F. Schumm (2025):

Images of Lichens Vol. 30
Vezda Lichenes Rariores Exsiccati part 5

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This is part 5 (of a planned 8-part series) with images from Vezda's "Lichenes Rariores Exsiccati". For the species names, I generally used those given by Vezda, but then listed the synonyms, for which I extensively consulted the Index Fungorum database. In addition, I have included a description for each species, taken from standard literature sources (e.g., The Lichenologist, Bryologist, or monographs by Hale, Lücking, Galloway, etc.).

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, 09.2025

Graphis colliculosa (Mont.) Nyl., Annls Sci. Nat., Bot., sér. 4 19: 367 (1863)
= *Graphina colliculosa* (Mont.) Hale, Lich. Amer. Exs.: 156 (1976)
= *Fissurina colliculosa* (Mont.) A. Massal., Atti Inst. Veneto Sci. lett., ed Arti, Sér. 3 5: 276 (1860) [1859-1860]
= *Platythecium colliculosum* (Mont.) Staiger, Biblthca Lichenol. 85: 380 (2002)
= *Sclerophyton colliculosum* Mont., Annls Sci. Nat., Bot., sér. 3 16: 61 (1851)

[VZR254], Dominica (Antilles Minores), Central Forest Reserve, ssecus viam inter Bells et Morpo, 600-700 m. Ad corticem arborum (*Citrus sp*.) Leg. A. Vězda, 22.7.1996, det. K. Kalb. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 254. - Rev. B. Steiger 2.2002 as Platythecium colliculosum (Mont,) Staiger.

Description from Hale: Thalhus gray to pale tan to faintly greenish, smooth, glossy, continuous, thick, the upper layer compacted and prosoplectenchymatous in section. Ascocarps raised, sinuous, commonly branched, to 30 mm long, slender. Disc sometimes prominently displayed as a red-brown line in surface view, .sometimes completely covered by the concolorous thalline margin. Ascocarp transverse section, hymenium 80-100 µm high, I-, epihymenium darkened; exciple rather ill-defined, yellow to reddish-yellow, usually closed below, labia quite convergent to quite divergent, more or less intact or having the appearance of internal striae. Spores 8/ ascus, 4 x 1-2 locular, 5-7 x 11-16 µm, I+ blue. Chemistry. salazinic acid. Habitat: Rain forest canopy in Dominica; elsewhere found in both rain forest and secondary forest. Graphina colliculosa is an extremely vigorous, pantropical species; we have seen specimens from much of the Caribbean (Cuba, Puerto Rico, St. Vincent, Grenada, Trinidad, St. Lucia), Panama, Guayana, Tahiti, Fiji, Assam, and the Philippines. As in many species with totally uncarbonized exciples, the degree of labial divergence is quite variable.

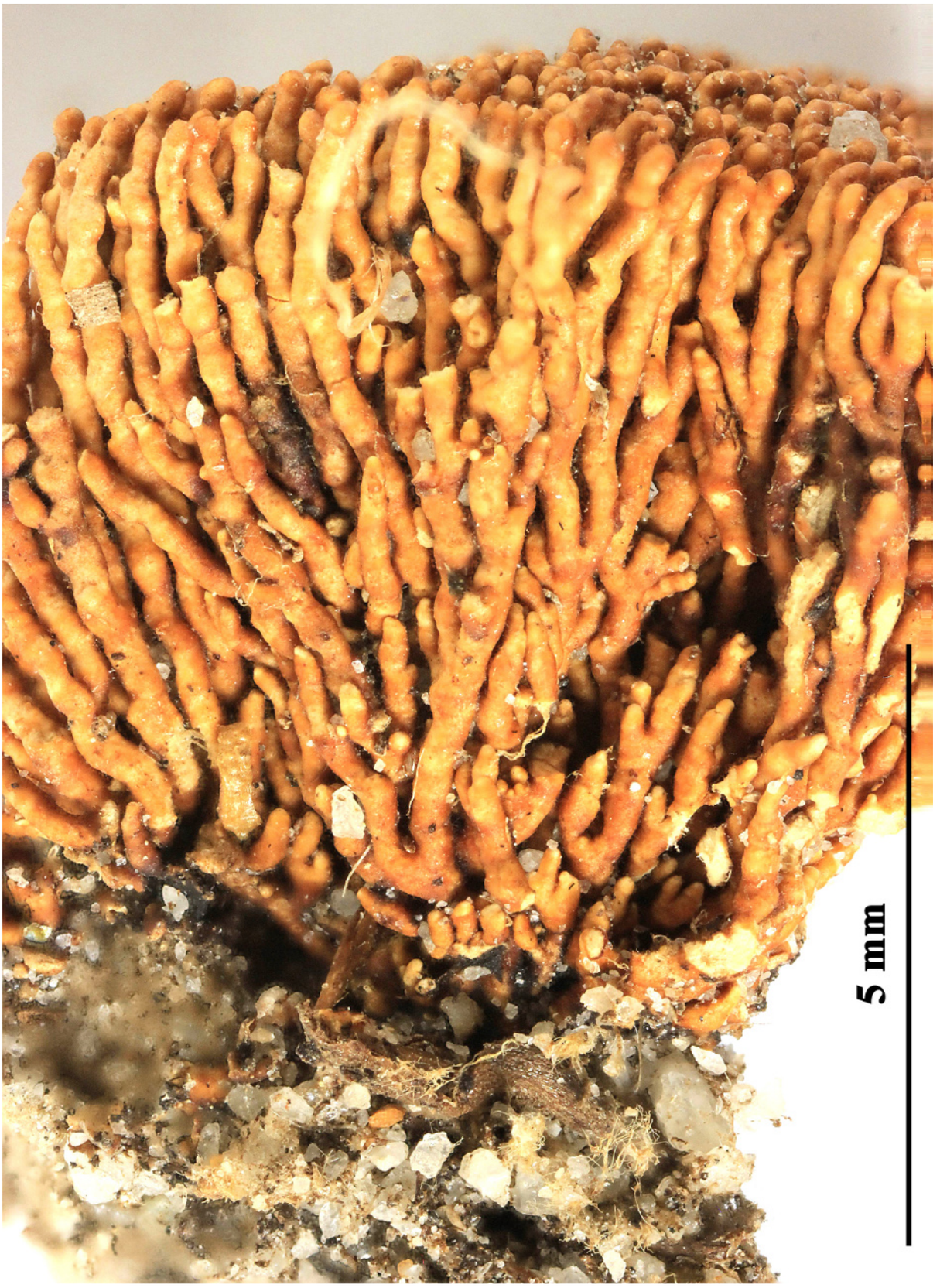
Graphis colliculosa

Graphis colliculosa

Neophyllis melacarpa (F. Wilson) F. Wilson, J. Linn. Soc., Bot. 28: 372 (1891)
= *Gymnoderma melacarpum* (F. Wilson) Yoshim., J. Jap. Bot. 48(9): 287 (1973)
= *Lecidea dactylophylla* (Müll. Arg.) Zahlbr., Cat. Lich. Univers. 3: 867 (1925)
= *Phyllis melacarpa* F. Wilson, Victorian Nat. 6: 68 (1889)
= *Phyllopsora melanocarpa* Müll. Arg., Hedwigia 34: 28 (1895)
= *Psora dactylophylla* Müll. Arg., Bull. Herb. Boissier 1(2): 35 (1893)

[VZR380], Nova Zelandia. South Island, distr. Nelson, Westport, planities Denniston, in monte Rochfort, 750 m. Ad terram siliceam. Leg. W. Malcolm & A. Vězda, 21.43.1997. Ex A. Vězda: Lichenes Rariore Exsiccat nr. 380.

Primary thallus to 1.5 mm tall and c. 0.5 mm wide, small, squamulose, sublinear, irregularly to pinnately lobed, pale greenish brown to olive-green above, cream or yellowish brown below. Lobes rounded at apex, sinuous at margins. Lobules often developing from upper surface or margins. Podetia on primary squamules, to 3 mm tall, simple, slender, usually very dense, cylindrical, sometimes distinctly flattened. Apothecia to 1 mm wide, on podetial tips, sometimes sunk below level of clustered primary thalli; disc convex to hemispheric, shining, blackish brown to black; exciple thin, becoming obscured. Ascospores ellipsoidal, 5–13 × 4–7 µm. CHEMISTRY: K-, KC-, P± red. Fumarprotocetraric melacarpic and grayanic acids (major), congrayanic and 4-0-demethylgrayanic acids (minor). - Occurs in south-eastern Australia. A common and characteristic species of rotting logs and tree bases in wet sclerophyll forests up to 1300 m.



Neophyllis melacarpa

Neophyllis melacarpa

Nephroma australe A. Rich., in Dumont d'Urville, Voy. Aut. Monde 1: 31 (1832)
= *Lichen antarcticus* Wulfen, in Jacquin, Miscell. austriac. 2: 370 (1781)
= *Nephroma antarcticum* (Wulfen) Nyl., Syn. meth. lich. (Parisiis) 1(2): 317 (1860)
= *Opisteria antarctica* (Wulfen) Vain., Ark. Bot. 8(no. 4): 93 (1909)
= *Opisteria australis* (A. Rich.) Vain., Ark. Bot. 8(no. 4): 93 (1909)
= *Peltigera australis* (A. Rich.) Mont., Annls Sci. Nat., Bot., sér. 2 4: 86 (1835)

[VZR304], Nova Zelandia. South Island, distr. Canterbury, transitus Lewis Pass, 700 m. In silva virinea, in ramulis fruticum (*Podocarpus*). Leg. W. Malcolm & A. Vězda. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 304.

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

twigs and saxicolous or muscicolous in sheltered or exposed positions in cool-temperate rainforest, wet scrub or open eucalypt forest. Also in South America and New Zealand.

Nephroma australe

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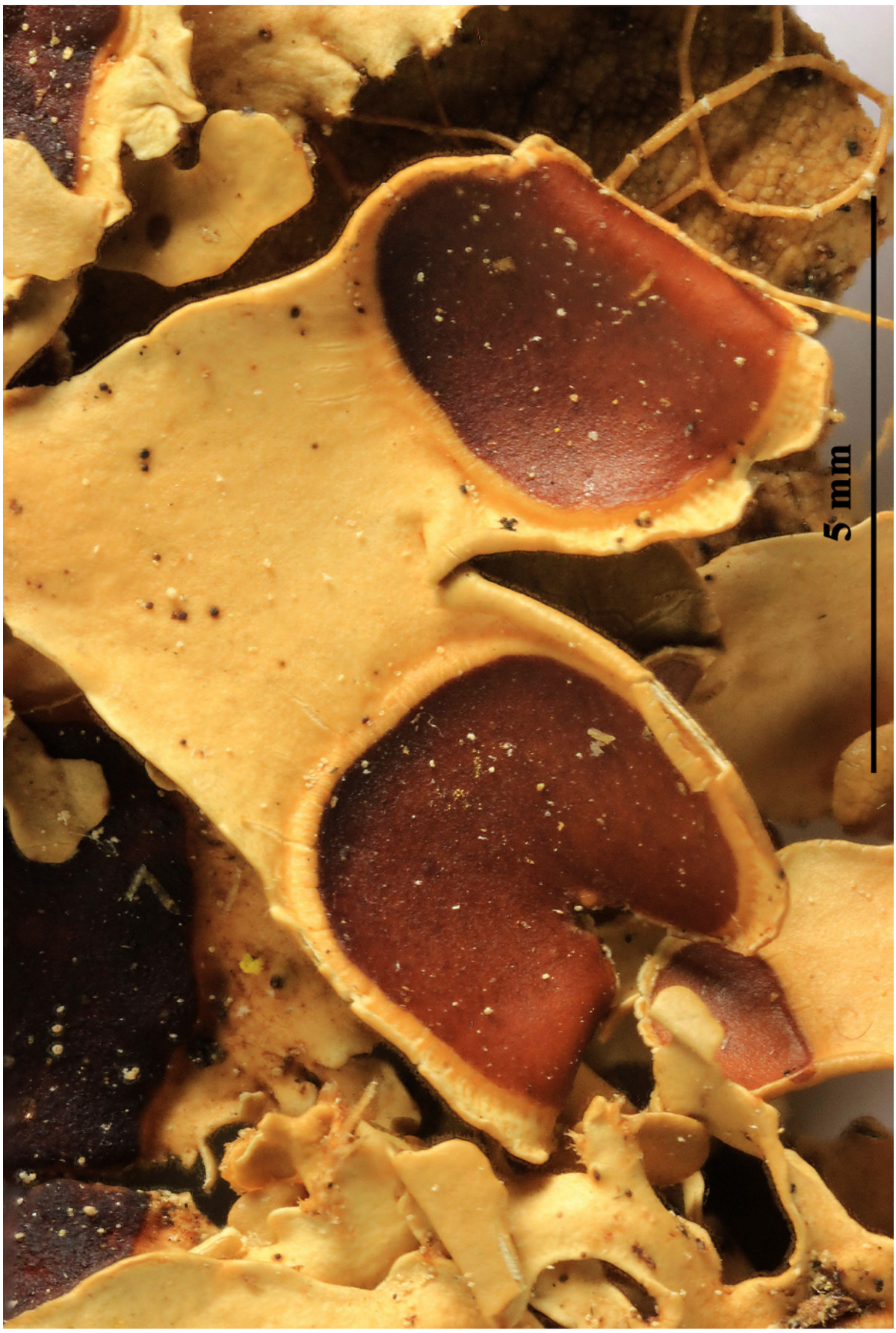
= *Lichen antarcticus* Wulfen, in Jacquin, Miscell. austriac. 2: 370 (1781)
= *Nephroma antarcticum* (Wulfen) Nyl., Syn. meth. lich. (Parisiis) 1(2): 317 (1860)
= *Opisteria antarctica* (Wulfen) Vain., Ark. Bot. 8(no. 4): 93 (1909)
= *Opisteria australis* (A. Rich.) Vain., Ark. Bot. 8(no. 4): 93 (1909)
= *Peltigera australis* (A. Rich.) Mont., Annls Sci. Nat., Bot., sér. 2 4: 86 (1835)

[VZR224], Nova Zelandia. South Island, Nelson, prope confluentum fluminum Hacklett & Miner Rivers, 170 m, 41°24.6' austr., 173°14' orient. In ramulis (*Kunzea* ericoides). Leg. & det. W. Malcolm, 17.3.1996, Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 224.

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

in cool-temperate rainforest, wet scrub or open eucalypt forest. Also in South America and New Zealand.

Nephroma australe



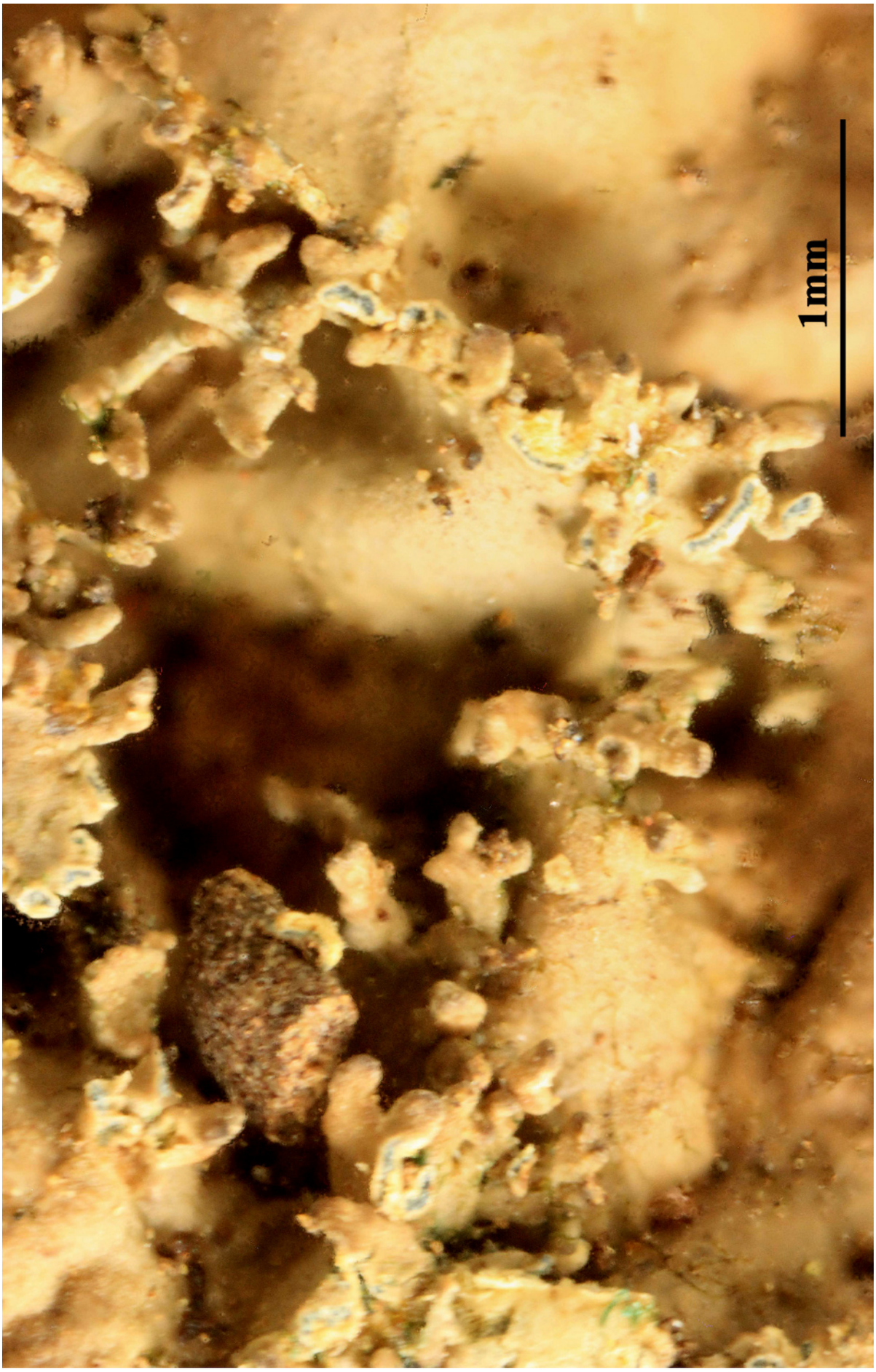
Nephroma australe

Nephroma tangeriense (Maheu & A. Gillet) Zahlbr.
= *Nephromium tangeriense* Maheu & A. Gillet, Bull. Soc. bot. Fr. 72: 869 (1925)

[VZR143], Insulae Canarienses. Tenerife. Las Montañas de Anaga, Las Mercedes, 800 m. Ad terram secus viam in Laurisilva. Leg. F. Ceni & A. Vězda. Annot K. Kalb: TLC: Zeorin, weitere Terpene. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 143.

Thallus foliose, heteromerous, dorsiventral, usually closely appressed, fragmented or forming up to 3-4(-10) cm wide rosettes, pale grey-brown to deep brown-black. Lobes 2-6 mm wide, fragile, (120)-140-160(-230) µm thick, the upper surface pale grey-brown to deep brown-black, smooth or slightly wrinkled, with scattered, crenulate, 1-2 mm wide laminal phyllidia with swollen tips, which sometimes are densely crowded in older thallus parts; lobe margins entire, often ascending and crisped. Lower surface pale at margins, brown-black in central parts, matt, smooth to ridged-undulate, without a tomentum. Upper and lower cortex paraplectenchymatous; medulla ochre yellow to yellow-orange, the hyphae encrusted with acicular, pale yellow crystals. Apothecia rare, developing on the underside of lobes, ear- to kidney-shaped, up to 3 mm across, with a brown-black disc and an entire margin. Epithecium brownish; hymenium colourless, c. 70 µm high; paraphyses simple, coherent; hypothecium colourless to yellowish. Asci 8-spored, fissitunicate, the thickened apex with a K/I+ blue ring, Peltigera-type. Ascospores 3-septate, pale brown, 18-21(-22) x 5-6 µm. Photobiont cyanobacterial (Nostoc the cells not in long chains). Spot tests: cortex K-, C-, KC-, P-; medulla K+ pink to red. Chemistry: medulla with anthraquinones and hopane-6α,22-diol (T3 = zeorin) constant, hopane-6α,7/,22-triol (T6) constant), 15α-acetoxyhopan- 22-ol (T2), trace, and hopane-7/S,22-diol (T4), trace. - Note: a Mediterranean-Atlantic species found on rocks, more rarely on bark, in exposed situations, but in humid areas, usually at relatively low elevations.

Nephroma tangeriense



Nephroma tangeriense

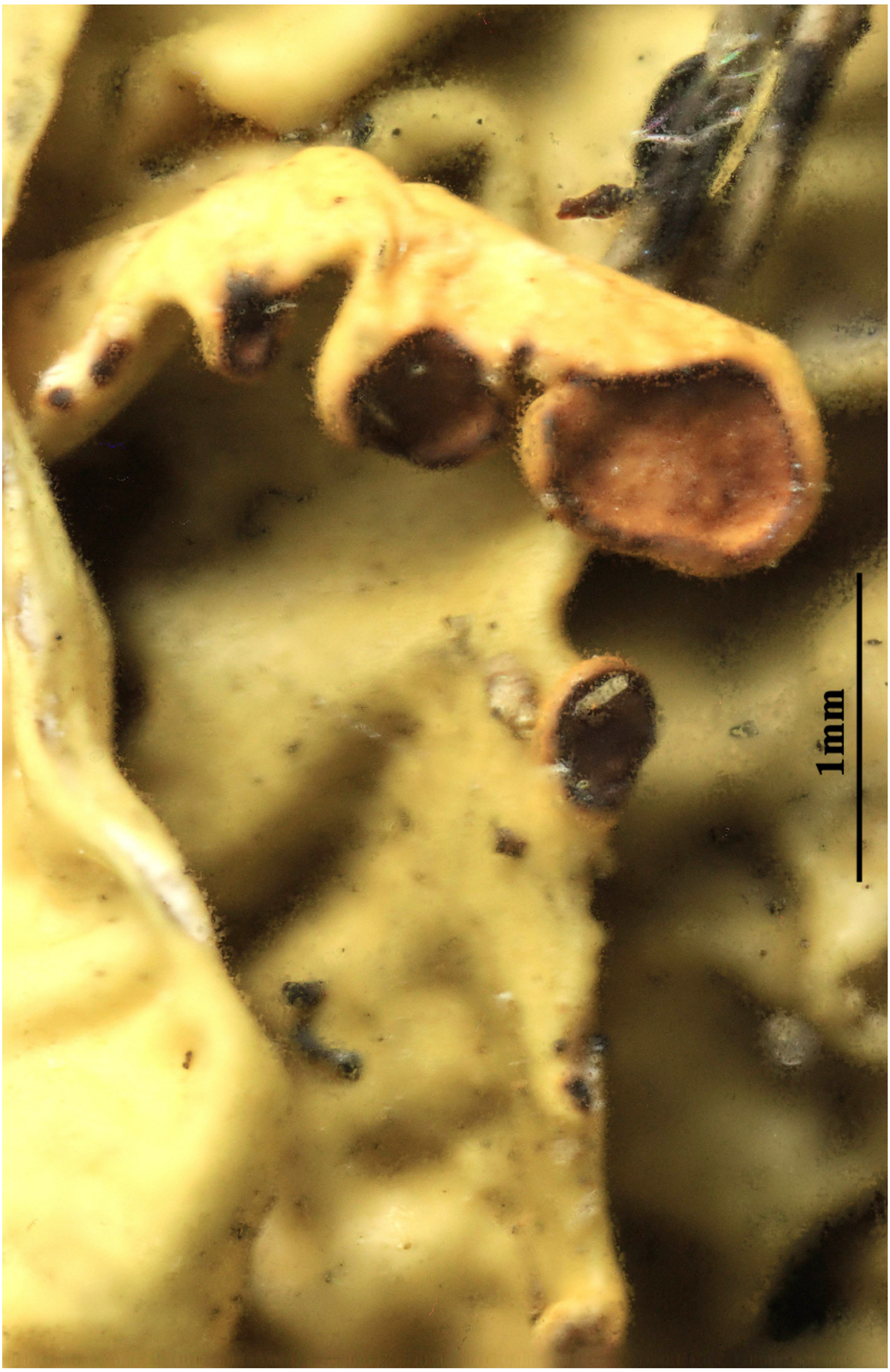
Nephromopsis komarovii (Elenkin) J.C. Wei, Enumeration of Lichens in China (Beijing): 158 (1991)
= *Cetraria komarovii* Elenkin 1903

[VZR375], Russia, regio lacus "Bajkal", montes Sajan, pars orient., ad orientem versus a pag. Arsan, secus viam ad ripam fluminis Kyngirga, 500 m. Ad saxa (locus classicus). Leg. J. J. Halda & Haldová, 10.08.1998, det. J. J. Halda. Ex A. VěZDA: LICHENS RARIORES EXSICCATI NR. 375.

Thallus foliose, up to 15 cm in diameter, with rounded lobes up to 2 cm wide; upper surface from bright yellow to yellowish green, strongly rugose in a somewhat concentric pattern; medulla white; lower surface brown, smooth or slightly rugose; pseudocyphellae in the form of regular flat white patches of various size, developed laminally on the lower surface. Rhizines numerous to sparse, short and slender, light brown to whitish. Pycnidia not seen. Apothecia usually marginal, occasionally laminal, rounded or reniform, up to 15 mm in diameter, disc brown, faced upwards, often only juvenile apothecia present. Exciple three-layered. Asci 30 x 9 µm, axial body 3 µm, ascospores oblong, 6 x 3 µm. Chemical constituents: usnic acid in the cortex; lichesterinic and protolichesterinic acids in the medulla; fumarprotocetraric acid (Huneck et al., 1984) and stictic and constictic acids (personal comments by T. Ahti) have also been detected in some specimens.
Lit: Randlane, T & Saag (1998): A Synopsis of the Genus Nephromopsis. - Cryptogamie, Bryol. Lichénol. 1998, 19 (2-3) : 175-191

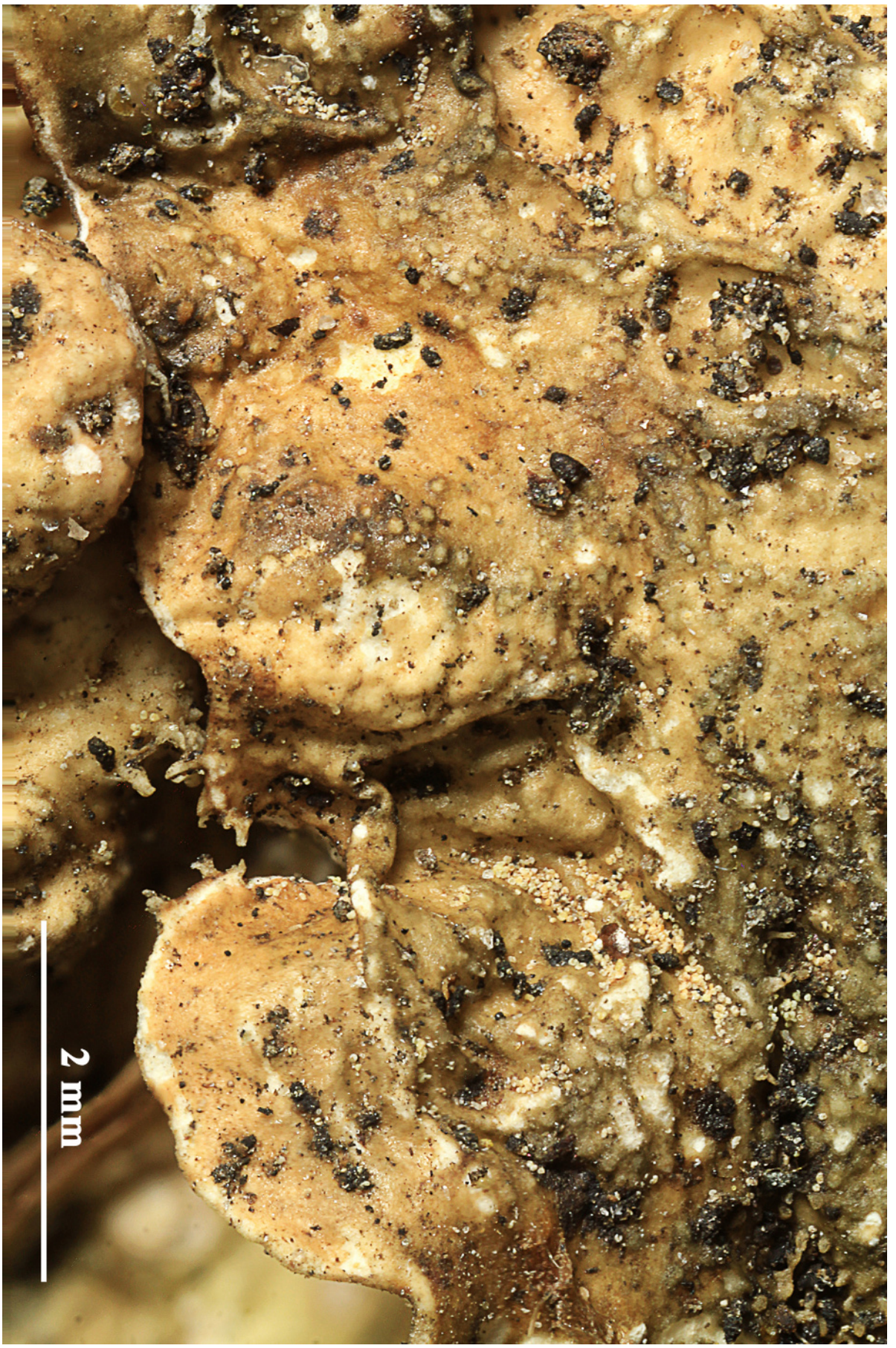
Nephromopsis komarovii

Nephromopsis komarovii



Nephromopsis komarovii

Nephromopsis komarovii



Nephromopsis komarovii

Nephromopsis komarovii

Nephromopsis komarovii

Neuropogon ciliatus (Nyl.) Kremp., Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 18: 313 (1868)
= *Neuropogon melaxanthus var. ciliatus* Nyl. 1867

[VZR385], Nova Zelandia, South Island, Lammermoor Range, 50 km ad septentr-occid. a Dunedin, 45°40' austr., 169°40' orient., 1130 m. Ad saxa silicea. Leg. et det. W. Malcolm. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 385.

Thallus fruticose, erect, tufted to spreading, to 9 cm tall. Branches 2-3 mm wide at base, weakly dichotomously to richly branching above. Surface yellow to brown-red at base, often with black cracks, becoming conspicuously blackened or yellow-grey or bluish-purple above with conspicuous black bands, not papillate or sorediate, smooth, waxy and shining, often ± strongly faveolate. Apothecia frequent, lateral on branches, disc bluish-black, margins smooth, concolorous with thallus, with ray-like branchlets, black, few to many, thalline exciple smooth. Chemistry: Medulla K+ yellow→red, C−, KC+ red, Pd+ orange-red; containing norstictic, protocetraric (±), salazinic, and usnic acids. - Characterised by the saxicolous habit; the erect thallus arising from a proliferating holdfast; a monopodial to moderately branched thalline branches, often with violaceous-black pigmentation; a smooth, waxy, black-annulate surface; a compact medulla and a thick axis; subterminal, geniculate apothecia with a black disc and conspicuous excipular rays; and norstictic and salazinic acids in the medulla.

Neuropogon ciliatus

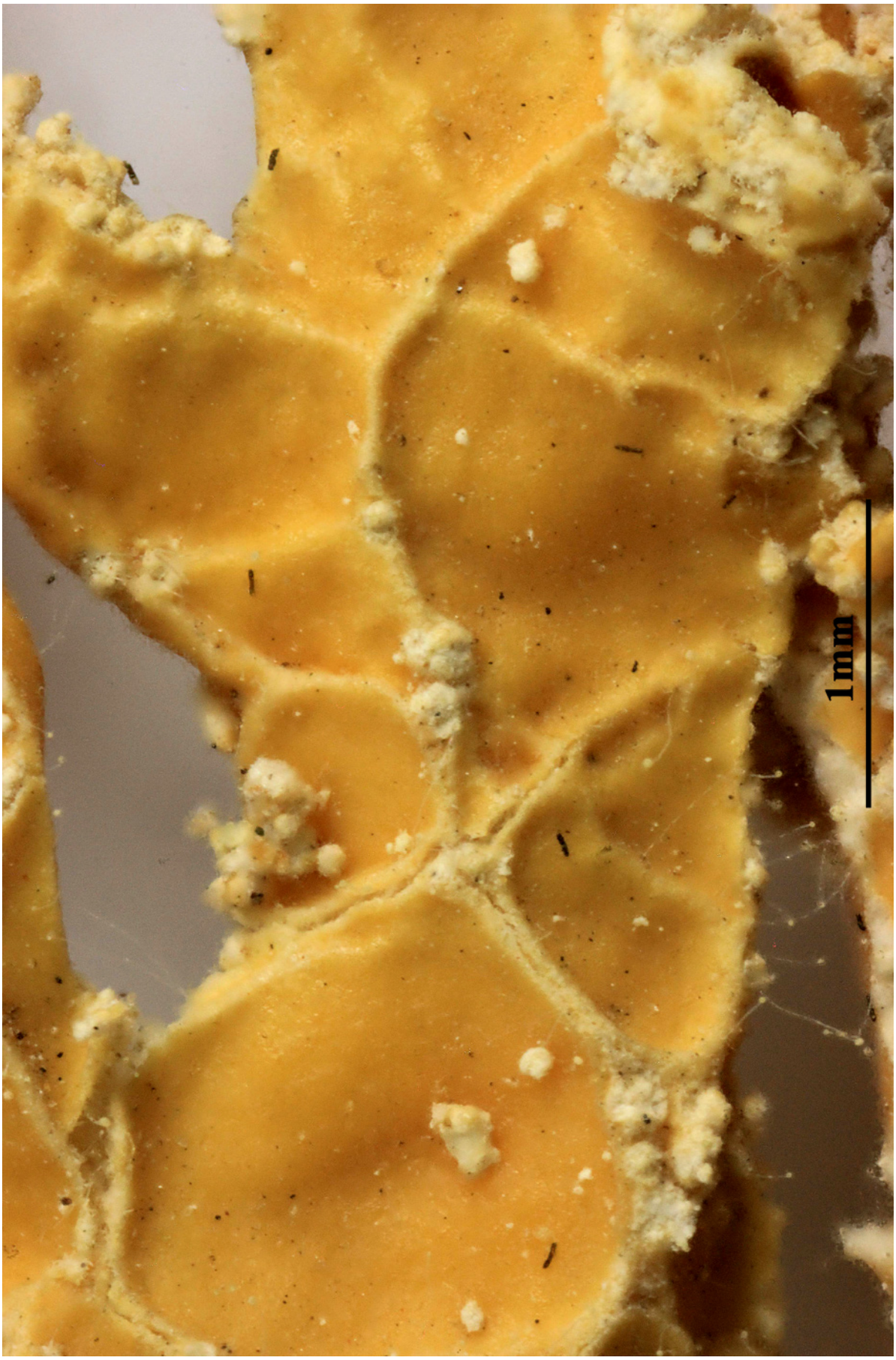
Neuropogon ciliatus

Niebla isidiaescens Bowler, J.E. Marsh, T.H. Nash & Riefner, in Bowler, Riefner, Rundel, Marsh & Nash, Phytologia 77(1): 29 (1994)

[VZR345], USA. California: Los Angeles County, insula San Clemente, in litore occid. insulae, inter Eel Point et Seal Cove, 50 m. Ad scopulos. Leg. R- Santesson,16.04.1966. det. A. Vězda. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 345.

Thallus: fruticose, rigid and shrubby, like rock populations of N. homalea, branching laterally from strap-like blades or unbranched forming smaller cushion-like tufts up to 7 cm long and 4 cm broad branches: flattened or subcylindrical, similar to N. homalea in variability, up to 1.2 cm wide (usually less than 0.5 cm) and 3.5 cm long, surface: yellow-green; cortex rigid, cracking when bent, anatomically the same as *N. homalea* ; isidia coralloid, with blunt tips, unevenly distributed the length of the branches, most common on the terminal half ; medulla white, with agglutinated hyphae; Apothecia uncommon, subterminal, up to 7 mm in diam. asci: clavate, 8-spored; ascospores hyaline, 1-septate, fusiform, straight or gently curved, 10-14 x 3-4 µm; Pycnidia black, immersed, same as *N. homalea* ; conidia straight, rod-shaped, 4.5(-6)-1.5 µm; Spot tests negative; Secondary metabolites: sekikaic or divaricatic acids, triterpenes, and usnic acid; Substrate and ecology: on rocks; World and Sonoran distribution: Channel Islands of southern California, and NW Baja California from San Quintín to central Baja California Sur, including the Vizcaíno Peninsula, Cedros and Guadalupe Islands. - Notes: Niebla isidiaescens is a conspicuously coralloid isidiate species clearly derived from *N. homalea*, which it otherwise resembles. Isidia occur on the lateral and marginal blade surfaces throughout the length of the branches, but are most abundant on the terminal half. Black pycnidia are present on many thalli, but nearly absent on others. Spjut (1996) described the sekikaic race as a species separate from the divaricatic race, however, since we treat divaricatic and sekikaic acid races as one taxon in *N. homalea*, they are not taxonomically distinguished here either.

Niebla isidiaescens



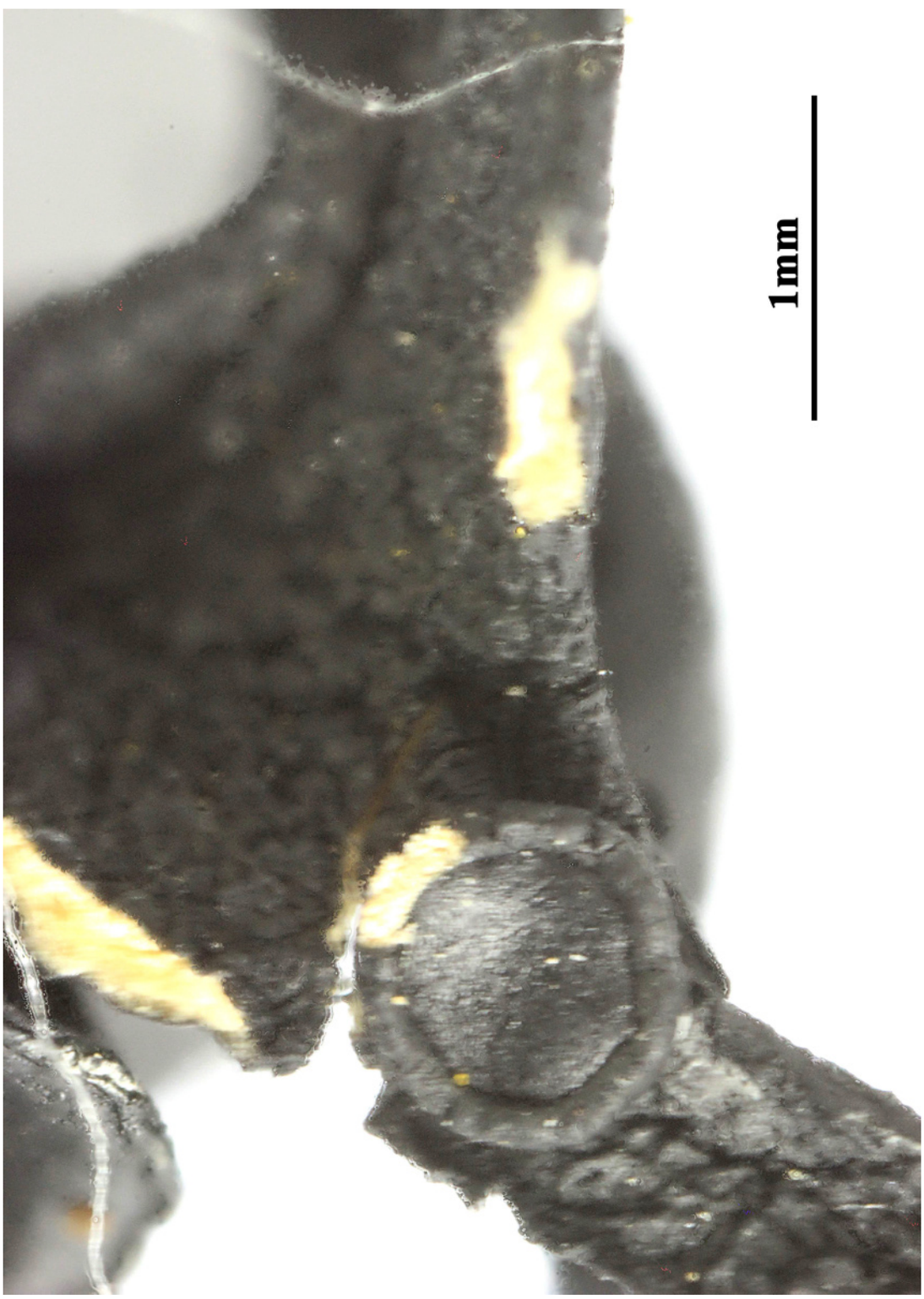
Niebla isidiaescens

Nimisia fuegiae Kärnefelt & A. Thell, Lichenologist 25(4): 370 (1993)
= *Himantormia deusta* (Hook. f.) A. Thell & Søchting, in Thell, Søchting, Kärnefelt, Elix & Sancho, Biblthca Lichenol. 95: 537 (2007)
= *Hypogymnia deusta* (Hook. f.) C.W. Dodge, Trans. Am. microsc. Soc. 84: 505 (1965)
= *Nimisia deusta* (Hook. f.) Fryday, Lichenologist 37(4): 33 (2005)
= *Parmelia enteromorpha var. deusta* Hook. f., Bot. Antarct. Voy. Erebus Terror 1839-1843 1: 532 (1844)

[VZR144], Argentina. Isla Grande de Tierra del Fuego, Dept. Ushuaia, Sierra Alvear, adversus hospitium Tierra Major in regiona subalpina. Leg. P.L. Nimis, M. Codogno & M. Tretiach, 1897. EX A. VěZDA: LICHENES RARIORES EXSICCATI NR- 144.

Thallus fruticose, dichotomously to irregularly branched, forming small patches over open rock, 1-2 cm diam. Lobes rather short, canaliculate, 0-5(-l)cm high, c. 0-5-1 mm broad, arising from rudimentary squamulous basal portions, blackish throughout the length of the lobes, both the upper and lower surface with numerous small wrinkles and ridges. Thallus in section c. 150-400 µm thick, differentiated in unique anatomical layers. Cortex composed of 1-3 layers, c. 20-30 µm thick, of strongly pigmented extremely large, rather uniform cells, c. 10-15 µm diam. Medullary layer composed of periclinally arranged, rather dense, strongly gelatinized hyphae, c. 7-9 µm thick. Algal layer not prominent, lacking in most sterile thallus portions, photobiont cells aggregated in clusters mainly beneath conidiomata and hymenial layers in the apothecia, each cell c. 5 µm diam., of Trebouxia type. Crystalline structures embedded in thicker portions of the thallus, especially located around the conidiomata and beneath the excipulum and subhymenial structures. Apothecia sessile, up to 1 -5 mm diam., with blackish disc and thalline margin, developed laminally on the upper surface of the lobes, sometimes assuming a terminal position on the lobes when mature. Thalline margin prominent. Exciple cupular, 2-layered, the upper layer composed of gelatinized hyphae, c. 50-60 µm thick, the lower layer less gelatinized, paraplectenchymatous, c. 40-50 µm thick. Hymenium c. 40-60 µm high. Asci clavate c. 45 x 15 µm, tholus with a broad, short ocular chamber and large axial body c. 4-5µm broad. Ascospores simple, ellipsoid, colourless, c. 8-9 x 5 |µm. Paraphyses septate, c. 1-2 µm thick, thickened at tips. Pycnidia immersed, laminal and marginal, pycnidial chamber spherical c. 90-120 µm diam. Conidia oblong, citriform, c. 8-10 x 1 -5 µm. Chemistry: No thallus reactions

observed, K-, C- , KC- , P- and UV-. No secondary chemical products detected by TLC. Habitat ecology and distribution: *Nimisia fuegiae* is so far known only from an area of SW facing rocks at c. 1200 m altitude associated with a *Nothofagus* wood in Sierra Alvear in the Argentinian part of Tierra del Fuego. It was rather abundant at the locality according to P. L. Nimis, on sun-exposed, windprotected faces and granitic rocks facing towards the west, just above the treeline.



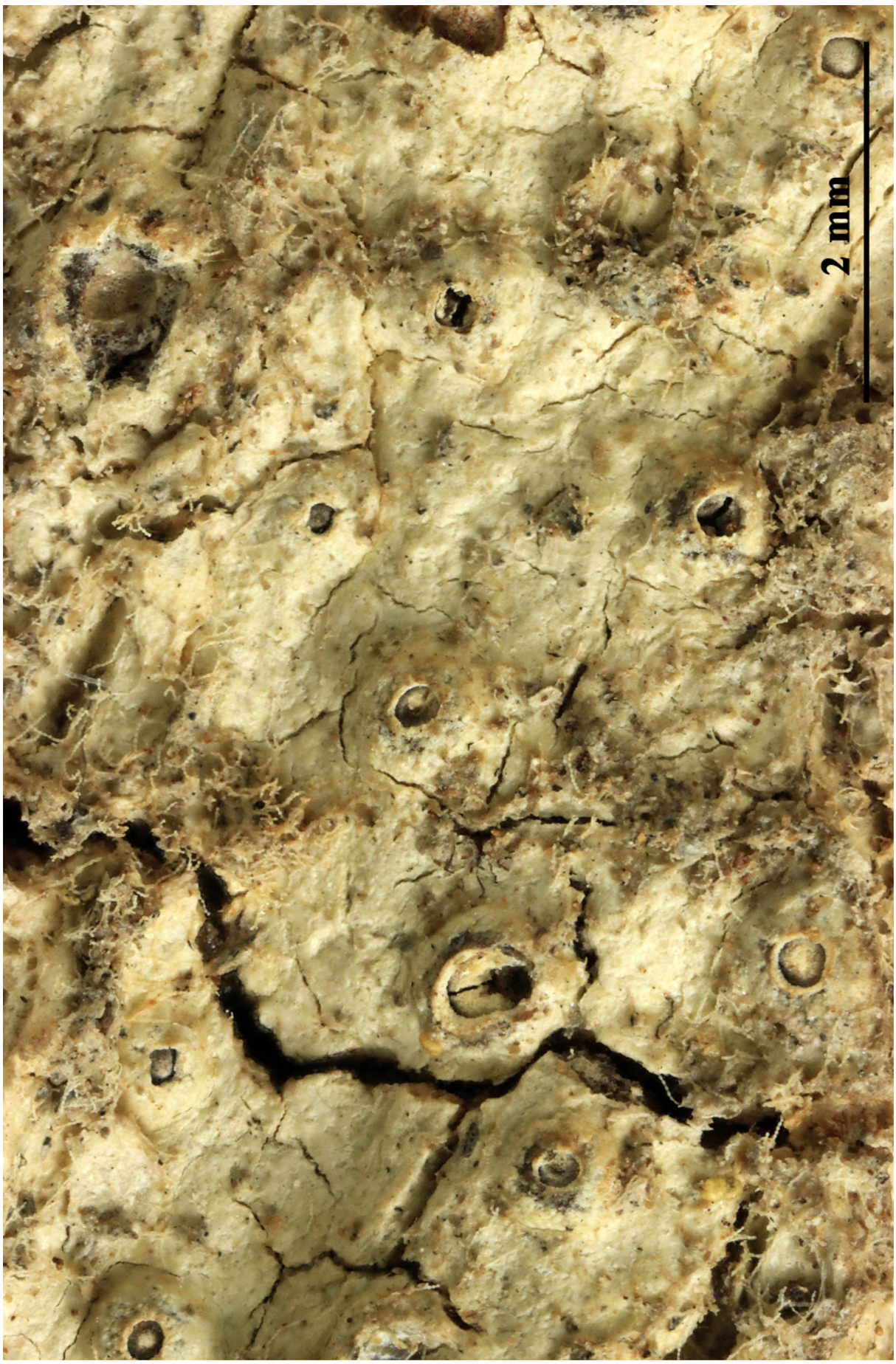
Nimisia fuegiae

Nimisia fuegiae

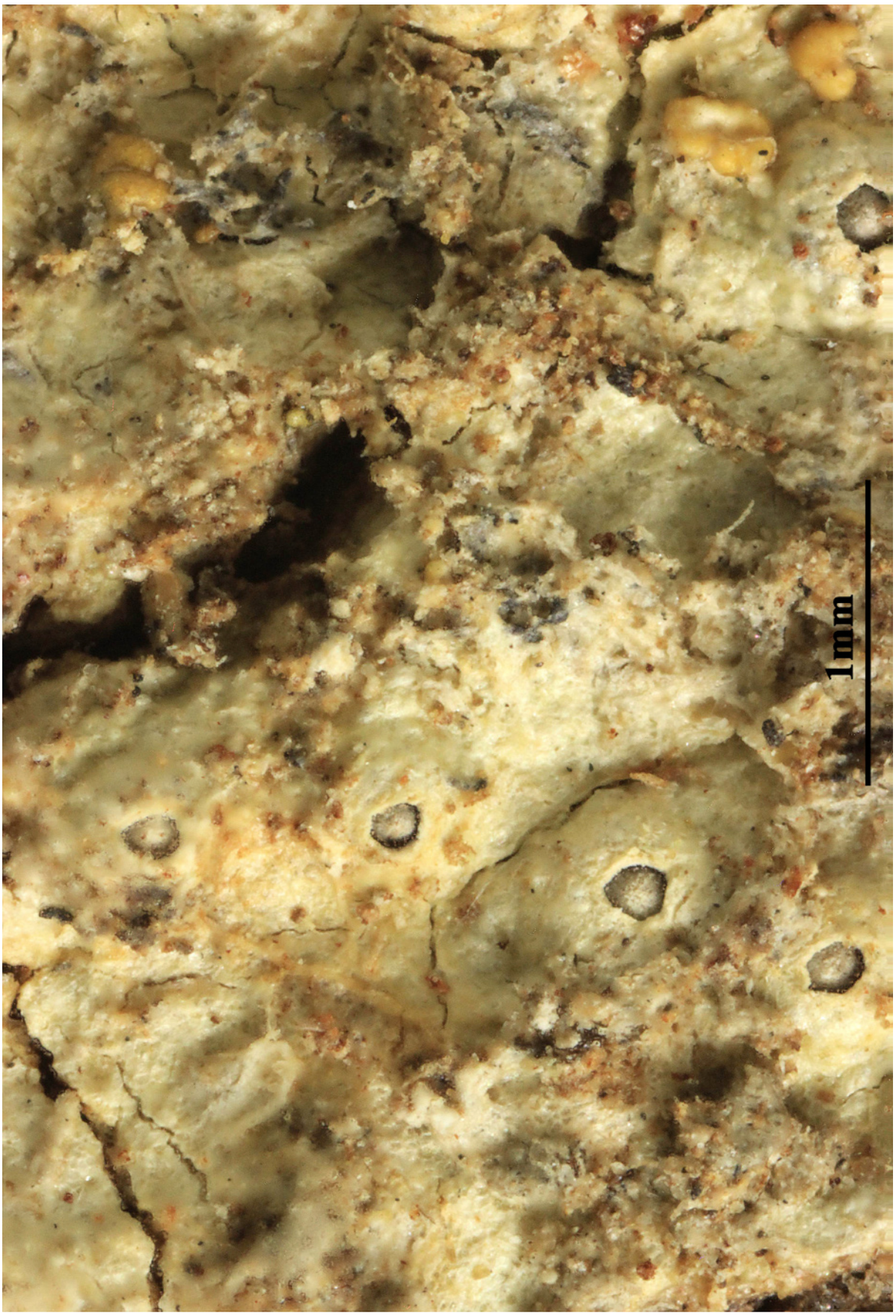
Ocellularia perforata (Leight.) Müll. Arg., Hedwigia 31: 284 (1892)
= *Thelotrema perforatum* Leight., Trans. Linn. Soc. London 25: 447 (1866)

[VZR256], Dominica (Antilles Minores). Paroecia Saint Paul: Pont Cassé, introitus in pluviisilva primaria ad latera montis " Morne Trois Pitons, 600 m. Ad corticem arboris. Leg. et det. A. Vězda, 23.7.1996. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 256.

Thallus corticolous, epiphloeodal, shiny, smooth or becoming verruco-se with age, whitish or greenish gray, 3-10 cm broad; apothecia nu-merous, immersed to somewhat emergent, 0.4-0.6 mm in diameter, carbonized, a columella usually developed but variable, 25-160 µm in diameter, or rarely lacking, the pore round, 0.07-0.13 mm in diameter; spores 8/ascus, 6-10 x 20-36 µm, 6-8 loculate, I+ blue. Chemistry: Protocetraric acid with or without the “amplior” unknown. - REMARKs.-ThiS is the commonest species of *Ocellularia* and of the family in Panama, occurring on tree bases, buttresses, saplings, lianas, etc., from sea level to 2200 m in rain forest. About 10% of the speci-mens lacked a columella, much as in Dominica (Hale, 1974a:24). Where it occurs with externally similar *0. papillata*-and the only major locality where they did not was the cloud forests of Volcin Chiriqui-*0. perfornta* can be distinguished by the P+ red test. I have identified this pantropical species from Cuba, the Lesser Antilles, Guatemala, Costa Rica, Brazil, and the Solomon Islands.



Ocellularia perforata



Ocellularia perforata

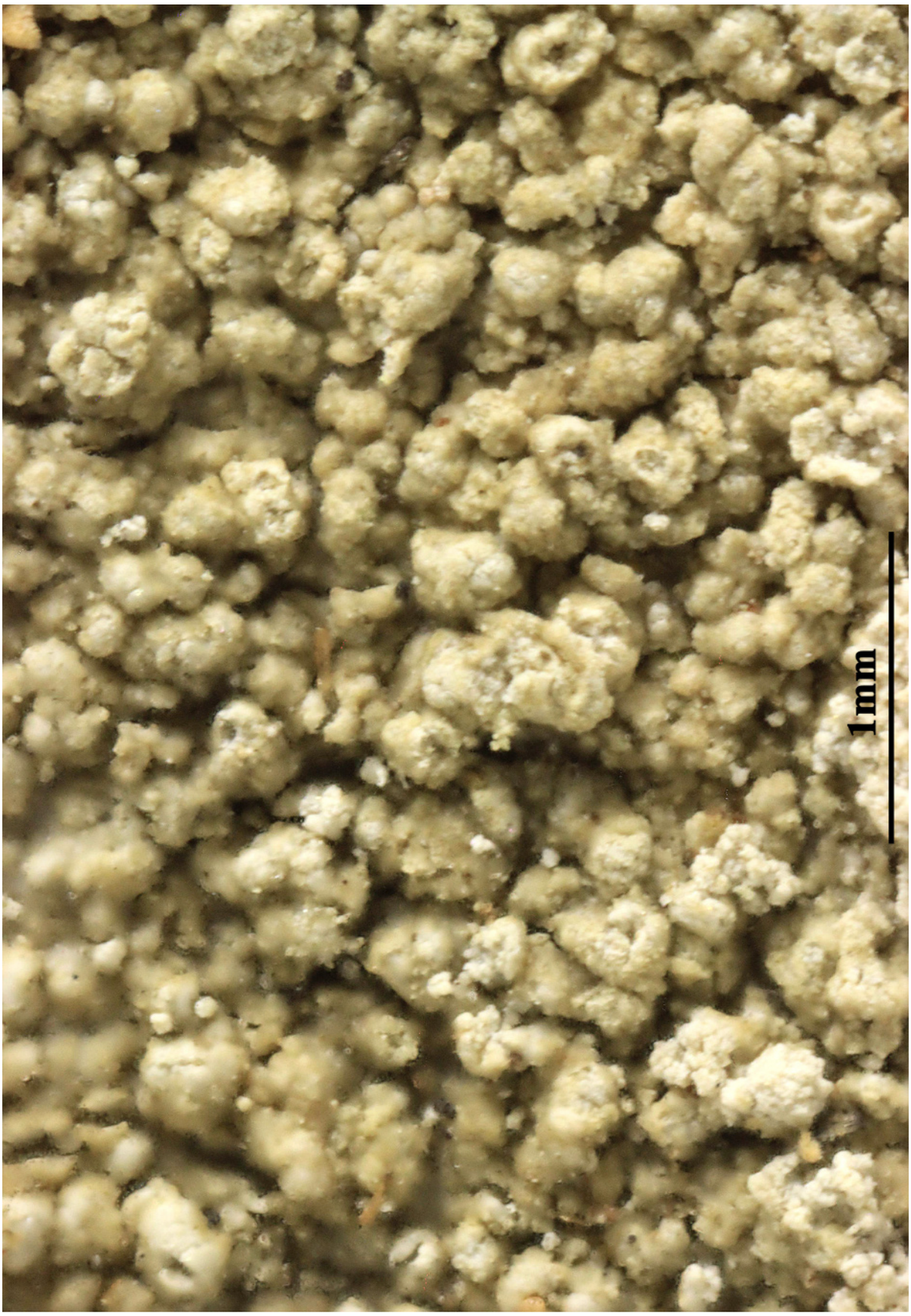
Ochrolechia microstictoides Räsänen, Lich. Fenn. Exs.: no. 226 (1936)

[VZR437], Bohemia. Montes Gabreta, distr. Železná Ruda, in monte "Jezerní hora", 1300 m. Ad lignum vetustum *Piceae excelsae*. Leg. Blanka Buryová & Z. Palice, 18.06.2000, det. Z. Palice. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 437.

Thallus crustose, episubstratic, of very variable thickness, continuous, cracked or tuberculate, whitish-grey, rarely with a pale yellowish tinge, sorediate, delimited by a whitish prothallus. Soralia white-grey or grey, usually paler than thallus, originating from cracks in the cortex or bursting from the thallus, at first delimited and irregular, soon becoming confluent and forming a subleprose crust in the central part of thallus; soredia farinose, 20-40 µm across. Apothecia very rare, lecanorine, up to c. 2 mm across, with a flesh-coloured to brown, usually epruinose disc and an often sorediate thalline margin. Thalline exciple usually ecorticate (when sorediate) or with an uniformly thick cortex; epithecium pale brown, C+ red; hymenium colourless, c. 200 µm high; paraphyses thin, slender, densely branched and anastomosing; hypothecium colourless. Asci 6-8-spored with thick, amyloid walls, without recognizable apical structures, Pertusaria-like. Ascospores 1-celled, hyaline, ellipsoid, thin-walled, (30-)40-52 x 17-25(-33) µm. Photobiont chlorococcoid. Spot tests: thallus and soredia K- C+ yellow (reaction often faint), KC+ yellow, P-, UV+ white. Chemistry: variolaric acid (major) plus variable amounts of lichesterinic acid and 'microstictoides-unknowns'; epithecium with gyrophoric acid (major) and lecanoric acid (minor). - Note: a cool-temperate to boreal-montane lichen, mostly found on conifers in open, humid forests, very rarely also on siliceous rocks.

Ochrolechia microstictoides

Ochrolechia microstictoides



Ochrolechia microstictoides

Ochrolechia microstictoides

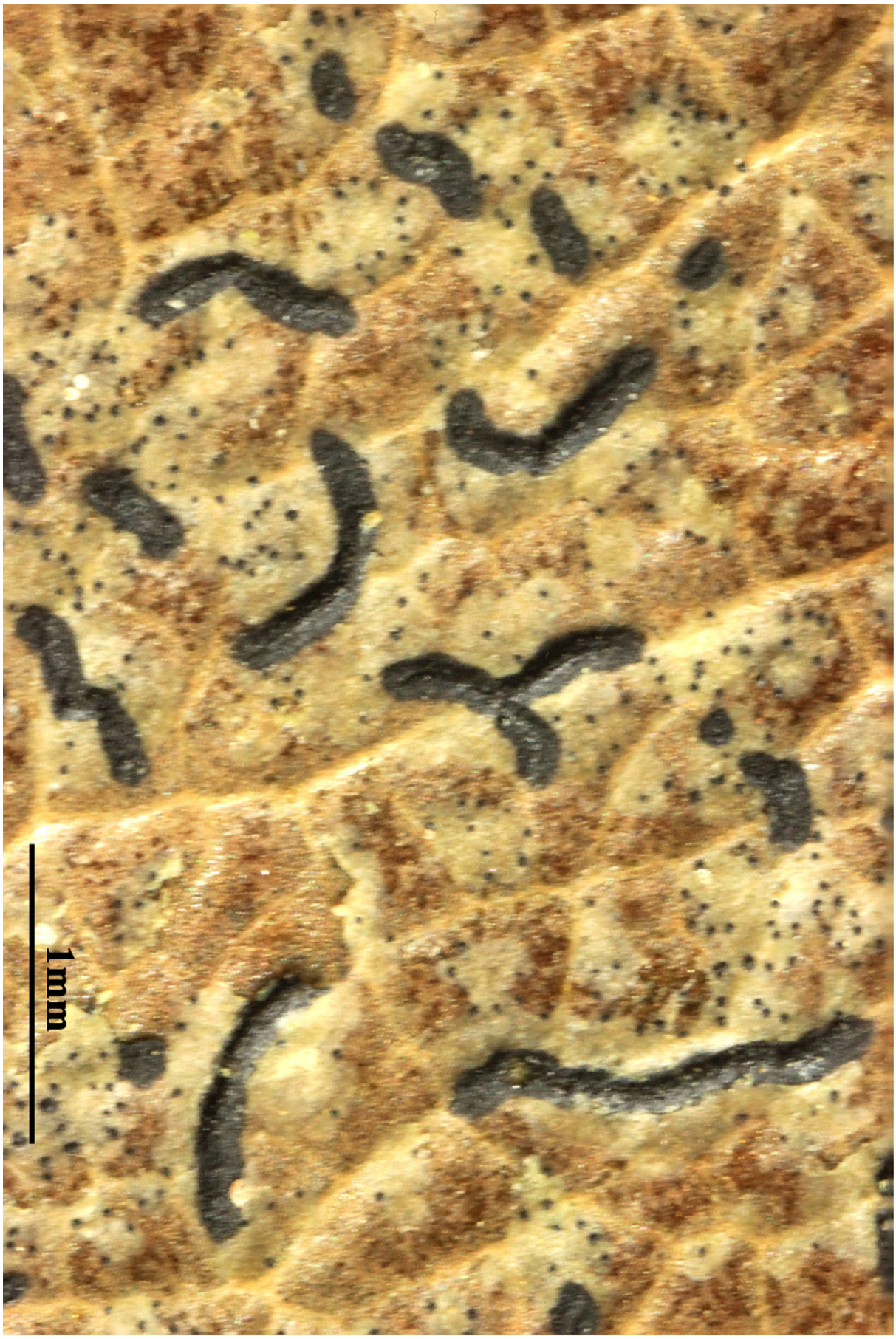
Opegrapha filicina Mont., in Sagra, Hist. phys. Cuba, Bot. Pl. Cell. 9: 122 (1845)
= *Fouragea filicina* (Mont.) Trevis., Rc. Ist. Lomb., Milano, ser. 2 13: 67 (1880)
= *Aulographum filicinum* Lib., Pl. crypt. Arduenna, Fasc. (Liège) 3(nos 201-300): no. 275 (1834)
= *Fouragea filicina* var. *brevis* (Müll. Arg.) Zahlbr., Cat. Lich. Univers. 2: 451 (1923) [1924]
= *Gloniella filicina* (Lib.) Mouton, Bull. Soc. R. Bot. Belg. 28(no. 2): 80 (1889)
= *Gloniella filicina* var. *jaapii* Rehm, Ber. bayer. bot. Ges. 13: 114 (1912)
= *Leptopeltina filicina* (Lib.) Petr., Sydowia 1(4-6): 244 (1947)
= *Leptopeltinella filicina* (Lib.) Petr., Sydowia 5(1-2): 187 (1951)
= *Leptopeltis filicina* (Lib.) Höhn., Ber. dt. bot. Ges. 35: 422 (1917)
= *Opegrapha filicina* var. *brevis* Müll. Arg., Flora, Regensburg 66(22): 349 (1883)
= *Opegraphella filicina* (Mont.) Müll. Arg., Lich. Epiph. Novi: 20 (1890)
= *Opegraphellomyces filicinae* Cif. & Tomas., Atti Ist. bot. Univ. Lab. crittog. Pavia, sér. 5 10(1): 77 (1953)
= *Pycnothyrium filicinum* (Lib.) Arx, Acta bot. neerl. 13: 185 (1964)

[VZR7], Antillarum Insulae, Guadeloupe. Insula Basse-Terre, comm. Gourbeyoe, prope vicum Champfleury in montibus Caraibes. Ad folia arborum. Leg. J. Vivant, 9.1989, det. A. Vězda. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 7.

Thallus continuous, 10–30 mm across, smooth, thin (10–15 µm), green to rather dark green, matt, with numerous, black dots (30–50 µm diam.). Photobiont cells angular-rounded, 6–12 x 3–6 µm, in irregular plates. Ascomata adnate to sessile, distinctly elongate-lirellate, mostly unbranched, 0.5–1.5mm long and 0.15–0.2 mm broad, 50–70 µm high; disc slit-like; margin thick, black. Excipuloid tissue 15–25 µm thick, basally up to 50 µm broad, absent below hypothecium. Hypothecium 5–10 µm high, pale yellow, I+ yellow, KI–. Hymenium 40–60 µm high, colorless. Asci 30–50 x 15–20 µm. Ascospores narrowly fusiform, 5-septate, slightly thick-walled (0.3–0.6 µm), 18–27 x 3.5–4.5 µm, upper median cell slightly enlarged, colorless, often with 2–3 µm thick halo. Pycnidia adnate, wart-shaped, rounded, 0.1–0.15 mm diam., black. Conidia oblong-bacillar, non-septate, 5–8 x 1–1.5 µm. Chemistry: no substances detected by TLC. - Distribution and Ecology. Pantropical. A very common species typically found in the shaded rain forest understory and particularly frequent in evergreen dry forests,

such as NW Costa Rica and the N Atlantic rain forest of Brazil (Cáceres et al., 2000).

Opegrapha filicina



Opegrapha filicina

Opegrapha trifurcata Hepp ex Müll. Arg., Mém. Soc. Phys. Hist. nat. Genève 16(2): 407 (1862)

= *Arthonia trifurcata* (Hepp ex Müll. Arg.) Cl. Roux, in Roux et al., Catalogue des Lichens et Champignons Lichénicoles de France Métropolitaine (Fougères): 1314 (2014)

= *Opegrapha atra* f. *trifurcata* (Hepp ex Müll. Arg.) Arnold, Flora, Regensburg 53(15): 231 (1870)

= *Opegrapha atra* subsp. *trifurcata* (Hepp ex Müll. Arg.) Arnold, Flora, Regensburg 67(34): 662 (1884)

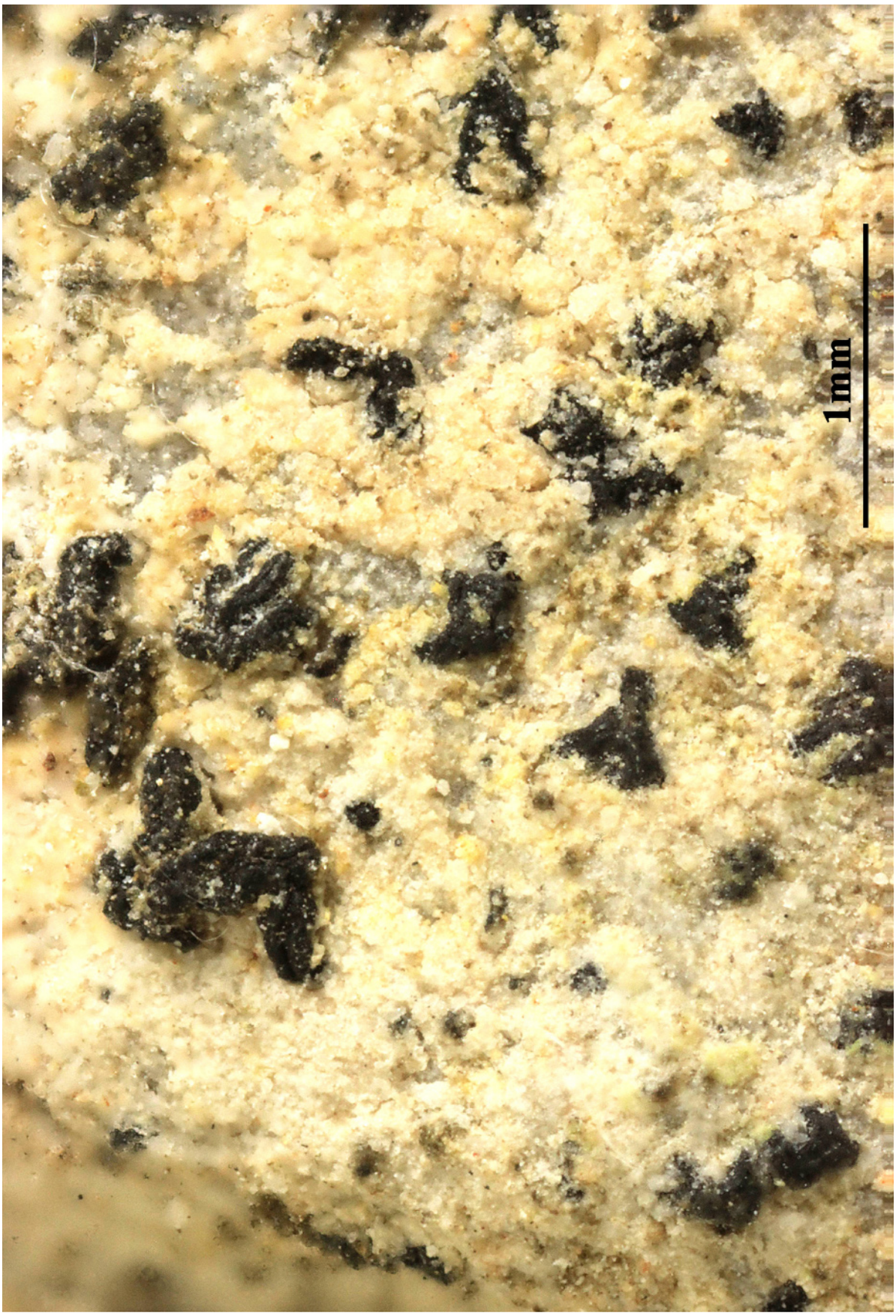
= *Opegrapha atra* var. *trifurcata* (Hepp ex Müll. Arg.) Stizenb., Flora, Regensburg 48: 74 (1865)

= *Opegrapha calcarea* var. *trifurcata* (Hepp ex Müll. Arg.) H. Olivier, Les Opegraph. Flor. Europ.: 16 (1914)

[VZR173], Italia, insula Elba: Petresi Mortaio, in valle Uviale de Petresi, 100 m. Ad lapides calcareous muri. Leg. F. Ceni & A. Vězda. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 173.

Thallus endosubstratic or thinly episubstratic, continuous to cracked, usually not well-delimited, whitish to greenish white. Apothecia lirelliform, black, epruinose, straight or curved, simple or branched, 0.2-1.5 x 0.1-0.3 mm, isolated or aggregated into irregular clusters, protruding from thallus, with a slit-like disc and a black margin. Proper exciple black, carbonized, closed below the hymenium, K-, the part below the hymenium thin, at most as tall as the hymenium and subhymenium together; epithecium brownish, K-; hymenium colourless, 50-100 µm high, I+ reddish throughout, K/I+ blue; paraphysoids much branched and anastomosing, not capitate; hypothecium black. Asci 8-spored, broadly clavate to subglobose, semifissitunicate, Arthonia-type. Ascospores 3-septate with rounded ends, hyaline, (10-)13-20(-24) x 4-6(-7) µm, usually slightly restricted in the center into two unequally wide parts, the perispore very thin or absent. Pycnidia black, more or less immersed. Conidia straight, 4-10 x 0.5-1.5 µm. Photobiont trentepohlioid. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: this species has been often confused with Artonia calcarea.

Opegrapha trifurcata



Opegrapha trifurcata

Opegrapha vegae R. Sant., Symb. bot. upsal. 12(no. 1): 99 (1952)
= *Fouragea vegae* (R. Sant.) Ertz, Phytotaxa 472(2): 189 (2020)

[VZR425], Insulae Seychellenses. Insula Praslin, Grand Anse, in pluvi-isilva ad austro-occid. spectanti secus viam ad Praslin Beach ducentem, 200 m. Leg. F. Ceni & A. Vězda, 26.5.2000. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 425.

Thallus dispersed into irregular patches, 5–10mm across, smooth, thin (10–15 µm), pale greenish grey, matt. Photobiont cells angular-rounded, 4–10 x 3–5 µm, in irregular plates. Ascomata adnate to sessile, distinctly elongate-lirellate, mostly unbranched, 0.3–1 mm long and 0.1–0.15 mm broad, 40–50 µm high; disc slit-like; margin thick, black. Excipuloid tissue 10–20 µm thick, basally up to 30 µm broad, absent below hypothecium. Hypothecium 5–10 µm high, pale brown, I+ yellow, KI–. Hymenium 20–30 µm m high, colorless. Asci 20–25 x 6–10 µm. Ascospores narrowly fusiform, 3-septate, slightly thick-walled (0.3–0.6 µm), 8–15 x 2–3 µm, upper median cell slightly enlarged, colorless, often with 1–2 µm thick halo. Pycnidia adnate, wart-shaped, rounded, 0.1–0.15 mm diam., black. Conidia bacillar, non-septate, 4–6 x1.2–1.6 µm. Chemistry*:* not tested. - *Opegrapha vegae* somewhat resembles a small *O. filicina* but differs clearly in the smaller, 3-septate ascospores. In addition, the black dots characteristic of the thallus of *O. filicina* are mostly absent in *O. vegae*. It is morphologically most similar to *O. heliabravoa*, but that species has longer, 5-septate ascospores.

Opegrapha vegae

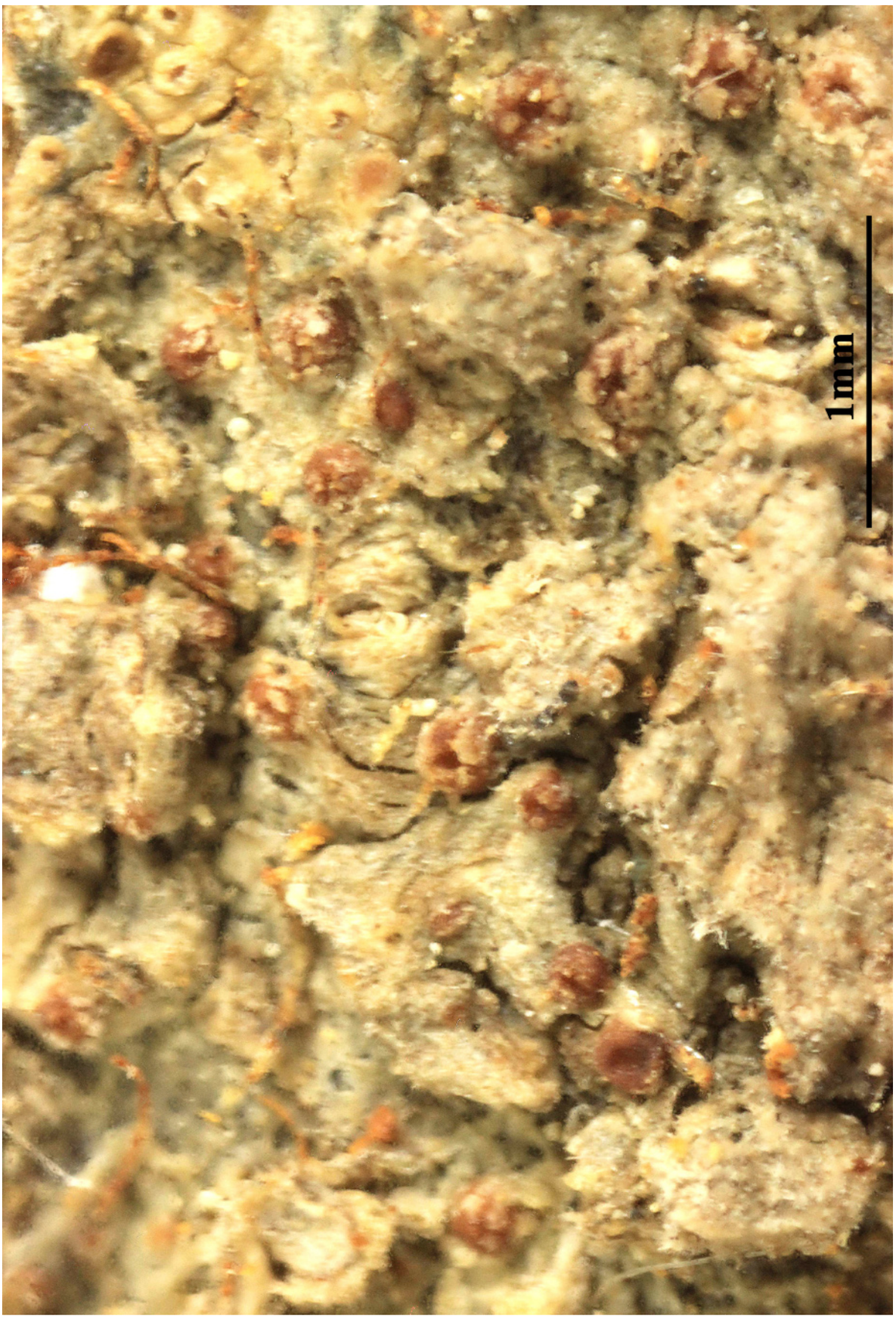
Opegrapha vegae

Pachyphiale fagicola (Arnold) Zwackh, Flora, Regensburg 45(32): 506 (1862)
= *Bacidia fagicola* Arnold, Flora, Regensburg 41(31): 504 (1858)
= *Biatora fagicola* (Arnold) Hepp, in Bausch, Verh. naturw. Verein. Karlsruhe 4: 93 (1869)
= Gyalecta corticola (Lönnr.) Tuck., Gen. lich. (Amherst): 132 (1872)
= *Gyalecta fagicola* (Arnold) Kremp., Denkschr. Kgl. Bayer. Bot. Ges., Abt. 2 4: 168 (1861)
= *Pachyphiale corticola* Lönnr., Flora, Regensburg 41: 612 (1858)
= Sagedia fagicola (Arnold) Rabenh., Flecht. Europ. 23: no. 634 (1862)
= *Secoliga corticola* (Lönnr.) Stizenb., Ber. Tät. St Gall. naturw. Ges.: 159 (1862) [1861-62]
= *Secoliga fagicola* (Arnold) Hepp, in Körber, Parerga lichenol. (Breslau) 2: 112 (1860) [1865]
= *Wilmsia latens* J. Lahm, in Fries, Flora, Regensburg 44: 413 (1861)

[VZR346], Bohemia merid., montes Šumava (Gabretta), České, žleby, in monte "Spálenište", 850 m. Ad corticem arboris (*Fagus silvatica*). Leg. & det. T. Palice. Ex A. VěZDA: Lichenes Rariores Exsiccati Nr. 346.

Thallus crustose, episubstratic ot hemiendosubstratic, granular or farinose, pale grey to pinkish grey. Apothecia urceolate, 0.3-0.5 mm across, gelatinous and translucent when wet, with a concave, reddish brown, usually epruinose disc, and a thick, usually smooth, more or less concolorous proper margin. Proper exciple well-developed, of thin, compacted hyphae, reddish brown in outer part, colourless within; epithecium reddish brown; hymenium colourless, I+ pale blue; paraphyses mostly simple, thread-like, septate with more or less hooked tips; hypothecium colourless. Asci 16-32-spored, subclavate, thin-walled, the wall K/I+ blue, not or only slightly thickened at apex, without an internal apparatus. Ascospores 3-7-septate, hyaline, narrowly fusiform, (15-)20-30(-35) x 3-5 µm. Photobiont trentepohlioid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: often confused with *Gyalecta carneola*, but certainly rare throughout the country, with optimum in open deciduous forests or, in humid areas, also on isolated, old trees.

Pachyphiale fagicola

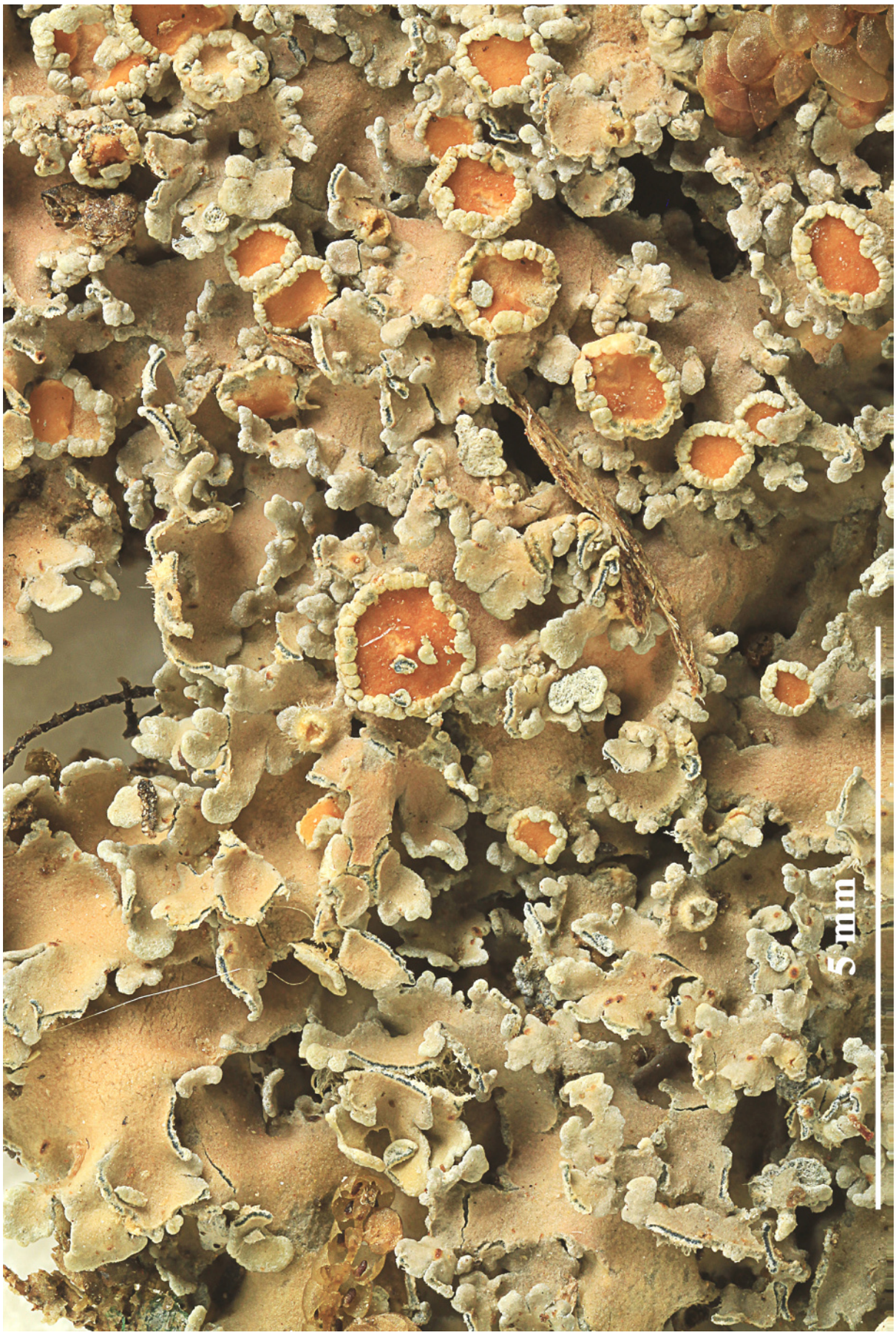


Pachyphiale fagicola

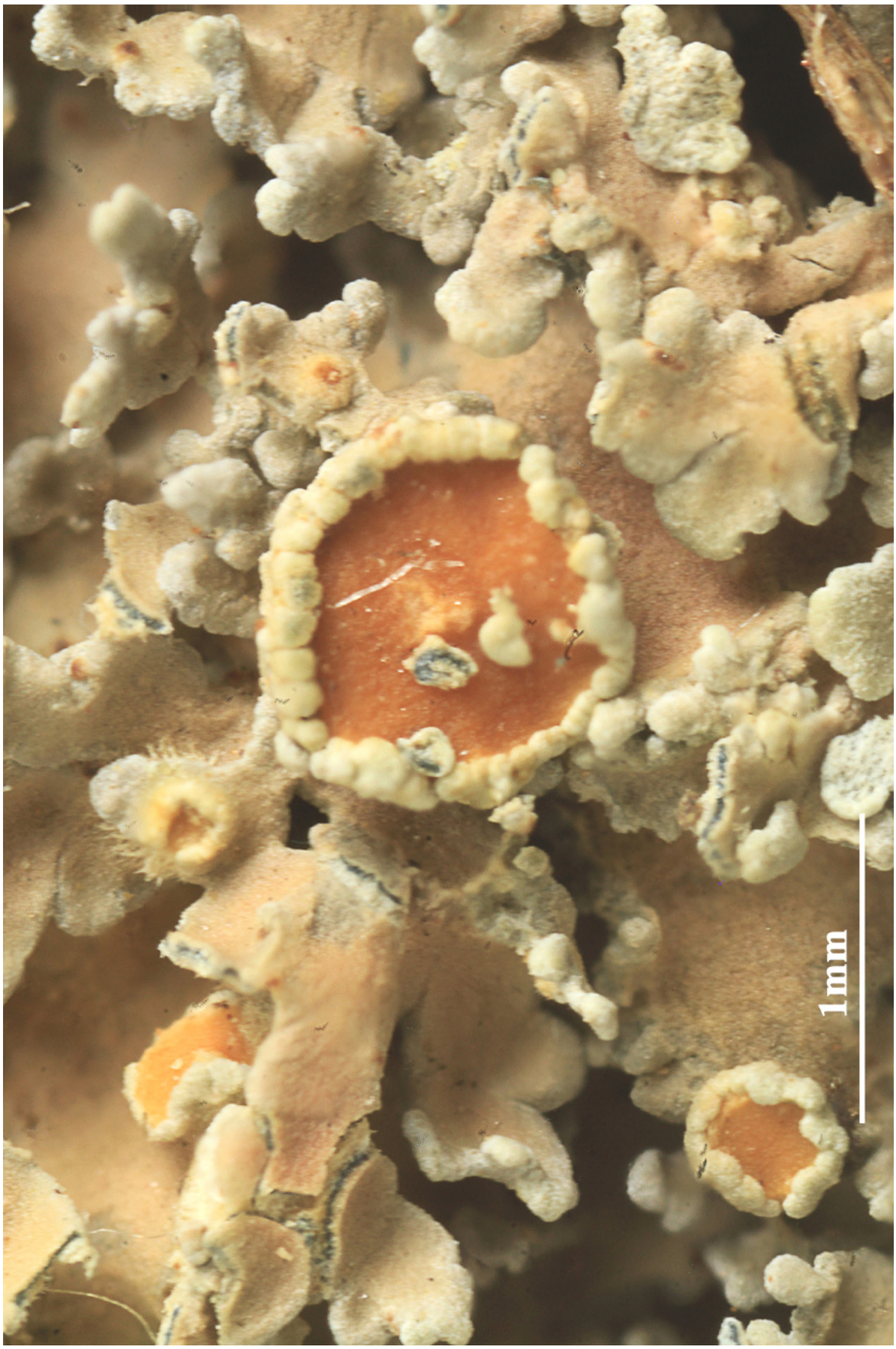
Pannaria tavaresii P. M. Jørg., Op. bot. 45: 68 (1978)

[VZR133], Insulae Canarienses, Tenerife, Montañas de Anaga, Pico de Inglés, 900 m. Ad truncos arborum in Laurisilva. Leg. F. Ceni, A. Vězda, 9.3.1994, det. A. Vězda. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 133.

Thallus small-foliose, isidiate, forming up to 3 cm wide, orbicular rosettes developing on a black hypothallus which sometimes extends beyond the margins. Lobes contiguous, concave with raised margins, 3-4 mm wide and up 8 mm long, whitish or bluish grey to partly pale brown, scabrid or slightly pruinose, with granular to coralloid, mainly marginal, sometimes black-tipped isidia. Upper cortex paraplectenchymatous, 40-50 µm thick; medulla white; lower cortex absent. Apothecia lecanorine, up to 1 mm across, with a red-brown disc and a thick, often crenulate, sometimes isidiate thalline margin. Proper exciple subparaplectenchymatous, 30-40 µm thick; epithecium brownish; hymenium colourless, 100-150 µm high, I+ blue near the asci; paraphyses mostly simple, the apical cells hardly swollen; hypothecium colourless. Asci 8-spored, clavate to subcylindrical, with a well developed, non-amyloid or very weakly amyloid tholus lacking internal structures, and an intensely amyloid, thin outer sheath. Ascospores 1-celled, hyaline, ellipsoid, measuring 20-24 x 10-12 µm with epispore; 15-19 x 9-10 µm without epispore. Photobiont cyanobacterial (*Nostoc*, the cells in clusters). Spot tests: thallus K-, C-, KC-, P+ orange. Chemistry: pannarin. - A rare epiphytic species with a mainly southwestern distribution in Europe, restricted to Lobarion-communities in humid forests.



Pannaria tavaresii



Pannaria tavaresii

Paraparmelia sargentii Elix & J. Johnst., Mycotaxon 32(1): 410 (1988)
= *Xanthoparmelia sargentii* (Elix & J. Johnst.) Elix, Mycotaxon 87: 401 (2003)

[VZR217], Australia occid., Yillimining Rock, 18 km septentr.-occident. a Narrogin, 32°57' austr., 17°22' orient., 320 m. Ad sacxa granitica. Leg. J. A. Elix & H. T. Lumbsch. Annot.: Atranorin, constipatic acid, protoconstipatic acid by TLC, anal. J. A. Elix. Ex A. VěZDA: Lichenes Rariores Exsiccati Nr. 217.

Thallus small-foliose to subcrustose, adnate, forming irregular rosettes to 3.5 cm wide. Lobes rarely imbricate, radiating at apices, sublinear, subdichotomously branched, 0.3–0.6 (–1) mm wide. Upper surface pale ash grey, black-margined towards lobe apices, convex, smooth and shiny at lobe apices, becoming dull, developing dense granular pruina subapically, emaculate, lacking soredia and isidia; older lobes becoming rugose and areolate. Lower surface pale tan to brown, darker towards lobe apices; rhizines sparse, simple, tufted or not, thick, to 0.2 mm long, concolorous. Apothecia scattered, subpedicellate, to 3 mm wide; disc concave becoming undulate-distorted, pale brown to brown; thalline exciple thick, entire then ±cracked, pruinose. Ascospores (immature) c. 3.5 × 2 µm. Pycnidia numerous, slightly emergent, minute, punctiform. Conidia 6–7 × 1 µm. CHEMISTRY: cortex K+ yellow; medulla K-, C-, KC-, P-; containing atranorin, protoconstipatic acid (major) and constipatic acid (minor). - This rare endemic species is currently known only from the type locality in south-western W.A.

Paraparmelia sargentii

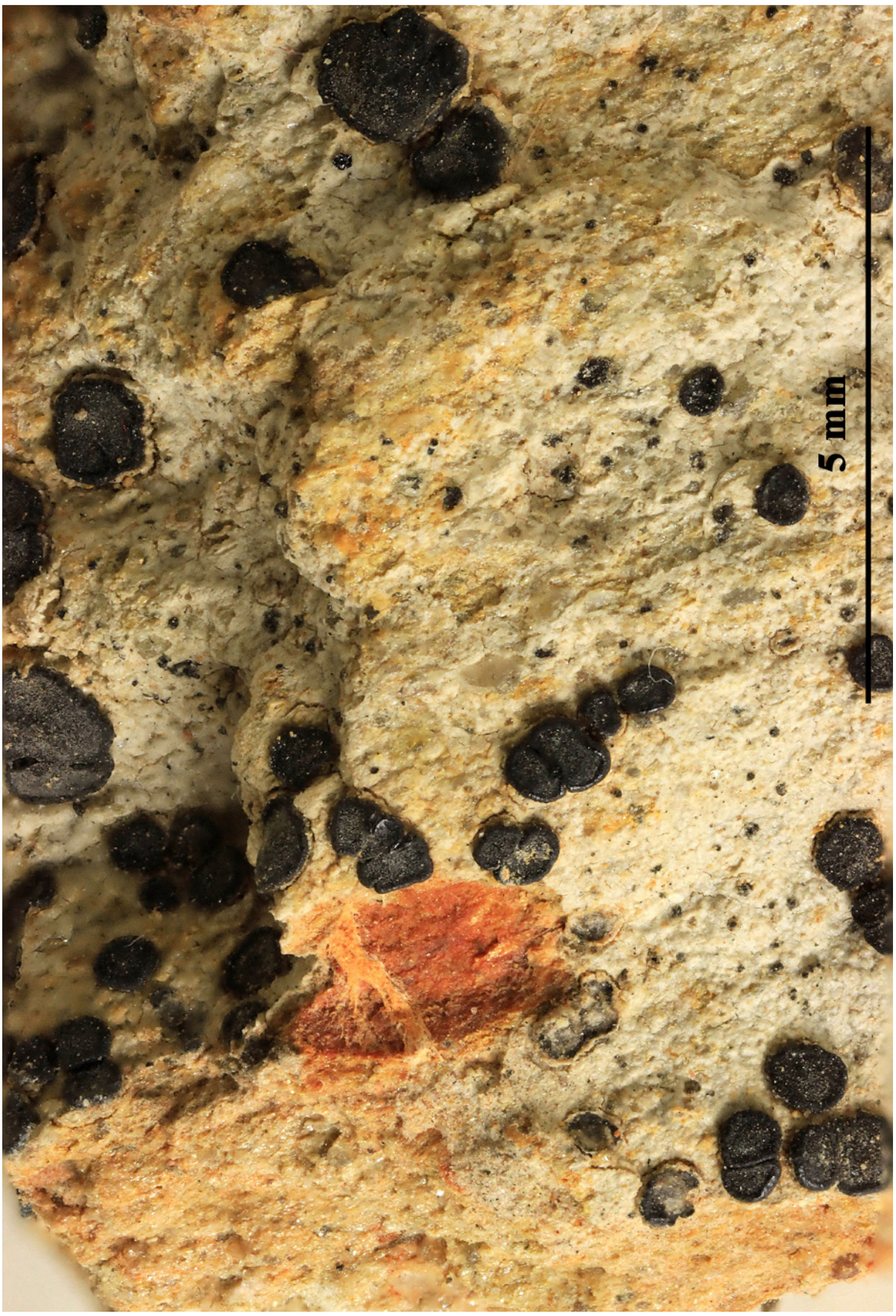
Paraparmelia sargentii

Paraporpidia glauca (Taylor) Rambold, Biblthca Lichenol. 34: 246 (1989)
= *Lecidea glauca* Taylor, London J. Bot. 6: 149 (1847)
= *Lecidea psammophila* (Müll. Arg.) Zahlbr., Cat. Lich. Univers. 3: 889 (1925)
= *Psora glauca* (Taylor) Müll. Arg., Flora, Regensburg 71: 204, 538 (1888)
= *Psora psammophila* Müll. Arg., Hedwigia 31: 194 (1892)
= *Tremolecia glauca* (Taylor) Hertel & Gotth. Schneid., in Schneider, Biblthca Lichenol. 13: 240 (1980) [1979]

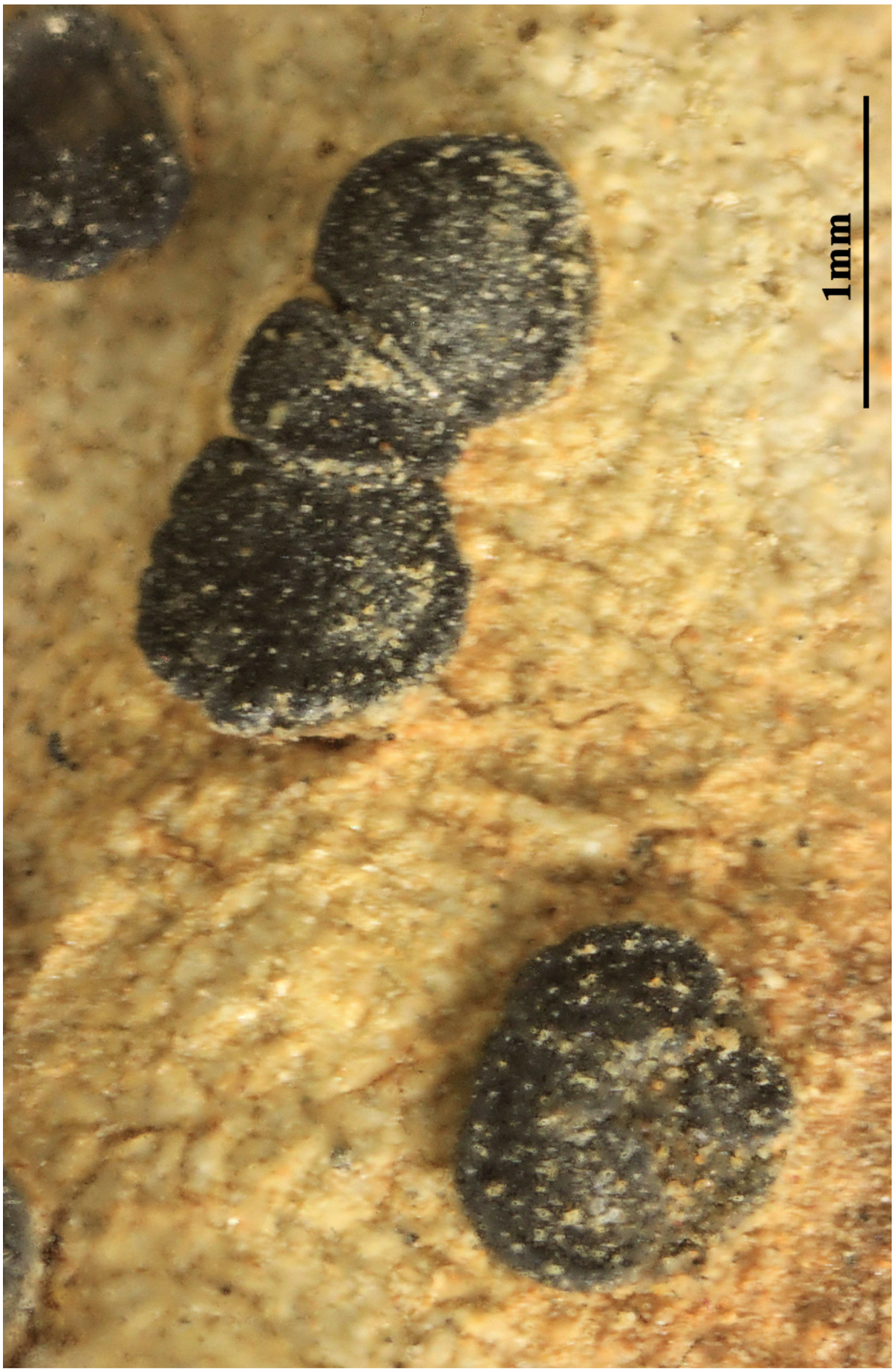
[VZR47], Australia. Australia occidentalis: 8 km ad meridiem versus Narooma, secus viam. Ad fragmenta saxorum in terra dispersa. Leg. W. L. Colberson (no 212223) & C. F. Culberson, 26.11.1990, det. G. Rambold. Annot.: Confluentic acid and traces of 2'-O-methylperlatolic acid and an unidentified compound by TLC, anal. A. Johnson & C. F. Culberson. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 47.

Thallus: verrucose to rimose, up to 50 mm diam., c. 0.1 mm thick. AREOLES: irregular, whitish to greenish, plane, with rough surface, c. 0.5 - 1.0 mm, max. 1.0 - 1.7 mm diam. Cortex 0 - 10 µm thick; upper cell layer not pigmented; hyphae c. 3 µm diam.; epinecral layer 7 - 15 µm thick. Algal layer c. 40 - 70 µm thick; algal cells c. 8 µm, max. c. 9 - 10 µm diam. Medulla I+ violet; hyphae 2 - 2.5 µm thick. HYPOTHALLUS: not obvious. Apothecia: roundish to irregular, dispersed to crowded, 15 - 50/cm' , sessile, mostly not constricted at the base, c. 0.8 - 1.4 mm, max. 1.5 - 2.0 mm diam. Disc convex, grey, matt, pruinose. Margin at first distinct, mostly persistent, black to grey, matt. EXCIPULUM: max. 60 - 150 µm, lateral of hymenium 60 - 100 µm thick. Ectal zone dirty brown; pigmented zone 12 - 20 µm tall; hyphae 3 - 4.5 µm diam., with lumina of 1 - 1.5µpm. Inner zone colourless to pale grey-brown; hyphae 3 - 5 µm diam., with lumina of (1 -) 15 - 2 (- 4) µm. Medullary zone more or less developed. HYPOTHECIUM: brown to dark brown, 100 - 200 µm thick; hyphae (2-) 3 µm diam.; subhymenial layer colourless to pale brown, (10 -) 20 -35 µm thick. HYMENIUM: 60 - 80 (- 100) µm tall, colourless, I+ blue, Iconc. + red. Epihymenium brown, diffuse. Paraphyses branched and anastomosing, 1.5 - 2 µm, apices 2.5 - 3.5 µm thick. Asci c. 55 - 70, x 10 - 12 µm; tholus max. c. 10 µm, min. 5 - 7 µm thick; amyloid tube 'c. 3 - 3.5 µm broad; outer amyloid wall layer c. 0.8 - 1.0 µm thick, I+ brown, Iconc.+ orange-red; non-amyloid wall layer' c. 0.5 µm thick. Spores ellipsoid, 10 - 16 x 4.5 - 7.5 µm. Pycnidia: immersed. Conidia filiform, 18 - 22 - 33 - 38 x 0.8 µm. CHEMISTRY: Cortex K-, C-, P-; medulla K-, C-, P-; excipulum K-, C-, P-. Two chemotypes observed: a) containing confluentic acid

(major), 2'-O-methylperlatolic acid, 2'-O-methylmicrophyllinic acid (minor); b) containing 2'-O-methylperlatolic acid.



Paraporpidia glauca

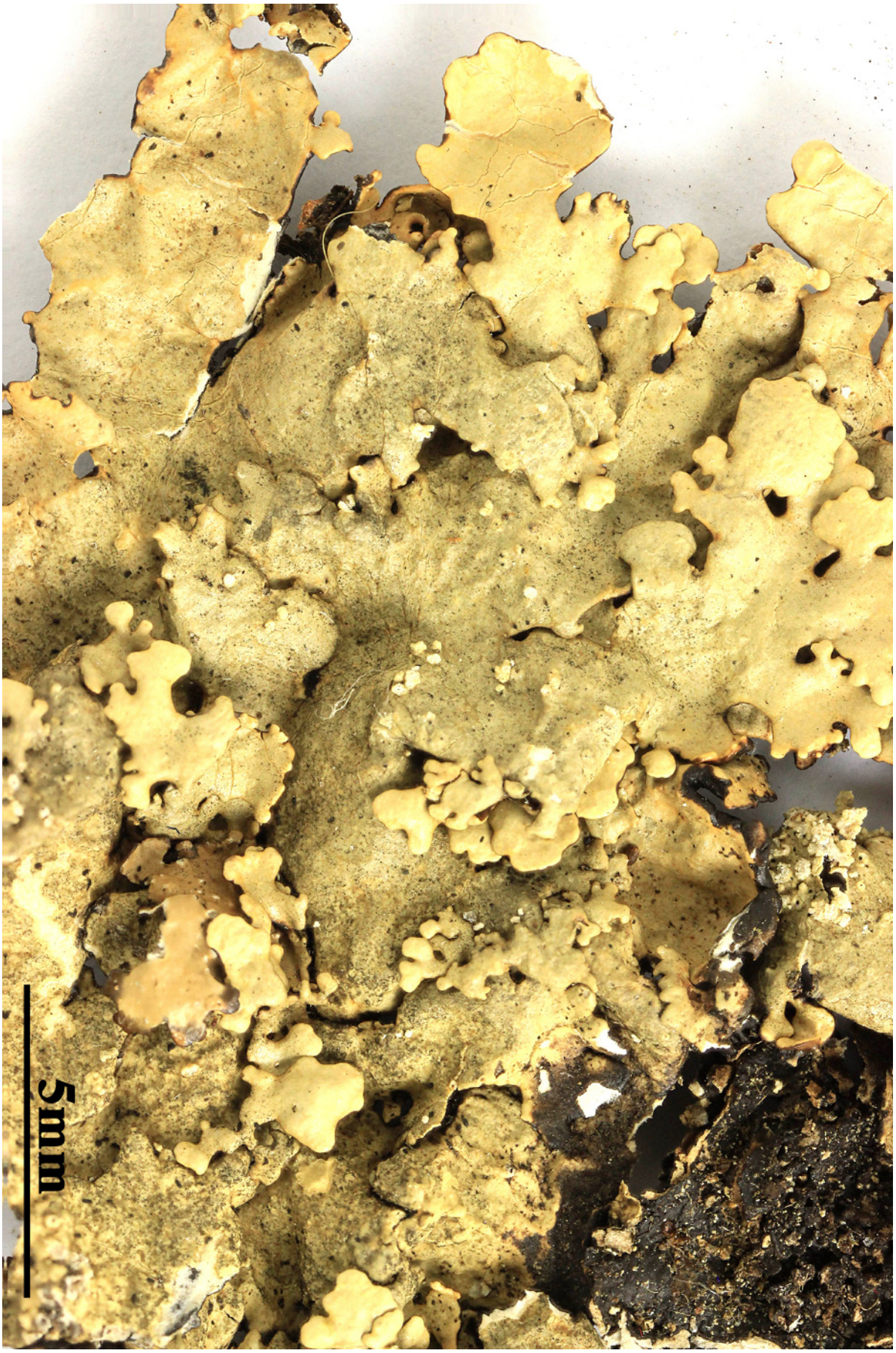


Paraporpidia glauca

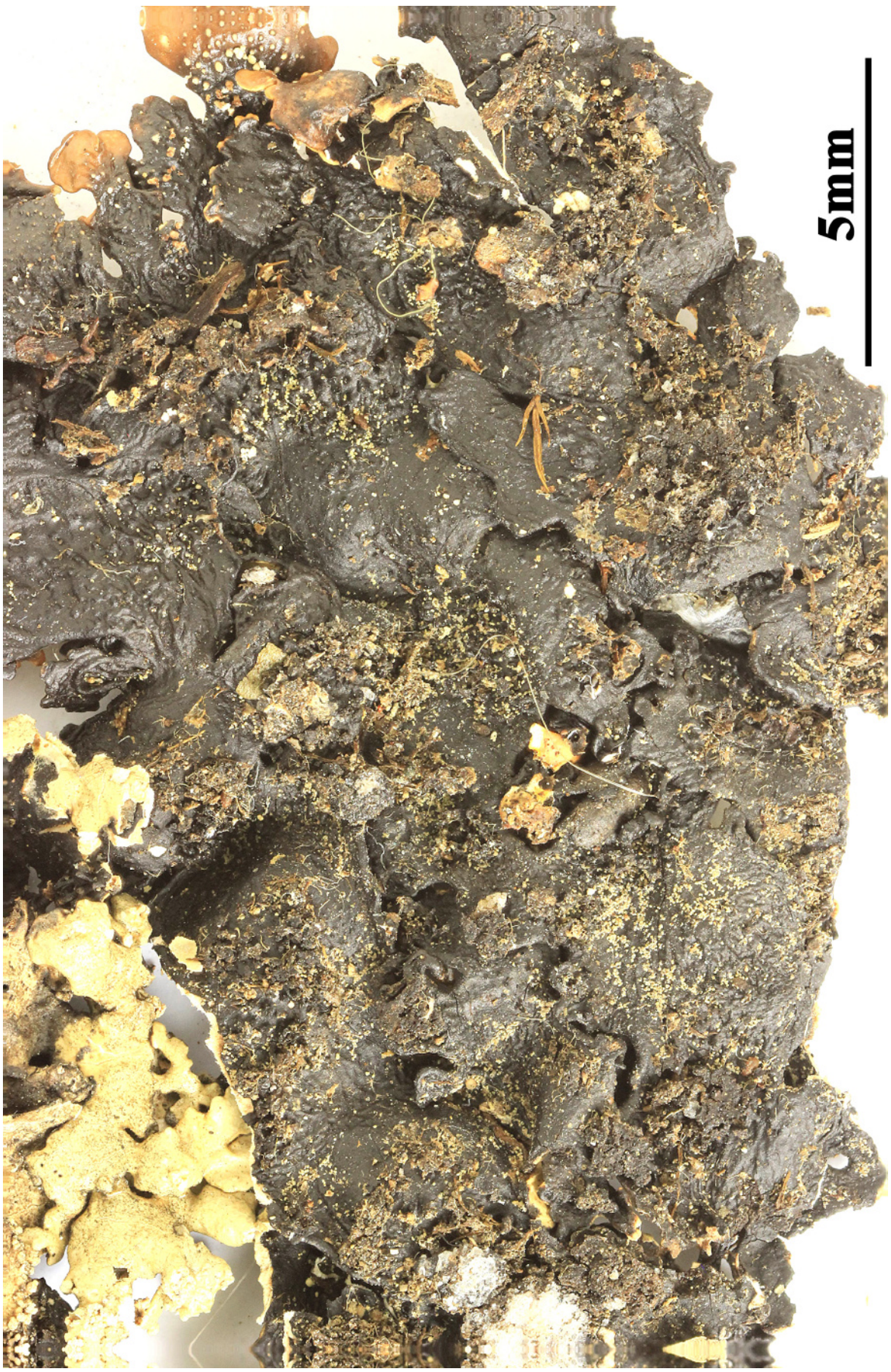
Parmelia baltimorensis Gyeln. & Fóriss, Annals Cryptog. Exot. 4(3-4): 167 (1931)
= *Flavoparmelia baltimorensis* (Gyeln. & Fóriss) Hale

[VZR915], USA., Carolina Borealis. Stokes County: Hanging Rock State Park. Ad saxa. Leg. W. L. Culberson (no. 14340) et J. Poelt. - Annot.: Protocetraric, gyrophoric, caperatic and usnic acids, with TLC. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 915.

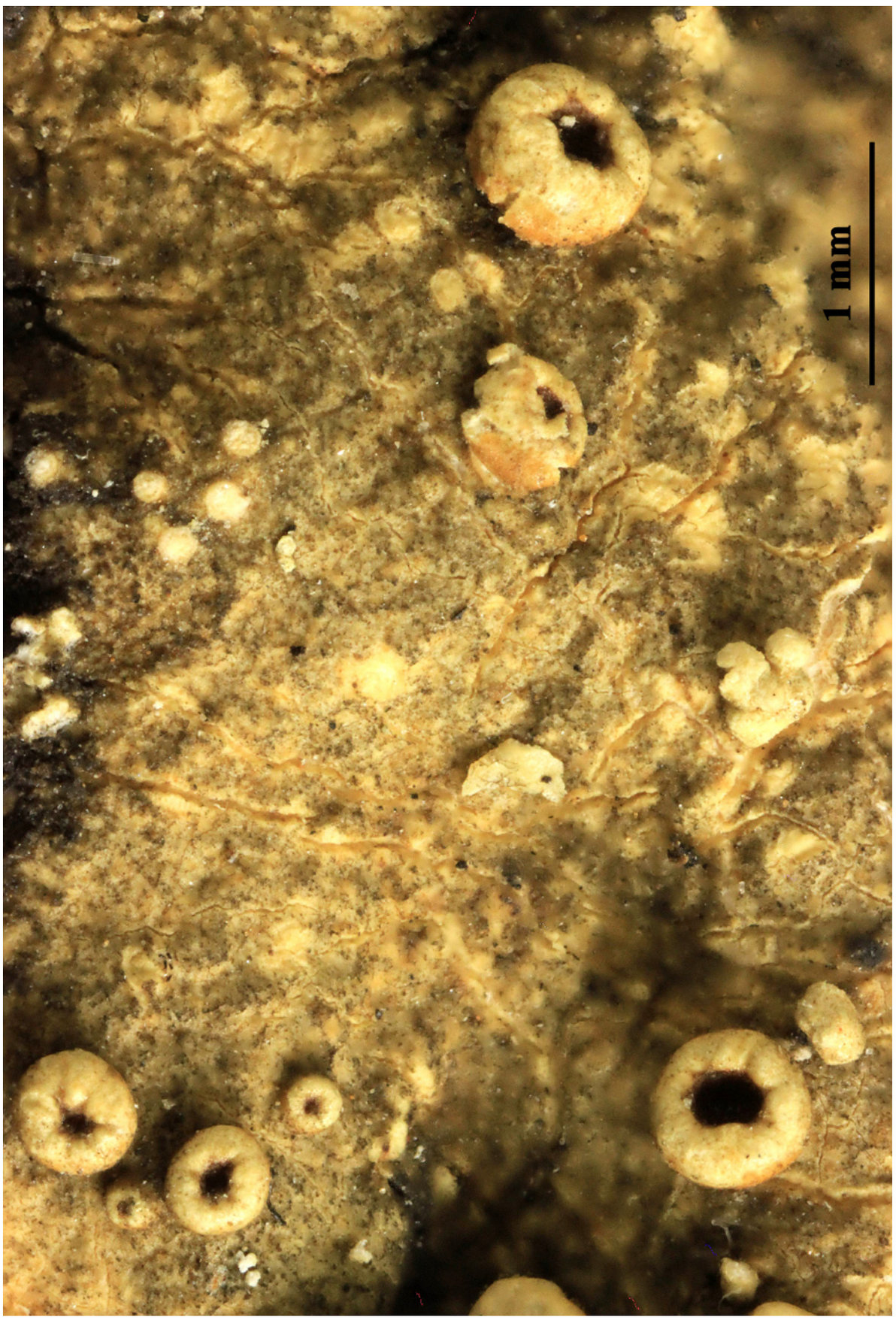
Thallus adnate to loosely adnate, foliose, 6-15 cm in diam., often fusing to cover large areas, irregularly lobate; lobes sublinear to irregular, elongate, plane to subconvex, separate, 3-8 mm wide; apices subrotund, crenate, eciliate; upper surface yellow-green, smooth but becoming rugose with age, dull to somewhat shiny, epruinose and emaculate; pustulae abundant, laminal crateriform, isidioid, breaking open apically but not sorediate; true isidia and soredia absent; medulla white with continuous algal layer; lower surface black centrally and toward margin, narrow brown zone peripherally, smooth to papillate; rhizines sparse to moderately abundant, black, simple; Apothecia rare, laminal on thallus, sessile, 1-4 mm wide; disc brown; margin pustulate, pruina and soredia absent; asci clavate, 8-spored; ascospores simple, ellipsoid, hyaline, 13-15 x 6-7 µm; Spot tests: upper cortex K-, C-, KC+ yellow, P-; medulla K-, C+ red, KC+ red, P+ red Secondary metabolites: upper cortex with usnic acid; medulla with protocetraric acid (major) and gyrophoric acid (minor to accessory). Substrate and ecology: commonly on acidic rock, rarely tree bases World distribution: eastern and SW North America, central Arizona south along the Sierra Madre Occidental, Southern California and Baja California.



Parmelia baltimorensis



Parmelia baltimorensis

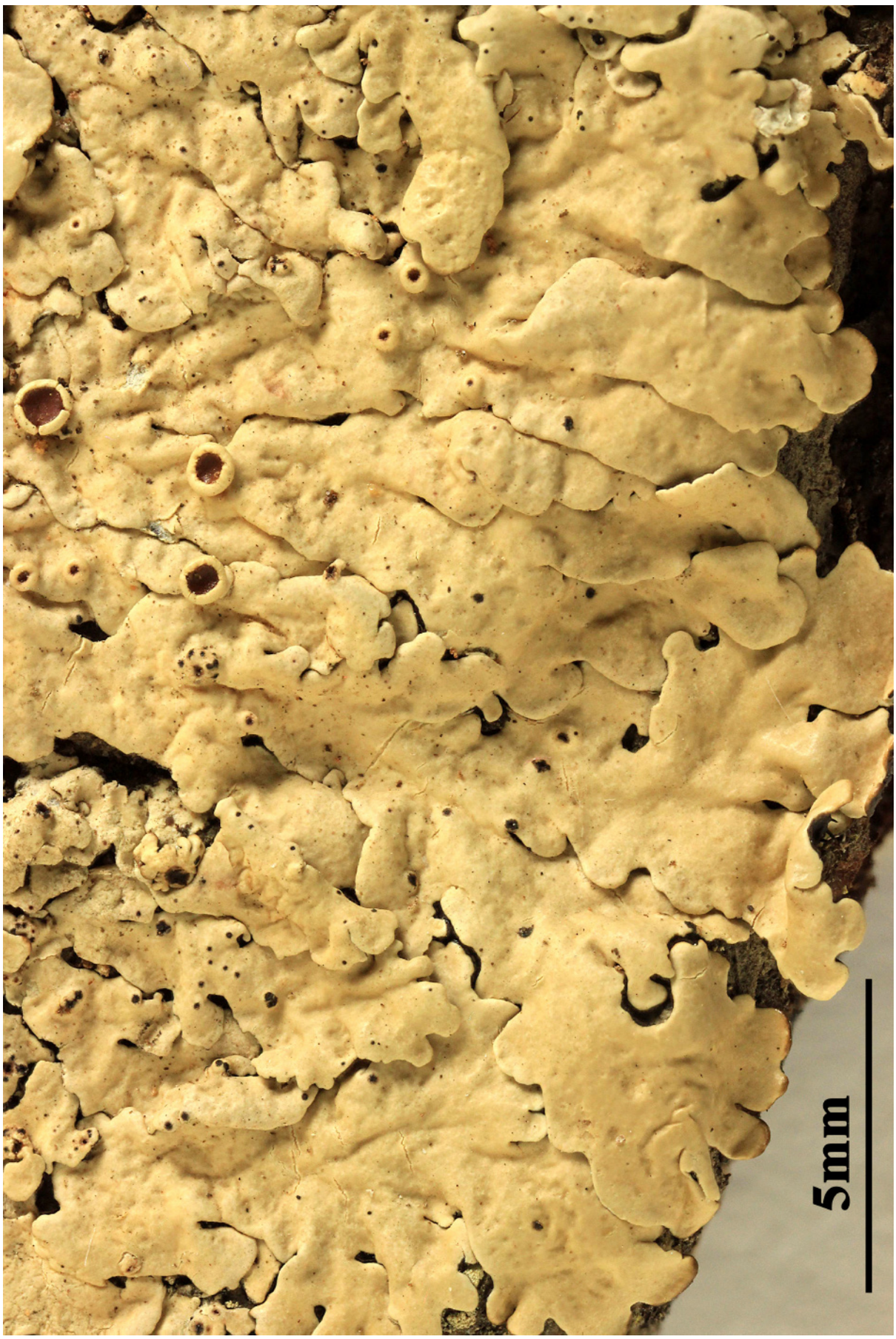


Parmelia baltimorensis

Parmelia congruens Ach., Lich. Univ.: 491 (1810)
= *Pseudoparmelia congruens* (Ach.) Hale, Phytologia 29(3): 189 (1974)
= *Lichen diatrypus* * *congruens* (Ach.) Lam., Encycl. Méth., Bot. Suppl. (Paris) 3(2): 406 (1813)

[VZR245], Dominica (Antilles Minores), Roseau, Mahaut, ad truncos Palmae (*Cocos nucifera*) in litore. Leg. & det. A. Vězda. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 245.

Thallus closely adnate on bark, 5-10 cm in diameter, pale greenish mineral gray, often turning chamois in the herbarium; lobes sublineare-longate, 2-4 mm wide; upper surface plane to convex, more or less maculate, rugulose to minutely pitted with age; medulla white to pale yellow; lower surface light tan to pale olive brown, rugose, moderately rhizinate, the rhizines simple, tan. Apothecia common, adnate, 2-3 mm in diameter; spores 6—8 x 7—9 µm,.Chemistry. Cortex K+ yellowish (traces of atranorin and usnic acid) ; medulla yellowish with the color reagents (?barbatic acid, ?stictic acid, unknowns). The chemistry is complex and still not resolved. Spots are numerous and streaked on chromatographic plates. The yellowish medulla may be conspicuously developed to very pale. World distribution and habitats: Southern United States, West Indies, Mexico, Central America, northern South America, Congo, Angola, Madagascar; on palms, cypress, and hard-woods at low elevation (sea level to 1,200 m). - This widespread tropical species has been poorly understood, as one would surmise from the list of synonyms. Parmelia congruens is always corticolous and in Dominica occurs on sheltered cocoa palms in the northwestern part of the island.



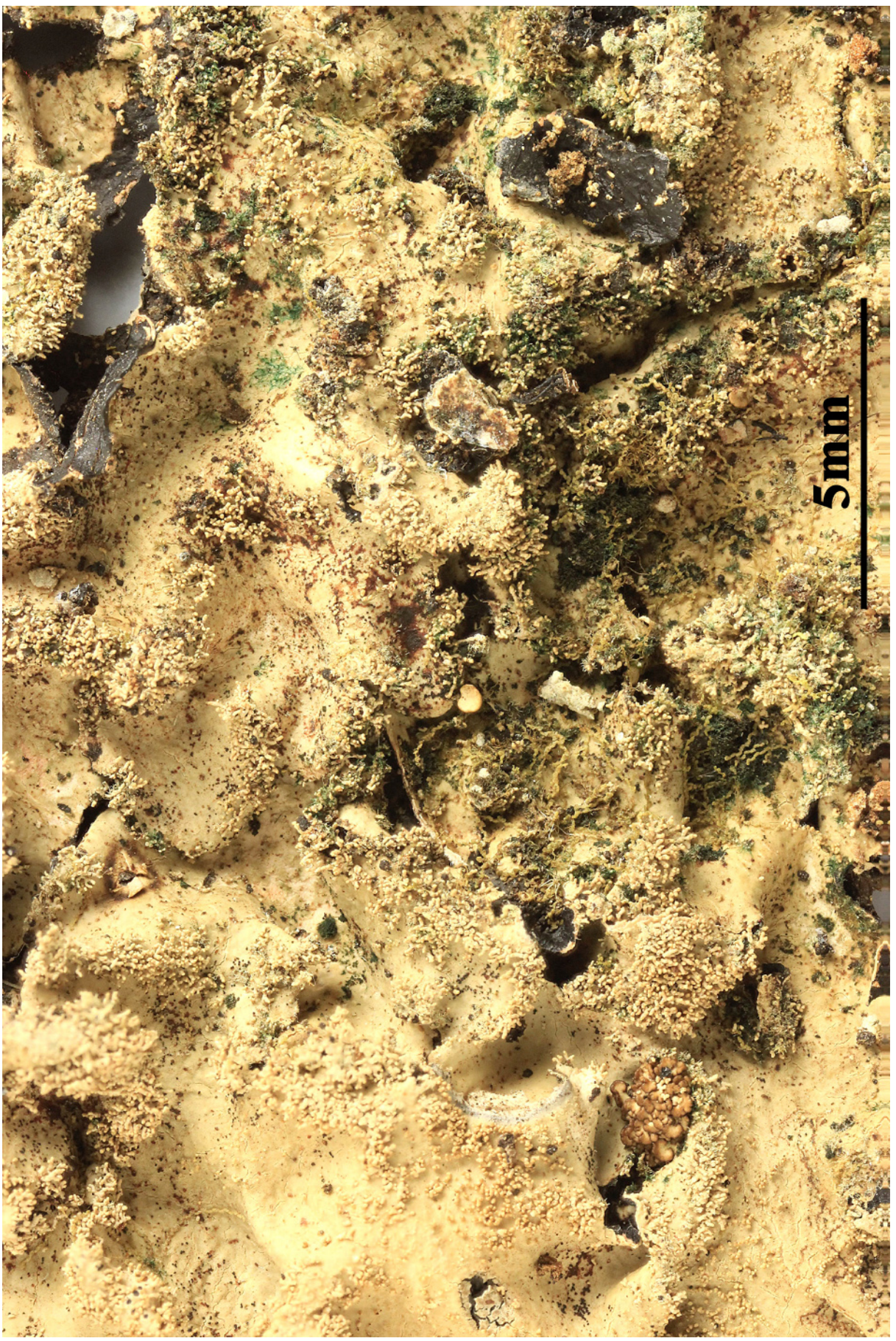
Parmelia congruens

Parmelia congruens

Parmelia endosulphurea (Hillmann) Hale, Contr. U.S. natnl. Herb. 36(5): 251 (1965)
= *Parmelia tinctoria* var. *endosulphurea* Hillmann 1940

[VZR246], Dominica (Antilles Minores). Paroecia Saint Mark, ad orientem a Scotts Head Village, in litore. Ad basim trunci Palmae (*Cocos nucifera*). Leg. & det. A. Vězda, 21.7.1996. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 246.

Thallus large, loosely adnate, 10-20 cm broad, light greenish mineral gray; upper surface plane, densely isidiate, the isidia cylindrical, simple to branched; medulla pale orange yellow; lower surface black and sparsely rhizinate at the center, dark brown and naked in a broad zone at the margins. Apothecia not common, 5-8 mm in diameter; spores 6-9 x 19-23 μμ. Chemistry: Cortex K+ yellowish (atranorin) ; medulla deeper yellow with color reagents (unidentified substances present). TLC plates give streaks of unresolved spots. The yellow pigment may be secalonic acid or a related compound (Yosioka et al., 1968, p. 2090). World distribution and habitats: Pantropical but rare outside of the Caribbean region; on conifers and hardwoods at low elevations (sea level to 1,000 m). Until the yellow-orange medulla is exposed, this species can be mistaken for *P. tinctorum*, which has a white medulla and coarser, almost granular isidia. *Parmelia endosulphurea* has also been misidentified as *P. sulphurata* Nees and Flotow, a ciliate species with brilliant vulpinic acid in the medulla. *Parmelia endosulphurea* is the commonest foliose lichen on cultivated palm trees in Dominica on both the Caribbean and Atlantic sides of the island.



Parmelia endosulphurea

Parmelia endosulphurea

Parmelia incurva (Pers.) Fr., Nov. Sched. Critic. Lich. (Lundae): 31 (1826)
= *Arctoparmelia incurva* (Pers.) Hale, Mycotaxon 25(1): 252 (1986)
= *Imbricaria incurva* (Pers.) DC., in Lamarck & de Candolle, Fl. franç., Edn 3 (Paris) 2: 394 (1805)
= *Lichen incurvus* Pers., Ann. Bot. (Usteri) 7: 24 (1794)
= *Lichen multifidus* Dicks., Fasc. pl. crypt. Brit. (London) 3: 16 (1793)
= *Lobaria incurva* (Pers.) Ach., Methodus, Sectio post. (Stockholmiæ): 201 (1803)
= *Parmelia centrifuga* f. *incurva* (Pers.) Schaer., Lich. helv. spicil. 10: 474 (1840)
= *Parmelia centrifuga var. multifida* Schaer., Lich. helv. spicil. 10: 473 (1840)
= *Parmelia multifida* Schaer., Lich. helv. spicil. 11: 530 (1842)
= *Parmelia multifida* A.L. Sm., Monogr. Brit. Lich., Edn 2 1: 141 (1918)
= *Placodium incurvum* (Pers.) Frege, Deutsch. Botan. Taschenb. 2: 175 (1812)
= *Xanthoparmelia incurva* (Pers.) Hale, Phytologia 28(5): 488 (1974)

[VZR404], Bohemia meridionalis. Montes Šumava (Gabreta), Kašperské vrchy, distr. Prachatice, Rejštejn, in valle rivi Losenice, on pede montis "Šafářův vršek", 820 m. Moles saxorum, ad terram humosum. Leg. J. Kocourková & A. Vězda, 20.10.1000. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 404.

Thallus foliose, heteromerous, dorsiventral, closely adnate, yellowish to yellowish green or yellowish grey, usually grey in central parts, rather glossy, sorediate, with elongated, 0.2-1.5(-3) mm wide, convex, often overlapping and radiating lobes, forming up to 10 cm wide (usually smaller), often confluent rosettes, sorediate. Soralia laminal, strongly convex and almost subglobose, 2-4 mm across, most frequent on the central lobes; lower surface pale brown, with sparse, black rhizines. Upper cortex of tightly packed, anticlinally oriented hyphae, with a pored epicortex, the cell walls with Cetraria-type lichenan; medulla white, not amyloid; lower cortex appearing velvety due to minutely papillose, projecting hyphae. Apothecia rare, lecanorine, 2-4 mm across, with a brown to brown-black disc and a smooth thalline margin. Epithecium brown; hymenium colourless, I+ blue; paraphyses sparingly branched, the apical cells slightly swollen; 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. Asco-

spores 1-celled, hyaline, ellipsoid, 9-12 x 6-8 µm. Pycnidia rare, laminal immersed, black. Conidia hyaline, bacilliform, 4-7 x c. 1 µm. Photobiont chlorococcoid. Spot tests: cortex K+ yellow, C-, KC+ pale yellow, P-; medulla and soralia K-, KC+ pink, P- or P+ rust-red, UV+ bright glaucous blue. Chemistry: cortex with usnic acid and atranorin; medulla with alectoronic acid and variable amounts of protocetraric and collatolic acids. - Note: a circumpolar, arctic-alpine to boreal-montane species found on steeply inclined, hard, acid siliceous rocks in cold, wind-exposed mountain summits

Parmelia incurva

Parmelia incurva

Parmelia laevigata (Sm.) Ach., Syn. meth. lich. (Lund): 212 (1814)
= *Hypotrachyna laevigata* (Sm.) Hale, Smithson. Contr. bot. 25: 44 (1975)
= *Imbricaria laevigata* (Sm.) Arnold, Flora, Regensburg 53: 212 (1870)
= *Lichen laevigatus* Sm., in Smith & Sowerby, Engl. Bot. 26: [1852] (1808)
= *Parmelia sinuosa var. laevigata* (Sm.) Schaer., Enum. critic. lich. europ. (Bern): 43 (1850)
= *Parmotrema laevigatum* (Sm.) M. Choisy [as 'laevigata'], Bull. mens. Soc. linn. Soc. Bot. Lyon 21: 176 (1952)

[VZR117], Insulae Canarienses, Tenerife. Las Montañas de Anaga, Las Mercedes, ad corticem arborum in Laurisilva, 600-800 m. Leg. A. Vězda & F. Ceni, 5.3.1994, det. A. Vězda. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 117.

Thallus foliose, heteromerous, dorsiventral, loosely attached, forming 3-12(-15) cm wide patches, sorediate. Lobes sublinear elongate, subdichotomously branched with broadly rounded axils, initially separate, becoming imbricate, (1-)2-5(-8) mm wide, with an entire to rarely incised margin, and subtruncate to subrotund apices; upper surface pale ash-grey, glaucescent, shiny, usually strongly white-maculate, with laminal to subapical, capitate, slightly excavated, sometimes confluent soralia bearing usually farinose, whitish soredia (older soredia may be granulose and brownish). Lower surface black, sometimes with a thin, brown rim, with dense, black, shiny, dichotomously branched rhizines, some of which project beyond lobe margins. Upper cortex of tightly packed, anticlinally oriented hyphae, with a pored epicortex, the cell walls with isolichenan; medulla white; algal layer continuous; lower cortex brown, of anticlinally oriented hyphae. Apothecia extremely rare, lecanorine, laminal, to 5 mm across. Epithecium brownish; hymenium and hypothecium colourless. Asci 8-spored, clavate, Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid, (13-)15-18(-21) x (5-)7-11(-13) µm. Pycnidia black, laminal, immersed. Conidia weakly dumbbell-shaped, 4-7 x c. 1 µm. Photobiont chlorococcoid. Spot tests: upper cortex K+ yellow, C-, KC-, P- or P+ faintly yellow; medulla K-, C+ yellow-orange, KC+ orange, P-, UV+ bluish grey. Chemistry: upper cortex with atranorin and chloroatranorin; medulla with 4-O-demethylbarbatic and barbatic acids (both major), obtusatic and norobtusatic acids (traces). - Note: a humid subtropical to mild-temperate species found in ancient, very humid forests, on mossy trunks and rocks, very much declining.

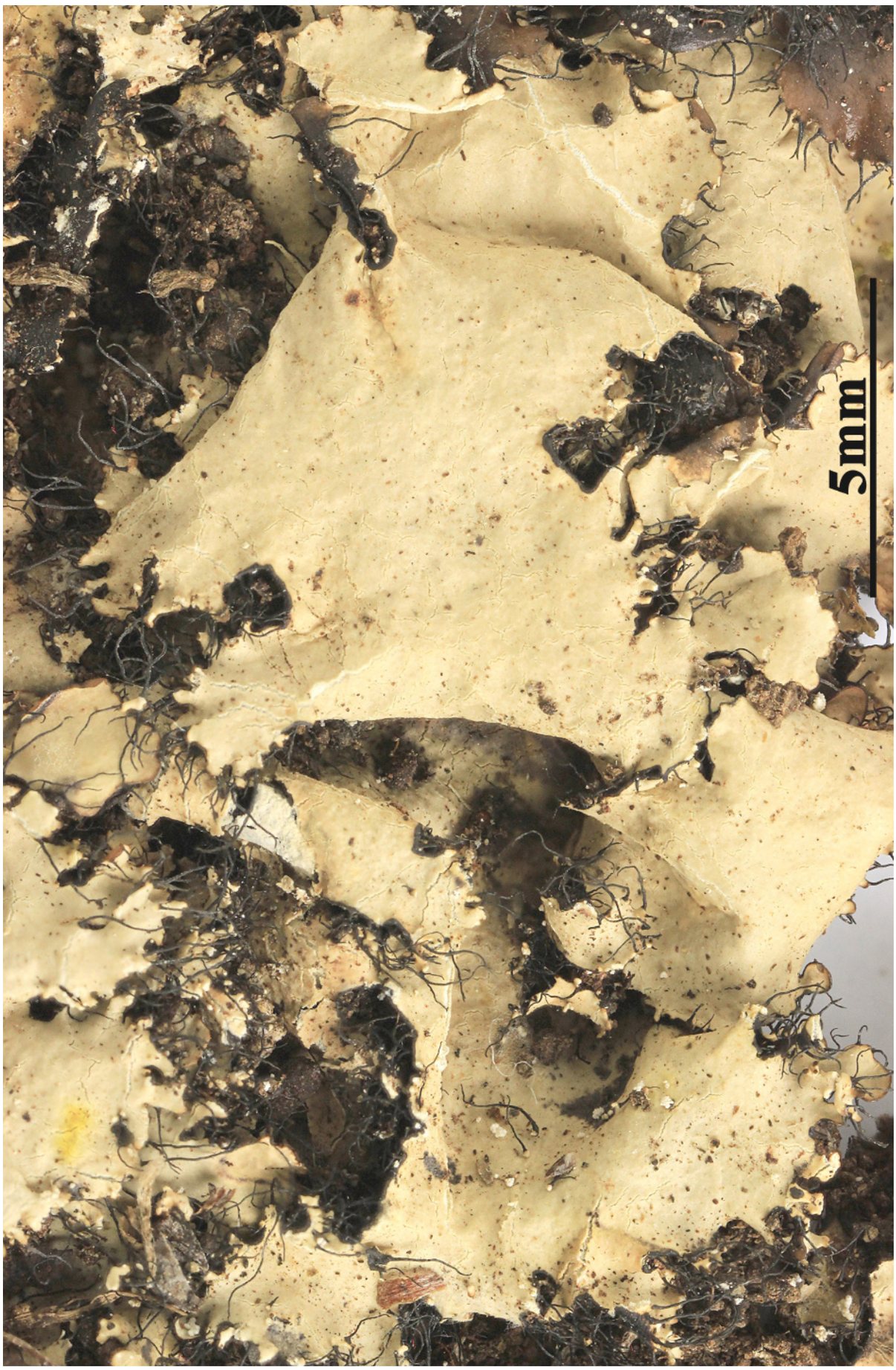
Parmelia laevigata

Parmelia laevigata

Parmelia mellissii C.W. Dodge, Ann. Mo. bot. Gdn 46(1-2): 134 (1959)
= *Parmotrema mellissii* (C.W. Dodge) Hale, Phytologia 28(4): 337 (1974)

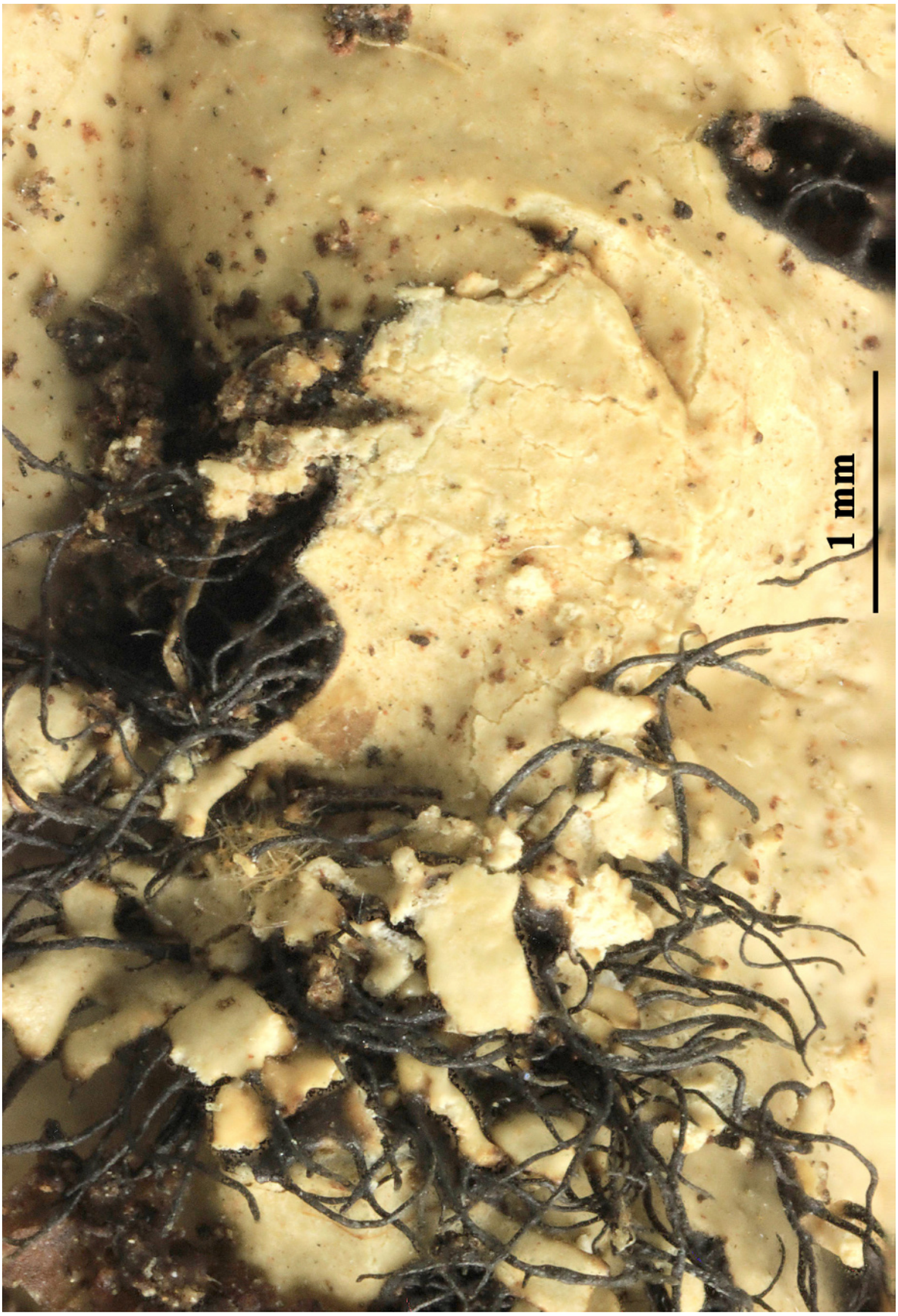
[VZR134], Insulae Canariemses Tenerife. Las Montañas de Anaga, Las Mercedes, loco Cruz del Carmen dicto, 700 m. Ad terram in fossis viae. Legt. et det. A. Vězda, 14.3.1994. EX A. VěZDA: LICHENES RARIORES EXSICCATI NR. 134.

Thallus loosely adnate, membranaceous or, rarely, somewhat coriaceous, to 5–10 cm wide. Lobes rotund, 3–12 mm wide; margins ascending, crenate to isidiate; cilia common, slender, 2–4 mm long. Upper surface pale grey to grey-green, dull, emaculate, foveolate or weakly rugose; cortex fragile, isidiate or sorediate-isidiate, especially near lobe margins; isidia eventually becoming granular and sorediate, at maturity densely coralloid-branched and ciliate; soredia granular. Medulla white, with patches of a yellow-brown to orange-brown, K+ purple pigment (skyrin) in lower medulla. Lower surface black, with a broad, dark brown marginal zone; rhizines in scattered groups, simple, slender, long. Apothecia very rare, pedicellate, 3–5 mm wide; disc imperforate; thalline exciple sorediate. Ascospores 16–22 × 10–14 µm. Pycnidia not seen. CHEMISTRY: cortex K+ yellow; medulla K-, C-, KC+ red, P-; pigmented medulla K+ purple; containing atranorin, chloroatranorin, alectoronic acid, a-collatolic acid, unidentified compounds (minor/trace) and skyrin (in the pigmented medulla). - A widespread species on bark of trees in moist forests of eastern Australia, rarely growing on rock in similar locations; also occurs in North, Central and South America, East Africa, India, Japan, the Canary Is., St Helena and New Zealand.



Parmelia mellissii

Parmelia mellissii



Parmelia mellissii

Parmelia norcrambidiocarpa Hale, Smithson. Contr. bot. 66: 31 (1987)
= *Notoparmelia norcrambidiocarpa* (Hale) A. Crespo, Ferencová & Divakar, Lichenologist 46(1): 63 (2014)

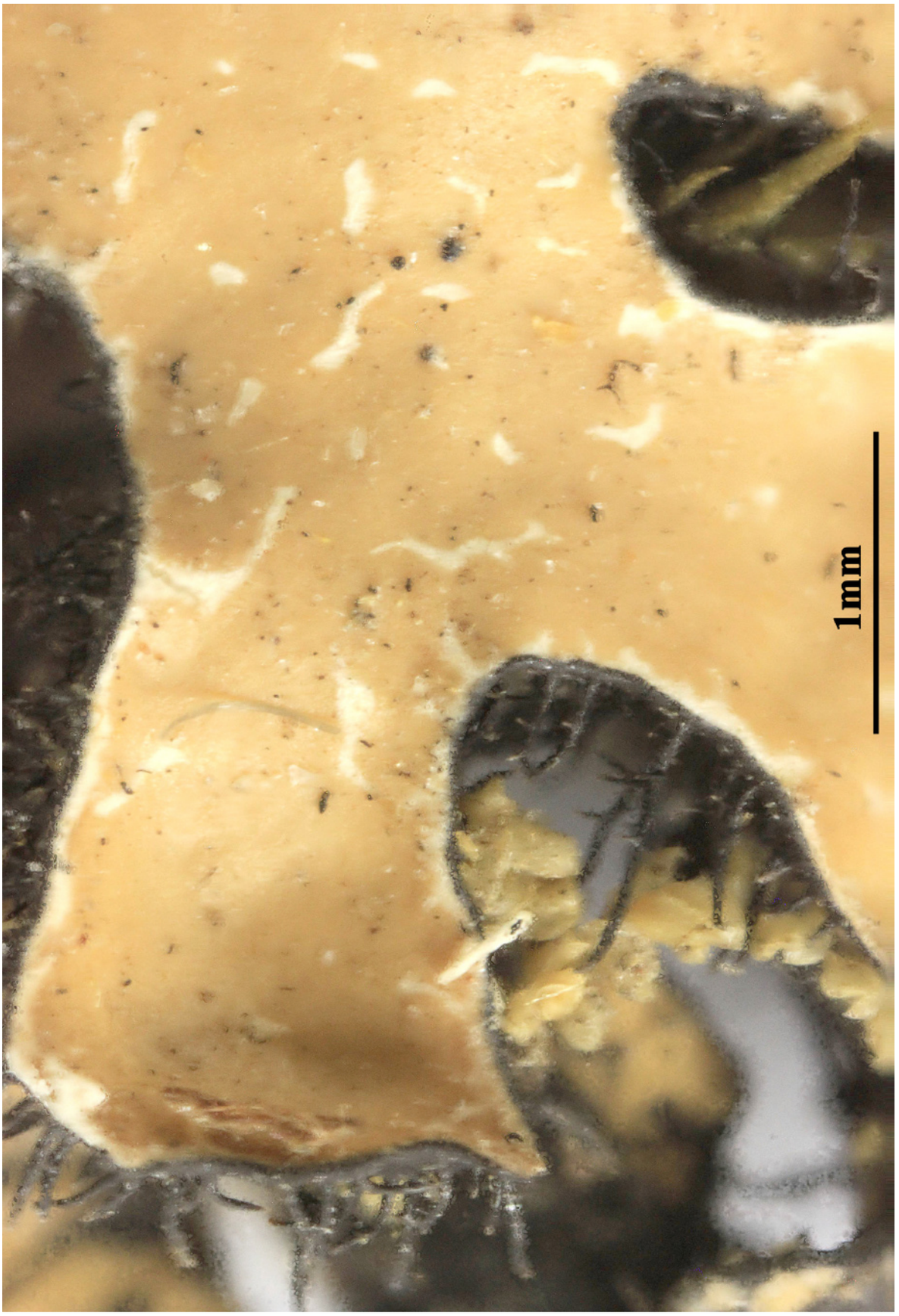
[VZR337], Nova Zelandia. South Island, distr.Westland: Haast, secus viam inter Haast et Haast Pass, 300 m. Ad corticem arborum in margine silvae. Leg. W. Malcolm & A. Vězda, 26.4.1977, det. G. Kantvilas, 1998. - first distributed as Parmelia testacea Stirton. EX A. VěZDA: LICHENES RARIORES EXSICCATI NR. 337.

Thallus adnate to loosely attached on bark, fairly firm, whitish gray, 6-12 cm broad; lobes subirregular to sublinear, little branched, becoming divaricate, browning at the tips, 1 4 mm wide; upper surface shiny, continuous to transversely cracked with age, plane, pseudocyphellae forming a very narrow, nearly continuous marginal rim, 0.1-0.2 mm wide, also laminal and effigurate, 0.2-0.6 mm long, separate, fissuring with age; lower surface densely rhizinate, the rhizines simple to strongly squarrosely branched, 0.5-2 mm long, usually projecting as a mat around the lobe margins. Pycnidia common, 90-110 µm in diameter; conidia cylindrical, rodshaped, 5.5-6.0 µm long. Apothecia common, substipitate and cupuliform, splitting radially with age, to 20 mm in diameter, the disc brown to dark brown, the amphithecium rugose, effigurate-pseudocyphellate; hymenium 60-70 µm high; spores 7-10 x 10-15 µm, the episporium 1 µm thick. Chemistry: Atranorin, chloroatranorin, and echinocarpic acid (and associated unknowns).
Remarks: This new species is a member of the *P. testacea* complex. It is closely related to *P. crambidiocarpa* and *P. salcrambidiocarpa*, the thallus of these three species being essentially identical with sublinear lobes, marginal and laminal pseudocyphellae splitting open with age, and a dense mat of rhizines below. However, there are significant differences in chemistry, distribution, and, in part, spores. The apothecia of *P. norcrambidiocarpa* are typical for the group except that the disc is even darker than in *P. crambidiocarpa*. Spore differences are more significant: average aximum length is 13.4 µm with a range of 12-15 µm, and average width 8.8 pm (range 7-10 µm). There is no overlap with the larger spores of *P. crambidiocarpa.,* for spore length differences between the two species. *Parmelia salcrambidiocarpa* has identical small spores. Chemistry is extremely uniform: atranorin and echinocarpic acid and associated unknowns. *Parmelia salcrambidiocarpa* contains only salazinic acid. *Parmelia norcrambidiocarpa* is by far the most common foliose lichen in the subalpine scrub zone on the

major mountain chains running the length of the South Island in New Zealand.

Short description: Characterised by the corticolous habit; the sublinear to subirregular lobes; mainly marginal pseudocyphellae; absence of soredia or isidia; black rhizines present in a dense mat and projecting beyond the lobe margins; small ascospores, 12–15 × 7–10 µm; and echinocarpic acid as the major medullary constituent.

Parmelia norcrambidiocarpa

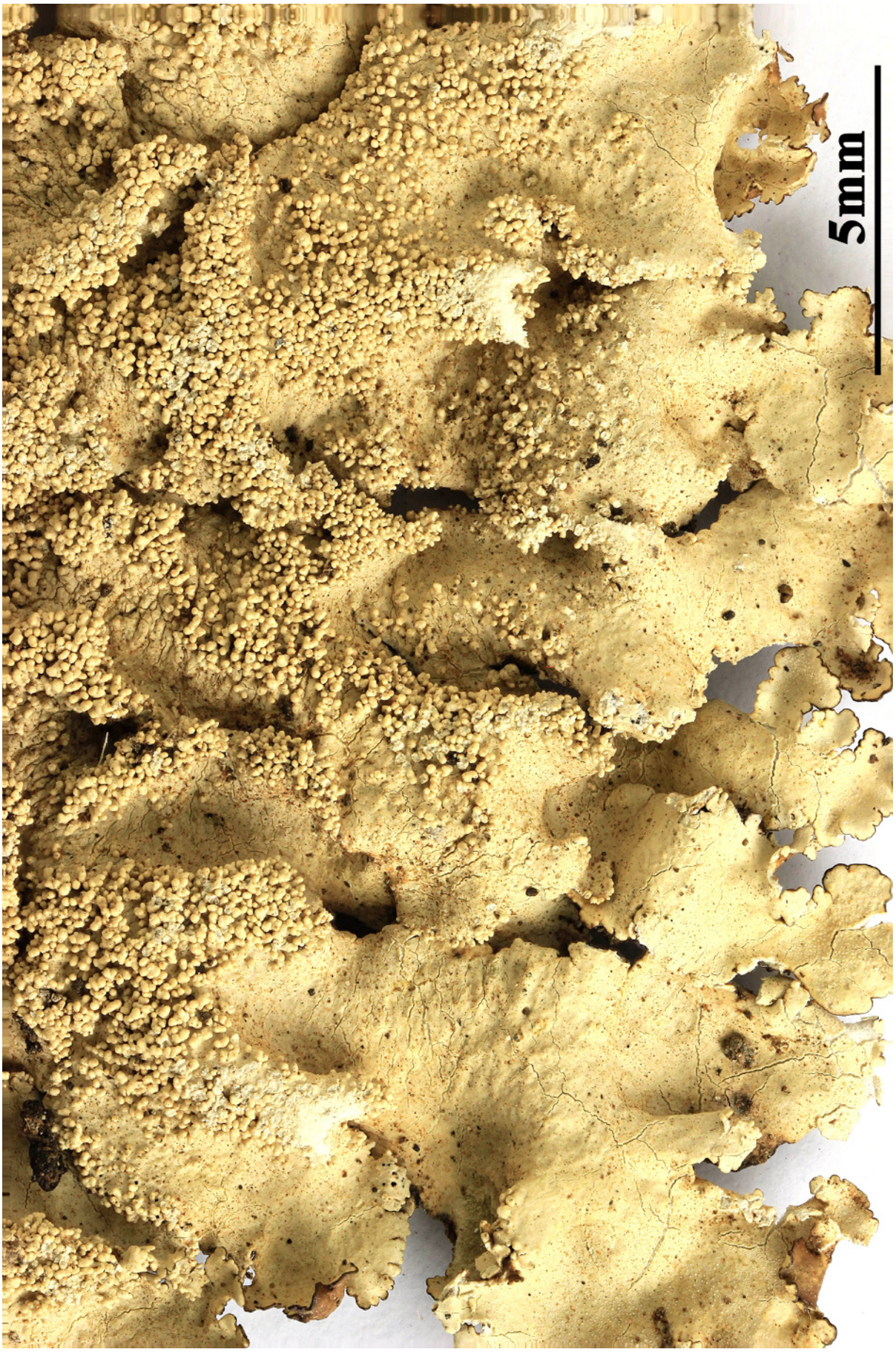


Parmelia norcrambidiocarpa

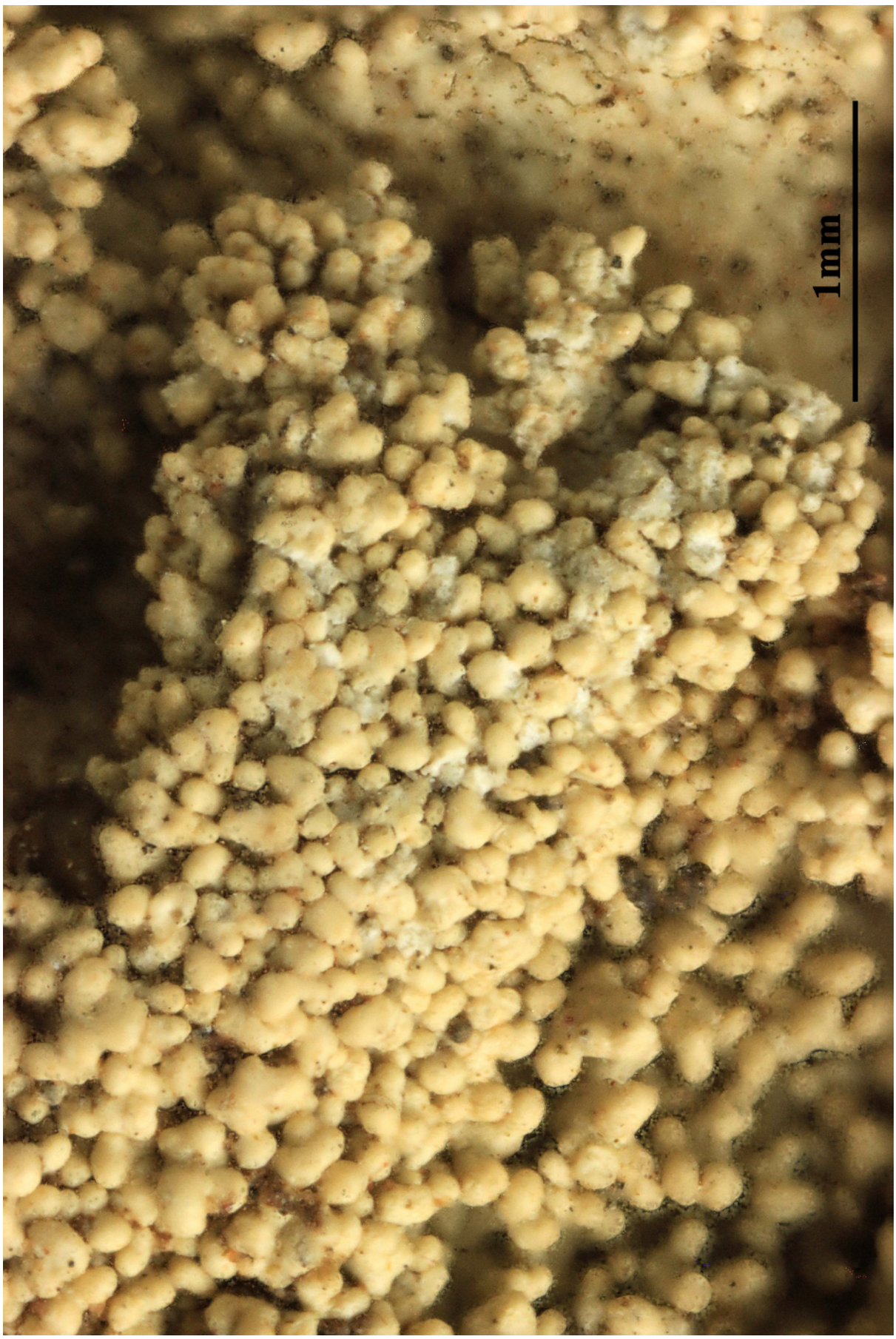
Parmelia pseudotinctorum Abbayes, Bull. Inst. Franç. Afrique Noire 13(4): 973 (1951)

[VZR77], Insulae Canarienses, Gran Canaria: distr. Mogán, in declivibus occidentalibus montis "Guirre" supra urbem Mogán, 600 m. Ad xaxa basaltica. Leg. A. Vězda, 15.2.1993. Ex A. Vězda: Lichenes Rariores Exsiccati Nr.77.

Margins of lobes smooth, without cilia. Thallus mineral gray to buff, usnic acid lacking. Isidia laminal, to 1 mm. high, not conspicuously coralloid. Isidia very thick, 0.2-0.3 mm. in diameter. Cortex K+ yellow, C-, P-; Medulla K-, P-, C+ red (lecanoric acid).



Parmelia pseudotinctorum



Parmelia pseudotinctorum

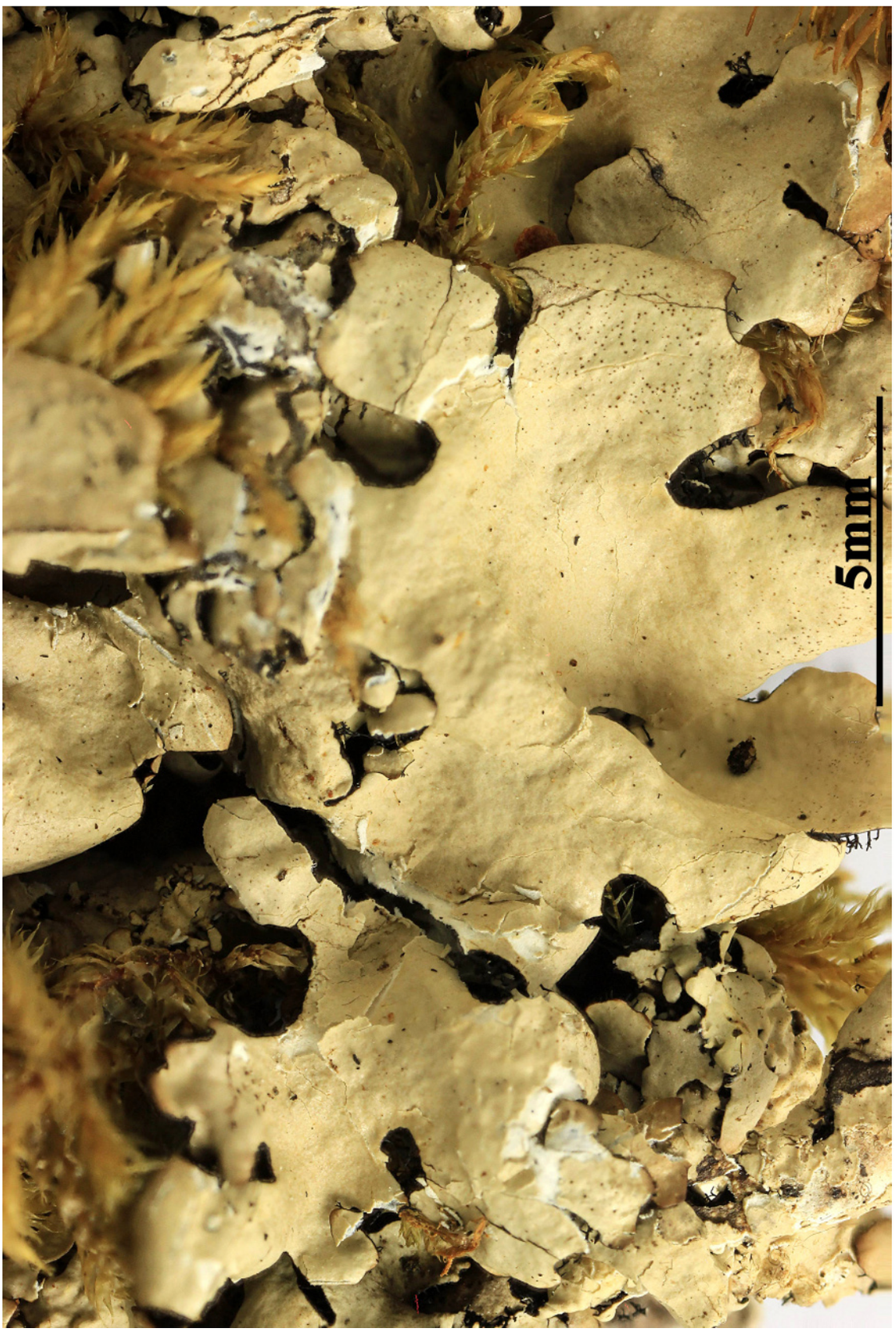
Parmelia pseudotinctorum

Parmelia taylorensis M.E. Mitch., Revta Biol., Lisb. 2: 215 (1961)
= *Hypotrachyna taylorensis* (M.E. Mitch.) Hale, Phytologia 28(4): 342 (1975) [1974]
= *Imbricaria revoluta* f. *rugosa* (Linds.) Arnold, Flora, Regensburg 65: 131 (1882)
= *Imbricaria tiliacea* var. *rugosa* (Linds.) Jatta, G. bot. ital., n.s. 9: 469 (1902)
= *Parmelia laevigata* var. *rugosa* (Linds.) Leight., Lich.-Fl. Great Brit., Edn 3: 128 (1879)
= *Parmelia revoluta* f. *rugosa* (Linds.) Hillmann, Rabenh. Krypt.-Fl., Edn 2 (Leipzig) 9(5.3): 207 (1936)
= *Parmelia revoluta var. rugosa* Cromb., Grevillea 15(no. 75): 75 (1887)
= *Parmelia rugosa* Taylor, in Mackay, Fl. Hibern. (Dublin) 2: 145 (1836)
= *Parmelia sinuosa* var. *rugosa* Linds., Trans. R. Soc. Edinb. 22(1): 216 (1859) [1861]
= *Parmelia tiliacea var. rugosa* (Linds.) Leight., Lich.-Fl. Great Brit.: 133 (1871)

[VZR46], Britannia Magna. Caledonia: Westerness, in ripa septentrionali sinus Loch Sunart, 4-5 km ad occidentem a vico Strontian. Ad truncum arboris (*Quercus robur*). Leg. P. James & J. Poelt, 14.6.1992. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 46.

Thallus foliose, heteromerous, dorsiventral, ash-grey, loosely attached, forming orbicular to irregular, up to 15 cm wide patches. Lobes dichotomously to irregularly branched, with rounded axils and down-turned margins, overlapping and often imbricate, (1-)2-6(-8) mm wide; upper surface pale ash-grey, more or less distinctly white-maculate, sometimes pruinose at lobe-tips, the upper cortex tending to flake-off into small, flattened schizidia, exposing the white to blackish medulla; soralia rarely present, pustular, laminal, more or less maculiform, with whitish granulose soredia; lower surface dark brown near margins, otherwise black and shiny, with shiny, richly dichotomously branched rhizines which sometimes project beyond lobe margins. Upper cortex of tightly packed, anticlinally oriented hyphae, with a pored epicortex, the cell walls with isolichenan; medulla white; lower cortex brown, of anticlinally oriented hyphae. Apothecia very rare, lecanorine, laminal, up to 5 mm across, with a brown disc and a crenulate thalline margin. Epithecium brownish; hymenium and hypothecium colourless. Asci 8-spored, clavate, Lecanora-type. Ascospores 1-celled, hyaline, broadly ellipsoid to subglobose, 9-14 x 6-10 µm. Pycnidia rare, black, immersed. Conidia bacilliform, wider at one or both ends, 4-5 x c. 1 µm. Photobiont chlorococcoid. Spot tests: upper cortex K+ yellow, C-, KC-,

P- or P+ faintly yellow; medulla K-, C+ pink, KC+ pink-red, P-, UV+ bluish white. Chemistry: upper cortex with atranorin; medulla with lecanoric and evernic acids. - Note: a mild-temperate, mostly oceanic species found on mossy trunks in ancient, undisturbed, moist forests.



Parmelia taylorensis

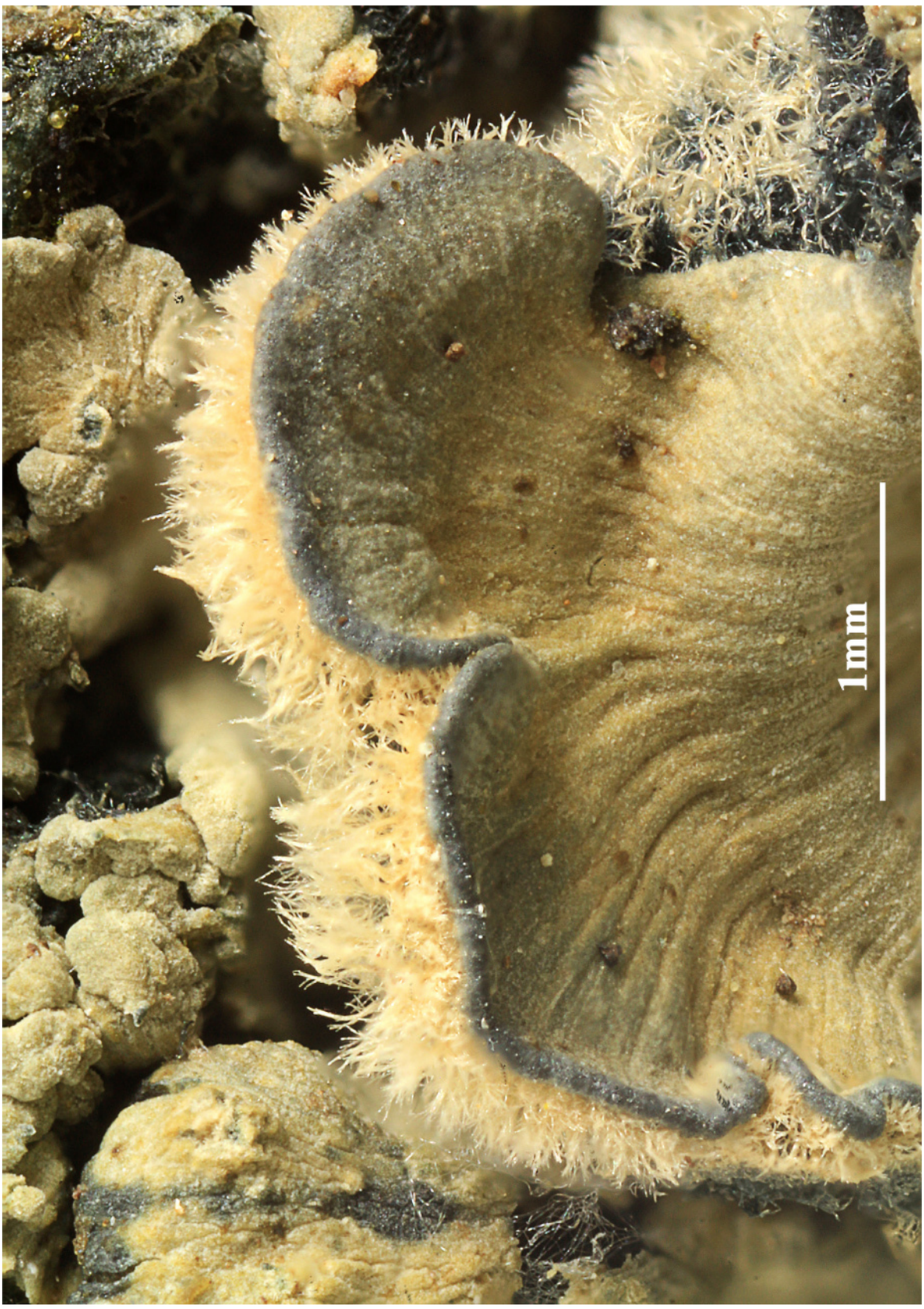
Parmelia taylorensis

Parmeliella atlantica Degel., Acta Phytogeogr. Suec. 7: 131 (1935)
= *Degelia atlantica* (Degel.) P.M. Jørg. & P. James, in Jahns, Biblthca Lichenol. 38: 264 (1990)
= *Pectenia atlantica* (Degel.) P.M. Jørg., L. Lindblom, Wedin & S. Ekman, in Ekman, Wedin, Lindblom & Jørgensen, Lichenologist 46(5): 652 (2014)

[VZR118] Insulae Canarienses, Tenerife. Las Montañas de Anaga, in vicinitate pagi Taborno, 600 m. Ad terram humosam in rupibus venti expositis. Leg. A.Vězda & F. Ceni, 15.03.1994, det. A. Vězda. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 118.

Thallus foliose, rather firmly attached, monophyllous in central parts, distinctly lobed at margins, forming up to 6 cm wide, orbicular rosettes delimited by a fibrous, pale to blue-black prothallus, the surface with knob-like to subcoralloid, up to 0.2 mm thick isidia that often cover the whole thallus. Lobes contiguous, fan-shaped, rounded at apices, (1.5-)2-4(-5) mm wide, concave, with successive rough-shaped segments, each ending in a transverse, crescent-shaped structure, the surface finely to strongly longitudinally striate, lead-grey to bluish grey, sometimes with a brownish hue, paler at margins and apex. Lower surface with a prominent, blue-black hypothallus of rhizohyphae, sometimes extending beyond the margins. Upper cortex paraplectenchymatous, not sharply delimited from photobiont layer; medulla dense, white to pale brown, of parallel, horizontally oriented hyphae; lower cortex poorly developed or absent. Apothecia very rare, biatorine, adnate, 0.5-1 mm across, with a flat, reddish brown to finally blackish disc and a distinct, concolorous or paler proper margin. Proper exciple of radiating, isodiametrical cells; epithecium pale yellowish brown; hymenium colourless, K/I+ blue; paraphyses mostly simple, not swollen at apices; hypothecium yellowish. Asci 8-spored, slightly clavate, the upper half K/I+ blue in two parallel layers, with a K/I- layer inbetween. Ascospores 1-celled, hyaline, ellipsoid, without perispore, (14)17-20(-23) x 7-9(-12) µm. Photobiont cyanobacterial, (*Nostoc*, the cells in clusters). Spot tests: cortex and medulla K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. Note: a mild-temperate lichen, mainly western in Europe, found on trunks, more rarely on mossy rocks, in moist-warm stands.

Parmeliella atlantica



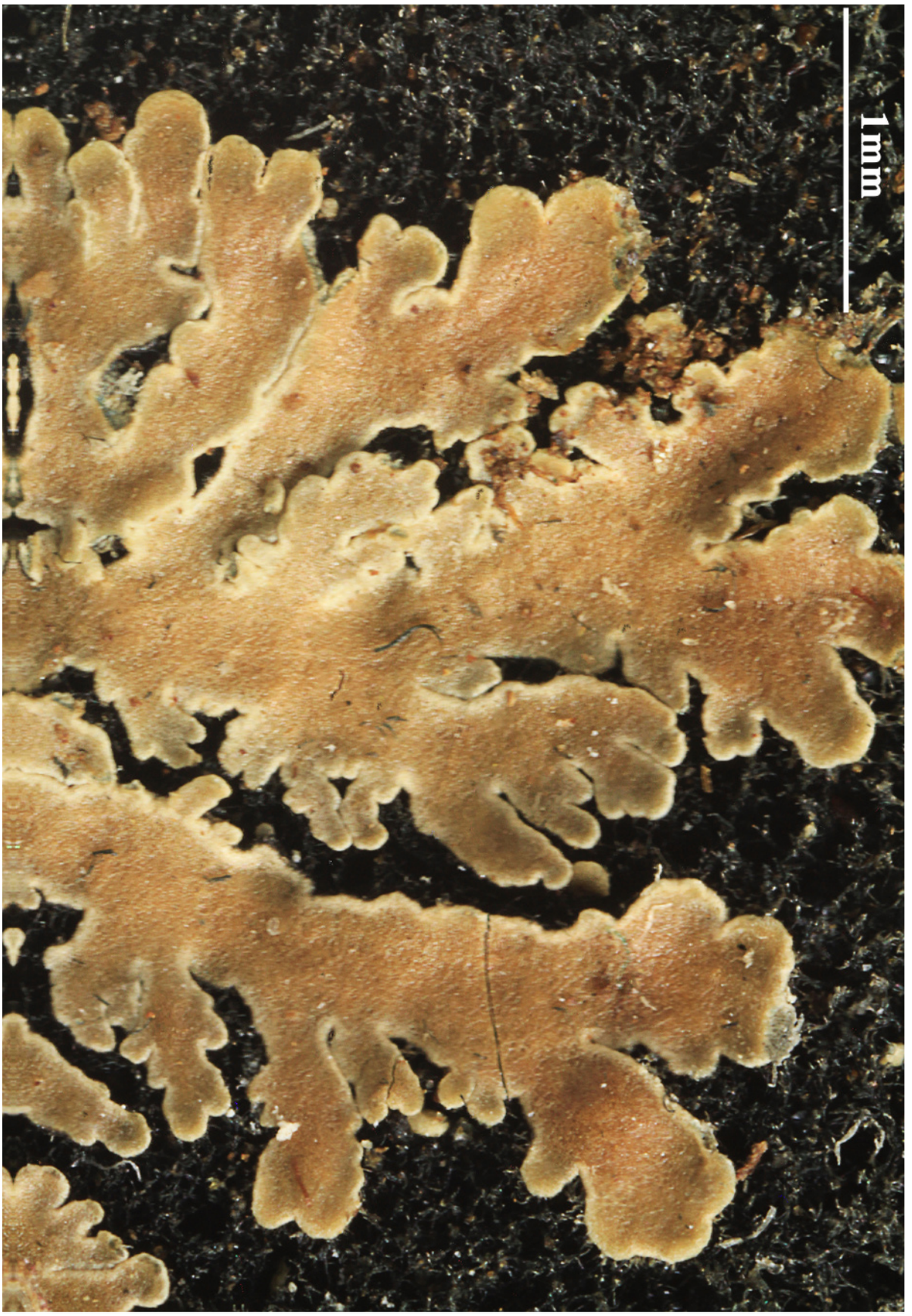
Parmeliella atlantica

Parmeliella pannosa (Sw.) Müll. Arg., Flora, Regensburg 64(6): 86 (1881)
=*Pannaria pannosa* (Sw.) Nyl., Mém. Soc. Imp. Sci. Nat. Cherbourg 3: 176 (1855)
= *Lecidea pannosa* (Sw.) Ach., Methodus, Sectio prior (Stockholmiæ): 84 (1803)
= *Lichen pannosus* Sw., Prodr.: 146 (1788)
= *Pannaria mariana var. pannosa* (Sw.) Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 5 sér. 10: 188 (1909) [1908]
= *Parmelia pannosa* (Sw.) Sw., Lichenes americani quos partim in Flora Indiae occidentalis descripsit, partim e regionibus diversis Americae obtinuit: 6, tab. V (1811)

[VZR67], Antillarum Insulae. Guadeloupe; insula Basse Terre; Haut-Matouba, loco "Hughes" dicto, 1050 m. Ad truncos arborum. Leg. J. Vivant, 04.11.1992, det. A. Vězda. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 67.

Thallus forming orbicular patches, to 5 cm diam., resting on a conspicuous brownish black hypothallus. Lobes radiating at the periphery, squamulose centrally, brownish, smooth or shining, up to 2 mm wide, with ascending margins, beset with incised, sometimes sinuose lobules, with isidia and phyllidia. Apothecia rare, to 1.5 mm, with paler proper exciple, sometimes obscured by secondarily formed lobules. Ascospores simple, colorless, ellipsoid, 15-20 x 7-10 µm. Remarks: This species has been previously much confused with *P. mariana*. - Mainly a corticolous, subtropical to warm-temperate species.

Parmeliella pannosa



Parmeliella pannosa

Parmotrema reticulatum (Taylor) M. Choisy, Bull. mens. Soc. linn. Soc. Bot. Lyon 21: 148 (1952)
= *Canomaculina leucosemotheta* (Hue) Elix, Mycotaxon 65: 477 (1997)
= *Parmelia ciliata* (Nyl.) Gyeln., Feddes Repert. Spec. Nov. Regni veg. 30: 225 (1932)
= *Parmelia laevigata* var. *reticulata* (Taylor) Linds., Trans. Linn. Soc. London 25: 514 (1866)
= *Parmelia leucosemotheta* Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 4 sér. 1: 192 (1899)
= *Parmelia macquariensis* C.W. Dodge, Nova Hedwigia 19: 450 (1970)
= *Parmelia perforata* f. *ciliata* (Nyl.) Leight., Lich.-Fl. Great Brit., Edn 3: 124 (1879)
= *Parmelia perforata* var. *ciliata* Nyl., Syn. meth. lich. (Parisiis) 1(2): 378 (1860)
= *Parmelia perlata* var. *reticulata* (Taylor) Linds., Trans. R. Soc. Edinb. 22(1): 210 (1859) [1861]
= *Parmelia pseudovirens* Gyeln., Feddes Repert. Spec. Nov. Regni veg. 29: 288 (1931)
= *Parmelia reticulata* Taylor, in Mackay, Fl. Hibern. (Dublin) 2: 148 (1836)
= *Parmelia urceolata* f. *sorediifera* (Müll. Arg.) Stizenb., Ber. Tät. St Gall. naturw. Ges.: 158 (1890) [1888-89]
= *Parmelia urceolata* var. *sorediifera* Müll. Arg., Flora, Regensburg 63: 266 (1880)
= *Parmelia urceolata* var. *subcetrata* Müll. Arg., Flora, Regensburg 66(3): 46 (1883)
= *Parmelia virens* var. *sorediata* Müll. Arg., Flora, Regensburg 69: 256 (1886)
= *Parmotrema leucosemothetum* (Hue) Hale, Phytologia 28(4): 337 (1974)
= *Parmotrema pseudovirens* (Gyeln.) Elix, Mycotaxon 47: 127 (1993)
= *Rimelia reticulata* (Taylor) Hale & A. Fletcher, Bryologist 93(1): 28 (1990)

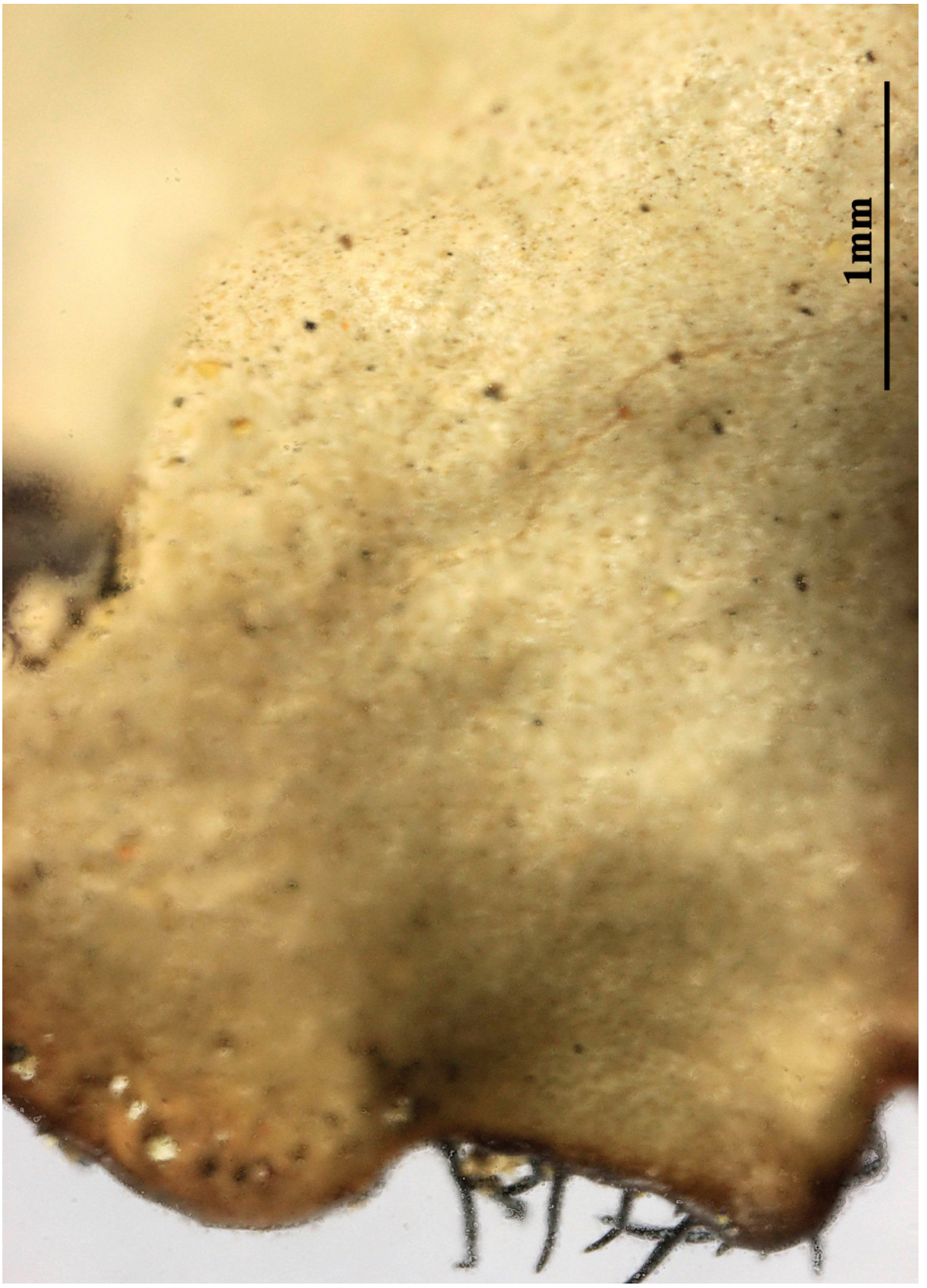
[VZR135], Italia. Sardinia. Distr. Sassari: Palau, in monte Altura, 70 m. Ad saxa granitica. Leg. F. Ceni & A. Vězda, 16.5.1994. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 135.

Thallus foliose, heteromerous, dorsiventral, broad-lobed, loosely attached, 4-20(-30) cm in diam., sorediate. Lobes elongate, slightly overlapping, 5-15 mm wide, crenate at margins, rounded and sometimes subascending at apices, the margins thin, with black, simple, up to 3 mm long cilia, sometimes eciliate. Upper surface pale grey to grey-green, smooth, dull, strongly reticulately white-maculate, with mostly

marginal, convex to subcapitate soralia which often arise on small lacinulate lobes (sometimes becoming diffuse in old specimens). Lower surface black, with a narrow, papillate and erhizinate zone at margin, centrally with mostly simple, black rhizines. Upper cortex of tightly packed, anticlinally oriented hyphae, with a pored epicortex, the cell walls with lichenan intermediate between the Cetraria- and the Xanthoparmelia-types; medulla white; algal layer continuous; lower cortex prosoplectenchymatous, with rounded and thick-walled cells. Apothecia extremely rare, lecanorine, submarginal, substipitate, up to 8 mm across, with a sometimes perforate, brown disc and a raised thalline margin. Epithecium brownish; hymenium and hypothecium colourless. Asci 8-spored, Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid, 10-18 x 7.5-11 µm. Pycnidia rare, punctiform, black, immersed. Conidia filiform, (7.5-)12-16 x 1-1.5 µm. Photobiont clorococcoid. Spot tests: upper cortex K+ yellow, C-, KC-, P- or P+ faintly yellow; medulla K+ yellow turning orange-red, C-, KC- or KC+ red, P+ orange-red, UV-. Chemistry: upper cortex with atranorin and chloroatranorin; medulla with salazinic acid (major) and consalazinic acid (minor). - Note: a Mediterranean-Atlantic to mild-temperate lichen found on bark, rarely on mossy siliceous rocks; declining, presently mostly Tyrrhenian and coastal.

Parmotrema reticulatum

Parmotrema reticulatum



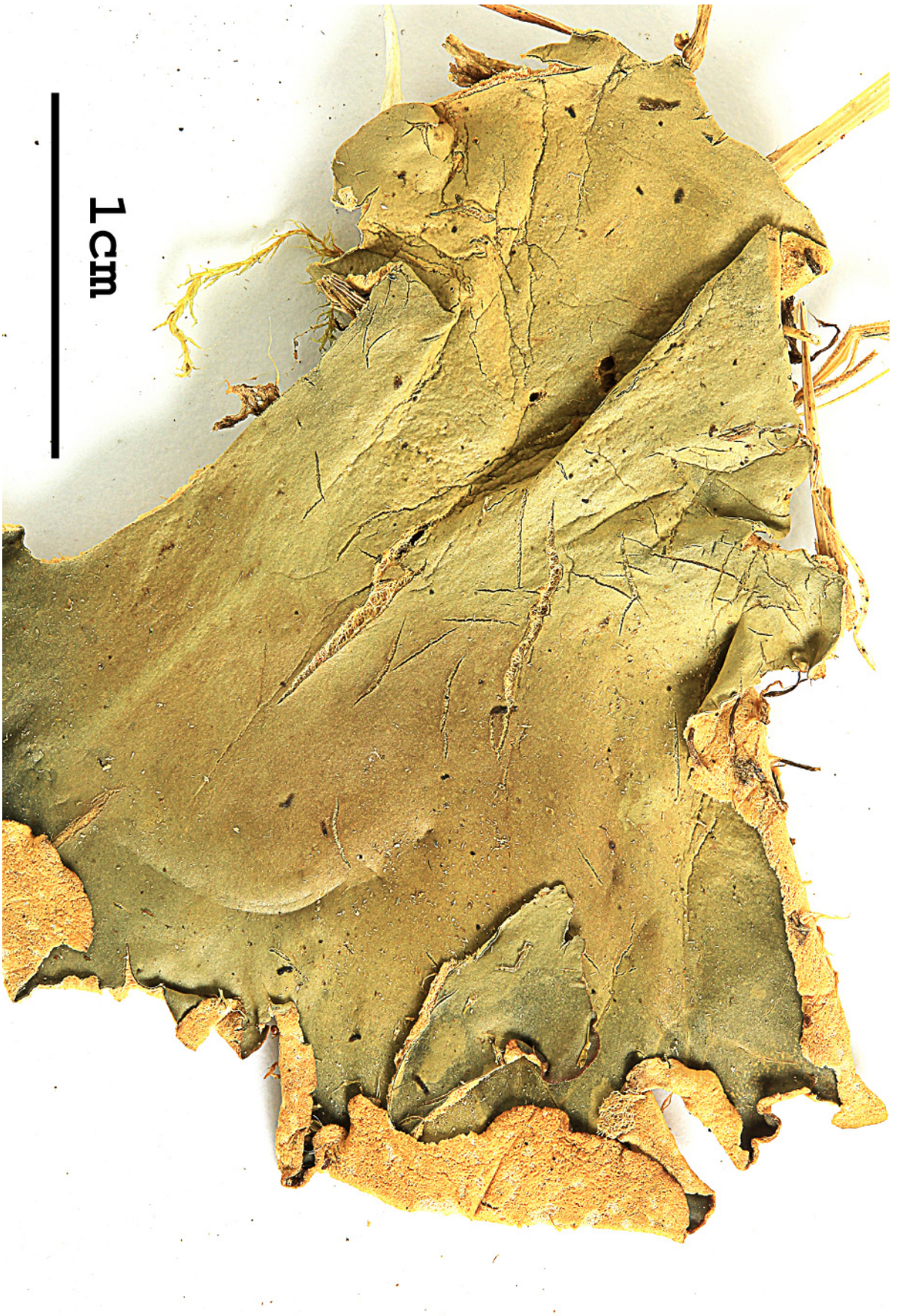
Parmotrema reticulatum

Parmotrema reticulatum

Peltigera hymenina (Ach.) Delise, in Duby, Bot. Gall., Edn 2 (Paris) 2: 597 (1830)
= *Peltidea horizontalis* var. *hymenina* (Ach.) Ach., Lich. Univ.: 516 (1810)
= *Peltidea hymenina* Ach., Methodus, Sectio post. (Stockholmiæ): 284 (1803)
= *Peltidea polydactylon* var. *hymenina* (Ach.) Flörke, Deutsche Lich. 10: 9 (1821)
= *Peltigera canina* f. *hymenina* (Ach.) Kremp., Denkschr. Kgl. Bayer. Bot. Ges., Abt. 2 4: 125 (1861)
= *Peltigera polydactylon* f. *hymenina* (Ach.) Flot., in Nylander, Lich. Scand. (Helsinki): 90 (1861)
= *Peltigera polydactylon* var. *hymenina* (Ach.) Flot., Jber. schles. Ges. vaterl. Kultur 28: 125 (1850)
= *Peltigera rufescens* var. *hymenina* (Ach.) Hepp, Flecht. Europ.: no. 51 (1853)

[VZR456], Bohemia merid., montes Šumava (Gabreta), distr. Volary, arena vetusta prope stationem viae ferreae "Pěkna" dictam, 740 m. Muscicola supra terram arenosam. Leg. & det. Z. Palice. Ex A. Vězda: Lichenes Rariore Exsiccati Nr. 456.

Thallus foliose, broad-lobed, heteromerous and dorsiventral, grey to brownish when dry, blackish when wet, often somehow maculate, matt to glossy, loosely attached, forming up to 20 cm wide rosettes. Lobes elongate, flattened, contiguous, with rounded ends, 1-2 cm broad, with up-turned, undulate margins and a smooth, glabrous, upper surface. Lower surface largely pale ochre-coloured (darker only in central parts), with flat, broad, concolorous veins and pale, simple or fasciculate, up to 5 mm long rhizines. Upper cortex pseudoparenchymatous; medulla white; lower cortex absent. Apothecia frequent, saddle-shaped, terminal on short ascending lobes, brown. Paraphyses simple, distinctly thickened above. Asci 8-spored, fissitunicate, the thickened apex with a K/I+ blue ring, Peltigera-type. Ascospores 3-7-septate, hyaline turning pale brown at maturity, acicular, thin-walled, (47-)50-80(-90) x 3-5 µm. Photobiont cyanobacterial (*Nostoc*, the cells not in long chains). Spot tests: cortex and medulla K-, C-, KC-, P-, or medulla C+, KC+ pink. Chemistry: three chemotypes, with different combinations of tenuiorin, methyl gyrophorate, gyrophoric acid, peltidactylin, dolichorrhizin, traces of zeorin and of unidentified triterpenoids.



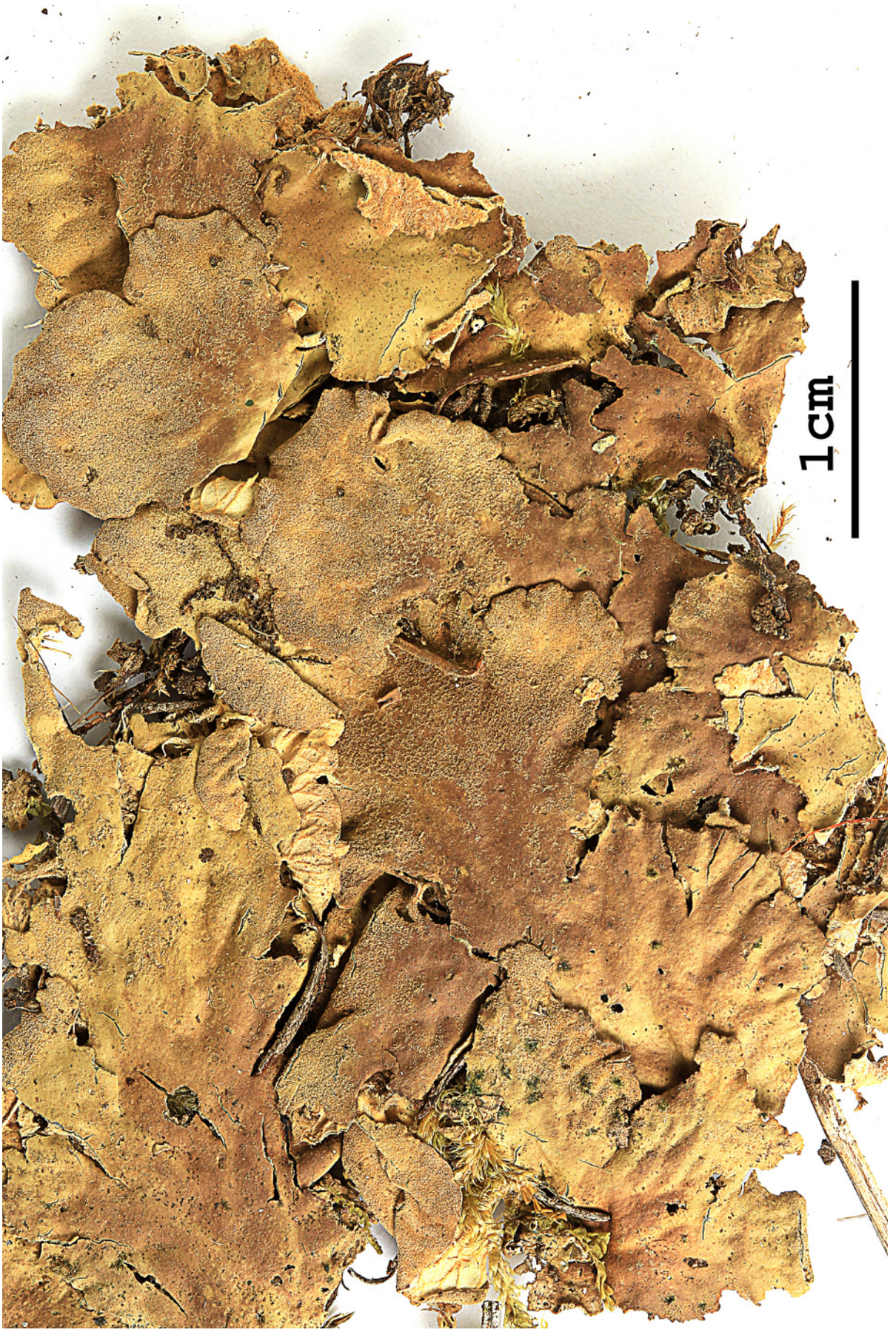
Peltigera hymenina

Peltigera hymenina

Peltigera membranacea (Ach.) Nyl., Bull. Soc. linn. Normandie, sér. 4 1: 74 (1887)
= *Peltidea canina var. membranacea* Ach., Lich. Univ.: 518 (1810)
= *Peltigera canina f. membranacea* (Ach.) Duby, Bot. Gall., Edn 2 (Paris) 2: 598 (1830)
= *Peltigera canina subsp. membranacea* (Ach.) Herre, Proc. Wash. Acad. Sci. 12(2): 163 (1910)
= *Peltigera canina var. membranacea* (Ach.) Duby, Bot. Gall., Edn 2 (Paris) 2: 598 (1830)

[VZ168], Insulae Canarienses, Tenerife. Las Montañas de Anaga, La Cumbrilla, 900 m, ad terram humidam in fossis viae silvaticae. Leg. F. Ceni & A.Vězda, 9.03.1994, dupl confirm. O. Vitikainen. Ex A. VěZDA: LICHENES RARIORES EXSICCATI NR. 168

Thallus foliose, broad-lobed, heteromerous and dorsiventral, grey to brownish grey when dry, bluish grey or blackish green when wet, loosely attached, forming 10-20(-35) cm wide rosettes. Lobes elongate, flattened, contiguous, 1-3(-4) cm broad, up to 10 cm long, often slightly bullate, glabrescent and somewhat shiny towards centre, arachnoid-tomentose and matt at margins, which are usually down-turned and entire. Lower surface whitish, with white to pale brown, conspicuously erect-tomentose (also in thallus centre), raised, 0.5-0.7 mm broad veins, polygonal interstices, and dispersed, slender, 5-7(-13) mm long rhizines with short ramifications perpendicular to the main axis (bottle-brush-like). Upper cortex pseudoparenchymatous; medulla white; lower cortex absent. Apothecia frequent, saddle-shaped, on short, ascending lobes, up to 6 mm in diam, with a brown to reddish brown disc. Paraphyses simple, distinctly thickened above. Asci 8-spored, Peltigera-type, fissitunicate, the thickened apex with a K/I+ blue ring. Ascospores 3(-5)-septate, hyaline to very pale brown at maturity, acicular, thin-walled, (40-)50-65(-80) x 2.5-5 µm. Pycnidia dark, immersed. Conidia fusiform. Photobiont: cyanobacterial (*Nostoc*, the cells not in long chains). Spot tests: cortex and medulla K-, C-, KC-, P-, UV-. Chemistry: without lichen substances.



Peltigera membranacea

Peltigera membranacea

Peltigera nana Vain., Philipp. J. Sci., C, Bot. 8(2): 114 (1913)

[VZR306], Nova Zelandia. South Island, distr. Westland, inter oppidum Haast et transitum Haast, in fossis viae, ad terram, 300 m. Leg. M. Malcolm & A. Vězda, 26.04.1997. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 306.

Thallus rather large, orbicular to spreading 5-10(-15) cm diam. Lobes broadly rounded, 1-2(-2.5) cm wide, 2-6(-8) cm long, papery, much thinner in texture (100-200 um thick) than P. dolichorhiza and P. polydactylon. Margins wavy—undulate, here and there inrolled, entire to minutely scalloped, occasionally with small, fuzzy-brown tomentose apothecial initials. Upper surface glabrous, dark blue-black when wet, pale-greyish or olivaceous to dark-brown when dry, matt, somewhat coriaceous, papery, smooth to undulate-crumpled, bullate or longitudinally ridged. Lower surface tomentose, pale. Veins flattened, diffuse, rather broad, 0.5-2.5 mm wide, coalescing and continuous at margins, anastomosing towards centre, pale-buff to reddish brown, smooth; interstices white, fibrous, oval to elongate. Rhizines discrete, widely scattered, slender, simple to fasciculate, pale-buff to dark-brown or black, 3-8(-12) mm long. Apothecia rather small, erect, occasional to rare, 3-5 mm diam., saddle-shaped, strongly inrolled, on marginal lobules; disc red-brown to dark-brown, matt, epruinose, margins pale-buff or pinkish, verrucose-roughened, obscured by disc. Ascospores straight or curved, acicular, colourless 5-7-septate, (40-)45-55(-60) x 2.5-4 µm. Chemistry: Tenuiorin, dolichorrhizin, peltidactylin and zeorin (tr.).

Peltigera nana

Peltigera nana

Peltigera neopolydactyla (Gyeln.) Gyeln., Rev. Bryol. Lichénol. 5: 68 (1932)
= *Peltigera polydactylon var. neopolydactylis* Gyeln. 1932

[VZR491], Bohemia merid., montes Šumava: in valle Zhůřský potok loco dicto "Turnerova chata", 850 m, ad lapides graniticos. Leg. et det. R. Dětinský. Ex A. Vězda: Lichenes Rarirores Exsiccati Nr. 491.

Thallus foliose, approximately circular in outline (disintegrating into irregular groups of lobes with age), large, 10-20 cm in diam., adnate; lobes +flattened and elongate (2-4 cm wide and up to 10 cm long), often dichotomously branched, imbricate or separate; tips rounded to sub-truncate, often ascending and undulate; upper surface gray or blue-gray to brown when dry, bluish gray when wet, smooth, dull to somewhat shiny, occasionally somewhat scabrose, rarely pruinose marginally, without isidia; marginally sorediate; soredia pale gray to bluish tinged, coarsely granular; medulla white, +loosely interwoven hyphae; photo-biont *Nostoc*; lower surface pale near margin, with anastomosing pale, smooth, flattened and reticulate veins, rhizinate; rhizines brown to black, fasciculate, little branched, at base of the lobes. Apothecia round to oblong, becoming saddle-shaped, on short, ascending lobes, up to 9 mm in diam.; margin smooth to crenulate; disc flat, dark brown to black, smooth; ascospores colorless to pale brown, acicular, 3(-5) septate, 50-90 x 3-5 µm. Spot tests all negative. Secondary metabolites tenuiorin, methylgyrophate, gyrophoric acid, 7β-acetoxyhopan-22-ol, hopane-15α-acetoxyhopan-22-ol, hopane-6α,22-diol and unidentified terpenoids. - Coarse thalli and dark little-branched, slender fasciculate rhizines are diagnostic of the specimen in contrast to *P. polydactylon*, but these characters are similar to those of *P. dolichorhiza* (Nyl.) Nyl.

Peltigera neopolydactyla

Peltigera neopolydactyla

Pertusaria constricta Erichsen, Rabenh. Krypt.-Fl., Edn 2 (Leipzig) 9.5(1): 343 (1935)

[VZR225], Turcia. Distr. Antalya, Kemer, in valle rivi Ulupinar, 200 m. Ad corticem fruticum. Leg. et det. A. Vězda, 7.4.1996. Ex A. Vězda: Lichenes Rariores Exsiccati Nr., 225.

Thallus crustose, thinly episubstratic, smooth to rugulose, continuous to cracked, yellowish white or pale grey. Apothecia perithecioid, completely immersed in semi-globose, up to 2 mm wide, basally constricted thalline warts, with 3-6 pale to dark, punctiform ostioles per wart. Epithecium colourless or pale brown, K-, C-; hymenium colourless; paraphyses branched and anastomosing, poorly coherent; hypothecium pale. Asci 8-spored, broadly cylindrical, the apex with a broad ocular chamber, the outer sheath K/I+ blue, otherwise K/I-, with an inner extensible layer, Pertusaria-type, with uniseriately arranged spores. Ascospores 1-celled, hyaline, ellipsoid, 30-74 x 15-32 µm, the wall 2-3 µm thick. Photobiont chlorococcoid. Spot tests: thallus K+ yellowish or brownish, C-, KC- or KC+ yellow, P- or P+ faintly yellow. Chemistry: 4,5-dichlorolichexanthone and stictic acid (major), with traces of norstictic acid. - Note: on smooth bark, especially of *Quercus* and *Fagus*, probably more widespread.

Pertusaria constricta

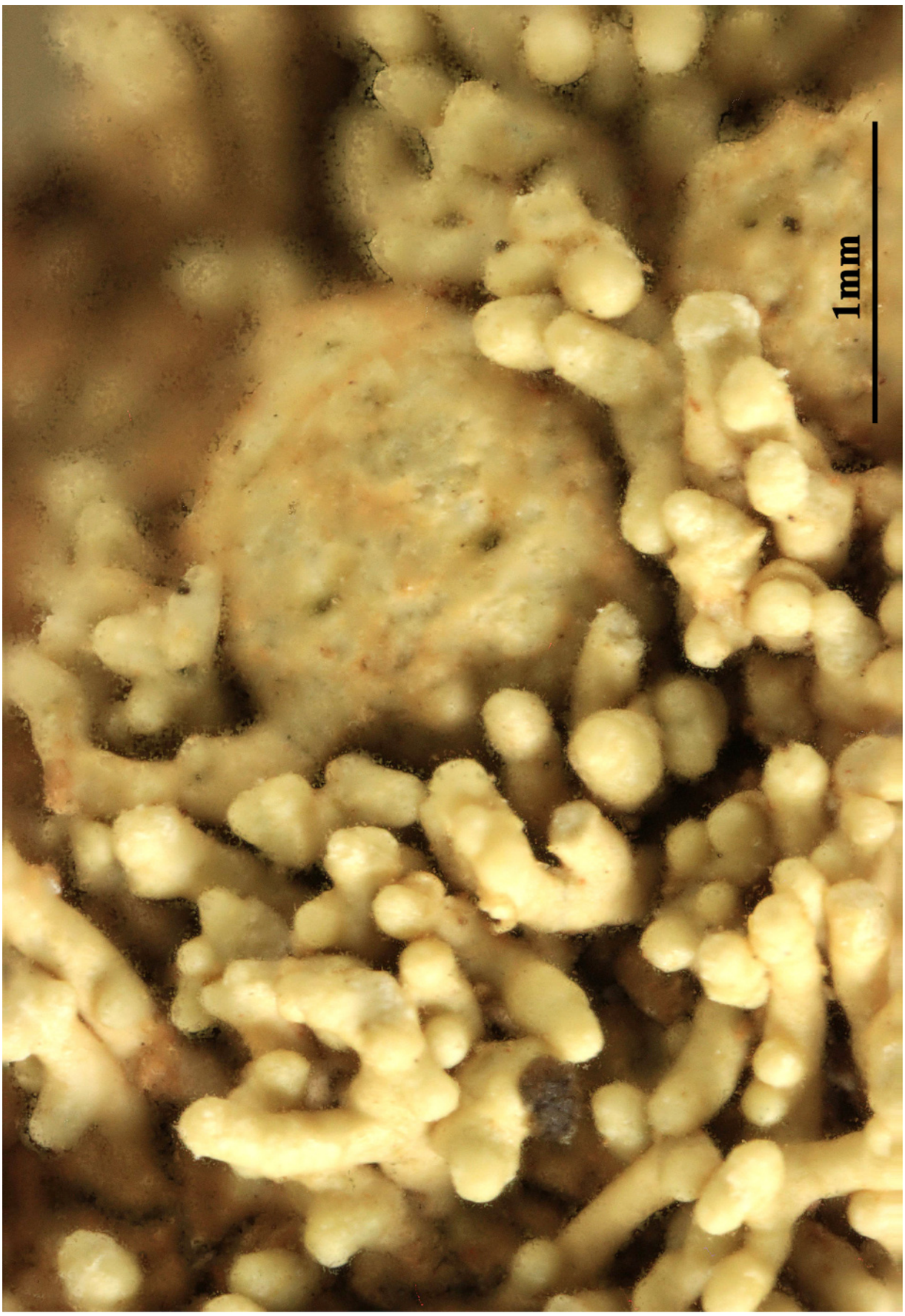
Pertusaria constricta

Pertusaria corallina (L.) Arnold, Flora, Regensburg 44(42): 658 (1861)
= *Lichen corallinus* L. 1767
= *Lepra corallina* (L.) Hafellner, in Hafellner & Türk 2016

[VZR174], Insula Canarienses, Tenerife. Las Montañas de Anaga, ad margines pagi Taborno, 600 m. Ad saxa eruptiva. Leg. A. Vězda, 15.3.1994. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 174.

Thallus crustose, episubstratic, continuous to rimose, grey, sometimes with a pale yellowish brown tinge towards the centre, 1.5-4 mm thick, isidiate, forming up to 12(-15) cm wide patches, often delimited by a whitish prothallus. Medulla white, not amyloid. lsidia abundant, cylindrical or tapering from base, simple or coralloid, up to 1.5(-2) mm high, 0.1-0.3 mm thick, irregularly oriented, with concolourous tips. Apothecia very rare, immersed in number of 2-4(-10) into heavily pruinose, up to 1.5(-2) mm wide thalline warts which are constricted at base, the disc at first punctiform, later more or less expanded and 0.3-0.5 mm across, pale to dark brown, often faintly white-pruinose. Hymenium colourless, the hymenial gel not or only weakly amyloid; paraphyses lax, branched and richly anastomosing; hypothecium colourless. Asci 2-spored, broadly cylindrical, the apex without a distinct ocular chamber, the outer sheath K/I+ blue, otherwise K/I–, with an inner extensible layer, Pertusaria-type. Ascospores 1-celled, hyaline, ellipsoid, 80-150(-180) x 40-80 µm, the wall 2-3 µm thick, not zoned nor striate. Photobiont chlorococcoid. Spot tests: thallus K+ bright yellow to yellow-orange, C-, KC+ more or less faintly yellow, P+ yellow-orange, UV-. Chemistry: thamnolic acid. - Note: a cool-temperate to boreal-montane lichen found on steeply inclined surfaces of siliceous rocks in rainy areas, where it is sometimes very abundant; most frequent in the Alps, rarer elsewhere, ranging south to the mountains of Sicily.

Pertusaria corallina

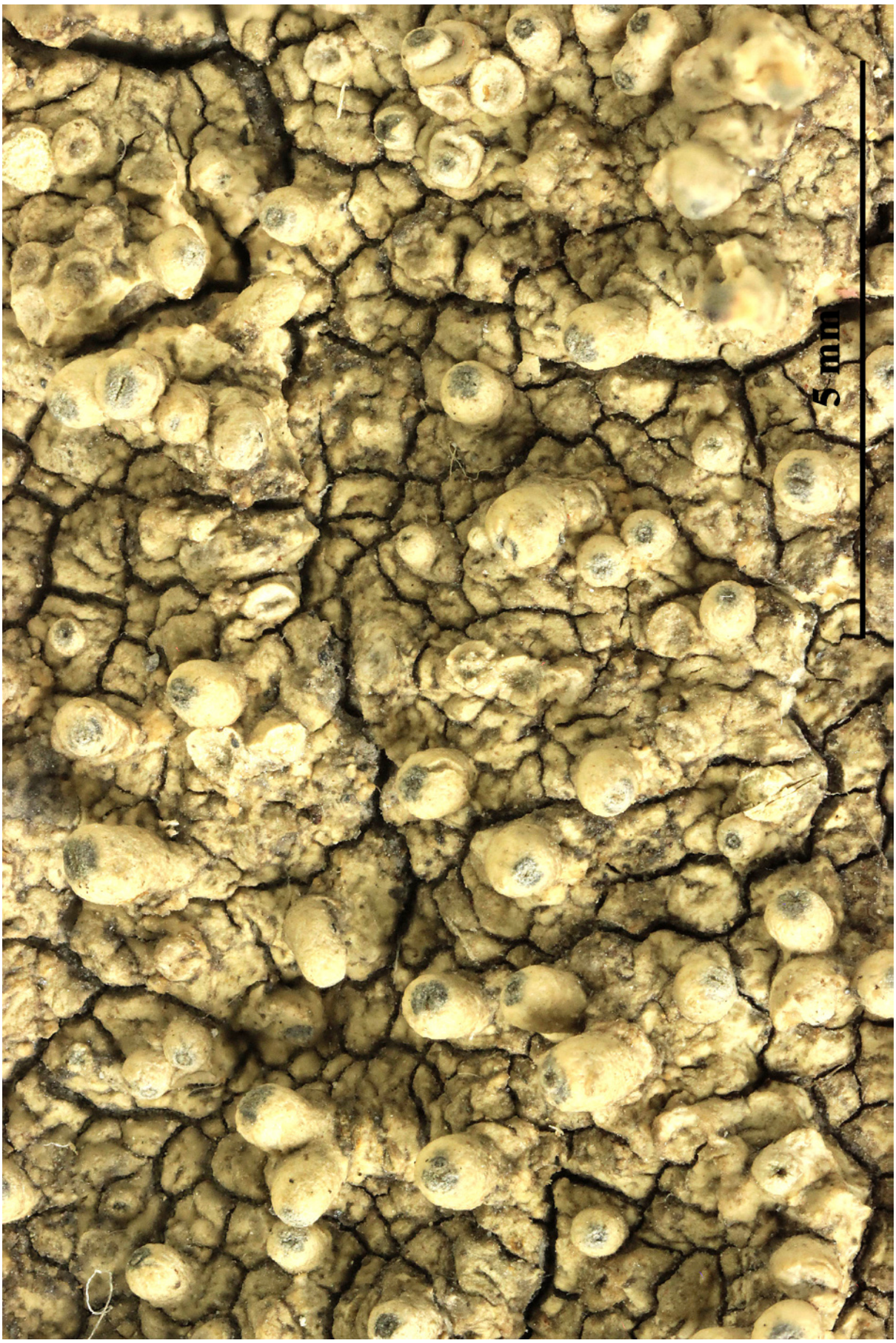


Pertusaria corallina

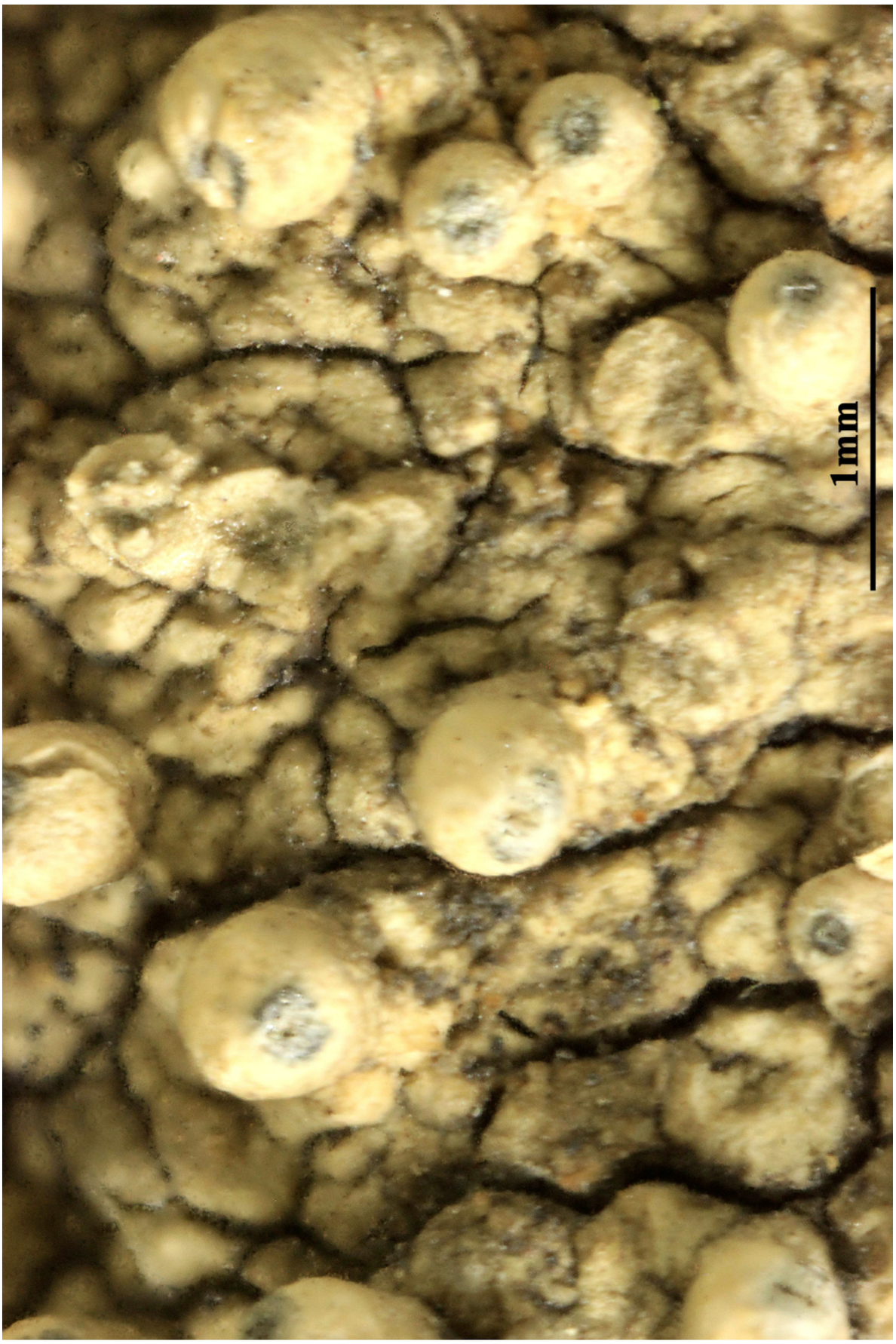
Pertusaria isidioides (Schaer.) Arnold, Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 36: 76 (1886)
= *Spiloma isidioides* Schaer. 1821

[VZRsn], URSS. Caucasus, Osetia Sept., distr. Ordžonikidze; in pede sept. montis Kazbek, loco Karmadon dicto, 1700-2000 m. Ad saxa schistosa. Leg. et det. A. Vězda, 6.8.19787. EX HERBARIO VěZDA S.NR. - TIC: Coronaton, stictic acid, anal K. Kalb.

Medulla KC- or + pale yellow, without bitter taste, J+ reddish; papillae usually not branched; thallus always sterile, rimose-areolate, with scattered, strong, short-cylindrical, to 1.5 mm high and about 0.5 mm wide papillae; fatty lH; on acid silicates in the central Alps and Black Forest; syn. P. isidioides (Schaer.) Arnold



Pertusaria isidioides



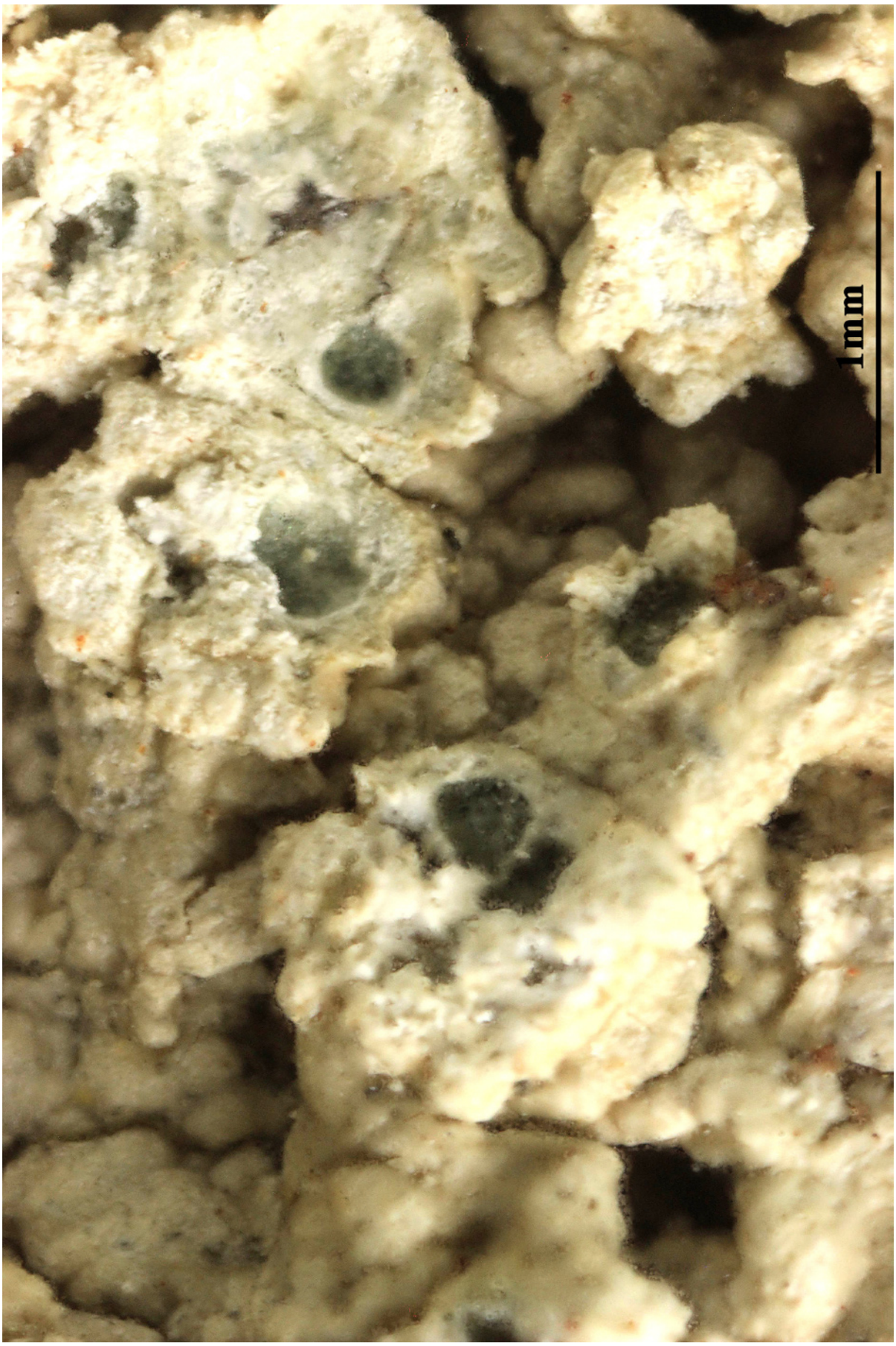
Pertusaria isidioides

Pertusaria ophthalmiza (Nyl.) Nyl., Flora, Regensburg 48: 354 (1865)
= *Lepra ophthalmiza* (Nyl.) Hafellner, in Hafellner & Türk, Stapfia 104(1): 173 (2016)
= Marfloraea ophthalmiza (Nyl.) S.Y. Kondr., Lőkös & Hur
= *Pertusaria multipuncta f. tenuescens* Nyl., in Norrlin, Not. Sällsk. Fauna et Fl. Fenn. Förh., Ny Ser. 13: 434 (1873) [1871-1874]
= Pertusaria multipuncta var. ophthalmiza Nyl., Lich. Scand. (Helsinki): 180 (1861)
= *Pertusaria multipuncta var. tenuescens* (Nyl.) Erichsen, in Norrlin, Rabenh. Krypt.-Fl., Edn 2 (Leipzig) 9(5.1): 528 (1936)
= *Pertusaria panyrga var. ophthalmiza* (Nyl.) Th. Fr., Lich. Scand. (Upsaliae)(1): 309 (1871)
= *Variolaria ophthalmiza* (Nyl.) Darb., in Engler, Bot. Jb. 22: 628 (1897)

[VZR95], Britannia Magna. Caledonia: Westrerness in ripa septentrionali sinus Loch Sunart, 4-5 km ad occidentem a vico Strontian. Ad truncum arboris (*Quercus robur*). Leg. P. James & J. Poelt. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 95.

Thallus crustose, episubstratic, continuous to rimose-areolate, ash grey to dark grey, smooth to verrucose-tuberculate, often zoned at margins. Fertile warts soralia-like, coarsely white-pruinose, c. 0.4-1.5 mm across, with a raised, crenulate margin; apothecia 1(-3) per wart, with a blackish brown, whitish-pruinose disc which is totally concealed by the coarse pruina. Epithecium dark brown to black, K-; hymenium colourless; hypothecium yellowish brown. Asci 1-spored, broadly cylindrical, the apex without a distinct ocular chamber, the outer sheath K/I+ blue, otherwise K/I–, with an inner extensible layer, Pertusaria-type. Ascospores 1-celled, hyaline, ellipsoid to cylindrical, 85-190 x 25-75 µm, the wall up to 10 µm thick, 1-layered. Pycnidia immersed. Conidia bacilliform, 4-7 x 0.5-1.0 µm Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: four unidentified fatty acids. - Note: a cool-temperate to southern boreal lichen with optimum on the bark of coniferous trees (*Abies*, *Picea*), both on boles and twigs in humid-cold situations (e.g. in gorges and sinkholes), but also occurring on *Fagus*; certainly more widespread in the Alps, and also reported from the Gargano Peninsula, and from the mountains of Sardinia.

Pertusaria ophthalmiza



Pertusaria ophthalmiza

Phaeographis planiuscula (Mont. & Bosch) Müll. Arg., Flora, Regensburg 65: 336 (1882)
= *Lecanactis planiuscula* Mont. & Bosch 1856

[VZR428], Insulae Seychellenses. Insula Praslin, Grand Anse, in litore maris prope rivulum Nouvelle Découverte. Ad corticem arborum. Leg. F. Ceni & A. Vězda, 27.5.200, det. A. Vězda. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 429.

Excipulum totum fuligineum, integrum, Discus in margine non crenulatus .Labia excipuli arcuato-erecta.divergentia.

Phaeographis planiuscula

Phaeographis planiuscula

Phaeophyscia confusa Moberg, Nordic J. Bot. 3(4): 512 (1983)

[VZR354], Tansania, ad latera montis Meru, prope Olmonotonyi, in vicinitate „Forestry School", alt. 1640 m. Ad corticem arboris secus viam. Leg. T. Pócs (88287/D), 6.-7.12.1988, det. H. Krog. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 354.

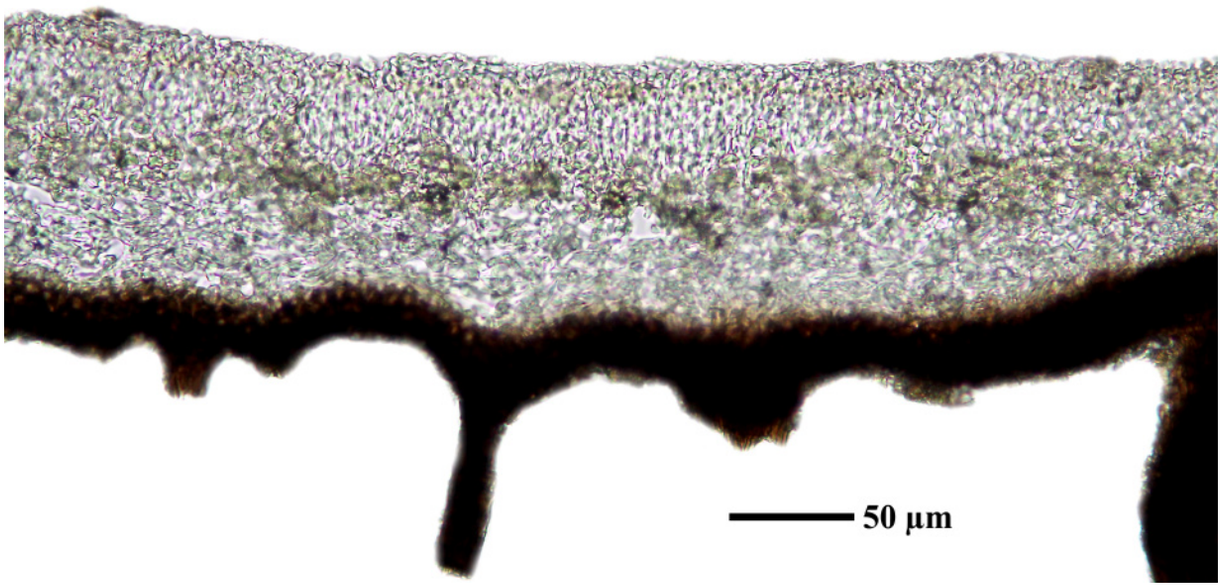
Loben gewöhnlich 0.2-0.5(-1) mm breit, flach bis konkav, Spitzen ± aufsteigend, ohne Sorale und Isidien. Häufig kleine Lobuli entlang der Ränder. Unterseite schwarz mit vielen schwarzen Rhizinen. Ober- und Unterrinde paraplektenchymatisch. Mark weiß. Apothecien bis 2 mm breit und oft an der Unterseite mit einer „Corona“ aus Rhizinen. Sporen vom Pachysporaria- bis Physcia-Typ, (17-)20-26(28) x (9-)10-12(-14) µm. Ohne Skyrin, ohne Zeorin. Corticol seltener saxicol. Asien, Afrika. Die ähnliche *Ph. endococcina* enthält Skyrin und Zeorin

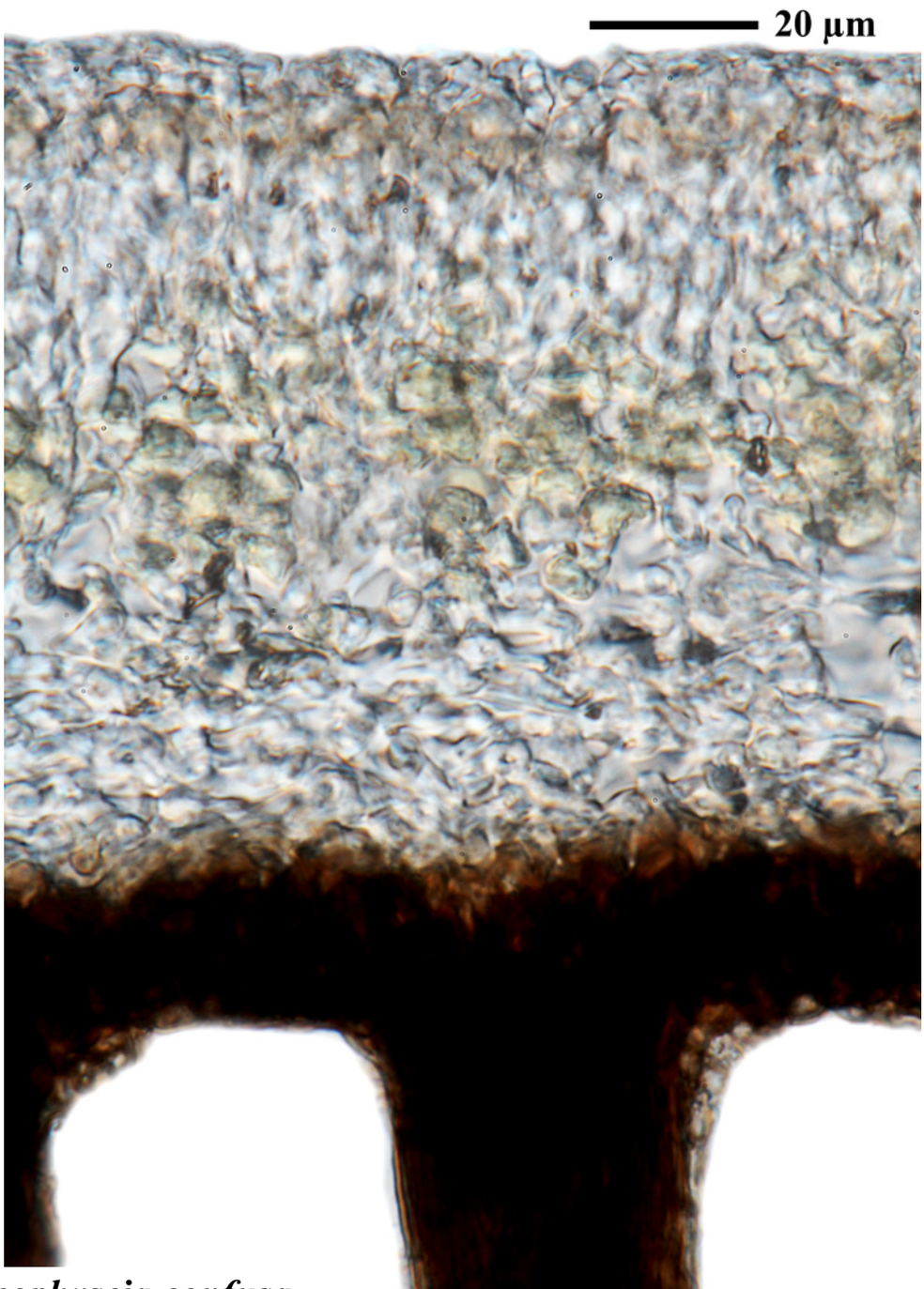
Phaeophyscia confusa

Phaeophyscia confusa

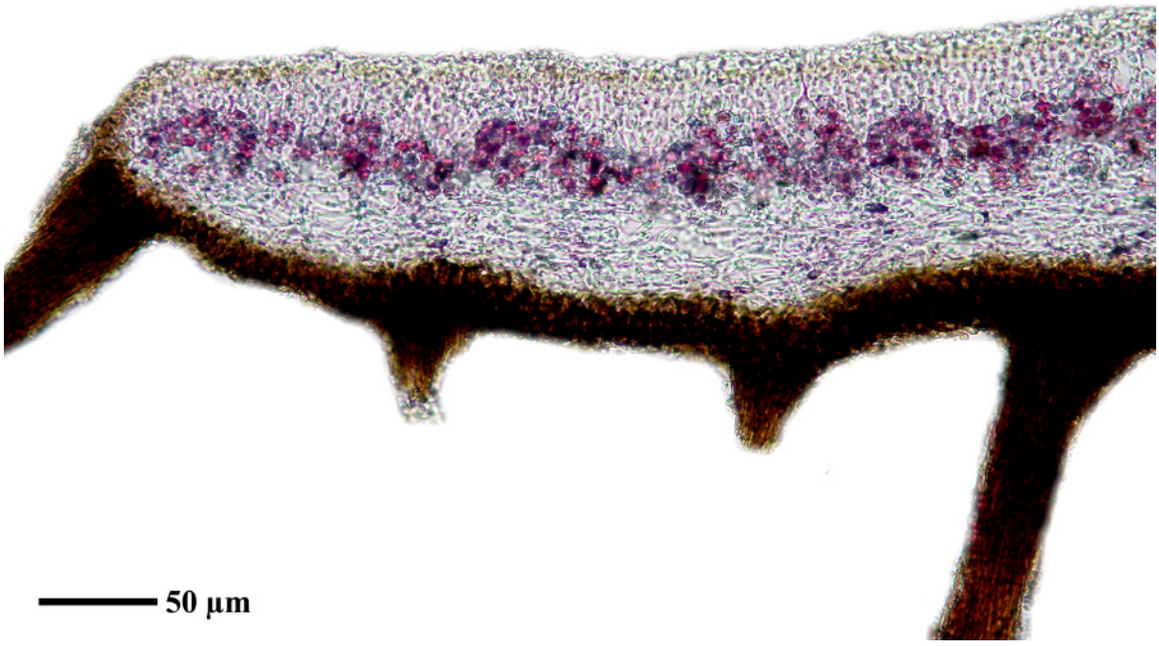
Phaeophyscia confusa

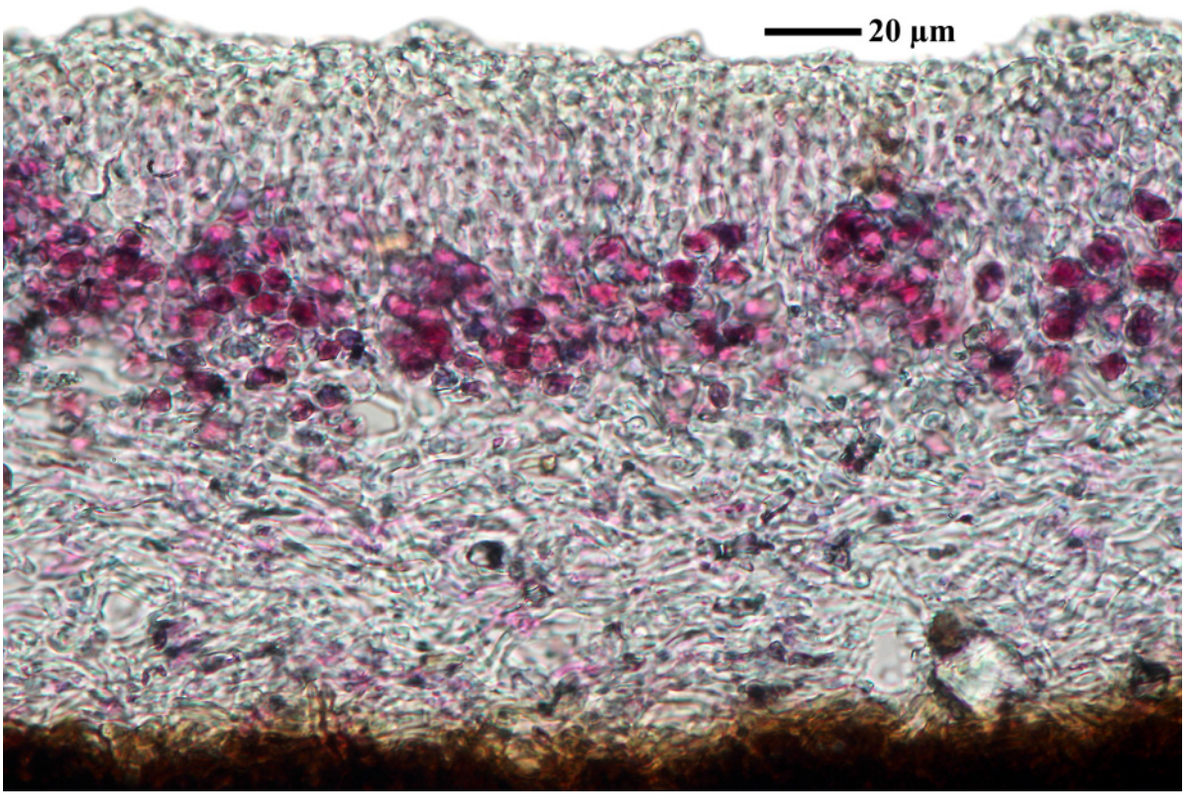
Phaeophyscia confusa



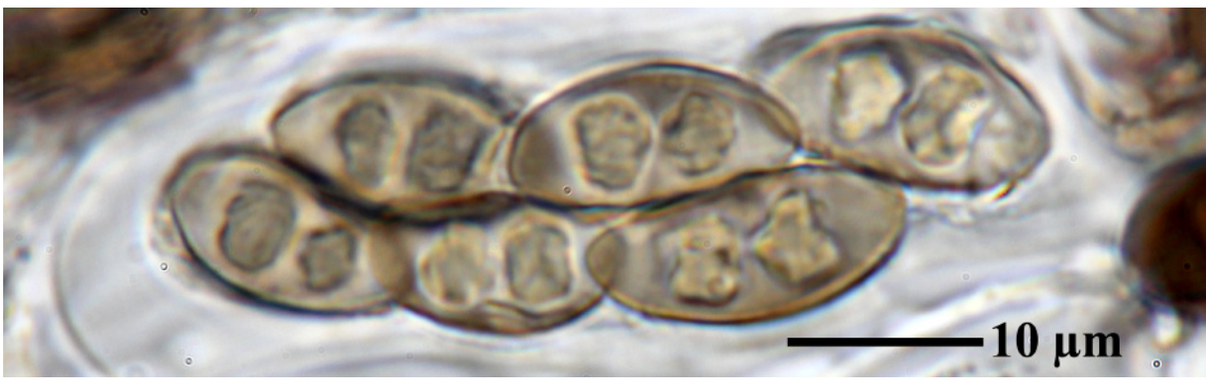


Phaeophyscia confusa





Phaeophyscia confusa

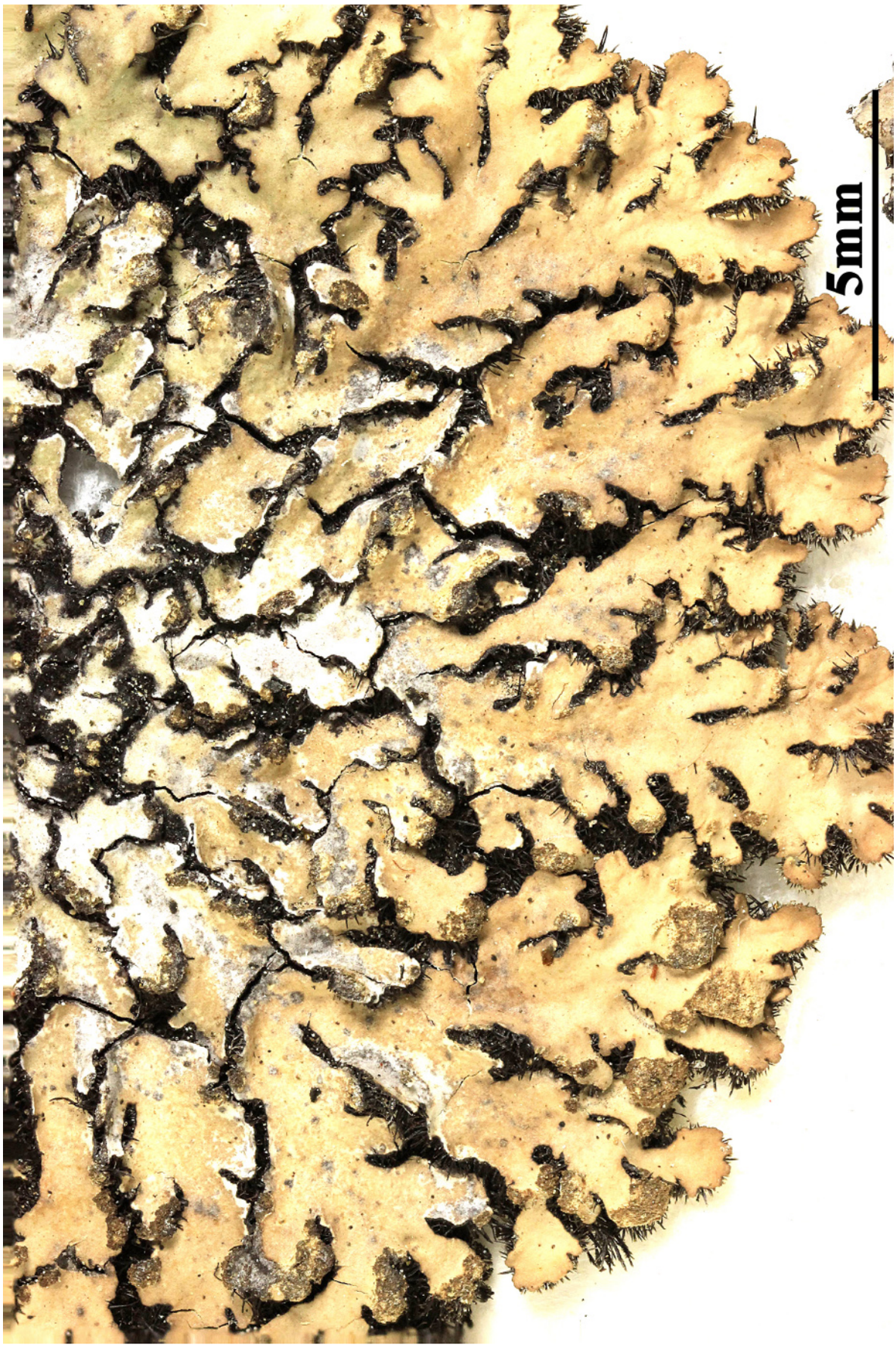


Phaeophyscia confusa

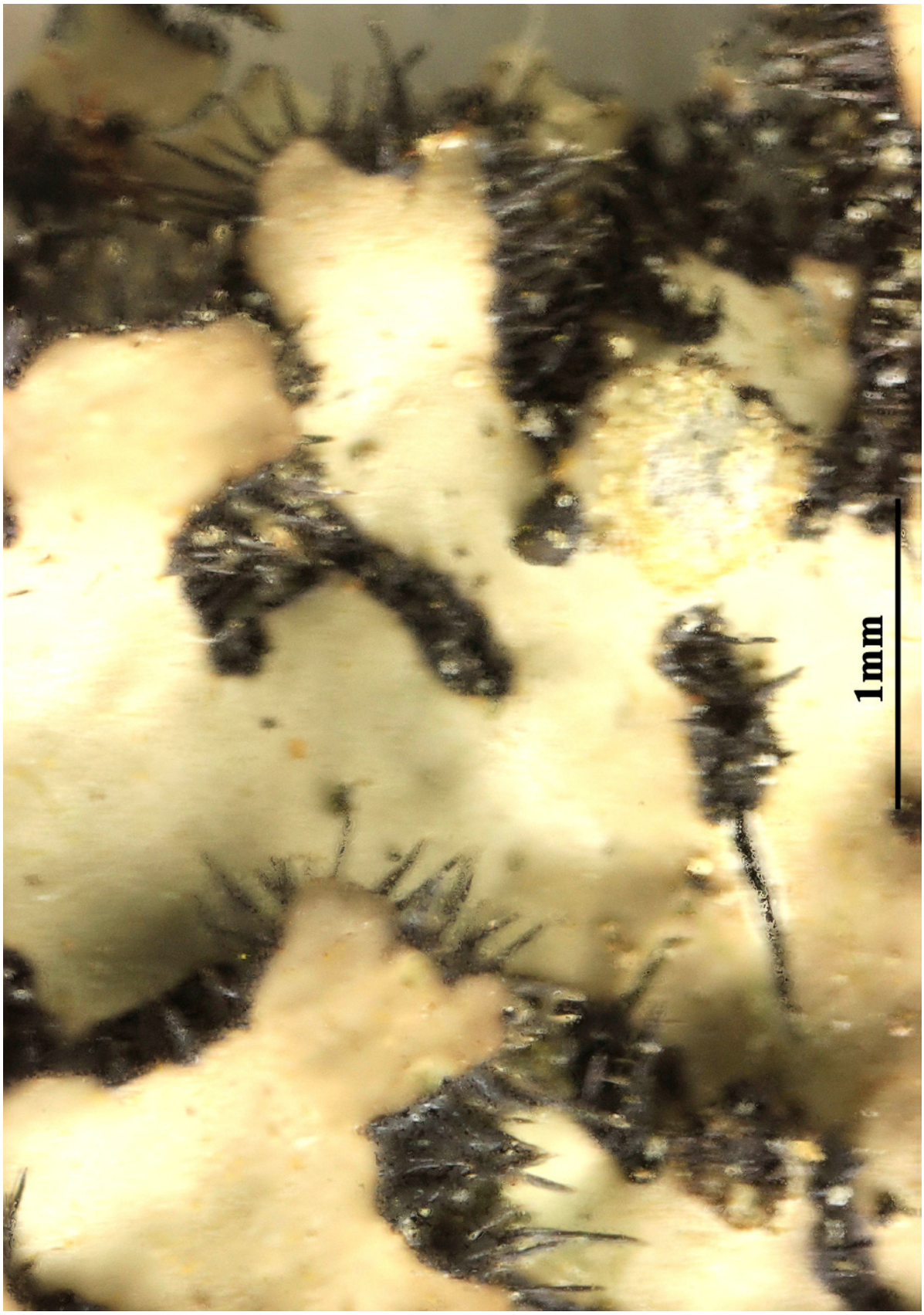
Phaeophyscia hispidula (Ach.) Moberg, Bot. Notiser 131(2): 259 (1978)
= *Dimelaena setosa* (Ach.) Trevis., Atti Soc. ital. Sci. nat. 11: 623 (1868)
= *Lichen diatrypus * hispidula* (Ach.) Lam., Encycl. Méth., Bot. Suppl. (Paris) 3(2): 405 (1813)
= *Parmelia hispidula* Ach., Lich. Univ.: 468 (1810)
= *Parmelia setosa* Ach., Syn. meth. lich. (Lund): 203 (1814)
= *Physcia hispidula* (Ach.) Frey, Ber. schweiz. bot. Ges. 73: 474 (1963)
= *Physcia obscura subsp. setosa* (Ach.) Tuck., Syn. N. Amer. Lich. (Boston) 1: 77 (1882)
= *Physcia setosa* (Ach.) Nyl., Syn. meth. lich. (Parisiis) 1(2): 429 (1860)

[VZR347], Nova Zelandia. South Island, distr. Nelson, transitus Tantragee, 180 m. Ad caementum tubi aquaeducti. Leg. & det. W. Malcolm, 12.12.1997. Ex A. Vězda: Lcichenes Rariores Exsiccati Nr. 347.

Thallus foliose, heteromerous, dorsiventral, forming orbicular to irregular, up to 10(-12) cm wide rosettes. Lobes discrete or partly imbricate, (1-)2-4(-6) mm wide, concave, usually slightly ascending at apex, surrounded by numerous dark, projecting rhizines. Upper surface grey to grey-brown, usually dull, epruinose, with granular to isidioid, mostly marginal or submarginal, soredia which are sometimes gathered in capitate soralia. Lower surface black, sometimes dark brown at lobe ends, with dark, mostly simple rhizines well-projecting beyond the margins. Upper and lower cortex paraplectenchymatous; medulla white. Apothecia very rare, lecanorine, up to 2 mm across, sessile, with a dark disc and an entire to irregularly crenate thalline margin that often bears a dense corona of rhizines. Epithecium brown; hymenium and hypothecium colourless; paraphyses slender, often forked in upper part, the apical cells clavate, with a thin dark cap. 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-septate, brown, ellipsoid, 18-25(-28) x 7-12(-14) µm, Physcia-type. Spot tests: cortex and medulla K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a mainly circumboreal-montane species, mostly found on terricolous or saxicolous bryophytes in upland areas; rare and restricted to the Alps in Italy.



Phaeophyscia hispidula



Phaeophyscia hispidula

Phlyctis agelaea (Ach.) Flot., Bot. Ztg. 8: 574 (1850)
= *Amygdalaria verrucosa* (Ach.) Norman, Nytt Mag. Natur. 7: 230 (1853)
= *Gussonea verrucosa* (Ach.) Trevis., Revta Period. Lav. Imp. Reale Acad., Padova 1(3): 261 (1852) [1851-52]
= *Lecanora agelaea* (Ach.) Röhl., Deutschl. Fl. (Frankfurt) 3(2): 72 (1813)
= *Lecanora verrucosa* Ach., Lich. Univ.: 354 (1810)
= *Lecanora verrucosa* var. *agelaea* (Ach.) Ach., Lich. Univ.: 355 (1810)
= *Lichen agelaeus* Ach., Lich. suec. prodr. (Linköping): 30 (1799) [1798]
= *Lichen peltatus* var. *agelaea* (Ach.) Lam., Encycl. Méth., Bot. Suppl. (Paris) 3(2): 393 (1813)
= *Megaspora verrucosa* (Ach.) Hafellner & V. Wirth, in Wirth, Die Flecht. Baden-Württembergs. Verbreitungsatlas (Stuttgart): 511 (1987)
= *Parmelia verrucosa* (Ach.) Spreng., Syst. veg., Edn 16 4(1): 296 (1827)
= *Peltigera agelaea* (Ach.) Wallr., Fl. crypt. Germ. (Norimbergae) 1: 553 (1831)
= *Pertusaria hymenea* var. *agelaea* (Ach.) Schaer., Lich. helv. spicil. 7: 354 (1836)
= *Pertusaria wulfenii* var. *agelaea* (Ach.) Rabenh., Deutschl. Krypt.-Fl. (Leipzig) 2(1): 15 (1845)
= *Phlyctidomyces agelaeae* E.A. Thomas ex Cif. & Tomas., Atti Ist. bot. Univ. Lab. crittog. Pavia, sér. 5 10(1): 44, 70 (1953)
= *Thelotrema agelaeum* (Ach.) Gray, Nat. Arr. Brit. Pl. (London) 1: 494 (1821)
= *Thelotrema variolarioides var. agelaeum* (Ach.) Ach., Syn. meth. lich. (Lund): 117 (1814)
= *Urceolaria agelaea* (Ach.) Ach. [as 'ageleia'], Methodus, Sectio prior (Stockholmiæ): 150 (1803)
= *Variolaria agelaea* (Ach.) Turner, Spec. lichonogr. brit. (Yarmouth): 78 (1839)

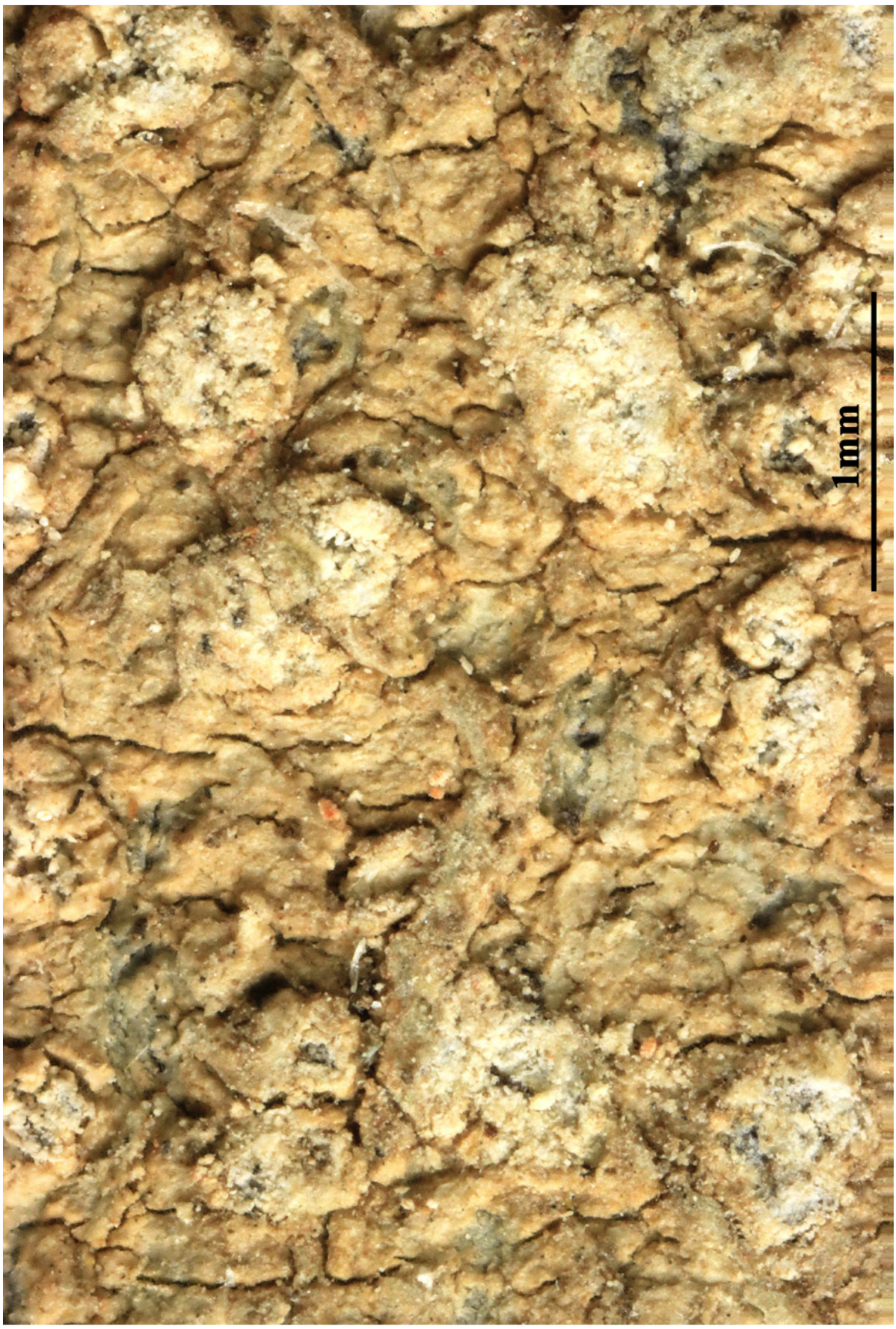
[VZR448], Italia. Insula Sardinia, Cagliari, reservatum naturae dictum "Monte Arcosu", prope domum forestalem " Casa Perdu Molis", 500 m. Ad corticem *Quercus Ilicis*. Leg. & det. A. Vězda, 29.8.1989. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 448.

Thallus crustose, ecorticate, thinly episubstratic, continuous or more or less cracked or verrucose, white to grey-white, forming up to 5(-12) cm wide patches delimited by a white prothalline line. Apothecia deeply immersed, clustered by 2-4 at the center of flattened, irregular, powdery or granular, 0.2-0.5(-1) mm wide thalline warts which are usually mistaken for soralia; disc concave to flat, brown-grey to reddish brown,

but covered by the granular warts; thalline margin white-granular. Proper exciple thin, grey, I+ pale blue, usually obscured by the thalline exciple; epithecium colourless to brownish, strongly granular; hymenium colourless, K/I+ blue; paraphyses simple or sparingly branched in upper part, not capitate, c. 1.5 µm wide at base, c. 2.5 µm at apex; hypothecium pale brown. Asci 2(-4)-spored, broadly clavate, thin-walled, not strongly thickened at apex, the outer wall K/I+ blue, the tholus I+ weakly blue. Ascospores strongly muriform, hyaline to finally yellow-brown, broadly ellipsoid, clearly apiculate, (35-)45-80(-85) x (12-)14-30(-35) µm, with a thin, I+ blue wall and a very thin perispore. Pycnidia immersed, black. Conidia simple, ellipsoid, straight to rarely curved, 6-8 x 3-4 µm. Photobiont chlorococcoid. Spot tests: K+ yellow then slowly blood-red (needle-like crystals), C-, KC+ reddish, P+ yellow then orange-red, UV-. Chemistry: norstictic acid. - Note: a mild-temperate to Mediterranean lichen found on acid-barked trees (especially *Quercus ilex*) in slightly sheltered but not very shaded situations; most frequent in Tyrrhenian Italy, much rarer in Northern Italy and along the eastern side of the Peninsula.

Phlyctis agelaea

Phlyctis agelaea



Phlyctis agelaea

Phlyctis megalospora (P. James) D.J. Galloway & Guzmán, Lichenologist 20(4): 397 (1988)
= *Phlyctella megalospora* P. James, in Galloway 1983

[VZR338], Nova Zelandia. South Island, distr- Canterbury, transitus Lewis Pass, in valle Nina Valley Track, 700 m, in valle rivuli, ad corticem arborum (*Podocarpus*). Leg. W. Malcolm & A. Vězda, 29.4.1997. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 338.- Topotypus

Thallus irregular, conspicuous patches, spreading over bryophytes on bark or rock, 4-10(-15] cm diam. Surface arachnoid byssoid, whit belw and at margins, overlain with coarse to fine, aeruginose green to green-white contiguous granules, not areolate cracked, Photobiont green, unicellular cells 2.5 µm diam. Apothecia numerous, inapparent, solitary or rarely 2-conflient, rounded or irregular, 0.5-1.2 ´mm diam., in sub-globose to flattened pustules, margins irregular, granular, uneven, con-colourous or paler than disc, dis plane or convex, grey, white-pulverulent, granular and pruinose. Epithecium minutely granular, grey-opaqque. Hymenium to 4oo µm tall. Paraphyses very numerous, c. 1 µm thick, forming a densely anastomosing netwrk. Aci thin-walled, 400 x 199 µm. Ascospores 1 pere ascus, large, oblong-ellipsoid with rounded apices, 17-21(-23(-septate, cells thin-walled, lenticular, 285-389 x 78-95 µm. Chemistr< Atranorin, psoromic, neop-soromic and ürotocetrari acids. - Endemic.

Phlyctis megalospora

Phlyctis megalospora

Phyllobaeis erythrella (Mont.) Kalb, in Gierl & Kalb, Herzogia 9(3-4): 610 (1993)

= *Baeomyces erythrellus* (Mont.) Nyl., Mém. Soc. Imp. Sci. Nat. Cherbourg 5: 94 (1858) [1857]

= *Baeomyces imbricatus* var. *erythrellus* (Mont.) B.G. de Vries, in Vries & Sipman, Proc. K. Ned. Akad. Wet., Ser. C, Biol. Med. Sci. 87(2): 242 (1984)

= *Biatora erythrella* Mont., Annls Sci. Nat., Bot., sér. 2 8: 356 (1837)

= *Tubercularia erythrella* (Mont.) Kuntze, Revis. gen. pl. (Leipzig) 2: 877 (1891)

[VZR932], Dominica- Layou Road, 400 m. Ad terram. Leg. W. E. Hale (no. 35734), 12.11.1969, det.C. Gierl, 1992. Ex A. Vezda: Lichenes Rariores Exsiccati Nr. 932.

Primary thallus: squamulose, 1.0–3.0 mm long, 0.5–1.5 mm wide, laciniate, mainly ascending from the center to the tips, mainly with crenate margins, smooth upper surface, efigurate to somewhat spotted maculate when fresh, green to greenish in feld, whitish to bluish in herbaria, smooth under whitish surface; schizidia usually present, mainly marginal to laminal, spherical to irregularly spherical, 0.2–0.4 mm in diameter, usually pruinose. Anatomy: cortex 30–110 µm thick, algal layer 80–130 µm thick, medulla 40–70 µm thick. Podetium: stipitate, (1.7–)2.0–4.5 mm tall, 0.5–1.0 mm wide, smooth to rugose surface, longitudinally striate, pinkish to brownish; Apothecia 0.9–1.5 mm in diameter, pinkish to reddish, flat, no pruinose. Epihymenium brownish, 4–9 µm thick, himenium hyaline, 65–80 µm thick, hypohymenium hyaline, 25–35 µm thick, asci clavate, up to 50 µm tall, 8-spored, ascospores hyaline, simple, 6–10 × 3–4 µm. Pycnidia not found. Chemistry: K+ yellow->red, C-, KC-, UV-. Thin layer chromatography: norstictic acid.

Phyllobaeis erythrella

Phyllobaeis erythrella

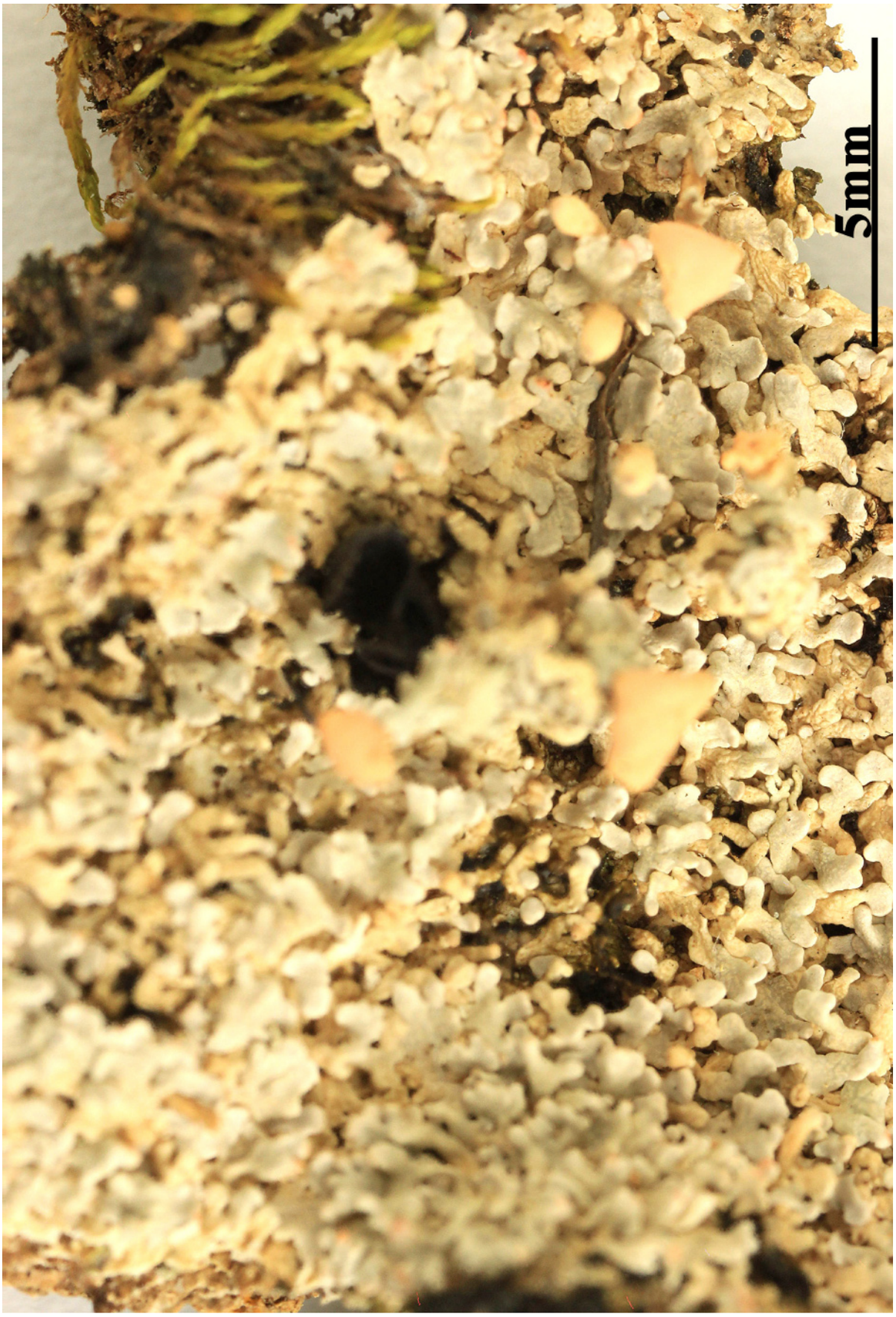
Phyllobaeis erythrella

Phyllobaeis erythrella

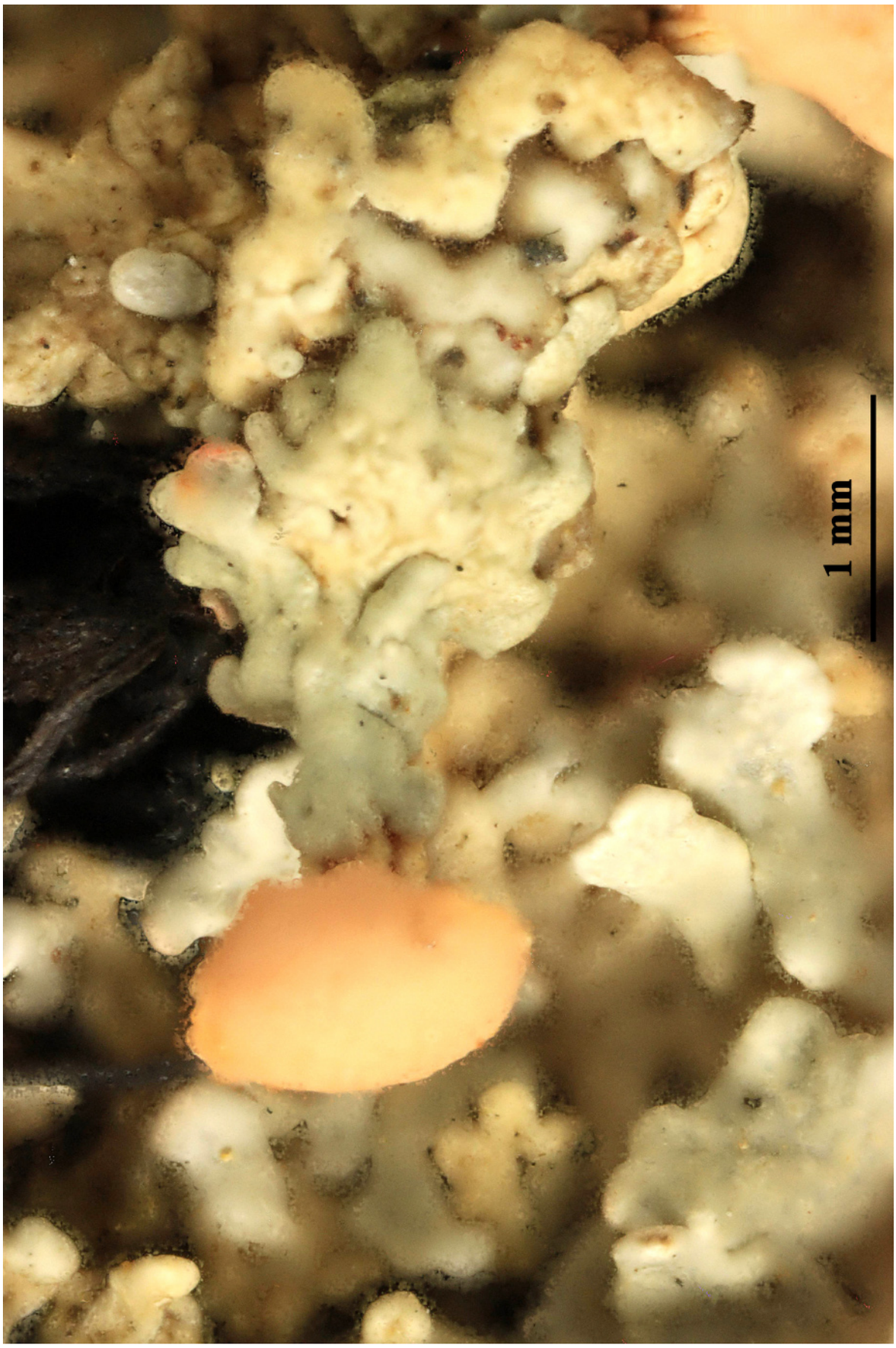
Phyllobaeis erythrella (Mont.) Kalb, in Gierl & Kalb, Herzogia 9(3-4): 610 (1993)
= *Baeomyces erythrellus* (Mont.) Nyl., Mém. Soc. Imp. Sci. Nat. Cherbourg 5: 94 (1858) [1857]
= *Baeomyces imbricatus* var. *erythrellus* (Mont.) B.G. de Vries, in Vries & Sipman, Proc. K. Ned. Akad. Wet., Ser. C, Biol. Med. Sci. 87(2): 242 (1984)
= *Biatora erythrella* Mont., Annls Sci. Nat., Bot., sér. 2 8: 356 (1837)
= *Tubercularia erythrella* (Mont.) Kuntze, Revis. gen. pl. (Leipzig) 2: 877 (1891)

[VZR257}, Dominiuca (Antilles Minores). Paroecia Saint Paul, loco Rogers dicto, 350 m. Ad terram in fossis viae. Leg. F. Ceni & A. Vězda, 16.7.1996, det. A. Vězda. EX A. VĚZDA: LICHNES RARIORES EXSICCATI NR. 257.

Primary thallus: squamulose, 1.0–3.0 mm long, 0.5–1.5 mm wide, laciniate, mainly ascending from the center to the tips, mainly with crenate margins, smooth upper surface, efigurate to somewhat spotted maculate when fresh, green to greenish in feld, whitish to bluish in herbaria, smooth under whitish surface; schizidia usually present, mainly marginal to laminal, spherical to irregularly spherical, 0.2–0.4 mm in diameter, usually pruinose. Anatomy: cortex 30–110 µm thick, algal layer 80–130 µm thick, medulla 40–70 µm thick. Podetium: stipitate, (1.7–)2.0–4.5 mm tall, 0.5–1.0 mm wide, smooth to rugose surface, longitudinally striate, pinkish to brownish; Apothecia 0.9–1.5 mm in diameter, pinkish to reddish, flat, no pruinose. Epihymenium brownish, 4–9 µm thick, himenium hyaline, 65–80 µm thick, hypohymenium hyaline, 25–35 µm thick, asci clavate, up to 50 µm tall, 8-spored, ascospores hyaline, simple, 6–10 × 3–4 µm. Pycnidia not found. Chemistry: K+ yellow->red, C-, KC-, UV-. Thin layer chromatography: norstictic acid.



Phyllobaeis erythrella



Phyllobaeis erythrella

Phyllobathelium epiphyllum (Müll. Arg.) Müll. Arg., Flora, Regensburg 73: 195 (1890)
= *Bathelium epiphyllum* Müll. Arg., Flora, Regensburg 66(22): 347 (1883)
= *Thelenella epiphylla* (Müll. Arg.) Vain., Acta Soc. Fauna Flora fenn. 7(no. 2): 216 (1890)

[VZR361], Costa Rica. Prov. Puntarenas Las Cruces, 180 km a San Jose, prope San Vito, montes Cordilerra de Talamanca, 1000 m, prope Wilsons Botanical Gardens, foliicola. Leg. et det. R. Lücking (88-906), 7.1988. EX A. VěZDA: LICHENES RARIORES EXSICCATI NR. 361.

Thallus continuous, 5–25mm across and 15–35 µm thick, minutely verrucose, greenish grey and with distinct metallic look; verrucae wart-shaped to conical, 0.04–0.08 mm diam., dark greenish grey to black. Photobiont cells angular-rounded, 8–14 x 3–6 µm, in irregular plates. Perithecia broadly wart-shaped with slightly uneven surface, top depressed, 0.4–0.6 mm diam. and 180–250 µm high, dark greenish grey. Excipulum prosoplectenchymatous, 10–15 µm thick, colorless. Involucrellum formed by 5–8 large clusters of dark brown to black granules, 80–120 µm thick, externally covered by algiferous, thallus layer. Asci clavate, 100–150 x 35–55 µm. Ascospores (6–)8 per ascus, fusiformellipsoid, muriform, with distinct constriction at median septum, 30–60 x 12–25 µm, 2.5–3 times as long as broad. Pycnidia in groups of 5–15(–25) immersed in irregular, slightly prominent pseudostromata; individual pycnidia globose, 0.07–0.1 mm diam., visible as small, black dots. Macroconidia clavate, 3–7-septate, 20–35 x 3–6 µm, with gelatinous appendages. Microconidia not observed. Chemistry: no substances detected by TLC. Distribution and Ecology. Neotropics and eastern Paleotropics (New Caledonia). Widely distributed and common in the Neotropics. Together with *Musaespora kalbii* and *Flavobathelium epiphyllum*, one of the most typical elements of foliicolous lichen communities found in microsites transitional between the shady understory and light gaps.

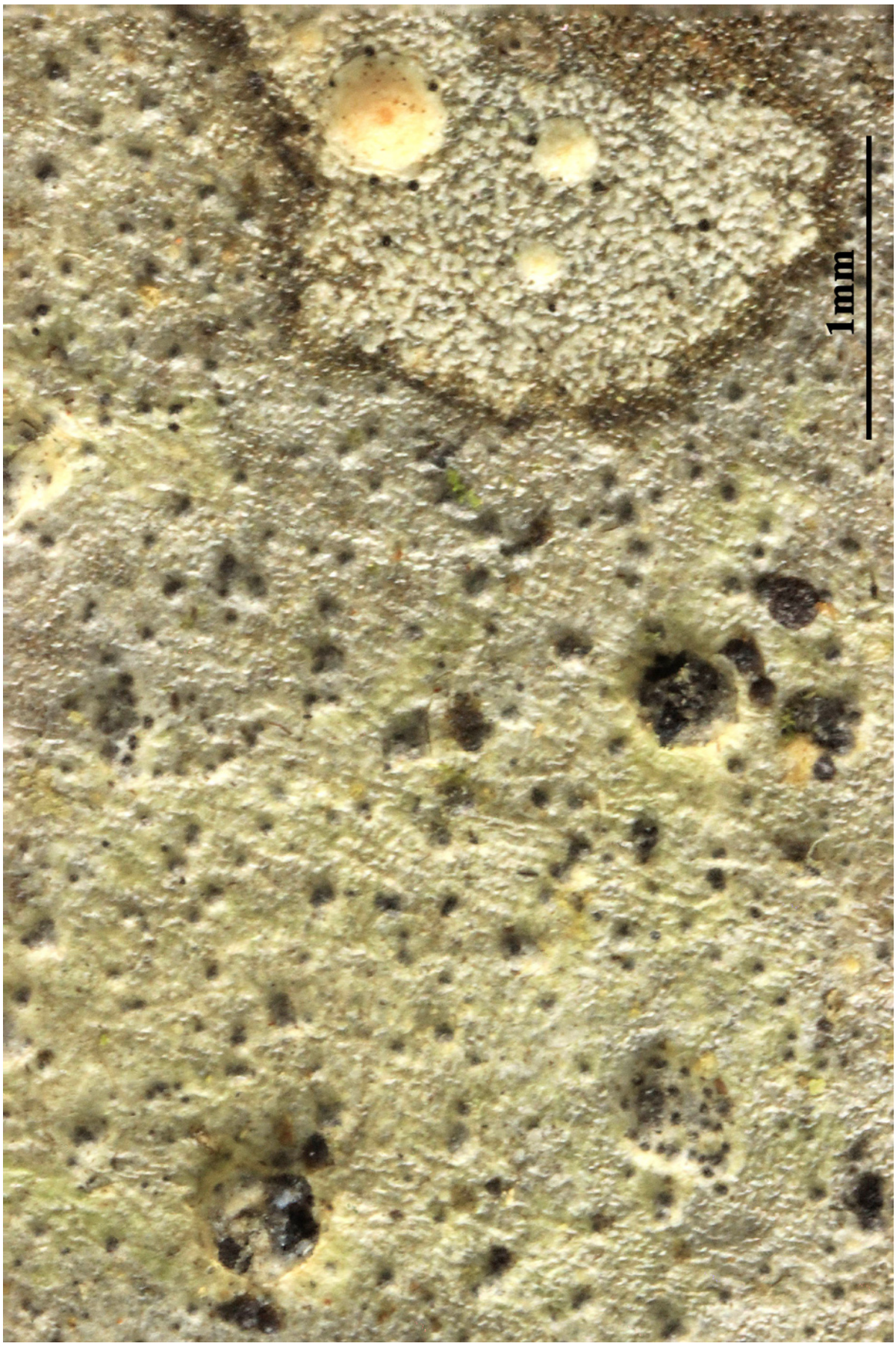
Phyllobathelium epiphyllum

Phyllobathelium epiphyllum

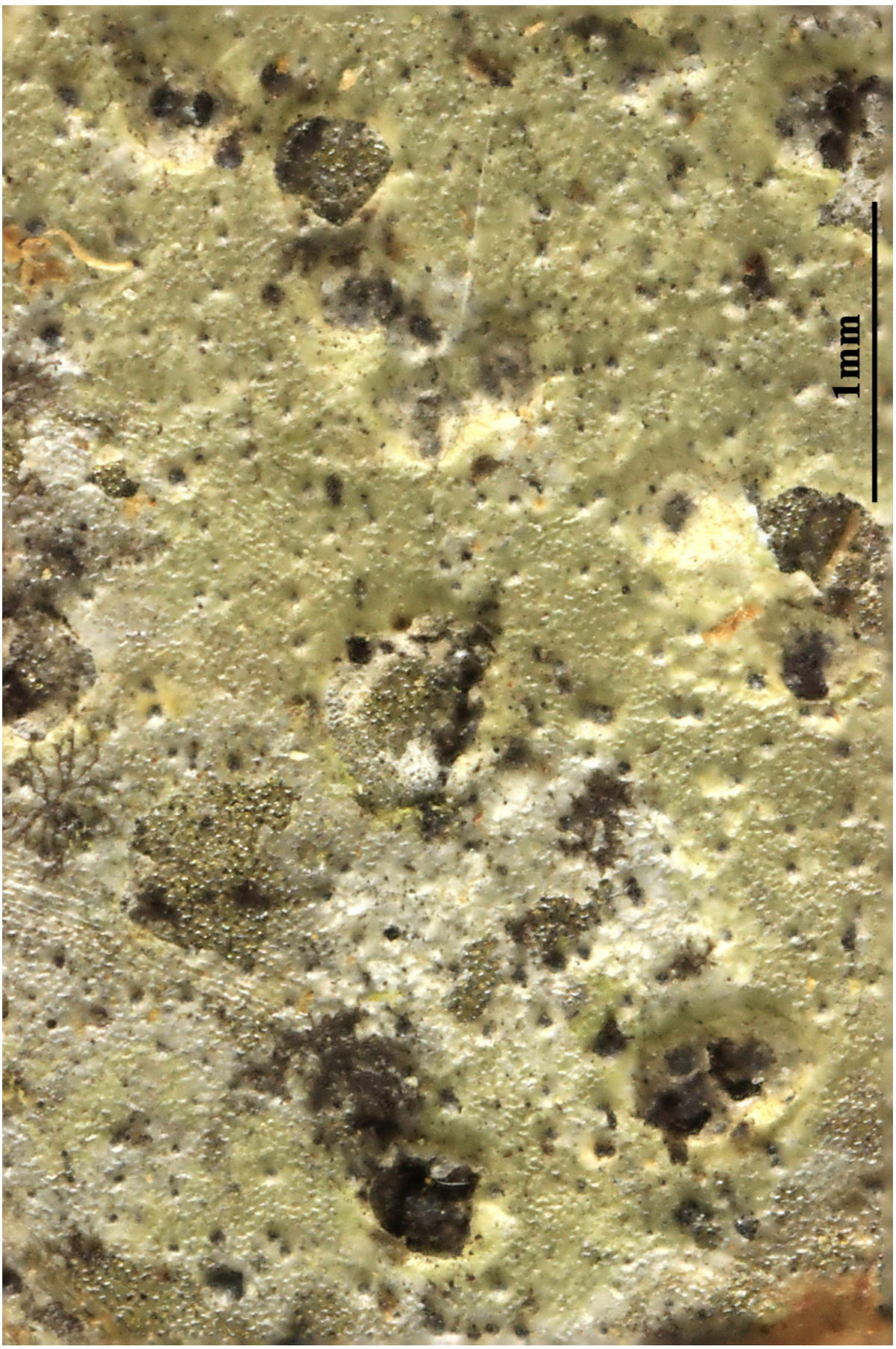
Phyllobathelium firmum (Stirt.) Vězda, in Lücking & Kalb, Bot. Jb. 122(1): 44 (2000)
= *Opercularia firma* Stirt., Proc. Roy. phil. Soc. Glasgow 11: 108 (1879) [1878]

[VZR458], Aequatoria. Prov. Napo, reservatum nationale naturae Yasuni, Rio Tiputini, 00°36' austr., 76°28' occid., 300 m. Ad folia arborum. Leg. Z. Palice, 14.8.1999, det. A. Vězda. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 458.

Thallus continuous, 5–25mm across and 15–35 µm thick, minutely verrucose, greenish grey and with distinct metallic look; verrucae wart-shaped to conical, 0.04–0.08 mm diam., dark greenish grey to black. Photobiont cells angular-rounded, 8–14 x 3–6 µm, in irregular plates. Perithecia broadly wart-shaped with slightly uneven surface, top depressed, 0.4–0.6 mm diam. and 180–250 µm high, dark greenish grey. Excipulum prosoplectenchymatous, 10–15 µm thick, colorless. Involucrellum formed by 5–8 large clusters of dark brown to black granules, 80–120 µm thick, externally covered by algiferous, thallus layer. Asci clavate, 100–150 x 35–55 µm. Ascospores (6–)8 per ascus, fusiform ellipsoid, muriform, with distinct constriction at median septum, 30–60 x12–25 µm, 2.5–3 times as long as broad. Pycnidia in groups of 5–15(–25) immersed in irregular, slightly prominent pseudostromata; individual pycnidia globose, 0.07–0.1 mm diam., visible as small, black dots. Macroconidia clavate, 3–7-septate, 20–35 x 3–6 µm, with gelatinous appendages. Microconidia not observed. Chemistry: no substances detected by TLC. - Distribution and Ecology. Neotropics and eastern Paleotropics (New Caledonia). Widely distributed and common in the Neotropics. Together with *Musaespora kalbii* and *Flavobathelium epiphyllum*, one of the most typical elements of foliicolous lichen communities found in microsites transitional between the shady understory and light gaps.



Phyllobathelium firmum



Phyllobathelium firmum

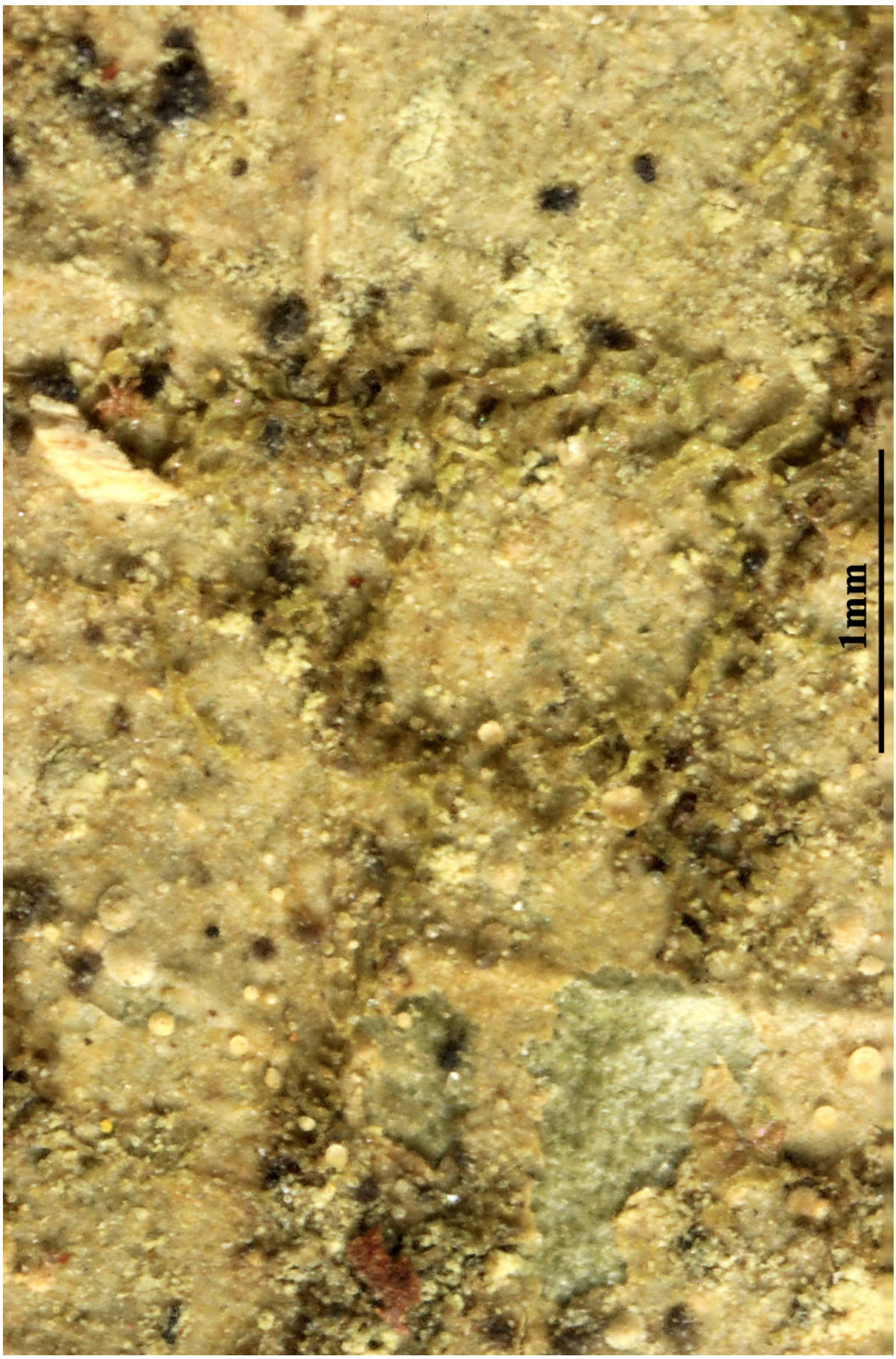
Phyllobathelium firmum

Phyllophiale alba R. Sant., Symb. bot. upsal. 12(no. 1): 557 (1952)
= *Porina alba* (R. Sant.) Lücking 2004

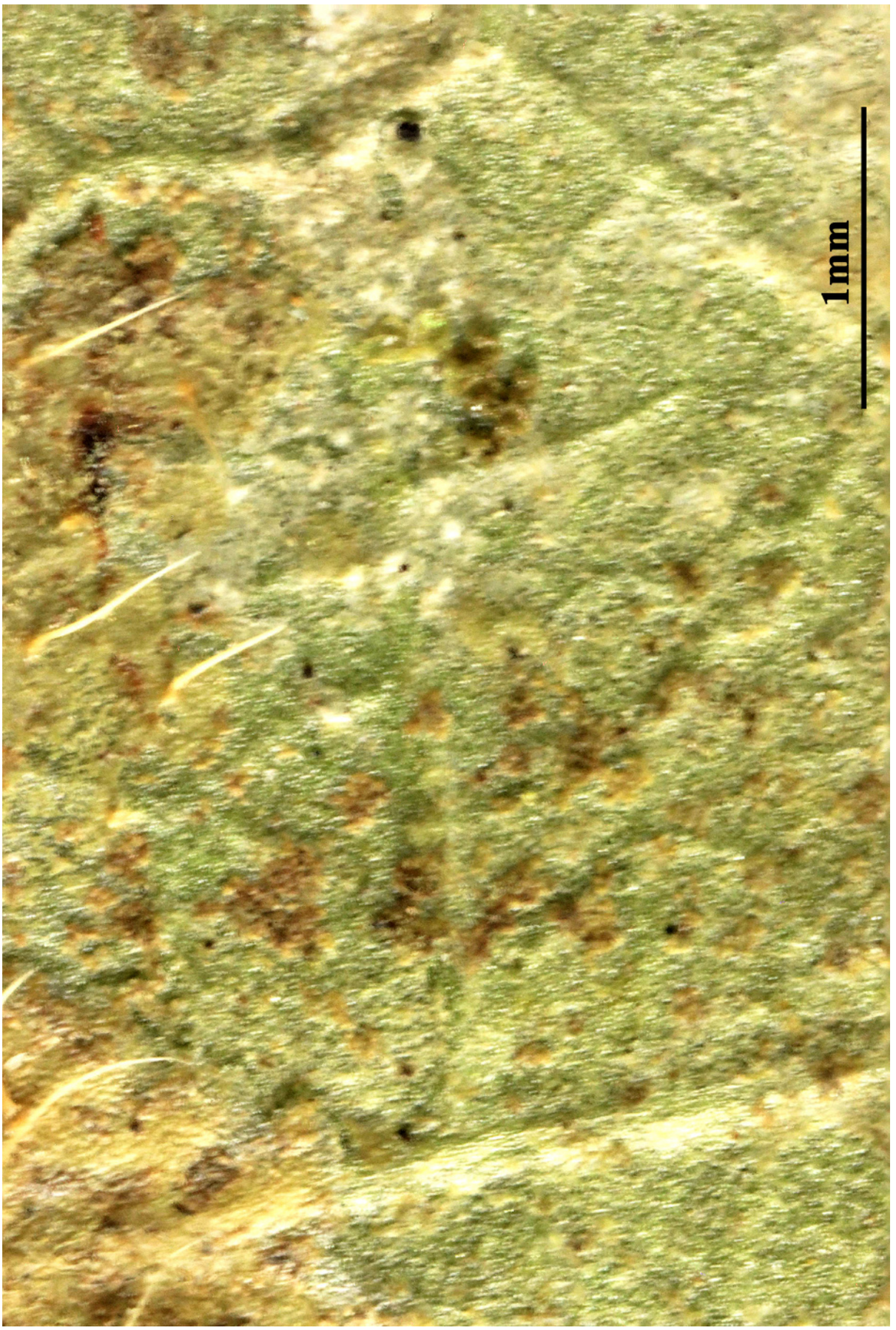
[VZR284], Malaysia. Kuala Lumpur, in colle Templer Park, 22 km ad septentr. a Kuala Lumpur, 300 m. Leg. A. Vězda, 5.5.1997. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 284.

Thallus continuous, minutely uneven-rugose, 5–10 mm across and 10–15 µm thick, pale greyish yellow to greenish grey, slightly shiny, incrusted with calcium oxalate crystals, often isidiate; isidia scattered to dense (when perithecia are absent), discshaped, 0.15–0.25 mm diam., white. Photobiont cells angular-rounded, 12–22 x 3–5 µm, in irregular plates. Perithecia immersed-erumpent to adnate, young ones applanately lens-shaped, mature ones lensshaped to applanately wart-shaped, not sharply delimited from surrounding thallus, 0.4–0.7 mm diam. and 120–180 µm high, glabrous, surface smooth, of same color as thallus but often with red tinge. Excipulum 5–10 µm thick, colorless to pale yellow, K+ orange. Involucrellum 10–15 µm thick, yellow, K+ brownish orange, externally covered by 8–12 µm thick crystallostratum and 5–10 µm thick, algiferous, thallus layer. Asci obclavate, 80–100 x 9–12 µm. Ascospores bacillar, 7-septate, without constrictions at septa, 35–45 x 3–4.5 µm, 10–13 times as long as broad, colorless. Pycnidia not observed. Chemistry: no substances detected by TLC; Porina yellow in perithecial wall. Distribution and Ecology. Pantropical. The perithecial form is restricted to the shady rain forest understory, but the sterile, isidiate form can be found also in slightly more open situations.

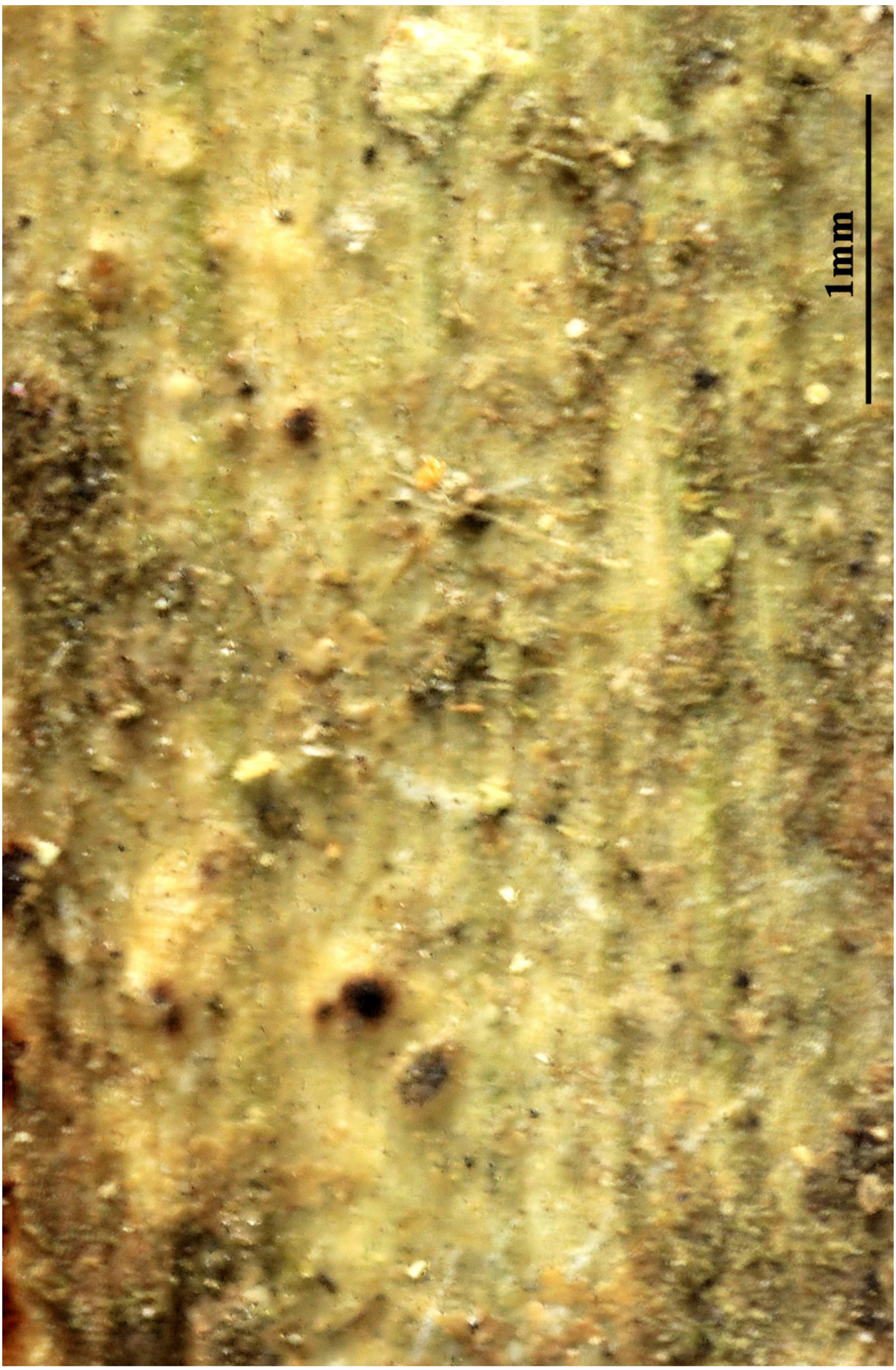
Phyllophiale alba



Phyllophiale alba



Phyllophiale alba

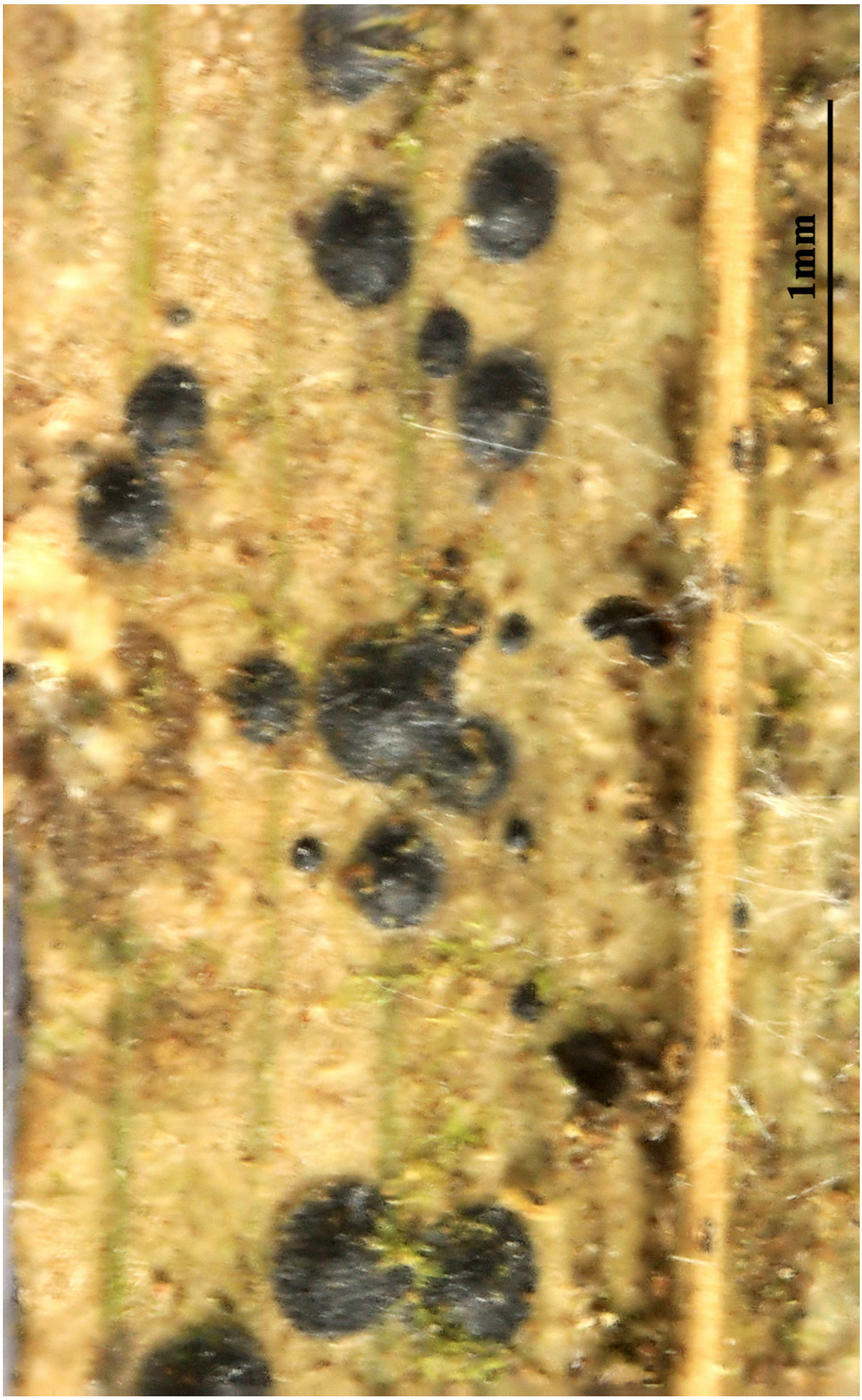


Phyllophiale alba

Phylloporis platypoda (Müll. Arg.) Vězda, Folia geobot. phytotax. 19(2): 185 (1984)
= *Phylloporina platypoda* (Müll. Arg.) Müll. Arg., Lichenes Epiphylli Novi: 22 (1890)
= *Strigula platypoda* (Müll. Arg.) R.C. Harris, More Florida Lichens, Incl. 10 Cent Tour Pyrenol. (New York): 159 (1995)
= *Porina platypoda* Müll. Arg., Flora, Regensburg 66(21): 335 (1883)

[VZR248], Dominica (Antilles Minores). Ad cataracta "Emerald Pool", in parte centrali insulae, 350 m. Foliicola. Leg. A. Vězda: 20.07.1996. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 248.

Thallus supracuticular, continuous, 5–20 mm across and 7–10 µm thick, smooth, pale grey. Photobiont a species of *Phycopeltis*, cells rectangular, 8–14 x 3–5 µmm, forming nets with interspaces. Perithecia exposed but covered by thin, thallus layer up to ostiole, central part wart-shaped, basal part broadly spreading to form horizontal plate, 0.4–0.6 mm diam. and 80–120 µm high, greyish black. Excipulum prosoplectenchymatous, 6–10 µm thick, colorless to brown. Involucrellum carbonaceous, 20–35 µm thick, black. Paraphyses unbranched. Asci cylindrical, 30–40 x 4–6 µm. Ascospores uniseriate to irregularly arranged, fusiform-ellipsoid, 1-septate, with slight constriction at septum, 8–12 x 2.5–3.5 µm, 3–4 times as long as broad. Pycnidia exposed but often covered by thin, thallus layer, wart-shaped with partly spreading base, those producing macroconidia 0.1–0.2 mm, those producing microconidia 0.07–0.15 mm diam., greyish black to black. Macroconidia bacillar, 1-septate, 10–15 x 1.5–2 µm. Microconidia fusiform-ellipsoid, non-septate, 3–4 x 1.3–1.7 µm. Chemistry: no substances detected by TLC.



Phylloporis platypoda

Phylloporis platypoda

Phylloporis platypoda

Phyllopsora malcolmii Vězda & Kalb, in Vězda, Lichenes Rariores Exsiccati, Fasc. 20 (nos 191-200): 4 (1995)

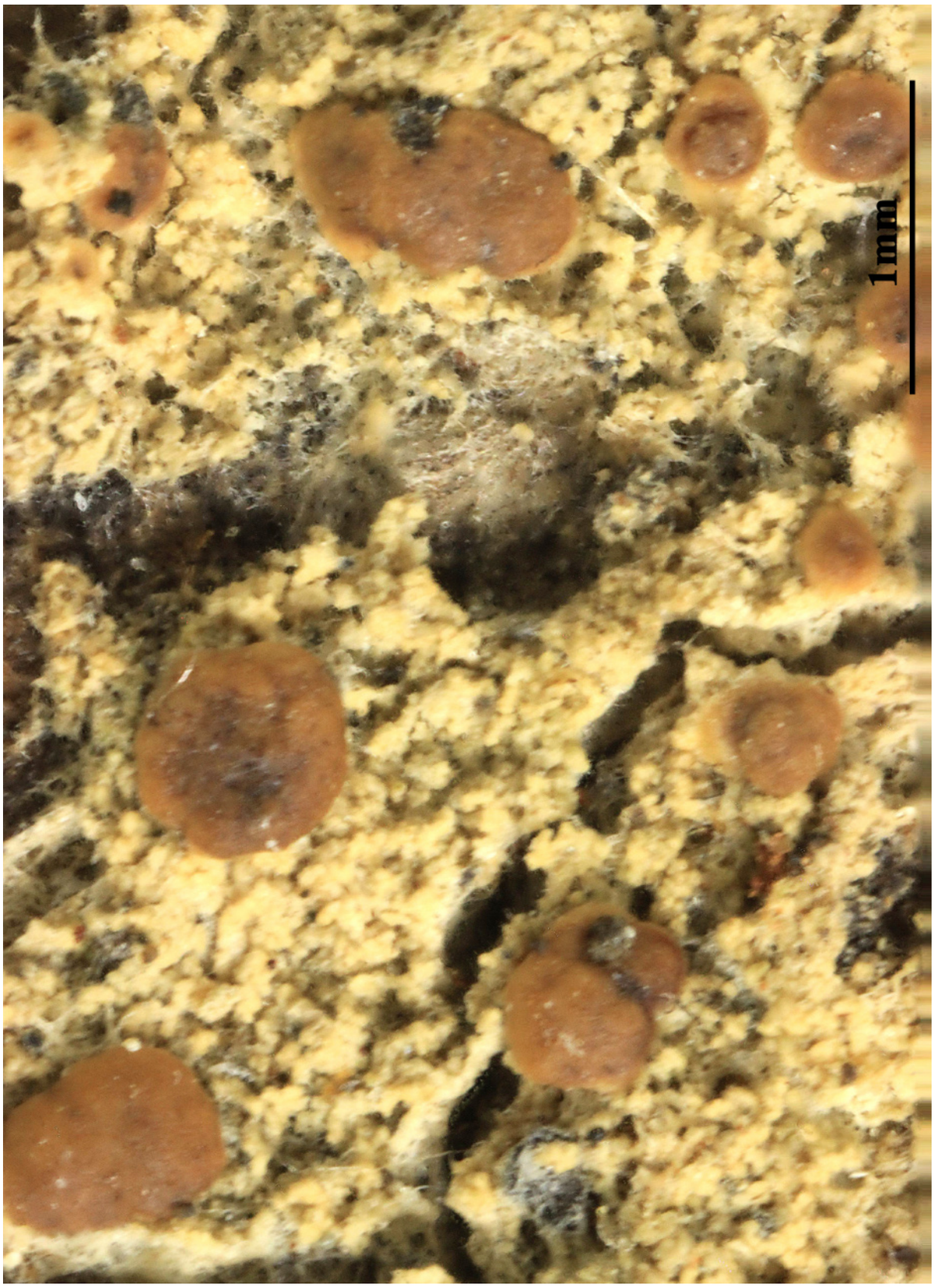
= *Myrionora malcolmii* (Vězda & Kalb) S.Y. Kondr., in Kondratyuk, Lőkös, Farkas, Jang, Liu, Halda, Persson, Hansson, Kärnefelt, Thell & Hur, Acta Bot. Hung. 61(3-4): 304 (2019)

[VZR200], Nova Zelandia. South Island, Nelson, loco "Brook Stream track" dicto, 120 m. Ad corticem arborum. Leg. W. Malcolm, 23.5.1994. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 200. - Isotypus.

Thallus squamulosus, squamulis crustam continuam inaequalem formantibus, prothallo modice crasso, byssaceo, albo, hyphis (th) 3 µm crassis arachnoideis. Squamulis 0.7-1 mm crassis, superne corticibus hylinis instructis. Apothecia pallide fusca vel fusca, adpressa, primum plana, marginibus colore pallidore tantum distinctis, mox tamen convexa marginibusque exclusis, 0.8-1.5 mm lata. Excipulum hyalinum, hypothecium pallide fuscum. Hymenium 70-80 µm altum, praeter zona epihymeniali infuscata hyalinum. Paraphyses apicibus haud incraccatis, 2 µm crassiae. Asci clavati, ascosporae bacillares, hyalinae, simplices 13-18 x 2-2.2 µm. Pycnidia rara, verruciformis, in squamulis thallorum immersa, Pycnosporae bacillares, simplices, 12-15 x 0.25 µm. Species praesertim thallo squamosuloso virido prothalloque byssaceo albo praedita. Chemistry: argopsin anal. J. Elix.

Phyllopsora malcolmii

Phyllopsora malcolmii



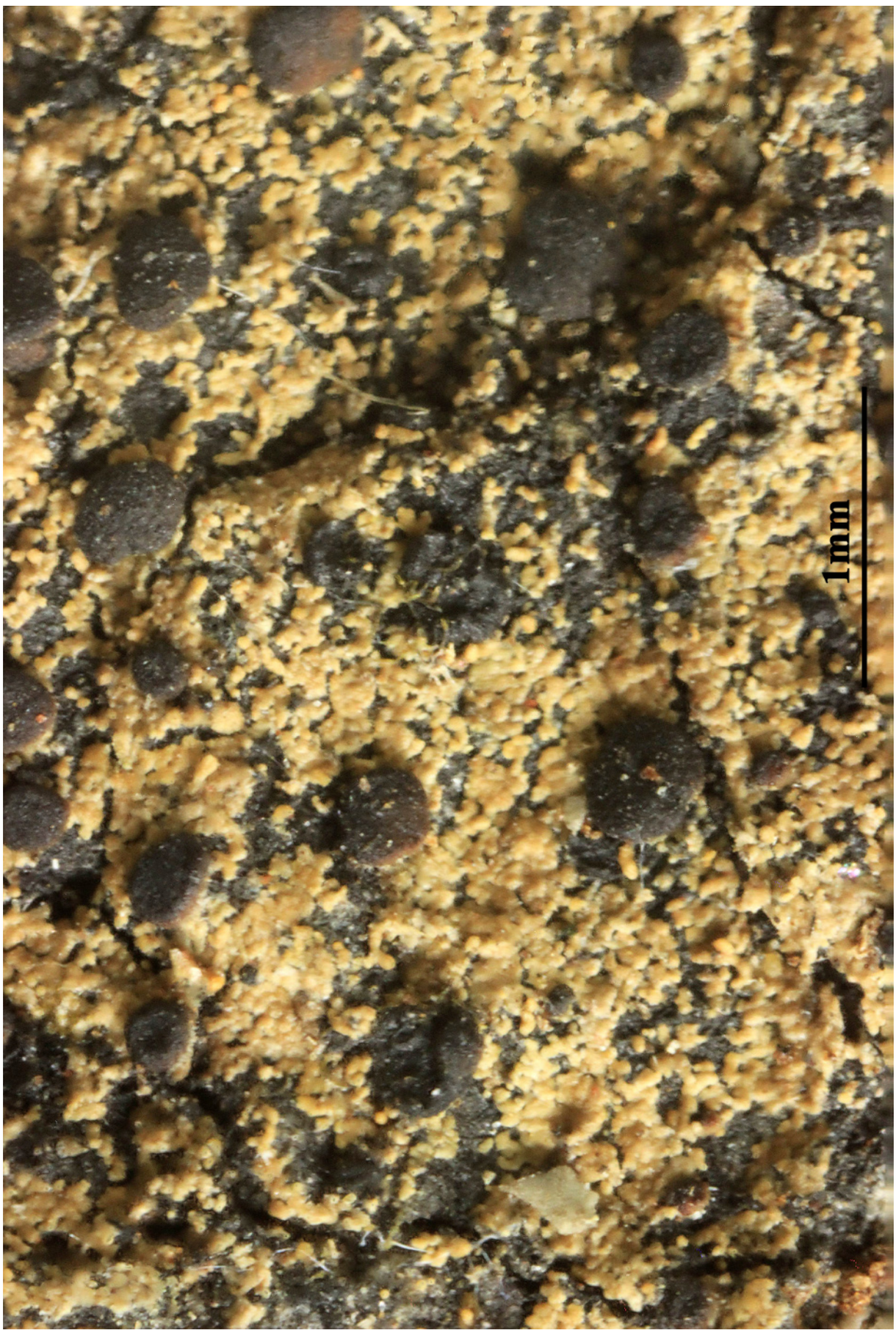
Phyllopsora malcolmii

Phyllopsora malcolmii

Phyllopsora pocsii Vězda, Lichenes Rariores Exsiccati 49(nos 481-490): 2, no. 484 (2003)

[VZR484], Tanzania. Montes Kiboriani, prope Mpwapwa. Ad latera montis prope Kikombo, 1200 m. Ad corticem Arborum. Leg. T. Pócs & L. Mezösi (no. 4564/d). Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 484. - Isotypus.

Thallus corticola, crustaceus, squamulosus 0.1-0.2 mm latis, dispersis vel confluentibus, ambitu crenulatis, rarissime isidiis instructis. Apothecia 0.35-0.5 mm lata, orbicularis, atrofusca, juniora discis concavis marginibus distinctis, mox tamen discis convexis marginibus indistrinctis. Ascosporae bacillares, 3-sptatae, 22-24 x 2-3 µm. - Affinis *Phyllopsorae pannosae* Müll. Arg., sed squamulis thallorum minoribus aqscosporis valde longiorobus.



Phyllopsora pocsii

Phyllopsora pocsii

Physcia scopulorum (Lambinon & Vězda) Poelt & Nimis, in Nimis & Poelt, Stud. Geobot. 7(suppl. 1): 176 (1987)
= *Physcia aipolia subsp. scopulorum* Lambinon & Vězda, in Vězda 1970
= *Physcia mediterranea* Nimis 2016

[VZR124], Insulae Canarienses Tenerife, Las Canadas de Teide, loco Boca de Teuce dicto, 2050 m. Locis incavatis aquae pluviae inexpositis rupium basalticarum. Leg. et det. A. Vězda, 16.03.1994. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 124.

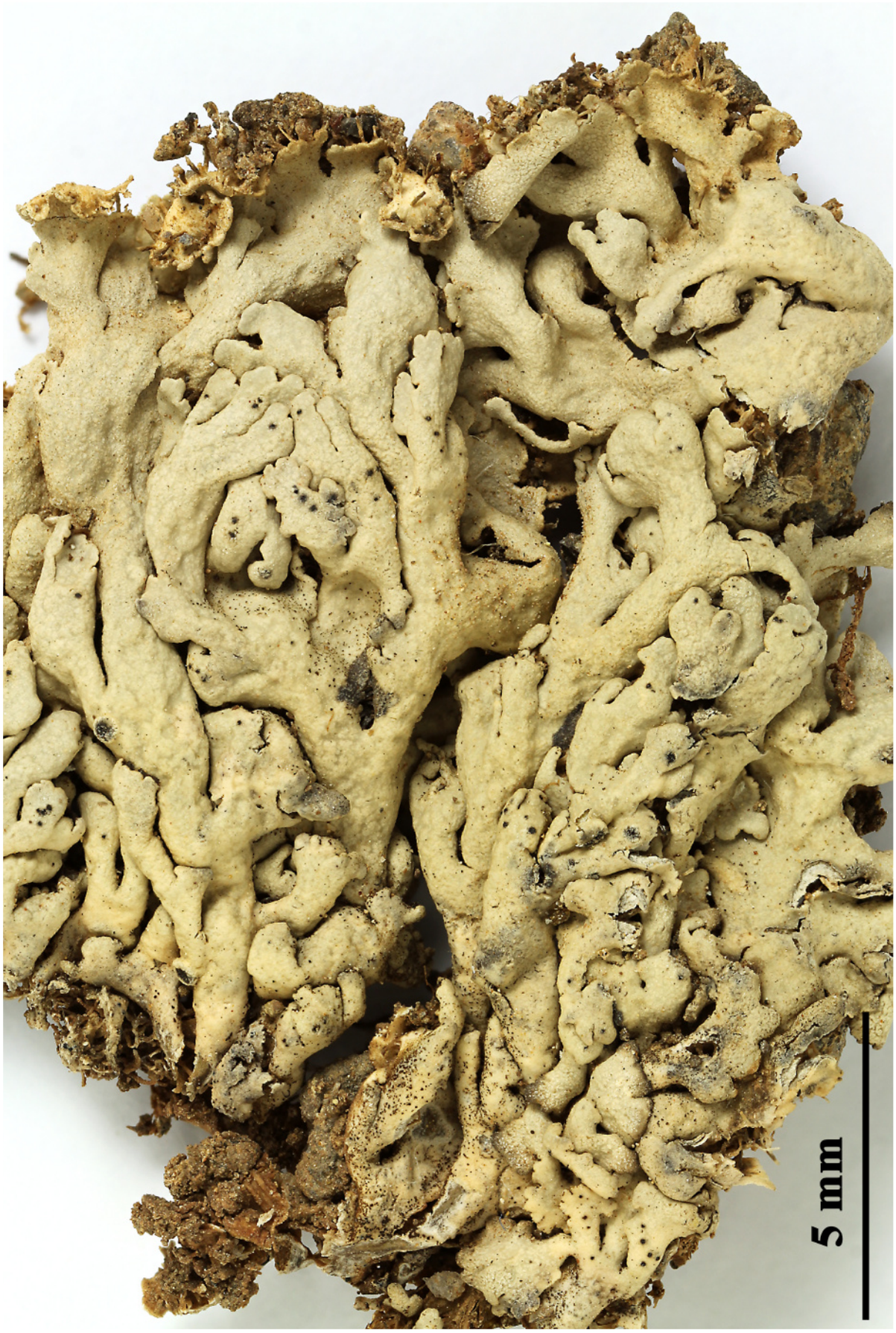
Weitgehend identisch mit *Physcia stellaris*, jedoch auf Silikatgestein wachsend. Ohne Sorale oder Isidien. Oberseite fein weiß gepunktet. Unterseite hell mit hellen, einfachen Rhizinen. Oberrinde paraplektenchymatisch, Unterrinde prosopektenchymatisch. Thallus K+ gelb, Mark K-. Sporen vom Physcia-Typ, 15-18 x 8.7 µm. Saxicol. Europa

Thallus foliose, heteromerous, dorsiventral, narrow-lobed, closely adpressed, forming orbicular to irregular, 3-8(-10) cm wide rosettes. Lobes 0.5-1(-1.5) mm wide, radiating, separated to overlapping, whitish to ash-grey, white-maculate owing to breaks in the photobiont layer, pruinose at least at the tips, esorediate. Lower surface white to dark grey, with dark, mostly simple rhizines. Upper cortex paraplectenchymatous; medulla white; lower cortex prosoplectenchymatous with the lowermost part gradually forming rounded, isodiametric cells. Apothecia frequent, lecanorine, to 1.5 mm across, with a brown-black, epruinose disc and an entire to crenulate thalline margin. Epithecium brown; hymenium and hypothecium colourless; paraphyses slender, simple or forked in upper part, the apical cells clavate, with a thin, dark brown cap. 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-septate, brown, ellipsoid, 14-19 x 6-8(-10) µm, the wall thickened at apex and at septum, Physcia-type. Pycnidia black, immersed. Conidia subcylindrical. Photobiont chlorococcoid. Spot tests: upper cortex and medulla K+ yellow, C-, KC-, P- or P+ faintly yellow. Chemistry: upper cortex and medulla with atranorin. - Note: a Mediterranean-Atlantic silicicolous species known from the Tyrrhenian region (Corsica, Sardinia, Tyrrhenian Italy), the Atlantic coast of the Iberian Peninsula and the Greek Islands, always near the sea.

Physcia scopulorum

Physcia scopulorum

Physcia scopulorum

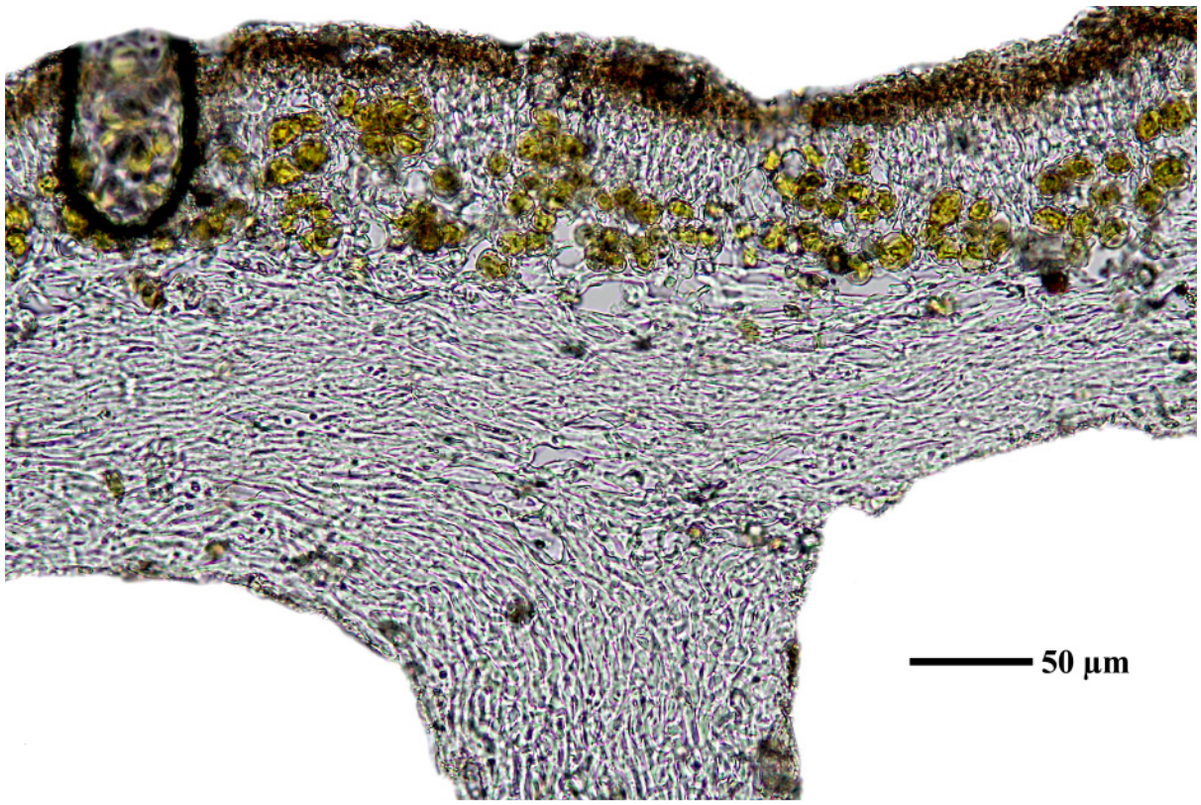


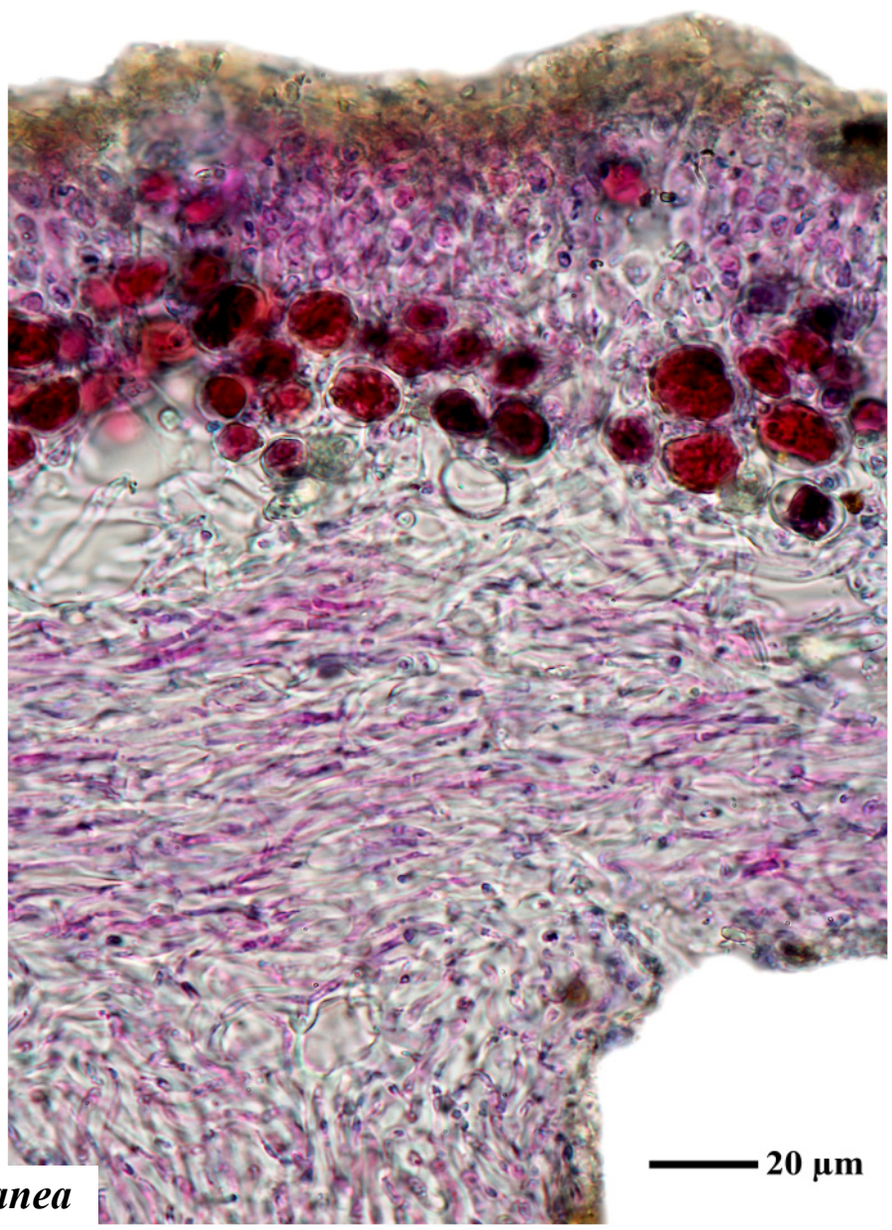
Physcia scopulorum

Physcia scopulorum

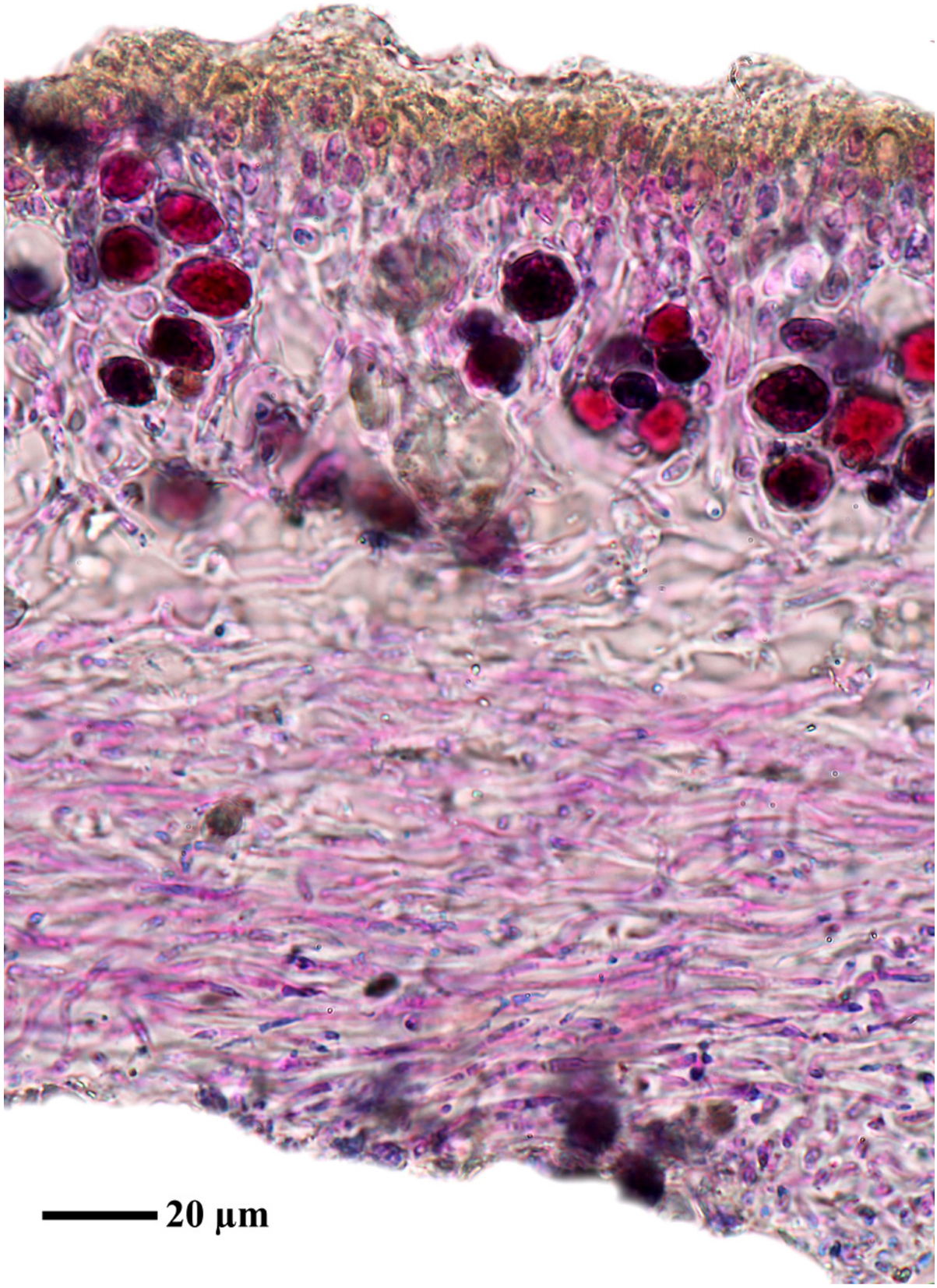
Physcia scopulorum

Physcia scopulorum

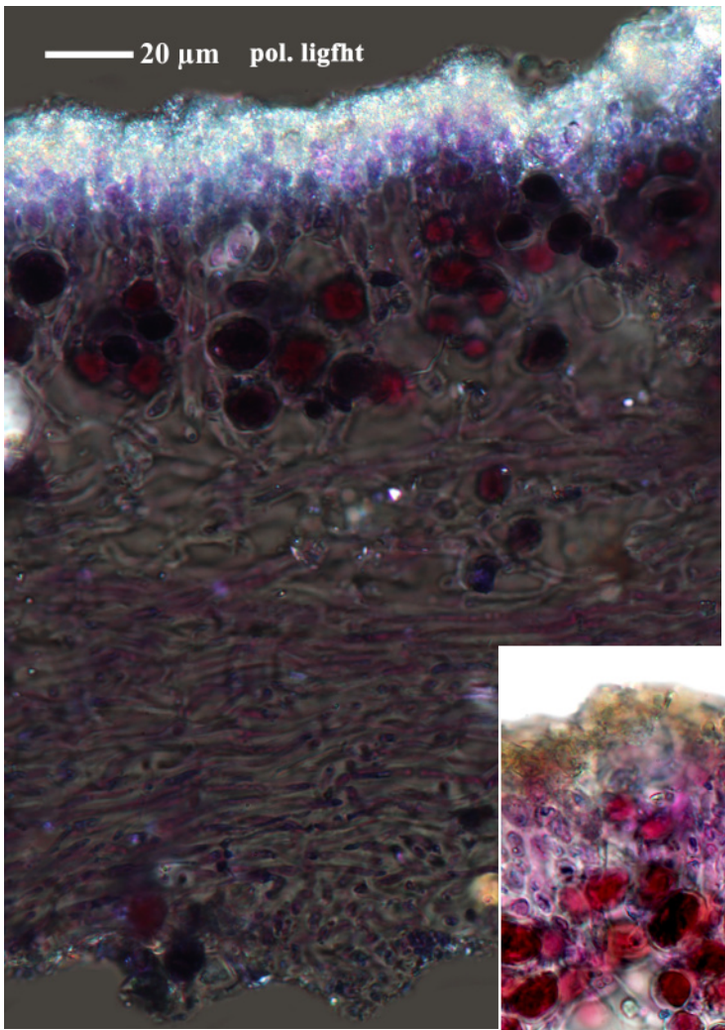


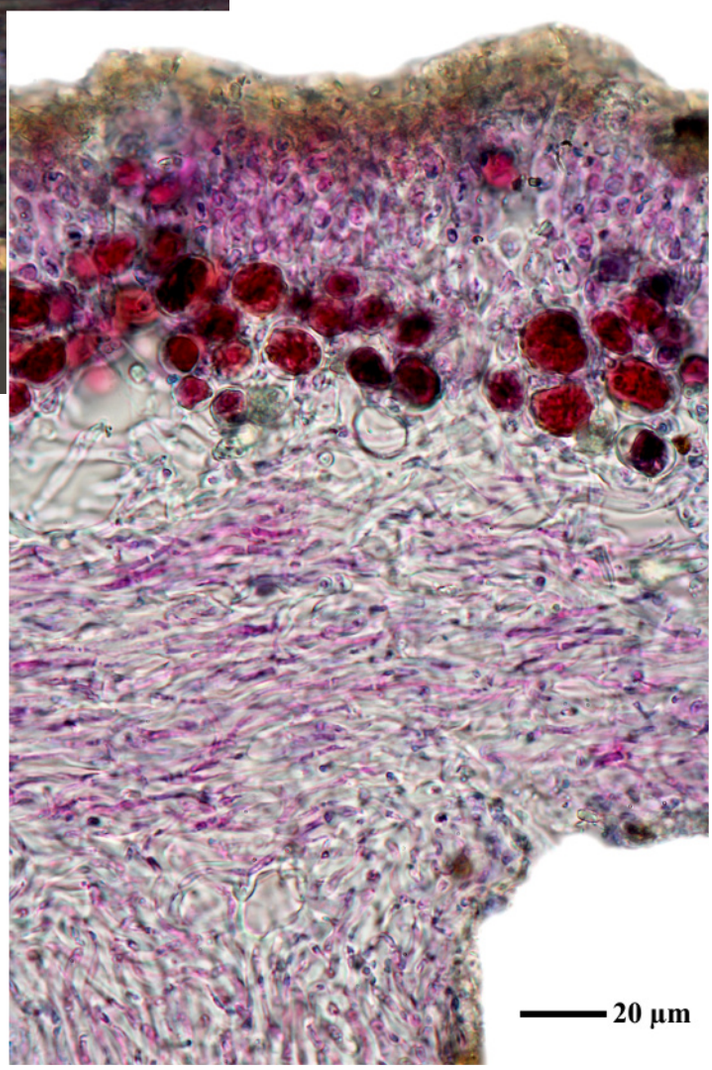


Physcia mediterranea



Physcia scopulorum





Physcia scopulorum

Physcia semipinnata (Leers ex J.F. Gmel.) Moberg, Symb. bot. upsal. 22(no. 1): 56 (1977)
= *Lichen semipinnatus* Leers ex J.F. Gmel. 1792
= *Physcia leptalea* (Ach.) DC., in Lamarck & de Candolle 1805

[VZR167], Graecia, Creta, Nomós Rethímnis, in monze Óros ídi, secus viam inter Anógia et Idéon Antron loco Chameni dicto, 900 m. In ramulis fruticum.Leg. F. Ceni & A. Vězda, 11.04.1995. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 167.

Thallus foliose to subfruticose, heteromerous, dorsiventral, loosely attached, forming irregular patches. Lobes strap-shaped, (0.3-)0.5--1(-1.5) mm wide, more or less ascending to erect, white to very pale grey, white-maculate owing to breaks in the photobiont layer, with pale, but often dark-tipped marginal cilia, esorediate. Lower surface whitish, with very sparse brown-tipped rhizines towards the base, otherwise erhizinate. Upper cortex paraplectenchymatous; medulla very thin, white; lower cortex prosoplectenchymatous. Apothecia frequent, lecanorine, 2-3 mm across, with a brown-black, sometimes thinly pruinose disc and a rather thick, smooth thalline margin. Epithecium brown; hymenium and hypothecium colourless; paraphyses slender, simple or forked in upper part, the apical cells clavate, with a thin, dark brown cap. 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-septate, brown, ellipsoid, 15-23 x 6-10 µm, the wall thickened at apex and at septum, Physcia-type. Pycnidia dark, semi-immersed. Conidia bacilliform, 4-6 x 1 µm. Photobiont chlorococcoid. Spot tests: upper cortex K+ yellow (reaction often rather faint), C-, KC-, P- or P+ faintly yellow; medulla K-, C-, KC-, P-. Chemistry: upper cortex with atranorin. - Note: a Mediterranean to mild-temperate lichen, most common on twigs of shrubs in Southern Italy, where it reaches the beech belt in the mountains.

Physcia semipinnata

Physcia semipinnata

Physcia biziana var ***phyllidiata*** Poelt & Vězda ISOTYPUS

[VZR88], Austria, Stiria, distr. Feldbach, Riegersburg, 400 m. Ad praeruptis ad australem et occidentem spectantibus saxorum basalticorum sub arcem (GZU Holotypus). Leg. et det. J. Poelt & A. Vězda, 15.07.1988. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 88.

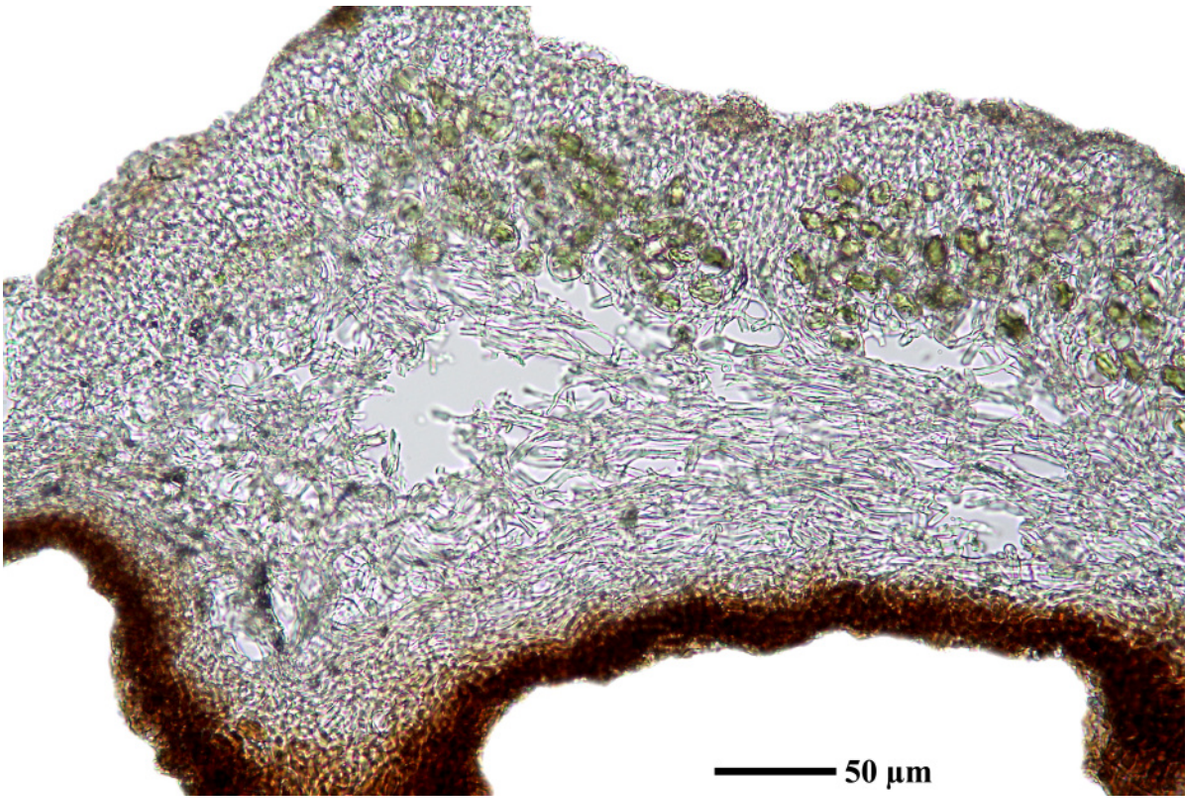
Thallus saxicolus, comparate grandis. lobis marginalibus ca. 1-1.5 mm latis, planis ad convexis et phylidiis lobiformibus adscendentibus involutisque convexis in centro dense obsitus. Superficies superior crystallis hyalinis comparate magnis dense obtecta. Apothecia non inventa. Differt a var. *leptophylla* Vezda praesertim phylidiis multo lobiformibus convexis.

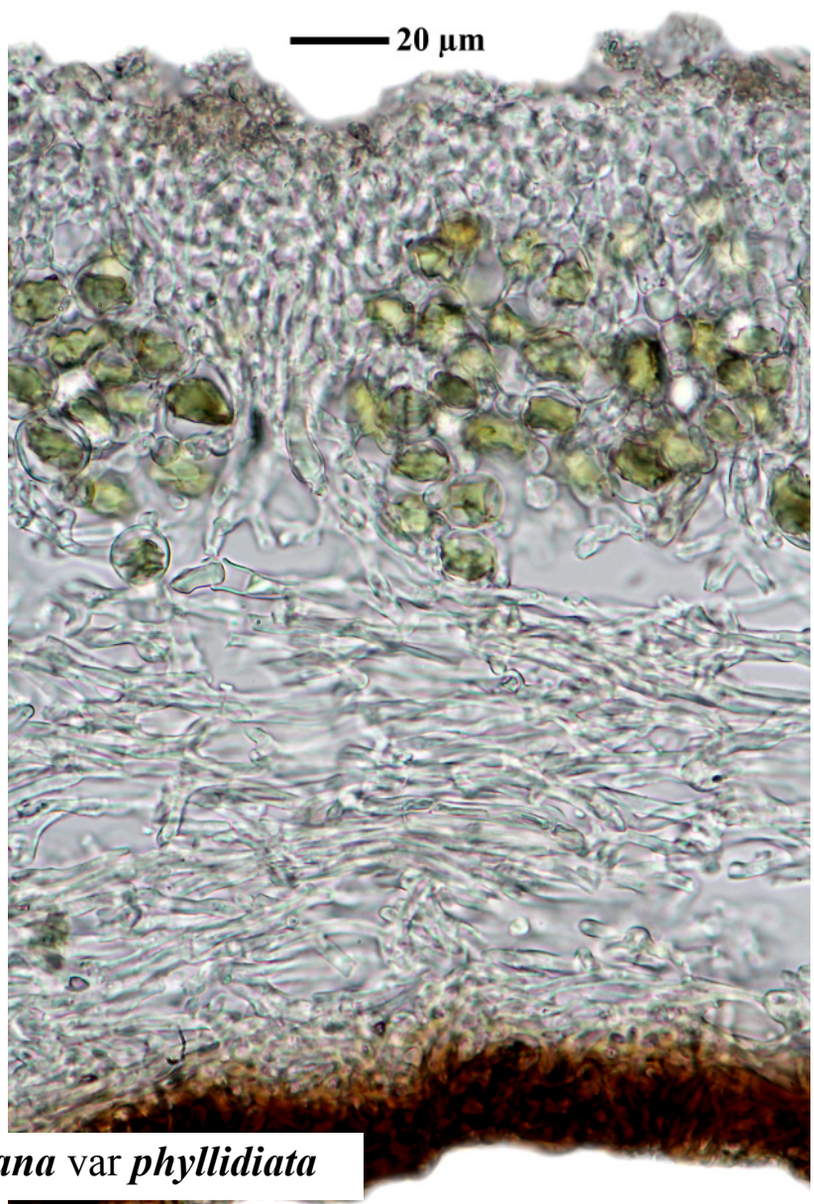
Physcia biziana var ***phyllidiata***

Physcia biziana var ***phyllidiata***

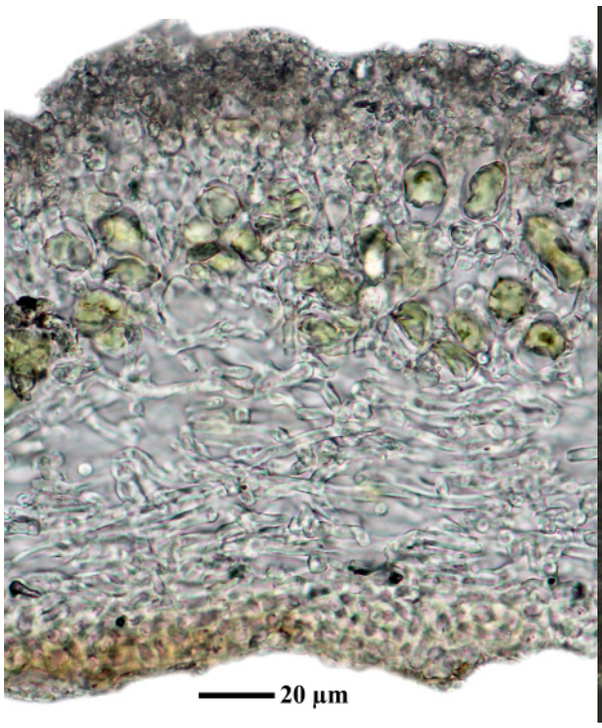
Physcia biziana var ***phyllidiata***

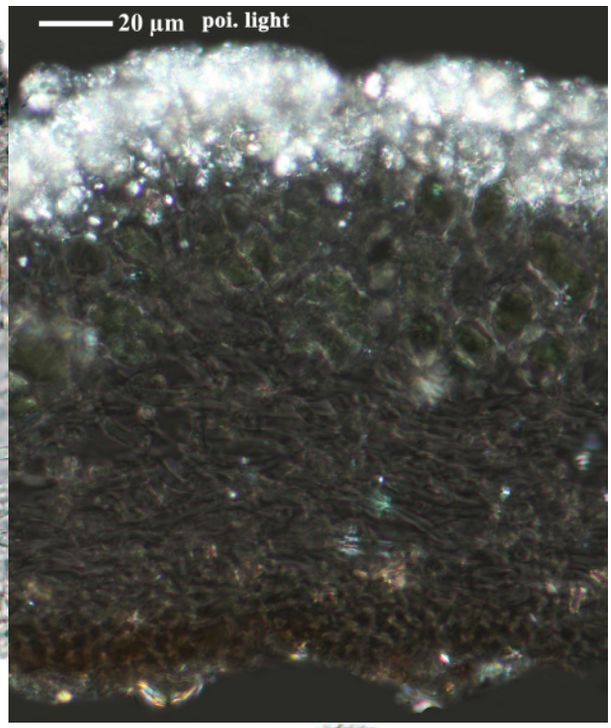
Physcia biziana var ***phyllidiata***

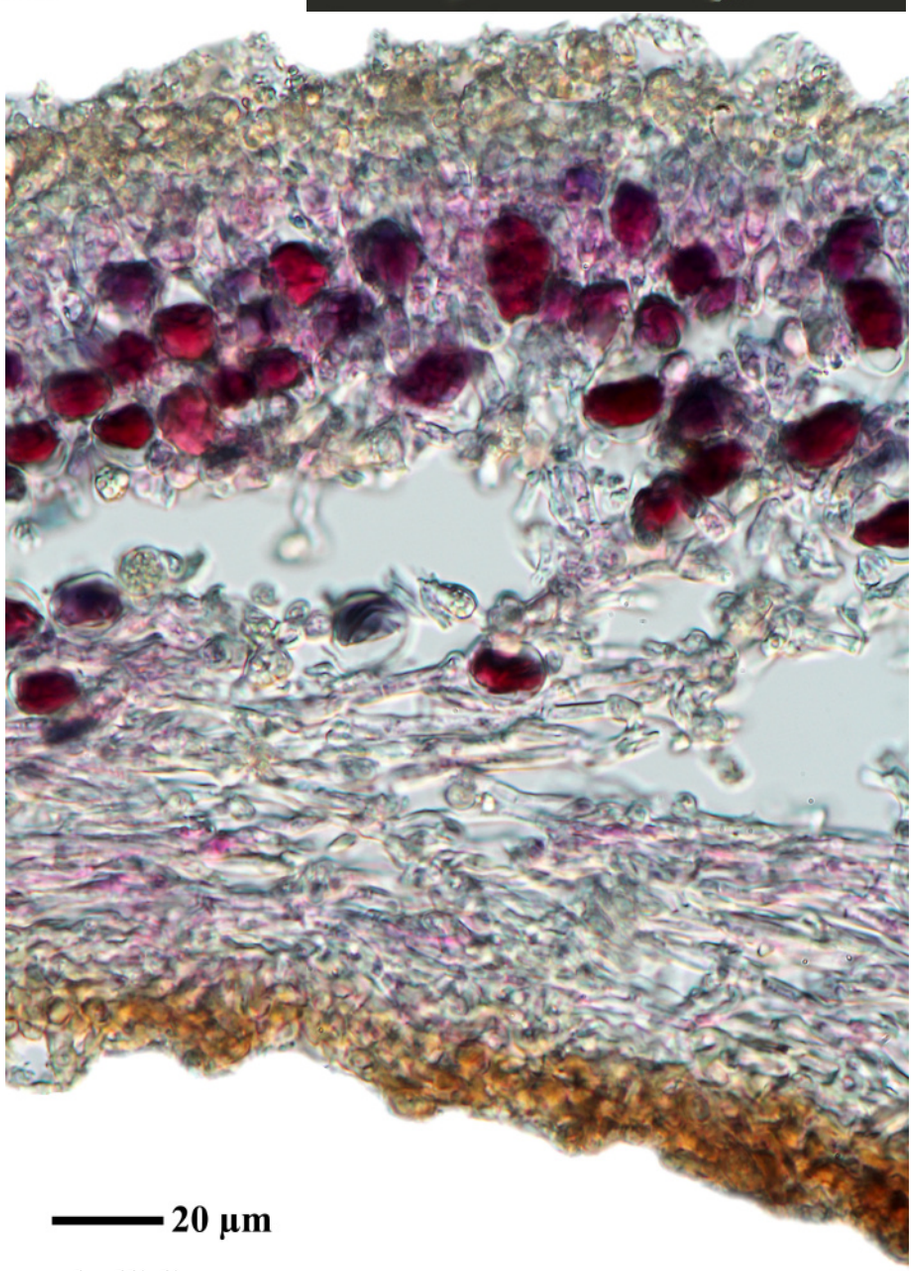




Physcia biziana var ***phyllidiata***





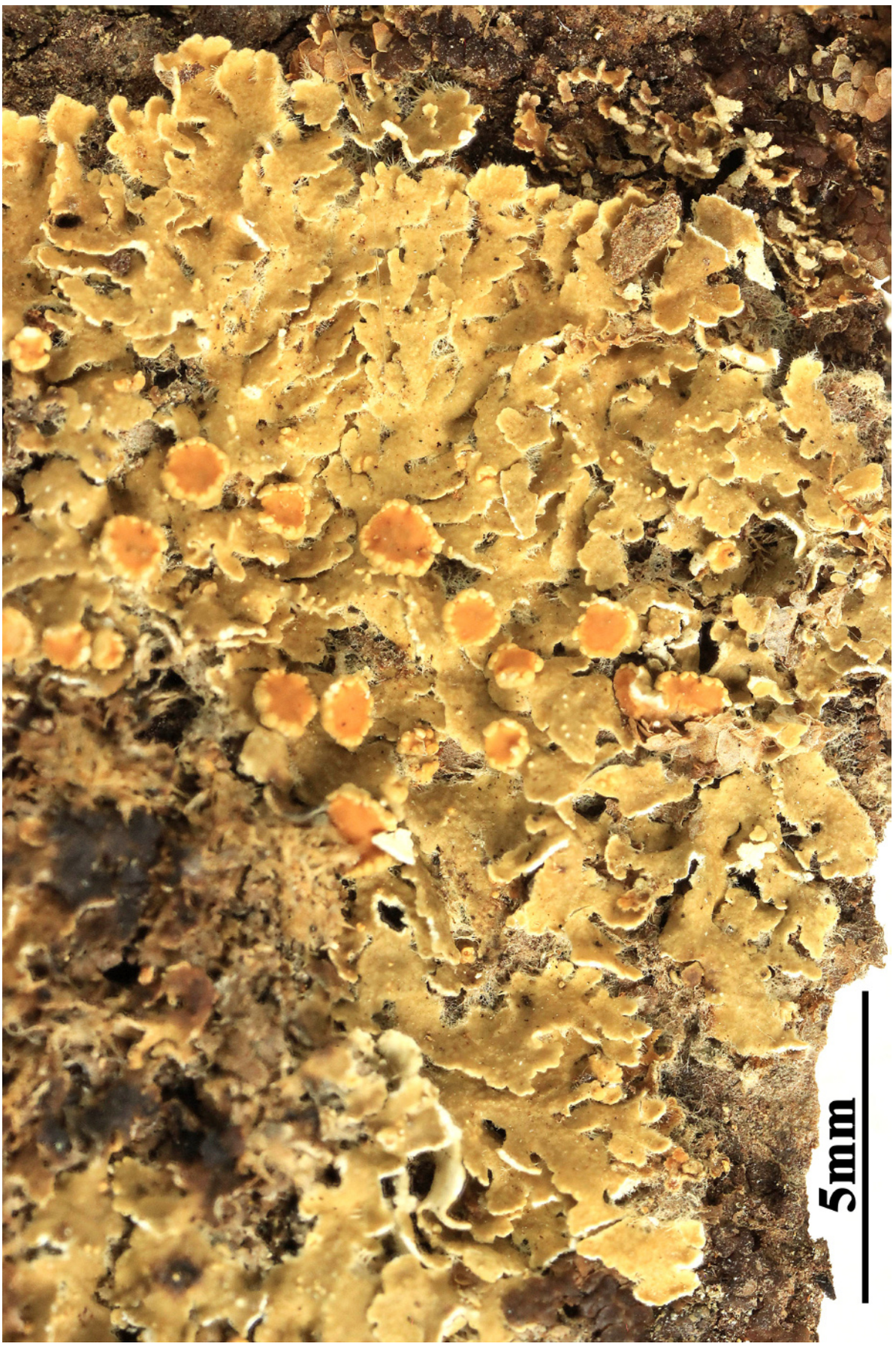


Physcia biziana var ***phyllidiata***

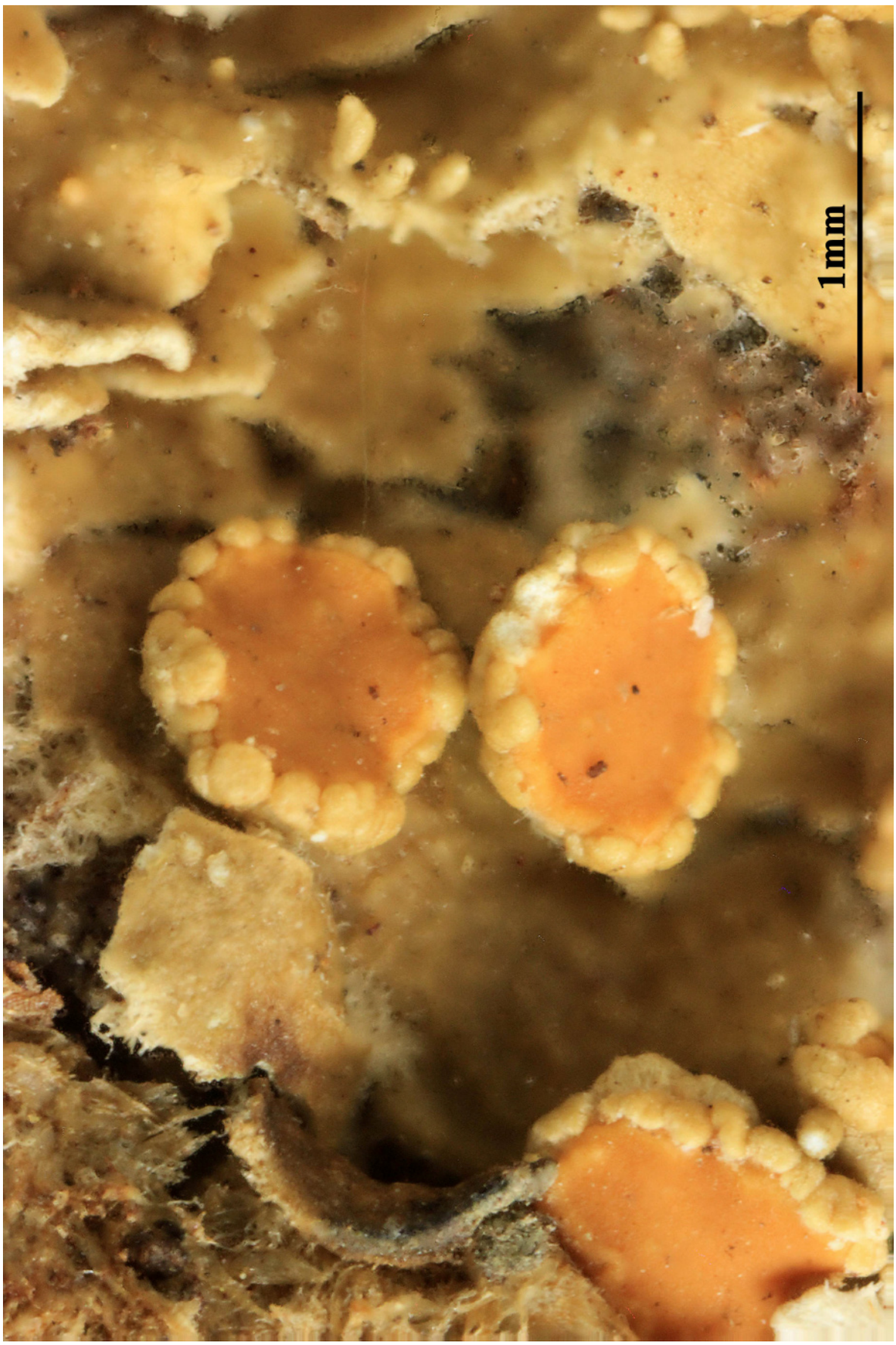
Physcidia australasica Kalb & Elix, Biblthca Lichenol. 57: 281 (1995)

[VZR175], Australia. Queenslandia: "Dicks Tableland", c. 10 km ad australem et orientem versus a Eunugella, 750 m. Ad corticem arborum in pluviisilva subtropicali. Leg. K. & A. Kalb, 29.8.1992. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 175.

Thallus foliose, orbicular to irregular, loosely attached, lobate, to 6 cm wide, on a white byssoid prothallus. Lobes 0.3–1.0 mm wide, anisotomically branched, plane to convex, often separate at the ±concave rounded and flabellate apices, contiguous in the centre or throughout. Upper surface greenish to green-grey or yellow-brown, isidiate. Isidia laminal, very sparse to abundant, cylindrical, constricted at the base, simple or branched, 0.2–3.0 mm tall, 0.1–0.2 mm wide. Upper cortex 25–50 µm thick; algal layer 25–50 µm thick; medulla 120–250 µm thick, colourless. Lower surface ecorticate, whitish at the lobe tips, pale brown towards the centre. Apothecia usually present, 0.5–1.5 mm wide, laminal, scattered, ±round in outline, constricted at the base; disc initially plane, then weakly convex, whitish, pale pink, pale brown or brown, when young always surrounded by ±crenulate thalline lobules that dissipate with age. Ascospores 1–3-septate, filiform, 23–37 × 1.8–2.0 µm. Pycnidia laminal, pale pink to brownish, c. 0.2 mm wide, wart-like to partly immersed, sometimes several becoming confluent. Conidia straight or slightly curved, 18–23 × 1.0–1.2 µm. CHEMISTRY: Medulla K+ pale yellow, C+ red, KC+ red, P+ yellow; containing divaricatic acid (major), alectorialic acid (minor), nordivaricatic acid (trace).- Occurs on the bark of trees in hinterland rainforest in north-eastern Qeensland; also in Papua New Guinea.



Physcidia australasica



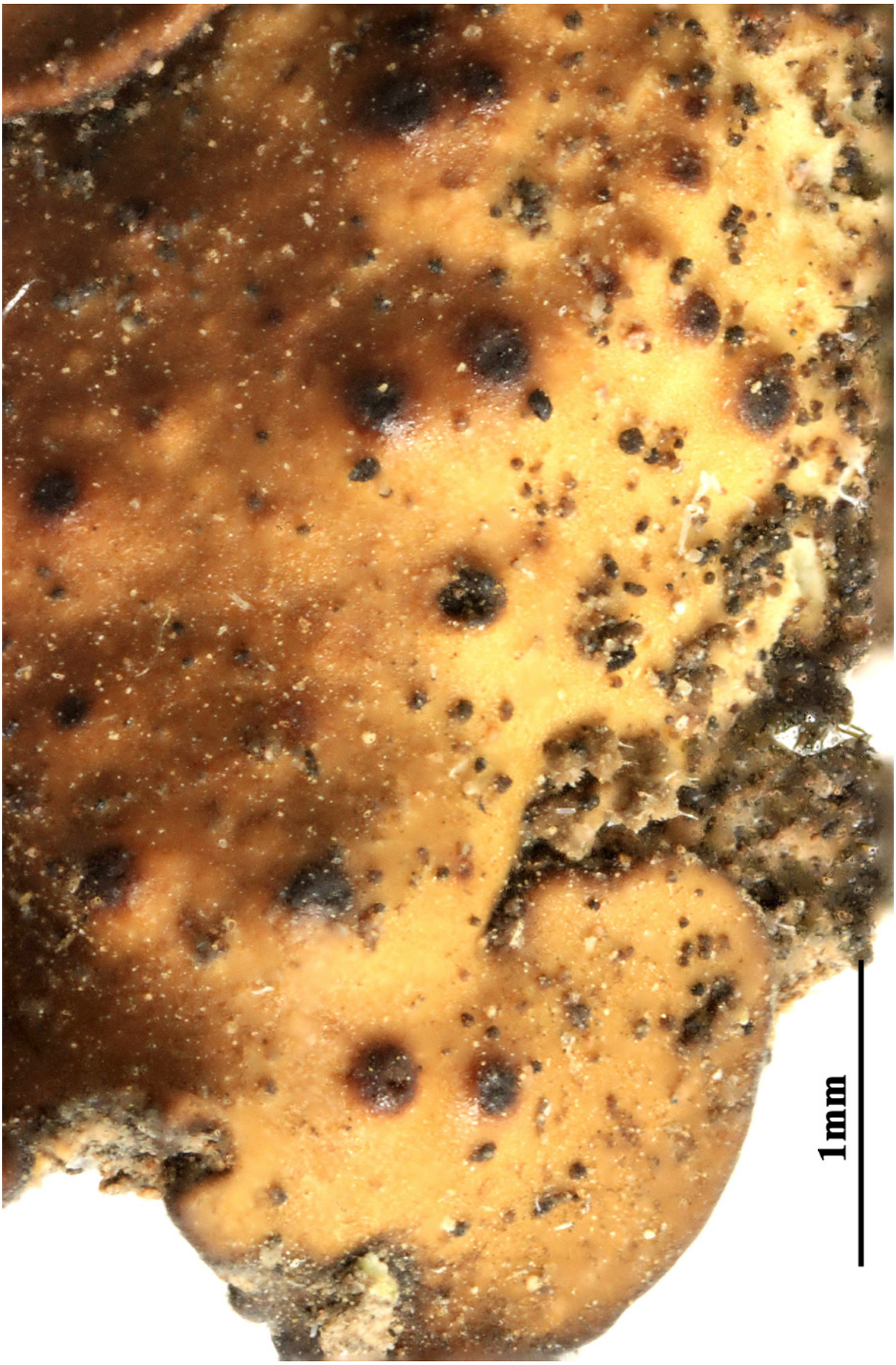
Physcidia australasica

Placidium chilense (Räsänen) Breuss, Annln naturh. Mus. Wien, Ser. B, Bot. Zool. 98(Suppl.): 38 (1996)
= *Dermatocarpon chilense* Räsänen 1938

[VZR424], Mexico. Baja California Sur, montes Guadalupe, inter Sierra la Palmita et Sierra San Pedro, secus viam inter Missa Guadalupe et San Juan de la Pila, 26°53' 54" septentr., 112°26'07" orient., 1200 m. Leg. & det. O. Breuss, 3.1.1998. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 424.

Thallus squamulose or almost foliose;squamules up to more than 10 mm wide and 0.6 mm thick, loosely adnate with margins free from the substrate or ± wavy and overlapping to imbricate; surface light to medium brown, dull to slightly glossy; upper cortex 30-60 µm thick, overlain by an epinecral layer (5-25 µm thick); medulla white, prosoplectenchymatous, up to 300 µm thick, normally with (very) few spherical cells; algal layer c. 80-150 µm high; lower cortex well delimited and 40-90 µm thick, composed of roundish-angular cells (12-20 µm in diam.); lower surface pale along a broad marginal zone, blackening towards the center, rarely dark throughout; marginal zone bare of rhizohyphae and often slightly scabrous or with short hyphal outgrowths; rhizohyphae hyaline, c. 5-6 µm thick, forming a dense hyphal weft in central parts of the squamules. Perithecia: up to 0.5 mm broad, with pale walls; periphyses: 25-35 x 3 µm; asci cylindrical, 60-70 x 7-10 µm, 8-spored; ascospores uniseriate, ellipsoid, c. 10-15 x 5-6 (-6.5) µm. Pycnidia laminal, immersed; conidia oblong to shortly cylindrical, 3-4 x 1-1.5 µm; Spot tests all negative; Secondary metabolites none detected. Substrate and ecology: soil, debris and mossy rocks, rarely directly on rock (sandstone, rhyolite, andesite, limestone) mostly in somewhat protected situations in open woodland or scrubland; World distribution: South America and southern North America, common in Arizona, California, Baja California and Baja California Sur. - Notes: *Placidium chilense* is an easily discernible species due to its comparatively large, almost leafy, thick squamules with a prosoplectenchymatous medulla, small spores and laminal pycnidia. Specimens with unusually numerous spherical medullary cells may be confused with *P. squamulosum*, but the cells of the lower cortex are smaller in the latter species. *Placidium rufescens* is similar in appearence, but easily distinguished by marginal pycnidia and large spores. Large forms of *P. lacinulatum* may be similar, but differ clearly in the anatomy of medulla and in having rhizines.

Placidium chilense



Placidium chilense

Placopsis argillacea (C. Knight) Malcolm & Vězda, in Vězda, Lichenes Rariores Exsiccati, Fasc. 34(nos 351-340): no. 340 (1997)
= *Placodium argillaceum* C. Knight 1878

[VZR340], Nova Zelandia. South Island, distr. Southland, Catlins State Forest Park, 60 km ad orientem versus ab Invercargill, 300 m. In fossis viae, ad terram nudam. Leg. W. Malkolm & A. Vězda, 27.4.1997. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 340.

Thallus irregularly spreading in friable Patches 1-3(-5) cm diam., often coalescing in confluent swards to 10-15 cm diam.,margin indeterminate to minutely plicate-crenate, or noticeable swollen when well-developed, and separating as small, independent squamules beyond parent thallus, without a prothallus. Upper surface plane to convex, hummocky, crowded-plicate to coarsely papillate (x 10 lens), pale to dark geenish-grey when moist, grey-white to white when dry, distinstly sorediate, here and there with small, round, white pdeudocyphellae (best seen when moist) without isidia, maculae or pruina, Soralia round to irregular, 0.2-1 mm diam., sometimes with a prominent, sharply defined, raised margin, soon spreading in conflient patches and at length obscuring thallus in granular, to pseudoisidiate, efflorescent, fresh lettuce-green (and contrasting with grey-green thallus) soredia when moist, pale grey-white when dry, Cephalodia scattered or in groups or lines, submarginal to laminal, sessile, projecting above level of thallus, (0.1-)0.5-1(-3) mm diam., rounded to contorted through mutual pressure, shallowly and rather delicately wrinkled-cerebriform, dark grey-purple when moist, brown-pink to pale-pink or whitish pink when dry, sometimes secondarely colonised by small, thalline squamules. Apothecia sessile, constricted at base,sparse to frequent (often not developed at all in strongly sorediate populations), scattered, solitary or crowded in groups, rounded or slightly contorted through mutial pressure, 0.5-1.5(-2) mm; disc concave to plane to subconvex, vivid-pink to red-brown, smooth to delicately wrinkled-papillate or roughened, sometimes also with a thin, white pruina; thalline margin, smooth, thick, well developed, to 0.1-0.3 mm dia., obscuring disc at first, concolorous with thallus, sometimes becoming granular-sorediate; proper margin prominent, thin, slightly raised above surface of disc, glossy generally obscured by thalline margin, concolorous with or slightly paler than disc. Epithecium pale brownish pink, granular 15-30 µm thick. Hymenium colourless, not inspersed with oil droplets, 165-

215 µm tall. Paraphyses slender. 1.5-2 µm diam., apices not swollen or moniliform. Hypothecium densely opaque 120-180 µm thick. Asci cylindrical-clavate, (100-)110-135 x 12-18 µm, 8-spored. Ascospores uniseriate, broadly ellipsoidal, (14-)16 - 22 x 8-13.5 µm. Pycnidia and conidia not seen. Chemistry: Thallus K-, C+ red, KC-, P-, containing gyrophoric acid. - Endemic.

Placopsis argillacea

Placopsis argillacea

Placopsis subparellina Nyl., in Stizenberger, Flora, Regensburg 72: 367 (1889)

[VZR348], Nova Zelandia. South Island, distr. Nelson, Kahurangi National Park, regio montis Mt. Arthur, super stationem "Flora Car-park", 1100 m. Ad terram. Leg. W. Malkolm & A. Vězda, 21.4.1997. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 348.

characterized by: terriculous habit; the verrucose-uneven thallus of closely contiguous to somewhat bscattered, convex squamules, 0.2-1 mm diam.,forming compacted patches of 1-4 cm diam., without a marginal prothallus; scattered, lumby, convex, sessile cephalodia, 0.5-1.5 mm diam., often overgrown by thalline squamules, their surface wrinkled, without pruina; rather rare, sessile apothecia, 1-2.5(-3) mm diam., the disc plane to concave, dark red-brown, with a thin white pruina; thalline margins persistent, white pruinose; asci cylindrical. 90-120 x 12-17 µm; ascospores biseriate, fusiform-ellipsoidal, (15-)17-21(-24) x 5-6(-7.5) µm. Chemistry: Thallus K-, C+ red, KC+ red, P-, containing gyrophoric acid.

Placopsis subparellina

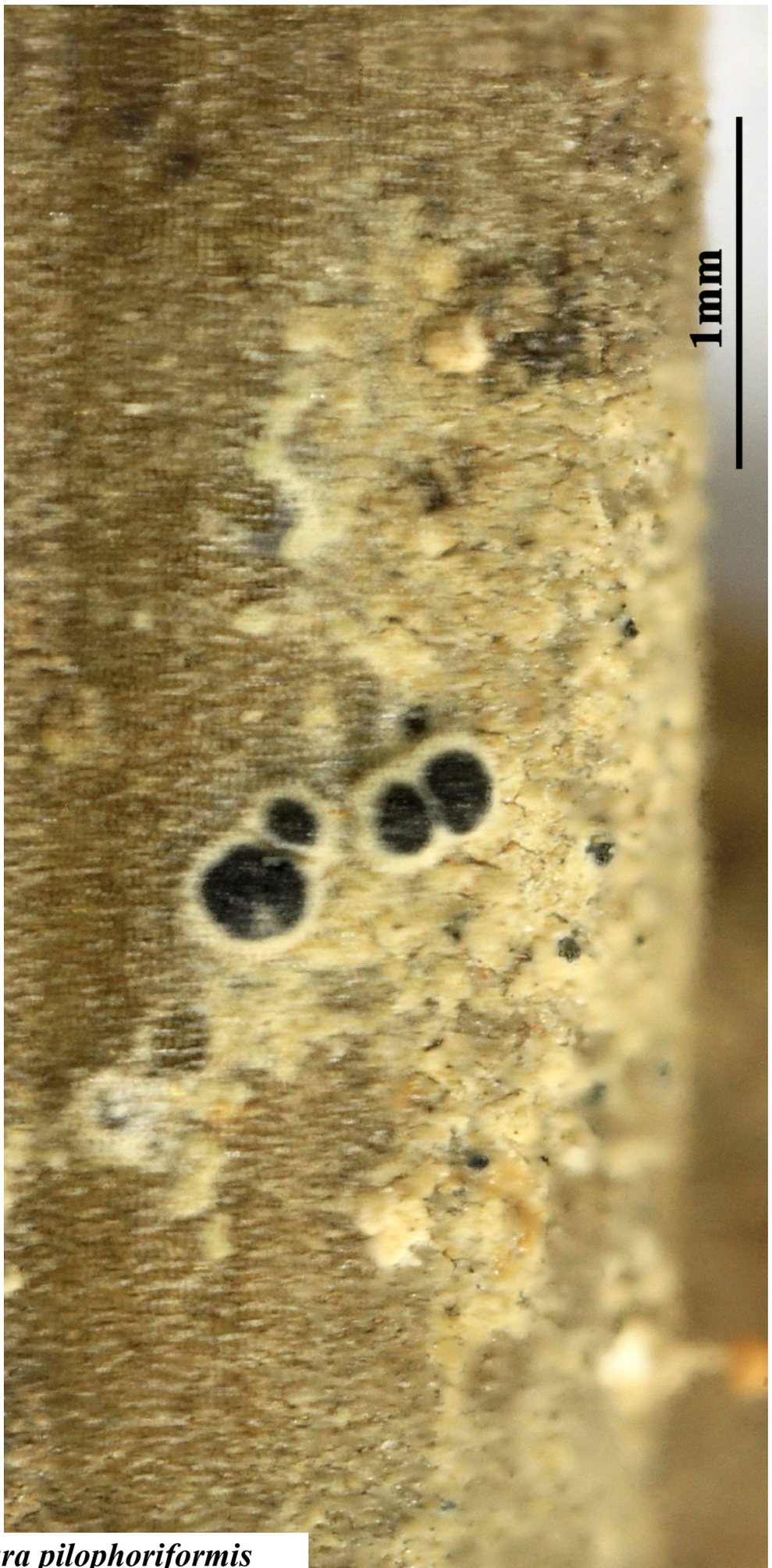
Placopsis subparellina

Podotara pilophoriformis Malcolm & Vězda, Folia geobot. phytotax. 31(2): 264 (1996)

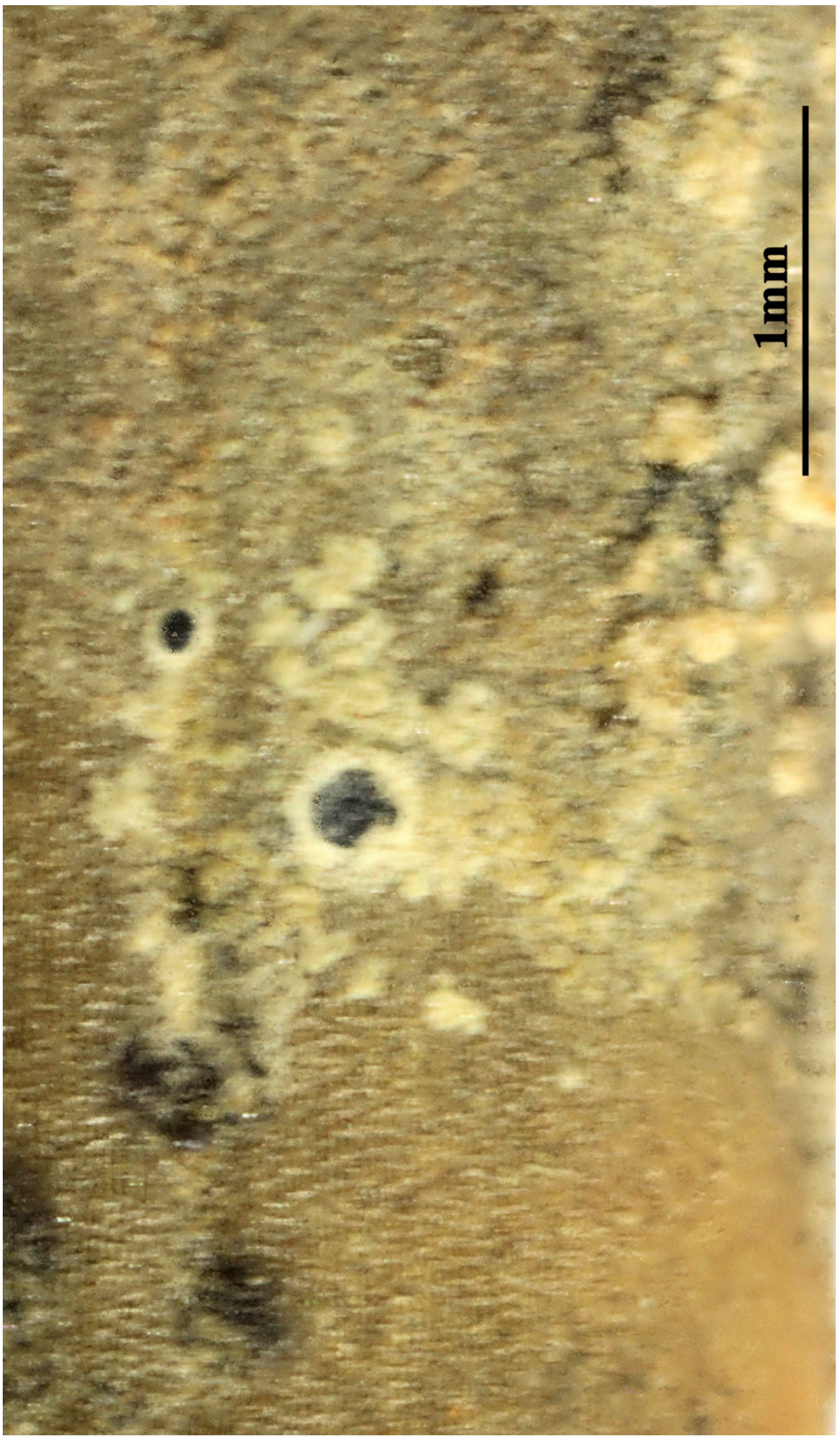
[VZR185}, Nova Zelandia. South Island: Golden Bay, Pakawau Creek Road, 40°34.4' austr., 172°38.8' occid. Foliicola (*Podocarpus tartara*). Leg. W. Malcolm, 24.9.1993. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 185.

Thallus epiphyllous, crustose, areolate, areolae dispersed, 0.3-0.5 mm diam., 0.1 mm thick, white, without a protallus. Apothecia globosa sometimes of two or more fused tubercles, on to 0.32-0.35(-0.5) mm diam., stipate, stalk white, 0.2-0.4 mm tall, 0.1 mm diam. Epithecium with small, yellow-brown granules, dissolving in K. Hymenium to 70 µm tall, colourless. Hamathecium of paraphyses, straight, partly anastomosing, 1.5 µm thick Hypothecium hyaline. Ascospores ellipsoidal, 3-septate, 2-15 x 2.5-3 µm, septa unevenly thickened. Chemistry: Thallus K+ yellow-red, containing norstictic acid (major) connorstictic acid (minor or trace), salazinic acid (minor or tracea), galbinic acid (minor, trace or lacking).- Endemic.

Simplified description: Characterised by the foliicolous habit; the white, spreading areolate thallus; the distinctively stalked, globose, pinkish apothecia; 3-septate ascospores with characteristically thickened septa; and a distinctive chemistry.



Podotara pilophoriformis

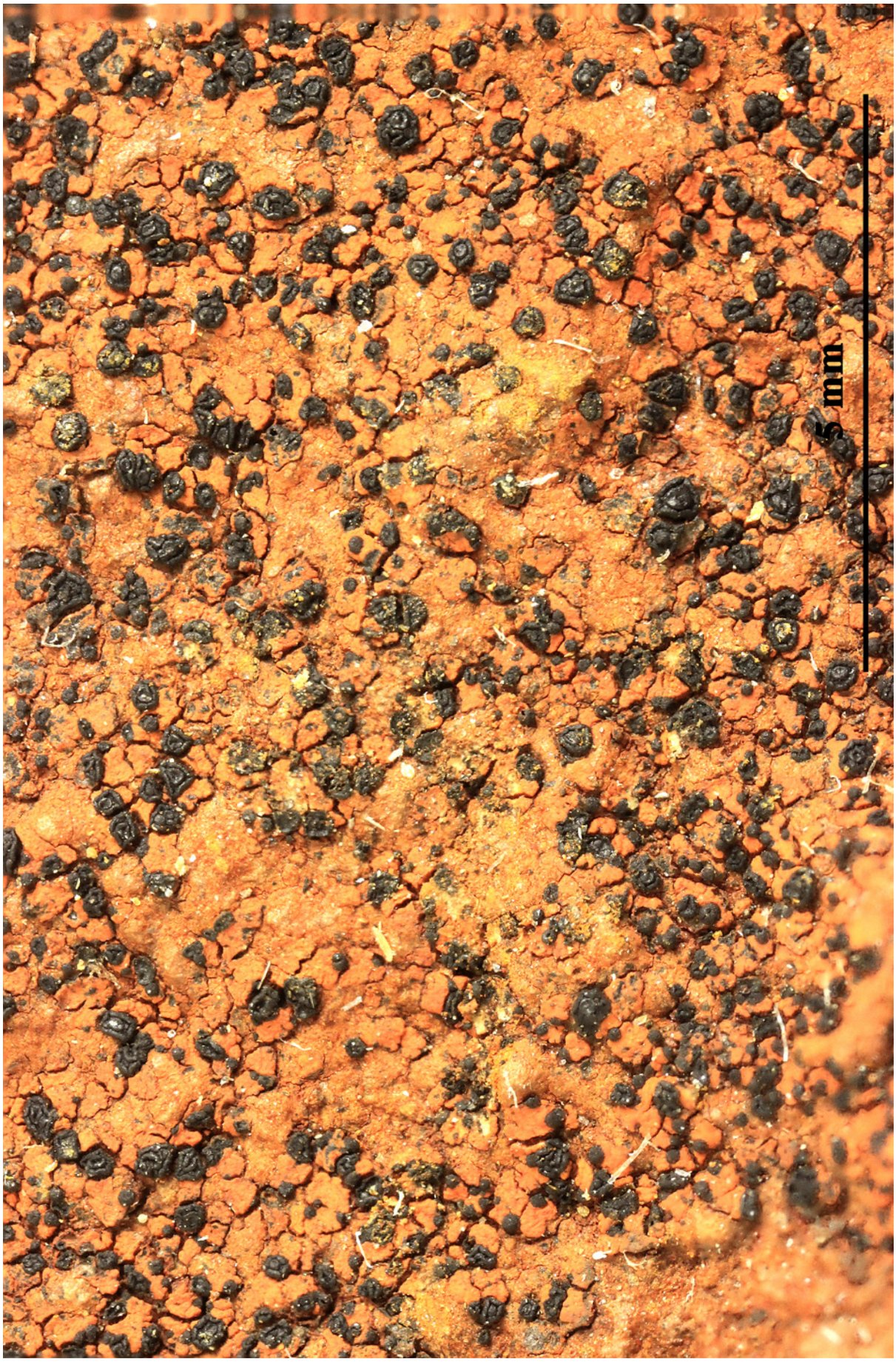


Podotara pilophoriformis

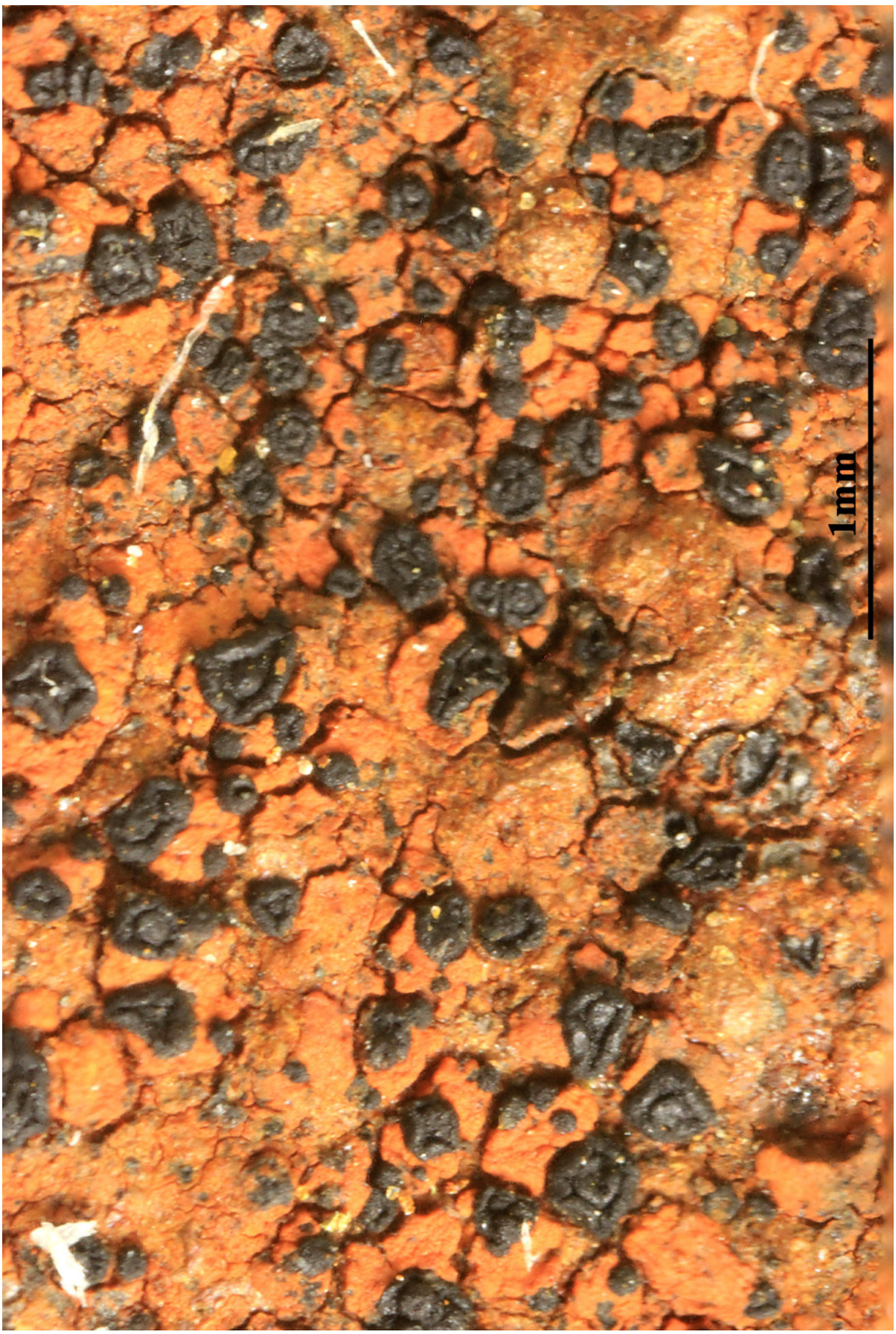
Polysporina ferruginea (Lettau) M. Steiner ex Kantvilas, in Kantvilas, Lichenologist 30(6): 557 (1998)
= *Acarospora ferruginea* (Lettau) Cl. Roux, in Roux et al., Bull. Inf. Ass. Franç. Lichén. 47(1): 30 (2022)
= *Polysporina simplex f. ferruginea* (Lettau) Clauzade & Cl. Roux, Bull. Soc. bot. Centre-Ouest, Nouv. sér., num. spec. 7: 828 (1985)
= *Sarcogyne simplex f. ferruginea* Lettau, Feddes Repert. Spec. Nov. Regni veg. 57: 73 (1955)

[VZR475], Suecia. Torne Lappmark,Björkliden, Pappatjäkka, in parte superiore vallis Gohposjohka, 68°33'26" ad septentr., 18°22'05" occid., 1150 m. Ad saxa schistosa. Leg. Z. Palice, 24.7.2002, det. A. Vězda. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 475.

Thallus inapparent, developing inside the thalli of brown crustose lichens (the thallus of the host has been frequently interpreted as that of the parasite). Apothecia lecideine, sessile, black to brownish black, round and convex to irregular, 0.25-0.5 mm across, dispersed or clustered, the largest ones usually forming deeply fissured agglomerations, with a black, irregularly and incompletely carbonized, often gyrose disc and a black, fissured, rough margin. Proper exciple carbonized in outer part, yellowish to colourless within; epithecium conglutinated in a dark brownish or reddish brown gel, covered in carbonized accretions; hymenium colourless to yellowish-orange, 75-130(-150) µm high, often divided by sterile columns of conglutinated hyphae, the hymenial gel hemiamyloid, K/I+ light blue fading to light red; paraphyses coherent, richly branched, 1-2 µm thick, septate, the apical cells hardly swollen; hypothecium colourless. Asci (50-)100-200-spored, clavate to subcylindrical, strongly thickened at apex, the apical dome K/I-, the outer coat K/I+ blue. Ascospores 1-celled, hyaline, ellipsoid, (3-)3.5-5(-5.5) x (1-)1.5-2(-2.5) µm. Photobiont absent. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a widely distributed aggressive parasite of different crustose epilithic lichens, suppressing ascomata production of the host, and eventually depleting and destroying its algal layer, dissolving the stratified lichen structure and reducing it to a clumps of ecorticate, white, gelatinized hyphae.



Polysporina ferruginea



Polysporina ferruginea

Polysporinopsis sinopica (Wahlenb.) Vězda, Lichenes Rariores Exsiccati 48(nos 471-480): 2, no. 473 (2002)

= *Acarospora sinopica* (Wahlenb.) Körb., Syst. lich. germ. (Breslau): 156 (1855)

= *Acarospora alutacea* Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 5 sér. 1(2): 148 (1909)

= *Acarospora alutacea* f. *sinopica* (Wahlenb.) Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 5 sér. 1(2): 148 (1909)

= *Acarospora cervina ? sinopica* (Wahlenb.) Mudd, Man. Brit. Lich.: 160 (1861)

= *Acarospora fuscata* f. *sinopica* (Wahlenb.) Arnold, Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 21(3-4): 1106 (1871)

= *Acarospora fuscata* var. *sinopica* (Wahlenb.) Arnold, Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 23: 94 (1873)

= *Acarospora smaragdula* var. *sinopica* (Wahlenb.) A. Massal., Ric. auton. lich. crost. (Verona): 29 (1852)

= *Endocarpon sinopicum* Wahlenb., in Acharius, Methodus, Suppl. (Stockholmiæ): 30 (1803)

= *Endocarpon smaragdulum* var. *sinopicum* (Wahlenb.) Leight., Brit. Sp. Ang. Lich.: 16, 72, tab. V, fig. 1 (1851)

= *Lecanora cervina f. sinopica* (Wahlenb.) Schaer., Enum. critic. lich. europ. (Bern): 55 (1850)

= *Lecanora cervina* var. *sinopica* (Wahlenb.) Nyl., Mém. Soc. Imp. Sci. Nat. Cherbourg 3: 178 (1855)

= *Lecanora fuscata* f. *sinopica* (Wahlenb.) Nyl., Lich. Scand. (Helsinki): 175 (1861)

= *Lecanora fuscata* var. *sinopica* (Wahlenb.) Linds., J. Linn. Soc., Bot. 9: 393 (1867)

= *Lecanora sinopica* (Wahlenb.) Sommerf., Suppl. Fl. lapp. (Oslo): 102 (1826)

= *Lecanora smaragdula* f. *sinopica* (Wahlenb.) Cromb., Monogr. Lich. Brit.(1): 486 (1894)

= *Lecanora smaragdula* var. *sinopica* (Wahlenb.) Harm., Bull. Soc. bot. Fr. 48(3): 85 (1901)

= *Lecanora squamulosa* f. *sinopica* (Wahlenb.) Leight., Lich.-Fl. Great Brit.: 184 (1871)

= *Lichen hepaticus* * *sinopicum* (Wahlenb.) Lam., Encycl. Méth., Bot. Suppl. (Paris) 3(2): 426 (1813)

= *Lichen sinopicus* (Wahlenb.) Sm., in Smith & Sowerby, Engl. Bot. 25: tab. 1776 (1807)

= *Parmelia cervina* var. *sinopica* (Wahlenb.) Nyl., Bot. Notiser(11-12): 166 (1852)

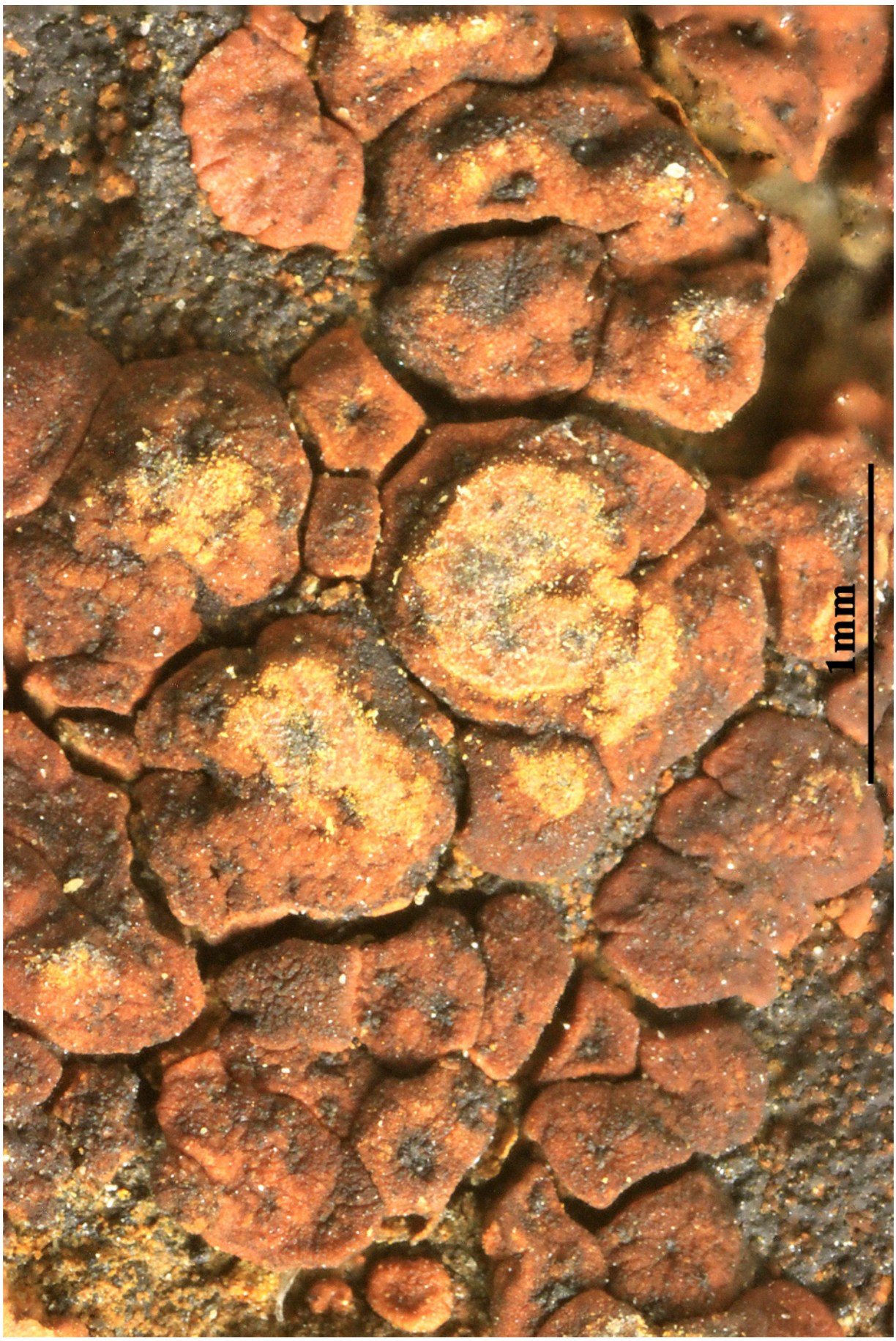
= *Zeora sinopica* (Wahlenb.) Flot., Übers. Arbeiten Veränd. Schles. Ges. Vaterl. Kultur [27]: 120 (1850) [1849]

[VZR473], Bohemia merid., distr. Prachatice: Kubova Hut', in declivibus montis Obrovec, loco Ostroh dicto, 950 m. Ad lapides magnos p.p. ferrum continens. Leg. J. Horáková & A. Vězda, 29.5.1989. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 473.

Thallus crustose, episubstratic, of contiguous to dispersed, c. 1 mm wide, rounded or angular, flat and smooth areoles separated by thin cracks, bright rust-red to dark orange-brown, rarely yellowish in shade-forms, the marginal areoles often elongated and weakly radiating, giving the thallus a subplacodioid appearance. Cortex 20-35 µm thick; photobiont layer continuous, not interrupted by hyphal bundles. Apothecia usually abundant, mostly 2-8 per areole, more or less punctiform and immersed, 0.1-0.2(-0.3) mm across, rarely expanded and up to 0.6 mm across, with a dark brown or blackish disc an a thin, raised, blackish proper margin. Proper exciple 15-30 µm thick; epithecium dark rust-red; hymenium colourless, 120-170 µm high, the hymenial gel hemiamyloid, K/I+ light blue fading to light red; paraphyses 1-1.5 µm thick at base, the apical cells hardly swollen; hypothecium colourless. Asci 100-200-spored, clavate, the apical dome K/I-. Ascospores 1-celled, hyaline, ellipsoid, 3-4 x 1.5-2 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a probably holarctic species of iron-rich rocks and mine-spoil heaps in exposed situations. Widespread, but local, throughout the Alps; also reported from the northern Apennines.

Polysporinopsis sinopica

Polysporinopsis sinopica



Polysporinopsis sinopica

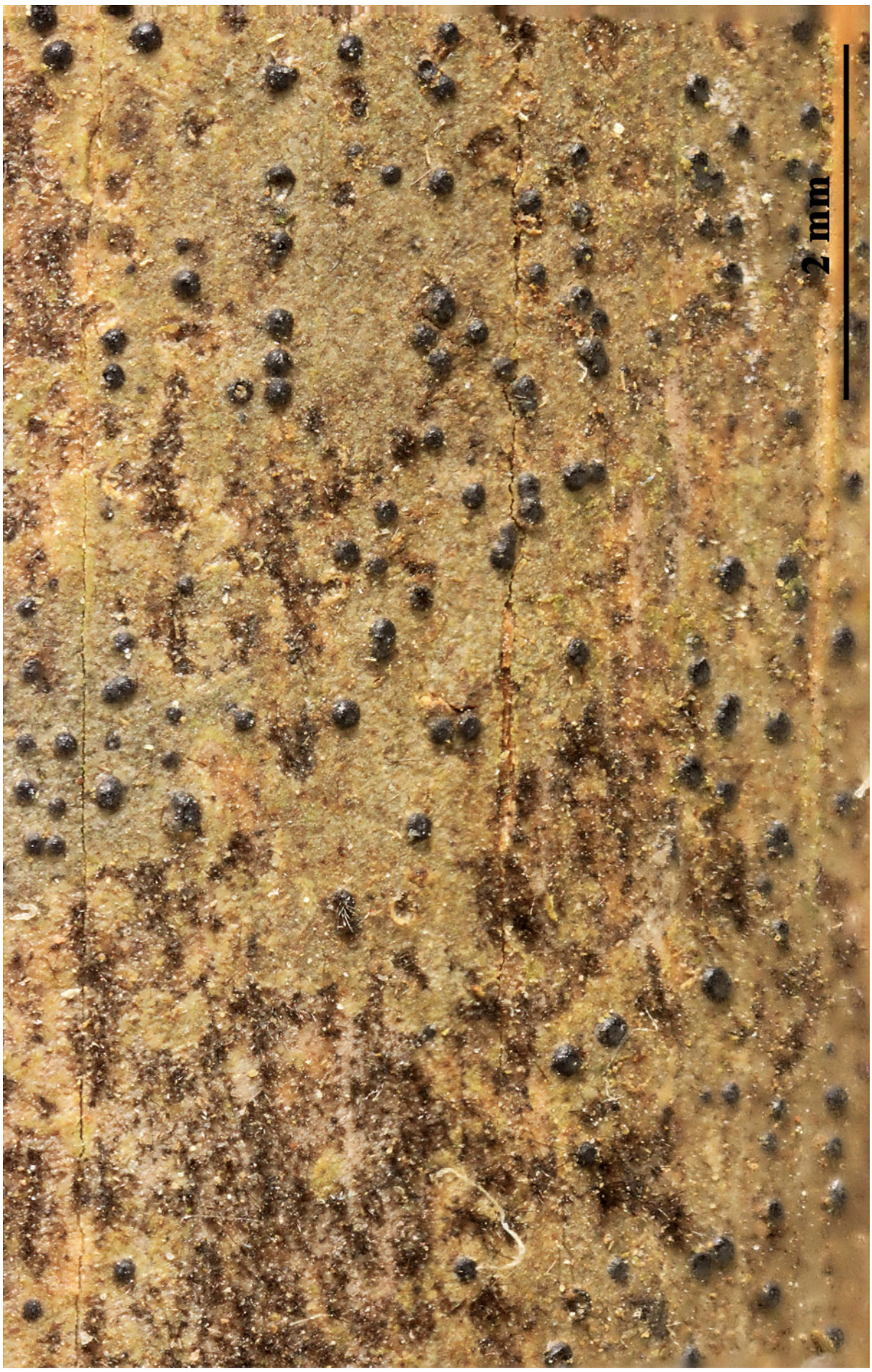
Porina aenea (Körb.) Zahlbr., Cat. Lich. Univers. 1: 363 (1922)
= *Pseudosagedia aenea* (Körb.) Hafellner & Kalb, Biblthca Lichenol. 57: 172 (1995)
= *Arthopyrenia macularis* var. *codonoidea* (Leight.) Mudd, Man. Brit. Lich.: 301 (1861)
= *Porina chlorotica* var. *codonoidea* (Leight.) Zahlbr., Cat. Lich. Univers. 1: 375 (1922)
= *Pyrenula aenea* (Körb.) Rabenh., Krypt.-Fl. Sachsen, Abth. 2 (Breslau): 49 (1870)
= *Sagedia aenea* Körb., Syst. lich. germ. (Breslau): 364 (1855)
= *Sagedia chlorotica* f. *aenea* (Körb.) Stein, in Cohn, Krypt.-Fl. Schlesien (Breslau) 2(2): 337 (1879)
= *Sagedia chlorotica* f. *codonoidea* (Leight.) Arnold, Flora, Regensburg 68: 165 (1885)
= *Sagedia codonoidea* (Leight.) Arnold, Flora, Regensburg 44: 538 (1861)
= *Segestria aenea* (Körb.) Hellb., Bih. K. svenska VetenskAkad. Handl., Afd. 3 12(no. 3): 71 (1887)
= *Spermatodium aeneum* (Körb.) Trevis., Conspect. Verruc.: 10 (1860)
= *Spermatodium codonoideum* (Leight.) Trevis., Conspect. Verruc.: 12 (1860)
= *Trichothelium aeneum* (Körb.) R.C. Harris, More Florida Lichens, Incl. 10 Cent Tour Pyrenol. (New York): 178 (1995)
= *Verrucaria aenea* Wallr., Fl. crypt. Germ. (Norimbergae) 1: 299 (1831)
= *Verrucaria chlorotica* f. *codonoidea* (Leight.) Leight., Grevillea 3(no. 27): 114 (1875)
= *Verrucaria chlorotica* var. *codonoidea* (Leight.) Leight., Lich.-Fl. Great Brit.: 445 (1871)
= *Verrucaria codonoidea* Leight., Brit. Sp. Ang. Lich.: 53 (1851)

[VZR68], Gallia. Pyrenei montes occidentales: in valle Gave d'Oloron loco dicto " Château de Laas", in horto publico, 70 m. Ad truncum Bambusae (*Pseudosassa japonica*), Leg. J. Vivant, 4.9.1992, det. A. Vězda. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 68.

Thallus crustose, thin, continuous, superficial to semi-immersed, dark greenish grey, dark red-brown to dark brown, sometimes almost black (olive-brown in shade), smooth to weakly rimose, forming small patches. Perithecia black, hemispherical, semi-immersed in the thallus, 0.1-0.3 mm across. Involucrellum dimidiate, shiny, purple-brown in upper part (Pseudosagedia-violet pigment), K+ dark grey-brown, HCl+ red-purple to red-brown, colourless in lower part; exciple more or less

colourless (with brown inclusions), the upper part yellowish (Porina-yellow pigment), K+ orange; hamathecium of almost simple, not anastomosing, c. 0.5-1 µm thick paraphyses; hymenial gel I-, K/I-. Asci 8-spored, cylindrical-clavate, thin-walled throughout, functionally unitunicate, I-, K/I-, the apex truncate and containing a refractive ring which stains with Congo Red. Ascospores 3-septate, hyaline, fusiform, (13-)15-20(-24) x 3.5-5.5 µm. Pycnidia black, immersed. Macroconidia 1-septate, 12-16 x c. 4.5 µm; microconidia ellipsoid, c. 2 x 0.5 µm. Photobiont trentepohlioid. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: thallus without lichen substances. - Note: a mainly temperate to Mediterranean-Atlantic species found on smooth bark of broad-leaved deciduous and evergreen trees and shrubs, mostly in woodlands and forests, common also in shaded-humid *Quercus ilex*-stands.

Porina aenea



Porina aenea

Porina aenea

Porina atropunctata Lücking & Vězda, Willdenowia 28(1/2): 192 (1998)

[VZR397], India. Insulae Andaman, Long Island, Lalajee Bay, ad folia arborum. Leg. K. Dětinský, 04.1998, det. R. Lücking. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 397.

Thallus continuous but marginally often dispersed, minutely uneven-verrucose, 10–30 mm across and 10–15 µm thick, pale greyish yellow, slightly shiny, incrusted with calcium oxalate crystals; white-translucent prothallus often present. Photobiont cells angular-rounded, 9–13 x 3–5 µm, in irregular plates. Perithecia adnate, young ones conical, mature ones wart-shaped, 0.3–0.5 mm diam. and 150–250 µm high, glabrous, surface smooth, of same color as thallus but with black, 0.05–0.1 mm broad dot around ostiole, becoming paler in old perithecia. Excipulum 5–10 µm thick, colorless to pale yellow, K+ orange. Involucrellum 8–15 µm thick, yellow but in uppermost part black, K+ brownish orange, externally covered by 8–15 µm thick crystallostratum and 5–15 µm thick, algiferous, thallus layer. Asci obclavate, 60–75 x 8–13 µm. Ascospores narrowly fusiform to oblong, 7-septate, without constrictions at septa, (20–)25–35 x 3–5 µm, 6–9 times as long as broad, colorless. Pycnidia not observed. Chemistry: no substances detected by TLC; Porina yellow in perithecial wall. Distribution and Ecology. Pantropical. Chiefly restricted to the shady understory of tropical rain forests, but also extending into evergreen dry forest.

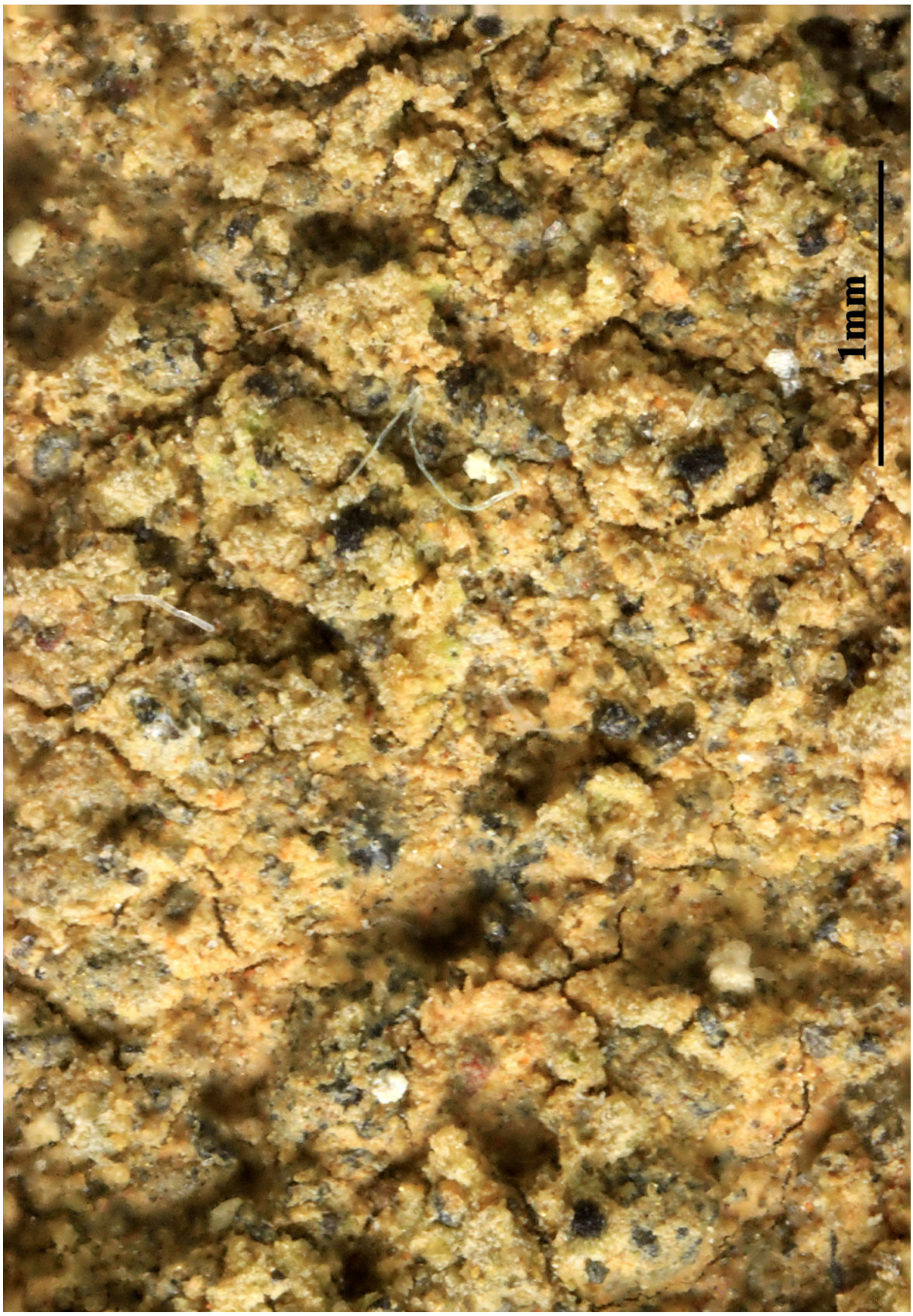
Porina atropunctata

Porina atropunctata

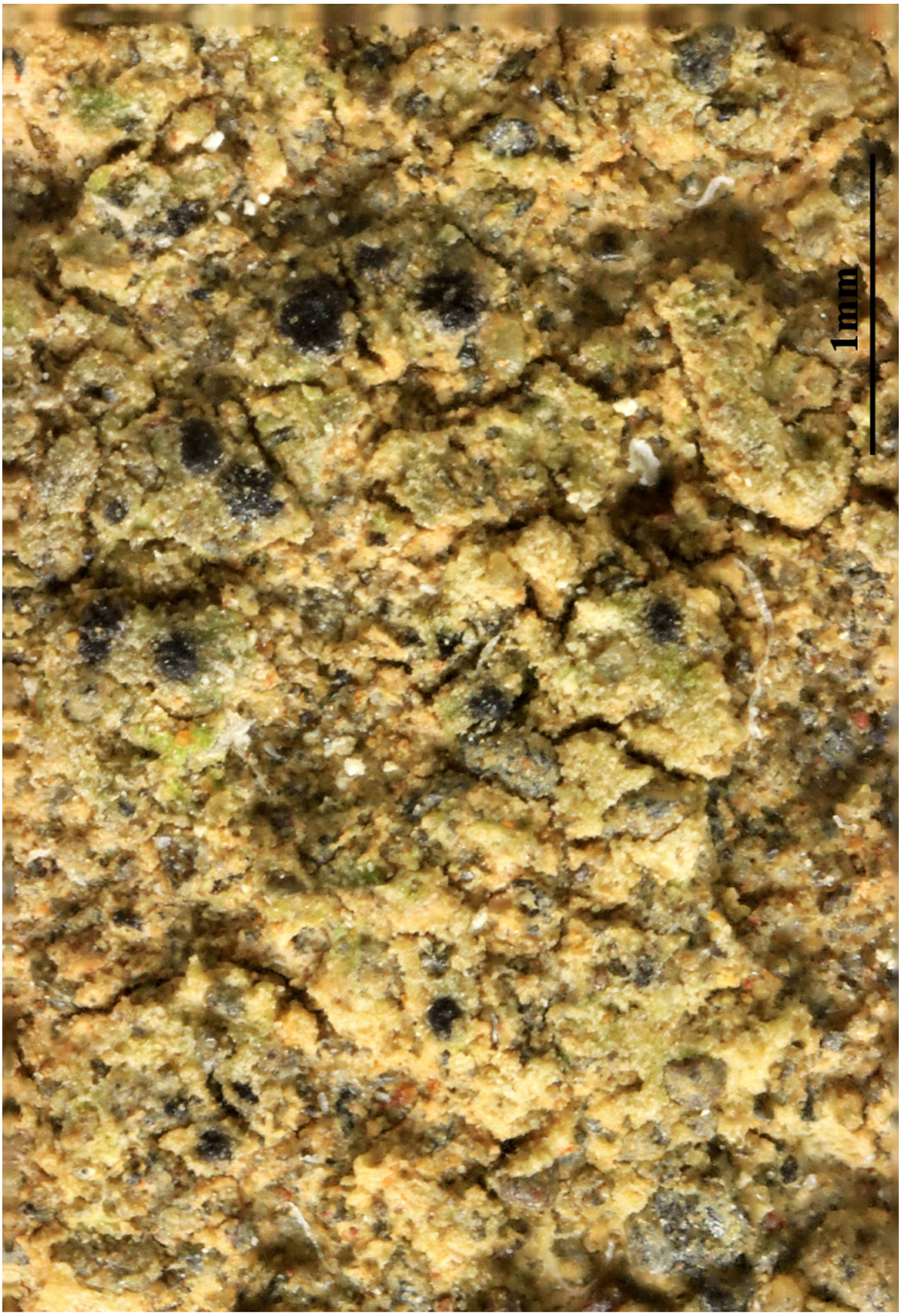
Porina byssophila (Körb. ex Hepp) Zahlbr., in Engler & Prantl, Nat. Pflanzenfam., Teil. I (Leipzig) 1(1*): 66 (1903)
= *Segestria byssophila* (Körb. ex Hepp) Zahlbr., Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 48: 351 (1898)
= *Pseudosagedia byssophila* (Körb. ex Hepp) Hafellner & Kalb, Biblthca Lichenol. 57: 174 (1995)
= *Sagedia byssophila* Körb. ex Hepp, Flecht. Europ.: no. 695 (1860)
= *Verrucaria byssophila* (Körb. ex Hepp) Nyl., in Stizenberger, Ber. Tät. St Gall. naturw. Ges.: 504 (1882) [1880-81]

[VZR37], Italia. Pelagiae insulae: insula Linosa, in colle "Timpone", 30 m. Ad saxa mollia eruptiva. Leg. A. Puntillo & A. Vězda, 15.4.1992. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 37.

Thallus crustose, episubstratic, well-developed, grey-white, dull grey-green to orange-brown, smooth to uneven, continuous to cracked. Perithecia black, 0.1-0.3 mm across, immersed only at the base. Involucrellum of thick-walled, more or less elongated cells, purple-violet to purple-brown, K+ dark blue-grey to dull purplish-brown, HCl+ purplish-brown; exciple dark at least in upper part; hamathecium of simple or rarely branched paraphyses; hymenial gel I-, K/I-. Asci 8-spored, clavate-cylindrical, thin-walled, functionally unitunicate, I-, K/I-, the apex truncate and containing a refractive ring which stains with Congo Red. Ascospores (1-)3(-7)-septate, hyaline, narrowly ellipsoid, (17-)18-25(-29) x (3.5-)4-5.5(-6) µm. Pycnidia black. Conidia simple, oblong, 2.9-3.3 x c. 1.2 µm. Photobiont trentepohlioid. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: thallus without lichen substances. - Note: a mild-temperate to humid subtropical species found on calcareous rocks in damp and shaded habitats, e.g. in forests; somehow rarer than the closely related *P. linearis*.



Porina byssophila



Porina byssophila

Psoroma contortum Müll. Arg., Miss. Sci. Cap Horn, Lich. (Paris) 5: 160 (1889)

= *Pannaria contorta* (Müll. Arg.) Passo & Calvelo, Lichenologist 38(6): 553 (2006)

[VZR316], Nova Zelandia. South Island, distr. Nelson, Kahurangi National Park. regio montis Mt. Arthur, secus viam inter stationem " Flora Carpark" et casam alpinam Mt. Arthur dictam, 1300 m. Ad arbores. Leg. W. Malcolm & A. Vězda, 21.04.1997. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 216.

Thallus foliose, laciniate-lobate, closely attached to substratum, 3-7 cm diam., no prothallus visible; occasionally with black rhizines projecting from the lower surface. Lobes laciniate, 3-5 mm wide, 8-15 mm long, discrete at margins, ±imbricate centrally; margins of lobes entire to irregular or notched. Upper surface whitish-green when wet, pale green or grey-green when dry, pale buff in herbaria; uneven, smooth or rough to papillate, epruinose. *Cephalodia* on lower surface or projecting beyond lobe margins, globose to cerebriform, dark brownish or pale buff. Lower surface pale, whitish, with a short uniform pale-buff tomentum at lobe margins, with ±dense buff or thick brown-black squarrose rhizines, usually protruding beyond lobe margins. *Apothecia* frequent, often crowded contorted at thallus centre, 1–3 mm diam., round to irregular, disc plane to convex, orange-brown, whitepruinose even in mature apothecia, etched or contorted, with concentric ridges often centrally fissured; margins thick, often obscuring the disc, crenulate, concolorous with thallus. *Hymenium* I+ blue, ascus apices without amyloid structures, only the surrounding of the ascus stained. *Ascospores* globose to subglobose 12.5-17 x 12.5-14 µm diam., epispore thick, rough. *Chemistry*. Cortex K-, C-. Medulla P+ orange, K-, C- (pannarin).

Taxonomic remarks. *Psoroma contortum* was described from a specimen collected by the French expedition to Cape Horn aboard the ‘‘Romanche’’ during 1882–1883 (Müller Argoviensis 1888). The specimen (designated afterwards as the type specimen) was collected by P. Hyades during a halt in the small Orange Bay, at Hoste Isle, near Cape Horn, in southern-most Chile (Moore 1983). Unfortunately, the type specimen is quite small; nevertheless, all collections studied are in good agreement with it. Different studied are in good agreement with it. Different medullary substances have been reported in studies of the chemistry of *P. contorta* collections from different locations:contortin (Elix *et al.* 1984), vicanicin and pannarin (Quilhot *et al.* 1989) and

contortin, pannarin and zeorin (Passo *et al* 2004). In order to confirm the chemosyndrome typical of the species, we analysed the type collection, and found that the only compound present is pannarin. Thus, the delimitation of this species should be restricted to specimens containing only this substance.

Psoroma contortum

Psoroma contortum

Psoroma contortum

Psoroma contortum

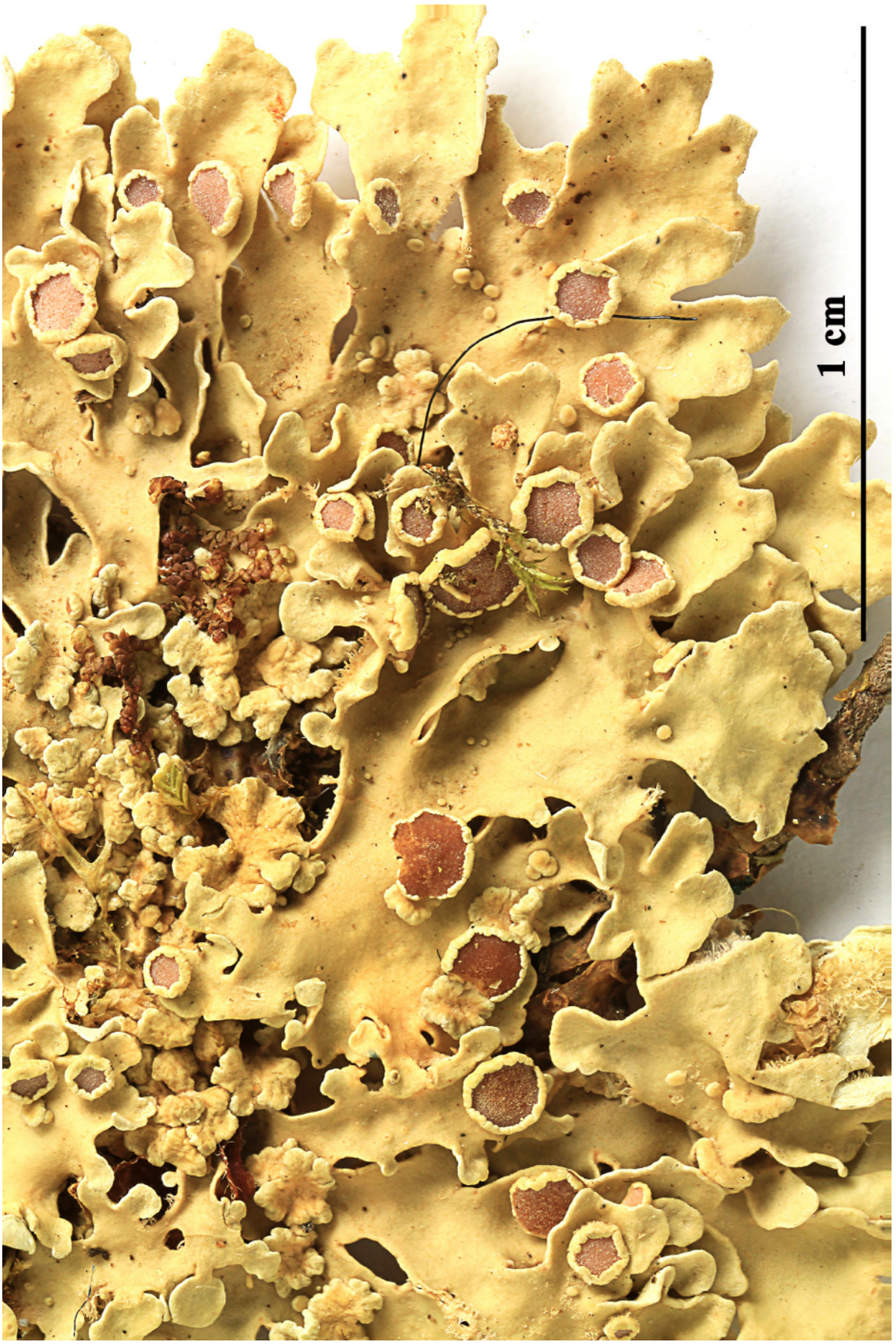
Psoroma contortum

Psoroma contortum

Psoroma euphyllum Nyl., Syn. meth. lich. (Parisiis) 2: 21 (1869)
= *Pannaria euphylla* (Nyl.) Elvebakk & D.J. Galloway, Australas. Lichenol. 53: 7 (2003)

[VZR285], Nova Zelandia, South Island distr. Westland, inter Haast et transitum Haast, in silva virginea, in ramulis fruticum, 300 m. Leg. W. Malcolm & A. Vězda, 26.04.1997. Ex A. Vězda: Lichenes Rariores Exsiccati Nr. 285.

Thallus foliose-lobate; margins free and subascending, 2-5 cm wide, without prothallus. Lobes 2-3 mm wide, concave; margins crisp, ascending, entire, thickened, minutely notched or lobulate. Upper surface minutely granular, matt, smooth or slightly undulate, occasionally with short, white or grey entangled silky indumentum, lettuce green when wet, glaucous green when dry. Lower surface white, naked or with a short, white indumentum, or with ±dense, white to greyish rhizohyphae. Cephalodia on both surfaces and on rhizohyphae, 0.5-2 mm wide, simple, globose to convolute-placodioid, cerebriform, smooth, matt, sometimes wrinkled-plicate, pale blue-grey or brownish. Apothecia to 2 mm wide, laminal and marginal, pedicellate, rounded; disc flat or subconcave, often white-pruinose, smooth, continuous, pale orange-brown to red-brown; thalline exciple smooth, tomentose below disc, thin, crenulate at margin of disc, concolorous with thallus. Ascospores 16-18 × 10-12 µm.



Psoroma euphyllum

Psoroma euphyllum

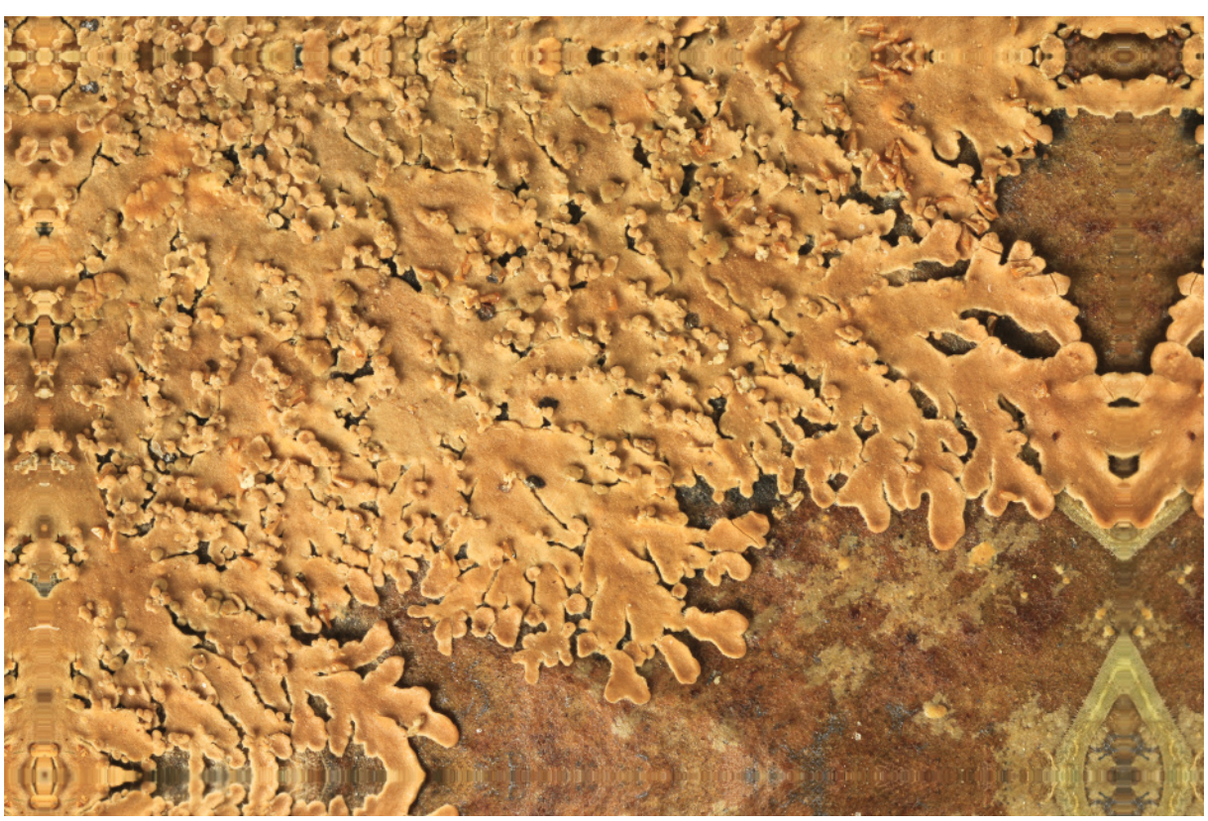
Psoroma microphyllizans (Nyl.) D.J. Galloway, N.Z. Jl Bot. 21(2): 196 (1983)

= *Pannaria microphyllizans* (Nyl.) P.M. Jørg., Biblthca Lichenol. 78: 121 (2001)

= *Psoroma sphinctrinum* var. *microphyllizans* Nyl., Syn. meth. lich. (Parisiis) 2: 25 (1869)

[VZR444], Nova Zelandia, South Island, Westland, Lake Kaniere, 42°52' S, 171°10' E, 200 m, ad folia arborum (*Pseudowintera colorata*), Leg. W. Malcolm & A. Vězda, 3.07.1996. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 444.

Similar to Psoroma sphinctrinum but with marginal and laminal phyllidia. Phyllidia simple, delicately granular to lobulate at first, terete, globose, uniformly corticate, becoming flattened, dorsiventral with age, with a white, ecorticate lower surface, squamiform at maturity. Chemistry: vicanicin and pannarin, or vicanicin alone. Grows on forest trees, stumps, decaying vegetation in shaded, humid rainforest habitats.



Psoroma microphyllizans