

F. Schumm (2026):

Images of Lichens

Vezda Lichenes Selecti Exsiccati
part 29

With this volume, I continue the documentation of Vezda's works on exiccata, now with Lichenes Selecti as part 29. I have chosen the genus names that Vezda used, even though others are now more common. However, I also include the currently used names in the synonym list and the index. In addition, I have again made every effort to add species descriptions to the detailed information on the labels from the literature.

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

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

F. Schumm, 2026

Bacidia pruinosa P. James, Lichenologist 5(1-2): 117 (1971)
= *Scoliciosporum pruinsum* (P. James) Vězda, Folia geobot. phytotax. 13:
414 (1978)

[VZ1091], Gallia. Pyrenaei montes occidentales. Bidache. Forêt de Mixe, 40 m. Ad corticem *Ilicis aquifolii*. Leg. J. Vivant, 5.11.1972, det. A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1091.

Thallus crustose-subleprose, thinly episubstratic, whitish, finely granulate, sometimes evanescent. Apothecia biatorine, 0.1-0.3(-0.4) mm across, whitish to pale pink-coloured when young, pale brown at the end, from the beginning strongly convex and immarginate, sometimes subglobose and tuberculate, often white-pruinose. Proper exciple very thin, of radiating, branched and anastomosing hyphae; epithecium colourless to pale yellowish brown, with a layer of yellowish granules dissolving in K; hymenium colourless, I+ blue; paraphyses strongly branched and anastomosing, immersed in a gelatinous matrix and resembling excipular hyphae, not swollen at apices. Asci 8-spored, cylindrical-clavate, with a K/I+ blue apical dome penetrated by a narrow, K/I- apical cushion surrounded by a narrow, deeply K/I+ blue zone, the wall K/I- but surrounded by a I+ red-brown and K/I+ blue outer layer, the ocular chamber small, Biatore-type. Ascospores indistinctly 3-5-septate, hyaline, (20-)22-35(-40) x 1-1.5(-2) µm strongly curved at least at one end, often S-shaped, spirally twisted in the asci. Photobiont chlorococcoid, the cells 7-15 µm wide. Spot tests: thallus K-, C-, KC-, P-, UV-; apothecia fleeting KC+ red, UV+ white. Chemistry: thallus without lichen substances; lobaric acid in the pruina of apothecia. - Note: a mild-temperate species found on bark, especially of old oaks, usually on surfaces protected from rain, with optimum in humid deciduous, more rarely evergreen forests, often along rivers.



Bacidia pruinosa



Bacidia pruinosa

Fuscidea viridis Tønsberg, Mycologia 76(1): 156 (1984)

= *Ropalospora viridis* (Tønsberg) Tønsberg, Sommerfeltia 14: 293 (1992)

[VZ2015], Norvegia, Sognog Fjordane, Förde, Skei, secus rivum in monte Skeistölen, 50 m. Ad truncum *Betulae pubescentis*. Leg. T. Tønsberg (no. 8686), 24.4.1984. EX A. VěZDA LICHENES SELECTI EXSICCATI NR.2015.

Thallus crustose, episubstratic, areolate and sorediate, forming orbicular, up to 3 cm wide (or more), irregular patches, occasionally confluent with other thalli and covering much wider areas; prothallus very variable, from well-developed and brown-zoned to poorly developed and shiny, rarely indistinct. Areoles greyish green, matt, rounded, convex, up to 0.2 mm wide. Soralia bursting from the apices of the areoles, green, yellow-green or straw-coloured, irregularly rounded, often becoming confluent, especially towards the centre, forming a more or less continuous subleprose crust, the soredia farinose, 20-30 µm in diam., sometimes loosely packed into larger consoredia. Apothecia very rare, lecideine, black, 0.2-0.4 mm across, with a flat disc and a persistent proper margin. Proper exciple brown in outer part, pale brown within, of c. 2 µm wide, evenly thickened, often tortuous hyphae with at least some lumina which are >4 times as long as wide; epithecium brown; hymenium colourless, 50-75 µm high, non-amyloid, inspersed with oil droplets; paraphyses easily becoming free, mostly simple, 1.5-2 µm thick, the apical cells not or only slightly thickened; hypothecium pale brown. Asci 12-16-spored, clavate to broadly clavate, with a non-amyloid wall and a thin and weakly developed tholus in mature asci, K/I+ deep blue. Ascospores 5-6-septate, hyaline, clavate, straight to curved; 22-31(-44) x (1.7-)2-2.5(-3.7) µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, soralia UV+ white. Chemistry: perlatolic acid (major), hyperlatolic-, isohyperlatolic- and superlatolic acids (minor or traces). - Note: on smooth bark of deciduous and coniferous trees in cold-humid, open woodlands; perhaps more widespread, but certainly not common.



Fuscidea viridis

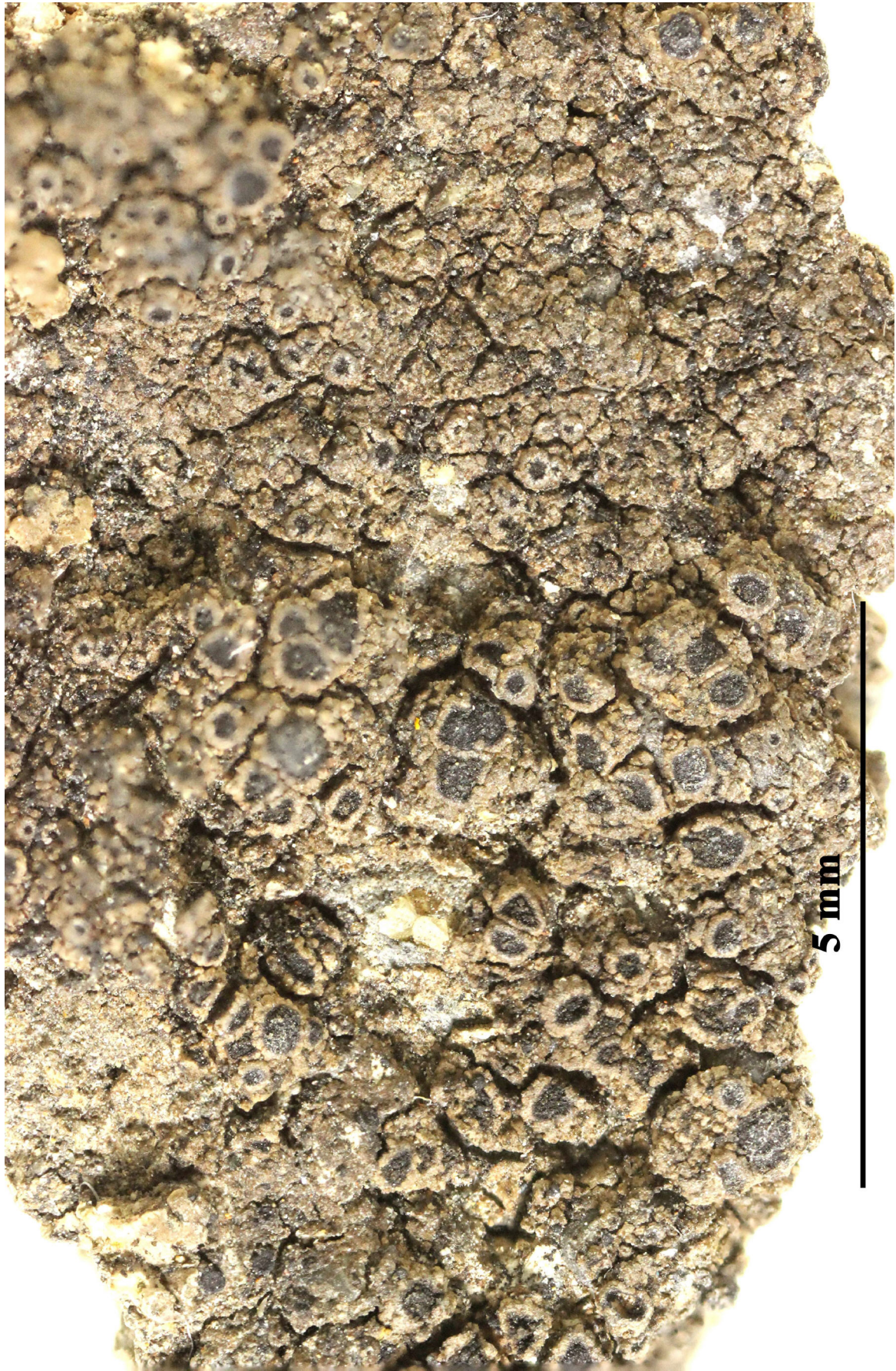


Fuscidea viridis

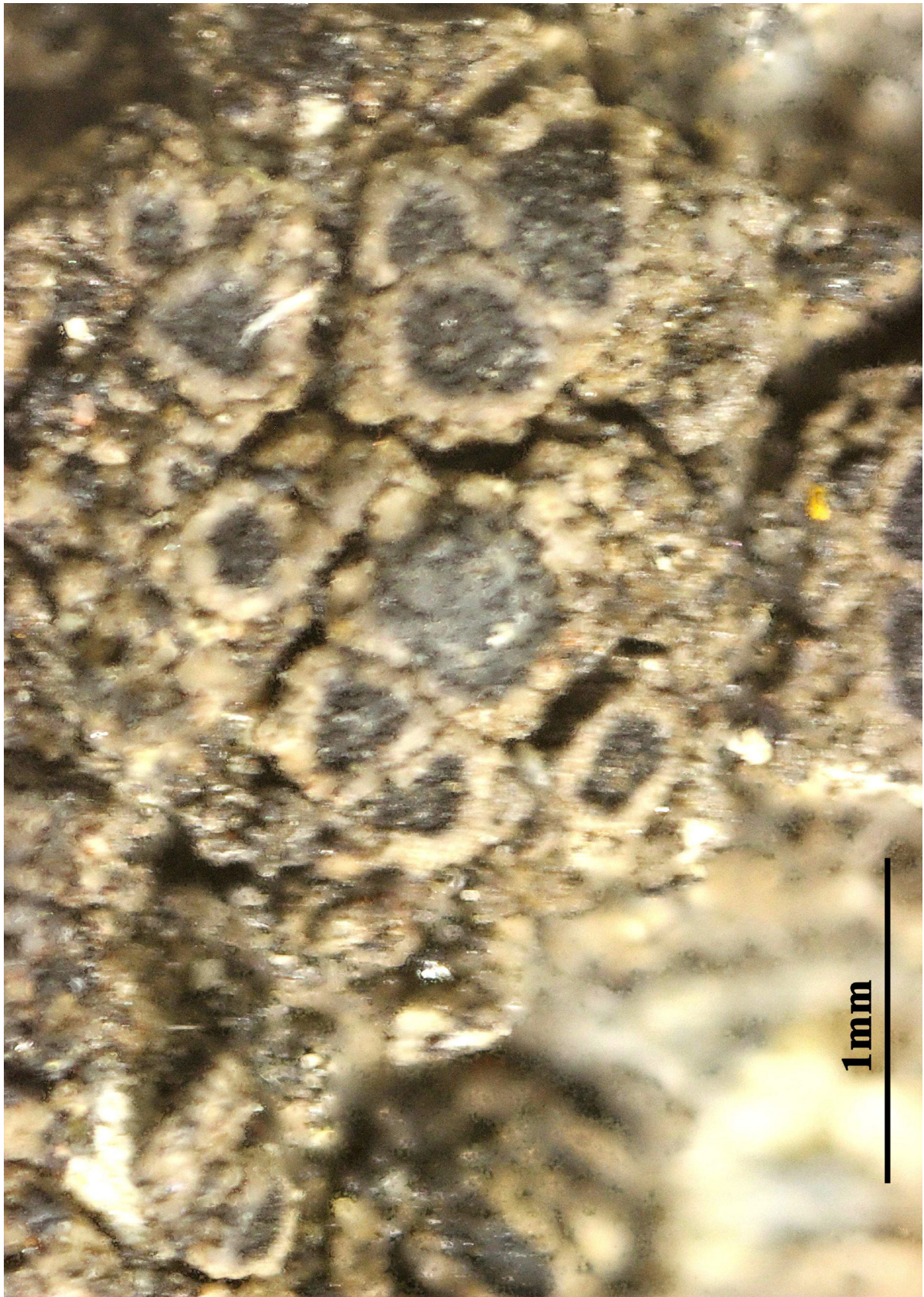
Rinodina teichophila (Nyl.) Arnold, Flora, Regensburg 46: 329 (1863)
= *Lecanora sophodes* var. *teichophila* Nyl. 186

[VZ2441], Austria. Styria: distr. Feldbach, Riegersburg, 400 m. Ad saxa andesitica sub arcem. Leg. G. Kantvilas, H. Mayrhofer et A. Vězda, 22.9.1990, det. H. Mayrhofer. Ex A. Vězda Lichenes Selecti Exsiccati Nr.2441.

Thallus crustose, episubstratic, up to 1 mm thick, rimose-areolate to areolate, smooth to granulose-verrucose, pale to dark grey or brownish, without a distinct prothallus. Apothecia lecanorine, immersed to adnate, up to 1.2 mm across, with a dark brown to black, flat to convex disc and an entire, persistent thalline margin; proper margin sometimes visible as a parathecial ring between disc and thalline margin. Epithecium 10-20 µm thick, reddish brown; hymenium colourless, 90-130(-145) µm high, I+ blue; paraphyses c. 1.5 µm thick at mid-level, the apical cells 3-5 µm wide, with a brown cap; hypothecium colourless or pale yellow, 55-100(-130) µm high. Asci 8-spored, narrowly clavate to 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, *Mischoblastia*-type with tendency towards the *Pachysporaria*-type when mature, 18-28(-32) x 10-15(-19) µm, swelling around the septum with K, the torus absent, the ontogeny of both type A and type B. Pycnidia dark, immersed. Conidia bacilliform, 4-5 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a widespread species growing on base-rich siliceous rocks, mostly on more or less calciferous sandstone), especially in nutrient-enriched situations such as on walls, tiles, brick or gravestones, mostly below the montane belt, also found in large conurbations.



Rinodina teichophila



Rinodina teichophila

Roccella babingtonii Mont., Annls Sci. Nat., Bot., sér. 3 18: 305 (1852)

= *Roccella difficilis* Darb.

= *Roccella humboldtiana* Follmann

= *Roccella mexicana* Vain.

= *Roccella montagnei* var. *peruensis* Kremp.

= *Roccella peruensis* (Kremp.) Darb.

[VZ1882], Rerspublica Doninicana. Monte Cristi: Prope oppidum Monte Cristi, in summo collis dicti El Moro, 185 m. In ramis arborum et fruticum. Leg. W. L. Culberson (no. 19105) et C. F. Culberson, 20.6.1982 - AQnnot.: Erythrin and Lecanoric acid (trace) by TLC; anal. A. Johnson and C. F. Culberson. - EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1882.

Thallus: fruticose, pendent, main branches flattened, usually 5-15 cm long lobe; surface grayish, often uneven with ridges and wrinkles; soredia farinose, in maculiform soralia which may often fuse to cover much of the lobe surface; medulla white but brown in the holdfast zone, usually with a yellowish tinge; Ascomata not seen; Spot tests: cortex K+ more or less yellowish red (sometimes inconspicuous), C+ red, KC+ red, P-; medulla K-, C-, KC-, P-; Secondary metabolites: erythrin and lecanoric acid. Substrate and ecology: grows near the sea on any suitable substrate, such as the vertical rocks and cliffs and on the trunks, branches and twigs of various trees and shrubs World distribution: uncertain, but probably from California to south-central Chile, and possibly Carribean and pantropical. - Notes: *Roccella peruensis* is characterized by its sterile, sorediate thallus. *Roccella peruensis* feels somewhat softer and less robust than *R. decipiens*, probably due to the presence of soralia. The name and *R. babingtonii* Mont. (Montagne 1852) has been frequently used for this taxon in California and Mexico. *Roccella babingtonii*, however, was described by Montagne as having apothecia only; soredia were not mentioned by him. Thus, Montagne's description cannot be applied to the sterile, sorediate taxon *R. peruensis* (Krempelh.) Darb. The description of *R. babingtonii* Mont. better fits to the fertile *R. decipiens* Darb. and may in fact be the oldest name for that taxon. Morphological, chemical and molecular investigations (Myllys et al., 1999) indicate that *Roccella peruensis* may be the sterile counterpart in a species pair relationship with the fertile *R. decipiens* Thus, the name *R. peruensis* may be subject to change when the the genus *Roccella* is revised.



Family: Roccellaceae



Family: Roccellaceae

Roccella babingtonii Mont., Annls Sci. Nat., Bot., sér. 3 18: 305 (1852)
= *Roccella difficilis* Darb.
= *Roccella humboldtiana* Follmann
= *Roccella mexicana* Vain.
= *Roccella montagnei* var. *peruensis* Kremp.
= *Roccella peruensis* (Kremp.) Darb.

[VZ2104], Venezuela. Estado Falcon, peninsula Paraguaná: Cerro Santa Ana, 200 m. Ad saxa. Leg. M. López-Figueiras, R. Wingield et A. Morales, 13.11.1985. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2104.

Thallus: fruticose, pendent, main branches flattened, usually 5-15 cm long lobe; surface grayish, often uneven with ridges and wrinkles; soredia farinose, in maculiform soralia which may often fuse to cover much of the lobe surface; medulla white but brown in the holdfast zone, usually with a yellowish tinge; Ascomata not seen; Spot tests: cortex K+ more or less yellowish red (sometimes inconspicuous), C+ red, KC+ red, P-; medulla K-, C-, KC-, P-; Secondary metabolites: erythrin and lecanoric acid. Substrate and ecology: grows near the sea on any suitable substrate, such as the vertical rocks and cliffs and on the trunks, branches and twigs of various trees and shrubs World distribution: uncertain, but probably from California to south-central Chile, and possibly Caribbean and pantropical. - Notes: *Roccella peruensis* is characterized by its sterile, sorediate thallus. *Roccella peruensis* feels somewhat softer and less robust than *R. decipiens*, probably due to the presence of soralia. The name and *R. babingtonii* Mont. (Montagne 1852) has been frequently used for this taxon in California and Mexico. *Roccella babingtonii*, however, was described by Montagne as having apothecia only; soredia were not mentioned by him. Thus, Montagne's description cannot be applied to the sterile, sorediate taxon *R. peruensis* (Krempelh.) Darb. The description of *R. babingtonii* Mont. better fits to the fertile *R. decipiens* Darb. and may in fact be the oldest name for that taxon. Morphological, chemical and molecular investigations (Myllys et al., 1999) indicate that *Roccella peruensis* may be the sterile counterpart in a species pair relationship with the fertile *R. decipiens* Thus, the name *R. peruensis* may be subject to change when the the genus *Roccella* is revised.



Family: Roccellaceae



Family: Roccellaceae

Roccella canariensis Darb., Biblthca Bot. 45: 50 (1898)

= *Roccella tinctoria* f. *valida* Hampe ex Darb. 1898

= *Roccella arnoldii* Vain.

= *Roccella canariensis* var. *vincentina* (Vain.) Zahlbr.

= *Roccella dichotoma* (Pers.) Darb.

= *Roccella fastigiata* Bory

= *Roccella guanchica* Feige & Viethen

= *Roccella patellata* Stirt.

= *Roccella tuberculata* var. *vincentina* Vain.

= *Roccella vincentina* (Vain.) Follmann

[VZ2183], Insulae Canarienses. Tenerife: Güimar, 800 m. Ad scopulum vulcanicum. Leg. T. Pócs (87204), 18.7.1987, det. E. Farkas. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2183.

Thallus fruticose, stiff, brown to greyish-brown, consisting of 3-20 cm long, up to 3 mm thick, terete, foveate or smooth branches originating from a common basal holdfast, usually (in Italy) sorediate and without apothecia (fertile specimens are normally esorediate); soralia lateral, circular, white, strongly convex. Cortex of anticlinally arranged hyphae arising from the outermost part of the medulla, not forming a conspicuous palisade plectenchyma, overlain by an amorphous epicortex; medulla in holdfast white, but usually streaked brown or black. Apothecia very rare in Italian material, lateral, sessile, rounded, with a black, but often white-pruinose, finally cracked disc and a thin, finally excluded thalline margin. Proper exciple very thin; epithecium brown to almost colourless; hymenium colourless, 70-90 μm high, I+ blue; paraphysoids branched and sparingly anastomosing in upper part, c. 1 mm thick; hypothecium dark brown to black. Asci 8-spored, thick-walled, fissitunicate, with an internal beak and a small K/I+ blue ring in the thickened apex. Ascospores 3-septate, hyaline (overmature spores often pale brown), oblong-fusiform, slightly curved, 19-21(-25) x (4-)5-6 μm . Pycnidia solitary, immersed, black, c. 0.1 mm in diam. Conidia thread-like, curved, 16-21 x < 1 μm . Photobiont trentepohlioid. Spot tests: cortex K-, C-, KC- (C+, KC+ red under the epicortical layer), P-; medulla and soralia C+ and KC+ red. Chemistry: erythrin and lecanoric acid. -Note: this species with a Macaronesian- western Mediterranean distribution occurs on steeply inclined surfaces of siliceous rocks subject to humid, salt-laden maritime winds. The species can be both fertile and sorediate (see Tehler & al. 2009), but all Italian specimens, res-

tricted to a few sites in Tyrrhenian Italy, are soresdiate. For nomenclatural matters see Tehler (2002).



Rocella canariensis



Roccella canariensis

Roccella canariensis Darb., Biblthca Bot. 45: 50 (1898)

= *Roccella tinctoria* f. *valida* Hampe ex Darb. 1898

= *Roccella arnoldii* Vain.

= *Roccella canariensis* var. *vincentina* (Vain.) Zahlbr.

= *Roccella dichotoma* (Pers.) Darb.

= *Roccella fastigiata* Bory

= *Roccella guanchica* Feige & Viethen

= *Roccella patellata* Stirt.

= *Roccella tuberculata* var. *vincentina* Vain.

= *Roccella vincentina* (Vain.) Follmann

[VZ2442], Insulae Canarienses. Tenerife, prope Los Christianos, in litore. Ad saxa maritima. Leg. G. B. Feige (no. 2970), 2.1984. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2442.

Thallus fruticose, stiff, brown to greyish-brown, consisting of 3-20 cm long, up to 3 mm thick, terete, foveate or smooth branches originating from a common basal holdfast, usually (in Italy) sorediate and without apothecia (fertile specimens are normally esorediate); soralia lateral, circular, white, strongly convex. Cortex of anticlinally arranged hyphae arising from the outermost part of the medulla, not forming a conspicuous palisade plectenchyma, overlain by an amorphous epicortex; medulla in holdfast white, but usually streaked brown or black. Apothecia very rare in Italian material, lateral, sessile, rounded, with a black, but often white-pruinose, finally cracked disc and a thin, finally excluded thalline margin. Proper exciple very thin; epithecium brown to almost colourless; hymenium colourless, 70-90 μm high, I+ blue; paraphysoids branched and sparingly anastomosing in upper part, c. 1 mm thick; hypothecium dark brown to black. Asci 8-spored, thick-walled, fissitunicate, with an internal beak and a small K/I+ blue ring in the thickened apex. Ascospores 3-septate, hyaline (overmature spores often pale brown), oblong-fusiform, slightly curved, 19-21(-25) x (4-)5-6 μm . Pycnidia solitary, immersed, black, c. 0.1 mm in diam. Conidia thread-like, curved, 16-21 x < 1 μm . Photobiont trentepohlioid. Spot tests: cortex K-, C-, KC- (C+, KC+ red under the epicortical layer), P-; medulla and soralia C+ and KC+ red. Chemistry: erythrin and lecanoric acid. -Note: this species with a Macaronesian- western Mediterranean distribution occurs on steeply inclined surfaces of siliceous rocks subject to humid, salt-laden maritime winds. The species can be both fertile and sorediate (see Tehler & al. 2009), but all Italian specimens, res-

tricted to a few sites in Tyrrhenian Italy, are sorediate. For nomenclatural matters see Tehler (2002).



Roccella canariensis



Roccella canariensis

Roccella fuciformis (L.) DC., in Lamarck & de Candolle, Fl. franç., Edn 3
(Paris) 2: 335 (1805)
= *Lichen fuciformis* L. 1753

[VZ2443], Gallia. Finistère Goulven, ad scopulos. Leg. G. B. Feige
(no.5600), 5.7.1989. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR.
2443.

Thallus fruticose, shrubby, pendulous, up to 20(-30) cm long, grey to pale lilac-grey, sorediate, attached by a single basal holdfast. Branches strap-shaped, flattened, smooth, up to 1.5 cm wide, irregularly branched, progressively tapering, with pointed ends, with more or less circular to irregular, grey-white, mostly marginal soralia. Cortex of anticlinally arranged hyphae, arising from the outermost part of the medulla; medulla and basal holdfast white. Apothecia lecanorine, very rare, black, marginal or laminal, 1-2 mm across. Hymenium colourless; paraphysoids branched-anastomosing; hypothecium dark brown to black. Asci 8-spored, thick-walled, fissitunicate, with an internal beak and a small K/I+ blue ring in the thickened apex. Ascospores 3-septate, hyaline, fusiform, straight or slightly curved 18-30 x 4-7 µm. Pycnidia black, immersed. Conidia 10-15 x 1 µm, more or less curved. Photobiont trentepohlioid. Spot tests: cortex K- or K+ pale yellow, C-, KC-, P-; medulla C-; soralia K+ or K+ pale yellow, C+ and KC+ red; soralia and medulla UV+ blue-white. Chemistry: erythrin, roccellic and leprarinic acids. - Note: a supralittoral Mediterranean-Macaronesian species found on steeply inclined or rain-sheltered surfaces of a wide variety of rocks (mainly calcareous) exposed to humid maritime winds, mostly in rather shaded situations; much rarer and less heliophytic than *R. phycopsis*.



Roccella fuciformis



Rocella fuciformis

Roccella fuciformis (L.) DC., in Lamarck & de Candolle, Fl. franç., Edn 3
(Paris) 2: 335 (1805)
= *Lichen fuciformis* L. 1753

[VZ1130], Gallia. Insula Port-Cros (Var): in valle Notre-Dame, 50 m.
Ad saxa silicea. Leg. Y. Rondon, 6.10.1972. EX A. V ZDA LICHENES
SELECTI EXSICCATI NR. 1130.

Thallus fruticose, shrubby, pendulous, up to 20(-30) cm long, grey to pale lilac-grey, sorediate, attached by a single basal holdfast. Branches strap-shaped, flattened, smooth, up to 1.5 cm wide, irregularly branched, progressively tapering, with pointed ends, with more or less circular to irregular, grey-white, mostly marginal soralia. Cortex of anticlinally arranged hyphae, arising from the outermost part of the medulla; medulla and basal holdfast white. Apothecia lecanorine, very rare, black, marginal or laminal, 1-2 mm across. Hymenium colourless; paraphysoids branched-anastomosing; hypothecium dark brown to black. Asci 8-spored, thick-walled, fissitunicate, with an internal beak and a small K/I+ blue ring in the thickened apex. Ascospores 3-septate, hyaline, fusiform, straight or slightly curved 18-30 x 4-7 µm. Pycnidia black, immersed. Conidia 10-15 x 1 µm, more or less curved. Photobiont trentepohlioid. Spot tests: cortex K- or K+ pale yellow, C-, KC-, P-; medulla C-; soralia K+ or K+ pale yellow, C+ and KC+ red; soralia and medulla UV+ blue-white. Chemistry: erythrin, roccellic and lepralic acids. - Note: a supralittoral Mediterranean-Macaronesian species found on steeply inclined or rain-sheltered surfaces of a wide variety of rocks (mainly calcareous) exposed to humid maritime winds, mostly in rather shaded situations; much rarer and less heliophytic than *R. phycopsis*.



Roccella fuciformis



Roccella fuciformis



Roccella fuciformis



Roccella fuciformis

Roccella galapagoensis Follmann, Nova Hedwigia 15: 337 (1968)

= *Roccella capitata* Werner (2000)

= *Roccella colonii* Follmann (2001)

= *Roccella fusca* Werner (2000)

= *Roccella geniculata* Follmann & B. Werner (2000)

= *Roccella obscurissima* Follmann & B. Werner (1998)

= *Roccella scoparia* Follmann ex Tehler (2007)

[VZ1455], Ecuador. Insulae Galápagos: Placas Islet prope Santa Cruz. Ad scopulos. Leg. A. Weber, 7.1971.- Obs.: Erythrin, a trace of lecanoric acid, protocetraric acid, fatty acids and unidentified substances by TLC, anal. from C. F. Culberson. - EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1455.

Thallus saxicolous, grey, not soorediate, texture firm, cylindrical, surface reticulate, holdfast internally white to brown. Cortex palisade plectenchyma. Apothecia round. Hypothecium black. Ascospores hyaline, 3-septate, $22\text{--}28 \times 5.5\text{--}7 \mu\text{m}$. Cortex C + red or –, K – or + yellow, Pd – or + orange, subcortex C –, medulla C –, IKI –, major substances galapagin, ± erythrin, ± lecanoric, ± protocetraric, ± portentol.



Roccella galapagoensis



Roccella galapagoensis

Roccella phycopsis (Ach.) Ach., Lich. Univ.: 440 (1810)

= *Parmelia phycopsis* Ach. 1804

= *Roccella fucoides* (Neck.) Vain.

= *Roccella fucoides* var. *corticola* Sambo

= *Roccella pygmaea* Durieu & Mont.

[VZ1277], Bulgaria. Pontus, scopulus Cape Kaliakra dictus, 20-50 m. Ad saxa calcarea. Leg. A. Vězda, 20.7.1971. EX A. VEZDA LICHENES SELECTI EXSICCATI NR. 1277.

Thallus fruticose, shrubby, pale grey to brownish grey, sparsely and irregularly branched from a single holdfast, often forming extensive swards. Branches terete, to 8 cm long, smooth or wrinkled, sometimes sparsely pruinose, with conspicuous, white, globose-efflorescent soralia. Cortex of anticlinally arranged hyphae, arising from the outermost part of the medulla; medulla loose, orange or ochre-coloured in the basal holdfast, otherwise white. Apothecia extremely rare (not observed in Italian material), rounded to often deformed, with a black disc, without a thalline margin. Proper exciple thin; epithecium brown; hymenium colourless; paraphysoids sparingly branched and intertwined in upper part; hypothecium dark brown to black. Asci 8-spored, thick-walled, fissitunicate, with an internal beak and a small K/I+ blue ring in the thickened apex. Ascospores 3-septate, hyaline but turning pale brown when overmature, (14-)18-21(-23) x 4-6 µm, straight or slightly curved. Pycnidia black, immersed. Conidia thread-like, 12-17 x c. 1 µm, curved. Photobiont trentepohlioid. Spot tests: cortex K- or K+ yellowish red, C+ pink to red, P-; medulla and soralia K-, C-, P-, UV+ white. Chemistry: roccellic acid, erythrin and variable amounts of lecanoric acid. - Note: on a very wide variety of rocks, including brick walls, sometimes on littoral shrubs, in rather sheltered situations and in habitats subject to frequent, salt-laden, maritime winds. Very rare north of the Gargano Peninsula (Puglia), but extending northwards to Liguria along the Tyrrhenian coast. For nomenclatural matters see Tehler (2003).



Roccella phycopsis



Rocella phycopsis

Roccella tuberculata Vain., in Hiern, Cat. Afr. Pl. 2(2): 433 (1901)

[VZ2444], Insulae Canarienses. Insula La Palma: El Time, ad saxa vulcanica. Leg. G. B. Feige (no. 2995), 2.1980. -Annot. from Feige: Adchemotypum vicentina pertinens.- EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2444.

Thallus fruticose, stiff, brown to greyish-brown, consisting of 3-20 cm long, up to 3 mm thick, terete, foveate or smooth branches originating from a common basal holdfast, usually (in Italy) sorediate and without apothecia (fertile specimens are normally esorediate); soralia lateral, circular, white, strongly convex. Cortex of anticlinally arranged hyphae arising from the outermost part of the medulla, not forming a conspicuous palisade plectenchyma, overlain by an amorphous epicortex; medulla in holdfast white, but usually streaked brown or black. Apothecia very rare in Italian material, lateral, sessile, rounded, with a black, but often white-pruinose, finally cracked disc and a thin, finally excluded thalline margin. Proper exciple very thin; epithecium brown to almost colourless; hymenium colourless, 70-90 μm high, I+ blue; paraphysoids branched and sparingly anastomosing in upper part, c. 1 mm thick; hypothecium dark brown to black. Asci 8-spored, thick-walled, fissitunicate, with an internal beak and a small K/I+ blue ring in the thickened apex. Ascospores 3-septate, hyaline (overmature spores often pale brown), oblong-fusiform, slightly curved, 19-21(-25) x (4-)5-6 μm . Pycnidia solitary, immersed, black, c. 0.1 mm in diam. Conidia thread-like, curved, 16-21 x < 1 μm . Photobiont trentepohlioid. Spot tests: cortex K-, C-, KC- (C+, KC+ red under the epicortical layer), P-; medulla and soralia C+ and KC+ red. Chemistry: erythrin and lecanoric acid. - Note: this species with a Macaronesian- western Mediterranean distribution occurs on steeply inclined surfaces of siliceous rocks subject to humid, salt-laden maritime winds. The species can be both fertile and sorediate (see Tehler & al. 2009), but all Italian specimens, restricted to a few sites in Tyrrhenian Italy, are sorediate. For nomenclatural matters see Tehler (2002).



Roccella tuberculata



Roccella tuberculata

Sagenidiopsis merrotsyi R.W. Rogers & Hafellner [as 'merrotsii'], Lichenologist 19(4): 402 (1987)

[VZ2226], Australia. New South Wales, reservatum baturae Border Ranges National Park dictum, ad septentriones et occidentem a Wiangaree, Brindle Creek, 850 m. Ad truncum *Nothofagi moorei*. Leg. J. Hafellner, P. Merrotsy et R. Rogers, 30.8.1986. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2226.

Thallus byssaceus, vivus aurantiacus, in herbario cinereo-viridis aut viridiflavus; hyphae crystallis instructae, in parte superiore hyalinae et partira filaraenta algarum cinctae, in parte inferiore fuscae. Ascomata stipitata, ad 1 mm in diametro lata, primum globosa demum apothecia valde similia, rotundata, disco ochraceo-brunneo, margine albido byssoides prominenti; in sectio transversali excipulum proprium fuscum hyphis libris hyalinis obtectis visibile. Hypothecium in parte inferiore fuscum, in parte superiore hyalinum. Hymenium hyalinum 100-120 μm altum. Epihymenium fuscidulum. Asci typo generis, fissitunicati, 50-60 x 12-15 μm , stipitati. Paraphysoides ramosae et anastomosantes, c. 1-5 μm crassae, apicibus elongatis fuscidulis et ad μm incrassatis. Ascosporae postremo triseptatae, fere bacilliformes, 24-29 x 2-5-3-5 μm . Thallus acidium protocetraricum, acid virensicum et substantia ignobilis continens. Typus: Australia, New South Wales, Border Ranges National Park, north-east of Wiangaree, Brindle Creek, 28~23° S, 153°04' E, 850 m, on bark of tree in *Nothofagus moorei* forest, 30 August 1986, P. Merrotsy, R. Rogers & J. Hafellner (Merrotsy 277) (MEL—holotypus; isotypi per 'Vezda, *Lichenes selecti exsiccati* ' distribendi).

Thallus byssoid, orange when collected fading to greyish-green or greyishyellow when dry, the margin with a distinct white band overlying a layer of dark reddish-brown hyphae. Hyphae in the upper part of the thallus hyaline, 20-2-5 μm thick, wall < 1 μm thick; in the lower part of the thallus purplebrown, 3-4 μm thick, wall about 1 μm thick, encrusted with crystals. Ascomata up to 1 μm broad, initially spherical, but opening to expose a more or less flat disc; proper exciple dark red-brown, K + dark olive, but concealed in a layer of hyaline hyphae like those of the thallus causing the ascocarp to appear white; disc dark, with layer of protruding hyphae causing it to appear slightly white pruinose; hymenium hyaline, 100-120 μm high; upper part of the hypothecium hyaline, lower part coloured like the exciple; epihymenium 30-45 μm high. Asci as for the genus, 50-60 x 12-15 μm . Paraphy-

soids as for the genus, 1.5 μm thick, swelling to 3 μm in the supra-hymenial layer. Ascospores as for the genus, 1-septate in early stages, ultimately 3-septate; almost bacilliform, 24-29 x 2-5-3-5 μm , length:breadth ratio 9-10; wall thickness < 1 μm . Chemistry: Protocetraric acid (major constituent) with traces of virensic acid and an unidentified substance (Rf33 in Solvent C). Ecology: on overhung rock faces and tree trunks in montane forest, especially in the vicinity of *Nothofagus moorei*



Sagenidiopsis merrotsyi



Sagenidiopsis merrotsyi

Sagenidium molle Stirt., Proc. Roy. phil. Soc. Glasgow 10: 305 (1877)

[VZ2368], Australia. Tasmania. Scotts Peak Road ad septentriones ab Huon River, 560 m. Ad truncum arboris (*Nothofagus cunninghamii*) in pluviisilva. Leg. G. Kantvilas (525/88), 23.11.1988. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2368.

Thallus white to greyish-blue-white, soft, felted, in fine strands, 0.2-0.4 mm thick and 4-8 mm tall, and to 10(-15) cm diam., orbicular or irregularly spreading, without soredia or isidia, corticolous, or muscicolous. Apothecia emergent, lateral and terminal on strands, frequent to absent, subpedicellate, subglobose, disc concave to plane or subconvex, black or brown-black, distinctly white-tomentose, 0.5-1(-2) mm diam. Ascospores fusiform with pointed ends, 5-septate, locules rounded, slightly curved $22-30(-34) \times 3-8 \mu\text{m}$. Chemistry: Lepraric acid.



Sagenidium molle

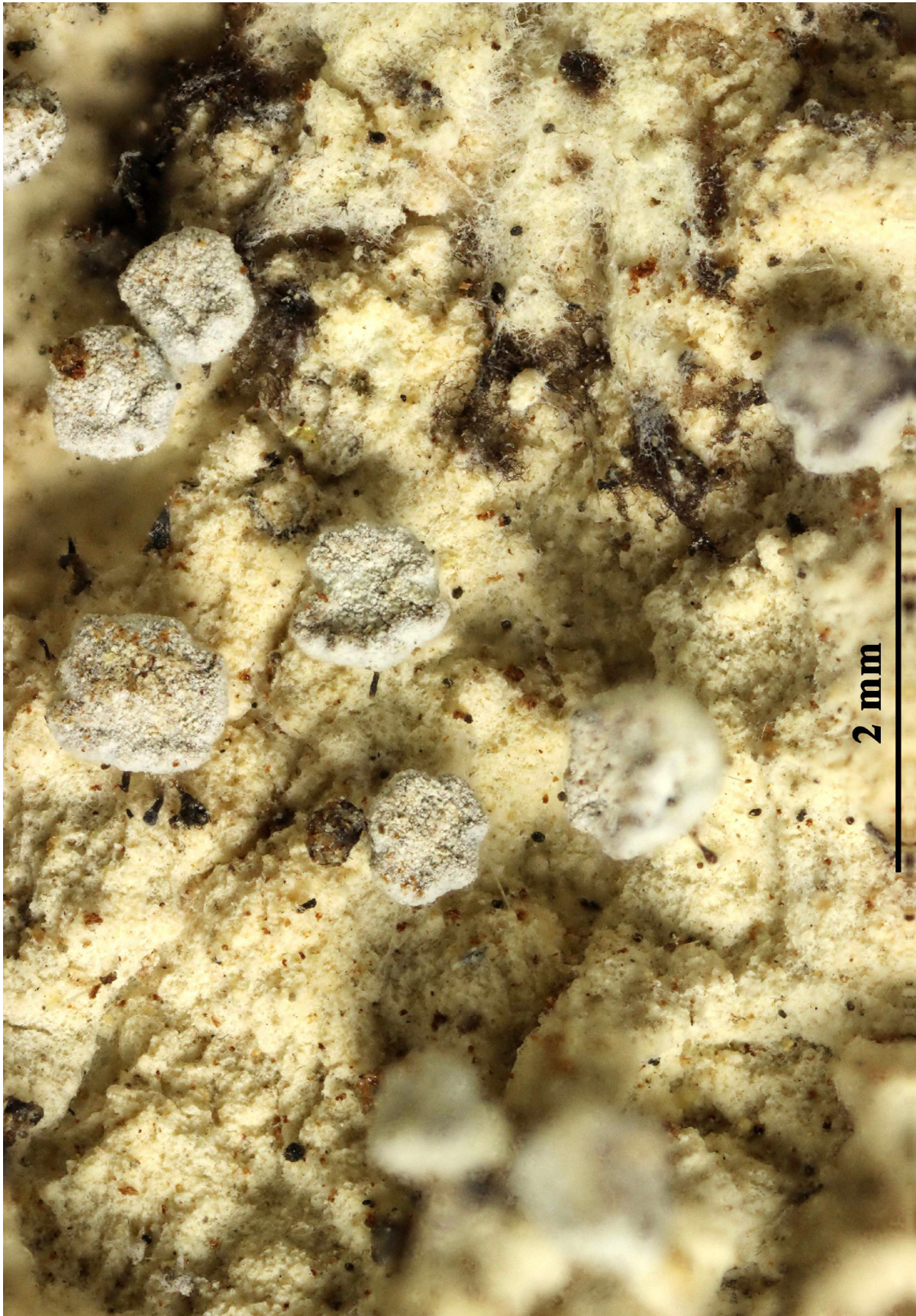


Sagenidium molle

Sagenidium molle Stirt., Proc. Roy. phil. Soc. Glasgow 10: 305 (1877)

[VZ2012], Australia. Tasmania. Mueller Rd., 3 km ad occidentem a Styx Rd., 560 m. Ad truncum arboris in pluviisilva. Leg. G. Kantvilas (no. 653/84), 17.6.1985. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2012.

Thallus white to greyish-blue-white, soft, felted, in fine strands, 0.2-0.4 mm thick and 4-8 mm tall, and to 10(-15) cm diam., orbicular or irregularly spreading, without soredia or isidia, corticolous, or muscicolous. Apothecia emergent, lateral and terminal on strands, frequent to absent, subpedicellate, subglobose, disc concave to plane or subconvex, black or brown-black, distinctly white-tomentose, 0.5-1(-2) mm diam. Ascospores fusiform with pointed ends, 5-septate, locules rounded, slightly curved $22-30(-34) \times 3-8 \mu\text{m}$. Chemistry: Lepraric acid.



Sagenedium molle

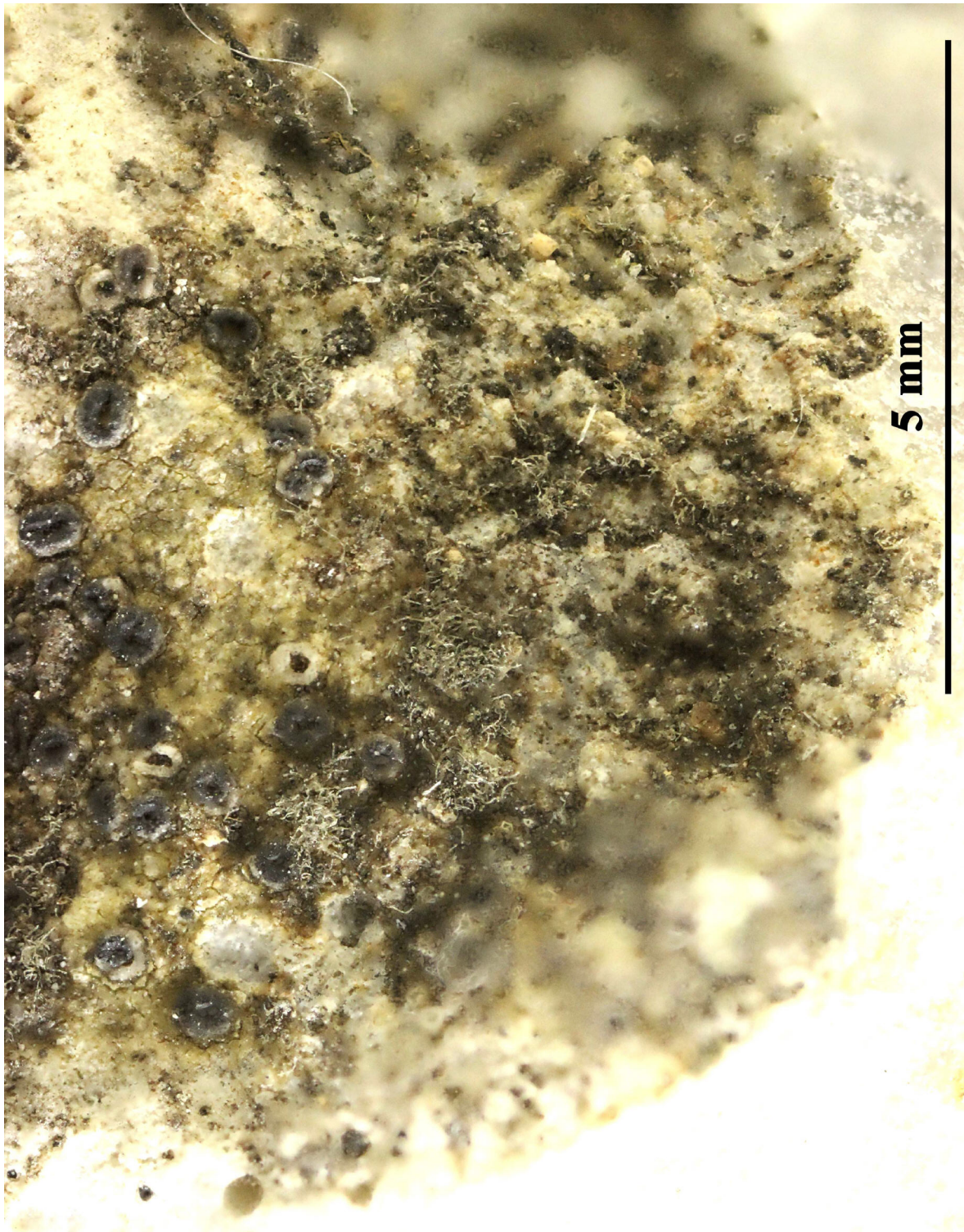


Sagenidium molle

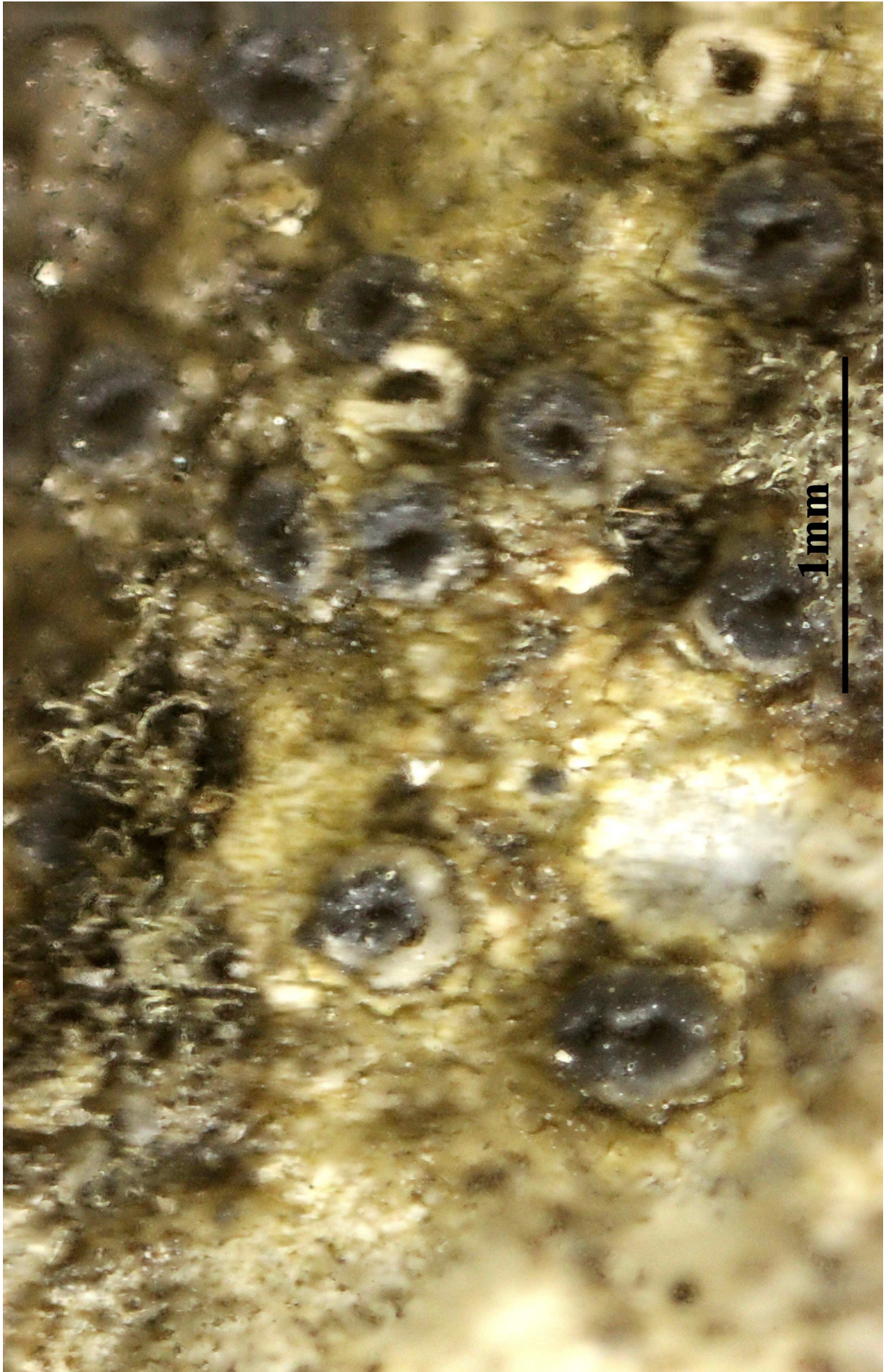
Sagiolechia protuberans (Ach.) A. Massal., Geneac. lich. (Verona): 11
(1854)
= *Sagedia protuberans* Ach. 1810

[VZ1155], Bohemoslovakia. Carpati, montes Slovenský ráj Hrabušice, in faucibus Suchá Belá dictis, 800 m. Ad saxa calcarea humida. Leg, A. Vězda et V. Wirth. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1155.

Thallus crustose, endosubstratic, continuous, wine-red when sterile, whitish, pinkish or pinkish brown when fertile. Apothecia (0.4-)0.5-0.8(-1) mm across, frequently arranged in lines or in clusters, at first largely immersed in the thallus, then sessile, black (the disc turning red-brown when wet), with an initially concave, then flat to convex, often umbonate to gyrose disc and a thick, radially split and sometimes finally star-shaped proper margin. Proper exciple black and carbonized in outer part, colourless to yellowish brown within, not extending below the hymenium; epithecium reddish brown to dark brown, K-, the upper part of umbo brown-black to black; hymenium colourless, 95-120 µm high, the hymenial gel I+ blue; paraphyses branched and anastomosing, c. 1 µm thick at mid-level, the apical cell swollen, up to 4 µm wide; hypothecium colourless to dark brown. Asci 8-spored, cylindrical to elongate-clavate, the wall K/I+ blue, the apical dome K/I-, Gomphillus-type. Ascospores (2-)3-septate, hyaline, ellipsoid to fusiform, (10-)12-25(-30) x (6-)7-9(-12) µm. Pycnidia black, immersed, the conidiogenous cells short, bottle-shaped, enteroblastic. Conidia acrogenous hyaline, bacilliform. Photobiont trentepohlioid. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: on dolomite and hard calciferous rocks in rather humid situations; probably more widespread, and locally even common, along the Apennines.



Sagiolechia protuberans



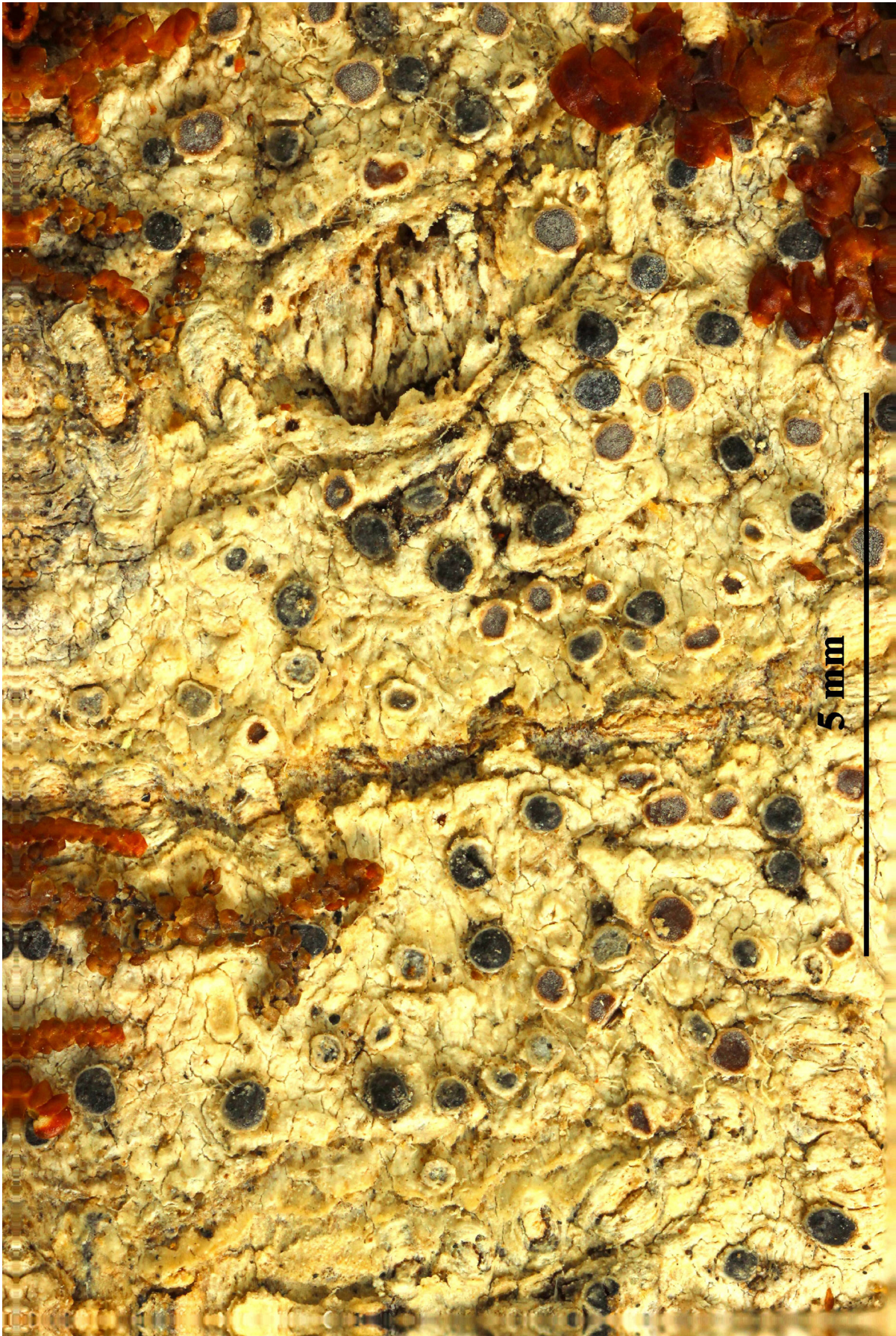
Sagiolechia protuberans

Sarrameana tasmanica Vězda & Kantvilas, Lichenologist 20(2): 179 (1988)

= *Loxospora solenospora* (Müll. Arg.) Kantvilas, Herzogia 14: 36 (2000)

[VZ2200], Australia. Tasmania. Little Fisher River, 830 m. Ad corticem arboris (*Atherosperma moschatum*) in pluviisilva - Isotypus - . Leg. G. Kantvilas (63/87) et J. Jarman, 15.5.1987. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2200.

Thallus greyish white, thin, smooth to rather verrucose. Apothecia 0.5–1.3 mm diam., lecideine; margin pale brown to ±translucent greyish, persistent, covered or surrounded by an entire or ragged whitish thalline layer and appearing lecanorine at least when very young; disc pale to deep reddish brown to blackish brown, mostly plane, pale grey-pruinose or becoming epruinose with age. Excipulum hyaline, inspersed with red-brown granules, K+ fleeting yellow and dissolving; hyaline thalline tissue surrounding excipulum K+ yellow. Epithecium composed of dense red-brown to yellow-brown granules, K+ fleeting yellow and dissolving in part. Hymenium hyaline, inspersed with oil droplets to 7 µm diam., also with occasional red-brown granules, K+ fleeting yellow and dissolving. Paraphyses simple, with apices hyaline or pale brownish. Hypothecium hyaline or with reddish brown granules, K+ fleeting yellow, dissolving. Ascospores narrowly ellipsoidal to broadly fusiform, simple or very rarely with 1 or 3 septa, curved, (18–) 20–33 × 4.5–6.0 µm. Pycnidia very rare, immersed, visible as minute black dots c. 0.05 mm wide. Conidia 3–4 × 0.5 µm. CHEMISTRY: Thamnolic acid almost always present; very rarely containing gyrophoric acid, either alone or in addition to thamnolic acid. Spot tests with standard reagents are generally unreliable for detecting these compounds as they may be present only in low concentrations or the thalli may be very thin. Typically as an epiphyte in cool-temperate rainforest and associated vegetation; it colonises the smooth bark of young saplings, canopy twigs and branches. Also known from New Zealand.



Sarrameana tasmanica

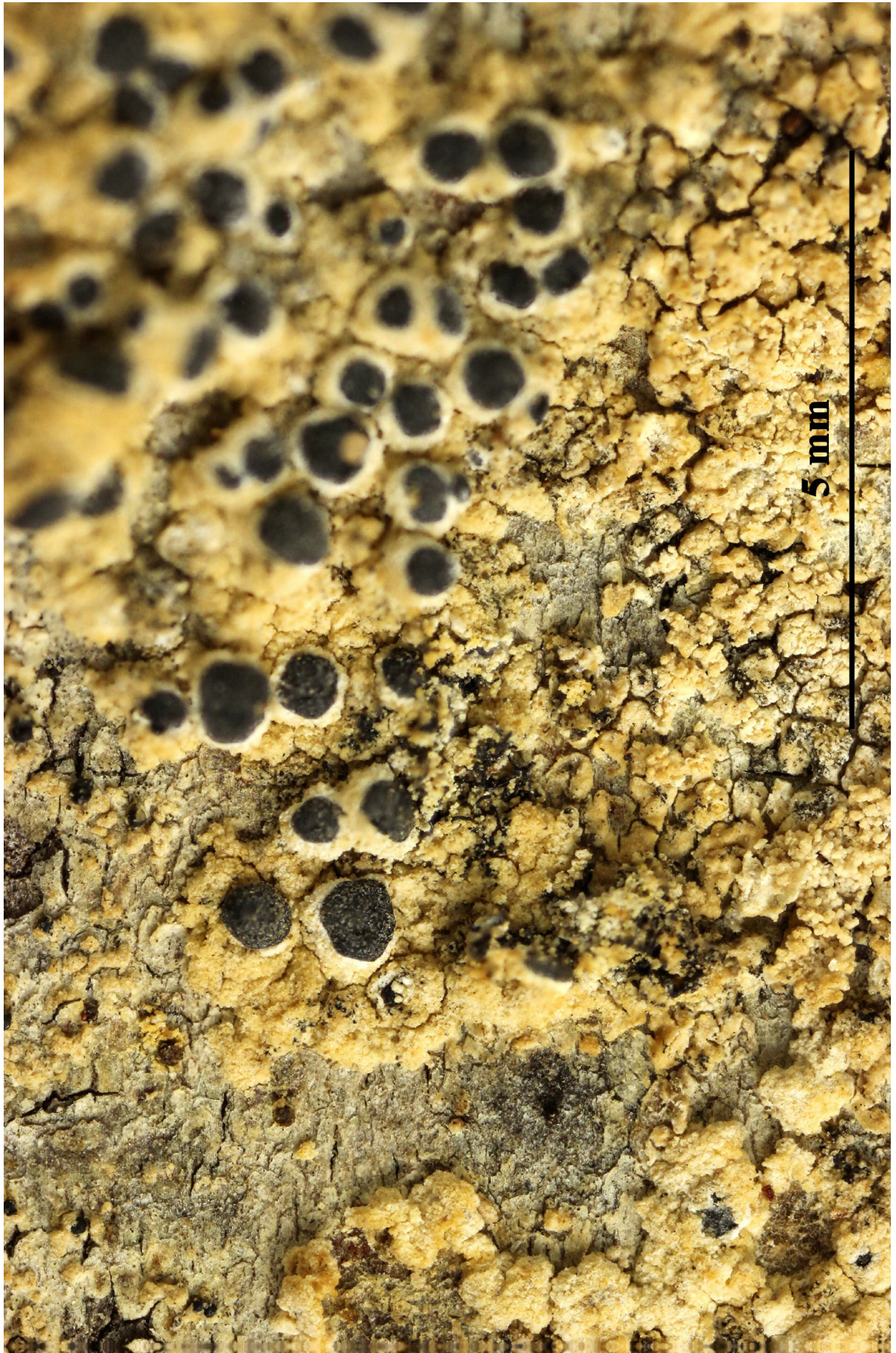


Sarrameana tasmanica

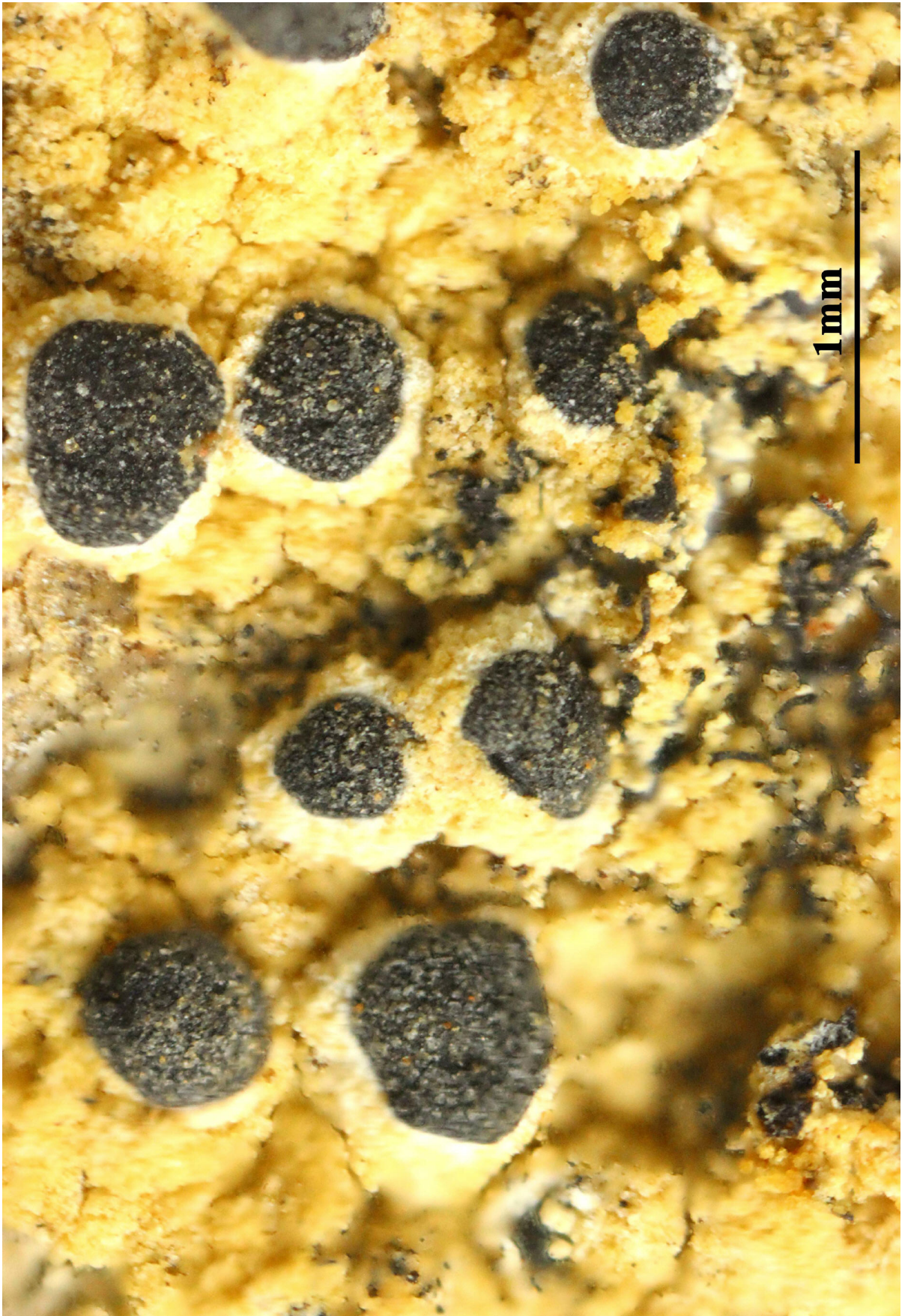
Schismatomma abietinum (Ehrh. ex Ach.) A. Massal., Ric. auton. lich. crust. (Verona): 56 (1852)
= *Lichen abietinus* Ehrh. ex Ach. 1795
= *Lecanactis abietina* (Ehrh. ex Ach.) Körb., Syst. lich. germ. (Breslau): 275 (1855)

[VZ2002], Jugoslavia. Crna Cora (Montenegro): montes Durmitor, loco Surdup dicto supra lacum Zminje jezero, 1500-1600 m. Ad corticem arborum (*Abies*) in silva virginea. Leg. A. Vězda, 20.8.1984. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2002.

Thallus crustose, thinly episubstratic, continuous to rimose, white, grey-white or rarely cream-coloured, often with a violet hue. Apothecia not always present, round to irregular in outline but never lirelliform, constricted at base, 0.5-2 mm across, with a flat to slightly convex, brown-black but yellowish grey-pruinose disc, and a thin, initially raised, finally often excluded proper margin. Proper exciple brown-black, extending below the hymenium, the outer hyphae completely encrusted with granules which dissolve in K, giving rise to needle-like crystals; epithecium ochraceous brown, thin, granulose; hymenium colourless, (65-)90-110 µm high, not interspersed with oil droplets, I+ reddish or I+ blue in the upper and lower parts, K/I+ blue; paraphysoids branched and anastomosing, 1.5-2 µm thick, the apical cells 3-4 µm wide; subhymenium brownish, 25-50 µm high; hypothecium brown-black, K+ greenish. Asci 8-spored, cylindrical-clavate, fissitunicate, the apex with a K/I+ pale blue apical dome penetrated by a small ocular chamber, and a poorly evident I+ blue ring-structure. Ascospores 3(-4)-septate, hyaline, acicular-fusiform, curved, (25-)28-40(-46) x 3-6 µm, with a very thin, usually not evident gelatinous perispore. Pycnidia usually abundant, especially in sterile specimens, prominent, hemispherical to short-cylindrical, covered with a whitish pruina at least at the top, the wall K+ green. Microconidia 9-15 x 0.8-1.2 µm; macroconidia (11-)12-17(-20) x 2-3.5(-4) µm, straight or slightly curved. Photobiont trentepohlioid. Spot tests: thallus K-, C-, KC-, P-; pruina of the pycnidia C+ red; medulla UV+ yellow- or glaucous-grey. Chemistry: lecanoric and schizopeltic acids, plus an unknown UV+ substance in the medulla. - Note: a cool-temperate lichen, mostly found in mixed montane forests with *Abies*, on dry undersides of trunks and old branches, in crevices of the bark, much more rarely on old oaks.



Schismatomma abietinum



Schismatomma abietinum

Schismatomma decolorans (Turner & Borrer ex Sm.) Clauzade & Vězda, in Vězda, Lichenes Selecti Exsiccati, Fasc. (Průhonice) 13: no. 304 (1965)

= *Spiloma decolorans* Turner & Borrer ex Sm. 1812

= *Dendrographa decolorans* (Turner & Borrer) Ertz & Tehler, Fungal Diversity 49(1): 53 (2011)

[VZ1678], Magna Britannia. Anglia, Yeovil, Melbury Sampford, Melbury Park. Ad corticem *Aceris pseudoplatani*. Leg. P. W. James, 5.6.1979. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1678.

Thallus crustose, episubstratic, sorediate or not, rather thin, continuous or more or less cracked, pale grey to pale grey-brown, often with a characteristic lilac tinge (which disappears in the herbarium), sometimes delimited by a grey-black prothallus, several thalli often merging to cover very large surfaces. Soralia, when present, at first punctiform, then rapidly confluent, concolorous with or slightly paler than thallus, the farinose soredia often abundant and giving the thallus a subleprose appearance. Apothecia very rare in sorediate forms, common in fertile forms corresponding to *Schismatomma albocinctum*, elongate to almost circular, sessile to immersed, not constricted at base, (0.5-)0.8-1.3 mm wide, with a convex, persistently white-pruinose disc and a thin, finally sometimes excluded thalline margin. Proper exciple thin, of anticlinally arranged hyphae; epithecium brown; hymenium colourless, I+ blue; paraphysoids branched and anastomosing, 1-2 µm thick; hypothecium dark brown to carbonaceous black. Asci clavate, bitunicate, thickened at apex, with an internal K/I+ blue ring. Ascospores 1-septate, hyaline, fusiform, curved, (25-)30-37 x 4-5 µm. Pycnidia rare, black, immersed. Conidia bacilliform, straight or slightly curved, 1-septate, hyaline to pale brown, 6-7 x c. 2 µm. Photobiont trentepohlioid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: unidentified fatty acids. - Note: a mild-temperate, mostly western species found on ancient oaks in Northern Italy, but most abundant in Tyrrhenian Italy (e.g. on orange-trees along the Amalfi coast). The fertile, non-sorediate morph previously called *Schismatomma albocinctum* is genetically identical to the sorediate morph (Ertz & Tehler 2011); it has a Mediterranean-Atlantic distribution, and is found on bark of *Pinus*, *Juniperus*, *Pistacia*, and other shrubs in maritime, very humid situations, being much rarer than the typical, sorediate form.



Schismatomma decolorans



Schismatomma decolorans

Schismatomma dirinellum (Nyl.) Zahlbr., Cat. Lich. Univers. 2: 555 (1923) [1924]

'= *Platygrapha dirinella* Nyl. 1856

= *Diromma dirinellum* (Nyl.) Ertz & Tehler, in Ertz, Tehler, Irestedt, Frisch, Thor & van den Boom, Fungal Diversity 70: 41 (2014) [2015]

[VZ1326], Hispania. Tarragona, prope Cubit. In colle arido prope litum. Ad corticem *Ceratoniae*. Leg. S. L. Culberson (no. 12831), 26.6.1964. det. A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1326.

Thallus crustose, whitish grey, at first poorly evident, then rimose-areolate, corticate, forming small patches on the thalli of *Dirina ceratoniae*. Apothecia 0.1-0.4(-0.6) mm across, round, oblong or irregular in outline, immersed to semi-immersed, sometimes confluent, with a dark brown to brown-black, often white-pruinose disc, a poorly evident proper margin, and a corticate, finally sometimes excluded thalline margin level with disc. Proper exciple very thin, inconspicuous; epithecium pale brown to greenish brown; hymenium colourless, I+ reddish; paraphysoids coherent, simple or sparingly branched in upper part, slender, c. 1.5 µm thick, the apical cells up to 3 µm wide; hypothecium colourless to pale brown, I+ blue. Asci 8-spored, clavate, bitunicate, the apex thickened with a small internal K/I+ blue ring. Ascospores 3-septate, hyaline, fusiform to ellipsoid with rounded ends, slightly curved, (18-)20-31 x 4-5.5 µm, without a perispore. Photobiont trentepohlioid. Spot tests: thallus K-, C-, KC-, P-. Chemistry: thallus with roccellic acid. - Note: a rare species living as a parasite on *Dirina ceratoniae*, strictly confined to the Mediterranean belt.



Schismatomma dirinellum

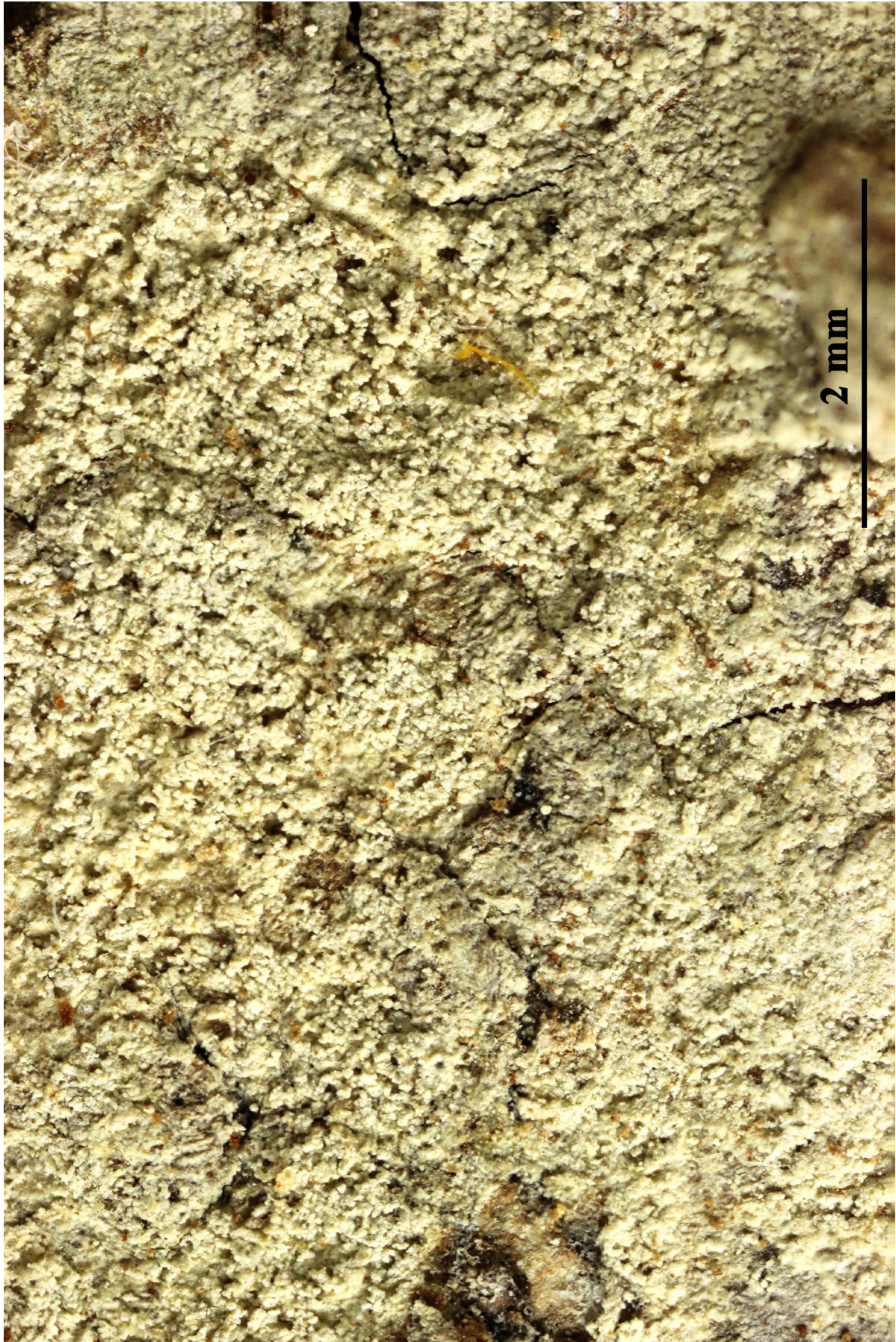


Schismatomma dirinellum

Schismatomma niveum D. Hawksw. & P. James, in James, Lichenologist 5(1-2): 145 (1971)
= *Snippocia nivea* (D. Hawksw. & P. James) Ertz & N. Sand., in Ertz, Sanderson, Łubek & Kukwa, Lichenologist 50(2): 170 (2018)

[VZ1053], Magna Britannia. Anglia. Hampshire, New Forest, Mark Ash Wood. Ad corticem *Salicis* sp.. Leg. P. W. James, 7.1971. - contains psoromic acid, conpsoromic acid and an unidentified substance, anal. P. W. James. EX VĚZDA LICHENES SELECTI EXSICCATI NR. 1053.

Thallus crustose, episubstratic, ecorticate and sorediate, rather thick to (rarely) thin, continuous to rimose, pale pink when fresh, soon turning creamy white to glaucous grey in the herbarium, poorly delimited or rarely with a white to purple-black prothallus. Soralia developing from small warts, at first punctiform and to 1 mm across, but soon becoming confluent into irregular patches, concolorous with thallus. Apothecia unknown. Pycnidia rare, black, immersed. Conidia 6-7 x c. 1 μ m, straight or curved. Photobiont trentepohlioid. Spot tests: K-, C-, KC-, P+ bright yellow, UV+ dull grey-orange. Chemistry: psoromic and 2-O-demethylpsoromic acids and variable amounts of an unidentified xanthone. - Note: a western species, never found fertile, found on the dry sides of trunks of old deciduous oaks in sheltered situations. Known from Sardinia, to be looked for further in Tyrrhenian Italy.



Schismatomma niveum



Schismatomma niveum

Sclerophora nivea Tibell, Beih. Nova Hedwigia 79: 679 (1984)

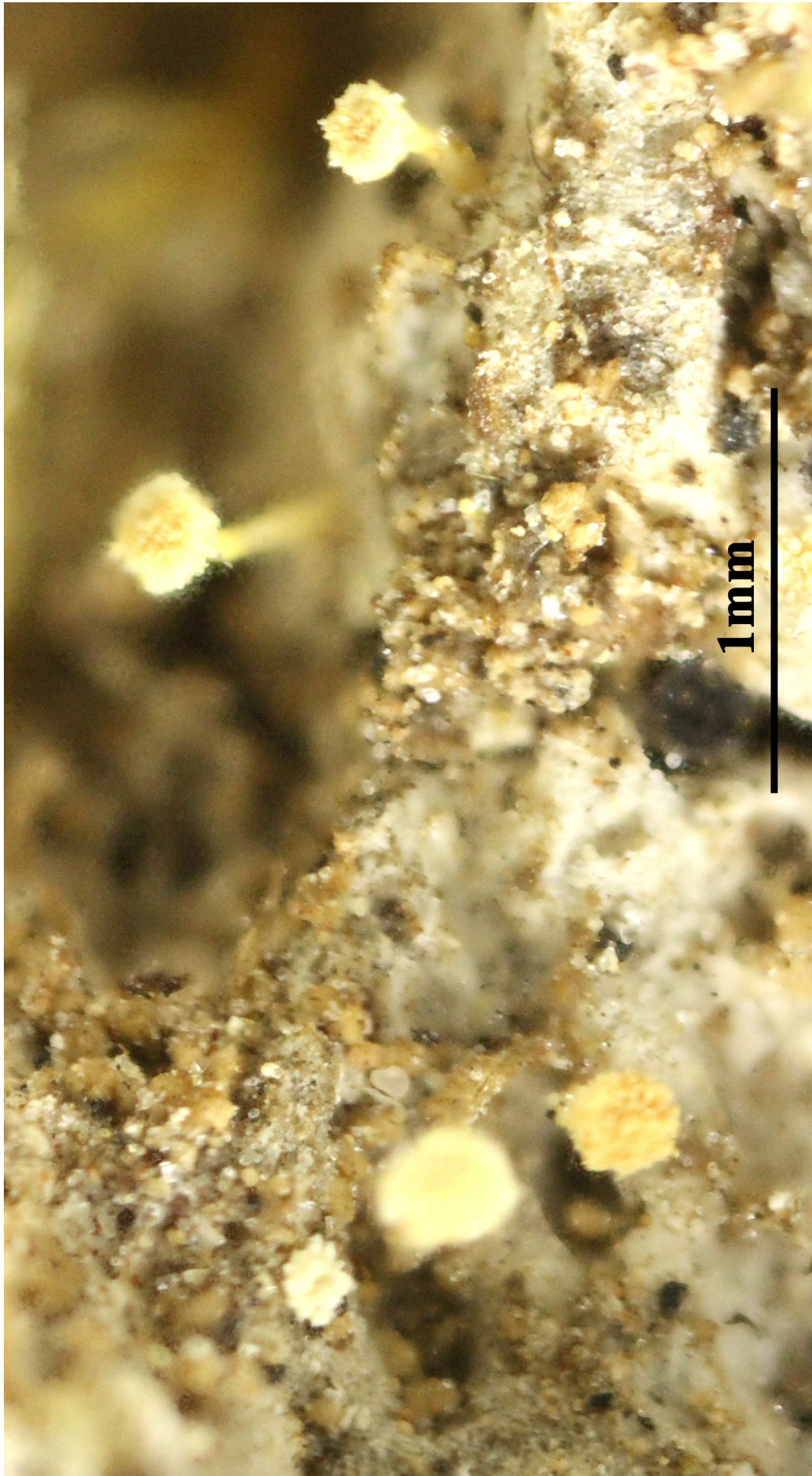
= *Sclerophora pallida* (Pers.) Y.J. Yao & Spooner, Kew Bull. 54(3): 688 (1999)

[VZ2257], Italia. Calabria, prope montem Cozzo del Pesco, 950 m. Ad corticem *Quercus dalechampii*. Leg. D. Puntillo, 15.7.1988. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2257.

Thallus endosubstratic, poorly evident. Apothecia at first sessile and covered with a yellow pruina, then stalked and pin-like, 0.4-0.7 mm high, the stalk 0.06-0.1 mm thick, straw-yellow to pale grey in old specimens, epruinose, translucent when wet, consisting of hyaline, non-sclerotized, periclinally arranged hyphae. Capitulum broadly ovoid to lenticular, 0.25-0.32 mm across, the mazaedium well developed, pale ochraceous, densely interspersed with minute, dark yellow crystals. Exciple well-developed, forming a basal collar, of anticlinally oriented, hyaline hyphae, the surface covered in a layer of colourless to yellow crystals (pruina); hypothecium pale yellowish brown, with a slightly convex upper surface. Asci clavate, with a single functional wall layer, without apical structures, K/I-, dissolving at early stages, formed singly from ascogenous hyphae with croziers, with 2-seriately arranged ascospores. Ascospores 1-celled, globose, hyaline, 7-8 μm wide, with a verrucose ornamentation. Photobiont trentepohlioid. Spot tests: all parts of the ascomata including the yellow pruina K-, C-, KC-, P-, except the crystals in the mazaedium, which react K+ fleeting purple-violet (often with the formation of large crystals). Chemistry: thallus without lichen substances. - Note: a temperate species found on old trees with base-rich bark, such as *Acer*, *Ulmus* and *Fraxinus*, in dry crevices of the bark. Certainly strongly declining, especially in Northern Italy.



Sclerophora nivea



Sclerophora nivea

Sclerophora peronella (Ach.) Tibell, Beih. Nova Hedwigia 79: 679 (1984)
= *Lichen peronellus* Ach. 1799

[VZ2474], Italia. Calabria. Consenza, Saracena: Plano di Novacco, 1310 m. Ad corticem *Fagi sylvaticae*. Leg. D. Puntillo, 12.8.1990. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2474.

Thallus crustose, endosubstratic, poorly evident. Apothecia stalked, pin-like, 0.5-0.8 mm high, the stalk 0.06-0.12 mm thick, pale grey to pale brown, epruinose, consisting of hyaline, non-sclerotized, periclinally arranged hyphae, yellowish red in inner part, with a hyaline outer layer, the darker inner part visible in the wet state. Capitulum hemispherical to lenticular, 0.2-0.3 mm across, when young faintly yellow-pruinose (the pruina reacting K-), when mature with a pale flesh-coloured to ochraceous, white-pruinose mazaedium, often cracking irregularly when dry. Exciple not forming a basal collar, consisting of irregularly intertwined hyphae, the surface covered with a 3-4 μm thick, amorphous, yellowish red layer; hypothecium yellowish red, with a convex upper surface. Asci cylindrical or cylindrical-clavate, formed singly and dissolving early, without apical structures, with 1-2-seriately arranged ascospores. Ascospores 1-celled, globose, hyaline, 3-3.5(-4) μm wide, with a smooth to faintly and irregularly cracked wall. Photobiont trentepohlioid. Spot tests: all parts of the ascomata including the yellow pruina K-, C-, KC-, P-. Chemistry: thallus without lichen substances. - Note: on bark and lignum of mature broad-leaved trees, often forming monospecific stands.



Sclerophora peronella



Sclerophora peronella

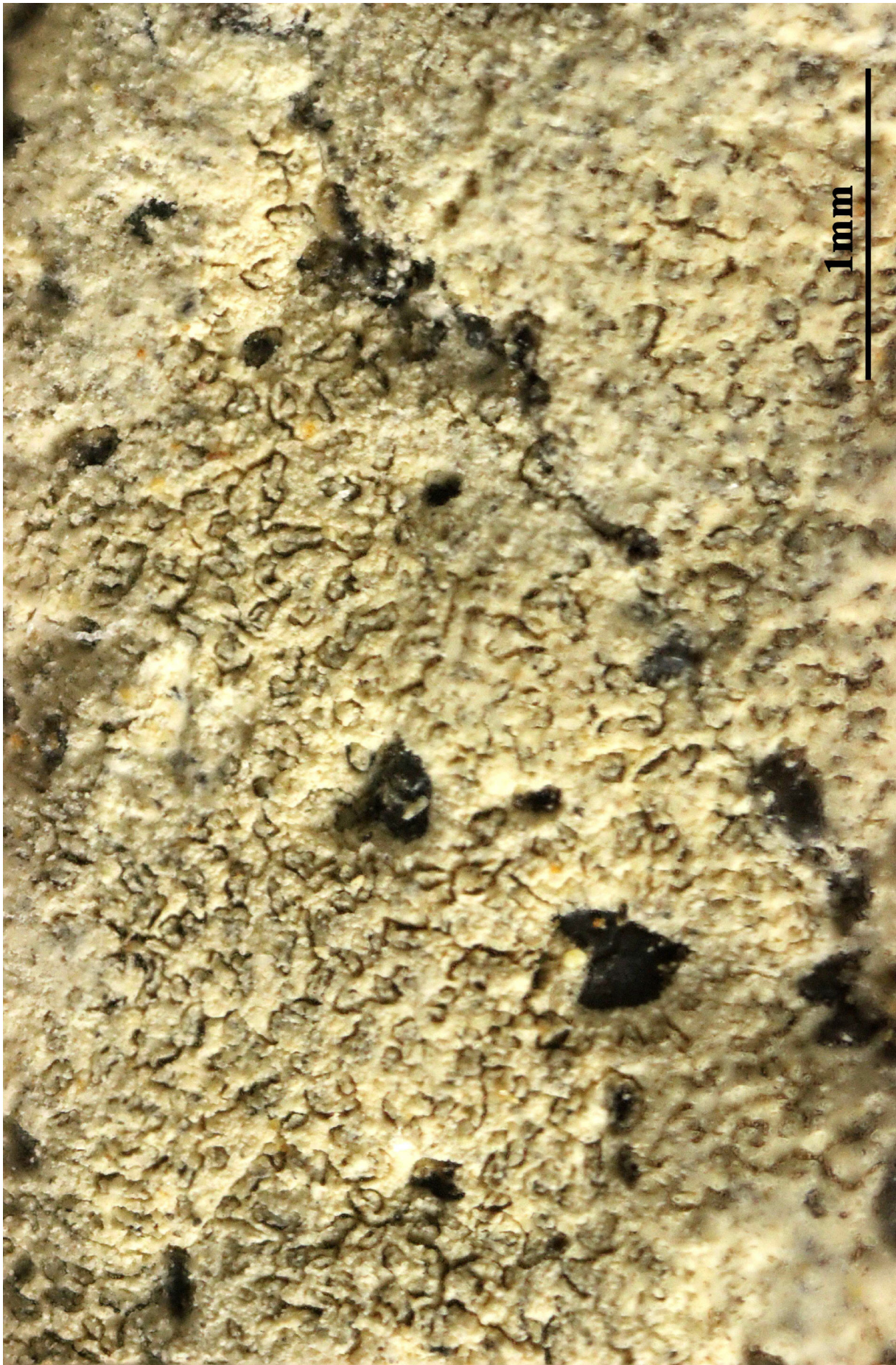
Sclerophyton circumscriptum (Leight.) Zahlbr., in Engler & Prantl, Nat. Pflanzenfam., Teil. I (Leipzig) 1(1*): 105 (1905)
= *Sagedia circumscripta* Leight. 1851
= *Roccellographa circumscripta* (Leight.) Ertz & Tehler, Fungal Diversity 49(1): 58 (2011)

[VZ1177], Hispania. Distr. Guipuzcoa: Fuentarrabia, in pede montis Jaizquibel, 50 m. Ad saxa arenacea maritima. Leg. J. Vivant, 4.1973. EX VĚZDA LICHENES SELECTI EXSICCATI NR. 1177.

Thallus crustose, episubstratic, continuous to rimose-areolate, 0.15-0.25 mm thick, white to pale grey, slightly farinose, often forming mosaics, the individual thalli up to 5 cm wide, delimited by a thin grey-black prothallus, the areoles 1-2 mm wide, often denticulate, covered in densely compacted calcium oxalate crystals. Upper cortex lacking but epinecral layer usually present; medulla white, cretaceous. Apothecia immersed, punctiform, oval or elongate, up to 0.1 mm across, usually numerous, scattered, clustered, or arranged in lines, not aggregated into stromata, with a flat, black, but often whitish-pruinose disc. Proper exciple up to 15 μ m thick, brown in upper part, pale below; hymenium colourless, 100-150 μ m high, I+ blue; paraphysoids richly anastomosing, 2-2.5 μ m thick; hypothecium colourless to pale brown. Asci 8-spored, cylindrical, Opegrapha-type. Ascospores 4-7-septate, constricted at septa, dark grey to brown, oblong-ovoid to oblong-fusiform, 17-26 x 5-7 μ m, with a thick gelatinous sheath. Photobiont trentepohlioid. Spot tests: cortex and medulla K- or K+ pale yellow, C-, KC- or KC+ pale yellow, P+ yellow-orange, UV-. Chemistry: psoromic acid (major) and 2'-O-demethylpsoromic acid (minor). - Note: a tropical to subtropical-temperate species of oceanic, coastal areas, with a subcosmopolitan distribution (see Sparrius 2004), found on very hard siliceous rocks subject to humid maritime winds, mostly under overhangs; extremely rare in Italy.



Sclerophyton circumscriptum



Sclerophyton circumscriptum

Scoliciosporum pruinosum (P. James) Vězda, Folia geobot. phytotax. 13: 414 (1978)

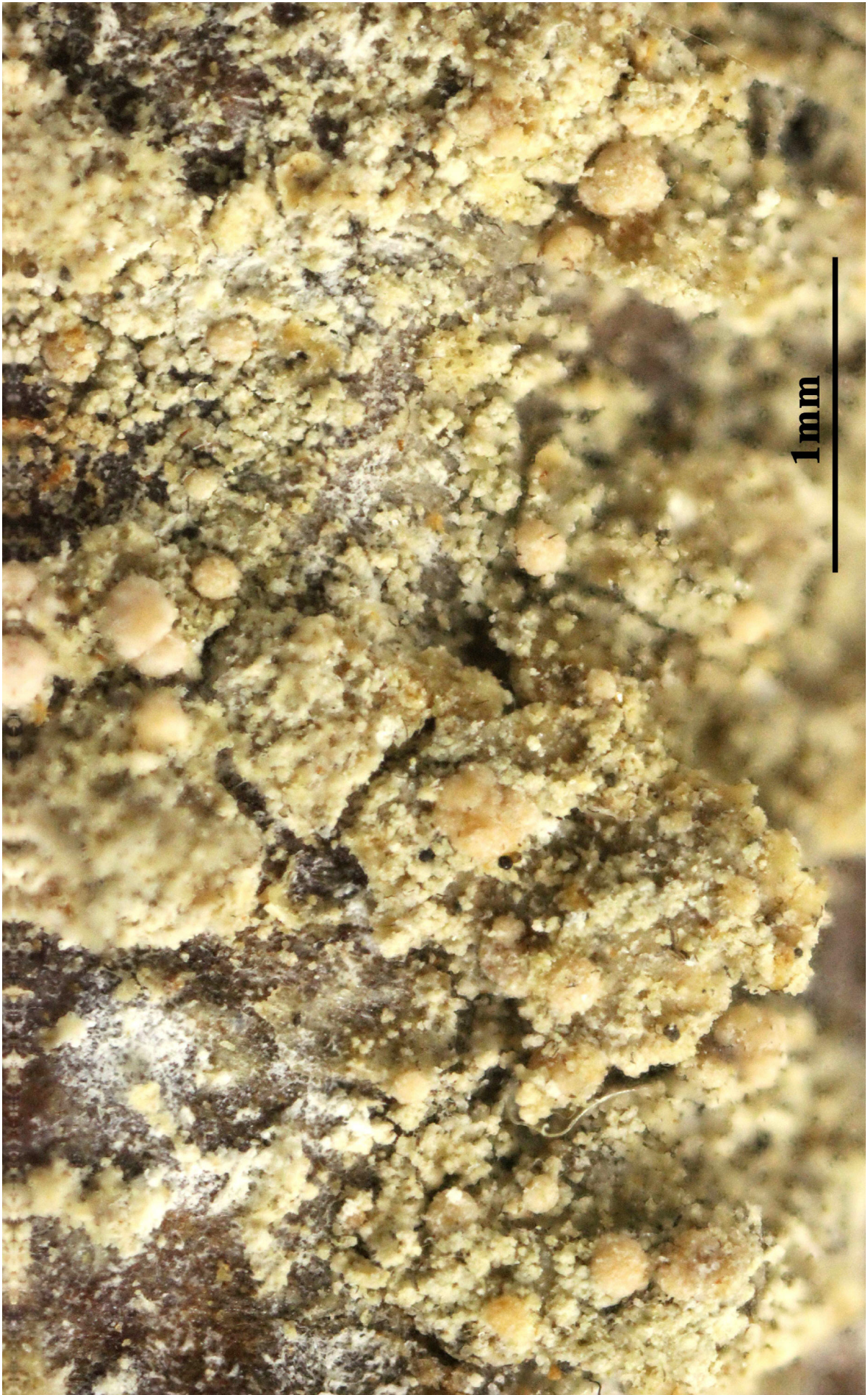
= *Bacidia pruinos* P. James 1971

[VZ2455], Gallia. Montes Pyrenaei atlantici, Orthez, prope vecum Castetbon, 50 m. Ad ramulos *Crataegi* sp. Leg. J. Vivant, 10.5.1990. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2455.

Thallus crustose-subleprose, thinly episubstratic, whitish, finely granulate, sometimes evanescent. Apothecia biatorine, 0.1-0.3(-0.4) mm across, whitish to pale pink-coloured when young, pale brown at the end, from the beginning strongly convex and immarginate, sometimes subglobose and tuberculate, often white-pruinose. Proper exciple very thin, of radiating, branched and anastomosing hyphae; epithecium colourless to pale yellowish brown, with a layer of yellowish granules dissolving in K; hymenium colourless, I+ blue; paraphyses strongly branched and anastomosing, immersed in a gelatinous matrix and resembling excipular hyphae, not swollen at apices. Asci 8-spored, cylindrical-clavate, with a K/I+ blue apical dome penetrated by a narrow, K/I- apical cushion surrounded by a narrow, deeply K/I+ blue zone, the wall K/I- but surrounded by a I+ red-brown and K/I+ blue outer layer, the ocular chamber small, Biatora-type. Ascospores indistinctly 3-5-septate, hyaline, (20-)22-35(-40) x 1-1.5(-2) µm strongly curved at least at one end, often S-shaped, spirally twisted in the asci. Photobiont chlorococcoid, the cells 7-15 µm wide. Spot tests: thallus K-, C-, KC-, P-, UV-; apothecia fleeting KC+ red, UV+ white. Chemistry: thallus without lichen substances; lobaric acid in the pruina of apothecia. - Note: a mild-temperate species found on bark, especially of old oaks, usually on surfaces protected from rain, with optimum in humid deciduous, more rarely evergreen forests, often along rivers.



Scoliciosporum pruinatum



Scoliciosporum pruinatum

Siphula ceratites (Wahlenb.) Fr., Lich. eur. reform. (Lund): 406 (1831)
= *Baeomyces ceratites* Wahlenb. 1812

[VZ1125], Norvegia. Nordlandia, Vega insula. Supra terram humosam in saxonis. Leg. G. Degelius, 7.1972. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1125.

Thallus to 3 cm tall, forming compact tufts, scattered or continuous in extensive patches; branches to 2 mm diam., chalk-white, pale greyish or ivory, $\pm$ erect, not or sparingly branched, cylindrical or somewhat flattened, longitudinally plicate or furrowed, particularly towards a $\pm$ rooting base, smooth, rugose or scabrid-pruinose, solid; apices rounded, not markedly tapered; without soredia, isidia or apothecia. Cortex C+ violet-yellowbrown (soon fading), K+ yellow to yellow-brown, KC+ yellow-orange to yellow-brown, Pd-; medulla UV $\pm$ violet-glaucous or $\pm$ yellow (siphulin). On shallow peat or gravelly soil, often in shallow, temporary rain hollows in bedrock, or by pools in blanket bog; submontane, montane; rare but locally frequent. - A distinctive species unlikely to be confused with any other British lichen; poorly developed material could be confused with *Cladonia uncialis*, which has a more yellow-green thallus composed of hollow podetia that are dichotomously branched with pointed apices and open axils. *Thamno- lia vermicularis* differs in having pointed apices, hollow, extended branches, a prostrate habit and a different chemistry. Small immature specimens have been mistaken for species of *Pertusaria dactylina* and/or *Ochrolechia frigida*.



Siphula ceratites



Siphula ceratites

Siphula coriacea Taylor ex Nyl., Syn. meth. lich. (Parisiis) 1(2): 263 (1860)

[VZ2496], Australia occidentalis: Prope Armadale, ad meridiem versus a Perth, loco Boulder Rock (32°77' austr., 116°19' orient.). Ad terram supra petras noncalcareas. Leg. W. L. Culberson (no. 21798) et C. F. Culberson, 11.11.1990.- Annot.: Barbatic acid, obtusatic acid, 4-O-demethylbarbatic acid and unknown pigment (trace) by TLC, anal. A. Johnston and C. F. Culberson.- EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2496.

Thallus rather small, glebose, basal parts inrolled forming a ± tubular stalk with a well-developed rooting system. Lobes expanded above stalk, flattened to ± terete, divided, often twisted or thick, short, (3-)6-15(-30) mm tall, margins entire, rounded, often swollen, distinctly unilaterally thickened, ± sinuous. Surface white or greyish-blue at apices, smooth or coriaceous or slightly striate-corrugate, apices ± glossy. Chemistry: Medulla K-, C-, Pd-. Barbatic acid (UV+ bluish). *S. coriacea* grows in ± crowded colonies, or is solitary, in sandy soils in low-rainfall areas. It is a good indicator of arid, induced steppe, and often associates with the lichens *Chondropsis semiviridis* and *Xanthoparmelia amphixantha*.



Siphula coriacea



Siphula coriacea

[VZ2019], Costa Rica. Cartago: Cerro de la Muerte, 3400 m. Ad terram. Leg. W. L. Culberson (no. 16902) et C. F. Culberson, 12.12.1976. - Annot.: Siuphulin and related but unidentified compounds by TLC, anl. C. F. Culberson and A. Johnson. - EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2019.

Thallus fruticose, forming mats or swards. Lobes very variable, mostly erect, crowded together but remaining discrete, occasionally decumbent and rather entangled, terete to subterete at the base, typically becoming broadly flattened along most of their length but sometimes remaining rather subterete, especially at the apices, (0.4-) 1 - 3 mm wide, 0.25 - 0.5 mm thick, (5-) 10 - 60 mm tall, dichotomously branched c. 1 - 3 times; axils acute; surface pale cream, greyish or fawn brown, smooth to wrinkled, frequently very markedly so and becoming longitudinally furrowed, striate or canaliculate, only very rarely scabrid or pruinose; margins entire, unthickened, sometimes somewhat involute; apices smooth, truncate, rounded or tapering to a blunt point. Rhizines brown to dark brown, 0.3 - 0.8 mm at point of attachment. Chemistry Four chemical races are known. Due to the variation in concentrations of critical compounds present, spot tests are generally considered unreliable. (i) siphulin, oxysiphulin () and thamnolic acid, accounting for the great majority of specimens studied (64%) including the type; cortex K+ yellowish to brown, C+ fleeting violet to yellow, KC+ violet turning yellow, P+ faint yelloworange, UV + faint yellow; medulla K+ faint yellow, C-, KC+ fleeting violet to pale yellow, P-, UV faint yellowish. These compounds appear to be concentrated in the cortex or the outermost parts of the medulla, and hence chemical spot tests are more obvious on the cortex. Concentrations of the compounds also vary from specimen to specimen and even across different parts of the same specimen. Thamnolic acid may be present in trace amounts only. (ii) siphulin and oxysiphulin only (26%). (iii) squamatic acid only (75%). (iv) thamnolic acid only (2.5%). - *Siphula pteruloides* is especially noteworthy because of its chemical variability. The four races recorded do not appear to show any discernible morphological or ecological differentiation. However, detailed study of the species in the field may reveal character correlations which enable its subdivision. Herbarium specimens, especially the extensive material collected by M. Lopez-Figueiras housed in HBG, indicate that all races may occur together. In

many respects, our findings in *S. pteruloides* are analogous with our results with *Cladia aggregata* (Kantvilas & Elix 1999) where despite the election of several, previously overlooked segregate taxa, we were unable to fully resolve the chemical variation in this variable and widespread species. - Remarks As with most species of *Siphula*, *S. pteruloides* is highly variable with respect to lobe width, height and surface texture. There appear to be two rather distinct extremes of the species. In one, the lobes are quite broadly flattened, with truncate apices and a smooth surface. In the other, the lobes are very markedly longitudinally wrinkled-striate, with rather involute margins and subterete, pointed apices. The type specimen, although rather fragmented, is an example of the latter morphology. A whole range of morphotypes spans these two extremes. Even the broadly flattened types usually have a subterete portion at the base, sometimes actually within the soil substratum, with the broad lobes fanning out from this basal 'stalk'. Wrinkles also tend to be more pronounced towards the base of the lobes. Many specimens have thin, cobweb-like, black hyphae overgrowing the surface. The longitudinally striate forms of this species are very distinct and this morphology is not known from any other species of *Siphula*. The broad, smooth lobed form is very similar to *S. complanata* (Hook f. & Taylor) R.Sant.



Siphula pteruloides

[VZ2049], Venezuela. Estado Merida: Sierra de St. Domingo, Paramo de Mucuchies, Apartadero, prope lacum Laguna Negra. Leg. F. Oberwinkler et J. Poelt, 3. 1969, det. A. Vězda. EX A, VĚZDA LICHENES SELECTI EXSICCATI NR. 2049.

Thallus fruticose, forming mats or swards. Lobes very variable, mostly erect, crowded together but remaining discrete, occasionally decumbent and rather entangled, terete to subterete at the base, typically becoming broadly flattened along most of their length but sometimes remaining rather subterete, especially at the apices, (0.4-) 1 - 3 mm wide, 0.25 - 0.5 mm thick, (5-) 10 - 60 mm tall, dichotomously branched c. 1 - 3 times; axils acute; surface pale cream, greyish or fawn brown, smooth to wrinkled, frequently very markedly so and becoming longitudinally furrowed, striate or canaliculate, only very rarely scabrid or pruinose; margins entire, unthickened, sometimes somewhat involute; apices smooth, truncate, rounded or tapering to a blunt point. Rhizines brown to dark brown, 0.3 - 0.8 mm at point of attachment. Chemistry Four chemical races are known. Due to the variation in concentrations of critical compounds present, spot tests are generally considered unreliable. (i) siphulin, oxysiphulin () and thamnolic acid, accounting for the great majority of specimens studied (64%) including the type; cortex K+ yellowish to brown, C+ fleeting violet to yellow, KC+ violet turning yellow, P+ faint yelloworange, UV + faint yellow; medulla K+ faint yellow, C-, KC+ fleeting violet to pale yellow, P-, UV faint yellowish. These compounds appear to be concentrated in the cortex or the outermost parts of the medulla, and hence chemical spot tests are more obvious on the cortex. Concentrations of the compounds also vary from specimen to specimen and even across different parts of the same specimen. Thamnolic acid may be present in trace amounts only. (ii) siphulin and oxysiphulin only (26%). (iii) squamatic acid only (75%). (iv) thamnolic acid only (2.5%). - *Siphula pteruloides* is especially noteworthy because of its chemical variability. The four races recorded do not appear to show any discernible morphological or ecological differentiation. However, detailed study of the species in the field may reveal character correlations which enable its subdivision. Herbarium specimens, especially the extensive material collected by M. Lopez-Figueiras housed in HBG, indicate that all races may occur together. In many respects, our findings in *S. pteruloides* are analogous with our

results with *Cladia aggregata* (Kantvilas & Elix 1999) where despite the election of several, previously overlooked segregate taxa, we were unable to fully resolve the chemical variation in this variable and widespread species. - Remarks As with most species of *Siphula*, *S. pteruloides* is highly variable with respect to lobe width, height and surface texture. There appear to be two rather distinct extremes of the species. In one, the lobes are quite broadly flattened, with truncate apices and a smooth surface. In the other, the lobes are very markedly longitudinally wrinkled-striate, with rather involute margins and subterete, pointed apices. The type specimen, although rather fragmented, is an example of the latter morphology. A whole range of morphotypes spans these two extremes. Even the broadly flattened types usually have a subterete portion at the base, sometimes actually within the soil substratum, with the broad lobes fanning out from this basal 'stalk'. Wrinkles also tend to be more pronounced towards the base of the lobes. Many specimens have thin, cobweb-like, black hyphae overgrowing the surface. The longitudinally striate forms of this species are very distinct and this morphology is not known from any other species of *Siphula*. The broad, smooth lobed form is very similar to *S. complanata* (Hook f. & Taylor) R.Sant.



Siphula pteruloides

Siphula roccelliformis Nyl. [as 'roccellaeformis'], Lich. Nov. Zeland. (Paris):
15 (1888)
= *Siphula dissoluta* Nyl.

[VZ1837], Nova Zelandia. South Island: Canterbury, Bealy Spur prope Arthur's pass, secundus viam ad Grasmere Hut, 43°01' austr., 171°35' orient., 800-1000 m. Ad terram arenosam in regione subalpina. Leg. et det. L. Tibell (no. 10127), 17.7.1980. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1837.

Thallus lobes coarse, 3-8 mm wide and 5-20 mm tall, distinctly unilaterally thickened at apices, apices rounded, undulate, margins entire or slightly incised, ± wavy. Surface coarsely scabrid, areolate or corrugate, white, in low-light or sites of high humidity lobes thinner and often ± fenestrate with lacerate, ragged margins. Chemistry: Medulla K⁺ violet-purple, Pd⁻. Hypothamnolic acid (UV⁺ vivid blue-white).



Siphula roccelliformis

Skyttea gregaria Sherwood, D. Hawksw. & Coppins, Trans. Br. mycol. Soc. 75(3): 486 (1981) [1980]

[1875], Hispania, Asturias, prov. Oviedo: Prope San Antolín secus viam ad Cangas de Narcea ductam, 300 m. In ramulis *Ericae arboreae*, in thallo *Lecanorae* sp. vicens. Leg. et det. J. Hafellner (no. 1917). EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1875.

Exciple 40–50 µm wide; hairs 15–20 x 3–3.5(–4) µm; ascospores 7–8.5 x 3–3.5 µm. On thallus of *Mycoblastus* Spain, England, Scotland, Ireland.



Skyttea gregaria



Skyttea gregaria



Solenopsora cesatii (A. Massal.) Zahlbr., Öst. bot. Z. 68: 303 (1919)
= *Ricasolia cesatii* A. Massal. 1853
= *Placolecania cesatii* (A. Massal.) Zahlbr. Sitzungsber. Akad. Wiss.
Wien, Math.-naturw. Kl., Abt. 1, 115: 518, 1906.

[VZ2349], Cyprus. Lanarca, Pyla, prope vicum Oroclini, in vicinitate litoris, 5-10 m. Ad saxa conglomerata p. max. parte calcarea. Leg. A. Vězda, 25.6.1987. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2349.

Thallus crustose-placodioid, episubstratic, blue-grey to grey when dry, bright green when wet, often white-pruinose in marginal parts, subquamulose-lobulate in central parts, irregularly lobed at margins, forming either single rosettes (up to 2 cm across) or concentric radiating circles or arcs (up to 15 cm across). Lobes 0.4-0.8 mm wide, flat to usually slightly convex, undulate, folded and crisped, with round, entire margins. Apothecia lecanorine, sessile, 0.5-1.5(-3) mm across, with a dark brown to black, sometimes pruinose disc and a persistent thalline margin. Epithecium brownish; hymenium colourless, 40-60 µm high, K/I+ blue; paraphyses simple, coherent; hypothecium colourless, 100-110 µm high. Asci 8-spored, cylindrical-clavate, with a K/I+ blue outer coat and a K/I+ uniformly blue apical dome, approaching the Catillaria-type. Ascospores (0-)1-(-3)septate, hyaline, narrowly ellipsoid, (7-)8-13(-15) x 2.5-4 µm. Photobiont: chlorococcoid. Spot tests: cortex C-, K-, KC-, P-; medulla P+ orange-red. Chemistry: medulla with pannarin and zeorin (both major), plus minor unidentified substances. - Note: a lichen with optimum in the submediterranean belt, found in fissures of calcareous boulders in rather sheltered situations, widespread throughout Italy (to be looked for in Umbria), but most frequent outside the Tyrrhenian ecoregion.



Solenopsora cesatii

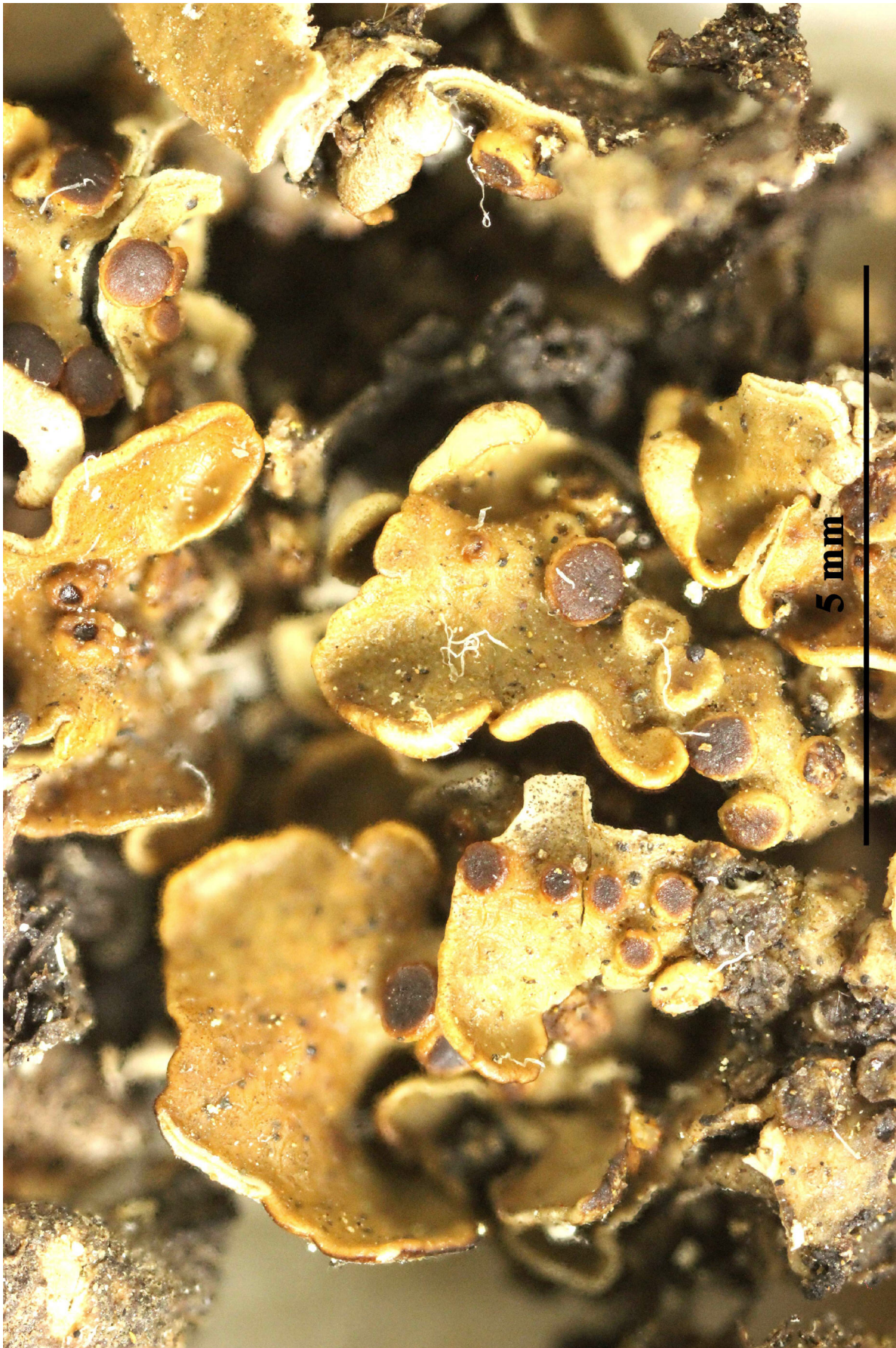


Solenopsora cesatii

Solenopsora holophaea (Mont.) Samp., Brotéria, sér. bot. 19: 26 (1921)
= *Parmelia holophaea* Mont. 1840

[VZ2369], Italia. Sardinia, distr. Cagliari: reservatum naturae "Monte Arcosu", ad latera montis "Lattias", 950 m. In fissurium rupium silicearum. Leg. P. L. Nimis, C. Roux, M. Triach et A. Vězda, 30.8.1989. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2369.

Thallus squamulose, olive-green to olive-brown, epruinose, rather glossy, the squamules 1-3(-4) mm wide, rounded, concave to flat, contiguous or imbricate, with entire to crenulate or flexuose, raised margins; lower surface somewhat paler, attached by sparse, mostly centrally located, grey-brown to dark brown rhizines. Upper cortex of anticlinally oriented, strongly gelatinized, thin-walled hyphae, overlain by a usually distinct epinecral layer; medulla white; lower cortex absent. Apothecia lecanorine, 0.5-1.5 mm across, sessile to shortly stipitate, with a dark brown to blackish, flat disc and a smooth, finally sometimes excluded thalline margin. Epithecium reddish brown; hymenium colourless or pale reddish brown, 50-60 μm high, I+ blue; paraphyses coherent, the apical cells swollen and brown-capped; hypothecium colourless or very pale brown, 130-140 μm high. Asci 8-spored, cylindrical-clavate, with a K/I+ blue outer coat and a K/I+ uniformly blue apical dome, approaching the Catillaria-type. Ascospores 1-septate, hyaline, ellipsoid-elongate to slightly fusiform, 11-18(-24) x (3-)4-6(-7) μm . Pycnidia globose, immersed, the wall dark brown in upper part, colourless in lower part. Conidia simple, hyaline, short-bacilliform. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-, UV-. Chemistry: terpenoids, unidentified substances. - Note: a Mediterranean-Atlantic lichen found in sheltered crevices of basic siliceous rocks and on soil, especially along the coast; exclusively Tyrrhenian in Italy.



Solenopsora holophaea



Solenopsora holophaea

Solenopsora holophaea (Mont.) Samp., Brotéria, sér. bot. 19: 26 (1921)
= *Parmelia holophaea* Mont. 1840

[11131], Portugal, Azoren, Sao Miguel: Westküste, Ponta da Ferraira, in Ritzen von porösen, schwarzen Lavablöcken in Meeresnähe, 37°51.624' N, 25°51.144' W, 0 m. Leg. F. Schumm 04.06.2003, det.F.Schumm 10.2003. - Sporen zu 8, hyalin, 2-zellig, 10,6-12 x 3,5 µm

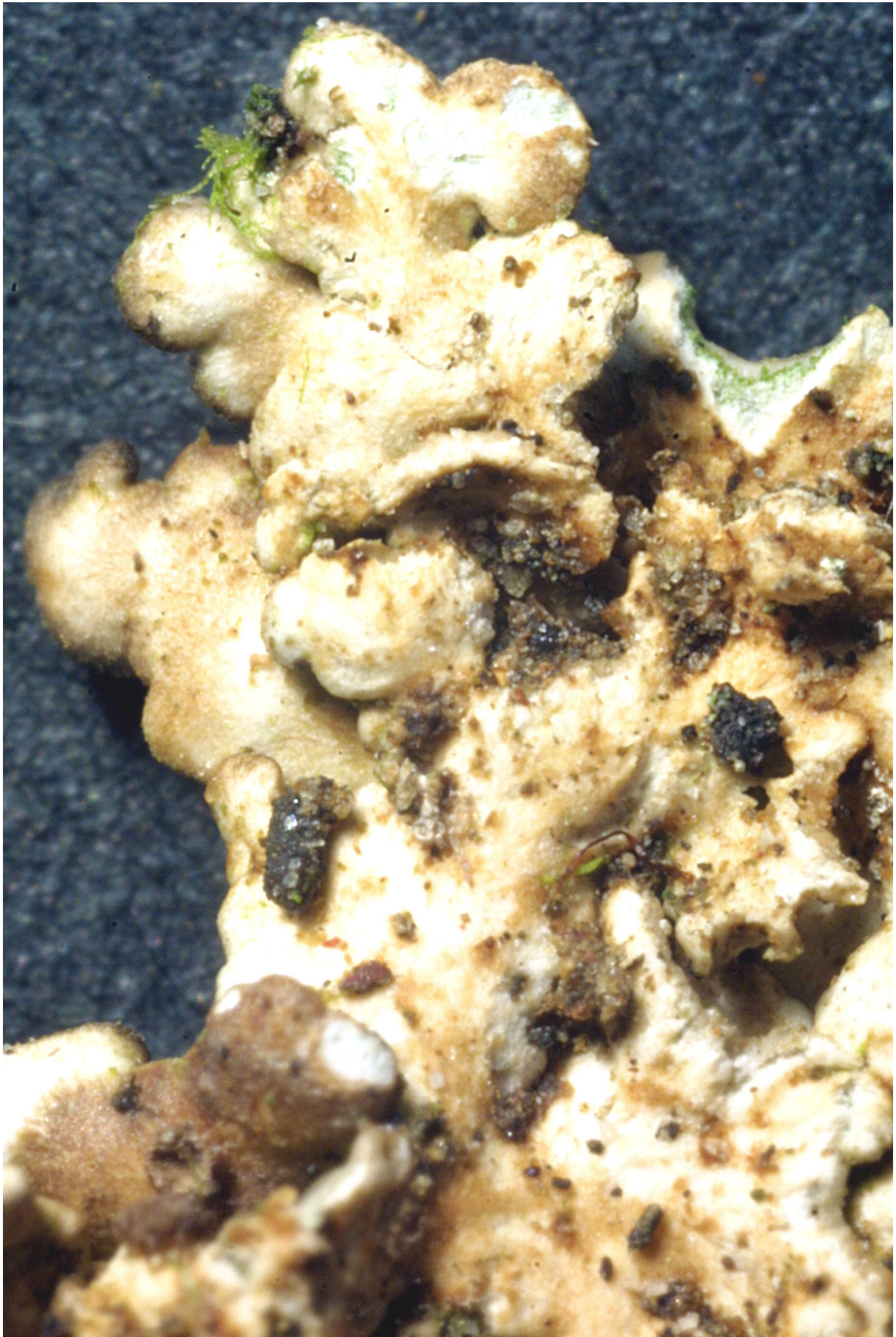
Thallus squamulose, olive-green to olive-brown, epruinose, rather glossy, the squamules 1-3(-4) mm wide, rounded, concave to flat, contiguous or imbricate, with entire to crenulate or flexuose, raised margins; lower surface somewhat paler, attached by sparse, mostly centrally located, grey-brown to dark brown rhizines. Upper cortex of anticlinally oriented, strongly gelatinized, thin-walled hyphae, overlain by a usually distinct epinecral layer; medulla white; lower cortex absent. Apothecia lecanorine, 0.5-1.5 mm across, sessile to shortly stipitate, with a dark brown to blackish, flat disc and a smooth, finally sometimes excluded thalline margin. Epithecium reddish brown; hymenium colourless or pale reddish brown, 50-60 µm high, I+ blue; paraphyses coherent, the apical cells swollen and brown-capped; hypothecium colourless or very pale brown, 130-140 µm high. Asci 8-spored, cylindrical-clavate, with a K/I+ blue outer coat and a K/I+ uniformly blue apical dome, approaching the Catillaria-type. Ascospores 1-septate, hyaline, ellipsoid-elongate to slightly fusiform, 11-18(-24) x (3-)4-6(-7) µm. Pycnidia globose, immersed, the wall dark brown in upper part, colourless in lower part. Conidia simple, hyaline, short-bacilliform. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-, UV-. Chemistry: terpenoids, unidentified substances. - Note: a Mediterranean-Atlantic lichen found in sheltered crevices of basic siliceous rocks and on soil, especially along the coast; exclusively Tyrrhenian in Italy.



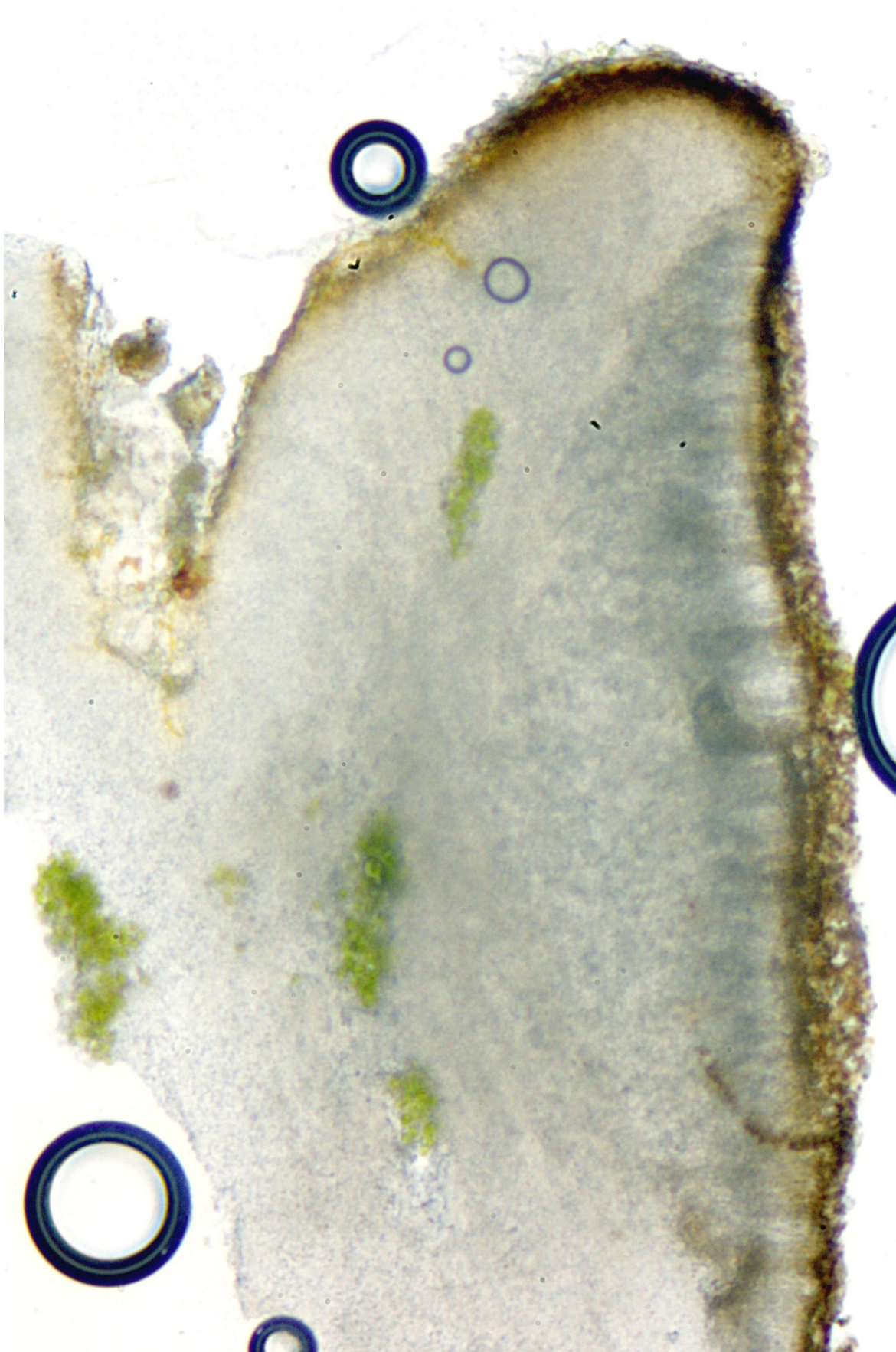
Solenopsora holophaea



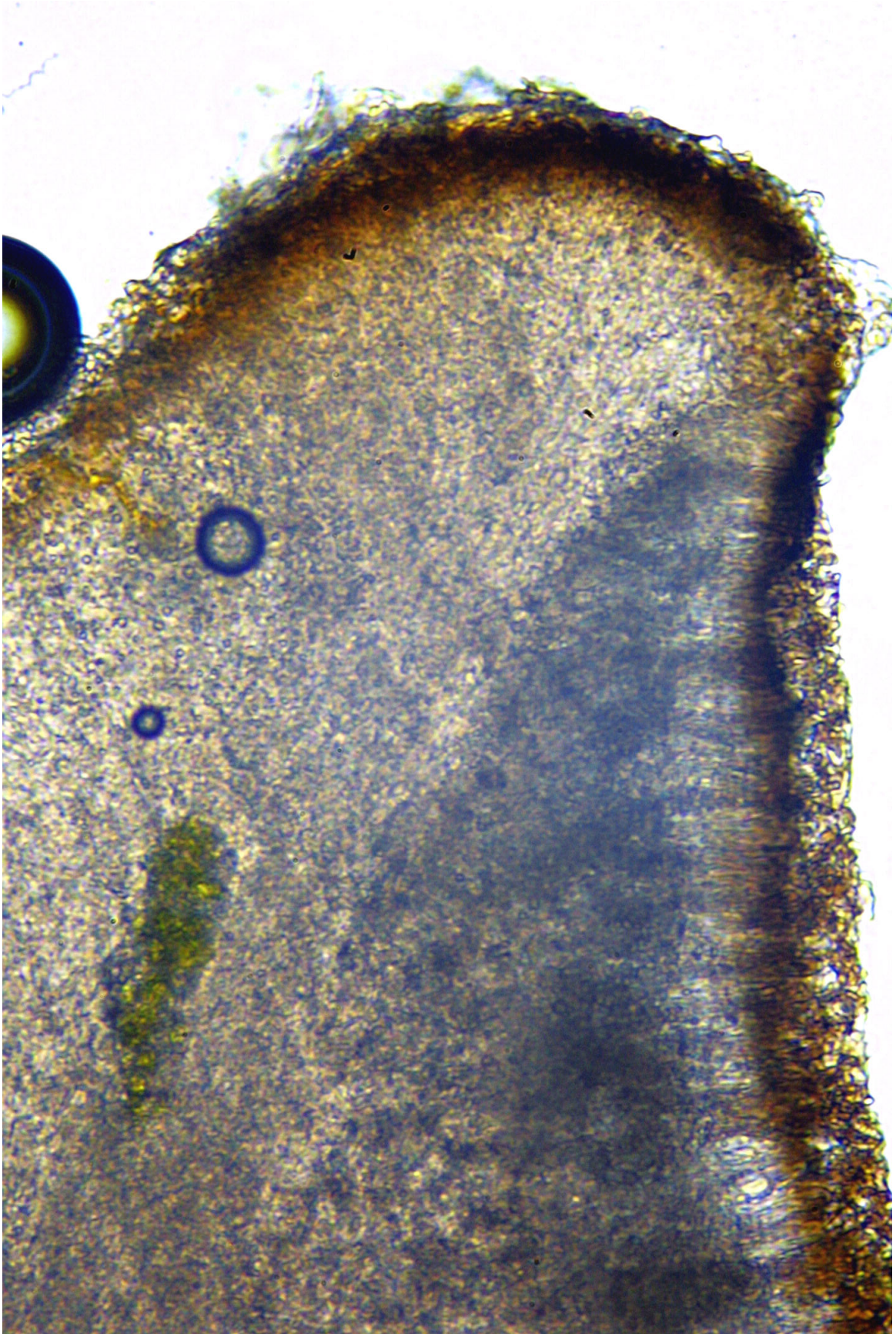
Solenopsora holophaea



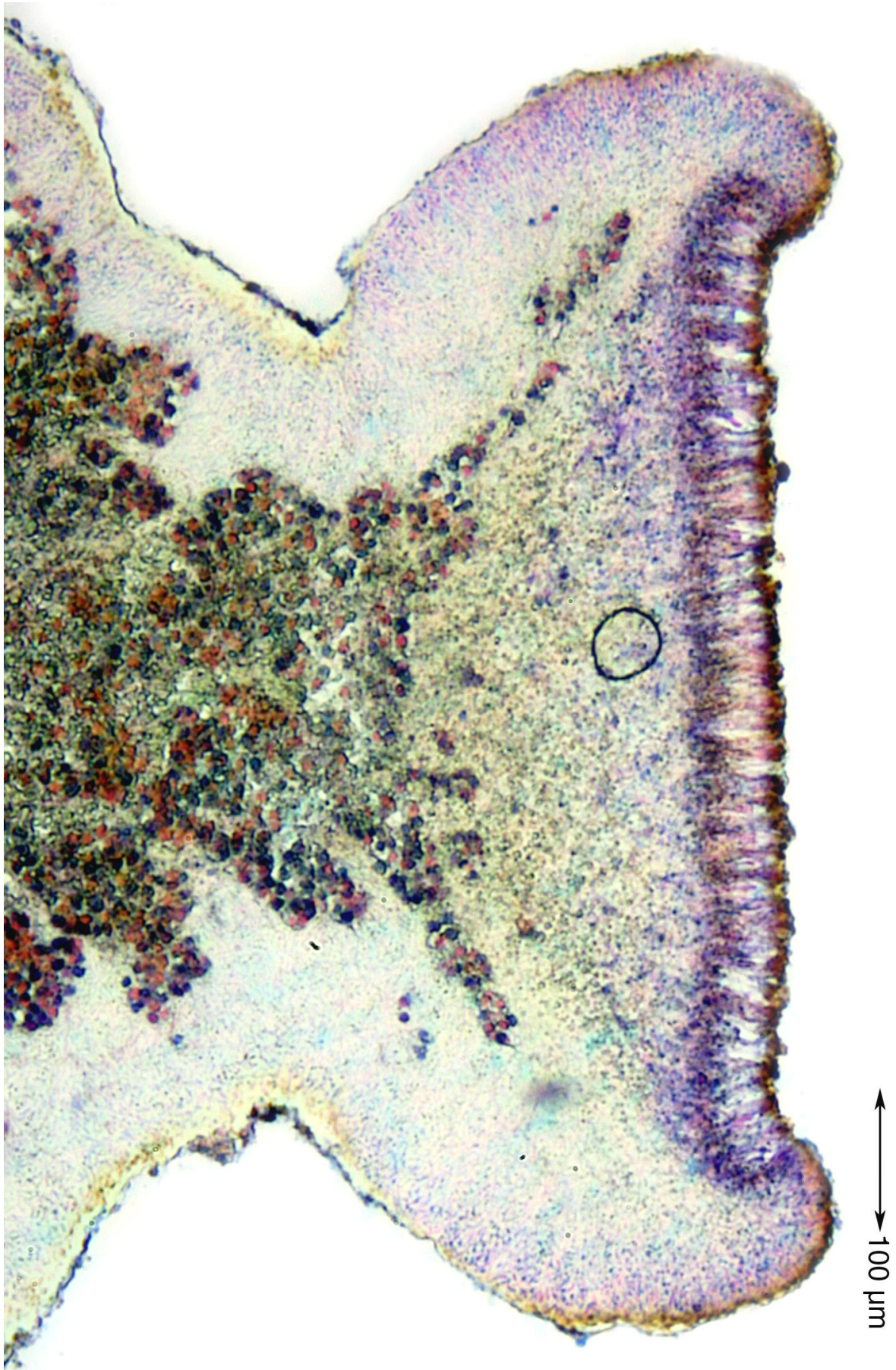
Solenopsora holophaea



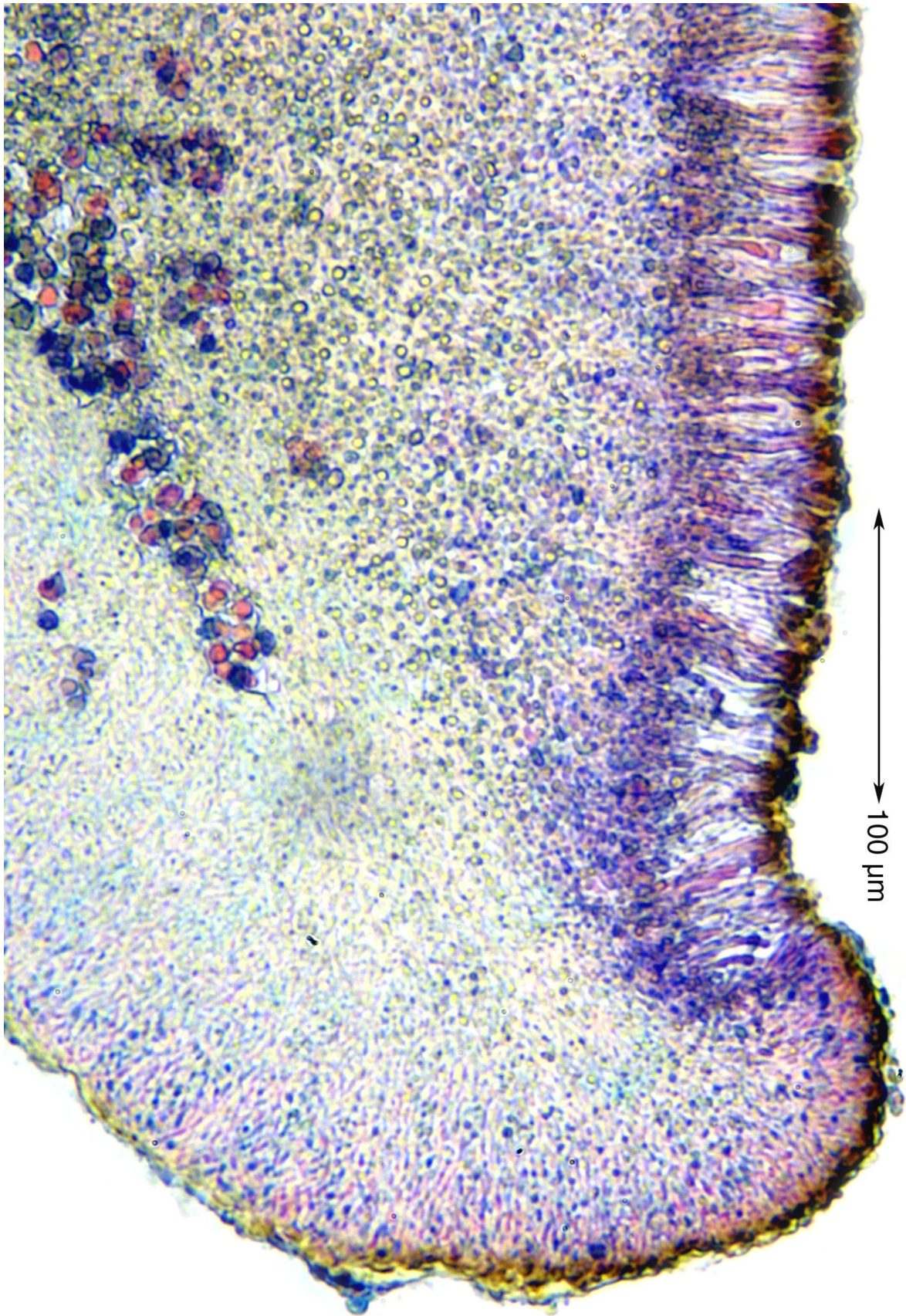
Solenopsora holophaea



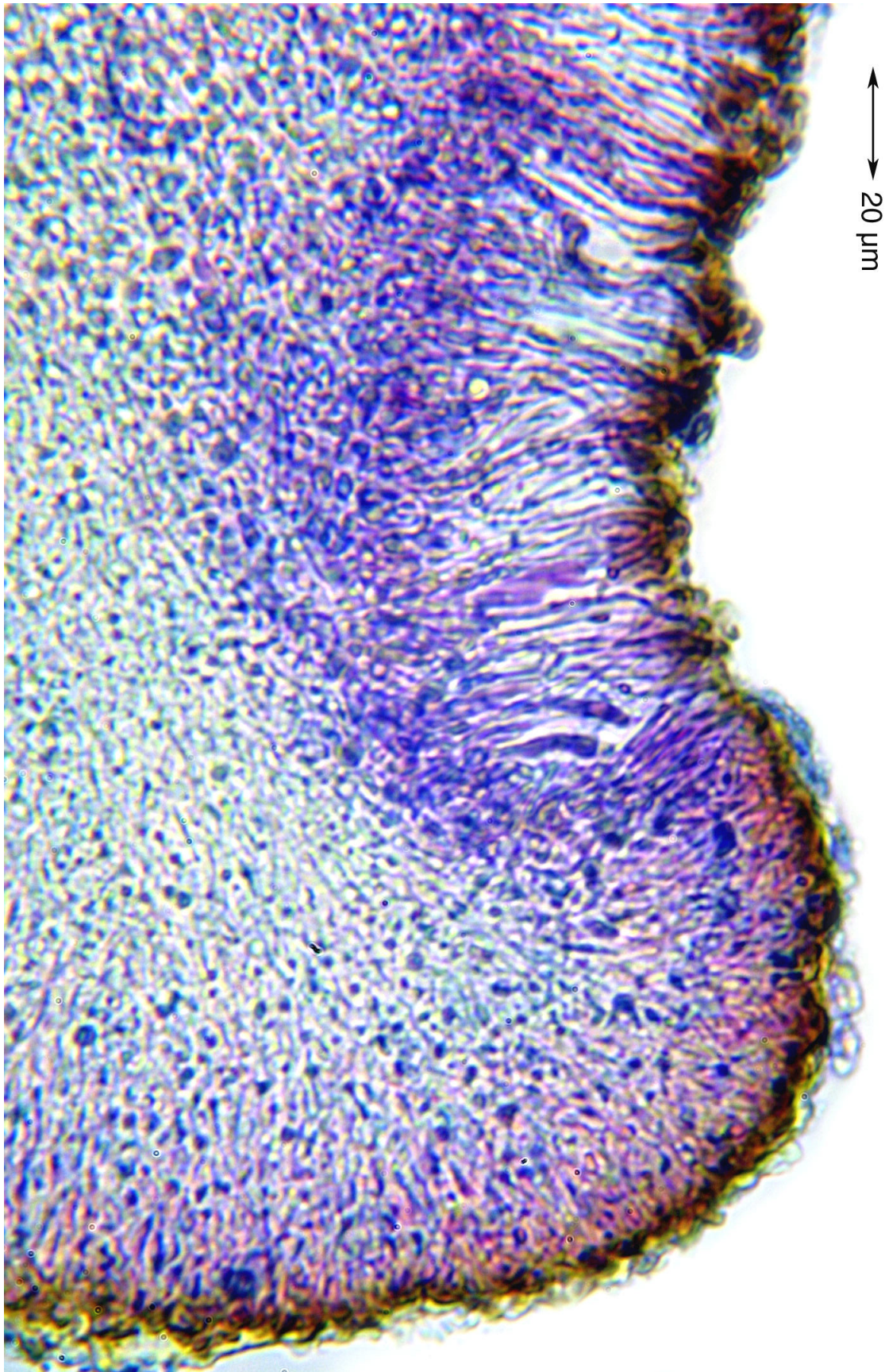
Solenopsora holophaea



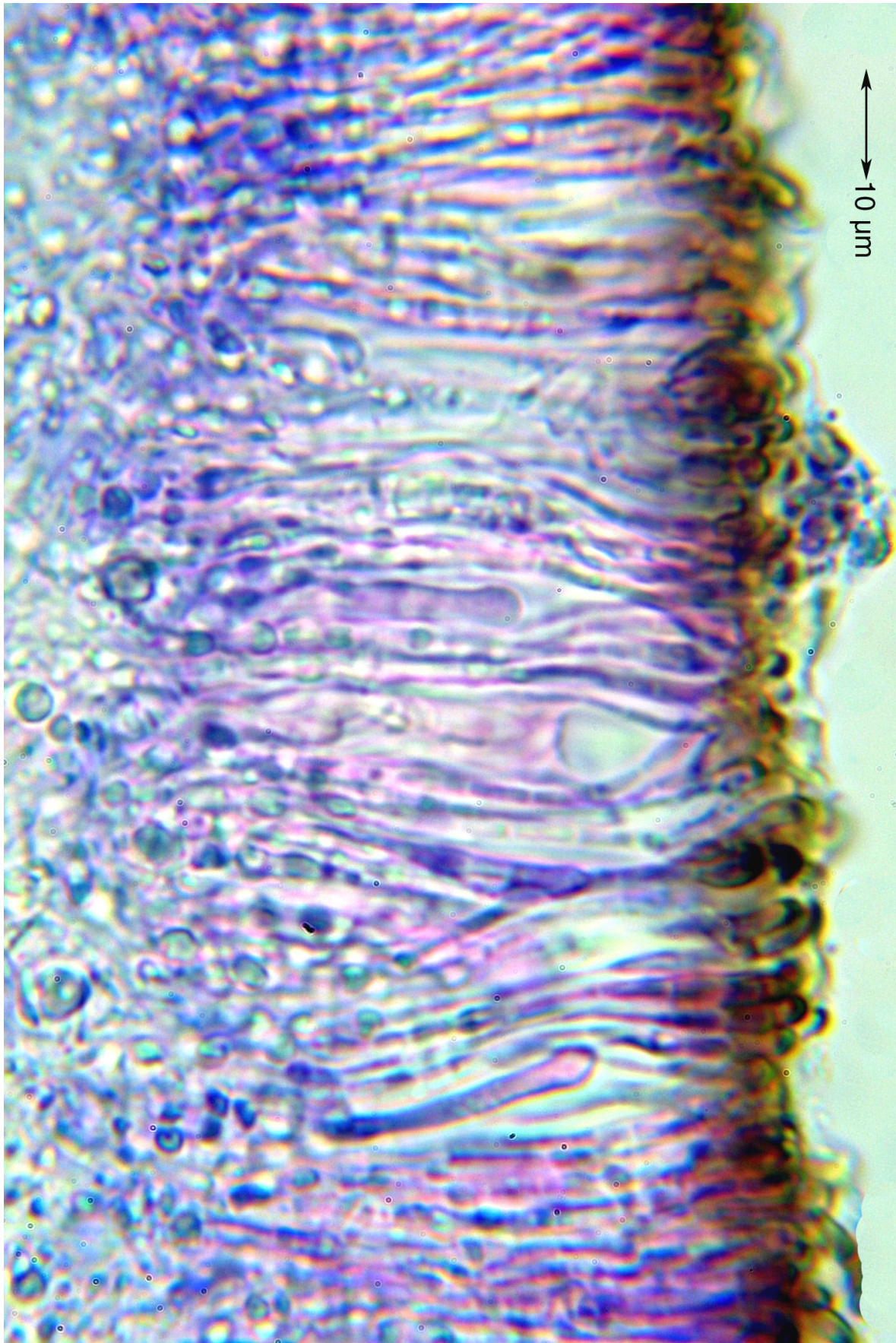
Solenopsora holophaea



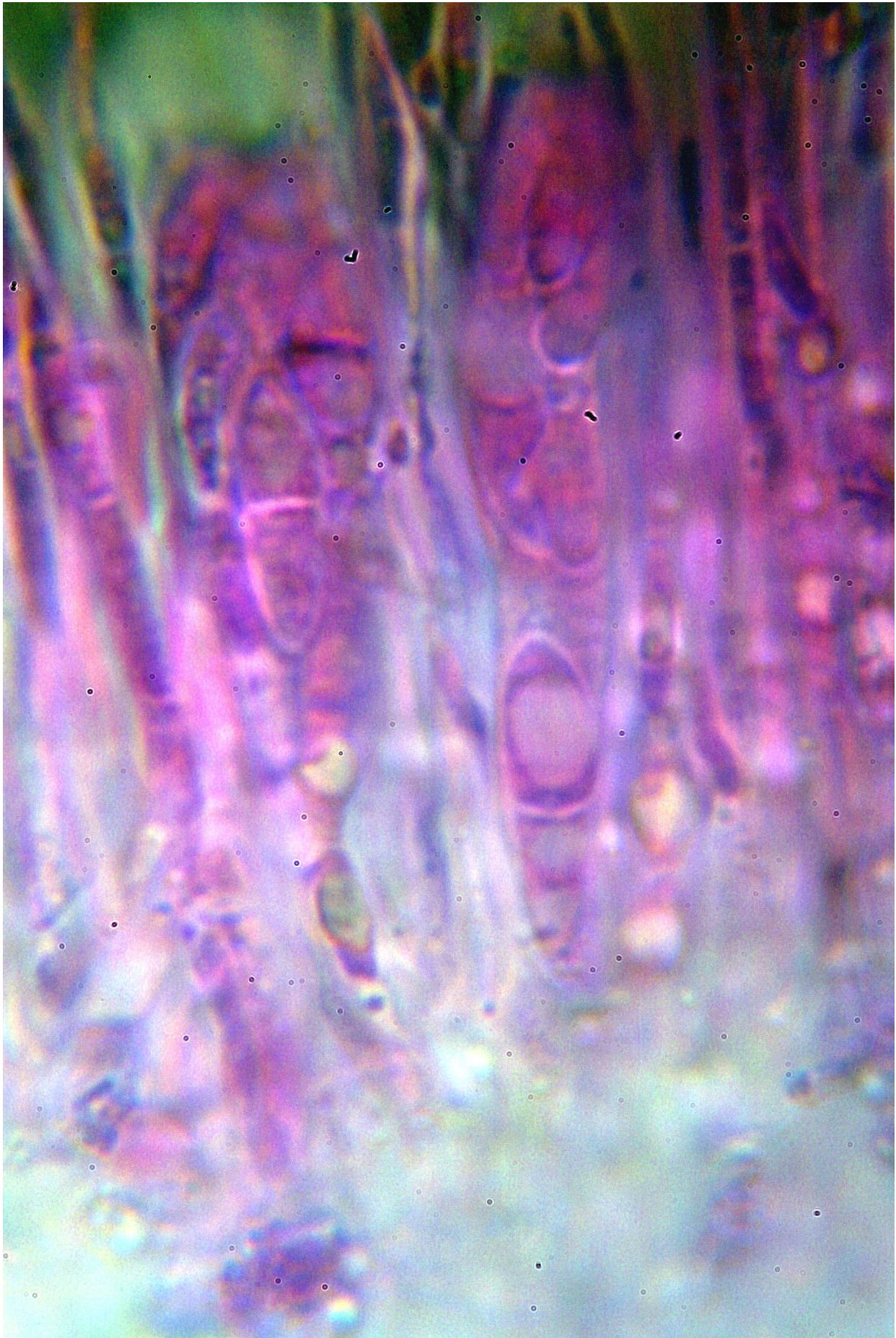
Solenopsora holophaea



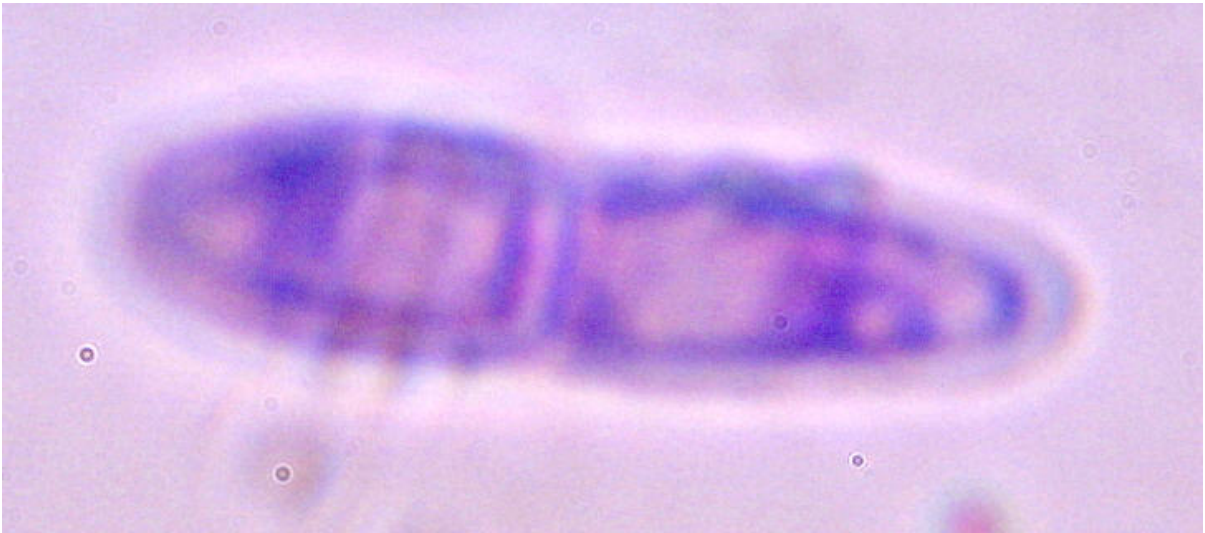
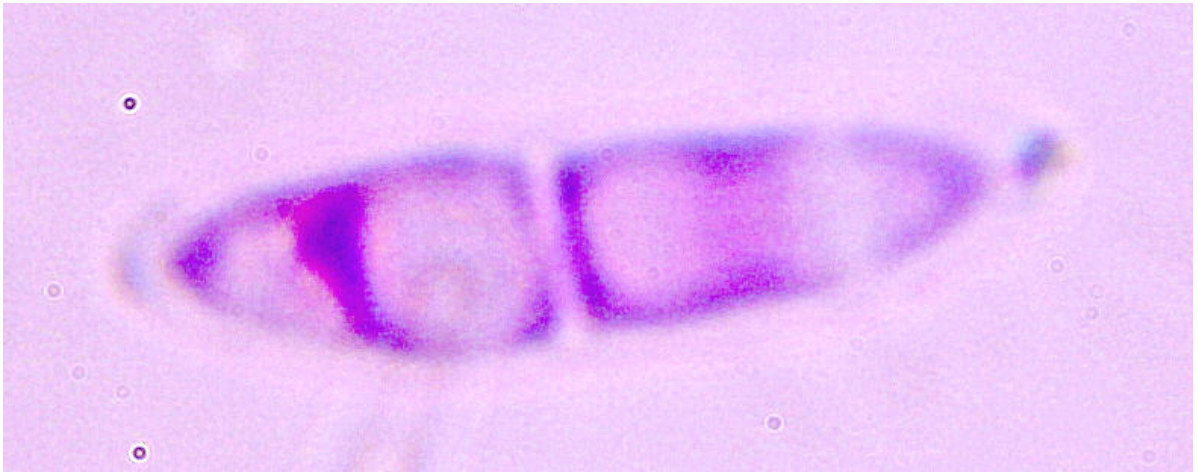
Solenopsora holophaea



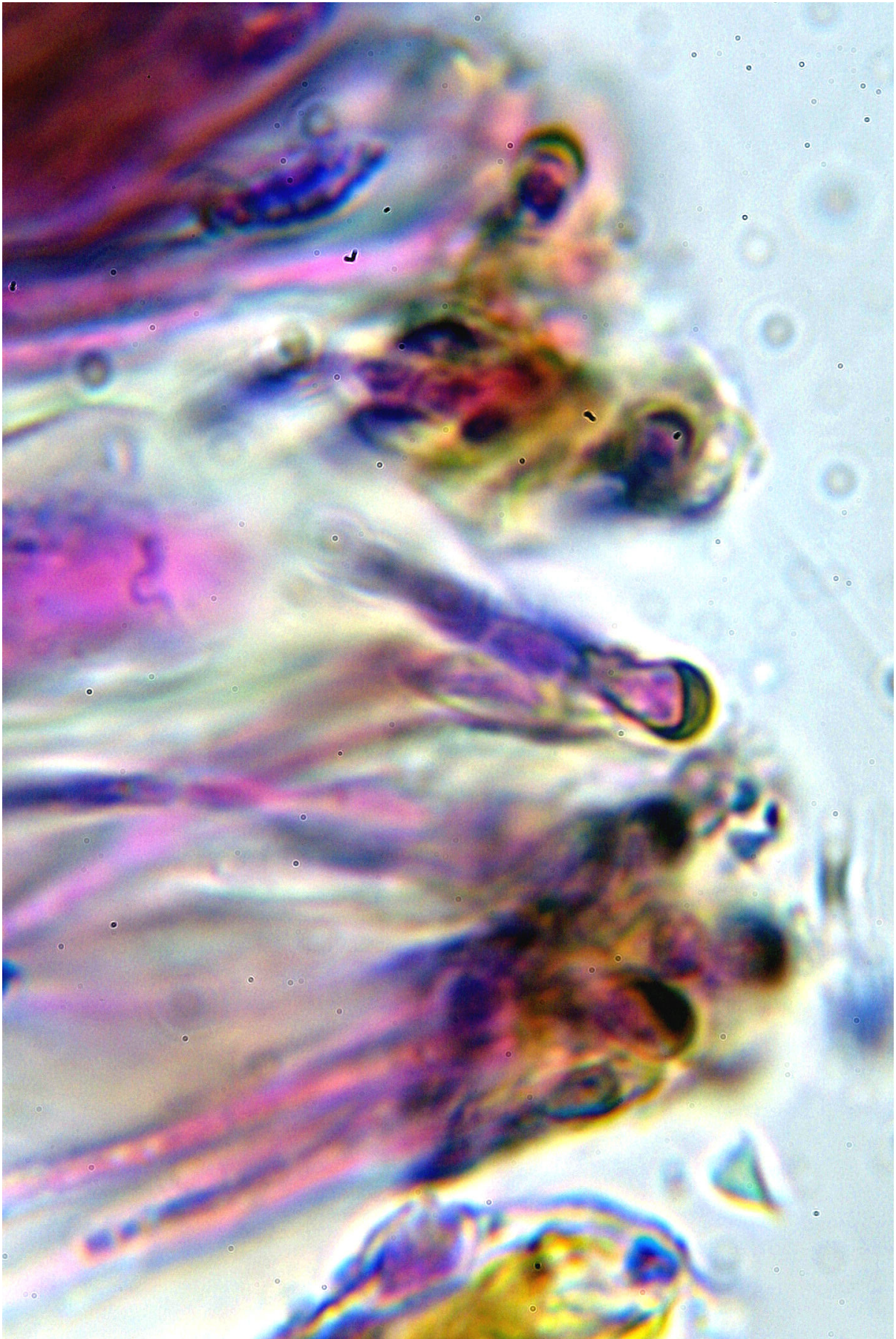
Solenopsora holophaea



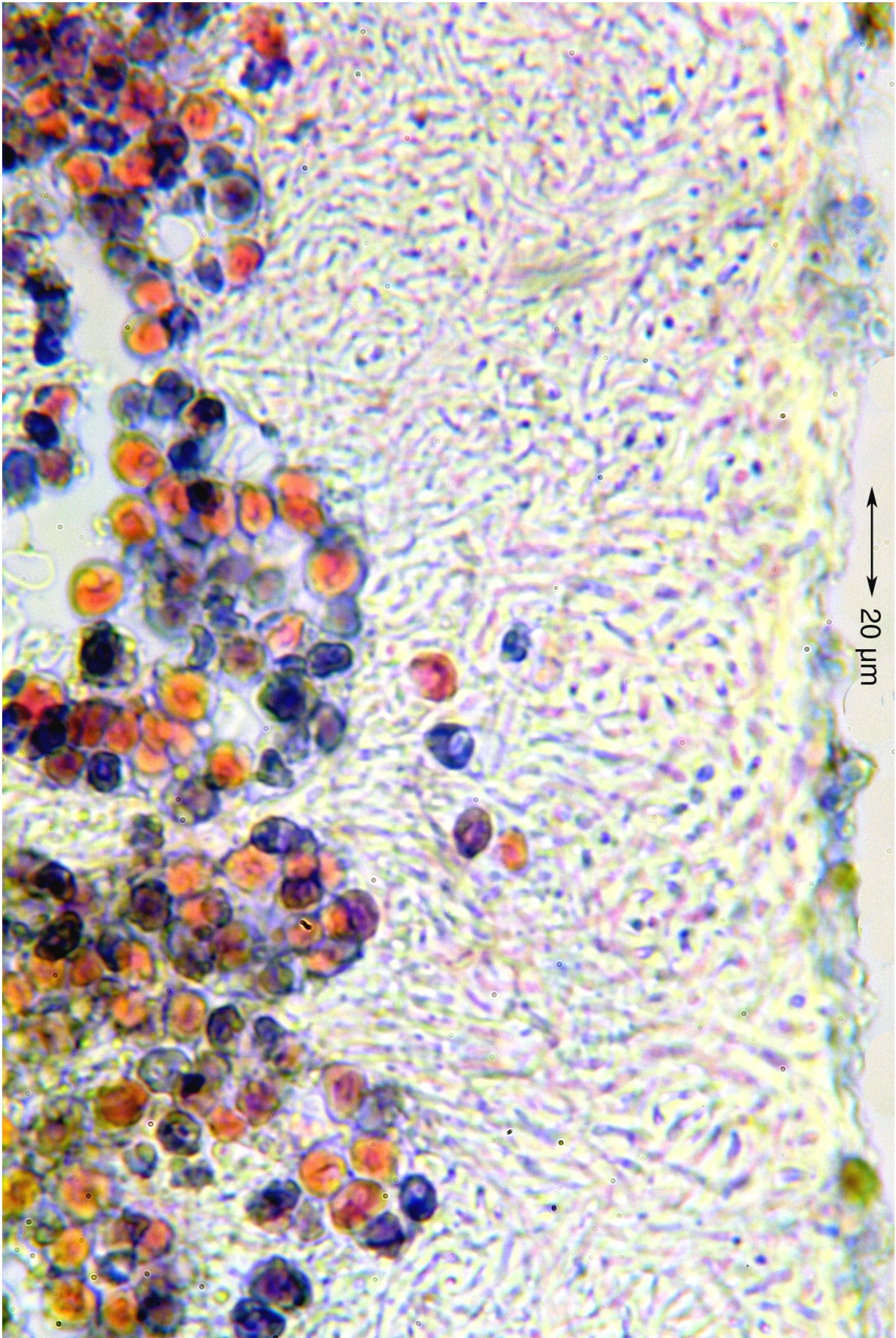
Solenopsora holophaea



Solenopsis holophaea



Solenopsora holophaea

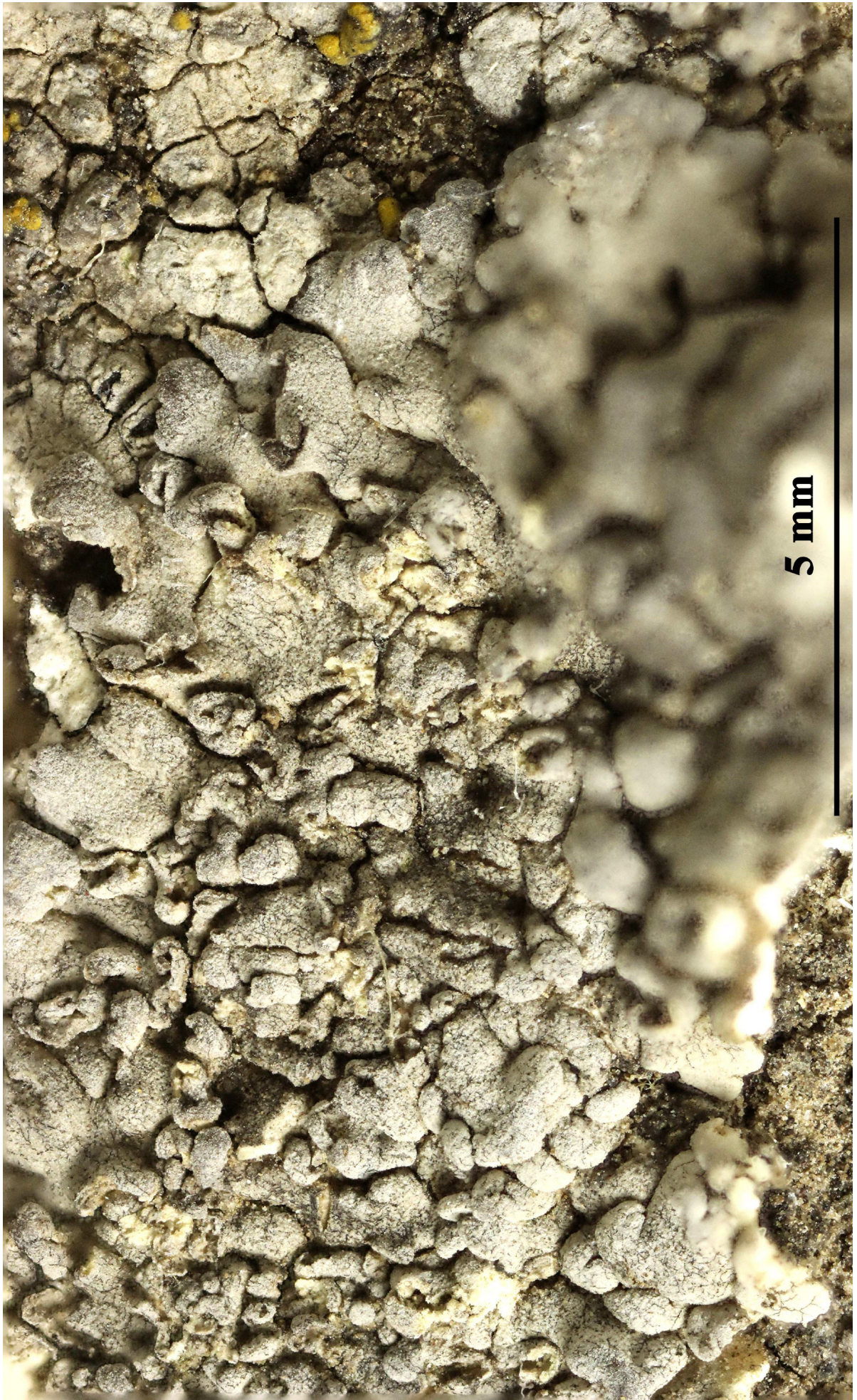


Solenopsora holophaea

Solenopsora liparina (Nyl.) Zahlbr., Öst. bot. Z. 68: 304 (1919)
= *Lecanora liparina* Nyl. 1876

[VZ1266], Romania, Dobrogea, Tirguşor, in valle fluminis Casimcea inter pagos Casian et Cheia, 80 m. Ad saxa calcarea. Leg. A. Vezda, 1.5.1974. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1266.

Thallus crustose-placodioid, episubstratic, rather loosely attached, forming up to 2.5 cm wide, orbicular rosettes, the central parts sometimes falling off, leaving semicircular arcs of lobes. Lobes 0.3-0.6 mm wide, flat to slightly convex, olivaceous grey or grey-green, with rounded, white-pruinose tips. Apothecia lecanorine, sessile, up to 1.2 mm across, with a brown, bluish-white-pruinose disc, and a smooth to scabrid, persistent to finally excluded thalline margin. Epithecium brown, granular, the granules not dissolving in K; hymenium colourless, 60-70 µm high; paraphyses coherent, swollen at apices; hypothecium colourless, 80-90 µm high. Asci 8-spored, cylindrical-clavate, with a K/I+ blue outer coat and a K/I+ uniformly blue apical dome, approaching the Catillaria-type. Ascospores 1-septate, hyaline, narrowly ellipsoid, straight or slightly curved, 13-16 x 3-4 µm. Photobiont chlorococcoid. Spot tests: cortex K-, C-, KC-, P-, UV-; medulla P+ orange-red. Chemistry: medulla with pannarin and zeorin (both major). - Note: on inclined surfaces of ultrabasic siliceous rocks (e.g. serpentine and basalt), often in fissures, in shaded situations also on vertical faces, mostly in the Mediterranean belt.



Solenopsora liparina



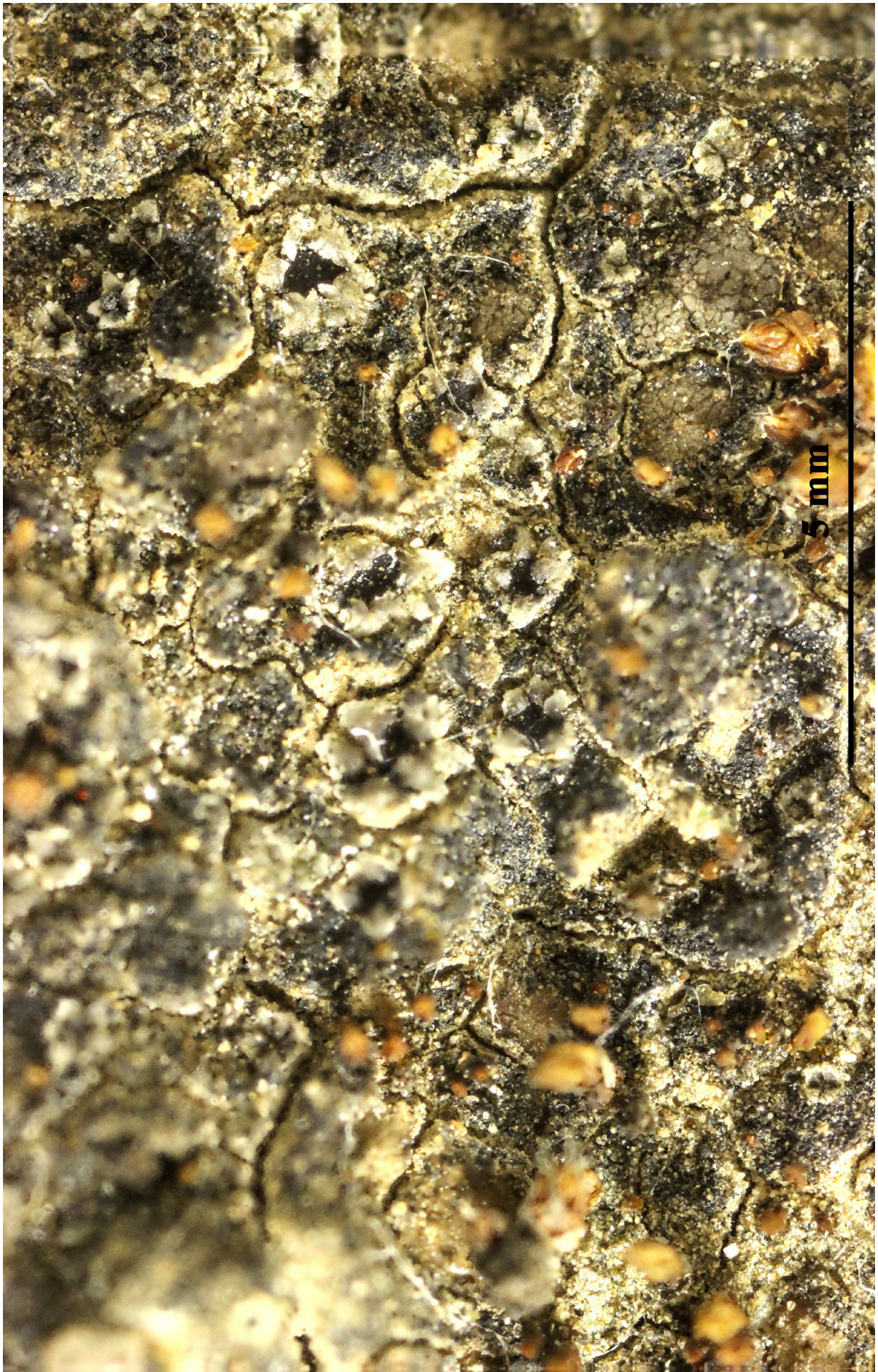
Solenopsora liparina

Solorinella asteriscus Anzi, Cat. Lich. Sondr.: 37 (1860)

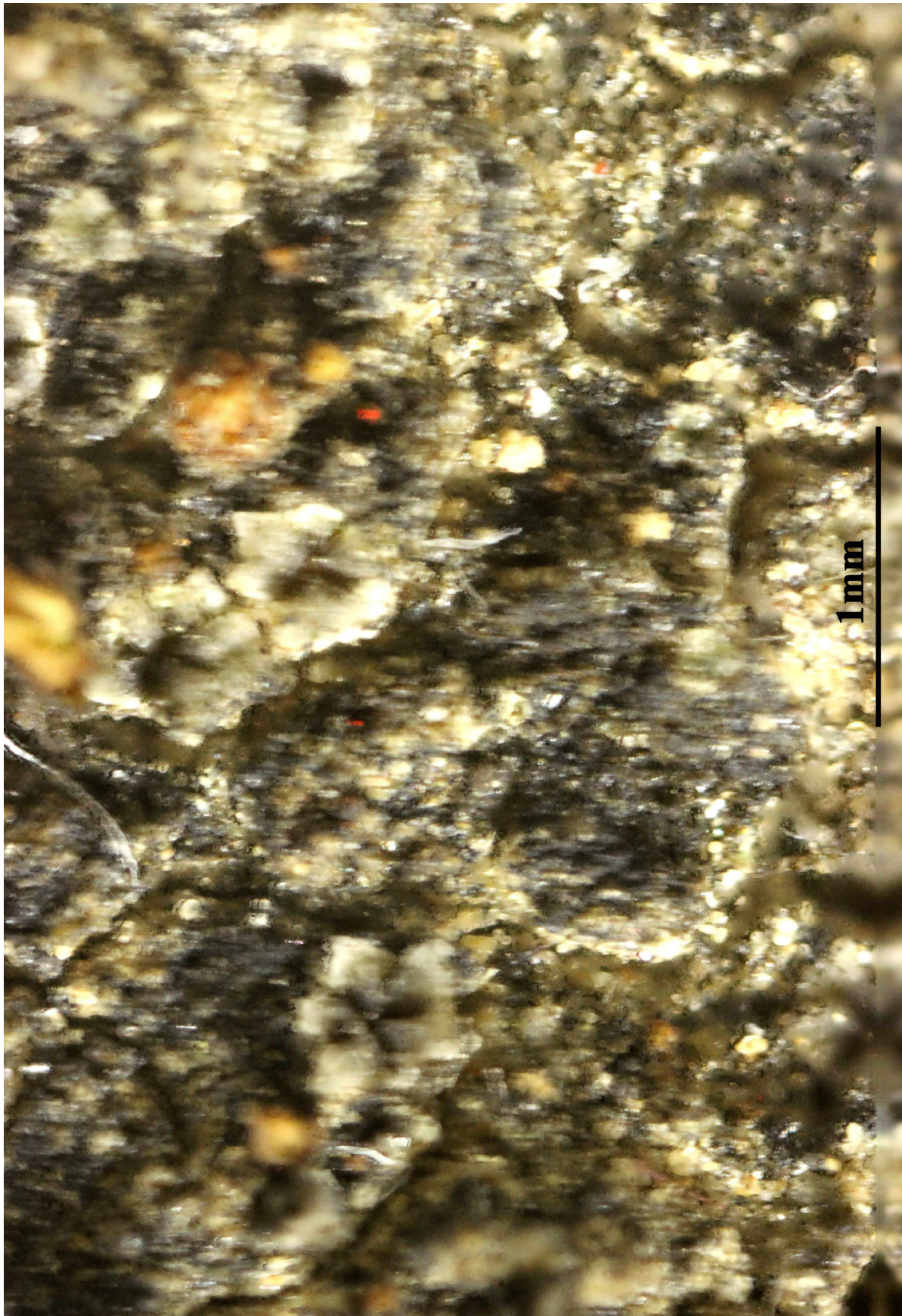
= *Gyalidea asteriscus* (Anzi) Aptroot & Lücking, Biblioth. Lichenol. 86: 67 (2003)

[VZ1181], Bohemoslovakia, Moravia: Ivančicé, in valle fluminis, Jihlavka prope pagum Biskoupky, 250m, Ad parietes loesaceas. Leg. A. Vězda, 7.6.1973. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1181.

Thallus crustose, white-pruinose, thin and more visible in the wet state, reduced to 3-7 short, whitish grey to greenish grey, broadly triangular lobes radiating all around the apothecia. Lobes composed of branched and partly anastomosing, parallel and more or less radiating hyphae with thin lumina and thick, strongly gelatinized walls. Apothecia frequent, immersed, 0.5-2(-4) mm across, with a brownish black, concave to flat, smooth disc. Proper exciple of branched and anastomosing, radially arranged hyphae; epithecium greenish brown; hymenium colourless, 140-155 µm high, the hymenial gel not amyloid; paraphyses simple, slender, 1-2 µm thick, not apically thickened, free; hypothecium colourless, lying above a layer of algae. Asci 32-64-spored, narrowly clavate, thin-walled except for a slightly thickened apical tholus, K/I-, with a ± small ocular chamber. Ascospores 1-septate (a few rarely up to 3-septate), slightly constricted at septa, hyaline, narrowly ellipsoid to kidney-shaped, (7-)11-17 x (2-)3-4(-7) µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a typical lichen of steppe grasslands on loess, whose distribution extends widely into Central Asia, found on Loess and (in the Alps) on soil deriving from calcareous schists; restricted to strongly continental Alpine valleys in Italy.



Solorinella asteriscus



Solorinella asteriscus

Sphaerophorus imshaugii Ohlsson, Revision of the lichen genus *Sphaerophorus* (Michigan): 161 (1974) [1973]

[VZ2235], Australia. Tasmania. Cradle Valley, 1040 m. Ad truncum *Nothofagi cunninghamii* in pluviisilva. Leg. G. Kantvilas (no. 13/88), 9.2.1988. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2235.

Thallus corticolous, with numerous, small, crowded, sterile branches and occasional longer fertile branches occurring together. Branches irregularly flattened to subterete, erect, to 1.5 cm long and 1-2.2 mm wide. Upper surface smooth, brownish to greyish-brownish-yellow with parasitic algae often covering the region around apothecia, lower surface pale grey to white, upper cortex 80-120 μm thick, lower cortex 60-80 μm thick. Algal layer 20-30 μm thick, continuous between upper cortex and medulla, in subterete branches almost encircling central medulla. Apothecia common, subterminal, 1.5-4 mm diam., mazaedium subterminal to ventral, becoming exposed at an early stage of development by irregular rupture of surrounding receptacle, prominent, black, globose at maturity. Asci cylindrical 35-55 $\times$ 5-7 μm . Ascospores spherical, brownish-grey to brown, 6.5-9.5 μm diam., surrounded by black, carbonaceous material at maturity. Chemistry: K-, Pd+ red. Sphaerophorin and protocetraric acid.



Sphaerophorus imshaugii



Sphaerophorus imshaugii



Sphaerophorus imshaugii

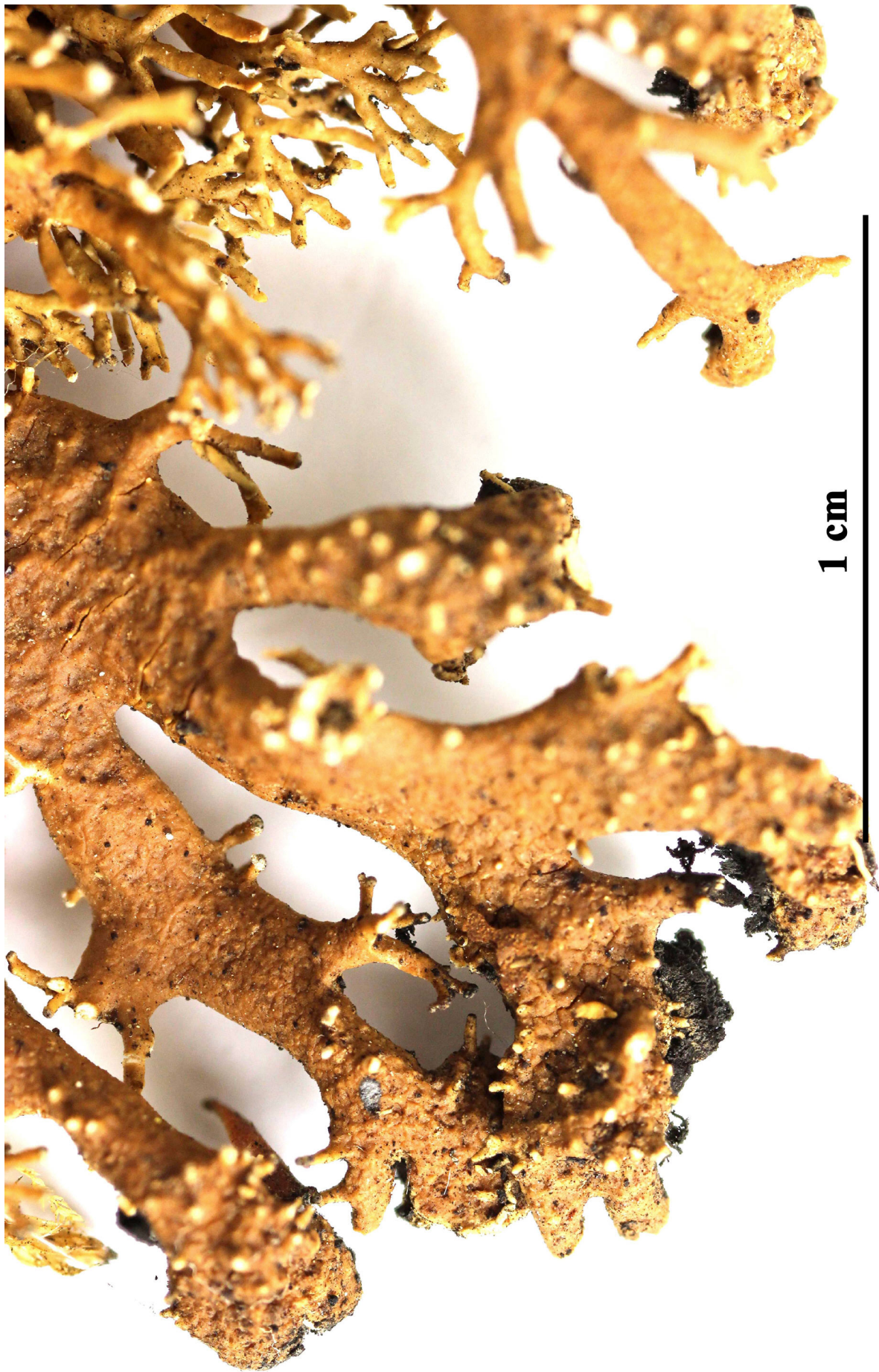
Sphaerophorus insignis Laurer [as 'Sphaerophoron insigne'], Linnaea 2: 45 (1827)
= *Bunodophoron insigne* (Laurer) Wedin, Pl. Syst. Evol. 187(1-4): 233 (1993)

[VZ2010], Australia. Tasmania. Mueller Rd., 3 km ad occidentem a Styx Rd., 500 m. Ad arbores (*Nothofagus cunninghamii*) in pluviisilva. Leg. G. Kantvilas (no. 645/84), 17.6.1984. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2010

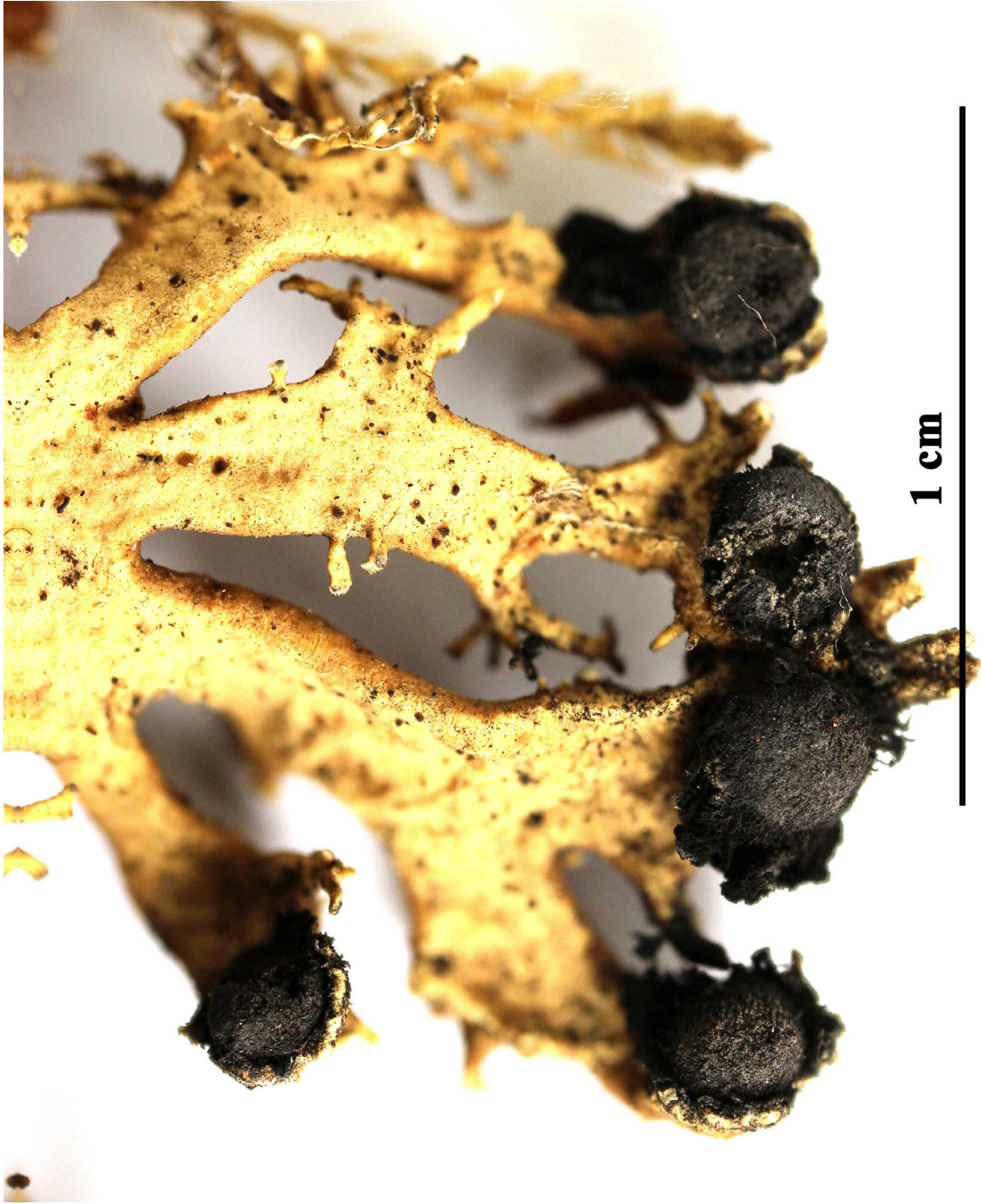
Thallus forming patches to large colonies of crowded and imbricate weakly decumbent to horizontal branches. Fertile branches narrowly to broadly flattened, 1.8–5 (–8.5) cm long, 1.5–3.5 (–5.5) mm wide, usually sparingly and irregularly branched, sometimes more richly and regularly branched; margins sometimes lined by small branchlets. Upper surface greenish or brownish grey, usually distinctly brown when exposed, smooth or usually rugose above the apothecia. Apothecia usually abundant, terminal, sometimes ventral due to extension of main branch with repeated production of apothecia, 2.5–5 (–8.5) mm wide; margin usually lined by $\pm$ abundant short to long subterete to flattened branchlets. Mazaedia large, ventrally exposed through usually irregular cracks in the thalline receptacle which partly covers the mature mazaedium. Younger apothecia are visible as roundish swellings on the underside of the apices of fertile branches. Ascospores (7.5–) 11–13.5 (–16.5) μ m diam., reddish brown. Conidia oblong, 3–4 $\times$ 1.5 μ m. CHEMISTRY: Medulla K–, P+ red; containing sphaerophorin, protocetraric acid, ascomatic acid, methyl ascomatate and trace amounts of several unidentified substances. - A common species in most types of cool-temperate rainforest, and occasionally in wet-sclerophyll forest. Also in Australia, New Zealand, Chile and Argentina.



Sphaerophorus insignis



Sphaerophorus insignis



Sphaerophorus insignis

Sphaerophorus insignis Laurer [as 'Sphaerophoron insigne'], Linnaea 2: 45 (1827)
= *Bunodophoron insigne* (Laurer) Wedin, Pl. Syst. Evol. 187(1-4): 233 (1993)

[VZ2370], Australia, Tasmania. Que Road. 680 m. Ad truncum *Nothofagi cunninghamii* in pluviisilva. Leg. G. Kantvilas (162/89), 8.4.1989. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2370.

Thallus forming patches to large colonies of crowded and imbricate weakly decumbent to horizontal branches. Fertile branches narrowly to broadly flattened, 1.8–5 (–8.5) cm long, 1.5–3.5 (–5.5) mm wide, usually sparingly and irregularly branched, sometimes more richly and regularly branched; margins sometimes lined by small branchlets. Upper surface greenish or brownish grey, usually distinctly brown when exposed, smooth or usually rugose above the apothecia. Apothecia usually abundant, terminal, sometimes ventral due to extension of main branch with repeated production of apothecia, 2.5–5 (–8.5) mm wide; margin usually lined by ±abundant short to long subterete to flattened branchlets. Mazaedia large, ventrally exposed through usually irregular cracks in the thalline receptacle which partly covers the mature mazaedium. Younger apothecia are visible as roundish swellings on the underside of the apices of fertile branches. Ascospores (7.5–) 11–13.5 (–16.5) µm diam., reddish brown. Conidia oblong, 3–4 × 1.5 µm. CHEMISTRY: Medulla K–, P+ red; containing sphaerophorin, protocetraric acid, ascomatic acid, methyl ascomatate and trace amounts of several unidentified substances. - A common species in most types of cool-temperate rainforest, and occasionally in wet-sclerophyll forest. Also in Australia, New Zealand, Chile and Argentina.



Sphaerophorus insignis



Sphaerophorus insignis

Sphaerophorus melanocarpus (Sw.) DC. [as 'melanocarpos'], Fl. franç.,
Edn 3 (Paris) 5/6: 178 (1815)
= *Lichen melanocarpus* Sw. 1788
= *Bunodophoron melanocarpum* (Sw.) Wedin, Mycotaxon 55: [383] (1995)

[VZ1554], Norvegia. Hordaland: Os, Bjørnen. Inter muscos in saxosis humidis. Leg. P. M. Jørgensen, 8.9.1976. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1454.

Thallus fruticose, shrubby-coralloid, 3-5 cm high, often forming extensive mats; branches highly divided in upper part, markedly flattened, especially towards the base, ending with small, subterete, palmate branchlets, pale greenish to greenish grey, sometimes partly pinkish brown, the surface smooth or transversally cracked in old branches. Cortex of thick-walled, gelatinized, fused hyphae covered by a thin epicortex; medulla white, of longitudinally arranged, thick-walled hyphae, I-. Apothecia rare, developing on the underside of larger, terminal, fertile branches, 1.5-3.5 mm across, globose, with a black mazaedium, the thalline exciple soon excluded. Asci cylindrical, with uniseriately arranged spores, disintegrating before the spores are mature. Ascospores subglobose, at first hyaline, then pale to dark grey, (5.5)6-8(-9) µm in diam. Pycnidia terminal or on the lower side of terminal branches, the conidiophores branched, with terminal and intercalary conidiogenous cells. Conidia 1-celled, hyaline, bacilliform, 3-8 µm long. Photobiont: chlorococcoid. Spot tests: medulla K+ yellow, C-, KC-, P+ orange, UV+ blue-white, I-. Chemistry: sphaerophorin and stictic acid complex, the latter most abundant in the apothecia. - Note: a rare and declining humid subtropical to mild-temperate species found on mossy bark and rocks in very moist forests.



Sphaerophorus melanocarpus

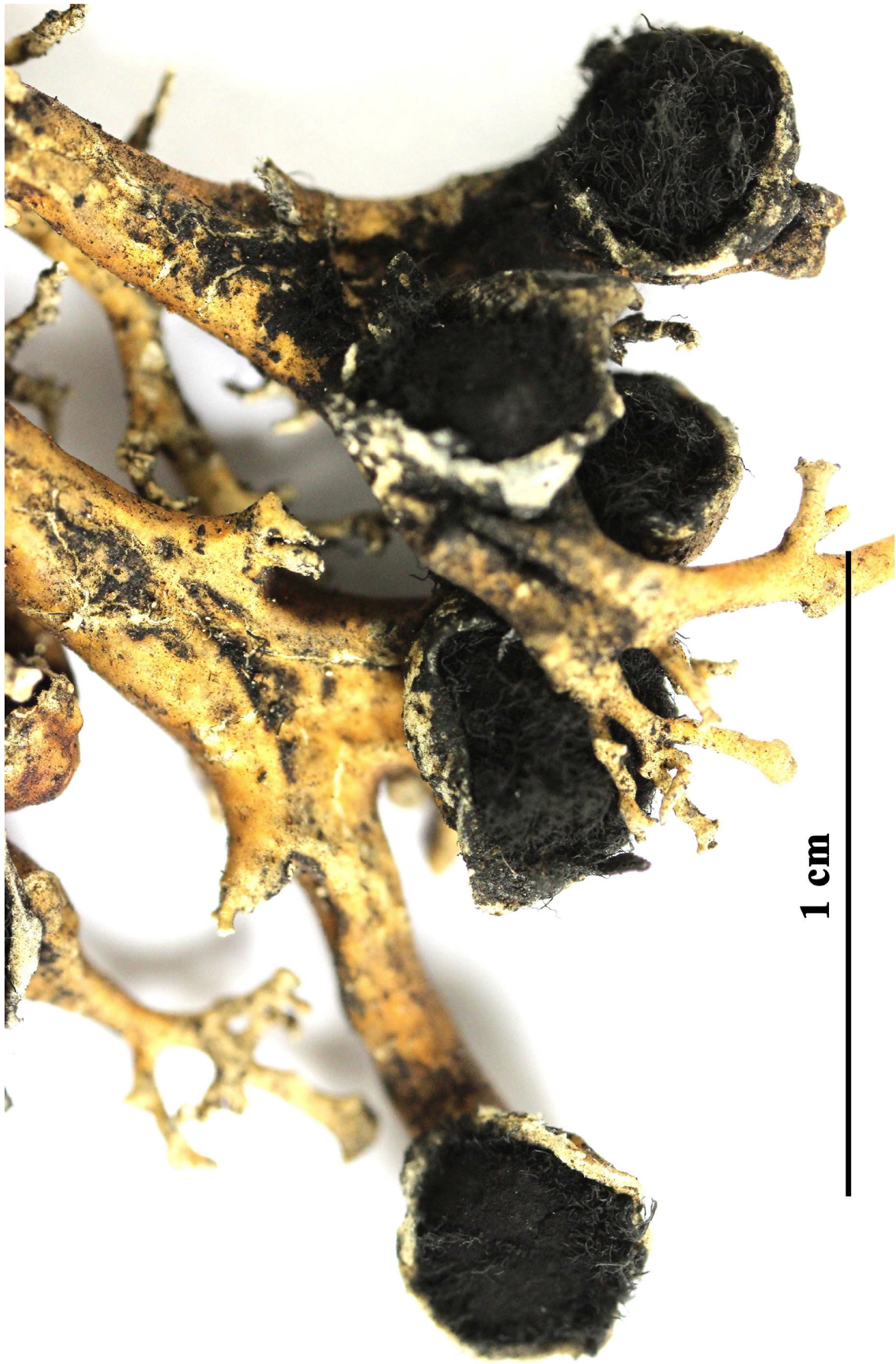


Sphaerophorus melanocarpus

Sphaerophorus melanocarpus (Sw.) DC. [as 'melanocarpos'], Fl. franç.,
Edn 3 (Paris) 5/6: 178 (1815)
= *Lichen melanocarpus* Sw. 1788
= *Bunodophoron melanocarpum* (Sw.) Wedin, Mycotaxon 55: [383] (1995)

[VZ2079], Venezuela, Estado Merida. Jablón, prope praedium El Jablón dictum, 3000-3100 m. Ad truncum arboris. Leg. M. Lopéz-Figueiras (no. 32279) et D. Griffin, 7.3.1985. EX A. VěZDA LICHENES SELLECTI EXSICCATI NR. 2079.

Thallus fruticose, shrubby-coralloid, 3-5 cm high, often forming extensive mats; branches highly divided in upper part, markedly flattened, especially towards the base, ending with small, subterete, palmate branchlets, pale greenish to greenish grey, sometimes partly pinkish brown, the surface smooth or transversally cracked in old branches. Cortex of thick-walled, gelatinized, fused hyphae covered by a thin epicortex; medulla white, of longitudinally arranged, thick-walled hyphae, I-. Apothecia rare, developing on the underside of larger, terminal, fertile branches, 1.5-3.5 mm across, globose, with a black mazaedium, the thalline exciple soon excluded. Asci cylindrical, with uniseriately arranged spores, disintegrating before the spores are mature. Ascospores subglobose, at first hyaline, then pale to dark grey, (5.5)6-8(-9) μm in diam. Pycnidia terminal or on the lower side of terminal branches, the conidiophores branched, with terminal and intercalary conidiogenous cells. Conidia 1-celled, hyaline, bacilliform, 3-8 μm long. Photobiont: chlorococcoid. Spot tests: medulla K⁺ yellow, C⁻, KC⁻, P⁺ orange, UV⁺ blue-white, I⁻. Chemistry: sphaerophorin and stictic acid complex, the latter most abundant in the apothecia. - Note: a rare and declining humid subtropical to mild-temperate species found on mossy bark and rocks in very moist forests.



Sphaerophorus melanocarpus



Sphaerophorus melanocarpus

Sphaerophorus tener Laurer [as 'Sphaerophoron'], Linnaea 2: 45 (1827)
= *Leifidium tenerum* (Laurer) Wedin, Pl. Syst. Evol. 187(1-4): 235 (1993)

[VZ2154], Australia. Tasmania. Little Fisher River, 850 m. Supra terram et ad lignum putridum in pluviisilva. Leg. G. Kantvilas (52/87), 15.5.1987. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2154.

Thallus corticolous or terricolous rarely, on mossy rocks, occurring as small to large cushions, occasionally forming extensive patches on soil, to 1 m wide, morphology very variable, of elongate, fertile erect extended primary branches with shorter, thinner, sterile $\pm$ richly branched almost corymbose secondary branches. Primary branches terete, elongate, sparsely to frequently branched, to 7 cm tall, 0.6-1.2 mm wide, surface shining, pale white or greenish-white to fawn or yellowish-brown, cortex papery, thin, 30-45 μm covered by a thin (2-3 μm) epicortex. Algal layer 15-25 μm thick, continuous beneath cortex. Medulla of thick-walled hyphae 6-9 μm diam., partially fused and forming a dense central strand. Apothecia terminal 0.5-1.5 mm diam., subglobose to globose, mazaedium apical, exposed by irregular apical rupture of enclosing receptacle, at maturity partially surrounded by receptacle or free and prominent. Asci 40-65 $\times$ 5-8 μm . Ascospores spherical hyaline to greyish, 6.5-10 μm . Chemistry: K-, C-, KC-, Pd-. Sphaerophorin.



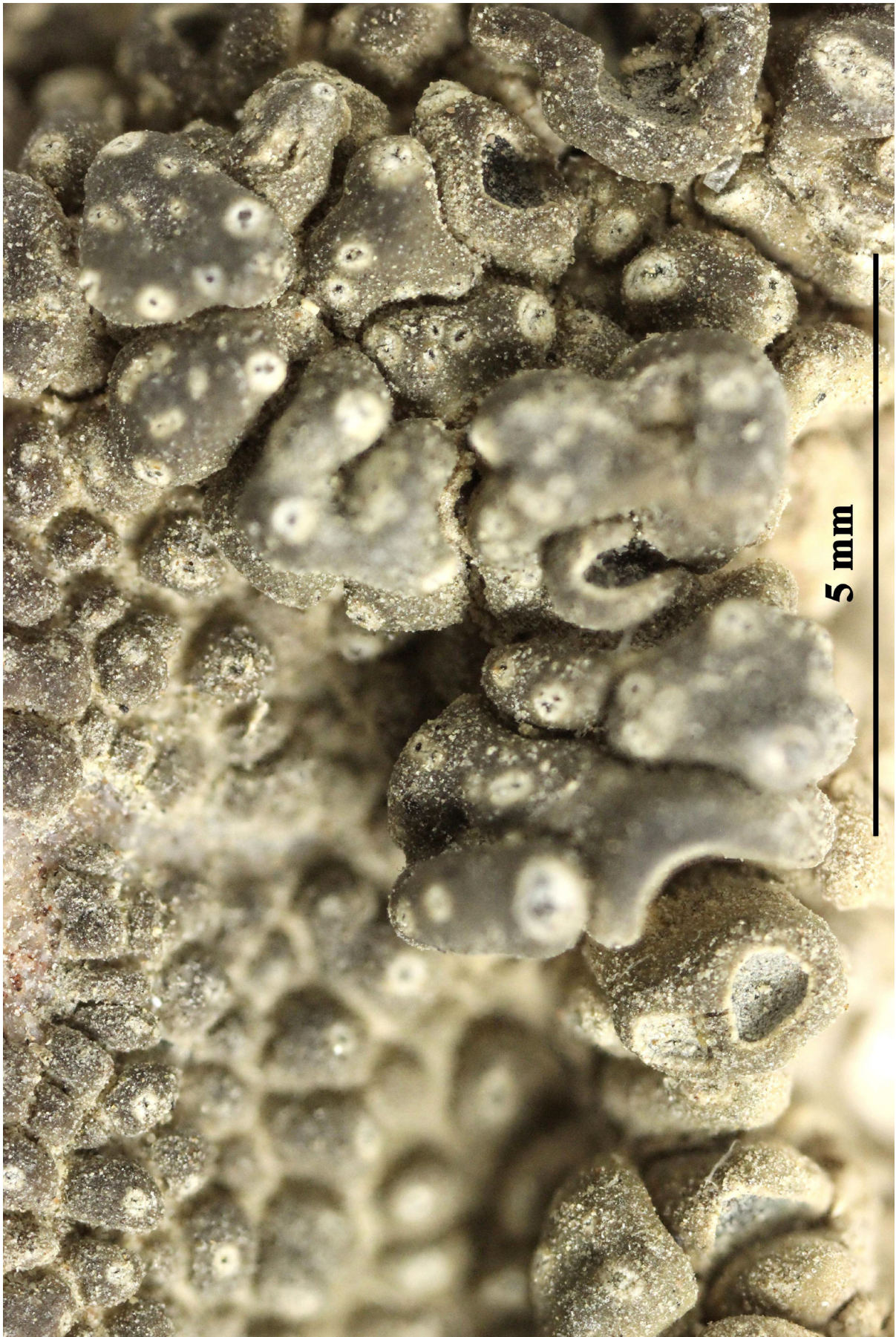
Sphaerophorus tener



Sphaerophorus tener

Sphaerothallia desertorum (Kremp.) Szatala, Annls hist.-nat. Mus. natn.
hung., n.s. 8: 129 (1957)
= *Lecanora desertorum* Kremp. 1867

[VZ1237], USA., Utah. Box Elder County: Curlew Valley prope Snowville, 1350 m. Ad terram subsalinam in semidesertis. Leg. O. L. Lange et E. D. Schulze, 8.1973, det. V. Wirth. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1237.



Sphaerothallia desertorum



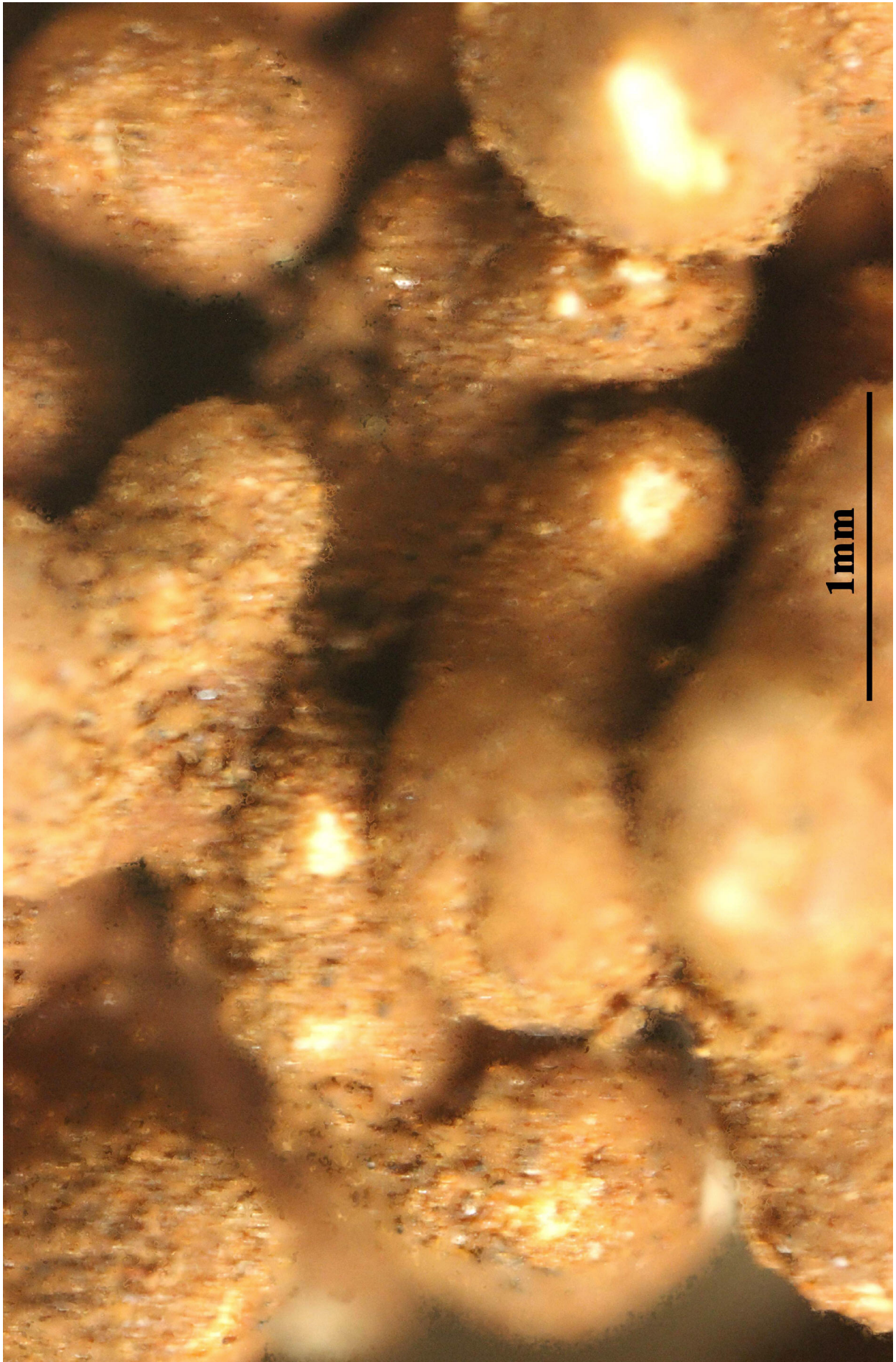
Sphaerothallia desertorum

Sphaerothallia fruticulosa (Eversm.) Follmann & A. Crespo, An. Inst.
bot. A.J. Cavanilles 31(1): 331 (1974)
= *Lecanora fruticulosa* Eversm. 1831
= *Circinaria fruticulosa* (Eversm.) Sohrabi, in Sohrabi, Stenroos, Myllys,
Søchting, Ahti & Hyvönen, Mycol. Progr. 12(2): 253 (2012) [2013]

[VZ1904], Hispania. Prov. Soria: Prope vicum Judes, Paramera, 1250
m. Ad terram calcaream, in Junipero thurifrae soluto. Leg. R. E. Barre-
no, J. Poelt et A. Vězda, 24.5.1983. - Annot.: Colore rubrofusca ad f.
ferrugineam Savicz perinet. EX A. VĚZDA LICHENES SELECTI EXSICCA-
TI NR. 1904.



Sphaerothallia fruticulosa



Sphaerothallia fruticulosa

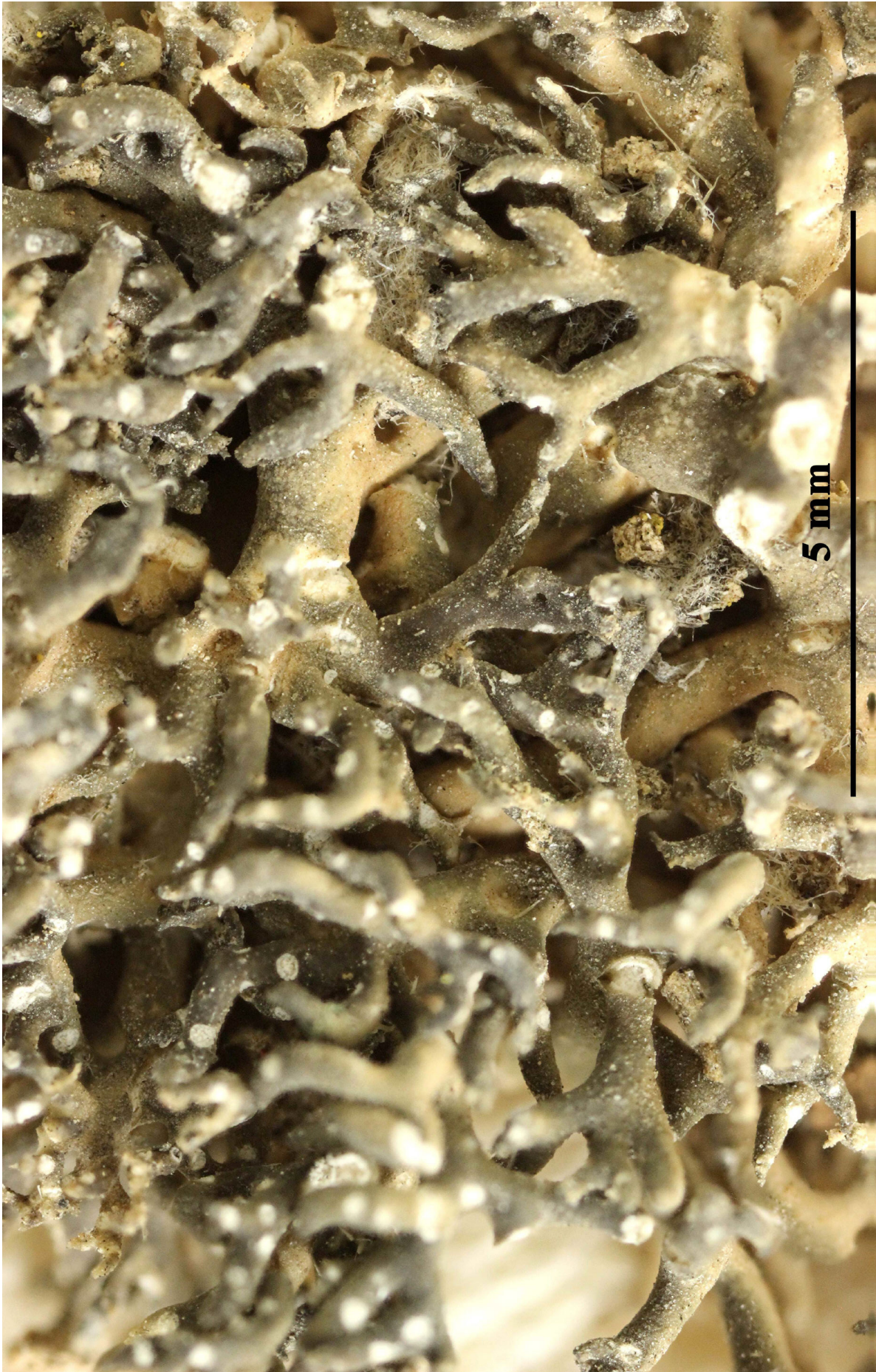
Sphaerothallia hispida (Mereschk.) Follmann & A. Crespo, An. Inst. bot. A.J. Cavanilles 31(1): 331 (1974)
= *Aspicilia hispida* Mereschk. 1911
= *Circinaria hispida* (Mereschk.) A. Nordin, Savić & Tibell, Mycologia 102(6): 1346 (2010)

[VZ1265], USA., Utah. Box Elder County: Curkev Valley prope Snowville, 1350 m. Ad terram subsalinam in semideseris. Leg. O. L. Lange & E. D. Schulze, 8.1978, det, V. Wirth. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1265.

Thallus fruticose, erect, basally attached or vagrant, to 2.5 cm tall and 0.5-1.5(-2.5) cm wide, grey to glaucous green, sometimes brownish in very exposed situations, branching irregularly or dichotomously, the main branches up to 2 mm thick, but rapidly tapering towards apex, with scattered, conspicuous, white pseudocyphellae. Cortex paraplectenchymatous in outer part, prosoplectenchymatous in inner part, covered with a thin epinecral layer; medulla thick, white, I-. Apothecia extremely rare, aspicilioid, up to 4 mm across, mainly lateral, developing in the widest parts of the main stem, with a black to brown-black, sometimes grey-pruinose disc, and a thin, entire, sometimes white-pruinose thalline margin. Proper exciple poorly developed, colourless; epithecium olive-green, N+ green; hymenium colourless; paraphyses moniliform, the apical cells c. 4 µm wide; hypothecium colourless. Asci 2-4-spored, broadly clavate, the thin outer coat K/I+ blue, the wall and apical dome K/I-. Ascospores 1-celled, hyaline, subglobose, 20-24 µm in diam. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-. Chemistry: without lichen substances. Note: a terricolous vagrant species of the steppes of Central Asia, with a disjunct distribution in the most continental parts of the Iberian Peninsula, recently found in the mountains of Greece, the Maritime Alps of France (Roux & coll. 2014), and the western Alps (Hafellner & al. 2003).



Sphaerothallia hispida



Sphaerothallia hispida

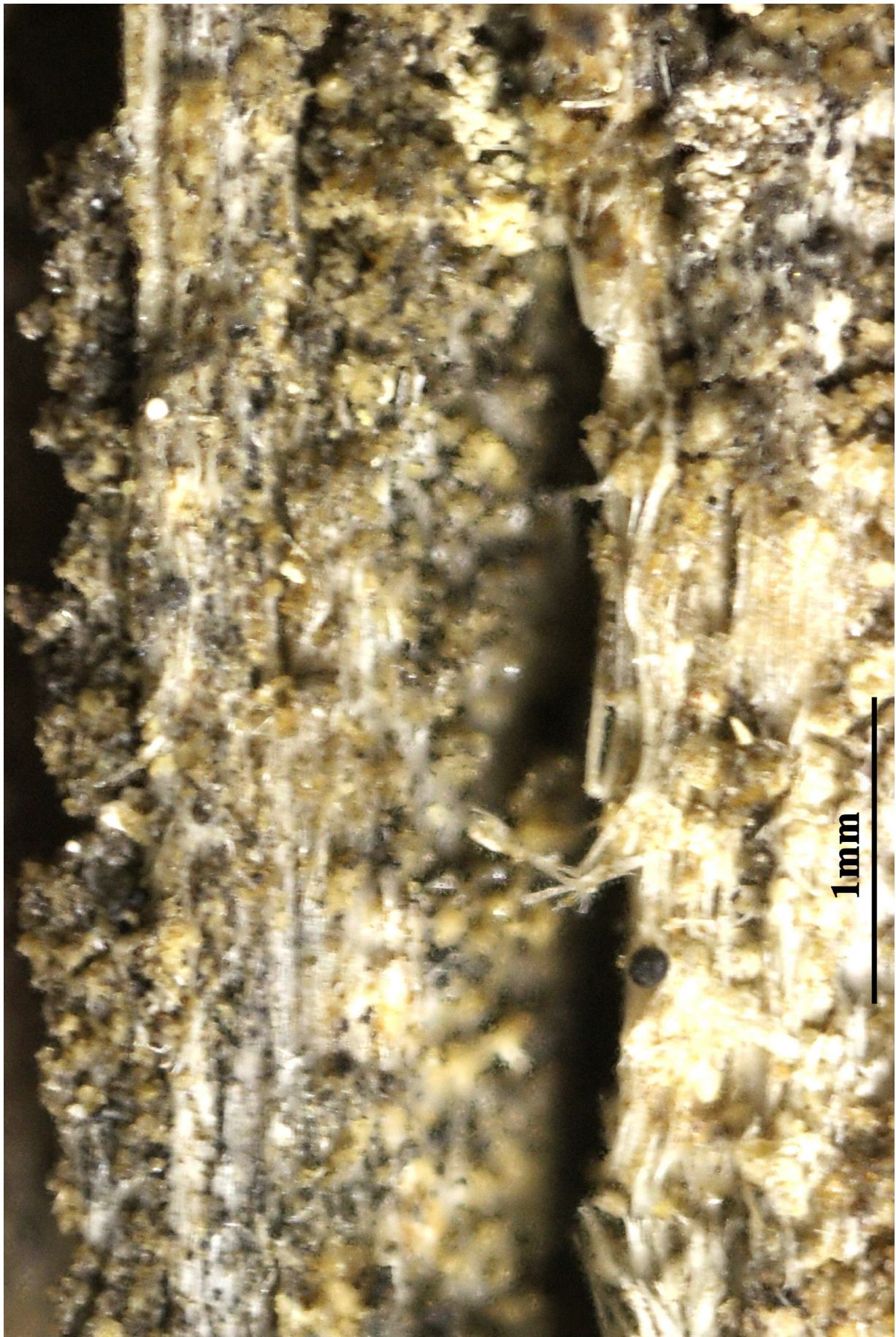


Sphaerothallia hispida

Sphinctrina anglica Nyl., Syn. meth. lich. (Parisiis) 1(2): 143 (1860)

[VZ2281], Austria. Zirolija, alpes "Hohe Tauern" dicti: Virgen, Zedlach, in silva "Zedlacher Wald", 1600 m. Ad saepem lignam secus viam. Leg. R. Türk, 2.8.1988. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2281.

Thallus not evident, not lichenized. Apothecia short-stalked, 0.2-0.45 mm high, black or rarely dark brown. Stalk of periclinally arranged hyphae with strongly gelatinized walls, pale in inner part, dark brown to reddish brown in outermost part, which consists of a layer of isodiametric, sclerotized cells. Capitulum spherical to irregular, 0.1-0.2(-0.3) mm across, shiny black; mazaedium well-developed, black. Exciple well-developed, dull brown, the upper part of more or less isodiametric, periclinally arranged hyphae, the lower part of sclerotized cells; hypothecium colourless to pale brown, 40-50 μ m high. Asci 8-spored, cylindrical, formed singly from ascogenous hyphae with croziers, with a single, functional wall layer, K/I-, disintegrating at a rather late stage, with uniseriately arranged spores. Ascospores 1-celled, subglobose, dark brown, 7-10 x 7-9(-10) μ m, with a minutely dotted wall. Photobiont absent. Spot tests: all parts of ascomata K-, C-, KC-, P-. Chemistry: without lichen substances. - Note: a parasite on the thalli of *Protoparmelia oleaginea*; reported from a few localities in the Italian Alps and certainly extremely rare, although quite widespread in the Northern Hemisphere.



Sphinctrina anglica

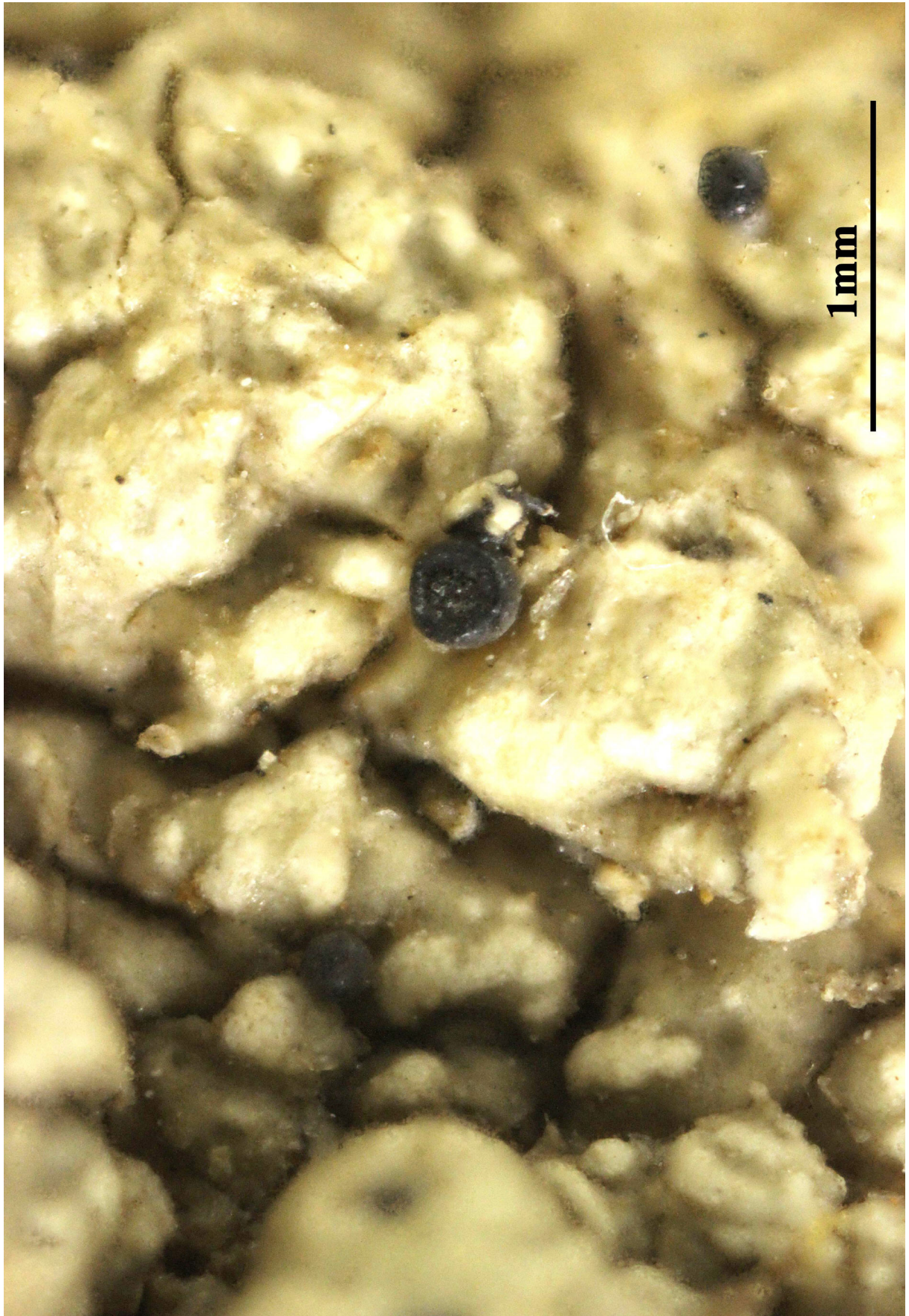


Sphinctrina anglica

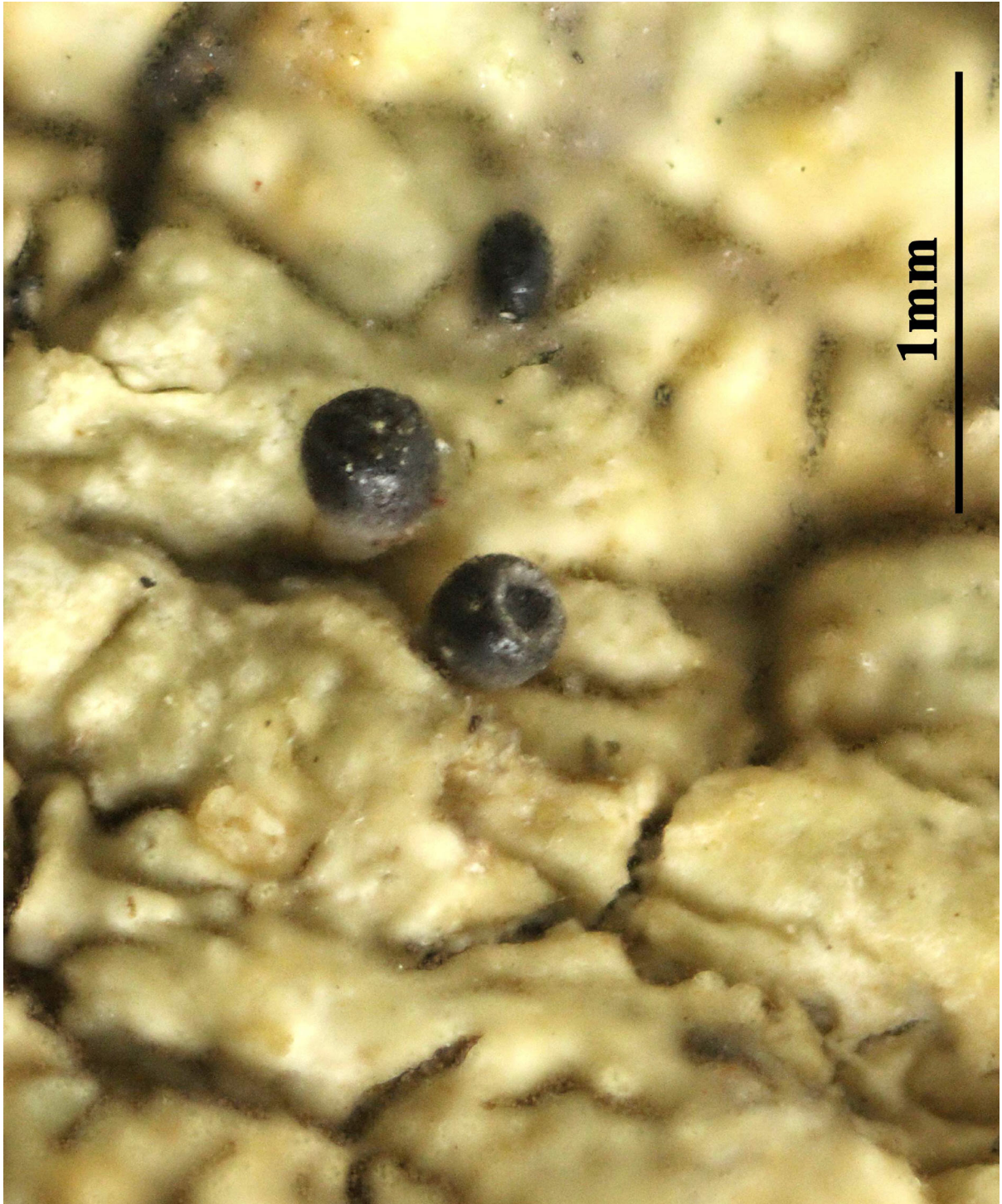
Sphinctrina turbinata Fr., Syst. orb. veg. (Lundae): 121 (1825)

[VZ2371], Italia. Calabria, Consenza, in loco Plano de Marco dicto prope Monte Mula, 1020 m. In thallo *Pertusariae pertuse*, ad corticem *Quercus cervis*. Leg. G. Puntillo, 14.5.1989. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2371.

Thallus not evident, not lichenized. Apothecia short-stalked to subsessile, 0.16-0.3 mm high. Stalk dark to pale brown, more rarely black, of periclinally arranged, red hyphae with strongly gelatinized walls, pale in inner part, reddish in outermost part, which is sometimes overlain by a thick gelatinous coat. Capitulum spherical to slightly irregular, 0.2-0.4 mm across, shiny black or dark brown; mazaedium well-developed, black. Exciple well-developed, dark ruby red and K⁺ purple, not sclerotized, consisting of more or less periclinally arranged hyphae, the surface slightly sclerotized in upper part, hyaline and gelatinose in lower part; hypothecium colourless to pale brown, 35-50 µm high. Asci 8-spored, cylindrical, formed singly from ascogenous hyphae with croziers, with a single, functional wall layer, K/I-, disintegrating at a rather late stage, with uniseriately arranged spores. Ascospores 1-celled, subglobose, dark brown, 5-7.5 x 4.5-7.5 µm, surrounded by a gelatinous coat, with an ornamentation of minute pores (resembling small warts under the optical microscope), and a few irregular cracks. Photobiont absent. Spot tests: K-, C-, KC-, P-, except the reddish parts of the ascomata, especially in the exciple, which react K⁺ purple. Chemistry: without lichen substances. - Note: mostly on *Pertusaria pertusa* in humid beech forests, much more rarely on saxicolous *Pertusaria*-species. Widespread throughout the country, with optimum in the montane belt



Sphinctrina turbinata

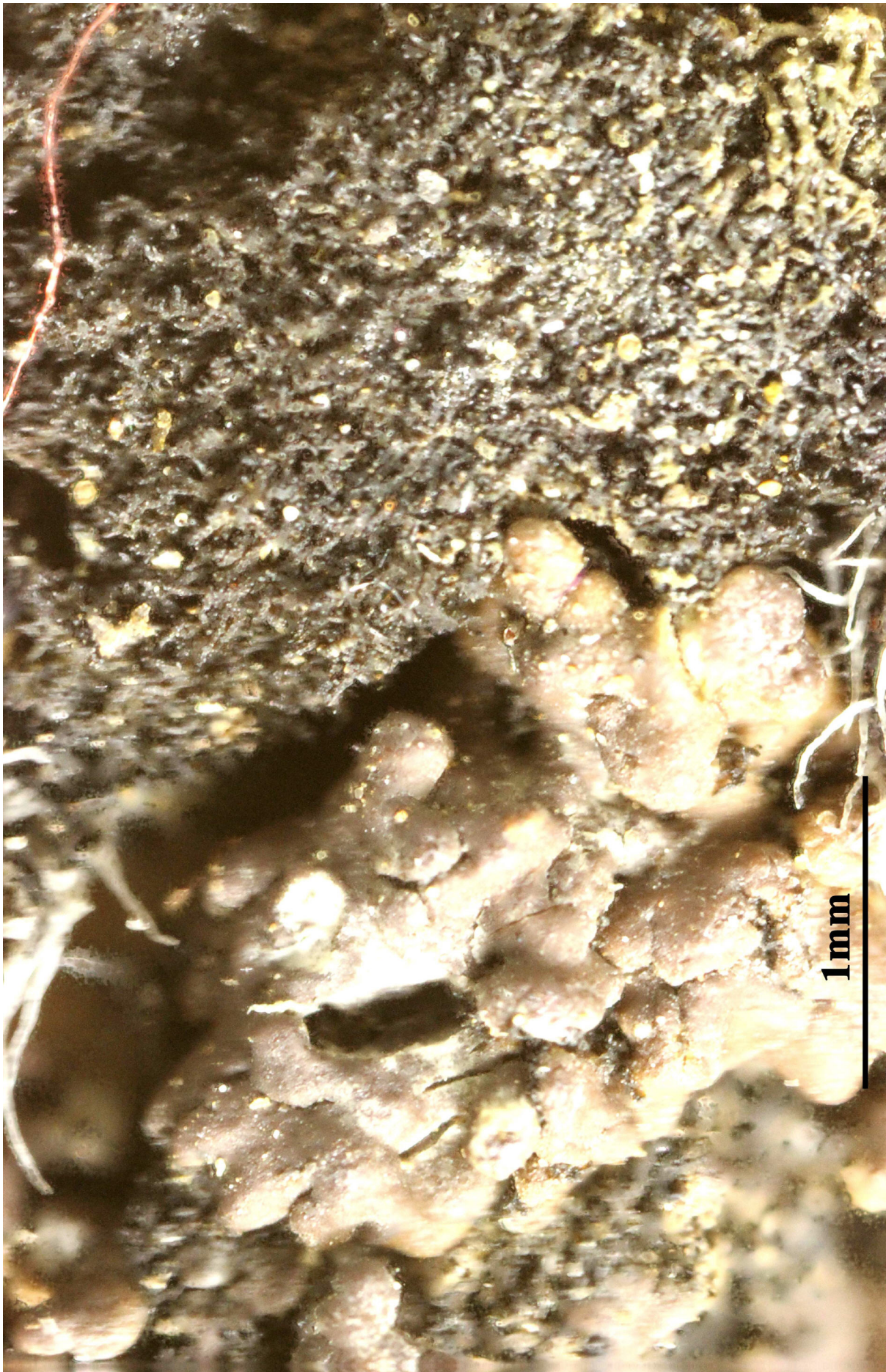


Sphinctrina turbinata

Spilonema revertens Nyl., Flora, Regensburg 48: 601 (1865)

[1726], URSS., Caucasus Magnus, regio montis Elbrus, in valle torrentis Adylsu prope pagum Elbrus, loco Džan Tugan dicto, 1800-100 m. Ad saxum apricum in abrupto pratense. Leg. A. Vezda, 23.6.1980. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1726.

Thallus minutely shrubby-filamentous, blackish, forming convex, up to 1.5 cm wide and to 6 mm high pillows, the filaments stiff, densely interwoven, erect, up to 6 mm long and to 60 μm thick, branched perpendicularly to the main axis, with blue-green rhizohyphae in the lower 2/3, which consist of 1- or 2-seriate cyanobacterial trichomes surrounded by a gelatinous sheath permeated (except at the tips of filaments) with a network of hyphae; outer hyphae giving rise to thinner hyphae which penetrate among the cyanobacterial cells. Apothecia rather rare, biatorine, 0.2-0.5 mm across, immersed in the thallus, formed laterally on the filaments, with a convex disc, immarginate. Proper exciple thin, of radially arranged hyphae; hymenium 45-55 μm high, pale violet in upper part, I+ blue; paraphyses robust, distinctly septate, sparingly branched, with pointed tips; hypothecium more or less dark violet, paraplectenchymatous. Asci 8-spored, cylindrical, thick-walled, with a K/I+ blue apical thickening. Ascospores 1-celled (rarely with a plasma bridge and thus appearing septate), hyaline, ellipsoid, 7-10(-11) x (2.5-)3-4(-6) μm , often poorly developed. Pycnidia immersed, wart-like, black, up to 0.2 mm across, the wall green-black, N+ red, the conidiogenous cells short, catenate. Conidia acrogeous and pleurogeous, simple, hyaline, short-bacilliform, 2-3 x c. 1 μm . Photobiont cyanobacterial (*Stigonema*), the cells c. 11-20 x 9-15 μm . Spot tests: all negative. Chemistry: without lichen substances. - Note: on damp siliceous rocks along streams, near waterfalls or along seepage tracks; widespread in the Holarctic region, generally not common, but perhaps undercollected and more widespread in the Alps.



Spilonema revertens

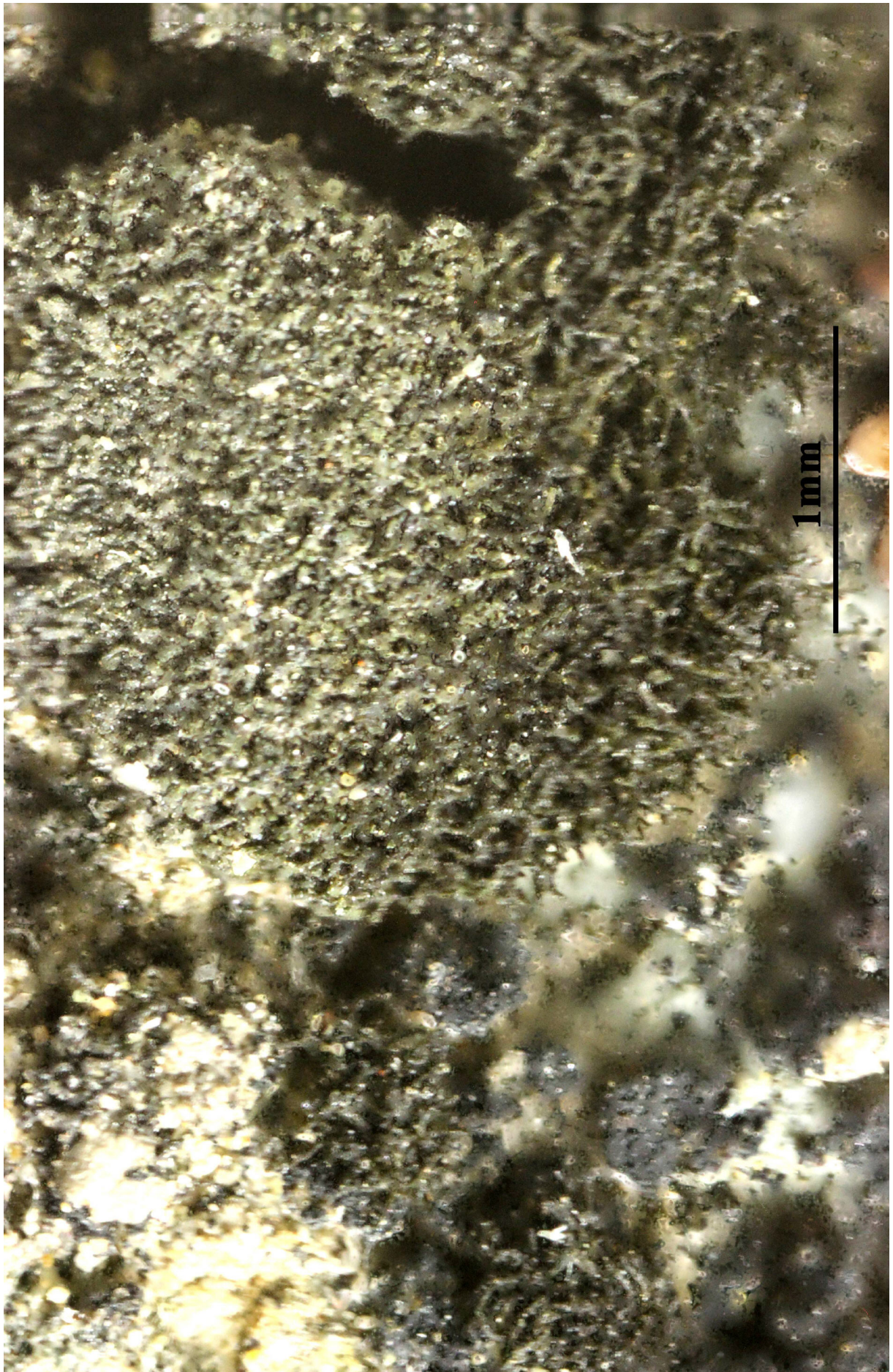


Spilonema revertens

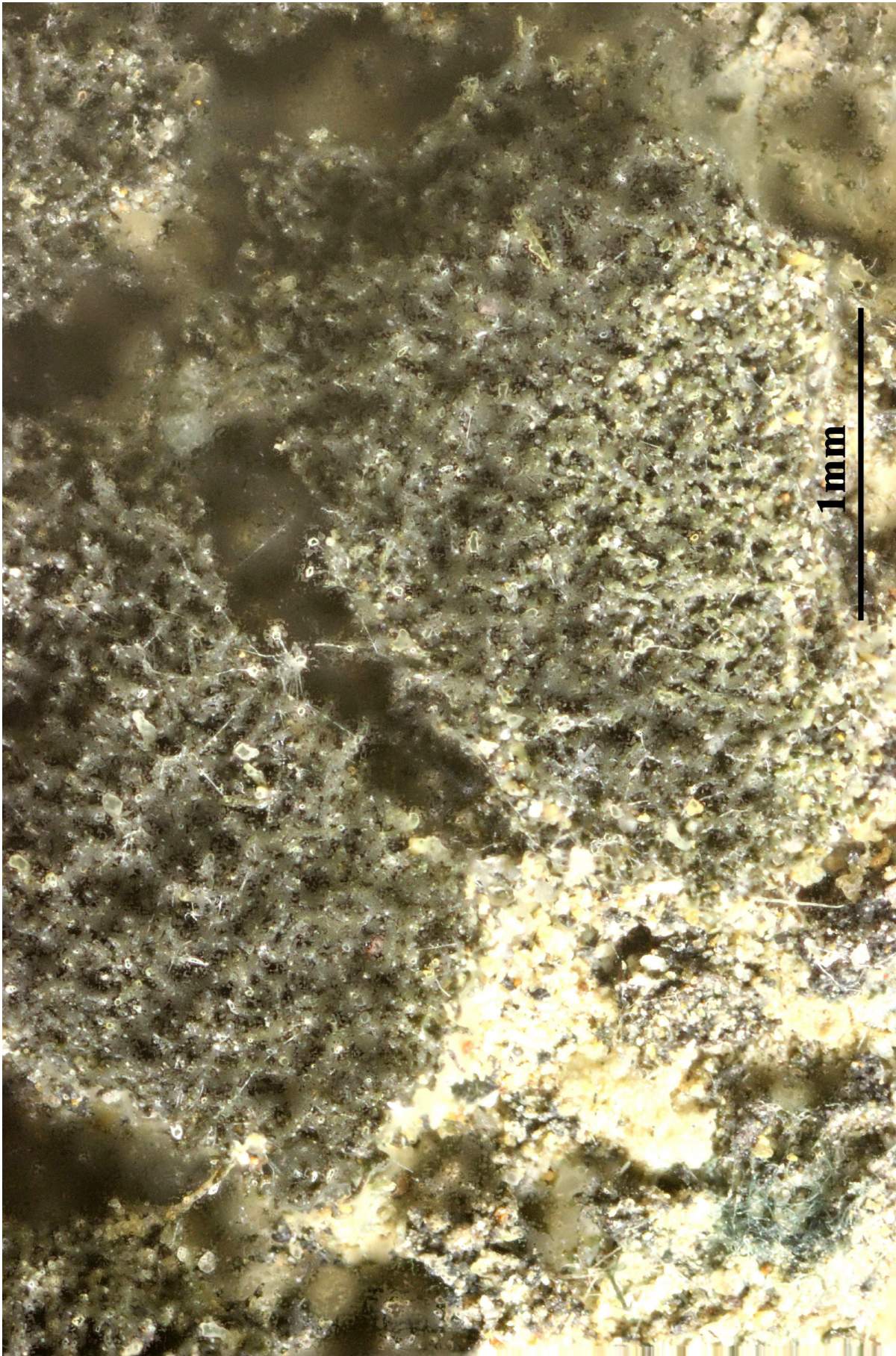
Spilonema revertens Nyl., Flora, Regensburg 48: 601 (1865)

[VZ1352], Bulgaria. Distr. Burgas, inter pagos Kondolovo et Izgrev, 300 m. Ad saxa andesitica aprica. Leg. A. Kiszely et A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1352.

Thallus minutely shrubby-filamentous, blackish, forming convex, up to 1.5 cm wide and to 6 mm high pillows, the filaments stiff, densely interwoven, erect, up to 6 mm long and to 60 μm thick, branched perpendicularly to the main axis, with blue-green rhizohyphae in the lower 2/3, which consist of 1- or 2-seriate cyanobacterial trichomes surrounded by a gelatinous sheath permeated (except at the tips of filaments) with a network of hyphae; outer hyphae giving rise to thinner hyphae which penetrate among the cyanobacterial cells. Apothecia rather rare, biatorine, 0.2-0.5 mm across, immersed in the thallus, formed laterally on the filaments, with a convex disc, immarginate. Proper exciple thin, of radially arranged hyphae; hymenium 45-55 μm high, pale violet in upper part, I+ blue; paraphyses robust, distinctly septate, sparingly branched, with pointed tips; hypothecium more or less dark violet, paraplectenchymatous. Asci 8-spored, cylindrical, thick-walled, with a K/I+ blue apical thickening. Ascospores 1-celled (rarely with a plasma bridge and thus appearing septate), hyaline, ellipsoid, 7-10(-11) x (2.5-)3-4(-6) μm , often poorly developed. Pycnidia immersed, wart-like, black, up to 0.2 mm across, the wall green-black, N+ red, the conidiogenous cells short, catenate. Conidia acrogenous and pleurogenous, simple, hyaline, short-bacilliform, 2-3 x c. 1 μm . Photobiont cyanobacterial (*Stigonema*), the cells c. 11-20 x 9-15 μm . Spot tests: all negative. Chemistry: without lichen substances. - Note: on damp siliceous rocks along streams, near waterfalls or along seepage tracks; widespread in the Holarctic region, generally not common, but perhaps undercollected and more widespread in the Alps.



Spilonema revertens

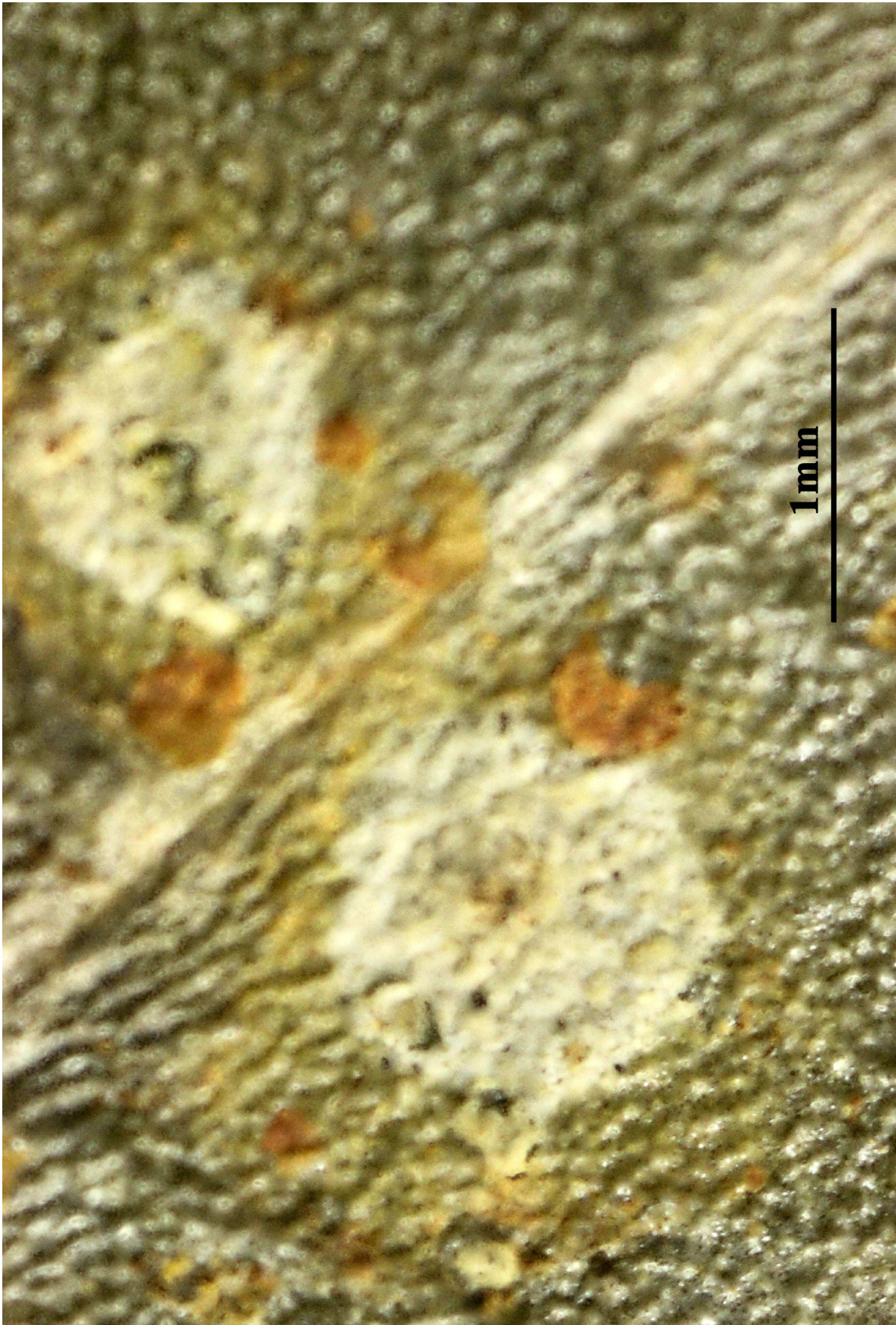


Spilonema revertens

Sporopodium flavescens (R. Sant.) Vězda, Lichenes Selecti Exsiccati, Fascicle 88 (nos 2176-2200) (Průhonice): 5 (no. 2193) (1988)
= *Sporopodium phyllocharis* var. *flavescens* R. Sant. 1952

[VZ2193], Australia. New South Wales. McPherson Range, ad marginem reservati naturae Border Ranges National Park dicti, Gradys Creek, 800 m. Foliicola, ad marginem pluviisilvae. Leg. J. Hafellner, P. Merrotsy, R. Rogers, 29.8.1986, det. A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2193.

Dise of large ap. usually convex, covered by a thick greyish pruina. Epithecial algae numerous. Th. smooth, or with irregular verrucae. Margin of young ap. thick, distinctly prominent, but the disc is, however, some-times hidden by the thick confluent pruina of the margin. — Epithecial algae sparse. Hypothallus yellow. Margin of ap. somewhat yellowish.



Sporopodium flavescens



Sporopodium flavescens

Sporopodium xantholeucum (Müll. Arg.) Zahlbr., Cat. Lich. Univers. 2: 681 (1924)
= *Gyalectidium xantholeucum* Müll. Arg. 1881

[VZ1292], Respublica Democratica Vietnamica, Prov. NGHỆ AN: silvestria Quy Chau, in silva KHE BAN dicta, 400 m. Ad folia arboris in silva humida. Leg. T. Pócs (no. 2531), det. A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1292.

50 mm across and 15–20 μm thick, minutely pulveraceous and sometimes with scattered verrucae, pale bluish grey; verrucae hemispherical to irregular, 0.07–0.15 mm diam., paler than thallus to white. Apothecia irregular in outline, 0.3–0.7 mm diam. and 150–250 μm high; disc plane, dark reddish brown to dark brown but usually white to yellow pruinose; margin distinct, very irregular, white to pale yellow pruinose. Excipulum 30–50 μm broad, partly incrusted and externally covered with large clusters of yellowish brown crystals. Hypothecium up to 70 μm high, pale to dark brown. Epithecium well-developed, 15–20 μm high, granulose, sordid greenish yellow; epithecial algae usually abundant. Hymenium 80–140 μm high, colorless. Asci 70–110 x 17–25 μm . Ascospores single, oblong-ellipsoid, muriform, 60–100 x 15–23 μm , 4–6 times as long as broad, colorless. Campylidia usually rare, sessile, 0.3–0.6 mm broad; lobe well-developed, funnel- to hood-shaped, pale grey to yellow pruinose; socle not apparent; wall paraplectenchymatous, colorless, externally with thin layer of free, sparsely branched, colorless hyphae incrusted with yellowish brown crystals that dissolve in K; basal portion with hemispherical, paraplectenchymatous bulge; conidiogeneous layer covering internal, wall surface and bulge; conidiogeneous cells bacillar, unbranched, 7–12 x 1 μm , densely interspersed with algal cells 5–8 μm diam. Conidia drop-shaped, non-septate, 5–8 x 1.8–2.2 μm , intermingled with small, algal cells 3–4 μm diam., formed by division of larger cells in conidial layer. Chemistry: pannarin, zeorin, 2,7-dichlorolichexanthone, 5,7-dichlorolichexanthone, 5,7-dichloro-3-O-methylnorlichexanthone, 5,7-dichloronorlichexanthone, 2,5,7-trichlorolichexanthone, arthothelin, isoarthothelin, asemone, 2,5,7-trichloro-3-O-methylnorlichexanthone, thiophanic acid. Distribution and Ecology. Pantropical. Sometimes locally abundant and usually in open situations.



Sporopodium xantholeucum



Sporopodium xantholeucum

Squamarina cartilaginea (With.) P. James, in Hawksworth, James & Coppins, Lichenologist 12(1): 107 (1980)
= *Lichen cartilagineus* With. 1776

[VZ2422], Italia. Sardinia. Prov. Cagliari: Insula S. Antióco, scopulum "Capo Siddi" dictum, 10 m. Ad terram. Leg. P. L. Nimis, C. Roux, M. Tretiach et A. Vězda, 6.9.1989. EX A. VĚZDA LICHENES SELECTI EXSICCATI.

Thallus squamulose, 3-15 cm wide, 0.3-0.8 mm thick, the squamules imbricate, greenish when fresh, turning brownish in the herbarium, epruinose and indistinctly lobed except in young stages, the margins usually white, rarely blackening, the lower surface dark grey to black at least in central parts (pale in young squamules and in peripheral parts), attached by concolour rhizinoid hyphal strands. Upper cortex 20-50 µm thick, with an epinecral layer which is hyaline and without crystals in the upper 4-10 µm, and interspersed with crystals in the lower 8-15 µm; true cortex 15-35 µm thick, plectenchymatous, with elongated cells; medulla white (brownish in lower part), up to 0.6 mm thick, filled with crystals. Apothecia frequent, 0.6-3(-4) mm across, finally constricted at base, at first zeorine, then almost biatorine, with a yellowish white to medium brown, at first concave then flat to convex disc and a 0.1-0.25 mm thick, pale brown to whitish, finally excluded thalline margin, the proper margin thin and poorly evident, level with disc. Thalline exciple 230-370 µm wide, corticate; proper exciple 200-260 µm wide laterally, filled with crystals, of branched-anastomosing hyphae arranged in a fan-way; epithecium yellowish brown, granular, 6-10 µm high; hymenium colourless, 60-80 µm high, hemiamyloid; paraphyses coherent, mostly simple, 1-1.5 µm thick at mid-level, the apical cells 2-4 µm wide; hypothecium colourless, 35-100 µm high, subprosoplectenchymatous, with large crystals soluble in K and insoluble in N, I- (the subhymenium is thin and devoid of crystals). Asci 8-spored, elongate-clavate, with a thin, outer amyloid layer and a thickened, amyloid tholus devoid of an ocular chamber, penetrated by an axial tube the sides of which stain I+ deeper blue, approaching the Porpidia-type. Ascospores 1-celled, hyaline, ellipsoid to subfusiform, (8-)11-15(-17) x (3.5-)4-5.5(-7) µm. Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC- or KC+ faintly yellow, P-; medulla P+ yellow. Chemistry: cortex with usnic and isousnic acids; medulla with psoromic and 2'-O-demethylpsoromic acids. - Note: a mainly southern, chemically variable species found on calcareous rocks, more rarely on soil, the most common species of the genus in Italy.



Squamarina cartilaginea



Squamarina cartilaginea

Squamarina cartilaginea (With.) P. James, in Hawksworth, James & Coppins, Lichenologist 12(1): 107 (1980)
= *Lichen cartilagineus* With. 1776

[5363], Spanien, Kanarische Inseln, Gran Canaria, Nordhänge am Stausee Embalse del Mulato; lückige Gebüschvegetation mit offenerdigen Stellen und vereinzelter *Pinus-canariensis*-Gruppen; 27°54.905 N, 15°41.596 W, 760 m. Leg. F. Schumm & U. Schwarz 31.12.1998, det. F. Schumm, 13.12.1999.- Annot.: Sporen hyalin, 1-zellig, 8/Ascus, 9,4-13,3 x 4,4 µm. Spt test cortex/medulla: K -/-, C -/-, KC -/gelb, P -/gelb.

Thallus squamulose, 3-15 cm wide, 0.3-0.8 mm thick, the squamules imbricate, greenish when fresh, turning brownish in the herbarium, epruinose and indistinctly lobed except in young stages, the margins usually white, rarely blackening, the lower surface dark grey to black at least in central parts (pale in young squamules and in peripheral parts), attached by concolour rhizoid hyphal strands. Upper cortex 20-50 µm thick, with an epinecral layer which is hyaline and without crystals in the upper 4-10 µm, and interspersed with crystals in the lower 8-15 µm; true cortex 15-35 µm thick, plectenchymatous, with elongated cells; medulla white (brownish in lower part), up to 0.6 mm thick, filled with crystals. Apothecia frequent, 0.6-3(-4) mm across, finally constricted at base, at first zeorine, then almost biatorine, with a yellowish white to medium brown, at first concave then flat to convex disc and a 0.1-0.25 mm thick, pale brown to whitish, finally excluded thalline margin, the proper margin thin and poorly evident, level with disc. Thalline exciple 230-370 µm wide, corticate; proper exciple 200-260 µm wide laterally, filled with crystals, of branched-anastomosing hyphae arranged in a fan-way; epithecium yellowish brown, granular, 6-10 µm high; hymenium colourless, 60-80 µm high, hemiamyloid; paraphyses coherent, mostly simple, 1-1.5 µm thick at mid-level, the apical cells 2-4 µm wide; hypothecium colourless, 35-100 µm high, subprosoplectenchymatous, with large crystals soluble in K and insoluble in N, I- (the subhymenium is thin and devoid of crystals). Asci 8-spored, elongate-clavate, with a thin, outer amyloid layer and a thickened, amyloid tholus devoid of an ocular chamber, penetrated by an axial tube the sides of which stain I+ deeper blue, approaching the *Porpidia*-type. Ascospores 1-celled, hyaline, ellipsoid to subfusiform, (8-)11-15(-17) x (3.5-)4-5.5(-7) µm. Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC- or KC+ faintly yellow, P-; medulla P+ yellow. Chemistry: cortex with usnic and isousnic acids; medulla with psoromic and 2'-O-

demethylpsoromic acids. - Note: a mainly southern, chemically variable species found on calcareous rocks, more rarely on soil, the most common species of the genus in Italy.



Squamarina cartilaginea



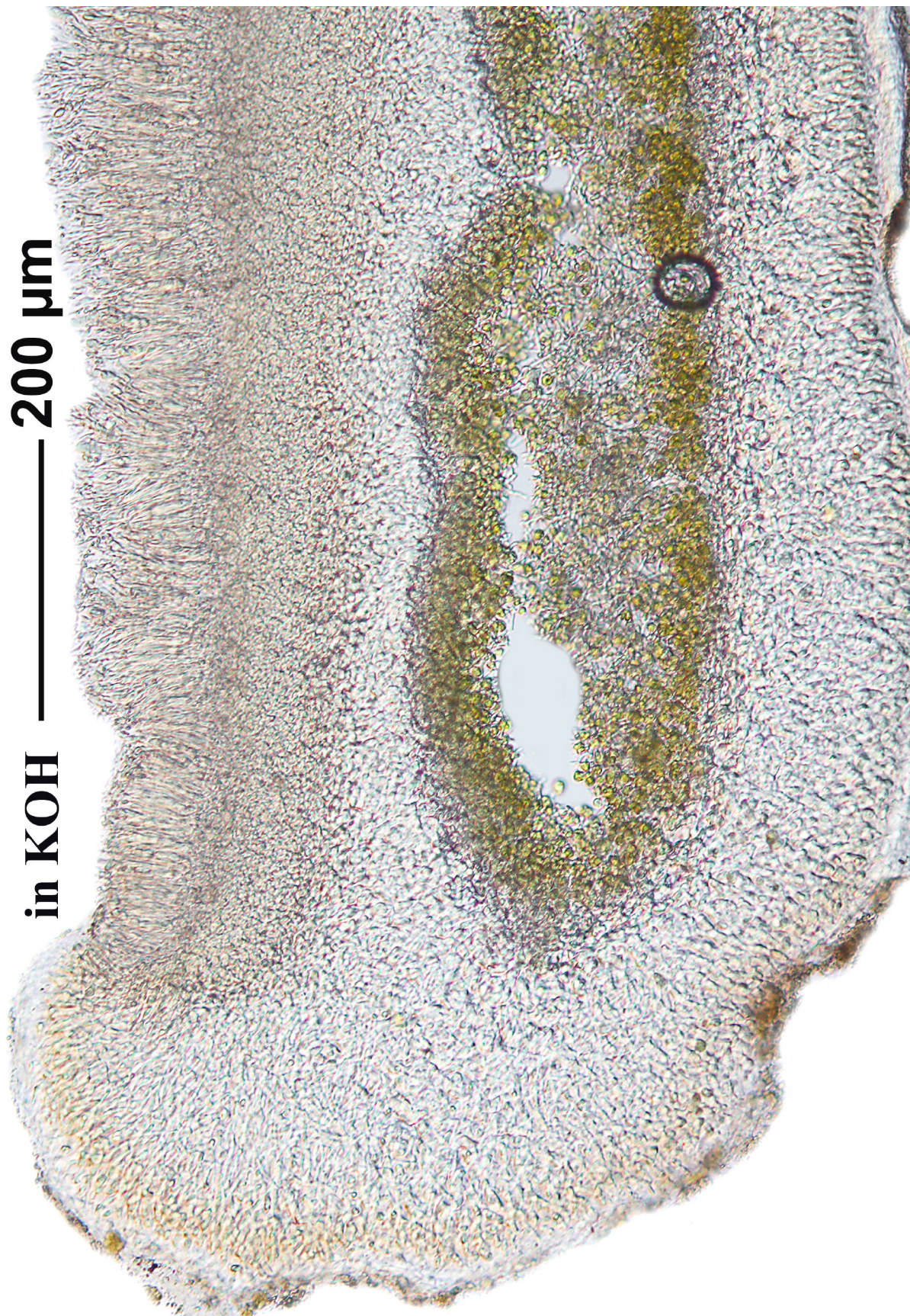
Squamarina cartilaginea



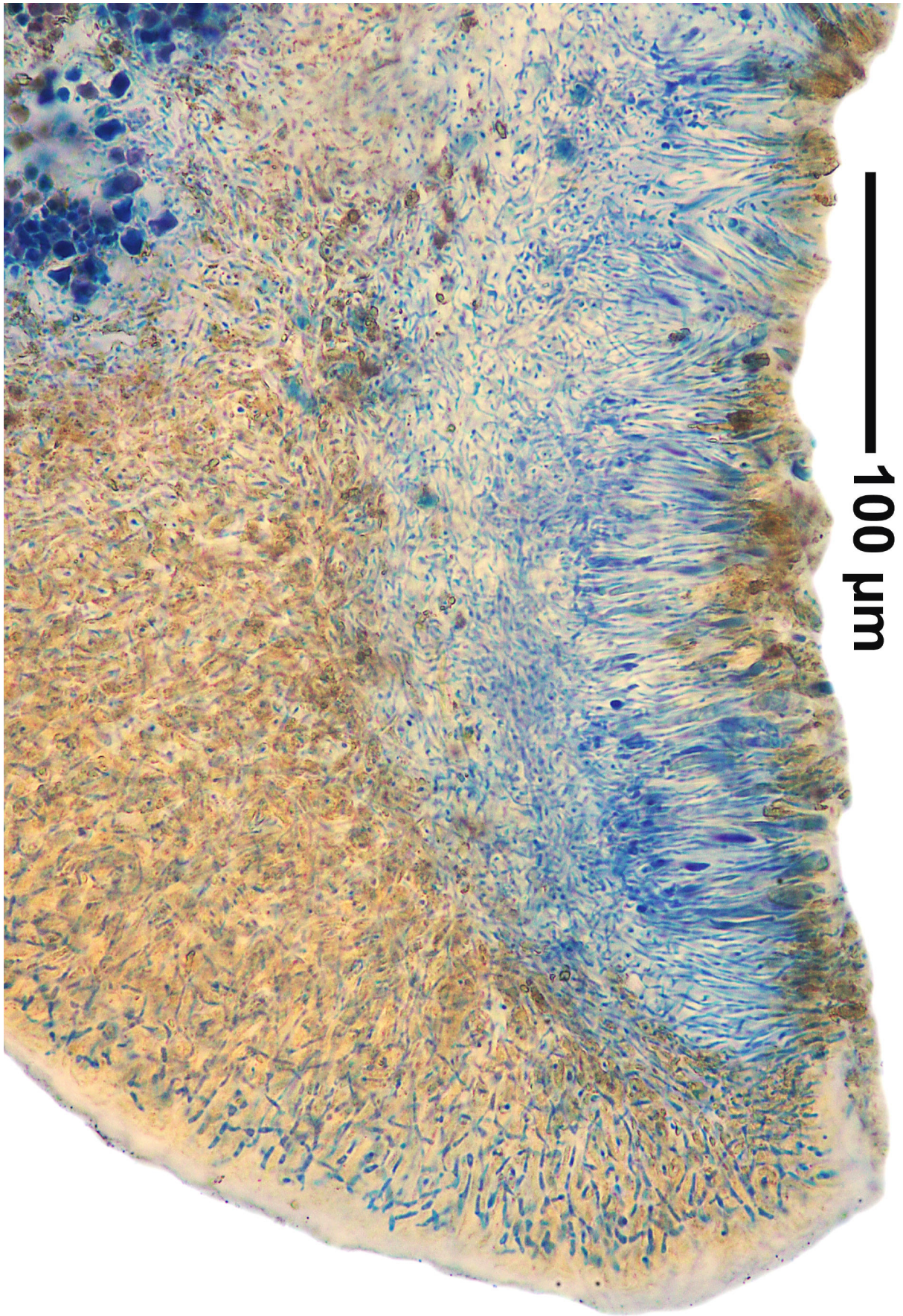
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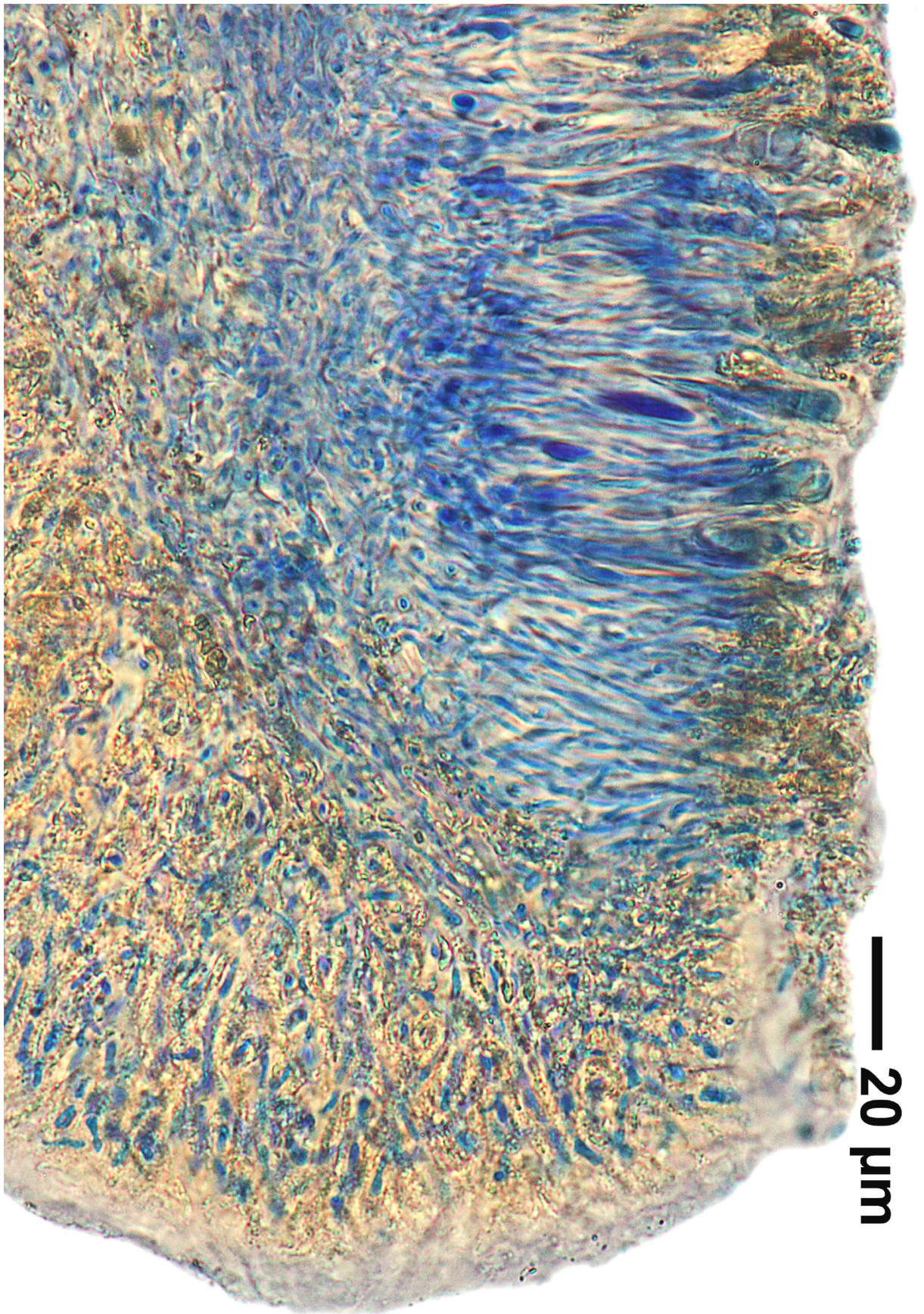
Squammarina cartilaginea



Squammarina cartilaginea



Squamaria cartilaginea



Squamaria cartilaginea



10 μ m

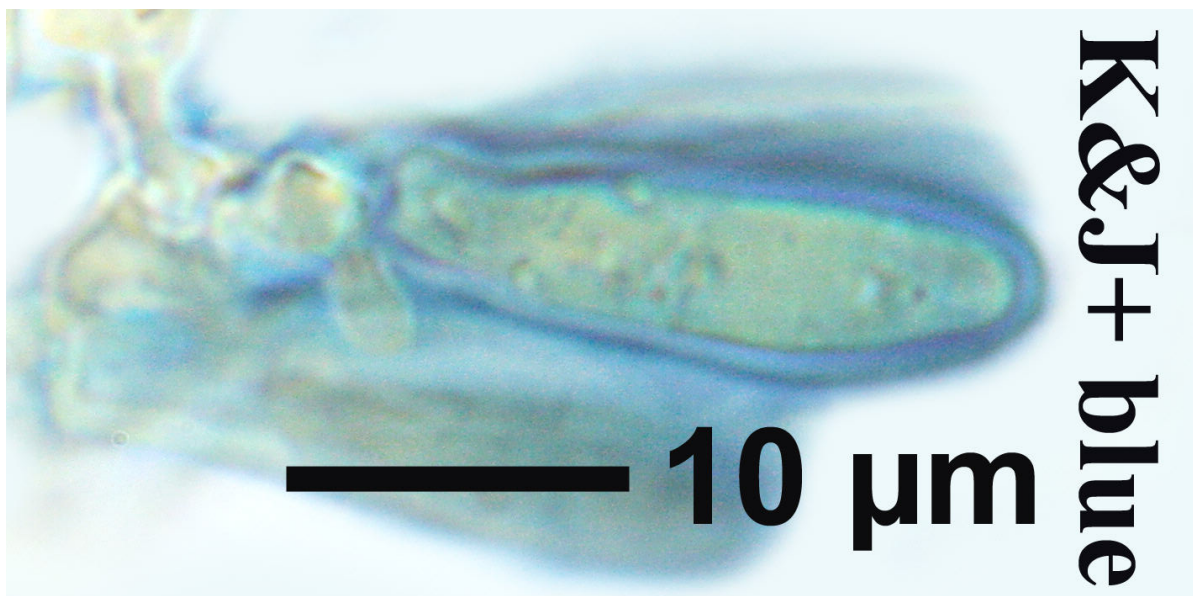
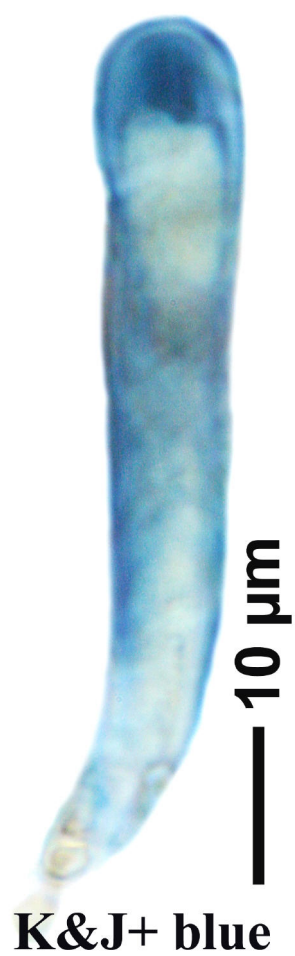
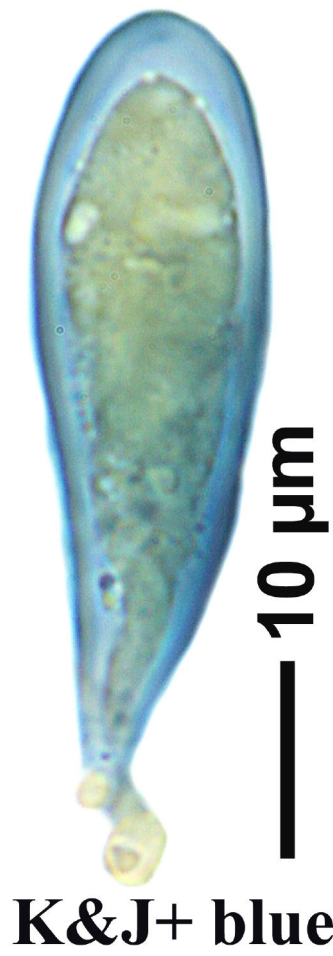
K&J+ blue



10 μ m

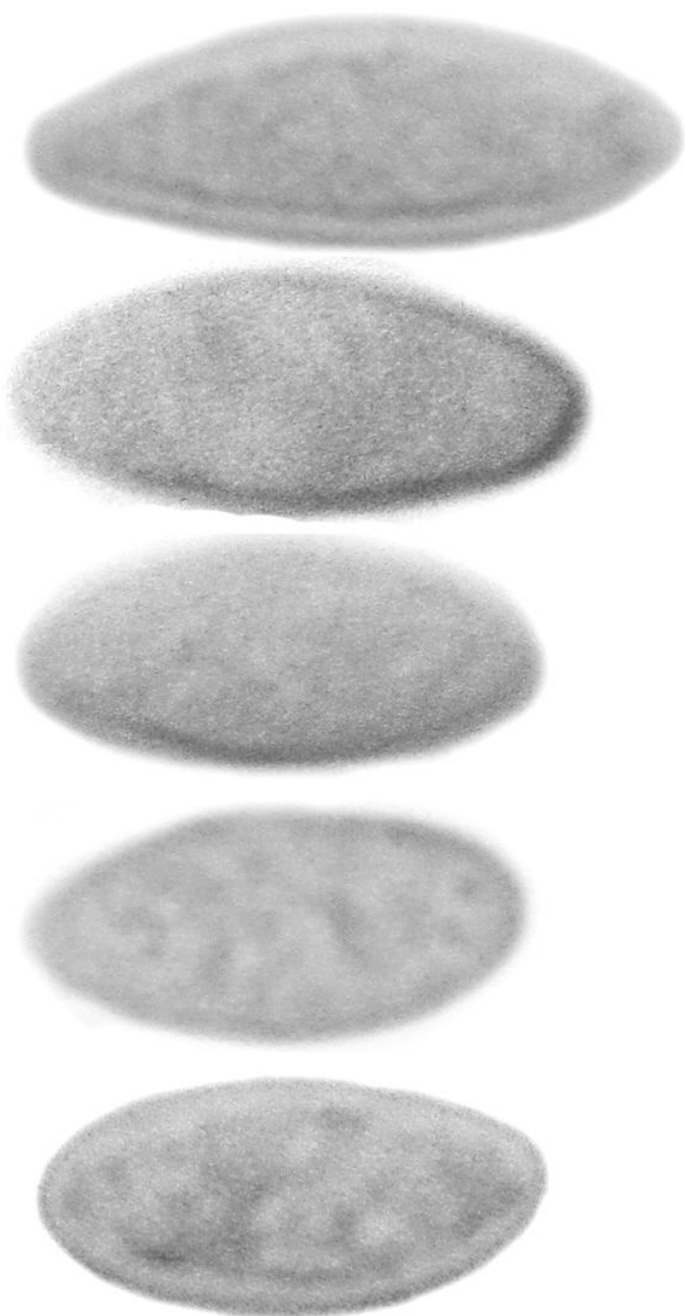
K&J+ blue

Squamarina cartilaginea





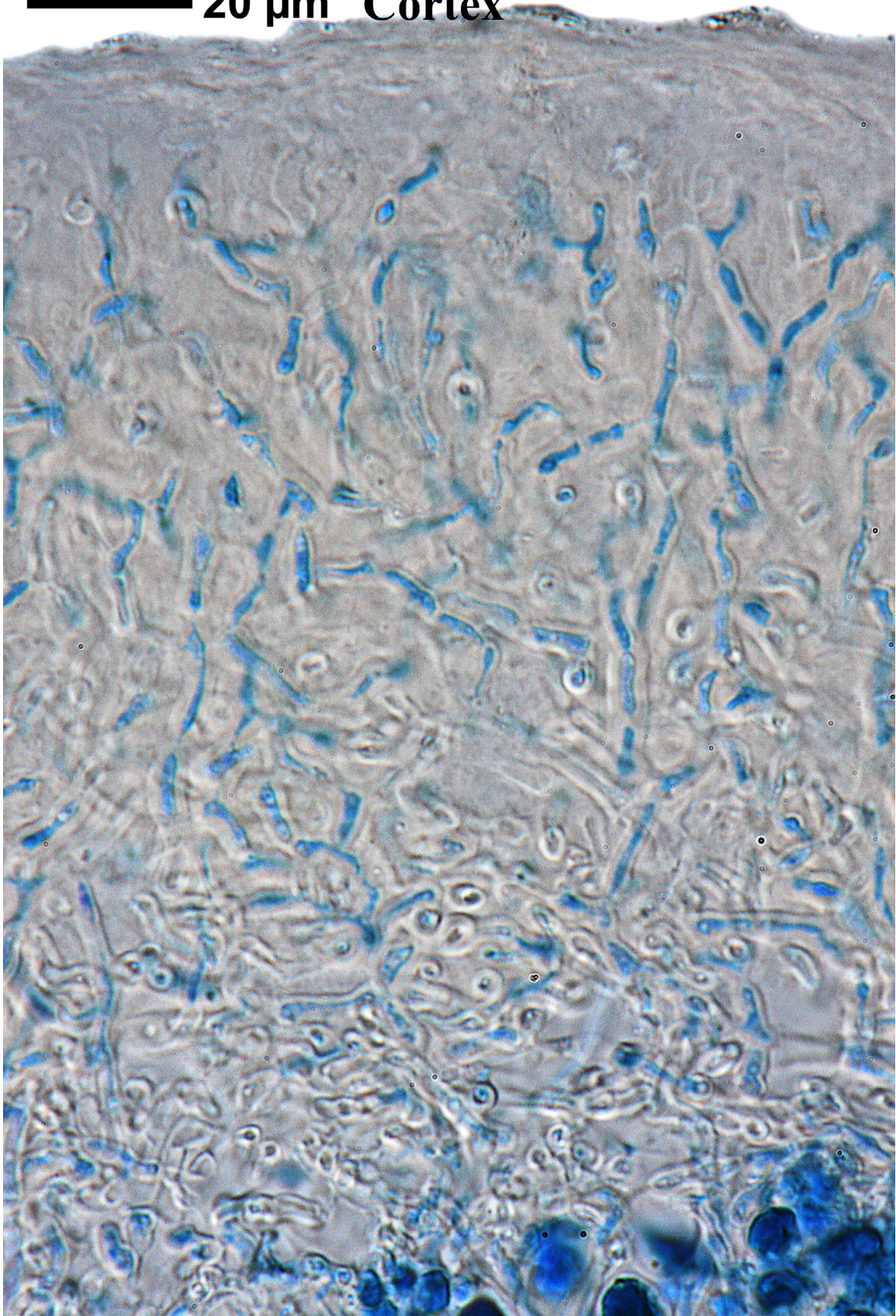
Squammarina cartilaginea



10 μm

Squamarina cartilaginea

— 20 μ m Cortex



Squamaria cartilaginea

Squamarina conrescens (Müll. Arg.) Poelt, Mitt. bot. StSamml., Münch.
19-20: 532 (1958)
= *Placodium conrescens* Müll. Arg. 1893

[VZ1692], Italia. Liguria, prov Savona: Alassio, Vegliaso, 300 m. Ad terram sub *Oleas*. Leg. M. Steiner, 30.4.1965. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1692.

Thallus squamulose to subcrustose-placodioid, thick, greenish white to yellowish green, forming orbicular to irregular up to 10 cm wide rosettes. Central parts of thallus areolate-squamulose; marginal lobes radiating, concave with raised margins, 3-5 mm wide, contiguous to rarely overlapping, smooth to wrinkled, with dense, marginal, 0.3-1 mm wide, flattened and basally constricted, fragile, white isidia-like lobules; lower surface white to blackish in central parts, with dark rhizinoid strands of hyphae. Upper cortex paraplectenchymatous, 30-40 μm thick; medulla chalky white, very thick. Apothecia rare, lecanorine to zeorine, up to 0.5-3(-4) mm across, with a concave to flat, smooth, pale ochre-coloured to greenish brown disc, a variably thick, finally often excluded thalline margin and a thin proper margin. Epithecium brownish; hymenium colourless, 60-70 μm high, hemiamyloid; paraphyses slightly swollen at apex; hypothecium colourless. Asci 8-spored, elongate-clavate, with a thin, outer amyloid layer and a thickened, amyloid tholus devoid of an ocular chamber, penetrated by an axial tube the sides of which stain I+ deeper blue, approaching the Porpidia-type. Ascospores often poorly developed, 1-celled, hyaline, ellipsoid (11-)12-16(-17) x (4-)5-6(6.5) μm . Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC- or KC+ yellowish, P-; medulla and 'isidia' P+ deep yellow or P-. Chemistry: cortex with usnic acid; medulla with or without psoromic and 2'-O-demethylpsoromic acids. - Note: an often misunderstood species, with a southern distribution centred in dry areas, found on base-rich clay soil in clearings of grasslands and garrigues, but also on weathered or fissured rocks; mostly Tyrrhenian in Italy.



Squamarina concrescens



Squamarina conrescens

Squamarina crassa (Huds.) Poelt, Mitt. bot. StSamml., Münch. 19-20: 544 (1958)

= *Lichen crassus* Huds. 1778

= *Squamarina cartilaginea* (With.) P. James, in Hawksworth, James & Coppins, Lichenologist 12(1): 107 (1980)

[VZ1064], Magna Britannia. Caledonia. Insula Lismore, prope praedium Belmagowan. Ad saxa schistoso- calcarea prope litorem. Leg. P. W. James, 8.6.1971. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1064.

Thallus squamulose, 3-15 cm wide, 0.3-0.8 mm thick, the squamules imbricate, greenish when fresh, turning brownish in the herbarium, epruinose and indistinctly lobed except in young stages, the margins usually white, rarely blackening, the lower surface dark grey to black at least in central parts (pale in young squamules and in peripheral parts), attached by concolour rhizinoid hyphal strands. Upper cortex 20-50 μm thick, with an epinecral layer which is hyaline and without crystals in the upper 4-10 μm , and interspersed with crystals in the lower 8-15 μm ; true cortex 15-35 μm thick, plectenchymatous, with elongated cells; medulla white (brownish in lower part), up to 0.6 mm thick, filled with crystals. Apothecia frequent, 0.6-3(-4) mm across, finally constricted at base, at first zeorine, then almost biatorine, with a yellowish white to medium brown, at first concave then flat to convex disc and a 0.1-0.25 mm thick, pale brown to whitish, finally excluded thalline margin, the proper margin thin and poorly evident, level with disc. Thalline exciple 230-370 μm wide, corticate; proper exciple 200-260 μm wide laterally, filled with crystals, of branched-anastomosing hyphae arranged in a fan-way; epithecium yellowish brown, granular, 6-10 μm high; hymenium colourless, 60-80 μm high, hemiamyloid; paraphyses coherent, mostly simple, 1-1.5 μm thick at mid-level, the apical cells 2-4 μm wide; hypothecium colourless, 35-100 μm high, subprosoplectenchymatous, with large crystals soluble in K and insoluble in N, I- (the subhymenium is thin and devoid of crystals). Asci 8-spored, elongate-clavate, with a thin, outer amyloid layer and a thickened, amyloid tholus devoid of an ocular chamber, penetrated by an axial tube the sides of which stain I+ deeper blue, approaching the Porpidia-type. Ascospores 1-celled, hyaline, ellipsoid to subfusiform, (8-)11-15(-17) x (3.5-)4-5.5(-7) μm . Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC- or KC+ faintly yellow, P-; medulla P+ yellow. Chemistry: cortex with usnic and isousnic acids; medulla with psoromic and 2'-O-demethylpsoromic acids. - Note: a mainly southern, chemically variab-

le species found on calcareous rocks, more rarely on soil, the most common species of the genus in Italy.



Squamarina crassa



Squamarina crassa

Squamarina lentigera (Weber) Poelt, Mitt. bot. StSamml., Münch. 19-20: 536 (1958)

= *Lichen lentigerus* Weber 1778

= *Lecanora crassa* var. *lentigera* (Weber) St.-Amans

= *Lecanora lentigera* (Weber) Ach.

= *Placodium lentigerum* (Weber) Gray

= *Psoroma lentigerum* (Weber) A. Massal.

= *Squamaria lentigera* (Weber) DC.

[VZ1216], Persia australis. In declivibus 8 km versus orientem a pago Hajjiabad (inter oppida Bandar Abas et Sirjan), 28°23' bor., 56°23' orient, 1300 m. Supra terram in rupibus calcareis. Leg. J. Soják, 8.5.1973, det. A. Vězda. EX A. VEZDA LICHENES SELECTI EXSICCATI NR. 1216.

Thallus squamulose to subcrustose-placodioid, white-pruinose to (partially) brownish green, thick, closely adpressed, forming up to 8 cm wide, orbicular rosettes. Marginal squamules clearly elongate, flattened, 1-4 mm broad, to 5 mm long, 1-2 mm thick, contiguous, often with a slightly up-turned margin; central squamules more or less isodiametrical (0.5-2 mm), subcrustose, contiguous, flat, not overlapping. Lower surface white to pale brown also in central parts. Upper cortex paraplectenchymatous, c. 50 µm thick, well delimited against the thick, white medulla. Apothecia frequent, rounded, lecanorine/zeorine, at first immersed then sessile, sometimes finally strongly constricted at base, up to 4 mm across, with a pale to reddish brown, smooth, flat to finally convex disc and a smooth, thick thalline margin which often disappears in old apothecia. Epithecium brownish, granular, 10-30 µm high, with crystals sometimes penetrating into the hymenium; hymenium colourless, c. 120 µm high, hemiamyloid; paraphyses slightly thickened in upper part; hypothecium colourless. Asci 8-spored, elongate-clavate, with a thin, outer amyloid layer and a thickened, amyloid tholus devoid of an ocular chamber, penetrated by an axial tube the sides of which stain I+ deeper blue, approaching the Porpidia-type. Ascospores 1-celled, hyaline, ellipsoid, thin-walled, (9-)10-13(-14) x (3-)4-5 µm. Pycnidia dark, immersed. Conidia filiform, curved. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC- (or cortex KC+ yellowish), P-, UV-. Chemistry: cortex with usnic and isousnic acids. - Note: a species of dry-continental areas, only locally common, especially on gypsaceous or clayey soil in dry grasslands, also present in dry-warm Alpine valleys.



Squamarina lentigera

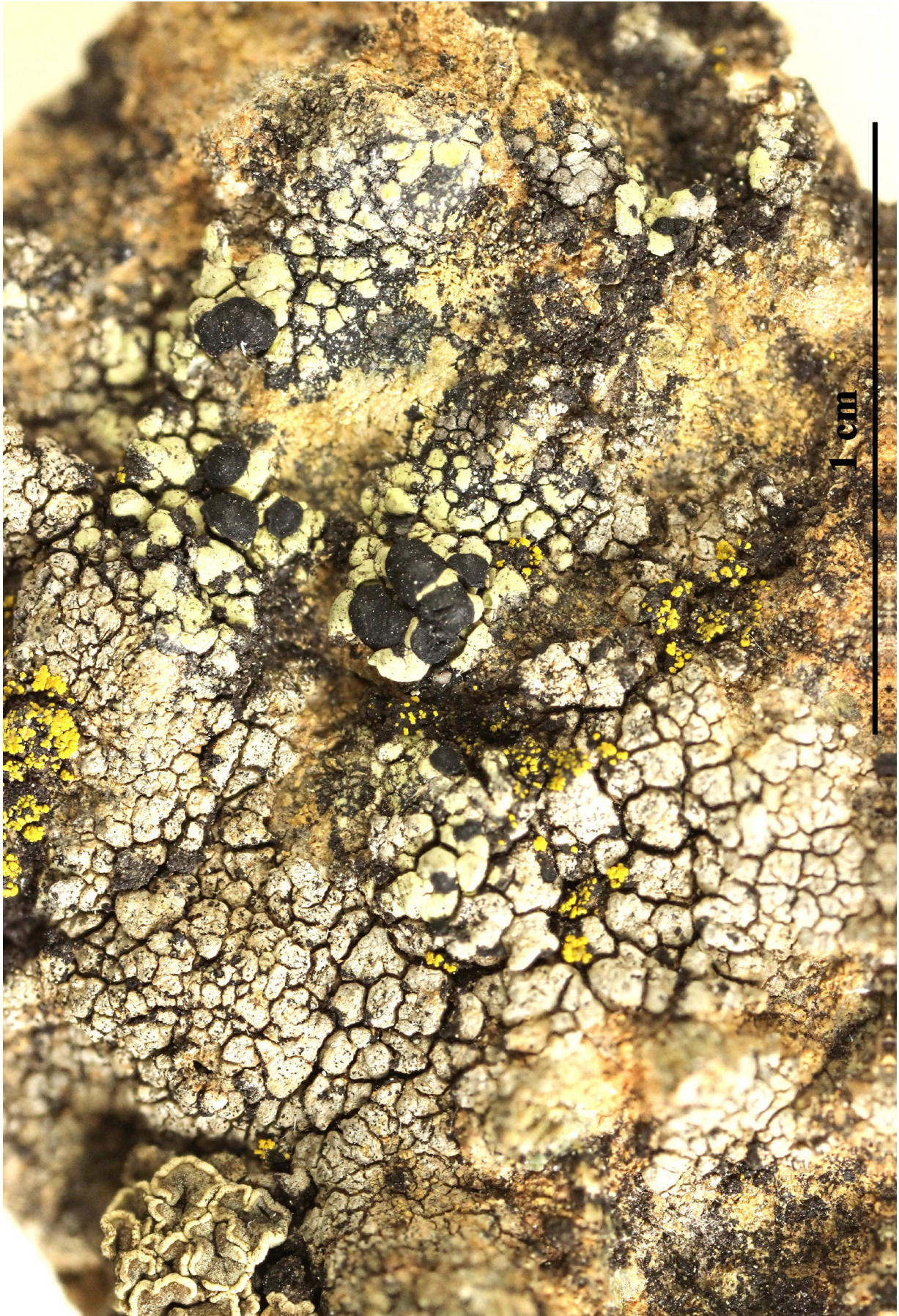


Squamarina lentigera

Squamarina serpentini Poelt, Herzogia 3(2): 426 (1975) [1973-4]

[VZ1333], Jugoslavia. Serbia, montes Zlatibor: inter Titivo-Užice et Nova Vareš, prope Dobroselica. Ad rupes serpentinas apricas. Leg. J. Poelt et. J. Hafellner, 13.7.1974. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1333. - Isotypus.

Serpenticola. Thallus e squamulo singulo evolutus vel e squamulis primum subdispersis adnatis compositus, demum distincte et subumbilicate rosulatus, ad 1 cm latus, Squamulae marginales saepe latiores quam longiores, subconvexae, ochroleucae, Squamulae centrales stipitatae, plerumque apotheciis tectae, Cortex inferior albidus. Apothecia late emergentia, demum anguste sed apressa sessilia, rotundata ad undulata marginibus paulum prominentibus interdum incisus thallo clarioribus et discis planis ad irregulariter iniquis ochroleucis vel lividis vel caerulescentibus semper pruinosis, Cortex bene distinctus saepe crassus hyphis conglutinatis anticlinalibus constructus, granulis impletus. Stratum algarum cohaerens. Medulla hyphis laxis crasse tunicatis contexta et granulis perdense impleta. Hymenium subangustum, Episamma crassum. Paraphyses subclavatae. Ascis clavatirotundati. Sporae late ellipsoideae. Cortex K+ lutescens et P+ rubescens. Pycnosporae filiformes.



Squamarina serpentina



Squamarina serpentini

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