F. Schumm (2025):

Images of Lichens Vol. 34
Vezda Lichenes Selecti Exsiccati part 9

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With this volume, I continue the documentation of Vezda's works on exiccata, now with Lichenes Selecti as part 9. I have chosen the genus names that Vezda used, even though others are now more common (for example, for Alectoria and Bryoria). 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, 11.2025

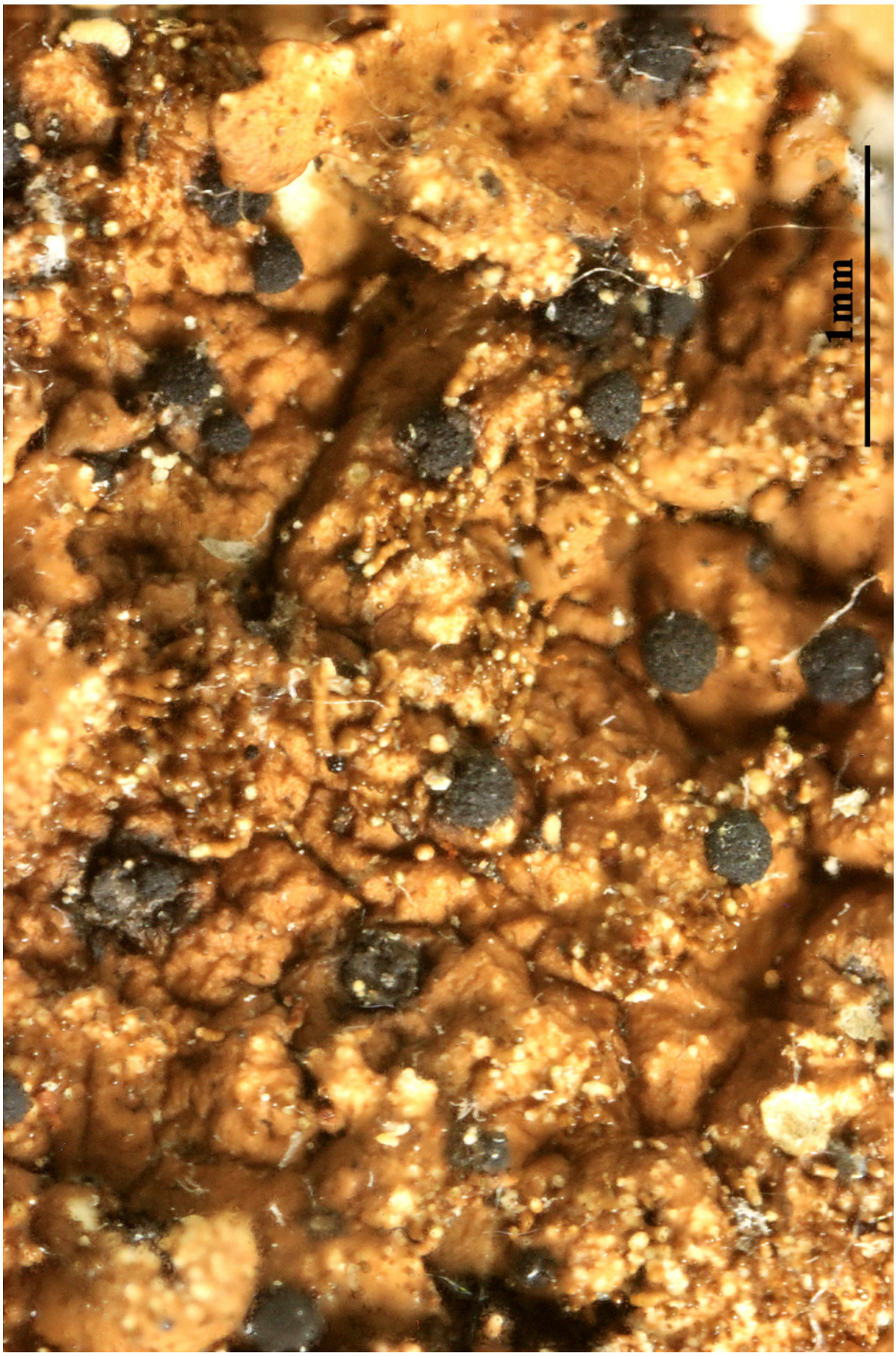
Abrothallus bertianus De Not., Abrothallus: 1 (1845)
= *Abrothallus parmeliarum* (Sommerf.) Arnold 1874

[VZ1848], Austria. Salisburgia, Lungau, in alpibus "Schladminger Tauern" dictis, in valle dicta "Weisspriachtal, loco "Gurpitschbach, 1150 m. In thallo *Parmeliae glabratulae* vigens. Leg. et det. J. Hafellner, 8.9.1981. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1848.

Stroma consisting of a flat shield-like structure to ca 200 µm diam, composed of a single layer of thick-walled dark brown textura epidermoidea. Ascomata erumpent from the centre of the stromatic tissue, apothecial, shallowly domed to ± hemispherical, sometimes eventually becoming almost spherical, 100-180 µm diam and to 150 µm tall, very dark brown to black, sometimes with an inconspicuous brown pruinose appearance due to released ascospores on the surface of the ascoma, often appearing somewhat roughened when dry. Peridium composed of several layers of thick-walled and variably pigmented cells, varying from textura globulosa to textura epidermoidea. Interascal tissue composed of a dense palisade of hyaline branched and anastomosing gelatinized cellular pseudoparaphyses to ca 80 µm in length and 2-3 µm diam, with the apices sometimes slightly swollen. Asci 44-58 x 11-15.5 µm, clavate to cylindric-clavate, rather short-stalked, the apex obtuse to rounded, very thick-walled, especially towards the apex, fissitunicate but without a conspicuous ocular chamber, 8-spored. Ascospores arranged biseriately, 10.5-13.5 (-15) x 4.5-6 µm, clavate with a slightly supramedian septum, the upper cell rounded and the lower cell cylindric-ellipsoidal, golden brown, rather thick-walled, with a verrucose ornamentation formed from extruded pigment, without a gelatinous sheath or appendages. Conidiomata developing in the surface layer of the host thallus, pycnidial, 60-90 µm diam, ± conical to pyriform, the ostiole conspicuous. Conidiomatal wall 2-3 cells thick, with an outer dark brown layer of textura epidermoidea which is covered in part with thick-walled hyphae. Conidiophores absent. Conidiogenous cells formed in a layer lining the entire inner wall, 4-4.5 x 3-3.5 µm, ampulliform, proliferating with 1-2 annellides often visible. Conidia 6-7.5 x 4-5 µm, initially turbinate but maturing to become bacilliform to cylindrical, the ends rounded and with a broad hilum, hyaline, aseptate, thin- and smooth-walled, without a gelatinous sheath or appendages. - General Description: Lichenicolous on *Melanelixia glabratula* with black apothecia. Seen as black arthonioid disks on *Melanelixia glabra-*

tula, ascospores brown 1 septate, 10.5 – 15 x (4–) 4.5 – 6 (–7) µm. On *Melanelixia glabratula*, which occurs on mesic bark in well lit situations, typically on the trunk or branches well below the canopy.

Abrothallus bertianus



Abrothallus bertianus

Abrothallus bertianus De Not., Abrothallus: 1 (1845)
= *Abrothallus parmeliarum* (Sommerf.) Arnold 1874

[VZ1500], Bohemoslovacia. Moravia, distr. Brno: Veverská. in valle fluminis Svratka prope arcem Veveří, 280 m. Ad saxa silicea, in thallo *Parmeliae taracticae* vigens. Leg. A. Vězda, 10.11.1974. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1500.

Stroma consisting of a flat shield-like structure to ca 200 µm diam, composed of a single layer of thick-walled dark brown textura epidermoidea. Ascomata erumpent from the centre of the stromatic tissue, apothecial, shallowly domed to ± hemispherical, sometimes eventually becoming almost spherical, 100-180 µm diam and to 150 µm tall, very dark brown to black, sometimes with an inconspicuous brown pruinose appearance due to released ascospores on the surface of the ascoma, often appearing somewhat roughened when dry. Peridium composed of several layers of thick-walled and variably pigmented cells, varying from textura globulosa to textura epidermoidea. Interascal tissue composed of a dense palisade of hyaline branched and anastomosing gelatinized cellular pseudoparaphyses to ca 80 µm in length and 2-3 µm diam, with the apices sometimes slightly swollen. Asci 44-58 x 11-15.5 µm, clavate to cylindric-clavate, rather short-stalked, the apex obtuse to rounded, very thick-walled, especially towards the apex, fissitunicate but without a conspicuous ocular chamber, 8-spored. Ascospores arranged biseriately, 10.5-13.5 (-15) x 4.5-6 µm, clavate with a slightly supramedian septum, the upper cell rounded and the lower cell cylindric-ellipsoidal, golden brown, rather thick-walled, with a verrucose ornamentation formed from extruded pigment, without a gelatinous sheath or appendages. Conidiomata developing in the surface layer of the host thallus, pycnidial, 60-90 µm diam, ± conical to pyriform, the ostiole conspicuous. Conidiomatal wall 2-3 cells thick, with an outer dark brown layer of textura epidermoidea which is covered in part with thick-walled hyphae. Conidiophores absent. Conidiogenous cells formed in a layer lining the entire inner wall, 4-4.5 x 3-3.5 µm, ampulliform, proliferating with 1-2 annellides often visible. Conidia 6-7.5 x 4-5 µm, initially turbinate but maturing to become bacilliform to cylindrical, the ends rounded and with a broad hilum, hyaline, aseptate, thin- and smooth-walled, without a gelatinous sheath or appendages. - General Description: Lichenicolous on *Melanelixia glabratula* with black apothecia. Seen as black arthonioid disks on *Melanelixia glabra-*

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Abrothallus bertianus

Abrothallus bertianus

Abrothallus parmeliarum (Sommerf.) Arnold, Flora, Regensburg 57(7): 102 (1874)
= *Abrothallus bertianus* De Not., Abrothallus: 1 (1845)
= *Abrothallus glabratulae* I. Kotte, Centbl. Bakt. ParasitKde, Abt. II 24: 80 (1909)
= *Abrothallus parasiticus* (Ach.) Nyl. ex Sacc., Michelia 2(no. 7): 332 (1881)
= *Abrothallus smithii* Tul., Annls Sci. Nat., Bot., sér. 3 17: 113 (1852)
= *Buellia parmeliarum* (Sommerf.) Arnold, Flora, Regensburg 53(30–31): 478 (1871) [1870]
= *Buellia smithii* (Tul.) Jatta, Syll. Lich. Ital. (Trano): 399 (1900)
= *Buelliella parmeliarum* (Sommerf.) Fink, Lich. Fl. U.S.: 372 (1935)
= *Endocarpon parasiticum* Ach., Syn. meth. lich. (Lund): 100 (1814)
= *Lecidea parmeliarum* Sommerf. [as 'parmeliorum'], Suppl. Fl. lapp. (Oslo): 176 (1826)
= *Lichen parasiticus* Sm., in Smith & Sowerby, Engl. Bot. 26: tab. 1866 (1808)
= *Parmelia saxatilis f. parasitica* (Ach.) Bosch, Prodr. fl. Batav., Fungi: 125 (1853)
= *Parmelia saxatilis var. parasitica* (Ach.) Schaer., Enum. critic. lich. europ. (Bern): 45 (1850)
= *Phymatopsis parmeliarum* (Sommerf.) Trevis., Linnaea 28: 296 (1857) [1856]

[VZ1960], Bulgaria. Montes Pirin, distr. Melnik: supra pagum Sugarevo, 1000 m. Ad saxa granitica, in thallo *Parmeliae saxatilis* vigens. Leg. I. Pišút. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1950.

Mycelium immersed, not staining in iodine. Stromata not observed. Teleomorph: ascomata apothecia, erumpent through the host thallus, 400-600 µm diam. and 80-130 µm high, pulvinate, the upper surface flat to shallowly domed, in young specimens covered with a thick greenish pruina, older specimens dark brown to black. Epihymenium composed of dark brown granules. Hymenium pale brown to olivaceous, the pigmentation intensifying in K. Hypothecium pale brown, composed of angular cells covered with brown pigment. Interascal tissue of fairly thick-walled frequently branched hyaline paraphyses 2.5-3.5 µm diam., the apex rounded and sometimes slightly broadened. Asci 59-72 x 12.5-15.5 µm, clavate to cylindric-clavate, fairly short-stalked, the apex rounded, thick-walled and fissitunicate with rostrate dehiscence, with a pronounced apical cap and narrow ocular chamber, not staining in iodine, 8-spored. Ascospores 12–14 (–15) × (5–) 5.5–6.5

µm diam., rather variable in length/breadth ratio, 1-septate, the upper cell broader and ellipsoidal to cylindric-ellipsoidal, the lower cell cylindrical to conic-cylindrical and narrower, constricted slightly at the septum, the apex obtuse to rounded and the base acute to obtuse, dark brown, brown, thick-walled, strongly verrucose, without an epispore, gelatinous sheath or appendages. Anamorph: conidiomata pycnidia, 120-240 µm diam. immersed at first but becoming erumpent through the surface of the host, about one third exposed at maturity, arising singly, scattered, sometimes arising on the site of a previous pycnidium and then assuming a rimmed appearance from above and a double-walled structure in vertical section, black, ostiolate, the ostiole often conspicuous. Conidiomatal wall 15-25 µm thick, thickest around the ostiole in the erumpent part of the pycnidium, dark brown, composed of thick-walled angular cells. Conidiophores absent. Conidiogenous cells lining the pycnidial cavity, 8-12 x 3-4 µm, ampulliform to lageniform, percurrently proliferating, annellate with to 4 annellations seen, hyaline, smooth-walled to weakly echinulate. Conidia collecting in a mucilaginous mass in the pycnidial cavity and extruded as a drop, (7-) 7.5-10.5 (-11.5) x (5-) 5.5-7 (-7.5) µm, obpyriform, the apex rounded, the base abruptly truncate, aseptate, hyaline, sometimes 1- to 3-guttulate, thin-walled, ± smooth at lower magnifications but with a widely spaced echinulate ornamentation just discernible by interference contrast.

Abrothallus parmeliarum

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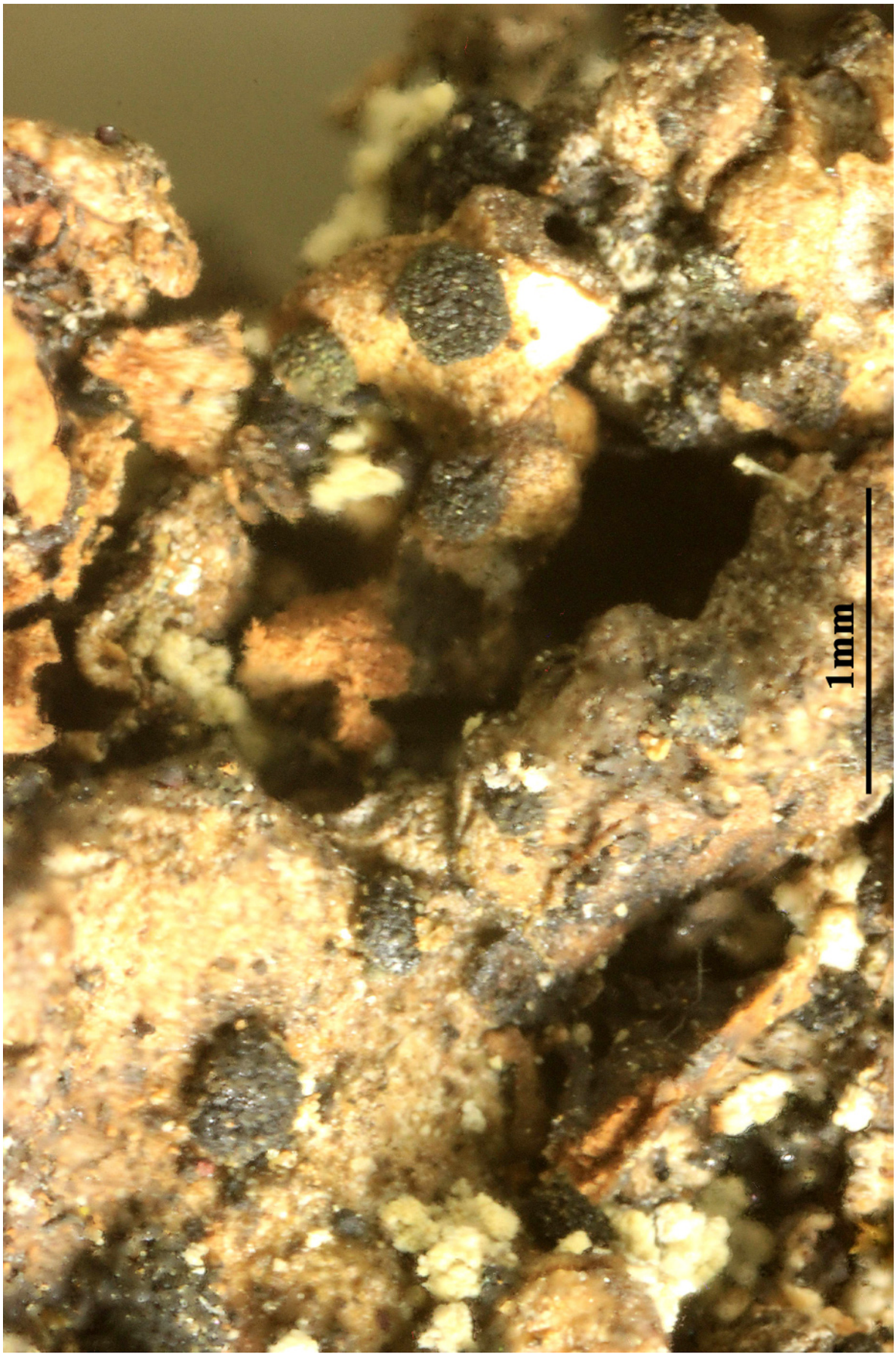

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[VZ1825], Austria. Salisburgia, Lungau, in alpibus "Schladminger Tauern" dictis, in valle Lessechtal dicta, loco Untere Gamsealm, 1400 m. In thallo *Parmeliae saxatilis* vigens, ad saxa schistosa. Leg. J. Hafellner, 9.9.1981. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1825.

Mycelium immersed, not staining in iodine. Stromata not observed. Teleomorph: ascomata apothecia, erumpent through the host thallus, 400-600 µm diam. and 80-130 µm high, pulvinate, the upper surface flat to shallowly domed, in young specimens covered with a thick greenish pruina, older specimens dark brown to black. Epihymenium composed of dark brown granules. Hymenium pale brown to olivaceous, the pigmentation intensifying in K. Hypothecium pale brown, composed of angular cells covered with brown pigment. Interascal tissue of fairly thick-walled frequently branched hyaline paraphyses 2.5-3.5 µm diam., the apex rounded and sometimes slightly broadened. Asci 59-72 x 12.5-15.5 µm, clavate to cylindric-clavate, fairly short-stalked, the apex rounded, thick-walled and fissitunicate with rostrate

dehiscence, with a pronounced apical cap and narrow ocular chamber, not staining in iodine, 8-spored. Ascospores 12–14 (–15) × (5–) 5.5–6.5 µm diam., rather variable in length/breadth ratio, 1-septate, the upper cell broader and ellipsoidal to cylindric-ellipsoidal, the lower cell cylindrical to conic-cylindrical and narrower, constricted slightly at the septum, the apex obtuse to rounded and the base acute to obtuse, dark brown, brown, thick-walled, strongly verrucose, without an epispore, gelatinous sheath or appendages. Anamorph: conidiomata pycnidia, 120-240 µm diam. immersed at first but becoming erumpent through the surface of the host, about one third exposed at maturity, arising singly, scattered, sometimes arising on the site of a previous pycnidium and then assuming a rimmed appearance from above and a double-walled structure in vertical section, black, ostiolate, the ostiole often conspicuous. Conidiomatal wall 15-25 µm thick, thickest around the ostiole in the erumpent part of the pycnidium, dark brown, composed of thick-walled angular cells. Conidiophores absent. Conidiogenous cells lining the pycnidial cavity, 8-12 x 3-4 µm, ampulliform to lageniform, percurrently proliferating, annellate with to 4 annellations seen, hyaline, smooth-walled to weakly echinulate. Conidia collecting in a mucilaginous mass in the pycnidial cavity and extruded as a drop, (7-) 7.5-10.5 (-11.5) x (5-) 5.5-7 (-7.5) µm, obpyriform, the apex rounded, the base abruptly truncate, aseptate, hyaline, sometimes 1- to 3-guttulate, thin-walled, ± smooth at lower magnifications but with a widely spaced echinulate ornamentation just discernible by interference contrast.

Abrothallus parmeliarum

Abrothallus parmeliarum

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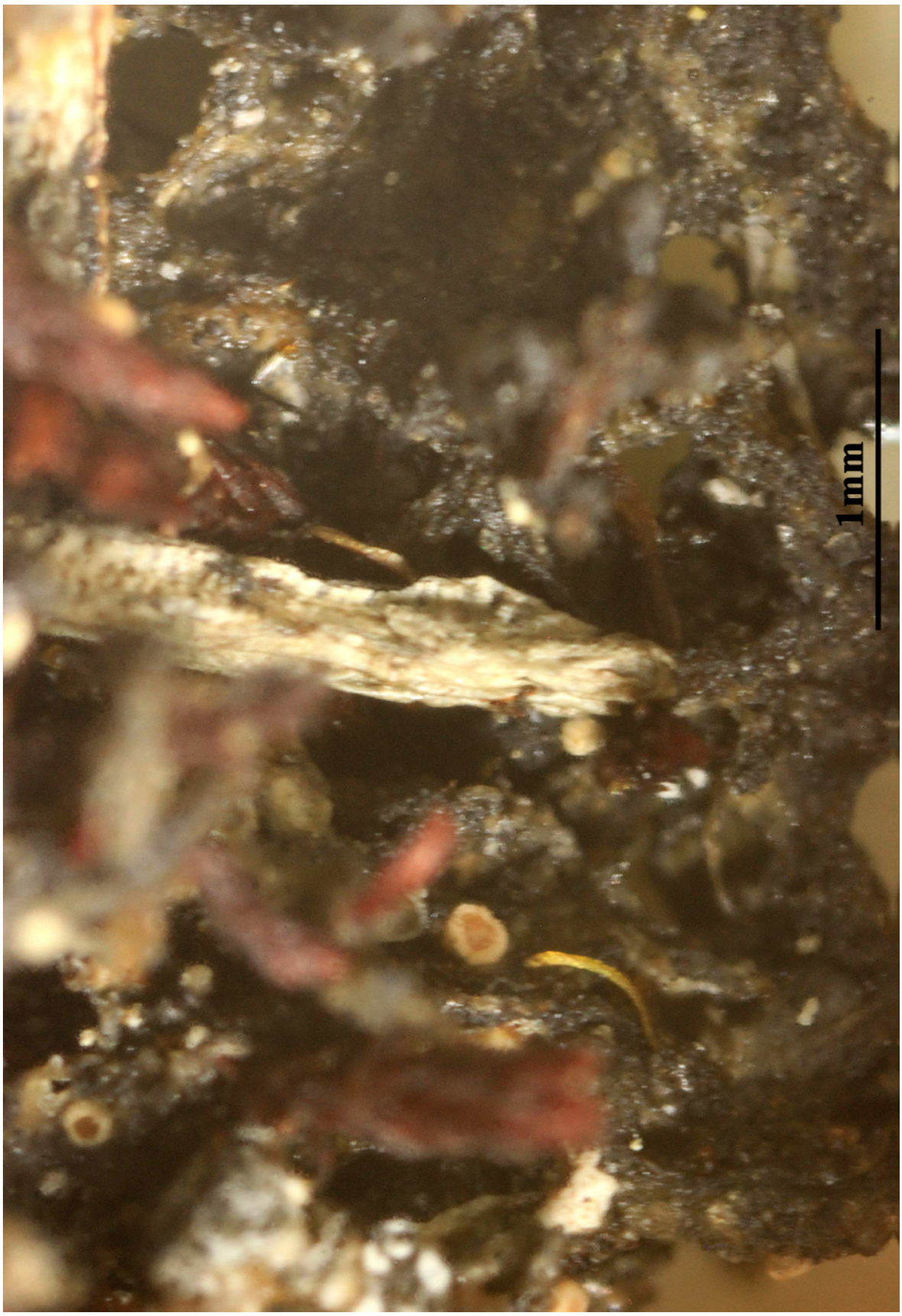
Absconditella annexa (Arnold) Vězda, Preslia 37: 244 (1965)
= *Gloeolecta annexa* (Arnold) Lettau, Feddes Repert., Beih. 69(no. 3): 125 (1937)
= *Gyalecta annexa* (Arnold) H. Olivier, Bull. Acad. Intern. Géogr. Bot. 21: 191 (1911)
= *Secoliga annexa* Arnold, Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 25: 456 (1875)

[VZ2121], Bohemoslovacia. Slovacia septentrionalis, Carpates, Tatra Magna: In parte infima vallis Hlinská dolina, 1400 m. Supra plantas emortuas in saxo granitica. Leg. E. Farkas, Z. Kyselová & A. Vězda. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 2121.

Thallus crustose, very thinly episubstratic, yellowish grey to dark olive-green, most often inconspicuous, c. 50-80 µm thick, subgelatinous when wet, associated with algal films. Apothecia round or somehow elongated by mutual compression, yellowish white, pale waxy yellow to very pale brownish, translucent when wet, 0.3-0.4(-0.5) mm across, with a concave-urceolate disc and a hardly raised, moderately thick, paler, entire proper margin. Proper exciple colourless, to 35 µm thick laterally, to 20 µm thick basally; epithecium indistinct, colourless; hymenium colourless, 70-90 µm high; paraphyses mostly simple, rarely forked in upper part, not or only slightly thickened at tips; hypothecium very thin, colourless. Asci 8-spored, long-cylindrical, thin-walled, the upper part with a rather indistinct, K/I- apical dome penetrated by a narrow tube. Ascospores (3-)5-7(-9)-septate, hyaline, narrowly fusiform to almost needle-like, straight or slightly curved, 35-40(-50) x 2.5-3.5 µm. Photobiont chlorococcoid, the cells 8-12 µm across. Spot tests: thallus K-, C-, KC-, P-. Chemistry: without lichen substances. - Note: a probably arctic-alpine, ephemeral lichen found on moribund bryophytes and organic soil on siliceous substrata, with optimum near and above treeline. Easily overlooked, it is perhaps more widespread in the Alps.



Absconditella annexa

Absconditella annexa

Acarospora badiofusca (Nyl.) Th. Fr., Lich. arct. (Uppsala): 90 (1860)
= *Biatorella athroocarpa* (H. Magn.) Zahlbr., Cat. Lich. Univers. 10: 412 (1939)
= *Lecanora badiofusca* Nyl., in Nylander & Saelan, Herb. Mus. Fenn.: 110 (1859)
= *Sarcogyne athroocarpa* H. Magn., Annals Cryptog. Exot. 7(3-4): 137 (1934)

[VZ1823], Austria, Salisburgia, Lungau, in alpibus "Radstädter Tauern", in summo montis Speiereck dicti, alt. 2400 m. In rupibus calcareis. Leg. P. Clerc & A. Vězda, 07.09.1981. - Ex A. VěZDA: LICHENES SELECTI EXSICCATI Nr. 1823.

Thallus crustose, episubstratic, pale to dark chestnut brown, sometimes grey-brown, areolate-subsquamulose, forming up to 8 cm wide patches, the areoles round or angular, sometimes indistinctly lobed, 0.7-3 mm across, up to 1 mm thick, contiguous to dispersed, flat to strongly convex, smooth or fissured and rugulose, epruinose; lower surface dark along the margins. Upper cortex paraplectenchymatous, the cells (3-)4-5(-6) µm wide, arranged in more or less vertical rows; algal layer continuous; medulla white. Apothecia 0.4-3 mm across, 1(-4) per squamule, when mature often larger than the corresponding areole, round to weakly angular, at first immersed, then subsessile, with an expanded, flat to slightly convex, smooth to rugose, black to dark reddish brown, matt disc, and a thin, prominent, concolorous proper margin. Proper exciple 15-20 µm wide; epithecium yellowish brown, 10-15 µm high; hymenium colourless, 60-90(-100) µm high, euamyloid, IKI+ persistently blue; paraphyses 2-3.5 µm thick at base, the apical cells to c. 5 µm wide; hypothecium colourless. Asci c. 200-spored, clavate, the apical dome K/I-. Ascospores 1-celled, hyaline, broadly ellipsoid to ellipsoid, 3-6 x 1.5-2.5(-3) µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-, UV-. Chemistry: without lichen substances.

Acarospora badiofusca

Acarospora badiofusca

Acarospora bullata Anzi, Atti Soc. ital. Sci. nat. 11: 165 (1868)

[VZ2426], Germania. Saxonia: Anhalt, Mansfelder Land, Theodor-Schacht prope Klostermansfeld. Ad saxa schistosa. Leg. H.T. Lumbsch & R.S. Huneck, 27.05.1990. Ex A. Vězda: Lichenes Selecti Exsiccati Nr.2426.

Thallus crustose-placodioid, episubstratic, areolate, forming 1-5 cm wide, orbicular patches; areoles round to angular, convex, 0.4-2.5 mm wide, up to 1 mm thick, contiguous or dispersed, epruinose, pale brown to olive-brown, matt, the marginal ones most often elongate and radiating, 1-2.5 mm long and 0.4-1.2 mm wide, the tips usually fan-shaped. Cortex paraplectenchymatous, 45-60 µm thick, reddish brown in upper part, colourless in lower part, overlain by a thin epicortex; algal layer continuous, 70-120 µm thick; medulla white, up to 600 µm thick, prosoplectenchymatous, the hyphae 3-4 µm wide. Apothecia aspicilioid to lecanorine, 1(-3) per areole, round to irregular in outline, 0.3-1.5 mm across, at first punctiform and immersed in the areoles, then with an expanded, dark reddish brown, epruinose or faintly pruinose, gyrose to umbilicate disc, and a rather thick, persistent thalline margin; proper margin often visible as a ring between disc and thalline margin. Proper exciple c. 20-30 µm thick; epithecium reddish brown, c. 15 µm high; hymenium colourless, 80-140(-160) µm high, the hymenial gel IKI+ dark blue or red; paraphyses 1-1.5 µm thick at mid-level, the apical cells only slightly wider; hypothecium colourless. Asci >200-spored, clavate, the apical dome K/I-, Ascospores 1-celled, hyaline, narrowly ellipsoid, 3-5 x 1.5-2 µm. Photobiont chlorococcoid. Spot tests: cortex K-, C- or C+ pink, KC+ pink, P- (reactions often ephemeral, to be observed under the microscope on thallus sections). Chemistry: cortex with gyrophoric acid.

Acarospora bullata

Acarospora bullata

Acarospora charidema (D.S. Clemente) Llimona, in Vězda, Lichenes Selecti Exsiccati, Fasc. (Průhonice) 51: 5 (no. 1267) (1974)
= *Lecanora charidema* D.S. Clemente, in Colmeiro 1867

[VZ1267], Hispania. Alméria, Las Negras, Cerro de las Estorvillas, 75 m. Ad lavam. Leg. X. Llimona, 15.05.1973 - Ex A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1267.

Description from: Marques, J. & Pat-Bermudesz, G. (2014): New and interesting lichen records for the Portuguese funga from the Upper Douro region (north-east Portugal).- Österr. Z. Pilzk. 23 (2014
Acarospora charidema is a pioneer species described from south-east Spain that was later found in Morocco (EGEA & ROWE 1987), formed by robust, moderately convex squamules, up to 5(–6) mm wide; with numerous apothecia up to 0.5 mm wide (CLAUZADE & al. 1981). *Acarospora charidema* is usually distinguished from *A. epithallina* H. MAGN., a juvenile parasite of *A. hilaris* (DUFOUR) ARNOLD, on the basis of life habit, ecology and shape of spores, which are globose in *A. epithallina* and ovoid in *A. charidema* (CLAUZADE & al. 1981) but bears a possible resemblance to freeliving squamules of *A. epithallina* (CRESPO & al. 1976). EGEA & LLIMONA (1982) also mention the striate margins of squamules for *A. charidema*, a character that is present in both examined specimens but not in the specimens assigned to *A. epithallina* (below). The occurrence of *Acarospora charidema* in the study area as well as in the nearby Spanish province of Zamora (TERRÓN-ALFONSO & al. 2000) is quite rare and somewhat inconsistent with the thermo-mediterranean, semi-arid and pioneer character of *A. charidema* (EGEA & ROWE 1987). *Acarospora epithallina*, on the contrary, is considered a meso-mediterranean species (EGEA & ROWE 1987). Further clarification on the distinction between both taxa is needed (VÍCTOR J. RICO, pers. comm.). In the study area, *A. charidema* was found on highly exposed vertical schist surfaces together with *Glyphopeltis ligustica* (B. DE LESD.) TIMDAL, *Lichinella cribellifera* (NYL.) P. P. MORENO & EGEA, *Peltula euploca* (ACH.) POELT ex OZENDA & CLAUZADE, *P. placodizans* (ZAHLBR.) WETMORE and *P. zahlbruckneri* (HASSE) WETMORE.

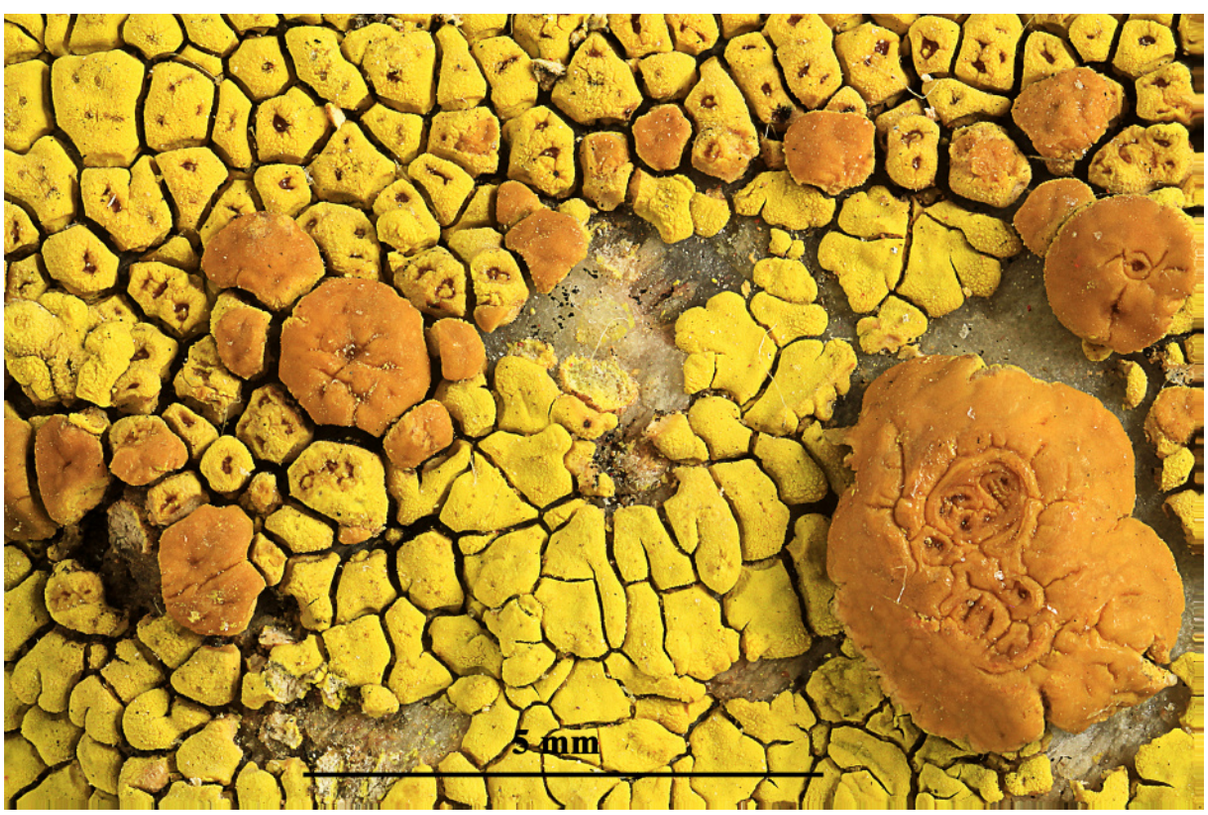
Acarospora charidema

Acarospora charidema

Acarospora epithallina H. Magn., K. svenska Vetensk-Akad. Handl., Ser. III 7(no. 4): 72 (1929)

[VZ1185], Hispania. La Mancha. Despenaperros, 700 m. Ad parietes rupium quartziticarum. Leg. X. Llimona. 18.04.1973. - Ex A. VěZDA: LICHENS SELECTI EXSICCATI NR. 1185

Thallus crustose, episubstratic, consisting of a few, scattered to clustered, yellow to ochre-yellow, rounded to angular, strongly convex (but flattened or concave at top), 0.5-5 mm wide, 0.4-0.8 mm thick areoles developing on the thalli of Acarospora hilaris, rarely appearing autonomous due to the death of the host. Upper cortex 120-140 µm thick; algal layer uneven, interrupted by hyphal bundles; medulla white. Apothecia lecanorine-aspicilioid, 1-2(-4) per areole, at first punctiform, then expanded, round to elliptical in outline, 0.2-2 mm across, with a ochre-yellowish disc and a weakly prominent thalline margin. Epithecium yellowish; hymenium colourless 100-130 µm high, IKI+ blue turning reddish; paraphyses c. 2 µm thick at base, the apical cells hardly swollen; hypothecium colourless. Asci c. 100-spored, clavate, the apical dome K/I-. Ascospores 1-celled, hyaline, globose, 3-4 µm wide. Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC-, P-, UV+



Acarospora epithallina

Acarospora heufleriana Körb., Parerga lichenol. (Breslau) 1: 57 (1859) [1865]

[VZ2006], Hispania. Murcia, Cabo de Palos, Isla del Ciervo. Ad saxa andesitica. Leg. J.M. Egea - Ex A. VěZDA: LICXHENES SELECTI EXSICCATI NR. 2006.

Thallus crustose, areolate, bright to dull yellow, forming up to 5 cm wide patches, the areoles angular, 0.5-2 mm wide, up to 0.8 mm thick, flat to convex, dispersed to usually contiguous, the peripheral ones sometimes slightly elongated, corticate. Cortex paraplectenchymatous, 30-60 µm thick, yellow in upper part, colourless in lower part; algal layer thin, continuous; medulla white, prosoplectenchymatous. Apothecia 0.3-1 mm across, 1-5 per areole, immersed, at first punctiform then expanded, with a round to irregular, dark reddish brown disc and a thin, inconspicuous thalline margin. Proper exciple 20-30 µm wide laterally; epithecium yellowish, 10-15 µm high; hymenium colourless, 80-135 µm high, IKI+ deep blue; paraphyses weakly conglutinate, 1-1.8 µm thick at base, the apical cells hardly swollen; hypothecium colourless. Asci >100-spored, clavate, the apical dome K/I-. Ascospores 1-celled,: hyaline, ellipsoid to subglobose, 3-4.5 x 2-3 µm. Pycnidia globose, immersed, the ostiole visible as a pale brown dot. Conidia bacilliform, 3-4 x 1(-1.5) µm. Photobiont chlorococcoid. Spot tests: medulla K+ yellow turning red (often forming crystals), C-, KC-, P-, UV+ orange. Chemistry: rhizocarpic and norstictic acids.

Acarospora heufleriana

Acarospora heufleriana

Acarospora heufleriana Körb., Parerga lichenol. (Breslau) 1: 57 (1859) [1865]

[VZ1901], Hispania. Prov. Zaragoza: In faucibus Jalón, 4 km ad septentriones et occidentem a Calatayud, 400 m. Ad parietes rupium schistosarum. Leg. J. T. Corbin & A. Vězda, 24.5.1983. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1901.

Thallus crustose, areolate, bright to dull yellow, forming up to 5 cm wide patches, the areoles angular, 0.5-2 mm wide, up to 0.8 mm thick, flat to convex, dispersed to usually contiguous, the peripheral ones sometimes slightly elongated, corticate. Cortex paraplectenchymatous, 30-60 µm thick, yellow in upper part, colourless in lower part; algal layer thin, continuous, the algae scattered below the apothecia; medulla white, prosoplectenchymatous. Apothecia 0.3-1 mm across, 1-5 per areole, immersed, at first punctiform then expanded, with a round to irregular, dark reddish brown disc and a thin, often inconspicuous thalline margin. Proper exciple 20-30 µm wide laterally; epithecium yellowish, 10-15 µm high; hymenium colourless, 80-135 µm high, the hymenial gel euamyloid, IKI+ persistently dark blue; paraphyses weakly coherent, 1-1.8 µm thick at base, the apical cells hardly swollen; subhymenium pale yellow, up to 40 µm high; hypothecium 20-30 µm high. Asci >100-spored, clavate, the apical dome K/I-. Ascospores 1-celled, hyaline, ellipsoid to subglobose, 3-4.5 x 2-3 µm. Pycnidia globose, immersed, the ostiole visible as a pale brown dot. Conidia bacilliform, 3-4 x 1(-1.5) µm. Photobiont chlorococcoid. Spot tests: medulla K+ yellow turning red (often forming needle-like crystals), C-, KC-, P-, UV+ orange. Chemistry: rhizocarpic and norstictic acids, the latter often in low amounts. - Note: on horizontal to gently sloping faces of base-rich or weakly calciferous siliceous rocks near the ground in open habitats, especially in grasslands, sometimes starting the life-cycle on other crustose lichens, especially *Lecanora valesiaca*. Restricted to dry-continental areas, both in the Alps and in the Mediterranean Region.

Acarospora heufleriana

Acarospora heufleriana

Acarospora heufleriana var**. *massiliensis*** Harm.
= *Acarospora massiliensis* H. Magn., K. svenska Vetensk-Akad. Handl., Ser. III 7(no. 4): 66 (1929)

[VZ1156], Hispania. Alméria. Cerro del Arrapar, in septentrionibus pagi Carboneras. Ad lavam. Leg. X. Llimona, 01.01.1973 - Ex A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1156 - distributed as *Acarospora massiliensis* Harm. ex H. Magn.

Thallus crustose, areolate, bright to dull yellow, forming up to 5 cm wide patches, the areoles angular, 0.5-2 mm wide, up to 0.8 mm thick, flat to convex, dispersed to usually contiguous, the peripheral ones sometimes slightly elongated, corticate. Cortex paraplectenchymatous, 30-60 µm thick, yellow in upper part, colourless in lower part; algal layer thin, continuous; medulla white, prosoplectenchymatous. Apothecia 0.3-1 mm across, 1-5 per areole, immersed, at first punctiform then expanded, with a round to irregular, dark reddish brown disc and a thin, inconspicuous thalline margin. Proper exciple 20-30 µm wide laterally; epithecium yellowish, 10-15 µm high; hymenium colourless, 80-135 µm high, IKI+ deep blue; paraphyses weakly conglutinate, 1-1.8 µm thick at base, the apical cells hardly swollen; hypothecium colourless. Asci >100-spored, clavate, the apical dome K/I-. Ascospores 1-celled,: hyaline, ellipsoid to subglobose, 3-4.5 x 2-3 µm. Pycnidia globose, immersed, the ostiole visible as a pale brown dot. Conidia bacilliform, 3-4 x 1(-1.5) µm. Photobiont chlorococcoid. Spot tests: medulla K+ yellow turning red (often forming crystals), C-, KC-, P-, UV+ orange. Chemistry: rhizocarpic and norstictic acids. - Note: See also note on *Acarospora lavicola*.

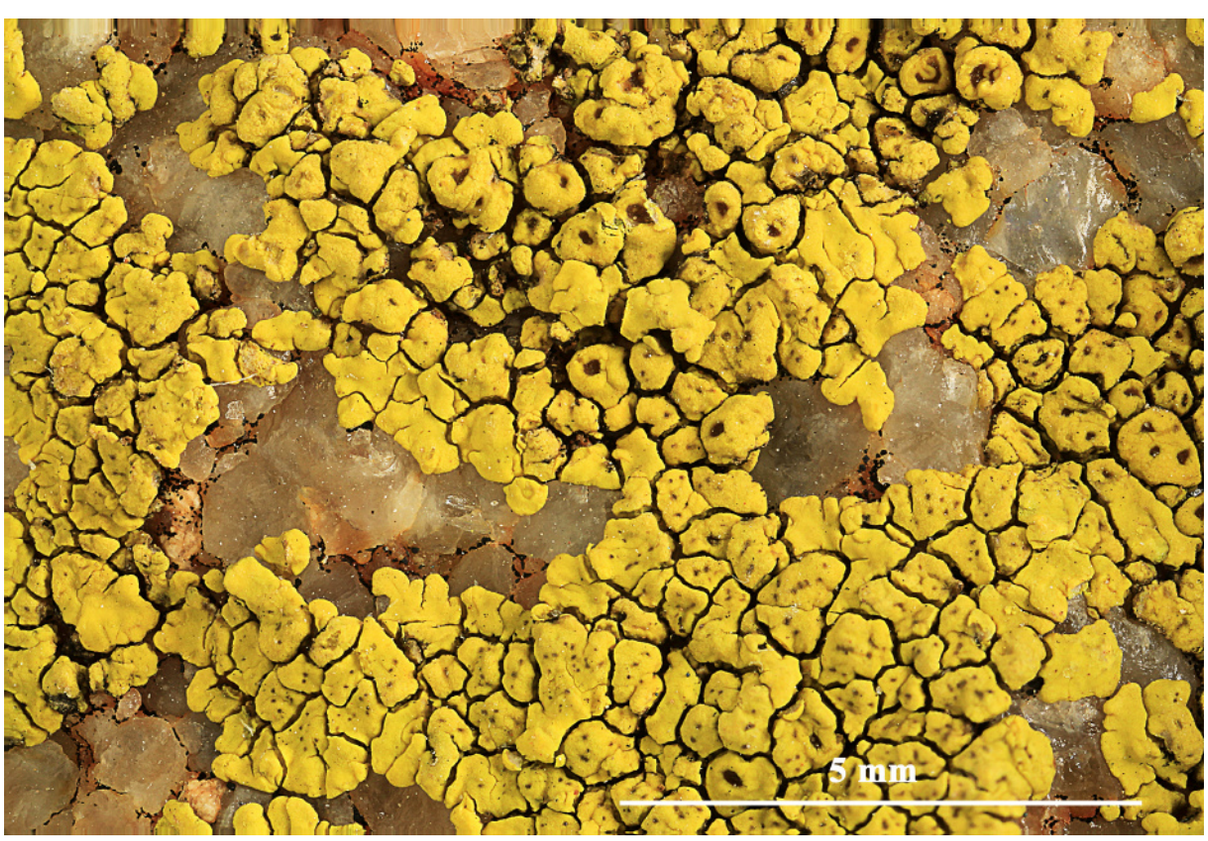
Acarospora heufleriana var. ***massiliensis***

Acarospora heufleriana var. ***massiliensis***

Acarospora hilaris (Dufour ex Nyl.) Arnold, Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 30: 124 (1881) [1880]
= *Lecanora hilaris* Dufour ex Nyl. 1861

[VZ1902], Hispania.Prov. Zaragoza: In faucibus Jalón, 5 km ad septentriones et occidentem ab Embid de la Ribera, 450 m. Ad saxa quarzitica. Leg. J.T. Corbin & A. Vězda, 24.05.1983. - Ex A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1902.

hallus crustose-placodioid, episubstratic, bright lemon yellow, slightly glossy, epruinose, forming orbicular to irregular, often confluent rosettes covering wide surfaces. Central parts of thallus of contiguous, angular, flat to slightly convex areoles; marginal lobes radiating, flat or weakly convex, 1-2(-4) x 0.3-0.6(-1) mm. Medulla white; algal layer continuous. Apothecia lecanorine, immersed in the areoles (1-3 per areole), with a punctiform, dark brown disc and a poorly evident thalline margin. Epithecium brownish; hymenium colourless, 85-100 µm high; paraphyses 1.5-2 µm thick at base, the apical cells hardly swollen; hypothecium colourless. Asci 100-200-spored, broadly ellipsoid, the apical dome K/I-. Ascospores 1-celled, hyaline, ellipsoid, 3-6 x c. 2 µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-. Chemistry: cortex with rhizocarpic acid, rarely with epanorin.

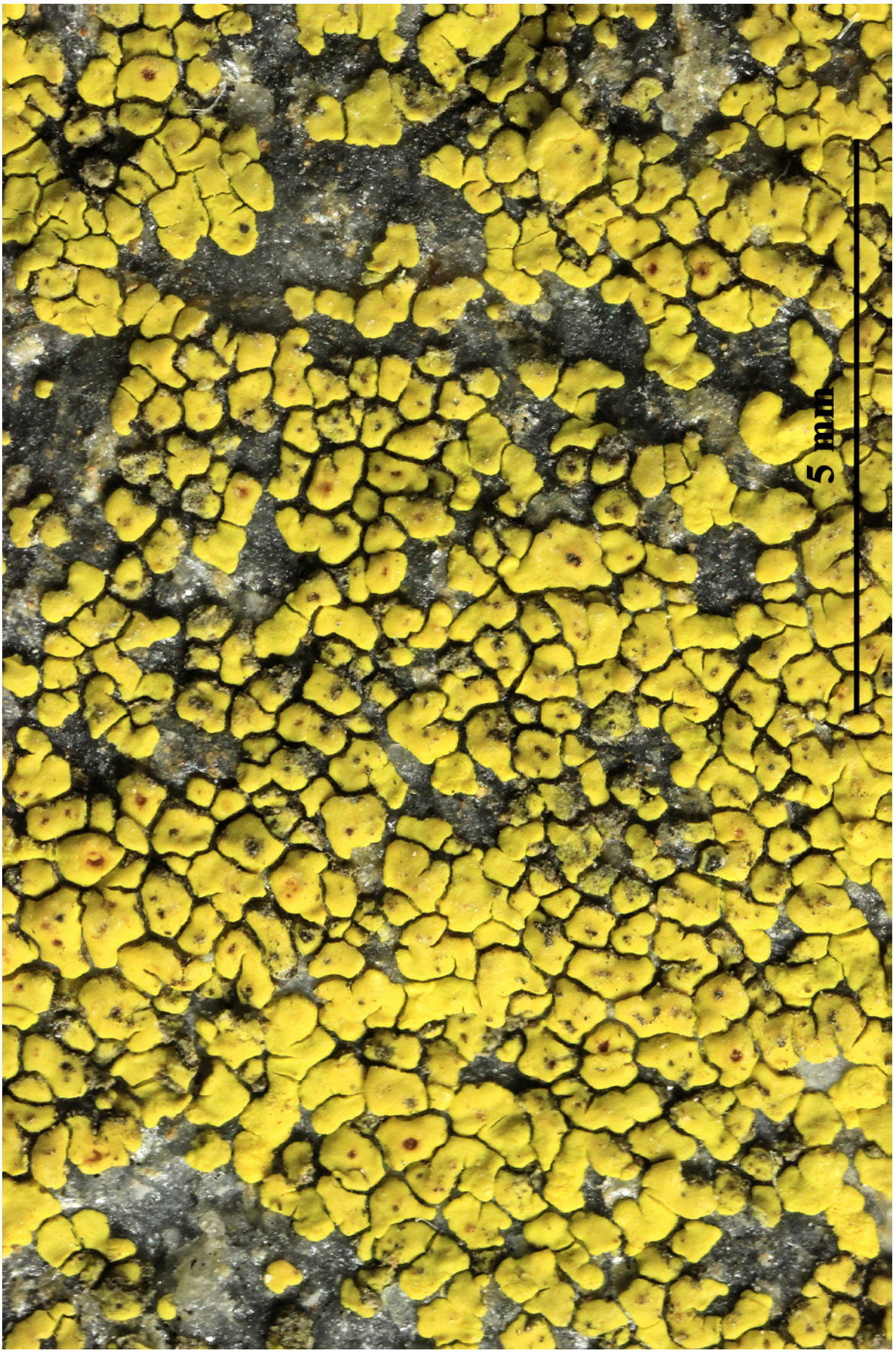


Acarospora hilaris

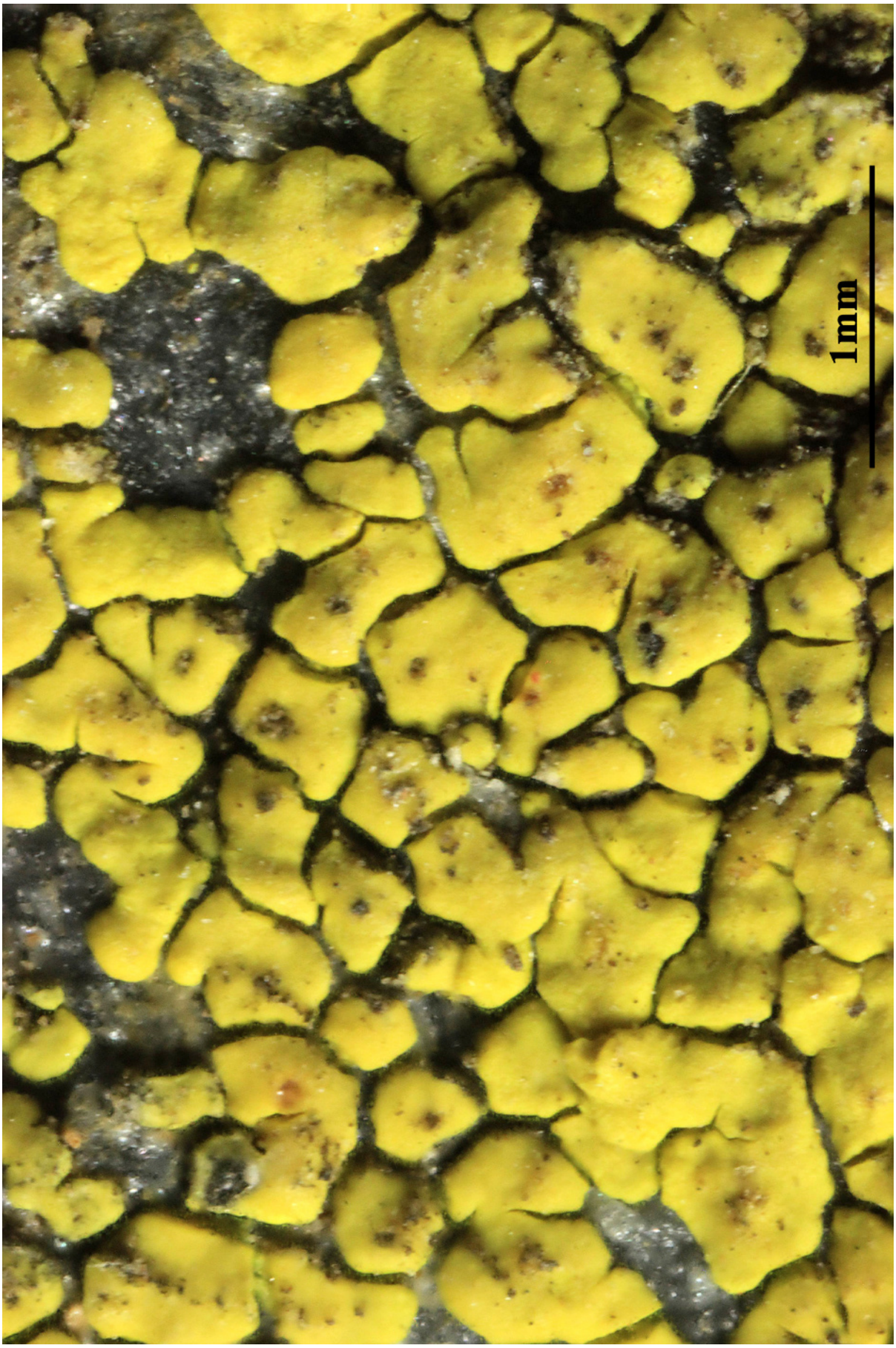
Acarospora hilaris (Dufour ex Nyl.) Arnold, Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 30: 124 (1881) [1880]
= *Lecanora hilaris* Dufour ex Nyl. 1861

[VZ1186], Gallia, Var: Hyéres, Le Fenouillet, 250 m. Ad saxa schistosa et quartzitica. Leg. Y. Rondon, 29.3.1973. Ex A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1186.

hallus crustose-placodioid, episubstratic, bright lemon yellow, slightly glossy, epruinose, forming orbicular to irregular, often confluent rosettes covering wide surfaces. Central parts of thallus of contiguous, angular, flat to slightly convex areoles; marginal lobes radiating, flat or weakly convex, 1-2(-4) x 0.3-0.6(-1) mm. Medulla white; algal layer continuous. Apothecia lecanorine, immersed in the areoles (1-3 per areole), with a punctiform, dark brown disc and a poorly evident thalline margin. Epithecium brownish; hymenium colourless, 85-100 µm high; paraphyses 1.5-2 µm thick at base, the apical cells hardly swollen; hypothecium colourless. Asci 100-200-spored, broadly ellipsoid, the apical dome K/I-. Ascospores 1-celled, hyaline, ellipsoid, 3-6 x c. 2 µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-. Chemistry: cortex with rhizocarpic acid, rarely with epanorin.



Acarospora hilaris

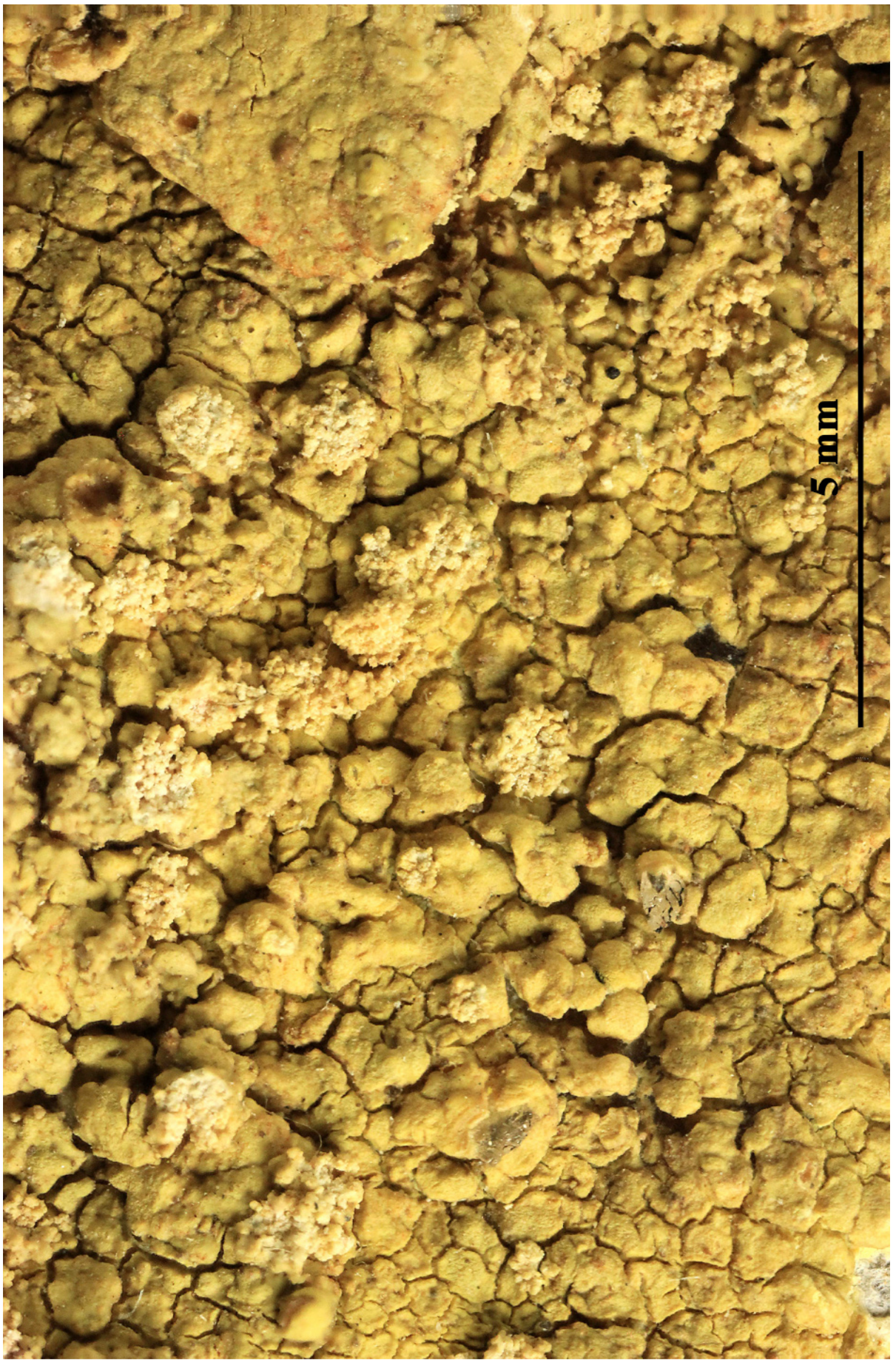


Acarospora hilaris

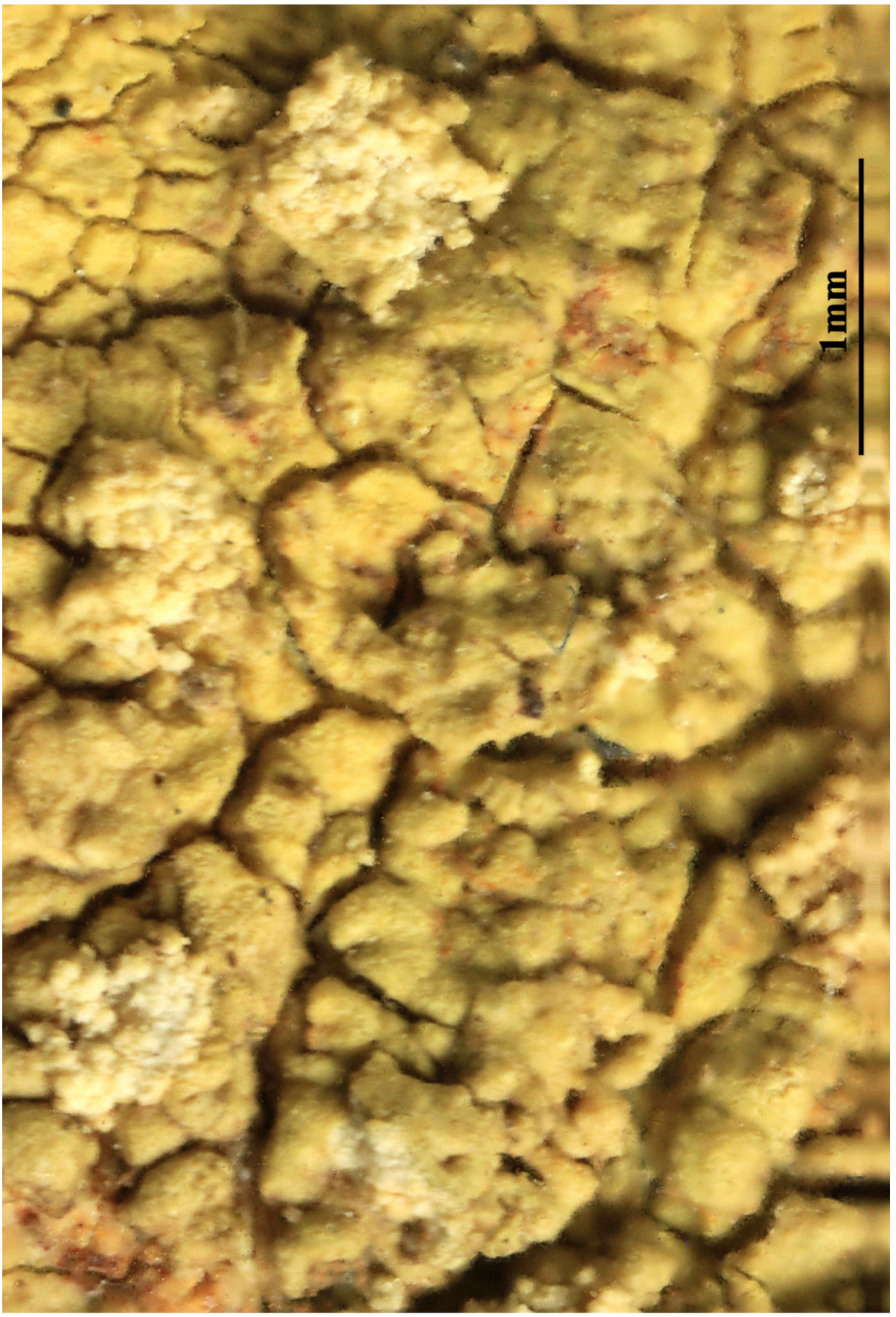
Acarospora hilaris (Dufour ex Nyl.) Arnold, Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 30: 124 (1881) [1880]
= *Lecanora hilaris* Dufour ex Nyl. 1861

[VZ2379], Italia. Sardinia. Prov. Cagliari: reservatum naturae "Monte Arcosu", in valle rivi 8 km ad orientem a domo foretali "Casa Pedu Melis", 1800 m. Ad saxa silicea, Leg. P. L. Nimis, C. Roux. M. Tretiach & A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2379.

hallus crustose-placodioid, episubstratic, bright lemon yellow, slightly glossy, epruinose, forming orbicular to irregular, often confluent rosettes covering wide surfaces. Central parts of thallus of contiguous, angular, flat to slightly convex areoles; marginal lobes radiating, flat or weakly convex, 1-2(-4) x 0.3-0.6(-1) mm. Medulla white; algal layer continuous. Apothecia lecanorine, immersed in the areoles (1-3 per areole), with a punctiform, dark brown disc and a poorly evident thalline margin. Epithecium brownish; hymenium colourless, 85-100 µm high; paraphyses 1.5-2 µm thick at base, the apical cells hardly swollen; hypothecium colourless. Asci 100-200-spored, broadly ellipsoid, the apical dome K/I-. Ascospores 1-celled, hyaline, ellipsoid, 3-6 x c. 2 µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-. Chemistry: cortex with rhizocarpic acid, rarely with epanorin.



Acarospora hilaris



Acarospora hilaris

Acarospora interrupta (Ehrenb.) Vain., Bot. Tidsskr. 26: 248 (1904)
= *Lecanora interrupta* Ehrenb., in Nylander 1864

[VZ1405], URSS. Azerbajdzania. Distr. Baku, reservatum Kobistan dictum (60 km austro-occiudentem versus Baku), 200 m. Ad saxa arenacea subcalcarea. Leg. A. Vězda, 17.5.1976. Ex A. VěZA: LICHENES SELECTI EXSICCATI NR. 1405.

Thallus indeterminate, squamulose or squamulose areolate, squamules (0.6-)1-1.5 mm large, 0.3-0.7 mm thick, either scattered or crowded in small groups or ± contiguous in small patches , xhalky or bluish white from the thick pruina, moistened with a ± reddish brown tint, surface on the whole plane or somewhat uneven, usually with numerous ± deep and narrow fissures ,sometimes by their crosing deviding the surface into angular, irregular parts. or areolae occasionally rather smooth with no or indistinct fissures, widely attached to the stone with pale lower side. No reaction with K or C. Upper cortex (20-)30-50 µm thick, exterior 8-10 µm reddish brownas well limited line, amarphous stratum 20-50(-70) µm thick, very varying in thicknes according to the fissures.Cortical cells distinct in whater, 2-3(-4) µm in diam., moderately thick-walled. Algae 8-18 µm in diam., forming a continuous 85-110(-160) µm thick stratum with even upper surface. Medulla 100-250(-200) µm thick, quite opaque in whater from inumerable white granules, in HCl transparent; hyphae loosely intricate or even ± perpendicular, 3-5 µm in diam.,mostly thick-walled, partly with rounded or somewhat elongate pearl-like cells, 2-2.5 µm in diam. No lower cortex. Apothecia not always present, sometimes scanty, sometimes abundant, mostly solitary, occasionally 2-5 in one areola, immersed, dic 0.2-0.5 mm in diam., often irregular in shape, black or very dark reddish brown, plane or subconcave, slightly rough or opaque, impressed and surrounded by the prominent thallus surface. Excipulum distinct, 10-15 µm thick at the base at the surface widened up to 50 µm thick, ± refracting. Hypothecium 30-70 µm high, opaque. Hymenium 100-120(-140) µm high, I+ greenish blue or red or even dark blue, exterior 20 µm brownish red nor brownish yellow. Paraphyses coherent in whater or subdiscrete, 1.8-2(-2.5) µm thick, the apices in KOH scarcely widened, 2-2.5 µm thick, brown. Asci 70-110 x 15-20 µm, narrowly or broadly clavate. Spores 100-200, 3-4.5 x 2-2.5 µm, mostly broadly ellipsoid, but also 4-5.5 x 1.8-2 µm fund.

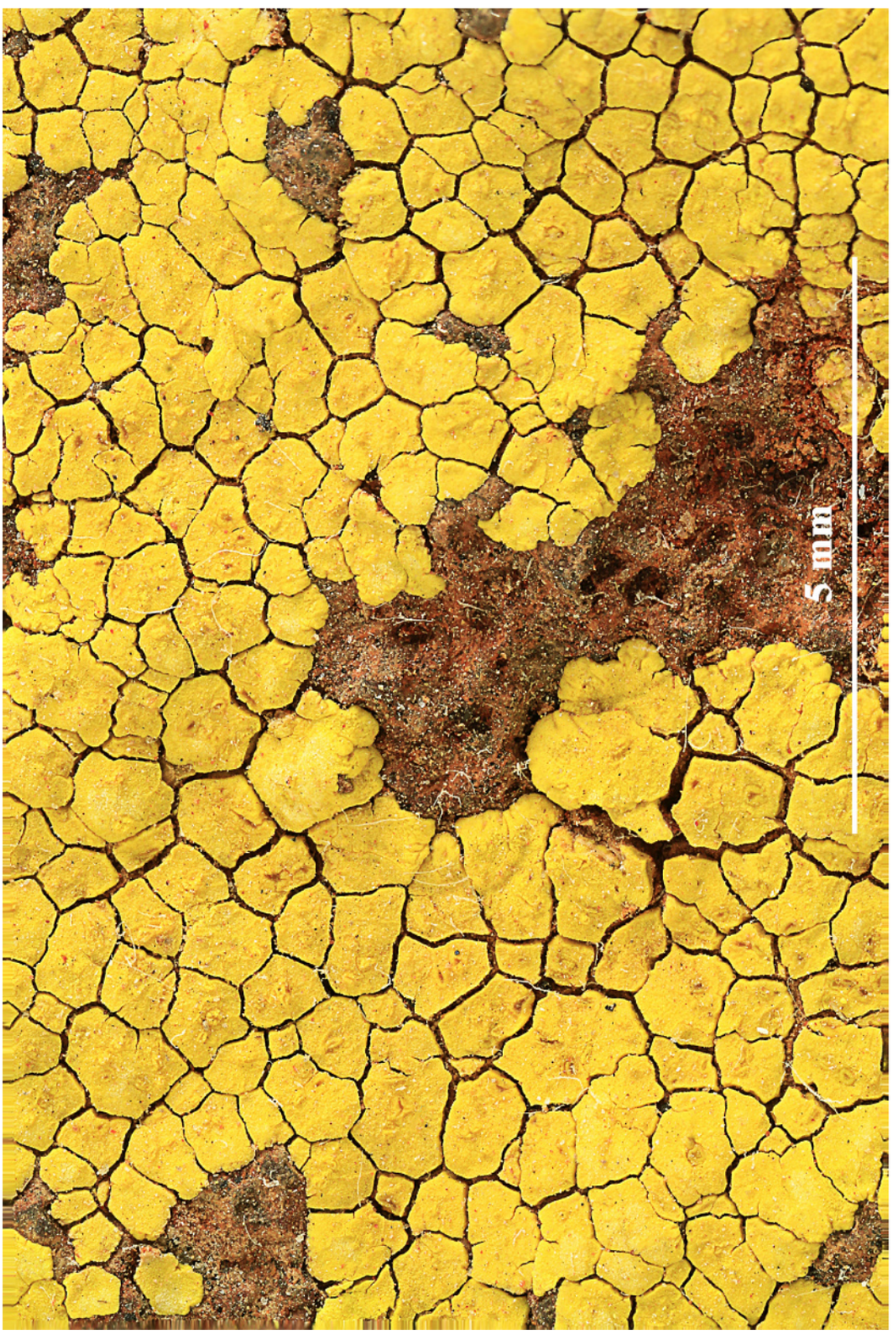
Acarospora interrupta

Acarospora interrupta

Acarospora maroccana B. de Lesd., in de Lesdain & Pitard, in Pitard, Explor. Scient. Maroc, Botan.: 160 (1913) [1912]

[VZ1187], Hispania. Alméria. Las Negras, meridiem versus a Cerro de las Estorvillas, 50-100 m. Ad lavam duram acidam. Leg. X. Llimona. - Ex A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1187.

Crustose saxicolous, on siliceous rocks. Subglobose or globose ascospores. Two to five apothecia by squamule. Pruinose.

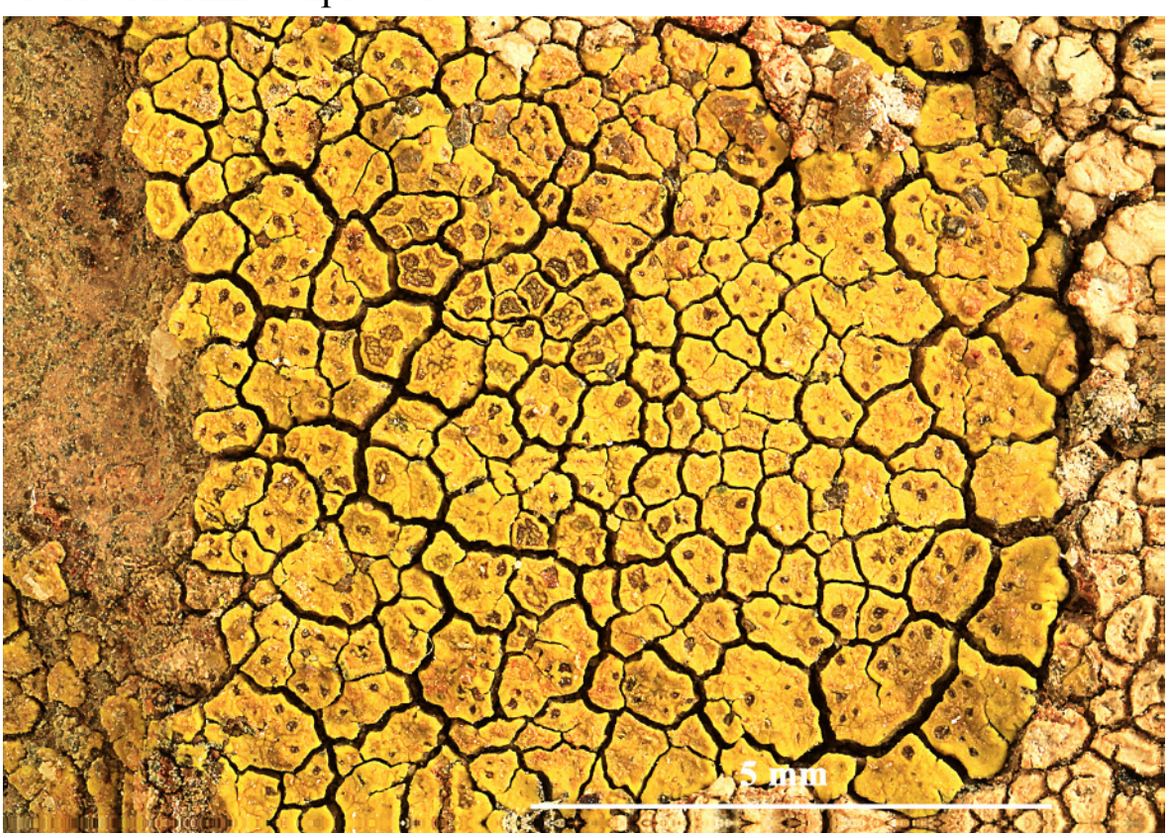


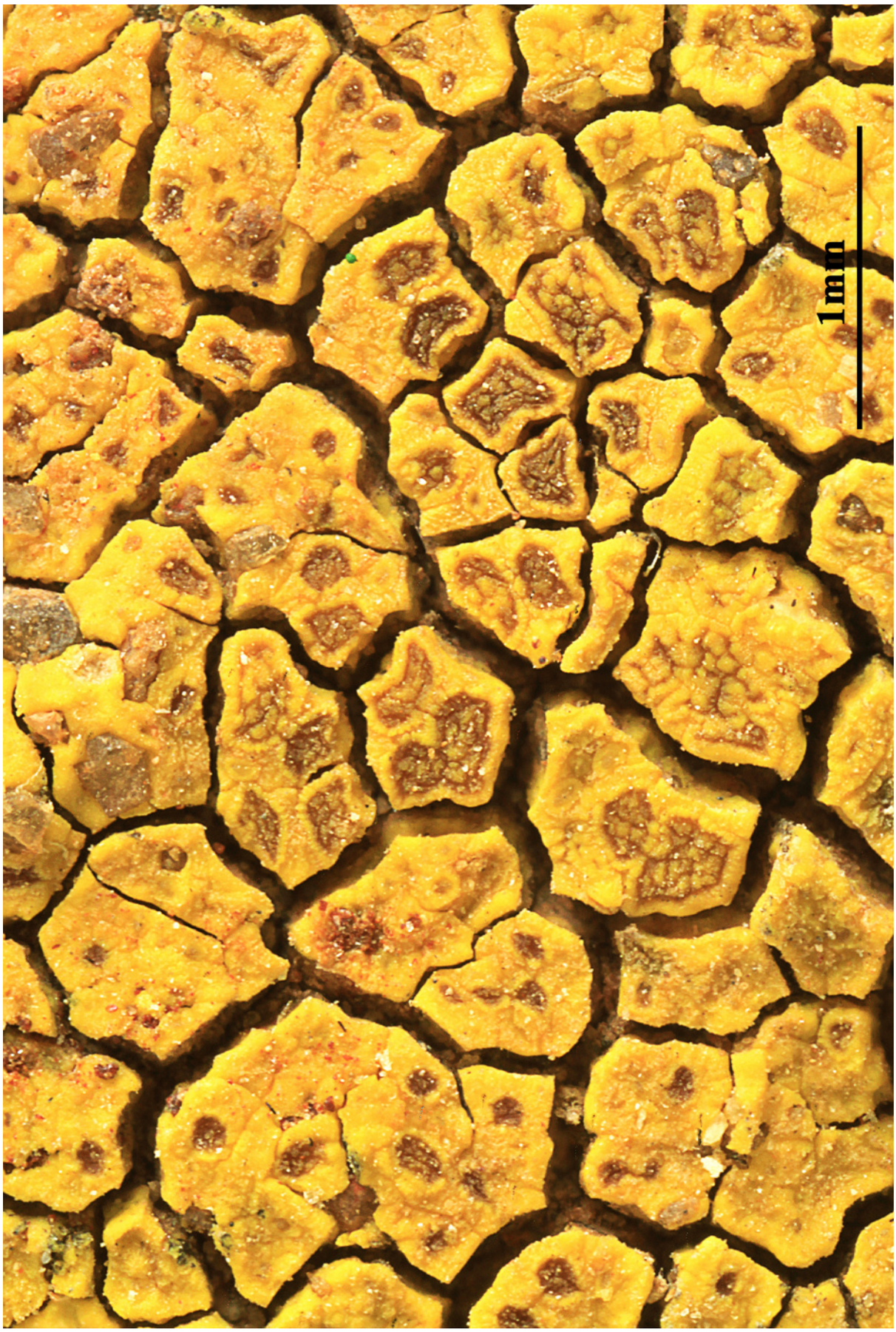
Acarospora maroccana

Acarospora microcarpa (Nyl.) Wedd., Bull. Soc. bot. Fr. 21(11): 343 (1875) [1874]
= *Lecanora schleicheri var. microcarpa* Nyl. 1857

[VZ1999], Hispania. Orov. Murcia: Cabo de Palos, insula Perdiguera. In rupibus supra thallum lichenis (*Diploschistes actinostomus*) vigens. Leg. J. M. Egea, 4.3.1984. - Ex A. VěZDA: LICHENS SELECTI EXSICCATI NR. 1999.

Thallus crustose, episubstratic, bright greenish yellow, epruinose, consisting of 0.2-1(-2) mm wide, scattered or clustered, flat, irregular, angular areoles with pale margins and lower surface, when well-developed forming up to 1-2 cm wide patches, usually starting the life-cycle on the thalli of Diploschistes actinostoma. Cortex paraplectenchymatous, 35-70 µm thick; algal layer continuous; medulla white. Apothecia lecanorine, 0.1-0.4 mm across, immersed in the areoles, 1-4(-8) per areole, with a dark brown, punctiform disc and an evident, not or only slightly raised thalline margin. Proper exciple 15-25 µm wide at base, up to 85 µm wide in upper part; epithecium brownish; hymenium colourless, 120-140 µm high; paraphyses 1.5-2 µm thick at base, the apical cells hardly swollen; hypothecium colourless, up to 35 µm high. Asci 100-200-spored, broadly ellipsoid, the apical dome K/I-. Ascospores 1-celled, hyaline, broadly ellipsoid, 3-4(-6) x 2-3(-4) µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV+ orange. Chemistry: cortex with rhizocarpic acid.



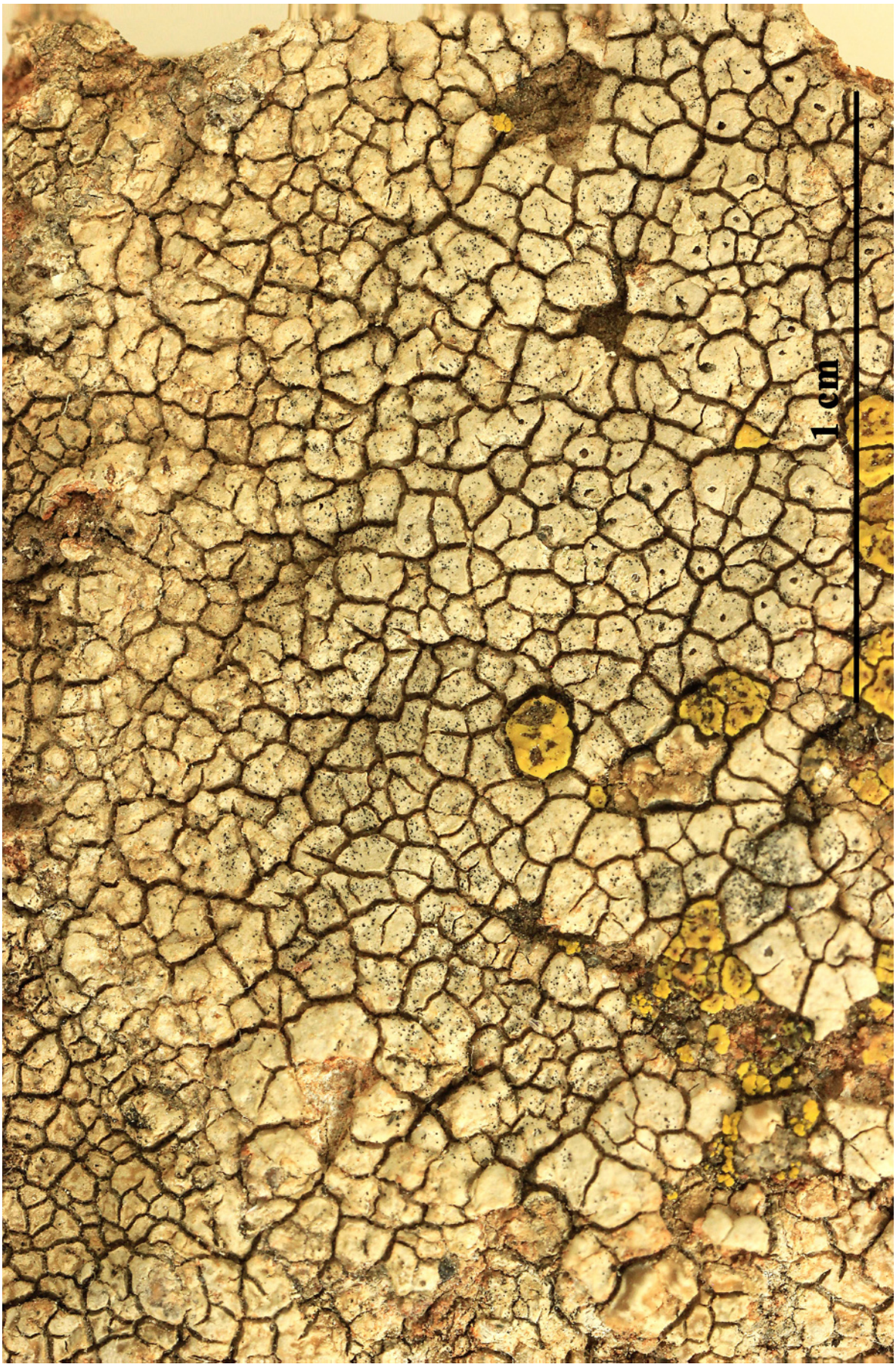


Acarospora microcarpa

Acarospora microcarpa (Nyl.) Wedd., Bull. Soc. bot. Fr. 21(11): 343 (1875) [1874]
= *Lecanora schleicheri var. microcarpa* Nyl. 1857

[VZ2244], Gallia. Roquehaute, prope vias (Hérault), 40 m. In thallo lichenis (*Diploschistes actinostomus*), ad saxa basaltica. Leg. X. Llimona, 5.9.1975. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 2244.

Thallus crustose, episubstratic, bright greenish yellow, epruinose, consisting of 0.2-1(-2) mm wide, scattered or clustered, flat, irregular, angular areoles with pale margins and lower surface, when well-developed forming up to 1-2 cm wide patches, usually starting the life-cycle on the thalli of Diploschistes actinostoma. Cortex paraplectenchymatous, 35-70 µm thick; algal layer continuous; medulla white. Apothecia lecanorine, 0.1-0.4 mm across, immersed in the areoles, 1-4(-8) per areole, with a dark brown, punctiform disc and an evident, not or only slightly raised thalline margin. Proper exciple 15-25 µm wide at base, up to 85 µm wide in upper part; epithecium brownish; hymenium colourless, 120-140 µm high; paraphyses 1.5-2 µm thick at base, the apical cells hardly swollen; hypothecium colourless, up to 35 µm high. Asci 100-200-spored, broadly ellipsoid, the apical dome K/I-. Ascospores 1-celled, hyaline, broadly ellipsoid, 3-4(-6) x 2-3(-4) µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV+ orange. Chemistry: cortex with rhizocarpic acid.



Acarospora microcarpa

Acarospora microcarpa

Acarospora montana H. Magn., K. svenska Vetensk-Akad. Handl., Ser. III 7(no. 4): 287 (1929)
= *Acarospora squamulosa* (Schrad.) Trevis.
= *Acarospora chalcophila* H. Magn.
= *Acarospora fuscata var. peliscypha* (Th. Fr.) Nyl.
= *Acarospora nitrophila var. chalcophila* (H. Magn.) Clauzade & Cl. Roux
= *Acarospora peliocypha* (Wahlenb.) Th. Fr.
= *Acarospora peliscypha* Th. Fr.
= *Parmelia peliocypha* Wahlenb.

[VZ1406], Bohemoslovacia. Slovacia, Carpates, montes Tatra Minor: Banská Bystrica, Špania dolina, 900 m. Ad lapides prope metalla cupri vetusta. Leg. A. Vězda, 26.4.1976. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1406.

Thallus crustose, episubstratic, areolate-subsquamulose, pale brown to dark chestnut brown, epruinose, mostly shiny, usually forming large patches. Areoles very variable in size and shape, 0.3-3 x 0.2-2 mm, 0.1-0.5 mm thick, usually convex, sometimes subglobose, black in lower part along the margins, dispersed or contiguous. Epicortex lacking or very thin; cortex 30-50 µm thick, brown in uppermost part, colourless in lower part, the cortical cells 3-5 µm wide; algal layer continuous 50-200 µm thick; medulla white, of thin-walled hyphae; lower cortex 10-15 µm thick, black, developed only in the marginal zone. Apothecia pseudolecanorine, usually 1 per areole, at first impressed, but soon prominent, 0.3-1.4 mm across, with a very rough, strongly rugose, often umbonate, dark reddish brown disc surrounded by a thick, shiny, prominent thalline margin. Proper exciple 6-15(-30) µm thick at base, 30-60 µm thick in upper part, I-; epithecium brown, 15-30 µm high; hymenium colourless, 90-100 µm high, the hymenial gel hemiamyloid, K/I+ light blue fading to light red; paraphyses 1.5-2 µm thick at mid-level, more or less swollen and up to 3 µm wide at apex; subhymenium 25-50 µm high, IKI+ blue (euamyloid); hypothecium 10-30 µm high. Asci 100-200-spored, clavate, the apical dome K/I-, 70-90 x 16-20 µm. Ascospores 1-celled, hyaline, subcylindrical, (3-)4-5(-6) x 1-2 µm. Pycnidia inconspicuous, c. 100 x 60 µm, with ampulliform conidiogenous cells. Conidia mostly 2 x c. 1 µm. Photobiont chlorococcoid. Spot tests: cortex K-, C+ red, KC+ red, P-. - Note: an arctic-alpine to boreal-montane, probably circumpolar species found on

siliceous, often iron-rich substrata, on exposed birds' perching rocks (e.g. windy ridges, isolated boulders), with optimum near or above treeline. See also note on *A. bullata*. For nomenclatural matters see Knudsen & al. (2019).

Acarospora montana

Acarospora montana

Acarospora moraviae H. Magn., Göteborgs Kungl. Vetensk. Samhälles Handl., Ser. B, Math. Naturvensk. Skr. 6(17): 21 (1956)

[VZ2344], Bohemoslovacia. Bohemia merid., distr. Prachatice, Stachy, Kubova huf, in declivibus merid. montis Obrovec, 950 m. Ad lapides magnos schistosos ferrugine tectos. Leg. J. Horáková & A. Vězda. Ex A. VěZDA: LICHENES SELECTI EXSICCATI NR. 2344.

Areolae usually in 0.5-1 cm large groups, widely attached, marginal areolae 1-1.5 mm across, partly incised, central ones 0.5 - 1 mm, all separated by rather wide cracks, surface slightly uneven. Areolae 0.3-0.4 mm thick, upper cortex 10-20 µm thick, translucid, exterior 5-7 µm pale red-brown covered by an uniform, amorphous layer, 10-12 µm thick. Cells 2-3 µm diam., irregular in shape, thin-walled. Algae 6-10 µm diam, in a 50-100 µm thick stratum, also below the exciple. Medulla dense, but not opaque, hyphae intricate, about 3 µm, thin-walled. Lower cortex in the marginl part ± dark brown, diffuse. Apothecia solitary in the small areolae, 2-5 in larger ones, on average 0.5 mm wide, but often smaller or larger, to 1 mm, irregular in shape without prominent margin. Exciple usually distinct, 10-15 µm thick, at centre and edge widened, I+ greenish-yellow or red; upper 10-17 µm sordid yellow-brown. Paraphyses 1.5-1.7 µm, contiguous, tips in HNO_3 4-4.5 µm thick. Asci 50-70 x 13-16 µm. Spores 1-200, 2-2.5 x 1,5 µm. Pycnidia rather common, their wall brown. Conidia 1x1 µm, ellipsoid. It is charaterized by its subrosulate thallus with thin cortex and translucid medulla, varying size of the apothecia and very small spores.

Acarospora moraviae

Acarospora moraviae

Acarospora nitrophila H. Magn., Göteborg. Vetensk.-och Vitter.-Handl., Ser. 4 28(no. 2): 74 (1924)
= *Acarospora aequatula* H. Magn., Göteborg. Vetensk.-och Vitter.-Handl., Ser. 4 28(no. 2): 128 (1924)
= *Acarospora muddii* H. Magn., Meddn Göteb. Bot. Trädg. 2: 72 (1926)
= *Acarospora nitrophila subsp. normanii* (H. Magn.) Clauzade & Cl. Roux, Bull. Mus. Hist. Nat. Marseille 41: 91 (1981)
= *Acarospora nitrophila var. normanii* (H. Magn.) Clauzade & Cl. Roux, Bull. Mus. Hist. Nat. Marseille 41: 91 (1981)
= *Acarospora nitrophila var. praeruptorum* (H. Magn.) Clauzade & Cl. Roux, Bull. Mus. Hist. Nat. Marseille 41: 90 (1981)
= *Acarospora normanii* H. Magn., Göteborg. Vetensk.-och Vitter.-Handl., Ser. 4 28(no. 2): 118 (1924)
= *Acarospora praeruptorum* H. Magn., Svensk bot. Tidskr. 18: 330 (1924)
= *Acarospora praeruptorum var. aequatula* (H. Magn.) H. Magn., K. svenska Vetensk-Akad. Handl., Ser. III 7(no. 4): 190 (1929)

[VZ1339], Hungaria. Montes Matra, Hasznos, in valle rivi Kövecses. sub ruinam arcis Cserteri vár, 500 m. Ad saxa andesitica aprica. Leg et det. A. Kiszely & A. Vězda. Ex A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1339.

Thallus of areoles, 0.4-0.5 mm wide, closely aggregated; areoles rounded, convex and grossly nodularrugose, dull mid- to dark brown, paler beneath, with irregular, lobulate-crenulate edges. Apothecia 0.2-0.5 mm diam., immersed, crater-like, 1-3 per areole; disc dull brown, concave, finely roughened; thalline margin concolorous with disk, or somewhat paler; hymenium 70- 1 1 0 µm high, paraphyses to 3-6 µm wide at the tips. Ascospores 3-6 x 1.5-2 µm . Lichen products not detected by t.l.c.

Acarospora nitrophila

Acarospora nitrophila

Acarospora nodulosa (Dufour) Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 5 sér. 1(2): 160 (1909)
= *Acarospora ferdinandii* (Müll. Arg.) Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 5 sér. 1(2): 160 (1909)
= *Acarospora nodulosa* var. *reagens* (Zahlbr.) Clauzade & Cl. Roux, Bull. Mus. Hist. Nat. Marseille 41: 61 (1981)
= *Acarospora reagens* Zahlbr., Beih. Botan. Centralbl., Abt. B 13: 162 (1902)
= *Lecanora nodulosa* (Dufour) Stizenb., Ber. Tät. St Gall. naturw. Ges.: 385 (1882) [1880-81]
= *Parmelia nodulosa* Dufour, in Fries, Lich. eur. reform. (Lund): 185 (1831)
= *Placodium ferdinandii* Müll. Arg. [as 'ferdinandi'], Flora, Regensburg 64(32): 508 (1881)
= *Placodium nodulosum* (Dufour) Müll. Arg., Bull. Trav. Soc. Murithienne du Valais 10: 54 (1881)
= *Urceolaria nodulosa* (Dufour) Schaer., Enum. critic. lich. europ. (Bern): 92 (1850)

[VZ1561], Persia austro-occidentlis. Bushir, 60 km in austro-occidentem a vico Khormuj. Ad terram gypsaceam. Leg. J. Soják, 20.04.1977, det. A. Vězda. - Ex A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1561.

Thallus areolate-subsquamulose, densely chalky white-pruinose, forming up to 5 cm wide patches. Areoles (2-)3-5(-6) mm wide, 0.2-2 mm thick, rounded, mostly convex, slightly lobed; lower surface attached by a few rhizines. Cortex densely filled with crystals visible under polarized light; algal layer continuous; medulla filled with crystals. Apothecia lecanorine, 1-2(-3) mm across, round, at first immersed, later sessile, with a flat to slightly convex, dark brown to almost black, epruinose disc, and a thick thalline margin. Epithecium yellowish brown, K+ yellow turning red (acicular crystals); hymenium colourless, 50-180 µm high, IKI+ blue; paraphyses coherent, simple to sparingly branched in upper part, 1.5-2.5 µm thick at base, the apical cell slightly swollen; hypothecium colourless, 40-85 µm high, K+ yellow turning red (acicular crystals). Asci c. 100-spored. clavate, with a distinct apical dome, K/I-. Ascospores 1-celled, hyaline globose or subglobose, 3-6 x 3-7 µm. Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC-, P-. Chemistry: apothecia with norstictic acid.

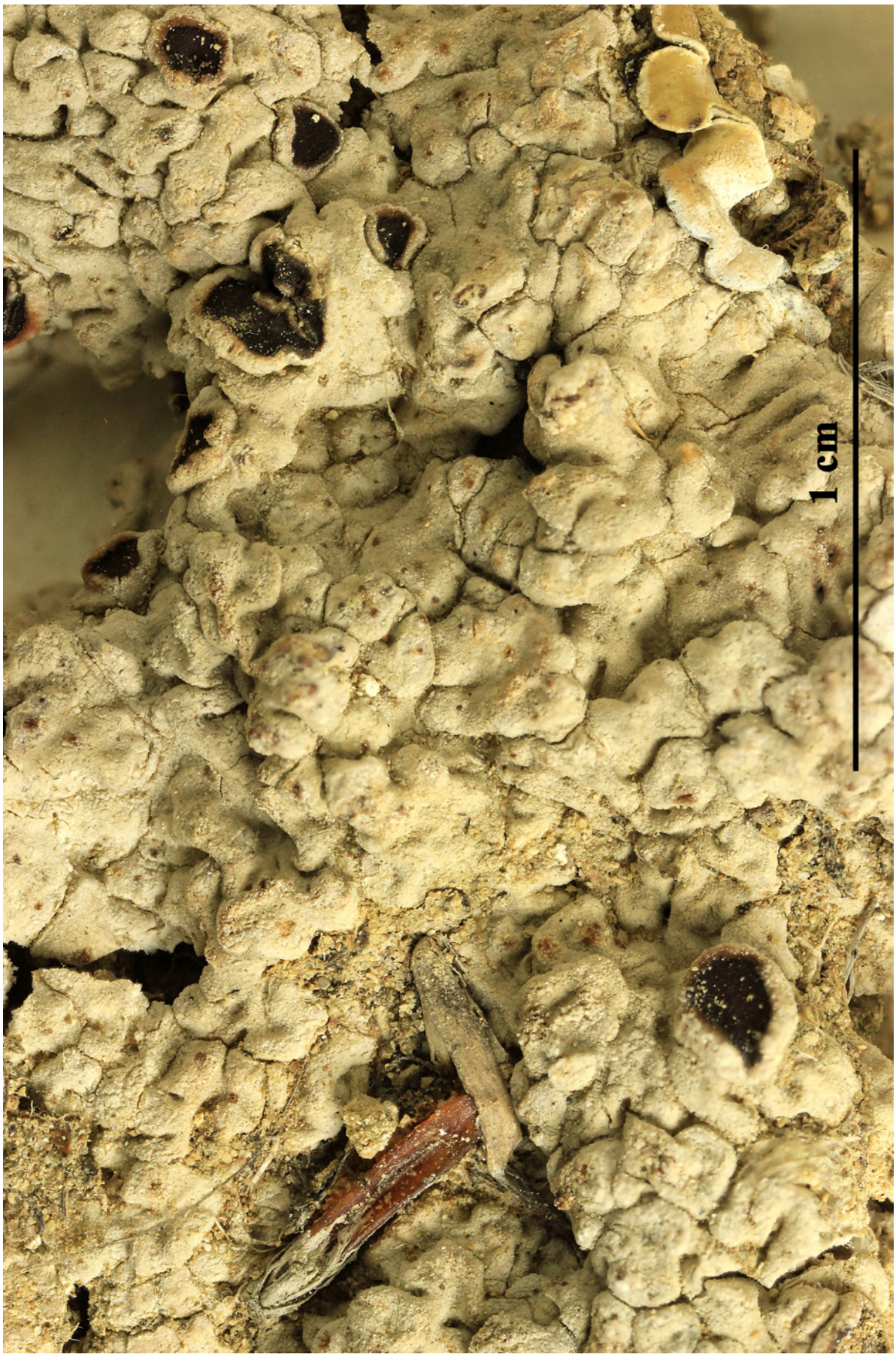
Acarospora nodulosa

Acarospora nodulosa

Acarospora nodulosa (Dufour) Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 5 sér. 1(2): 160 (1909)
= *Acarospora ferdinandii* (Müll. Arg.) Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 5 sér. 1(2): 160 (1909)
= *Acarospora nodulosa* var. *reagens* (Zahlbr.) Clauzade & Cl. Roux, Bull. Mus. Hist. Nat. Marseille 41: 61 (1981)
= *Acarospora reagens* Zahlbr., Beih. Botan. Centralbl., Abt. B 13: 162 (1902)
= *Lecanora nodulosa* (Dufour) Stizenb., Ber. Tät. St Gall. naturw. Ges.: 385 (1882) [1880-81]
= *Parmelia nodulosa* Dufour, in Fries, Lich. eur. reform. (Lund): 185 (1831)
= *Placodium ferdinandii* Müll. Arg. [as 'ferdinandi'], Flora, Regensburg 64(32): 508 (1881)
= *Placodium nodulosum* (Dufour) Müll. Arg., Bull. Trav. Soc. Murithienne du Valais 10: 54 (1881)
= *Urceolaria nodulosa* (Dufour) Schaer., Enum. critic. lich. europ. (Bern): 92 (1850)

[VZ1408], URSS. Azerbajdzania. Distr. Baku, reservatum Kobistan (in litore maris Caspii 60 km in austro-occidente a Baku), 200 m. Ad terram, locis desertis in saxosis arenaceis. Leg. E. Jelínková & A. Vćzda: EX A. VćZDA: LICHENES SELECTI EXSICCATI NR. 1408.

Thallus areolate-subsquamulose, densely chalky white-pruinose, forming up to 5 cm wide patches. Areoles (2-)3-5(-6) mm wide, 0.2-2 mm thick, rounded, mostly convex, slightly lobed; lower surface attached by a few rhizines. Cortex densely filled with crystals visible under polarized light; algal layer continuous; medulla filled with crystals. Apothecia lecanorine, 1-2(-3) mm across, round, at first immersed, later sessile, with a flat to slightly convex, dark brown to almost black, epruinose disc, and a thick thalline margin. Epithecium yellowish brown, K+ yellow turning red (acicular crystals); hymenium colourless, 50-180 µm high, IKI+ blue; paraphyses coherent, simple to sparingly branched in upper part, 1.5-2.5 µm thick at base, the apical cell slightly swollen; hypothecium colourless, 40-85 µm high, K+ yellow turning red (acicular crystals). Asci c. 100-spored. clavate, with a distinct apical dome, K/I-. Ascospores 1-celled, hyaline globose or subglobose, 3-6 x 3-7 µm. Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC-, P-. Chemistry: apothecia with norstictic acid.



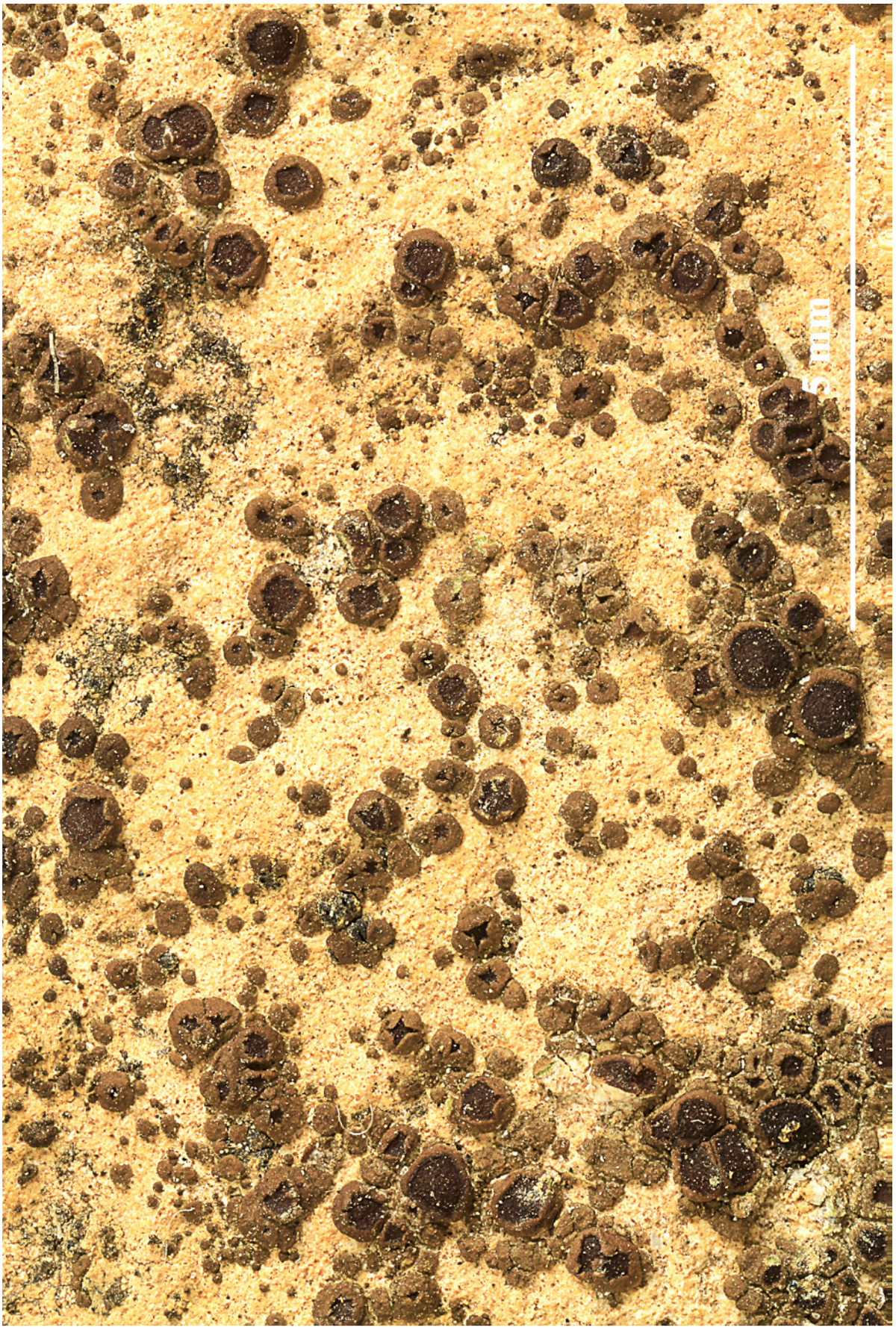
Acarospora nodulosa

Acarospora nodulosa

Acarospora oligospora (Nyl.) Arnold, Flora, Regensburg 53(30–31): 469 (1871) [1870]
= *Lecanora oligospora* Nyl. 1853
= *Acarospora glebosa* (Flot.) Körb.

[VZ1518], USA. Michigan, Cheboygan County, iuxta Riggsville Road ad meridiem versus ab University of Michigan Biological Station. Ad lapides clcareous in arena. Leg. R.C. Harris (no. 9215), 24.07. 1074. Ex A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1518.

Thallus crustose, episubstratic, areolate-verrucose, forming small, up to 2 cm wide patches. Areoles flat to usually convex, 0.3-1.5 mm wide, 0.3-0.5 mm thick, dispersed or in small groups, olive-brown to dark brown, dull, smooth, epruinose or faintly pruinose, with a pale lower surface. Cortex paraplectenchymatous, 10-15(-40) µm thick; algal layer continuous, filling most of the areoles; medulla white. Apothecia one per areole, regularly round, 0.3-1 µm across, with a dark brown to brown-black disc and a usually evident thalline margin. Proper exciple thin, poorly evident; epithecium reddish brown; hymenium colourless, (80-)100-120(-150) µm high; paraphyses (1-)1.5-2 µm thick at base, the apical cells barely expanded; hypothecium colourless. Asci (16-)24-32(-64)-spored, clavate, the apical dome K/I-. Ascospores 1-celled, hyaline, ellipsoid, 9-13(-16) x (5-)6-9 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances.



Acarospora oligospora

Acarospora oligospora

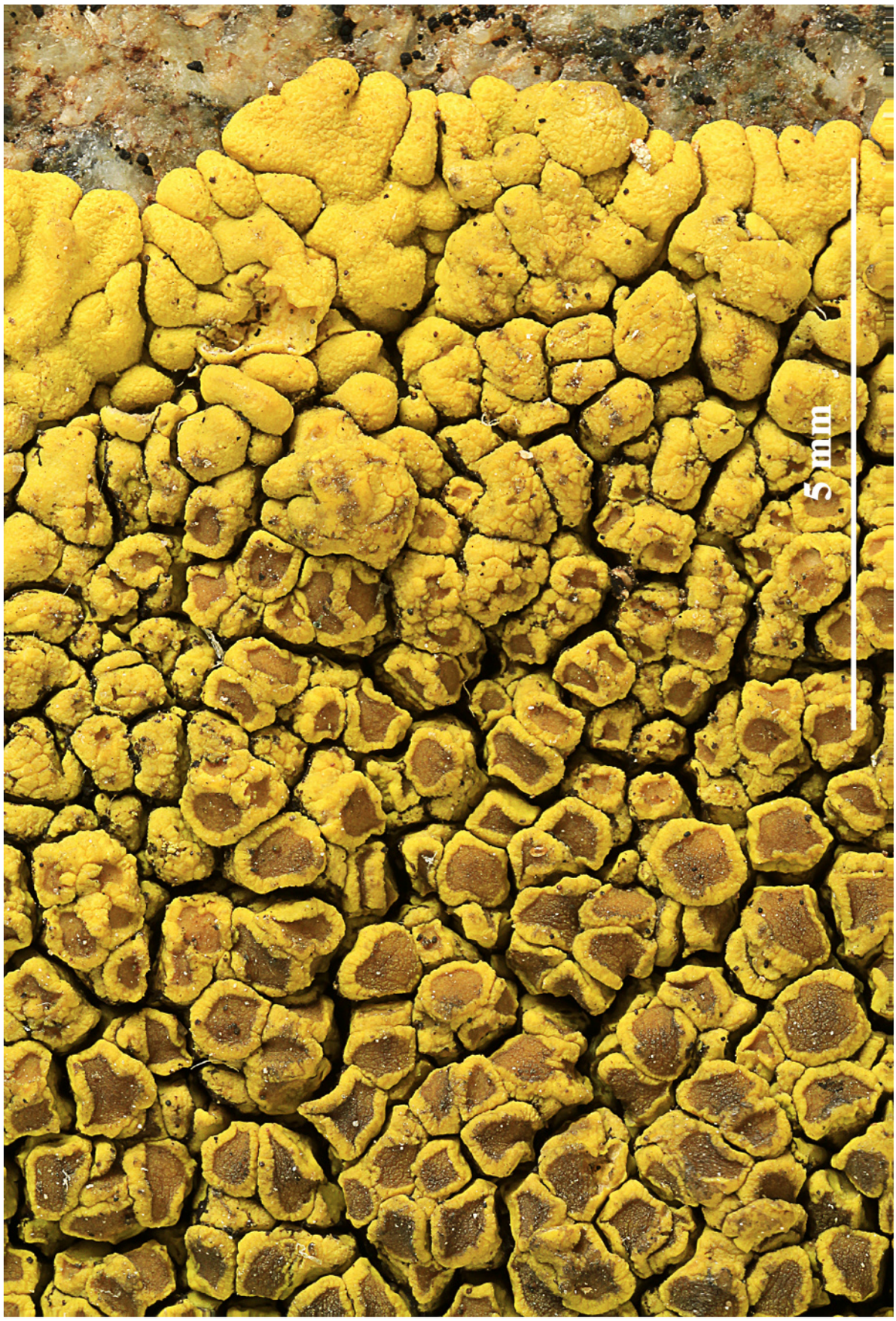
Acarospora oxytona (Ach.) A. Massal., Ric. auton. lich. crost. (Verona): 28 (1852)
= *Pleopsidium oxytonum* (Ach.) Rabenh., Flecht. Europ. 11: no. 326 (1857)
= *Acarospora chlorophana* var. *oxytona* (Ach.) Bagl., Nuovo G. bot. ital. 11(1): 72 (1879)
= *Acarospora flava* (Schaer.) Trevis., Revta Period. Lav. Imp. Reale Acad., Padova 1(3): 262 (1852) [1851-52]
= *Acarospora flava* var. *oxytona* (Ach.) Stein, in Cohn, Krypt.-Fl. Schlesien (Breslau) 2(2): 110 (1879)
= *Gussonea flava* (Schaer.) Anzi, Cat. Lich. Sondr.: 44 (1860)
= *Gussonea oxytona* (Ach.) A. Massal., Geneac. lich. (Verona): 7 (1854)
= *Lecanora chlorophana* f. *oxytona* (Ach.) Nyl., Bot. Notiser(10-11): 159 (1853)
= *Lecanora chlorophana* var. *oxytona* (Ach.) Rabenh., Deutschl. Krypt.-Fl. (Leipzig) 2(1): 40 (1845)
= *Lecanora flava* var. *oxytona* (Ach.) Schaer., Enum. critic. lich. europ. (Bern): 65 (1850)
= *Lecanora oxytona* Ach., Lich. Univ.: 436 (1810)
= *Lichen peltatus* * *oxytona* (Ach.) Lam., Encycl. Méth., Bot. Suppl. (Paris) 3(2): 399 (1813)
= *Parmelia chlorophana* f. *oxytona* (Ach.) Fr., Lich. eur. reform. (Lund): 117 (1831)
= *Parmelia chlorophana* var. *oxytona* (Ach.) Fr., Lich. eur. reform. (Lund): 117 (1831)
= *Parmelia flava* var. *oxytona* (Ach.) Schaer., Lich. helv. spicil. 9: 420 (1840)
= *Placodium chlorophanum* var. *oxytonum* (Ach.) Boistel, Nouv. Fl. Lich. (Paris) 2: 103 (1903)
= *Placodium oxytonum* (Ach.) DC., Fl. franç., Edn 3 (Paris) 5/6: 185 (1815)
= *Pleopsidium chlorophanum* f. *oxytonum* (Ach.) Arnold, Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 28: 286 (1878)

[VZ1407], URSS. Armenia. Caucasus Minor, distr. Krasnoselsk, iugum montium Sevankij chrebet supra lacum Sevan, prope Aregrnoi, 200 m. Leg. E. Jelínková & A. Vězda. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1407.

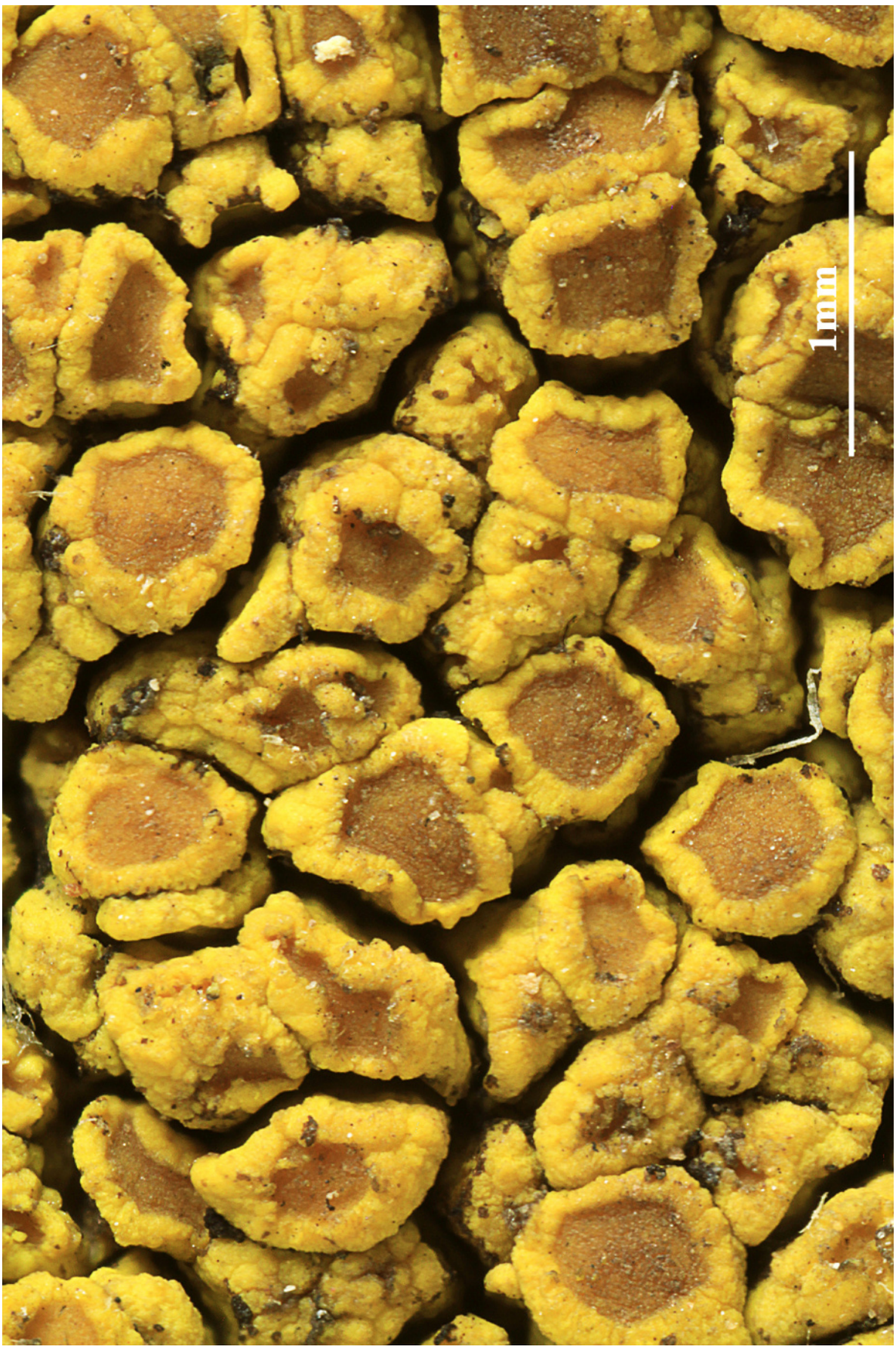
Thallus crustose-placodioid, bright yellow, somehow glossy, epruinose, forming large, up to 6 cm wide rosettes, several thalli often merging to cover large surfaces. Central areoles verrucose; marginal lobes well-developed, 1-3 x 0.3-1.5 mm, slightly convex or flat, branched and incised, the surface often rough. Cortex prosoplectenchymatous, of

small-celled hyphae, pale yellow throughout, inspersed with crystals, 40-75 µm thick; algal layer continuous or irregularly interrupted; medulla white, intricately prosoplectenchymatous. Apothecia half-immersed, 0.5-1(-1.5) mm across, with a brownish yellow, concave to flat disc and a thick, smooth to crenulate, persisting thalline margin. Proper exciple dark yellow, 30-50 µm wide; epithecium greenish yellow, inspersed with yellowish crystals, 15-20 µm high; hymenium colourless or yellowish-striate, (50-)60-80(-100) µm high, I+ blue; paraphyses mostly simple, separating easily, c. 2 µm thick, the apical cells not or only slightly swollen; hypothecium colourless, 30-50 µm high, I+ brown-yellow or pale blue. Asci 100-200-spored, clavate, with a distinct apical dome reacting I+ deep blue only in the lower outer part, a broad ocular chamber, and an amyloid outer gelatinous sheath, Pleopsidium-type. Ascospores 1-celled, hyaline, narrowly ellipsoid, 4-5(-6) x 1.5-2 µm. Pycnidia immersed, poorly evident, the jelly I+ blue. Conidia ellipsoid, often narrower at one end, (2-)3-4 x 1.5-2 µm. Photobiont chlorococcoid. Spot tests: thallus and apothecia K-, C-, KC-, P-, UV+ orange. Chemistry: rhizocarpic acid plus fatty acids (acaranoic and acarenoic or lichesterinic acids). - Note: on vertical or rain-sheltered surfaces of often metal-rich siliceous rocks in exposed situations, somehow more common than *Pleopsidium chlorophanum* in the mountains of Southern Italy, and in areas with a continental climate, as in the xerothermic parts of the Alps.

Acarospora oxytona



Acarospora oxytona



Acarospora oxytona

Acarospora oxytona (Ach.) A. Massal., Ric. auton. lich. crost. (Verona): 28 (1852)
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= *Acarospora chlorophana* var. *oxytona* (Ach.) Bagl., Nuovo G. bot. ital. 11(1): 72 (1879)
= *Acarospora flava* (Schaer.) Trevis., Revta Period. Lav. Imp. Reale Acad., Padova 1(3): 262 (1852) [1851-52]
= *Acarospora flava* var. *oxytona* (Ach.) Stein, in Cohn, Krypt.-Fl. Schlesien (Breslau) 2(2): 110 (1879)
= *Gussonea flava* (Schaer.) Anzi, Cat. Lich. Sondr.: 44 (1860)
= *Gussonea oxytona* (Ach.) A. Massal., Geneac. lich. (Verona): 7 (1854)
= *Lecanora chlorophana* f. *oxytona* (Ach.) Nyl., Bot. Notiser(10-11): 159 (1853)
= *Lecanora chlorophana* var. *oxytona* (Ach.) Rabenh., Deutschl. Krypt.-Fl. (Leipzig) 2(1): 40 (1845)
= *Lecanora flava* var. *oxytona* (Ach.) Schaer., Enum. critic. lich. europ. (Bern): 65 (1850)
= *Lecanora oxytona* Ach., Lich. Univ.: 436 (1810)
= *Lichen peltatus* * *oxytona* (Ach.) Lam., Encycl. Méth., Bot. Suppl. (Paris) 3(2): 399 (1813)
= *Parmelia chlorophana* f. *oxytona* (Ach.) Fr., Lich. eur. reform. (Lund): 117 (1831)
= *Parmelia chlorophana* var. *oxytona* (Ach.) Fr., Lich. eur. reform. (Lund): 117 (1831)
= *Parmelia flava* var. *oxytona* (Ach.) Schaer., Lich. helv. spicil. 9: 420 (1840)
= *Placodium chlorophanum* var. *oxytonum* (Ach.) Boistel, Nouv. Fl. Lich. (Paris) 2: 103 (1903)
= *Placodium oxytonum* (Ach.) DC., Fl. franç., Edn 3 (Paris) 5/6: 185 (1815)
= *Pleopsidium chlorophanum* f. *oxytonum* (Ach.) Arnold, Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 28: 286 (1878)

[VZ1642], Gallia. Pyrenei orient.: Millas, Força-Réal, 500 m. Ad rupes schistosas. Leg. G. Clauzade, 3.8.1975. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1642.

Thallus crustose-placodioid, bright yellow, somehow glossy, epruinose, forming large, up to 6 cm wide rosettes, several thalli often merging to cover large surfaces. Central areoles verrucose; marginal lobes well-developed, 1-3 x 0.3-1.5 mm, slightly convex or flat, branched and incised, the surface often rough. Cortex prosoplectenchymatous, of small-celled hyphae, pale yellow throughout, inspersed with crystals,

40-75 µm thick; algal layer continuous or irregularly interrupted; medulla white, intricately prosoplectenchymatous. Apothecia half-immersed, 0.5-1(-1.5) mm across, with a brownish yellow, concave to flat disc and a thick, smooth to crenulate, persisting thalline margin. Proper exciple dark yellow, 30-50 µm wide; epithecium greenish yellow, inspersed with yellowish crystals, 15-20 µm high; hymenium colourless or yellowish-striate, (50-)60-80(-100) µm high, I+ blue; paraphyses mostly simple, separating easily, c. 2 µm thick, the apical cells not or only slightly swollen; hypothecium colourless, 30-50 µm high, I+ brown-yellow or pale blue. Asci 100-200-spored, clavate, with a distinct apical dome reacting I+ deep blue only in the lower outer part, a broad ocular chamber, and an amyloid outer gelatinous sheath, Pleopsidium-type. Ascospores 1-celled, hyaline, narrowly ellipsoid, 4-5(-6) x 1.5-2 µm. Pycnidia immersed, poorly evident, the jelly I+ blue. Conidia ellipsoid, often narrower at one end, (2-)3-4 x 1.5-2 µm. Photobiont chlorococcoid. Spot tests: thallus and apothecia K-, C-, KC-, P-, UV+ orange. Chemistry: rhizocarpic acid plus fatty acids (acaranoic and acarenoic or lichesterinic acids). - Note: on vertical or rain-sheltered surfaces of often metal-rich siliceous rocks in exposed situations, somehow more common than *Pleopsidium chlorophanum* in the mountains of Southern Italy, and in areas with a continental climate, as in the xerothermic parts of the Alps.

Acarospora oxytona

Acarospora oxytona

Acarospora oxytona

Acarospora perpulchra Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 5 sér. 1(2): 118 (1909)
= *Lecanora hilaris* Hue 1887
=*Acarospora heufleriana var. massiliensis* Harm.
= *Acarospora massiliensis* (Harm.) H. Magn.

[VZ1312], Gallia. Bouches -du-Rhône, La Ciotat, Signal de Notre-Dame de la Garde, 115 m. Ad saxa arenacea. Leg. Y. Rondon, 11.02.1973. - Ex A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1312.

Thallus crustose, areolate, bright to dull yellow, forming up to 5 cm wide patches, the areoles angular, 0.5-2 mm wide, up to 0.8 mm thick, flat to convex, dispersed to usually contiguous, the peripheral ones sometimes slightly elongated, corticate. Cortex paraplectenchymatous, 30-60 µm thick, yellow in upper part, colourless in lower part; algal layer thin, continuous, the algae scattered below the apothecia; medulla white, prosoplectenchymatous. Apothecia 0.3-1 mm across, 1-5 per areole, immersed, at first punctiform then expanded, with a round to irregular, dark reddish brown disc and a thin, often inconspicuous thalline margin. Proper exciple 20-30 µm wide laterally; epithecium yellowish, 10-15 µm high; hymenium colourless, 80-135 µm high, the hymenial gel euamyloid, IKI+ persistently dark blue; paraphyses weakly coherent, 1-1.8 µm thick at base, the apical cells hardly swollen; subhymenium pale yellow, up to 40 µm high; hypothecium 20-30 µm high. Asci >100-spored, clavate, the apical dome K/I-. Ascospores 1-celled, hyaline, ellipsoid to subglobose, 3-4.5 x 2-3 µm. Pycnidia globose, immersed, the ostiole visible as a pale brown dot. Conidia bacilliform, 3-4 x 1(-1.5) µm. Photobiont chlorococcoid. Spot tests: medulla K+ yellow turning red (often forming needle-like crystals), C-, KC-, P-, UV+ orange. Chemistry: rhizocarpic and norstictic acids, the latter often in low amounts. - Note: on horizontal to gently sloping faces of base-rich or weakly calciferous siliceous rocks near the ground in open habitats, especially in grasslands, sometimes starting the life-cycle on other crustose lichens, especially *Lecanora valesiaca*. Restricted to dry-continental areas, both in the Alps and in the Mediterranean Region. See also note on *A. lavicola*.

AcarospoAVra cervina

AcarospoAVra cervina

Acarospora perpulchra Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 5 sér. 1(2): 118 (1909)
= *Lecanora hilaris* Hue 1887
=*Acarospora heufleriana var. massiliensis* Harm.
= *Acarospora massiliensis* (Harm.) H. Magn.

[VZ1313] Hispania. Valentinum Regnum, Prov. Castelló, Mas Salandó, prope Benicasim, 100 m. Ad saxa arenacea silicea. Leg. X. Llimona, 23.3.1975. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1313.

Thallus crustose, areolate, bright to dull yellow, forming up to 5 cm wide patches, the areoles angular, 0.5-2 mm wide, up to 0.8 mm thick, flat to convex, dispersed to usually contiguous, the peripheral ones sometimes slightly elongated, corticate. Cortex paraplectenchymatous, 30-60 µm thick, yellow in upper part, colourless in lower part; algal layer thin, continuous, the algae scattered below the apothecia; medulla white, prosoplectenchymatous. Apothecia 0.3-1 mm across, 1-5 per areole, immersed, at first punctiform then expanded, with a round to irregular, dark reddish brown disc and a thin, often inconspicuous thalline margin. Proper exciple 20-30 µm wide laterally; epithecium yellowish, 10-15 µm high; hymenium colourless, 80-135 µm high, the hymenial gel euamyloid, IKI+ persistently dark blue; paraphyses weakly coherent, 1-1.8 µm thick at base, the apical cells hardly swollen; subhymenium pale yellow, up to 40 µm high; hypothecium 20-30 µm high. Asci >100-spored, clavate, the apical dome K/I-. Ascospores 1-celled, hyaline, ellipsoid to subglobose, 3-4.5 x 2-3 µm. Pycnidia globose, immersed, the ostiole visible as a pale brown dot. Conidia bacilliform, 3-4 x 1(-1.5) µm. Photobiont chlorococcoid. Spot tests: medulla K+ yellow turning red (often forming needle-like crystals), C-, KC-, P-, UV+ orange. Chemistry: rhizocarpic and norstictic acids, the latter often in low amounts. - Note: on horizontal to gently sloping faces of base-rich or weakly calciferous siliceous rocks near the ground in open habitats, especially in grasslands, sometimes starting the life-cycle on other crustose lichens, especially *Lecanora valesiaca*. Restricted to dry-continental areas, both in the Alps and in the Mediterranean Region. See also note on *A. lavicola*.

AcarospoAVra cervina

AcarospoAVra cervina

Acarospora placodiiformis H. Magn., Göteborgs Kungl. Vetensk. Samhälles Handl., Ser. B, Math. Naturvensk. Skr. 6(17): 18 (1956)

[VZ1116], Hispania. Distr. Zaragosa, in vicinitate arcis Alfajarín, 200 m. Supra terram gypsaceam loco soli ventique exposito. Leg. C. Llimona, 04.01.1972. - Ex A. VěZDA: LICHENS SELECTI EXSICCATI NR 1116.

Thallus crustose-placodioid to subsquamulose, greenish-yellow, but usually densely covered with a thick layer of white, granular pruina, areolate, with radiating marginal lobes, forming up to 5 cm wide patches, often starting the life-cycle on terricolous species of Diploschistes, later autonomous. Areoles convex, contiguous; marginal lobes c. 2 mm broad. Medulla thick, white. Apothecia lecanorine, rounded, semi-immersed in the areoles and not constricted at base, 1-5 mm across, with a slightly concave to flat, dark reddish brown to almost black, somehow shiny, smooth disc, and a thick thalline margin. Epithecium brown; hymenium colourless, 100-150(-200) µm high, IKI+ blue; paraphyses numerous, coherent, simple to sparsely branched in upper part, 1-1.5 µm thick at base; hypothecium colourless. Asci 50-100-spored, clavate, with a distinct apical dome, K/I-. Ascospores 1-celled, hyaline, subglobose, 4-6 x 4-5 µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-, UV- or UV+ orange. Chemistry: rhizocarpic acid and an unknown terpenoid.

Acarospora placodiiformis

Acarospora radicans (Nyl.) Zahlbr., Cat. Lich. Univers. 5: 85 (1927) [1928]
= *Lecanora schleicheri* f. *radicans* Nyl. 1864

[VZ2035], URSS. Asia centralis, Kirgizia, distr. Osh: montes Alaiski khrebet, in vincitate pagi Orozbekova, 600- 800 m. Ad terram apricam. Leg C. Vašák, 18.5.1984, det. A. Vězda. - Ex A. VěZDA: LICHENS SELECTI EXSICCATI NR. 2035.

Upper cortex 30-50(-75) µm thick but very uneven in thicknes, not transparent, upwards limited by a 4-6 µm yellowish brown line or not. Amorphous stratum ± developed, 10-30 µm thick with indistict and uneven surface. Cortical cells fairly distinct, 3.5-4.5 µm in diam., irregularly or ± perpendicularly arranged. Algae 8-16 µm in diam., forming a continuous or sometimes interrupted stratum,70-170 µm thick with usually very uneven or indistinct surface. Medulla 200 µm thick or more, transparent in upper part or quite opaque from abunant crystals or granules, oft in 5-35 µm large lumps and unchanged in HCl. Hyphae loosely intricate or even arachnoidm 3-4 µm thick, thin walled. Medulla, especilly thicker sections, assuming an orange red colour in KOH, producin masses of rusty crystals. Lower side usually brown or blackish. Excipulum none or thin, up to 10 µm broad. Hypothecium 70-85 µm, witish, grumose. Hymenium with indistinct limit to hypothecium, 100-150 µm high, I+ dark blue, exterior 10-20(-35) µm gradually pale or dark yellowish brown, surface uneven, decomposed. Paraphyses firmly coherent, 2-2.5(-3) µm thick, in KOH discrete or not, the apices also in KOH coherent, swollen, 3-4 µm thick, dirty brown. Asci 85-115 x 10-17 µm, cylindric clavate. Spores about 100, 4-5 µm, globose or subglobose.

Acarospora radicans

Acarospora radicans

Acarospora radicans (Nyl.) Zahlbr., Cat. Lich. Univers. 5: 85 (1927) [1928]
= *Lecanora schleicheri* f. *radicans* Nyl. 1864

[VZ1314], URSS. Asia media, Turcomania. Aschabad, prope pagum Bagir loco dicto Kone Nusaj, 400 m. Ad terram calcaream. Leg. I. Pišút, 21.04.1975, det. A. Vězda. - Ex A. VěZDA: LICHENS SELECTI EXSICCATI NR. 1314.

Upper cortex 30-50(-75) µm thick but very uneven in thicknes, not transparent, upwards limited by a 4-6 µm yellowish brown line or not. Amorphous stratum ± developed, 10-30 µm thick with indistict and uneven surface. Cortical cells fairly distinct, 3.5-4.5 µm in diam., irregularly or ± perpendicularly arranged. Algae 8-16 µm in diam., forming a continuous or sometimes interrupted stratum,70-170 µm thick with usually very uneven or indistinct surface. Medulla 200 µm thick or more, transparent in upper part or quite opaque from abunant crystals or granules, oft in 5-35 µm large lumps and unchanged in HCl. Hyphae loosely intricate or even arachnoidm 3-4 µm thick, thin walled. Medulla, especilly thicker sections, assuming an orange red colour in KOH, producin masses of rusty crystals. Lower side usually brown or blackish. Excipulum none or thin, up to 10 µm broad. Hypothecium 70-85 µm, witish, grumose. Hymenium with indistinct limit to hypothecium, 100-150 µm high, I+ dark blue, exterior 10-20(-35) µm gradually pale or dark yellowish brown, surface uneven, decomposed. Paraphyses firmly coherent, 2-2.5(-3) µm thick, in KOH discrete or not, the apices also in KOH coherent, swollen, 3-4 µm thick, dirty brown. Asci 85-115 x 10-17 µm, cylindric clavate. Spores about 100, 4-5 µm, globose or subglobose.

Acarospora radicans

Acarospora radicans

Acrocordia cavata (Ach.) R.C. Harris, in Vězda, Lichenes Selecti Exsiccati, Fasc. (Průhonice) 50: 2 (no. 1229) (1974)
= *Amphisphaeria cavata* (Ach.) Ces. & De Not., Comm. Soc. crittog. Ital. 1(fasc. 4): 223 (1863)
= *Arthopyrenia cavata* (Ach.) R.C. Harris, Michigan Bot. 12(1): 11 (1973)
= *Sphaeria cavata* (Ach.) Nyl., in Nylander & Saelan, Herb. Mus. Fenn.: 94 (1859)
= *Verrucaria cavata* Ach., Syn. meth. lich. (Lund): 91 (1814)

[VZ1452], Gallia. Pyrenaei montes occident.: St. Just-Ibarre, 16 km in septentr.-orient. a St. Jean, 450 m. In cortice *Sambuci nigrae*. Leg. K. Kalb, 5.8.1975, det. A. Vězda. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1452.

Thallus crustose, endosubstratic, whitish or pale greenish grey, thin, smooth, ecorticate. Perithecia black, 0.3-0.6 mm across, half-immersed, the projecting part hemispherical. Involucrellum brown-black, completely surrounding a globose, colourless or pale brownish exciple; hamathecium of persistent, slender, sparingly branched, long-celled pseudoparaphyses, periphyses absent; hymenial gel I-, K/I-. Asci 8-spored, narrowly cylindrical, K/I-, fissitunicate, the apical dome with a broad ocular chamber surmounted by a hemispherical structure, with uniseriately arranged spores. Ascospores 1-septate, hyaline, ellipsoid with rounded ends, (9-)11-16.5 x 5-9.5 µm, surrounded by a perispore which appears verrucose in water, smooth in K. Pycnidia unknown. Photobiont trentepohlioid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a mild-temperate, incompletely holarctic species of smooth bark in humid deciduous forests.

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Acrocordia cavata (Ach.) R.C. Harris, in Vězda, Lichenes Selecti Exsiccati, Fasc. (Průhonice) 50: 2 (no. 1229) (1974)
= *Amphisphaeria cavata* (Ach.) Ces. & De Not., Comm. Soc. crittog. Ital. 1(fasc. 4): 223 (1863)
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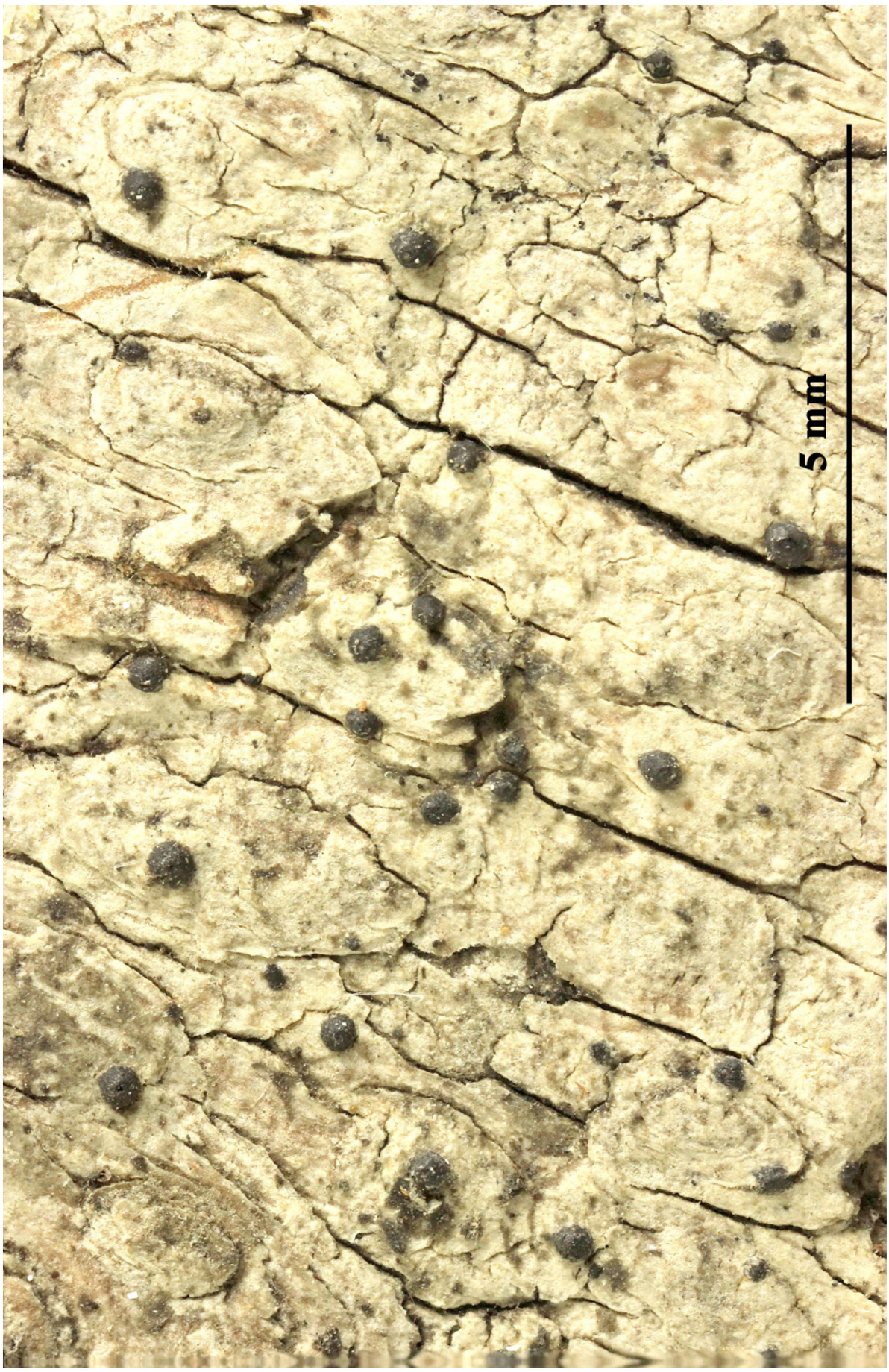
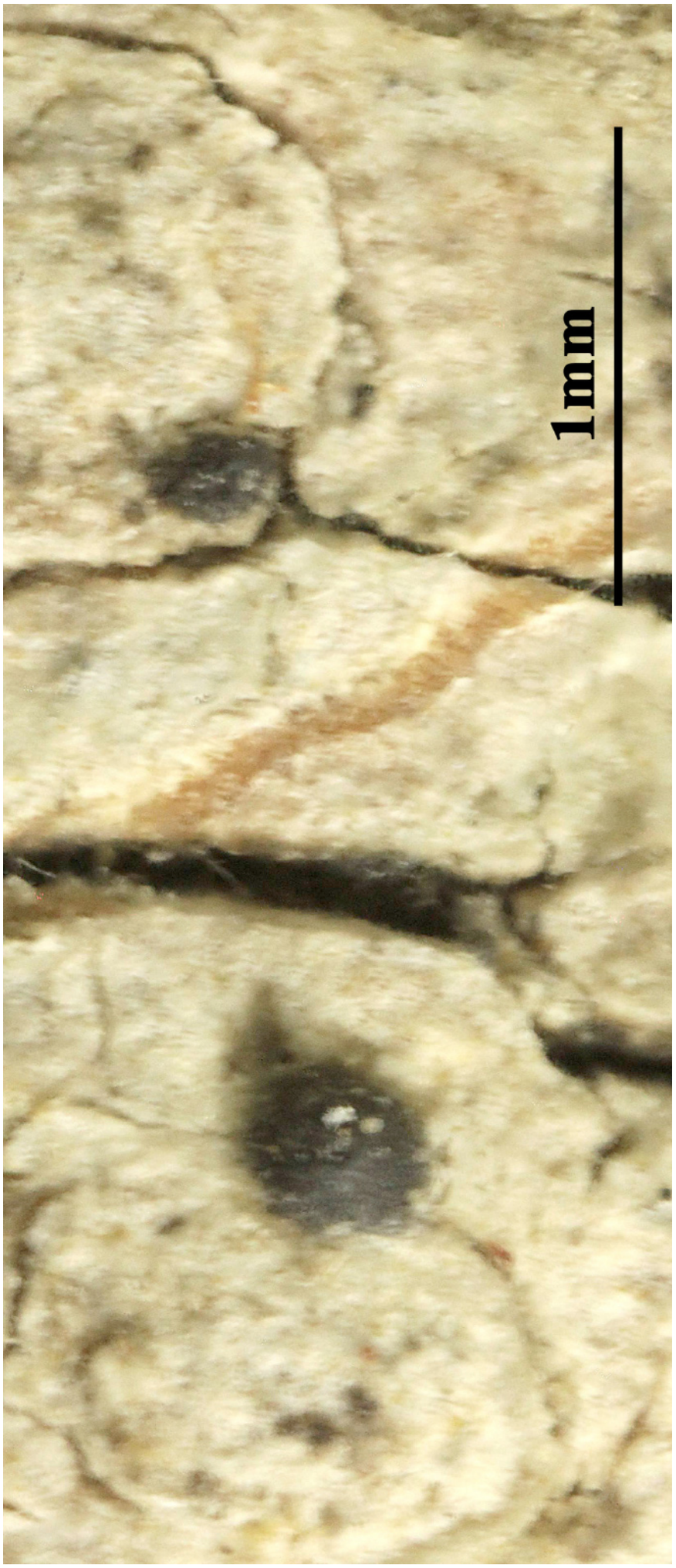
= *Sphaeria cavata* (Ach.) Nyl., in Nylander & Saelan, Herb. Mus. Fenn.: 94 (1859)
= *Verrucaria cavata* Ach., Syn. meth. lich. (Lund): 91 (1814)

[VZ1229], USA. Michigan, Lake County, Cool Creek, in occidente ab urbe Irons. Ad corticem *Populi* sp., In silva uliginosa (*Thuja*). Leg. R. C. Harris (no. 3875), 16.9.1968. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1229.

Thallus crustose, endosubstratic, whitish or pale greenish grey, thin, smooth, ecorticate. Perithecia black, 0.3-0.6 mm across, half-immersed, the projecting part hemispherical. Involucrellum brown-black, completely surrounding a globose, colourless or pale brownish exciple; hamathecium of persistent, slender, sparingly branched, long-celled pseudoparaphyses, periphyses absent; hymenial gel I-, K/I-. Asci 8-spored, narrowly cylindrical, K/I-, fissitunicate, the apical dome with a broad ocular chamber surmounted by a hemispherical structure, with uniseriately arranged spores. Ascospores 1-septate, hyaline, ellipsoid with rounded ends, (9-)11-16.5 x 5-9.5 µm, surrounded by a perispore which appears verrucose in water, smooth in K. Pycnidia unknown. Photobiont trentepohlioid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a mild-temperate, incompletely holarctic species of smooth bark in humid deciduous forests.



Acrocordia cavata



Acrocordia cavata

Acrocordia triseptata (Nyl.) Vězda, Biblthca Lichenol. 9: 10 (1977)
= *Verrucaria conoidea* var. *triseptata* Nyl. 1857
= *Lithothelium triseptatum* (Nyl.) AptrootBibl. Lichenol., 44: 70, 1991.

[VZ2380], Italia. Sardinia. Prov. Nuoro: Cala Ganone, prope Dorgali, 5 m. Ad saxa clcarea in litore. Leg. P. L. Nimis, C. Roux, M. Tretiach & A. Vězda. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 2380.

Thallus crustose, endosubstratic or thinly episubstratic, continuous to rimose around the perithecia, whitish to violet-grey. Perithecia black, 0.4-1 mm across, half-immersed, hemispherically projecting with the upper half, with an apical ostiole. Exciple carbonized in the upper half, colourless to pale brown in lower half, up to 120 µm thick; hamathecium of persistent, slender, 1-2 µm thick, sparingly branched paraphyses; hymenial gel K/I+ blue or partly orange. Asci (6-)8-spored, cylindrical, without ocular chamber, the wall K/I-. Ascospores 3-distoseptate, not constricted at septa, hyaline, spindle-shaped with subacute ends, 17-22 x (6-)8-10(-12) µm, uniseriately arranged in the asci, without a perispore. Photobiont trentepohlioid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. -Note: a subtropical species of sheltered, warm-humid, shaded surfaces of calcareous rocks, usually not far from the sea.

Acrocordia triseptata

Acrocordia triseptata

Ahlesia strasseri (Zahlbr.) Keissl., Rabenh. Krypt.-Fl., Edn 2 (Leipzig) 9(5.1): 47 (1935)
= *Thelocarpon strasseri* Zahlbr., Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 52: 261 (1902)

[VZ2325], Jugoslavia. Crna Gora (Montenegro): montes Durmitor, in pede montis Medved loco "Brojišta" dicto, supra lacum Crno jezero, 1700 m. Ad lignum putridum. Leg. A. Vězda, 20.8.1984. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 2325.

Thallus not apparent (species not lichenized), reduced to small, obconical-cylindrical, greenish yellow-pruinose, c. 0.1 mm wide, 0.2-0.25 mm tall (0.4-0.5 times as wide as tall) fruiting warts. Ascomata frequent, semi-immersed in the warts, at first perithecioid but soon turning apothecioid with an expanded, exposed, usually yellow-pruinose disc and a thin, raised margin. Exciple colourless, without algae; periphyses absent, paraphyses slender, simple or dichotomously branched, apically slightly thickened; hymenial gel I-. Asci 50-100-spored, cylindrical-clavate, rather thick-walled, the wall I+ blue, the apex slightly thickened and with a darker I+ blue ring-structure within. Ascospores 1-celled, hyaline, broadly ellipsoid, thin-walled, 5-7 x 1.7-3 µm. Photobiont absent. Spot tests: K-, C-, KC-, P-. Chemistry: yellow pruina with pulvinic acid derivatives.- Note: an ephemeral, not lichenized, pioneer species developing on decaying wood, with several stations in the Eastern Alps (Austria); the distinction from *Th. lichenicola* is not clear, and this taxon is not always accepted as a separate species, a problem which, however, needs further study.

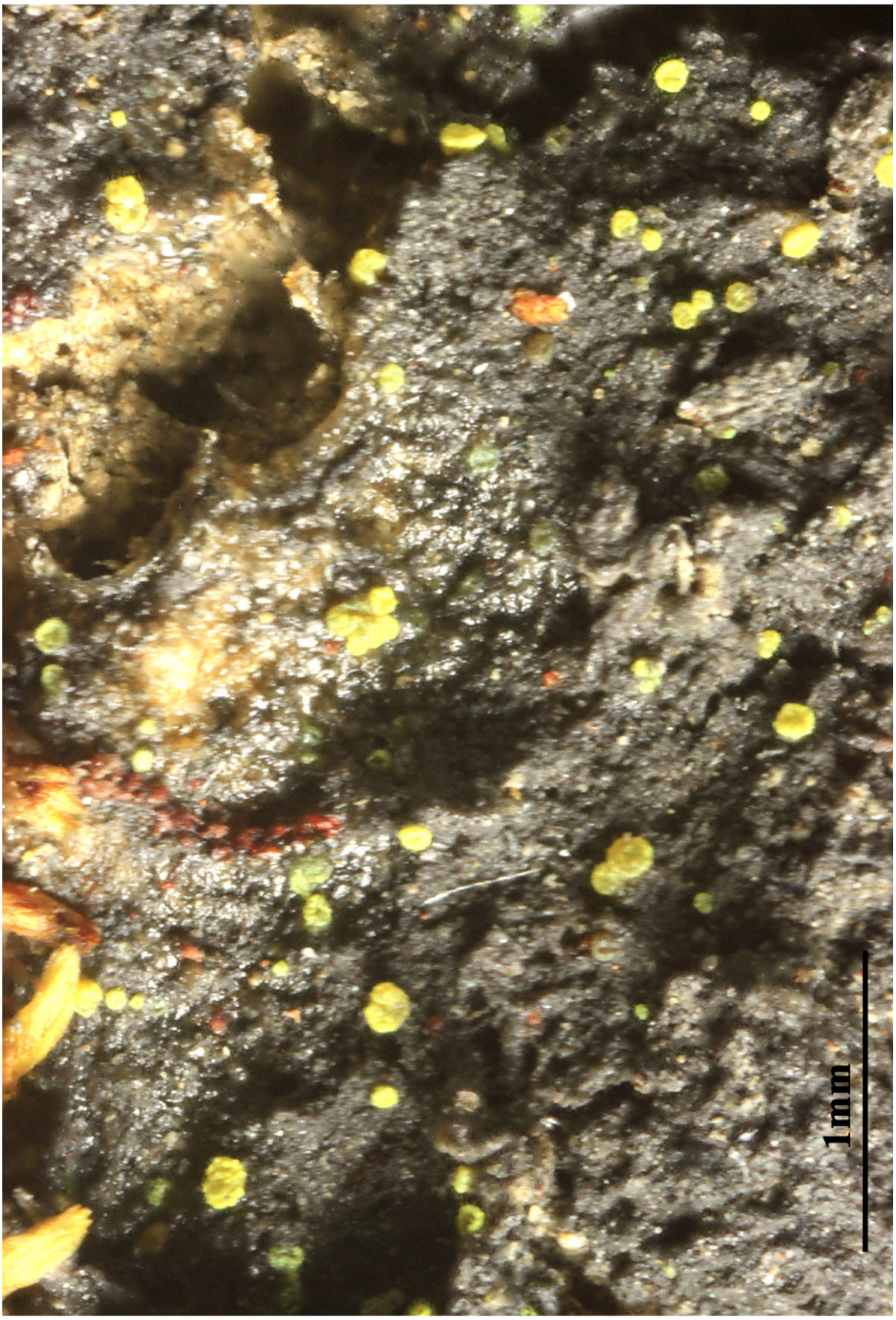
Ahlesia strasseri

Ahlesia strasseri

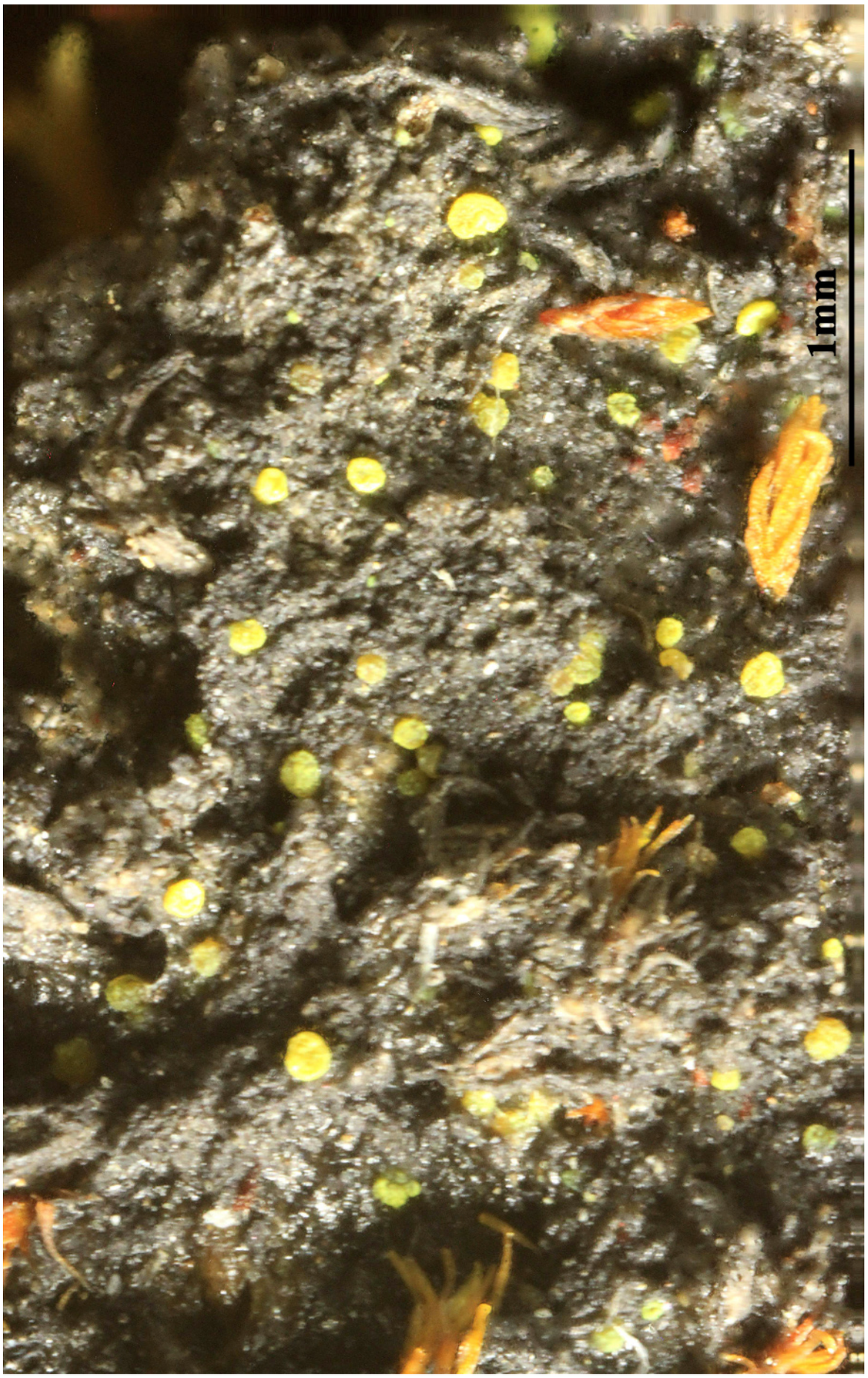
Ahlesia strasseri (Zahlbr.) Keissl., Rabenh. Krypt.-Fl., Edn 2 (Leipzig) 9(5.1): 47 (1935)
= *Thelocarpon strasseri* Zahlbr., Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 52: 261 (1902)

[VZ1400], Bohemoslovacia. Moravia. montes Sudetes orient. (Jeseníky): secus viam inter Skřítek et Klepáčov prope urbem Sumperk, 800 m. Ad terram muscosam humidam. Leg. A. Vězda,3.10.1974. - Obser. Secundum opinionem recentem haec species ad fungos pertinet; in exemplaribus autem nostris algae sub apotheciis omnibus adsunt virides (ad *Trebouxiam* pertinens) hyphis obtectae hyalinis. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1400.

Thallus not apparent (species not lichenized), reduced to small, obconical-cylindrical, greenish yellow-pruinose, c. 0.1 mm wide, 0.2-0.25 mm tall (0.4-0.5 times as wide as tall) fruiting warts. Ascomata frequent, semi-immersed in the warts, at first perithecioid but soon turning apothecioid with an expanded, exposed, usually yellow-pruinose disc and a thin, raised margin. Exciple colourless, without algae; periphyses absent, paraphyses slender, simple or dichotomously branched, apically slightly thickened; hymenial gel I-. Asci 50-100-spored, cylindrical-clavate, rather thick-walled, the wall I+ blue, the apex slightly thickened and with a darker I+ blue ring-structure within. Ascospores 1-celled, hyaline, broadly ellipsoid, thin-walled, 5-7 x 1.7-3 µm. Photobiont absent. Spot tests: K-, C-, KC-, P-. Chemistry: yellow pruina with pulvinic acid derivatives.- Note: an ephemeral, not lichenized, pioneer species developing on decaying wood, with several stations in the Eastern Alps (Austria); the distinction from *Th. lichenicola* is not clear, and this taxon is not always accepted as a separate species, a problem which, however, needs further study.



Ahlesia strasseri



Ahlesia strasseri

Alectoria bicolor (Hoffm.) Nyl., Act. Soc. linn. Bordeaux 21(4): 291 (1857) [1856]
= *Bryoria bicolor* (Hoffm.) Brodo & D. Hawksw., Op. bot. 42: 99 (1977)
= *Alectoria bicolor* f. *melaneira* (Ach.) Nyl., Syn. meth. lich. (Parisiis) 1(2): 279 (1860)
= *Alectoria bicolor* var. *melaneira* (Ach.) A. Nyl., Bull. Soc. bot. Fr. 3(9): 550 (1857) [1856]
= *Alectoria jubata* f. *bicolor* (Ehrh.) Tuck., Syn. N. Amer. Lich. (Boston) 1: 44 (1882)
= *Alectoria jubata* var. *bicolor* (Hoffm.) Linds., Trans. & Proc. Bot. Soc. Edinb. 10: 58 (1870)
= *Alectoria nitidula* subsp. *bicolor* (Ehrh.) Vain., Meddn Soc. Fauna Flora fenn. 6: 116 (1881)
= *Bryopogon bicolor* (Hoffm.) Stein, in Cohn, Krypt.-Fl. Schlesien (Breslau) 2(2): 35 (1879)
= *Bryopogon bicolor* f. *melaneima* (Ach.) Gyeln., Feddes Repert. Spec. Nov. Regni veg. 38: 236 (1935)
= *Bryopogon bicolor* f. *melaneirus* (Ach.) Gyeln., Feddes Repert. Spec. Nov. Regni veg. 38: 236 (1935)
= *Bryopogon jubatus* var. *bicolor* (Hoffm.) Rabenh., Deutschl. Krypt.-Fl. (Leipzig) 2(1): 119 (1845)
= *Cornicularia bicolor* (Hoffm.) Ach., Methodus, Sectio post. (Stockholmiæ): 304 (1803)
= *Cornicularia bicolor* var. *melaneira* Ach., Lich. Univ.: 614 (1810)
= *Cornicularia jubata* var. *bicolor* (Ehrh.) Schaer., Enum. critic. lich. europ. (Bern): 5 (1850)
= *Evernia bicolor* (Hoffm.) Fr., Summa veg. Scand., Sectio Prior (Stockholm): 103 (1845)
= *Evernia jubata* f. *bicolor* (Ehrh.) Fr., Lich. eur. reform. (Lund): 20 (1831)
= *Evernia jubata* var. *bicolor* (Hoffm.) Fr., Lich. eur. reform. (Lund): 20 (1831)
= *Lichen bicolor* Ehrh., Beitr. Naturk. 3: 82 (1788)
= *Lichen lanatus* Huds., Fl. Angl.: 461 (1762)
= *Parmelia bicolor* (Hoffm.) Spreng., Syst. veg., Edn 16 4(1): 276 (1827)
= *Parmelia jubata* * *bicolor* (Hoffm.) Spreng., Fl. halensis, Edn 2: 521 (1832)
= *Parmelia jubata* var. *bicolor* (Hoffm.) Schaer., Lich. helv. spicil. 10: 501 (1840)
= *Usnea barbata* f. *dasypogoides* (Nyl.) F. Wilson, Pap. Proc. R. Soc. Tasm.: 157 (1893) [1892]
= *Usnea bicolor* Hoffm., Deutschl. Fl., Zweiter Theil (Erlangen): 135 (1796) [1795]

= *Usnea dasopoga* f. *dasypogoides* (Nyl.) Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 4 sér. 1: 47 (1899)
= *Usnea dasypogoides* Nyl., in Crombie, J. Bot., Lond. 14: 263 (1876)

[VZ1443], URSS. Osetia Septentrionalis. Caucasus Magnus, distr. Ordžonikidze, in valle rivi 30 km in occidente av urbe Ordžonikidze, loco Katrmaidon dicto, 1800 m. Supra muscos in rupibus siliceis. Leg. E. Lisická-Jelínková. Ex VěZDA: Lichenes Selecti Exsiccati Nr. 1443.

Thallus fruticose, filamentous, loosely attached, erect to caespitose, rigid, without a main branch, usually with perpendicular, 0.2-0.5 mm thick branches, black at the base, often brownish black in terminal parts, with olive-grey to pale brown, often shiny apices, and with dark, often arcuate lateral spinules, esorediate. Pseudocyphellae sparse, fusiform, brown, level with thallus or slightly raised; medulla white, compact. Apothecia extremely rare (never observed in Italian material), zeorine, with a brown disc, to 3 mm across. Asci 8-spored, Lecanora-type. Ascospores 1-celled, hyaline, globose to broadly ellipsoid, 6-9 x 4-6 µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K- or K+ yellowish slowly turning brown, C-, KC-, P+ red. Chemistry: fumarprotocetraric acid. - Note: a mainly boreal-montane, circumpolar lichen found on mossy trunks of old, more or less isolated trees in mountain areas with frequent fog, sometimes on mossy rocks.

Alectoria bicolor

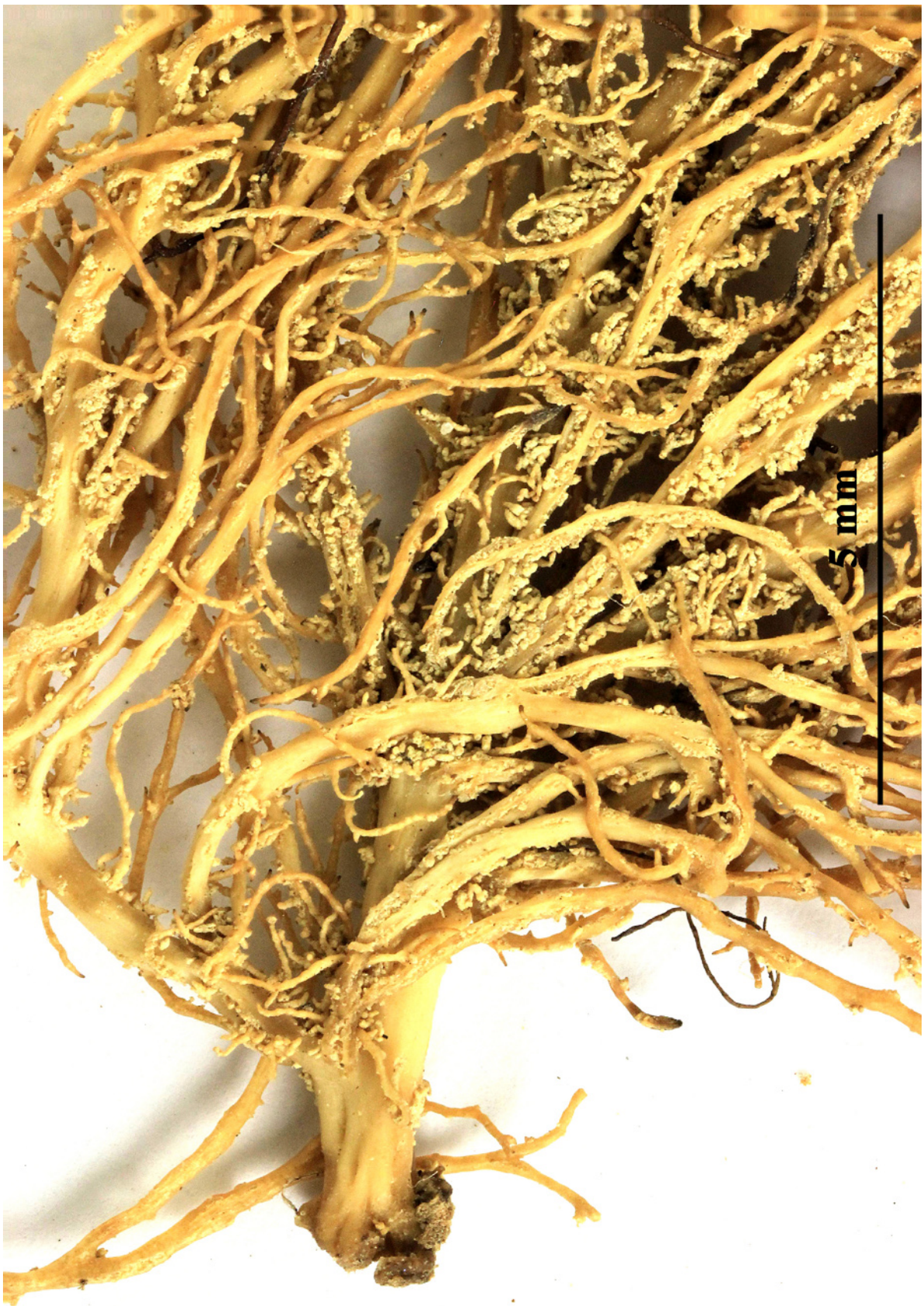
Alectoria bicolor

Alectoria bicolor

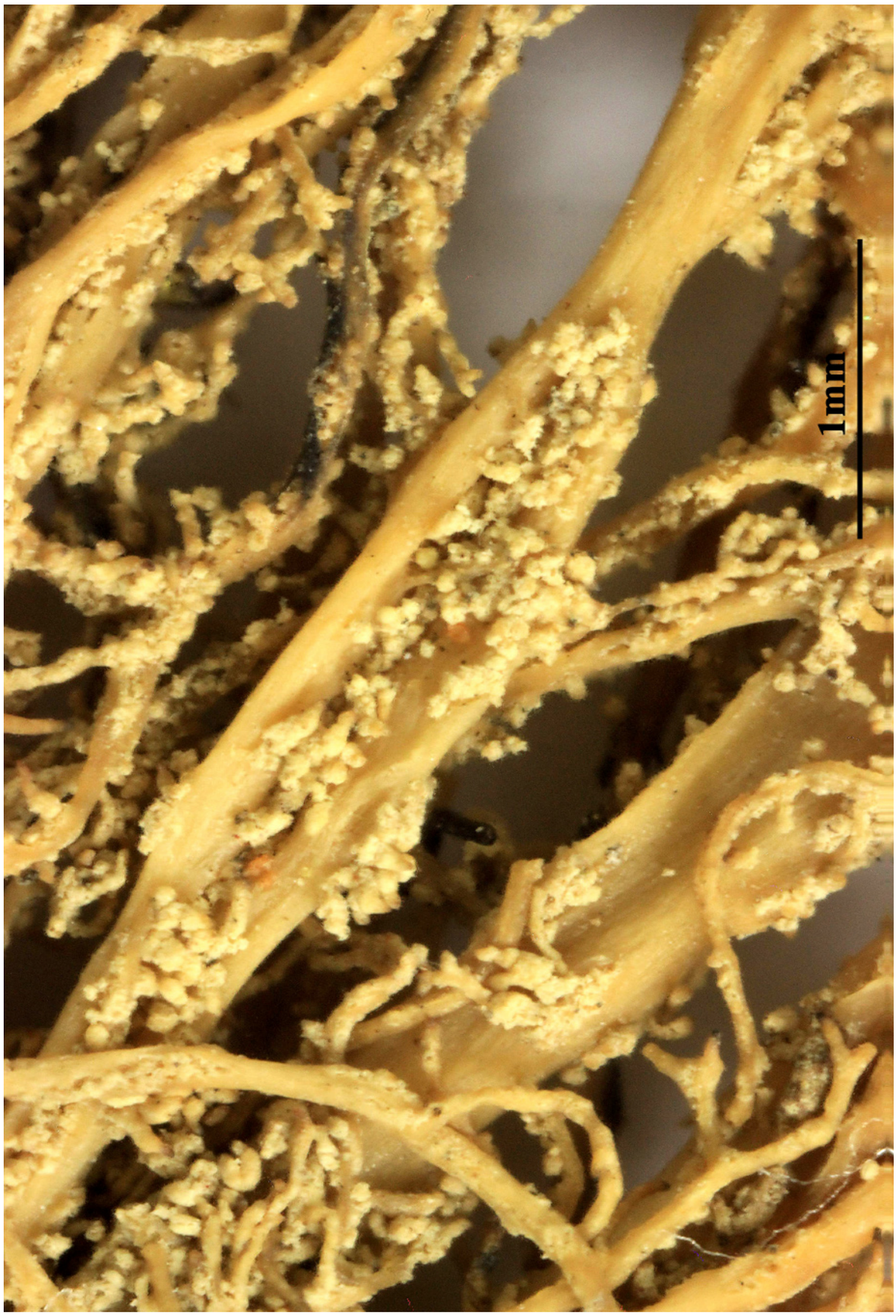
Alectoria imshaugii Brodo & D. Hawksw., Op. bot. 42: 59 (1977)

[VZ1492], USA. Idaho, Benewah County, regio Tingley Spring, 1.5 km ad boreo-occidentem versus a St. Joe, summum St. Joe Baldy, 1560 m. Ad corticem *Pseudotsugae menziesii*. Leg. G. Schroeder (no L-1944). - **Isotypus**. EX A. VEZDA: LICHENES SELECTI EXSICCATI NR. 1492.

Thallus caespitose to subpendent, rigid, usually 5-8 cm long; branching anisotomic to isotomic dichotomous, frequent from the base, attached to the substrate at a single point, angles between the dichotomies acute, branches irregularly flattened and angular, uneven in diameter, 0.4-0.7 mm diam. at the base; greenish yellow to straw yellow throughout. True lateral spinules and soralia absent. Pseudocyphellae abundant, conspicuous, white, elongate fusiform, plane to convex, variable in size, bearing numerous isidiiform spinules similar to those of *Bryoria furcellata*, sometimes becoming sparsely sorediate. Apothecia very rare, lateral, to c. 3 mm diam.; excipulum thallinum concolourous with the thallus, incurved, disc concave, brown. Ascospores not seen. Pycnidia unknown. KC+ yellow, P - ; medulla K+ yellow or - , C - , CK - , KC- or very rarely KC+ red, PD- or P + yellow to orange. Contains usnic acid and two unidentified compounds together with either thamnolic or squamatic acid (plus accessory alectoronic acid in a small population in California) - Ecology: Mostly on coniferous trees (especially *Pseudotsuga* and *Pinus*) and lignum, rarely on rock; either in plateau or mountain areas (750-1750 m elevation) or close to sea level (2-85 m elevation); usually in dry, well-lighted conifer stands. On the coast it occurs in “pine barrens” of *Pinus contorta*. Distribution. Western intermontane, centered to the east of the Columbia Plateau in eastern Washington, northern Idaho, and northwestern Montana with a westward extension along the montane Ponderosa pine - Douglas fir forest zones to the mixed pine forests of central Oregon and northern California. A specimen morphologically identical to *A. imshaugii* but containing alectoronic rather than thamnolic or squamatic acid was seen from the mountains of Venezuela and may be distinct.



Alectoria imshaugii



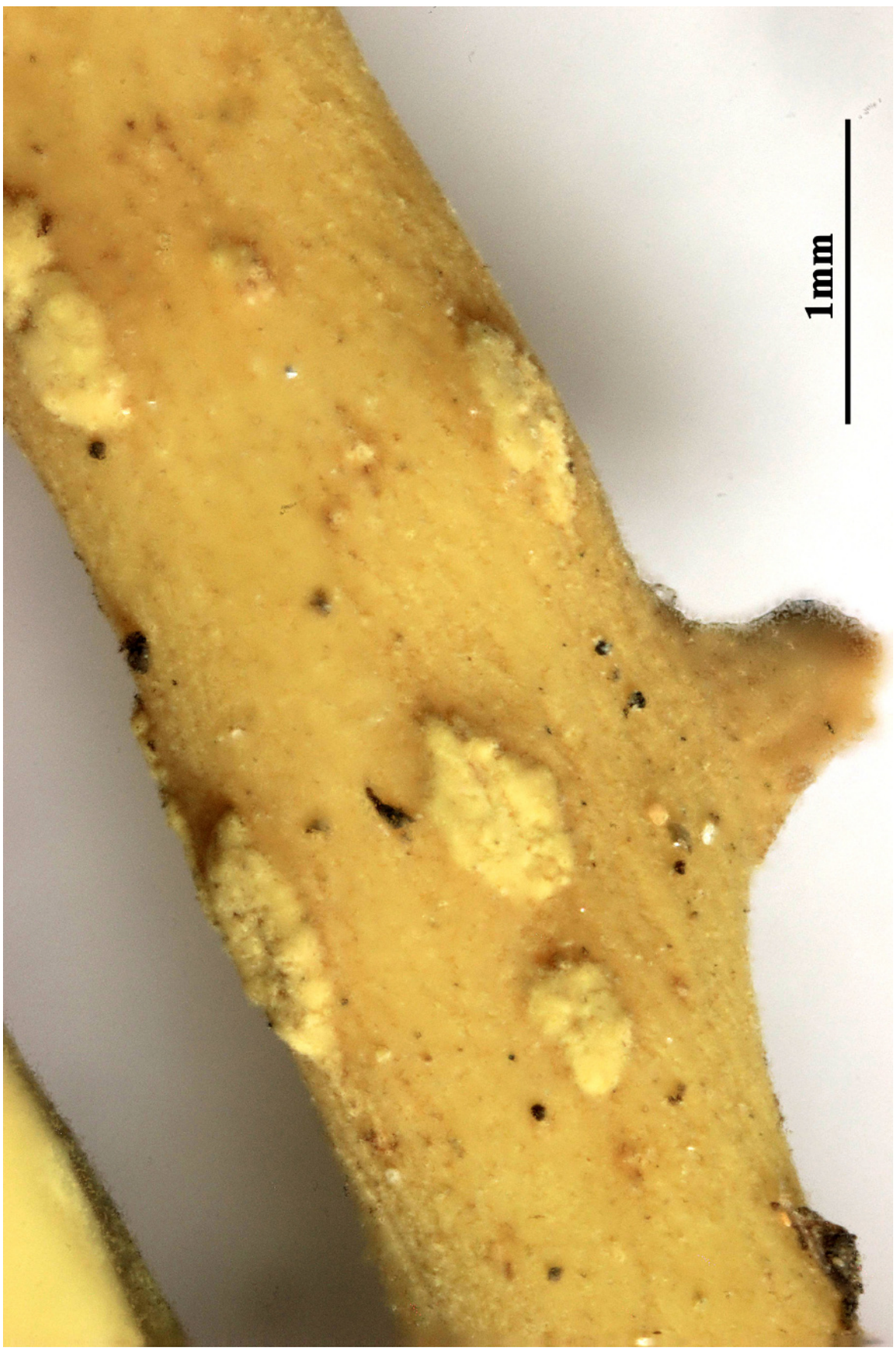
Alectoria imshaugii

Alectoria ochroleuca (Hoffm.) A. Massal. Sched. Crit., 2: 47, 1856.
= *Alectoria ochroleuca* f. *citrina* Räsänen, Ann. bot. Soc. Zool.-Bot. fenn. Vanamo 2(no. 1): 121 (1932)
= *Alectoria ochroleuca* f. *tenuior* Cromb., J. Bot., Lond. 10: 232 (1872)
= *Alectoria ochroleuca* var. *citrina* (Räsänen) D. Hawksw., Bryologist 72: 249 (1969)
= Bryopogon ochroleucus (Schrank) Link, Grundr. Krauterk. 3: 164 (1833)
= *Bryopogon ochroleucus* var. *tenuior* (Cromb.) Gyeln., Feddes Repert. Spec. Nov. Regni veg. 38: 248 (1935)
= *Cornicularia ochroleuca* (Schrank) DC., in Lamarck & de Candolle, Fl. franç., Edn 3 (Paris) 2: 330 (1805)
= *Evernia ochroleuca* (Schrank) Fr., Lich. eur. reform. (Lund): 22 (1831)
= *Evernia ochroleuca* f. *rigida* Fr., Lich. eur. reform. (Lund): 22 (1831)
= *Lichen islandicus* var. *ochroleucus* Schrank, Primit. Fl. Salisburg: 234 (1792)
= *Lichen ochroleucus* Hoffm., Enum. Lich. Icon. Descirpt. Illustr.: 43 (1784)
= *Parmelia ochroleuca* (Schrank) Ach., Methodus, Sectio post. (Stockholmiæ): 271 (1803)

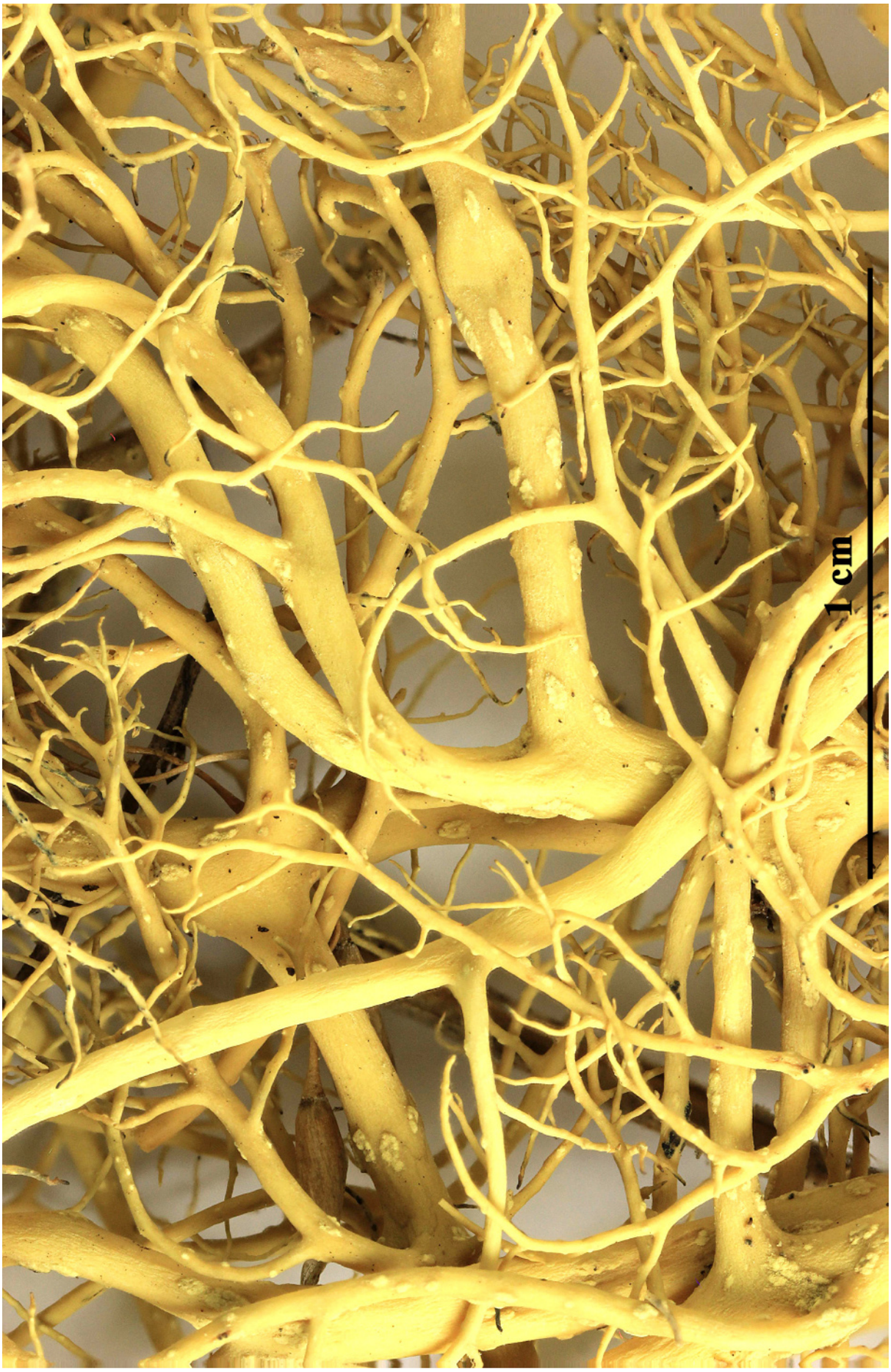
[VZ1296], Norvegia. Sör-Tröndelag. Röros, Olovsgruva, 800 m. Ad terram in saxonis metalla cupri vetusta. Leg. R. Santesson (no. 24534), 3.8.1973. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1296.

Thallus fruticose, more or less filamentous and shrubby, greenish grey to yellowish green, the apices concolorous or blackened, matt. Branches to 13 cm long (0.5-)1-2(-3) mm thick, stiff, elongate, prostrate to ascending, sparingly anisotomic-dichotomously divided, the apices sometimes drooping. Pseudocyphellae numerous, linear, raised, longitudinally oriented, to c. 1 mm long. Cortex of periclinally arranged hyphae; medulla white, compact. Apothecia extremely rare (not seen in Italian material), lateral, lecanorine, 3-6 mm across, with a reddish brown disc. Epithecium brown; hymenium and hypothecium colourless. Asci 2-4-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-celled, broadly ellipsoid, pigmented when old, 26-42 x 12-28 µm. Pycnidia dark, semi-immersed, mainly apical. Conidia bacilliform, 7-8 x c. 0.8 µm. Photobiont chlorococcoid. Spot tests: cortex K-, C-, KC+ pale yellow, P-, UV-; medulla K-, C-, KC-, P-, UV-. Chemistry: cortex with usnic acid, medulla with diffractaic acid. - Note: an arctic-

alpine, circumpolar species found on windy ridges in moss-lichens heaths, more frequent on siliceous substrata, but sometimes also occurring in areas with dolomite, with optimum above treeline.



Alectoria ochroleuca

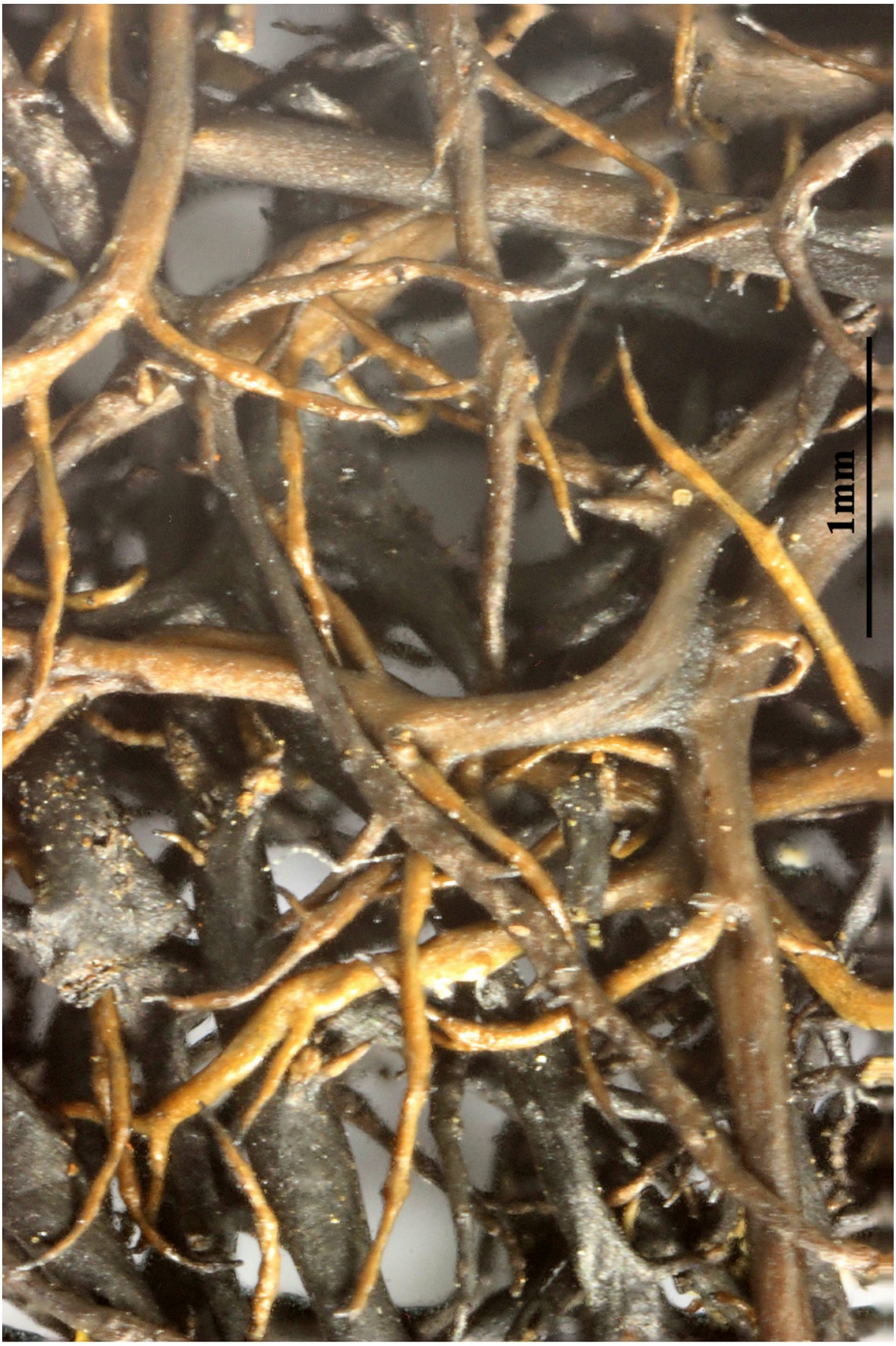


Alectoria ochroleuca

Alectoria ruwenzoriensis D. Hawksw., Bot. Notiser 124: 124 (1971)

[VZ1444], Tanzania. Kilimanjaro: prope casam alpinam Barranco dictam, 3900 m. Inter muscos in rupibus. Leg. T. Pócs (no. 6934), 3.7.1976, det. D. Hawksworth. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1444.

Alectoria ruwenzoriensis



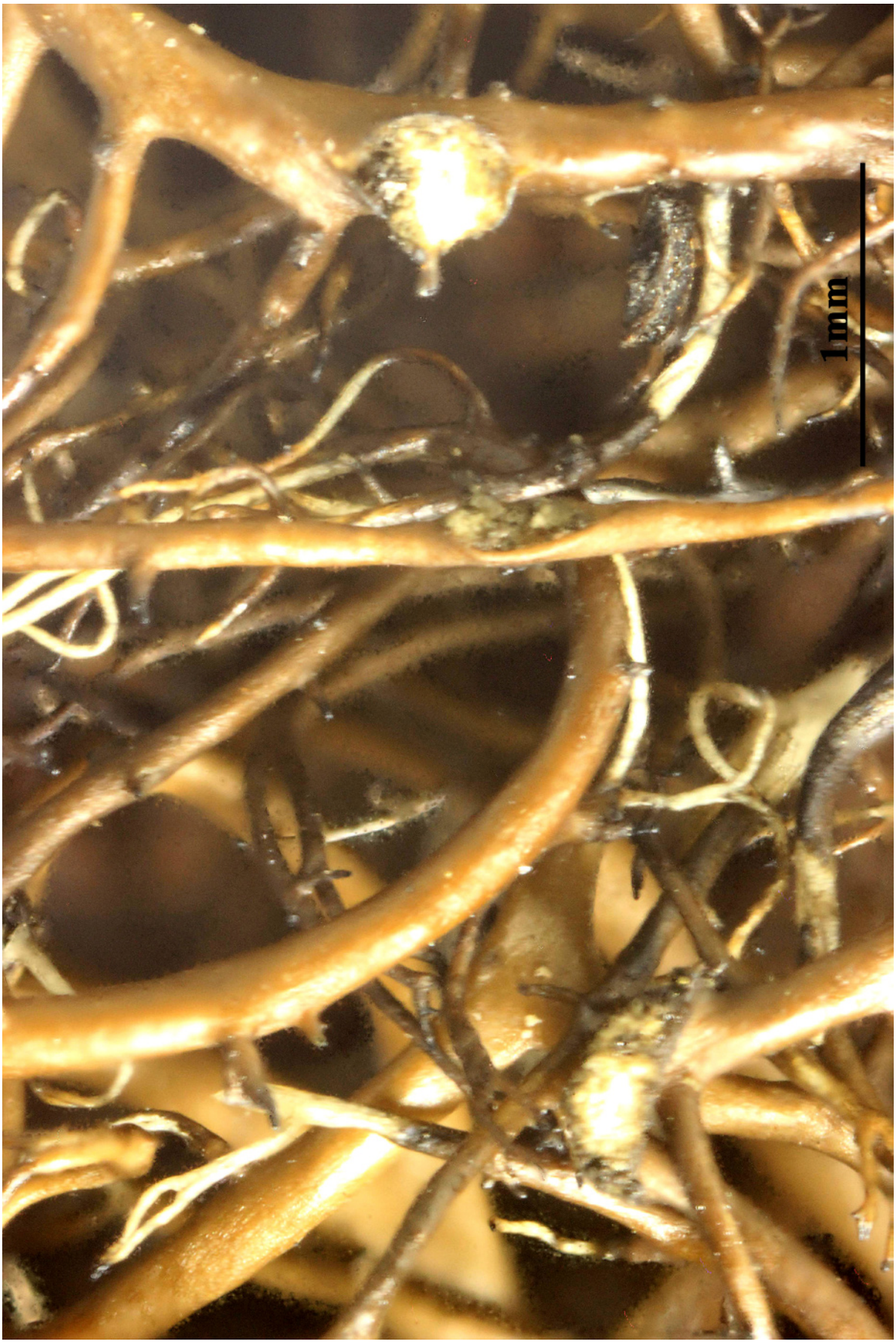
Alectoria ruwenzoriensis

Alectoria simplicior (Vain.) Lynge, Stud. Lich. Fl. Norway: 212 (1921)
= *Bryoria simplicior* (Vain.) Brodo & D. Hawksw., Opera Bot., 42: 109, 1977.
= *Alectoria nidulifera f. simplicior* Vain. Meddeland. Soc. Fauna Fl. Fenn., 6: 115, 1881.
= *Bryopogon simplicior f. albidosorediosus* Gyeln.

[VZ1215],Suecia. Härjedalen. Tännäs Paroecia, Ramundberget, 700 m. In ramulis *Betulae*. Leg. R. Santesson (no. 21374), 27.6.1972. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1215.

Thallus fruticose, tufted, attached by a basal holdfast, to 5 cm long, dark brown to blackish brown, without distinct main branches, branching with acute angles, the branches mostly terete, often with abundant lateral spinules. Soralia sparse to usually abundant, fissural, broader than the branches on which they develop, usually greenish black. Pseudocyphellae absent; medulla white, compact. Apothecia unknown. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-. Chemistry: no lichen substances or sometimes fatty acids. Note: a boreal-montane, circumpolar lichen found on isolated conifers in the mountains, to be looked for throughout the Alps.

Alectoria simplicior



Alectoria simplicior

Alectoria smithii Du Rietz, Ark. Bot. 20A(no. 11): 11 (1926)
= *Bryoria smithii* (Du Rietz) Brodo & D. Hawksw., Op. bot. 42: 152 (1977)
= *Alectoria berengeriana var. smithii* (Du Rietz) Gyeln., Annls Mus. natn. Hung., Pars bot. 29: 6 (1935)
= *Alectoria bicolor subsp. smithii* (Du Rietz) Räsänen, Ann. bot. Soc. Zool.-Bot. fenn. Vanamo 12(no. 1): 32 (1939)
= *Bryopogon berengerianus var. smithii* (Du Rietz) Gyeln., Feddes Repert. Spec. Nov. Regni veg. 38: 233 (1935)

[VZ1120], Romania. Distr. Braşov. Montes Fagaras, Simbata de Sus, in valle Simbetei, 1100 m. Ad truncum Piceae excelsae. Leg. A. Vězda, 14.7.1972, det. D. L. Hawksworth, 1975. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1120.

Thallus fruticose, tufted or decumbent, 3-7(-12) cm long, bicolorous, the basal parts brownish black to black, the apical parts pale brown to brown, usually shiny, isotomic-dichotomously branching, with coarse and distinct, c. 1 mm thick, terete or basally slightly compressed, shallowly foveolate main branches, and short lateral spinules arising at right angles to main stem. Soralia fissural, concave to plane, white, with isidioid spinules and farinose soredia. Pseudocyphellae absent or inconspicuous; medulla white, compact. Apothecia unknown. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-. Chemistry: without lichen substances. - Note: a temperate species found on large, more or less shaded rock walls, more rarely on bark, especially on twigs of conifers in damp montane forests.

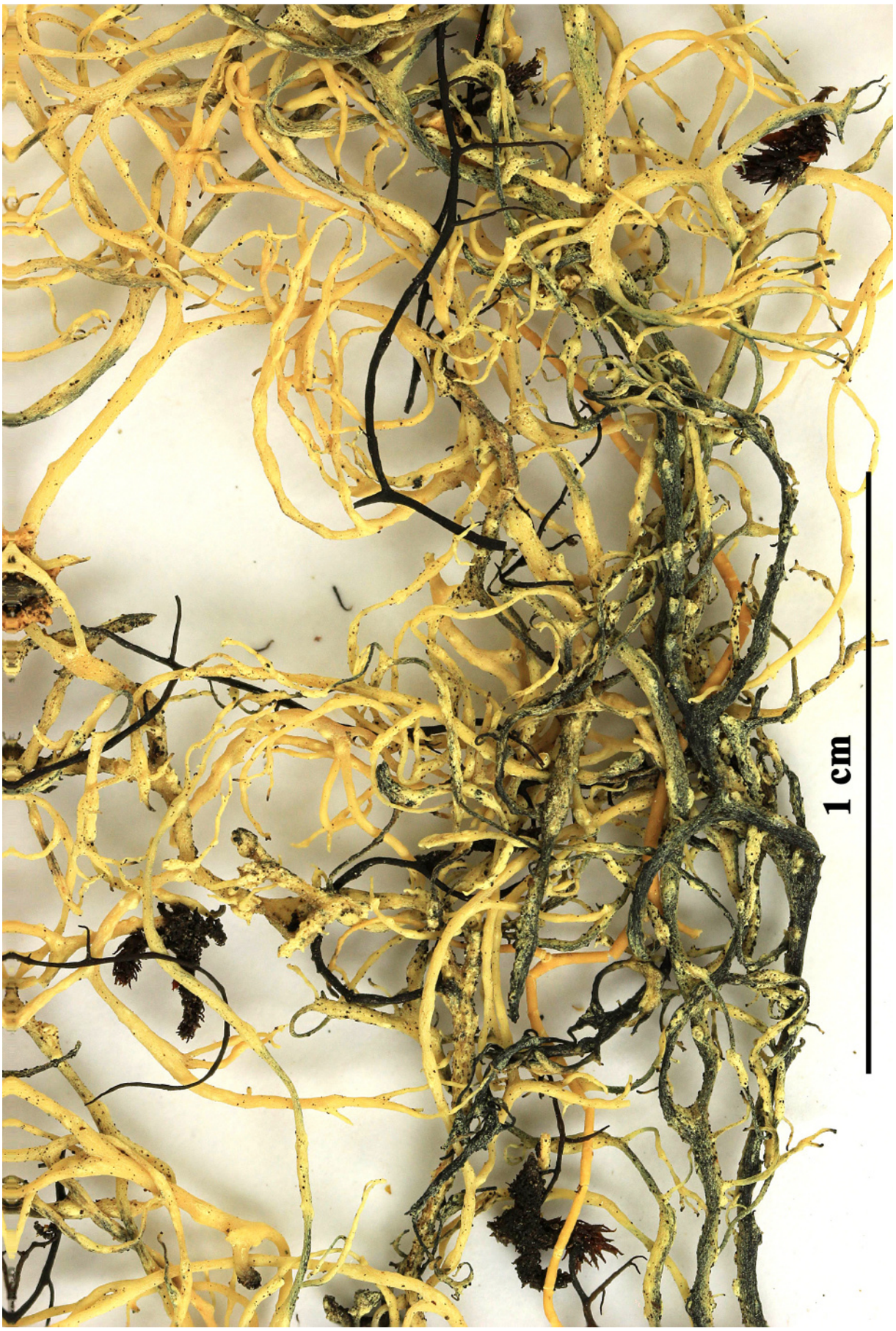
Alectoria smithii

Alectoria smithii

Alectoria subnigricans Vězda, in Poelt & Vězda, Lichenes Selecti Exsiccati, Fasc. (Průhonice) 59: 7 (no. 1475) (1977)

[VZ1475], Tanzania (Africa orientalis). Kilimanjaro, planities Shira dicta, inter casas alpinas Shira et Arrow Glacier dictas, 4200-4500 m. Supra muscos ad terram desertam. Leg. T. Pócs (6928), 27.6.1976. EX A. VĚZDA: LICHENES SELECIT NR. 1475.

Facie externa Alectoria nigricantii (Ach) Nyl. similis, ab ea praesertim thallo tenuiore, medulla solida et acidi usneici praesentia differens. Cortex et medulla KV+ flavescentex.



Alectoria subnigricans

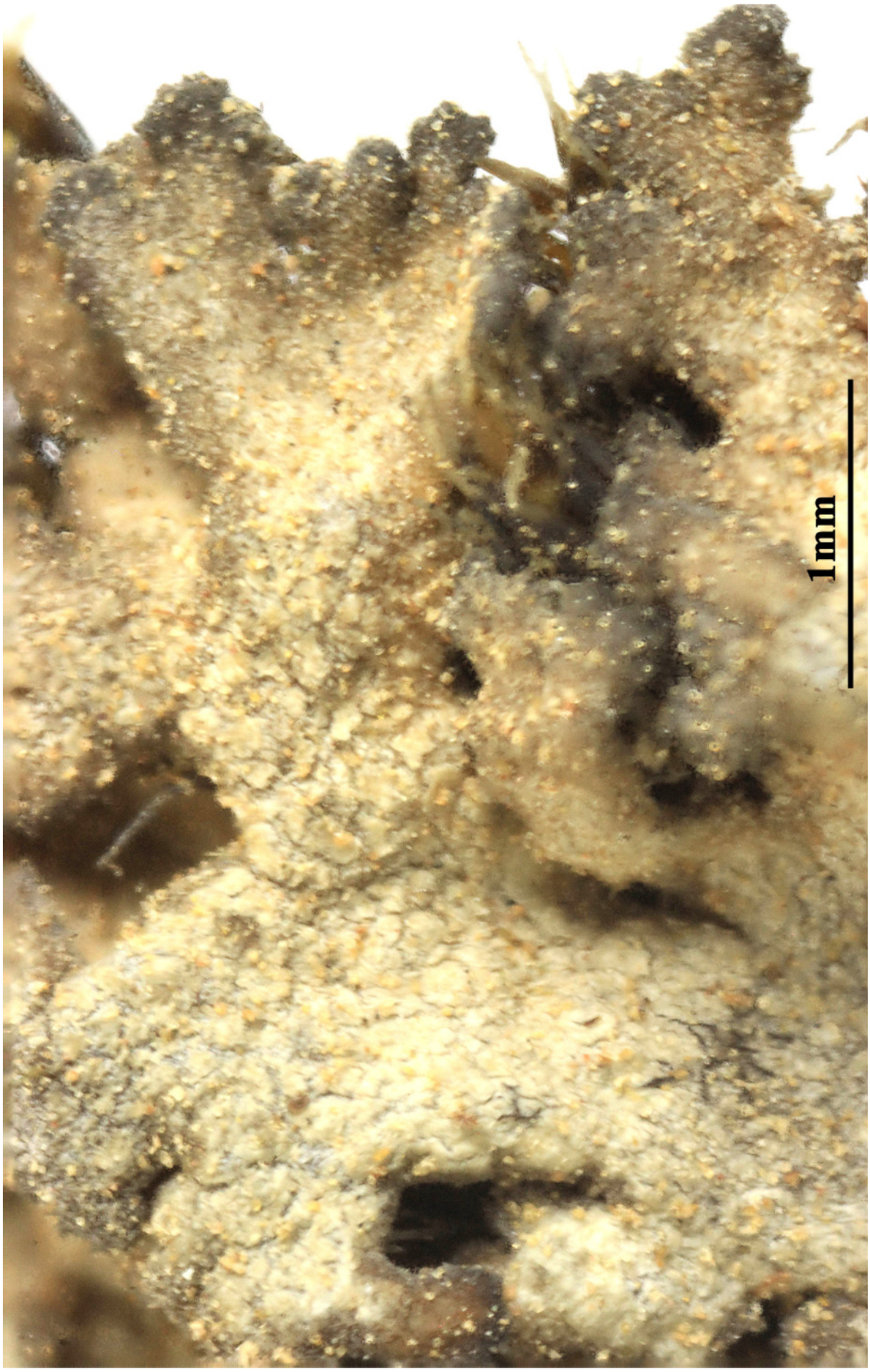
Alectoria subnigricans

Anaptychia elbursiana (Szatala) Poelt, Nova Hedwigia 12(1+2): 132 (1966)
= *Physcia grisea var. elbursiana* Szatala, in Rechinger, Baumgartner, Petrak & Szatala 1940

[VZ1224], Persia borealis. Teheran, ad pedem montium Elburz in rupibus septentrionem spectantibus supra Evine-Teheran, 35°47' or., 51°24' orient., 2399 m. Supra muscos et ad saxa silicea. Leg. J. Soják, 14.3.1973, det. A. Vězda. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1224.

Thallus foliose, up to 5 cm in diam., irregular to somewhat orbicular lobes: mostly irregular-flabellate, ± contiguous to slightly overlapping, 0.8-2 mm broad, ± flat at the tips but often becoming somewhat convex inwardly surface: gray to gray-brown, usually with a ± complete pruina sorediate: the soredia primarily in marginal and terminal soralia on lateral lobes, becoming labriform, scattered punctiform laminal soralia sometimes forming in older thallus parts; individual soredia coarsely granular, mostly becoming distinctly darkened, to almost black upper cortex: prosoplectenchymatous, irregularly so in parts medulla: white lower cortex: very thin, poorly organized to weakly prosoplectenchymatous, intergrading with the medulla lower surface: almost white on the lobe tips, inward becoming pale tan to deep tan; rhizines scattered, simple to irregularly furcate, concolorous with the lower surface Apothecia: not seen Pycnidia: infrequent, dark brown to blackened and flush with the surface conidia: cylindrical (a few becoming slightly curved), 5-6 x 1 μm Spot tests: all negative for both cortex and medulla Secondary metabolites: small amounts of unidentified terpenoids (2 or 3). Substrate and ecology: rock or very thin soil or mosses over rock, in open areas World distribution: western North America and central Asia. Sonoran distribution: northern half of Arizona, in the mountains.

Anaptychia elbursiana



Anaptychia elbursiana

Anaptychia elbursiana

Anaptychia setifera Mereschk. ex Räsänen, Ann. Acad. Sci. Fenn., Ser. A 34(no. 4): 123 (1931)

[VZ1124], Romania. Dobrogea. Distr. Vilcea: ad marginem silvae secus viam e Constanja ad Tulcea ducentem, supra fluminem Slava prope Babadag, 250 m. Ad truncos *Quercuum*. Leg. A. Vězda, 9.7.1972. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1124.

Thallus of long, narrow, dorsiventral segments, usually appearing fruticose, prostrate to erect-bushy or occasionally somewhat pendent, dingy gray to gray-brown or occasionally brown, dull and epruinose, to 10–11 cm long. Lobes linear-elongate, 6 highly branched and entangled, 0.1–0.6(1.0) mm broad (to 1 mm usually only near the branch points, but see note in discussion below), with long, sparse to moderately common, marginal cilia. Thallus without soredia, isidia or lobules, the surface mostly smooth, often glabrous in large parts but usually with at least some areas developing a fine tomentum (of tiny, 1 cell wide hairs). Medulla white. Lower surface flat to weakly canaliculate, pale, mostly ecorticate, with exposed fibrous medulla, but sometimes with a few scattered, short areas with cortex like that of the upper surface all the way around; older parts with sparse marginal rhizines which intergrade with the marginal cilia. Upper cortex prosoplectenchymatous, of periclinal hyphae; lower cortex mostly absent. Apothecia 6 frequent (but less frequent in North America), appearing 6 terminal, although most appearing to arise laminally, to 4.5 mm in diameter, concave at first but flattening or becoming convex with age; the exciple becoming distinctly spinulose, the spinules mostly 0.5–0.8 mm long, the exciple occasionally also developing small granular lobules; disk dark brown or blackening, becoming pruinose. Spores 35–46 x 31–22 µm. Pycnida uncommon, conidia short-cylindrical, 3.5–5.3 µm. Spot tests. Upper cortex, medulla and lower surface all negative. TLC. Nil or faint unidentified traces

Anaptychia setifera

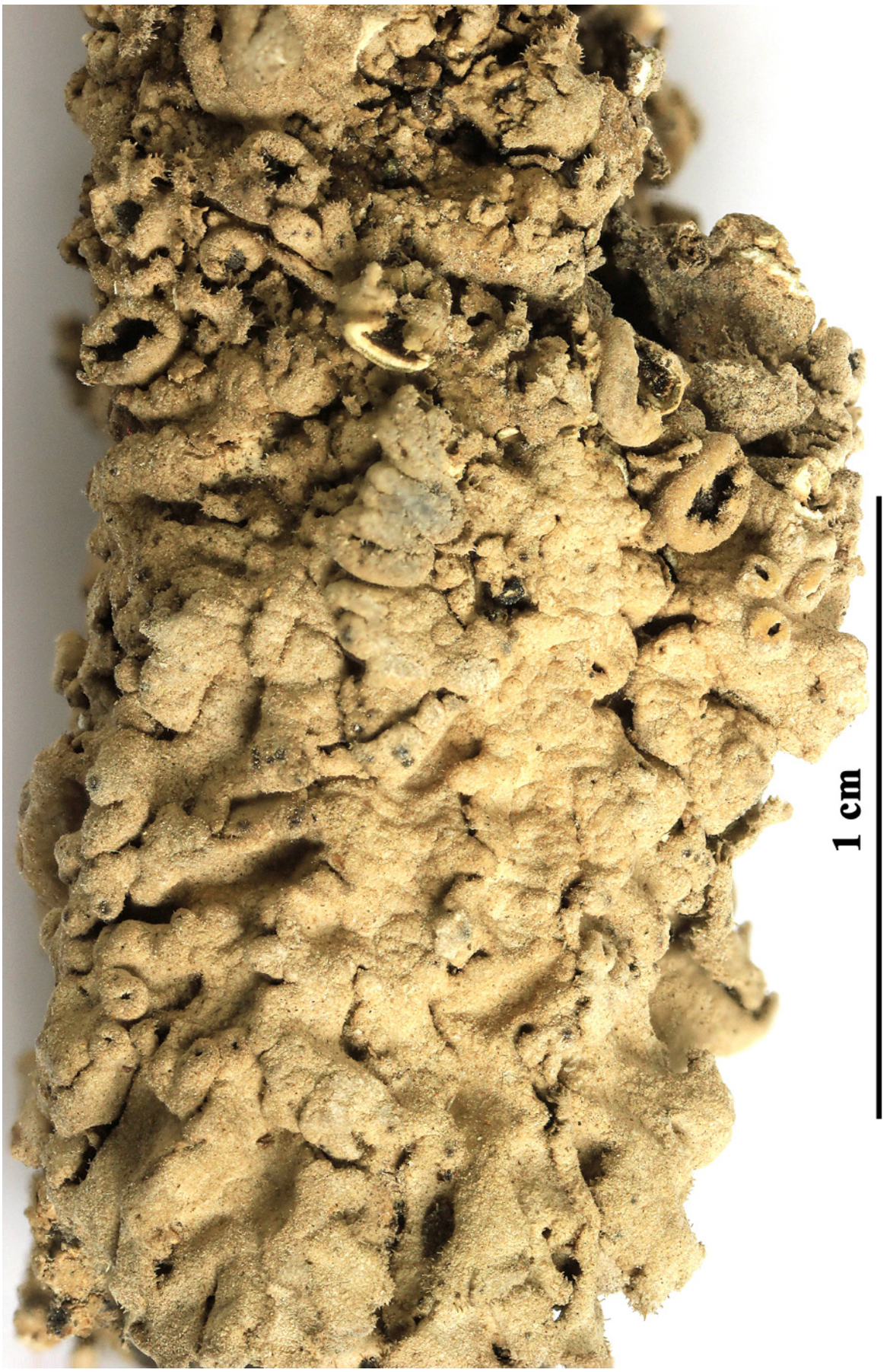
Anaptychia setifera

Anaptychia setifera

Anaptychia ulothricoides (Vain.) Vain., Bot. Tidsskr. 26: 245 (1904)
= *Physcia ulothricoides* Vain. 1888

[VZ1306], URSS. Asia media, Tadzhikistania. In declivi ad austro-orientem versus a transitu Čormazak (ad viam Dušanbe - Nurek), 1200 m, ad ramulos fruticis Leg. I. Is´t, 24.4.1975. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1306.

Thallus foliose, greyish or sordid white, forming rosettes or rarely irregularly spreading colonies, laciniate; laciniae plane, more or less wrinkled at the center, without soredia or isidia, contiguous at the circumference, 3-8 cm. wide; beneath white and rugulose, with numerous rhizines, corticate; rhizines concolorous with the thallus, densely branched, 3-5 mm. long. Laciniae 250-400 µm thick; upper cortex colorless, the surface layer greyish, about 30 µm thick, in transverse section very irregularly thickened and the lower surface distinctly flexuose, varying from 30-110 µm thick, often projecting downward into the medulla; gonidial layer often interrupted by the upper cortex, gonidia 13-16 µm in diameter; lower cortex of the same structure as the upper, 30-60 µm thick. Apothecia laminal, sessile, 1-3.5 mm. in diameter, with entire or somewhat crenate margins; disc concave or plane, blackish brown, slightly pruinose but becoming naked; hymenium colorless and hyaline, 130-200 µm high, 1+ blue; cortex of receptacle irregularly thickened; asci cylindrical or subclavate, about 30 x 100 µm, 8-spored; spores dark brown, ellipsoid, with rounded apices, constricted at the center, 13-17 x 29-34 µm , I-septate, with 2 hemispherical locules, the spore wall uniformly thin. Pycnidia immersed in the thallus, with blackish ostioles; microconidia colorless, cylindrical, 1-2 x 3-5 µm. Reaction: Thallus K-; med. K-, C-, KC-, P-. Chemical ingredients: No lichen substances demonstrated; numerous crystals of calcium oxalate are deposited in the medulla, especially in f. tenuior. This species is closely related to *A.jusca*, but it differs in color of the thallus. According to Vainio (1888), *A.ulothricoides* occurs on the bark of juniper and among mosses on rocks.



Anaptychia ulothricoides

Anaptychia ulothricoides

A

B

V