F. Schumm (2026):

Images of Lichens
Vezda Lichenes Selecti Exsiccati part 22

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With this volume, I continue the documentation of Vezda's works on exiccata, now with Lichenes Selecti as part 21. 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

Dimerella pyrophthalma (Mont.) Vězda, Folia geobot. phytotax. 4(4): 446 (1969)

=*Biatora pyrophthalma* Mont. 1843

= *Coenogonium pyrophthalmum* (Mont.) Lücking, Aptroot & Sipman, in Rivas Plata, Lücking, Aptroot, Sipman, Chaves, Umaña & Lizano, Fungal Diversity 23: 298 (2006)

= *Dimerella bonariensis* Malme 1934, Arkiv för Votanik , Band 26A, No 11.

[VZ2331], Australia. New South Wales: Sydney, Katoomba, in monte Mt Tomak, 20 km ad septentriones a Katoomba, 900 m. Ad corticem arboris in pluviisilva. Leg. G. Thor (no. 6180), 18.12.1985, det. A. Vězda. EX A. VĚZA LICHENES SELECTI EXSICCATI NR.2331.

Thallus effusus, tenuiusculus, inaequabilis, raro fere laevigatus, cinereus, rarius albido-cinereus, opacus, neque K neque C reagens, protothallo albido-cinereo; gonidia chroolepoidea, 12 x 10 µm. Apothecia dispersa, rarius plus minusve conferta, vulgo 0.8-1.5 mml, rarius usque 2 mm lata, basi mnifeste constricta, disco plano~ palleseenti~luteo vel subcarneo, saepe cinereo-pruinoso, margine crasso, concolore vel paullulo pallidiore, vulgo plus minusve flexuoso, persistente. Excipulum decolor; pars marginalis parenchymatica, ex hyphis formata plus minusve radiantibus, pachydermaticis, crebre septatis. Thecium deeolor, 80-100 µm altum, J praecedente coerulescentia sordide vinose rubens vel rufescens, K non reagens; paraphyses simplices, 1 µm crassae, superne leviter incrassatae et crebrius septatae; asci cylindrici. Sporae monostichae, oblongo·fusiformes, 8-11(-12) 11 x 2,5-3 µm, uniseptatae, medio non constrictae, utroque apice obtusae vel saltern obtusiusculae.



Dimerella pyrophthalma



Dimerella pyrophthalma

Dimerella pyrophthalma (Mont.) Vězda, Folia geobot. phytotax. 4(4): 446 (1969)

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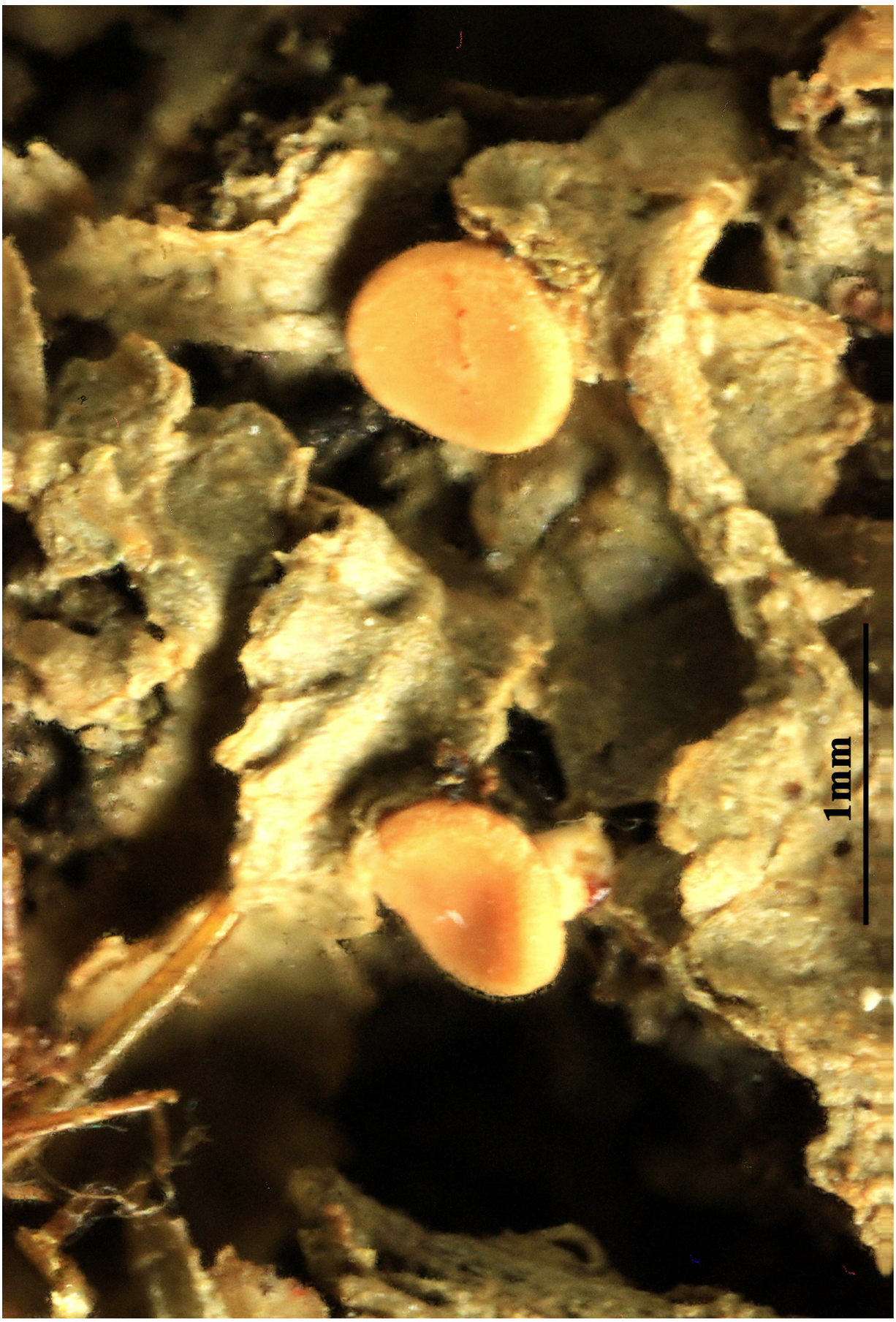
= *Dimerella bonariensis* Malme 1934, Arkiv för Votanik , Band 26A, No 11.

[VZ2332], Australia. New South Wales: Braidwood, Monga State Forest, Mongariowe River, 22 km ad orientem et occidentem a Braidwood, 710 m. Supra partes emortuas *Dicksoniae antarcticae*. Leg. H. T. Lumbsch (no. 4644a) et H. Streimann, 10.9.1987. det. A. Vezda. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2332.

Thallus effusus, tenuiusculus, inaequabilis, raro fere laevigatus, cinereus, rarius albido-cinereus, opacus, neque K neque C reagens, protothallo albido-cinereo; gonidia chroolepoidea, 12 x 10 µm. Apothecia dispersa, rarius plus minusve conferta, vulgo 0.8-1.5 mml, rarius usque 2 mm lata, basi mnifeste constricta, disco plano~ palleseenti~luteo vel subcarneo, saepe cinereo-pruinoso, margine crasso, concolore vel paullulo pallidiore, vulgo plus minusve flexuoso, persistente. Excipulum decolor; pars marginalis parenchymatica, ex hyphis formata plus minusve radiantibus, pachydermaticis, crebre septatis. Thecium deeolor, 80-100 µm altum, J praecedente coerulescentia sordide vinose rubens vel rufescens, K non reagens; paraphyses simplices, 1 µm crassae, superne leviter incrassatae et crebrius septatae; asci cylindrici. Sporae monostichae, oblongo·fusiformes, 8-11(-12) 11 x 2,5-3 µm, uniseptatae, medio non constrictae, utroque apice obtusae vel saltern obtusiusculae.



Dimerella pyrophthalma



Dimerella pyrophthalma

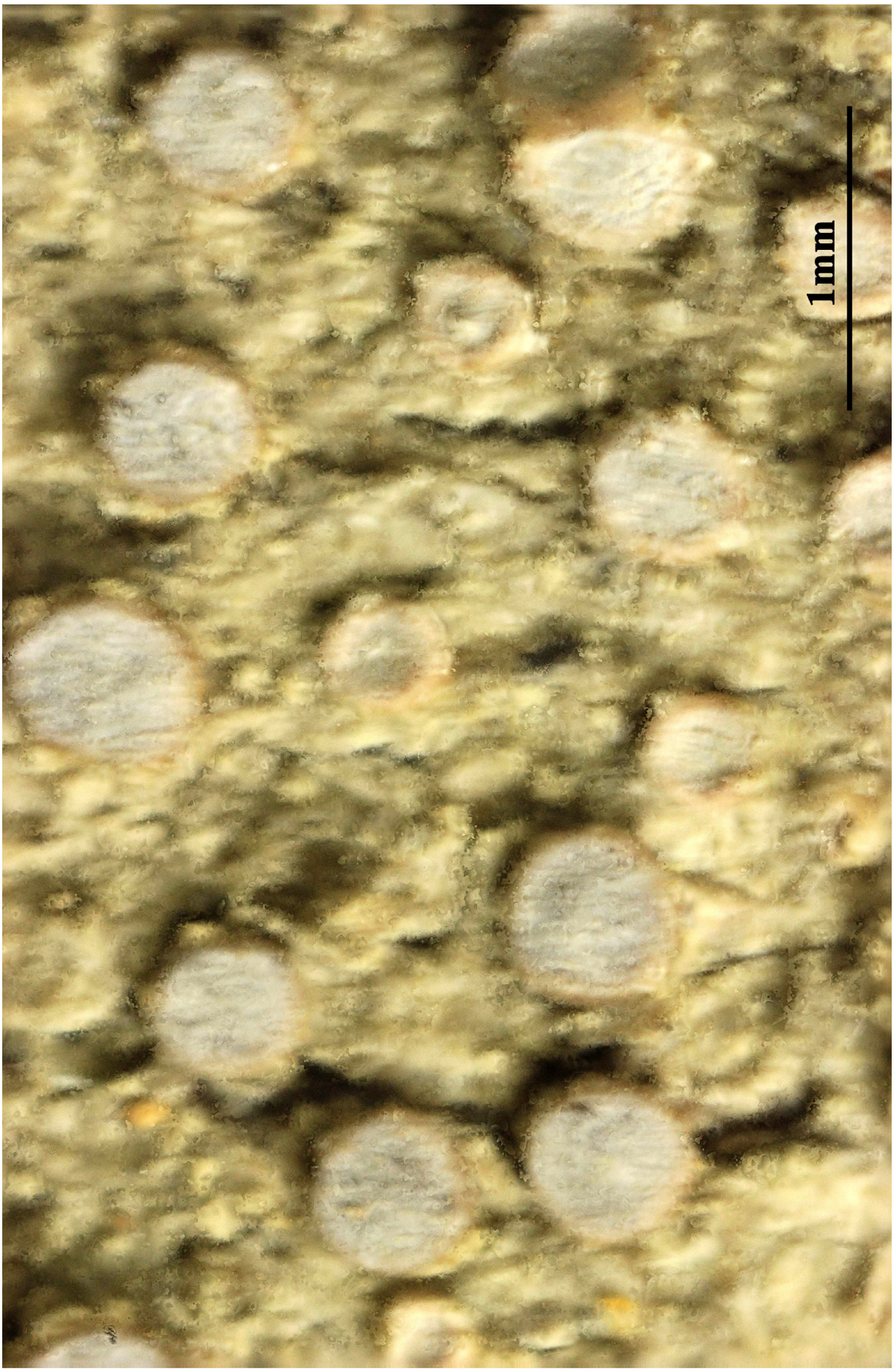
Haematomma cismonicum Beltr., Lich. Bassan. (Bassano): 127 (1858)
= *Loxospora cismonica* (Beltr.) Hafellner, in Wirth, Die Flecht. Baden-Württembergs. Verbreitungsatlas (Stuttgart): 511 (1987)

[VZ1115] Romania. Distr. Hunedoara. Montes Retezat, in valle Lapuşul Mare, supra Gura Apei, 1050 m. Ad corticem *Abietis albae*. Leg. A. Vězda, 5.6.1972. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1115.

Thallus crustose, episubstratic, whitish to greenish grey, thin, mostly continuous and smooth or sometimes thinly rimose. Apothecia lecanorine, sessile, 0.4-0.8 mm across, with a concave to flat, red-brown to pinkish brown, whitish-pruinose disc and a white-pruinose, irregular thalline margin. Proper exciple thin, brown; epithecium brown, with dense crystals, K-; hymenium colourless, I+ blue; paraphyses sparingly branched, easily separated, not markedly swollen at apices; hypothecium colourless. Asci 8-spored, clavate to narrowly clavate, with a uniformly amyloid apical dome. Ascospores (1-)3-septate, hyaline, spirally arranged in the asci, 30-35 x 5-6 µm. Photobiont chlorococcoid. Spot tests: thallus K+ bright lemon yellow, C-, KC- or KC+ yellow, P+ yellow-orange, UV-. Chemistry: thamnolic acid. - Note: a cool-temperate, suboceanic lichen found on mature trees (mostly *Abies*) in humid, old forests, mostly in the montane belt.



Haematomma cismonicum

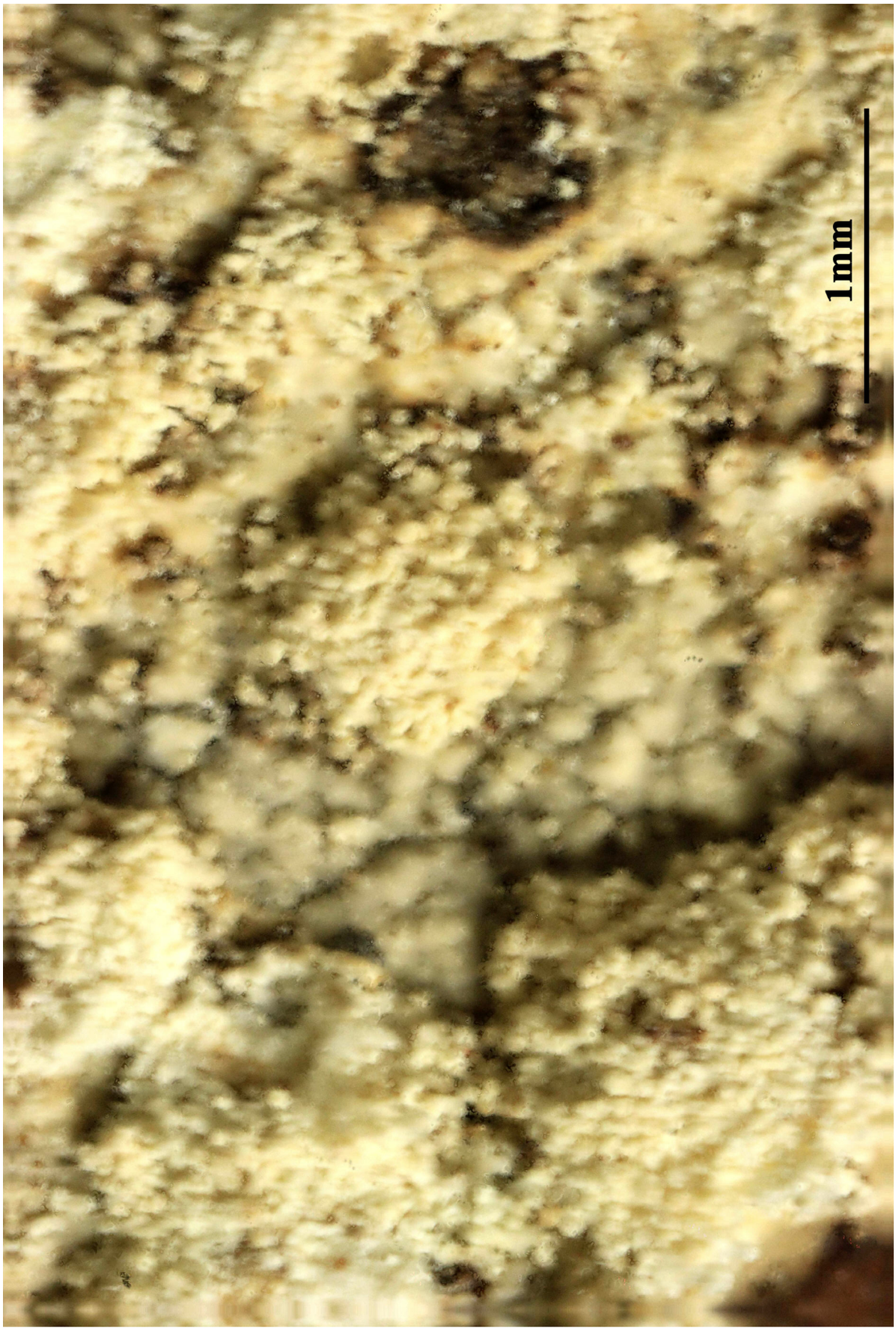


Haematomma cismonicum

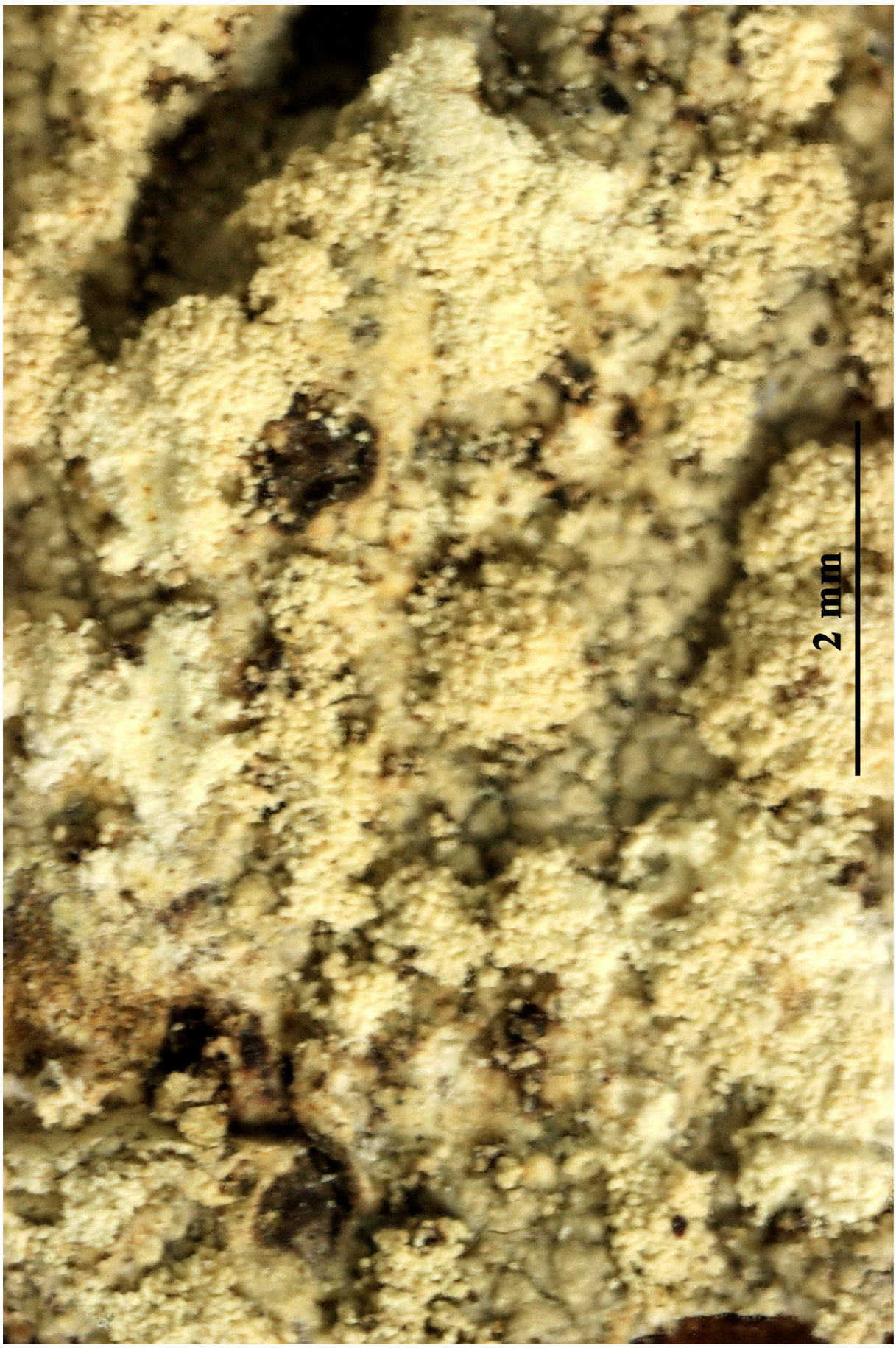
Haematomma elatinum (Ach.) A. Massal., Geneac. lich. (Verona): 21 (1854)
= *Lecanora elatina* Ach. 1810
= *Loxospora elatina* (Ach.) A. Massal., Ric. auton. lich. crost. (Verona): 138 (1852)

[VZ2007], MagnaBritannia. Southampton, New Forest, Frawewood. Ad corticem *Quercus*. Leg. E. Sérusiaux (6282(et F. Rose, 5.1984. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2007.

Thallus crustose, mostly episubstratic, continuous to minutely verruculose or tuberculate in young parts, sorediate, often delimited by a whitish, felty prothallus, forming regular to irregular, up to 10 cm (or more) wide patches. Esorediate surface grey or bluish grey, rarely yellowish; soralia bursting from the apices of basally constricted tubercles, yellowish white, grey-green, yellowish green or pale green, subglobose, 1-2 mm wide, often finally irregular, diffuse and finally often coalescing into granular-sorediate patches covering large areas. Soredia mostly coarse, 25-55 µm in diam., often gathered into globose, up to 80 µm (or more) wide consoredia. Medulla mostly distinct, white. Apothecia rare, lecanorine, 0.5-1.5 mm across, sessile or substipitate, usually constricted at base, with a reddish brown, sometimes pruinose, flat to finally convex disc and a thin, sorediate, finally excluded thalline margin. Proper exciple thin, brownish; epithecium brownish, inspersed with crystals, K-; hymenium colourless, I+ blue; paraphyses mostly simple, rather lax, not or slightly swollen at tips; hypothecium colourless to pale brown. Asci 8-spored, with a uniformly amyloid apical dome. Ascospores 2-5-septate, hyaline, fusiform to narrowly ellipsoid, spirally arranged in the asci, 35-50 x 4-5 µm. Pycnidia rare, immersed, with a colourless wall. Conidia bacilliform. Photobiont chlorococcoid. Spot tests: thallus and soralia K+ rapidly bright lemon yellow, C-, KC+ yellow, P+ yellow-orange (slow reaction), UV-. Chemistry: thamnolic acid (major), elatinic acid (mainly in the soralia, minor), squamatic acid (trace). - Note: a mainly boreal-montane species found on *Abies* and *Picea*, more rarely on deciduous trees (e.g. *Betula*); certainly overlooked in the Alps, being most often sterile, but never common.



Haematomma elatinum

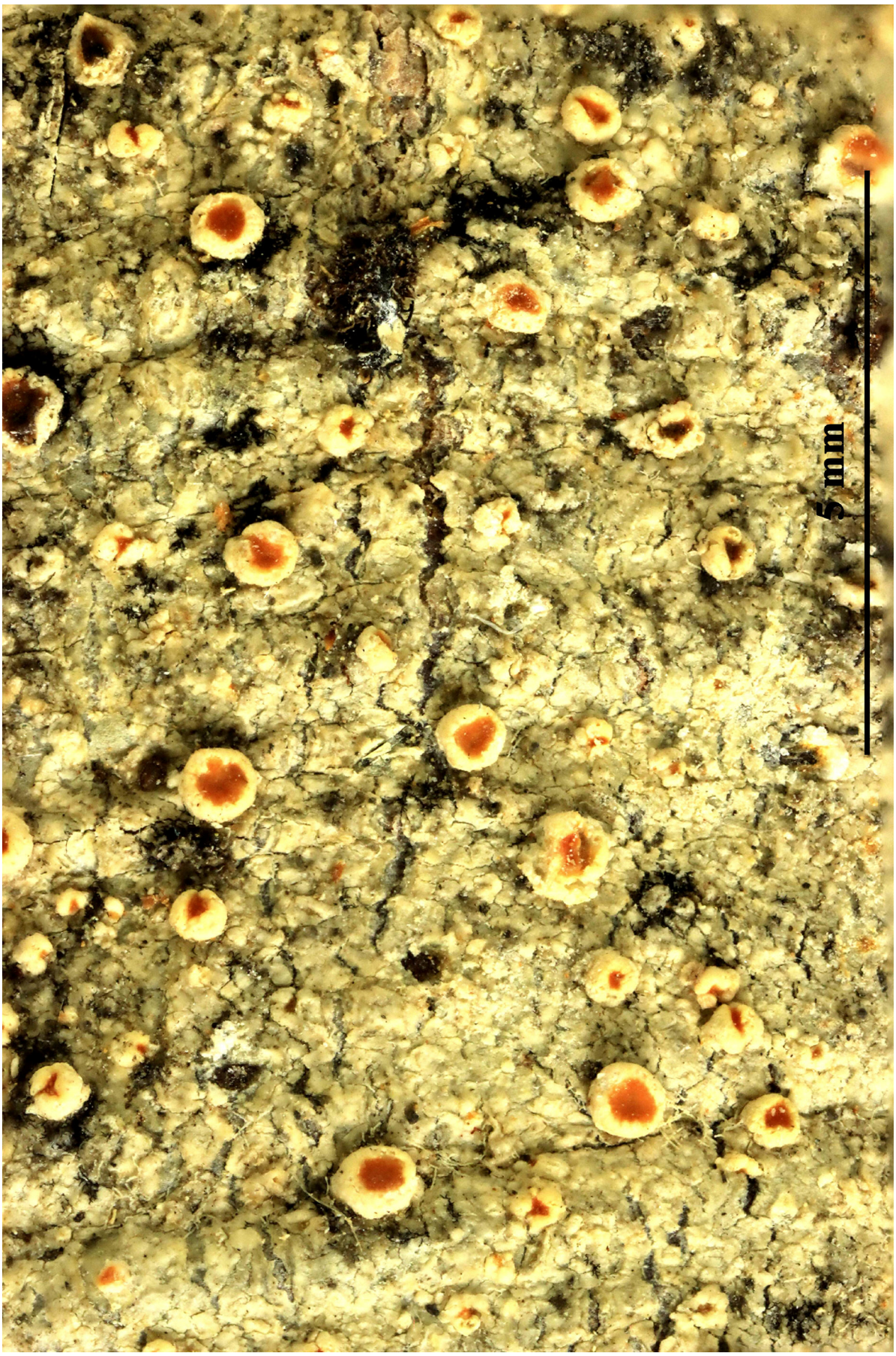


Haematomma elatinum

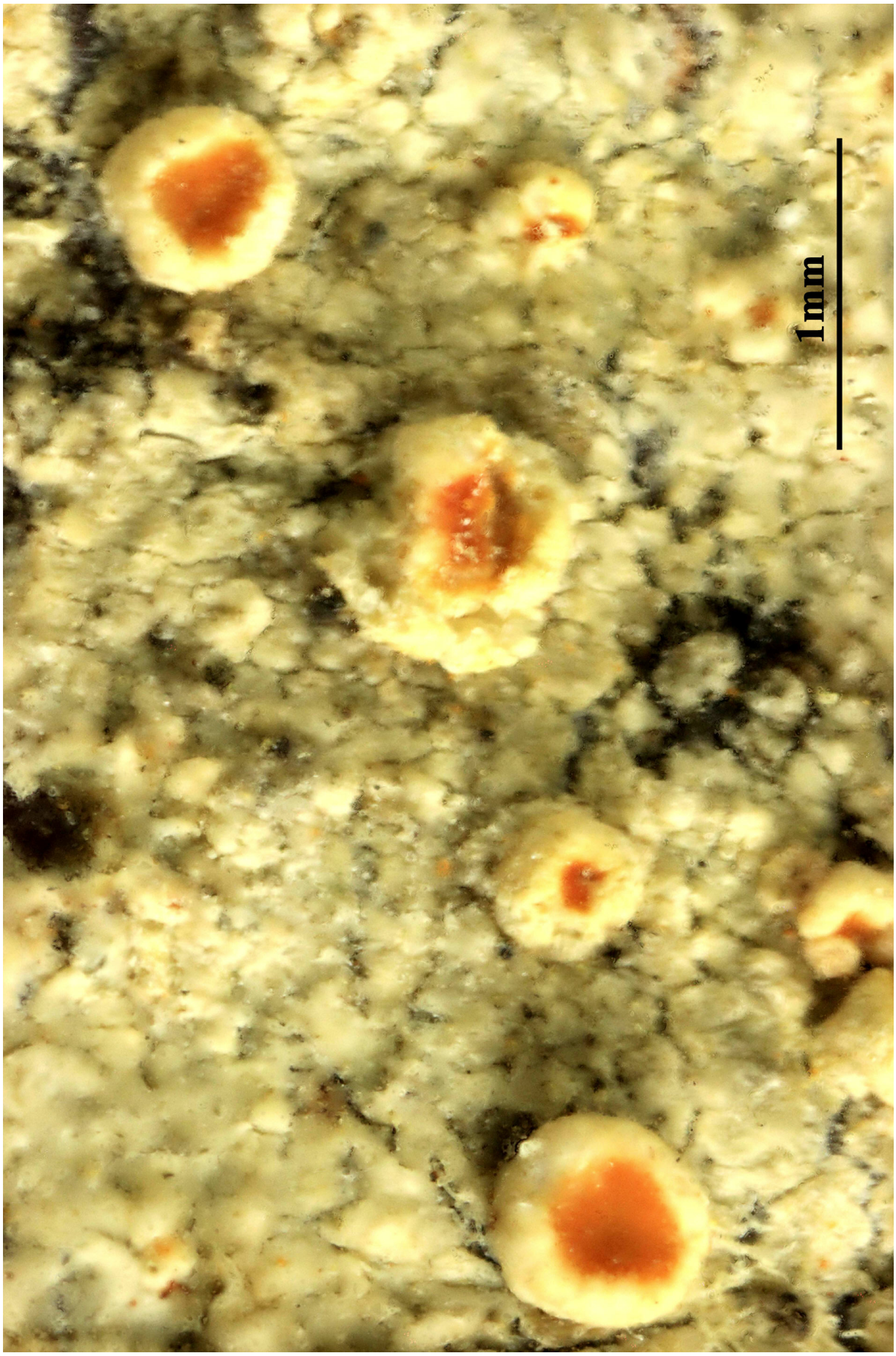
Haematomma hilare Zahlbr., Denkschr. Kaiserl. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 104: 350 (1941)

[VZ1833], Nova Zelandia. South Island: Canterbury, Bealy Spur prope Arthur's Pass, secundus viam ad Grasmere Hut, 43°02' austr., 171°35' orient., 800-1000 m. Ad truncum *Nothofagi solanderi* in silva uliginosa. Leg. et det. L. Tibell (no. 10108). Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1833.

Thallus crustose, very thin, varnish-like, greyish-white to greenish, shining, margins delineated by a fine brownish-black line, to 2 cm diam., corticolous. Apothecia lecanorine, scattered, sessile or constricted at base, round, to 2 mm diam., disc orange-brownish and white-pruinose when young, plane or convex and matt, without pruina at maturity, margin concolorous with thallus, thin, entire or crenulate, occluded with age. Ascospores 11-13 septate, 60-64 × 3-4 μm.



Haematomma hilare

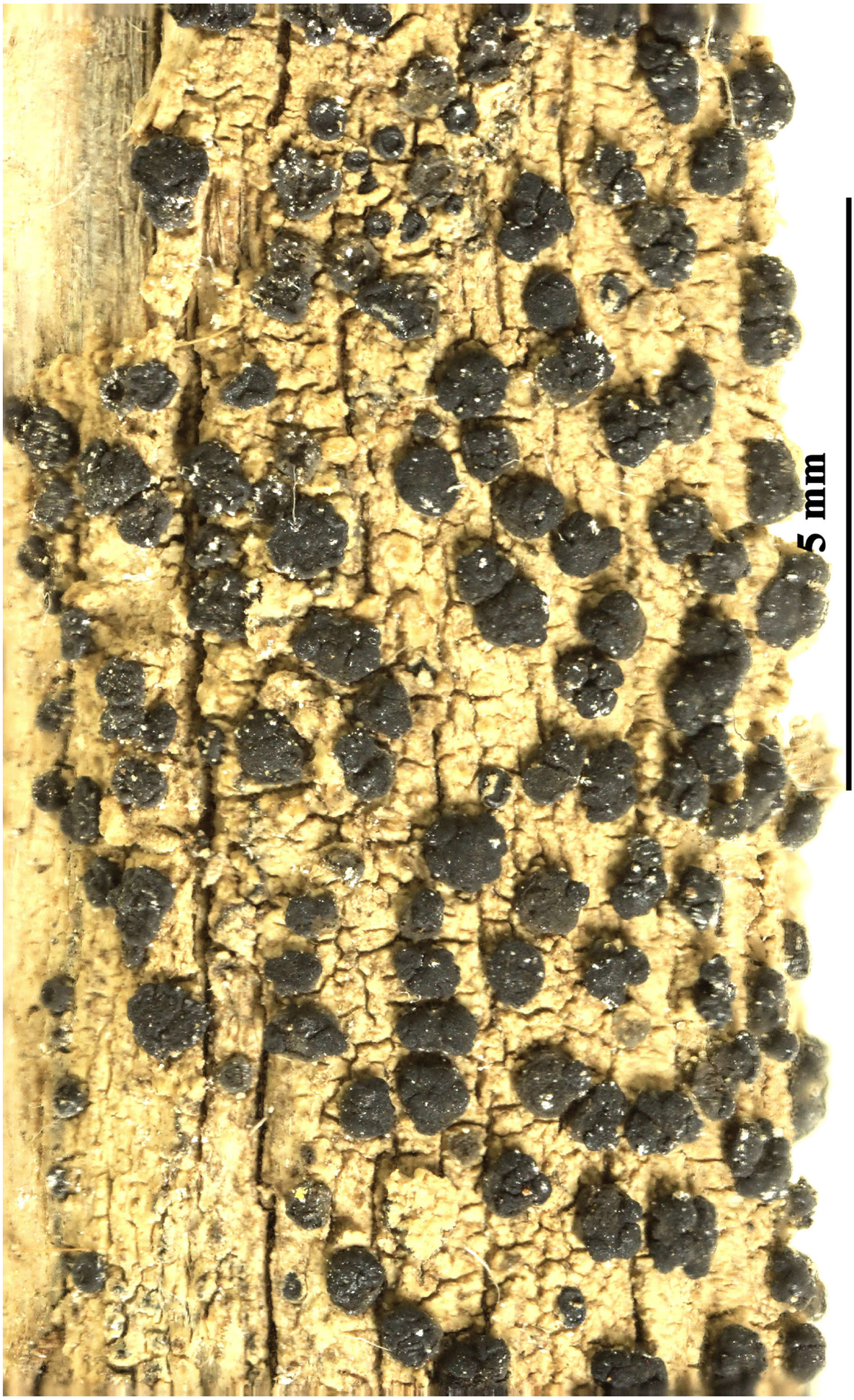


Haematomma hilare

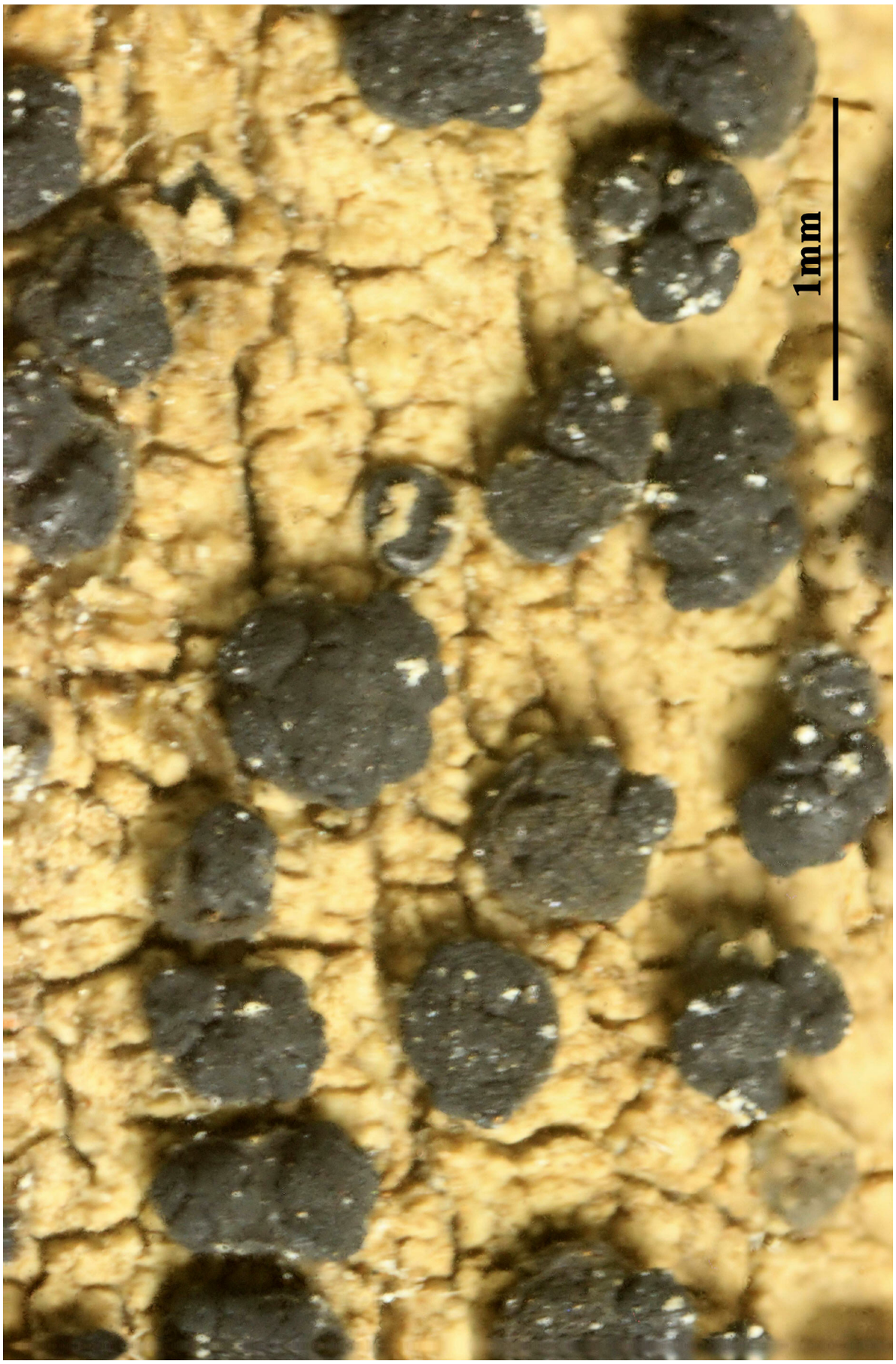
Lecidella achristotera* var. *juniperina Poelt & Nimis, in Nimis & Poelt, Stud. Geobot. 7(suppl. 1): 130 (1987)

[VZ2209], Itakia. Sardinia. Prov. Sassari Nurra, scopulum Punta (Capo) Falcone dictum, 150 m. Ad ramulos emortuos *Juniperi*. Leg. A. Vězda, 19.7.1987. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2209.

Thallus crustose, episubstratic, continuous to areolate-verrucose, up to 0.7 mm thick, whitish to yellowish grey, often delimited by a dark prothallus. Apothecia common, lecideine, black, sessile, 0.5-1.7 mm across, often crowded and confluent, with a flat to finally convex, epruinose or faintly pruinose disc and a smooth, often flexuose, finally sometimes excluded proper margin. Proper exciple blue-green in outer part, colourless within, with crystals dissolving in K; epithecium blackish green, bluish green to dull grey-blue, rarely olive; hymenium 40-80 µm high, colourless but appearing grey, being strongly inspersed with very large, often irregularly ellipsoid, c. 5-10 µm long oil droplets; paraphyses easily made free in K, simple, rarely anastomosing or branched in upper part, not capitate; hypothecium brownish orange (K+ bright red-brown) to reddish brown. Asci 8-spored, clavate, with an intensely K/I+ blue tholus penetrated by a faintly amyloid, broadly cylindrical axial mass, and a poorly developed ocular chamber, the wall K/I-, surrounded by a K/I+ blue outer layer, approaching the Lecanora-type. Ascospores 1-celled, hyaline, thick-walled, broadly ellipsoid to ellipsoid, 7-14 x 6.5-8 µm, often biguttulate. Pycnidia globose, dark, immersed. Conidia thread-like, more or less curved. Photobiont chlorococcoid. Spot tests: thallus K+ yellow, KC+ yellow, C+ orange, P- (reactions often weak and patchy). Chemistry: unidentified xanthones. - Note: on shrubs, especially *Juniperus macrocarpa*, in areas with sand dunes subject to humid, maritime winds, but with long periods of aridity, ecologically similar to *Tornabea scutellifera*.



Lecidella achristotera* var. *juniperina

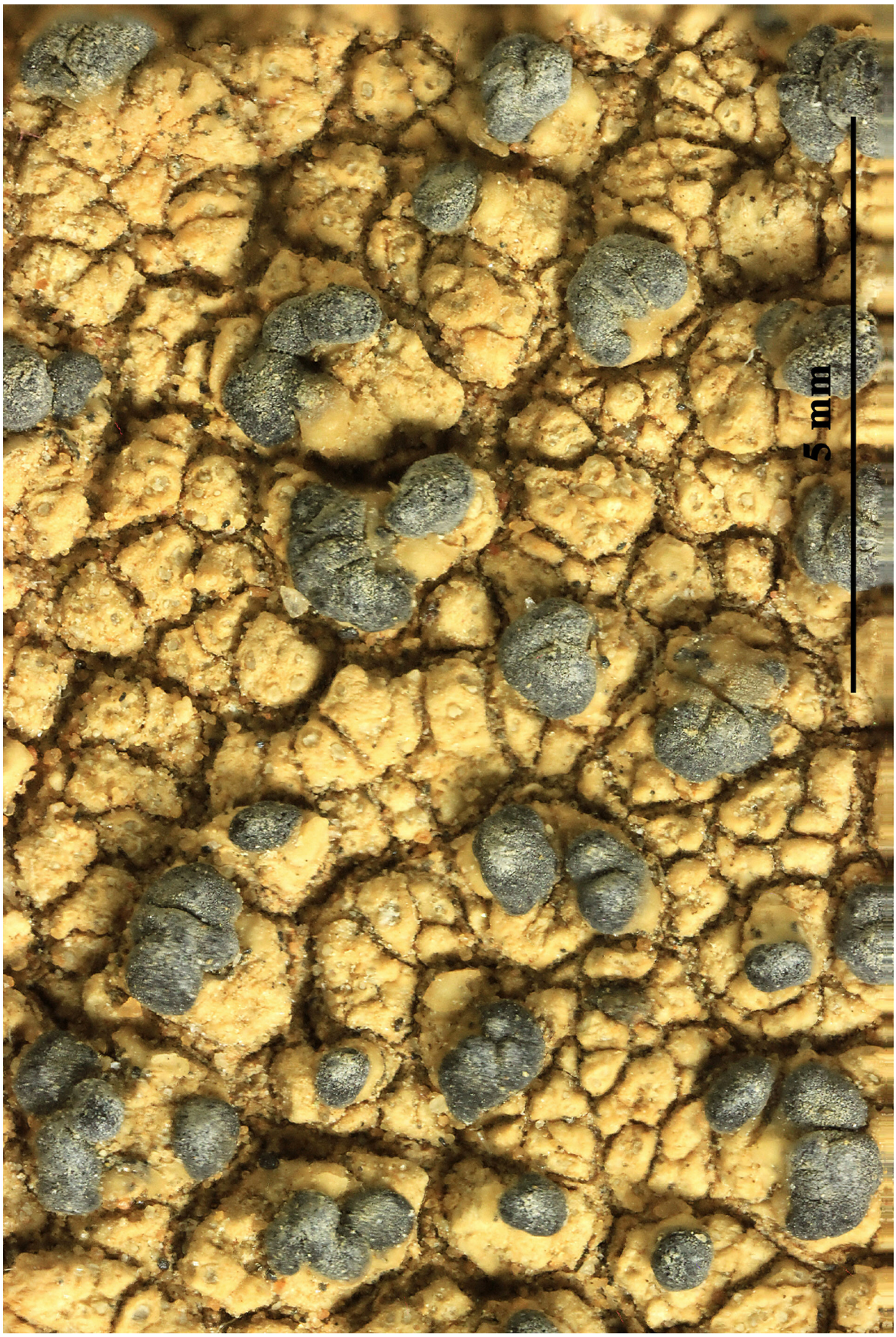


Lecidella achristotera* var. *juniperina

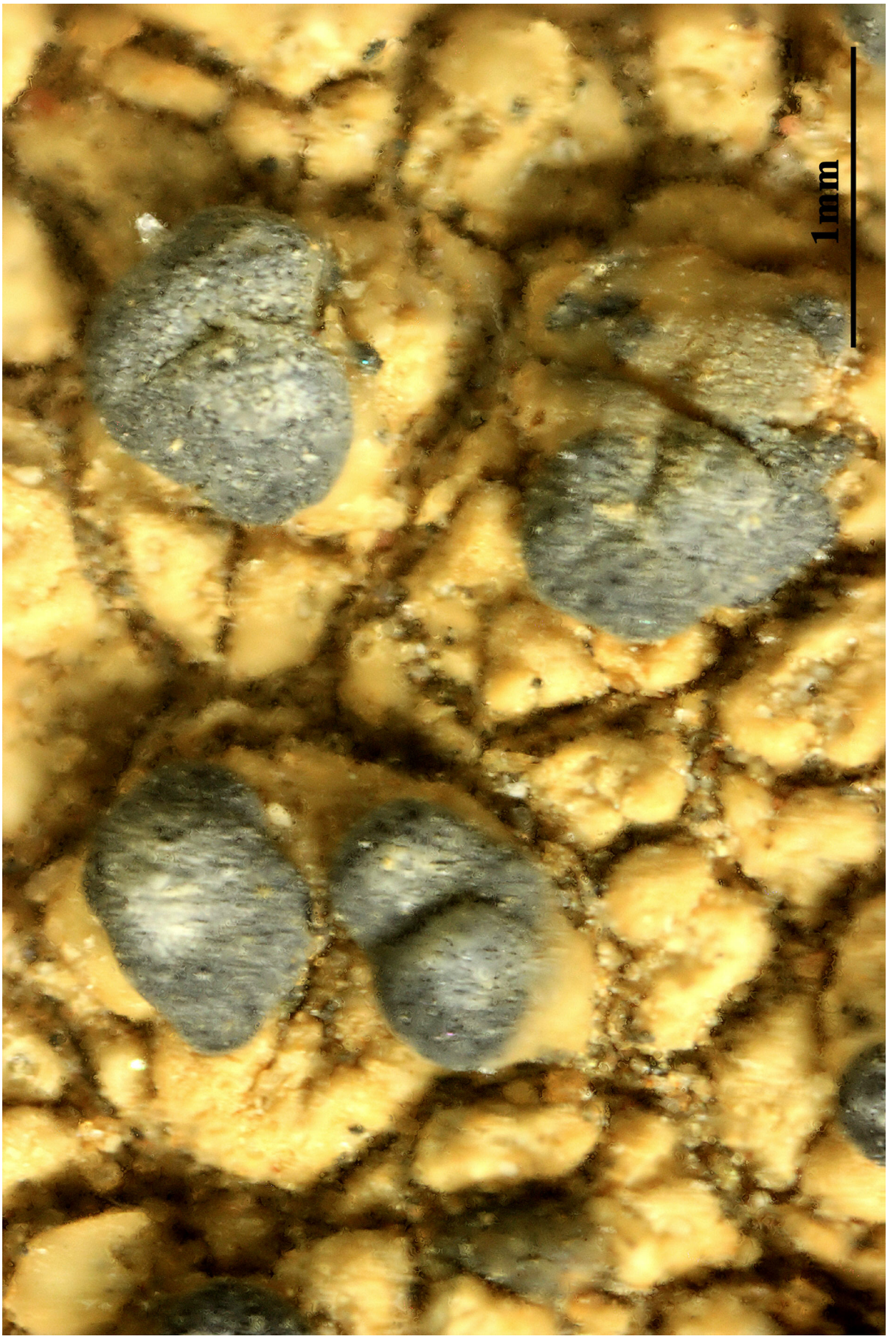
Lecidella crystallina V. Wirth & Vězda, Stuttg. Beitr. Naturk., Ser. A (Biol.) 284: 3 (1975)

[VZ1332], Africa Austro-occidentalis. Swakopmund, 10 km in septentrione a Swakopmund. Ad terram gypsaceam in desertis. Leg. O. Volk, 27.8.1974. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1332.

Thallus dirty beige to pale ochraceous, crustose, rimose to rimose-areolate, often wide-spreading, growing firmly attached to substrate or partly scaling off, therefor often lying in fragments free on soil, 1-3 mm thick, with scattered black dots (pycnidia). Areoles irregularlx polygonal, 0.5-2 mm wide. uneven-rugulose, with vertically oriented semi-immersed crystalls of gypsum (0.2-0.3 mm) with prominent tips, leaving pits after sedding. Apothecia black, usually slightly whitish pruinose, irregularly arranged, sigle or compacted together, in places lacking, 0.4-1.5 mm wide, first rounded. plane et marginate, later convex to semi-globose, immarginate, irregular lobate to divided, sometimes conglomerate. Hymenium 75-80 µm tall, containing oil- droplets, upper part greenish black (K+ blue-green), paraphyses usually simple, thick (2-2.5 µm); hypothecium dark brown (K+ violet brown); exciple ± dirty blue-green at outer edge. dark brown inside. Ascospores 1-celled, ellipsoid, 10-12 x 5-6.5 µm. Pycnidia immersed, ostioles visible as black dots, finaly crateriform, to 0.4 mm, pycnospores simple, filiform, bent, 16-22 x 0.5 µm. Chemistry: K-, C-, P-; atranorin (minor), 2'-O-methylperlatolic acid (major).



Lecidella crystallina



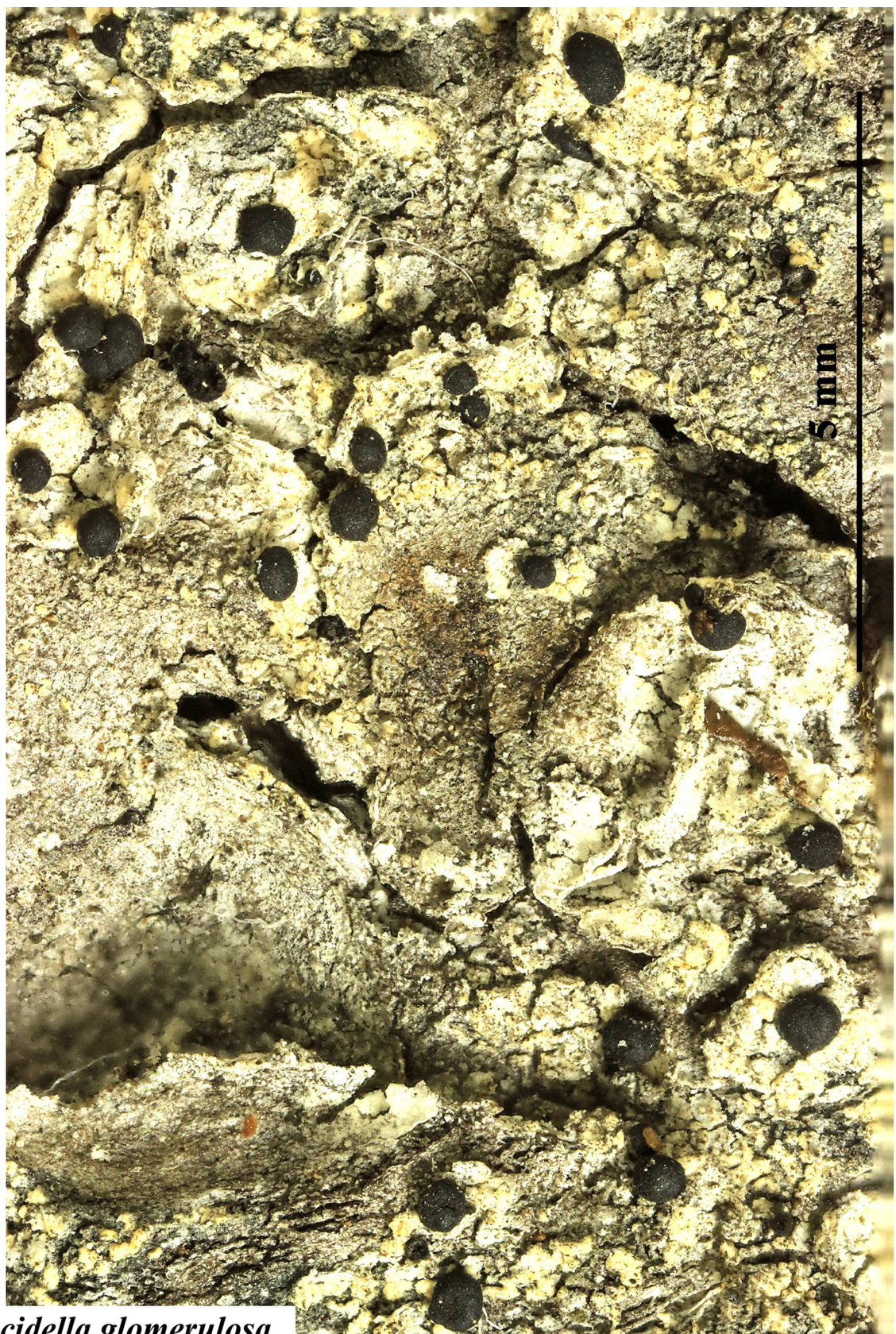
Lecidella crystallina

Lecidella glomerulosa (DC.) M. Choisy, Bryologist 78(1): 53 (1975)
= *Patellaria glomerulosa* DC. 1805
= *Lecidella elaeochroma* (Ach.) M. Choisy, Bull. mens. Soc. linn. Soc. Bot. Lyon 19(1): 19 (1950)
= *Lecidella euphorea* (Flörke) Hertel in Hawksworth & al., Lichenologist, 12: 107, 1980.
= *Lecidea sabuletorum var. euphorea* Flörke - Mag. Gesell. naturf. Freunde, Berlin, 2: 311, 1808.
= *Lecidea dolosa* Ach.
= *Lecidea enteroleuca var. deusta* (A. Massal.) Trevis.
= *Lecidea euphorea* (Flörke) Nyl.
= *Lecidea glomerulosa* (DC.) Steud.
= *Lecidella dolosa* (Ach.) Stein

[VZ1431], Sueci<. Härjedalen: Tännäs Paroecia, Funäsdalen, Tännforsen, 700 m. Ad corticem *Piceae abietis*. Leg. R. Santesson (no, 26320). Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1431.

Thallus crustose, episubstratic, continuous to verrucose, up to 1.5 mm thick, whitish to yellowish grey, often delimited by a dark prothallus. Apothecia common, lecideine, black (brown in old or damaged specimens), sessile, 0.3-0.5(-1.2) mm across, with a flat to finally convex disc and a smooth to flexuose, often shiny, finally excluded proper margin. Proper exciple up to 0.1 mm thick, blue-green in outer part, brownish or colourless within, without crystals; epithecium blackish green, bluish green to dull grey-blue, rarely olive, often with crystals; hymenium colourless, 60-70 µm high, not inspersed with oil droplets; paraphyses easily made free in K, simple, rarely anastomosing or branched in upper part, not capitate; hypothecium reddish brown to (rarely) yellowish brown. Asci 8-spored, clavate, with an intensely K/I+ blue tholus penetrated by a faintly amyloid, broadly cylindrical axial mass, and a poorly developed ocular chamber, the wall K/I-, surrounded by a K/I+ blue outer layer, approaching the Lecanora-type. Ascospores 1-celled, hyaline, broadly ellipsoid to ellipsoid, 7-16 x 4.5-10 µm, thick-walled. Pycnidia dark, globose, immersed. Conidia thread-like, more or less curved. Photobiont chlorococcoid. Spot tests: thallus K+ yellow, C- or C+ orange, KC- or KC+ yellow-orange, P-, UV-. Chemistry: 2,5,7-trichloro-3-O-methylnorlichexanthone, 3-O-methylalasemone, 3-O-methylthiophanic acid, 5,7-di chloro-3-O-methylnorlichexanthone, atranorin, isoarthothelin, and thiophanic acid. - Note: often considered as a variety or a form of *L.*

elaeochroma, this species proved to form a monophyletic clade in the molecular analysis by Zhao & al. (2015). The negative reactions of the thallus to C and KC cannot be considered as a discriminant character (see Knoph & Leuckert 2004), and samples with negative reactions could prove to belong to the chemically different *L. turgidula*. Most Italian records are unreliable.



Lecidella glomerulosa

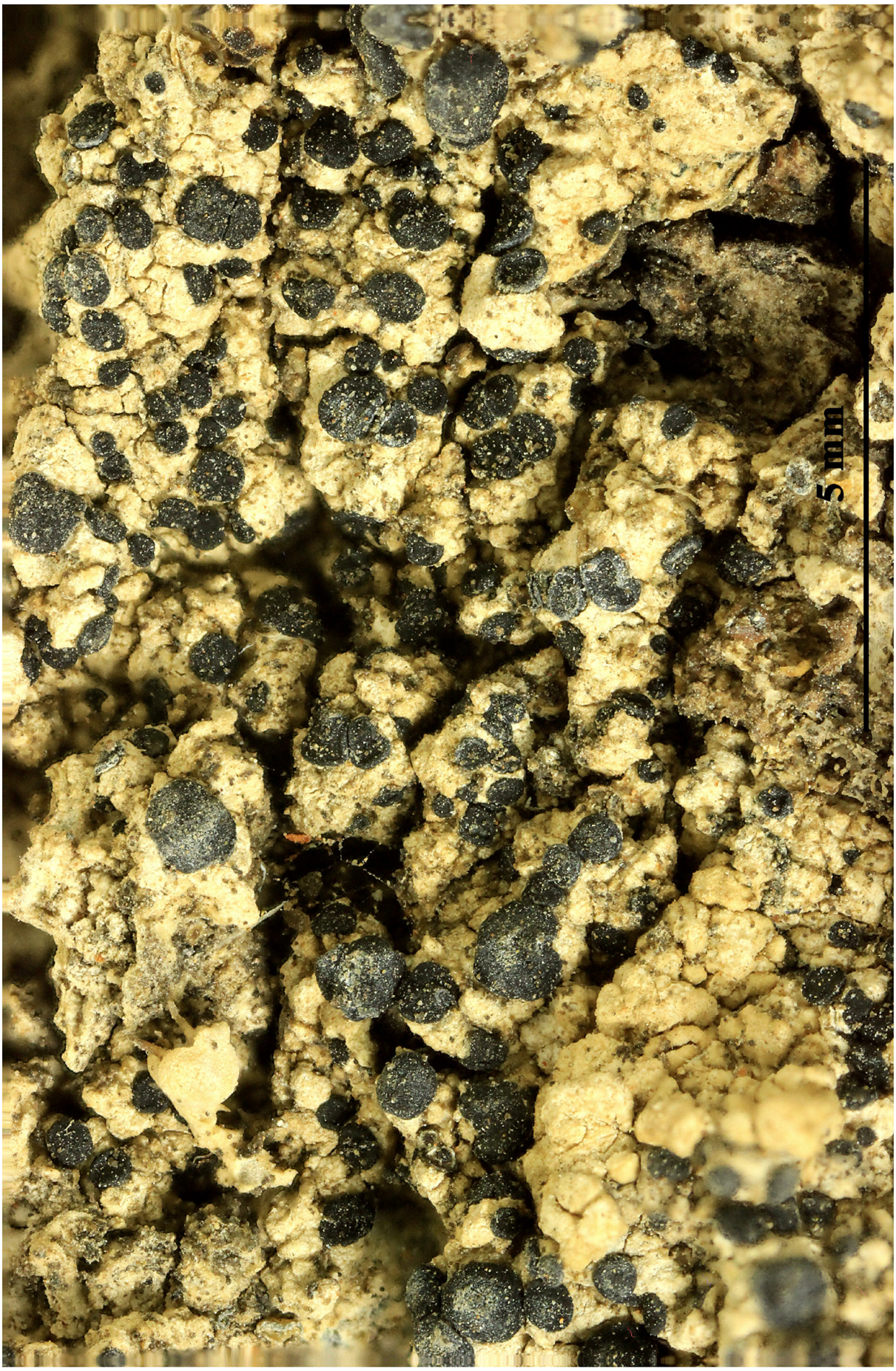


Lecidella glomerulosa

Lecidella laureri (Hepp) Körb., Syst. lich. germ. (Breslau): 246 (1855)
= *Biatora laureri* Hepp - Flecht. Eur.: nr. 4, 1853.
= *Lecidea euphorea var. laureri* (Hepp) Vain.
= *Lecidea laureri* (Hepp) Anzi

[VZ1457], Turcia asiatica. Prov. Cankiri: Köroglu-Daglari, 10 km ad septentrionem versus Cankiri, 950 m. Ad corticem *Quercum*. Leg. K. Kalb et G. Plöbst, 10.8.1976. Ex A. VěZDA Lichenes Selecti exsiccati Nr. 1457.

Thallus crustose, episubstratic, markedly thick, coarsely granulose, verrucose or almost subsquamulose, whitish. Apothecia lecideine, sessile, 0.6-1 mm across, with a usually convex, brownish-black, but finely bluish white-pruinose disc, and a thin, soon excluded proper margin. Epithecium olive-green; hymenium colourless, inspersed with oil droplets; paraphyses easily made free in K, simple, rarely anastomosing or branched in upper part, not capitate; hypothecium reddish brown. Asci 8-spored, clavate, with an intensely K/I+ blue tholus penetrated by a faintly amyloid, broadly cylindrical axial mass, and a poorly developed ocular chamber, the wall K/I-, surrounded by a K/I+ blue outer layer, approaching the Lecanora-type. Ascospores 1-celled, hyaline, thick-walled, broadly ellipsoid, 7-16(-18) x 4-10 µm. Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: not known. - Note: on eutrophicated lignum and base-rich bark.



Lecidella laureri

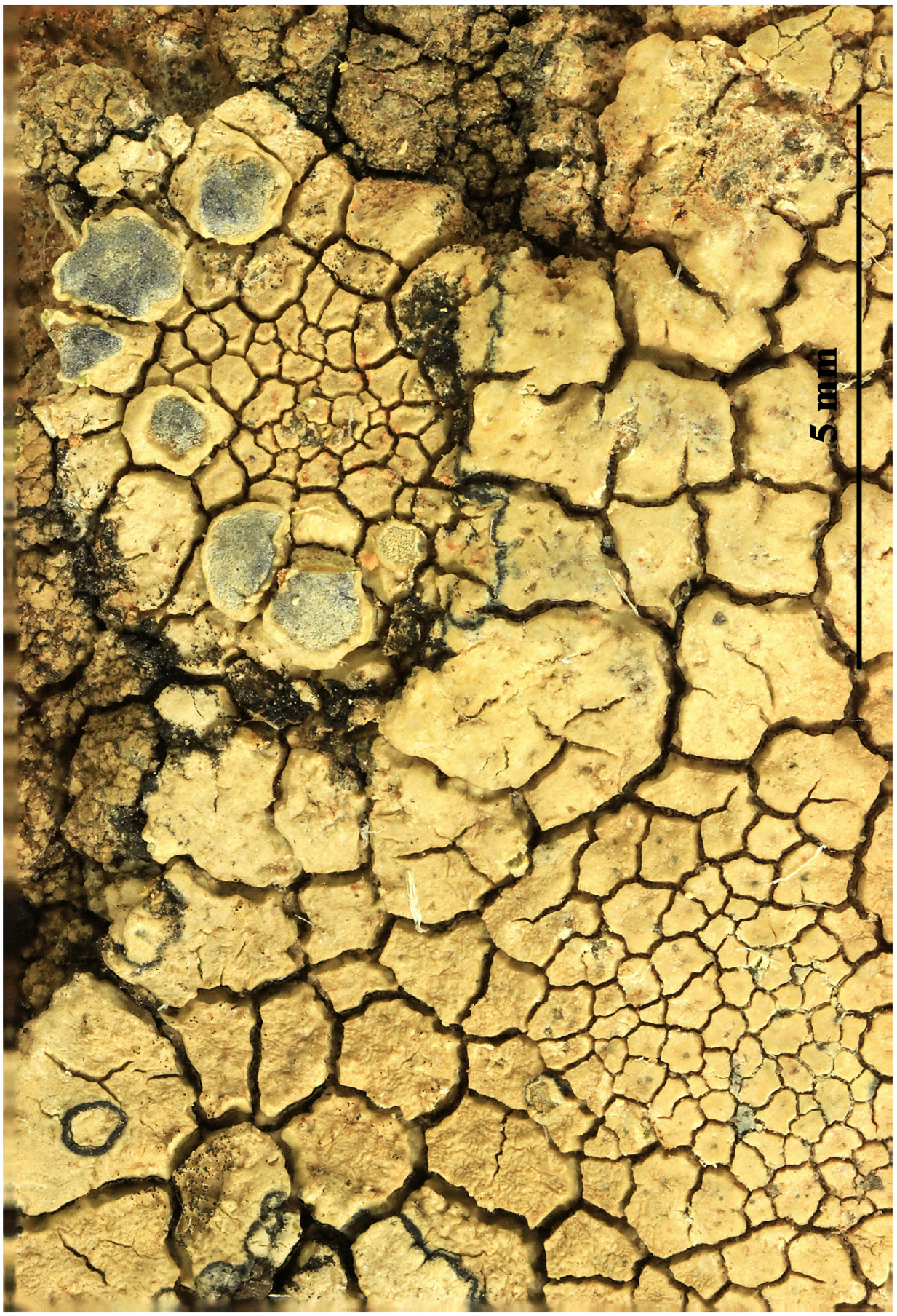


Lecidella laureri

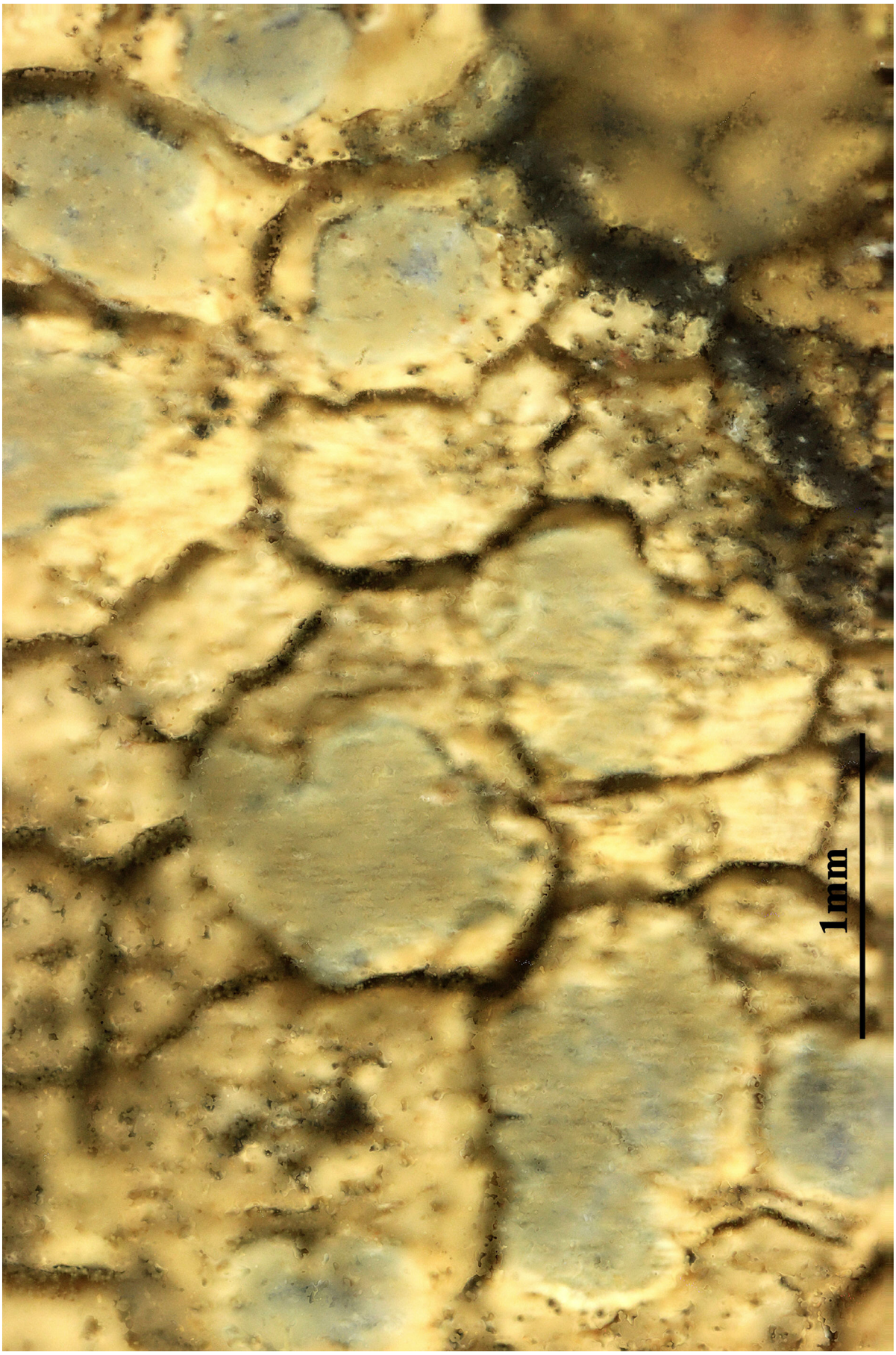
Lecidella vorax Leuckert & Poelt, in Nimis & Poelt, Stud. Geobot. 7(suppl. 1): 133 (1987)

[VZ2210], Italia. Sardinia. Prov. Cagliari: Giara die Gesturi, supra pagum Cesturi, 550 nm. Ad saxa basaltica. - Topotypus. Leg. P. L. Nimis, M. Tretiach, J. Poelt et A. Vězda, 14.7.1987. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2210.

Thallus crustose, episubstratic, up to more than 1.5 mm thick, rimose-areolate, often delimited by a thin black prothallus, consisting of contiguous, finally subpeltate-substipitate, pale ochre-brown areoles with a finely rimose surface, forming rounded to irregular patches on the thalli of Glaucomaria rupicola. Cortex c. 25 µm thick, with an epinecral layer; medulla white, I-. Apothecia lecideine, black, epruinose, adnate to subsessile, scattered to confluent, round to irregular in outline, up to 1.2 mm across, with a flat to finally slightly convex disc and a slightly glossy, finally often excluded proper margin. Proper exciple dark throughout, (green-black in outer part, reddish brown within), of conglutinate, perpendicularly oriented hyphae, without crystals; epithecium blue-green to finally brownish, up to 10 µm high; hymenium colourless, 55-75 µm high, I+ blue; paraphyses easily made free in K, mostly simple, 1.5-2 µm thick at mid-level, the apical cells 3-4 µm wide; hypothecium ochraceous brown, K+ reddish brown. Asci 8-spored, clavate, with an intensely K/I+ blue tholus penetrated by a faintly amyloid, broadly cylindrical axial mass, and a poorly developed ocular chamber, the wall K/I-, surrounded by a K/I+ blue outer layer, approaching the Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid, 11-13.5 x 6-7 µm, thick-walled. Photobiont chlorococcoid. Spot tests: thallus K-, C+ orange, KC+ orange, P-. Chemistry: arthothelin, isoarthothelin, thiophanic acid, 2-chloronorlichexanthone, 2,4-dichloronorlichexanthone, 2,5-dichloronorlichexanthone. 5,7-dichloronorlichexanthone, 7-dichloro-3-O-methylnorlichexanthone, 3-O-methyl2,5,7-trichloronorlichexanthone, plus an unknown, brown, insoluble pigment. - Note: chemically related to *L. asema*, but constantly parasitic on *Glaucomaria rupicola*.



Lecidella vorax



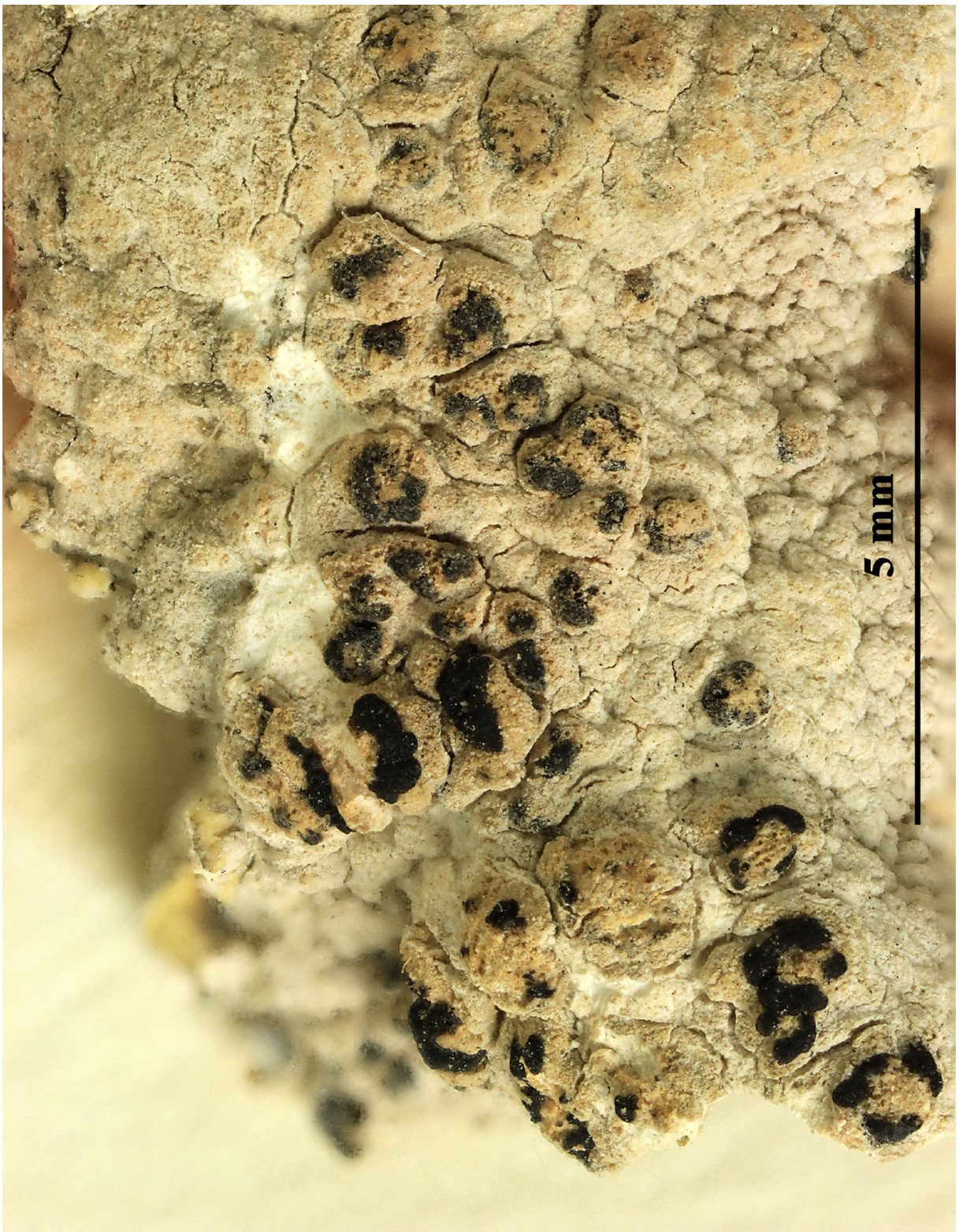
Lecidella vorax

Leciographa malenconiana Llimona & Werner, in Llimona, Opusc. sparsa (Bot. Dep. Fac. Sci., Univ. Barcinon.) 6: 11 (1974)

= *Rhizocarpon malenconianum* (Llimona & Werner) Hafellner & H. Mayrhofer Herzogia, 4, 3-4: 346, 1977.

[VZ1288], Hispania. Huesca, Barbastro: prope lacum Pueyo dictum, 400 m. Sopra gypsum loco semistepposo, in thallo *Diploschistes steppici* vigens. Leg. X. Llimona, 15.8.1973. Ex A. V ěZDA LICHENES SELECTI EXSICCATI NR. 1299.

Thallus doubtfully lichenized, inducing the formation of (0.4-)0.7-1.5(-4) mm wide, convex, whitish, ochraceous or greenish, finely fissured, often pruinose gall-like structures on the thalli of terricolous Diploschistes species. Apothecia black, sessile, orbicular to irregular in outline, flat to strongly convex, (0.2-)0.3-0.7(-0.8) mm across, soon becoming emarginate. Proper exciple poorly developed, dark; epithecium thick, opaque, dark brown to olivaceous black, K+ purple-red; hymenium colourless, 60-90 µm high, I+ blue; paraphysoids coherent, branched and anastomosing, c. 2.5 µm thick at mid-level, the apical cells capitate, 4-5 µm wide; hypothecium brown-black to reddish brown, 75-112 µm high, K-. Asci 8-spored, clavate, fissitunicate, with a well-developed tholus that is K/I- in lower part and K/I+ blue near the apex, lacking an ocular chamber, Rhizocarpon-type. Ascospores (1-)3-spetate, rarely finally weakly submuriform, slightly constricted at septa, brown, narrowly ellipsoid, 15-23 x 5-10 µm, halonate at least when young. Photobiont probably absent. Spot tests: those of the hosts. Chemistry: thallus probably without lichen substances. - Note: a probably non-lichenized species inducing the formation of gall-like structures on the thalli of terricolous, often gypsicolous species of *Diploschistes*, described from Spain and known from Southern France (incl. Corsica) and the southern Balkan Peninsula, with outposts in the dry valleys of Norway.



Leciographa malenconiana



Leciographa malenconiana

Lepraria crassissima* var. *isidiata Llimona, in Vězda, Lichenes Selecti Exsiccati, Fasc. (Průhonice) 47: 7 (no. 1175) (1973)

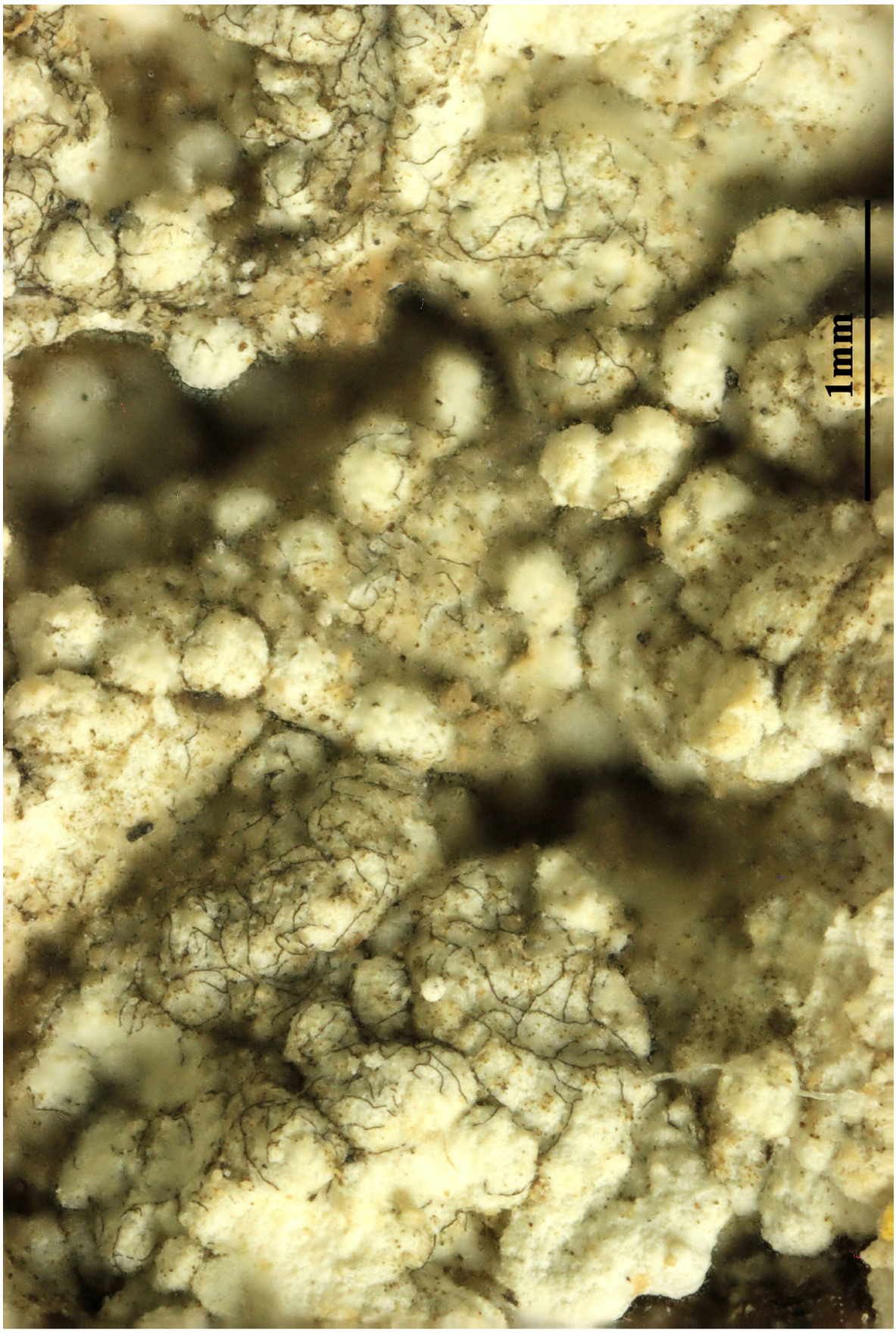
= *Lepraria isidiata* (Llimona) Llimona & A. Crespo, in Wirth, Düll, Llimona, Ros & Werner, Guía de Campo de los Líquenes, Musgos y Hepáticas, Con 288 Especies de Líqueneí y 226 de Briófitos (Musgos y Hepáticas) (Barcelona): 309 (2004)

[VZ2192], Cyprus. Larnaca, in vicinitate pagi Oroklini, haud procul a litore, 5 m . Ad saxa conglomerata loco subgypsaceo. Leg. A. Vězda, 25.6.1987. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2192.

Thallus crustose-subplacodioid to subsquamulose, subleprose, white, pale grey to dark grey in central parts, (0.3-)0.5-1.5 mm thick, well delimited, forming regular, robust up to 8 cm wide rosettes. Marginal lobes well-developed, pruinose, with raised, thick margins, sometimes with subcorticate, paraplectenchymatous patches; hypothallus usually poorly developed, formed by pale brown, hyphae reacting K-; prothallus absent. Central part of thallus coarsely granular, often slightly convex, loosely attached, with a chalky consistency due to rich deposits of calcium oxalate crystals. Granules isidioid, subspherical to ellipsoid, 0.3-0.5(-0.9) mm thick, with a compact outer layer of heavily encrusted hyphae, and no or poorly developed, 40-50 μm long projecting hyphae, eventually dissolving into soredia-like granules. Medulla white, compact; hypothallus compact, composed of tightly intertwined hyphae. Photobiont chlorococcoid. Spot tests: thallus K+ yellow or K-, C-, KC- or KC+ yellow, P+ reddish orange, UV-. Chemistry: chemotype 1: atranorin, protocetraric, fumarprotocetraric and roccellic acids; chemotype 2: atranorin, protocetraric and roccellic acids; chemotype 3: atranorin, fumarprotocetraric and roccellic acids. - Note: on calciferous soil and on mosses in sheltered situations but in sunny and arid habitats, mostly on surfaces wetted by rain, also on gypsum, below the montane belt. For further details see Tretiach & al. (2009).



Lepraria crassissima* var. *isidiata



Lepraria crassissima* var. *isidiata

Lepraria crassissima* var. *isidiata Llimona, in Vězda, Lichenes Selecti Exsiccati, Fasc. (Průhonice) 47: 7 (no. 1175) (1973)

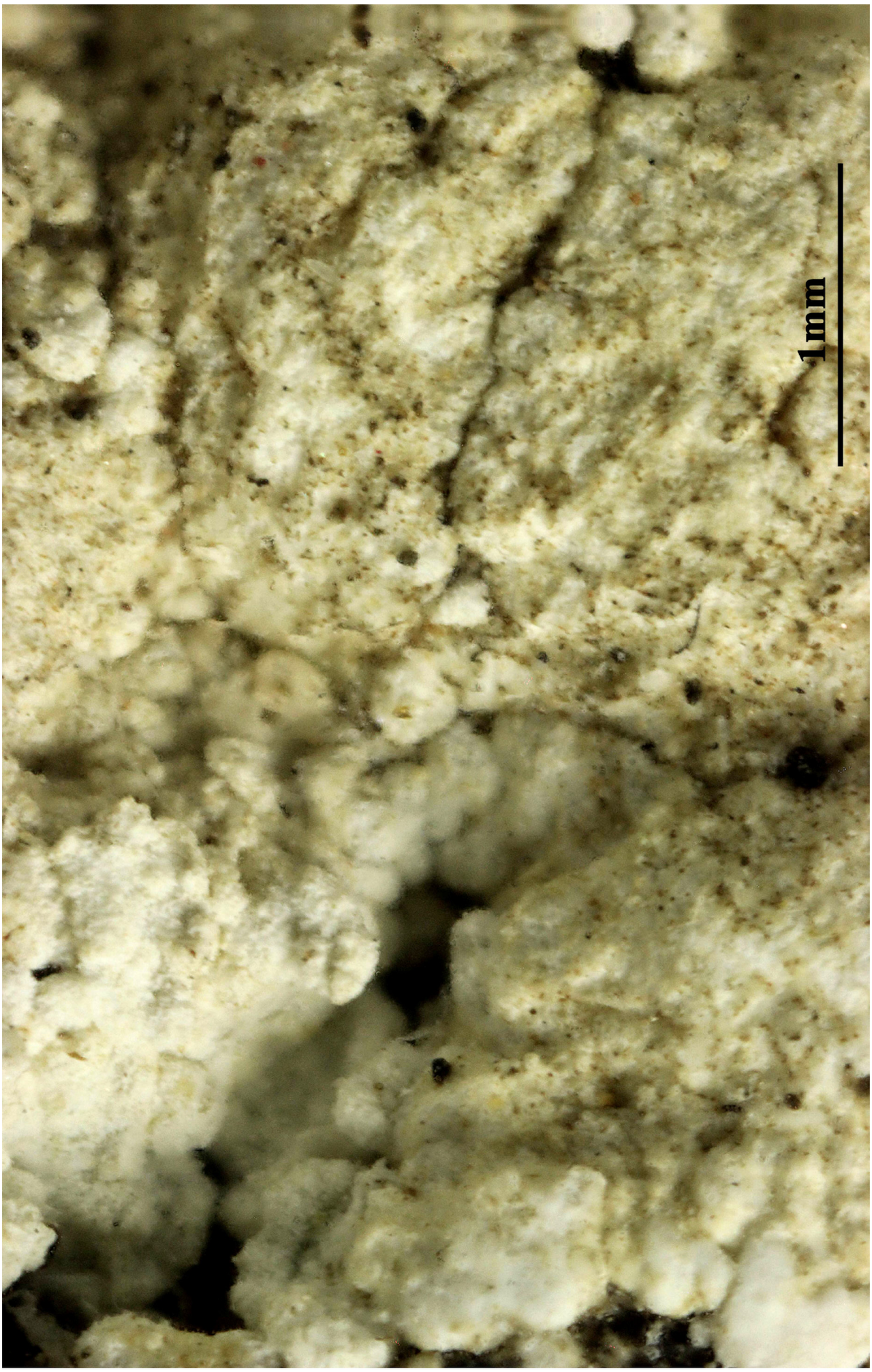
= *Lepraria isidiata* (Llimona) Llimona & A. Crespo, in Wirth, Düll, Llimona, Ros & Werner, Guía de Campo de los Líquenes, Musgos y Hepáticas, Con 288 Especies de Líqueneí y 226 de Briófitos (Musgos y Hepáticas) (Barcelona): 309 (2004)

[VZ1175], Hispania. Catalonia. Prope Igualada loco Coll del Guix dicto, 400 m. Supra terram ad saxa gypsacea septentrionalem et occidentem versus spectantia, 30°-90° inclinata. Leg. Llimona, 2.11.1972. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1175.

Thallus crustose-subplacodioid to subsquamulose, subleprose, white, pale grey to dark grey in central parts, (0.3-)0.5-1.5 mm thick, well delimited, forming regular, robust up to 8 cm wide rosettes. Marginal lobes well-developed, pruinose, with raised, thick margins, sometimes with subcorticate, paraplectenchymatous patches; hypothallus usually poorly developed, formed by pale brown, hyphae reacting K-; prothallus absent. Central part of thallus coarsely granular, often slightly convex, loosely attached, with a chalky consistency due to rich deposits of calcium oxalate crystals. Granules isidioid, subspherical to ellipsoid, 0.3-0.5(-0.9) mm thick, with a compact outer layer of heavily encrusted hyphae, and no or poorly developed, 40-50 µm long projecting hyphae, eventually dissolving into soredia-like granules. Medulla white, compact; hypothallus compact, composed of tightly intertwined hyphae. Photobiont chlorococcoid. Spot tests: thallus K+ yellow or K-, C-, KC- or KC+ yellow, P+ reddish orange, UV-. Chemistry: chemotype 1: atranorin, protocetraric, fumarprotocetraric and roccellic acids; chemotype 2: atranorin, protocetraric and roccellic acids; chemotype 3: atranorin, fumarprotocetraric and roccellic acids. - Note: on calciferous soil and on mosses in sheltered situations but in sunny and arid habitats, mostly on surfaces wetted by rain, also on gypsum, below the montane belt. For further details see Tretiach & al. (2009).



Lepraria crassissima* var. *isidiata

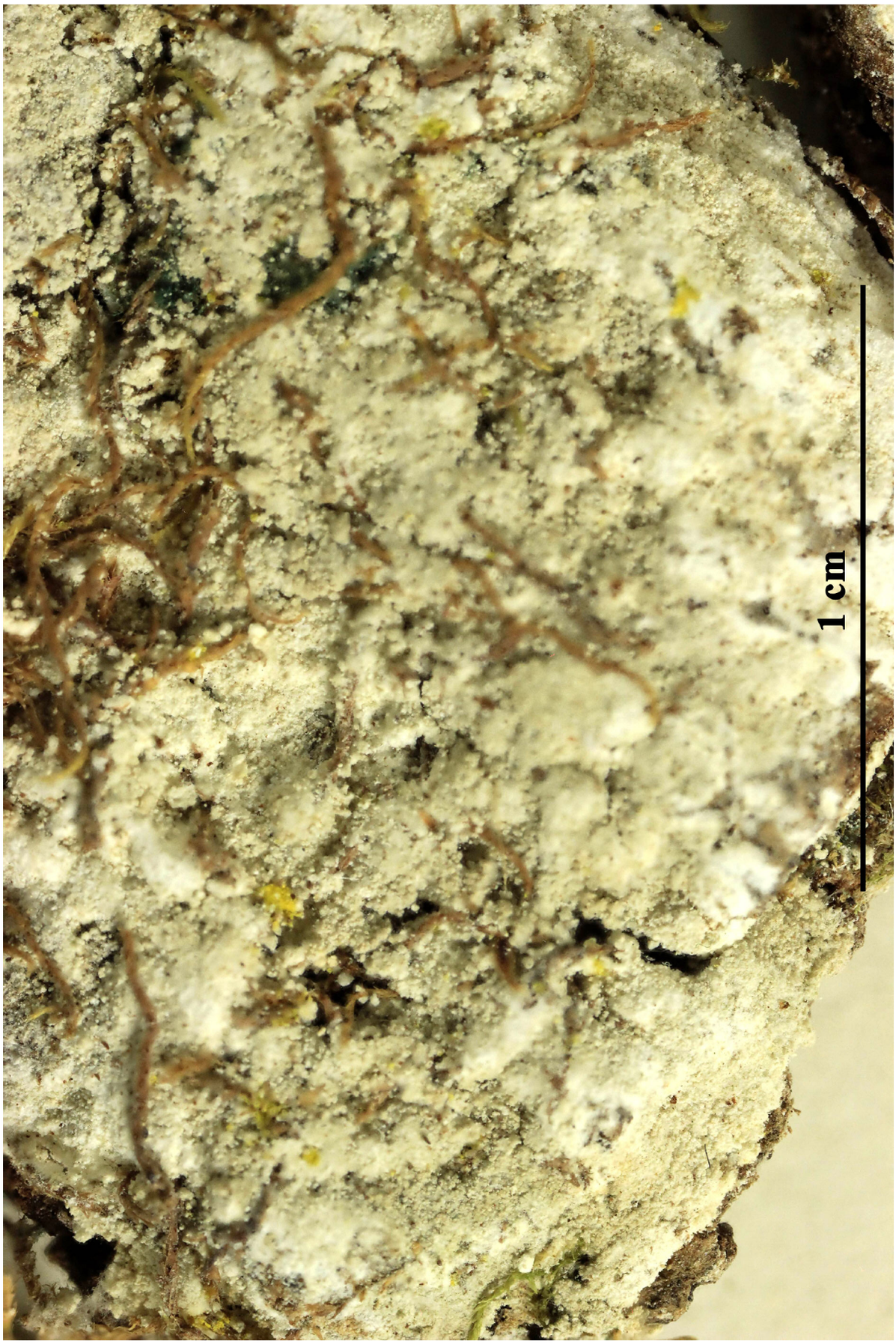


Lepraria crassissima* var. *isidiata

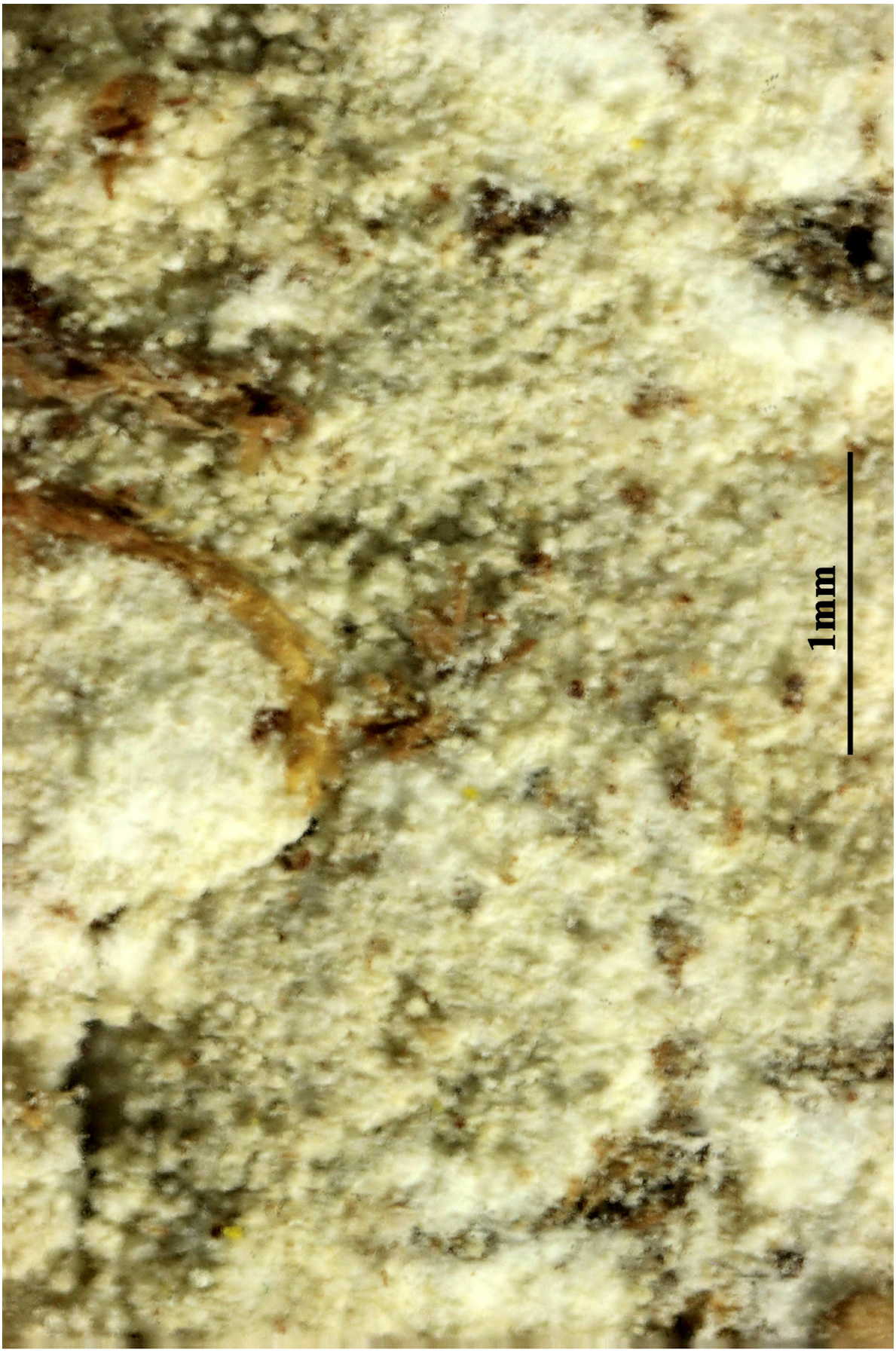
Lepraria finkii (B. de Lesd.) R.C. Harris, in Brodo, Syllogeus 29: 130 (1981) = *Crocynia finkii* B. de Lesd. 1924

[VZ2143], USA. Carolina Australis. Charleston Country: In insula dicta Bull vel Bullis Island, 5 m. Ad truncum arboris (*Quercus virginiana*). Leg. W. L. Culberson (no. 20110) et C. F. Culberson, 11.7.1988. - Annot.: Atranorin, stictic and constictic acid, traces of cryptostictic and norstictic acids, zeorin and a trace of an unidentified compound by TLC; anal. A. Johnson and C. F. Culberson, - Ex A. VěZDA Lichenes Selecti Exsiccati Nr- 2143.

Thallus corticolous, rarely saxicolous, folicolous or terricolous; placodioid leprose, i.e., developing upon a common, shared hypothallus, delimited by a byssoid arachnoid, 'cottony'prothallus forming an irregular to ±indistinctly lobed margin, but always lacking a distinct lip, not 'crisped'(finkii-type sensu Lendemer 2011a); surface greenish gray to bluish green, in the herbarium fading to a pale yellowish green; hypothallus well developed, loose, 'fluffy', 'cottony'; rhizohyphae sparse or absent; granules ecorticate, ill-defined, mealy [(25–)60–80(–120) µm in diam., fairly even in size but often aggregating in larger clusters (up to 200 µm)], generally loosely packed, typically with abundantly protruding hyphae; photobiont green, coccoid, 6–12 µm in diam. -Spot tests and chemistry: P+ orange, K+ yellow, KC-, C-, UV- (pale); atranorin, zeorin, stictic, cryptostictic, and constictic acids. - Cosmopolitan; widespread throughout the tropics (Flakus & Kukwa 2007, Kukwa & Flakus 2009, Flakus et al. 2011).



Lepraria finkii



Lepraria finkii

Leptogium britannicum P.M. Jørg. & P. James, Lichenologist 15(2): 110 (1983)

[VZ1926], Hibernia. Kerry, Marino Lodge, Kenmare River. Locis graminosis in scopulo calcareo in vicinitate maris. Leg. P. M. Jorgensen (9190), 23.09.1982. - Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1926.

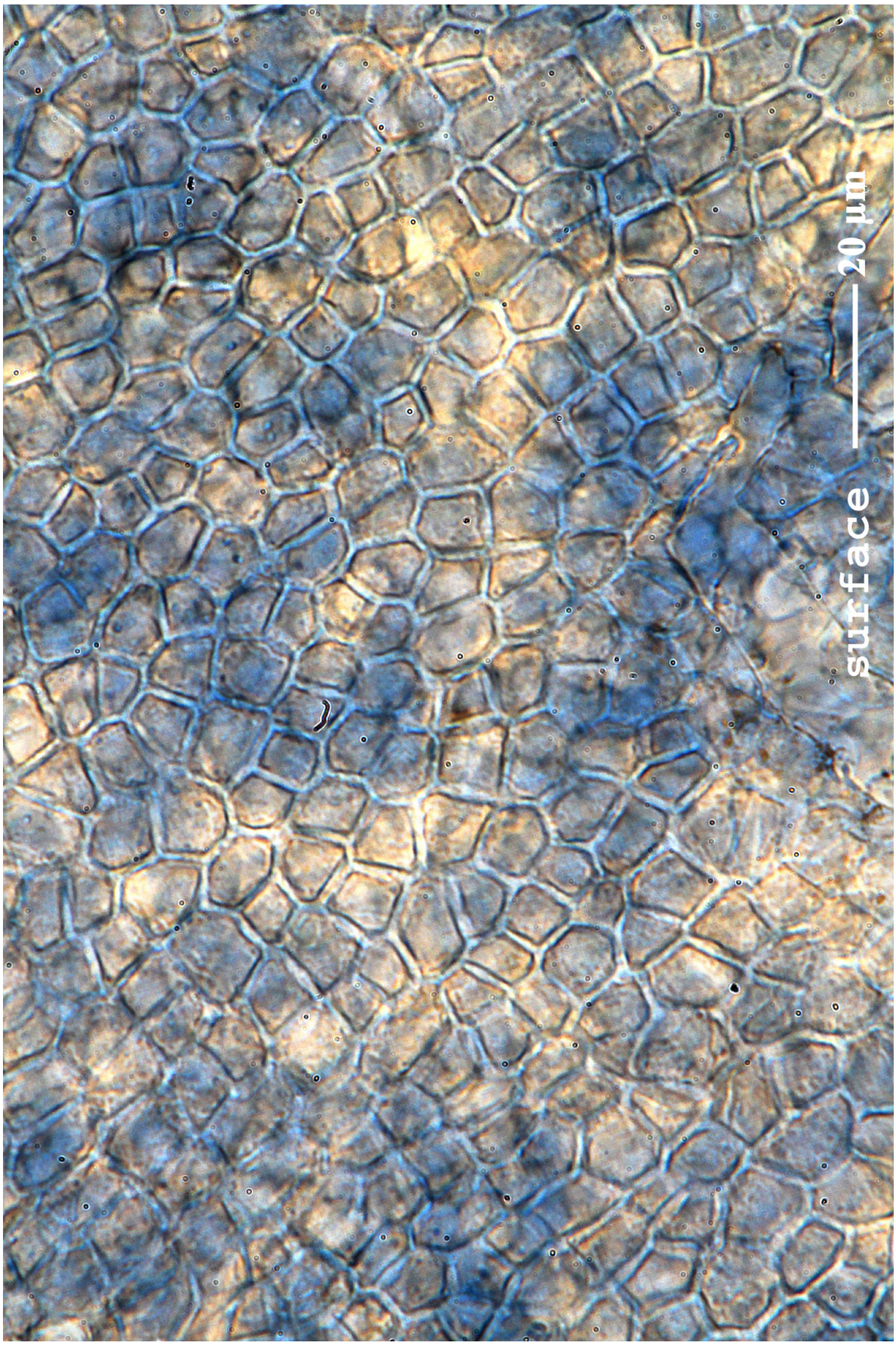
Thallus to 10 cm diam., in loose tufts or as irregularly dispersed lobes; lobes (3–) 5–10 (–15) mm wide and 10–15 (–35) mm long, irregular, crinkled, very thin (50–70 µm thick), tissue-paper-like, often ascending, often contorted, ± revolute at the margins; upper surface pale blue-grey when wet, becoming somewhat darker when dry, wavy, ± bullate-honeycombed, convoluted, matt, ± smooth, isidia absent; lower surface slightly paler than the upper; rhizines and tomentum absent. Apothecia very rare, laminal; disc (0.5–) 0.8–1.2 (–1.5) mm diam., ± top-shaped with a distinct, short, pale, longitudinally furrowed stalk; disc at first concave, later becoming flat or convex, red-brown or brown; thalline margin distinct, whitish brown to pale buff, soon becoming occluded; true exciple of narrow, periclinal hyphae. Ascospores (18–) 20–30 (–34) × (5–) 6–7 (–8) µm, 3- to 4-septate or submuriform with a single longitudinal septum, elongate-clavate to ellipsoidal, the apices ± pointed. - On exposed coasts, in pockets of bare earth, short grass and low vegetation amongst rocks, wall tops. Characterized by the very thin, papery, blue-grey lobes, absence of isidia, the rare occurrence of apothecia and restriction to coastal areas. Similar to *L. cyanescens* which is, however, isidiate.



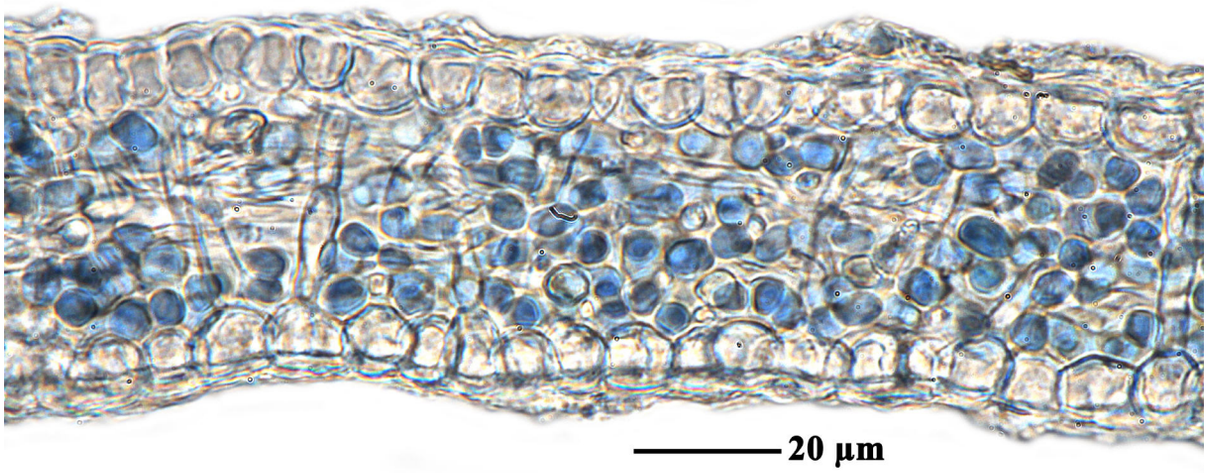
Leptogium britannicum

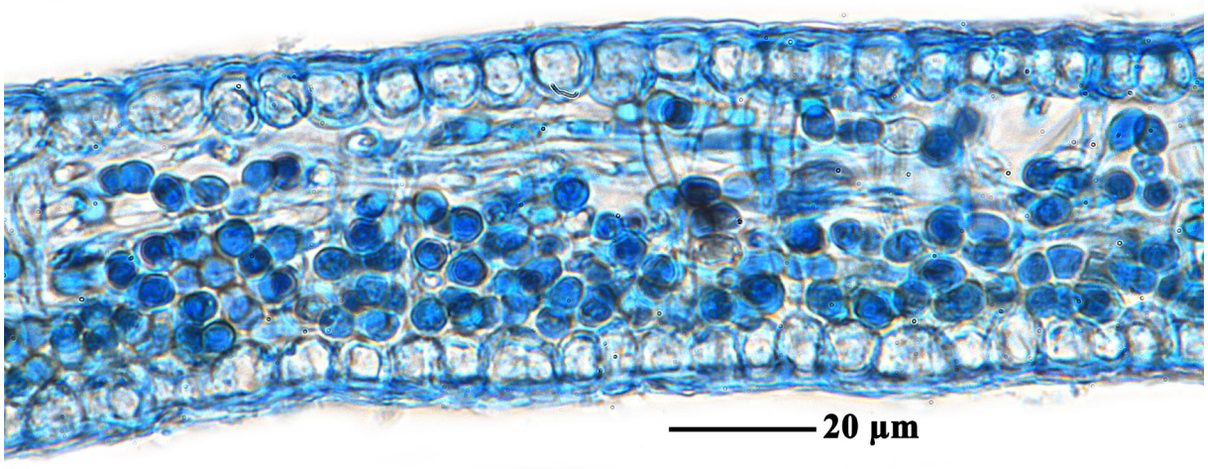


Leptogium britannicum



Leptogium britannicum





Leptogium britannicum

Leptogium corniculatum (Hoffm.) Minks, Flora, Regensburg 56: 353 (1873)
= *Scytinium palmatum* (Huds.) Gray, Nat. Arr. Brit. Pl., 1: 398, 1821
= *Obryzum corniculatum* (Hoffm.) Wallr., Naturgesch. Flecht. 1: 253 (1825)
= *Collema corniculatum* Hoffm., Deutschl. Fl., Zweiter Theil (Erlangen): 105 (1796) [1795]
= *Collema palmatum f. corniculatum* (Hoffm.) Ach., Syn. meth. lich. (Lund): 319 (1814)
= *Collema palmatum var. corniculatum* (Hoffm.) Ach., Lich. Univ.: 643 (1810)
= *Guignardia corniculata* (Hoffm.) Keiñl., Annln naturh. Mus. Wien 39: 195 (1925)
= *Leptogium palmatum var. corniculatum* (Hoffm.) Mont., in Webb & Berthelot, Hist. nat. Iles Canar. (Paris) 3(2): 128 (1840)
= *Lichen corniculatus* (Hoffm.) Ach., Lich. suec. prodr. (Linköping): 138 (1799) [1798]
= *Lichen palmatus* * *corniculatum* (Hoffm.) Lam., Encycl. Méth. Bot., Suppl. (Paris) 3(2): 412 (1813)
= *Parmelia corniculata* (Hoffm.) Fingerh., Tentam. Flor. Lich. Eiffliac.: 57 (1829)

[VZ2361], Italia. Sardinia. Distr. Cagliari: reservatum naturae Monte Arcosu, in valle rivi prope domum forestalem "Casa Perdu Melis", 500 m. Ad terram supra muscos. Leg. P. L. Nimis, C. Roux, M. Tretjak & A. Vězda, 28.08.1989. - EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 2361.

Thallus foliose, subgelatinous when wet, brown to olive-green, smooth to faintly longitudinally wrinkled, somehow shiny especially at the tips, loosely attached, forming loose, up to 4(-7) cm wide tufts, or growing amongst mosses. Lobes 3-8 mm broad, up to 3(-5) cm long, 50-100 µm thick, ascending to erect, subtubular, the revolute margins curling inward, especially in upper part, usually with antler-like tips. Upper and lower cortex composed of a single layer of angular cells, the layer inbetween of intertwined hyphae and loosely arranged chains of Nostoc. Apothecia very rare, lecanorine, sessile, strongly constricted at base, up to 0.8 mm across, with a brown, concave to flat, smooth disc and a thin, often wrinkled thalline margin. Proper exciple euparaplectenchymatous, 12-65 µm thick laterally; epithecium pale brown; hymenium colourless, 125-300 µm high, I+ blue; paraphyses coherent, mostly simple, c. 1 µm thick at mid-level, the apical cells slightly swollen; hypothecium colourless to pale yellow, 25-50 µm high. Asci

8-spored, cylindrical-clavate, the apex strongly thickened, the apical dome K/I+ pale blue, with a downwardly projecting K/I+ deep blue tubular structure. Ascospores submuriform to muriform, with 5-9 transverse septa and 1-2 longitudinal septa, hyaline, broadly ellipsoid to subfusiform, thin-walled, 30-56 x 10-20 µm. Photobiont cyanobacterial (*Nostoc*, the cells in chains). Spot tests: all negative. Chemistry: without lichen substances. - A mild-temperate lichen found amongst terricolous or epilithic mosses in areas with siliceous substrata, sometimes on soil.



Leptogium corniculatum



Leptogium corniculatum

Leptogium ferax (Durieu & Mont.) Rabenh., Krypt.-Fl. Sachsen, Abth. 2 (Breslau): 237 (1870)

= *Scytinium ferax* (Durieu & Mont.) Otálora, P.M. Jørg. & Wedin, Fungal Diversity 64(1): 290 (2013) [2014]

= *Collema ferax* Durieu & Mont., in Montagne, in Durieu, Expl. Sci. Alg., Fl. Algér. 1(livr. 6): 206 (1847) [1846-49]

[VZ1202], Gallia. Var, insula Port-Cross: in valle Port-Man, 30 m. Ad terram arenaceam muscosam. Leg. Y. Rondon,16.07.1973, det. G. Degelius. - Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1202.

Thalli mostly brown, if shaded then of a greenish tinge, not exceeding 1 cm in diameter. Lobes orbicular, margin entire, lamina subtly wrinkled (as in e.g. *L. magnussonii*). Medulla compact, comparable to that of *L. magnussonii* (cf. Jørgensen 1994). Apothecia present, diameter 2–2.5 mm, rim lined with dense accumulation of scale- or shell-like structures recalling the isidia of *Collema flaccidum*. Disc plane red-brown. Spores ellipsoidal (immature ones fusiform to broadly fusiform), submuriform to muriform, 8 per ascus, 30.9 (–32.2) x 9.2 (–11.5) µm. This species resembles the common gelatinous lichen *Collema crispum* (Degelius 1954). A well developed cortex and muriform spores are diagnostic characters. It has been recorded from the coastal regions of Mediterranean Algeria, France, Greece (Crete), Portugal and Spain (Arvidsson 1984, Carvalho & Jones 1997)



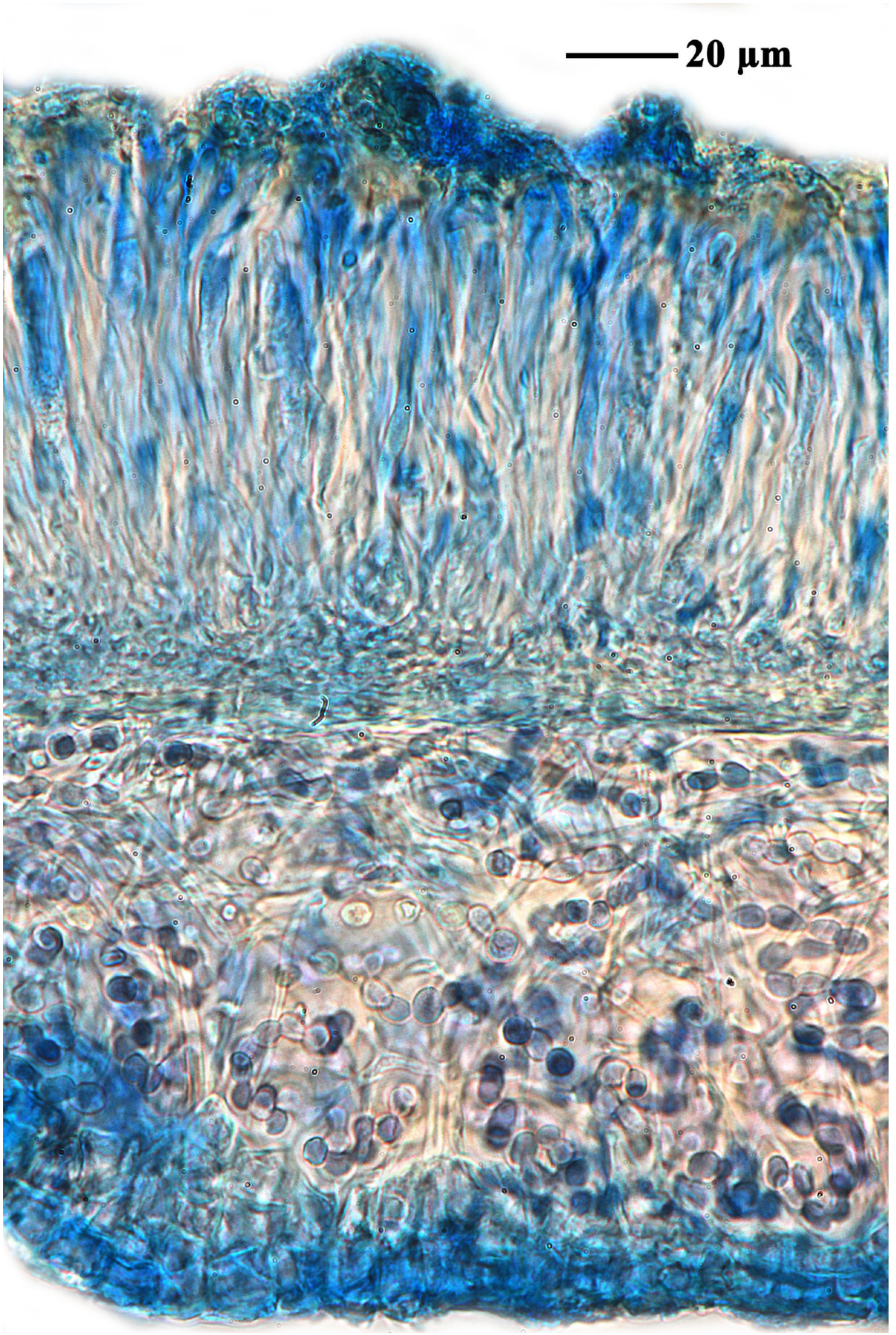
Leptogium ferax



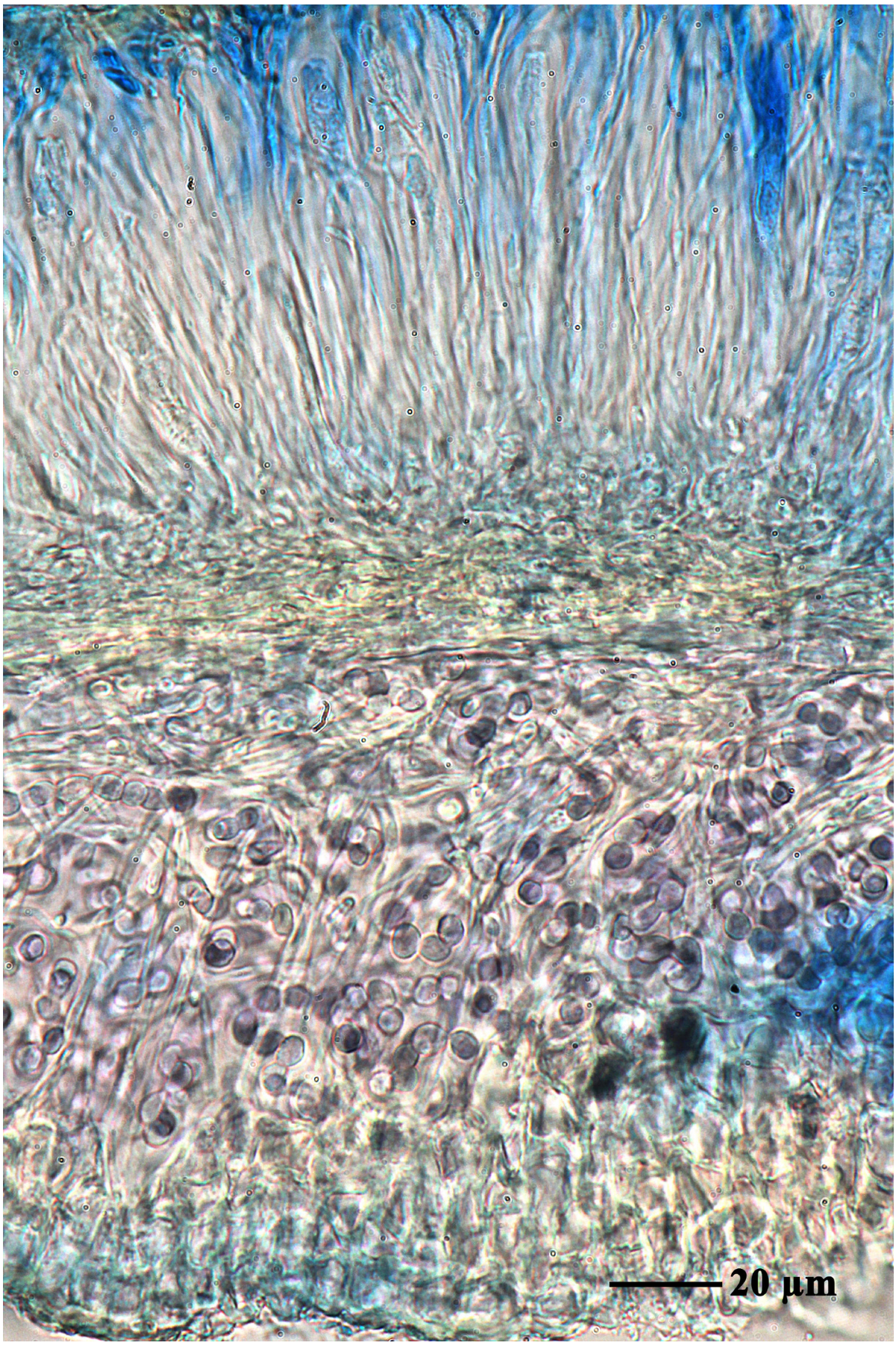
Leptogium ferax



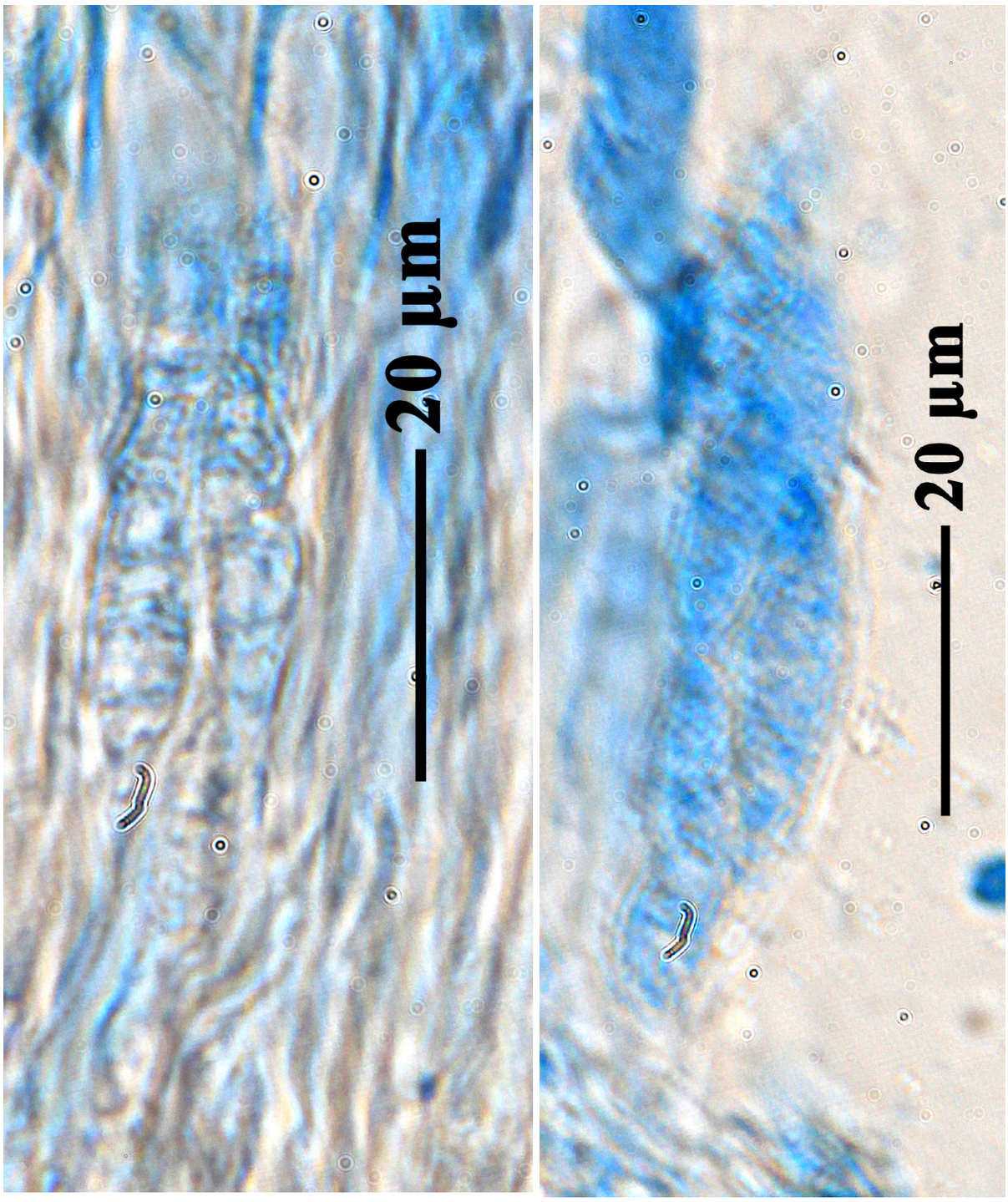
Leptogium ferax



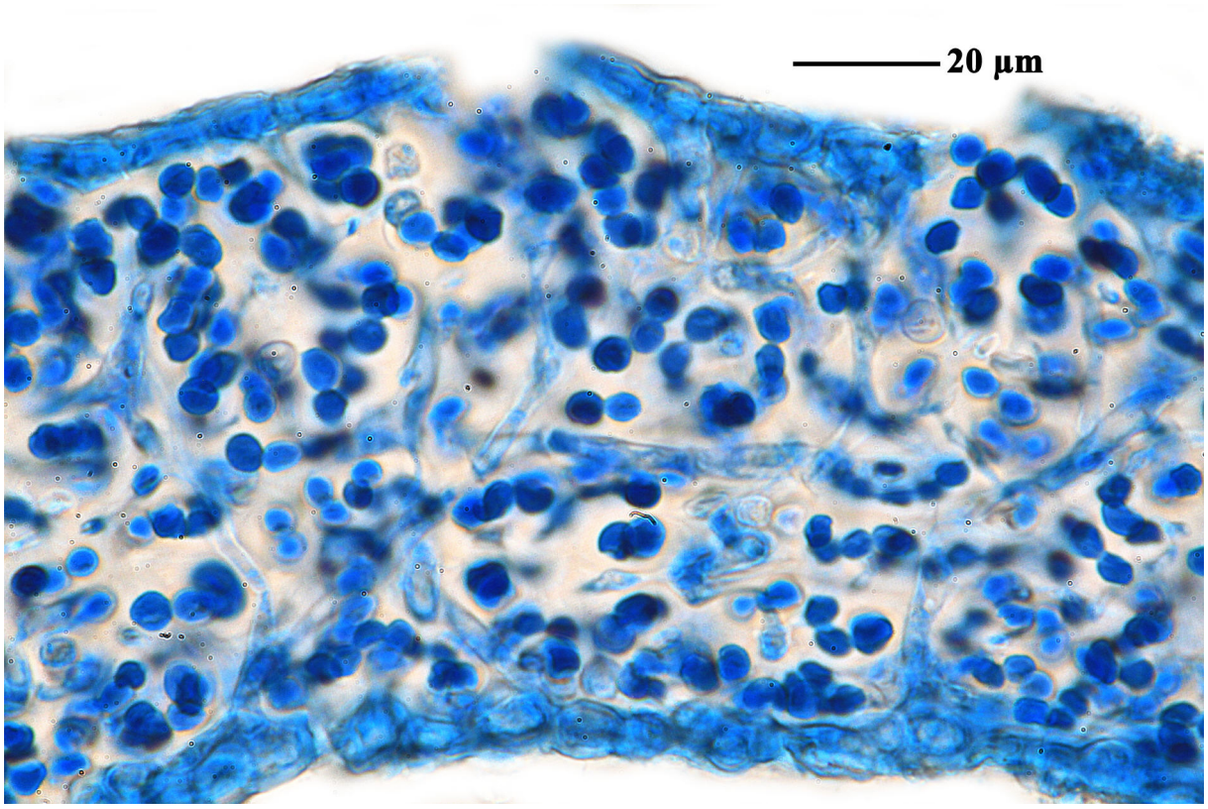
Leptogium ferax

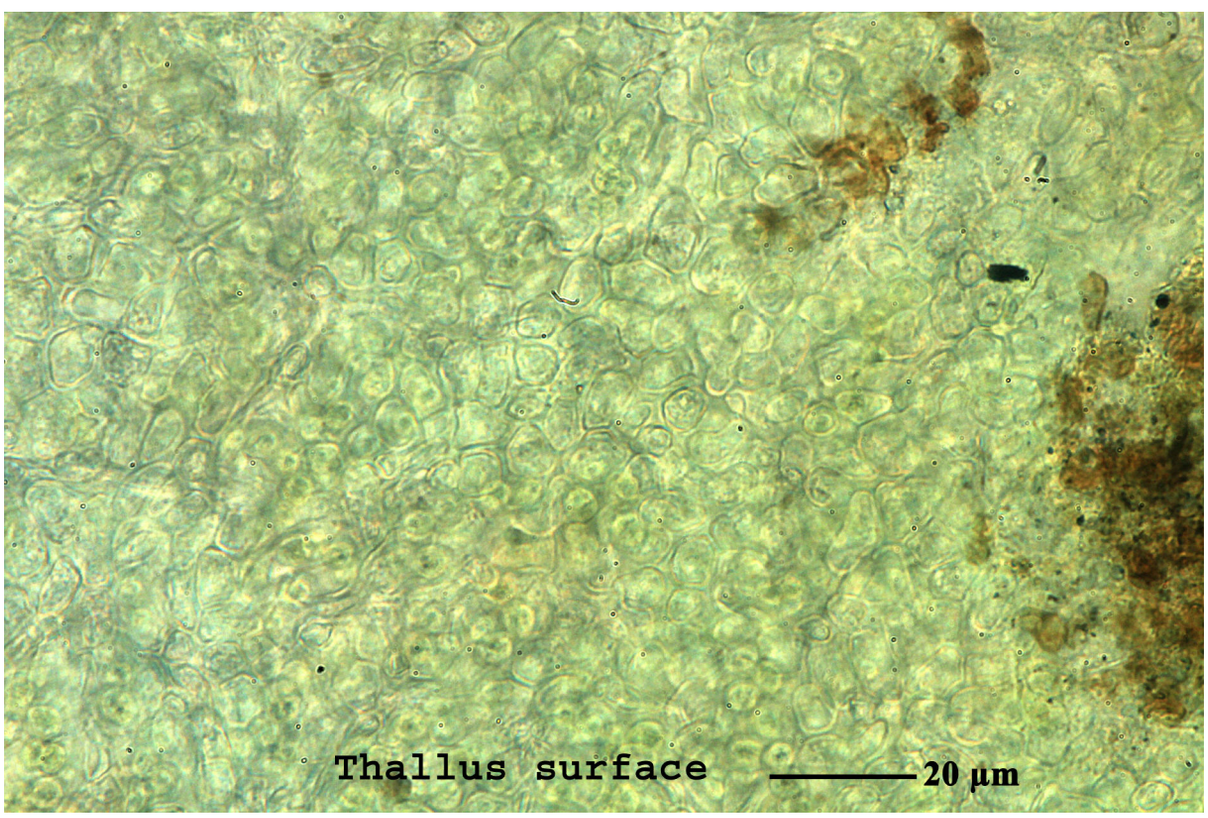


Leptogium ferax



Leptogium ferax





Leptogium ferax

Leptogium hildenbrandii (Garov.) Nyl., Act. Soc. linn. Bordeaux 21(4): 272 (1857) [1856]

= *Collema hildenbrandii* Garov., Lich. Prov. Comens. 1: 3 (1837)

= *Collema myochroum* var. *hildenbrandii* (Garov.) Rabenh., Deutschl. Krypt.-Fl. (Leipzig) 2(1): 52 (1845)

= *Leptogiomyces hildenbrandii* (Garov.) E.A. Thomas ex Cif. & Tomas., Atti Ist. bot. Univ. Lab. crittog. Pavia, sér. 5 10(1): 45, 71 (1953)

[VZ2434], Italia. Carnica: montes Alpi Carniche, distr. Ampezzo: secus viam inter urbem Ampezzo et transitum Fasso Pura, 500 m. Ad corticem arboris (*Juglans regia*) in prato. Leg. F. Ceni & A. Vězda, 27.09.1990. - Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1926.

Thallus foliose, broad-lobed, homoiomerous, gelatinous when wet, firm and markedly rigid when dry, rather loosely adnate, forming large, more or less regular, 5-10(-13) cm wide rosettes. Lobes 5-10 mm wide, contiguous or more or less imbricate, with rounded, ear-like apices, 70-150 µm thick, firm and rigid when dry. Upper surface brown-black or dark lead-grey, greenish brown when moist, minutely and irregularly but conspicuously wrinkled and striate. Lower surface white-tomentose with long-celled, up to 1-1.5 mm long hairs and tufts of pale rhizines. Upper and lower cortex formed by a single layer of cells, inner part of thallus with loosely interwoven chains of Nostoc and hyphae. Apothecia usually abundant, especially in the central parts, lecanorine, laminal, at first immersed in the thallus, then sessile, 2-4(-6) mm across, with a brown-red, shiny disc and a grey-brown, rather thin, usually rugose thalline margin. Proper exciple euparaplectenchymatous; epithecium pale brown; hymenium colourless, K/I+ blue; paraphyses simple, 1-2.5 µm thick at mid-level, the apical cells slightly swollen; hypothecium colourless. Asci 8-spored, cylindrical-clavate, the apex strongly thickened, the apical dome K/I+ pale blue, with a downwardly projecting K/I+ deep blue tubular structure. Ascospores muriform, hyaline, ellipsoid, 16-24(-26) x 8-10 µm. Pycnidia immersed, marginal to submarginal, 0.1-0.3 mm across. Conidia bacilliform, with swollen apices, 4.3-5.5 x 1.3-1.6 µm. Photobiont cyanobacterial (*Nostoc*, the cells in long chains). Spot tests: all negative. Chemistry: without lichen substances. - On isolated tress with base-rich bark, especially Juglans, Fraxinus and Populus in humid valleys with a rather continental climate.



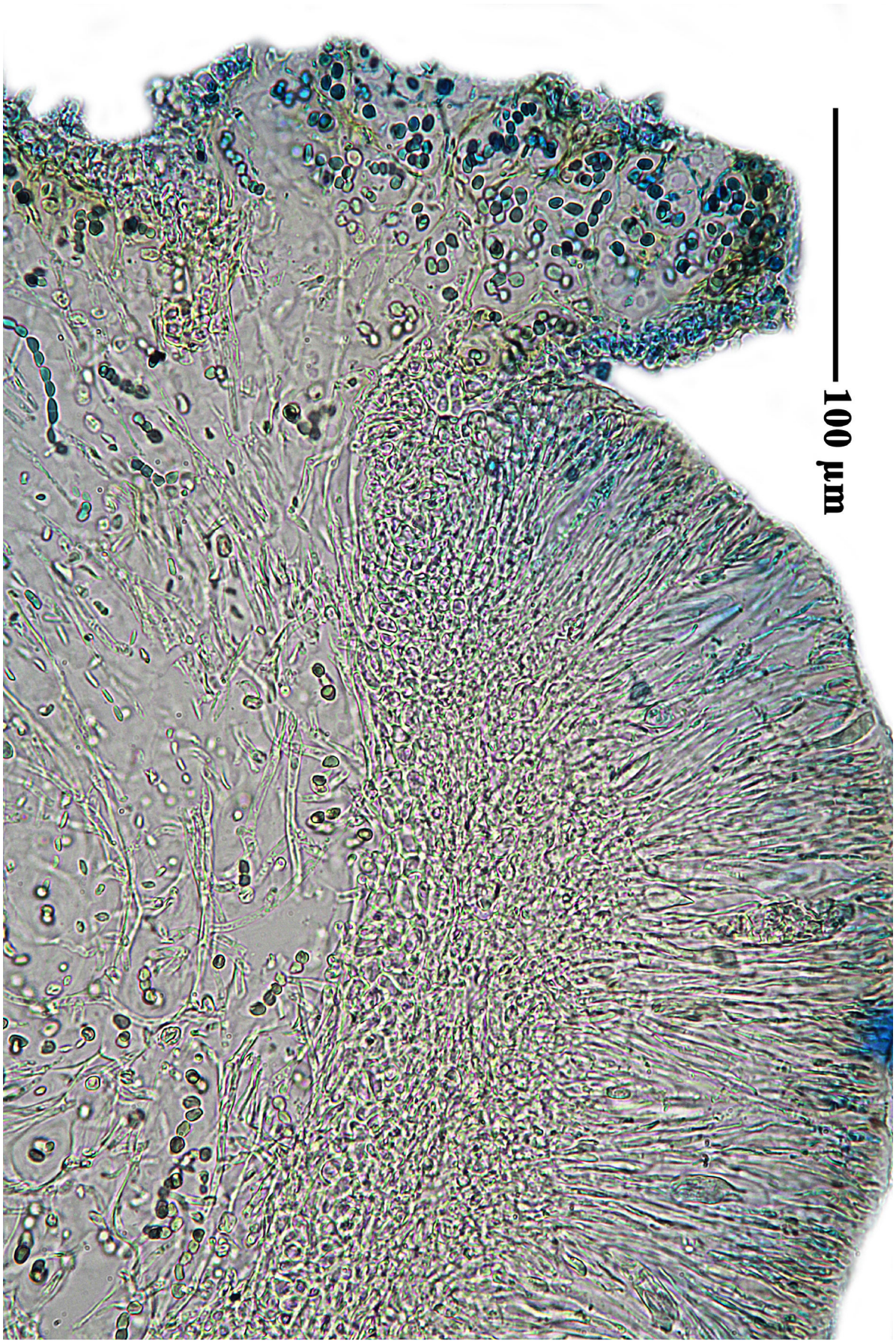
Leptogium hildenbrandii



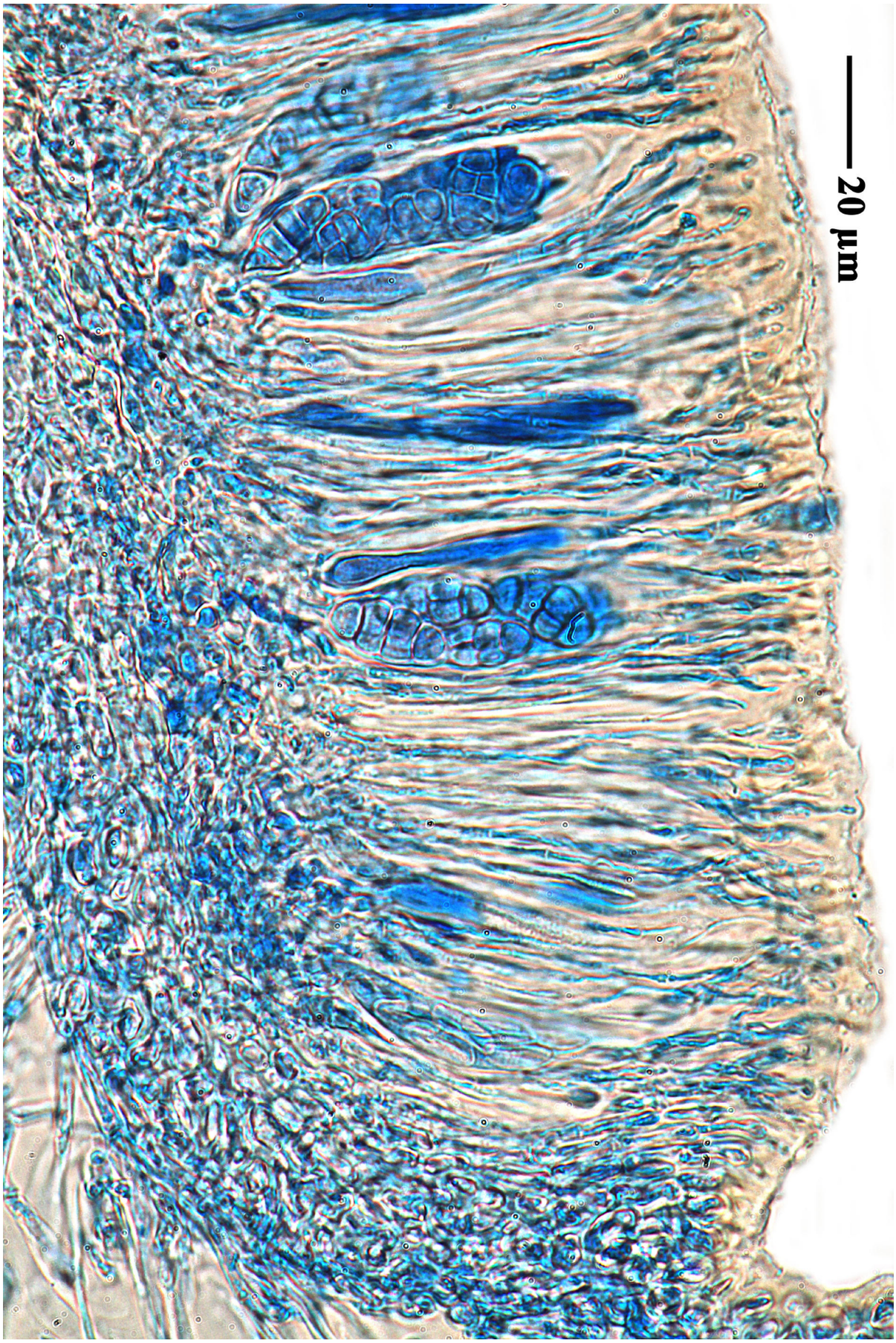
Leptogium hildenbrandii



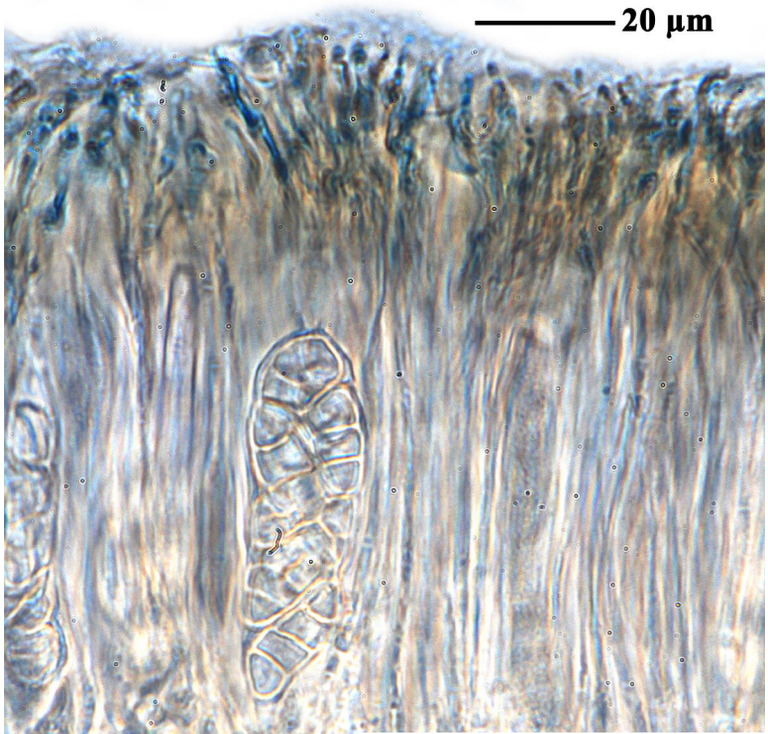
Leptogium hildenbrandii

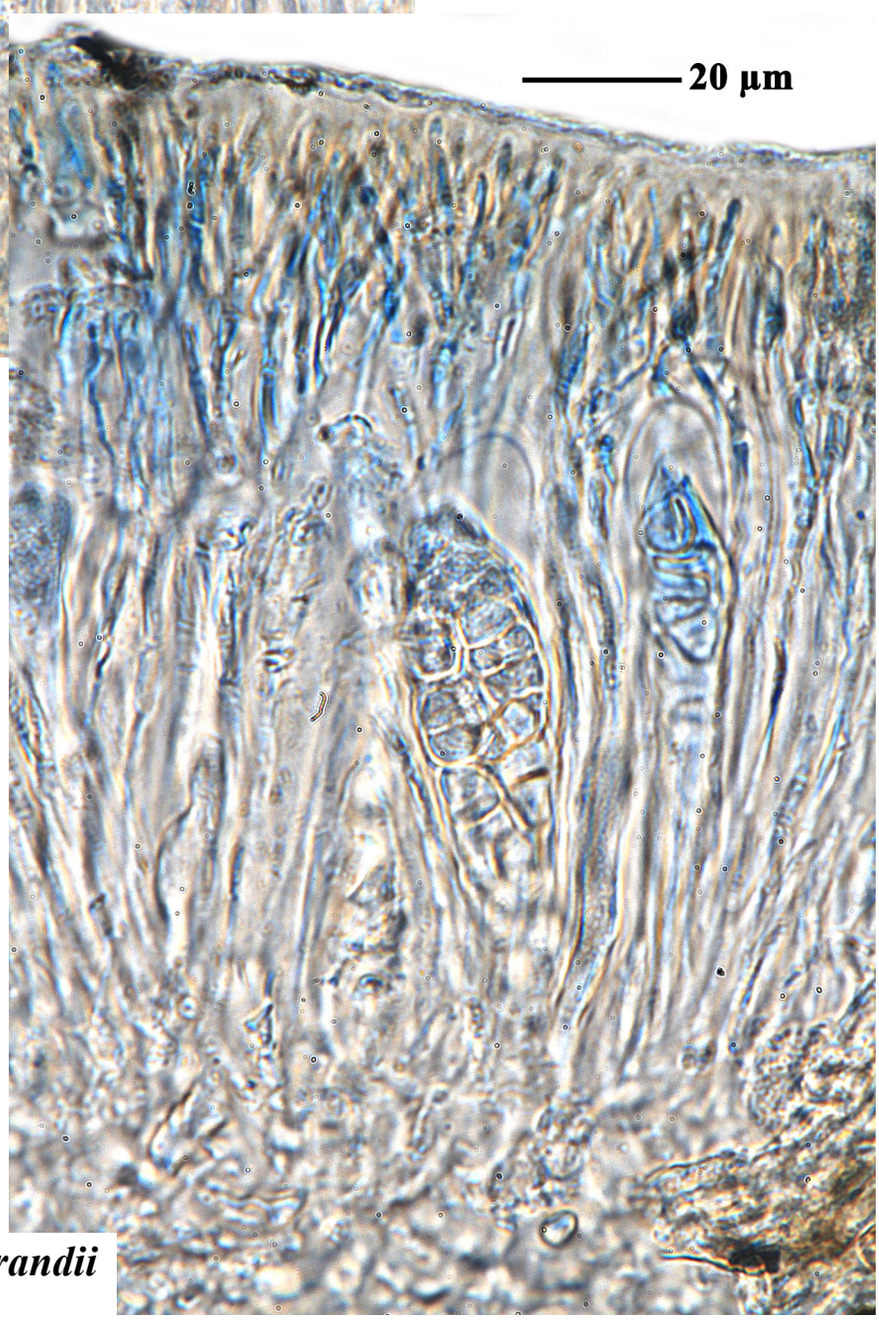


Leptogium hildenbrandii

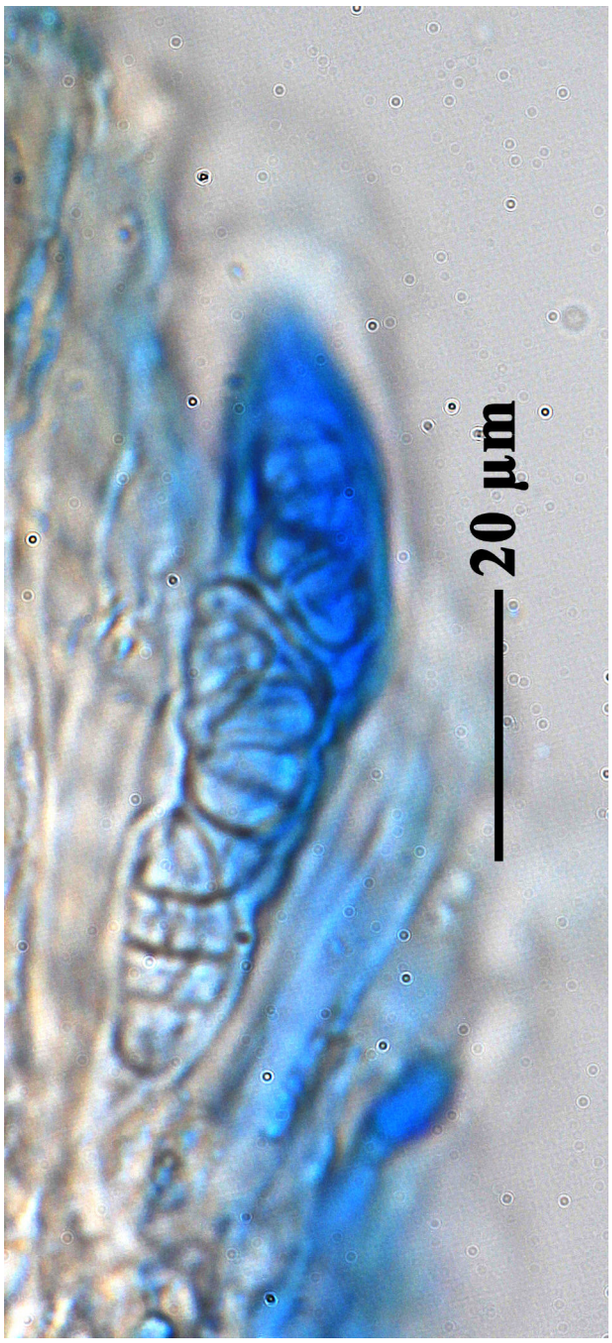


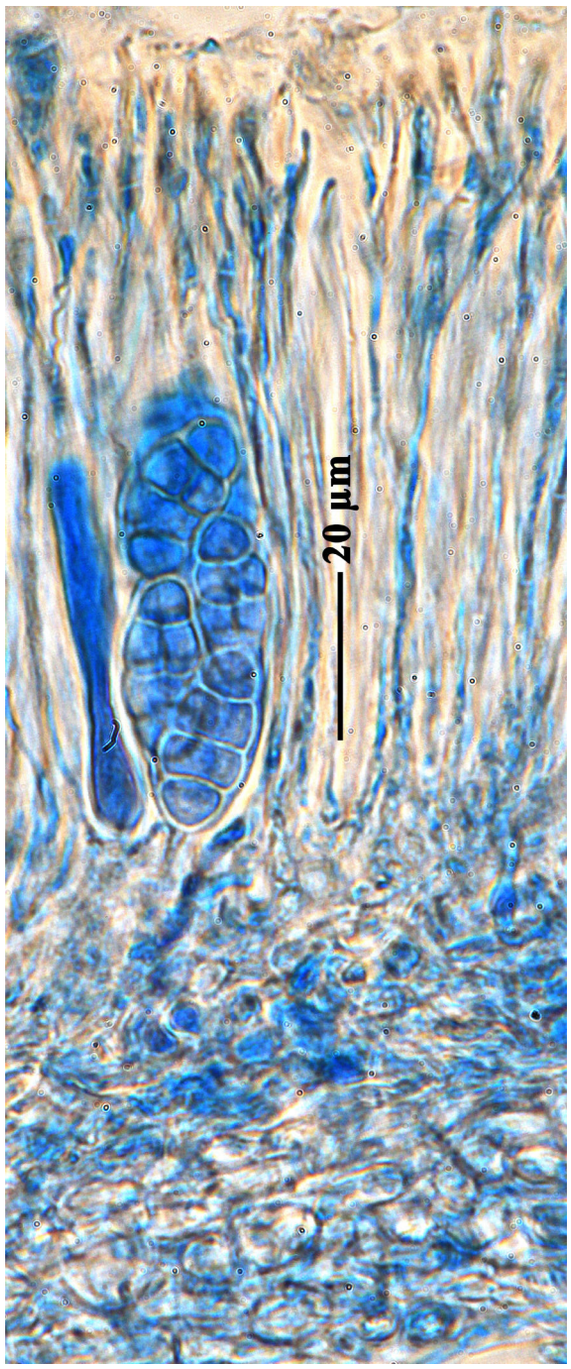
Leptogium hildenbrandii



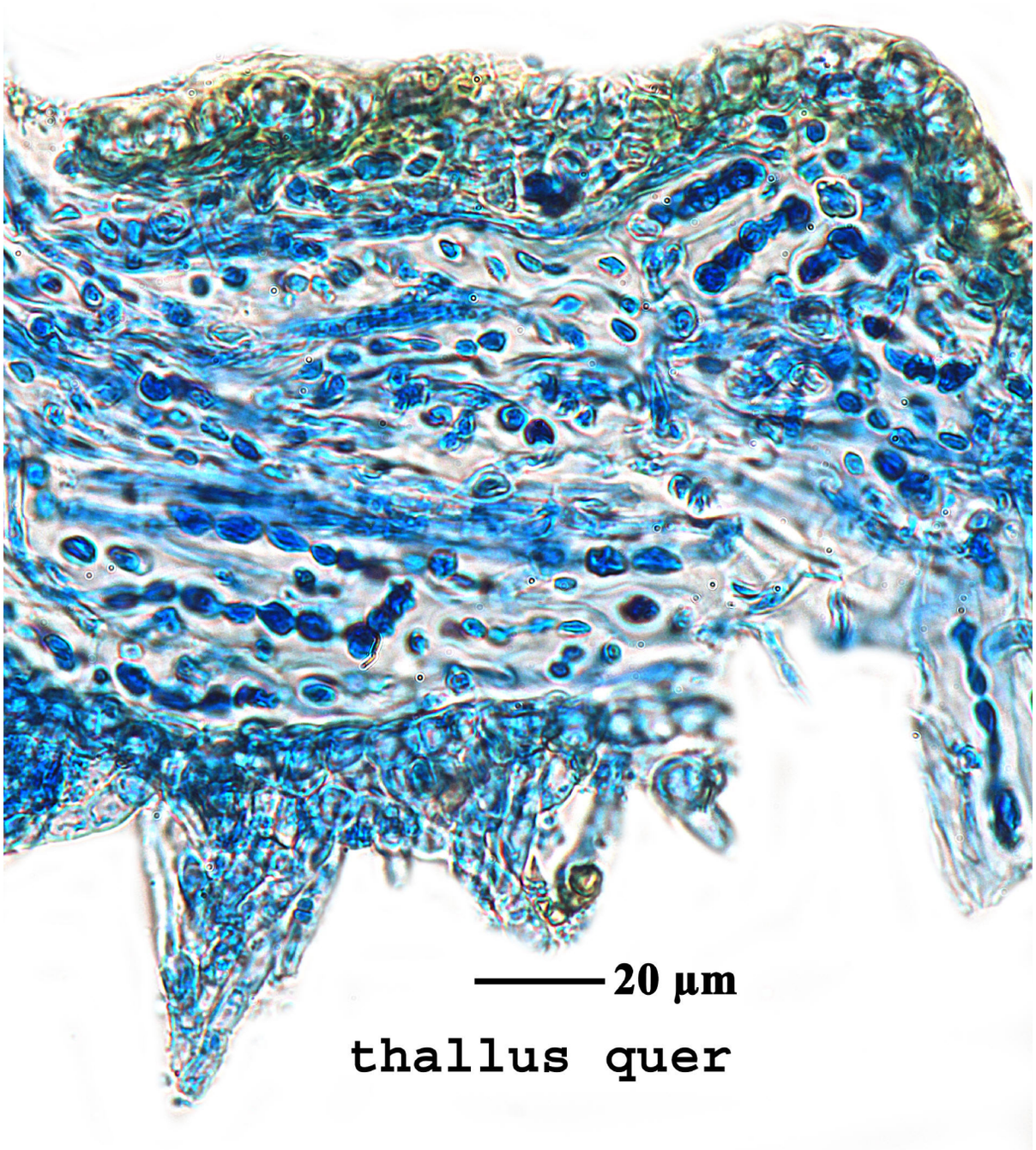


Leptogium hildenbrandii

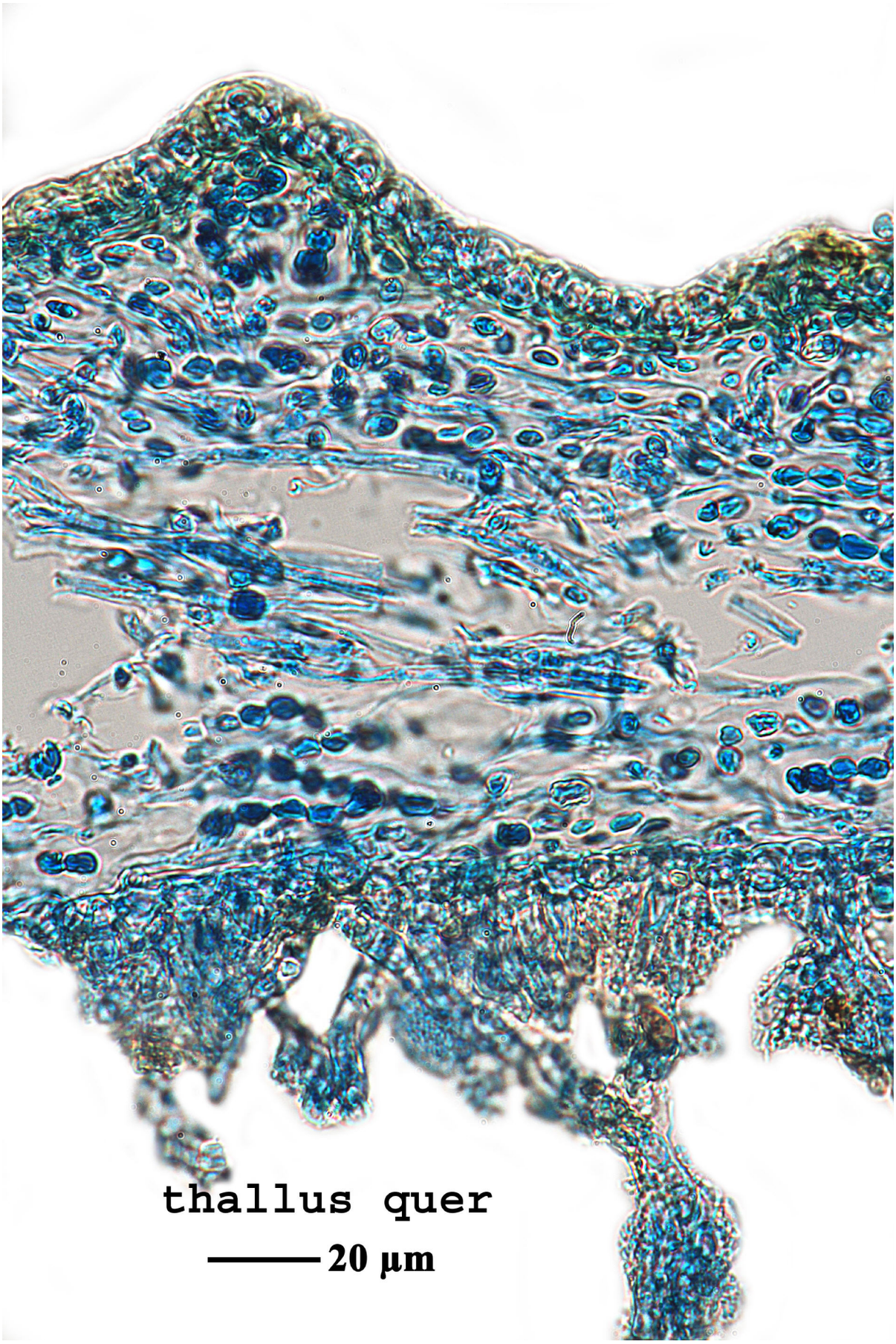




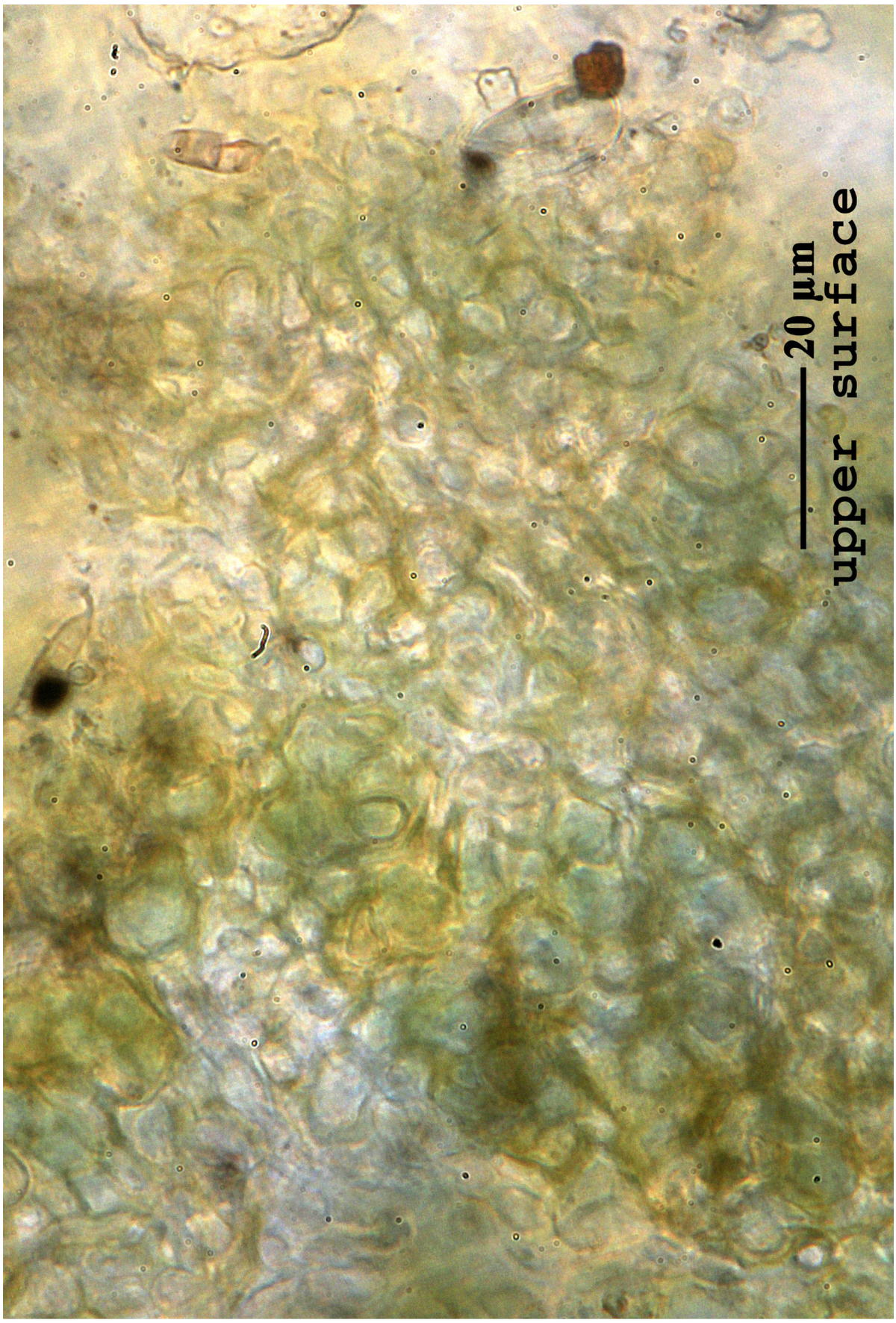
Leptogium hildenbrandii



Leptogium hildenbrandii



Leptogium hildenbrandii



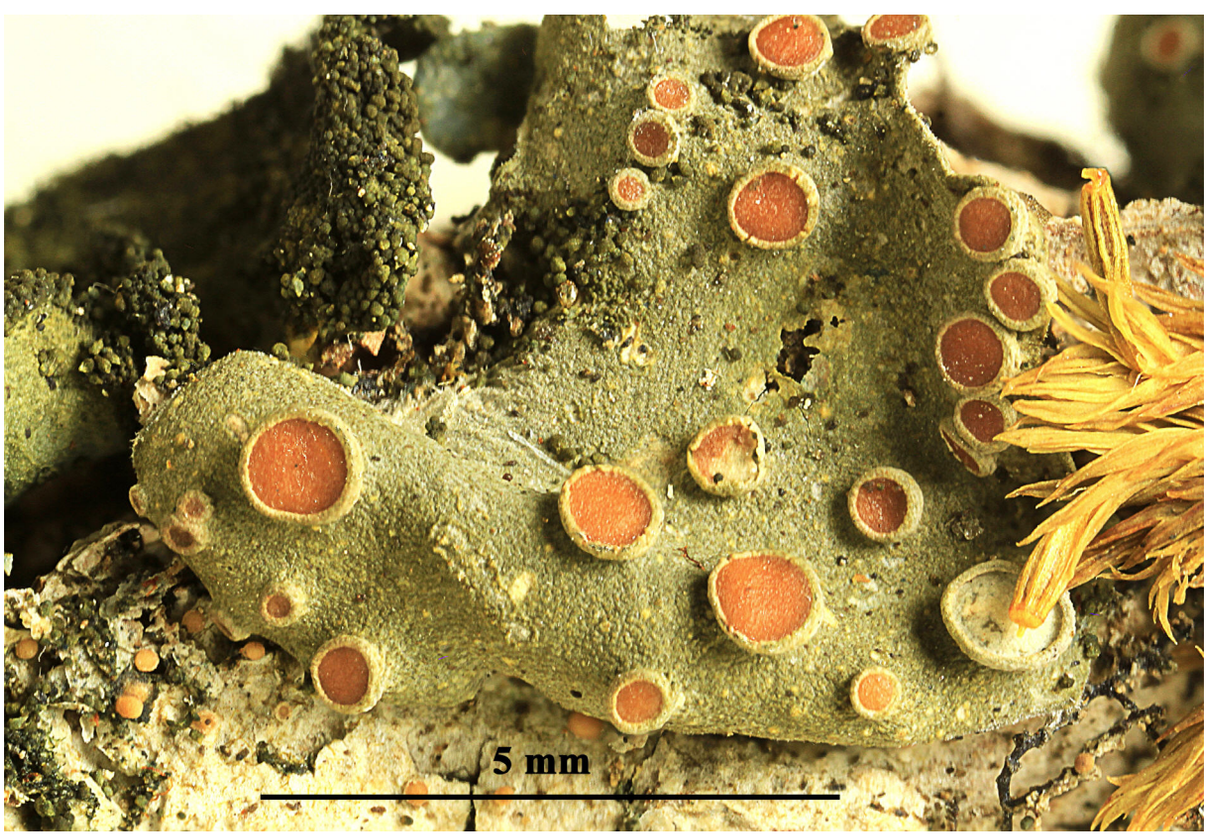
Leptogium hildenbrandii

Leptogium saturninum (Dicks.) Nyl., Act. Soc. linn. Bordeaux 21(4): 272 (1857) [1856]
= *Collema myochroum* var. *saturninum* (Dicks.) Rabenh., Deutschl. Krypt.-Fl. (Leipzig) 2(1): 49 (1845)
= *Collema myochroum* var. *tomentosum* Rabenh., Deutschl. Krypt.-Fl. (Leipzig) 2(1): 52 (1845)
= *Collema saturninum* (Dicks.) Lam. & DC., Fl. franç., Edn 3 (Paris) 2: 385 (1805)
= *Collema tomentosum* Hoffm., Deutschl. Fl., Zweiter Theil (Erlangen): 99 (1796) [1795]
= *Leptogium myochroum* f. *saturninum* (Dicks.) Tuck., Syn. N. Amer. Lich. (Boston) 1: 166 (1882)
= *Leptogium myochroum* f. *tomentosum* Tuck., Syn. N. Amer. Lich. (Boston) 1: 166 (1882)
= *Leptogium myochroum* subsp. *tomentosum* Fink, Contr. U.S. natnl. Herb. 14(1): 142 (1910)
= *Leptogium myochroum* var. *tomentosum* Herre, Proc. Wash. Acad. Sci. 7: 383 (1906)
= *Lichen saturninus* Dicks., Fasc. pl. crypt. brit. (London) 2: 21 (1790)
= *Mallotium myochroum* var. *saturninum* (Dicks.) Flot., Linnaea 23: 166 (1850)
= *Mallotium saturninum* (Dicks.) Gray, Nat. Arr. Brit. Pl. (London) 1: 399 (1821)
= *Mallotium tomentosum* Körb., Syst. lich. germ. (Breslau): 416 (1855)
= *Parmelia myochroa* var. *saturnina* (Dicks.) Schaer., Lich. helv. spicil. 11: 534 (1842)
= *Parmelia myochroa var. tomentosa* Schaer., Lich. helv. spicil. 11: 534 (1842)
= *Parmelia saturnina* (Dicks.) Ach., Methodus, Sectio post. (Stockholmiæ): 221 (1803)

[VZ1106], Romania. Distr. Hunedoara. Montes Retezat, in valle Lapuşul Mic, 1000 m. Ad corticem Aceris pseudoplatani. Leg. A. Vězda, 07.06.1972. - Ex A. VěZDA: Lichenes Selecti Exsiccati Nr. 1106.

Thallus foliose, broad-lobed, 2-8(-10) cm in diam., adnate. Lobes irregular, elongate, flat to concave, separate, 5-15(-20) mm wide, 100-250(-300) µm thick, the apices rotund, entire to irregularly cut and isidiate, sometimes upturned, Upper surface dark olivaceous grey to almost black, usually dull, not much wrinkled, homogeneously covered with scattered to dense, granular to subcylindrical, black isidia which are usually darker than the thallus. Upper and lower cortices consisting

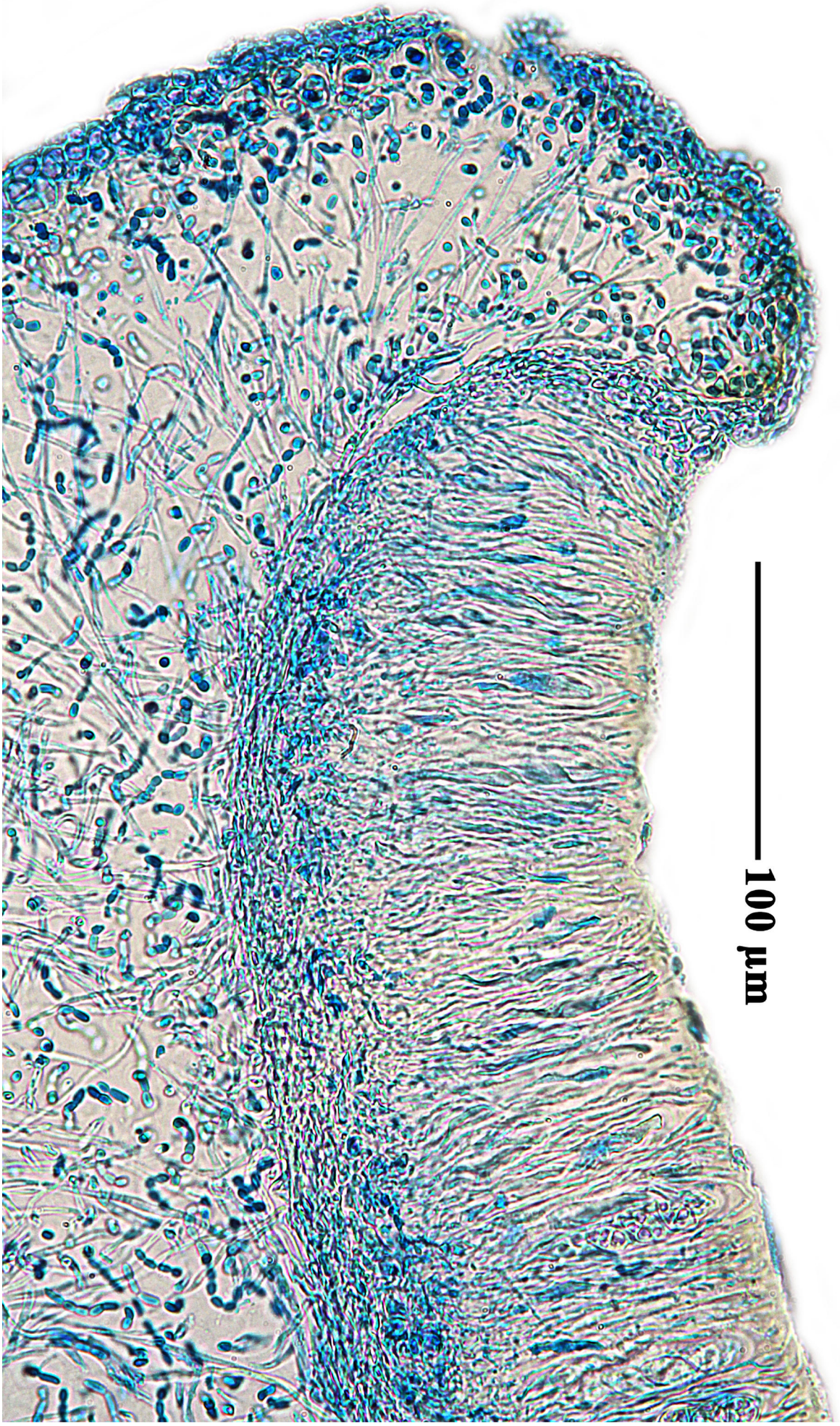
of a single layer of irregularly isodiametrical cells, internal part of thallus with loosely interwoven chains of Nostoc and hyphae. Lower surface pale to medium brown, wrinkled, covered in a dense white tomentum of cylindrical hairs (to 0.2 mm long), with long-cylindrical cells measuring 6-12 x 4-4.5 µm. Apothecia very rare, lecanorine, laminal, sessile, 0.5-2.5 mm across, with a brown disc and a smooth to granulose-isidiate thalline margin. Proper exciple euparaplectenchymatous; epithecium brownish; hymenium colourless, 100-125 µm high, K/I+ blue; paraphyses simple, 1-2 µm thick at mid-level, the apical cells slightly swollen; hypothecium pale yellow. Asci 8-spored, cylindrical-clavate, the apex strongly thickened, the apical dome K/I+ pale blue, with a downwardly projecting K/I+ deep blue tubular structure. Ascospores submuriform with 3-4 transverse septa and 1 longitudinal septum, hyaline, ellipsoid to subfusiform, 20-25 x 7-10 µm. Photobiont cyanobacterial (Nostoc, the cells in long chains). Spot tests: all negative. Chemistry: without lichen substances. - A cool-temperate to boreal-montane, circumpolar lichen found on bark, rarely on mossy rocks.



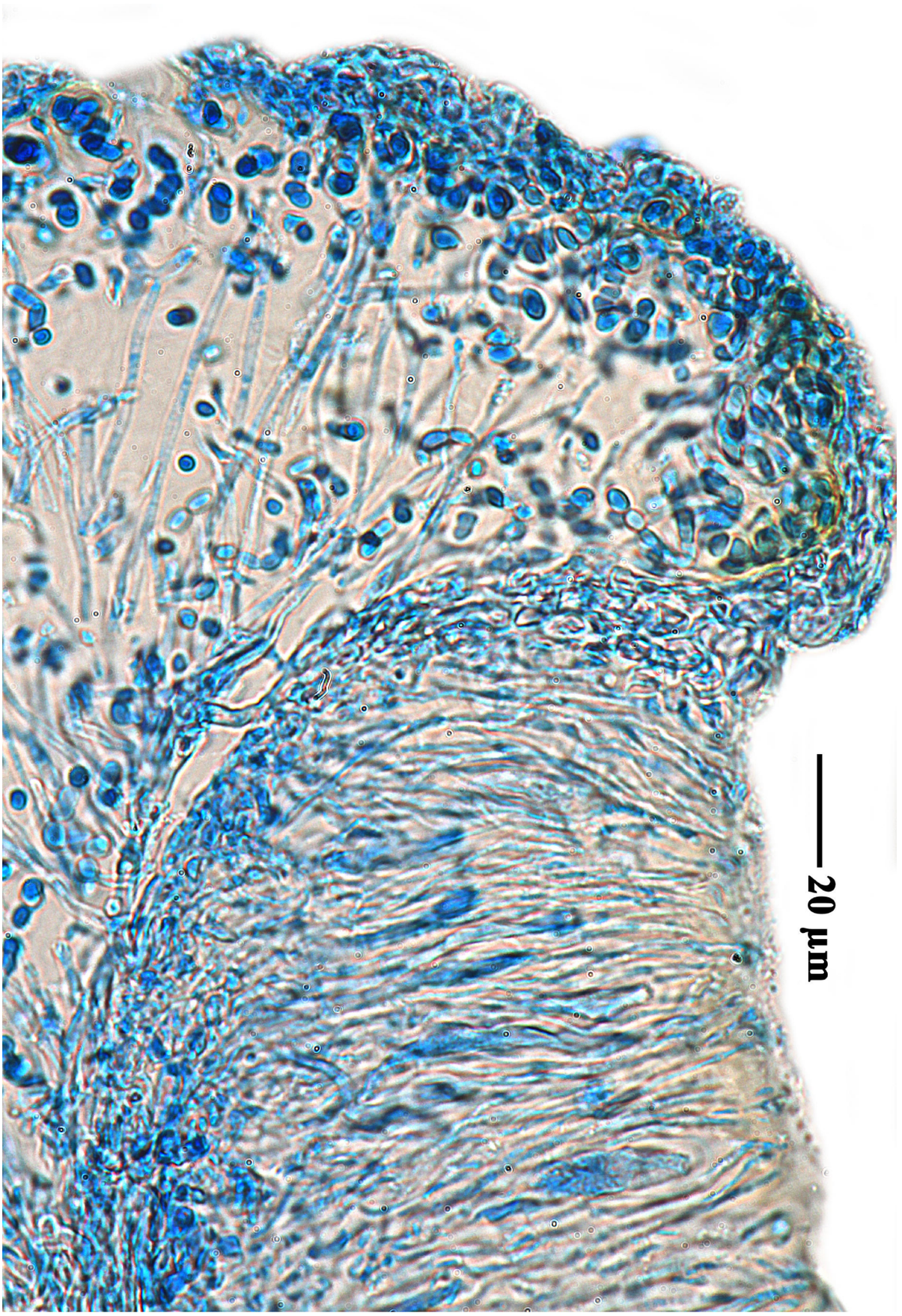
Leptogium saturninum



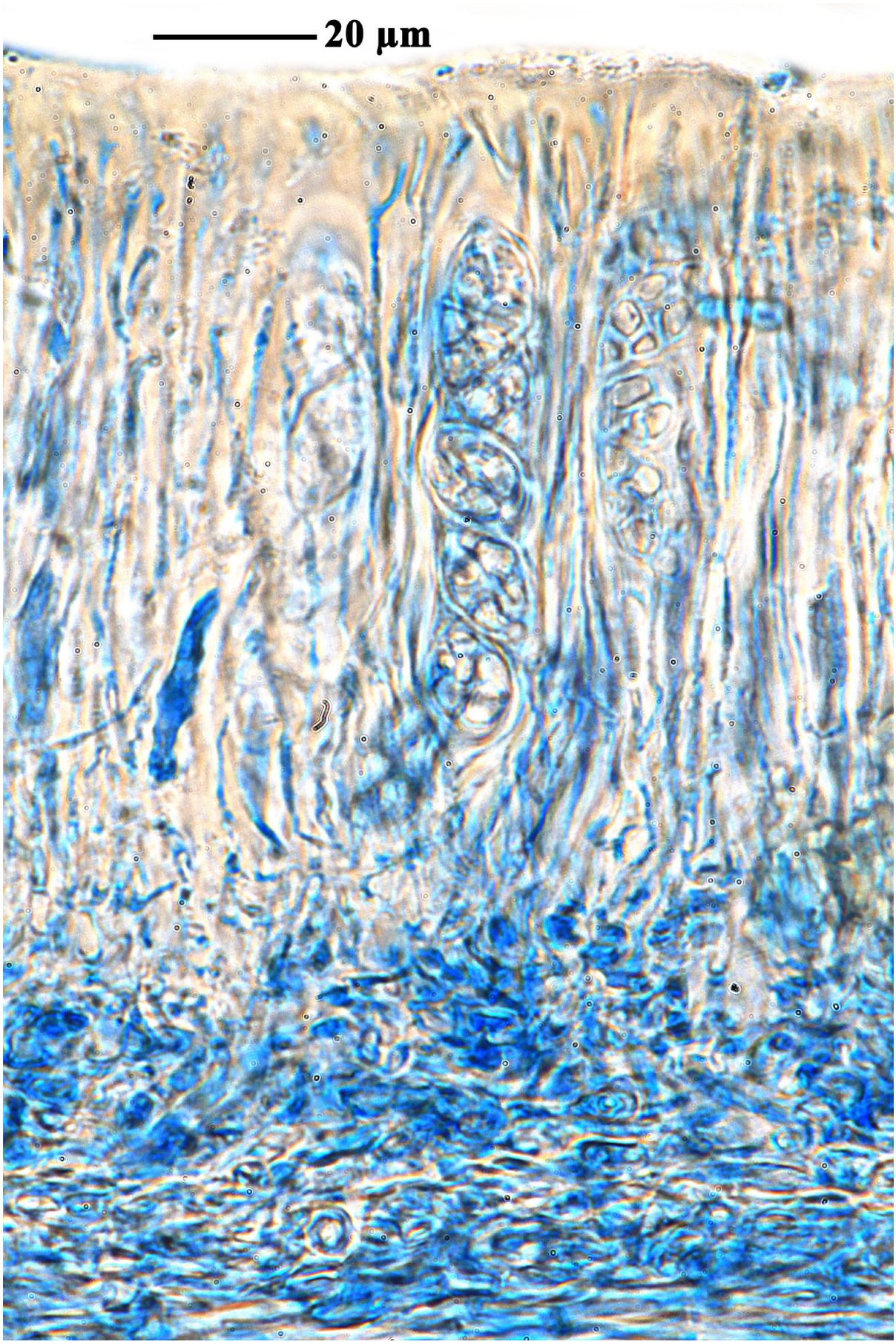
Leptogium saturninum



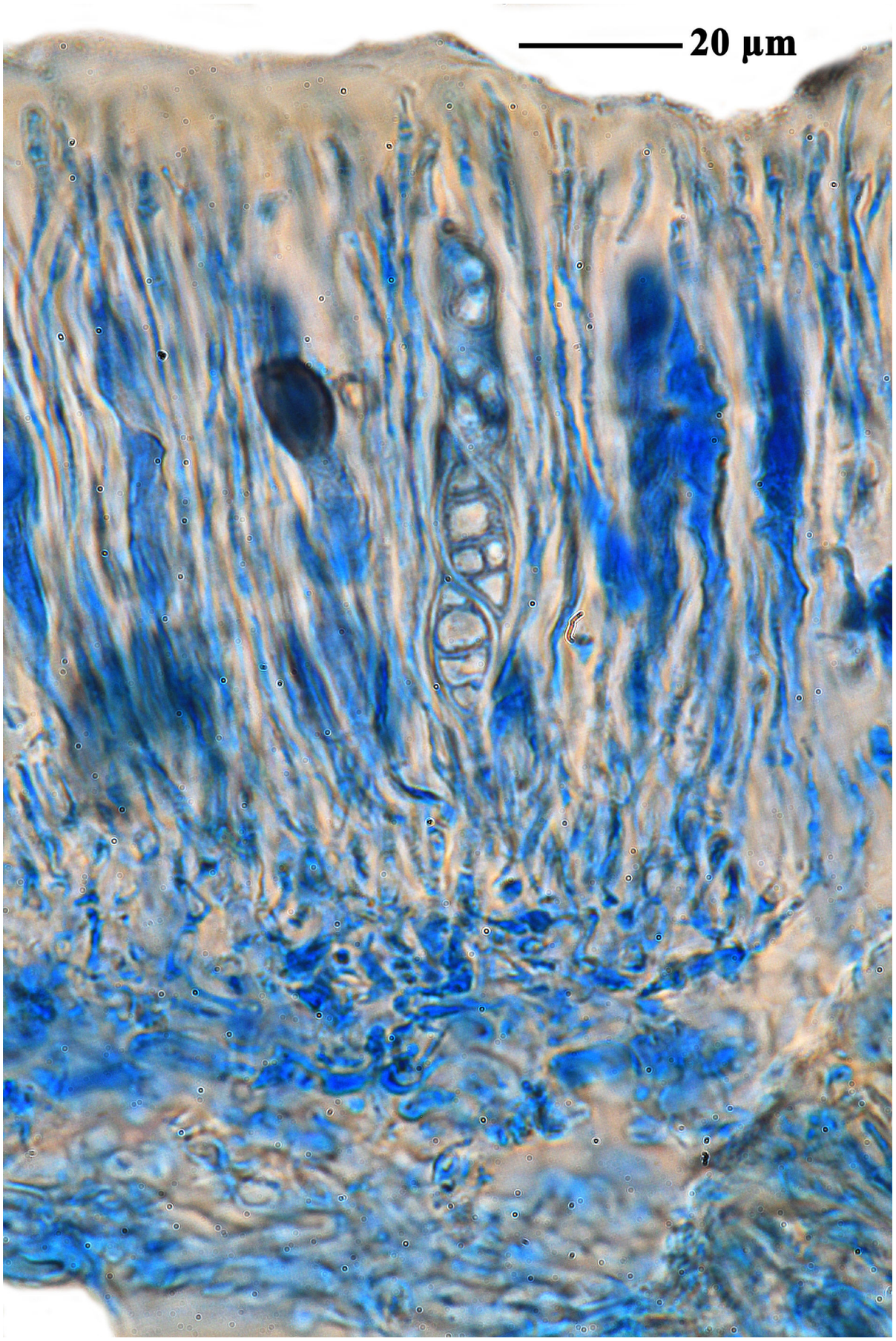
Leptogium saturninum



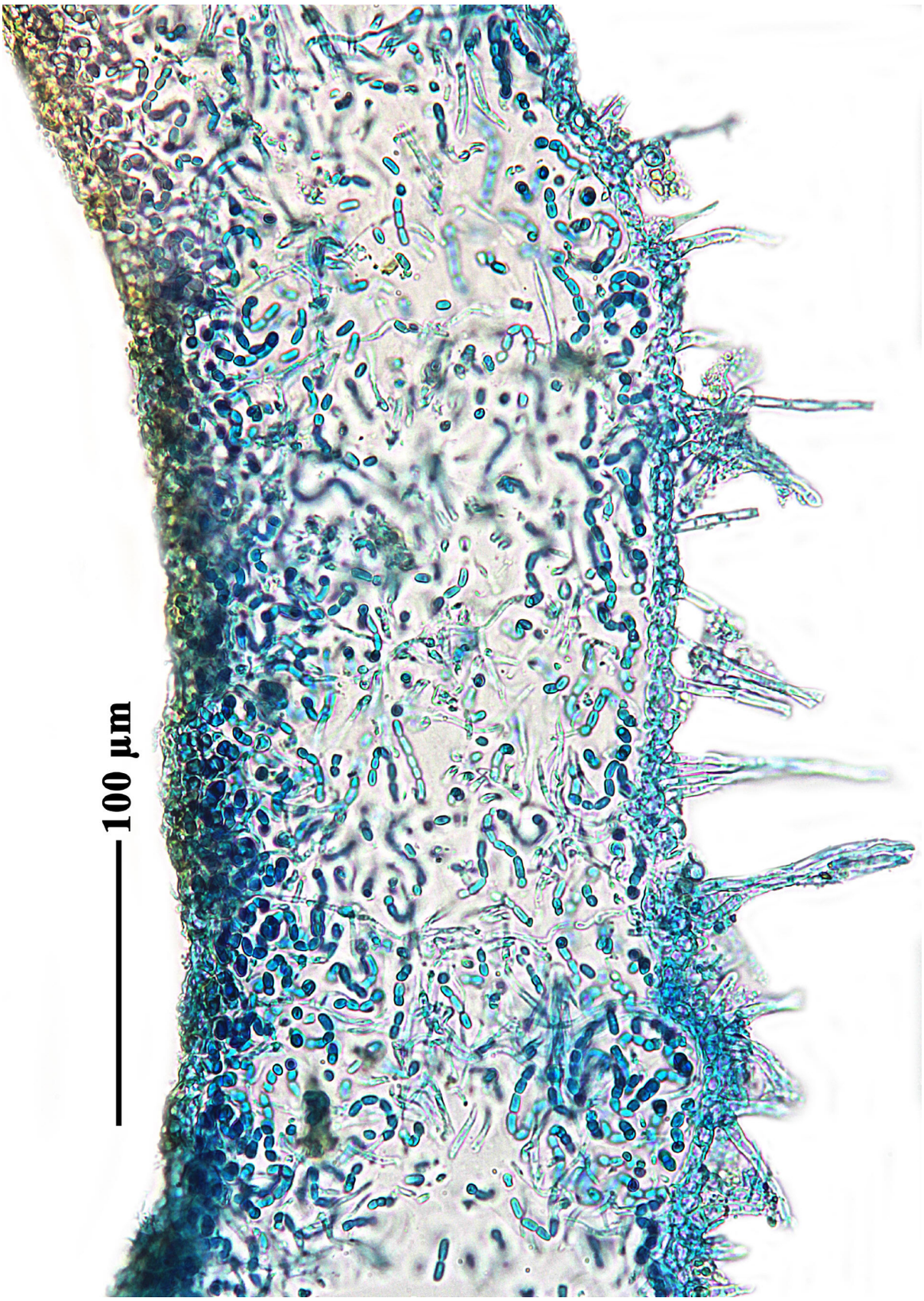
Leptogium saturninum



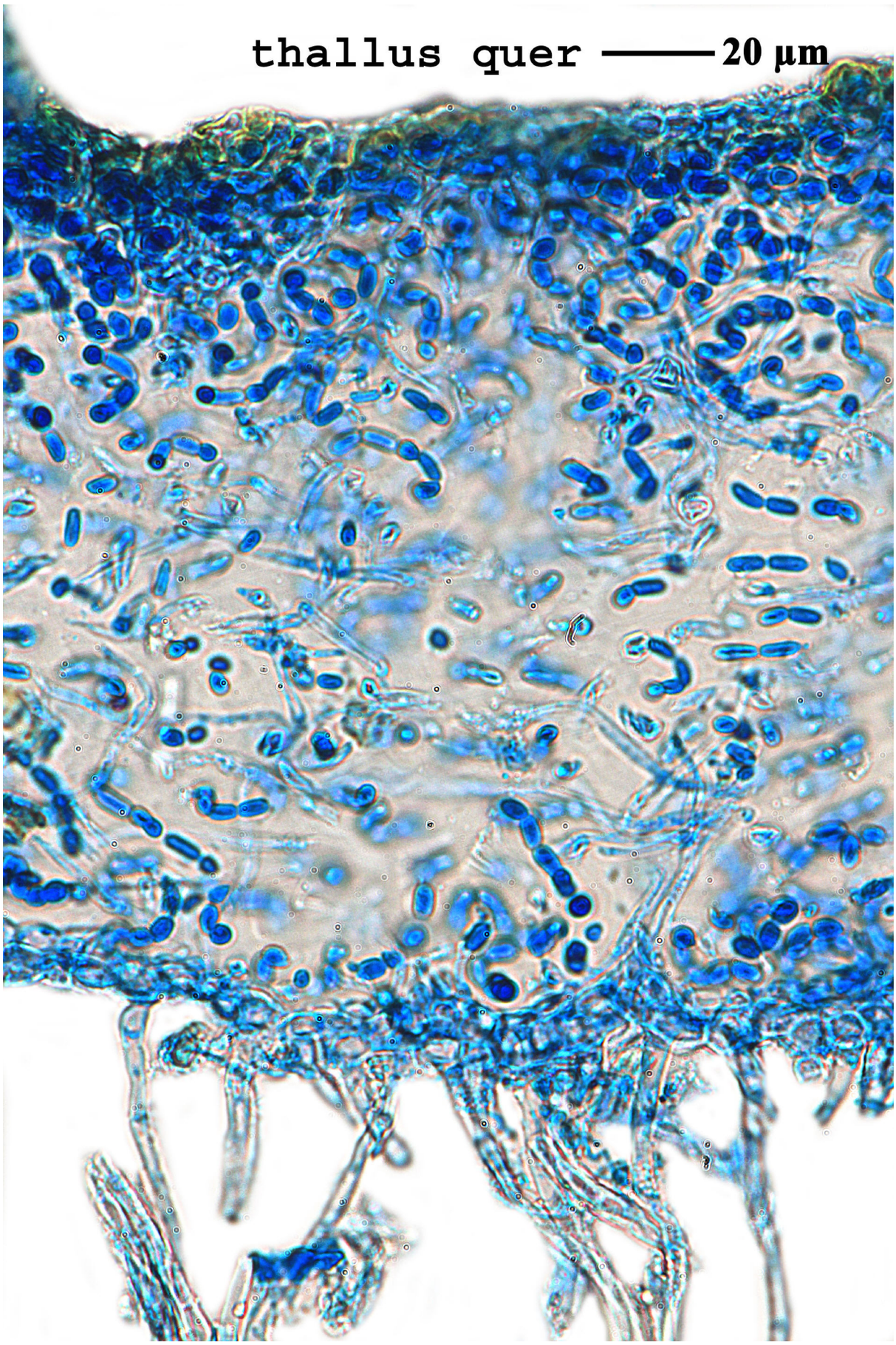
Leptogium saturninum



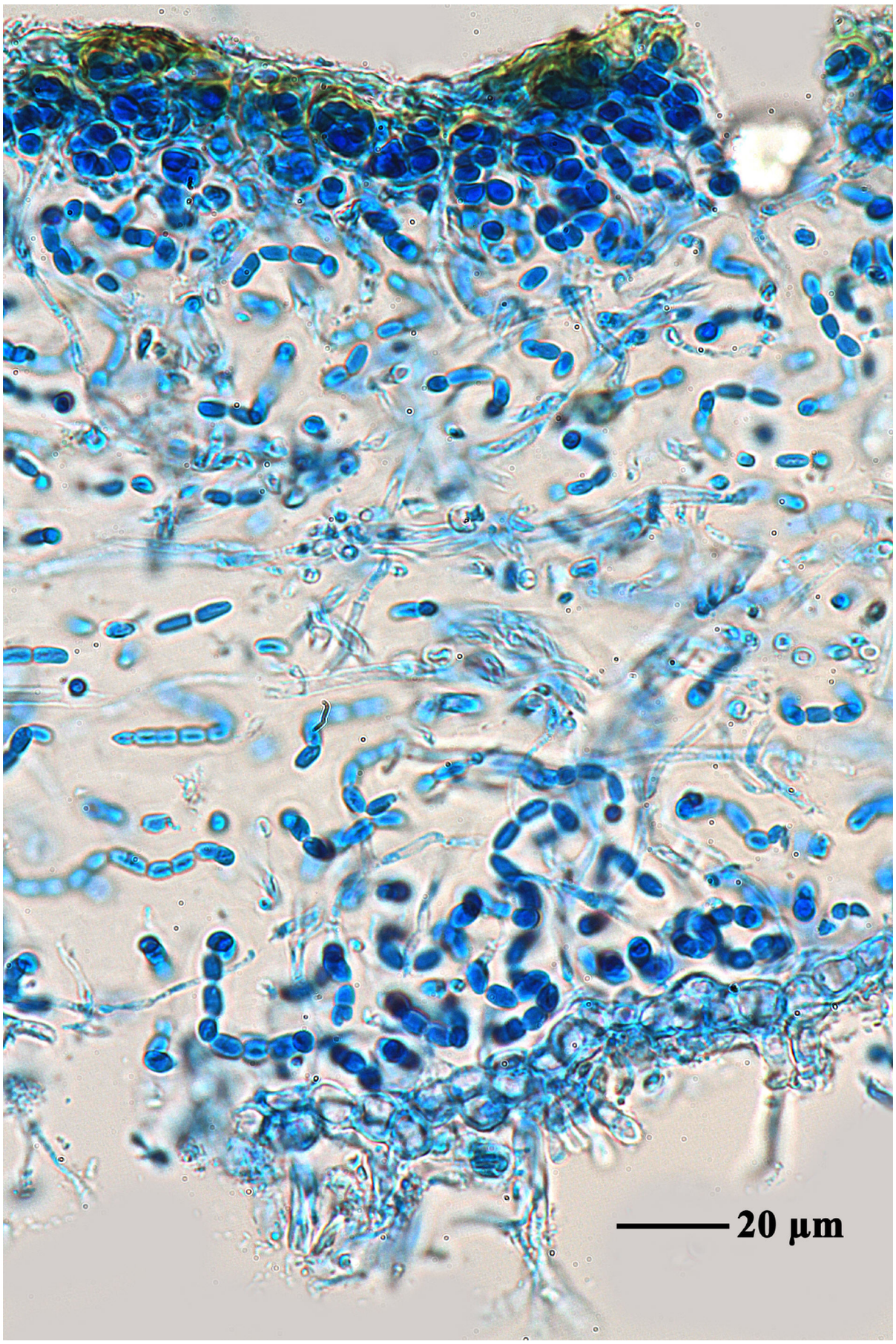
Leptogium saturninum



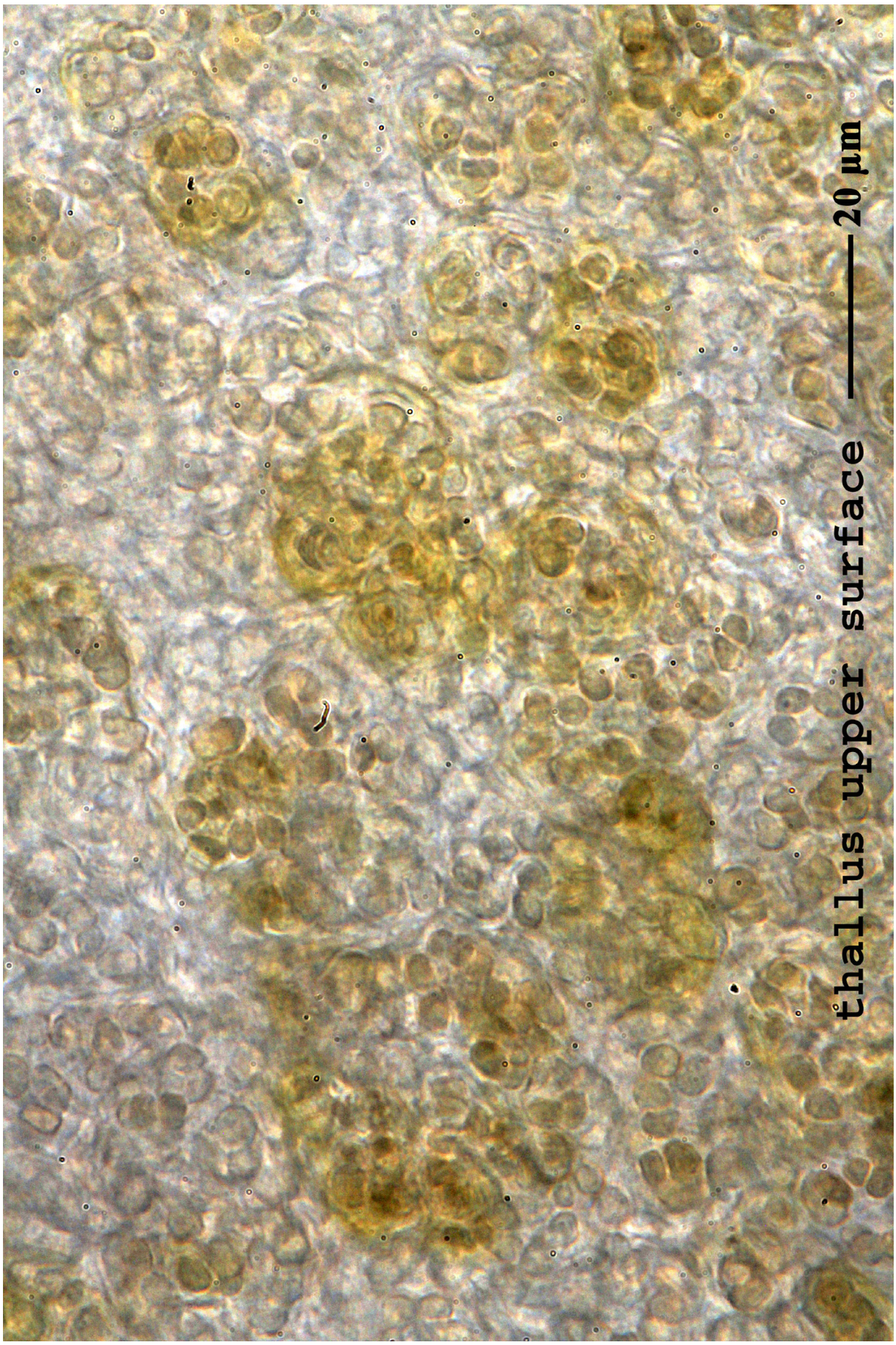
Leptogium saturninum



Leptogium saturninum



Leptogium saturninum



Leptogium saturninum

Leptogium teretiusculum Wallr. ex Arnold, Ber. bayer. bot. Ges. 2(Anhang): 26 (1892)
= *Scytinium teretiusculum* (Wallr.) Otálora, P.M. Jørg. & Wedin, Fungal Divers., 64, 1: 291, 2013
= *Garovaglina microscopica* (Nyl.) Trevis., Rc. Ist. Lomb., Milano, ser. 2 13(3): 74 (1880)
= *Homodium microscopicum* (Nyl.) Boistel, Nouv. Fl. Lich. (Paris) 2: 299 (1903)
= *Leptogium microscopicum* Nyl., Act. Soc. linn. Bordeaux 21(4): 272 (1857) [1856]
= *Leptogium schraderi* var. *microscopicum* (Nyl.) H. Olivier, Fl. Lich. Orne 1: 108 (1882)
= *Parmelia teretiuscula* Wallr., Fl. Crypt. Germ., 3: 551, 1831

[VZ1033], Bohemoslovacia. Moravia austro-occident. Distr. Třebíč, in valle rivi Chvojnice prope pagum Sudice, 320 m. Ad corticem *Aceris campestris*. Leg. A. Vězda, 22.09.1971. - Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1033.

Thallus squamulose to dwarf-fruticose, olive-brown to brown-black, subgelatinous when wet, at first consisting of slightly flattened squamules which soon bear many small, cylindrical, isidia-like lobules developing into terete, 0.1-0.2 mm wide, 0.3-1 mm long, up to 150(-200) µm thick, coralloid branches forming minute, 1-2 cm wide cushions. Upper and lower cortex consisting of irregularly isodiametrical cells, the layer inbetween paraplectenchymatous throughout. Apothecia very rare, lecanorine, laminal on squamules or terminal on branches, stipitate, 0.2-1(-1.5) mm across, with a red-brown, concave to flat disc, and an entire to isidiate thalline margin. Epithecium brownish; hymenium colourless, 90-100 µm high, I+ blue; paraphyses coherent, mostly simple, c. 1.5 µm thick at mid-level, the apical cells slightly swollen; hypothecium colourless. Asci 8-spored, narrowly clavate, the apex strongly thickened, the apical dome K/I+ pale blue, with a downwardly projecting K/I+ deep blue tubular structure. Ascospores submuriform, with (1-)3-5-transverse septa and 1 longitudinal septum, ellipsoid to subfusiform, 20-28(-31) x 10-12 µm. Photobiont cyanobacterial (Nostoc, the cells in clusters or in short chains). Spot tests: all negative. Chemistry: without lichen substances. A mainly temperate, perhaps holarctic lichen found on basal parts of old trees, sometimes also directly on soil or on weathered rocks.



Leptogium teretiusculum



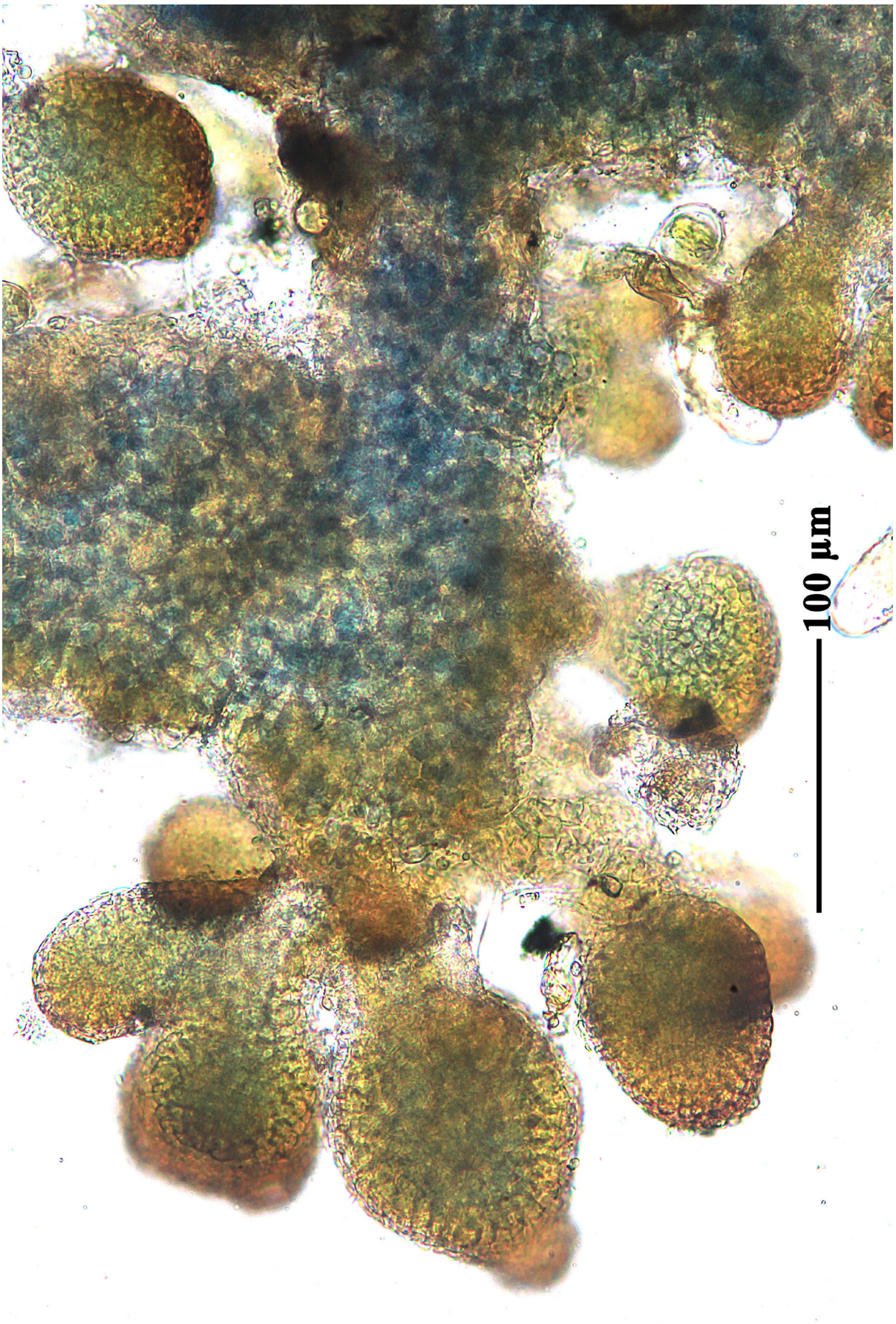
Leptogium teretiusculum



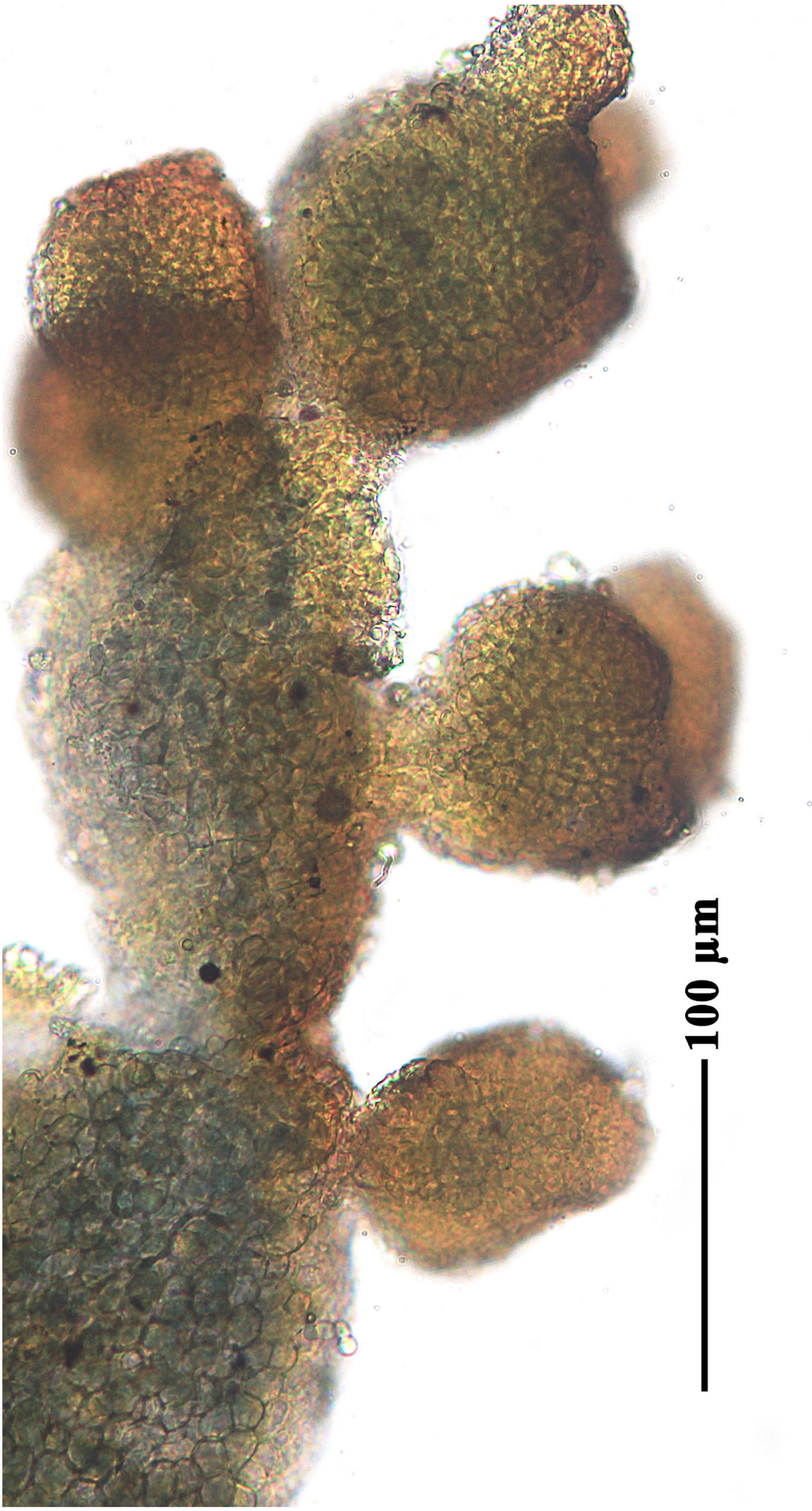
Leptogium teretiusculum



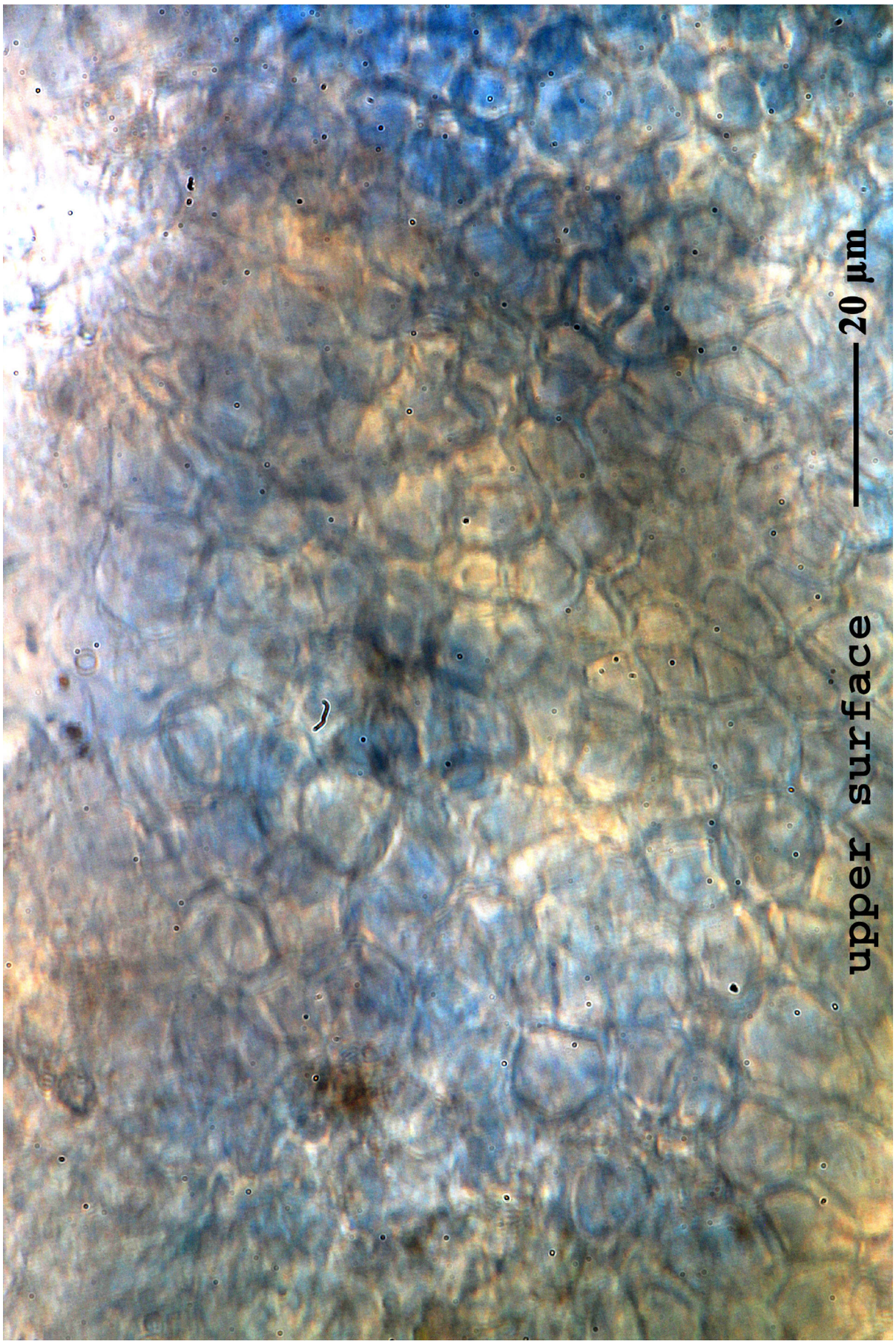
Leptogium teretiusculum



Leptogium teretiusculum



Leptogium teretiusculum



Leptogium teretiusculum

Leptogium tremelloides (Ach.) Gray, Nat. Arr. Brit. Pl. (London) 1: 400 (1821)
= *Collema plicatum* Hoffm., Descr. Adumb. Plant. Lich. 2(2): 41 (1794)
= *Collema tremelloides* (Ach.) Ach., Lich. Univ.: 655 (1810)
= *Lichen tremelloides* L. f., Suppl. Pl.: 450 (1781)
= *Parmelia tremelloides* Ach., Methodus, Sectio post. (Stockholmiæ): 224 (1803)
= *Patellaria tremelloides* (Ach.) Wallr., Fl. crypt. Germ. (Norimbergae) 1: 435 (1831)

[VZ1057], Magna Britannia. Caledonia. Argyllshire, insula Lismore, Kilcheran. Supra muscos in rupibus calcareis secundum viam. Leg. P. W. James, 97.06.1974. - Ex A. VěZDA: Lichenes Selecti Exsiccati Nr. 1057.

According to Jørgensen (2007: Nordic Lichen Flora Vol. 3, p. 34) *Leptogium tremelloides* L.f., nom. illeg. must be called now ***Leptogium cochleatum*** (Dicks) P. M. Jørg. & P. James

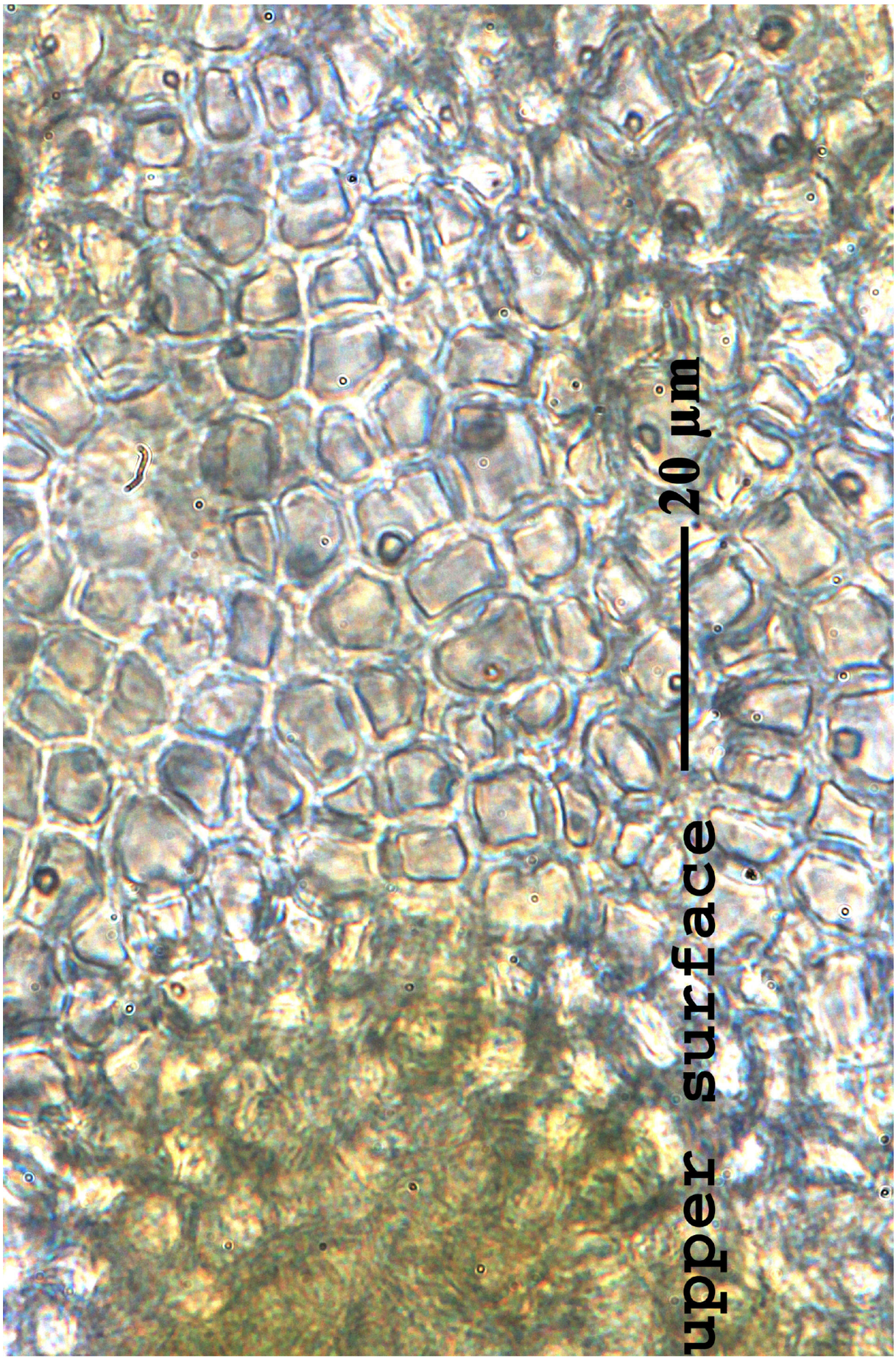
Thallus foliose, to 10 cm diam., of often overlapping, rounded and entire lobes to 1 cm wide; 120-150 (200) µm thick; upper surface often rather shiny, dark leaden grey, uneven, finely striate. Apothecia usually present, to 2.5 mm diam., sessile, with distinct, to 150 µm wide, thalline margin, obscuring the cellular proper margin; disc brown. Spores colourless, ellipsoid, muriform, (20-)25-30(-35) x (5-)6-7(-8) µm. Conidiomata unknown. Photobiont *Nostoc* in chains, individual cells 2-4 µm diam. Chemistry. No secondary substances (by TLC). - A species of old woodlands. Oceanic, Atlantic-mediterranean in Europe, Macaronesia, East Africa and India. Note. A characteristic species which for long was confused with the tropical, thinner, smoother, bluer *L. azureum* (Ach.) Mont.. *L. cochleatum* cannot be confused with any other species, but in its juvenile and compacted sterile forms, looking like flat, blue roses, it may be difficult to distinguish from similarly stunted forms of *L. cyanescens*, which then has few true isidia, a character normally distinguishing the two easily. However, *L. cyanescens* is always thinner and smoother, and has *Nostoc* in clusters (individual cell 4—6 µm diam.) while *L. cochleatum* has chains of this cyanobiont with smaller cells (2—4 µm diam.).



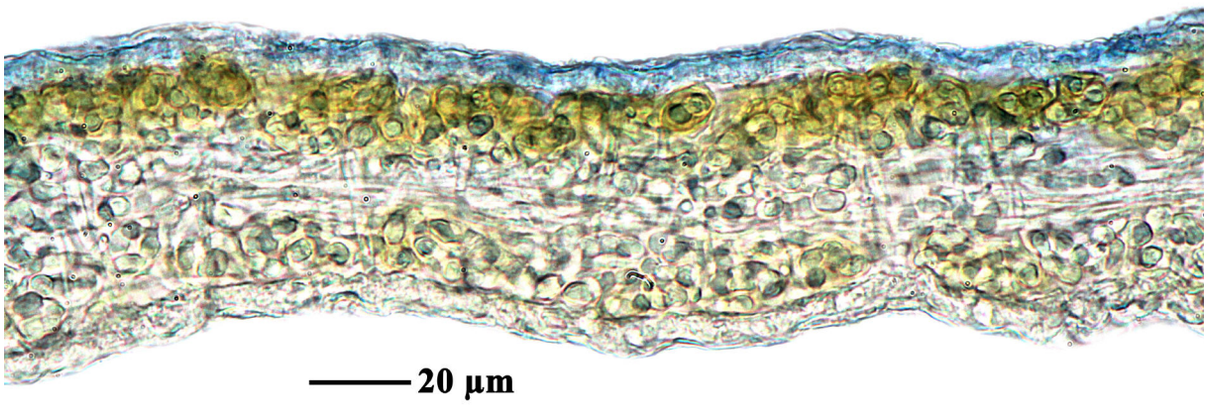
Leptogium tremelloides

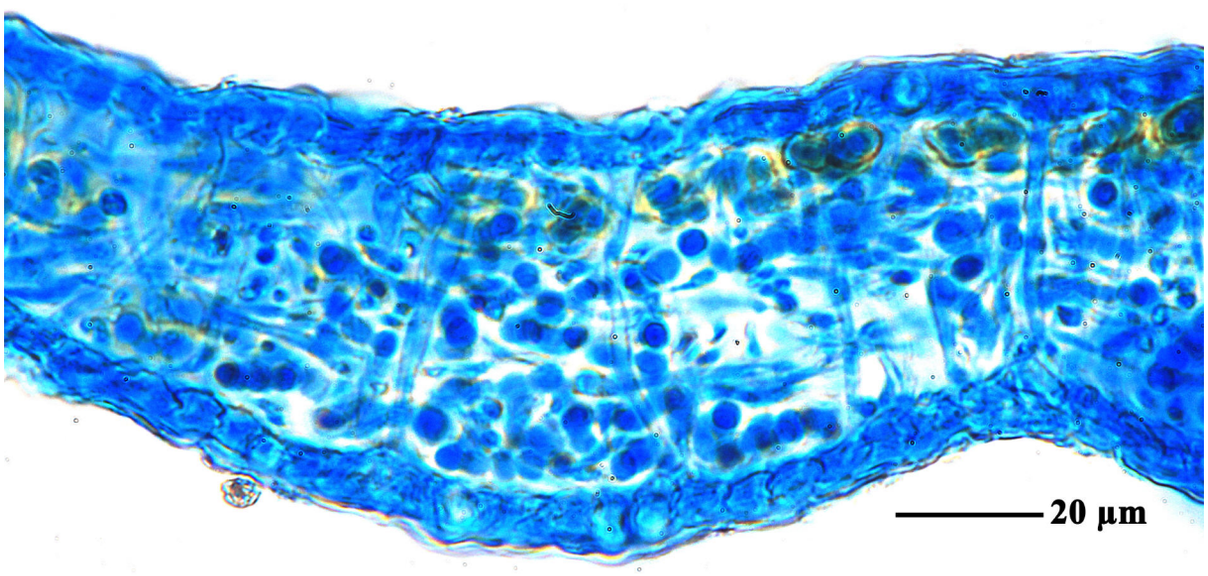


Leptogium tremelloides



Leptogium tremelloides



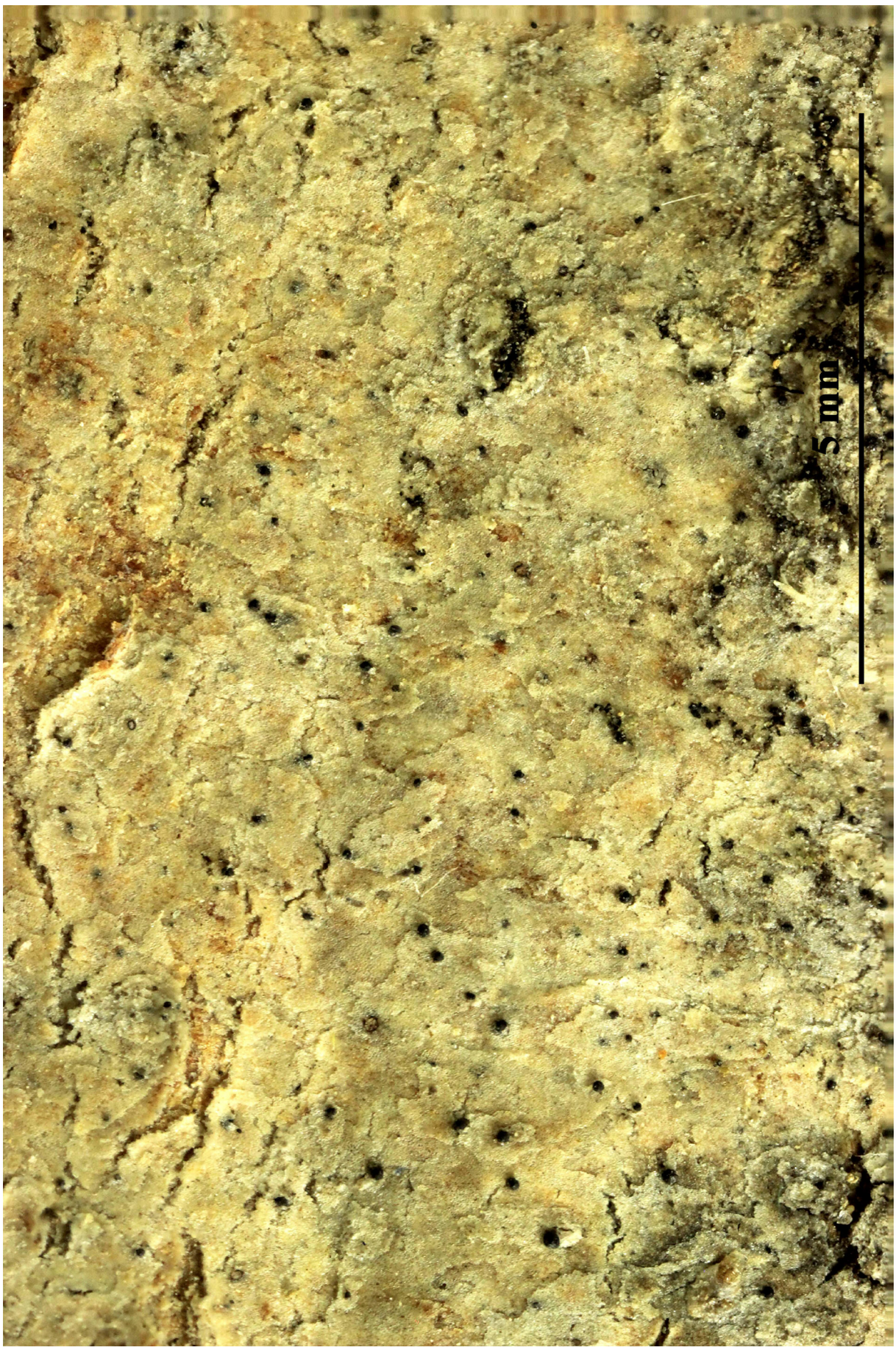


Leptogium tremelloides

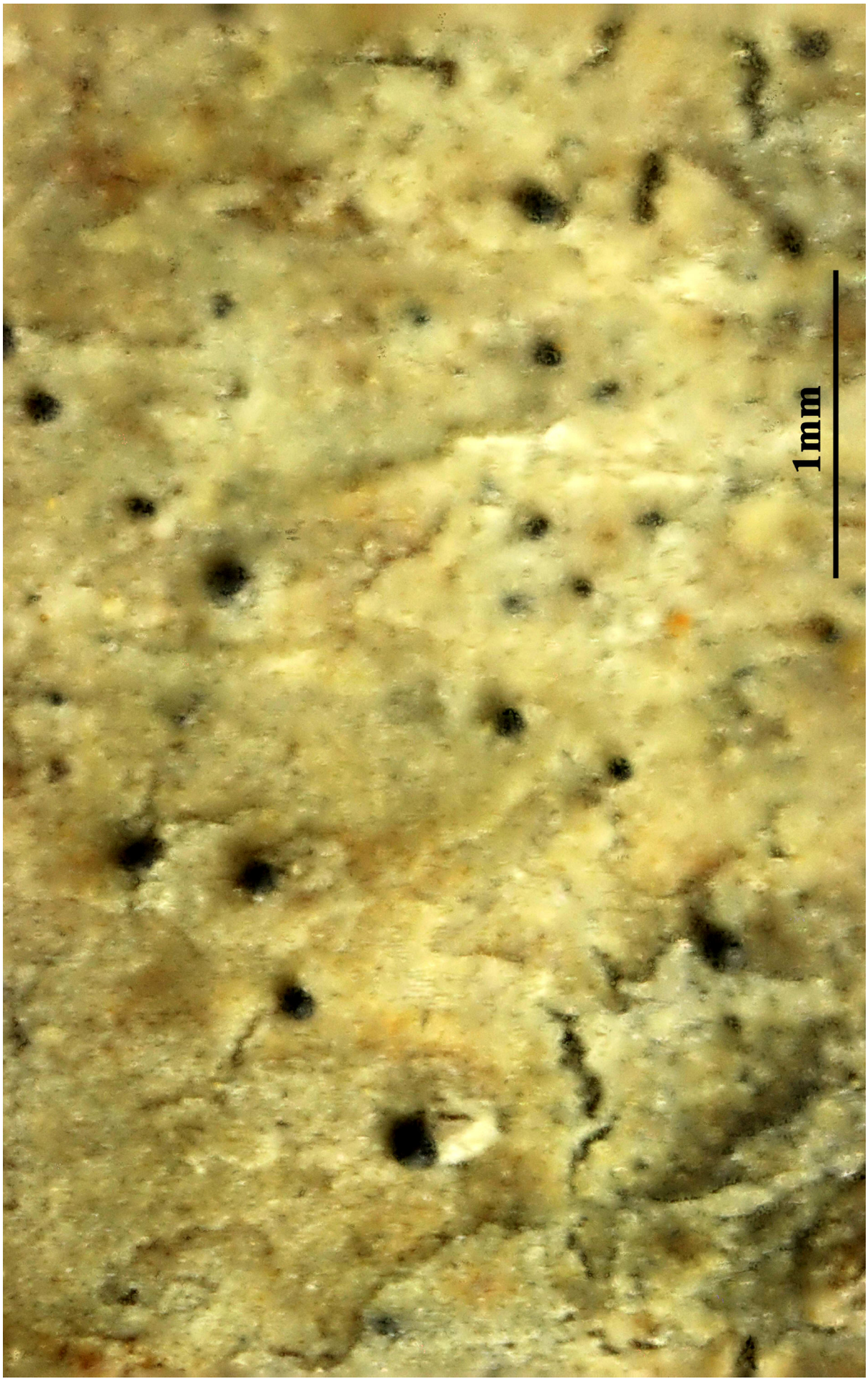
Leptorhaphis atomaria (Ach.) Szatala, Magy. Bot. Lapok 26: 31 (1927)
= *Lichen atomarius* Ach. 1799
= *Arthopyrenia analepta var. atomaria* (Ach.) Jatta
= *Arthopyrenia atomaria* (Ach.) Müll. Arg.
= *Arthopyrenia persoonii* f. *atomaria* (Ach.) A. Massal.
= *Arthopyrenia punctiformis* var. *atomaria* (Ach.) Anzi
= *Didymella atomaria* (Ach.) Szatala
= *Leiophloea punctiformis* var. *atomaria* (Ach.) Trevis.
= *Microthelia adspersa* Körb.
= *Verrucaria epidermidis* var. *atomaria* (Ach.) Schaer.
= *Verrucaria punctiformis* var. *atomaria* (Ach.) Ach.

[VZ2000], Suecia. Vermlandia: Nora Finnskoga. Havsvallen, Skåftdammen, 300 m.Ad corticem *Populi tremulae*. Leg. L. E. Muhr (no. 6275). Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2000.

Thallus crustose, non- or doubtfully lichenized, mostly endosubstratic, appearing as a pale grey to white, continuous, poorly delimited patch. Perithecia dark brown to black, matt, scattered, orbicular and 0.1-0.25 µm across or rarely ellipsoid, flattened, with a central ostiole. Involucrellum brown to greenish brown, dimidiate, sometimes extending beyond the perithecium into a thin fringe, consisting of bark cells mixed with greenish-black, thick-walled, isodiametrical cells with large lumina; exciple colourless to pale brown, c. 10 µm thick, of thin-walled, flattened cells; pseudoparaphyses sparse, 1.5-2 µm thick. Asci (6-)8-spored, clavate, bi- and fissitunicate, with a rounded to truncate apex. Ascospores 1-3-septate, hyaline, falcate or sigmoid, with more or less rounded ends, (15-)25-32(-35) x 2-3.7 µm, without epispore. Pycnidia black, subglobose, scattered, at first immersed, then projecting. Conidia 1-celled, narrowly fusiform, curved, (11.5-)16.5-18 x 1.5-2.5 µm. Photobiont absent or thallus loosely associated with trentepohlioid algae. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a doubtfully lichenised species, found on base-rich bark of deciduous trees, mainly *Populus tremula*, *Salix* and *Fraxinus*.



Leptorhaphis atomaria



Leptorhaphis atomaria

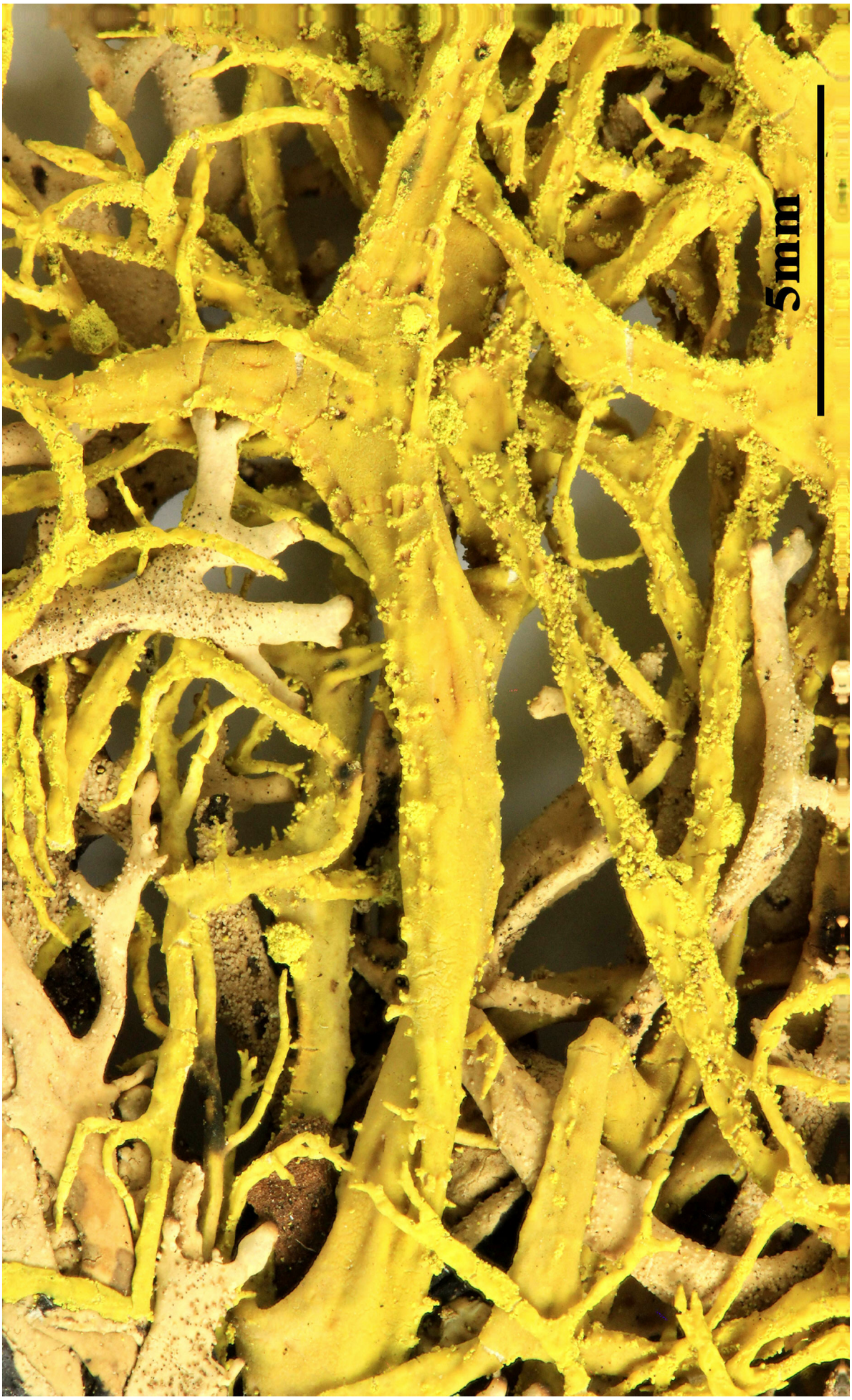
Letharia vulpina (L.) Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 4 sér. 1: 57 (1899)
= *Lichen vulpinus* L. 1753

[VZ1072], Maroccanum Regnum. Atlas Medius.Mischliffen, prope oppidum Azrou, 2000 m. In silva *Cedrorum*, ad truncos *Cedri atlanticae*. Leg. W. L. Culberson (no. 15110) et C. F. Culberson, 28.5.1971. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1072.

Thallus fruticose, attached with a basal holdfast, bushy when young to subpendent when well-developed, bright lemon- to sulphur yellow, to 20 cm long (usually much less), irregularly branched, the main branches up to 4 mm wide, angular, often foveolate, the secondary branches thinner, subulate, often forked. Isidia diffuse, granular-sorediose to cylindrical, generally dense, usually developing from cracks on the angles and ridges, where the cortex has degenerated. Cortex c. 40-60 µm thick, filled with yellowish crystals soluble in K, of anticlinally arranged, thick-walled hyphae; medulla white, arachnoid with medullary strands which are thinner in the upper branches, thicker and fusing into a single strand near the base; cell walls with the Cetraria-type lichenan. Apothecia very rare, lecanorine, to 8 mm across, with a brown disc and short marginal projections on the thalline margin. Epithecium brown; hymenium and hypothecium colourless. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid, 5-8 x 4-5 µm. Pycnidia rare, slightly projecting, black. Conidia sublageniform, (7-)8-9 x c. 1 µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-. Chemistry: cortex with vulpinic acid and atranorin; apothecia (hymenium) with norstictic acid. - Note: a circumboreal-montane lichen growing on the bark of coniferous trees, mostly on *Larix* and *Pinus cembra*, more rarely on lignum, near treeline; common and locally abundant only in parts of the Alps with a continental climate, but exceptionally occurring also in the mountains of Calabria.



Letharia vulpina



Letharia vulpina

Lethariella canariensis (Ach.) Krog, Norw. Jl Bot. 23(2): 91 (1976)
= *Alectoria canariensis* Ach. 1810

[VZ2170], Insulae Canarienses. Tenerife: secus viam inter Arafo et Las Canadas del Teide, 1450 m. Ad lavam in pineto (*Pinus canariensis*). Leg. P. L. Nimis, 14.1.1985. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2170.

Thallus saxicolous or corticolous, pendulous or prostrate, to 30 cm long, predominantly dichotomously branched. Branches bright orange, pale grey in basal parts of the thallus, terete or somewhat angular, more or less flattened at points of branching, surface dull, smooth. Isidia and soredia absent. Cortex of uneven thickness, 40-75 µm, with ridges projecting into the medulla. Medulla for the most part dense and compressed. Axis variable, usually occupying more than one half of the width of the branch. Apothecia extremely rare. Mature apothecia not seen, but, according to Follmann, Kedén & Huneck (1973), who described a specimen with mature apothecia from La Palma, they are 3-5 mm in diameter, with an efibrillose thalline exciple, opaque, epruinose, dark brown disc, and spores 5-6 x 7-8 µm. TLC: atranorin and canarionic acid in the cortex, no medullary substances.



Lethariella canariensis

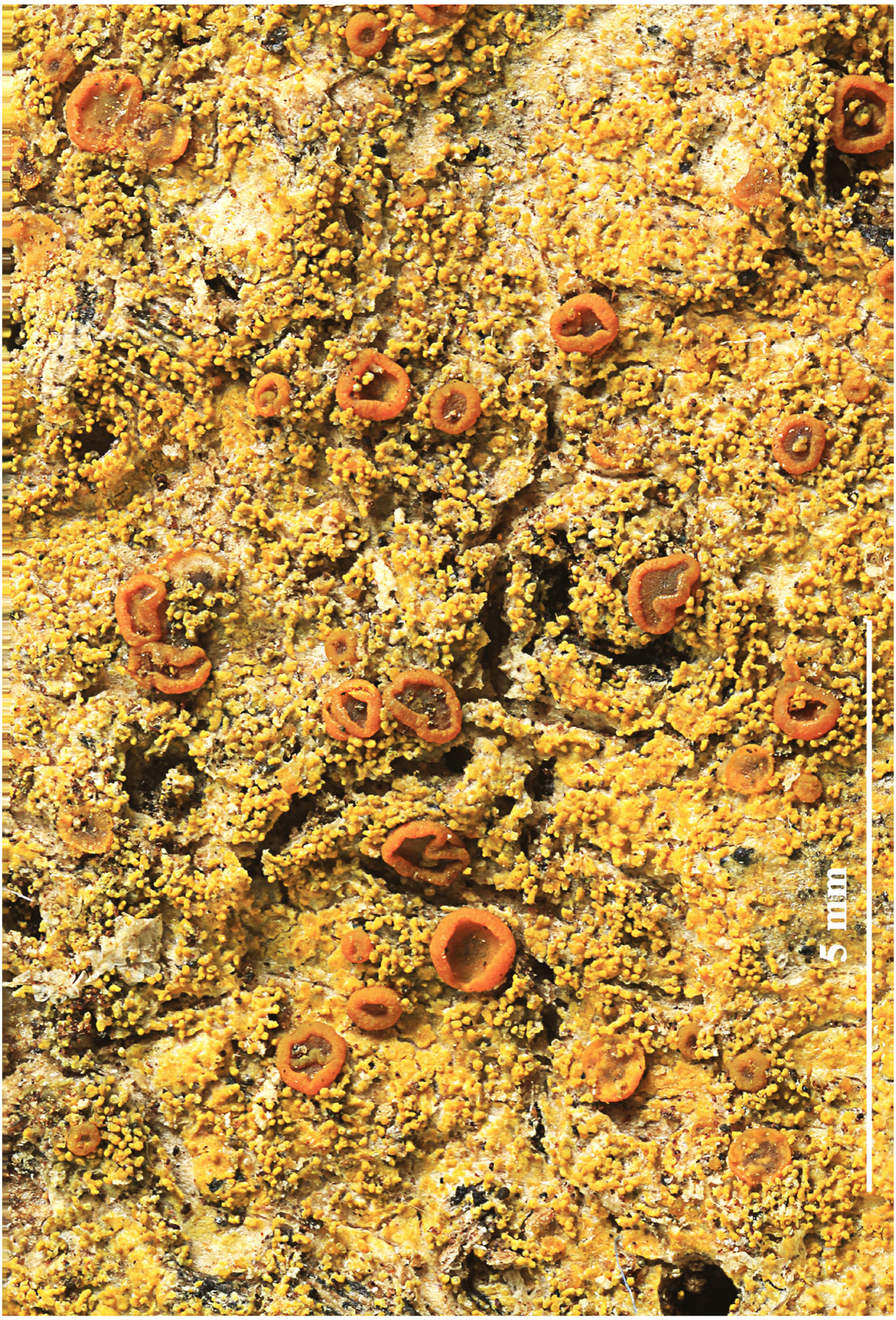


Lethariella canariensis

Letrouitia leprolyta (Nyl.) Hafellner, Nova Hedwigia 35(4): 693 (1983) [1981]
= *Bombyliospora leprolyta* (Nyl.) Zahlbr., Cat. Lich. Univers. 7: 54 (1930) [1931]
= *Lecanora domingensis * leprolyta* Nyl., Flora, Regensburg 52: 70 (1869)
= *Lecanora leprolyta* (Nyl.) Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 3 sér. 3: 53 (1891)
= *Patellaria leprolyta* (Nyl.) Müll. Arg., Flora, Regensburg 65: 489 (1882)
= *Placodium leprolytum* (Nyl.) Vain., Ann. Acad. Sci. fenn., Ser. A 2(no. 3): 9 (1926)

[VZ2059], Papua Nova Guinea. Prov. Madang, Laing Isl., lat. 4°10' merid., long. 144°52' occid. Ad truncum arboris. Leg. V. Demoulin (no. 5702) et L. Smeets, det.et comm. E. Sérusiaux. Ex A. VěZDA: Lichenes Selecti Exsiccati Nr. 2059.

Thallus yellow-grey to grey-brown or pale orange, thin, isidiate; soredia absent. Isidia concolorous with the thallus, spreading over the surface, short, simple, wart-like or erumpent. Apothecia very rare, ±rounded or distorted, sessile, constricted at the base, 0.4–1.3 mm wide; disc orange-brown to dark red-brown or bluish black, ±plane; margin prominent, ±raised above the disc, smooth, yellow to orange; disc and margin K+ purple; proper exciple consisting of radiating hyaline agglutinated hyphae, the outer layer encrusted with anthraquinone crystals, colourless within. Epihymenium dark brown, with anthraquinone crystals. Hymenium not inspersed, colourless, 80–100 µm thick; hypothecium pale brown. Asci 8-spored when immature, often with fewer than 8 ascospores at maturity, 60–80 × 14–19 µm. Ascospores ellipsoidal, transversely septate, with 6–8 lens-shaped locules, 19–30 × 7–14 µm. Conidia not seen. CHEMISTRY: Thallus and apothecia K+ purple; both containing fragilin (major), parietin (minor), 7-chloroemodin (minor), 7-chloroparietinic acid (minor), 7-chlorofallacinal (minor), 7-chloroteloschistin (minor), ±exuviatic acid B (minor), ±emodin (trace), ±fragilin bisanthrone (trace), ±physcoin bisanthrone (trace). - Ggrows on bark in warm-temperate, subtropical and tropical forest. Australia, Africa, Asia and Papua New Guinea.



Letrouitia leprolyta



Letrouitia leprolyta

Lichenoconium parasiticum D. Hawksw., Persoonia 9(2): 178 (1977)
= *Lichenoconium lecanorae* (Jaap) D. Hawksw. 1979
= *Lichenoconium lecanorae* (Jaap) D. Hawksw.
= *Coniosporium lecanorae*
= *Lichenoconium follmannii*

[VZ1600], Dania. Sjaellandia: Herstedvester. In apotheciis *Lecanorae conizaeoides* Nyl. ex Cromb. vigens. - Isotypus-. Leg. M. S. Christiansen (11707), 20.4.1944. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1600.

Conidiogenous cells (4-)5-7(-8) x (2-) 3-3.5(-4) µm; conidia (2.5-) 3-4.5(-5.5) µm diam; conidiomata (0.03-)0.04-0.08(-0.1) mm diam; parasymbiotic to parasitic on *Evernia prunastri, Lecanora conizaeoides* (the apothecia turning jet black; see Christiansen 1980), *Punctelia borreri, Parmelina pastillifera* and especially *Parmelia sulcata;* on *Parmelia* species. , a single conidioma is usually found in each infection spot, the spot surrounded by a black margin; less pathogenic than *L. erodens*; widespread and often common; Great Britain, Ireland, Spain). See Hawksworth (1977b), Christiansen (1993).



Lichenoconium parasiticum

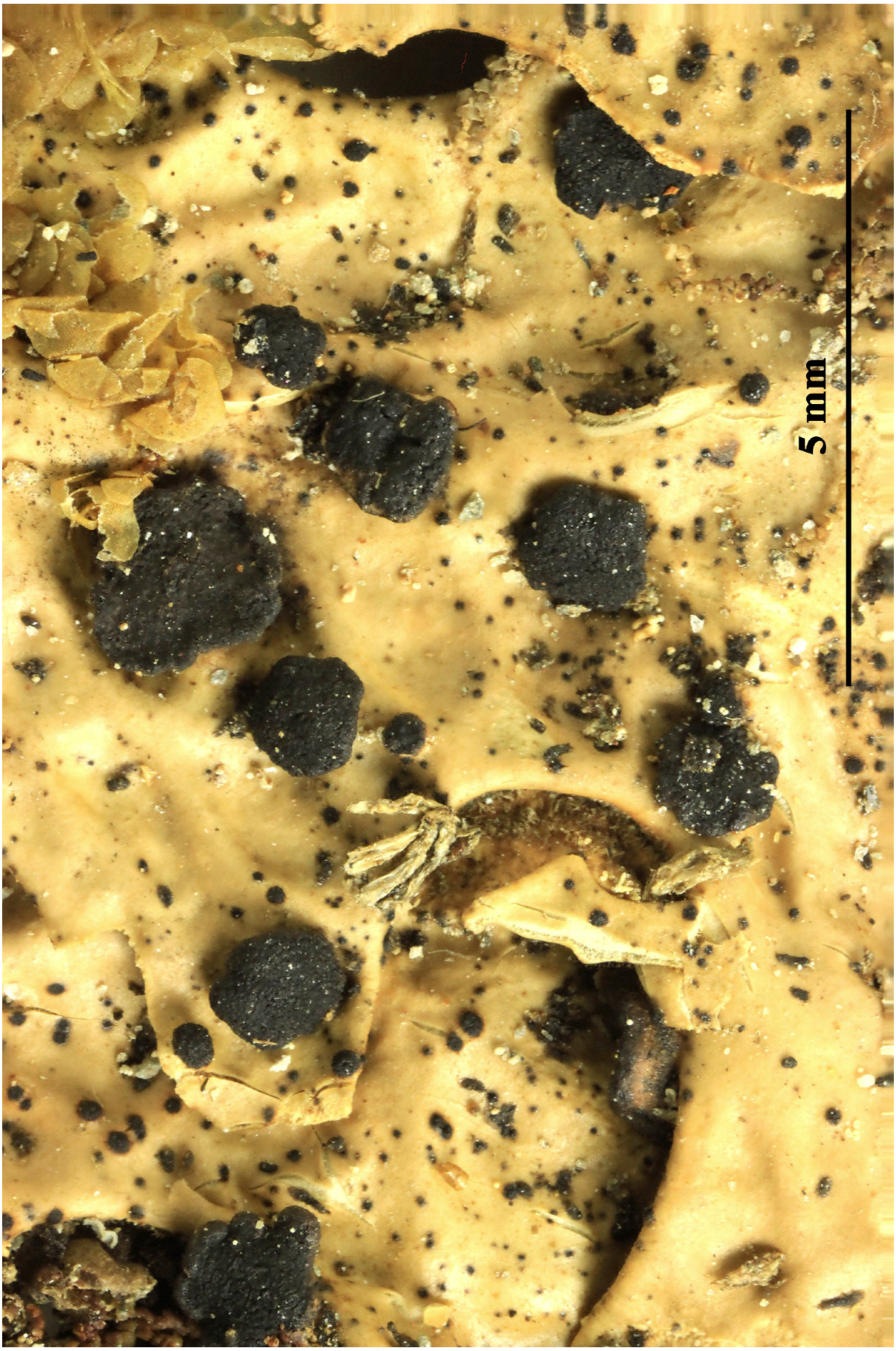


Lichenoconium parasiticum

Lichenomyces lichenum (Sommerf.) R. Sant., Svensk bot. Tidskr. 54(4): 501 (1960)
= *Dothidea lichenum* Sommerf. 1826
= *Plectocarpon lichenum* (Sommerf.) D. Hawksw., in Hawksworth & Galloway, Lichenologist 16(1): 86 (1984)

[VZ1300}, Romania. Distr. Prahov. Montes Ciucaşul, Gura Ciucas, at 1300 m. In thallo *Lobariae pulmonariae* vigens. Leg. A. Vězda, 7.1973. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1300.

Ascomata: developing on the upper or lower surface of the host thallus, inducing distinct, basally constricted galls, dispersed, single or more rarely grouped, black, flat to convex, rarely slightly concave, rounded, 0.6-4(-5) mm diam., c. 140-340 µm thick; surface slightly shiny or mat, smooth to minutely warted; warts of 55-150(-190) µm diam. stroma: multilocular; loculi c. 70-160 µm wide; sterile stromatic tissue dark greenish (but appearing olivaceous owing to other brown pigments), K+ green intensifying, N+ orange to reddish brown; pigment not granulose, dissolving at high concentration; layer below the stroma reddish brown, consisting of host cortex over which the ascomata are growing hymenium: hyaline, sometimes partly greenish brown, K+ greenish (owing to the greenish black stromatic pigment), soon becoming bright yellow to almost orange (additional pigment of the hymenial gel?), entirely filling the loculi, 80-105 µm high, I+ red paraphyses: richly branched and anastomosing, 2-2.5 µm thick, apically slightly enlarged asci: clavate, (4-)6-8-spored, 55-75 x 14.5-17.5 µm ascospores: hyaline, becoming brown, K+ greenish when overmature, oblong, 3-septate, often slightly constricted at the septa, (16-)18.5-21.3(-23) x (5-)5.3-6.3(-7) µm, l/w ratio 3.1-3.8 (N=96); perispore hyaline, 0.5-1.5 µm thick, becoming uniformly brown when overmature Pycnidia: immersed in the stroma, wall dark brown, irregular, 40-50 µm wide, 80-90 µm high conidia: 4.5-5.5 x 1 µm. Hosts: in the Sonoran area, on *Pseudocyphellaria anthraspis*; elsewhere mainly on *Lobaria pulmonaria*, rarely on *Pseudocyphellaria anomala* Distribution: Africa (Kenya, Tanzania), La Réunion, North America (Canada: British Columbia, U.S.A.), Asia (Russia, Turkey), Europe and Macaronesia.



Lichenomyces lichenum



Lichenomyces lichenum

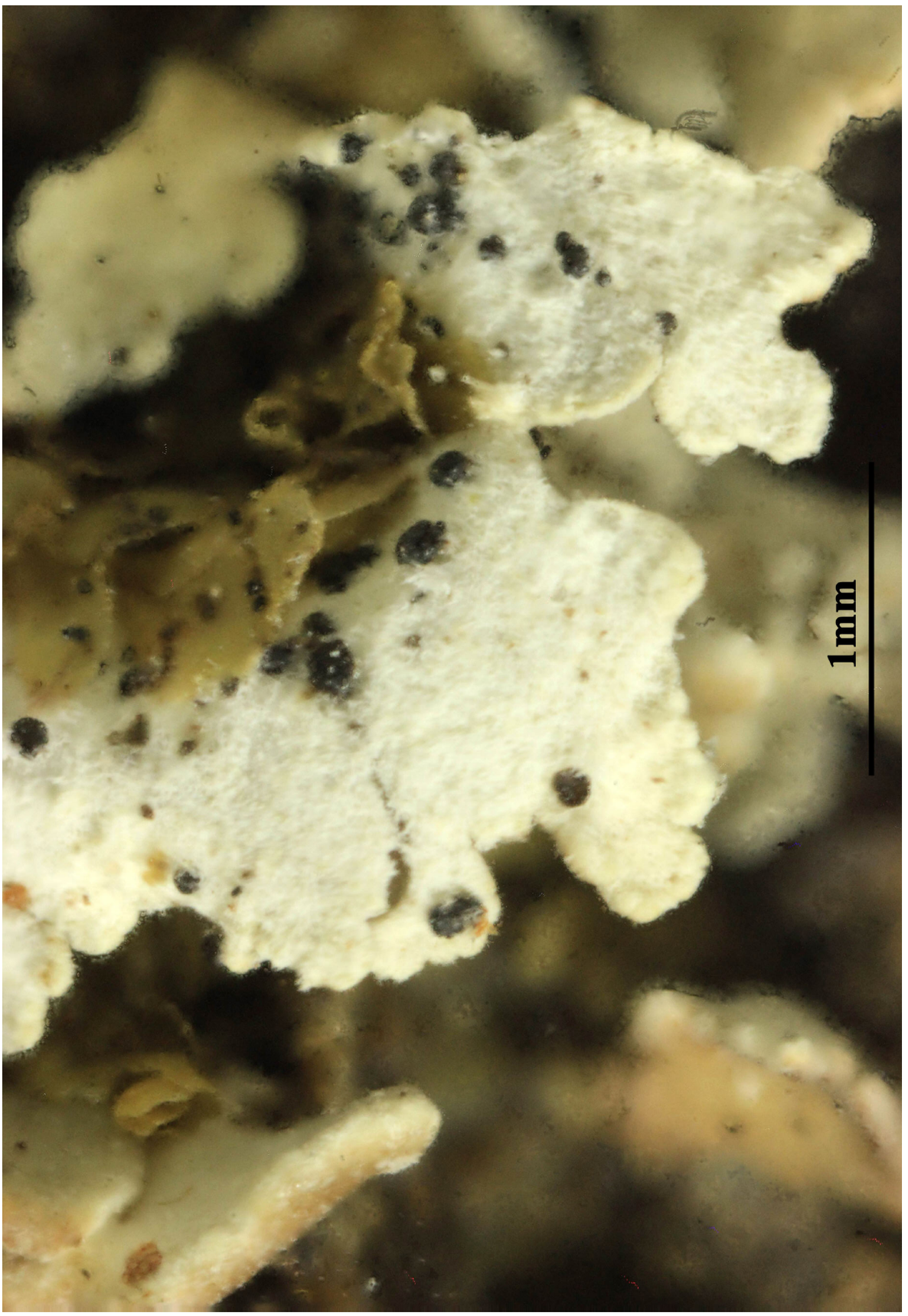
Lichenosticta alcicornaria (Linds.) D. Hawksw., in Hawksworth, James & Coppins, Lichenologist 12(1): 107 (1980)
= *Microthelia alcicornaria* Linds. 1869

[VZ1849], Austria. Salisburgia. Lungau, in alpibus "Schladminger Tauern" dictis in valle dicta "Weisspriachtal" prope hospitium dictum "Untere Kühbarnhütte", 1320 m. In thallo *Cladoniae pyxidatae* vigens. Leg. et det. J. Hafellner. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1849.

Ascospores 7-8 x 3 µm; growing on *Cladonia*;***Guignardia fimbriata*** auct. brit., non (Vain.) Keissler 1930 This name is a synonym of the coelomycete *Lichenosticta alcicornaria* (Hoffmann & Hafellner 2000).



Lichenosticta alcicornaria

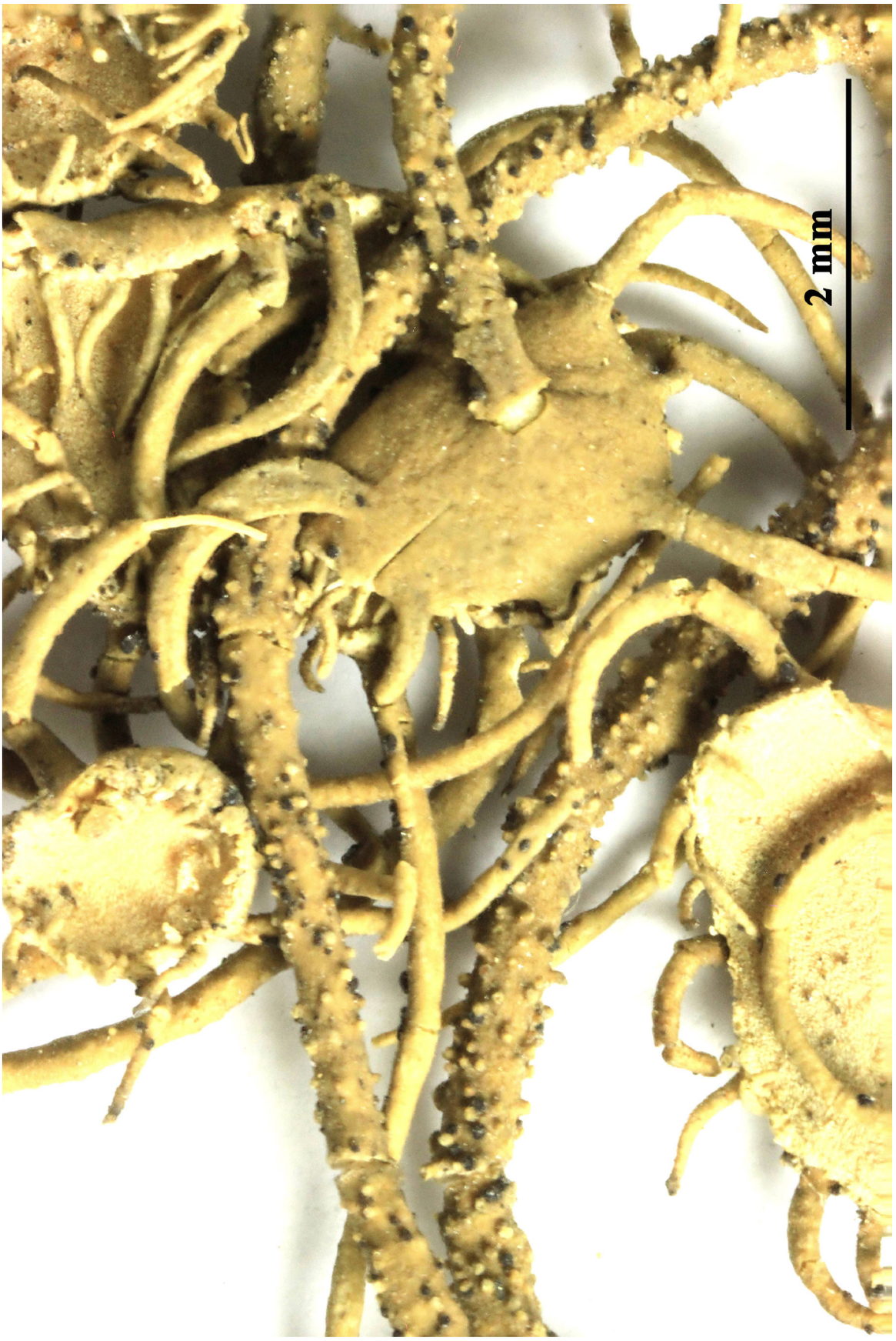


Lichenosticta alcicornaria

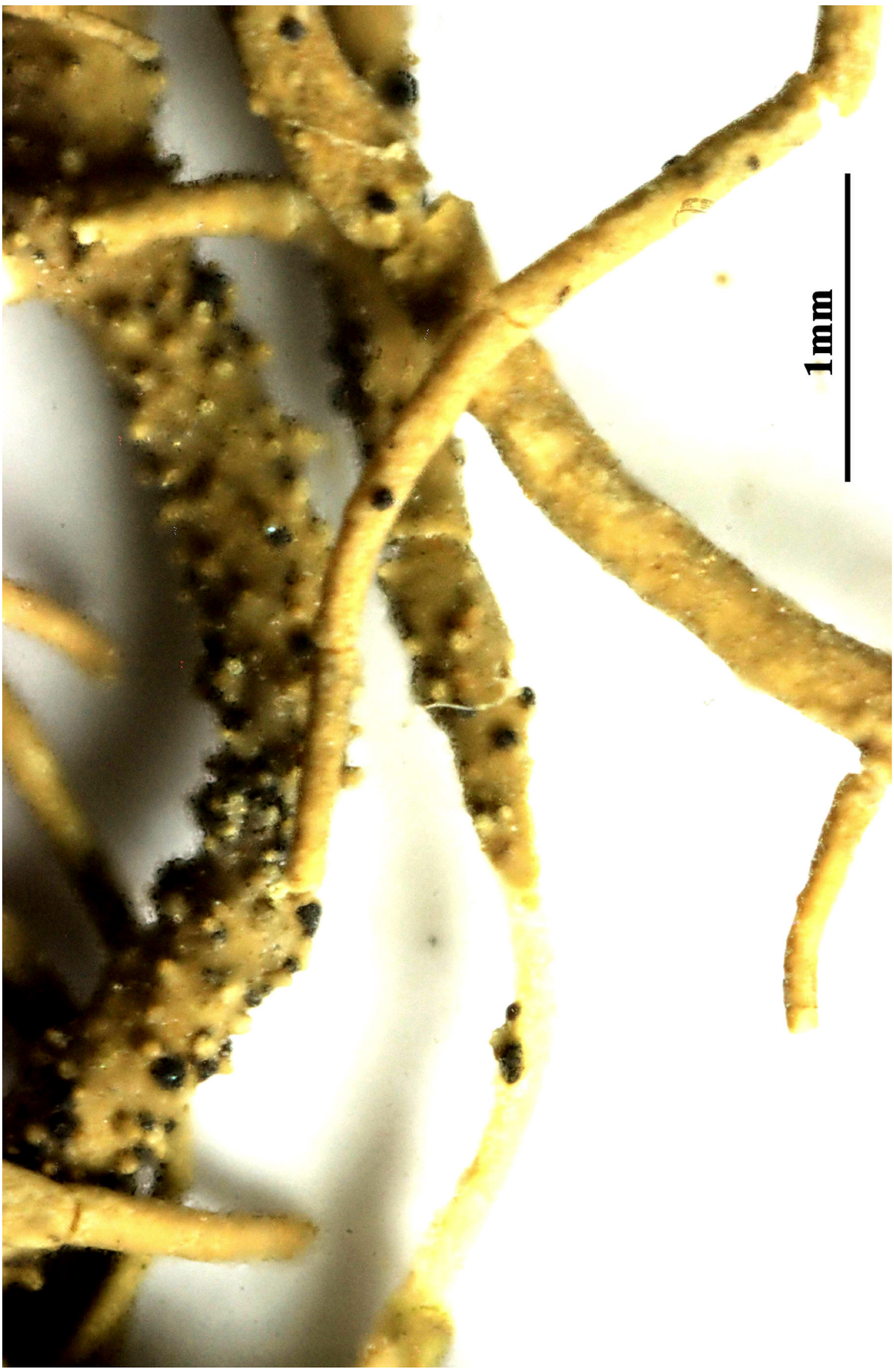
Lichenostigma maureri Hafellner, in Herzogia 6: 301. 1982

[VZ1848], URSS. Caucasus Magnus: regio montis ignivomi Elbrus, in valle torrentis Adylsu prope pagum Elbrus, loco Džan-Tugan dicto, 1800-2000 m. Supra thallum *Usneae* vigens. Leg. A. Vězda, 23.6.1980. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1949.

Hyphal strands: absent Ascomata: superficial, black, initially closely appressed to the host thallus, later elevated and sometimes with a slightly constricted base, scattered or loosely aggregated, cushion-like, usually rounded, convex to flat, 70-120 µm in diam., 30-40 µm tall internal structure: wall of the external cells: dark brown, with a granular pigment, hyaline in the internal ones, cells 4-8 µm in diam. centrum: I- asci: subglobose or broadly ovate, 20-25 x 13-18 µm, 4-8-spored ascospores: initially hyaline but later brown, 1-septate, slightly constricted at the septum, obovate, halonate, 9-12 x 4-6 µm; wall: with a finely granular surface. Hosts: on *Usnea*, also known on thalli of foliose and fruticose lichens (e.g., *Alectoria, Evernia, Letharia, Pseudevernia, Ramalina*). - Notes: *Lichenostigma maureri* belongs to subgenus *Lichenostigma*, with rounded ascomata not connected to dark superficial hyphal strands. A further species of the subgenus is *L. rugosa*, but in that taxon ascospore ornamentation is more coarse, and it occurs on *Diploschistes* species. *Lichenostigma lecanorae* has larger ascomata and ascospores, verrucose ascospores, and is restricted to *Lecanora*.



Lichenostigma maureri



Lichenostigma maureri

Lichina confinis (O.F. Müll.) C. Agardh, Spec. alg. (Lipsiae) 1: 105 (1821)
= *Lichen confinis* O.F. Müll. 1782
= *Lichina confinis* var. *elisabethae* (A. Massal.) Jatta
= *Lichina elisabethae* A. Massal.
= *Lichina transfuga* (Nyl.) Zahlbr.

[VZ1351], Bulgaria. Pontus, distr. Burgas: inter pagos Mičurin et Varvara, 0-1 m. In saxosis silicis maritimis, Leg. A. Kiszely et A. Vězda, 18.8.1976. Ex A. Vezda Lichenes Selecti Exsiccati Nr. 1351.

Thallus small-fruticose, shrubby, shining dark olive-brown to black, gelatinous when wet, forming loose, 5-15 mm wide, small cushions, the central parts sometimes falling off, leaving a ring-shaped thallus. Branches ecorticate, more or less cylindrical, up to 0.2(-0.3) mm thick and 3-5 mm tall, dichotomously branched. Hyphae arranged in a fountain-like pattern, with the photobiont in outer parts and a central hyphal strand of compact hyphae. Apothecia lecanorine, almost perithecioid, globose, 0.2-0.3 mm across. developing at the tips of branches, with a punctiform, pale brown disc and a thick thalline margin. Proper exciple poorly developed, of parallel hyphae; epithecium colourless to yellowish brown; hymenium colourless, I+ blue; paraphyses coherent, branched and anastomosing, the apical cells swollen; hypothecium colourless. Asci (4-)8-spored, narrowly cylindrical, pointed at apex, with an I+ blue coat and a thin, soon disintegrating wall, Lichina-type. Ascospores 1-celled, hyaline, ellipsoid, (12-)14-18(-21) x 10-15 µm. Pycnidia common, superficially similar to apothecia. Conidia 1-celled, bacilliform, 3-5 x c. 1 µm. Photobiont cyanobacterial, filamentous (Rivulariaceae, the cells 3-12 x 3-10 µm, arranged in tapering chains). Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a characteristic lichen found on rocks at the interface between the littoral and the mesic supralittoral belts; overlooked and perhaps more widespread, especially in Southern Italy, but certainly not common.



Lichina confinis

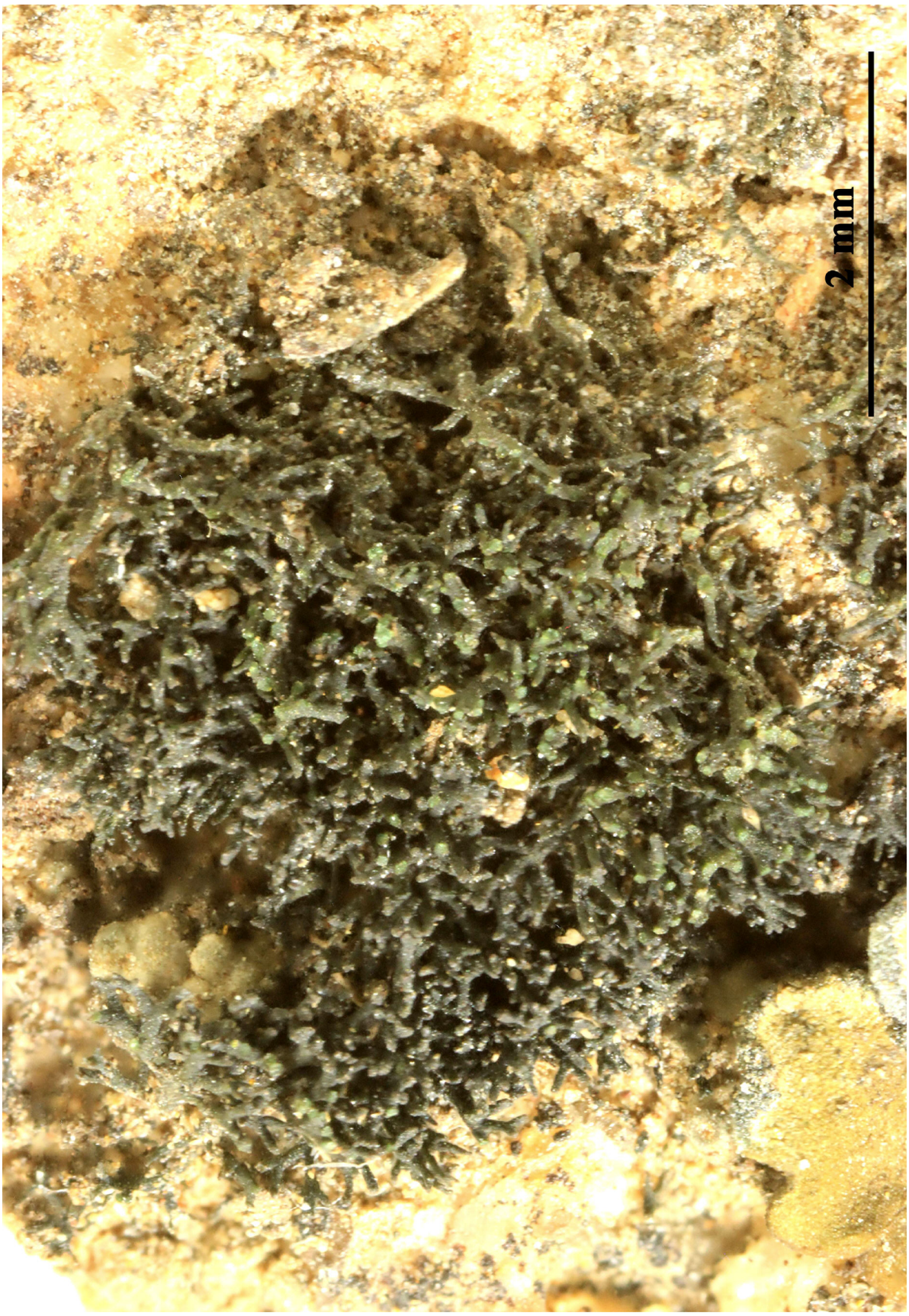


Lichina confinis

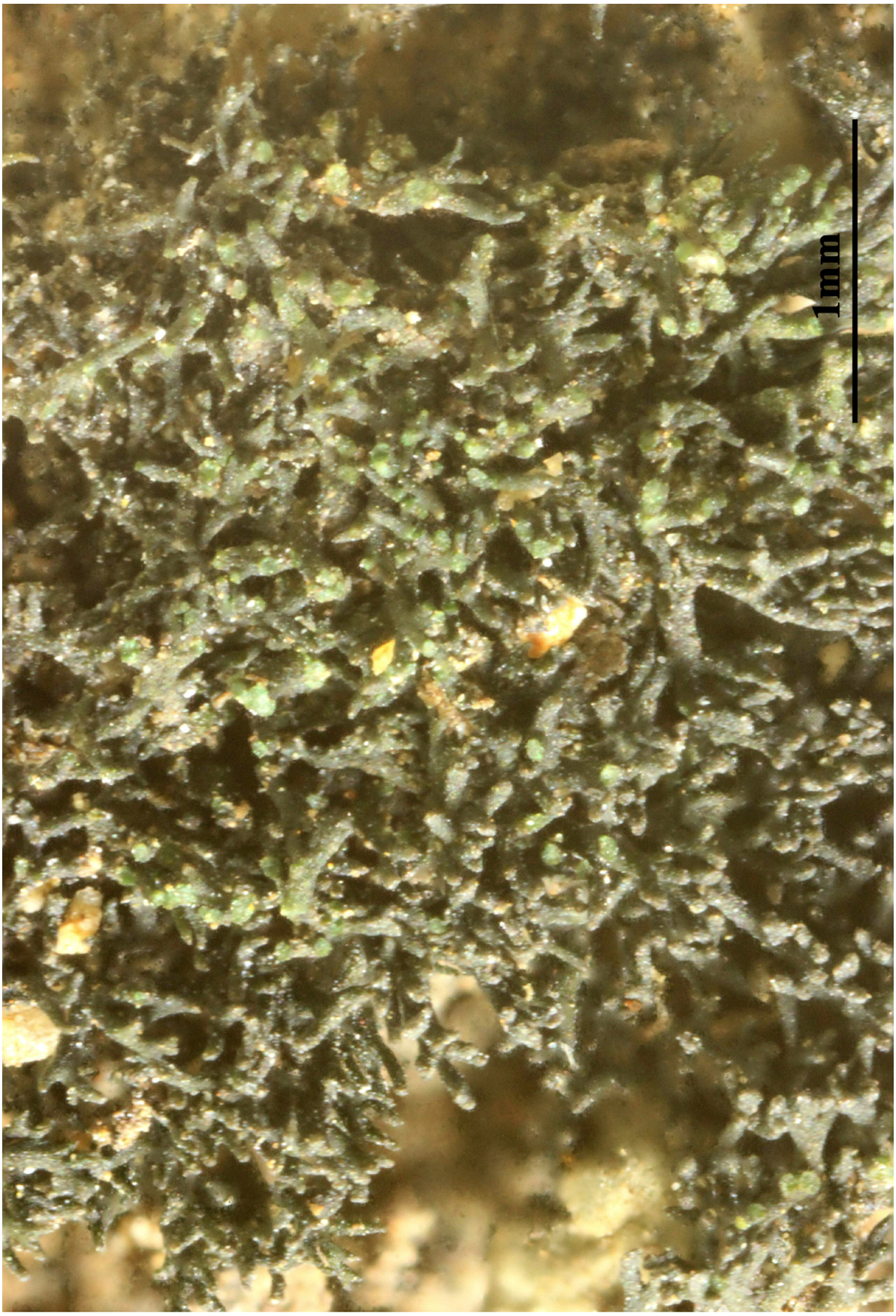
Lichinella robusta Henssen, Symb. bot. upsal. 18(no. 1): 73 (1963)

[VZ2394], Italia. Sardinia. Prov. Cagliari: Reservatum naturae "Monte Arcosu", supra domum forestalem "Casa Perdu Melis", loco "Concale Petuntu", 520 m. Ad saxa silicea aprica. Leg. P. L. Nimis, C. Roux, M. Tretiach et A. Vězda, 29.8.1989. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2394.

Thallus microfruticose, black, of cylindrical, usually pointed, dichotomously branched, 2-3(-5) mm long, 0.07-0.15(-0.2) mm thick branches attached by bundles of rhizohyphae, forming regular to irregular, up to 20 mm wide cushions which are dispersed to contiguous, but not giving the impression of a rimose-areolate crust. Central part of branches with a distinct, fountain-like, dense hyphal strand consisting 4-5 µm thick hyphae with cylindrical cells, the peripheral parts made up of hyphae with more or less isodiametrical cells, encircling the photobiont cells. Apothecia thallinocarps, hemiangiocarpous, the ascogonia arising freely beneath the thallus surface, terminal on tips of branches, 0.2-0.35 mm across, with a flat to convex or rarely concave, rough disc, and a thin to thick thalline margin. Thalline exciple c. 70 µm wide; proper exciple absent; epithecium discontinuous, 15-20 µm high, with clusters of cyanobacterial cells penetrating in a wedge-like form into the hymenium; hymenium colourless, 70-100 µm high, K/I+ blue, the upper part with groups of photobiont cells intruding between the asci, covered by a more or less continuous layer of sterile thalline tissue; paraphyses stout, 3-4 µm thick, capitate; subhymenium colourless, compact, up to 80(-100) µm high, K/I+ blue. Asci 24(-36)-spored, subcylindrical to obclavate, prototunicate, with a thin, one-layered, non-amyloid wall, an amyloid external apical cap, and passive spore discharge via apical rupturing, Lichina-type. Ascospores 1-celled, hyaline, globose or subglobose, 5-7 x 4-5 µm. Pycnidia rare, terminal. Conidia cylindrical, c. 4 x 1-1.5 µm. Photobiont cyanobacterial, chroococcoid, of a few cells measuring 5-10 x 6-9 µm, penetrated by haustoria and surrounded by a brownish gelatinous sheath. Spot tests: all negative. Chemistry: without lichen substances. - Note: on steeply inclined surfaces of base-rich siliceous rocks with periodical water seepage after rain; sometimes confused with *L. stipatula*, but certainly very rare in Italy.



Lichinella robusta



Lichinella robusta

Linhartia patellarioides (Rehm) Vězda, Acta Mus. Silesiae, Ser. A 22: 77 (1973)
= *Calloria patellarioides* Rehm 1900
= *Psorotheciopsis patellarioides* (Rehm) R. Sant., Symb. bot. upsal. 12(no. 1): 336 (1952)

[1158], Republica Guinea (Africa occident.). Distr. Macenta, in silvis secundariis prope urbem Macenta, 600-700 m. Ad folia arborum variarum. Leg. S. Lisowski, 3.1962. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1158.

Thallus dispersed into rounded patches 0.2–0.6mm diam., whole thallus 5–15 mm across and 10–15 µm thick, corticate, smooth, light silvery grey, and each patch bordered by thin, black line; cortex composed of rectangular cells, 4–8 x 3–4 µm, in radiating rows when seen from above, colorless but marginal cells dark brown. Apothecia sessile, lecideine, rounded, 0.15–0.35 mm diam. and 130–160 µm high; disc plane to slightly concave, yellowish grey, slightly translucent (especially when wet); margin thin, slightly prominent, minutely verruculose-dentate, black. Excipulum in most parts composed of parallel hyphae embedded in gelatinous matrix, 20–30 µm broad, hyphal parts colorless, but upper and basal parts black. Hypothecium 15–25 µm high, colorless. Epithecium indistinct. Hymenium 40–50 µm high, colorless. Asci narrowly clavate to cylindrical, 35–45 x 5–9 µm. Ascospores 8 per ascus, oblong-ellipsoid, 1-septate, with slight constriction at septum, 8–12 x 2.5–3.5 µm, 3–4 times as long as broad, colorless. Pycnidia not observed. Chemistry: no substances detected by TLC. - Distribution and Ecology. Pantropical; two welldeveloped collections were also found in tropical Africa (Guinea. Macenta: Macenta, 600–700m, Mar 1962, Lisowski s.n. in Vézda, Lich. Sel. Exs. 1158). A frequent but easly overlooked member of foliicolous lichen communities in the rain forest canopy and at exposed microsites.



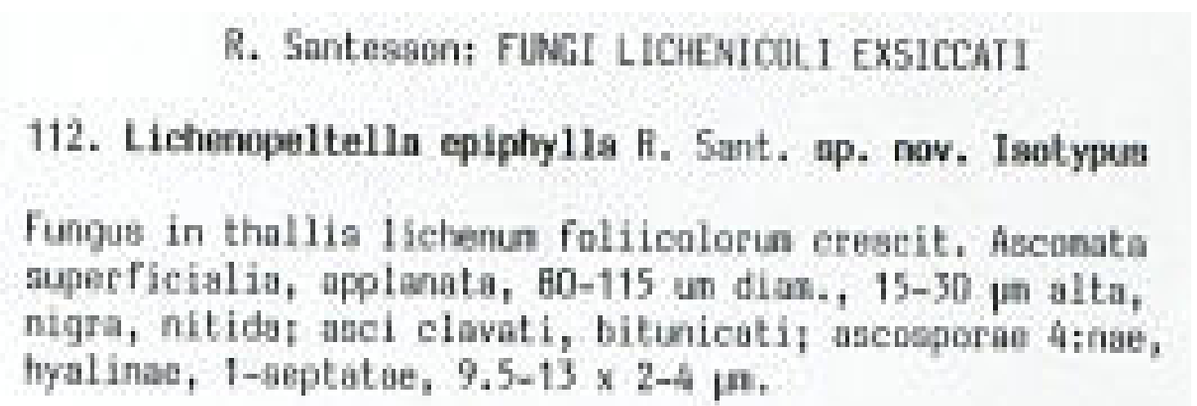
Linhartia patellarioides



Linhartia patellarioides

Lichenopeltella epiphylla R. Sant., Thunbergia 6: 5 (1988)

[VZ2350], Brasilia, São Paulo. Serra do Mur: Serra do Garraozinha, inter MajiE das Cruzes et Bertioga, 850 m. In silva virginea humida umbrosa. In thallo *Porinae epiphyllae* parasitans. Leg. K. Kalb et G. Plöbst, 26.10.1978, det, A. Vězda. EX A. VEZDA LICHENES SELECTI EXSICCATI NR. 2350.



R. Santesson: FUNGI LICHENICOLI EXSICCATI

112. **Lichenopeltella epiphylla** R. Sant. **sp. nov. Isotypus**

Fungus in thallis lichenum foliicolorum crescit. Ascomata superficialia, applanata, 80-115 um diam., 15-30 µm alta, nigra, nitida; asci clavati, bitunicati; ascosporae 4:nae, hyalinae, 1-septatae, 9.5-13 x 2-4 µm.



Lichenopeltella epiphylla



Lichenopeltella epiphylla

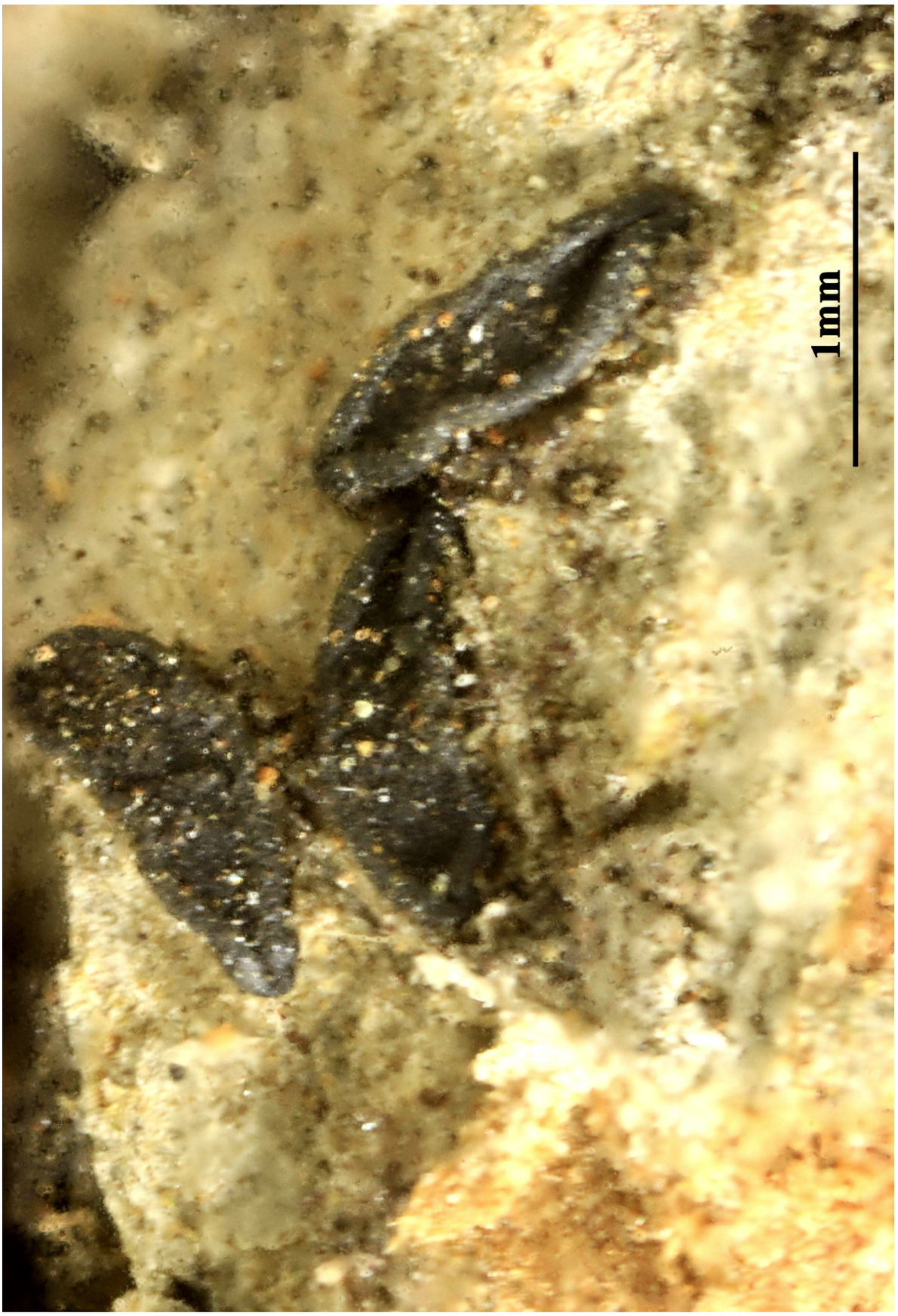
Lithographa dendrographa Nyl., Flora, Regensburg 47: 488 (1864)
= *Wadeana dendrographa* (Nyl.) Coppins & P. James, Lichenologist 10(2): 203 (1978)

[VZ1079], Gallia. Pyrenaei montes occidentales. Inter Orthez et Sauveterre-de- Béarn, prope Oriule, 100 m. Ad corticem *Quercus pedunculae*, in margine silvae. Leg. J. Vivant, 2.1972. Ex A. VěZDA Lichenes Selecti Exsiccati Nr. 1079.

Thallus crustose, endosubstratic, usually poorly evident, without a distinct prothallus. Apothecia lirelliform, elongate with attenuate to more rarely rounded ends, 0.5-2.5 x 0.3-0.5 mm, simple or rarely irregularly branched, with a black, exposed disc and a prominent, glossy black, swollen and persistent margin. Proper exciple not extending below the hypothecium, black-brown, 60-85(-100) µm wide, of compacted gelatinized hyphae with red-brown walls; epithecium brown, poorly differentiated from the hymenium; hymenium reddish brown, 100-120 µm high; paraphyses branched, often anastomosing, in a well-defined gelatinous matrix, the apical cells swollen and red-brown; periphysoids branched and rarely anastomosing, slender, somehow moniliform, developing on the inside margin of the exciple; hypothecium pale to red-brown. Asci 100-200-spored, clavate-ellipsoid, evenly thin-walled, slightly thickened at apex, with a K/I+ deep blue cap. Ascospores 1-celled, hyaline, ellipsoid, 5-8 x 3-4.2 µm. Photobiont trentepohlioid. Spot tests: K-, C-, KC-, P-, UV+ faintly orange-yellow. Chemistry: thallus with an unidentified xanthone. - Note: a humid subtropical to Mediterranean-Atlantic lichen, reaching as far north as the British Isles, found on rough, base-rich bark of mature broad-leaved trees (e.g. *Fraxinus, Quercus, Ulmus*) in semi-natural habitats.



Lithographa dendrographa



Lithographa dendrographa

Lithographa dendrographa Nyl., Flora, Regensburg 47: 488 (1864)
= *Wadeana dendrographa* (Nyl.) Coppins & P. James, Lichenologist 10(2): 203 (1978)

[VZ978],Magna Britannia, Anglia: Devon, Kingsbridge, Slapton, Slapton lay. Ad corticem *Fraxini excelsioris*. Leg. P. W. James et D. L. Hawkswort, 6.12.1970. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 978.

Thallus crustose, endosubstratic, usually poorly evident, without a distinct prothallus. Apothecia lirelliform, elongate with attenuate to more rarely rounded ends, 0.5-2.5 x 0.3-0.5 mm, simple or rarely irregularly branched, with a black, exposed disc and a prominent, glossy black, swollen and persistent margin. Proper exciple not extending below the hypothecium, black-brown, 60-85(-100) µm wide, of compacted gelatinized hyphae with red-brown walls; epithecium brown, poorly differentiated from the hymenium; hymenium reddish brown, 100-120 µm high; paraphyses branched, often anastomosing, in a well-defined gelatinous matrix, the apical cells swollen and red-brown; periphysoids branched and rarely anastomosing, slender, somehow moniliform, developing on the inside margin of the exciple; hypothecium pale to red-brown. Asci 100-200-spored, clavate-ellipsoid, evenly thin-walled, slightly thickened at apex, with a K/I+ deep blue cap. Ascospores 1-celled, hyaline, ellipsoid, 5-8 x 3-4.2 µm. Photobiont trentepohlioid. Spot tests: K-, C-, KC-, P-, UV+ faintly orange-yellow. Chemistry: thallus with an unidentified xanthone. - Note: a humid subtropical to Mediterranean-Atlantic lichen, reaching as far north as the British Isles, found on rough, base-rich bark of mature broad-leaved trees (e.g. *Fraxinus, Quercus, Ulmus*) in semi-natural habitats.



Lithographa dendrographa

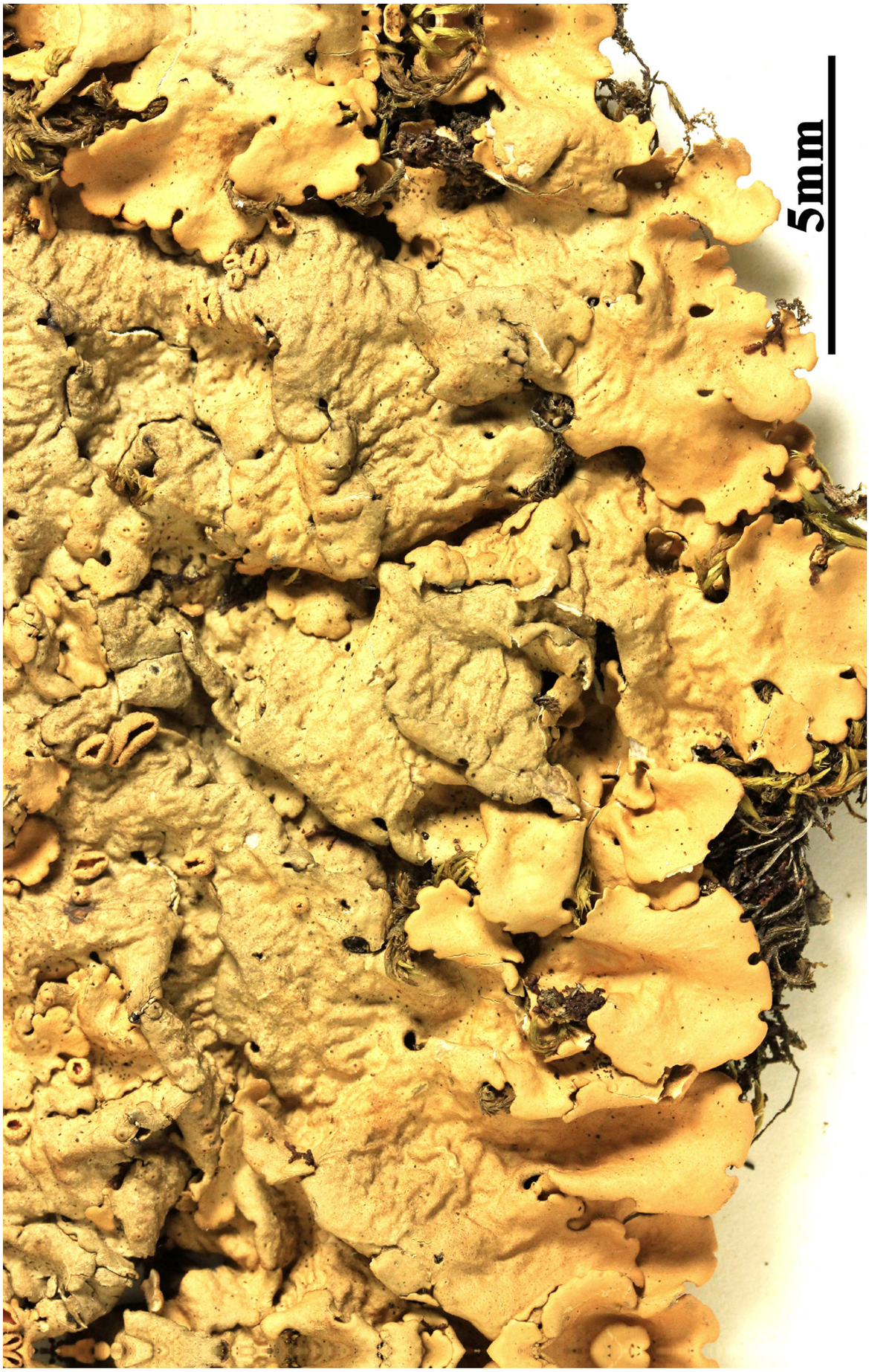


Lithographa dendrographa

Lobaria amplissima (Scop.) Forssell, Bih. K. svenska VetenskAkad. Handl., Afd. 3 8(no. 3): 26, 111 (1883)
= *Lichen amplissimus* Scop. 1772
= *Ricasolia amplissima* (Scop.) De Not., G. bot. ital. 2(1.1): 179 (1846)

[VZ1587], URSS. Transcaucasus, Colchis. Distr. Sochi, Macesta, loco Orlinye skaly dicto, 250 m. Ad corticem *Quercus sp*. Leg. A. Vězda, 7.6.1978. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1587.

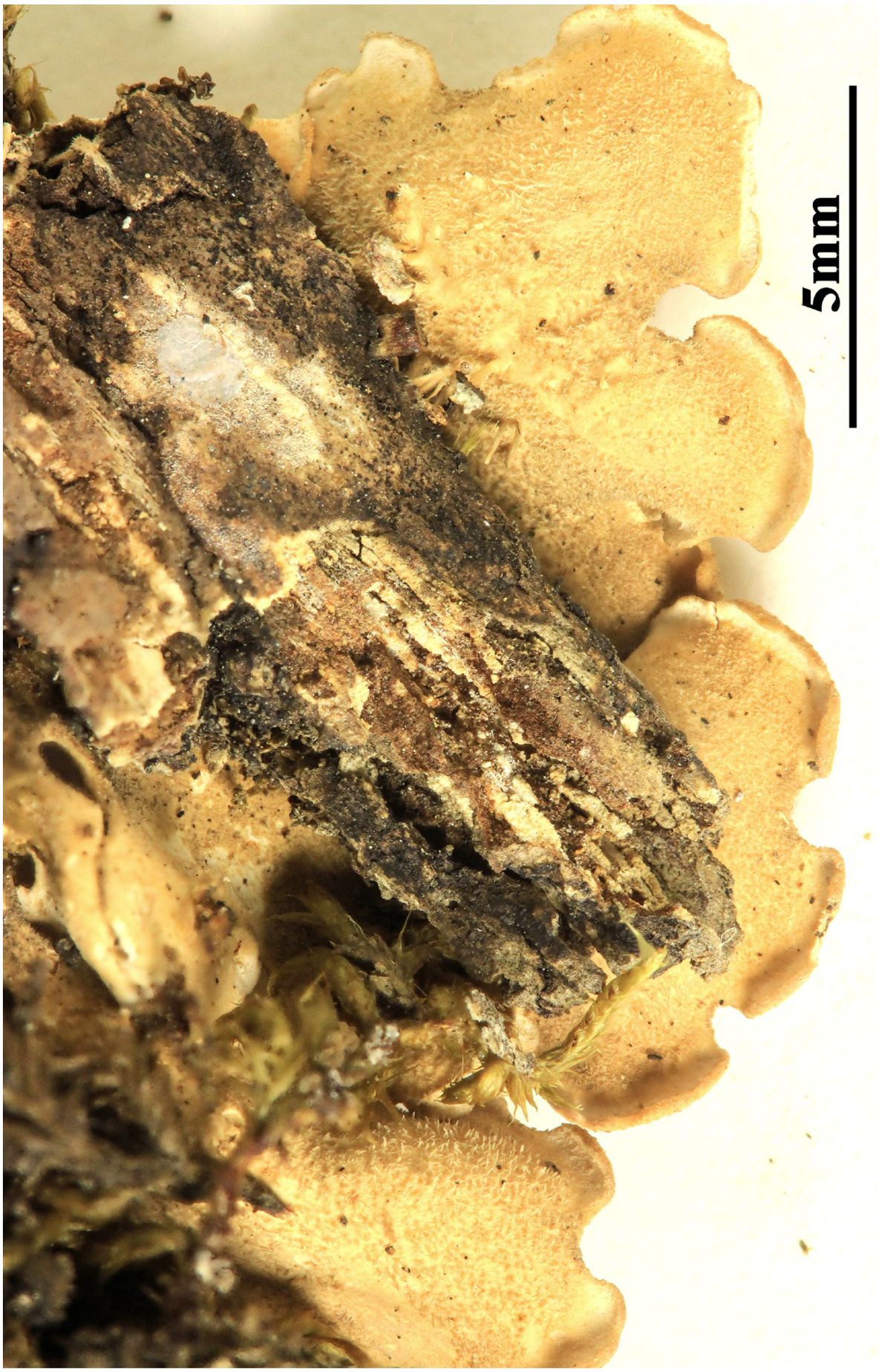
Thallus foliose, heteromerous, dorsiventral, broad-lobed, more or less coriaceous, 0.5-0.7 mm thick, usually forming large, up to 35 cm wide, regular rosettes. Lobes 7-20(-30) mm wide, rounded at apex, sinuate at margins, contiguous to slightly overlapping, ivory white to grey-white when dry (turning yellow-brown in the herbarium), green-grey when wet, matt, smooth to warted (pycnidia). Cephalodia globose and partly internal on the lower side, or shrub-like and densely branched on the upper side, the external blue-green-brown or brownish black, up to 2 cm wide. Lower surface white at margins, pale brown over most of the surface, sometimes black in central parts, tomentose, the hairs whitish or brownish 0.15-0.2 mm long, usually with a few, up to 2(-4) mm long, fasciculate, at the base squarrosely branched rhizines. Upper and lower cortex paraplectenchymatous; medulla white. Apothecia rather rare, lecanorine, laminal, sessile and constricted at base, up to 1 cm across, with a concave to flat, glossy brown disc and a smooth, persistent thalline margin. Epithecium brownish; hymenium and hypothecium colourless; paraphyses mostly simple. Asci 8-spored, cylindrical, fissitunicate, the apex of the endoascus with a K/I+ blue ring-shaped structure, Peltigera-type. Ascospores 1-3-septate, hyaline, needle-like, at first hyaline then turning pale yellowish brown, straight to sigmoid, 40-65 x 5-7 µm. Pycnidia laminal, fully immersed into 0.7-1.2 mm wide, conical thalline warts, 0.1-0.2 mm across, the wall 2-layered in upper part, the inner part greyish K+ aeruginose green, the outer part brownish, K-, the ostiole opening as an elongated crack. Conidia bacilliform to rectangular, sometimes swollen at both ends, 3-7 x 1-1.5 µm. Photobiont chlorococcoid in the main thallus, cyanobacterial (Nostoc) in the cephalodia. Spot tests: upper cortex K- or K+ yellow, C-, KC-, P-; medulla K+ pale yellow, C-, KC- or KC+ deep pink, P-. Chemistry: cortex with variable amounts of atranorin (usually in traces); medulla with m-scrobiculin (major) and p-scrobiculin, sometimes substituted by pseudocyphellarin. - Note: a mild-temperate species found on old, isolated deciduous trees in humid areas with high rainfall.



Lobaria amplissima



Lobaria amplissima

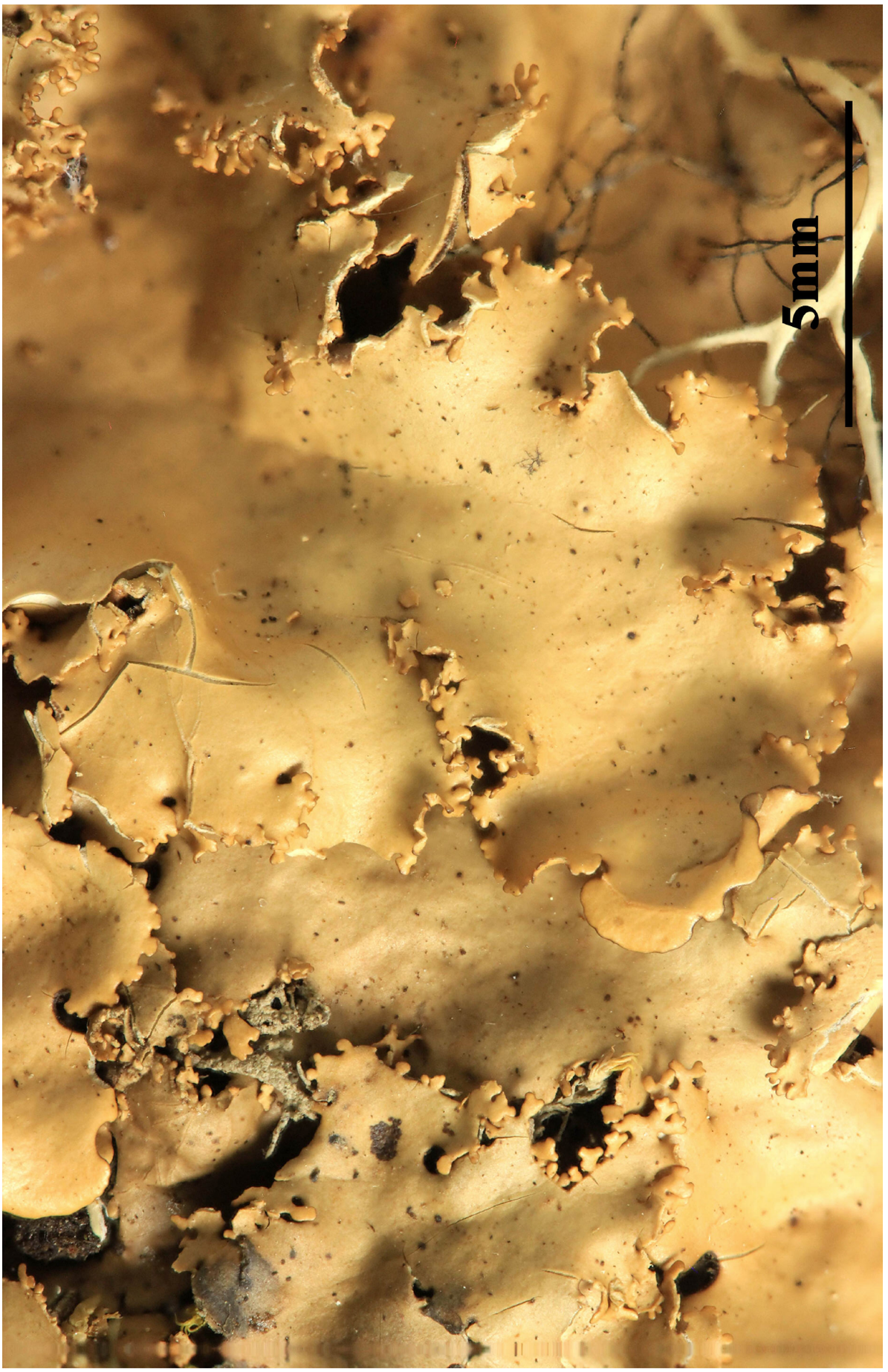


Lobaria amplissima

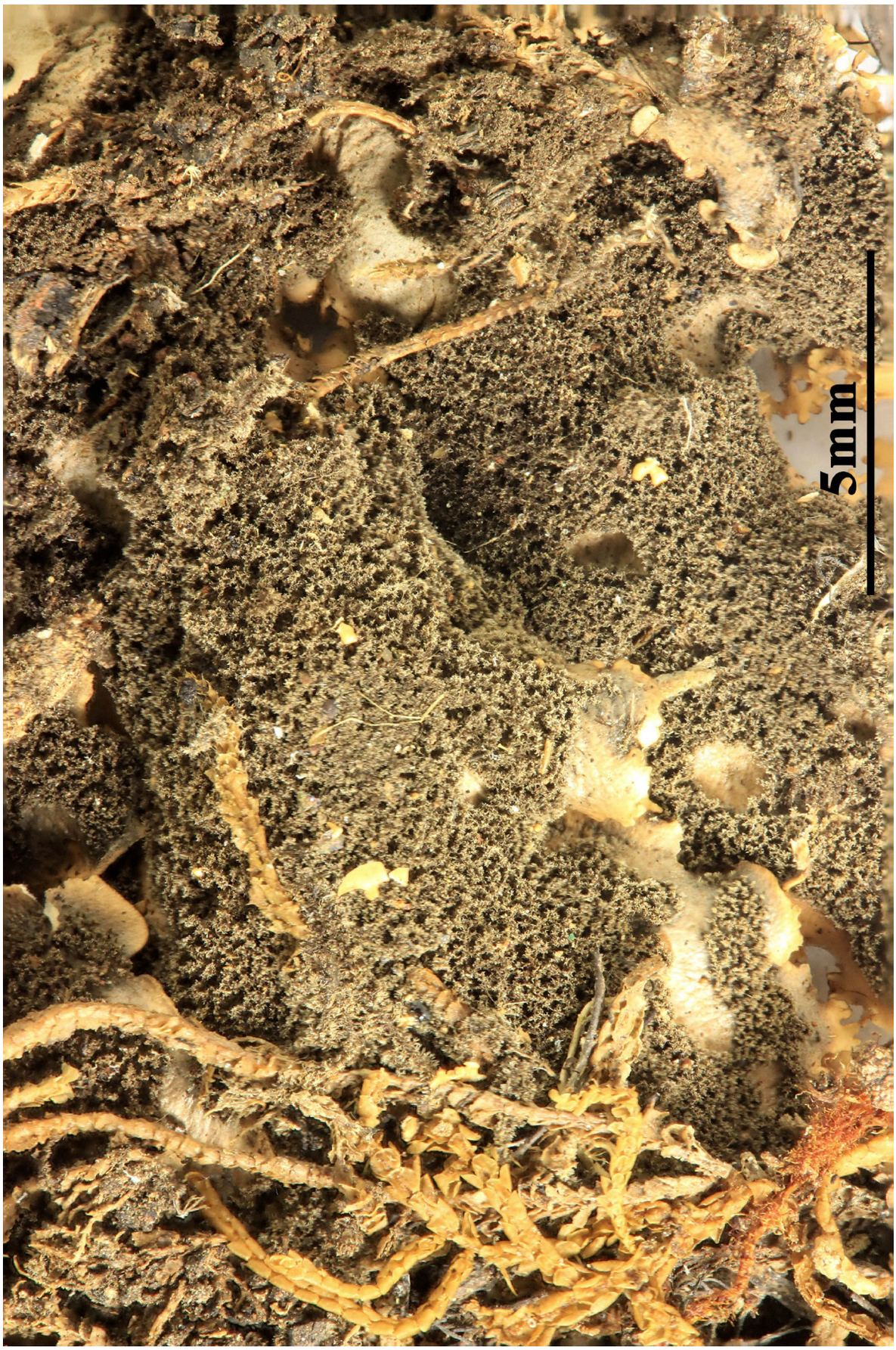
Lobaria carassensis Vain., Acta Soc. Fauna Flora fenn. 7(no. 1): 200 (1890)
= *Yoshimuriella carassensis* (Vain.) B. Moncada & Lücking, in Moncada, Lücking & Betancourt-Macuase, Lichenologist 45(2): 224 (2013)

[VZ1706], Brasilia. Prov. São Paulo. Serra da Mantiqueira, Campos do Jordao, prope devesorium Toriba, 1750 m. Ad corticem Araucariae brasiliensis. Leg. H. Schindler (no. 9141), 12.10.1979, det A. Vězda. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1706.

Thallus sat irregulariter aut fere diehotome sat erebre iteratimque laeiniatus lobatusque, laeiniis c. 9-5 mm. latis, ambitu irregulariter crenatis, margine isidioideo-laeinulatis, axillissat angustis, adpressus, K superne haud reagens at intus sordide rubeseens, sat laevigatus, glaueescens aut olivaeeo-variegatus, sat opaeus, glaber, subtus subretieulatim late erebreque fuseonigrieanti-rhizinosus, partibus nudis pallidis.Ad eorticem arboris.



Lobaria carassensis



Lobaria carassensis

Lobaria laetevirens (Lightf.) Zahlbr., in Engler & Prantl, Nat. Pflanzenfam., Teil. I (Leipzig) 1(1*): 188 (1906)

= *Lichen laetevirens* Lightf. 1777

= *Ricasolia virens* (With.) H.H. Blom & Tønsberg, in Tonsberg, Blom, Goffinet, Holtan-Hartwig & Lindblom, Opuscula Philolichenum 15: 15 (2016)

[VZ1571], URSS. Transcaucasus, Colchis. Distr. Sochi, in valle angusta "Orechovye vodopady", 300 m. Ad corticem *Carpini caucasicae*. Leg. V. Vašák et A. Vězda, 11.6.1978. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1571.

Thallus foliose, heteromerous, dorsiventral, broad-lobed, more or less closely adpressed, forming up to 10 cm wide rosettes, up to 0.4 mm thick, the lobes becoming imbricate in central parts, otherwise contiguous, smooth, (3-)5-15(-20) mm wide, with rounded apices and indented, sometimes lobulate margins. Upper surface dull grey-green to grey-brown when dry, bright green when wet, smooth and shiny, more rarely becoming wrinkled in central parts, very rarely (known only from Norway) with dendriscocauloid external cephalodia; lower surface almost white, with patches of a fine, brown tomentum. Upper and lower cortex paraplectenchymatous; medulla white, with globose internal cephalodia visible on the underside of the thallus as brownish, convex swellings of the lower cortex. Apothecia usually abundant, lecanorine, to 10 mm across, with a pale pink-brown to orange-red disc and an inflexed, often warted thalline margin. Epithecium brownish; hymenium colourless; paraphyses mostly simple; hypothecium colourless, subtended by a more or less continuous algal layer. Asci 8-spored, cylindrical, fissitunicate, the apex of the endoascus with a K/I+ blue ring-shaped structure, Peltigera-type. Ascospores 1(-3)-septate, at first hyaline then pale brown, fusiform, straight or slightly curved, (25-)30-47 x (6-)8-11 µm. Pycnidia frequent, with a brown ostiole. Conidia dumbell-shaped, widened at both ends, 4-5 x c. 1.5 µm. Photobiont chlorococcoid in thallus, cyanobacterial (Nostoc) in the cephalodia. Spot tests: upper cortex K-, C-, KC-, P-; medulla K- or K+ pale yellow, C-, KC- or KC+ faintly pink, P-. Chemistry: without lichen substances, or medulla with low amounts of scrobiculin. - Note: a mild-temperate to humid subtropical species found on old deciduous trees, more rarely on mossy rocks in old, natural, warm-humid forests.



Lobaria laetevirens



Lobaria laetevirens

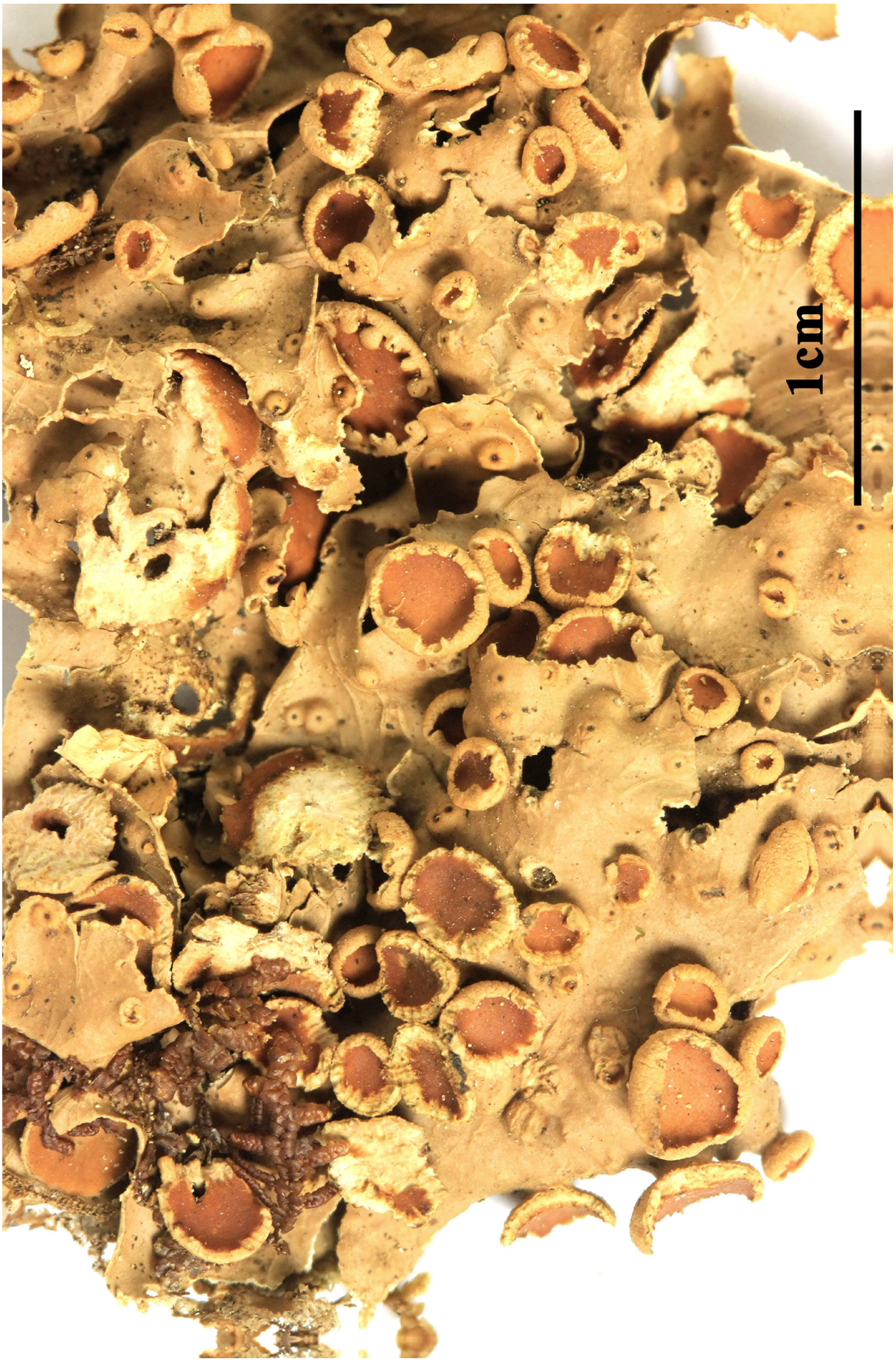
Lobaria laetevirens (Lightf.) Zahlbr., in Engler & Prantl, Nat. Pflanzenfam., Teil. I (Leipzig) 1(1*): 188 (1906)

= *Lichen laetevirens* Lightf. 1777

= *Ricasolia virens* (With.) H.H. Blom & Tønsberg, in Tonsberg, Blom, Goffinet, Holtan-Hartwig & Lindblom, Opuscula Philolichenum 15: 15 (2016)

[VZ2464], Italia, Calabria,Catanzaro, Serra San Bruno: Bosco di Santa Maria, 890 m. Ad corticem *Abietis albae*. Leg. D. Puntillo, 26.8.1990. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2464.

Thallus foliose, heteromerous, dorsiventral, broad-lobed, more or less closely adpressed, forming up to 10 cm wide rosettes, up to 0.4 mm thick, the lobes becoming imbricate in central parts, otherwise contiguous, smooth, (3-)5-15(-20) mm wide, with rounded apices and indented, sometimes lobulate margins. Upper surface dull grey-green to grey-brown when dry, bright green when wet, smooth and shiny, more rarely becoming wrinkled in central parts, very rarely (known only from Norway) with dendriscocauloid external cephalodia; lower surface almost white, with patches of a fine, brown tomentum. Upper and lower cortex paraplectenchymatous; medulla white, with globose internal cephalodia visible on the underside of the thallus as brownish, convex swellings of the lower cortex. Apothecia usually abundant, lecanorine, to 10 mm across, with a pale pink-brown to orange-red disc and an inflexed, often warted thalline margin. Epithecium brownish; hymenium colourless; paraphyses mostly simple; hypothecium colourless, subtended by a more or less continuous algal layer. Asci 8-spored, cylindrical, fissitunicate, the apex of the endoascus with a K/I+ blue ring-shaped structure, Peltigera-type. Ascospores 1(-3)-septate, at first hyaline then pale brown, fusiform, straight or slightly curved, (25-)30-47 x (6-)8-11 µm. Pycnidia frequent, with a brown ostiole. Conidia dumbell-shaped, widened at both ends, 4-5 x c. 1.5 µm. Photobiont chlorococcoid in thallus, cyanobacterial (Nostoc) in the cephalodia. Spot tests: upper cortex K-, C-, KC-, P-; medulla K- or K+ pale yellow, C-, KC- or KC+ faintly pink, P-. Chemistry: without lichen substances, or medulla with low amounts of scrobiculin. - Note: a mild-temperate to humid subtropical species found on old deciduous trees, more rarely on mossy rocks in old, natural, warm-humid forests.



Lobaria laetevirens



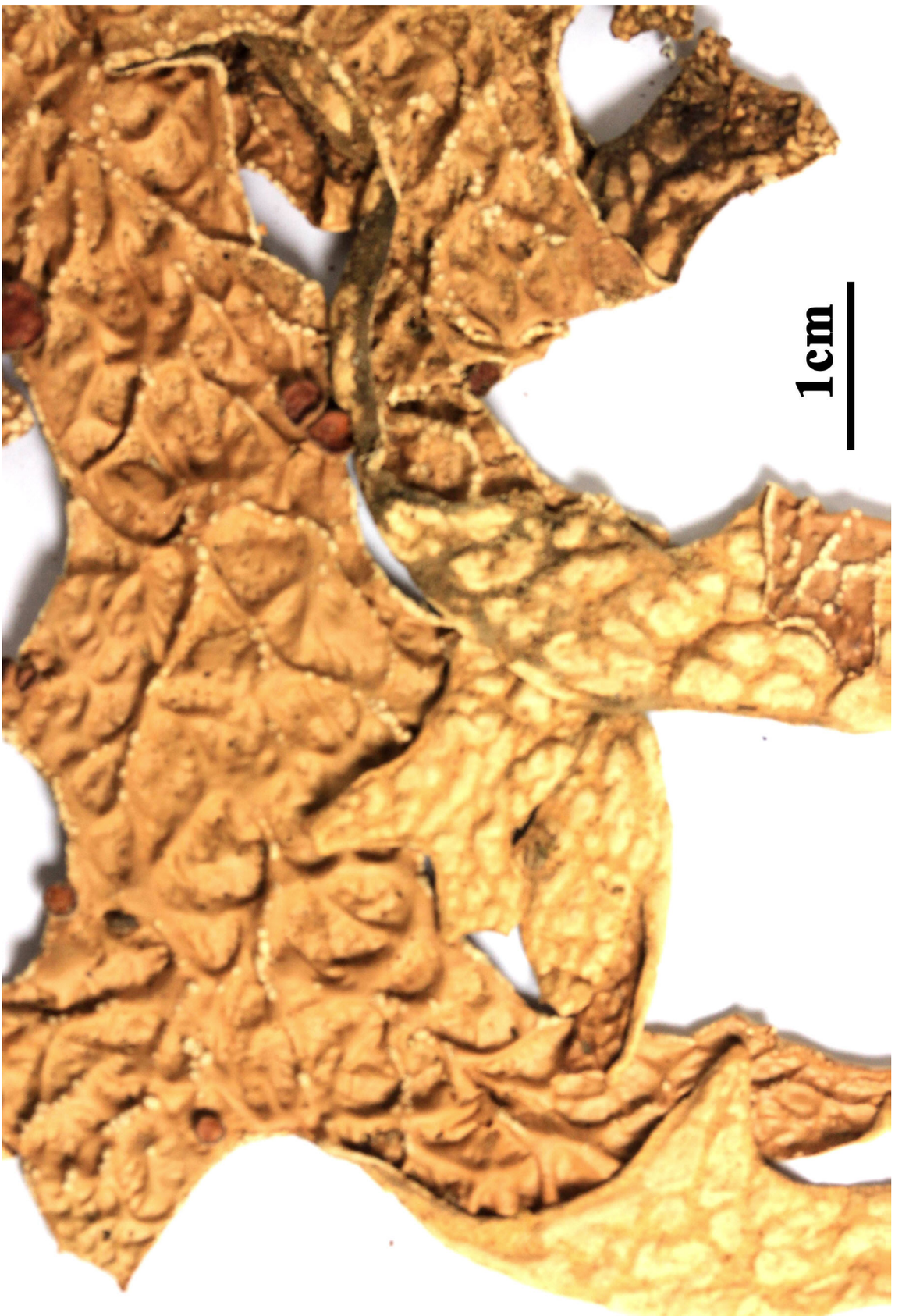
Lobaria laetevirens

Lobaria pulmonaria (L.) Hoffm., Deutschl. Fl., Zweiter Theil (Erlangen): 146 (1796) [1795]
= *Lichen pulmonarius* L. 1753

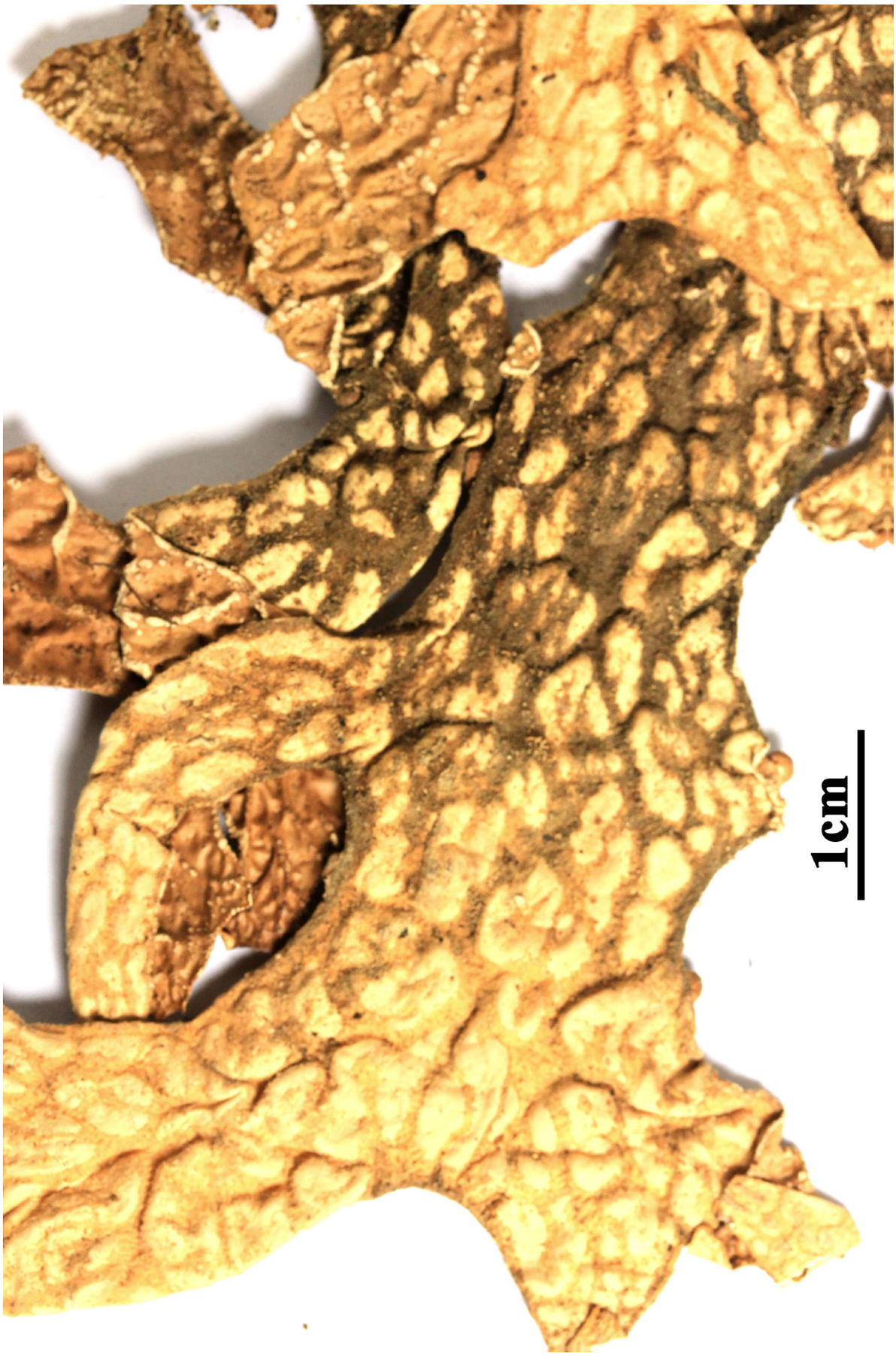
[VZ1428], Tanzania. Kilimanjaro: supra casam alpinam Mandara dictam, prope limitem silvae, 2800 m. Ad truncum *Ericae arboreae*. Leg. T. Pócs (no. 8943), 8.7.1976, det. A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1426.

Thallus foliose, heteromerous, dorsiventral, broad-lobed, potentially >40 cm across, up to 0.5 mm thick, loosely attached at one end, sorediate and/or isidiate. Lobes broadly strap-shaped, 1-3(-5) cm wide, more or less dichotomously divided, at first adpressed, then mostly free from substrate in apical parts, the apices truncate, sinuate-indented; upper surface grey-green to yellowish brown, brighter green when wet, dull or slightly glossy, strongly reticulately ridged, with marked depressions. Isidia or granular soredia often present along margins and on ridges, the isidia cylindrical to club-shaped, more rarely flattened, often branched, to 0.4(-2) mm long when terete, the soralia developing where the isidia were shed, discrete to patchily confluent, punctiform to linear, with mostly coarse, globose, 20-70 µm wide soredia, often gathered into up to 80 µm wide consoredia. Lower surface white to pale brown at margins and on the swellings corresponding to the depressions on upper surface, otherwise pale to dark brown, tomentose, except on the swellings, mostly erhizinate or with sparse, at first squarrose, then simple rhizines. Upper and lower cortex pseudoparenchymatous; medulla white, often with internal cephalodia which are sometimes visible as rounded thickenings on the lower and/or upper side. Apothecia rare, laminal, most frequent on the ridges, 2-5(-7) mm across, with a brown-red disc and a thin, sometimes finally excluded, initially minutely hairy thalline margin. Epithecium reddish brown; hymenium colourless or pale brown in lower part; paraphyses mostly simple, not capitate; hypothecium brownish. Asci 8-spored, clavate, fissitunicate, the thickened apex with a K/I+ blue ring, Peltigera-type. Ascospores (1-)3(-5)-septate, fusiform to narrowly ellipsoid, hyaline to pale brown at maturity, (16-)18-30(-37) x 5-9 µm. Pycnidia immersed on the ridges. Conidia bacilliform, c. 5 x 1 µm. Photobiont chlorococcoid (Dictyochloropsis; cyanobacteria present in the internal cephalodia. Spot tests: upper cortex K-, C-, KC-, P-; medulla K+ yellow-orange (often faintly), C-, KC- or KC+ yellow-orange, P+ faintly orange-red. Chemistry: stictic and constictic acids (major), norstictic, cryptostictic,

and salazinic acids (minor). -Note: a mainly temperate, holarctic species found on bark and on epiphytic and epilithic mosses in humid forests.



Lobaria pulmonaria



Lobaria pulmonaria



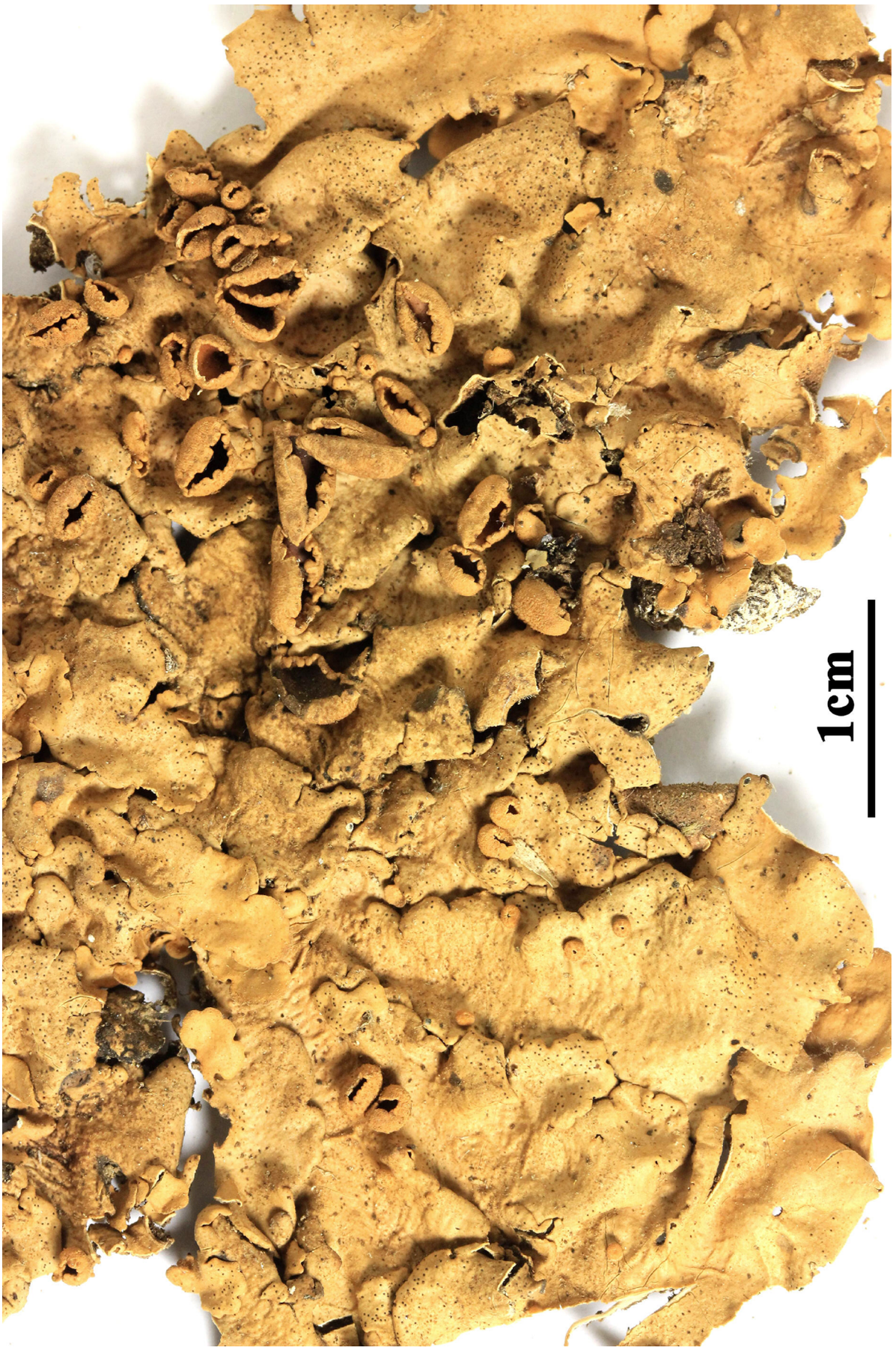
Lobaria pulmonaria

Lobaria quercizans Michx., Fl. Boreali-Americ. (Paris) 2: 324 (1803)
= *Ricasolia quercizans* (Michx.) Stizenb., Flora, Regensburg 81: 111 (1895)

[VZ1707], Brasilia. Prov. São Paulo, Serra da Mantiqueira: Campos do Jordao, prope deversorium Torriba, 1750 m. Ad corticem arborum. Leg. H. Schindler (no. 9208), 14.10.1979. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1707.

Thallus medium-sized to large, up to 15 cm wide, irregularly lobate; dorsal surface of thalli smooth, dull buff-ochraceous or pale brown; ventral surface of thalli pale' brown to yellow-ochre, often brownish with thick tomenta and rhizines; dorsal cortex 40-60 µm thick, pale, paraplectenchymatous; algal layer ca. 45 µm thick, algae grass-green; medulla variable in thickness (up to 200 fl thick); ventral cortex paraplectenchymatous, ca. 25 µm thick, pale, composed of ca. 4 layers of round cells, tomenta pale brown, often brown, mostly short, often elongate and much branched, composed of several roundish cells, up to 150 µm long, rhizines simple, with tomenta at base, up to 2-3 mm long. Inner cephalodia immersed in thalli near the ventral surface of thallus, containing Nostoc. Apothecia on lamina, sessile, constricted at base, up to 3 mm in diameter, margin. more or less incurved, not expanded horizontally with age; disc reddish brown; cortex of thalloid exciple developed; parathecium developed, united with edge of thalloid xciple (apothecium type I); epithecium ca. 20 µm thick; subhymenium ca. 50 µm thick; bypothecium ca. 25 µm thick; hymenium ca. 120 µm thick. Spores 3-septate and acicular, or linear at maturity, 50-70 x 5-6 µm. Pycnidia immersed in thalli, more or less prominent; ostioles reddish brown. Conidia rod-shaped, ca. 3 x 1 µm. Reaction: Thallus K+yellow; medulla KC+rose, but in some Asiatic specimens often KC- due to low concentration of gyrophoric acid. - - On bark of trees mainly in deciduous forests. Range. Eastern Asia and eastern North America.

The diagnostic characteristics for this species are: acicular or linear spores at maturity, the long and branched tomenta, and the presence of gyrophoric acid. Although this species resembles *L. amplissima*, Asahina (1959) noted that the Asiatic 'population is identical with North American *L. quercizans*, and should be separated from European *L. amplissima*, because L. amplissima lacks gyrophoric acid, but contains scrobiculin. The Asiatic population contains gyrophoric.



Lobaria quercizans



Lobaria quercizans

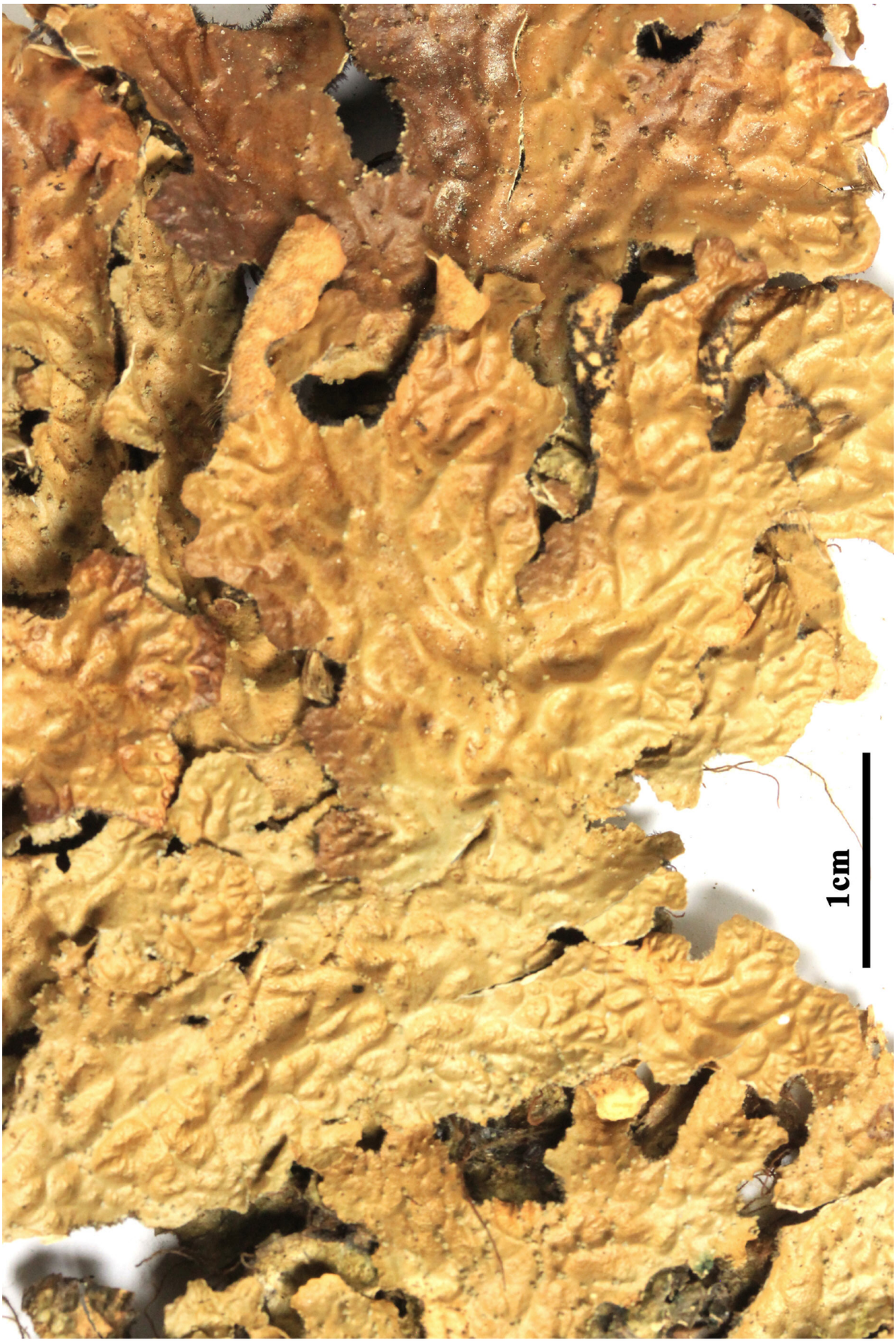


Lobaria quercizans

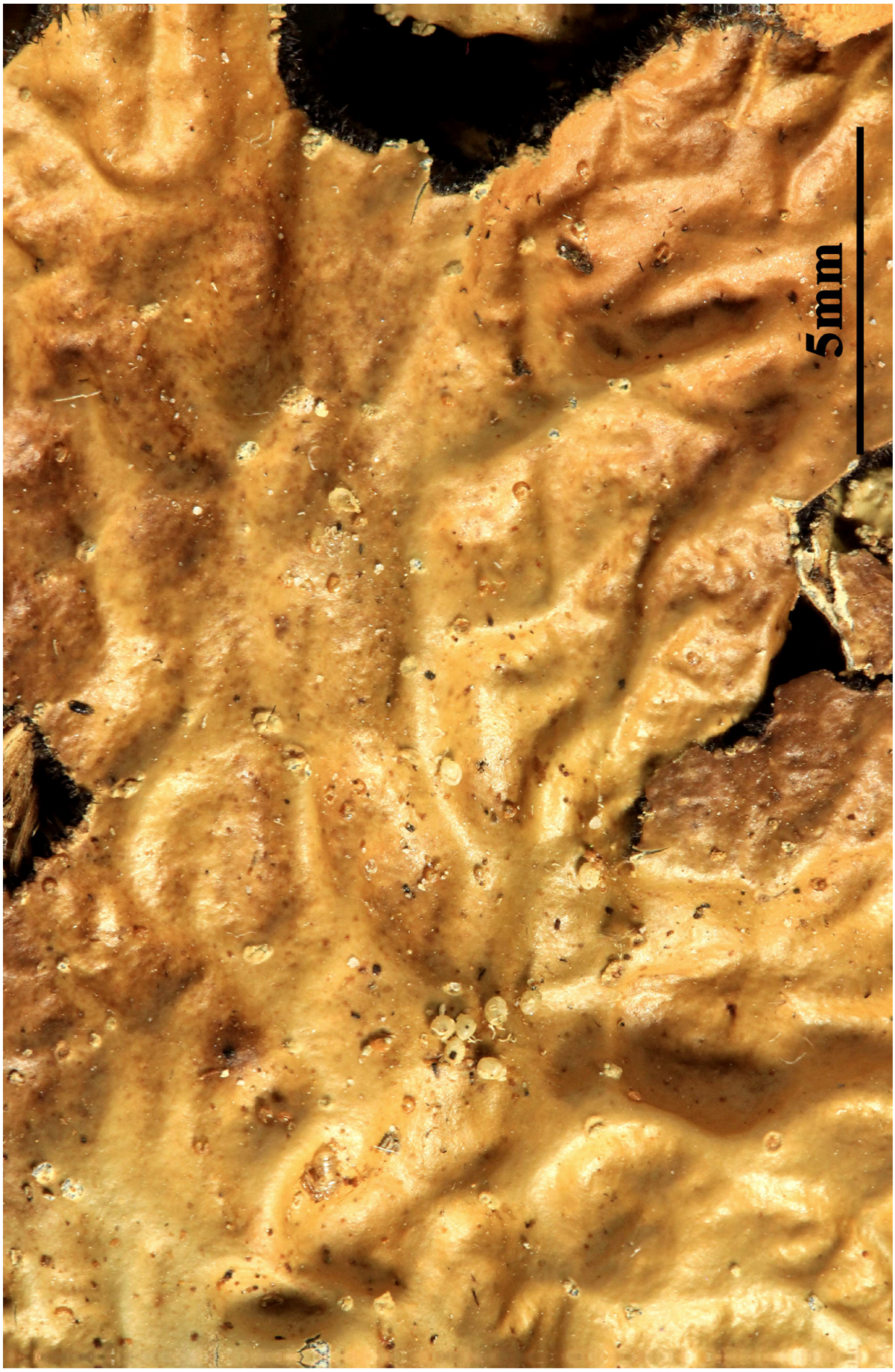
Lobaria retigera (Bory) Trevis., Lichenoth. Veneta 1-2: no. 75 (1869)
= *Lichen filix * retigera* (Bory) Lam., Encycl. Méth., Bot. Suppl. (Paris) 3(2): 421 (1813)
= *Lichen retiger* Bory, Voy. îles Afrique 3: 101 (1804)
= *Lobaria isidiosa* var. *subisidiosa* Asahina, J. Jap. Bot. 21(5-6): 84 (1947)
= *Lobaria retigera* var. *subisidiosa* (Asahina) Yoshim., Miscell. bryol. lichenol., Nichinan 6(8): 135 (1974)
= *Lobaria yakushimensis* Asahina, J. Jap. Bot. 21(5-6): 84 (1947)
= *Phycodiscis retigera* (Bory) Clem., Gen. fung. (Minneapolis): 83 (1909)
= *Sticta retigera* (Bory) Ach., Lich. Univ.: 455 (1810)
= *Stictina retigera* (Bory) Müll. Arg., Flora, Regensburg 61(31): 484 (1878)

[VZ1774], Rwanda. Silva Rugege, kim 105 ad viam Botare - Cyangugu. 1950 m. Ad saxa schistosa muscosa in silva montana. Leg. J. Lambinon (no. 74/826), 15.8.1974, det E. Sérusiaux. Ex A. VěZDA Lichenes Selecti Exsiccati Nr. 1774.

Thallus adnate centrally, ±free at the margins, 8–12 cm wide. Lobes sublinear, irregularly to dichotomously branched, 3–6 mm wide; apices subrotund; margins entire, subascending. Upper surface brownish black when wet, olive-brown to tan when dry, dull, distinctly reticulate-faveolate, with conspicuous interconnecting ridges, lacking soredia and phyllidia; isidia sparse to moderately dense, erect, cylindrical, fragile, becoming coralloid-branched, to 0.6 mm tall, mainly on reticulate ridges. Photobiont a cyanobacterium (blue-green). Lower surface pale brown with bullate glabrous areas separated by a network of blue-black tomentum, sparsely to densely rhizinate centrally; rhizines simple or squarrosely branched, dark brown. Apothecia and pycnidia not seen in Australian material. CHEMISTRY: Cortex K–; medulla K–, C–, KC–, P–; containing retigeranic acid A (minor), retigeranic acid B (major), retigeranic acid C (minor), retigeranic acid D (trace), thelephoric acid (in dark tomentum), without stictic acid. - Scattered in coastal and hinterland forests of eastern Australia; grows on bark and more rarely on moist rocks. This tropical and subtropical lichen also occurs in Africa, Papua New Guinea and New Zealand.



Lobaria retigera



Lobaria retigera

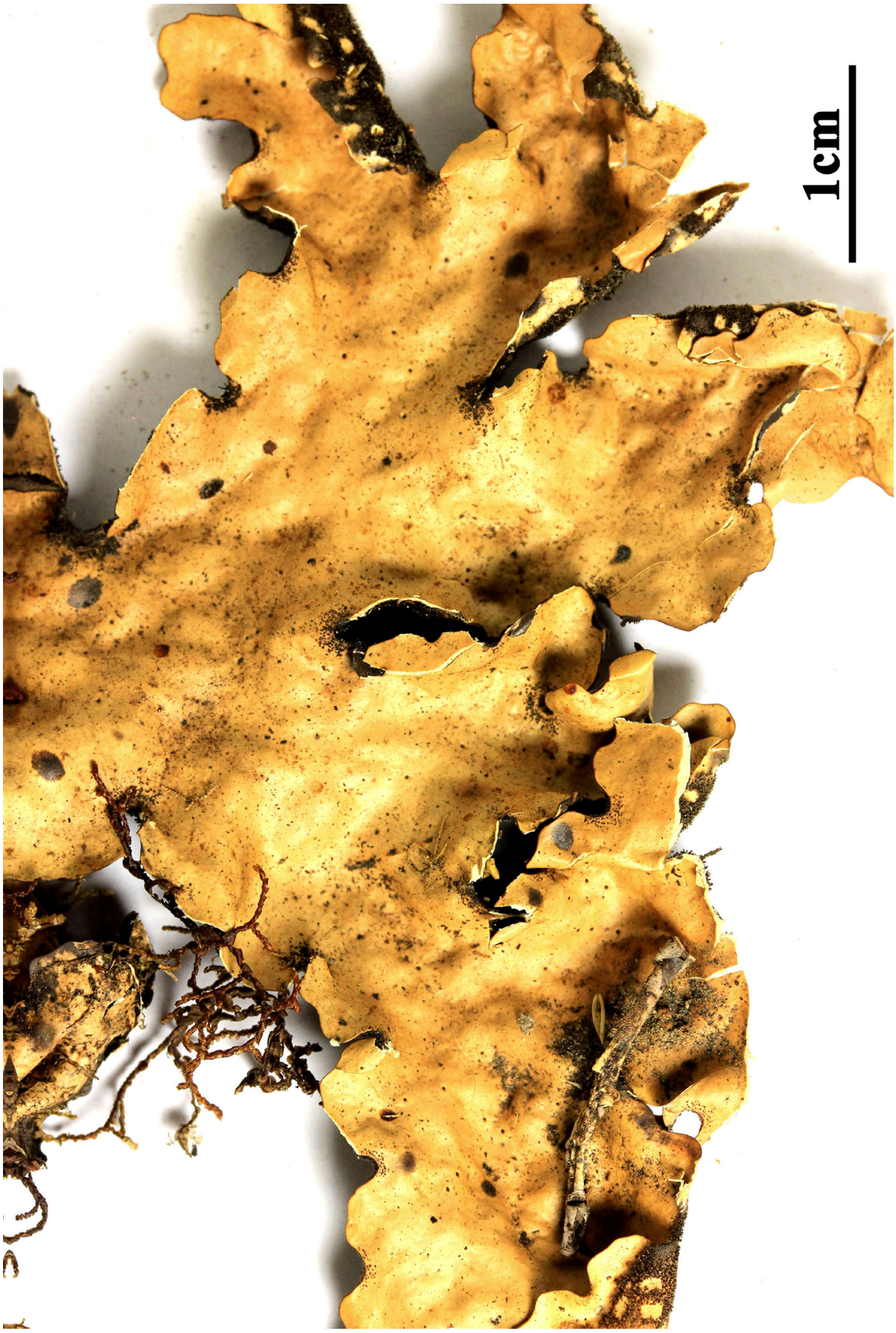


Lobaria retigera

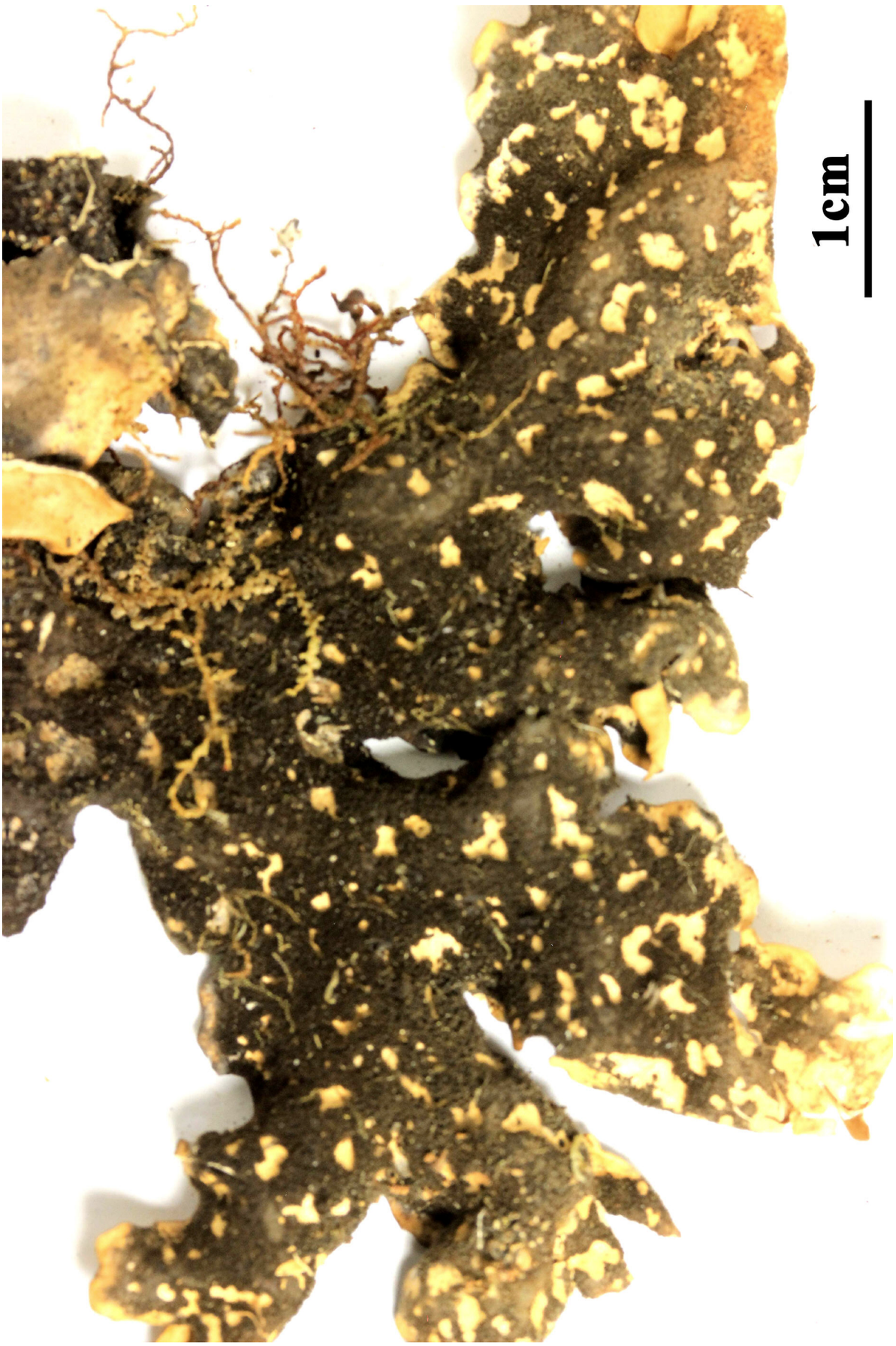
Lobaria subdissecta (Nyl.) Vain., Hedwigia 38(Beibl.): (124) (1899)
= *Ricasolia subdissecta* Nyl. 1859
= *Yoshimuriella subdissecta* (Nyl.) B. Moncada & Lücking, in Moncada, Lücking & Betancourt-Macuase, Lichenologist 45(2): 225 (2013)
= *Ricasolia subdissecta* Nyl., Ann. Sci. Nat. Bot. ser. 4, 6: 214 (1859)
= *Crocodia subdissecta* (Nyl.) Trev., Lichenotheca Veneta: 75 (1869)
= *Sticta subdissecta* (Nyl.) Müll. Arg., Bull. Soc. Bot. Belgique 32: 127 (1893)

[VZ2266], Costa Rica. Prov. San José. Cordillera, Cerro de la Muerte, 3300-3491 m. Leg. J. Hafellner (no. 20115), 29.12.1978, det. I. Yoshimura. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2266.

Description ex: Yoshimura (1969):Taxonomy of Lobaria subdissecta.J. Hattori Bot. 32.:
Thallus irregularly laciniate and lobate, laciniae 7-25 mm in width, apex roundly lobed, margin crenulate, axils narrow or round, loosely appressed, upper surface oliveochre to pale olive-ochre, more or less reticulately rugose, scrobiculate, without soredia or isidia; undersurface whitish brown, tomentose, to mentum and rhizine brownish black, tomentum short, thick, growing in the groove between the swellings, net-like arrangement, algae unicellular, green (*Trebouxia*). Apothecia on the surface of lobes, sessile, disc reddish brown, 3-6 mm in diameter, thalline margin not smooth, slightly warty, perithecium combined with edge of thalloid exciple enclosing the algae in the medullary layer; exciple warty, not tomentose, pseudoparenchymatous, up to 150 µm in thickness, hypothecium brown, epithecium pale brown, hymenium hyaline, 200 µm in thickness; spores 8 in two rows in an ascus, 40 x 12 µm, 1-3 septate. Pycnidia immersedin the lobes, not warty, ostiole blackish brown. Chemical reaction: th. K+ yellow, med. K-, KC+ rose. Chemical substances: gyrophoric acid, congyrophoric acid. - *Lobaria subdissecta* is a conspicuous foliose lichen with neither isidia nor marginal lobules, and its thallus is more or less scrobiculate.



Lobaria subdissecta



Lobaria subdissecta

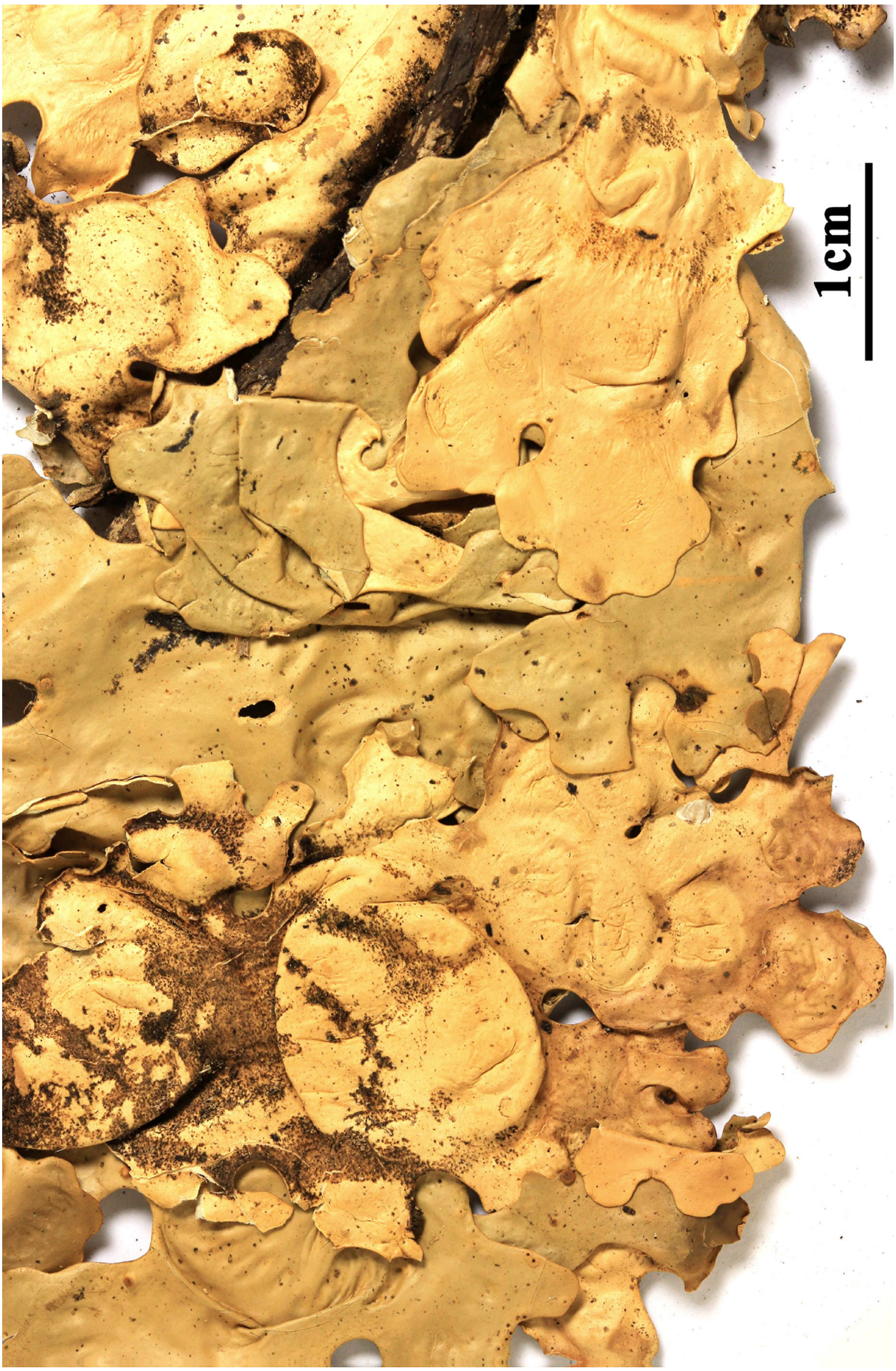
Lobaria subscrobiculata Vain., Philipp. J. Sci., C, Bot. 8(2): 133 (1913)

[VZ1166], Malaysia. Sabah. Prope E. Mesilau River, Kinabala National Park, 1800 m. Ad corticem. Leg. M. E. Hale (29136), 2.8.1964, det. I. Yoshimura. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1166.

Thallus irregularly laciniate-Iobate, laciniae 7-27 mm wide, loosely appressed, rounded at apex, crenulate along margin, axils narrow or rotundate; dorsal surface of thallus olive-ochre to pale olive-ochre, more or less reticulately rugose, scrobiculate, without soredia or isidia; ventral surface of thallus grayish brown, tomentose and rhizinate, tomenta brownish black, short, thick, situated in grooves between swellings; dorsal cortex ca. 40 µm thick, paraplectenchymatotls, composed of 5-6 rows of cells with large lumina (7-8 µm in diameter); algal layer ca. 20 µm thick, algae grass-green; medulla ca. 200 µm thick; ventral cortex ca. 12 µm thick, paraplectenchymatous. Apothecia on lamina, sessile, constricted at base, disc reddish brown, 3-6 mm in diameter, more or less dentate along margin; parathecium united with edge of thalloid exciple (apothecium type I); thalloid exciple not tomentose, paraplectenchymatous, up to 150 µm thick; hypothecium brown; epithecium pale brown; hymenium hyaline, 200 µm thick; spores 3-septate at maturity, fusiform, 40 x 12 µm. Pycnidia obscure, immersed in thalli, ostiole blackish brown. Reactions: Thallus K+yellow; medulla K-, KC+rose. Chemical substances: Gyrophoric acid, congyrophoric acid.



Lobaria subscrobiculata



Lobaria subscrobiculata

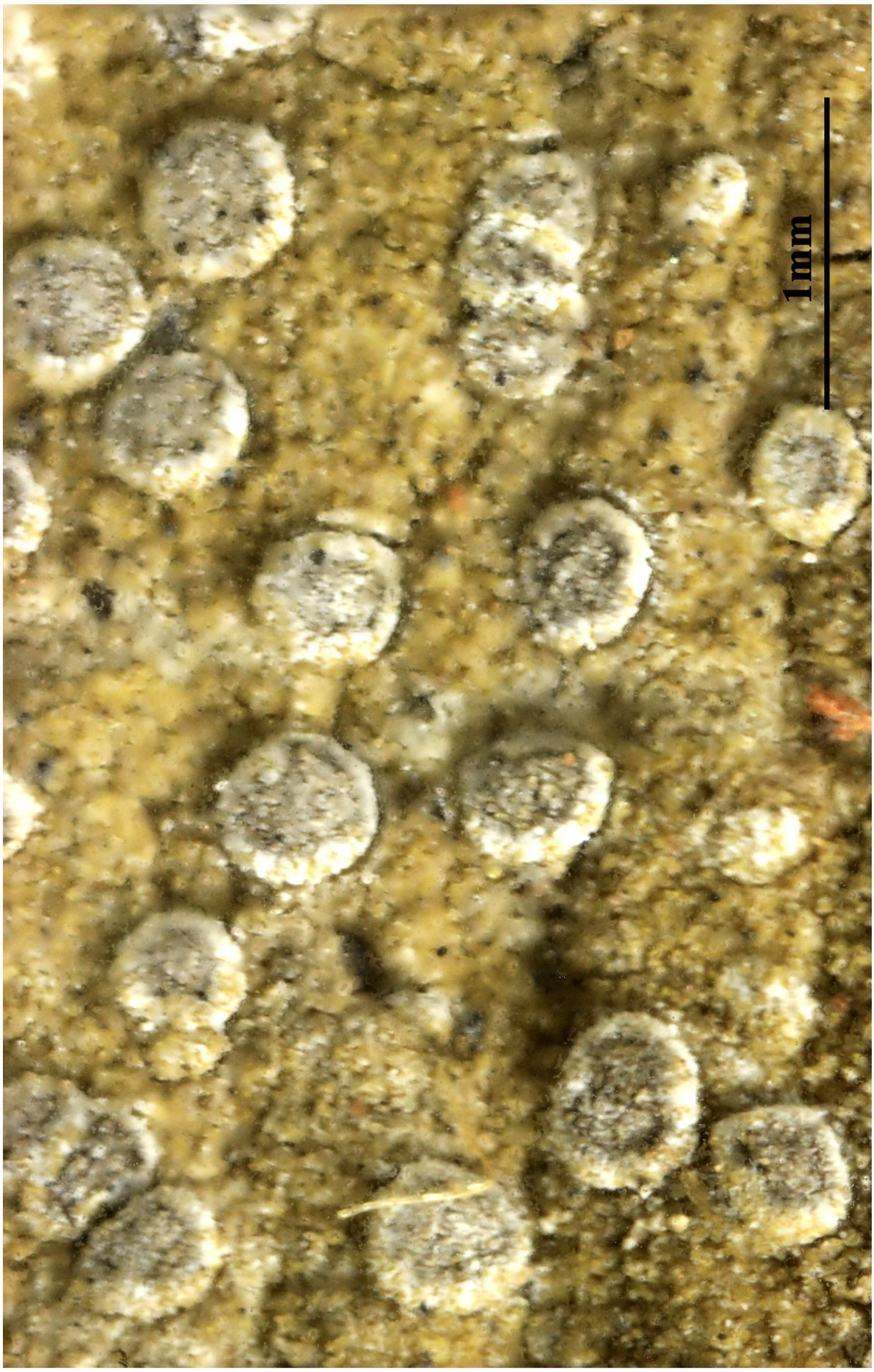
Loxospora cismonica (Beltr.) Hafellner, in Wirth, Die Flecht. Baden-Württembergs. Verbreitungsatlas (Stuttgart): 511 (1987)
= *Haematomma cismonicum* Beltr. 1858

[VZ1987], Corea borealis. Prov Kangwon, montes Kumgangsan, prope pagum Onjong-Ri, 50 m. Ad corticem arboris (*Casranea crenata*). Leg. L. Lökös, 21.6.1988, det. A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2253.

Thallus crustose, episubstratic, whitish to greenish grey, thin, mostly continuous and smooth or sometimes thinly rimose. Apothecia lecanorine, sessile, 0.4-0.8 mm across, with a concave to flat, red-brown to pinkish brown, whitish-pruinose disc and a white-pruinose, irregular thalline margin. Proper exciple thin, brown; epithecium brown, with dense crystals, K-; hymenium colourless, I+ blue; paraphyses sparingly branched, easily separated, not markedly swollen at apices; hypothecium colourless. Asci 8-spored, clavate to narrowly clavate, with a uniformly amyloid apical dome. Ascospores (1-)3-septate, hyaline, spirally arranged in the asci, 30-35 x 5-6 µm. Photobiont chlorococcoid. Spot tests: thallus K+ bright lemon yellow, C-, KC- or KC+ yellow, P+ yellow-orange, UV-. Chemistry: thamnolic acid. - Note: a cool-temperate, suboceanic lichen found on mature trees (mostly *Abies*) in humid, old forests, mostly in the montane belt.



Loxospora cismonica

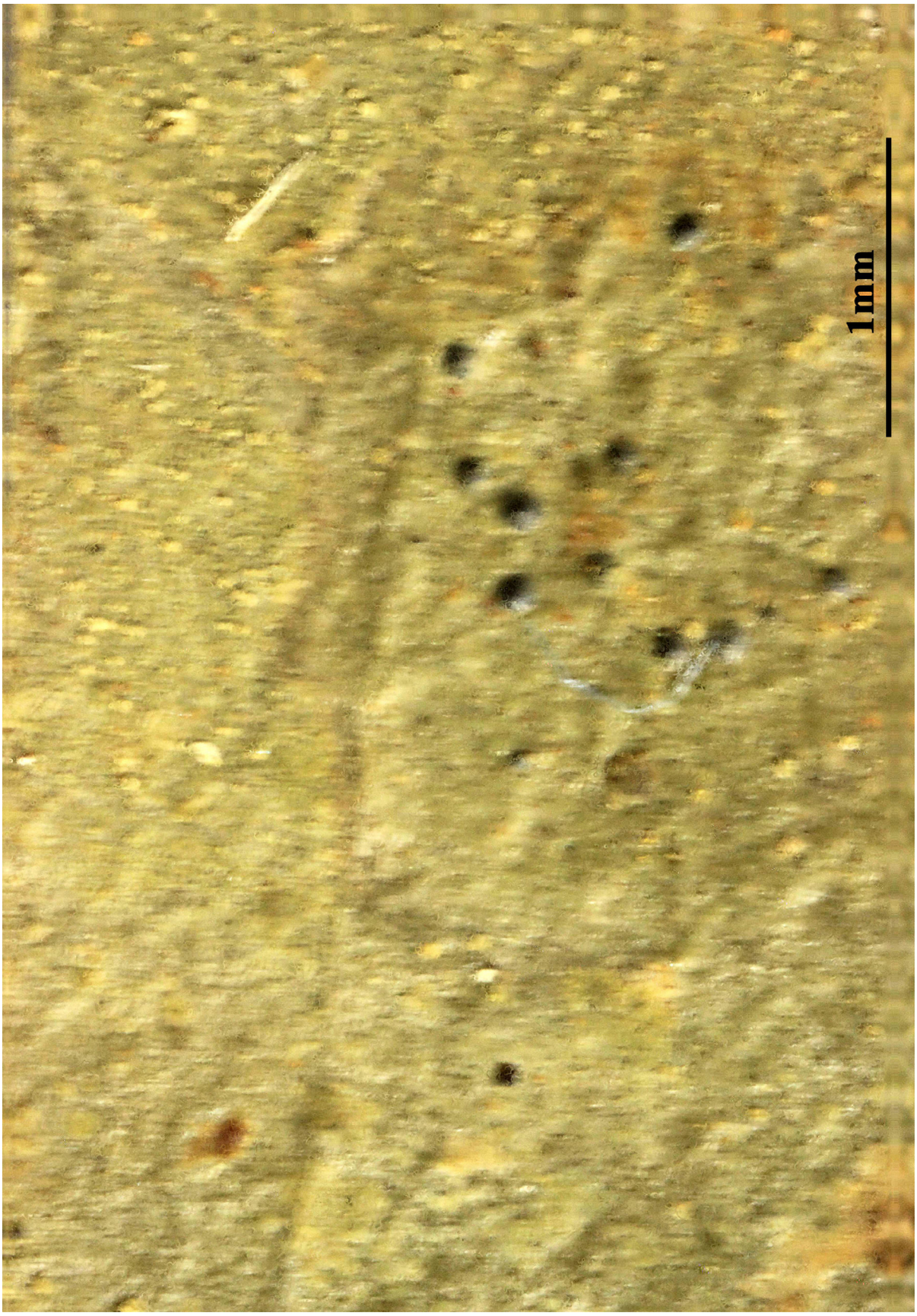


Loxospora cismonica

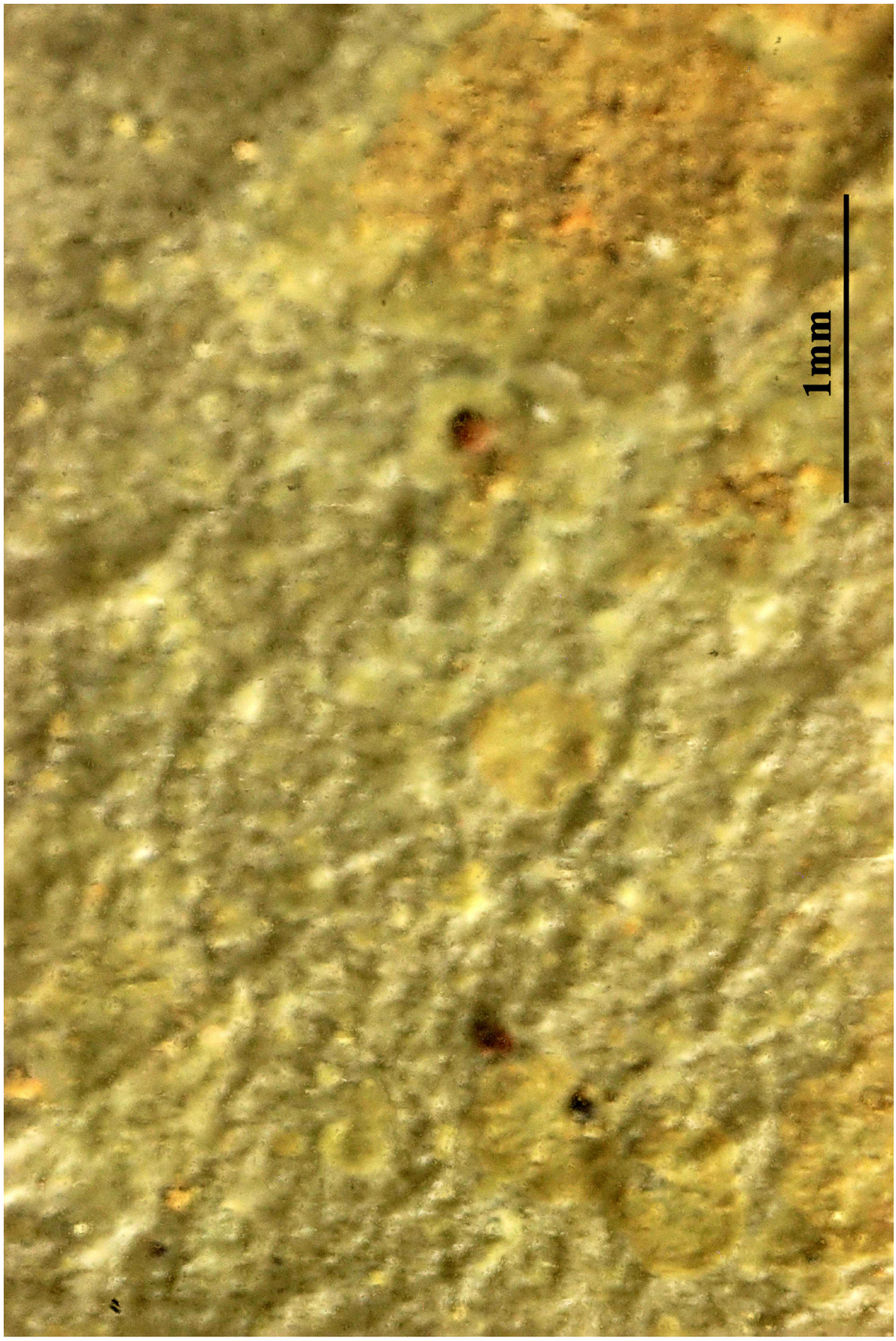
Macentina borhidii Farkas & Vězda, Acta Bot. Hung. 33(3-4): 296 (1987)
= *Phylloblastia borhidii* (Farkas & Vězda) Lücking, Fl. Neotrop., Monogr. 103: 201 (2008)

[VZ2276], Tansania. Tanga regio, Usambara Orientalis, reservatum naturae Kihuwi Forest dictum, secus trametem inter Kihuhwi et Kwamkoro, 220-320 m. Follicola in pluviisilva. Leg. E. Farkas (86228/LD), 3.11.1986. Ex A. Vězda Lichenes Selecti Exsiccati NHr. 2276.

Thallus continuous, 10–30mm across and 10–15 µm thick, smooth, sparsely to densely isidiate (especially on thalli lacking perithecia), pale greenish grey; isidia scutelliform, 0.1–0.2 mm diam., algal cells wrapped by thin layer of fungal hyphae that partly forms paraplectenchymatous cortex. Photobiont cells angular-rounded, 5–8 µm across or elongate cells 5–10 x 4–7 µm, in irregular groups or plates or sometimes in short threads, pale green. Perithecia erumpent, applanately wart-shaped to hemispherical, 0.15–0.25 mm diam. and 120–150 µm high, upper part brownish red, lateral parts white to pale yellow. Excipulum in inner parts prosoplectenchymatous, in outer parts almost paraplectenchymatous, 15–20 µm thick, pale yellow. Involucrellum well-developed, in lateral parts formed by laterally spreading, algiferous, thallus layer, in apical parts paraplectenchymatous and containing algal cells, 15–25 µm thick, colorless; basally between excipulum and involucrellum, loose tissue of sparsely branched, interwoven hyphae. Periphyses 7–13 x 1–1.5 µm. Asci clavate, 40–50 x 8–10 µm. Ascospores irregularly arranged, fusiform-ellipsoid, 3-septate, 10–13 x 2.5–3.5 µm, 3.5–4 times as long as broad. Pycnidia not observed. Chemistry: no substances detected by TLC. Distribution and Ecology. Pantropical. Uncommon but may be locally abundant, usually in the lowland rain forest understory.



Macentina borhidii



Macentina borhidii

Masonhalea richardsonii (Hook.) Kärnefelt, Bot. Notiser 130(1): 104 (1977)
= *Nephromopsis richardsonii* (Hook.) Divakar, A. Crespo & Lumbsch, in Divakar, Crespo, Kraichak, Leavitt, Singh, Schmitt & Lumbsch, Fungal Diversity 84: 113 (2017)
= *Cetraria richardsonii* Hook., in Richardson, Narrat. of a Journ. Polar-Sea, App. VI: 33 (1823)
= *Evernia richardsonii* (Hook.) Nyl., Mém. Soc. Imp. Sci. Nat. Cherbourg 5: 99 (1858) [1857]
= *Parmelia richardsonii* (Hook.) Nyl., Flora, Regensburg 43: 42 (1860)
= *Platysma richardsonii* (Hook.) Nyl., Syn. meth. lich. (Parisiis) 1(2): 306 (1860)
= *Cornicularia richardsonii* (Hook.) Trevis., Flora, Regensburg 44(4): 51 (1861)

[VZ2042], USA. Alaska. Mt. Kinley Nat. Park, septentriones versus a Primrose, 800 m. Ad terram lapidosam. Leg. H. Schindler (11689), 19.7.1983. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2042.

Ex: Thompson, J., 1984. American Arctic Lichens: The Macrolichens.
Thallus foliose, dichotomous to irregularly divided, when dry rolled up into ball-like masses, homy in texture; the lobes sharp pointed and antler-like; upper side chestnut-brown when dry, becoming olive-green to greenish brown when moist; underside paler brown with conspicuous pruinose patches, lacking rhizinae. Outer cortex prosoplectenchymatous, 37-65 µ thick, the outer 15 µ brown pigmented, within this an inner cortex of longitudinally oriented but interwoven hyphae, about 100-125 µ in thickness, the hyphae slender, 2-2.5 µ, but quite densely arranged. Within this is a continuous layer of the algae and a loose medulla. The lower cortex is prosoplectenchymatous but lacks the inner fibrous layer of the upper cortex and is discontinuous, being lacking over the pruinose areas which appear to function as supersized pseudocyphellae for gas exchanges. The dual upper cortex reminds one of that of some of the *Ramalinas* but is not on both surfaces as in that genus. Apothecia rare, at the tips of lobes, the margin crenate, concolorous with the thallus, inflexed; disk 4-8 mm, brown, almost the same color as the thallus, shining; epithecium brownish, lower part brown; hypothecium pale brownish; hymenium 125 µ paraphyses capitate, the tips 6 µ; spores 8, hyaline, thin-walled, simple, ellipsoid, 7.5-12.5x5-6 µ. Reactions: medulla K— , C+ , KC+ orange red to red, P— . UV+ . Contents: alectoronic acid.



Masonhalea richardsonii



Masonhalea richardsonii

Massalongia carnosa (Dicks.) Körb., Syst. lich. germ. (Breslau): 109 (1855) f. carnosa
= *Lichen carnosus* Dicks. 1790
= *Biatora carnosa* (Dicks.) Rabenh.
= *Lecanora muscorum* Ach.
= *Pannaria muscorum* (Ach.) Delise
= *Pannaria muscorum var. determinata* Nyl.
= *Pannularia muscorum* (Ach.) Stizenb.

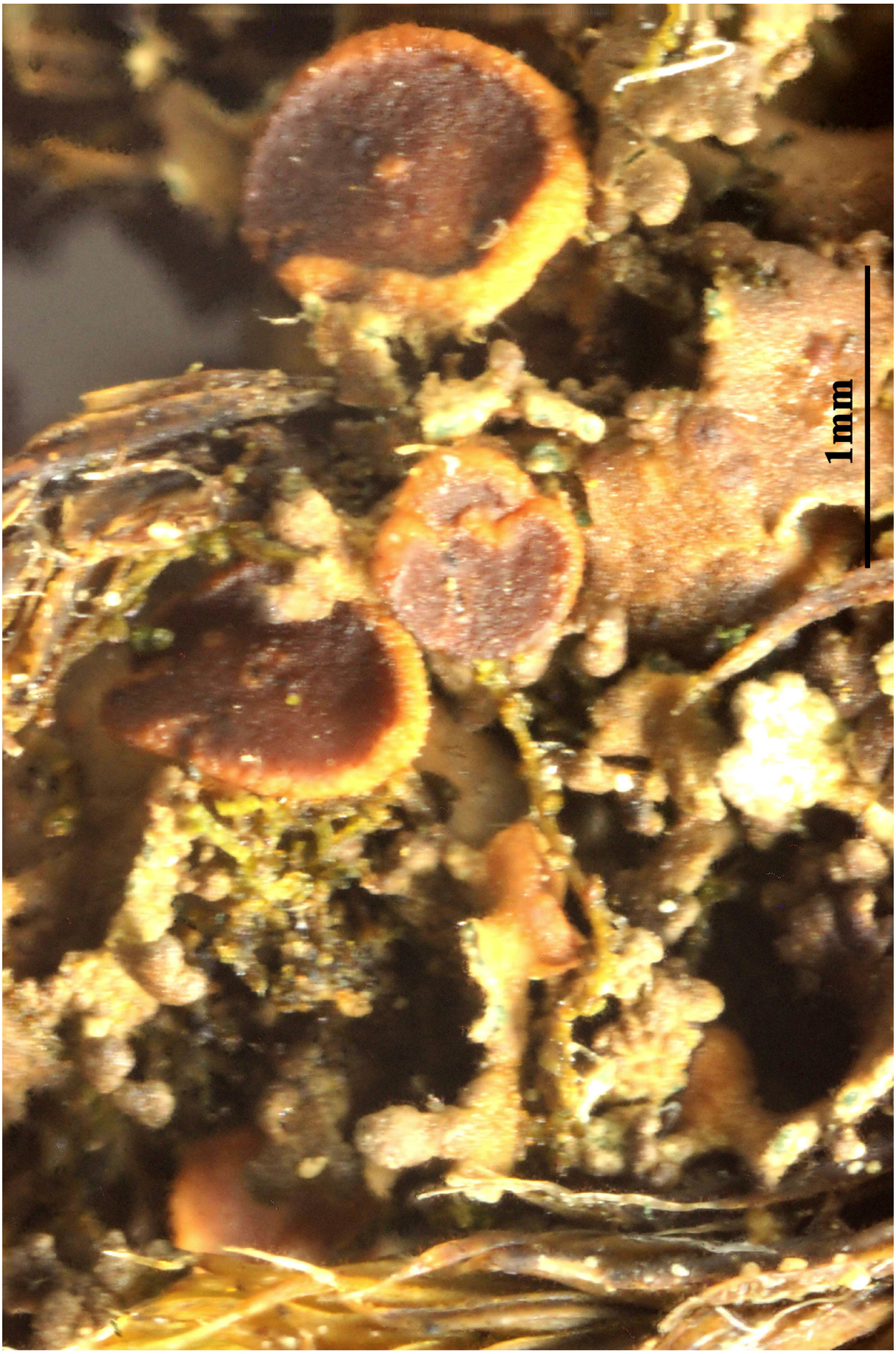
[VZ2028], Suecia. Värmlandia: Gräsmark Paroecia, septentriones versus a Sandnäs, 140 m. Ad rupes praeruptas, supra muscos. Leg. D. W. Sundell (15960), 1.8.1984. EX A. VěZDA LICHENES SELEXTI EXSICCATI NR. 2028.

Thallus small-foliose to subsquamulose, heteromerous, 130-200 µm thick, red brown to blackish brown and often somehow glossy when dry, dark green to almost black when wet. Lobes crowded, initially rounded, then often elongate and c. twice as long as wide, flattened, 0.5-1.5(-2) mm wide, 0.5-3(-10) mm long, irregularly branched and overlapping, often forming 1-3 cm wide rosettes, the margins dissected by numerous, flattened, usually paler, isidia-like lobules or warts; lower surface whitish to pale brown, with sparse, pale brown rhizines. Upper cortex paraplectenchymatous, 25-30 µm thick; lower surface ecorticate, but with densely interwoven, longitudinally arranged hyphae. Apothecia rare, rounded, without a thalline margin, sessile to substipitate, up to 2 mm across, with a red-brown to flesh-coloured disc and a thin, paler brown, sometimes short-hairy proper margin. Proper exciple 100-150 µm wide, paraplectenchymatous, of isodiametrical cells; epithecium brownish, K-; hymenium colourless or brownish, (50-)70-90(-130) µm high, I+ deep blue; paraphyses coherent, simple, straight, 2-6 µm thick, the apical cells slightly swollen; hypothecium colourless, penetrated by photobiont cells. Asci 8-spored, cylindrical, fissitunicate, the thickened apex with a K/I+ blue ring, Fuscidea-type. Ascospores 1(-3)-septate, hyaline, fusiform to narrowly ellipsoid, (11-)15-25(-35) x 4.5-7(-8.5) µm, thin-walled, without epispore. Pycnidia rare, dark, the wall paler below, semi-immersed or projecting, to 0.6 mm in diam. Conidia bacilliform or slightly bifusiform, hyaline, 4-7(-9) x c. 1 µm. Photobiont cyanobacterial (Nostoc, the cells in short chains). Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a circumpolar arctic-alpine to boreal-montane lichen found on bryophytes and soil rich in humus, on steeply inclined or rain-sheltered

faces near the ground level, with optimum above or near treeline in areas with siliceous substrata; the species is certainly most frequent in the Alps.



Massalongia carnosa

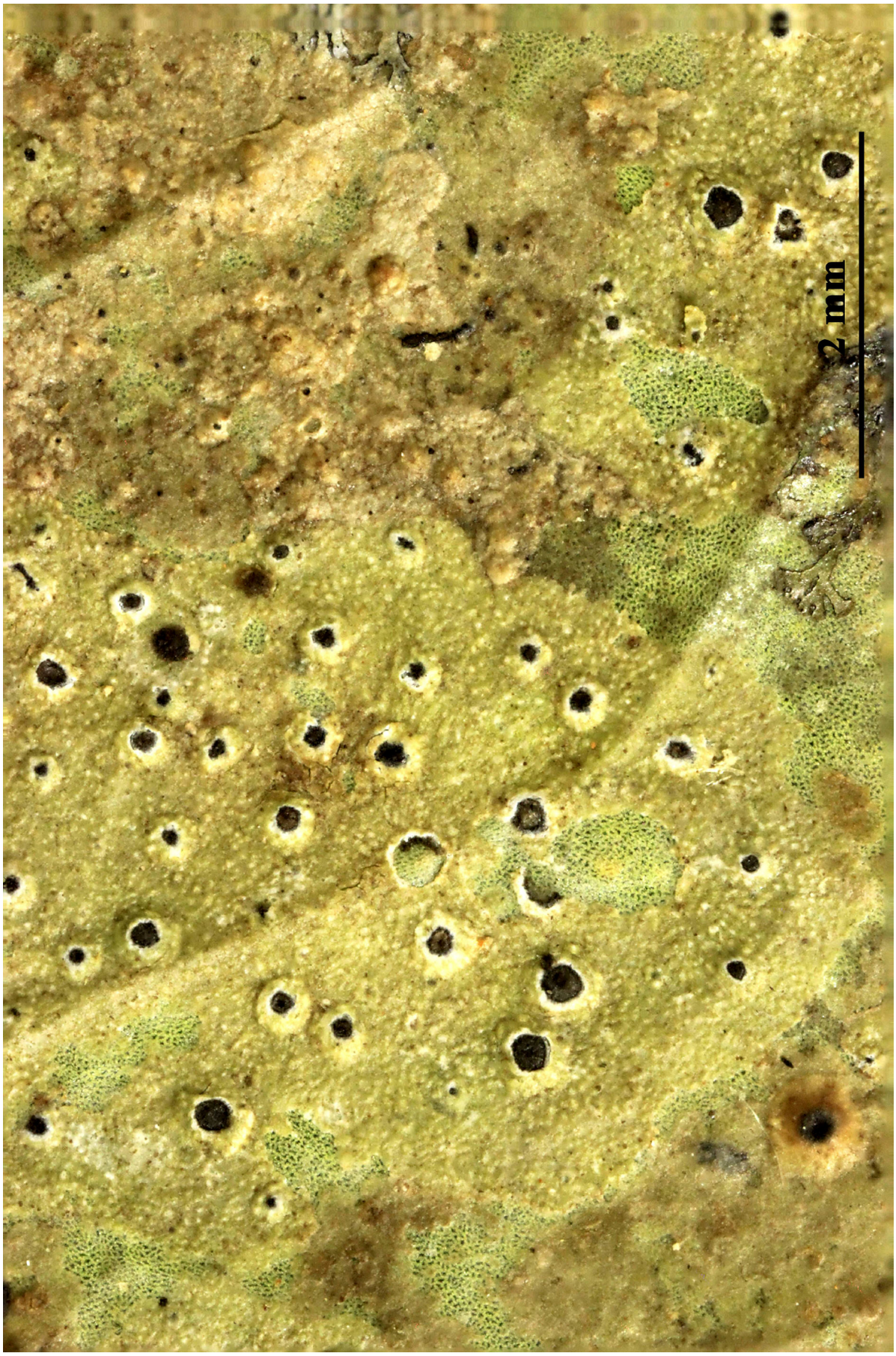


Massalongia carnosa

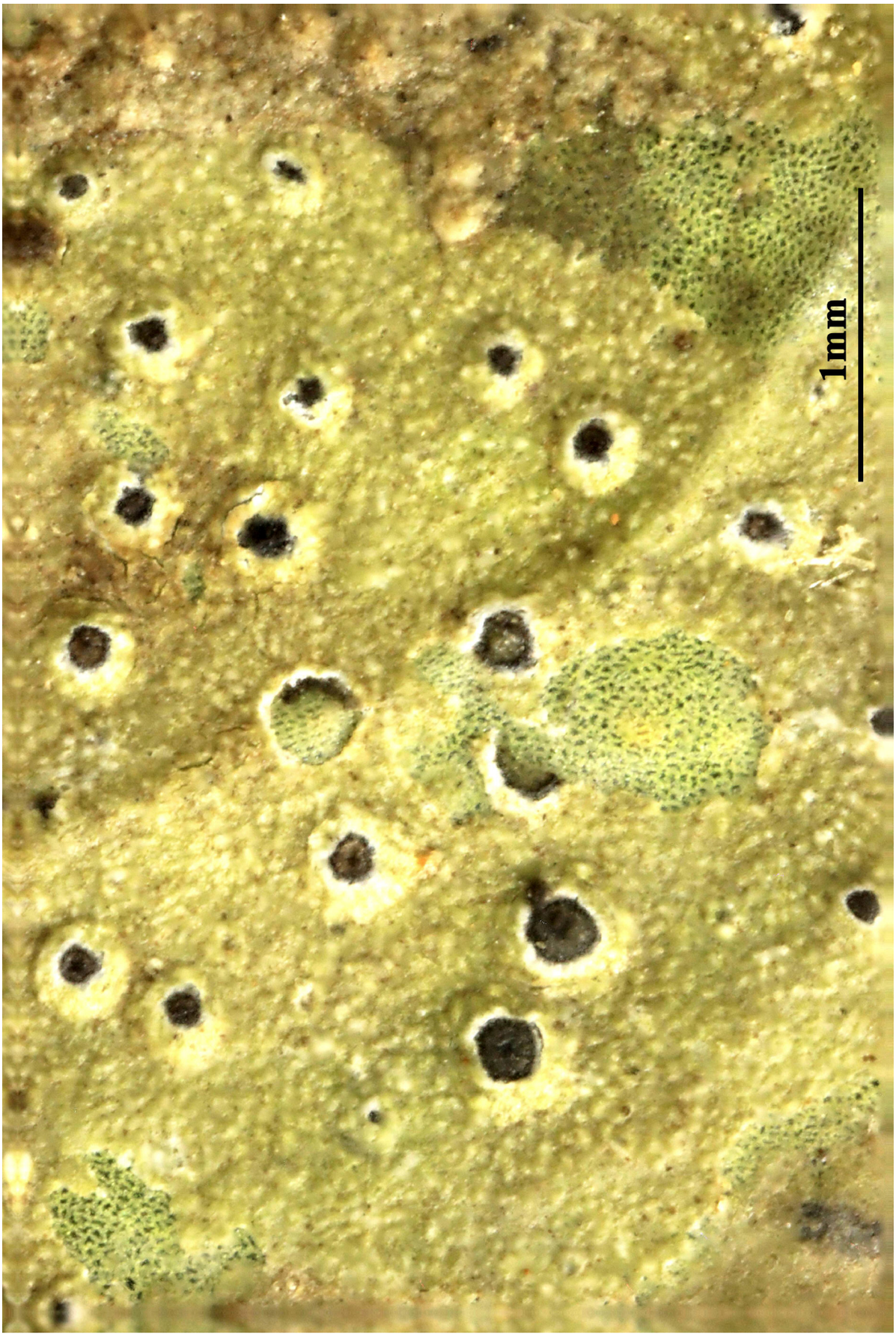
Mazosia melanophthalma (Müll. Arg.) R. Sant., Symb. bot. upsal. 12(no. 1): 117 (1952)
= *Opegrapha melanophthalma* Müll. Arg. 1883

[VZ2198], AQustralia, Queensland. D'Aguilar Range, 2 km ad septentriones a Mt. Glorious in occidente viae ad Mt, Tenison Woods ducentis, 700 m. Foliicola in pluvisilva subtropicali. Leg. J. Hafellner et Rogers, 1.8.1986, det. A. Vězda. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2198.

Thallus continuous but often marginally dispersed into rounded patches, finely verrucose, 5–15 mm across, thin (10–15 µm), pale greenish grey to pale green, slightly shiny; verrucae 0.05–0.1 mm diam., slightly paler than thallus. Photobiont cells rectangular, 8–15 x 4–5 µm, in radiate plates. Ascomata rounded, 0.3–0.7 mm diam. and 60–90 µm high; disc dark grey to black, translucent when moistened; margin gently sloping outwards. Excipulum 10–15 µm thick. Hypothecium 10–15 µm high, brown. Hymenium 50–75 µm high. Asci 45–55 x 8–12 µm. Ascospores fusiform, 3-septate, 15–22 x 3–5 µm, upper median cell slightly enlarged. Pycnidia low conical, 0.15–0.25 mm diam. Macroconidia bacillar, nonseptate, 5–8 x 2–3 µm. Microconidia fusiform ellipsoid, non-septate, 2–3 x 0.8–1.2 µm. Chemistry: no substances detected by TLC (unknown fatty acid in one specimen). Distribution: Pantropical. Besides *Mazosia phyllosema*, the most frequent representative of the genus, with similar ecological preferences.



Mazosia melanophthalma

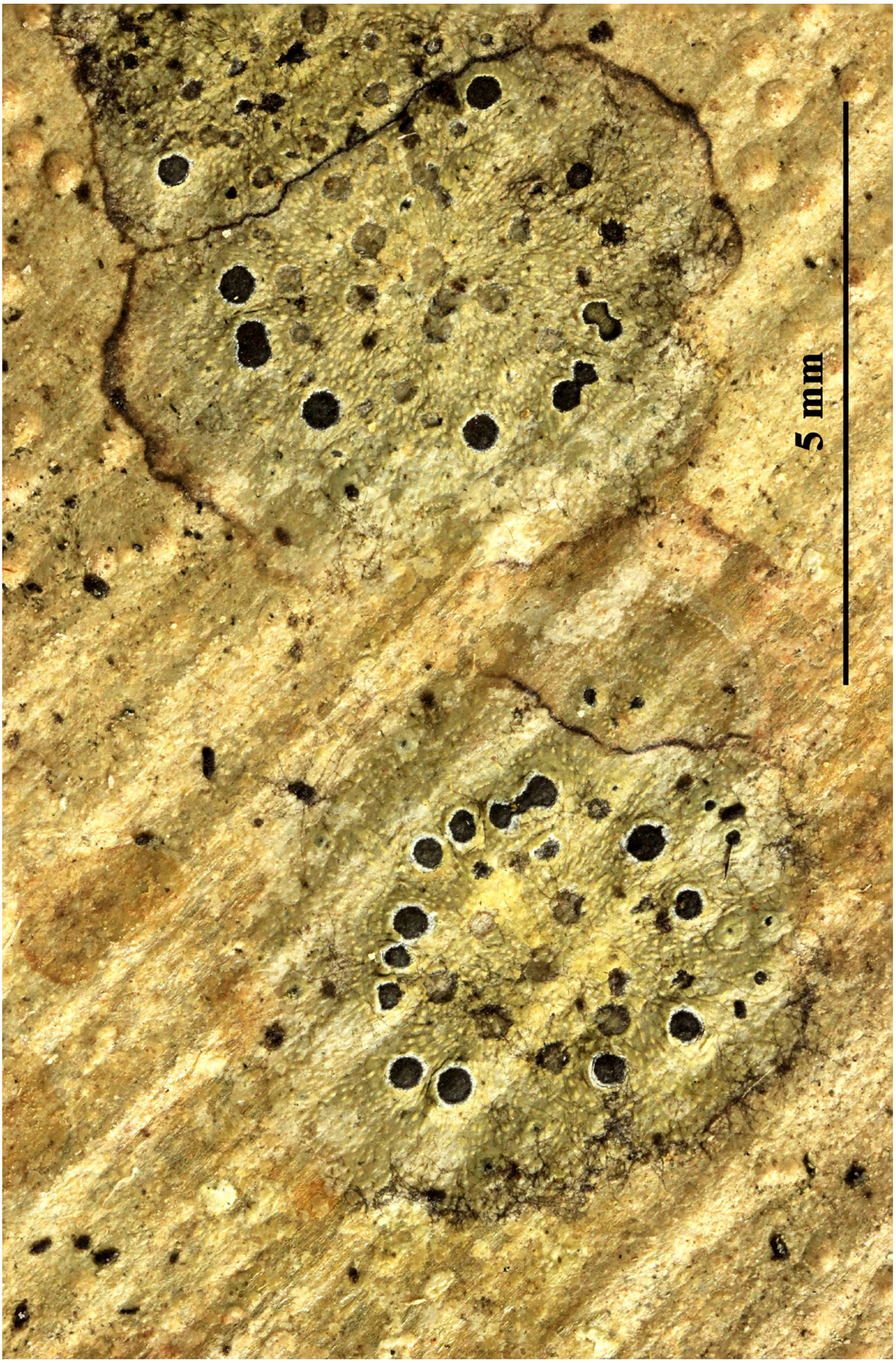


Mazosia melanophthalma

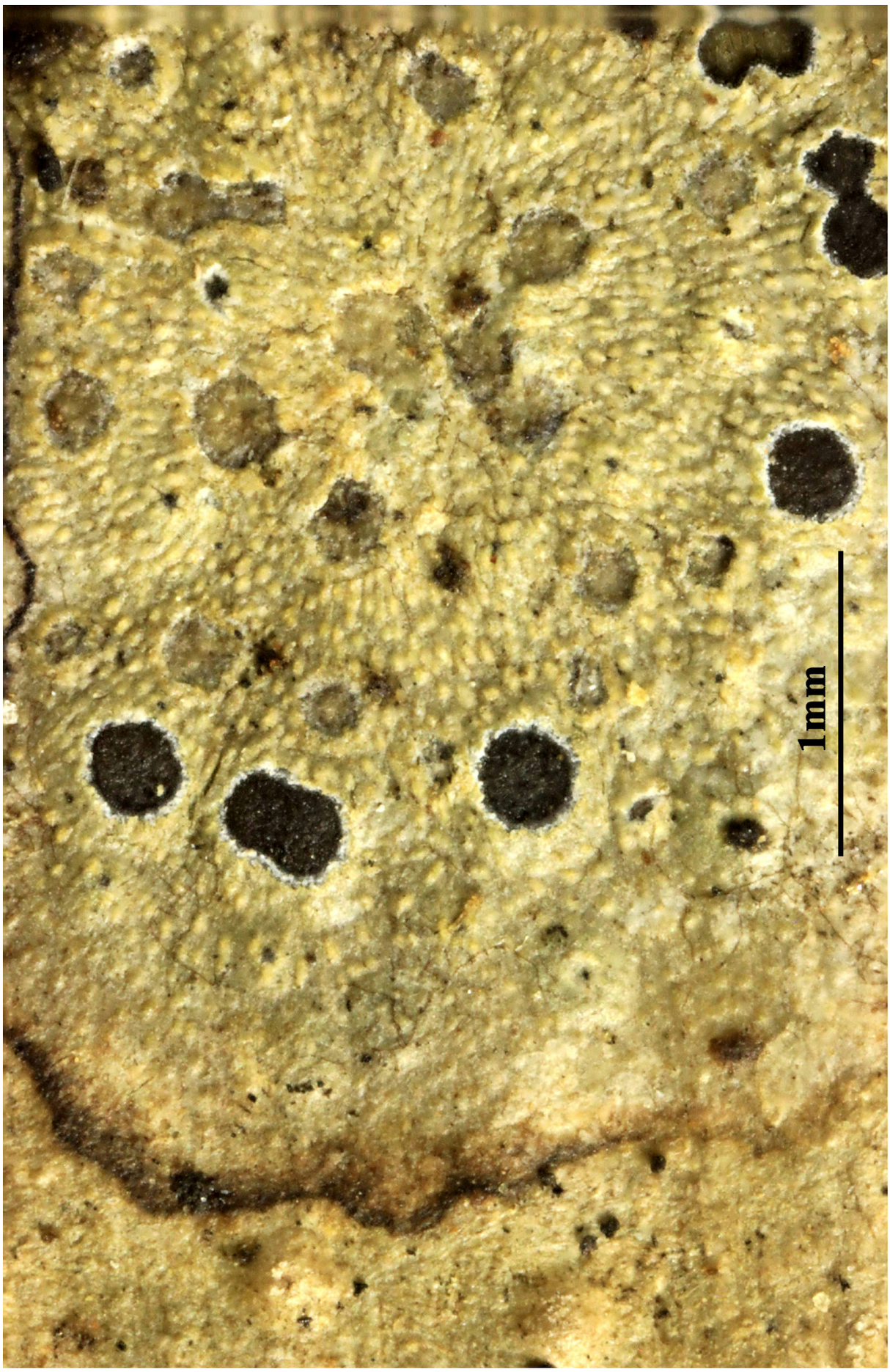
Mazosia melanophthalma (Müll. Arg.) R. Sant., Symb. bot. upsal. 12(no. 1): 117 (1952)
= *Opegrapha melanophthalma* Müll. Arg. 1883

[VZ1230], Tanzania. Distr. Morogoro, reservatum silvestre Kitulanghalo dictum, 500-770 m. In silva semperviridi umbrosa sicca, ad folia *Encephalartos sp*.. Leg. T. Pócs (no. 6856) et M. & C. Crosby, 17.11.1972, det A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1230.

Thallus continuous but often marginally dispersed into rounded patches, finely verrucose, 5–15 mm across, thin (10–15 µm), pale greenish grey to pale green, slightly shiny; verrucae 0.05–0.1 mm diam., slightly paler than thallus. Photobiont cells rectangular, 8–15 x 4–5 µm, in radiate plates. Ascomata rounded, 0.3–0.7 mm diam. and 60–90 µm high; disc dark grey to black, translucent when moistened; margin gently sloping outwards. Excipulum 10–15 µm thick. Hypothecium 10–15 µm high, brown. Hymenium 50–75 µm high. Asci 45–55 x 8–12 µm. Ascospores fusiform, 3-septate, 15–22 x 3–5 µm, upper median cell slightly enlarged. Pycnidia low conical, 0.15–0.25 mm diam. Macroconidia bacillar, nonseptate, 5–8 x 2–3 µm. Microconidia fusiform ellipsoid, non-septate, 2–3 x 0.8–1.2 µm. Chemistry: no substances detected by TLC (unknown fatty acid in one specimen). Distribution: Pantropical. Besides *Mazosia phyllosema*, the most frequent representative of the genus, with similar ecological preferences.



Mazosia melanophthalma

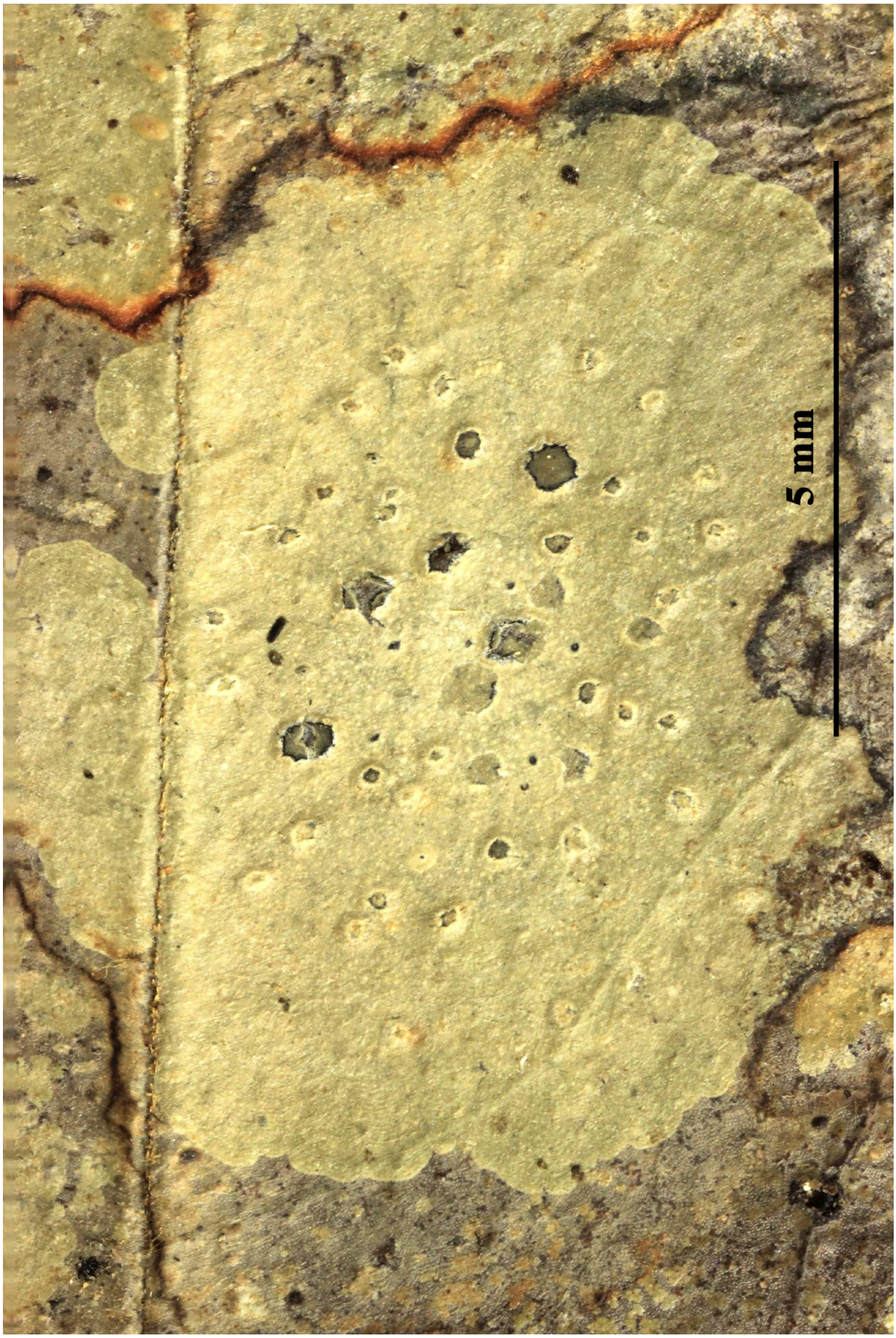


Mazosia melanophthalma

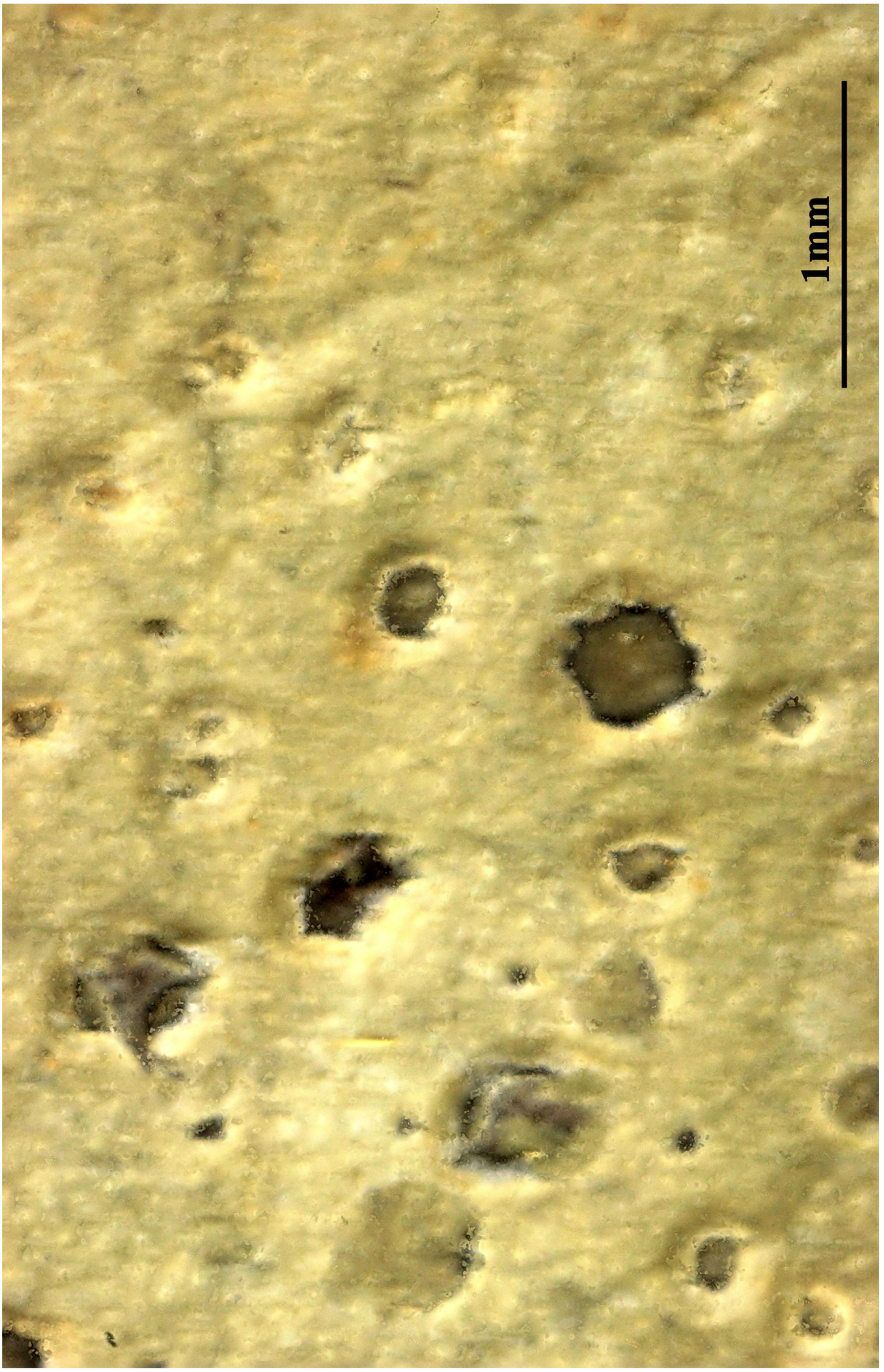
Mazosia pilosa Kalb & Vězda, Folia geobot. phytotax. 23: 203 (1988)

[VZ2227], Brasilia. Amazonas. Manaus. in ripa fluminis Rio Negro, 100-200 km supra Manaus, 40 m. Foliicola in pluviisilva. Leg. K. Kalb, 14.10.1980. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2227.

Thallus continuous, finely pilose, 5–15 mm across, thin (10–15 µm), greenish to brownish grey, matt; hairs formed by single, unbranched hyphae, 0.05–0.1 mm long and 3–5 µm broad at base, colorless. Photobiont cells angular-rounded, 5–10 x 3–6 µm, in irregular plates. Ascomata rounded, 0.3–0.6(–1) mm diam. and 70–90 µm high; disc dark grey, translucent when moistened; margin gently sloping outwards. Excipulum 15–30 µm thick. Hypothecium 10–15 µm high, brown. Hymenium 60–80 µm high. Asci 50–70 x 9–13 µm. Ascospores narrowly fusiform, 3-septate, 17–27 x 3.5–5 µm, upper median cell slightly enlarged. Pycnidia low conical, 0.15–0.25 mm diam. Macroconidia not observed. Microconidia ellipsoid, non-septate, 2–3 x 1–1.3 µm. Chemistry: no substances detected by TLC. Distribution: Neotropics and eastern Paleotropics.



Mazosia pilosa



Mazosia pilosa

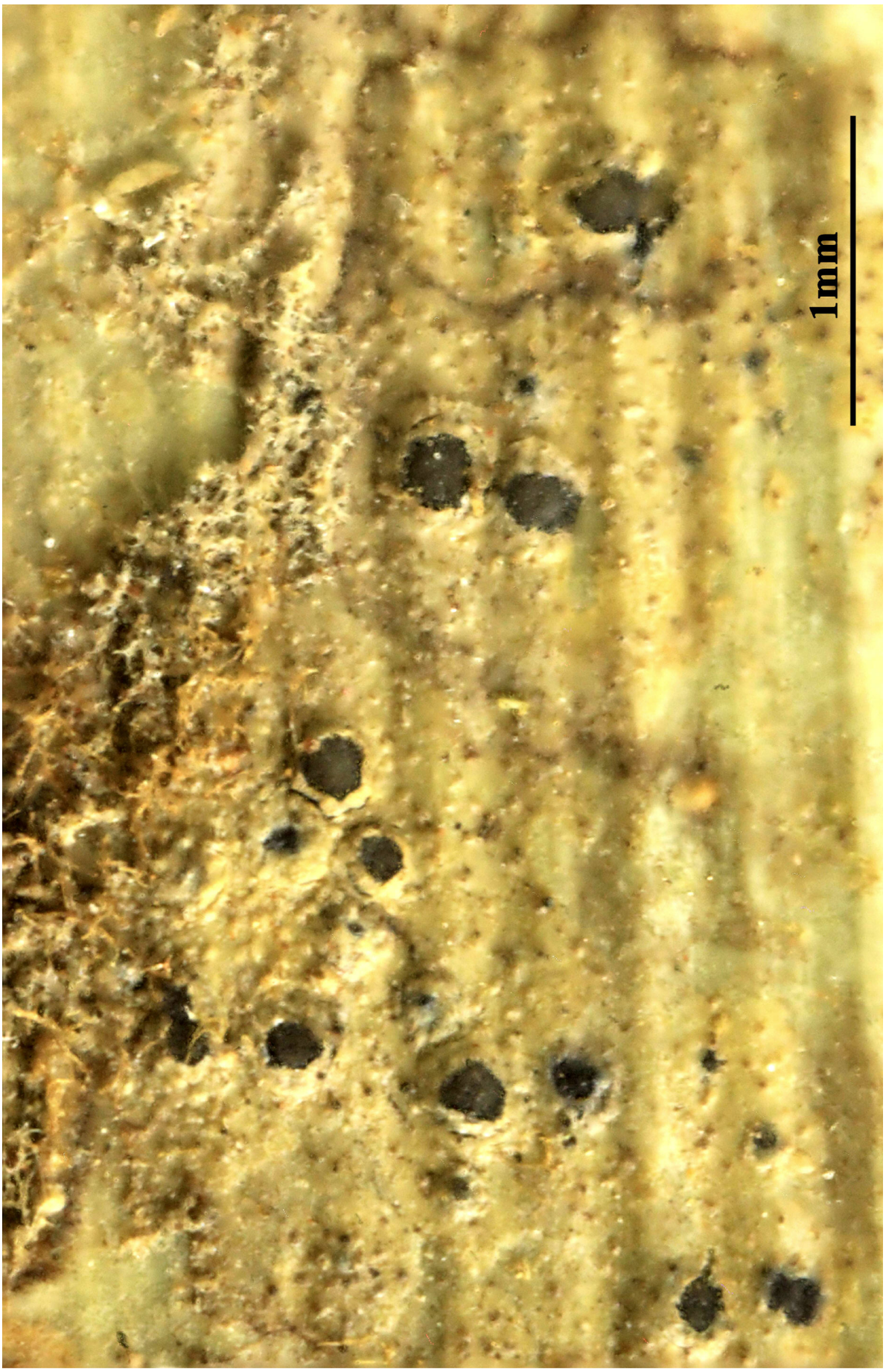
Mazosia pseudobambusae Kalb & Vězda, Folia geobot. phytotax. 23: 207 (1988)

[VZ2228], Brasilia. São Paulo. Ilha de São Sebastiao, 130 km ad orientem a São Paulo, in declivibus occidentalibus montium Morro das Tacas, 200 m. Foliicola in pluviisilva. Leg. K. Kalb, J. Poelt et H. Sipman, 6.7.1980. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2228.

Thallus continuous but often irregular in outline, finely verrucose, 5–20 mm across, very thin (7–12 µm), very pale brownish grey, matt, usually with a dark brown prothallus; verrucae 0.02–0.05 mm diam., of same color as thallus. Photobiont cells rectangular, 12–18 x 4–5 µm, in radiate or slightly irregular plates. Ascomata rounded, 0.3–0.7 mm diam. and 70–90 µm high; disc black, translucent when moistened; margin gently sloping outwards. Excipulum 10–15 µm thick. Hypothecium 10–15 µm high, pale brown but lowermost zone dark brown. Hymenium 50–70 µm high. Asci 45–55 x 9–14 µm. Ascospores fusiform, 3-septate, 20–28 x 4–5 µm, upper median cell slightly enlarged. Pycnidia low conical, 0.1–0.2 mm diam. Macroconidia bacillar, non-septate, 4–6 x 2–2.5 µm. Microconidia not observed. Chemistry: no substances detected by TLC. Distribution: Pantropical, recently found in tropical Africa (Ivory Coast) and and the eastern Paleotropics (Thailand). Restricted to humid microsites in the lowland rain forest understory, commonly found on palm leaves.



Mazosia pseudobambusae



Mazosia pseudobambusae

Mazosia rubropunctata R. Sant., Symb. bot. upsal. 12(no. 1): 122 (1952)

[VZ1987], Brasilia. Amazonas, regio fluminis Negro, 100-200 km ad septentriones et occidentem a Manaus, 40 m. Foliicola. in pluviisilva. Leg. K. Kalb, 12.-18.10.1980. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1987.

Thallus continuous, finely verrucose, 5–15(–50) mm across, very thin (6–12 µm), yellowish green to green, shiny; verrucae 0.03–0.07 mm diam., red to brown and partly containing red, K– crystals. Photobiont cells rectangular, 12–22 x 4–6 µm, in radiate plates. Ascomata rounded, 0.3–0.5 mm diam. and 70–100 µm high; disc dark grey to black, translucent when moistened; margin gently sloping outwards. Excipulum 5–15 µm thick. Hypothecium 10–15 µm high, pale brown. Hymenium 60–90 µm high. Asci 50–70 x 8–14 µm. Ascospores fusiform, 4-septate, 20–27 x 4–6 µm, median cell slightly enlarged. Pycnidia low conical, 0.15–0.25 mm diam. Macroconidia and microconidia not observed. Chemistry: unidentified pigment in thallus verrucae. Distribution: Neotropics and tropical Africa. A typical element of the understory community of lowland rain forests, particularly common in the Amazon region. - *Mazosia rubropunctata* is similar to *M. melanophthalma* and *M. dispersa*, but is well distinguished by its thallus with red verrucae and its regularly 4-septate ascospores. Within *Mazosia*, the same ascospore type is found only in the eastern Paleotropical *M. quadriseptata* Kalb & Vézda, described from Queensland (Australia), which differs by its pale verrucae. Similar ascospores are otherwise known from a number of lichenicolous *Opegrapha* species (Matzer, 1996). Sterile thalli of *Mazosia rubropunctata* might be confused with *Arthonia flavoverrucosa*. Most species of *Mazosia* develop a thin layer of fungal hyphae above the algal layer, which makes their thallus appear matt or only slightly shiny. In *M. rubropunctata*, this layer is strongly reduced, so the thallus, dominated by the photobiont, appears more shiny.



Mazosia rubropunctata

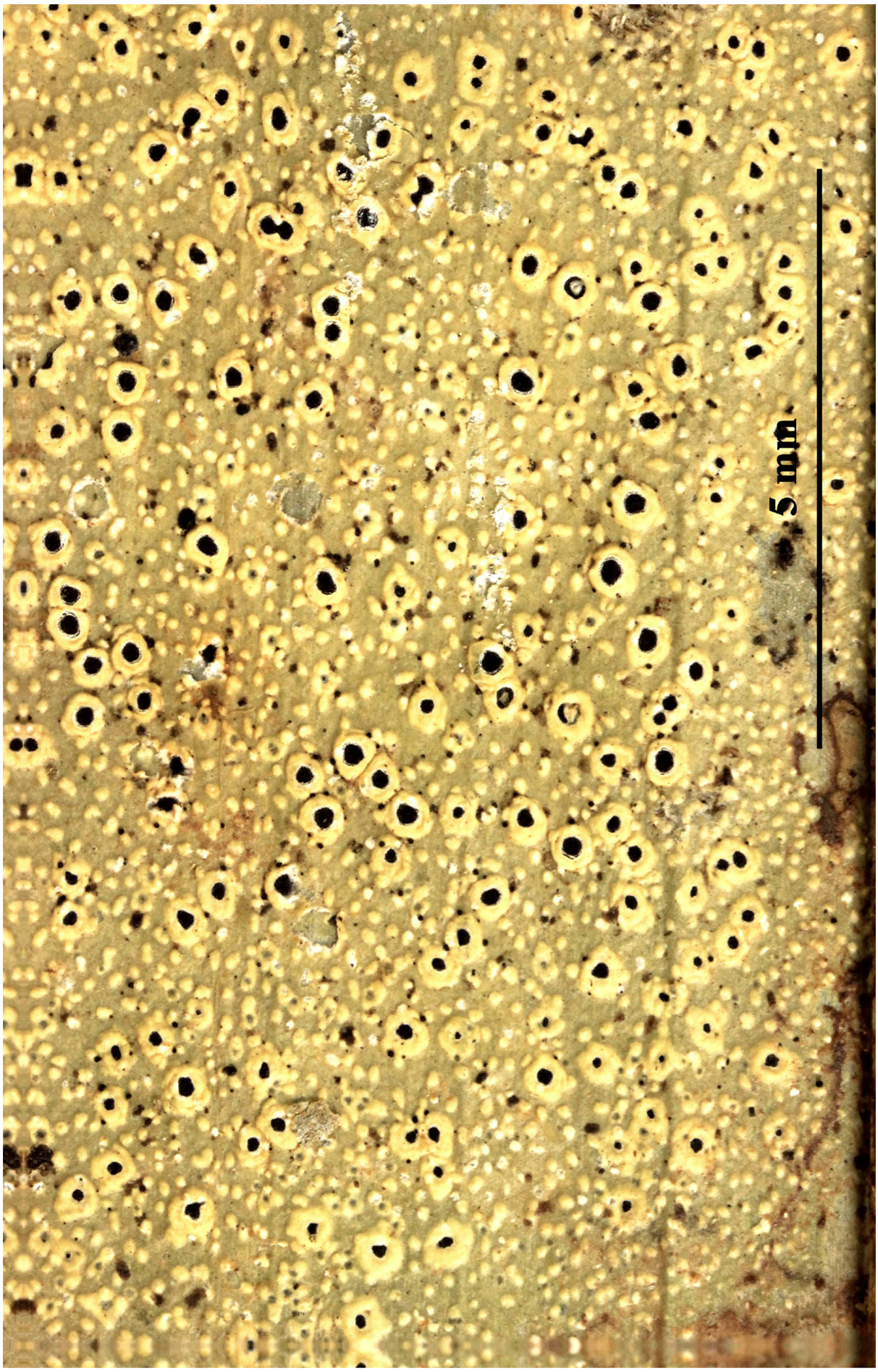


Mazosia rubropunctata

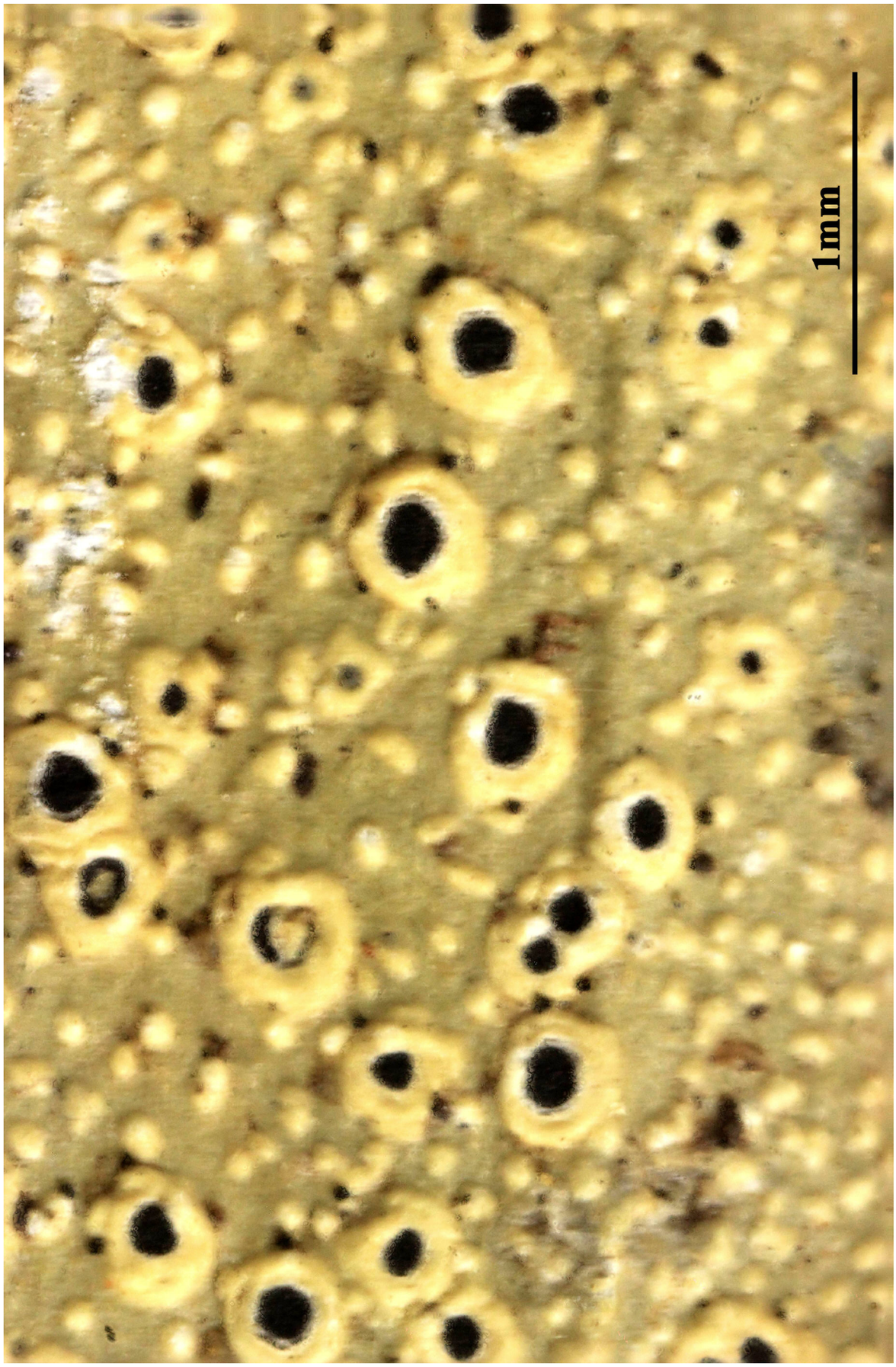
Mazosia tumidula (Müll. Arg.) Zahlbr., Cat. Lich. Univers. 2: 504 (1923) [1924]
= *Rotula tumidula* Müll. Arg. 1890

[VZ1877], Brasilia. Amazonas: Manaus, 150 km ad septentriones et occidentem versus a Manaus, in ripa fluvii Negro, 40 m. Foliicola, in pluviisilva. Leg. K. Kalb, 14.-18.10.1980. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1877.

Thallus continuous, coarsely verrucose, 5–25 mm across, thin (10–15 µm), yellowish green, slightly shiny; verrucae 0.1–0.15 mm diam. or sometimes elongate and then up to 0.5 mm long, of same color as thallus. Photobiont cells rectangular, 10–15 x 4–6 µm, in indistinctly radiate to almost netlike plates leaving irregular interspaces. Ascomata rounded, 0.3–0.6 mm diam. and 70–90 µm high; disc black, translucent when moistened; margin rather thick and often uneven, steeply sloping downwards. Excipulum 5–10 µm thick. Hypothecium 7–15 µm high, pale brown but lowermost part darker. Hymenium 50–70 µm high. Asci 45–55 x 10–15 µm. Ascospores fusiform, 3-septate, 15–24 x 3–5 µm, upper median cell slightly enlarged. Pycnidia low conical, 0.15–0.25 mm diam. Macroconidia and microconidia not observed. Chemistry: psoromic acid. Distribution: Neotropics. A characteristic element of the understory of wet lowland rain forest; obviously very shade tolerant and often forming pure populations on leaves near the ground. - Mazosia tumidula is easily recognized even from a distance by its conspicuous, yellowish green, coarsely verrucose thallus and ascomata with rather thick, often uneven margins. Ascomata with steeply sloping margin are otherwise known from *M. praemorsa*, but that species differs in several respects: the smaller, regularly rounded verrucae (radiately elongated only at the thallus margins); the smooth, pale margin of the ascomata; and the very elongate, regularly 7-septate ascospores.



Mazosia tumidula



Mazosia tumidula

Megalospora atrorubricans* subsp. *australis Sipman, Biblioth. Lichenol. 18: 97 (1983)

= *Megalospora atrorubricans* (Nyl.) Zahlbr., Cat. Lich. Univers. 4: 86 (1926) [1927]

[VZ2403], Nova Zelandia. South Island: Canterbury, Craigieburn Forest Reserve, ad orientem a transitu Arthurs Pass, 900 m. Ad truncum arboris (*Nothfagus sp*.). Leg. H. Sipman (16351), 9.9.1981. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2403.

Thallus pale greenish grey, usually with a distinct yellowish tinge, rather thick, rugulose and irregularly cracked, or with more protuberant warts or with c. 0.2 mm wide and 0.4 mm long papillae, sometimes densily warted with c. 0,2-0.4 mm wide and equally long warts. Soredia and isidia absent. Chemistry: usnic acid and zeorin. Apothecia c. 1.5 mm in diameter, 0.5-0.8 mm when young, and up to 2.7(-3.1) mm, c. 410 (370-470) µm thick. Dise flat or in larger apothecia slightly convex, occasionally more strongly convex, reddish brown to dark brown, epruinos, slightly glossy. Margin prominent, thin, concolorous with the disc or darker, epruinose, slightly glossy. Epithecium diffusely olivebrown to darkbrown, occasionally more pale, 7-14 µm thick. Hymenium 130-160 µm high, I + blue in the asci, Excipulum yellowish brown to brown with a thin orange-brown layer in the subhypothecium, K + red or K -. Apothecium base 280-470 µm wide. Apothecium chemistry: strain I, unknown substances. A and C (C dominant); strain II, unknown substances A, C, D and E. Crystals of Sicium Oxalate mostly present in the medullary excipulum, Spores solitary, bicellular and straight (atrorubicans-type), 75-115 x 30-45 µm, Spore wall 2-3 pm thick, Epispore thick, usually smooth, sometimes finely warted. Pycnidia not observed. Distribution and ecology: Megalospora atrorubicans ssp. australis is found only in New Zealand and on Lord Howe Island. In New Zealand it occurs most frequently on the South Island, where it is the commonest Megalospora species in Nothofagus solandri-forests at elevations of 500-1000 m. As phorophytes are recorded *Nothofagus, Daerydium, Phyllocladus* and *Weinmannia*, Sometimes specimens can be found overgrowing mosses, liverworts or epiphyte roots, but generally soft, rather decayed bark is preferred, - Remarks *Megalospora atrorubicans ssp. australis* differs from the other subspecies of *M,. atrorubicans* usually by the larger size of its apothecia and the frequent K + red-reaction of the excipulum. Moreover the presence of unknown substances D and E and of a warted epispore is within *Megalospora atrorubicans* restricted to ssp. *australis*, although it is not frequent here.



Megalospora atrorubricans* subsp. *australis

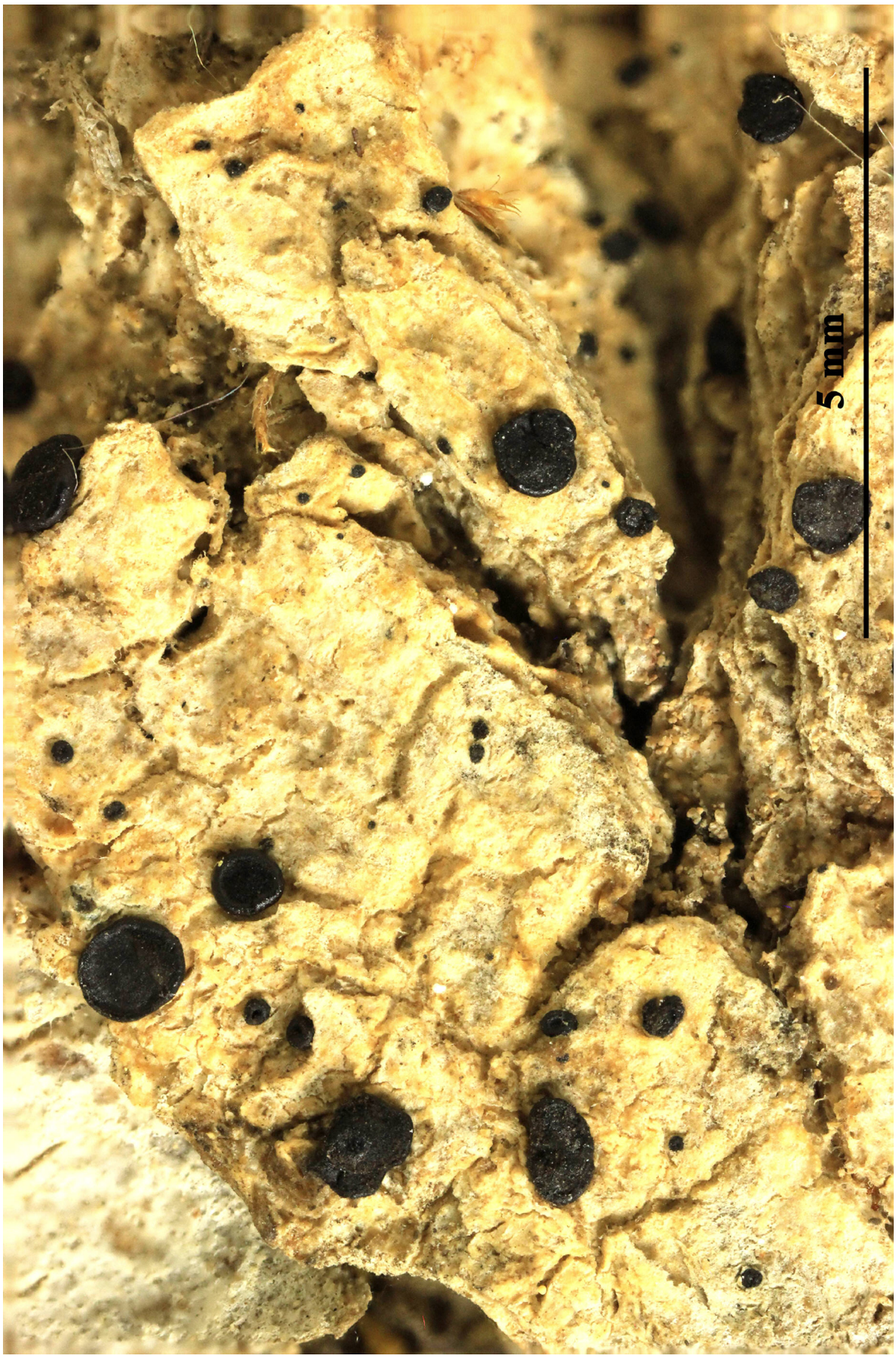


Megalospora atrorubricans* subsp. *australis

Megalospora grossa (Pers. ex Nyl.) Vězda, Lichenes Selecti Exsiccati, Fasc. (Průhonice) 54: 1 (no. 1328) (1975)
= *Lecidea grossa* Pers. ex Nyl. 1857
= *Megalaria grossa* (Pers. ex Nyl.) Hafellner, Beih. Nova Hedwigia 79: 302 (1984)
= *Catillaria grossa* (Nyl.) Körb.
= *Catinaria grossa* (Nyl.) Vain.

[VZ1328], Jugoslavia. Montenegro: Ivangrad, montes Bjelasica, prope lacum Biogradsko jezero, 900 m. Ad corticem *Fraxini excelsioris*. Leg. A. Vězda, 15.7.1975. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1328.

Thallus crustose, episubstratic, continuous and smooth, rimose or slightly warted, cream-coloured, greenish white or whitish grey, ecorticate, without a distinct prothallus. Apothecia lecideine, black, 0.4-1.5(-2.5) mm across, strongly constricted at base, with a concave to slightly convex, matt, epruinose, minutely roughened disc, and a thick, shiny, persistent or finally excluded proper margin. Proper exciple 80-160 µm thick laterally, layered, with a blue-green or emerald green inner and outer zone, K+ intensifying greenish, N+ purple-red, separated by a median, colourless zone inspersed with oil droplets, composed of radiating, coherent hyphae; epithecium blue-black, bluish green or diffuse olive, up to 10 µm high, K+ intensifying green, N+ purple-red; hymenium colourless or partly pale reddish brown, (90-)120-140(-160) µm high, not inspersed with oil droplets, I+ pale blue; paraphyses lax in K, mostly simple, (1-)1.5(-2) µm thick at mid-level, the apical cells 3-4 µm wide; hypothecium not inspersed with oil droplets, reddish brown to greenish black, K+ reddish violet. Asci 8-spored, cylindrical-clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, often slightly constricted at septum, hyaline, ellipsoid to oblong-ellipsoid, 20-34(-38) x (8-)10-16(-18) µm, the wall 1-2 µm thick. Pycnidia small, black, immersed, with cylindrical conidiogenous cells. Conidia 3-4 x 1.5-2 µm. Photobiont chlorococcoid (according to some authors trentepohlioid, but with low amount of orange pigments), the cells 5-13 µm wide. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: thallus without lichen substances. - Note: a mild-temperate to humid subtropical lichen found on base-rich bark of deciduous trees, especially of *Acer* and *Fraxinus*, locally still abundant in very humid forests of Southern Italy.



Megalospora grossa



Megalospora grossa

Megalospora tuberculosa (Fée) Sipman, Biblioth. Lichenol. 18: 156 (1983)
= *Lecidea tuberculosa* Fée 1825

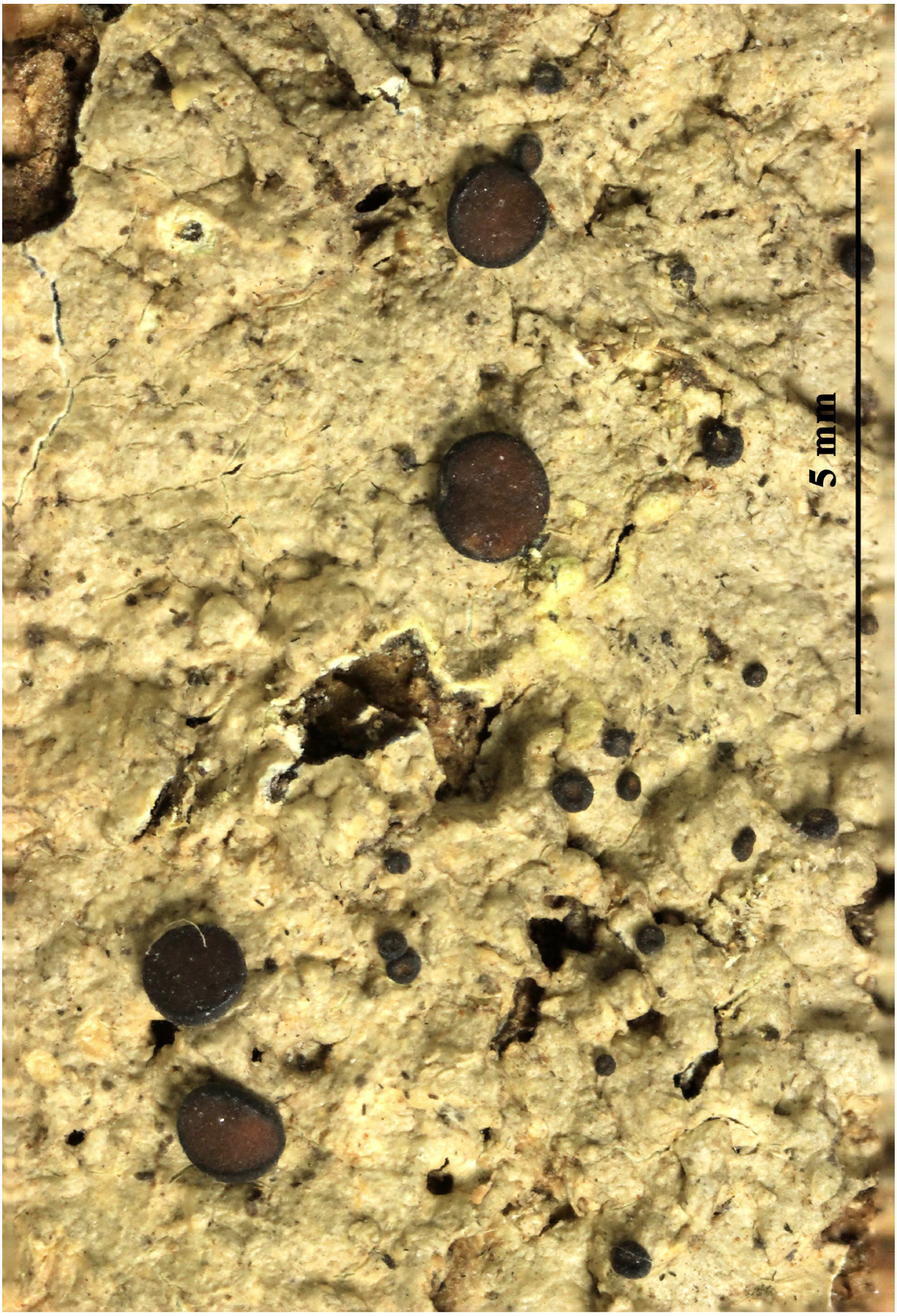
[VZ1939], Rwanda (Africa centralis). In silva Rugege, loco dicto Ruwankuba, 1850 m. Ad ramos superiores arboris (*Olea hochstetteri*) in silva montana. Leg. J. Lambinon (71/1091), 19.11.1971. Ex A. VěZDA LICHENES SELECTI EXSICCATI NR. 1939.

hallus pale yellowish grey, rather thin, smooth to rugulose or sometimes nearly granular (with c. 0.1-0.2 mm wide granules), sometimes with 0.4-0.6 mm wide tubercles. Soredia occasional, 30-80 pm wide, produced in soralia developed from low warts. Isidia absent. Chemistry: strain A, usnic acid (sometimes in very small amounts or perhaps absent) and zeorin; strain B, pannarin and zeorin, ocasionally with unknown substance B in tubercles. Apothecia c, 1,5 mm diam., 0.6-1.0 mm when young, and up to 2.8(-4) mm, 380-580 µm thick. Disc flat or, in the largest apothecia, convex, brown to black, slightly to clearly glossy, occasionally pruinose and then dull. Margin more or less prominent, rather thin, darkbrown to black, with pigment sometimes limited to the upper part, slightly to clearly glossy. Epithecium diffusely olive-green to -brown or black, or orange~brown to brown, sometimes with a granular top-layer which disappears in lactophenol-cottonblue preparations, 12-15(-18) µm thick, Hymenium 130-185(-210) µm high, I - or I + blue in the asci, rarely also in the basal part of the hymenium, Excipulum pale yellowish to darkbrown, often more pigmented in the upper part, when pale sometimes with a thin orange-brown layer in the subhypothecium, or with a dark subhypothecium, K - or K + weakly reddish or yellowish. Apothecium base 200-400(-550) µm wide. Apothecium chemistry: strain I, unknown substances A and C, in variable amounts, often in traces; strain II, unknown substance B; strain III, unknown substance A, B and C; strain IV, no demonstrable substances. Crystals of Calcium Oxalate sometimes present in the medullary excipulum. Spores solitary, bacillar-pluriseptate, straight, with thin septa (tuberculosa-type), (4-)8-10(-12)-celled, 70-140 x 25-35 µm. Spore wall c. 2 µm thick, Epispore indistinct, c. 0.5 µm thick, smooth, Pycnidia not observed, Distribution and ecology *Megalospora tuberculosa* is the most widely distributed species of the genus. In America it ranges from the United States to Southern Brasil, in Eurasia from Western Europe to Japan and New Guinea, and in Africa from the Canary Islands to the Mascarene Islands and South Africa. In tropical regions the species inhabits mainly mountains, but does occur also at

rather low elevations, e.g. at 70 m on Trinidad, In Papua New Guinea it has been found at elevations ranging from 1600 to 4450 m, in dense forests on canopee branches or on shrubs in clearings, in subalpine forest on less exposed branches, and in alpine situ. - Remarks| By its tuberculosa-type spores *Megalospora tuberculosa* resembles most closely *M. albescens, M. australtensts, M. halet* and *M, tnflexa*.



Megalospora tuberculosa

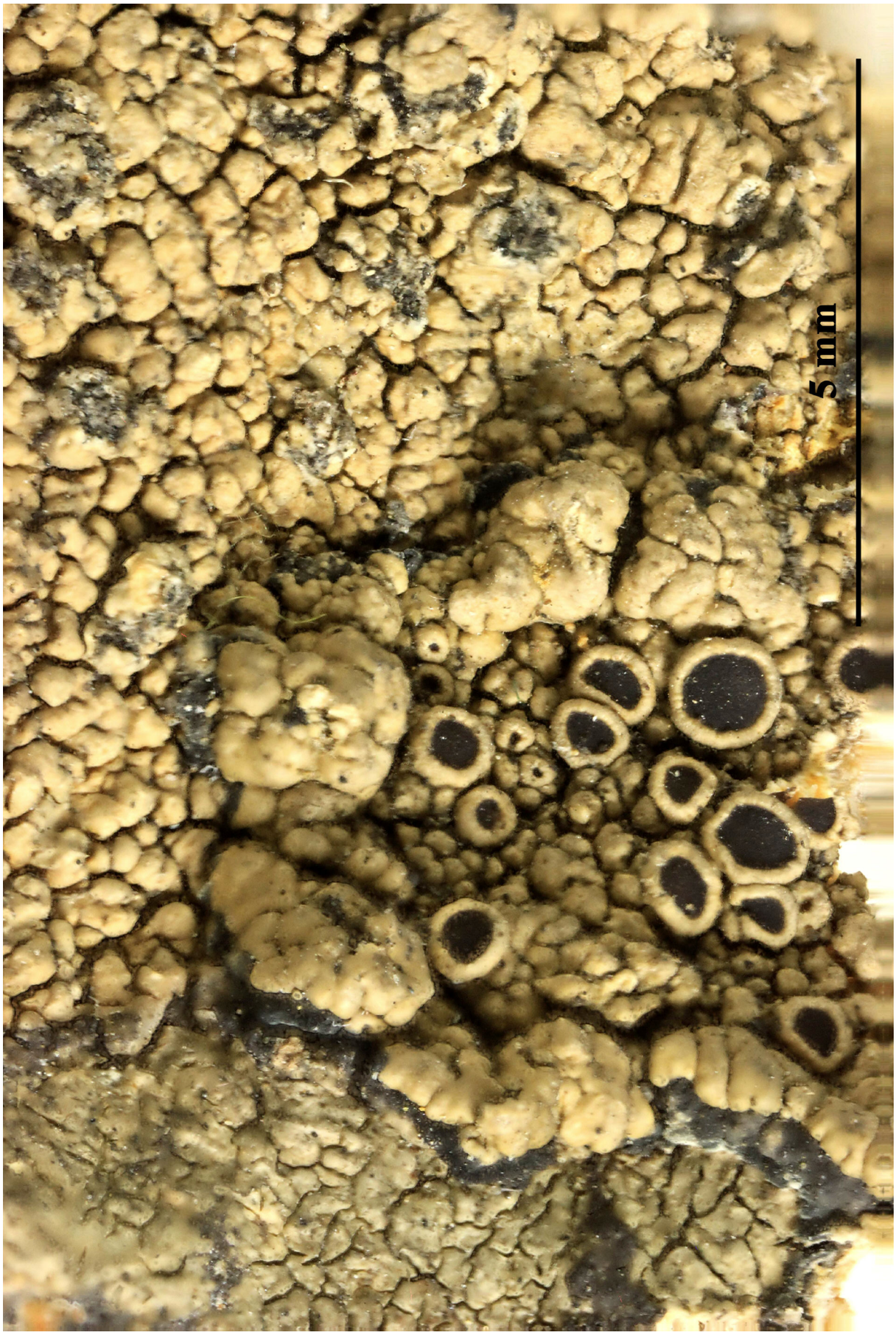


Megalospora tuberculosa

Melanaria pentelici (J. Steiner) Erichsen, Rabenh. Krypt.-Fl., Edn 2 (Leipzig) 9(5.1): 685 (1936)
= *Pertusaria pentelici* J. Steiner 1893

[VZ1596], Bulgaria. Pontus Euxinus. Distr. Burgas, 5 km ad meridiem versus a pago Sozopol, 3-5 m. Ad scopulum maritimum. Leg. A. Vězda, 20.9.1978. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1596.

Thallus crustose, episubstratic, pale grey-brown, rather thick, rimose-areolate, the sterile areoles 0.5-1 mm wide, flat to slightly convex. Apothecia immersed into more or less clearly delimited, basally constricted, up to 3(-4) mm wide fertile warts, at first perithecioid, then with expanded discs which unite in discs of second order, surrounded by a thalline margin. Asci 2-spored, broadly cylindrical, the apex with a broad ocular chamber, the outer sheath K/I+ blue, otherwise K/I-, Pertusaria-type. Ascospores 1-celled, at first hyaline, but soon turning grey- or olive-black, ellipsoid, 110-160 x 45-95 µm, the wall 3-layered, the thin outer layer, K-, the inner 2 layers K+ violet-purple. Pycnidia black, immersed. Conidia needle-like, 11-14 x c. 0.5 µm. Photobiont chlorococcoid. Spot tests: thallus K+ yellow turning red, C- or C+ faintly pink, KC+ yellow-red, P+ yellow-orange, UV-. Chemistry: norstictic, gyrophoric and connorstictic acids. - Note: a rarely collected silicicolous species known from Greece and Bulgaria, from sea level to the montane belt.



Melanaria pentelici



Melanaria pentelici

Melanelia stygia (L.) Essl., Mycotaxon 7(1): 47 (1978)
= *Lichen stygius* L. 1753
= *Cetraria stygia* (L.) Schaer.
= *Cornicularia stygia* (L.) Nyl.
= *Imbricaria stygia* (L.) DC.
= *Lichen fahlunensis* L.
= *Parmelia fahlunensis var. stygia* (L.) Schaer.
= *Parmelia reagens* (Servít) Gyeln.
= *Parmelia stygia* (L.) Ach.

[VZ1739], URSS. Caucasus Magnus, ad latera occidentalia montis Elbrus, loco Krugozor dicto, 3000-3100 m, ad saxa vulcanica. Leg. A. Vězda, 21.06.1980. - Annot. Chemistry p408/2: caperatic acid anal. F. Schumm. EX A. VEZDA LICHENES SELECTI EXSICCATI 1739.

Thallus foliose, heteromerous, dorsiventral, adnate to ascending, forming 3-6(-10) cm wide rosettes. Lobes 1-5 mm long, (0.5-)1-2(-3) mm wide, convex (flattened in upper part), contiguous to imbricate, with thickened and usually down-turned margins. Upper surface dark brown to black (greenish brown in shade-forms), more or less glossy, with rounded to elongate, whitish, mostly marginal pseudocyphellae which are often surrounded by a raised, often darker margin; lower surface dark brown to black, matt, with scattered, mostly simple, black rhizines. Upper cortex paraplectenchymatous, with a non-pored epicortex, the cell walls containing isolichenan; medulla white; lower cortex paraplectenchymatous. Apothecia lecanorine, mostly submarginal, (2-)4-6(-8) mm across, with a dark disc and a usually knobby, pseudocyphellate thalline margin. Epithecium brownish; hymenium and hypothecium colourless. Asci 8-spored, broadly clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-celled, hyaline, broadly ellipsoid, 7-12 x 4-6 µm. Pycnidia frequent, usually numerous, black, laminal, globose, mostly immersed, often with a gaping ostiole. Conidia simple, swollen at both ends, 3.5-5.5 x c. 1 µm. Photobiont chlorococcoid. Spot tests: upper cortex K-, C-, KC-, P-, N-; medulla K+ yellow turning dirty red-brown (rarely K-), C-, KC-, P+ orange-red (rarely P-), I-. Chemistry: several chemotypes, with 1) stictic and norstictic acids (major), 2) fumarprotocetraric and protocetraric acids (major), 3) no lichen substances. Caperatic, cryptostictic, menegazziaic and constictic acids have been also

reported as minor substances. - Note: a circumpolar, arctic-alpine lichen found on siliceous rocks in open habitats, with optimum near and above treeline; widespread in the Alps, where it reaches the nival belt.



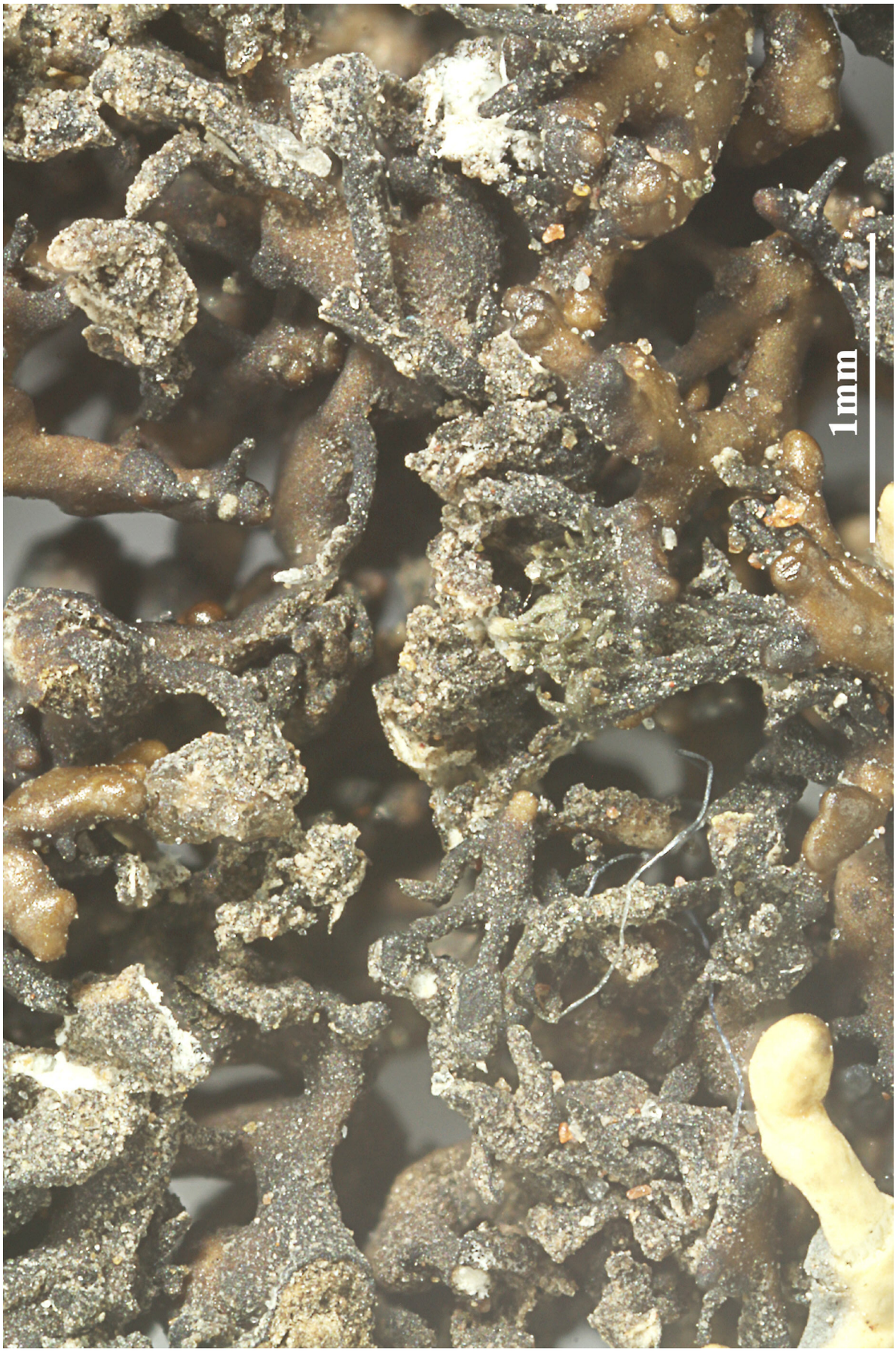
Melanelia stygia



Melanelia stygia



Melanelia stygia



Melanelia stygia

Melanelia stygia

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= *Lichen stygius* L. 1753
= *Cetraria stygia* (L.) Schaer.
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= *Parmelia fahlunensis var. stygia* (L.) Schaer.
= *Parmelia reagens* (Servít) Gyeln.
= *Parmelia stygia* (L.) Ach.

[VZ2194], Bohemoslovacia, Slovacia centr., montes Stiavnické vrchy, in Monte Kamenná loco dicto Kamenné supra pagum Vyhne, 370 m, ad saxa eruptiva. Leg. I. Pišút et M. Svetlíková, 7.08.1987. - Annot.:Chemistry, anal. F. Schumm, p408/1: fumarprotocetraric, protocetraric ?, physodalic acid ?. - . Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2194.

Thallus foliose, heteromerous, dorsiventral, adnate to ascending, forming 3-6(-10) cm wide rosettes. Lobes 1-5 mm long, (0.5-)1-2(-3) mm wide, convex (flattened in upper part), contiguous to imbricate, with thickened and usually down-turned margins. Upper surface dark brown to black (greenish brown in shade-forms), more or less glossy, with rounded to elongate, whitish, mostly marginal pseudocyphellae which are often surrounded by a raised, often darker margin; lower surface dark brown to black, matt, with scattered, mostly simple, black rhizines. Upper cortex paraplectenchymatous, with a non-pored epicortex, the cell walls containing isolichenan; medulla white; lower cortex paraplectenchymatous. Apothecia lecanorine, mostly submarginal, (2-)4-6(-8) mm across, with a dark disc and a usually knobby, pseudocyphellate thalline margin. Epithecium brownish; hymenium and hypothecium colourless. Asci 8-spored, broadly clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-celled, hyaline, broadly ellipsoid, 7-12 x 4-6 µm. Pycnidia frequent, usually numerous, black, laminal, globose, mostly immersed, often with a gaping ostiole. Conidia simple, swollen at both ends, 3.5-5.5 x c. 1 µm. Photobiont chlorococcoid. Spot tests: upper cortex K-, C-, KC-, P-, N-; medulla K+ yellow turning dirty red-brown (rarely K-), C-, KC-, P+ orange-red (rarely P-), I-. Chemistry: several chemotypes, with 1) stictic and norstictic acids (major), 2) fumarprotocetraric and protocetraric acids (major), 3) no lichen substances. Cape-

ratic, cryptostictic, menegazziaic and constictic acids have been also reported as minor substances. - Note: a circumpolar, arctic-alpine lichen found on siliceous rocks in open habitats, with optimum near and above treeline; widespread in the Alps, where it reaches the nival belt.



Melanelia stygia



Melanelia stygia



Melanelia stygia



Melanelia stygia

Melanelia stygia

Menegazzia circumsorediata R. Sant., Ark. Bot. 30A(no. 11): 14 (1942)

[VZ1830], Nova Zelandia. South Island: Marlborough, 7 km ad sept.-occid. versus a Kalkoura, Kowahi Bush, Schoolhouse Road, 42°23' austr., 173°37' orient., 5 m. Ad truncum Leptospermi ericoides. Leg. st det. L. Tibell (no. 10796), 04.02.1981. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1830.

Thallus foliaceus, fistulosus, usque 5 cm latus, irregulariter divisus, sat rigidus, superne glaucus vel cinereus, laevis, nitidulus, foraminibus rotundis, usque 0.5 mm latis, in parte media loborum sparse instructus, subtus (et interdum ad latera loborum) nigrescens, nudus, nitidulus, minute scrobiculatus, non perforatus, Foramina circumecirea sorediosa et thallus in parte loborum inferiorum soredia maniciformibus instructus. Isidia evanescentia. Apothecia usque 2 mm lata, leviter pedicellata, pedicello thallo concolore, solido, receptaculo thallo concolore, leviter ruculoso. Discus fuscus, epruinosus, leviter concavus, margine 0.2-0.3 mm ecrassus, leviter crenulatus et sorediatus. Pycnoconidangia desunt. Descript. anatom. Thallus circumeirca corticatus, cortice superiore chondroideo, leviter lutescente vel incolorato, circ. 20 µm crasso, ex hyphis intricatis pachydermaticis formato, cortice inferiore fusco vel fusco-nigricante, 10—15 µm crasso, strato gonidiali angusto, 40-50 µm alto, continuo, conidiis flavo-virescentibus, globosis, diam. 7-10 µm, medulla alba, 150-900 + 100—150 µm crassa, ex hyphis granularibus pachydermaticis, 3-5 µm crassis, parce ramosis, minus densis formata. Medulla apotheciorum alba. Hymenium 100-150 µm altum, superne fuscescens, ceterum incoloratum, J + caeruleum (praecipue asei). Paraphyses chondroideo-conglutinatae, filiformes, strictiusculae, sparse ramosae, cire. 1.5 µm crassae, apice clavatoincrassatae, clavo usque 4 µm crasso. Asci ovales, 2-spori, membrana incrassata. Sporae incoloratae, simplices, ovales vel ovoideae, 15-56 x 20-32 µm, membrana 4-5 µm n crassa. Hypothecium circ. 50 µm crassum. React. Thallus K-, C-, KC-, P-; medulla K+ flavescens, C-, KC+ rubescens (dein incolor), Pd+ rubescens; soredia cum medulla convenientia sed multo intensius colorata. Known localities. New Zealand.



Menegazzia circumsorediata



Menegazzia circumsorediata

Menegazzia globulifera R. Sant., Ark. Bot. 30A(no. 11): 30 (1942)

[VZ1831], Nova Zelandia. South Island: Canterbury, Bealy Spur ptope Arthur's pass, secundus viam Grasmere Hut, 43°01' austr., 171°35' orient., 800- 1000 m. Ad ramulos *Dacrydii bidwillii*, in regione subalpina. Leg. et det. L. Tibell (no. 10128(, 17.12.1980. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1831.

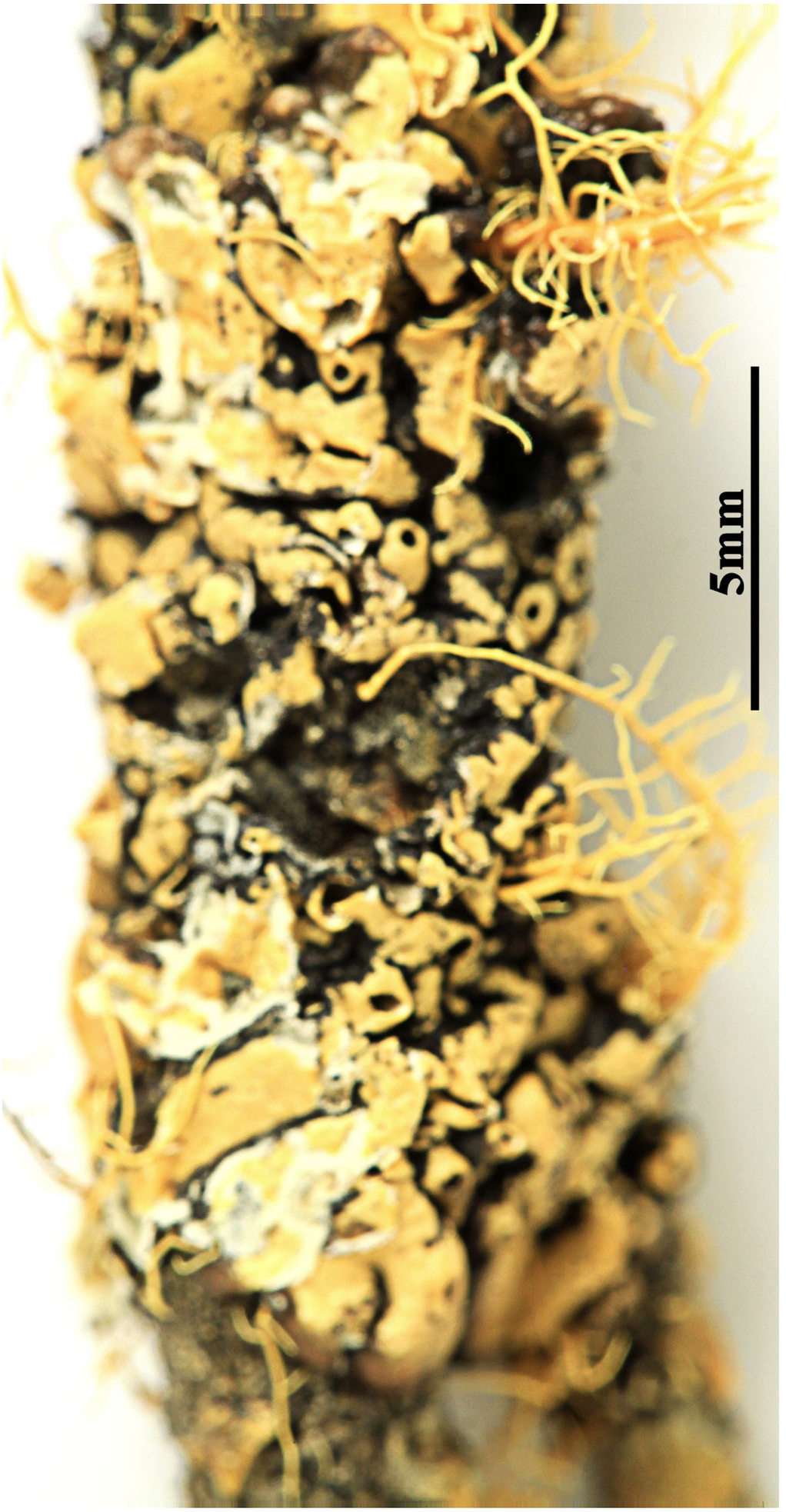
Thallus circ. 2 em latus, subdichotome vel irregulariter divisus, sat mollis, fistulosus, superne stramineus vel luteolus, laevis, nitidulus, foraminibus rotundis usgue 0.5 mm latis sat sparse pertusus, subtus (et interdum superne ad latera loborum) niger vel fusco-niger, nudus et laevis, nitidulus. non perforatus, ad apices fuscescens. Lobi circ. 1 mm lati, in sectionetransversali elliptici, ad apicem rotundati. Thallus isidiis destitutus, sorediis superficialibus, primo punctiformibus, dein mauniciformibus et ultimo vesiculiformibus instructus. Apothecia et pyenoconidangia desunt. Descript. anatom. Thallus circumeirea corticatus, cortice supertore chondroideo, fulvescente vel plus minusve incolorato, 30-35 µm crasso, ex hyphis pachydermaticis formato, cortice inferiore fusco vel fusco-nisricante, circ. 15 µm crasso. Stratum gonidiale 40—50 µm altum, gonidiis flavo-virescentibus, &—10 µm diam., stratum medullare album, erassitudine valde irregulari, (50—100 µm), ex hyphis pachydermatieis, granulosis, 4-8 µm crassis, parce ramosis, minus densis formatum. React. Thallus K-, C-, KC+ flav., P-; medulla K-, C+ rub., KC+ rub.. P-; soredia K+ leviter fulv., C+ intense rub., KC+ rub., Pd-. M. globulifera is very well characterized by its soredia vesiculiformia, cf. above. - Habitat. Corticolous on *Nothofugus* in the deciduous *N. antarctica* and *N. pumilio* forests.



Menegazzia globulifera



Menegazzia globulifera



Menegazzia globulifera

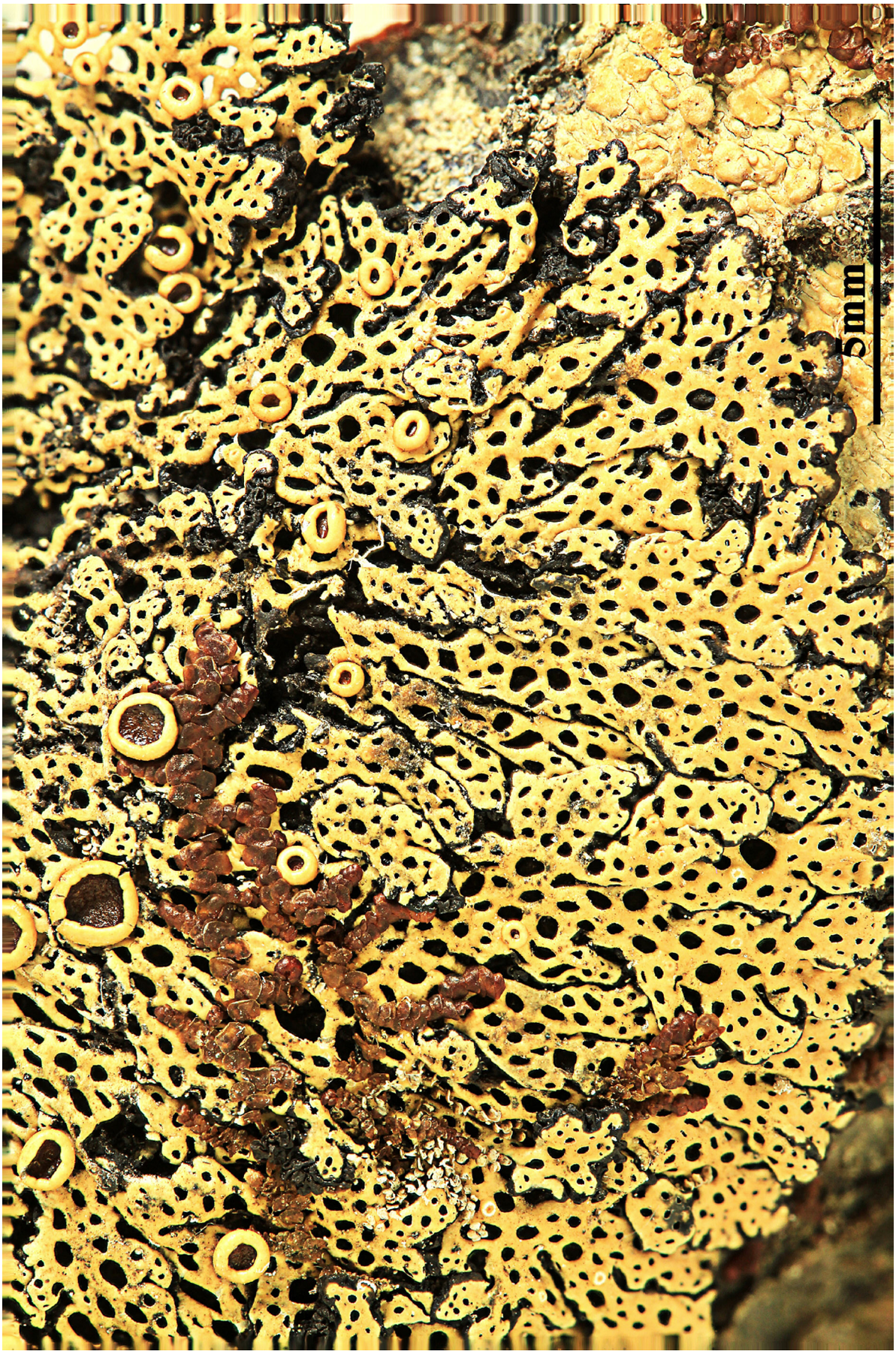
Menegazzia retipora (Stirt.) Bitter, Hedwigia 40: 172 (1901)
= *Menegazzia myriotrema* (Müll. Arg.) P. James, in James & Galloway 1992
= *Parmelia myriotrema* Müll.Arg., Bull. Herb. Boissier 4: 91 (1896)

[VZ018], Australia, Tasmania. Sumac Rd., Horton River, 230 m. Ad corticem arboris Nozhofagus cuningfamii in pluvlisilva. Leg. G. Kantvilas (no 605/84), 05.04.1984. Ex A. VěZDA: Lichenes Selecti Exsiccati Nr. 2018.

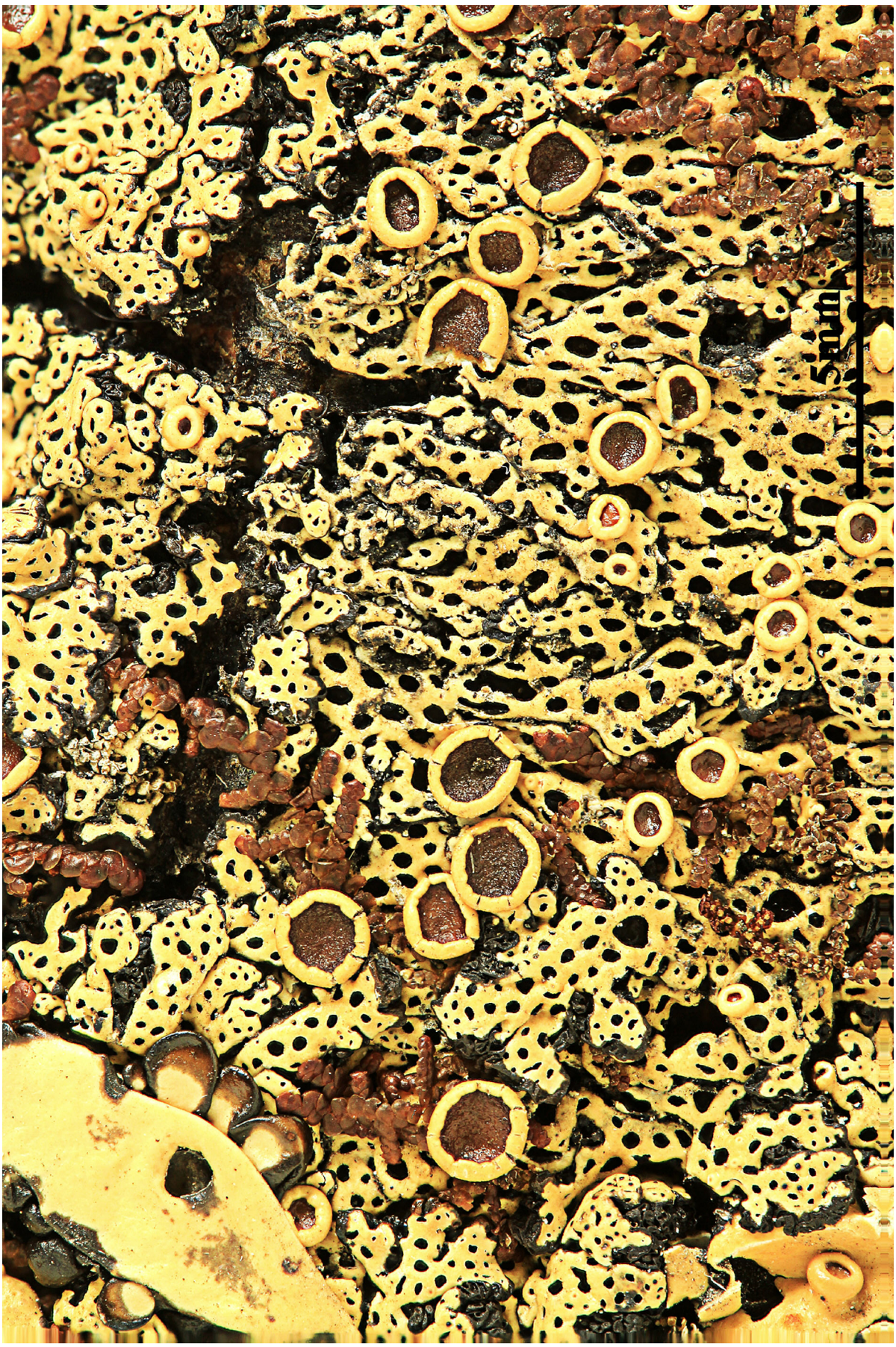
Thallus forming small rosettes or irregular patches, 3–8 cm wide, closely attached. Lobes radiating, flabellate, mostly to 1 mm wide, divergent, with obscure branching, contiguous or imbricate, hollow, green-grey, without isidia, maculae or soredia; margins smooth or notched; upper part of cavity pale or whitish, lower part grey or black. Perforations numerous, laminal, many per lobe, rounded, oval or sometimes irregularly level with surface, less than 1 mm wide, rather regular. Apothecia scattered, laminal, sessile, rounded, to 2 mm wide; disc matt or slightly roughened, epruinose, pale to dark red-brown; exciple often fissured, smooth to unevenly crenulate. Ascospores 1–2 per ascus, 45–60 × 25–32 µm; wall 3.5–4 µm thick. CHEMISTRY: cortex K+ yellow (atranorin); medulla K+ orange, KC+ orange, C-, P+ orange (stictic and cryptostictic acids, sometimes ?lecanoric acid but lacking constictic acid or menegazziaic acid). - Occurs in Vic. and Tas., on bark; common and widespread on canopy twigs in rainforest, rare outside rainforest; endemic.



Menegazzia retipora



Menegazzia retipora



Menegazzia retipora

Metus conglomeratus (F. Wilson) D.J. Galloway & P. James, Notes R. bot. Gdn Edinb. 44(3): 566 (1987)
= *Pilophorus conglomeratus* F. Wilson 1889

[VZ2345], Australia, Tasmania: Scotts Peak, ad septentriones ab Huon River, 500m. In pluviisilva. Leg. G. Kantvilas (526/88), 23.11.1988. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2345.

Primary thallus emerald green, occasionally brownish or yellowish green, granular, forming a contiguous or rather dispersed, widespreading crust over a thin brown to black prothallus. Podetia to 25 mm tall, 1–4 mm wide, subterete, longitudinally striate and fissured, covered with green corticate granules or decorticate and pale to brownish in patches, mostly simple, becoming irregularly branched towards apices. Apothecia 1–5 mm wide, subglobose, becoming irregularly convoluted, pale reddish to dark brown, commonly forming cerebriform, conglomerate clusters to 5 (–10) mm wide. Ascospores usually 8–13 × 2.5–3.5 µm. Pycnidia mostly at apices of sterile pin-like podetia to c. 2 mm tall, dispersed, or crowded in sterile thalli, black-brown. CHEMISTRY: protolichesterinic and lichesterinic acid, ±atranorin. N.Z. populations contain caperatic acid (Galloway & James, op. cit. 568). - Common and widespread in Tasmania from sea level to alpine altitudes in cool temperate rainforest, on moist shaded tree trunks or rotting wood, usually over bryophytes.



Metus conglomeratus



Metus conglomeratus

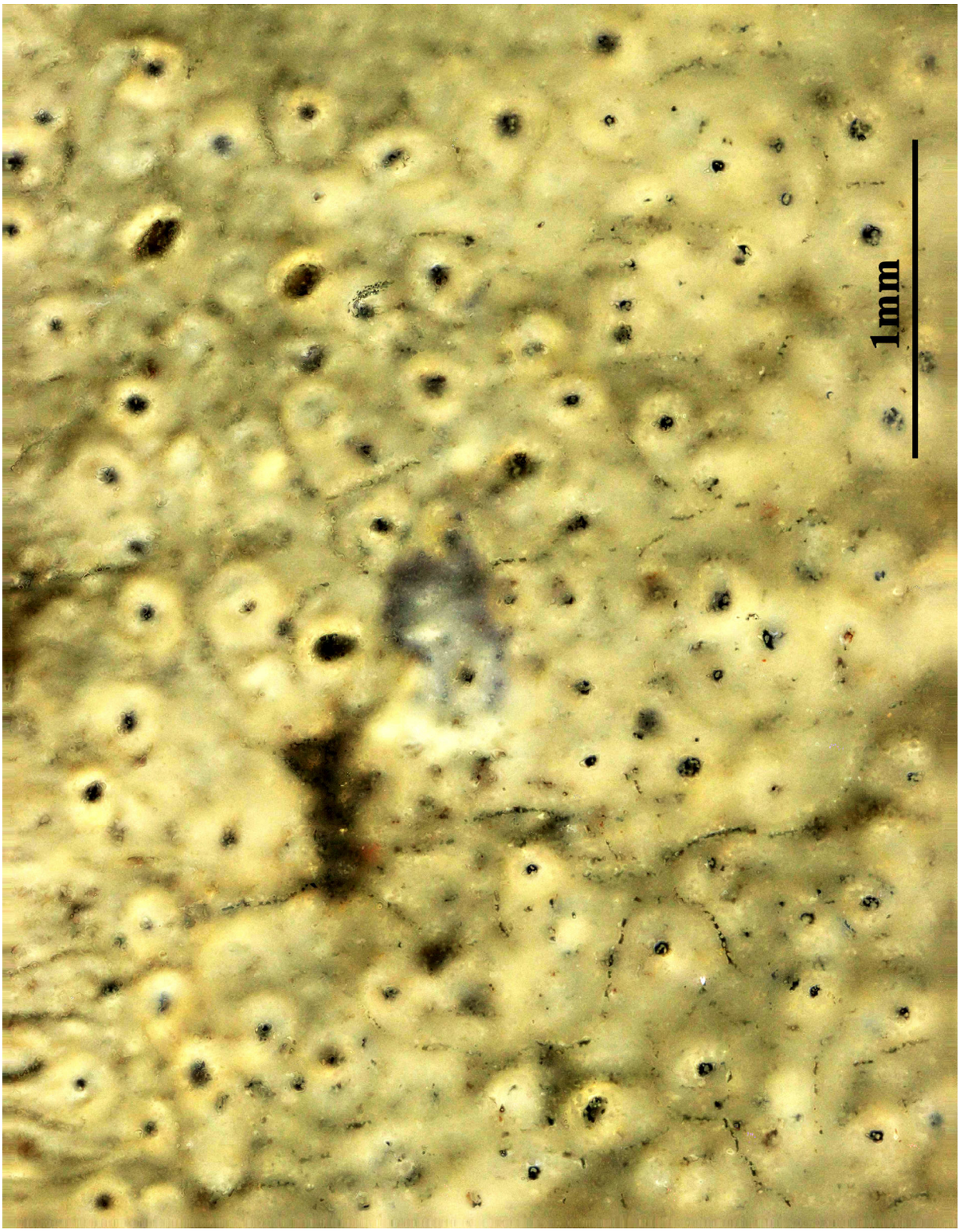
Myriotrema fissurinum Hale, Bull. Br. Mus. nat. Hist., Bot. 8(3): 279 (1981)
= *Leucodecton fissurinum* (Hale) Frisch, Biblthca Lichenol. 92: 156 (2006)

[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. VěZDA 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

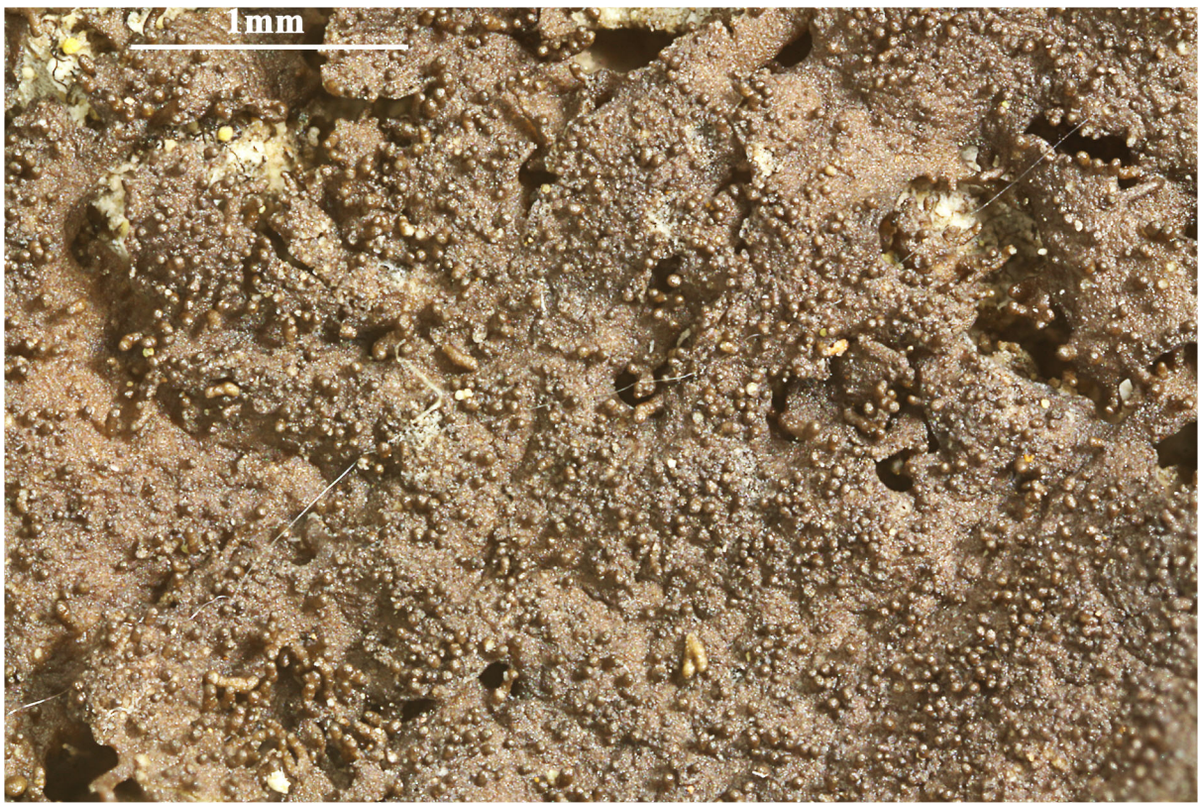
Parmelia elegantula (Zahlbr.) Szatala, Magy. Bot. Lapok 29: 47 (1930)
= *Melanohalea elegantula* (Zahlbr.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch, Mycol. Res. 108(8): 882 (2004)
= *Melanelia elegantula* (Zahlbr.) Essl., Mycotaxon 7(1): 47 (1978)

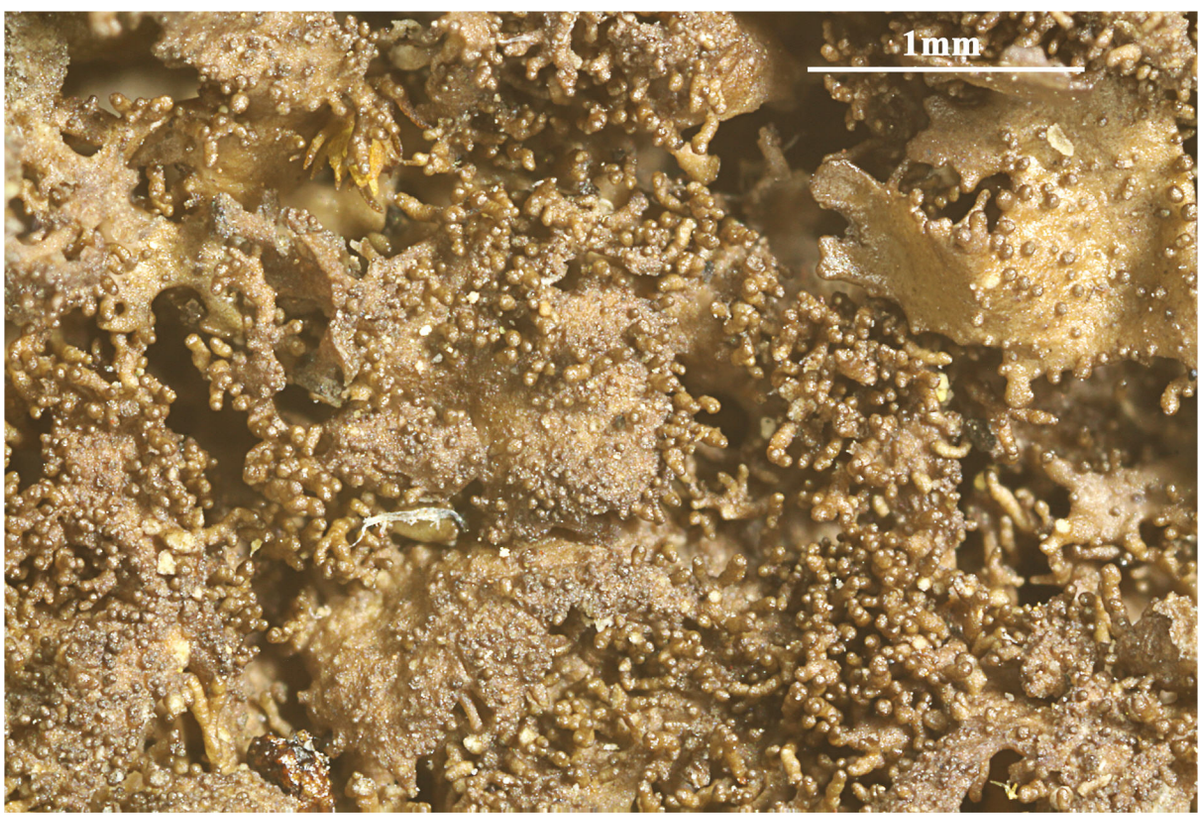
[VZ1335],Jugoslavia, Macedonia, montes Galičica, secundum via inter Trpejca et Otešovo, 1550 m, ad cortices *Quercuum* vetustarum. Leg. A. Vězda, 11.07.1975. A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1335

Thallus foliose, heteromerous, dorsiventral, forming 4-7 cm wide rosettes, isidiate. Lobes (2-)3-4(-7) mm wide, contiguous to imbricate, adpressed but sometimes slightly ascending at margins, brown to olive-brown, usually dull, but sometimes shiny at lobe tips, epruinose, with abundant, cylindrical, simple to coralloid, 0.05-0.18 mm thick, not hollow isidia arising from conical papillae, with apical pseudocyphellae. Lower surface pale brown, slightly darker at margin, with mostly simple rhizines. Upper cortex paraplectenchymatous, with a non-pored epicortex, the cell walls containing isolichenan; medulla white; lower cortex paraplectenchymatous. Apothecia very rare, lecanorine, with a brown disc and an isidiate thalline margin. Epithecium brown; hymenium and hypothecium colourless. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid, 8-12 x 4-7 µm. Pycnidia rare, black, laminal. Conidia slightly dumbbell-shaped, c. 7 x 1 µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-, N-, UV-. Chemistry: without lichen substances. - Note: a mild-temperate lichen found on old trees (e.g. oaks, Castanea), more rarely on siliceous rocks (Roux & coll. 2014), with optimum in the montane belt; common in the Apennines, rare in Northern Italy, and absent from urban areas.



Parmelia elegantula





Parmelia elegantula

Parmelia exasperata De Not., G. bot. ital. 2(2): 193 (1847)
= *Melanohalea exasperata* (De Not.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch, Mycol. Res. 108(8): 882 (2004)
= *Melanelia exasperata* (De Not.) Essl., Mycotaxon 7(1): 47 (1978)
= *Parmelia aspera* A. Massal., Memor. Lich.: 53 (1853)
= *Parmelia aspidota* (Ach.) Röhl., Deutschl. Fl. (Frankfurt) 3(2): 100 (1813)

[VZ1736], Maroccanum Regnum, Atlas Centralis, 12 km ad meridiem et orientem versus ab Ifrane, ad ramos *Crataegi sp*. in agro. Annot.: Possible faint trace of an unidentified triterpene, no other compinds detected by TLC- A. Johnson and C.F. Culberson. Leg. W.L. Culberson (16158) et C.F. Culberson, 18.5.1972. Ex A. VEZDA LICHENES SELECTI EXSICCATI NR. 1736.

Thallus foliose, heteromerous, dorsiventral, tightly adpressed, forming 2-6 cm wide rosettes. Lobes 2-4(-6) mm wide, usually contiguous, pale to dark olive brown, dull to moderately shiny, especially at margins, sometimes white-pruinose at tips and margins, thin, rounded at tips, with numerous, more or less homogeneously scattered, conical, up to 0.1 mm wide, isidia-like papillae with a small central depression (actually raised pseudocyphellae!). Lower surface black, pale brown at margins, with simple rhizines. Upper cortex paraplectenchymatous, with a non-pored epicortex, the cell walls containing isolichenan; medulla white; lower cortex paraplectenchymatous. Apothecia almost always present, lecanorine, bowl-shaped, sessile, 2-6 mm across, with a brown disc and a thalline margin covered in numerous papillae. Epithecium brown; hymenium and hypothecium colourless. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid, 8-12 x 5-7 µm. Pycnidia common, dark, immersed, laminal. Conidia slightly dumbbell-shaped, 7-8 x 1 µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-, N-, UV-. Chemistry: without lichen substances. - Note: a mainly temperate to Mediterranean early coloniser of smooth bark, most common on twigs of shrubs and deciduous trees (e.g. *Prunus*, *Quercus*) below the subalpine belt.



Parmelia exasperata



Parmelia exasperata

Parmelia elegantula (Zahlbr.) Szatala, Magy. Bot. Lapok 29: 47 (1930)
= *Melanohalea elegantula* (Zahlbr.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch, Mycol. Res. 108(8): 882 (2004)
= *Melanelia elegantula* (Zahlbr.) Essl., Mycotaxon 7(1): 47 (1978)

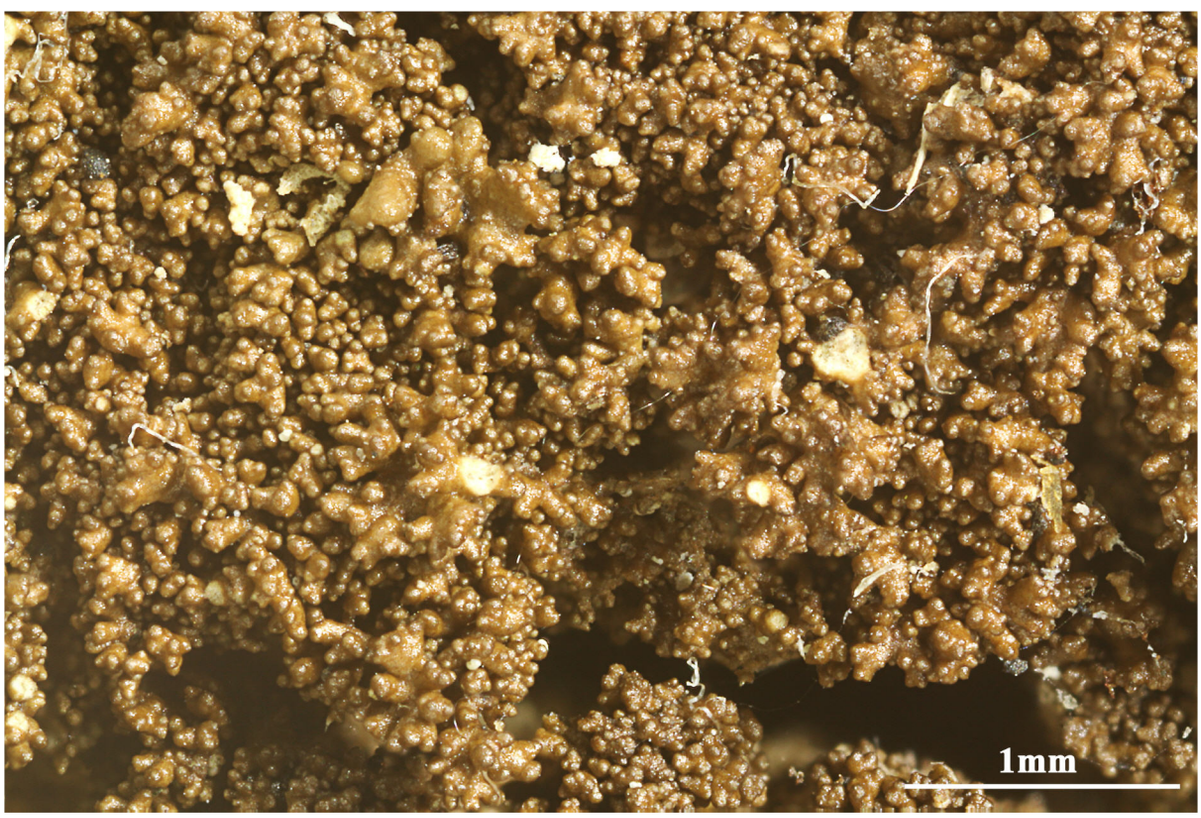
[VZ1118], Austria, Stiria, Grazer Bergland, Graz, iuxta viam prope Wenisbuch, 550 m, in trunco *Pyri communis*. Leg. P. Döbbeler, J. Poelt & H. Teppner, 10.07.1972. Ex A.Vězda: Lichenes Selecti Exsiccati Nr. 1118.

Thallus foliose, heteromerous, dorsiventral, forming 4-7 cm wide rosettes, isidiate. Lobes (2-)3-4(-7) mm wide, contiguous to imbricate, adpressed but sometimes slightly ascending at margins, brown to olive-brown, usually dull, but sometimes shiny at lobe tips, epruinose, with abundant, cylindrical, simple to coralloid, 0.05-0.18 mm thick, not hollow isidia arising from conical papillae, with apical pseudocyphellae. Lower surface pale brown, slightly darker at margin, with mostly simple rhizines. Upper cortex paraplectenchymatous, with a non-pored epicortex, the cell walls containing isolichenan; medulla white; lower cortex paraplectenchymatous. Apothecia very rare, lecanorine, with a brown disc and an isidiate thalline margin. Epithecium brown; hymenium and hypothecium colourless. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid, 8-12 x 4-7 µm. Pycnidia rare, black, laminal. Conidia slightly dumbbell-shaped, c. 7 x 1 µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-, N-, UV-. Chemistry: without lichen substances. - Note: a mild-temperate lichen found on old trees (e.g. oaks, Castanea), more rarely on siliceous rocks (Roux & coll. 2014), with optimum in the montane belt; common in the Apennines, rare in Northern Italy, and absent from urban areas.



Parmelia elegantula





Parmelia elegantula

Parmelia glabra (Schaer.) Nyl., Flora, Regensburg 55: 548 (1872)
= *Melanelixia glabra* (Schaer.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch, Mycol. Res. 108(8): 882 (2004)
= *Melanelia glabra* (Schaer.) Essl., in Egan, Bryologist 90(2): 163 (1987)

[VZ1092], Maroccanum Regnum, Atlas Medius, Inter oppidos Azrou et Ifrane, ad corticem *Quercus sp*. Leg. W.L. Culberson (15 107) et C. F. Culberson, 29.5.1971. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1092.

Thallus foliose, heteromerous, dorsiventral, broad-lobed, appressed or slightly ascending at the periphery, forming large, up to 11(-15) cm wide, sometimes confluent, orbicular rosettes. Lobes rounded at tips, contiguous to imbricate, 2-5(-8) mm broad, mostly flat, brown, smooth to strongly rugose in central parts, with tiny, hyaline cortical hairs visible at least on some lobe-ends and on apothecial margins (stereomicroscope!); pseudocyphellae inconspicuous, present on warts or ridges, especially on the apothecial margins. Lower surface dark brown to black, often paler at margins, with simple, black rhizines. Upper cortex paraplectenchymatous, with a pored epicortex, the cell walls containing isolichenan; medulla white; lower cortex paraplectenchymatous. Apothecia common, lecanorine, to 1.5(-2) cm across, sessile to shortly stipitate, with an initially strongly concave, then irregularly flattened, brown disc, and a reticulately ridged, often pseudocyphellate margin which nearly always has cortical hairs. Epithecium brown; hymenium and hypothecium colourless. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid to broadly ovoid, 11-15 x 5.5-8(-10) µm. Pycnidia common, immersed. Conidia bacilliform, (6.5-)8-9 x c. 1 µm. Photobiont chlorococcoid. Spot tests: upper cortex K-, C-, KC-, P-, N-; medulla K-, C+ red, KC+ red, P-, UV-. Chemistry: medulla with lecanoric acid. - Note: a mild-temperate lichen found on more or less isolated, mostly deciduous trees; optimum in the submediterranean belt, but common also in the beech belt of the southern mountains and of the western Alps; ecologically similar to *Pleurosticta acetabulum*.



Melanelixia glabra



Melanelixia glabra

Parmelia laciniatula (Flagey ex H. Olivier) Zahlbr., Annln K. K. naturh. Hofmus. Wien 30: 216 (1916)

= *Melanohalea laciniatula* (Flagey ex H. Olivier) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch, Mycol. Res. 108(8): 882 (2004)

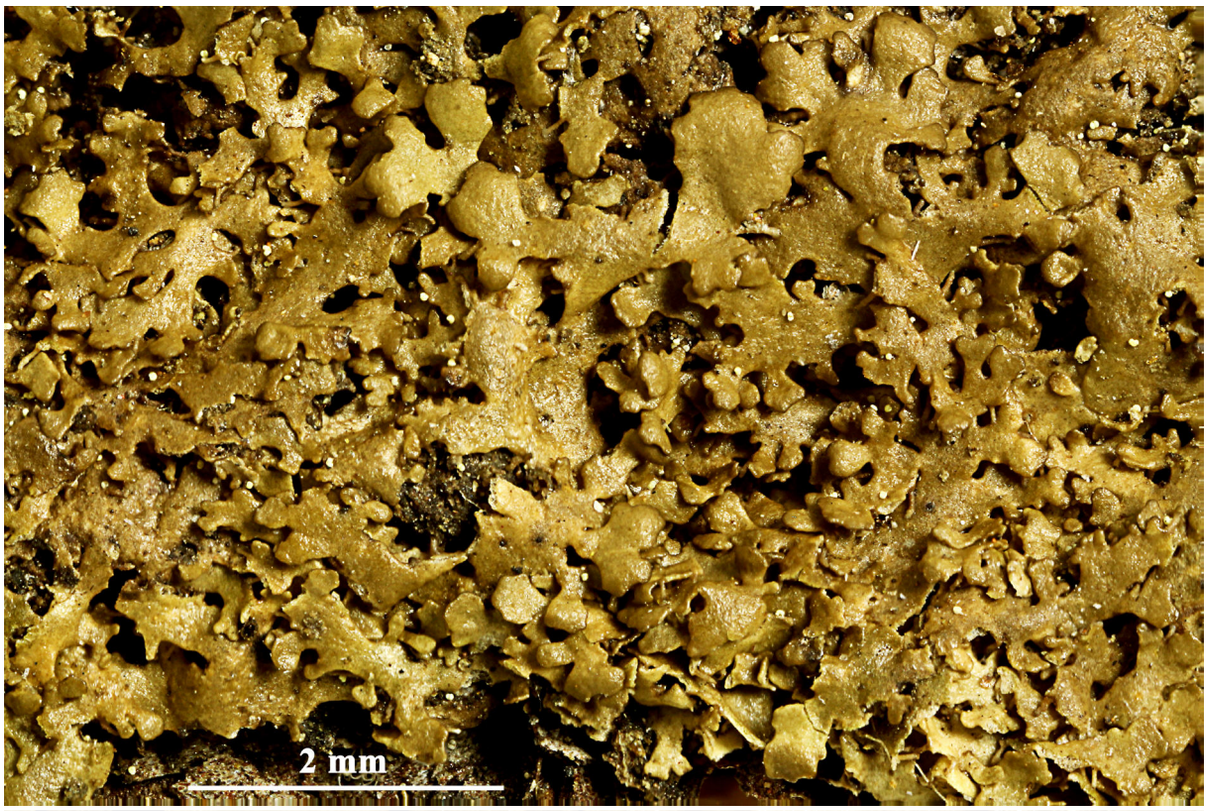
= *Melanelia laciniatula* (Flagey ex H. Olivier) Essl., Mycotaxon 7(1): 48 (1978)

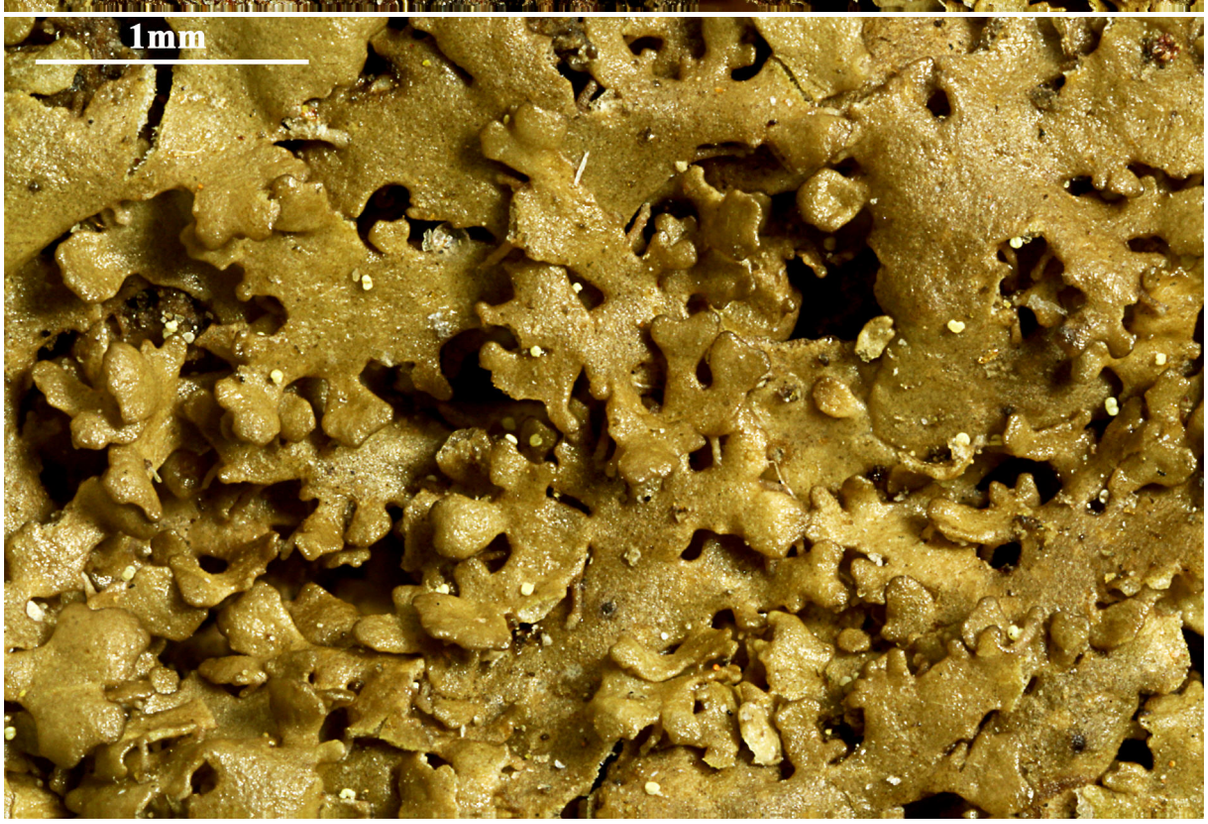
[VZ2213], Italia, Sardinia, Prov. Sassari, Gallura, montes Limbara, prope Vallicciola, 1000-1200 m, ad truncum *Pseudotsugae douglasii*. Leg. A. Vězda, 20.07.1987. Ex A. VěZDA LICHENES SELECTI EXSICCATI NR. 2213

Thallus foliose, heteromerous, dorsiventral, adpressed but often raised at margins, forming 5-10 cm wide rosettes, several thalli often merging to cover larger surfaces. Lobes crowded and overlapping, short, up (1-)2-3 mm wide, indented, the marginal parts often shiny, the central parts of thallus panniform, densely covered in minute secondary, up to 1.5 mm wide, foliole-like lobules developing from isidia-like papillae bearing inconspicuous pseudocyphellae. Upper surface smooth or papillose especially in the marginal zone, brown-green to olivaceous brown; lower surface tan to pale brown, with simple, pale rhizines. Upper cortex paraplectenchymatous, with a non-pored epicortex, the cell walls containing isolichenan; medulla white; lower cortex paraplectenchymatous. Apothecia extremely rare, lecanorine, sessile, to 2 mm across, with a brown disc and an often foliolose thalline margin. Epithecium brown; hymenium and hypothecium colourless. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid, 7-9 x 4-7 µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-, N-, UV-. Chemistry: without lichen substances. - Note: a mainly Mediterranean-montane species found on the smooth bark of old deciduous trees, especially *Fagus*, in open, humid, mostly montane forests; most abundant in the Apennines, perhaps declining in the Alps, absent from urban areas.

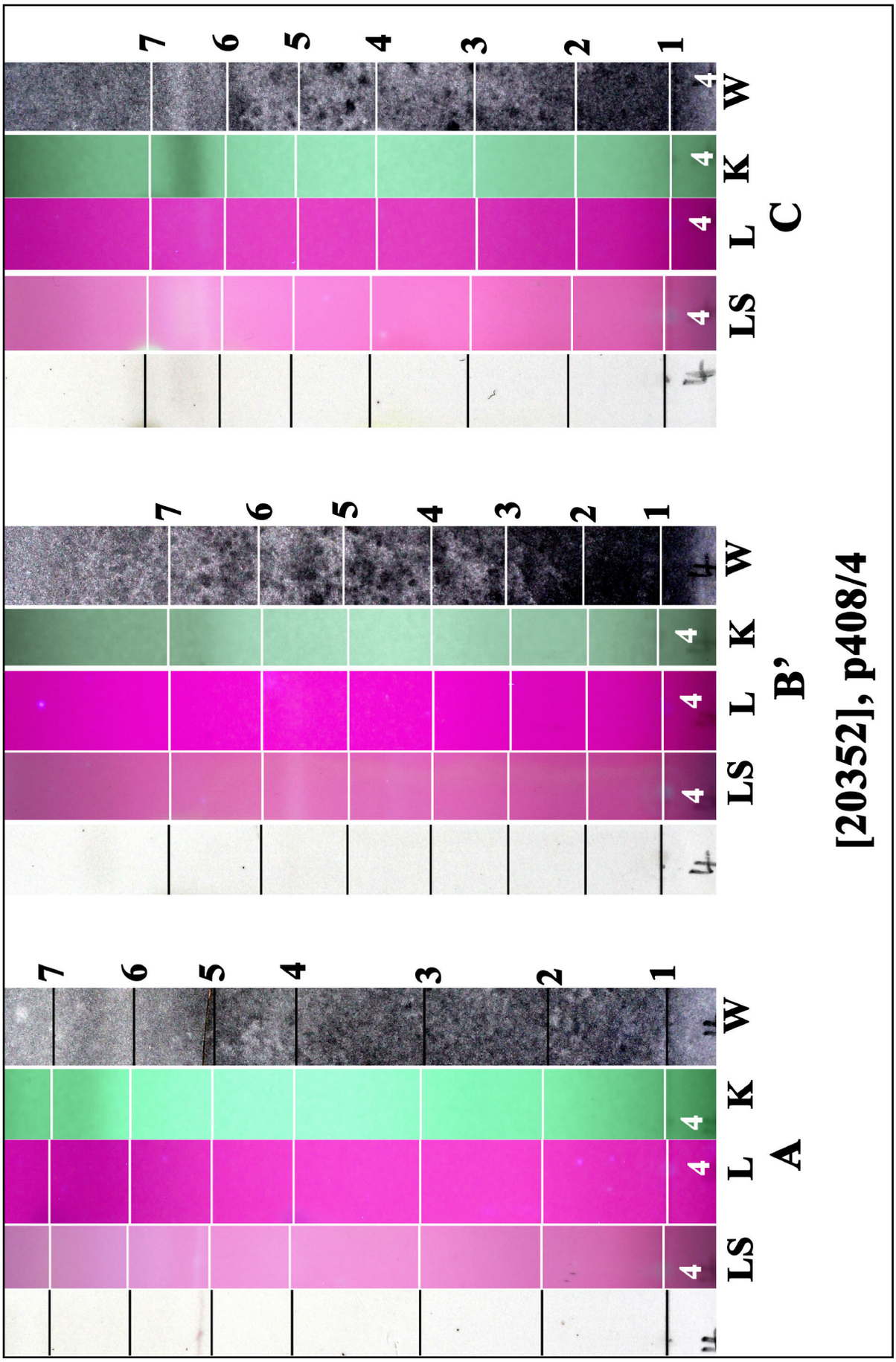


Parmelia laciniatula





Parmelia laciniatula



no lichen substanzes detected

Parmelia laciniatula

Parmelia olivacea (L.) Ach., Methodus, Sectio post. (Stockholmiæ): 213 (1803)
= *Melanohalea olivacea* (L.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch, Mycol. Res. 108(8): 883 (2004)
= *Melanelia olivacea* (L.) Essl., Mycotaxon 7(1): 48 (1978)

[VZ121], Suecia, Härjedalen, Tännäs Paroecia, Ramundberget, 760 m, in ramulis *Betulae*. Leg. R. Santesson (24373), 27.06.1973. Ex A. VěZDA LICHENES SELECTI EXSICCATI NR. 1212

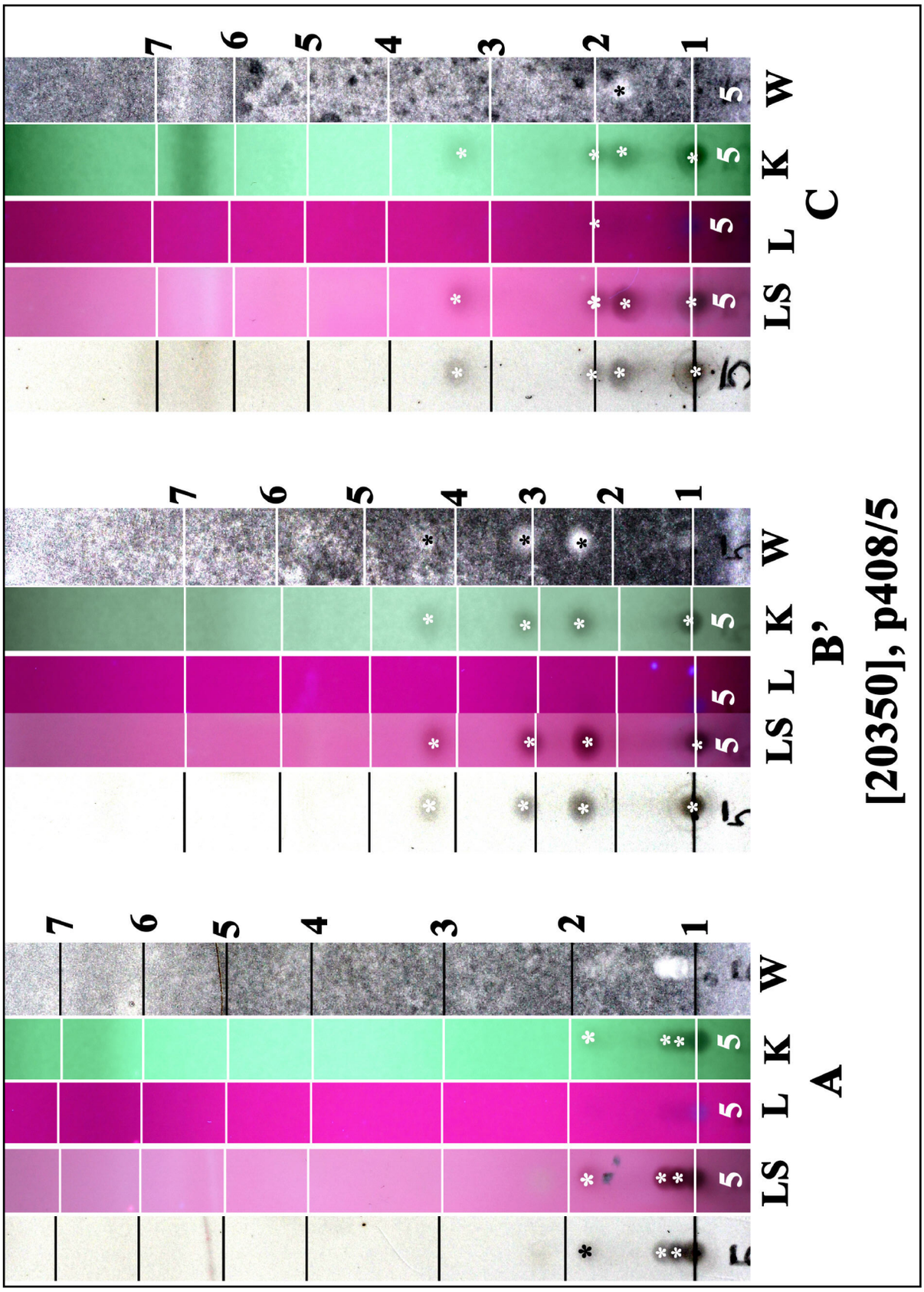
Thallus foliose, heteromerous, dorsiventral, olive-brown to dark brown, dull to slightly glossy in marginal parts, forming up to 15 cm wide rosettes. Lobes to 5 mm wide, slightly raised at margins, wrinkled, bearing obscure to distinctive, punctiform, laminal pseudocyphellae, which are best visible in the marginal parts; lower surface dark brown, paler in marginal parts, with mostly simple rhizines. Upper cortex paraplectenchymatous, with a non-pored epicortex, the cell walls containing isolichenan; medulla white; lower cortex paraplectenchymatous. Apothecia frequent, lecanorine, to 9 mm across, often crowded in central parts of thallus, with a concave to finally convex, brown disc, and an entire to finally strongly crenulate thalline margin with punctiform to somewhat elongated pseudocyphellae. Epithecium brown; hymenium colourless, 50-110 µm high; subhymenium rather thick, 20-45 µm high; hypothecium colourless, 10-40 µm high. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-celled, hyaline, ovoid to ellipsoid, 12-17 x 7-11 µm. Pycnidia frequent, black, laminal. Conidia more or less dumbbell-shaped, c. 8 x 1 µm. Photobiont chlorococcoid. Spot tests: upper cortex K-, C-, KC-, P-; medulla K- or rarely K+ yellow, C-, KC-, P+ orange. Chemistry: fumarprotocetraric acid, protocetraric acid (sometimes only in traces), sometimes atranorin in low amounts. - Note: a circumboreal-montane species, mostly found on *Betula* in cold, but sunny situations and in upland areas.



Parmelia olivacea



Parmelia olivacea



f: fumarprotocetraric acid, p: protocetraric acid, b: ? physodalic acid ?

Parmelia olivacea

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