schmidt, Mitt. Staatsinst. Allg. Bot. Hamburg 13: 130 (1970)

[VZ1178], Austria Stiria: montes Koralpe, loco Hebalm dicto, 1350-1400 m. Ad ramulos morbosos Alni viridis. Leg. P. Döbbeler et Ch. & J. Poelt, 27.5.1873. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1178.

Thallus not evident, not lichenized. Apothecia stalked, black, 0.25-0.4(-0.5) mm high, the stalk 0.03-0.5 mm thick, somewhat paler than capitulum, medium browm in cenrtal part, consisting of periclinally arranged hyphae, surrounded by an up to 6 µm thick gelatinous layer. Capitulum at first obconical, but soon becoming strongly flattened, 0.08-0.15 wide; mazaedium absent. Exciple well-developed, of periclinally arranged, narrowly cylindrical, brown cells, K-; epithecium thin, dark brown; hypothecium obconical, c. 45 µm high, colourless to medium brown, of more or less isodiametrical cells. Asci 8-spored, cylindrical, with a weakly thickened apex, formed singly from hooked ascogenous hyphae, with uniseriately arranged ascospores, persisting until the ascospores are mature. Ascospores 1-celled, brown, broadly to narrowly ellipsoid, 10-12(-15) x (4.3-)5-6 µm, with a minutely verrucose ornamentation. Photobiont absent. Spot tests: ascomata K-. Chemistry: without lichen substances. Note: saprobic on Alnus alnobetula, certainly widespread throughout the Alps and locally very common, especially in the subalpine belt.


***Mycocalicium compressulum***

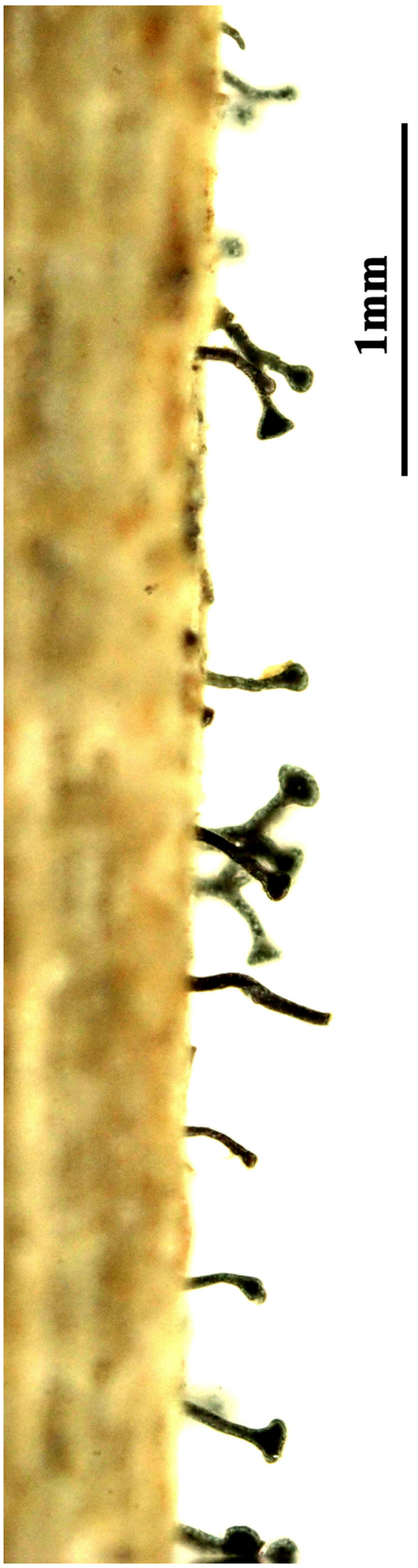



***Mycocalicium compressulum***

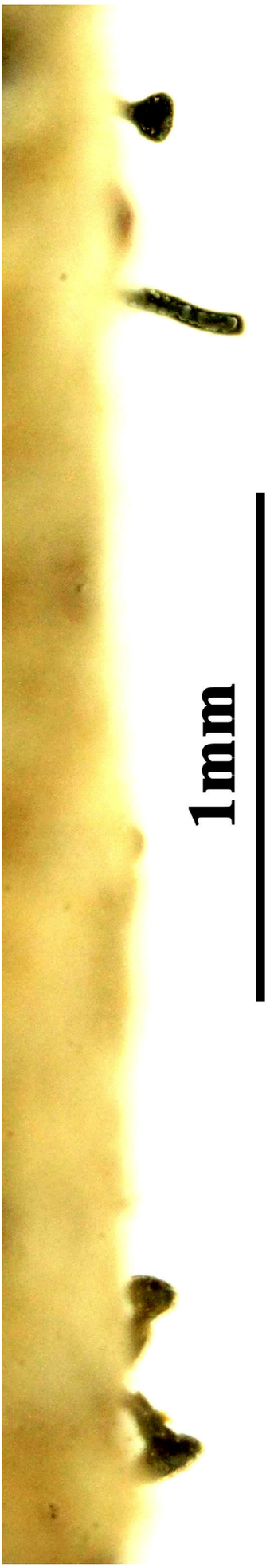
***Mycocalicium subtile*** (Pers.) Szatala, Magy. Bot. Lapok 24: 47 (1925)
= *Mycocalicium subtile* (Pers.) Szatala Magyar Bot. Lapok, 24: 47, 1926.
= *Calicium subtile* Pers. - Tent. Disp. Meth. Fung. Suppl.: 60, 1797.
= *Calicium minutellum* Ach.
= *Calicium parietinum* Ach.
= *Mycocalicium minutellum* (Ach.) Nádv.
= *Mycocalicium parietinum* (Ach.) Vain.

[VZ2275], Bohemoslovacia. Slovacia, Carpates, Tatra Magna: in valle Tichá dolina, 1000 m. Ad lignum arborum (Pica excelsa). Leg. J. Horáková et. A. Vězda, 6.6.1988. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2275.

Thallus not evident, not lichenized. Apothecia stalked, black to dark brown, 0.4-1(-2) mm high, the stalk 0.04-0.1 µm thick, consisting of periclinally arranged, dark greenish brown to brown hyphae, the outer ones darker pigmented than the inner ones. Capitulum obconical to lenticular, 0.2-0.3 mm across, with a convex upper surface. Exciple brown, thin to rather thick, 15-50 µm wide, consisting of 3-4 layers of periclinally arranged hyphae; mazaedium absent; hypothecium broadly obconical, dark brown. Asci cylindrical, 39-42 x 3-3.5 µm, formed singly, with a single functional layer, strongly and uniformly thickened at apex, without a canal, with uniseriately arranged ascospores, persisting until the spores are mature. Ascospores 1-celled, dark brown, ellipsoid to fusiform, flattened, (5.5-)7-9(-11) x (2.5-)3.5-4(-5) µm, with a smooth or irregularly and minutely verrucose wall. Pycnidia black, with a distinct apical pore. Conidia more or less curved, pale brown, 4-5 x 1-1.5 µm. Photobiont absent. Spot tests: stalk K- or K+ slightly reddish brown, N- or N+ slightly intensified reddish brown. Chemistry: without lichen substances. - Note: a saprophyte on dry, hard lignum, especially of conifers, in open situations, mostly in the montane and subalpine belts.




***Mycocalicium subtile***

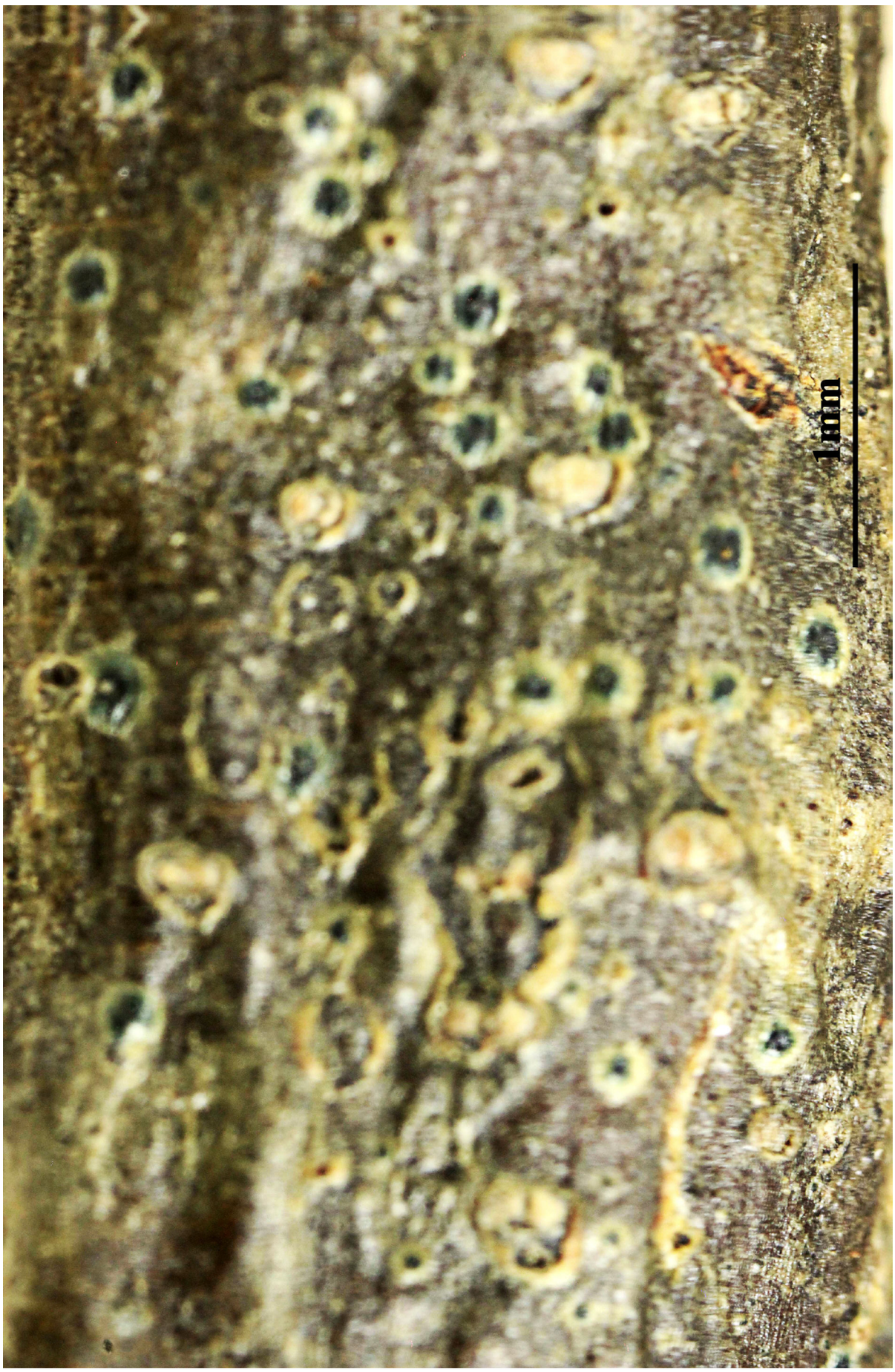



***Mycocalicium subtile***

***Mycoglaena myricae*** (Nyl.) R.C. Harris, Michigan Bot. 12(1): 29 (1973)
= *Verrucaria myricae* Nyl. 1869

[VZ1476], Magna Britannia. Caledonia: East Loss, Loch Luichart, Glenmarksie. In caulibus vivis *Myrica gale*. Leg. B. J. Coppins (no. 2547), 18.6.1976. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1476.

Thallus inapparent, probably not lichenized. Perithecia broadly ellipsoid in outline, 0.2-0.5 x 0.1-0.3 mm, flattened at top, dark green, often with a thin whitish border. Involucrellum bright green to greenih black (in water mounts), K-, N+ red, composed of dark hyphae mixed with bark cells; exciple greenish, poorly developed; hamathecium of up to 1 µm thick, simple or sparingly branched and anastomosing paraphyses, the hymenial gel I-. Asci 8-spored, cylindrical, with a more or less truncate apex, K/I-, the apex usually thickened internally but without an ocular chamber, (50-)80-95 x (10-)17-20 µm. Ascospores 3-septate, constricted at septa, the median cell usually larger than the others, hyaline, fusiform with pointed ends, (16-)18-23 x (4.5-)6-8 µm, without a gelatinous perispore. Pycnidia resembing perithecia but much smaller, 40-60 µm in diam. Conidia bacilliform, 4.5-5(-5.7) x c. 0.8 µm. Photobiont absent. Spot tests: all negative. Chemistry: without lichen substances. - Note: a non-lichenized, saprophytic fungus usually collected by lichenologists, growing on the smooth bark of deciduous trees and shrubs.




***Mycoglaena myricae***

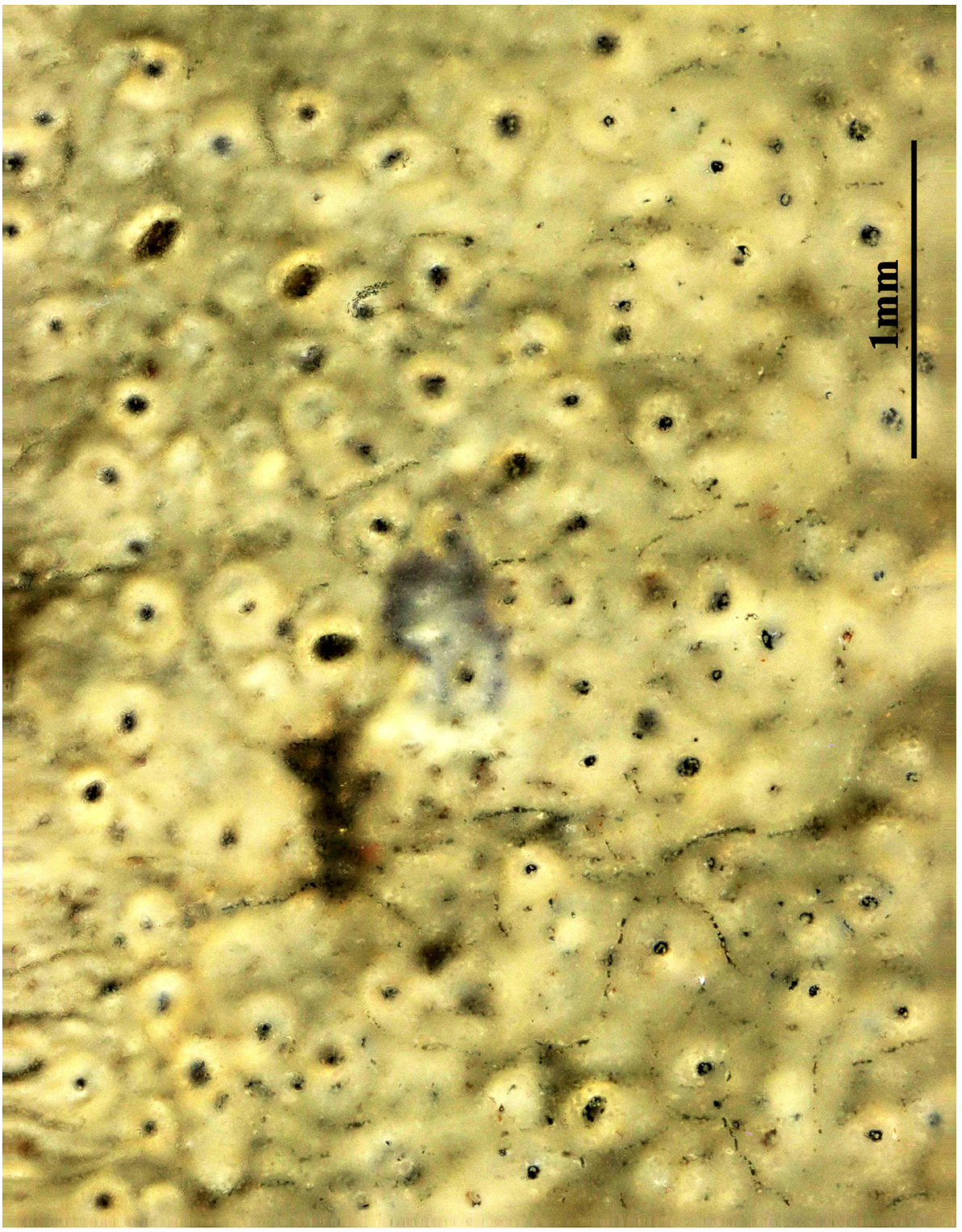

***Mycoglaena myricae***

***Myriotrema fissurinum*** Hale, Bull. Br. Mus. nat. Hist., Bot. 8(3): 279 (1981)
= *Leucodecton fissurinum* (Hale) Frisch, Biblioth. Lichenol. 92: 156 (2006)

[VZ2053], India. Tamil Nadu: in montibus dictis Palni Hills, circa Silver Cascade Kodaikanal, 1800 m. Ad corticem arboris. Leg. M. E. Hale, 24.1.1975. EX A. V ZDA LICHENES SELECTI EXSICCATI NR. 2053.

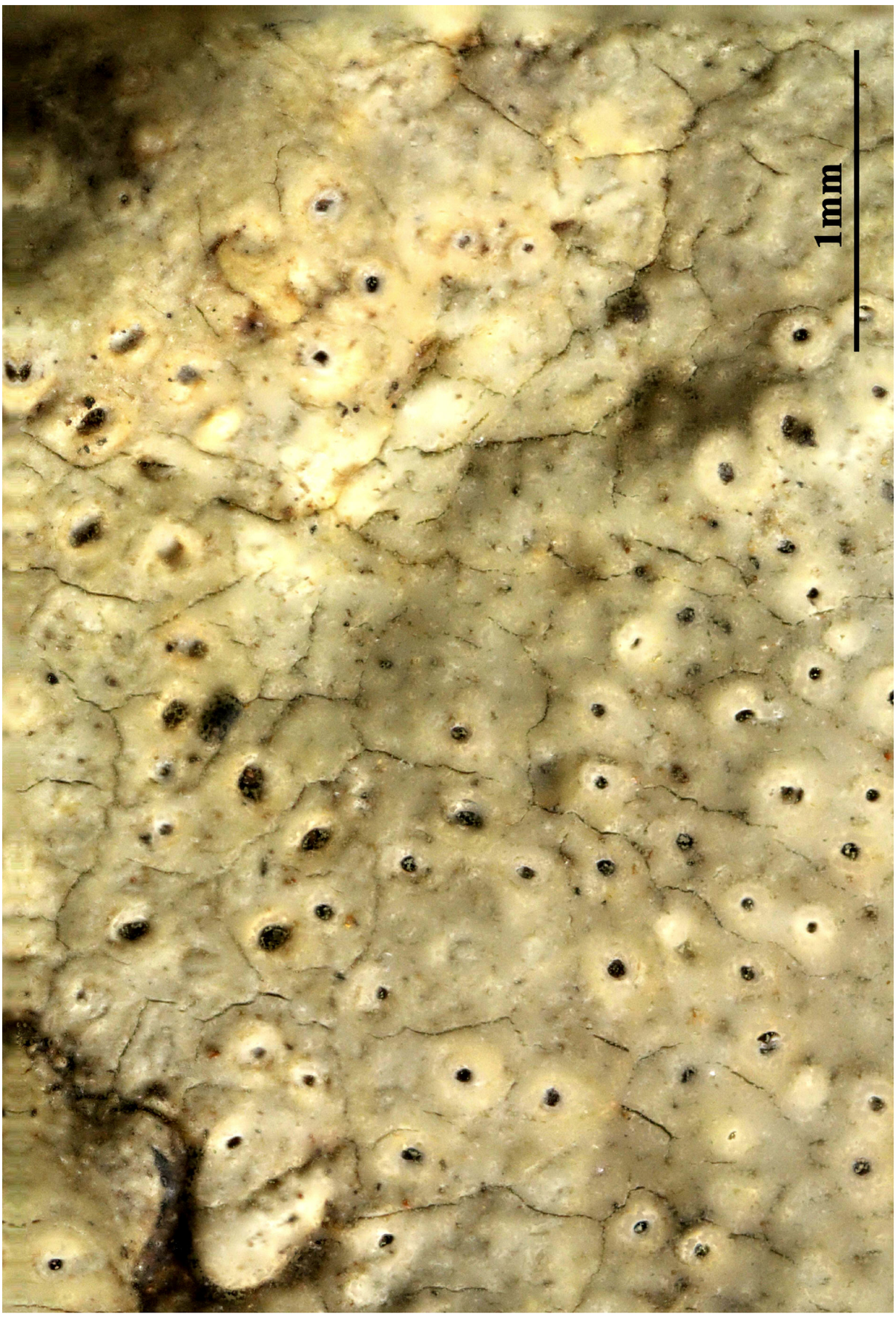
Thallus corticolous, pale olive-grey to brown-olive, fissured to fissure-dareolate, 0.1-0.2 mm thick, verruculose, with a compact and slightly glossy surface; a thin white medullary layer present. Prothallus line thin, dark brown to black. Phenocortex 20-25 µm thick, hyaline to brownish, moderately dense, moderately conglutinated, formed from irregular hyphae. Photobiont layer c. 70- 100 µm thick, filled with a densely granular gelatinous matrix that turns pink in LCB. Medulla not clearly separated from the photobiont layer, up to 130 µm thick, partly endophloeodal. Pycnidia unknown. Apothecia dispersed, immersed in the thallus to slightly emergent, with a rounded, c. 0.08-0.3 mm wide pore. Proper exciple fused or (rarely) incompletely split from the thallus, surrounding the pore as a c. 0.02-0.04 mm wide brownish ring. Disc brown, covered by thin, white pruina. Phenocortex 20 µm thick. Photobiont layer 50-85 µm thick. Periderm layer absent, but few periderm cells are sometimes found around the base of the apothecia. Proper exciple cupular, c. 10-30 µm deep at base, 25-40 µm wide laterally, comprising a hyaline to pale brown conglutinated prosoplectenchyma with a darker brown pigmentation towards the apex. Subhymenium 7-10 µm high. Hymenium 90-145 µm high, clear. Ascospores 8/ascus, 2(-3) seriate, brown, submuriform to muriform, (4-)5-11 x 2-3(-4) loculate, 19-34(-40) = 9-13 µm, with rounded to subacute ends, I- or I+ pale purplish-blue when young. Asci narrowly clavate, c. 85-140 x 12-25 µm. Paraphyses simple, straight, c. 1.5-2 µm wide; tips slightly thickened and occasionally slightly branched, adspersed with fine greyish to brownish granules; small calcium oxalate crystals are found in the pruina of the hymenium. Epihymenium unpigmented, 7-10 µm high. Chemistry: Stictic acid (major), constictic acid (minor), hypoconstictic acid (minor to trace), a-acetylconstictic acid (minor to trace), hypostictic acid (minor to trace) detected by TLC.


***Myriotrema fissurinum***




***Myriotrema fissurinum***


***Myriotrema fissurinum***



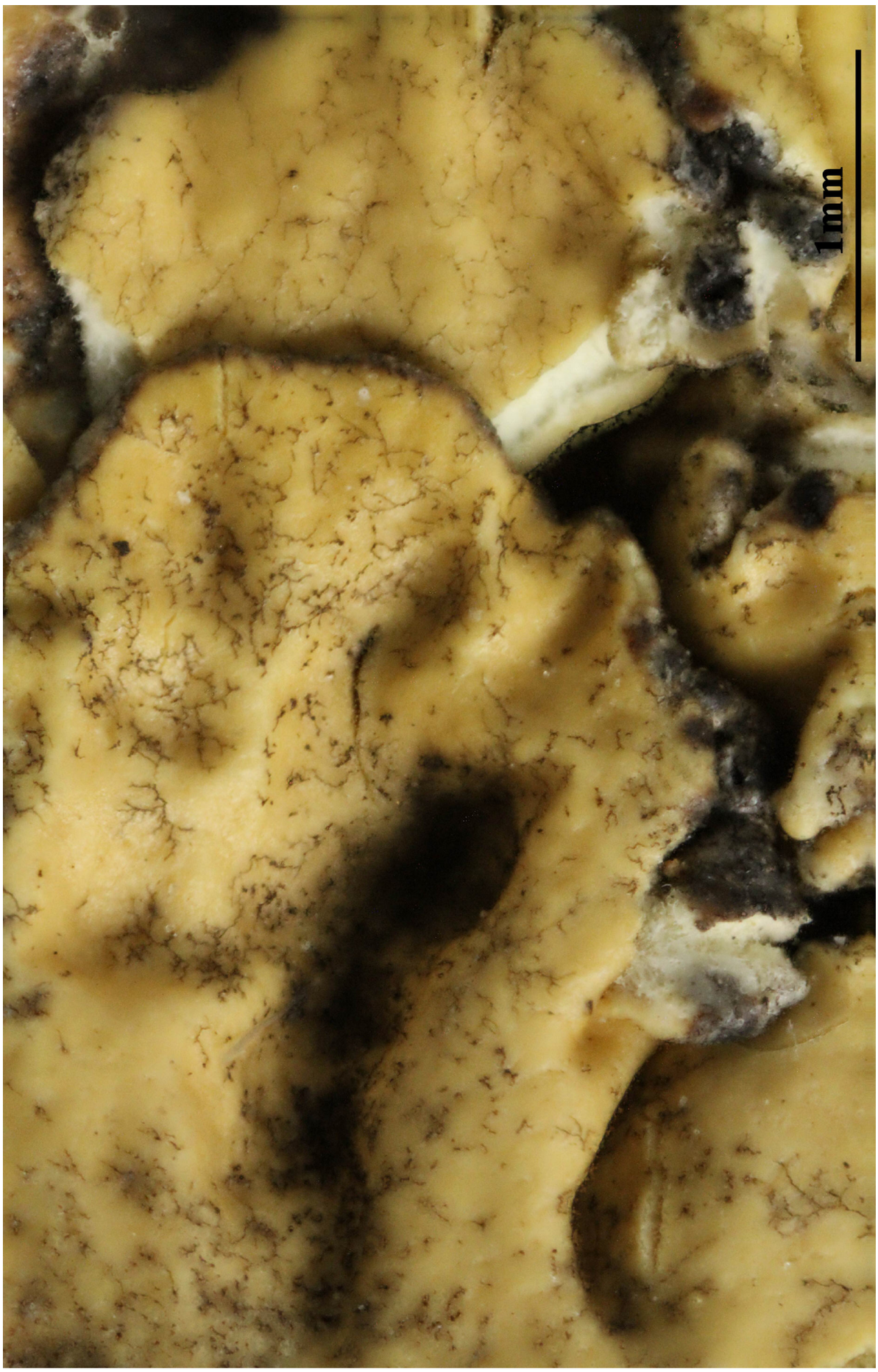

***Myriotrema fissurinum***

***Nephroma antarcticum*** (Jacquin) Nyl., Syn. meth. lich. (Parisiis) 1(2): 317 (1860)
= *Lichen antarcticus* Jacquin 1781
= *Nephroma australe* A. Rich., in Dumont d'Urville, Voy. Aut. Monde 1: 31 (1832)

[VZ2312], Chile. Patagonia. Punta Arenas, reservatum naturae forestalis Lago Parrillar dictum, 300 m. Ad corticem *Nothofagi* sp.. Leg. H. Schindler (13960), 12.11.1988, det. A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2312.

Thallus orbicular to linear-spreading, 2–13 cm wide, variously lobed. Lobes sublinear to irregularly branched, initially ±flattened, contiguous and closely attached centrally, becoming palmate (to 2 cm long and 1 cm wide), imbricate and elongate-spreading, becoming constricted towards the apothecia, ascending at the apices and growing outward; margins entire, undulate, occasionally irregularly notched or lobulate-dissected, often inrolled when dry. Upper surface yellowish green (usnic acid) or yellow (in bright sunlight) or greenish brown (in shade), discolouring to dull yellow or olive in storage, lacking isidia and maculae; lobules laminal and marginal, flattened or terete and resembling phyllidia. Sterile lobes finely wrinkled; fertile lobes smooth and becoming distinctly ridged, scale-like on dorsal side of apothecia. Medulla white. Photobiont Coccomyxa. Lower surface pale creamish or buff to brown, smooth or wrinkled, whitish at the margins, usually with cephalodia (containing Nostoc) under the cortex. Apothecia rounded to reniform, rarely shallowly lobed or dividing into separate discs, 5–8 (–10) mm wide, 3–5 (–6) mm long; disc red-brown, matt or glossy, smooth; margin entire, pale, slightly raised, ±wrinkled; dorsal side areolate-scabrid. Ascospores 3-septate, 17–20 (–22) × 5.0–7.5 µm, pale reddish brown. Pycnidia uncommon, marginal, semi-immersed, dark brown. Conidia not seen.. CHEMISTRY: Race 1: containing usnic acid, hopane-6α,22-diol (major), hypostictic acid (minor), hyposalazinic acid (minor); race 2: ±usnic acid, hopane-6α,22-diol (major), two unidentified terpenoids with low Rf (minor), ±additional unidentified terpenes (traces). - ; corticolous on tree trunks, branches and twigs and saxicolous or muscicolous in sheltered or exposed positions in cool-temperate rainforest, wet scrub or open eucalypt forest. Also in South America and New Zealand.


***Nephroma antarcticum***

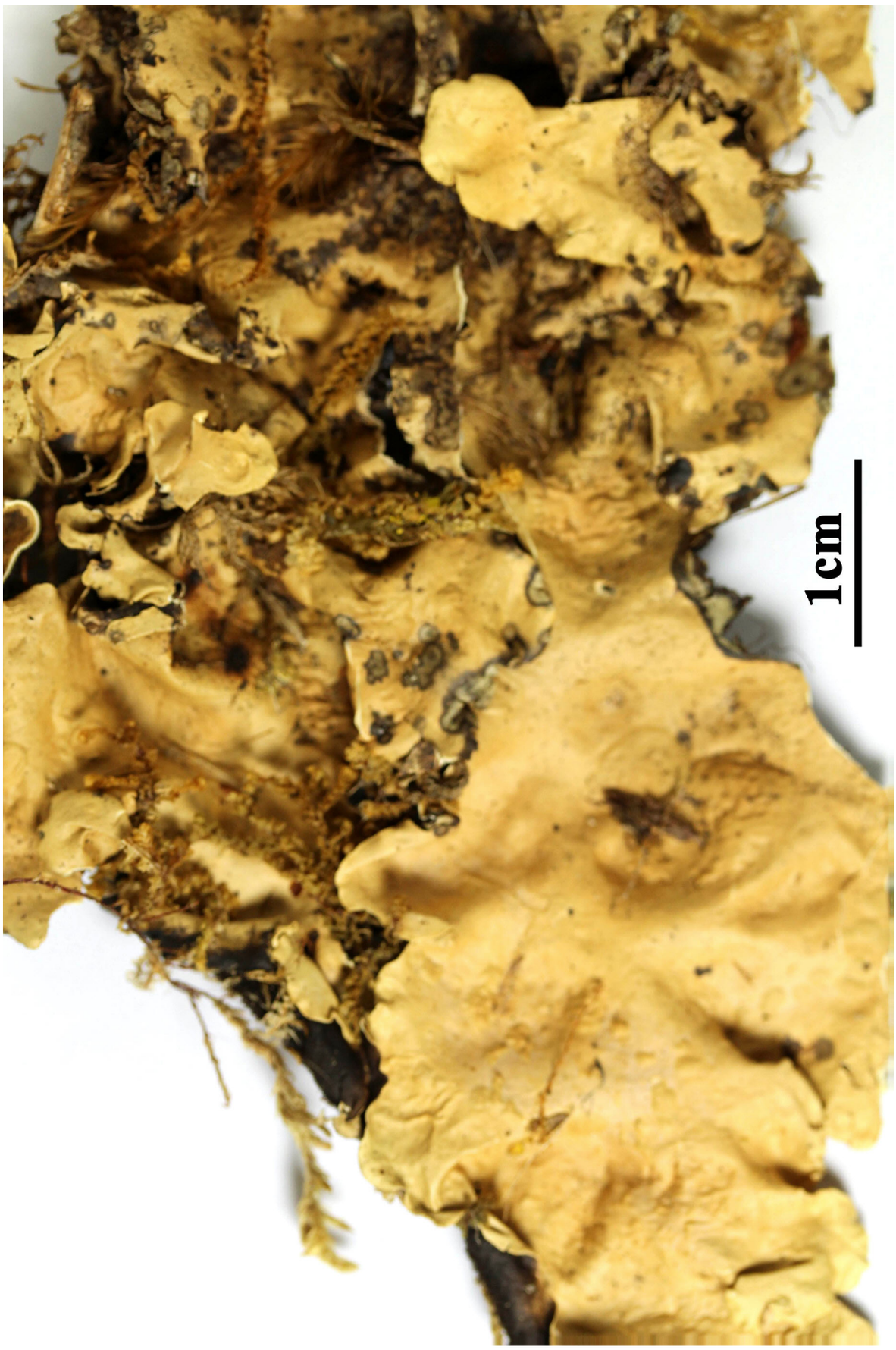



***Nephroma antarcticum***

***Nephroma arcticum*** (L.) Torss., Enum. Lich. Byssac. Scandin. (Upsaliae): 7 (1843)
= *Lichen arcticus* L. 1753

[VZ1760], Suecia. Härjedalen: Tännäs Paroecia, 2 km ad septentriones et occidentem a deversorio Ramundberget, 730 m. Ad terram, in silva subalpina. Leg. R. Santession (no. 29658), 11.7.1979. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1760.

Thallus 6–8 cm diam., forming rosettes or fragmented and irregularly spreading; lobes ca 15 mm broad, ± rounded, the margins entire, undulate, rarely crenulate; upper surface yellow-green when wet, straw-coloured when dry, smooth to partly wavy, glabrous, with convex cephalodial warts; medulla white; lower surface pale brown-white at the margins, with a conspicuous brownish black tomentum towards the centre; photobiont green in the medulla, blue-green in cephalodia. Apothecia 20 (–30) mm diam., rufous-brown; thalline margin ± raised. Ascospores 23–27 × 4–6 µm, 3-septate, subfusiform. Pycnidia rare, marginal; conidia 3–4 × 1–2 µm. Thallus C–, K+ yellowish, KC+ yellow, Pd+ yellow; medulla UV+ (nephroarctin, phenarctin, zeorin, ± usnic acid). - On lichen-moss heaths; very rare. Scotland. Characterized by the yellow-green, large-lobed thallus, absence of soralia and the dark tomentose lower surface.




***Nephroma arcticum***

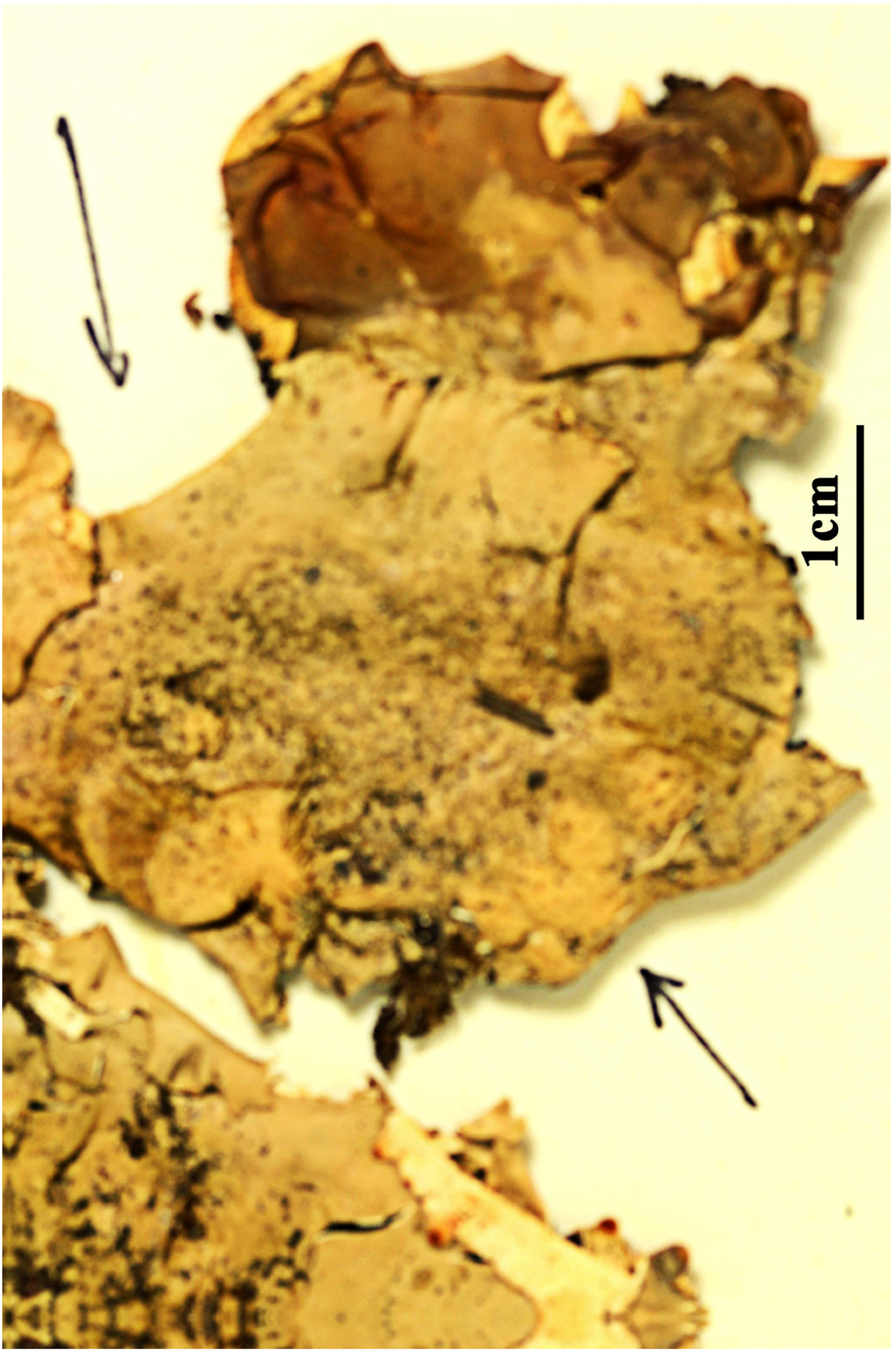

***Nephroma arcticum***


***Nephroma arcticum***

***Nephroma arcticum*** (L.) Torss., Enum. Lich. Byssac. Scandin. (Upsaliae): 7 (1843)
= *Lichen arcticus* L. 1753

[VZ1794], Suecia. Värmland. Fryksende, Storskallberget, 280 m. Supra muscos. Leg. S. W. Sundell (no. 14244), 8.9.1980. EX A. VEZDA LICHENES SELECTI EXSICCATI NR. 1794.

Thallus 6–8 cm diam., forming rosettes or fragmented and irregularly spreading; lobes ca 15 mm broad, ± rounded, the margins entire, undulate, rarely crenulate; upper surface yellow-green when wet, straw-coloured when dry, smooth to partly wavy, glabrous, with convex cephalodial warts; medulla white; lower surface pale brown-white at the margins, with a conspicuous brownish black tomentum towards the centre; photobiont green in the medulla, blue-green in cephalodia. Apothecia 20 (–30) mm diam., rufous-brown; thalline margin ± raised. Ascospores 23–27 × 4–6 µm, 3-septate, subfusiform. Pycnidia rare, marginal; conidia 3–4 × 1–2 µm. Thallus C–, K+ yellowish, KC+ yellow, Pd+ yellow; medulla UV+ (nephroarctin, phenarctin, zeorin, ± usnic acid). - On lichen-moss heaths; very rare. Scotland. Characterized by the yellow-green, large-lobed thallus, absence of soralia and the dark tomentose lower surface.

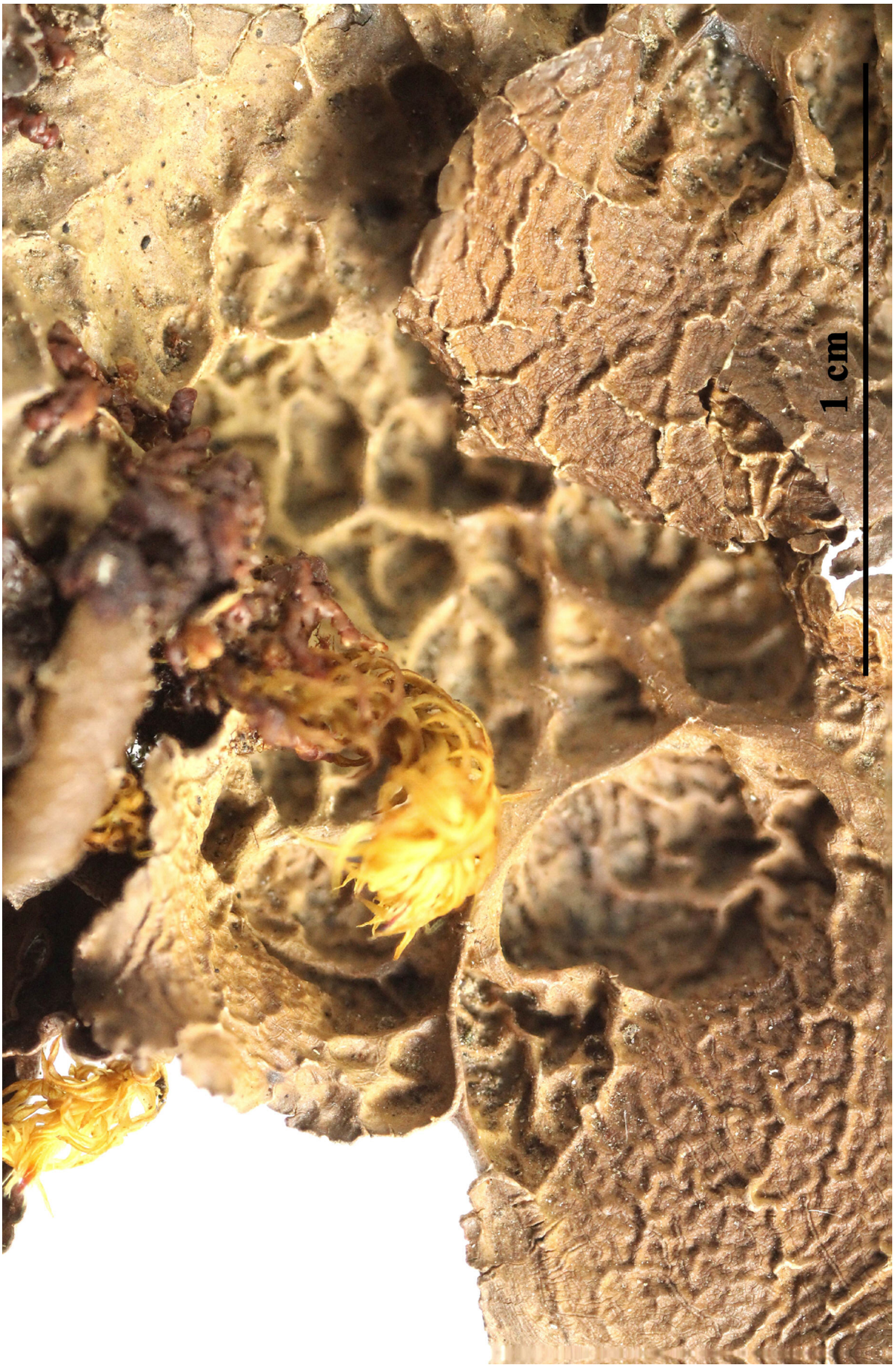



***Nephroma arcticum***

***Nephroma cellulosum*** (Sm. ex Ach.) Ach.
=*Lichen cellulosus* Sm. ex Ach., Methodus 289 (1803).
=*Nephroma cellulosum var. isidioferum* J.S.Murray, Trans. Roy. Soc. New Zealand 88: 285 (1960).

[VZ2011], Australia, Tasmania. Wandle River, 570 m.In ramulis *Cassiniae aculeatae* in ripa fluminis ad marginam pluviisilva. Leg. G. Kantvilas (no. 588/85), 9.4.1984. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2011.

Thallus orbicular to irregularly spreading, 4–9 (–15) cm wide, coriaceous, variously lobed. Lobes sublinear to irregularly branched, initially ±flattened, contiguous and closely attached centrally, becoming palmate (to 5 cm long and 1.5 cm wide), imbricate and elongate-spreading, ascending at apices and growing outwards; margins entire, occasionally irregularly scalloped at the apices or becoming phyllidiate, sometimes sinuous. Upper surface olive-brown to reddish (chestnut)-brown to greyish red or grey (shade forms), matt or glossy in parts, markedly faveolate-reticulate (especially the fertile lobes), or with coarse terete to squamiform phyllidia along ridges between faveolae at lobe margins and fringing margins of apothecia; faveolae 2–3 mm wide, to 2 mm deep, separated by rather well-defined or, occasionally, sharp chipped ridges, less pronounced on dorsal side of apothecia, ±white-maculate (×10 lens; especially the sterile lobes); maculae stellate or forming a raised white sulcate reticulum; isidia absent. Medulla white. Photobiont Nostoc. Lower surface of fertile lobes distinctly bullate, glossy, creamish buff at the margins, glabrous; sterile lobes dark grey-brown centrally, wrinkled, occasionally pubescent. Apothecia elongate-rounded to reniform, rarely shallowly lobed or dividing into separate discs, 5–10 (–15) mm wide, 2–5 (–8) mm long; disc pale to dark (red-)brown, initially sunken, becoming slightly raised, with a narrow entire margin; apices of apothecia usually inrolled, entire or denticulate. Ascospores 3-septate, (14.0–) 17.5–22.5 (–25.0) × 5.0–8.5 μm, pale brownish. Pycnidia rare, marginal, semi-immersed. Conidia not seen. CHEMISTRY: Hopane-6α,22-diol (major), perlatolic acid (major), stenosporic acid (minor), glomelliferic acid (major), ±traces of glomellic, anziaic and loxodellic acids, ±trace of unidentified pigment. - Occurs in Australia and Tasmania; corticolous, saxicolous or muscicolous in cool-temperate rainforest, heathland and Sphagnum bog, high-altitude mixed sclerophyll and open or scrubby *Eucalyptus* forest. Also in southern South America, Juan Fernández Islands and New Zealand.




***Nephroma cellulosum***


***Nephroma cellulosum***

***Nephroma expallidum*** (Nyl.) Nyl., Flora, Regensburg 48: 428 (1865)
= *Nephromium expallidum* Nyl. - Öfvers. K. Svensk. Vetensk.-Akad. Förh., 17: 295, 1860.

[VZ2499], Austria. Tirolia, Glockenturmkamm: Pfunds, in valle Platzerthal, 2100 m. Inter muscos ad terram prope metalla cupri vetusta. Leg. F. Ceni, V. John & A. Vězda, 7.9.1991. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2499.

Thallus foliose, heteromerous, dorsiventral, irregular or forming up to 15 cm wide rosettes, loosely attached. Lobes to 2 cm wide, 0.5-0.7 mm thick, elongate, partly overlapping, with entire to crisped, often lobulate margins. Upper surface yellowish brown to yellowish white, brown in sun-forms, greenish when wet, often pruinose and slightly pubescent, smooth to slightly scabrid, with wart-like internal cephalodia, esorediate; lower surface corticate, pale brown to yellow-brown at margins, darker in central parts, glabrous or weakly pubescent, with rounded cephalodial warts and sparse, simple rhizines. Upper and lower cortex paraplectenchymatous; medulla white. Apothecia rare, immersed on lower surface at tips of lobes, orbicular, to 1.5 cm across, cup-shaped, with a brown disc and a prominent thalloid margin. Epithecium brownish; hymenium and hypothecium colourless. Asci 8-spored, fissitunicate, the thickened apex with a K/I+ blue ring, Peltigera-type. Ascospores 3-septate, pale brown, subfusiform, thick-walled, 17-21 x 5-6 µm. Pycnidia rare, black, marginal, immersed, punctiform. Conidia bacilliform, 3-4 x 1-2 µm. Photobiont: green algae (Coccomyxa); cephalodia with Nostoc. Spot tests: cortex and medulla K-, C-, KC-, P-. Chemistry: medulla with 15a-acetoxyhopan-22-ol (T2), hopane-6a,22-diol (T3 = zeorin), hopane-15a,22-diol, and unidentified UV+ substances. Note: an arctic-alpine species found on soil and amongst bryophytes over siliceous substrata, near or above treeline; probably restricted to the Alps, where it exceptionally reaches the nival belt.


***Nephroma expallidum***


***Nephroma expallidum***

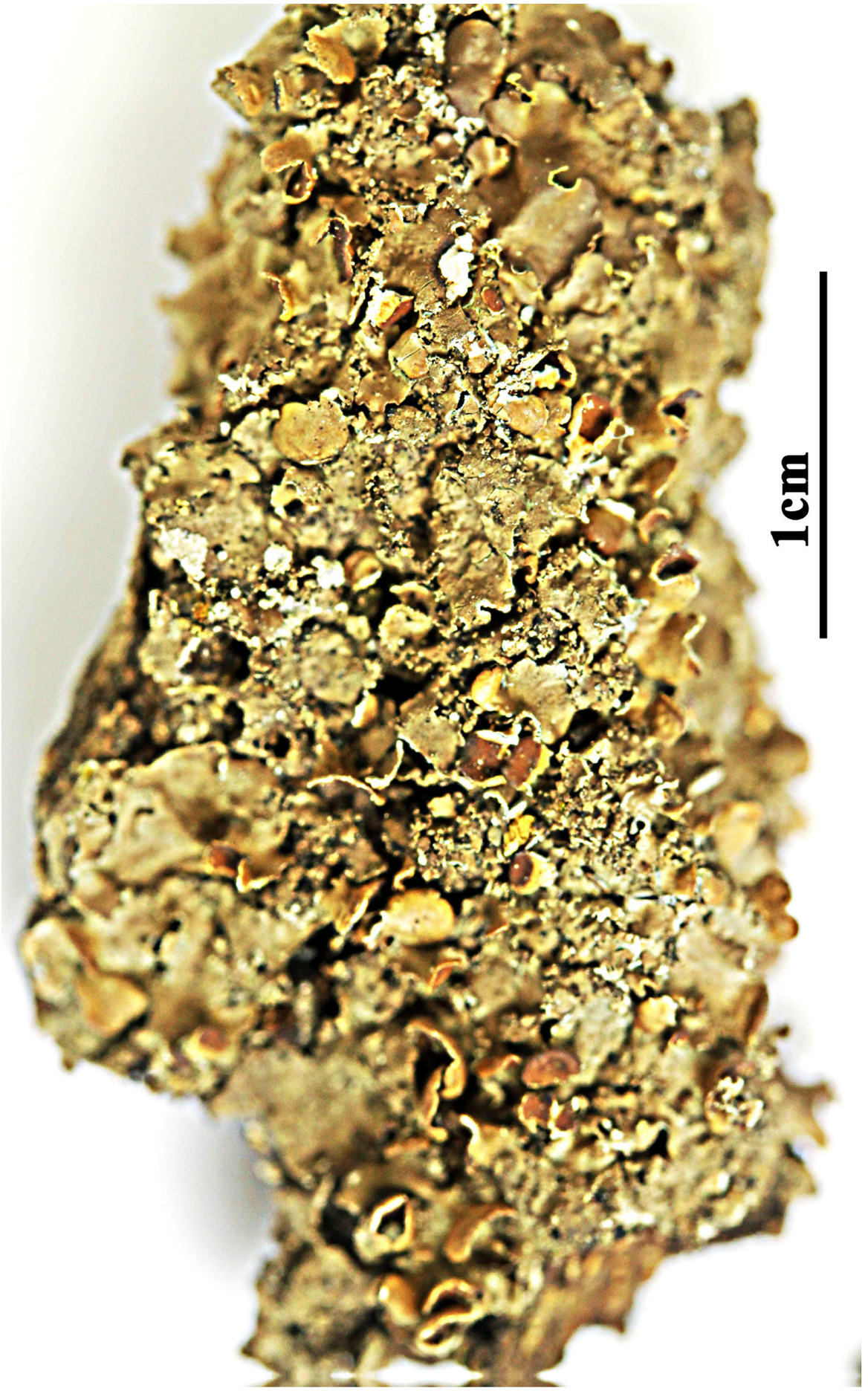

***Nephroma expallidum***


***Nephroma expallidum***

***Nephroma laevigatum*** Ach. [as 'laevigata'], Syn. meth. lich. (Lund): 242 (1814)

[VZ2043], Jugoslavia. Dalmatia, peninsula Pelješac: montes Zagorje, prope pagum Durčiči, 400 m. Ad corticem *Quercus pubescens*. Leg. A. Vězda, 29.8.1984. EX A. VEZDA LICHENES SELECTI EXSICCATI NR. 2043.

Thallus foliose, heteromerous, dorsiventral, loosely attached, fragmentary or (usually) forming 3-10(-15) cm wide rosettes. Lobes leathery, 5-10(-15) mm wide, the upper surface smooth, glossy, brown-grey to grey-blue when dry, dark blue-grey when wet; lower surface pale brown, darker towards the center, not tomentose, smooth to longitudinally striate. Upper and lower cortex paraplectenchymatous; medulla ochre-yellow. Apothecia frequent, on lower surface at apices of lobes, 0.5-1 cm across, reniform or oval, the disc brown, the dorsal surface conspicuously scabrid-areolate and ridged. Epithecium brownish; hymenium colourless, c. 70 µm high; paraphyses simple, coherent; hypothecium colourless to yellowish. Asci 8-spored, fissitunicate, the thickened apex with a K/I+ blue ring, Peltigera-type. Ascospores 3-septate, brownish, broadly ellipsoid, 16-20 x 5-7 µm. Pycnidia rare, mostly marginal, black, immersed. Conidia bacilliform, 4-5 x 1- 2 µm. Photobiont: cyanobacterial ( Nostoc, the cells not in long chains). Spot tests: cortex K-, C-, KC-, P-; medulla K+ pink to red. Chemistry: medulla with hopane-6a,7ß,22-triol, a range of anthraquinones, and unidentified, UV+ substances. - Note: a mild-temperate to humid subtropical lichen found on bark, epiphytic bryophytes and mossy rocks in humid, open forests; this is the most frequent species of Nephroma in the country, descending to sea level in Tyrrhenian Italy.



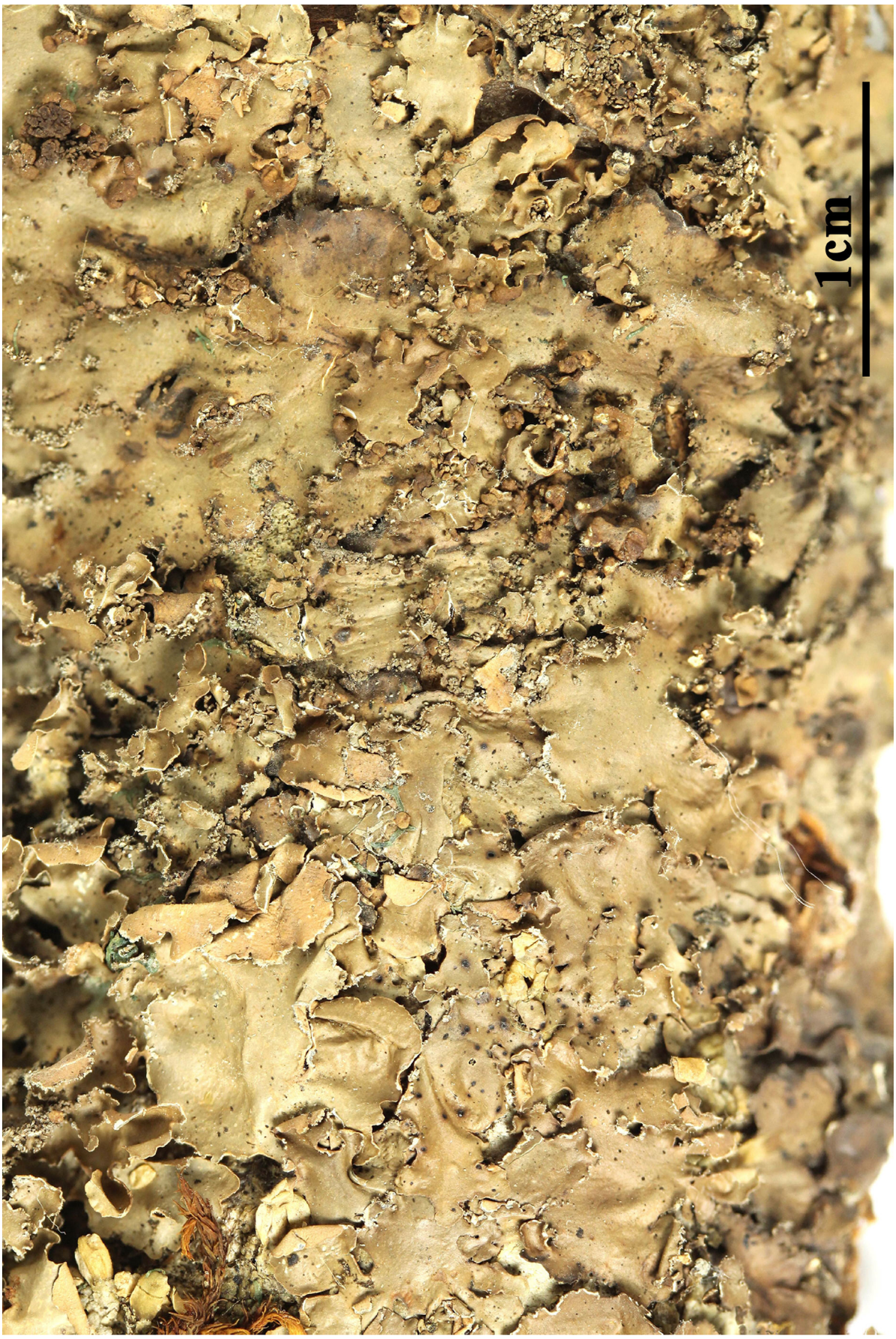

***Nephroma laevigatum***

5mm

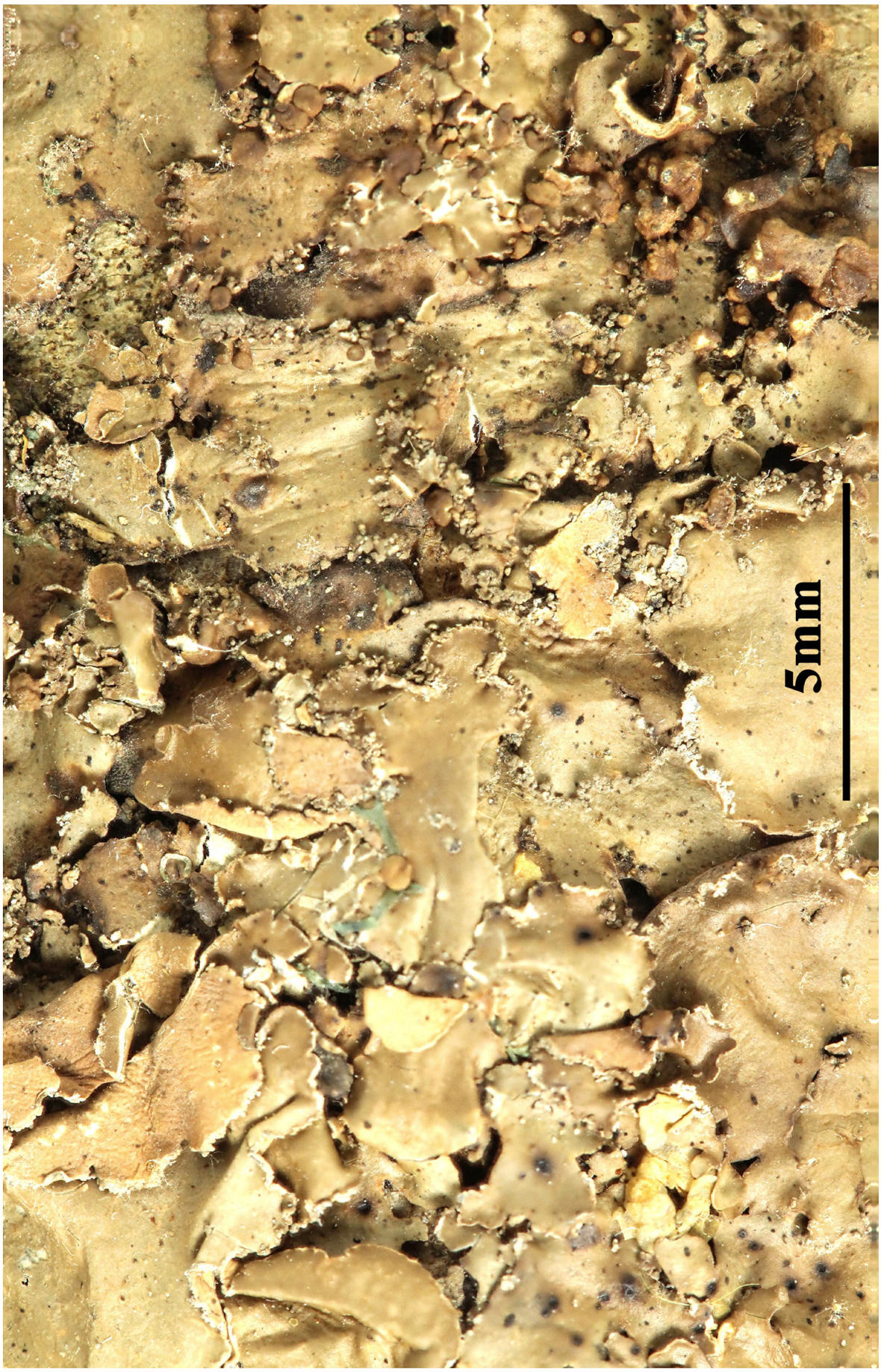
***Nephroma parile*** (Ach.) Ach. [as 'parilis'], Lich. Univ.: 522 (1810)
= *Lichen parilis* Ach. 1799

[VZ1820], URSS. Ucraina Transcarpatica. Montes Poloniny, regio montis Černaja Gora, in valle rivi Brewbenjeskul, 760 m. Ad corticam Fagorum. Leg. J. Suza, 8.1930, det. A. Vězda. - Annot. Isidiis copiosis ad *Nephroma helveticum* Ach. vergen. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1820.

Thallus foliose, heteromerous and dorsiventral, loosely adnate, fragmentary or forming 3-8(-12) cm wide rosettes. Lobes irregular, 3-8(-10) mm wide, elongate, thin, subrotund at apices, with entire or dissected, rarely ascending margins. Upper surface smooth to slightly foveolate, bluish grey to dark red-brown when dry, much darker when wet, epruinose, with brownish, irregular, marginal soralia which later expand over the surface, the soredia usually corticate; lower surface corticate, pale brown, tomentose, smooth to rugulose. Upper and lower cortex paraplectenchymatous; medulla white. Apothecia very rare, immersed on lower surface at tips of lobes, orbicular, up to 8 mm diam., with a light brown disc and a prominent margin with a usually sorediate thalloid rim. Asci 8-spored, fissitunicate, the thickened apex with a K/I+ blue ring, Peltigera-type. Ascospores subfusiform, 3-septate, pale brown, thick-walled, 17-20 x 5-7 µm. Pycnidia rare, marginal, immersed, punctiform. Conidia bacilliform, 4-5 x 1-2 µm. Photobiont cyanobacterial (Nostoc, the cells not in long chains). Spot tests: upper cortex K-, C-, KC-, P-; medulla K- or K+ pale yellow. Chemistry: upper cortex with an unknown brown pigment; medulla with the following hopane triterpenoids: T2 (15α-acetoxyhopan-22-ol; dolichorrhizin), T3 (hopane-6α,22-diol; zeorin), and T5 (hopane-15α,22-diol). - Note: a cool-temperate to circumboreal-montane lichen found on bark, epiphytic mosses, basic siliceous rocks and soil in humid and sheltered situations, mostly in upland areas.




***Nephroma parile***




***Nephroma parile***

***Nephroma resupinatum*** (L.) Ach. [as 'resupinata'], Lich. Univ.: 522 (1810)
= *Lichen resupinatus* L. 1753

[VZ1843], URSS. Transcaucasia, Colchis. Georgia, distr. Guiripshi, in vicinitate pagi Saken, 1300-1500 m. Ad truncum *Fagi orientalis*. Leg. V. Vašák, 6.6.1981, det A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1843.

Thallus foliose, heteromerous, dorsiventral, loosely adnate, forming 3-10 cm wide rosettes. Lobes 5-15 mm wide, elongate, entire or crenulate at margins, sometimes ascending and rarely with marginal or laminal phyllidia, the upper surface grey to grey-brown when dry, much darker when wet, dull, usually strongly pubescent; surface pale brown to whitish, densely tomentose, with scattered, raised, white papillae. Upper and lower cortex paraplectenchymatous; medulla white. Apothecia common, immersed on lower surface at tips of lobes, up to 15 mm across, cup-shaped, sessile, with a brown disc and a prominent, foveolate-reticulate, usually finely hairy thalloid dorsal surface. Epithecium brownish; paraphyses coherent; hymenium and hypothecium colourless. Asci 8-spored, fissitunicate, the thickened apex with a K/I+ blue ring, Peltigera-type. Ascospores 3-septate, pale brown, fusiform, thin-walled, 21-24 x 4-6 µm. Pycnidia rare, black, mainly marginal, immersed, punctiform. Conidia bacilliform, 4-5 x 1-2 µm, Photobiont cyanobacterial (Nostoc, the cells not in long chains). Spot tests: upper cortex and medulla: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a mainly temperate, holarctic lichen found on mossy trunks, rocks, more rarely on soil, in cool and sheltered habitats, with optimum in humid beech forests.


***Nephroma resupinatum***

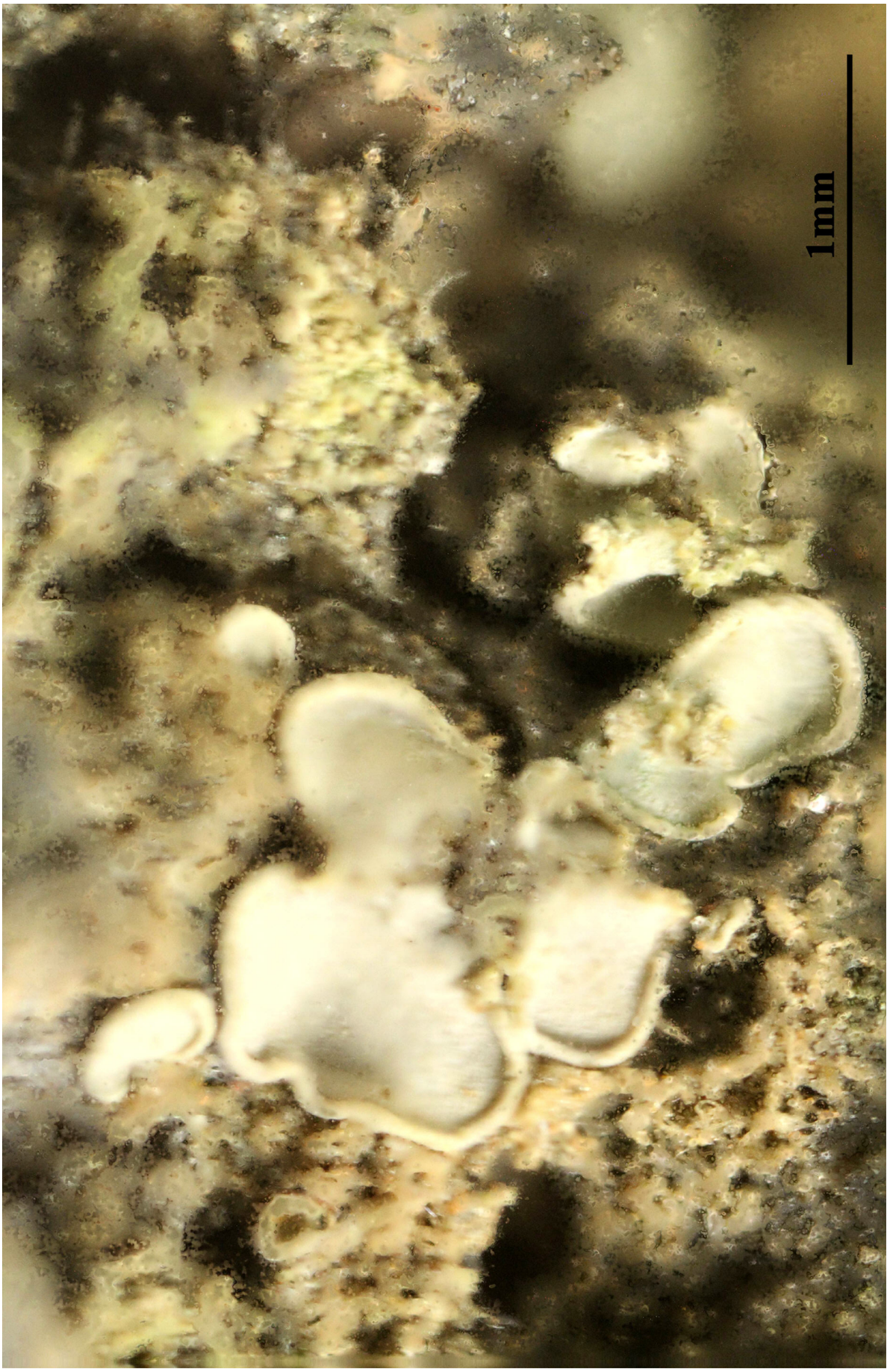

***Nephroma resupinatum***

***Normandina pulchella*** (Borrer) Nyl., Annls Sci. Nat., Bot., sér. 4 15: 382 (1861)
= *Verrucaria pulchella* Borrer 1831

[VZ2251], Italia. Calabria, in monte Luta, 1250 m. Ad corticem *Populi* sp. Leg. D. Puntillo, 26.7.1988. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2251.

Thallus squamulose, heteromerous, of 1-2(-3) mm wide and 30-70 µm thick, flat to concave, isolated to crowded, rounded, shell-like, glaucous green (to grey-green in sun-forms), concentrically ridged squamules with sharply raised margins bearing greenish, farinose to small-granulose, 20-50(-80) µm wide soredia which, albeit rarely, extend to the whole upper surface giving it a leprose appearance. Lower surface whitish, slightly felted, broadly attached by numerous hyphae. Upper cortex pseudoparenchymatous or hardly evident; medulla very thin, inconspicuous; photobiont layer 35-60 µm thick, of hyphae with mostly subglobose cells arranged in a net-like structure around groups of algal cells. Perithecia very rare, up to 0.4 mm across, immersed in the thallus and strongly projecting from its lower part, subglobose, black, without an involucrellum. Exciple with elongated cells, composed of 10-15 cell layers, 30-40 µm thick, the outer cells with densely pigmented walls, the inner layers colourless. Hamathecium lacking interascal filaments, periphyses well developed at the ostiole, septate. Asci 8-spored, clavate, short-stalked, with delicate walls, I-. Ascospores (5-)7-septate, at first hyaline then turning pale brown, more or less bacilliform, smooth-walled, (22-)25-35(-40) x (5-)6-9(-10) µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: zeorin. - Note: a mild-temperate lichen, most often found on epiphytic *Frullania* and other liverworts, most common in north-eastern and Tyrrhenian Italy, rare along the eastern side of the Peninsula.


*Normandina pulchella*



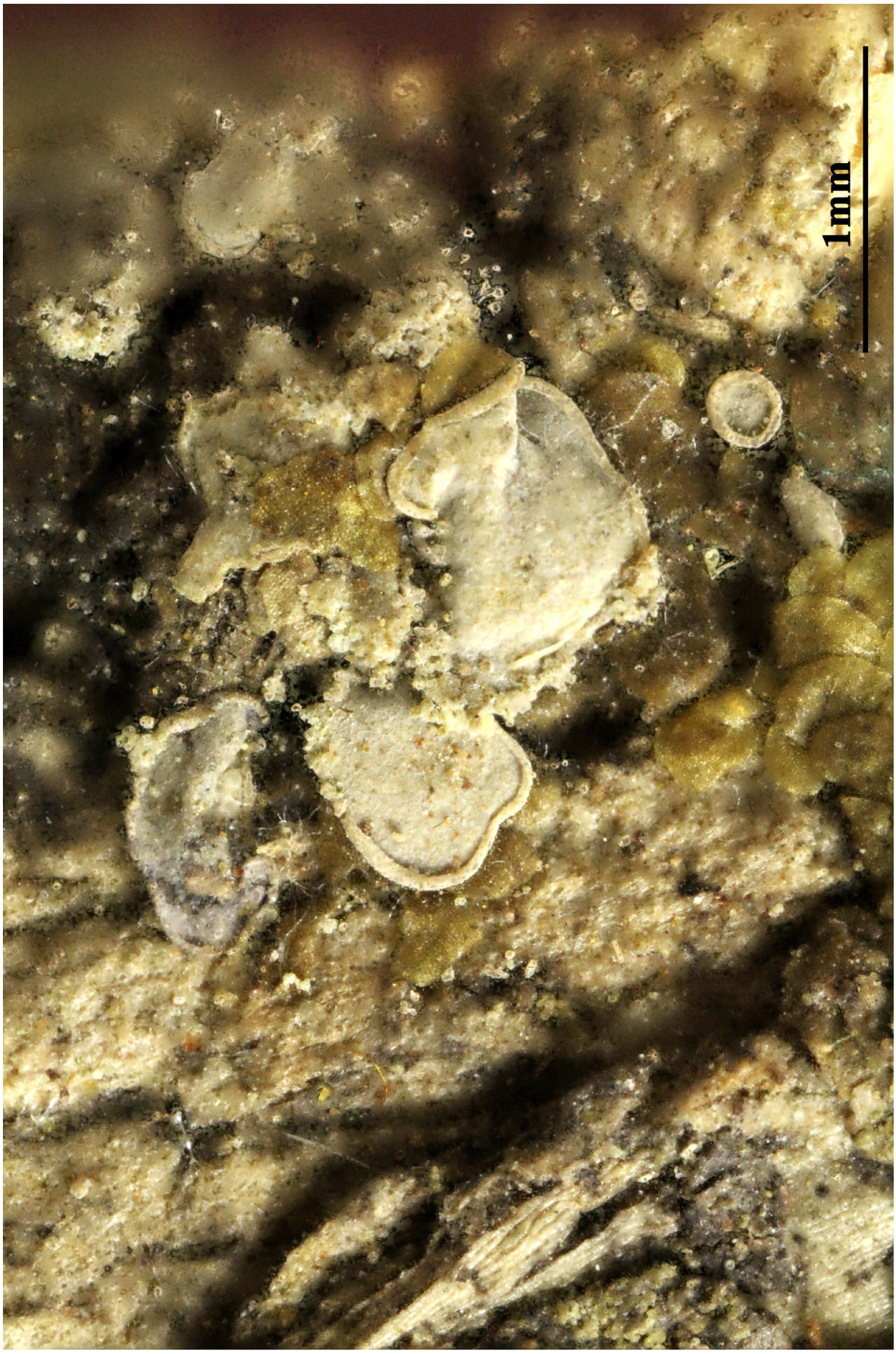

***Normandina pulchella***

***Normandina pulchella*** (Borrer) Nyl., Annls Sci. Nat., Bot., sér. 4 15: 382 (1861)
= *Verrucaria pulchella* Borrer 1831

[VZ1671], URSS. Transcaucasia. Colchis. Distr. Gagra, in valle angusta rivi Zo Ekvara, 30 m. Ad ramulos Buxi colchicae. Leg. V. Vašák et A. Vězda, 18.6.1979. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1671.

Thallus squamulose, heteromerous, of 1-2(-3) mm wide and 30-70 µm thick, flat to concave, isolated to crowded, rounded, shell-like, glaucous green (to grey-green in sun-forms), concentrically ridged squamules with sharply raised margins bearing greenish, farinose to small-granulose, 20-50(-80) µm wide soredia which, albeit rarely, extend to the whole upper surface giving it a leprose appearance. Lower surface whitish, slightly felted, broadly attached by numerous hyphae. Upper cortex pseudoparenchymatous or hardly evident; medulla very thin, inconspicuous; photobiont layer 35-60 µm thick, of hyphae with mostly subglobose cells arranged in a net-like structure around groups of algal cells. Perithecia very rare, up to 0.4 mm across, immersed in the thallus and strongly projecting from its lower part, subglobose, black, without an involucrellum. Exciple with elongated cells, composed of 10-15 cell layers, 30-40 µm thick, the outer cells with densely pigmented walls, the inner layers colourless. Hamathecium lacking interascal filaments, periphyses well developed at the ostiole, septate. Asci 8-spored, clavate, short-stalked, with delicate walls, I-. Ascospores (5-)7-septate, at first hyaline then turning pale brown, more or less bacilliform, smooth-walled, (22-)25-35(-40) x (5-)6-9(-10) µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: zeorin. - Note: a mild-temperate lichen, most often found on epiphytic *Frullania* and other liverworts, most common in north-eastern and Tyrrhenian Italy, rare along the eastern side of the Peninsula.


***Normandina pulchella***




***Normandina pulchella***

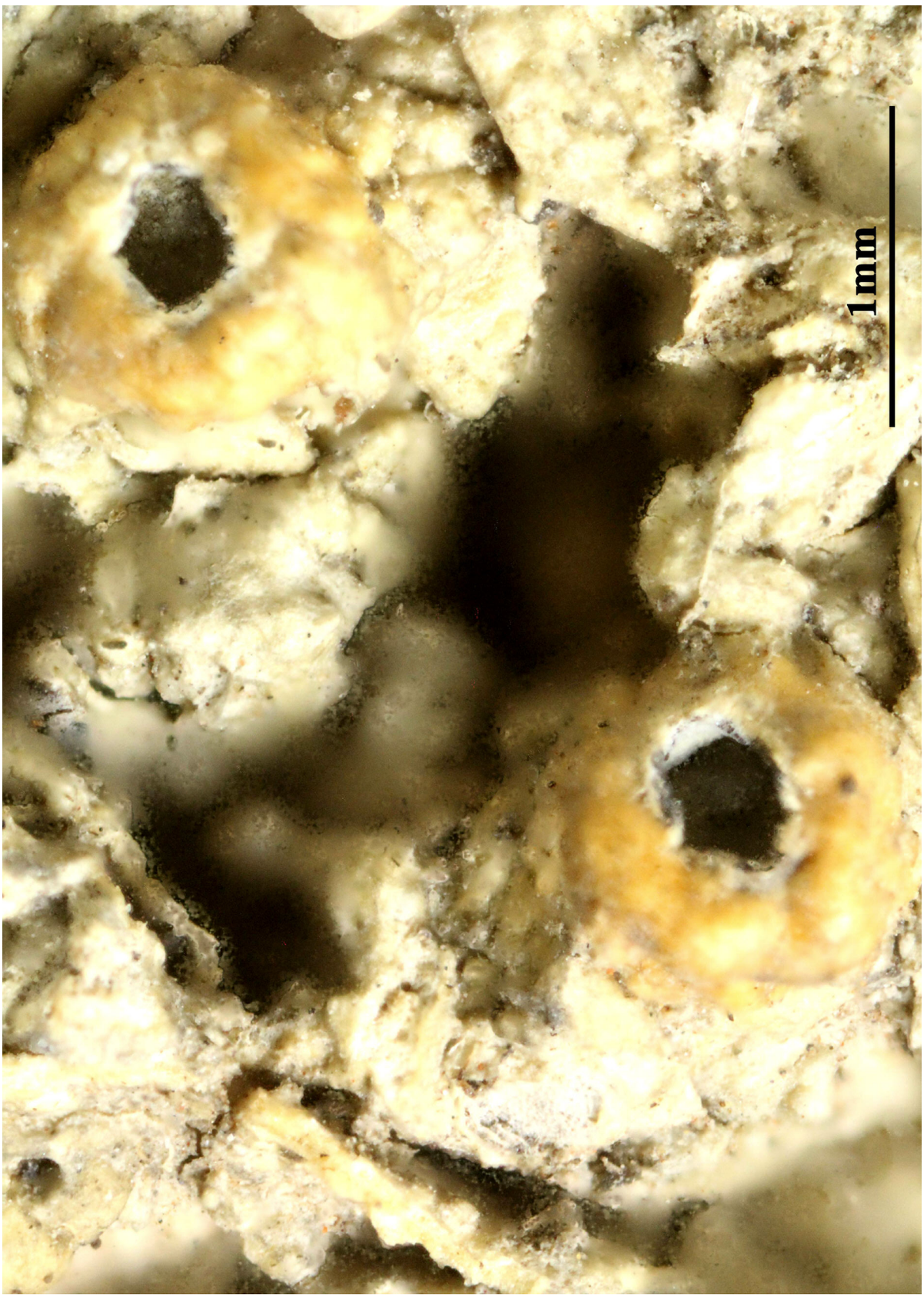
***Ocellularia amplior*** (Nyl.) Redinger, Ark. Bot. 28A(no. 8): 20 (1936)
= *Thelotrema cavatum var. amplius* Nyl. 1867
= *Ampliotrema amplius* (Nyl.) Kalb, in Frisch, Biblioth. Lichenol. 92: 81 (2006)

[VZ1826], Brasilia. São Paulo: Ilha Comprida, in silva litoros arenosi (Restinga). Ad corticem arboris. Leg. et det. K. Kalb, 1.11.1980. Ex A. Vězda Lichenes Selecti Exsiccati Nr.1826.

Thallus corticola, epiphloeodes, crustaceus, uniformis, 150 µm altus, continuus, late expansus, substratum arcte obducens, subchondroideus, granuloso- vel rimuloso-inaequalis vel minute verruculoso-granulosus, glaucescenti- vel pallide ochraceus vel fuscescens, subopacus, K+ umbrinus vel luteoaurantiacus vel laete sanguineus, sorediis et isidiis nullis, in margine linea tenui, obscure fusca, ± undulata cinctus. Stratum corticale bene evolutum, ca. 30-50 µm altum, euchondroideum, lutescens, purum, dilucidum; stratum gonidiale continuum, ca. 80 µm altum, gonidiis crebris, aequaliter dispositis, chroolepoideis, sordide virentibus; medulla alba et inspersa, crassitudine varians. Apothecia creberrima, aequaliter disposita, alte sessilia, valida, globosa, ad basim bene constricta, usque 2 (vulgo 1—1.5) mm in diametro, cum thallo concoloria vel paulum pallidiora vel magis fuscescentia, laevissima, nitidula, margine thallino crasso, integro, superne incurvo et acutato, demum suberecto cincta, apertura rotundata, 0.2-1.0 mm lata, disco profunde impresso, concavulo, caesio-pruinoso. Excipulum integrum, rufo-fuscum, ad basim planato-rotundatum, angustum et a substrato non distincte separatum vel usque 100 µm altum, ad latera hymenii erecto-incurvum, sensim angustatum et in luteo-aurantiacum vergens, K+ kermesino-sanguineum, in vertice annulum fuligineum ca. 90 µm latum et 500µm altum formans, extus margine thallino ca. 160 µm crasso, bene chondroideo-corticato cinctum. Hypothecium usque 100 µm altum, flavescens vel lutescens et sensim in excipulum basale transiens. Hymenium superne late planatum, tenuiter albo-pruinosum, decolor, dense inspersum et imperspicuum, ± 150 µm altum et usque 1.3 mm latum, J+ vinoselutescens. Paraphyses tenuissimae, simplices, strictae, densissimae, sat conglutinatae, eseptatae, granulis minutis creberrime obtectae, non capitatae. Asci oblongo-clavati, membrana mediocri cincti, superne usque 1.2 µm incrassati, ca. 120 µm longi et usque 20 µm lati, 4—6-spori. Sporae biseriales, fusiformes vel subvermiculares, rectae vel curvulae, apicibus angustato-rotundatis vel altero apice rotundato, altero angustato, decolores, (6—)10—I5-loculares,

loculis ellipsoideis vel subdiscoideis, apicalibus subconicis vel semiglobosis, (21-)30—60(—80) µm longae et 6-8 µm latae, J+ coerulescentes.


***Ocellularia amplior***

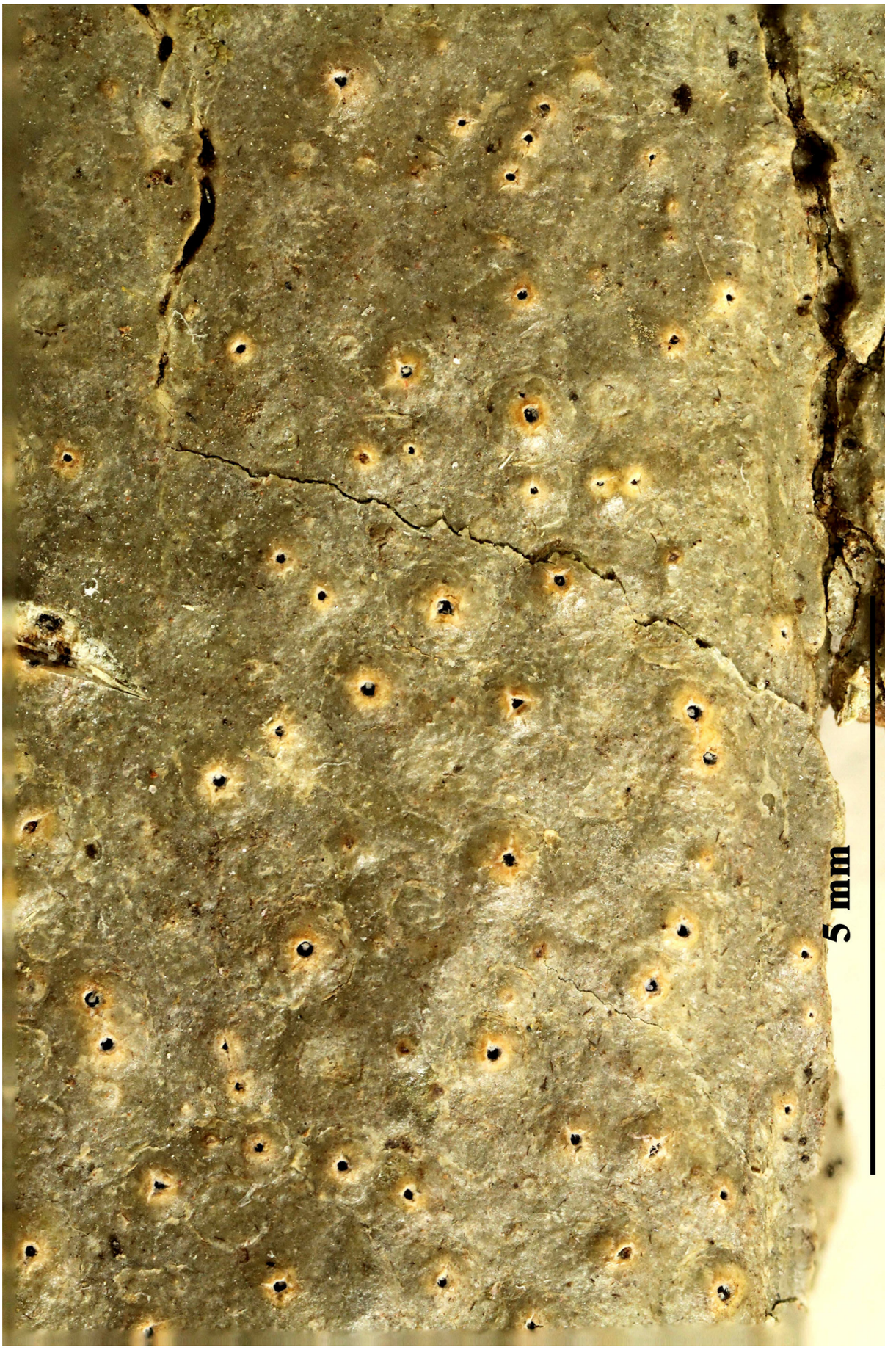



***Ocellularia amplior***

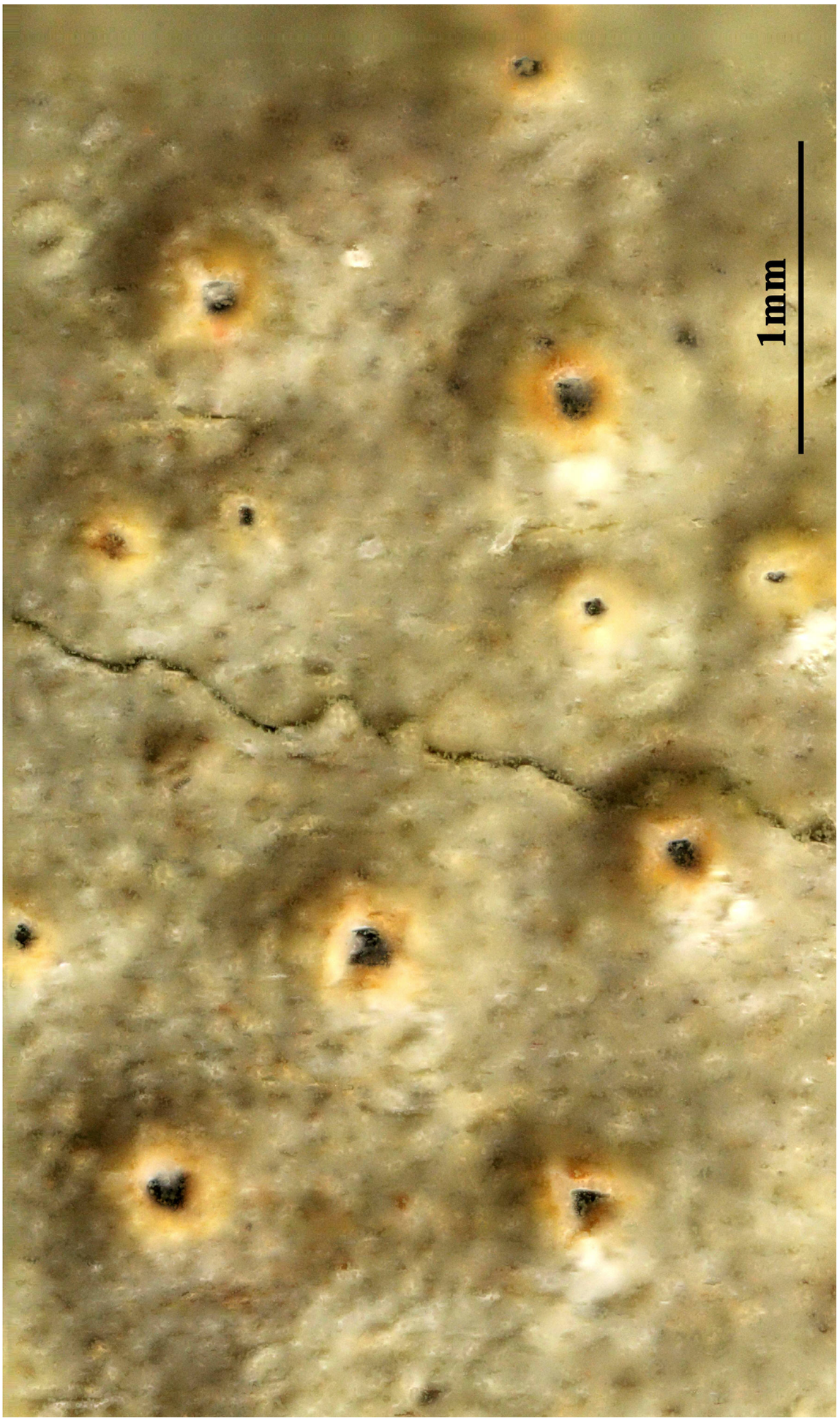
***Ocellularia allosporoides*** (Nyl.) Patw. & Kulk., Kavaka 5: 5 (1978) [1977]
= *Thelotrema allosporoides* Nyl., Bull. Soc. linn. Normandie, sér. 2 7: 167 (1873)

[VZ1659], India. Karnataka: Cerca Anmod et Sunset Point, 700 m. Ad corticem arborum. Leg. et det. M. E. Hale,15.1.1975. Ex A. VěZDA Lichenes Selecti Exsiccati Nr. 1659.

Thallus lacking isidia Exciple carbonized. Asci 8-spored, spores transversely septate,(10-) 18-22-septate, 80-120 (-180) x10-20 µm, apothecia 1.2-1.8 mm diam., pore 0.2-0.7 mm diam., columella present, 100-200 µm diam., carbonized, thallus greenish to yellowish-grey, smooth to rough, no lichen substances. Thallus/medulla P-, either lichen substances absent, or unknown. - from Karnataka, Kerala, Meghalaya and Andaman Islands.




***Ocellularia allosporoides***



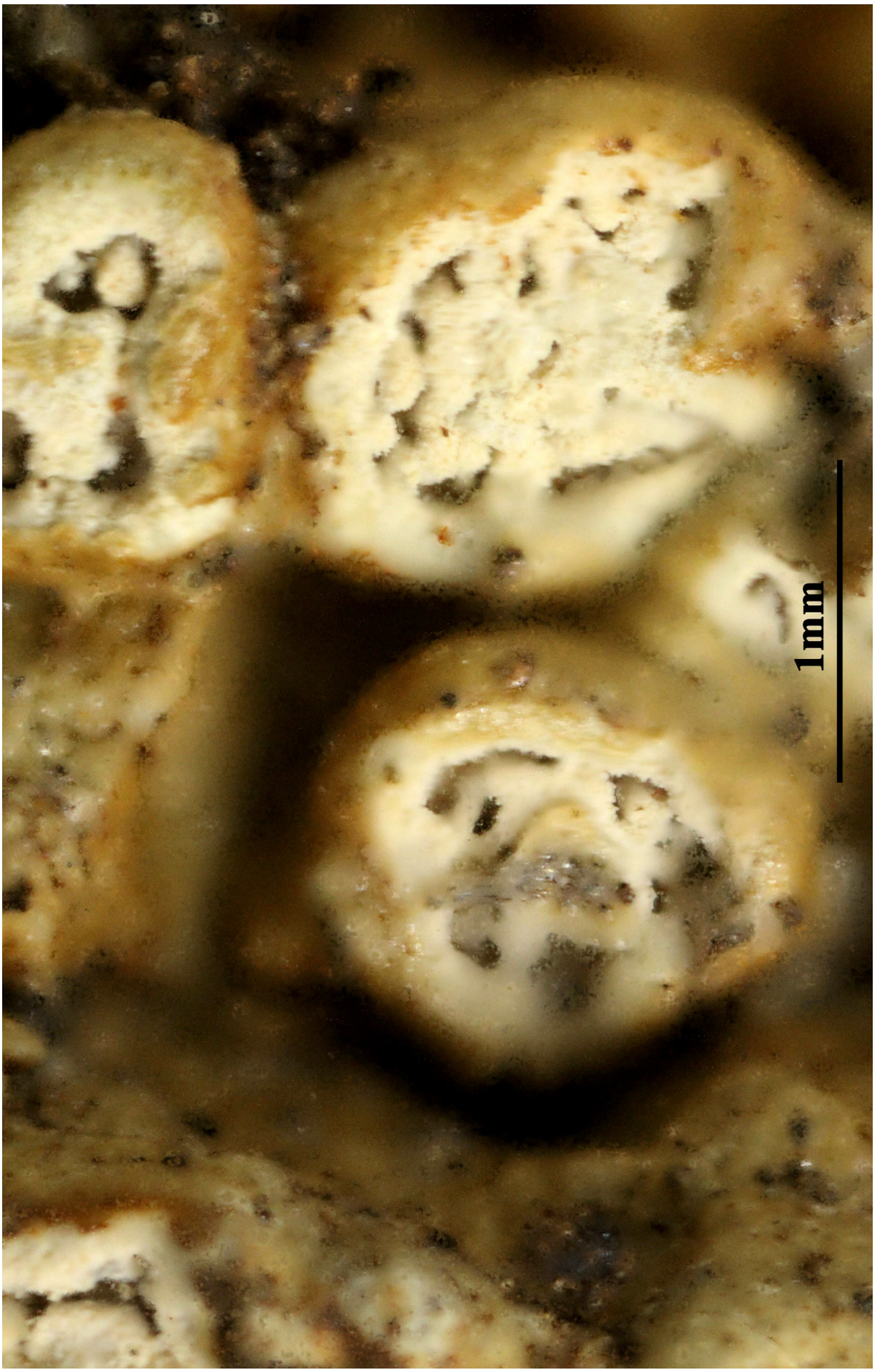

***Ocellularia allosporoides***

***Ocellularia berkeleyana*** (Mont.) Zahlbr., in Engler & Prantl, Nat. Pflanzenfam., Teil. I (Leipzig) 1(1*): 118 (1905)
= *Stegobolus berkeleyanus* Mont. 1845
= *Thelotrema berkeleyanum* (Mont.) Brusse, Mycotaxon 31(2): 547 (1988)

[VZ1580], India. Karnataka. Via Hebri - Udipi, 50 m. Ad corticem arborum. Leg. et det. M. E. Hale (no 48104). Ex A. VěZDA Lichenes Selecti Exsiccati Nr. 1580.

Thallus corticolous, epiphloeodal, thin and shiny, light greenish mineral gray, 4-8 cm broad; apothecia not common, irregularly dispersed, semiemergent to strongly emergent and basally constricted, 1-2 mm in diameter, the thalline rim entire, distinct, the open flat disc divided by the reticulate columella, becoming white pruinose, the columella carbonized; spores 8.4-8 x 8-10 µm, 4 loculate, I+ blue. Chemistry Psoromic acid with or without norpsoromic acid. - Remarks:-This was the first reticulate columellate Ocellularia to be described. As Salisbury (1975:59) correctly points out, the genus Stegobolus is older than and takes precedence over Rhabdodiscus Vainio, if one wished to recognize these species in a separate genus. *Ocellularia berkeleyana* is an extremely variable species and intergrades with several other populations.


***Ocellularia berkeleyana***




***Ocellularia berkeleyana***

***Ocellularia magnifica*** (Berk. & Broome) Sherwood, Mycotaxon 3(2): 234 (1976)
= *Platygrapha magnifica* Berk. & Broome 1873
= *Astrochapsa magnifica* (Berk. & Broome) Parnmen, Lücking & Lumbsch, PLoS ONE 7(12): e51392, 9 (2012)
= *Chapsa magnifica* (Berk. & Broome) Rivas Plata & Mangold

[VZ1582], Sri Lanka. Prov. occid., distr. Kalatura: Ambalam-pole. Morarapitiya, 300 m. Ad corticem arborum. Leg. et ded. M. E. Hale, 13.3.1978. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1582.

Disc orange-red, pruinose, apothecia chroodiscoid, 1-2 mm diam., thalline rim erect to recurved, exciple fused, asci 4-6-spored, ascospores hyaline, traversely(15-)17-21(-27)-septate, 70-90(-100) x 8-10 µm, I+ blue; from Sri Lanka.


***Ocellularia magnifica***


***Ocellularia magnifica***

***Ocellularia micropora*** (Mont.) Müll. Arg., Flora, Regensburg 74(1): 112 (1891)
= *Thelotrema microporum* Mont. 1848
= *Myriotrema microporum* (Mont.) Hale, Mycotaxon 11(1): 134 (1980)

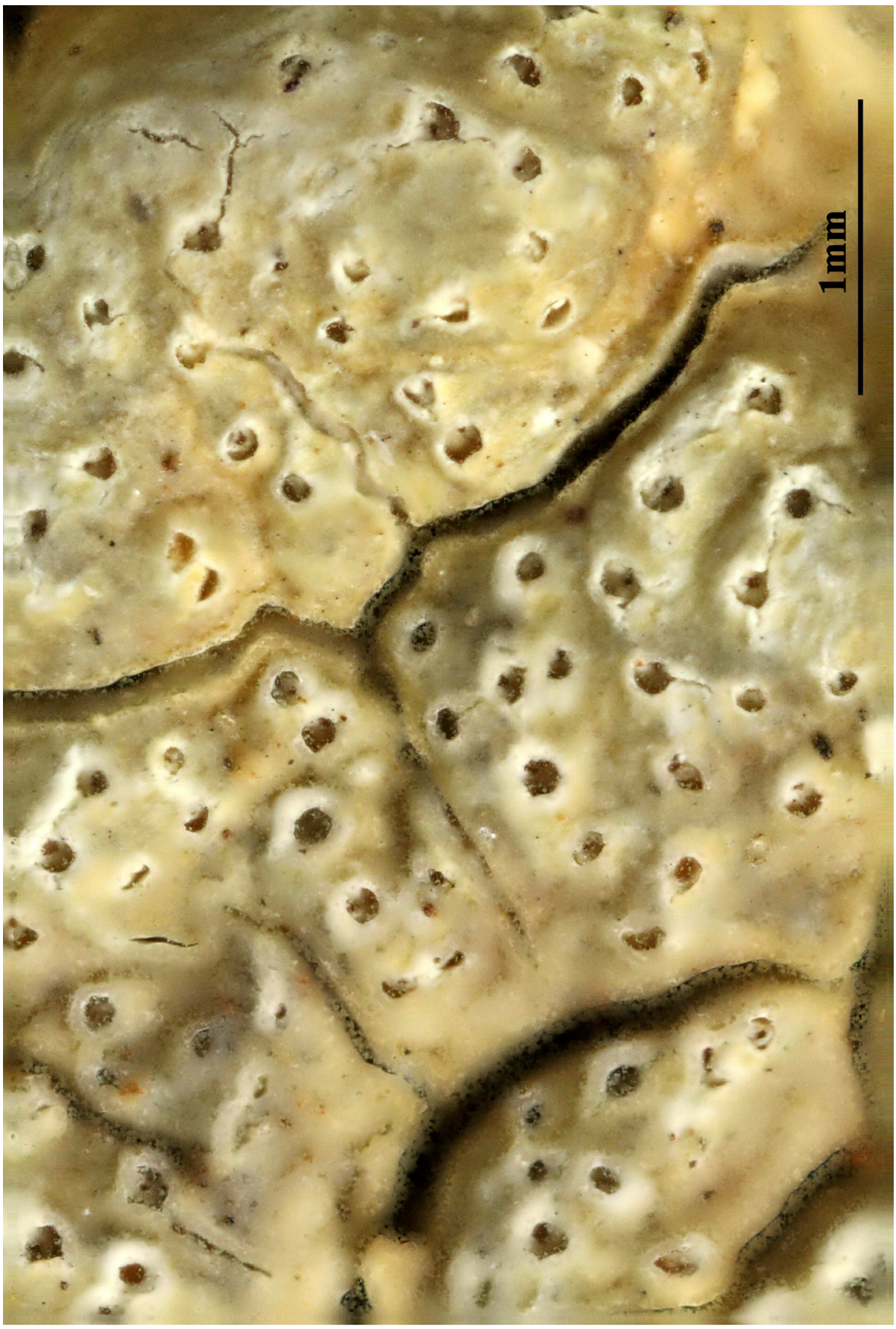
[VZ1581], Malaysia. Sabah. Kinabalu National Park prope flumen E. Mesilau, 1700 m. Ad corticem arborum. Leg. et det. M. E. Hale (no. 28412), 8.1964. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1581.

Thallus predominantly epi- to somewhat hypophloedal, thick, up to c. 800 µm high, color variable, predominantly (pale) olive in younger thalli becoming grayish or greenish-gray to yellowish-brown with age, often with a (dark-) gray hue. Surface dull to shiny, smooth, continuous to rugose, becoming distinctly fissured to areolate in mature stages. Cortex structures variable, often and particularly in younger thalli true cortex present, ±continuous, hyaline, up to c. 50 µm thick, consisting of periclinal to somewhat irregular hyphae, sometimes lacking a true cortex, then covered by a thin and often incontinuous protocortex. Algal layer well developed, continuous, calcium oxalat crystals lacking or sparse, then small and scattered to more rarely clustered, distinct medullar layer often present. Vegetative propagules not seen. Ascomata abundant, small, up to c. 250 µm in diam., roundish, apothecioid, solitary to marginally fused, predominantly immersed. Disc usually not visible from surface, very rarely becoming partly visible, pale flesh colored, epruinose. Pores small to rarely mod small, up to c. 150 µm in diam., roundish to irregular, predominantly ±split, proper exciple usually becoming apically to rarely entirely visible from surface, off-white, usually shrunken, incurved. Thalline rim margin becoming moderately wide to wide, roundish to somewhat irregular, (moderately) thin, entire to more often ±split, often ±distinctly raised, whitish or brighter than thallus, thalline rim incurved. Proper exciple usually becoming free in upper parts, (moderately) thin, with thin or lacking hyaline to pale yellowish area internally, entirely or marginally grayish to pale grayish-brown, sometimes faintly amyloid in lower parts. Hymenium up to c. 100 µm high, non-inspersed, moderately conglutinated, paraphyses somewhat irregular, ±interwoven, with slightly thickened tips, lateral paraphyses lacking, apical exciple sometimes forming lateral paraphyses-like structures due to radiating hyphae, columellar structures absent. Epihymenium indistinct to thin, hyaline, sometimes with fine grayish granules. Asci 8-spored, tholus moderately thick, thinning or

not visible at maturity. Ascospores (very) small, transversely septate, cell walls and endospore (moderately) thick, non-halonate, hyaline, distinctly to strongly amyloid, oblong to ellipsoid to somewhat fusiform with roundish to subacute ends, loci roundish, oblong to lentiform, with same shaped to hemispherical to rarely conical end cells, septae moderately thin, regular, 10-16(18) x 5-8 µm with 3-4(5) loci. Pycnidia present, immersed, with inconspicuous dark pore, conidia fusiform, up to c. 5 x 2 µm. CHEMISTRY – Thallus K+ yellowish, C-, P+ yellow; containing psoromic (major), 2'-0-demethylpsoromic (minor to trace) and subpsoromic (trace) acids. NOTES – Mature and well developed specimen of M. microporum can be recognized morphologically by the thick, areolate thallus that becomes somewhat dull and (dark-)gray, and immersed ascomata with free exciple. It is further characterized by small, transversely septate, hyaline, amyloid ascospores with distinctly thickened parts and the psoromic acid chemosyndrome. In younger and poorly developed collections however, M. microporum can be easily confused with M. clandestinum, which differs by ascomata with fused exciple, an often exposed disc and slightly lager ascospores (up to 25 µm long) that sometimes have a single longitudinal septum. Other similar species include the psoromic acid containing *M. glaucophaenum* and *M. temperatum*, and *M. olivaceum*.

***Ocellularia micropora***


***Ocellularia micropora***




***Ocellularia micropora***

***Ocellularia micropora*** (Mont.) Müll. Arg., Flora, Regensburg 74(1): 112 (1891)
= *Thelotrema microporum* Mont. 1848
= *Myriotrema microporum* (Mont.) Hale, Mycotaxon 11(1): 134 (1980)

[VZ1388], India. Tamil Nadu. Montes Palni, Silver Cascade prope Kodaikanal, 1800 m. Ad corticem arborum in silvis. Leg. M. E. Hale (no. 43865), 24.1.1975. Ex A. VěZDA Lichenes Selecti Exsiccati Nr. 1388.

Thallus predominantly epi- to somewhat hypophloedal, thick, up to c. 800 µm high, color variable, predominantly (pale) olive in younger thalli becoming grayish or greenish-gray to yellowish-brown with age, often with a (dark-) gray hue. Surface dull to shiny, smooth, continuous to rugose, becoming distinctly fissured to areolate in mature stages. Cortex structures variable, often and particularly in younger thalli true cortex present, ±continuous, hyaline, up to c. 50 µm thick, consisting of periclinal to somewhat irregular hyphae, sometimes lacking a true cortex, then covered by a thin and often incontinuous protocortex. Algal layer well developed, continuous, calcium oxalat crystals lacking or sparse, then small and scattered to more rarely clustered, distinct medullar layer often present. Vegetative propagules not seen. Ascomata abundant, small, up to c. 250 µm in diam., roundish, apothecioid, solitary to marginally fused, predominantly immersed. Disc usually not visible from surface, very rarely becoming partly visible, pale flesh colored, epruinose. Pores small to rarely mod small, up to c. 150 µm in diam., roundish to irregular, predominantly ±split, proper exciple usually becoming apically to rarely entirely visible from surface, off-white, usually shrunken, incurved. Thalline rim margin becoming moderately wide to wide, roundish to somewhat irregular, (moderately) thin, entire to more often ±split, often ±distinctly raised, whitish or brighter than thallus, thalline rim incurved. Proper exciple usually becoming free in upper parts, (moderately) thin, with thin or lacking hyaline to pale yellowish area internally, entirely or marginally grayish to pale grayish-brown, sometimes faintly amyloid in lower parts. Hymenium up to c. 100 µm high, non-inspersed, moderately conglutinated, paraphyses somewhat irregular, ±interwoven, with slightly thickened tips, lateral paraphyses lacking, apical exciple sometimes forming lateral paraphyses-like structures due to radiating hyphae, columellar structures absent. Epihymenium indistinct to thin, hyaline, sometimes with fine

grayish granules. Asci 8-spored, tholus moderately thick, thinning or not visible at maturity. Ascospores (very) small, transversely septate, cell walls and endospore (moderately) thick, non-halonate, hyaline, distinctly to strongly amyloid, oblong to ellipsoid to somewhat fusiform with roundish to subacute ends, loci roundish, oblong to lentiform, with same shaped to hemispherical to rarely conical end cells, septae moderately thin, regular, 10-16(18) x 5-8 µm with 3-4(5) loci. Pycnidia present, immersed, with inconspicuous dark pore, conidia fusiform, up to c. 5 x 2 µm. CHEMISTRY – Thallus K+ yellowish, C-, P+ yellow; containing psoromic (major), 2'-0-demethylpsoromic (minor to trace) and subpsoromic (trace) acids. NOTES – Mature and well developed specimen of M. microporum can be recognized morphologically by the thick, areolate thallus that becomes somewhat dull and (dark-)gray, and immersed ascomata with free exciple. It is further characterized by small, transversely septate, hyaline, amyloid ascospores with distinctly thickened parts and the psoromic acid chemosyndrome. In younger and poorly developed collections however, M. microporum can be easily confused with M. clandestinum, which differs by ascomata with fused exciple, an often exposed disc and slightly lager ascospores (up to 25 µm long) that sometimes have a single longitudinal septum. Other similar species include the psoromic acid containing *M. glaucophaenum* and *M. temperatum*, and *M. olivaceum*.

***Ocellularia micropora***


***Ocellularia micropora***

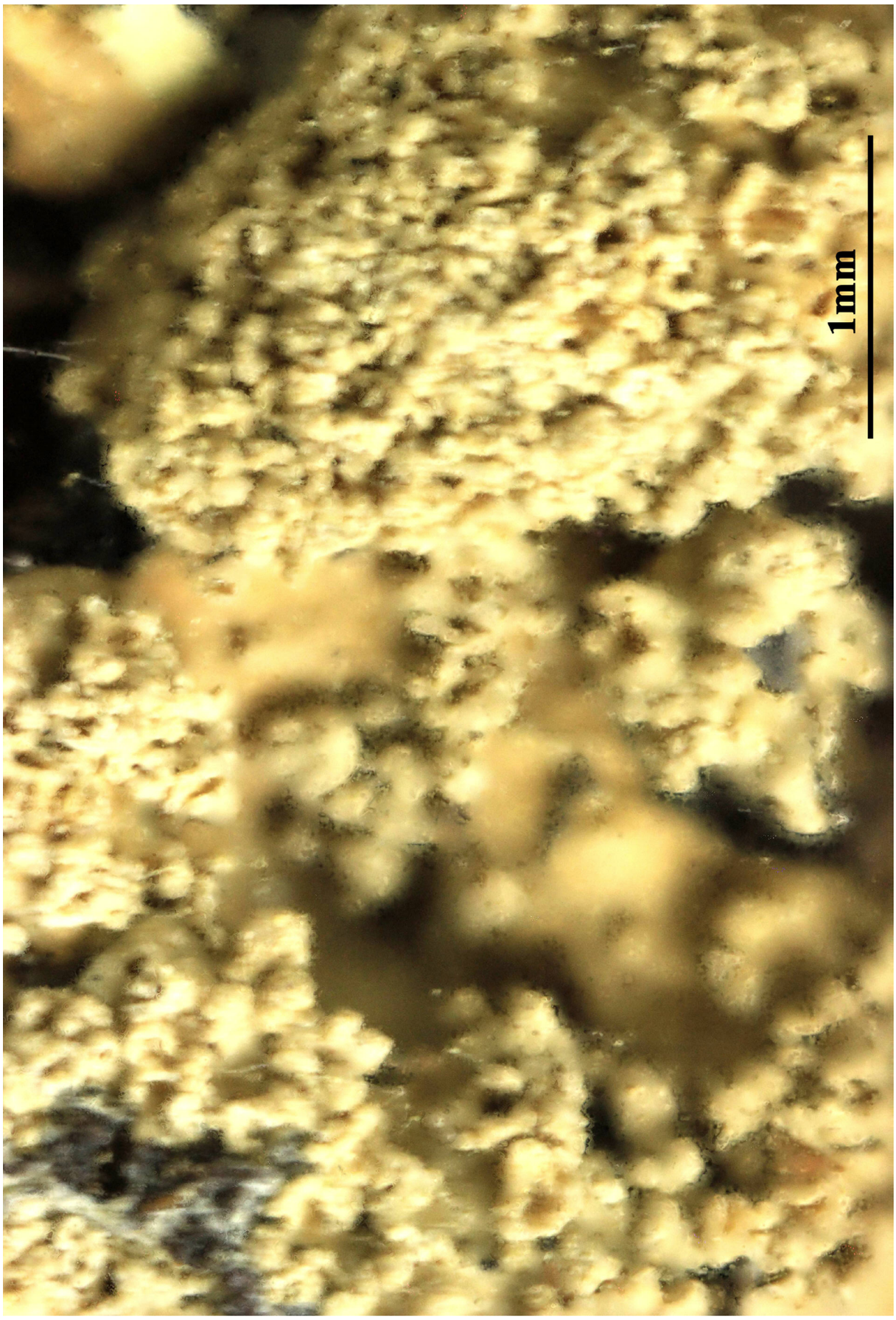

***Ocellularia micropora***

***Parmelia aurulenta*** Tuck., Amer. J. Sci. Arts, Ser. 2 25: 424 (1858)
= *Myelochroa aurulenta* (Tuck.) Elix & Hale, Mycotaxon 29: 240 (1987)

[VZ1786], USA., North Carolina. Catham County: prope Bynum, 150 m, Ad saxa, locis umbrosis in silva decidua. Leg. W. L. Culberson, (no. 10797), 1962, - Annot.: Atranorin, zeorin, unidetified triterpenes, and an unidentified ponkish pigment possibly related to secalonic acid by TLC; anal. A. Johnson and C. F. Culberson. - Ex A. VěZDA Lichenes Selecti Exsiccati Nr. 1786.

Thallus adnate, to 4–10 cm wide. Lobes sublinear to subirregular, 2–4 mm wide; apices subrotund; marginal cilia irregularly dispersed but mostly in lobe axils, to 0.8 mm long. Upper surface pale greenish grey, shiny, smooth to rugulose, lacking isidia, soon becoming sorediate to pustulate-sorediate; soralia to 1 mm wide, coalescing into large subcapitate clumps; soredia granular. Medulla white, becoming orange to sulphureous yellow beneath soralia and near exposed cracks in upper cortex. Lower surface with moderately dense to dense rhizines; rhizines simple or becoming sparsely furcate or squarrosely branched, black. Apothecia rare, sessile to subpedicellate, 2–5 mm wide; thalline exciple pustulate-sorediate. Ascospores 10–12 × 5–7 µm. Pycnidia rare. Conidia bifusiform, 5–6 × 1 µm. CHEMISTRY: cortex K+ yellow; medulla K-, C-, KC-, P-; containing atranorin, chloroatranorin, secalonic acid A, zeorin and leucotylic acid. - Scattered in coastal and hinterland forests of eastern Australia (Qld and N.S.W.); also in Lord Howe Is. This pantemperate and pantropical species occurs on all continents except Europe. Grows on bark, rarely on rock.


***Parmelia aurulenta***




***Parmelia aurulenta***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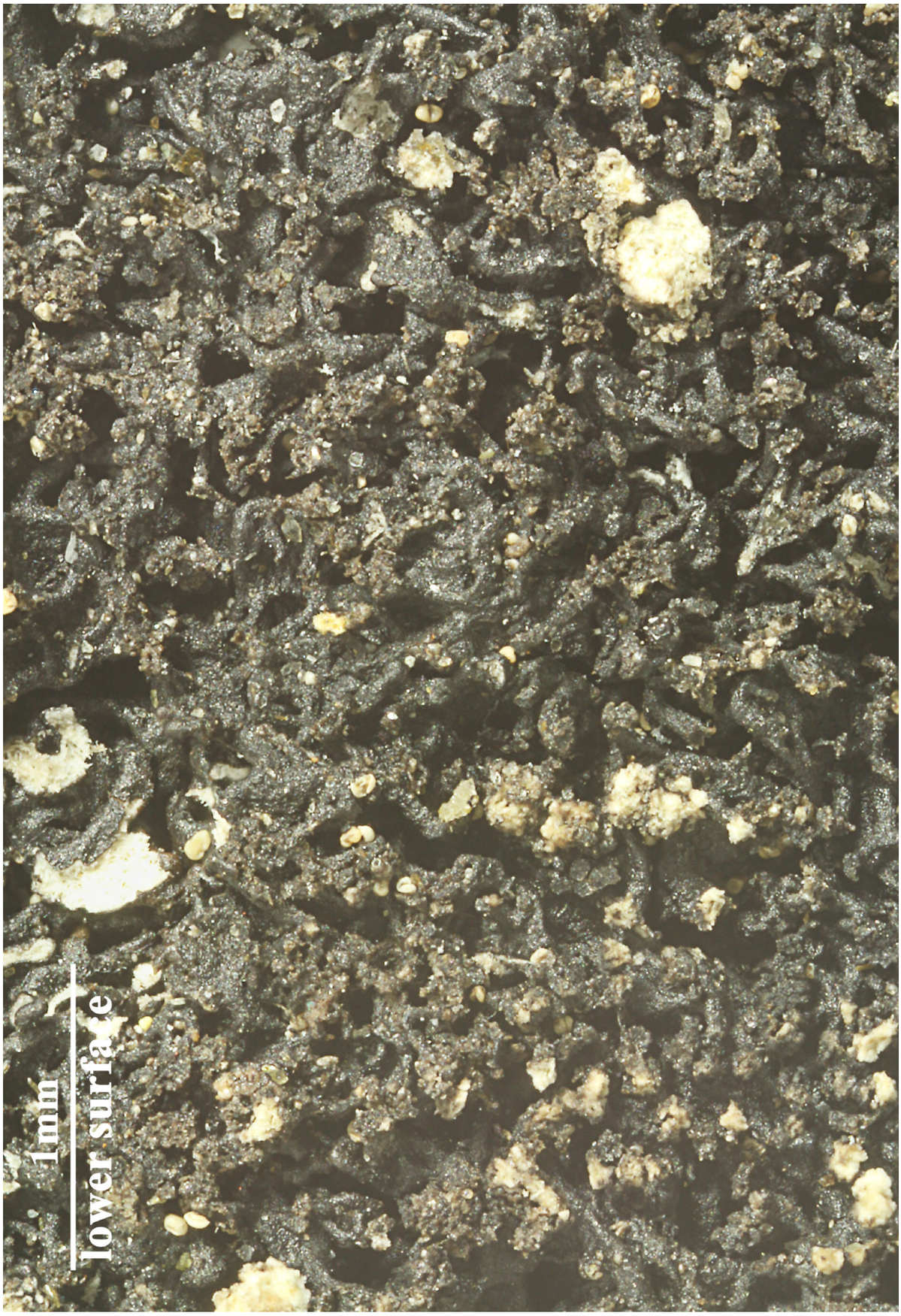
***Parmelia panniformis*** (Ach.) Röhl., Deutschl. Fl. (Frankfurt) 3(2): 102 (1813)
= *Parmelia omphalodes var. panniformis* Ach. 1803
= *Parmelia omphalodes* (L.) Ach., Methodus qua omnes detectos Lichenes Secundum Organa Carpomorpha ad Genera, Species et Varietates Redigere atque Observationibus Illustrare Tentavit Erik Acharius: 204 (1803)
= *Montanelia panniformis* (Nyl.) Divakar, A. Crespo, Wedin & Essl. Am. J. Bot., 99: 2023, 2012.
= *Parmelia olivacea var. panniformis* Nyl. Herb. Mus. Fenn.: 83, 1859.
= *Melanelia panniformis* (Nyl.) Essl.
= *Parmelia crustificans* Hilitzer
= *Parmelia pannariiformis* (Lamy) Vain.
= *Parmelia panniformis* (Nyl.) Vain.
= *Parmelia panniformis var. pulvinata* Hillmann

[VZ20327}, Austria, Salisburgia, Lungau, Schladminger Tauern, in valle "Lessachtal", loco "Lasshofer Hütte" dicto, 1300-1400 m, ad saxa silicea. Leg. A. Vězda, 9.9.1981. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1870.
- Chemistry, anal. F. Schumm by TLC, p408/7, perlatolic acid, atranorin (trace).

Thallus foliose, heteromerous, dorsiventral, adnate to loosely adnate, usually more or less panniform and sometimes pulvinate, up to 7(-10) cm in diam., the individual thalli sometimes coalescing into larger patches. Primary lobes discrete to imbricate, (0.3-)0.5-1(-1.5) mm wide, mostly flat, the central parts of thallus with crowded, imbricate, spherical to clavate, simple or slightly branched, small (< 1 mm wide) lobules resembling isidia. Upper surface olive-brown to dark brown, smooth to weakly pitted and sometimes slightly pruinose at the periphery, without pseudocyphellae on the primary lobes, sometimes with obscure pseudocyphellae near the ends of lobules. Lower surface brown to black, paler at the periphery; smooth to irregularly wrinkled, with dark, mostly simple rhizines. Upper cortex paraplectenchymatous, with a non-pored epicortex, the cell walls containing isolichenan; medulla white; lower cortex paraplectenchymatous. Apothecia rare, lecanorine, up to 3 mm across, sessile, with a concave to flat disc and a papillate to lobulate thalline margin. Epithecium brown; hymenium and hypothecium colourless. Asci 8-spored, clavate, Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid, 9-12 x 4.5-7 µm. Pycnidia common, black, immersed. Conidia thickened at both ends, 4-7 x c. 1 µm. Photobiont

chlorococcoid. Spot tests: upper cortex K-, C-, KC-, P-, N-; medulla K-, C-, KC- or rarely KC+ faintly pink, P-, UV+ white. Chemistry: medulla with perlatolic and stenosporic acids (major). - Note: a mainly northern species in Europe, found on steeply inclined surfaces of siliceous rocks in upland areas; almost certainly restricted to the Alps in Italy.


***Parmelia panniformis***




***Parmelia panniformis***

***Parmelia panniformis***

***Parmelia panniformis*** (Ach.) Röhl., Deutschl. Fl. (Frankfurt) 3(2): 102 (1813)
= *Parmelia omphalodes var. panniformis* Ach. 1803
= *Parmelia omphalodes* (L.) Ach., Methodus qua omnes detectos Lichenes Secundum Organa Carpomorpha ad Genera, Species et Varietates Redigere atque Observationibus Illustrare Tentavit Erik Acharius: 204 (1803)
= *Montanelia panniformis* (Nyl.) Divakar, A. Crespo, Wedin & Essl. Am. J. Bot., 99: 2023, 2012.
= *Parmelia olivacea var. panniformis* Nyl. Herb. Mus. Fenn.: 83, 1859.
= *Melanelia panniformis* (Nyl.) Essl.
= *Parmelia crustificans* Hilitzer
= *Parmelia pannariiformis* (Lamy) Vain.
= *Parmelia panniformis* (Nyl.) Vain.
= *Parmelia panniformis var. pulvinata* Hillmann

[VZ405], Bohemia meridionalis, Montes Sumava (Gabreta), Kašperské vrchy, distr. Prachatice, Rejstejn, in valle rivi Losenice, in pede montis "Šafářuv vršek", 820 m, moles saxorum, ad saxa silicea. Leg. J. Kocourková & A. Vězda, 20.10.1999. Ex A. Vězda Lichenes Rariores Exsiccati Nr. 405
Chemistry anal F. Schumm by TLC 408/6: perlatolic acid, atranorin (trace).

Thallus foliose, heteromerous, dorsiventral, adnate to loosely adnate, usually more or less panniform and sometimes pulvinate, up to 7(-10) cm in diam., the individual thalli sometimes coalescing into larger patches. Primary lobes discrete to imbricate, (0.3-)0.5-1(-1.5) mm wide, mostly flat, the central parts of thallus with crowded, imbricate, spherical to clavate, simple or slightly branched, small (< 1 mm wide) lobules resembling isidia. Upper surface olive-brown to dark brown, smooth to weakly pitted and sometimes slightly pruinose at the periphery, without pseudocyphellae on the primary lobes, sometimes with obscure pseudocyphellae near the ends of lobules. Lower surface brown to black, paler at the periphery; smooth to irregularly wrinkled, with dark, mostly simple rhizines. Upper cortex paraplectenchymatous, with a non-pored epicortex, the cell walls containing isolichenan; medulla white; lower cortex paraplectenchymatous. Apothecia rare, lecanorine, up to 3 mm across, sessile, with a concave to flat disc and a papillate to lobulate thalline margin. Epithecium brown; hymenium and hypothecium colourless. Asci 8-spored, clavate, Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid, 9-12 x 4.5-7 µm. Pycnidia common, black, immersed. Conidia thickened at both ends, 4-7 x c. 1 µm. Photobiont

chlorococcoid. Spot tests: upper cortex K-, C-, KC-, P-, N-; medulla K-, C-, KC- or rarely KC+ faintly pink, P-, UV+ white. Chemistry: medulla with perlatolic and stenosporic acids (major). - Note: a mainly northern species in Europe, found on steeply inclined surfaces of siliceous rocks in upland areas; almost certainly restricted to the Alps in Italy.


***Parmelia panniformis***


***Parmelia panniformis***

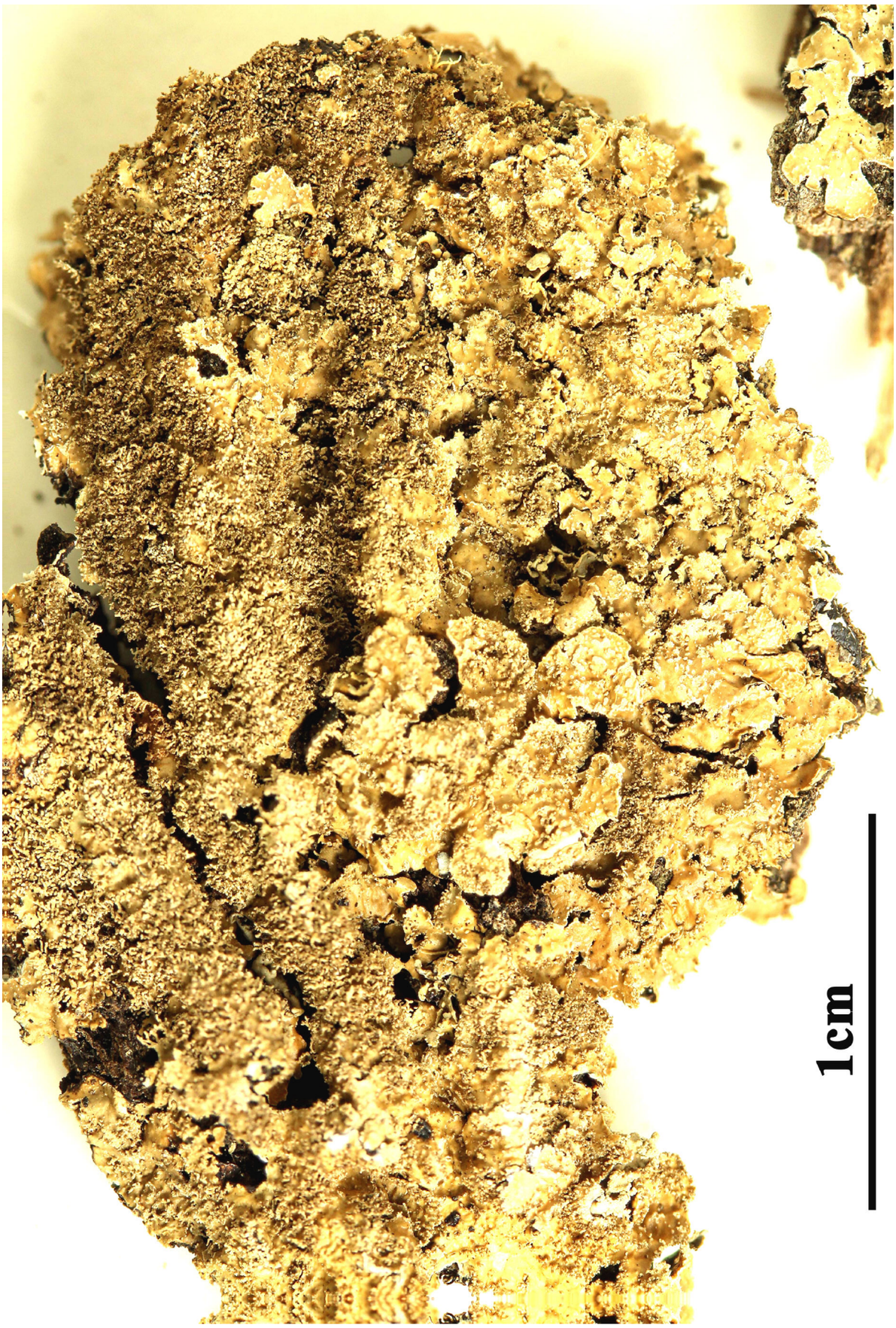
***Parmelia panniformis***

***Parmelia pseudotenuirima*** Gyeln., Feddes Repert. Spec. Nov. Regni veg. 29: 289 (1931)

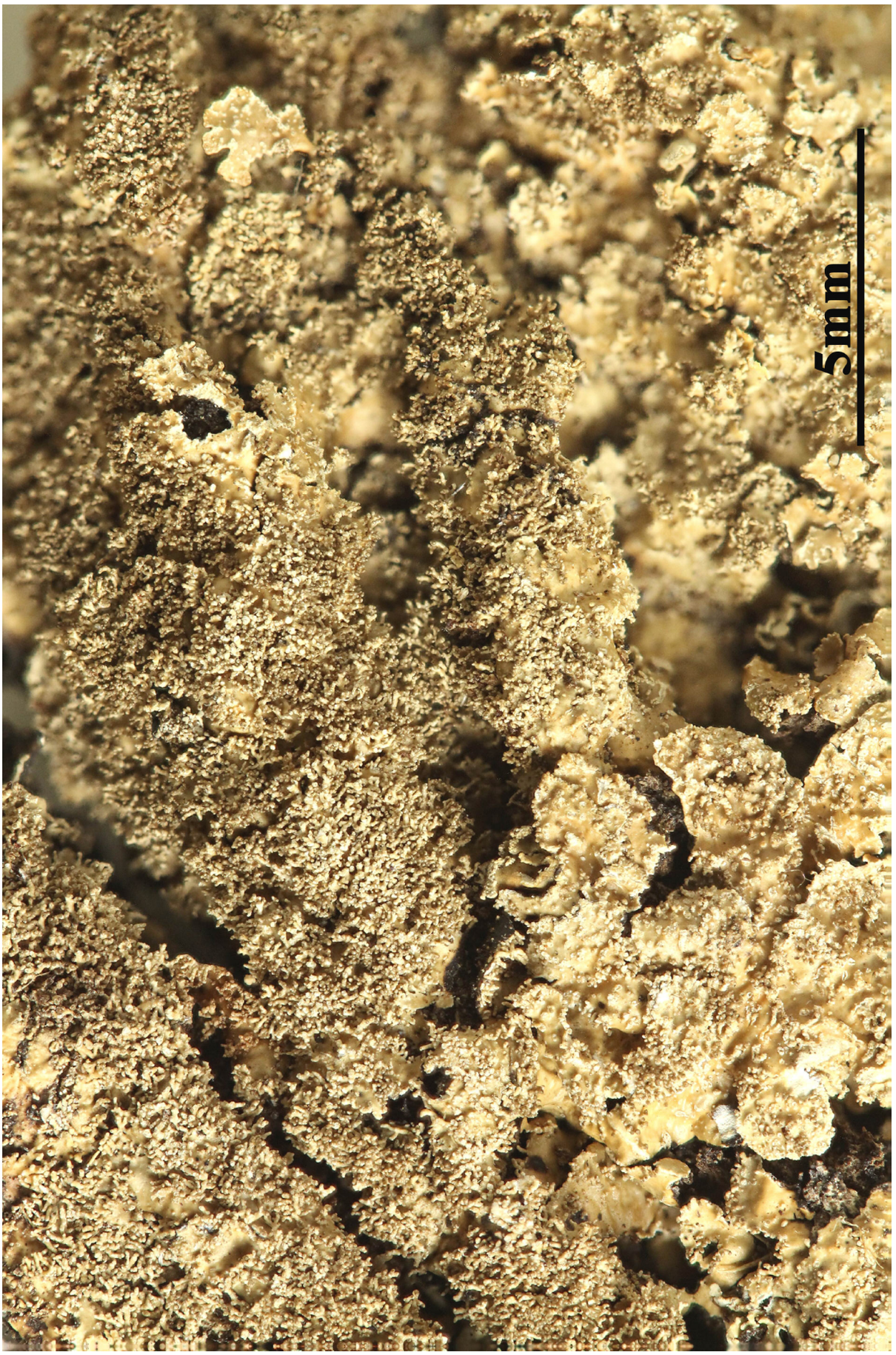
= *Notoparmelia pseudotenuirima* (Gyeln.) A. Crespo, Ferencová & Divakar, Lichenologist 46(1): 63 (2014)

[VZ2060], Australia. In Tibinbilla Nature Reserve, 800 m. Ad corticem *Eucalypti*. Leg. M. E. Hale, 4.6.1983. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2060.

Thallus adnate to tightly adnate, to 3–5 cm wide. Lobes contiguous, sublinear to subirregular, short, 1–2 mm wide. Upper surface pale greenish grey to whitish grey, shiny, white-maculate, finely foveolate, becoming reticulately cracked, without soredia; pseudocyphellae mostly laminal, numerous, effigurate, small; isidia very dense on older parts of thallus and obscuring lobes, cylindrical, simple to branched, to 0.3 mm tall, thin, less than 0.05 mm wide, syncorticate. Lower surface moderately rhizinate; rhizines simple to squarrosely branched, 0.5–1 mm long. Apothecia very rare, subpedicellate, 3–6 mm wide; disc concave; thalline exciple warty, isidiate. Ascospores 11–13 × 7–9 µm. Pycnidia rare. Conidia bacilliform, 5.5–6 × 1 µm. CHEMISTRY: cortex K+ yellow; medulla K+ yellow then red, C-, P+ red-orange; containing atranorin, chloroatranorin, lobaric acid (minor), salazinic acid (major) and consalazinic acid (minor). - A common endemic species occurring on trees and dead wood in south-eastern Australia.




***Parmelia pseudotenuirima***

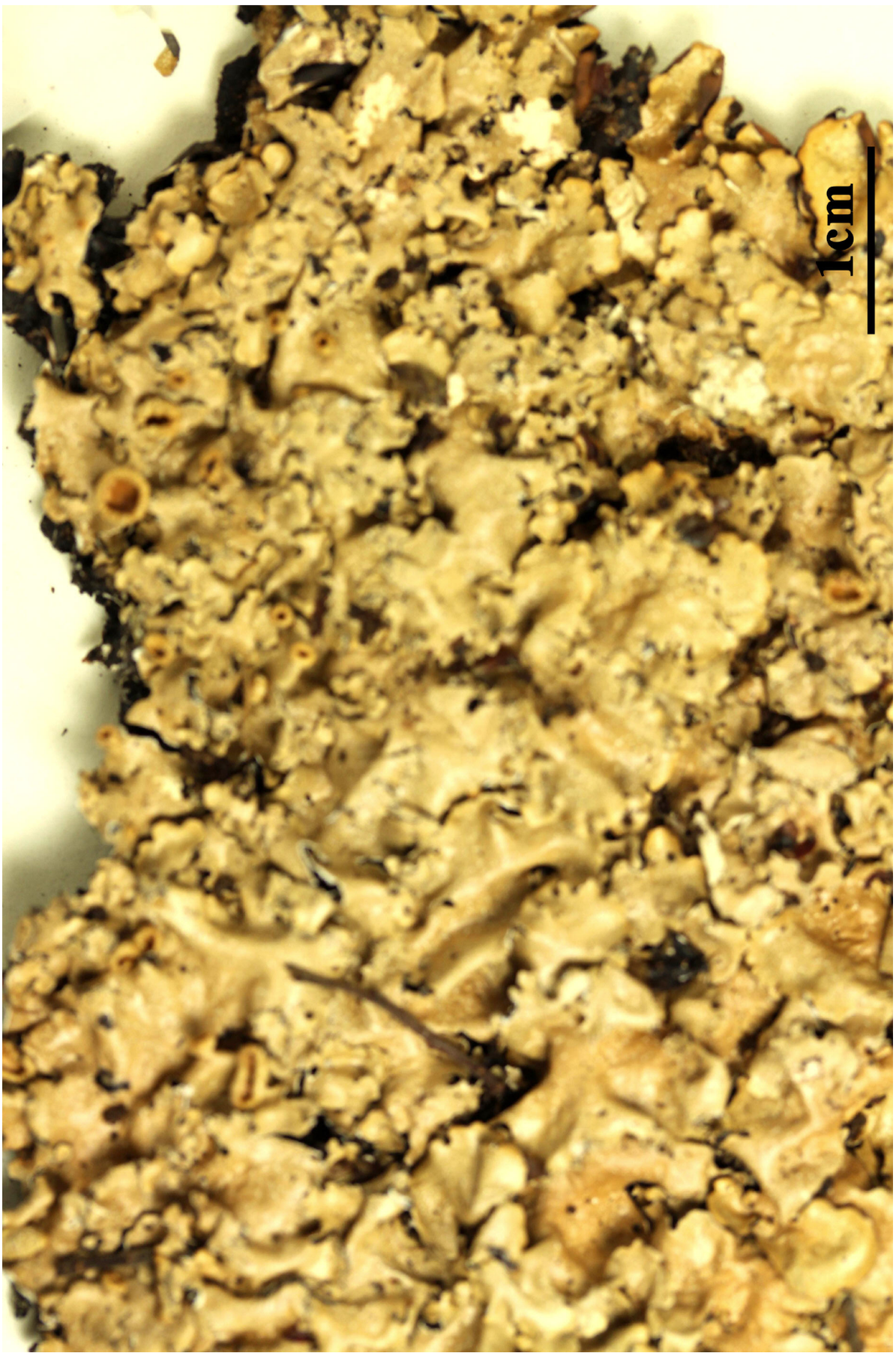



***Parmelia pseudotenuirima***

***Parmelia tenuirima*** Hook. f. & Taylor, London J. Bot. 3: 645 (1844)
= *Notoparmelia tenuirima* (Hook. f. & Taylor) A. Crespo, Ferencová & Divakar, Lichenologist 46(1): 63 (2014)

[VZ2061], Nova Zelandia. Southern Lakes: Dock Bay, Lake Te Anau, ad australem versus ad Te Anau, 200 m. Ad corticem *Nothofagi*. Leg. M. E. Hale, 26.1.1984. Ex A. Vězda Lichenes Exsiccati Nr. 2061.

Thallus loosely adnate to adnate, thin, rather firm, to 8–60 cm wide. Lobes imbricate, subirregular, 4–25 mm wide. Upper surface pale to dark greenish grey, shiny, sometimes coarsely white-maculate, smooth to foveolate in older parts, continuous but cracking along old pseudocyphellae, without soredia and isidia; pseudocyphellae mainly laminal, uniformly scattered, effigurate, fairly small but conspicuous, separate. Lower surface sparsely to moderately rhizinate; rhizines simple to densely squarrosely branched, 1–1.5 mm long. Apothecia common, pedicellate, 5–15 mm wide; disc concave then flat, becoming radially split and sometimes perforate; thalline exciple rugose, pseudocyphellate. Ascospores 12–15 × 8–10 µm. Pycnidia common. Conidia bacilliform, 5.5–7 × 1 µm long. CHEMISTRY: cortex K+ yellow; medulla K+ yellow then red, C-, P+ orange; containing atranorin, chloroatranorin, salazinic acid (major) and consalazinic acid (minor). - A common species in south-eastern Australia; also occurs in Macquarie Is. and New Zealand. Grows on bark.



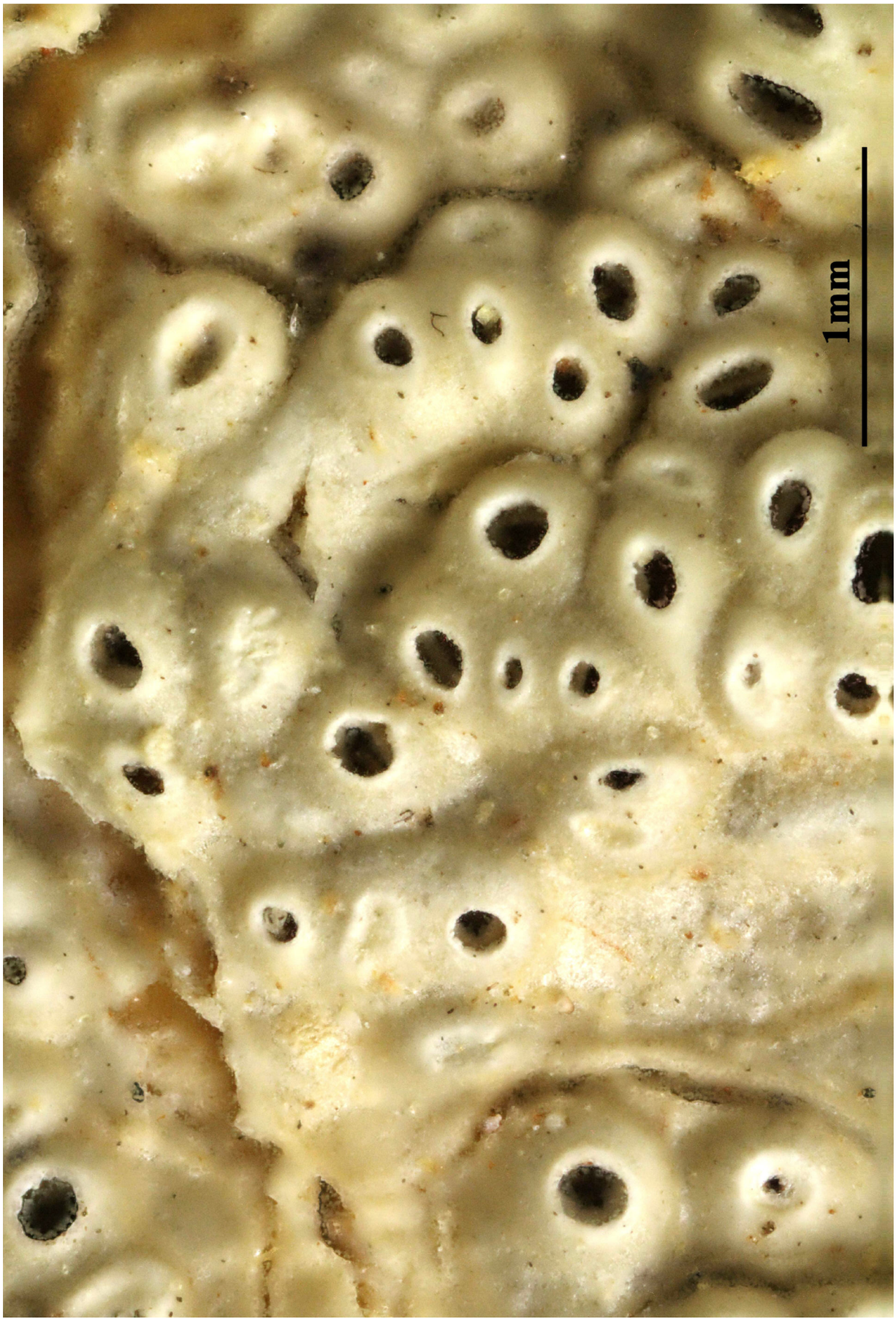

***Parmelia tenuirima***


***Parmelia tenuirima***

***Thelotrema concretum*** Fée, Essai Crypt. Exot., Suppl. Révis. (Paris): 90, tab. XXXVII, fig. 6 (1837)
= *Myriotrema concretum* (Fée) Hale, Mycotaxon 11(1): 133 (1980)

[VZ1153], Malaysia. Sabah, prope Layang Layang. Tourist Trail, Kinabalu National Park, 2600 m. Ad corticem. Leg. M. E. Hale (29150), 12.8.1964. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1153.

Thalhs corticolous, epiphloeodal, smooth and continuous, shiny, pale greenish to tannish mineral gray, 10-12 cm broad; apothecia numerous, solitary or becoming clumped, immersed to semiemergent, 0.2-0.4 mm in diameter, noncarbonized and lacking a columella, the inner exciple sometimes persistent, the low thalline rim raised and erect at maturity, the pore open, to 0.2 mm wide, the pale flesh-colored disc visible; spores, longitudinally septate, 7 x 12-14 μm, 1 x 4-5 loculate, I+ blue. Chemistry: psoromic acid with or without norpsoromic acid. - Thelotrema concretum has small, crowded, confluent semiemergent apothecia as so clearly illustrated by Fee (1837, pi. 37). It is part of a complex of similar species with psoromic acid: *T. clandestinum* Fee, which has entirely immersed apothecia,




***Thelotrema concretum***

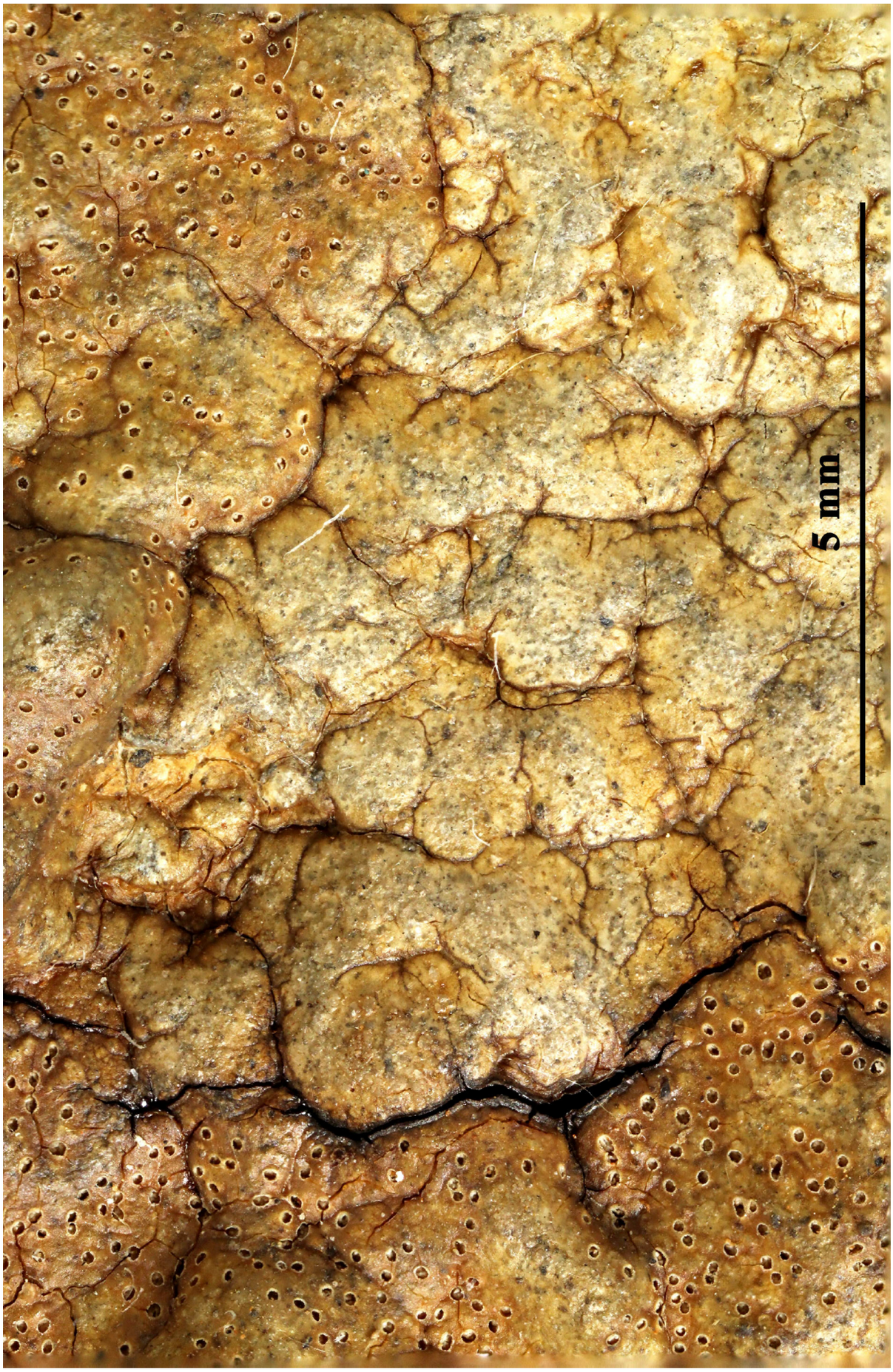
***Thelotrema subconforme*** Nyl., in Nylander & Crombie, J. Linn. Soc., Bot. 20: 53 (1883)
= *Myriotrema subconforme* (Nyl.) Hale, Mycotaxon 11(1): 135 (1980)

[VZ1575], India. Karnataka: via Hebri-Udipi, 50 m. Ad corticem arborum. Leg. et det. M. E. Hale (no. 48105). Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1575.

Thallus epi- to hypophloedal, moderately thin, up to c. 200 µm high, (pale) olive to (pale) grayish-green. Surface shiny, smooth, rugose and/or distinctly verrucose to verruculose, unfissured to fissured. True cortex present, continuous, thick to very thick, up to c. 60 µm thick, consisting of periclinal hyphae. Algal layer well developed, continuous, becoming incontinuous due to crystal inclusions, calcium oxalate crystals abundant, small to large, scattered to clustered. Vegetative propagules not seen. Ascomata inconspicuous but often very abundant, (very) small, up to c. 200 µm in diam., roundish, apothecioid, solitary to slightly fused, immersed. Disc usually not visible from surface, rarely becoming partly visible, pale flesh colored, distinctly pruinose. Pores tiny to small, up to c. 50(80) µm in diam., predominantly irregular and ±split, proper exciple becoming apically to more rarely entirely visible from surface, whitish, shrunken, incurved. Thalline rim margin (moderately) small, roundish to somewhat irregular, (moderately) thin, entire to split, whitish or brighter than thallus, flush with thallus to somewhat raised, thalline rim incurved. Proper exciple free in upper parts, thin, hyaline internally, pale yellowish to yellowish-brown marginally, often grayish to more darkened apically, non-amyloid. Hymenium up to c. 80 µm high, non inspersed, strongly conglutinated, paraphyses bent, unbranched to slightly branched towards the exciple, moderately interwoven, with slightly to distinctly thickened, irregular tips, lateral paraphyses and columellar structures absent. Epihymenium predominantly (moderately) thick, hyaline, with grayish granules. Asci 8-spored, tholus thick, thin at maturity. Ascospores

(very) small, submuriform, cell walls thick, endospore (moderately) thick, non-halonate or with thin halo in younger stages, hyaline, moderately to strongly amyloid, oblong to ellipsoid to more rarely fusi- or claviform, with roundish to subacute ends, loci roundish to angular, subglobose to oblong to more often irregular, with hemispherical to conical end cells, transverse septae distinct, moderately thin to thick, becoming irregular in older ascospores, 10-18(20) x 6-9 µm with 4-6 x 1-3(4) loci. Pycnidia not seen. CHEMISTRY: Thallus K-, C-, P-; no secondary compounds detectable by TLC. - NOTES – Among *Myriotrema* species with ±small, immersed ascomata with free proper exciple and small, hyaline and amyloid ascospores, *M. subconforme* is distinguished by the thin, distinctly corticate thallus with numerous crystal inclusions, ascospores with ±irregular, distinctly submuriform loci arrangement and the absence of secondary compounds. *Myriotrema viridialbum* and *M. rugiferum* are similar, but can be readily distinguished by larger ascomata, distinctly exceeding 200 µm in diam., and their chemistry, containing hypoprotocetraric acid (*M. viridialbum*) and psoromic acid (*M. rugiferum*), respectively.

***Thelotrema subconforme***




***Thelotrema subconforme***


***Thelotrema subconforme***