F. Schumm (2026):

Images of Lichens
Vezda Lichenes Selecti Exsiccati part 28

ARCHIVE FOR LICHENOLOGY Vol. 101
ISSN 1868-4173

With this volume, I continue the documentation of Vezda's works on exiccata, now with Lichenes Selecti as part 28. I have chosen the genus names that Vezda used, even though others are now more common. However, I also include the currently used names in the synonym list and the index. In addition, I have again made every effort to add species descriptions to the detailed information on the labels from the literature.

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

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

F. Schumm, 2026

Lecanora chrysoleuca (Sm.) Ach., Lich. Univ.: 411 (1810)
= *Lichen chrysoleucus* Sm. 1791
= *Rhizoplaca chrysoleuca* (Sm.) Zopf, Justus Liebigs Annln Chem. 340: 291 (1905)

[VZ1264], Hungaria. Montes Matra, regio montis Kékes, in rupibus Saskö, 880 m. Ad saxa andesitica. Leg. G. Kiszely et A. Vězda. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1264.

Thallus foliose-umbilicate, mono- or polyphyllous, to 2-3.5 cm across, pale yellowish green to greenish white, attached by a central holdfast. Lobes flat to concave, c. 0.5-1(-1.5) mm thick, crenate-incised, sometimes partly blackened at margins; lower surface dark brown to black, erhizinate. Upper cortex of strongly gelatinized hyphae, often heavily inspersed with crystals, the cell walls with isolichenan; medulla white, loose, but often filled with granules; lower cortex thicker than the upper one. Apothecia lecanorine, laminal or submarginal, 0.8-2.5 mm across, at first adnate, then sessile and constricted at base, with a flat to convex, reddish orange or yellow-orange, often pruinose disc, and an entire to flexuose-crenate, persistent or excluded thalline margin. Epithecium pale yellowish brown, with a superficial layer of granules; hymenium yellowish, not inspersed, (35-)50-60 µm high; paraphyses c. 2-3 µm thick, with swollen apical cells; hypothecium colourless. Asci 8-spored, clavate, the tholus with a strongly amyloid lateral part, a non-amyloid broadly diverging axial mass with a thick, non-amyloid cap above, and a weakly amyloid outer layer Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid to oblong-ellipsoid, 8-12 x 3-6 µm. Pycnidia rare, black, immersed. Conidia thread-like, 15-20(-30) µm long. Photobiont chlorococcoid. Spot tests: upper cortex K- or K+ yellow, C-, KC+ yellow, P-, UV-; medulla: K-, C- or rarely C+ red, KC-, KC+ pale yellow or rarely KC+ red, P-, or P+ yellow, UV-. Chemistry: upper cortex with usnic acid and variable amounts of either placodiolic or pseudoplacodiolic acid; medulla with aliphatic acids or no substances, or rarely with psoromic and/or lecanoric acids. - Note: a widespread holarctic lichen found on bird's perching siliceous rocks and boulders, especially in upland areas; most frequent in areas with a dry-subcontinental climate, e.g. in the central Alps, but also occurring on the high Mediterranean mountains.

Lecanora chrysoleuca

Lecanora chrysoleuca

Ramalina homalea Ach., Lich. Univ.: 598 (1810)
= *Niebla homalea* (Ach.) Rundel & Bowler, Mycotaxon 6(3): 499 (1978)
= *Desmazieria homalea* (Ach.) Mont., Annls Sci. Nat., Bot., sér. 3 18: 303 (1852)
= *Lichen squarrosus* * *homalea* (Ach.) Lam., Encycl. Méth. Bot., Suppl. (Paris) 3(2): 419 (1813)
= *Parmelia homalea* (Ach.) Spreng., Syst. veg., Edn 16 4(1): 278 (1827)
= *Usnea homalea* (Ach.) Tuck., Enum. N. America Lich.: 47 (1845)

[VZ1755], USA, California. Los Angeles County, insula San Clemente, in parte occidentali inter Eel Point et Seal Cove, 150 m. Ad saxa in vicinitate maris. Leg. R. Santesson (no. 18043), det. P. Rundel. Ex A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1755.

Rock forms: Thallus fruticose, with strap-like blades arising from a holdfast, overall varying from a few mm to several cm wide depending upon micro habitat, and from a few mm in height at exposed, wind-swept sites, to more than 10 cm in length in large, pendant thalli at protected microhabitats; branches flattened, angular, or subcylindrical, ridged, plated, or smooth, with many branchlets arising marginally in some thalli; surface yellow-green to pale yellow, smooth, sometimes ridged, or plated with variable cortical cracking, shiny to dull; medulla white, compact, with highly variable strands of coalesced hyphae; Apothecia: usually present in large thalli, primarily terminal or subterminal, occasionally in clumps or along entire blade margins, 1-2 cm wide; disc pale to tan, concave; asci clavate, 8-spored; ascospores hyaline, 1-septate, fusiform, ellipsoid, curved, 8-14(-20) x 3-5 µm; Pycnidia black, immersed, common on cortical ridges, margins and cracks; conidia rod-shaped; Spot tests negative, except P+. Secondary metabolites: many chemical combinations including a race lacking secondary substances, the depsidones hypoprotocetrarix, salazinic, or protocetraric acids, or the depsides sekikaic or divaricatic acids (barbatic acid has also been reported), usnic acid and unidentified terpenes.

Soil and sand populations: Thallus: fruticose, forming rounded or oblong, tumbleweed-like clumps up to over 12 cm in height and to over 20 cm in width; branches flattened or subcylindrical; surface yellow-green to pale yellow, smooth to ridged, plated or cracked; medulla white, compact, with varying of strand-like hyphal aggregates; Apothe-

cia occasional, 1-2 cm wide; disc pale to tan, gently concave to concave; asci clavate, 8-spored; ascospores hyaline, 1-septate, ellipsoid, 3-5 x 8-14(20) µm; Pycnidia black, immersed, less abundant than populations on rocks; conidia straight, rod-shaped; Spot tests: either all negative or K-, P+ orange or K+ yellow to or deep red or P+ orange when protocetraric or salazinic or acids respectively present; Secondary metabolites: many chemical combinations including a race lacking secondary substances, including the depsides sekikaic or divaricatic acid, (barbatic acid has also been reported) usnic acid, and unidentified terpenes; thalli containing the depsidones hypoprotectraric, salazinic, or protocetraric acid are *Niebla josecuervoi*.

Ramalina homalea

Ramalina homalea

Ramalina homalea

Ramalina homalea

Ramalina inflata (Hook. f. & Taylor) Hook. f. & Taylor, in Hooker, Bot. Antarct. Voy. Erebus Terror 1839-1843 1: 194 (1845)
= *Cetraria inflata* Hook. f. & Taylor, London J. Bot. 3: 646 (1844)
= *Fistulariella geniculata* (Hook. f. & Taylor) Bowler & Rundel, Mycotaxon 6(1): 198 (1977)
= *Fistulariella inflata* (Hook. f. & Taylor) Bowler & Rundel, Mycotaxon 6(1): 195 and 198 (1977)
= *Fistulariella subpusilla* (Nyl.) Bowler & Rundel, Mycotaxon 6(1): 199 (1977)
= *Fistulariella tasmanica* (Nyl.) Bowler & Rundel, Mycotaxon 6(1): 199 (1977)
= *Ramalina calicaris* var. *geniculata* (Hook. f. & Taylor) C. Bab., in Hooker, Bot. Antarct. Voy. Erebus Terror 1839-1843, II, Fl. Nov.-Zeal.: 270 (1855)
= *Ramalina calicaris* var. *gracilis* C. Bab., in Hooker, Bot. Antarct. Voy. Erebus Terror 1839-1843, II, Fl. Nov.-Zeal.: 270 (1855)
= *Ramalina calicaris* var. *inflata* (Hook. f. & Taylor) Tuck., Proc. Amer. Acad. Arts & Sci. 7: 223 (1868) [1866]
= *Ramalina dilacerata* var. *alba* C. Knight, Cat. Lich. Univers. 6: 462 (1888)
= *Ramalina geniculata* Hook. f. & Taylor, London J. Bot. 3: 655 (1844)
= *Ramalina geniculata* subsp. *subpusilla* Nyl., Bull. Soc. linn. Normandie, sér. 2 4(2): 164 (1870)
= *Ramalina geniculata* var. *compacta* Müll. Arg., Bull. Herb. Boissier 4: 88 (1896)
= *Ramalina geniculata* var. *olivacea* Müll. Arg., Flora, Regensburg 62: 294 (1879)
= *Ramalina inflata* subsp. *australis* G.N. Stevens, Bull. Br. Mus. nat. Hist., Bot. 16(2): 191 (1987)
= *Ramalina inflata* subsp. *perpusilla* (Stirt.) G.N. Stevens, Bull. Br. Mus. nat. Hist., Bot. 16(2): 188 (1987)
= *Ramalina inflata* var. *gracilis* (C. Bab.) Müll. Arg., Flora, Regensburg 71: 131 (1888)
= *Ramalina knightiana* Zahlbr., Cat. Lich. Univers. 6: 494 (1930)
= *Ramalina minuscula* var. *alba* C. Knight ex Shirley, Proc. R. Soc. Qd. 5: 103 (1888)
= *Ramalina perpusilla* Stirt., Trans. & Proc. Roy. Soc. Victoria 17: 68 (1881)
= *Ramalina pusilla* subsp. *geniculata* (Hook. f. & Taylor) Fink, Contr. U.S. natnl. Herb. 14(1): 206 (1910)
= *Ramalina pusilla* var. *geniculata* (Hook. f. & Taylor) Tuck., Syn. N. Amer. Lich. (Boston) 1: 26 (1882)
= *Ramalina subgeniculata* C. Knight, Trans. Linn. Soc. London, Bot., Ser. 2 2(2): 50 (1882)

= *Ramalina subpusilla* (Nyl.) Pit. & Harm., Bull. Soc. bot. Fr., Mém. 22: 23 (1911)
= *Ramalina tasmanica* Nyl., Bull. Soc. linn. Normandie, sér. 2 4(2): 162 (1870)

[VZ2468], Australia. Tasmania. Prion Beach, lat. 45°32' merid., long. 146°33' orient., 1 m. Ad corticem arboris (*Acaccia sophorae*) in arena litoris. Leg. G. Kantvilas (no. 38/90). EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 2468.

Thallus corticolous, green to pale green, caespitose, erect l-2(-3) cm high; branching subdichotomous or irregular; branch width 1-3 mm, branches hollow, terete, inflated and perforate; perforations round to elongate, medullary hyphae continuous, loosely woven across central cavity or compressed against the inner cortex wall either loosely or densely; surface matt to shiny, smooth, rarely pseudocyphellate; holdfast delimited; soralia absent. Apothecia common, terminal on main branches and on short subapical lateral branches, often spurred; disc 2-5 mm diam. , always concave initially, innate at branch apices, becoming plane at maturity; margin entire, thin often indistinct; spores broadly ellipsoid, straight or curved, 12-16 x 4-5 (-6) µm. Chemistry. Divaricatic acid, nordivaricatic acid, sekikaic acid, and usnic acid. Remarks. Sterile specimens of this taxon are usually larger than fertile thalli, occurring either as greatly inflated, pulvinate, thalli or having elongate branches with perforations evenly distributed along the lower surface and extending to the attenuate apices. A small morphotype of *R. inflata* subsp. *inflata* found in Tasmania was named *R. tasmanica* Nyl. ; the type material contains divaricatic acid. Subsequent collections from Tasmania bearing this name have been found to contain salazinic acid and belong to *R. fissa*. The type material of *R. knightiana* Zahlbr. is a very finely branched specimen of *R. inflata* subsp. *inflata* collected in the neighbourhood of Sydney; its morphology closely resembles the New Zealand species *R. geniculata* and was originally named R. subgeniculata by Knight.

Ramalina inflata

Ramalina inflata

Ramalina inflata

Ramalina maciformis (Delile) Bory, Dict. Class. Hist. Nat. 14: 458 (1828)
= *Desmazieria maciformis* (Delile) Follmann, Philippia 3(2): 87 (1976)
= *Niebla maciformis* (Delile) Rundel & Bowler, Mycotaxon 6(3): 499 (1978)
= *Parmelia maciformis* Delile, Descript. de l'Egypte 2: 288 (1813)
= *Ramalina pollinaria* subsp. *maciformis* (Delile) Nyl., Syn. meth. lich. (Parisiis) 1(2): 297 (1860)

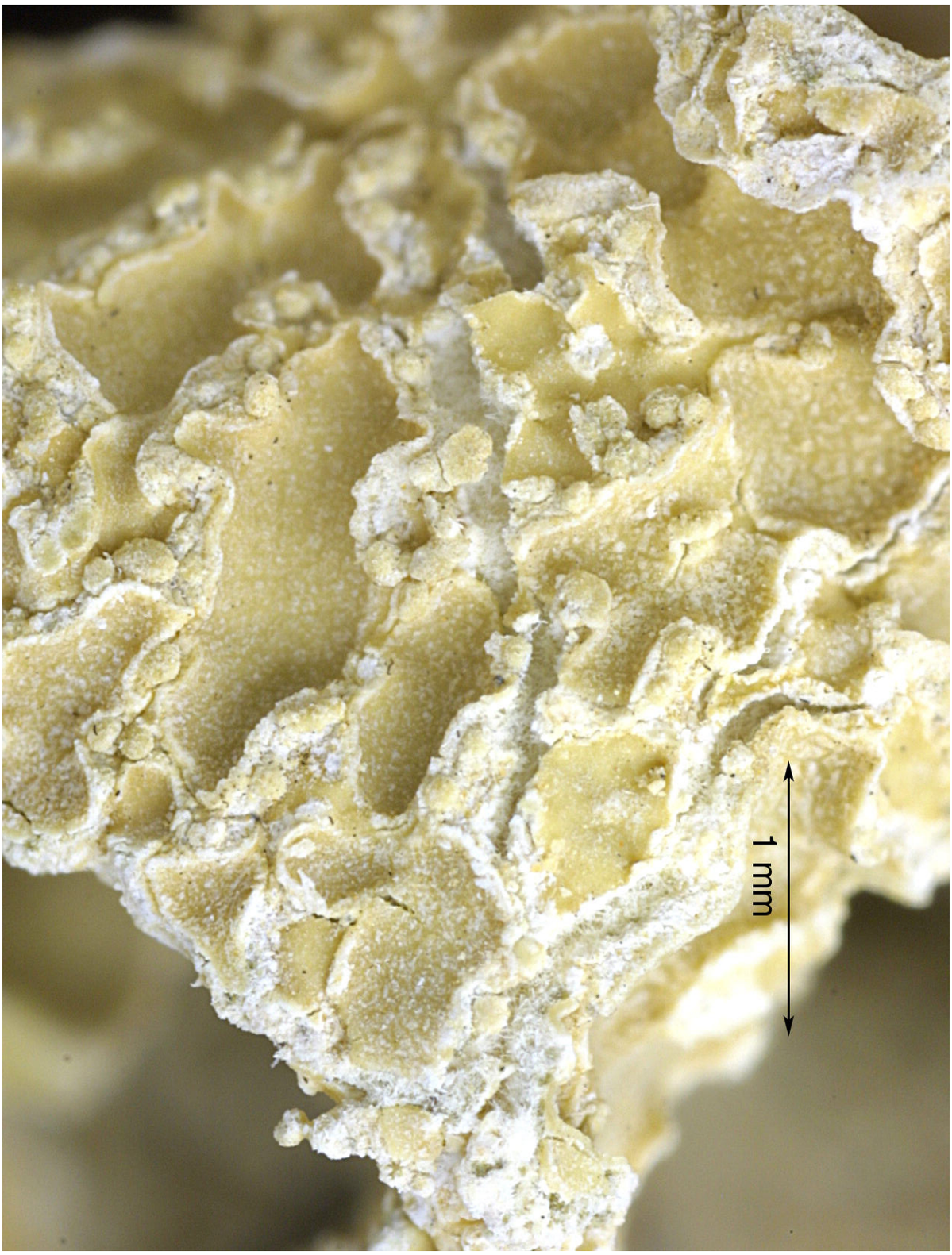
[3046], Israel, Ha-Negev. Avedat. An Kalkblöcken bei den Ruinen. Xero- photophil. Windschliff ausgesetzt, sehr trocken, ca 600 m. Leg. et det. F. Schumm, 30.12.1984, conf. A, Aptroot, 05.2006. Chemistry p223/4: norstictic acid (maj), cryptostictic acid , connorstictic acid (tr). Sorale P+ gelb, Mark: K+ gelb dann orange nach dem Eintrocknen orangerot.

Thallus fruticose, consisting of yellowish green to greenish grey, rigid, erect, simple or sparingly branched from a basal holdfast, 1-6 cm long, 0.2-4(-6) cm wide, in part reticulately ridged laciniae with an irregular network of large cracks exposing the medullary layer, from which granular soredia (or schizidioid isidia) originate. Cortex 2-layered, the outer part paraplectenchymatous, the inner part cartilaginous; medulla compact. Apothecia extremely rare (not observed in Italian material). Photobiont chlorococcoid. Spot tests: cortex K-, C-, KC- or KC+ pale yellow, P-; medulla and ‘soralia’ K- or K+ orange-red, C-, KC-, P- or P+ yellow to orange. Chemistry: cortex with usnic acid; medulla with bourgeanic acid, plus salazinic or norstictic acids. - Note: a Mediterranean species of coastal siliceous rocks.

Ramalina maciformis

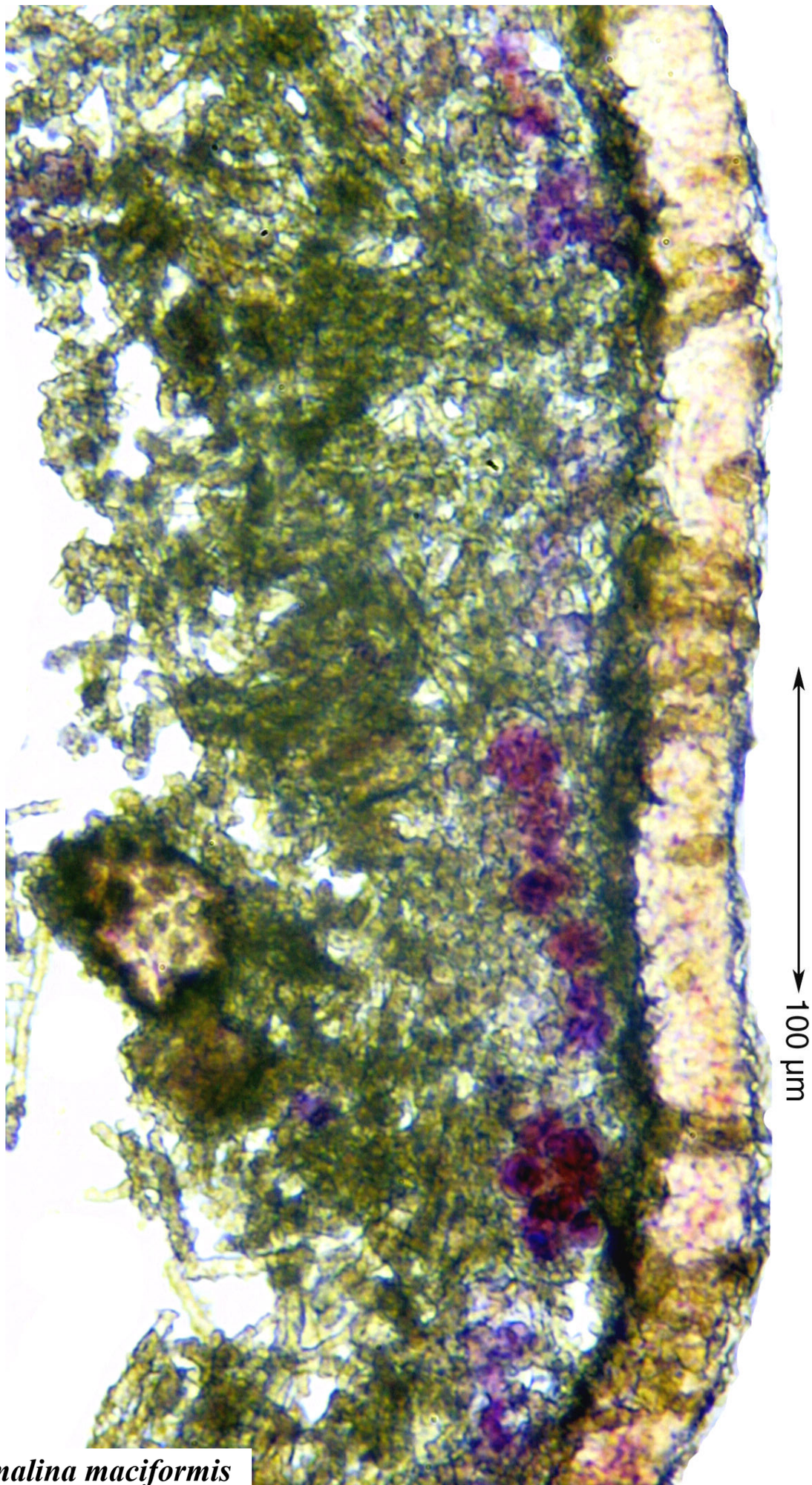
Ramalina maciformis

Ramalina maciformis



Ramalina maciformis

Ramalina maciformis



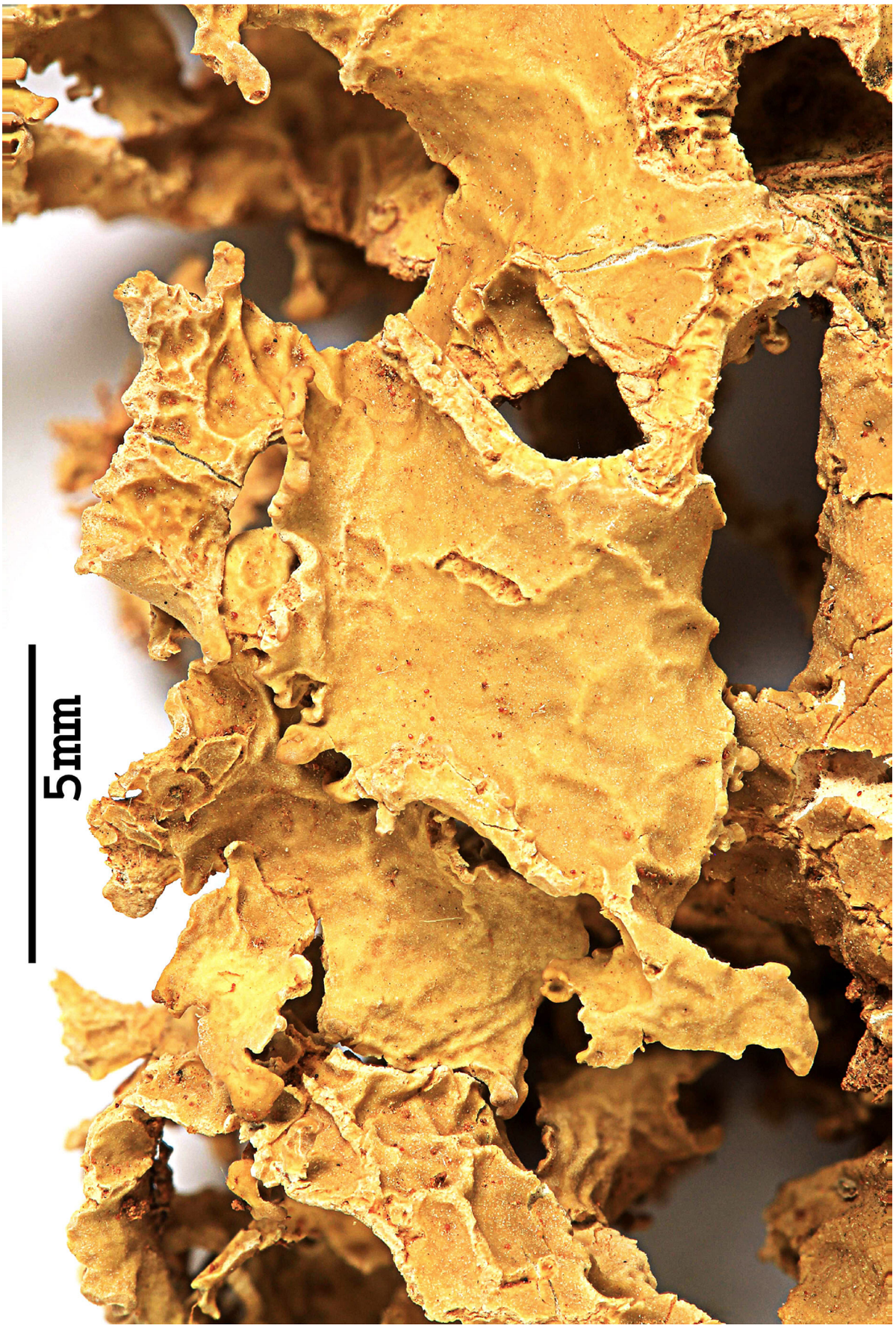
Ramalina maciformis

Ramalina maciformis (Delile) Bory, Dict. Class. Hist. Nat. 14: 458 (1828)
= *Desmazieria maciformis* (Delile) Follmann, Philippia 3(2): 87 (1976)
= *Niebla maciformis* (Delile) Rundel & Bowler, Mycotaxon 6(3): 499 (1978)
= *Parmelia maciformis* Delile, Descript. de l'Egypte 2: 288 (1813)
= *Ramalina pollinaria* subsp. *maciformis* (Delile) Nyl., Syn. meth. lich. (Parisiis) 1(2): 297 (1860)

[VZ1940], Libya. Cyrenaica. 25 km ad meridiem et occidentem versus a Derna, 28 km ad orientem et meridiem versus a Kamludah. Ad terram in desertis. Leg. G. Thor (no. 2949), 17.11.1982. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1940.

Thallus fruticose, consisting of yellowish green to greenish grey, rigid, erect, simple or sparingly branched from a basal holdfast, 1-6 cm long, 0.2-4(-6) cm wide, in part reticulately ridged laciniae with an irregular network of large cracks exposing the medullary layer, from which granular soredia (or schizidioid isidia) originate. Cortex 2-layered, the outer part paraplectenchymatous, the inner part cartilaginous; medulla compact. Apothecia extremely rare (not observed in Italian material). Photobiont chlorococcoid. Spot tests: cortex K-, C-, KC- or KC+ pale yellow, P-; medulla and 'soralia' K- or K+ orange-red, C-, KC-, P- or P+ yellow to orange. Chemistry: cortex with usnic acid; medulla with bourgeanic acid, plus salazinic or norstictic acids. - Note: a Mediterranean species of coastal siliceous rocks.

Ramalina maciformis



Ramalina maciformis

Ramalina mediterranea H. Magn., Bot. Notiser 109: 149 (1956)
= *Ramalina breviuscula* (Nyl.) Nyl. Flora, 55: 426, 1872.
= *Ramalina cuspidata f. breviuscula* Nyl. Bull. Soc. Linn. Normandie, ser. 2, 4: 159, 1870.
= *Ramalina pollinaria var. pulvinata* Anzi
= *Ramalina pulvinata* (Anzi) Nyl.

[VZ1358], Bulgaria. Pontus, distr. Burgas: in litore 2 km in septentrione ab introitu fluminis Ropotamo prope Sozopol, 3-10 m. Ad scopulos naritimos. Leg. A. Kiszely et A. Vězda, 19.08.1975. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1358.

Thallus fruticose, yellowish green to greenish grey, shrubby, forming small, 1-3 cm wide cushions. Laciniae simple or branched only at base, crowded, erect, flattened and strap-shaped, 0.5-3(-4) mm wide and 0.5-3 cm long, foveolate-reticulate, sometimes with a few pseudocyphellae, the apices more or less broadened. Medulla white, solid. Apothecia absent to numerous, lecanorine, mostly subapical, concolorous with thallus, with a concave, greenish, often pruinose disc and a smooth to slightly rugose thalline margin. Epithecium pale olive; hymenium and hypothecium colourless; paraphyses thick-walled, richly branched in upper part. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass) never penetrating through the entire d-layer, the wall K/I-, but the thin outer gel K/I+ blue, Bacidia-type. Ascospores 1-septate, hyaline, slightly curved, 9-16 x 4-6 µm. Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC- or KC+ yellowish, P-. Chemistry: cortex with usnic acid. - Note: a mainly Mediterranean species found on coastal siliceous rocks; one of the most common epilithic species of the genus along the Mediterranean coasts.

Ramalina mediterranea

Ramalina mediterranea

Ramalina mediterranea

Ramalina nervulosa* var. *dumeticola (Krog & Swinscow) G.N. Stevens, Lichenologist 15(3): 228 (1983)
= *Ramalina dumeticola* Krog & Swinscow 1976

[VZ2099], Philippines Insulae. Luzon. Laguna Province. Calauan, in pede montis Ubabis, 100 m. Ad truncos (Cocos nucifera). Leg. W. S. Gruezo (no. 6402), 01.07.1989, det. H. Kashiwadani. - Usnic, homosekikaic, sekikaic, 4-O- methylnorhomosekikaic acids, anal. H. Kashiwadani. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 2099.

Thallus corticolous, pale green to yellow-green, tufty, subpendulous, 4-6 cm long; branching dichotomous, moderate to dense but never intricately branched; branch width (0.2)0.5-1.0(-2.0) mm, branches compressed, flat, usually canaliculate for part of their length, some branches subterete distally, apices attenuate, forked or broken off and appearing blunt; surface matt or shiny, smooth, faint pseudocyphellae sometimes present; holdfast delimited; soralia marginal, round, ellipsoid or elongate. Apothecia not seen. Chemistry: Homosekikaic acid (M), sekikaic acid (M), 4'-0-methylnorhomosekikaic acid (m), 4'-0-demethylsekikaic acid (t), ramalinolic acid (t), 4'-0-methylnorsekikaic acid (t) [the last two acids are rarely detected with tlc] and usnic acid.

Ramalina nervulosa* var. *dumeticola

Ramalina nervulosa* var. *dumeticola

Ramalina pacifica Asahina, J. Jap. Bot. 15: 213 (1939)

[VZ1489], Philippines Insulae. Luzon, Laguna, Dan Pablo City, Sta. Filomena, 300 m. Ad corticem (*Cocos nucifera*). Leg. W. S. Gruezo)no. 1214), det. A. Vězda. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1489.

Thallus fruticose, corticolous, 5-15(-25) cm long, subpendulous, moderately branched with wide angles near the base, sparsely branched in the upper half. Branches yellowish green, solid, 1-2(-4) rnm wide, more or less flattened and dorsiventral, often becoming angular or terete near the apices, usually with longitudinal striae or cracks on the surface, sorediate. Soralia marginal, ellipsoid, well-delimited. Chondroid tissue under the cortex continuous, never cracked. Apothecia rare, up to 3 mm in diam., stipitate; disc flat to convex; ascospores shortly fusiform, 12-16 × 4-5 µm. Pycinida not seen. Chemistry, (Race 1) Usnic acid and salazinic acid, (Race 2) Usnic acid only. - *Ramalina pacifica* may be confused with *R. intermediella* because they both have similar sorediate branches, non-cracked chondroid tissues, and produce sekikaik and homosekikaik acids as major chemical substances. However this species has coarser thalli growing from a narrow holdfast and wider lobes (1-4 mm wide). In addition the soralia of this species are farinose and crateriform with limited margins. In contrast, *R. intermediella* has a delicate thalli growing from an extended holdfast, narrower branches (less than 1.2 mm wide), and more ore less vonvex sorlia bearing granular soredia, which often have fine spinules.

Ramalina pacifica

Ramalina pacifica

Ramalina panizzei De Not. , G. bot. ital. 2(1.1): 211 (1846)

[VZ1018], Gallia. Var, insula Port-Cros, in valle La Solitude, 60 m. Corticola in ramulos *Oleae europeae*. Leg. Y. Rondon, 30.05.1971. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1017.

Thallus fruticose, pale yellowish green, to 8 cm tall, erect to ascending, firmly attached by a basal holdfast, moderately branched, forming shrubby, rather rigid tufts. Branches usually compressed and partly fistulose-inflated, 2-5 mm wide at base, with scattered perforations and/or fenestrations. Cortex moderately thick, often cracked or disintegrating in older parts of thallus; medulla white, very lax, especially below the apothecia. Apothecia frequent, lecanorine, with a greenish disc and a thin, smooth thalline margin, mostly terminal or subterminal on smaller branches, but sometimes also lateral, subtended by a short, pointed spur. Epithecium pale brownish-olive; hymenium and hypothecium colourless; paraphyses thick-walled, richly branched in upper part. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass) never penetrating through the entire d-layer, the wall K/I-, but the thin outer gel K/I+ blue, Bacidia-type. Ascospores 1-septate, hyaline, mostly curved, (9-)11-15(-16) x 4-6 µm. Photobiont: chlorococcoid. Spot tests: K-, C-, KC- or KC+ pale yellow (cortex only), P-. Chemistry: cortex with usnic acid; medulla with homosekikaic and sekikaic acids. - Note: on bark in humid montane forests, frequently confused with *R. fastigiata*, but differing, among other characters, by the presence of sekikaic and homosekikaic acids.

Ramalina panizzei

Ramalina panizzei

Ramalina peruviana Ach., Lich. Univ.: 599 (1810)
= *Desmazieria peruviana* (Ach.) Follmann & Huneck, Willdenowia 5: 208 (1969)
= *Fistulariella javanica* (Nyl.) Bowler & Rundel, Mycotaxon 6(1): 198 (1977)
= *Lichen squarrosus* * *peruviana* (Ach.) Lam., Encycl. Méth. Bot., Suppl. (Paris) 3(2): 419 (1813)
= *Ramalina farinacea* f. *squarrosa* (Müll. Arg.) Stizenb., Ber. Tät. St Gall. naturw. Ges.: 138 (1890) [1888-89]
= *Ramalina farinacea* var. *dendroides* Müll. Arg., Flora, Regensburg 66(2): 21 (1883)
= *Ramalina farinacea* var. *squarrosa* Müll. Arg., Flora, Regensburg 66(2): 21 (1883)
= *Ramalina javanica* (Nyl.) Zahlbr., Cat. Lich. Univers. 6: 492 (1930)
= *Ramalina pumila* subsp. *javanica* Nyl., Bull. Soc. linn. Normandie, sér. 2 4(2): 167 (1870)
= *Ramalina roesleri* var. *isidiotyla* Vain., Univ. Calif. Publ. Bot. 12(no. 1): 4 (1924)

[VZ2272], Australia. Queensland. Sellin's Road, 1 km ad occidentem a Mt. Mee State Forest Station, 500 m. In ramulis fruticum. Leg. J. Hafellner (no. 18865), et N. Stevens, 13.08.1986. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 2272.

Thallus corticolous, pale green to grey-green, tufty, resilient, erect to subpendulous, up to 6.0 cm long; branching subdichotomous to irregular, often intricate with the production of dense fragile branchlets; branch width up to 1.0 mm, branches flat, compressed becoming angularly subterete to terete distally, branches often slightly twisted, apices sharp to blunt, often broken; surface matt, rarely shiny, smooth to rugose, weakly pseudocyphellate either basally or along the entire length; holdfast delimited or diffuse; soralia punctiform, numerous, marginal or lateral, sometimes apical, mounds of soredia often produce small fibrils Apothecia rare, marginal, lateral, disc 2.0 mm diam., concave, margin thick, often crenate; spores narrow, fusiform, straight or rarely curved, 14-16(-18) x 3.5-4.5 µm. Chemistry: Homosekikaic acid (M), sekikaic acid (M), ramalinolic acid (m/t), 4'-0-demethylsekikaic acid (m/t), 4'-0-methylnorsekikaic acid (m/t), and usnic acid. Ramalina peruviana is mainly subtropical to warm temperate in distribution

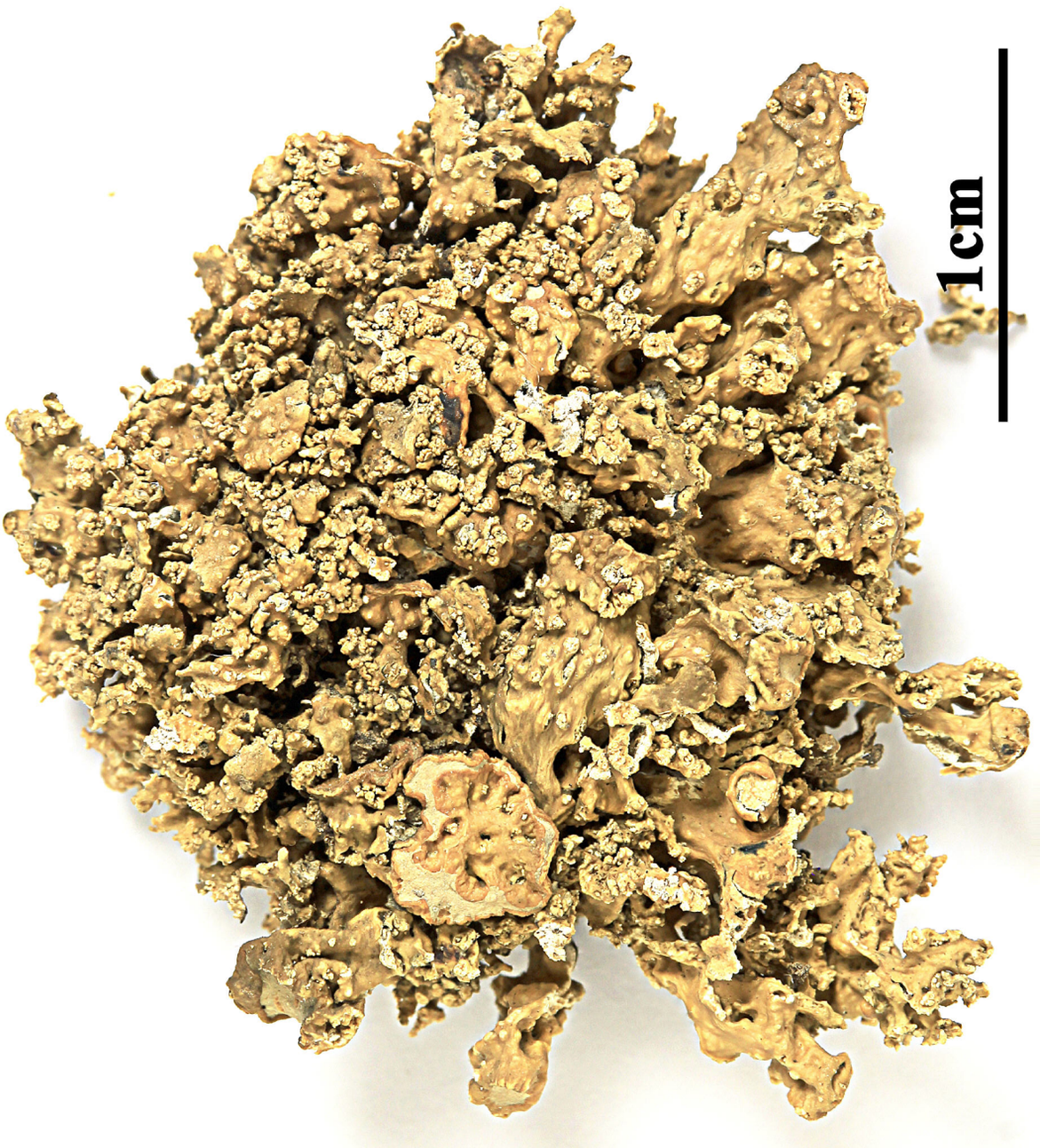
Ramalina peruviana

Ramalina peruviana

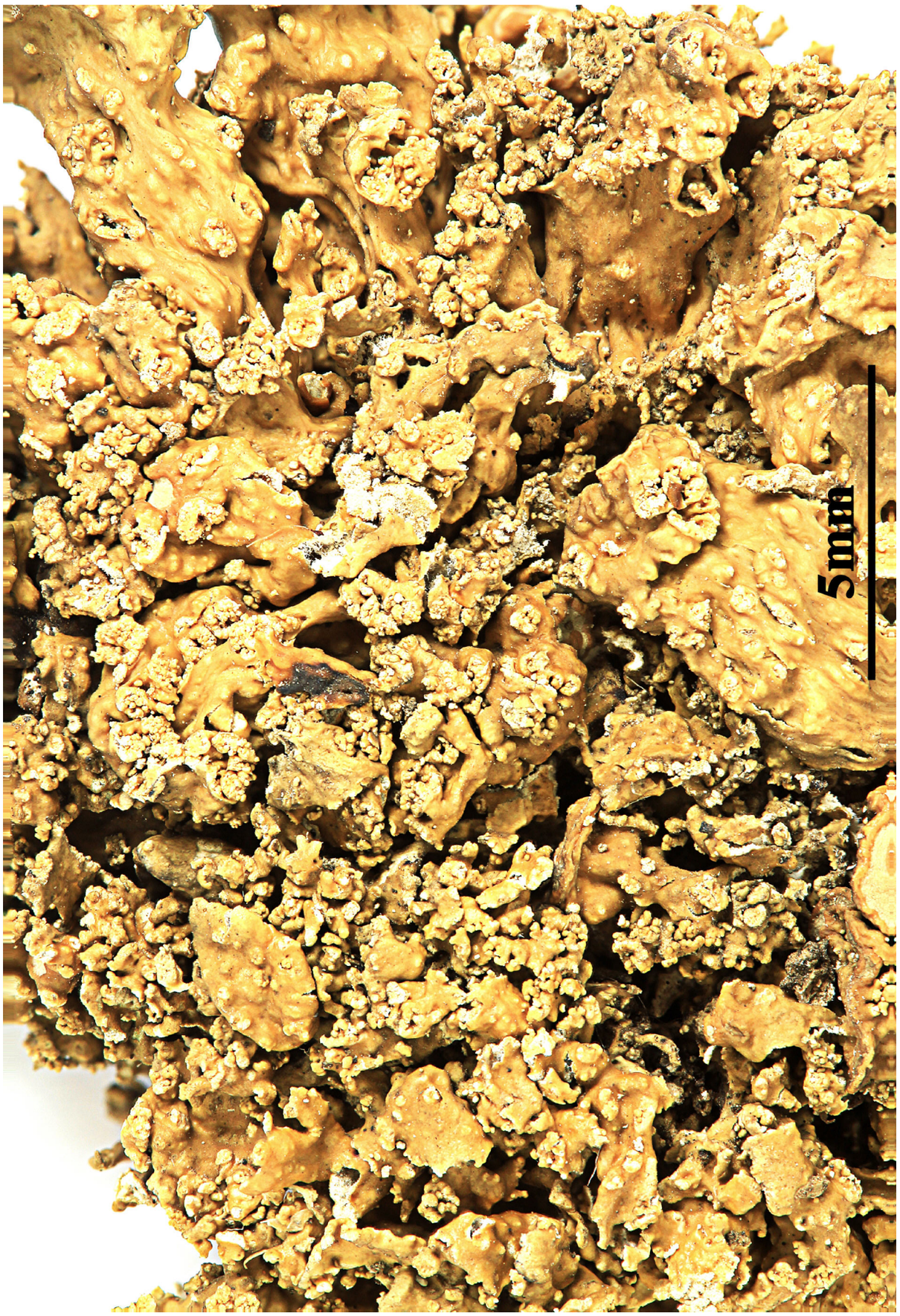
Ramalina pontica Vězda, Folia geobot. phytotax. 10(3): 326 (1975)

[VZ1320], Romania. Dobrogea, distr. Tulcea, supra pagum Camena, 150 m. In pariete alto rupis schistosae. Leg. A. Vězda. - Isotypius - Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1320.

Thallus caespitosus, semiglobosus, 1-3 cm altus, 2-5 cm latus, rigidus, crebre dichotome vel irregulariter ramosus. Laciniae foliaceae, vulgo deformatae sed distincte bilateraliter complanatae, glaberrimae, in vivo cinereo-virides, nitidae, ad basin sordide obscuratae, longitudinaliter plicatae vel plicato-foveolatae vel venosae, hinc-illinc striate dilaceratae (medulla in striis visibili), media parte 3-5 mm latae, post ramificationes gradatim attenuatae, ultimis laciniis 0.5-1 mm latis, varie curvatis, fere crispatis apparentibus, marginibus in lacinulas parvas dividis. Soralia numerosa ad laminas et margines laciniarum parte centrali et apicali sita, primum punctiformia, demum dilatata, subcrateriformia. Soredia distincte granulosa, thallo concoloria, mox in isidia et lacinulas transgredientia. Apothecia rara, terminata, disco primum concavo, demum plano vel plicato usque ad 8 mm lato, testaceo, dilute albo-suffuso; margo tenuis. Excipulum venulosum
vel foveolatum, postremo soraliis crateriformibus perforatum. Hymenium 60-70 µm altum, superne obscurum, K+ violaceum. Asci sporaeque non visae. Thallus
et medulla K et P non coloratur. - Hab.: In pariete alto rupis schistosae septentrionem spectante. Thallo caespitoso, laciniis rigidis, crebro in lacinulas (praesertim
in parte apicali) divisis, sorediis granulosis mox in isidia vel lacinias formatis apotheciisque apicalibus bene insignis. Ramalinae pollinariae var. scobinosae Motyka [Fragm. Florist. Geobot. 6 (4): 653, 1960] sat similis sed thallo rigido cinereo-viridulo distincta.
Romania.



Ramalina pontica



Ramalina pontica

Ramalina portuensis Samp., Bolm Soc. broteriana, Coimbra, sér. 2 2: 21 (1924) [1923]

= *Fistulariella portuensis* (Samp.) Bowler & Rundel, Mycotaxon 6(1): 199 (1977)

[VZ1669], Magna Britannia. Anglia. West Cornwall, Insulae Scilly, St. Mary's Hugh Town. Ad corticem *Pini rigidae*. Leg. P. James, 1.05.1979.- Salazinic acid and unknown substance, anal. P. James. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1669

Thallus similar to *R. .farinacea* with which it sometimes grows, with swollen, straggling, Cladina-like lobes, flattened at the base, 0.5-3 cm long, 1 mm wide, pale yellow-grey, convex and weakly foveolate, soon branching into narrow, 0.1 -0.3 mm wide dichotomous, shiny lobes which are irregular and almost terete; medulla hollow, subcortex cartilaginous; soralia emanating from irregular, longitudinal slits, often visible through tears in the cortex, usually near the tips; soredia white and granular. Chemistry: K + red, Pd+ orange, UV- (unidentified medullary substance in addition to usnic and salazinic acids). - On sunny to somewhat sheltered, rather moist tree trunks, twigs, rarely old *Calluna* stems and rock outcrops, mainly near the coast; rare. S.W. England, Isles of Scilly (common), W. Wales, extending to Scotland (Argyll, Colonsay), S.W. Ireland. W. France (Brittany), Portugal, Macaronesia. - Distinguished by its small, pendent-like clusters of hollow lobes, scored with irregular, superficial lacerations revealing internally developed soredia.

Ramalina portuensis

Ramalina portuensis

Ramalina protecta H. Magn., Bot. Notiser 109: 150 (1956)
= *Ramalina capitata var. protecta* (H. Magn.) Nimis, The Lichens of Italy: 597, 1993.
= *Ramalina polymorpha var. protecta* (H. Magn.) Clauzade & Cl. Roux

[VZ1348], Hispania. Provincia Teruel. Sierra de Albarracín, loco El Tremedal dicto, prope pagum Orihuela del Tremedal, 1500 m. Ad saxa praerupta quarcitica. Leg. X. Llimona, 17.07.1974. Ex A. VěZDA: Lichenes Selecti Exsiccati Nr. 1348.

Description: Thallus fruticose, greenish to greenish grey, 1-2(-3) cm tall, erect to ascending, rigid, abundantly branched, firmly attached by a basal holdfast, several thalli often forming dense carpets on the rock. Branches more or less flattened, 1-3 mm wide, longitudinally striate, with terminal, hood-shaped to labriform soralia; soredia granulose, concolorous to thallus. Subcortex cartilaginous; medulla white, compact. Apothecia extremely rare, lecanorine, mostly terminal. Asci 8-spored, clavate, Bacidia-type. Ascospores 1-septate, hyaline, often poorly developed. Photobiont: chlorococcoid. Spot tests: cortex K-, C-, KC- or KC+ pale yellow, P-, UV-; medulla and soralia K- or (rarely) K+ yellow turning red. Chemistry: cortex with usnic acid; medulla without lichen substances, or rarely with norstictic acid. - Note: often found together with the other varieties, especially with *R. capitata var. digitellata*, but perhaps more frequent under overhangs.

Ramalina protecta

Ramalina protecta

Ramalina pusilla Duby, Bot. Gall., Edn 2 (Paris) 2: 614 (1830)

[VZ2171], Insulae Canarienses. Tenerife: Taganana, loco Naranjos, 320 m. In ramulis *Lauri canariensis*. Leg. P. L. Nimis, 15.01.1985. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 2171.

Thallus fruticose, greenish yellow to grey-green, often with several black dots, 1-3 cm across, formed by irregularly cylindrical, simple or sparingly branched, inflated, 2-6 mm thick, to 4(-5) cm tall, often irregularly fenestrate, hollow units arising from a basal holdfast. Medulla occupying only a thin, compact layer below the chondroid cortex. Apothecia frequent, lecanorine, terminal, at first immersed and concave, then often flat and to 1 cm across, with a greenish disc and a smooth, sometimes blackened thalline margin. Epithecium pale brownish-olive; hymenium and hypothecium colourless; paraphyses thick-walled, richly branched in upper part. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass) never penetrating through the entire d-layer, the wall K/I-, but the thin outer gel K/I+ blue, Bacidia-type. Ascospores 1-septate, hyaline, usually curved, 10-13 x 4-5 µm. Pycnidia black, immersed. Photobiont chlorococcoid. Spot tests: cortex K-, C-, KC+ pale yellow, P-; medulla K+ red, C-, KC-, P+ red, UV-. Chemistry: cortex with usnic acid; medulla with salazinic acid (major) and sekikaic acid (accessory), triterpenoids. - Note: a Mediterranean-Macaronesian lichen found on twigs and small branches, especially of evergreen shrubs and trees in open stands, restricted to undisturbed, open coastal forests and maquis with frequent humid winds or fog.

Ramalina pusilla

Ramalina pusilla

Ramalina pusilla Duby, Bot. Gall., Edn 2 (Paris) 2: 614 (1830)

[VZ2498], Italia. Sicilia. insulae Égadi: insula Marettimo, in monte Falcone, 400 m. Ad ramos fruticum. Leg. F. Ceni & A. Vězda. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 2498.

Thallus fruticose, greenish yellow to grey-green, often with several black dots, 1-3 cm across, formed by irregularly cylindrical, simple or sparingly branched, inflated, 2-6 mm thick, to 4(-5) cm tall, often irregularly fenestrate, hollow units arising from a basal holdfast. Medulla occupying only a thin, compact layer below the chondroid cortex. Apothecia frequent, lecanorine, terminal, at first immersed and concave, then often flat and to 1 cm across, with a greenish disc and a smooth, sometimes blackened thalline margin. Epithecium pale brownish-olive; hymenium and hypothecium colourless; paraphyses thick-walled, richly branched in upper part. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass) never penetrating through the entire d-layer, the wall K/I-, but the thin outer gel K/I+ blue, Bacidia-type. Ascospores 1-septate, hyaline, usually curved, 10-13 x 4-5 µm. Pycnidia black, immersed. Photobiont chlorococcoid. Spot tests: cortex K-, C-, KC+ pale yellow, P-; medulla K+ red, C-, KC-, P+ red, UV-. Chemistry: cortex with usnic acid; medulla with salazinic acid (major) and sekikaic acid (accessory), triterpenoids. - Note: a Mediterranean-Macaronesian lichen found on twigs and small branches, especially of evergreen shrubs and trees in open stands, restricted to undisturbed, open coastal forests and maquis with frequent humid winds or fog.

Ramalina pusilla

Ramalina pusilla

Ramalina requienii (De Not.) Jatta, Nuovo G. bot. ital. 24(1): 21 (1892)
= *Ramalina polymorpha var. requienii* De Not. 1846

[VZ1019], Gallia. Var, insula Port-Cros, scopulus Port-Man, 15 m. Ad saxa silicea. Leg. Y. Rondon, 29.05.1971. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1019.

Thallus fruticose, yellowish green to greenish grey, 3-5 cm high, shrubby, composed of rather rigid laciniae emerging from a single basal holdfast. Laciniae flattened to slightly canaliculate, strap-shaped, dichotomously branched, apically often lobulate, 3-8 mm wide, faintly reticulately ridged, with a few laminal pseudocyphellae and mostly marginal, granulose soredia soon transformed into granular to lobulate isidia. Cortex thick, 2-layered, the outer part paraplectenchymatous, the inner part with radially arranged chondroid strands; medulla compact. Apothecia absent or scarce, lecanorine, 2-4 mm across, concolorous with thallus, with a concave disc and a rugose thalline margin. Epithecium pale brownish-olive; hymenium and hypothecium colourless; paraphyses thick-walled, richly branched in upper part. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass) never penetrating through the entire d-layer, the wall K/I-, but the thin outer gel K/I+ blue, Bacidia-type. Ascospores 1-septate, hyaline, narrowly ellipsoid, slightly curved or straight, 10-12 x 4-5 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC- or KC+ pale yellow (cortex only), P-; medulla UV+ white. Chemistry: cortex with usnic acid; medulla with divaricatic acid. - A Mediterranean species found on coastal siliceous rocks subject to humid maritime winds; exceptionally found also far from the coast, and then in sheltered, but light-rich situations.

Ramalina requienii

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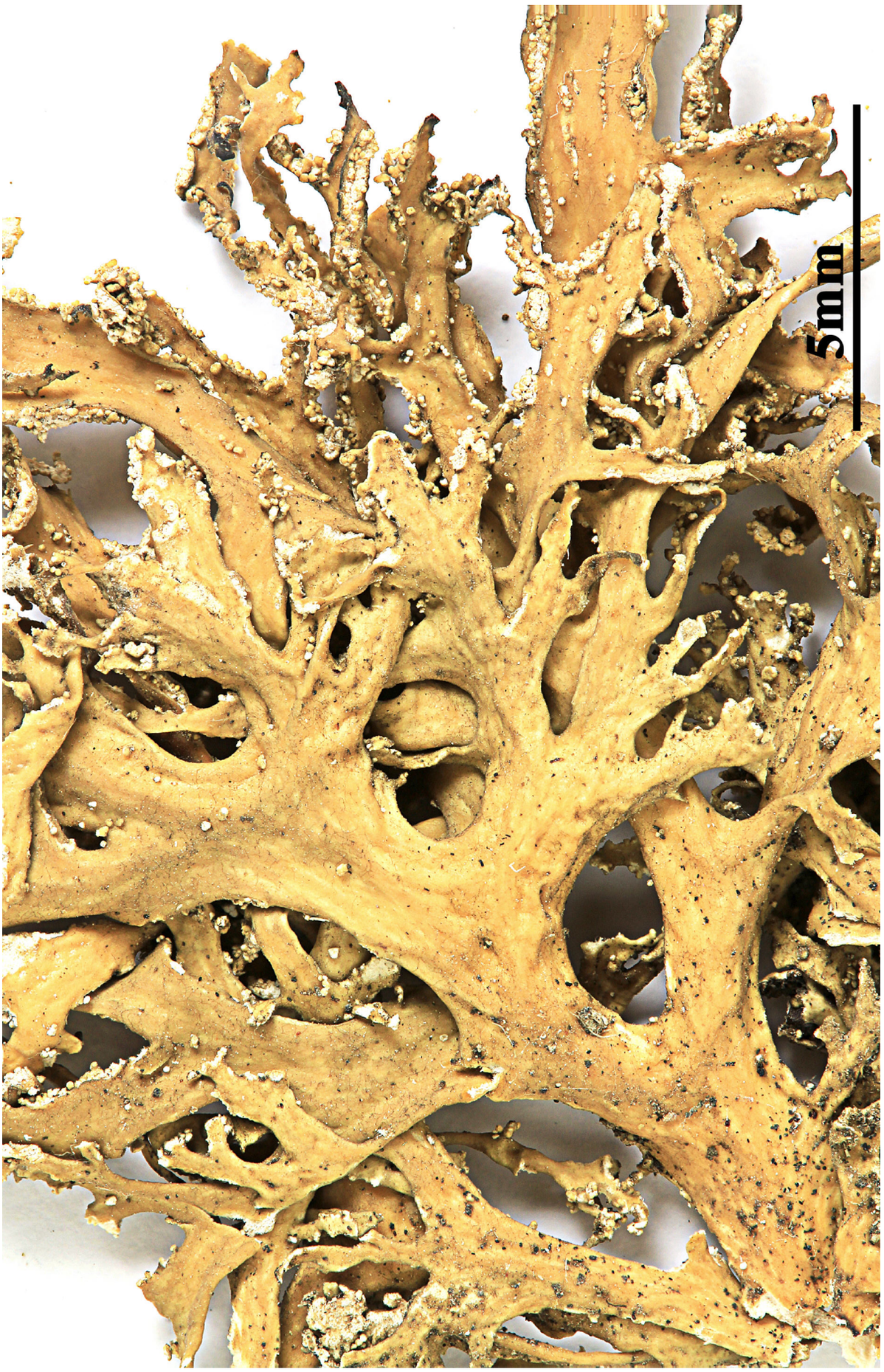
Ramalina requienii (De Not.) Jatta, Nuovo G. bot. ital. 24(1): 21 (1892)
= *Ramalina polymorpha var. requienii* De Not. 1846

[VZ1359]. Bulgaria. Pontus, distr. Burgas: in litore 2 km in septentrione ab introitu fluminis Ropotamo prope Sozopol, 3-10 m. Ad scopulos. Leg. A. Kiszely et A. Vězda. Ex A. Vězda: Lichenes Selectis Exsiccati Nr. 1359.

Thallus fruticose, yellowish green to greenish grey, 3-5 cm high, shrubby, composed of rather rigid laciniae emerging from a single basal holdfast. Laciniae flattened to slightly canaliculate, strap-shaped, dichotomously branched, apically often lobulate, 3-8 mm wide, faintly reticulately ridged, with a few laminal pseudocyphellae and mostly marginal, granulose soredia soon transformed into granular to lobulate isidia. Cortex thick, 2-layered, the outer part paraplectenchymatous, the inner part with radially arranged chondroid strands; medulla compact. Apothecia absent or scarce, lecanorine, 2-4 mm across, concolorous with thallus, with a concave disc and a rugose thalline margin. Epithecium pale brownish-olive; hymenium and hypothecium colourless; paraphyses thick-walled, richly branched in upper part. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass) never penetrating through the entire d-layer, the wall K/I-, but the thin outer gel K/I+ blue, Bacidia-type. Ascospores 1-septate, hyaline, narrowly ellipsoid, slightly curved or straight, 10-12 x 4-5 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC- or KC+ pale yellow (cortex only), P-; medulla UV+ white. Chemistry: cortex with usnic acid; medulla with divaricatic acid. - A Mediterranean species found on coastal siliceous rocks subject to humid maritime winds; exceptionally found also far from the coast, and then in sheltered, but light-rich situations.

Ramalina requienii



Ramalina requienii

Ramalina requienii (De Not.) Jatta, Nuovo G. bot. ital. 24(1): 21 (1892)
= *Ramalina polymorpha var. requienii* De Not. 1846

[VZ1019], Gallia. Var, insula Port-Cros, scopulus Port-Man, 15 m. Ad saxa silicea. Leg. Y. Rondon, 29.05.1971. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1019.

Thallus fruticose, yellowish green to greenish grey, 3-5 cm high, shrubby, composed of rather rigid laciniae emerging from a single basal holdfast. Laciniae flattened to slightly canaliculate, strap-shaped, dichotomously branched, apically often lobulate, 3-8 mm wide, faintly reticulately ridged, with a few laminal pseudocyphellae and mostly marginal, granulose soredia soon transformed into granular to lobulate isidia. Cortex thick, 2-layered, the outer part paraplectenchymatous, the inner part with radially arranged chondroid strands; medulla compact. Apothecia absent or scarce, lecanorine, 2-4 mm across, concolorous with thallus, with a concave disc and a rugose thalline margin. Epithecium pale brownish-olive; hymenium and hypothecium colourless; paraphyses thick-walled, richly branched in upper part. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass) never penetrating through the entire d-layer, the wall K/I-, but the thin outer gel K/I+ blue, Bacidia-type. Ascospores 1-septate, hyaline, narrowly ellipsoid, slightly curved or straight, 10-12 x 4-5 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC- or KC+ pale yellow (cortex only), P-; medulla UV+ white. Chemistry: cortex with usnic acid; medulla with divaricatic acid. - A Mediterranean species found on coastal siliceous rocks subject to humid maritime winds; exceptionally found also far from the coast, and then in sheltered, but light-rich situations.

Ramalina requienii

Ramalina requienii

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Ramalina requienii (De Not.) Jatta, Nuovo G. bot. ital. 24(1): 21 (1892)
= *Ramalina polymorpha var. requienii* De Not. 1846

[VZ2225], Italia. Sardinia. Prov. Sassari: Nurra, scopulum Punta (Capo) Falcone dictum, 150 m. Ad saxa schistosa. Leg. A. Vězda, 19.07.1987. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 2225.

Thallus fruticose, yellowish green to greenish grey, 3-5 cm high, shrubby, composed of rather rigid laciniae emerging from a single basal holdfast. Laciniae flattened to slightly canaliculate, strap-shaped, dichotomously branched, apically often lobulate, 3-8 mm wide, faintly reticulately ridged, with a few laminal pseudocyphellae and mostly marginal, granulose soredia soon transformed into granular to lobulate isidia. Cortex thick, 2-layered, the outer part paraplectenchymatous, the inner part with radially arranged chondroid strands; medulla compact. Apothecia absent or scarce, lecanorine, 2-4 mm across, concolorous with thallus, with a concave disc and a rugose thalline margin. Epithecium pale brownish-olive; hymenium and hypothecium colourless; paraphyses thick-walled, richly branched in upper part. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass) never penetrating through the entire d-layer, the wall K/I-, but the thin outer gel K/I+ blue, Bacidia-type. Ascospores 1-septate, hyaline, narrowly ellipsoid, slightly curved or straight, 10-12 x 4-5 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC- or KC+ pale yellow (cortex only), P-; medulla UV+ white. Chemistry: cortex with usnic acid; medulla with divaricatic acid. - A Mediterranean species found on coastal siliceous rocks subject to humid maritime winds; exceptionally found also far from the coast, and then in sheltered, but light-rich situations.

Ramalina requienii

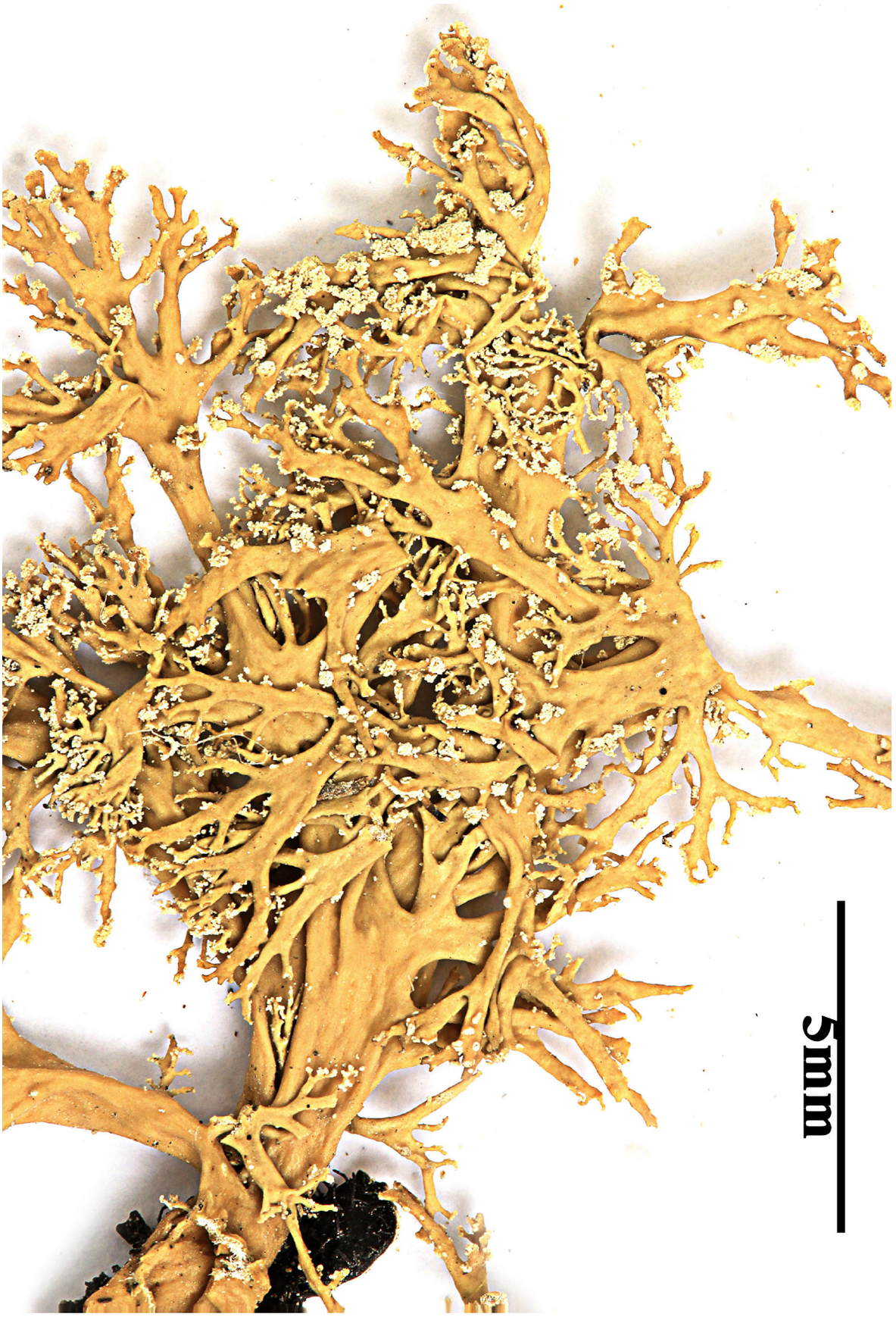
Ramalina requienii

Ramalina roesleri Hochst. ex Schaer., Enum. critic. lich. europ. (Bern): 9 (1850)

[VZ1119], Romania. Distr. Hunedoara. Montes Retezat, in valle Lapişul Mare, prope Gura Apei, 1000 m. Ad truncos et in ramulis *Alnorum incanarum*. Leg. A. Vězda, 07.06.1972. Ex A. Vězda: Lichens Selecti Exsiccati Nr. 1119.

Thallus fruticose, pale green, 1-6 cm long, loosely tufted, erect to subpendulous, the primary branches flattened, 1-2.5 mm broad, richly branched, the secondary branches mostly arranged at right angles to the main axis, often repeatedly branched, ending in many fine, terete, often apically hooked branchlets. Surface smooth, glossy, sparingly to abundantly fenestrate. Medulla subfistulose, arachnoid to hollow in the inflated parts. Soralia punctiform, terminal or subterminal, consisting of a few granular soredia. Apothecia very rare, lecanorine, terminal or subterminal, with an often pruinose disc. Epithecium pale olive; hymenium and hypothecium colourless; paraphyses thick-walled, richly branched in upper part. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass) never penetrating through the entire d-layer, the wall K/I-, but the thin outer gel K/I+ blue, Bacidia-type. Ascospores 1-septate, hyaline, straight, 11-16 x 5-6.5 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC- or KC+ pale yellow (cortex only), P-. UV-. Chemistry: cortex with usnic acid; medulla with substances of the sekikaic acid complex.

Ramalina roesleri



Ramalina roesleri

Ramalina sinensis Jatta, G. bot. ital., n.s. 9: 462 (1902)
= *Ramalina calicaris f. fibrillosa* Th. Fr.
= *Ramalina calicaris var. nervosa* (Nyl.) Räsänen
= *Ramalina fastigiata var. nervosa* Nyl.
= *Ramalina landroënsis* Zopf
= *Ramalina nervosa* (Nyl.) Räsänen

[VZ1418], U.R.S.S. Caucasus Magnus, Osetija Sept., distr. Ordžonikidze: In valle rivi Fiagdon, supra vicum Zivgis, 1700m. Ad corticem *Juniperi* sp.. Leg. E. Jelínková et A. Vězda, 31.05.1976. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1418.

Thallus fruticose, straw-coloured to greenish, flaccid when wet, loosely tufted or with more or less scattered up to 5 cm long (usually less), erect or hanging laciniae growing from a basal holdfast. Laciniae fan-shaped, to 2(-3) cm wide at apex, simple or palmately divided, flattened, rather thin, slightly dorsiventral, with the lower surface paler than the upper one. Upper surface longitudinally or reticulately wrinkled, with elevated chondroid strands; lower surface with white, decorticate depressions. Cortex 2-layered, the outer part paraplectenchymatous, the inner part of cartilaginous chondroid strands; medulla white, compact. Apothecia lecanorine, laminal or subterminal, 3-10 mm across, with a flat to convex, greenish disc, and a concolorous, ridged-reticulate thalline margin. Epithecium pale brownish-olive; hymenium and hypothecium colourless; paraphyses thick-walled, richly branched in upper part. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass) never penetrating through the entire d-layer, the wall K/I-, but the thin outer gel K/I+ blue, Bacidia-type. Ascospores 1-septate, hyaline, ellipsoid, straight or curved, 12-17 x 6-7 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC- or KC+ pale yellow (cortex only), P-, UV-. Chemistry: cortex with usnic acid; medulla without lichen substances (traces of atranorin reported from N America). - On twigs of trees and shrubs in montane forests, this species is abundant in *Picea obovata*-stands along rivers in Central Asia.

Ramalina sinensis

Ramalina sinensis

Ramalina stenospora Müll. Arg., Flora, Regensburg 60: 477 (1877)

[VZ1625], USA. Louisiana. East Baton Rouge Paroecia. Baton Rouge, ad occidentem versus a Nicholson Drive, prope flumen Mississippi, loco Ben Hur dicto. Ad ramos arboris (*Sapium sebiferum*). Leg. S. C. Tucker (no. 17268), 16.08.1977. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1625.

After Howe, R.H, (1914) - Bryologist 17(5):65-68:

ORIGINAL DESCRIPTION: Thalli laciniae 1-1.5 pollicares, lanceolato-lineares, depauperato-lineari-laciniatae, plano-compressae, subinde minute lacinulatae, 1-4 mm latae, subacuminatae, rigescentes, fuscescenti - pallidae, irregulariter et crebre albido-striato-costulatae, caeterum laeves, v. interdum tuberculis paucis marginalibus adspersae, opacae; apothecia lateralia et terminalia, praeter juvenilia subpapillari-gyalectiformia circ. 2-3.5 mm. lata, podicellata, dorso subconcentrice subsoredioso-albo-lineolata margo subinteger et tenuis, discus demum plano-convexus, albescenti-pruinosus; sporae 15-22 µm. longae, tantum 3-3.5 µm latae, naviculares, utrinque acutuisculae, rectae v. hinc inde obsolete curvatae v. obsolete sigmoideae.

DIAGNOSIS: Thallus caespitose, compressed, rigid, striate-tuberculate apices compressed, apothecia lateral, spores substraight (KOH+ ?)

DESCRIPTION: Thallus caespitose (max. length 8 cm), rigid, stramineous to virescent; cortex glabrous, striate-tuberculate; laciniae compressed throughout, dichotomous, apices compressed attenuate. Apothecia common, lateral, occasionally spurred, concave at length convex, marginate (max. diam. 4 mm), disk buff. Spores fusiform, straight (I8) 22-34 x 3-6 µm. On trees.

Ramalina stenospora

Ramalina stenospora

Ramalina stenospora Müll. Arg., Flora, Regensburg 60: 477 (1877)

[VZ1625], USA. Louisiana. East Baton Rouge Paroecia. Baton Rouge, ad occidentem versus a Nicholson Drive, prope flumen Mississippi, loco Ben Hur dicto. Ad ramos arboris (*Sapium sebiferum*). Leg. S. C. Tucker (no. 17268), 16.08.1977. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1625.

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ORIGINAL DESCRIPTION: Thalli laciniae 1-1.5 pollicares, lanceolato-lineares, depauperato-lineari-laciniatae, plano-compressae, subinde minute lacinulatae, 1-4 mm latae, subacuminatae, rigescentes, fuscescenti - pallidae, irregulariter et crebre albido-striato-costulatae, caeterum laeves, v. interdum tuberculis paucis marginalibus adspersae, opacae; apothecia lateralia et terminalia, praeter juvenilia subpapillari-gyalectiformia circ. 2-3.5 mm. lata, podicellata, dorso subconcentrice subsoredioso-albo-lineolata margo subinteger et tenuis, discus demum plano-convexus, albescenti-pruinosus; sporae 15-22 µm. longae, tantum 3-3.5 µm latae, naviculares, utrinque acutuisculae, rectae v. hinc inde obsolete curvatae v. obsolete sigmoideae.

DIAGNOSIS: Thallus caespitose, compressed, rigid, striate-tuberculate apices compressed, apothecia lateral, spores substraight (KOH+ ?)

DESCRIPTION: Thallus caespitose (max. length 8 cm), rigid, stramineous to virescent; cortex glabrous, striate-tuberculate; laciniae compressed throughout, dichotomous, apices compressed attenuate. Apothecia common, lateral, occasionally spurred, concave at length convex, marginate (max. diam. 4 mm), disk buff. Spores fusiform, straight (I8) 22-34 x 3-6 µm. On trees.

Ramalina stenospora

Ramalina stenospora

Ramalina subdecipiens J. Steiner, Öst. bot. Z. 54(10): 353 (1904)

[VZ1470], Insulae Canarienses. Tenerife: Taganana, prope El Bailadero. Ad scopolis. Leg. W. L. Culberson et C. F. Culberson (16114), 30.05.1972. - Usnic acid et salzinic acid by TLC, anal. C. F. Culberson. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR.1470.

Thallus saxicolous, rigid, ascending or subpendulous, 5-12(18) cm long, with a number of laciniae from a broad holdfast. Laciniae stramineous, green-grey, or pale yellow-brown, shiny, subshiny, or matt, unbranched or dichotomously to irregularly branched, linear, sublinear, or with more or less cuneate internodes, flat or very rarely weakly channeled, (0.5)4-8(11) mm broad, smooth, pitted, or variously ridged and wrinkled, often with broad, cartilaginous, slightly raised longitudinal striae margins smooth or undulate, sometimes tuberculate, often with short, divergent side branches. Soralia absent. Shortly linear, longitudinal pseudocyphellae occasional near the base, rarely along the length of the laciniae. Cortex 40-50 µm thick, chondroid tissue forming a discontinuous cylinder or separate strands adjoining the cortex, in proximal parts interconnected across the dense medulla. Pycnidia marginal and/or laminal, partly or wholly with black ostioles (not apparent in all specimens). Apothecia common in distal half of straight or geniculate branches, disc flat at maturity, (3)5-8(12) mm in diameter, often radially split or with crenate margin, spores straight or slightly curved, 10-13 x 3.5-5 µm. TLC: salazinic acid.

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Ramalina subdecipiens

Ramalina subdecipiens

Ramalina subdecipiens

Ramalina subfraxinea* var. *leiodea (Nyl.) G.N. Stevens, Bull. Br. Mus. nat. Hist., Bot. 16(2): 207 (1987)
= *Ramalina leiodea* (Nyl.) Müll. Arg., Flora, Regensburg 66(2): 21 (1883)
= *Ramalina subfraxinea* subsp. *leiodea* Nyl., Bull. Soc. linn. Normandie, sér. 2 4(2): 141 (1870)

[VZ2273], Australia. Queensland. Fig Tree Point in australe a Wynnum, ca. 30 km ad occidentem a Brisbane, in litore. In ramulis fruticum ("mangroves"). Leg. J. Hafellner (no. 18452) et R. Rogers, 2.8.1986. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 2273.

Thallus corticolous, grey-green, caespitose, rigid, erect to subpendulous, up to 4 cm high, exceptionally to 9 cm; branching subdichotomous, sparse to moderate; branch width (0.5-)2-4 mm, branches compressed, flat or canaliculate when narrow, apices attenuate; surface matt, smooth to rugose, short linear pseudocyphellae sometimes present; holdfast delimited; soralia absent. Apothecia common, marginal and subterminal, rarely laminal, small thalli produce subterminal apothecia subtended by a spur; disc 2-3 mm diam., concave to plane; margin entire or incised at maturity; spores ellipsoid, straight or slightly curved; 10-12(-16) x 4-5 µm. Chemistry. Boninic acid (M), 2-0-methylsekikaic acid (m), 2,4'-di-0-methylnorsekikaic acid (m), 4'-0-methylpaludosic acid (m), 4,4'-di-0-methylcryptochlorophaeic acid (m), and usnic acid. - Remarks. Prior to the present study *R. subfraxinea* var. *leiodea* had species status. The history of this taxon, however, is one of name changing since its first identification by Nylander in 1859. Specimens of this taxon have been identified as follows: *Ramalina ecklonii* Sprengel (Nylander, 1859); *Ramalina calicaris* f. *ecklonii* (Sprengel) Nyl. (Nylander, 1861); *Ramalina subfraxinea s*subsp. *leiodea* Nyl. (Nylander, 1870) and *Ramalina leiodea* Nyl. (Nylander, 1888). A thorough investigation of specimens of this taxon held at PC and H was undertaken by Stevens (1982). It was found that two acid races (viz. boninic acid and cryptochlorophaeic acid) were present in taxa bearing this name. Because the material designated lectotype contained boninic acid, the species *R. boninensis* Asah. and R. *boninensis* f. *subcalicariformis* were reduced to synonomy at that time. Krog & Swinscow (1976) commented on the similarity between the East African taxon *R. maritima* and material from Bourbon I. and Mauritius. Specimens from the latter two areas had been identified as *R. subfraxinea* by Nylander (1870). Chemical analysis showed they contained boninic acid (Krog & Swinscow, 1976). Morphologically and chemically *R. subfraxinea*

var. *leiodea* and *R. maritima* resemble one another but differences in spore size sets them apart, the former taxon produces spores in the range 8-16 x 4-5 µm, whereas *R. maritima* spores lie in the range 18-25 x 5-6 µm.

Ramalina subfraxinea* var. *leiodea

Ramalina subfraxinea* var. *leiodea

Ramalina subgeniculata Nyl., Bull. Soc. linn. Normandie, sér. 2 4(2): 167 (1870)

[VZ2196], Insulae Canarienses. Tenerife. peninsula Anaga, Las Mercedes, Uneltas de Tanagama, inter Roque de los Pasos et Tanagama, 450-850 m. In ramulis *Ericae* arboreae. Leg T. Pócs (87202), 17.07.1987, det. E. Farkas. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 2196.

Thallus fruticose, erect to subpendent, 1-5 cm high, rather firm, yellowish green to greenish white (often with blackened areas). Laciniae originating from a common basal holdfast, simple to richly branched, 0.5-3(-4) mm wide, usually compressed and more or less canaliculate, sometimes fenestrate, without pseudocyphellae. Cortex 2-layered, the outer part paraplectenchymatous, the inner part of cartilaginous chondroid strands; medulla white, lax, hollow at least in the terminal part of the laciniae. Apothecia common, lecanorine, 2-3.5(-4.5) mm across, apical or subapical, sometimes lateral, with a concave to flat, greenish disc, and a smooth thalline margin, often with a spur-like extension at the base. Epithecium pale olive; hymenium and hypothecium colourless; paraphyses thick-walled, richly branched in upper part. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass) never penetrating through the entire d-layer, the wall K/I-, but the thin outer gel K/I+ blue, Bacidia-type. Ascospores 1-septate, hyaline, ellipsoid, 12-14(-16) x 4.5-6(-7) µm. Photobiont chlorococcoid. Spot tests: medulla K-, C-, KC-, P-, UV+ white: apothecial margin often K+ red, P+ red. Chemistry: cortex with usnic acid; medulla with divaricatic acid; salazinic or protocetraric acid often present in the apothecial margin. - Note: a Mediterranean-Macaronesian species found on twigs of shrubs and young trees in warm-humid Mediterranean areas, generally near the coast.

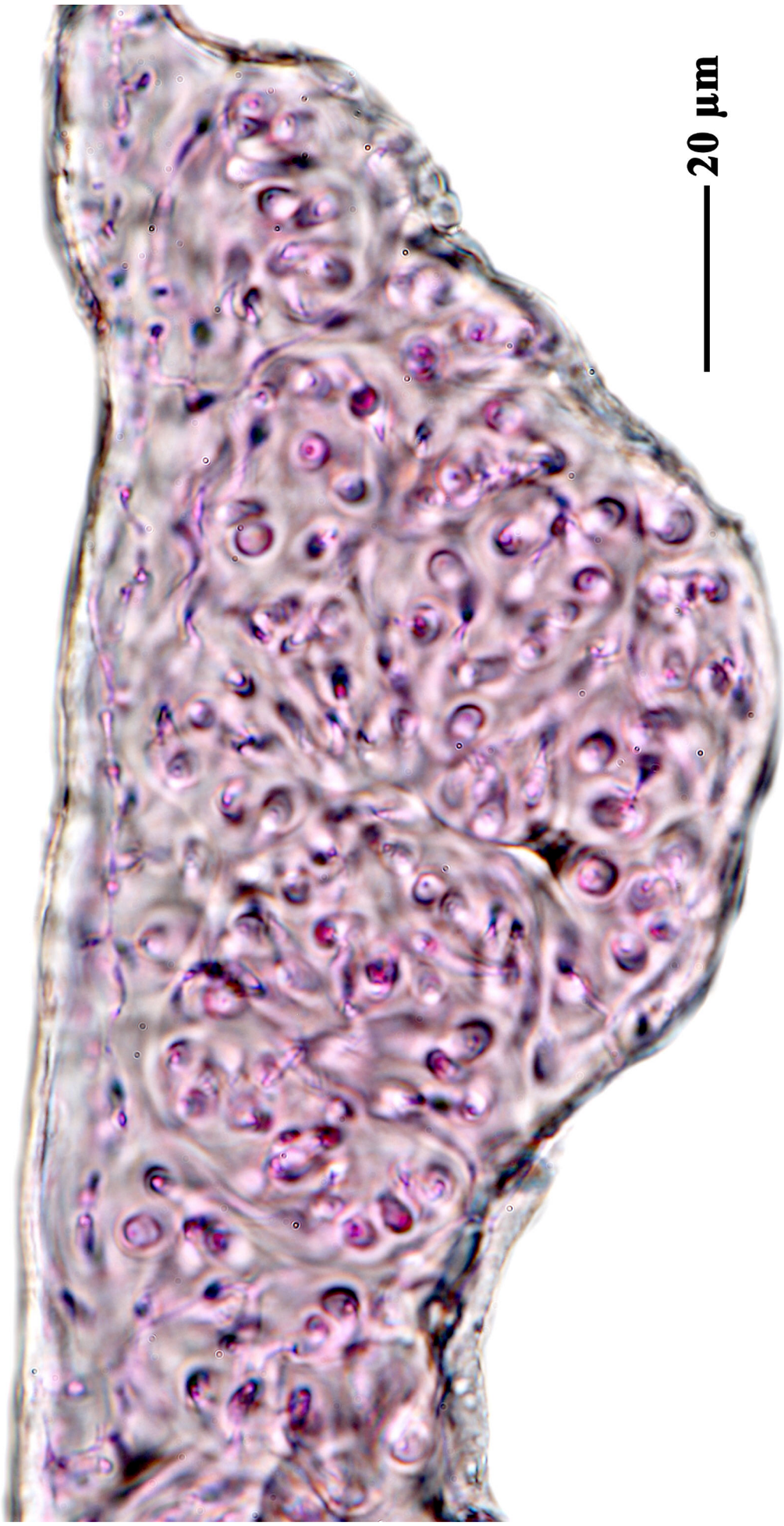
Ramalina subgeniculata

Ramalina subgeniculata

Ramalina subgeniculata

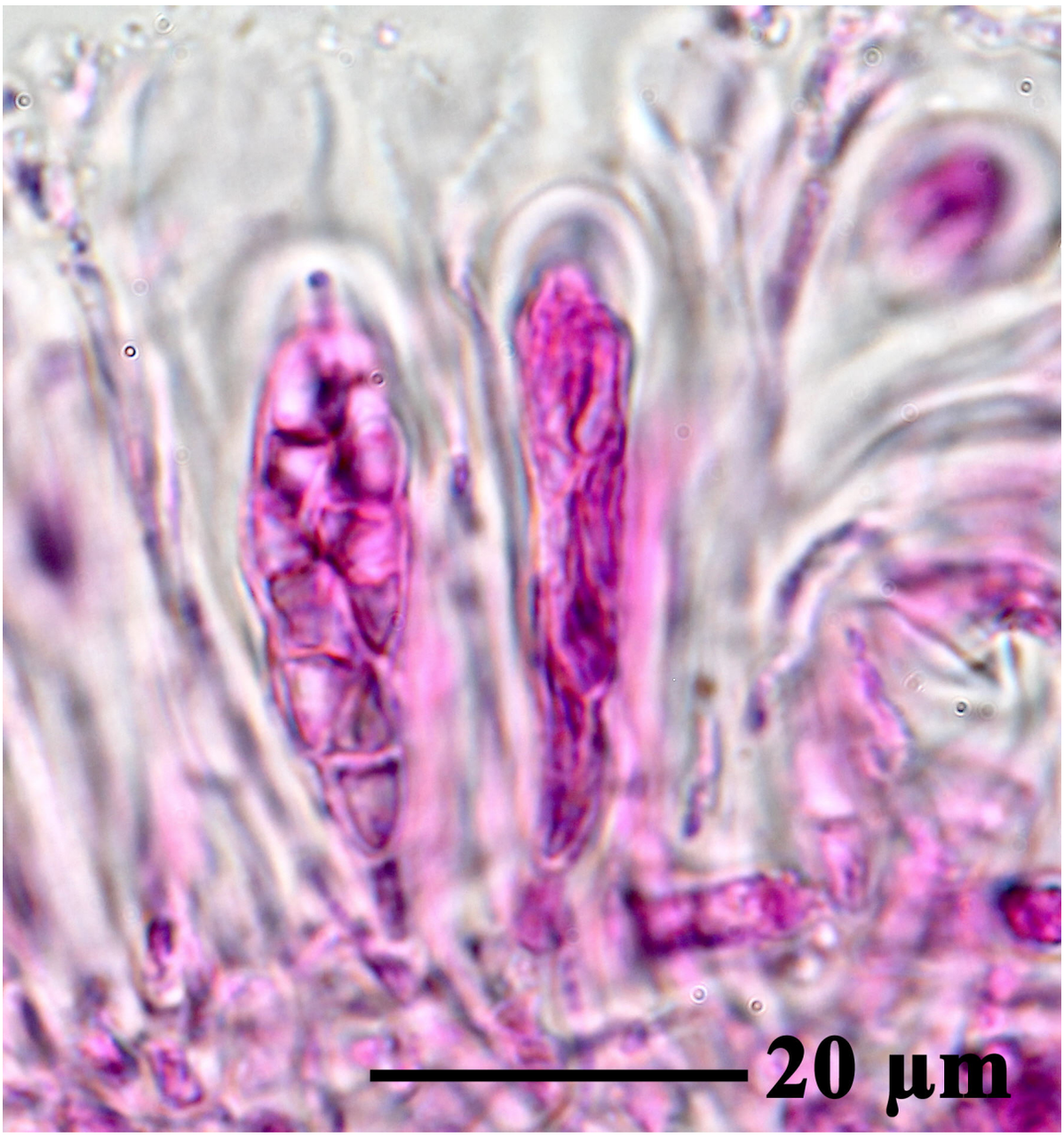
Ramalina subgeniculata

Ramalina subgeniculata

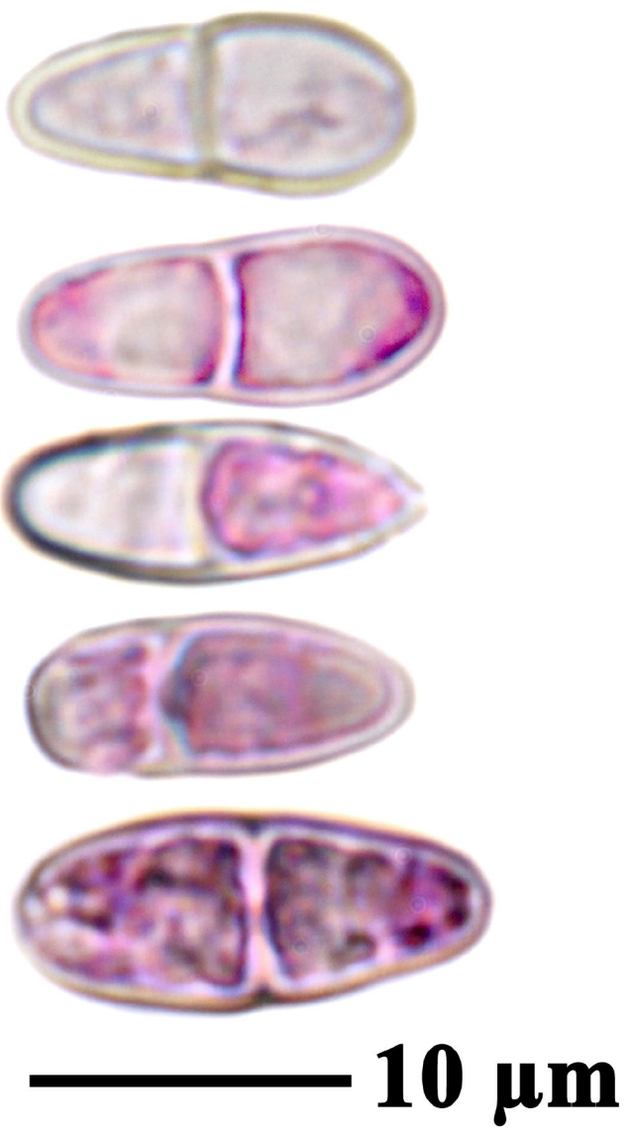


Ramalina subgeniculata

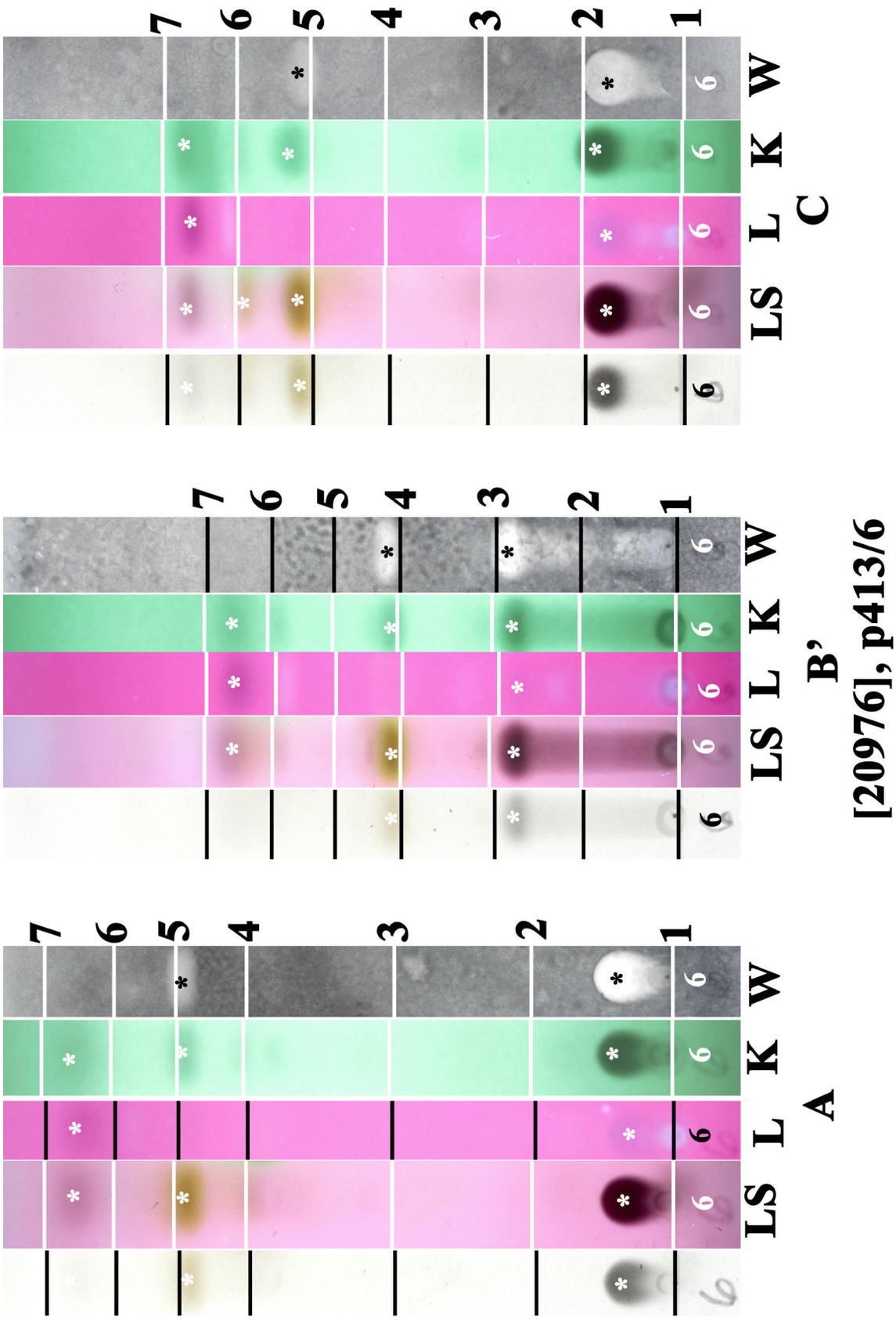
Ramalina subgeniculata



Ramalina subgeniculata



Ramalina subgeniculata



Usnic acid, protocetraric acid, unknowns.

Ramalina subgeniculata

Ramalina tingitana Salzm., Bull. Soc. linn. Normandie, sér. 2 4(2): 160 (1870)

[VZ2437], Italia. Sardinia. Prov. Cagliari: insula S. Antióco, scopulum "Capo Siddi" dictum, 10 m. Ad lapides supra terram iacentes, in litore. Leg. P. L. Nimis, C. Roux, M. Tretiach et A. Vězda. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 2437.

Thallus fruticose, greenish or yellowish green, somewhat glossy, consisting of 2-5 cm long, (2-)3-7(-12) mm wide, flattened, sometimes slightly canaliculated, simple or sparingly branched, ridged and foveolate laciniae; pseudocyphellae absent or very scarce. Cortex compact, continuous 30-40 µm thick, underlain by longitudinally oriented, 60-230 µm thick chondroid strands; medulla white, rather lax. Apothecia lecanorine, subterminal, 5-6(-8) mm across, with a yellowish green disc and a raised thalline margin. Epithecium pale olive; hymenium and hypothecium colourless; paraphyses thick-walled, richly branched in upper part. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass) never penetrating through the entire d-layer, the wall K/I-, but the thin outer gel K/I+ blue, Bacidia-type. Ascospores 1-septate, hyaline, ellipsoid, straight to slightly curved, 10-13.5 x 3.5-6 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC- or KC+ yellow (cortex only), P-, UV-. Chemistry: cortex with usnic acid, medulla with divaricatic acid and terpenoids. - Note: a Mediterranean-Macaronesian lichen found on coastal siliceous rocks, exclusively Tyrrhenian in Italy; it often occurs together with the sibling species *R. inaequalis* (see Spjut & al. 2020), the two species being difficult to distinguish on the basis of morphological characters only.

Ramalina tingitana

Ramalina tingitana

Ramalina usnea (L.) R. Howe, Bryologist 17: 81, fig. 1, pl. 12, figs 1-2 (1914)
= *Alectoria usneoides* (Ach.) Ach., Lich. Univ.: 594 (1810)
= *Lichen usnea* L., Mant. Pl. 1: 131 (1767)
= *Parmelia usneoides* Ach., Methodus, Sectio post. (Stockholmiæ): 270 (1803)
= *Ramalina usneoides* (Ach.) Mont., in Gaudichaud, Annls Sci. Nat., Bot., sér. 2 8: 46 (1837)

[VZ1682], Cuba. Oriente. Prov. Holguin, in summo montis Cerro Galano, 360 m. Ad arbores. Leg. T. Pócs (no. 9026) et L. Catasús, 18.10.1978, det. A. Vězda. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1682

Thallus corticolous, pendulous, up to 30 cm long, irregularly branched, solid. Branches flattened or rarely subcylindrical, often contorted, apices attenuate to terete, 0.5-2.5 mm wide. Soredia absent. Pseudocyphellae linear, marginal and laminal. Cortex more or less distinct, c. 10 µm thick; chondroid tissue clearly and heavily cracked. Apothecia common, marginal or laminal; disc flat, becoming convex with age; thalline exciple entire, without pseudocyphellae; hymenium 40-45 µm; subhymenium 20-30 µm; proper exciple 50-70 µm thick; ascospores long-fusiform, 2-celled, often with 3-6 additional septa, (16-)18-22(-26) x 3-4 µm. Chemistry: Race 1, usnic, homosekikaic, sekikaic, 4'-O-demethylhomosekikaic (+), 4'-O-demethylsekikaic (trace), 4'-O-methylnorhomosekikaic acid, and 4'-O-methylnorsekikaic acids (trace); Race 2, usnic, divaricatic, homosekikaic (±), 4'-O-demethylhomosekikaic (+), 4'-O-demethylsekikaic (trace), 4'-O-methylnorhomosekikaic, and 4'-O-methlynorsekikaic acids (trace). - Notes: This species is characterized by the: (1) solid, pendulous branches up to 30 cm long; (2) flattened, often contorted branches without soredia; (3) striate surface with linear pseudocyphellae; (4) cracked chondroid tissue; (5) long-fusiform ascospores 16-22 x 3-4 µm; (6) presence of depsides (sekikaic acid agg. or divaricatic acid). - *Ramalina usnea* has a broad distributional range in the Western Hemisphere, having been reported from Argentina, Brazil, the Galapagos Islands, North America (Florida and Texas), Paraguay, and Uruguay (Landron 1972; Rundel 1978). Four chemical races have been reported in *R. usnea*: (1) a divaricatic acid race [the lectotype specimen belongs to this race; Imshaug (1972); Landron (1972)]; (2) a sekikaic acid race; (3) a bourgeanic acid race; (4) a medullary-substancedeficient race (Imshaug 1972; Landron 1972). With regard to the Brazilian material, the main substances are divaricatic acid and sekikaic acid, but a sizeable part of

the population may produce both of them. *Ramalina usnea* with cylindrical branches very much resembles *R. anceps*, from which it is distinguished by the long-fusiform ascospores and by the absence of norstictic acid, which is constantly produced in the latter species. *Ramalina usnea* might be confused with *R. sprengelii*, which differs in having short-fusiform ascospores, non-cracked chondroid tissue of branches, and in lacking medullary substances.

Ramalina usnea

Ramalina usnea

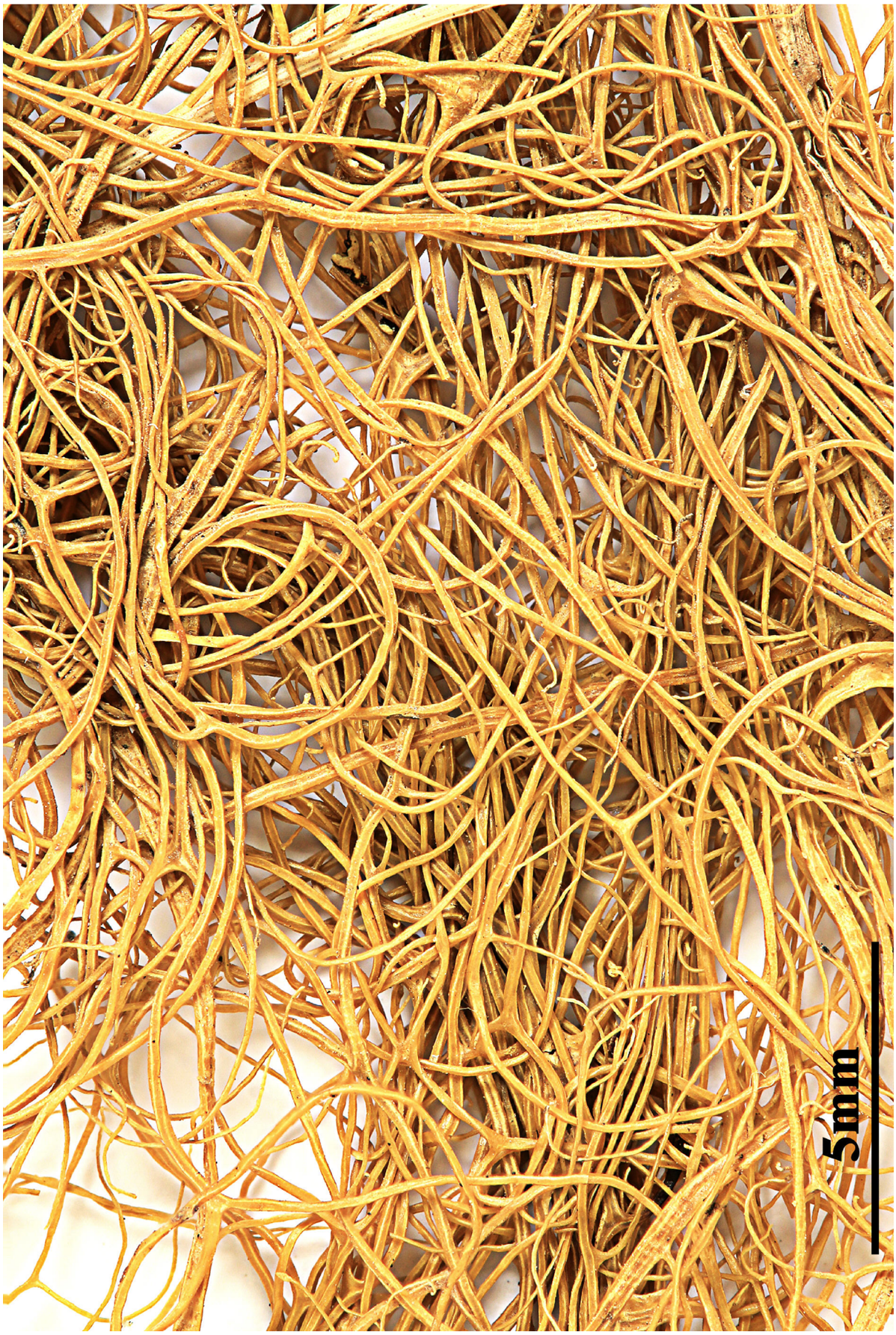
Ramalina usnea (L.) R. Howe, Bryologist 17: 81, fig. 1, pl. 12, figs 1-2 (1914)
= *Alectoria usneoides* (Ach.) Ach., Lich. Univ.: 594 (1810)
= *Lichen usnea* L., Mant. Pl. 1: 131 (1767)
= *Parmelia usneoides* Ach., Methodus, Sectio post. (Stockholmiæ): 270 (1803)
= *Ramalina usneoides* (Ach.) Mont., in Gaudichaud, Annls Sci. Nat., Bot., sér. 2 8: 46 (1837)

[VZ2420], Uruguay. Dept. Treinta y Tres, Quebrada de los Cuervos. Ad corticem arborum (*Eucalyptus* sp.). Leg. H. S. Osorio (no. 6043), 22.03.1970. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 2420.

Thallus corticolous, pendulous, up to 30 cm long, irregularly branched, solid. Branches flattened or rarely subcylindrical, often contorted, apices attenuate to terete, 0.5-2.5 mm wide. Soredia absent. Pseudocyphellae linear, marginal and laminal. Cortex more or less distinct, c. 10 µm thick; chondroid tissue clearly and heavily cracked. Apothecia common, marginal or laminal; disc flat, becoming convex with age; thalline exciple entire, without pseudocyphellae; hymenium 40-45 µm; subhymenium 20-30 µm; proper exciple 50-70 µm thick; ascospores long-fusiform, 2-celled, often with 3-6 additional septa, (16-)18-22(-26) x 3-4 µm. Chemistry: Race 1, usnic, homosekikaic, sekikaic, 4'-O-demethylhomosekikaic (+), 4'-O-demethylsekikaic (trace), 4'-O-methylnorhomosekikaic acid, and 4'-O-methylnorsekikaic acids (trace); Race 2, usnic, divaricatic, homosekikaic (±), 4'-O-demethylhomosekikaic (+), 4'-O-demethylsekikaic (trace), 4'-O-methylnorhomosekikaic, and 4'-O-methlynorsekikaic acids (trace). - Notes: This species is characterized by the: (1) solid, pendulous branches up to 30 cm long; (2) flattened, often contorted branches without soredia; (3) striate surface with linear pseudocyphellae; (4) cracked chondroid tissue; (5) long-fusiform ascospores 16-22 x 3-4 µm; (6) presence of depsides (sekikaic acid agg. or divaricatic acid). - *Ramalina usnea* has a broad distributional range in the Western Hemisphere, having been reported from Argentina, Brazil, the Galapagos Islands, North America (Florida and Texas), Paraguay, and Uruguay (Landron 1972; Rundel 1978). Four chemical races have been reported in *R. usnea*: (1) a divaricatic acid race [the lectotype specimen belongs to this race; Imshaug (1972); Landron (1972)]; (2) a sekikaic acid race; (3) a bourgeanic acid race; (4) a medullary-substancedeficient race (Imshaug 1972; Landron 1972). With regard to the Brazilian material, the main substances are divaricatic acid and sekikaic acid, but a sizeable part of the population may produce both of them. *Ramalina usnea* with cylind-

rical branches very much resembles *R. anceps*, from which it is distinguished by the long-fusiform ascospores and by the absence of norstictic acid, which is constantly produced in the latter species. *Ramalina usnea* might be confused with *R. sprengelii*, which differs in having short-fusiform ascospores, non-cracked chondroid tissue of branches, and in lacking medullary substances.

Ramalina usnea



Ramalina usnea

Ramalina willeyi R. Howe, Bryologist 17(3): 36 (1914)

[VZ2421], U.S.A., Florida. Dade County: prope Homestead. Ad truncos Palmarum secus viam. Leg. W. L. Culberson (no. 10854) et. C. F. Culberson, 12.1962. - Salacinic acid, protocetraric acid, galbinic acid (trace) by TLC, anal. A. Johnson et C. F. Culberson. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 2421.

Thallus fruticose, erect, rigid, up to 7 cm diam., yellowish green, base blackening. Branches solid, round in section, often with short, thorn-like side branches; surface smooth to tuberculate with raised pseudocyphellae; apices filiform. Vegetative diaspores absent. Medulla white; photobiont trebouxioid alga. Ascomata lecanorine apothecia, abundant, terminal or subterminal on branch tips, 1-3 mm diam.; disk concave to convex, pale buff color. Epihymenium yellow-brown; hymenium hyaline, clear; hypothecium hyaline. Asci 8-spored; ascospores hyaline, ellipsoid, 1-septate, 10-15 x 4-6µm. Chemistry. Cortex UV-, K-, KC+ yellow, C-, PD- (usnic acid); medulla UV-, K+ yellow turning red, KC-, C-, PD+ orange (salazinic acid). Substrate and Habitat. On bark and wood.

Ramalina willeyi

Ramalina willeyi

Ramalina willeyi R. Howe, Bryologist 17(3): 36 (1914)

[VZ1697], USA., Carolina Borealis. Carteret County: 6 km ad occidentem ab oppido Atlantic Beach. Ad corticem Quercus virgianae in silva maritima, 19 m. Leg. W. L. Culberson (no. 17494) et C. F. Culberson,16.3.1979. - Annot.: Usnic acid, salazinic acid, galbinic acid, and prozocetraric acid by TLC, anal. A. Johnson Et C. F. Culberson. - Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1697.

Thallus fruticose, erect, rigid, up to 7 cm diam., yellowish green, base blackening. Branches solid, round in section, often with short, thorn-like side branches; surface smooth to tuberculate with raised pseudocyphellae; apices filiform. Vegetative diaspores absent. Medulla white; photobiont trebouxioid alga. Ascomata lecanorine apothecia, abundant, terminal or subterminal on branch tips, 1-3 mm diam.; disk concave to convex, pale buff color. Epihymenium yellow-brown; hymenium hyaline, clear; hypothecium hyaline. Asci 8-spored; ascospores hyaline, ellipsoid, 1-septate, 10-15 x 4-6µm. Chemistry. Cortex UV-, K-, KC+ yellow, C-, PD- (usnic acid); medulla UV-, K+ yellow turning red, KC-, C-, PD+ orange (salazinic acid). Substrate and Habitat. On bark and wood.

Ramalina willeyi

Ramalina willeyi

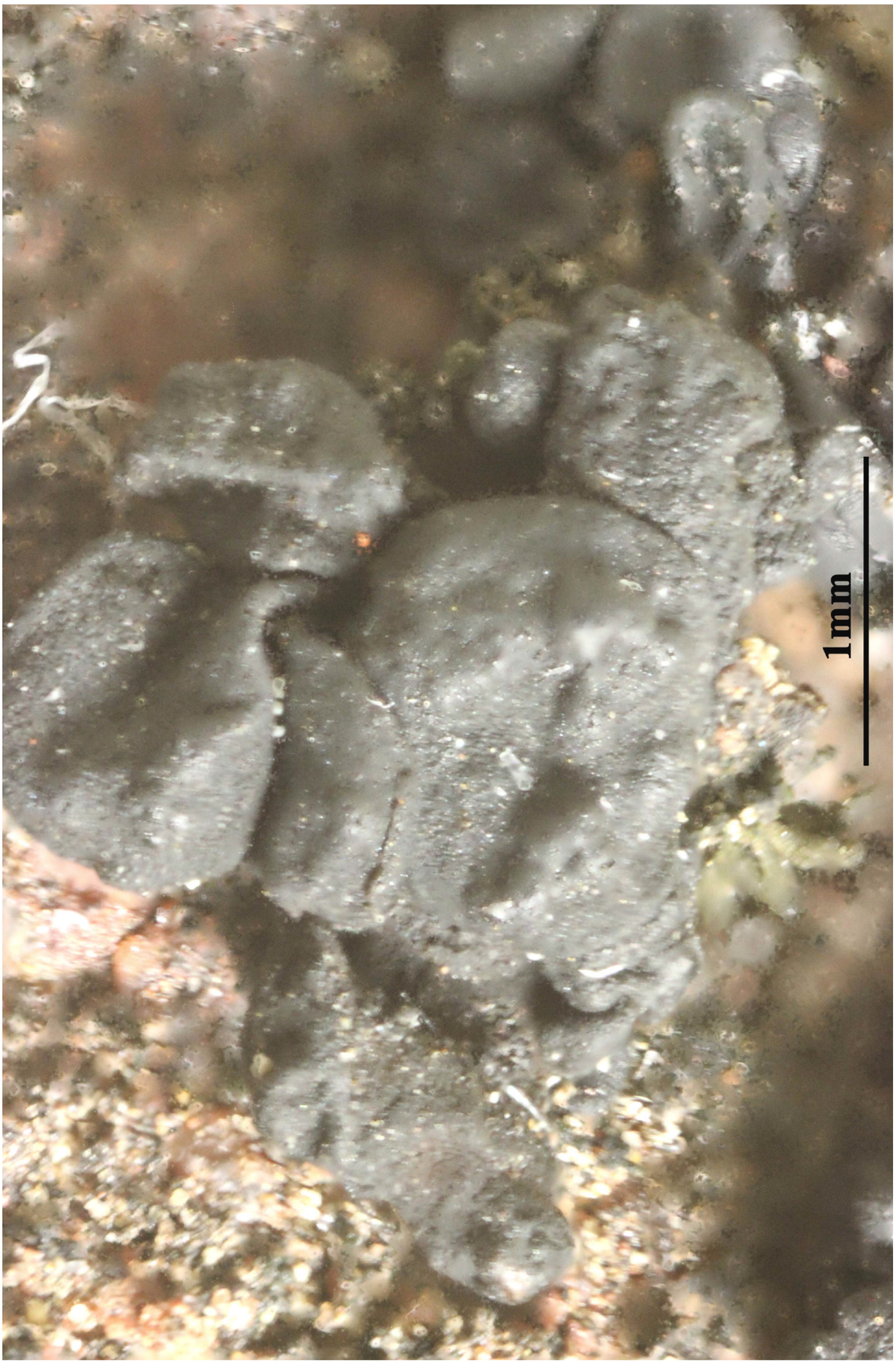
Rechingeria cribellifera (Nyl.) Servít, Annln naturh. Mus. Wien 46: 80 (1931)
= *Omphalaria cribellifera* Nyl. 1884
= *Lichinella cribellifera* (Nyl.) P.P. Moreno & Egea, Cryptog. Bryol.-Lichénol. 13(3): 243 (1992)

[VZ1131], Hispania. Barcelona, Can Mas, prope Bruquers, 250 m. Ad saxa arenacea. Leg. X. Llimona et V. Wirth, 17.7.1972. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1131.

Thallus small-foliose to squamulose-umbilicate, gelatinous when wet, black, usually smooth in upper part, with conspicuous radial folds and ridges on lower surface, (125-)200-400 µm thick, the squamules up to 30 mm wide, forming (5-)10-25 mm wide, polyphyllous rosettes, deeply lobulate, the lobules flat, rounded at tips, 2-3(-4) mm wide, adpressed or slightly ascending especially when fertile; lower surface attached by a central holdfast and sparse rhizohyphae. Thallus 0.25-0.4 mm thick, the outer part 50-110 µm thick, formed by 1.5-2.5 µm thick, mainly anticlinally oriented hyphae with cylindrical to isodiametrical cells, enclosing the photobiont cells, the medullary part of loosely arranged, 1-1.5 µm thick hyphae with cylindrical cells, lacking photobionts. Apothecia thallinocarps, hemiangiocarpous, the ascogonia arising freely beneath the thallus surface, sunken in thallus and difficult to recognize unless when wet, marginal to submarginal, up to 4 mm across (usuallly much less), round to irregularly shaped, with a slightly flat to convex, often fissured disc, without a well differentiated thalline margin. Proper exciple indistinct, up to 5 µm wide; epithecium brownish, 15-25 µm high, mostly continuous; hymenium 50-80(-100) µm high, finally subdivided into 30-60 µm wide, well-separated compartments by intrusions of wedge-shaped, sterile thalline tissue, covered by a continuous layer of sterile tissue separated only by the pore-like discs of the partial hymenia, K/I+ blue turning wine-red; paraphyses 2-2.5 µm thick, weakly capitate; subhymenium discontinuous, 25-40 µm high, K/I+ blue. Asci 16-32-spored, subcylindrical to obclavate, prototunicate, with a thin, one-layered, non-amyloid wall, an amyloid external apical cap, and passive spore discharge via apical rupturing, Lichina-type. Ascospores 1-celled, hyaline, ellipsoid, (5-)6-9(-10) x 2-4(-5) µm. Pycnidia mainly marginal, globose to pyriform, immersed, unilocular, 80-120 µm wide. Conidia ellipsoid to fusiform, 2-5 x 1-2 µm. Photobiont cyanobacterial, chroococcoid, with a few cells measuring 5-10 x 4-7 µm, penetrated by haustoria and surrounded by a

brownish gelatinous sheath. Spot tests: all negative. Chemistry: without lichen substances. - Note: on steeply inclined faces of siliceous rocks, especially in seepage tracks, usually below the montane belt; probably more widespread in Tyrrhenian Italy.

Rechingeria cribellifera

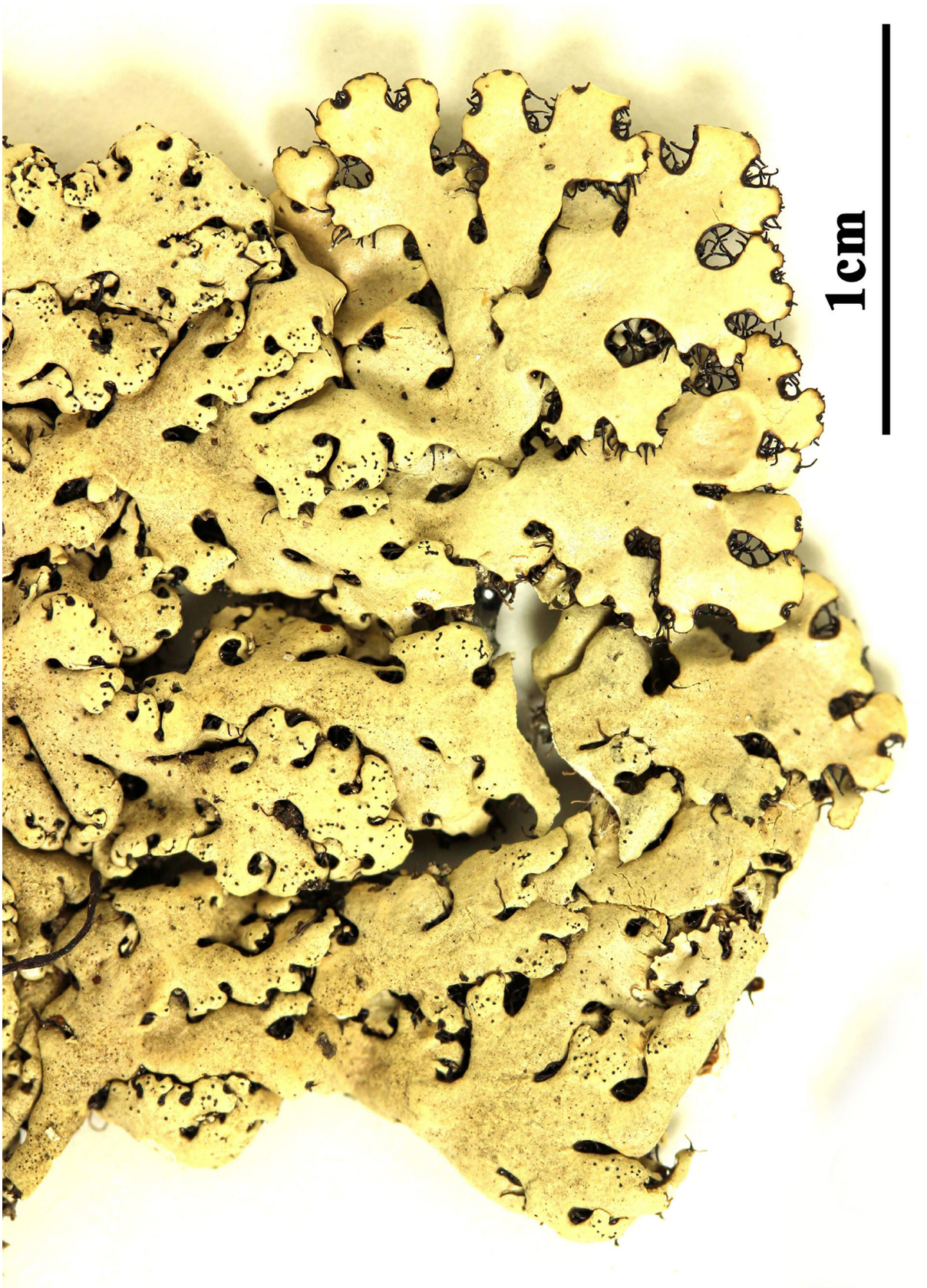


Rechingeria cribellifera

Relicina limbata (Laur.) Hale

[VZ2062], Australia. New South Wales: secus viam dictam Princess Highway circa Malabar Drive, ad australe, versus ad Batemans Bay, 30 m. In rupibus in silva. Leg. M. E. Hale, 19.2.1984. Ex A. VěZDA Lichenes Selecti Exsiccati Nr. 2062.

Thallus foliose, adnate. Lobes contiguous centrally, separate at periphery. not imbricate, linear-elongate, subdichotomously branched, 0.8-3 mm wide, without lobules; cilia dense, to 2.5 mm long, black. Upper surface yellow-green, flat to weakly convex, smooth, cracked on older lobes, maculate, without isidia. Lower surface brown to dark brown; rhizines moderately dense, simple or ocasionally dichotomously branched, coarse, brown to black. Apothecia common, to 6 mm wide. Ascospores 7-10 x 4-6 µm. Conidida bifusiform, 6-8 x 1 µm. Chemistry: cortex K-, UV-; medulla K+ yellow, C-, P+ orange; usnic acid, norstictic acid (trace), stictic acid (major), constictic acid (minor), cryptostictic acid (trace), ±menegazziaic acid (trace), ±hypostictic acid (trace), ±atranorin.



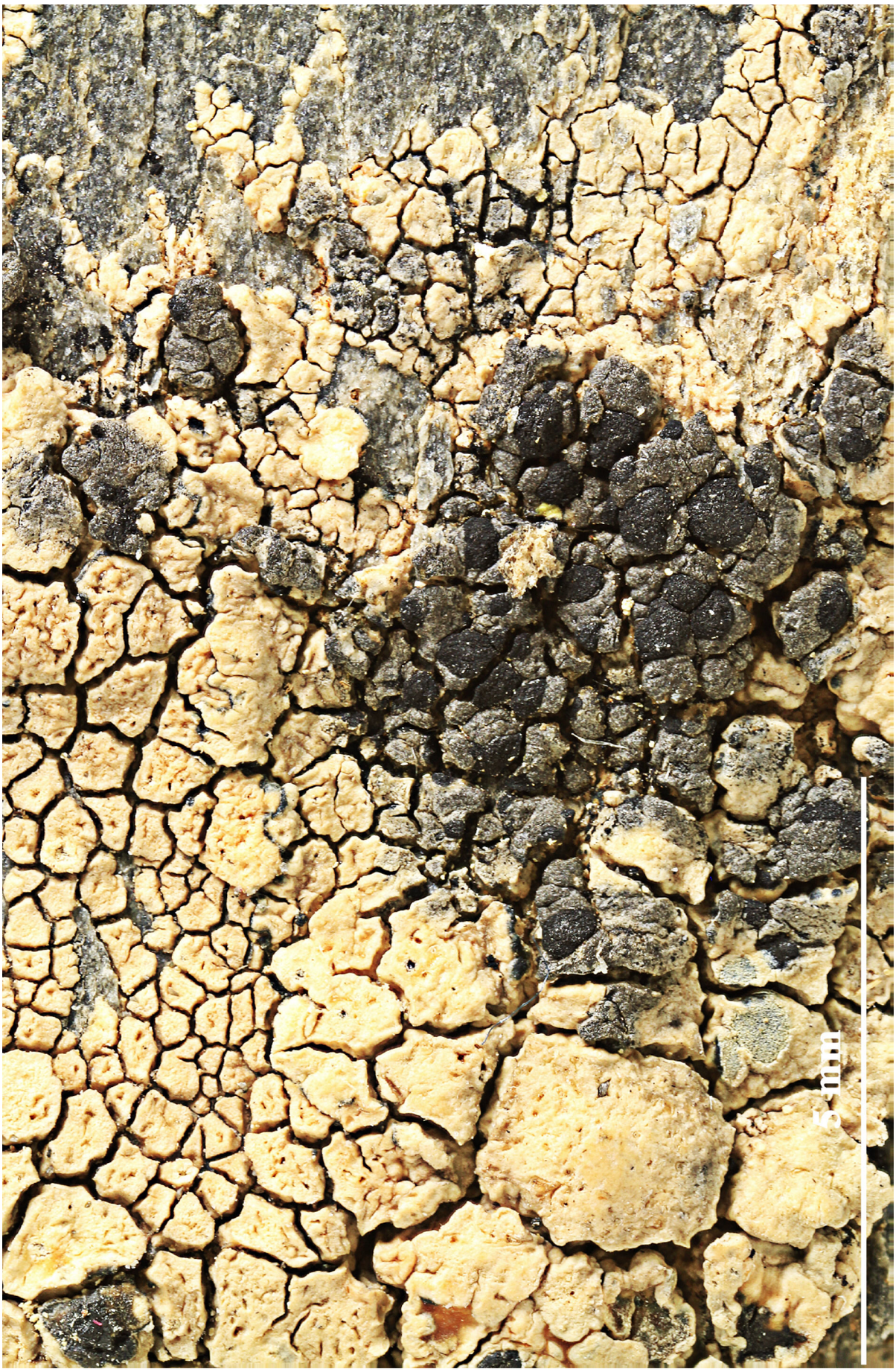
Relicina limbata

Relicina limbata

Rhizocarpon inimicum Poelt & Vězda, Herzogia 6(3-4): 471 (1984)

[VZ1980], Hispania. Catalonia, montes Montseni, Matagalls, 1500 m. Ad saxa schistosa, in thallo *Lecanorae rupicolae* coll. parasitice vigens. Leg. J. Poelt et A. Vězda. - Isotypus. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1980.

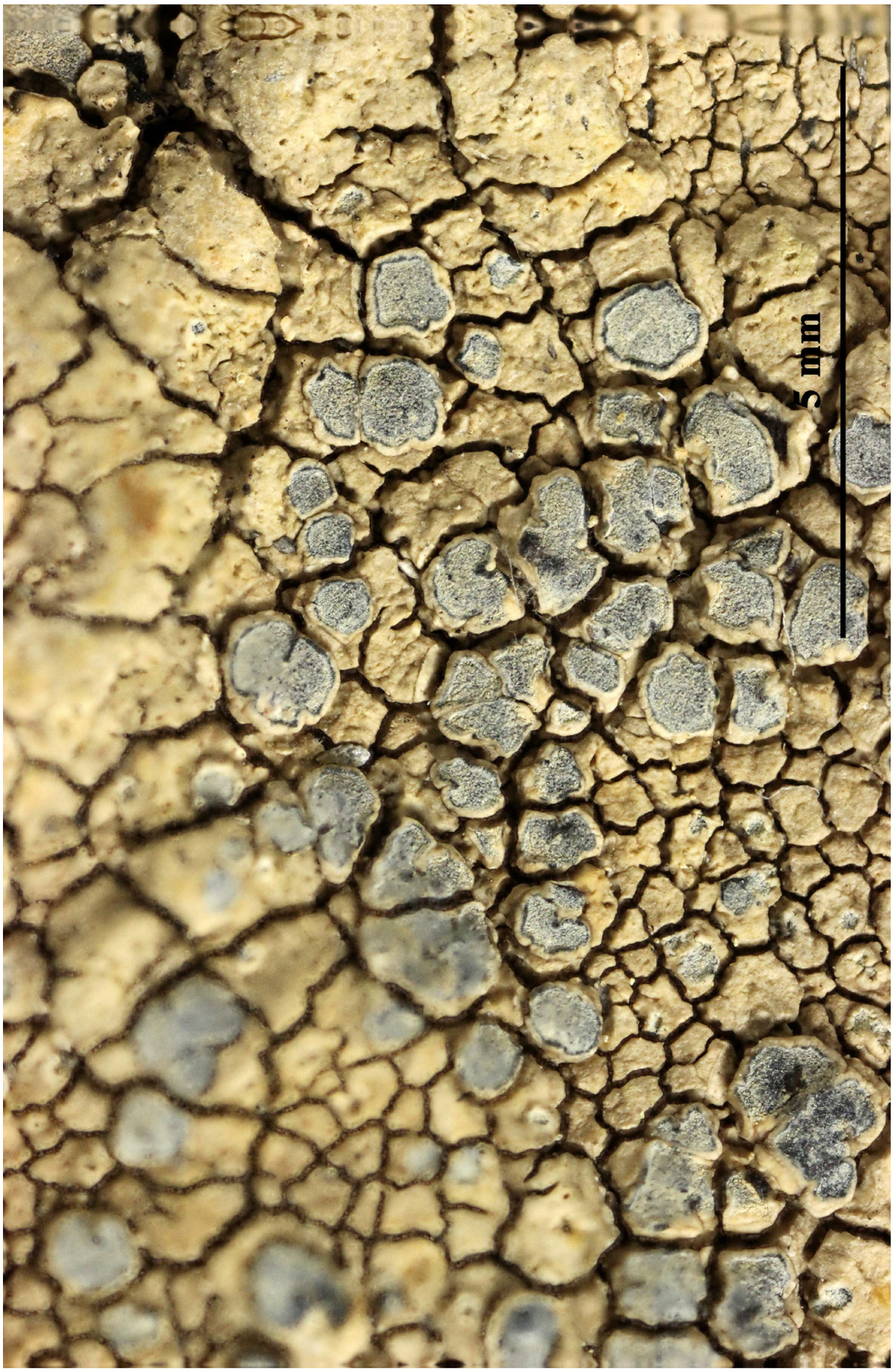
Thallus crustose, areolate, grey-black, forming orbicular, up to 1.5 cm wide patches on the thalli of Glaucomaria rupicola s.lat. Areoles 0.5-1.5(-2) mm wide, at first flat, then slightly convex, covered with a thin epinecral layer, the central ones usually dying and falling off. Medulla white, I+ pale blue. Apothecia lecideine, black, 0.8-1.2 mm across, initially developing on the surface of the areoles, then mostly marginal, often in small clusters, with a with a slightly convex disc and a very thin, often indistinct (also in young apothecia) proper margin. Proper exciple thin, cellular, appearing brown-black only in thick sections; epithecium brown-black; hymenium colourless, 120-150 µm high; paraphysoids strongly conglutinate, richly branched and anastomosing, sometimes slightly capitate; hypothecium dark brown. Asci (6-)8-spored, clavate, fissitunicate, with a well-developed tholus, lacking an ocular chamber, Rhizocarpon-type. Ascospores submuriform, mostly 4-celled, usually with a single transverse septum (sometimes slightly constricted there) and usually 1 longitudinal septum per cell (the 2 septa often arranged crosswise), grey-brown to brown-black, ellipsoid, 19-26 x 10-14 µm. Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: thallus without lichen substances. - A mostly southern European species of siliceous rocks which starts the life-cycle on the thalli of species of the *Glaucomaria rupicola*-complex.



Rhizocarpon inimicum

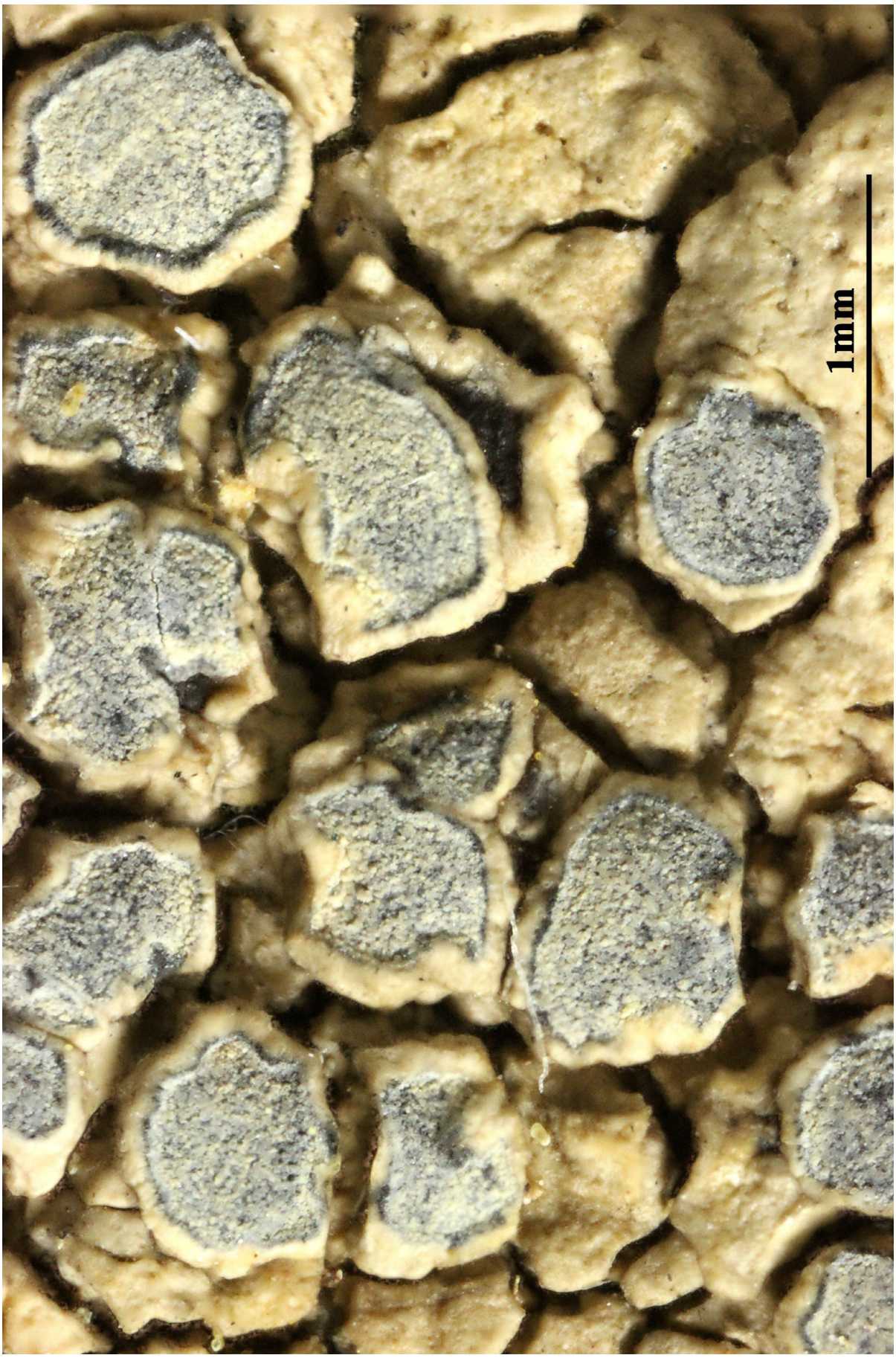
Rhizocarpon inimicum

Rhizocarpon inimicum



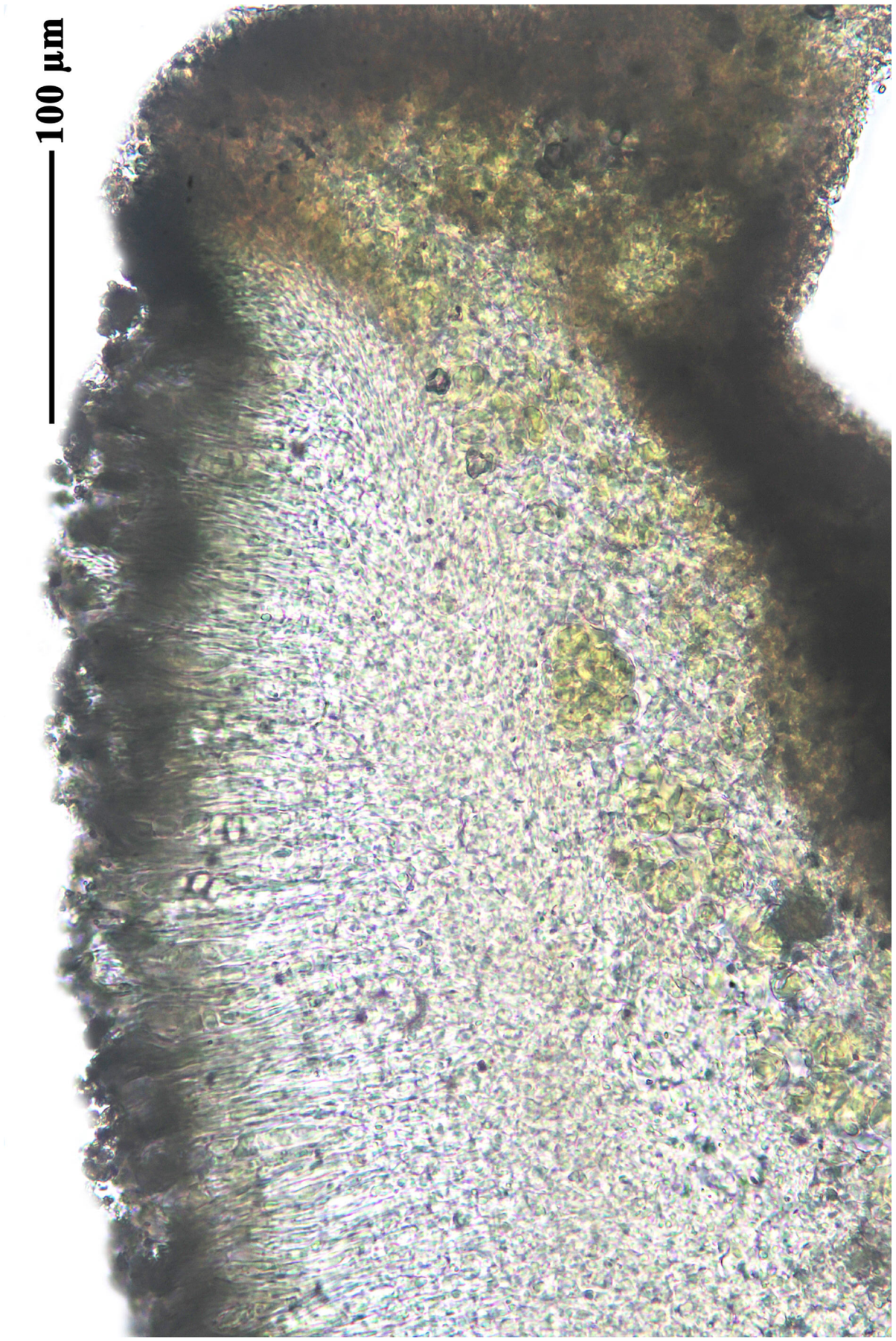
Lecanora rupicola

Lecanora rupicola

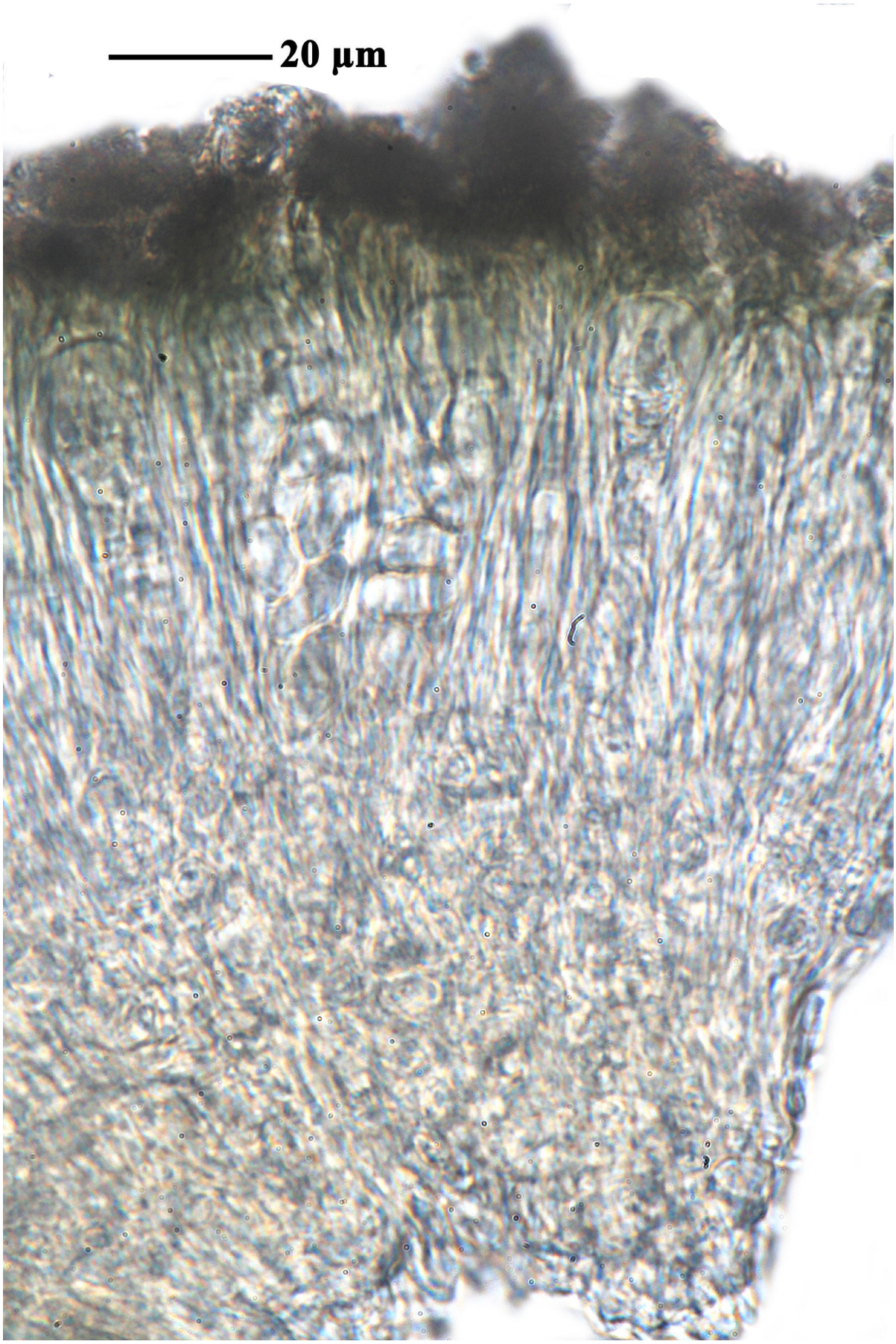


Lecanora rupicola

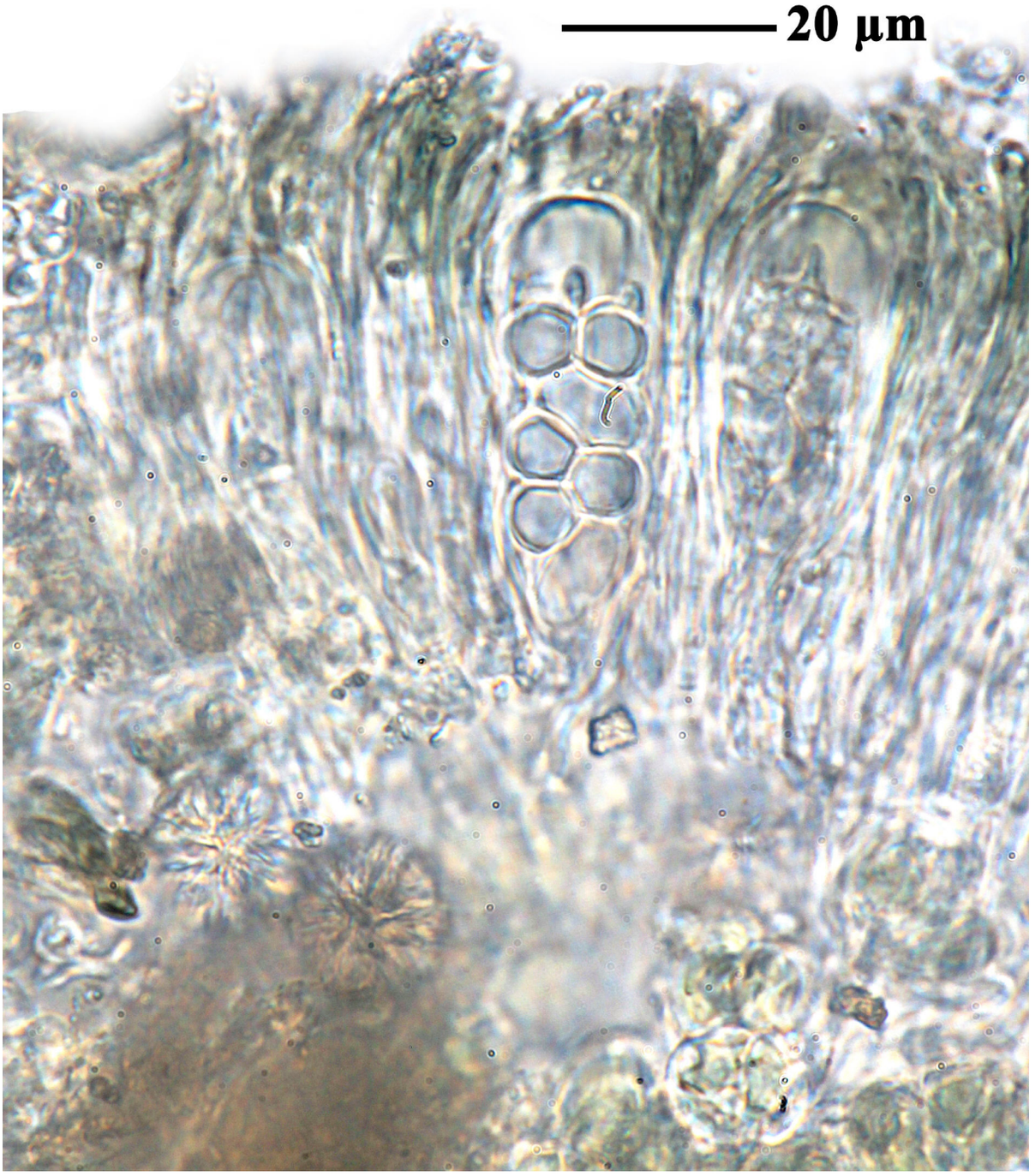
Lecanora rupicola



Lecanora rupicola



Lecanora rupicola

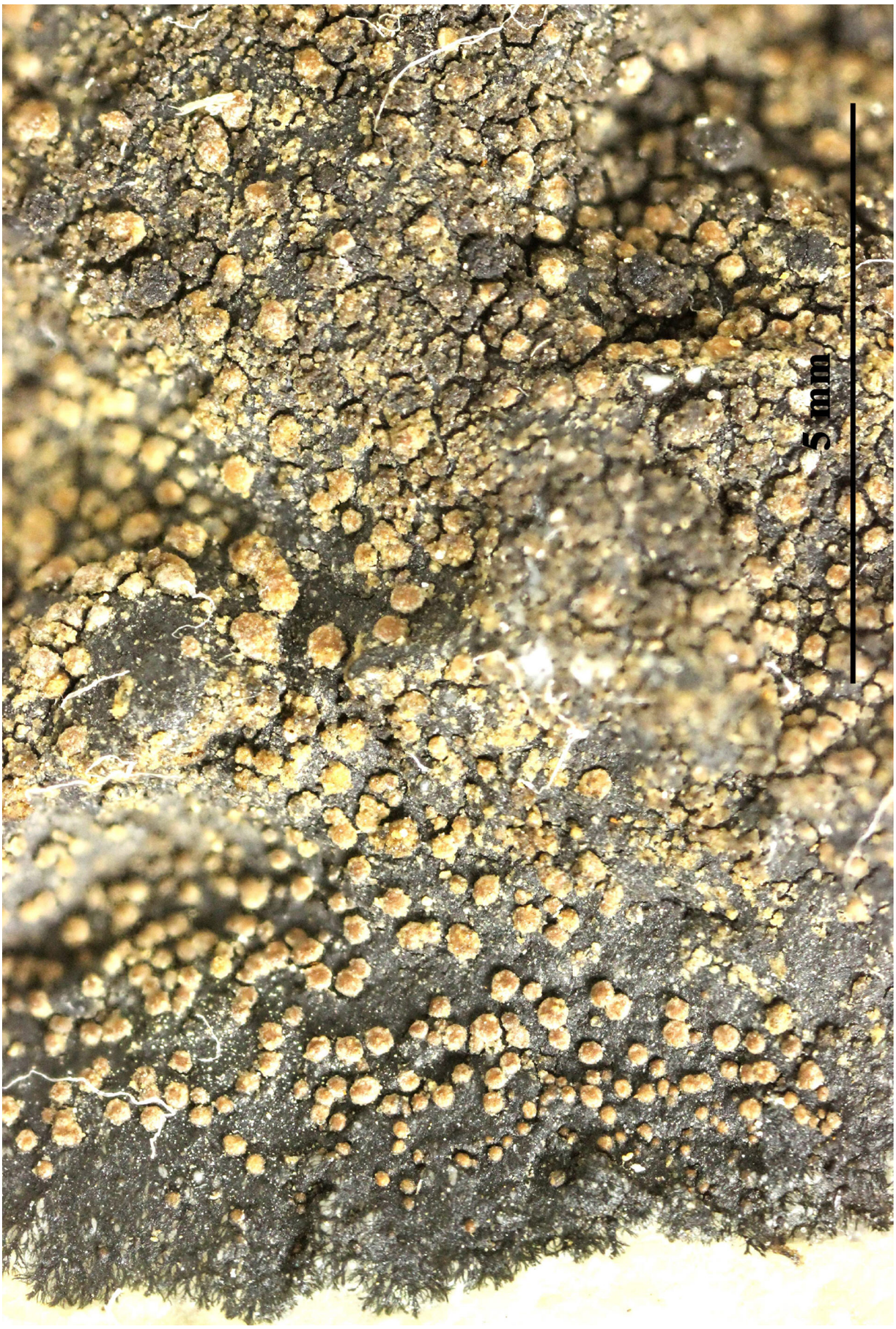


Lecanora rupicola

Rhizocarpon leptolepis Anzi, Comm. Soc. crittog. Ital. 1(fasc. 3): 158 (1862)

[VZ2098], Austria. Styria. Turracher Höhe, in colle supra lacum Turachsee, 1780 m. Ad parietem rupis schistosae. Leg. H. Mayrhofer et A. Vězda, 12.09.1985. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 2098.

Thallus crustose, episubstratic, areolate, forming patches to 10 cm in diam., consisting of 0.3-0.6(-1) mm wide, round, reddish brown to brown, flat to slightly convex, peltate areoles with free, often blackened margins, which are usually more or less scattered on a conspicuous black hypothallus. Cortex overlain by a 20-30 μm thick epinecral layer; medulla white, I- (rarely I+ faintly blue). Apothecia lecideine, black, slightly constricted an base, scattered on the hypothallus, c. 0,6 mm across, at first with a flat disc and a thick proper margin, finally convex and immarginate. Proper exciple brown-black, almost carbonized in outer part, K+ red (solution); epithecium dark grey-green to brown, K+ reddish or K-; hymenium colourless, 100-150 μm high; hypothecium brown-black. Asci 8-spored, clavate, fissitunicate, with a well-developed tholus, lacking an ocular chamber, Rhizocarpon-type. Ascospores muriform, at first almost colourless, finally brown, 28-38 x 14-21 μm. Photobiont chlorococcoid. Spot tests: thallus and medulla K-, C-, KC-, P-. Chemistry: an unknown substance in the medulla. - A boreal-montane to arctic-alpine species growing on steeply inclined surfaces of hard siliceous rocks in sheltered situations.



Rhizocarpon leptolepis

Rhizocarpon leptolepis

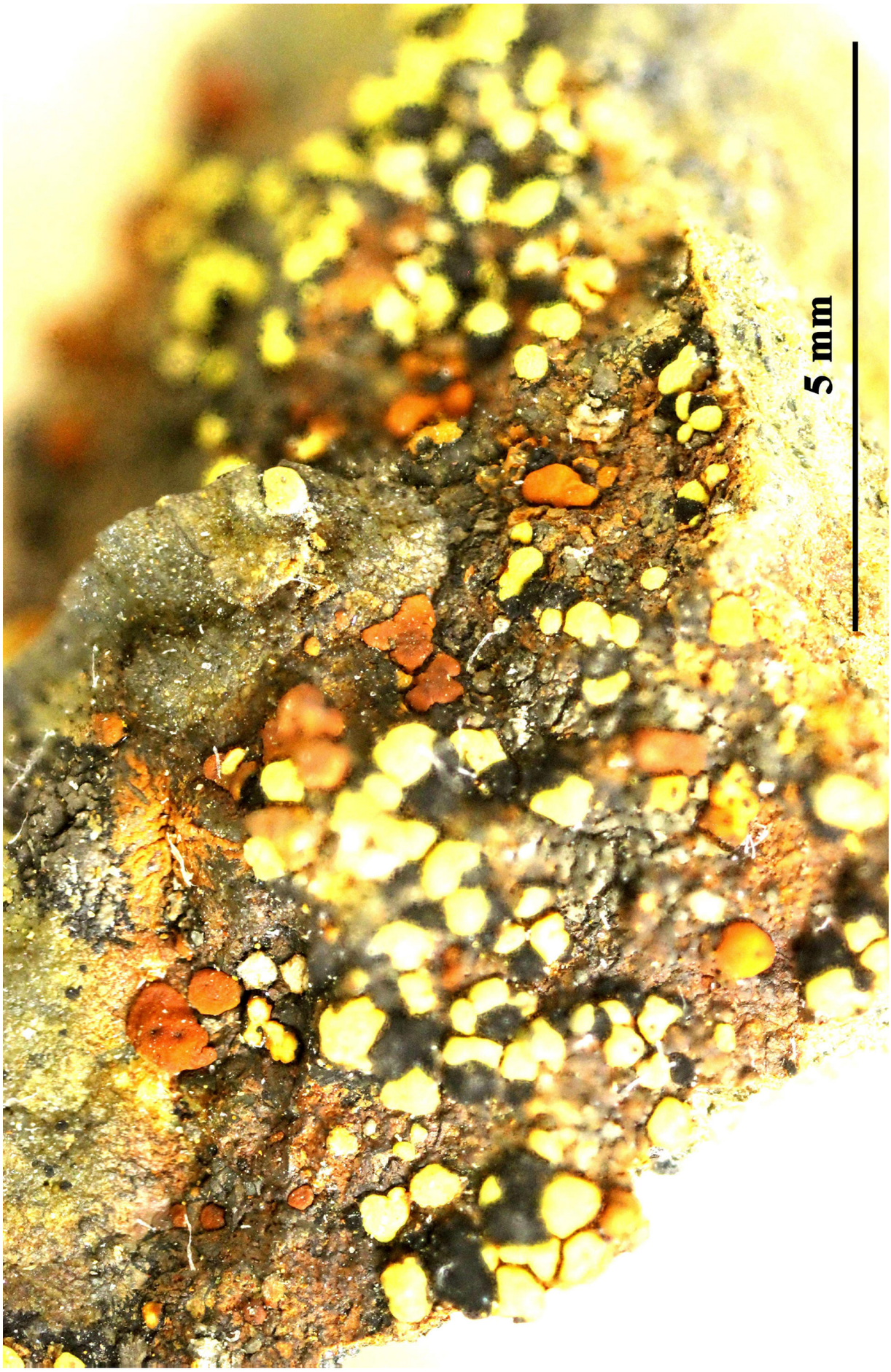
Rhizocarpon leptolepis

Rhizocarpon leptolepis

Rhizocarpon norvegicum Räsänen, Feddes Repert. Spec. Nov. Regni veg. 52(2): 133 (1943)

[VZ1207], Suecia. Härjedalen. Tännäs Paroecia. Gruvvålen prope Mittåkläppen, 900 m. Ad saxa prope metalla vetusta cupri. Leg. R. Santesson(no. 24425)(, 18.07.1973. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1207.

Thallus crustose, episubstratic, areolate, yellow-green, rarely delimited by a black prothallus, forming very small (0.2-0.5 cm) patches consisting of 2-10 areoles and 2-5 apothecia. Areoles dispersed or contiguous, 0.3-0.7 mm wide, more or less angular, usually strongly convex, smooth, dull or glossy. Cortex poorly differentiated, 30-50 µm thick; medulla white, I+ blue. Apothecia lecideine, black, 0.3-0.7 mm across, rounded-angular to round, with a slightly to strongly convex disc and a thin, soon excluded proper margin. Proper exciple reddish brown in outer part, K+ reddish violet; epithecium dark, with granules, K- or K+ reddish violet; hymenium colourless, 60-90 µm high; apices of paraphysoids capitate; hypothecium 100-200 µm high, brown, K-. Asci 8-spored, clavate, fissitunicate, with a well-developed tholus, lacking an ocular chamber, Rhizocarpon-type. Ascospores 1-septate, dark brown, ellipsoid, 9-15 x 6-7 µm, halonate. Photobiont chlorococcoid. Spot tests: medulla K-, C-, KC-, P-, or P+ yellow. Chemistry: rhizocarpic acid, with or without psoromic acid. - A a pioneer species of schistaceous, slightly calciferous or basic eruptive rocks in upland areas, which often starts the life-cycle on members of Acarosporaceae (Timdal in litt.).



Rhizocarpon norvegicum

Rhizocarpon norvegicum

Rhizocarpon norvegicum

Rhizocarpon norvegicum

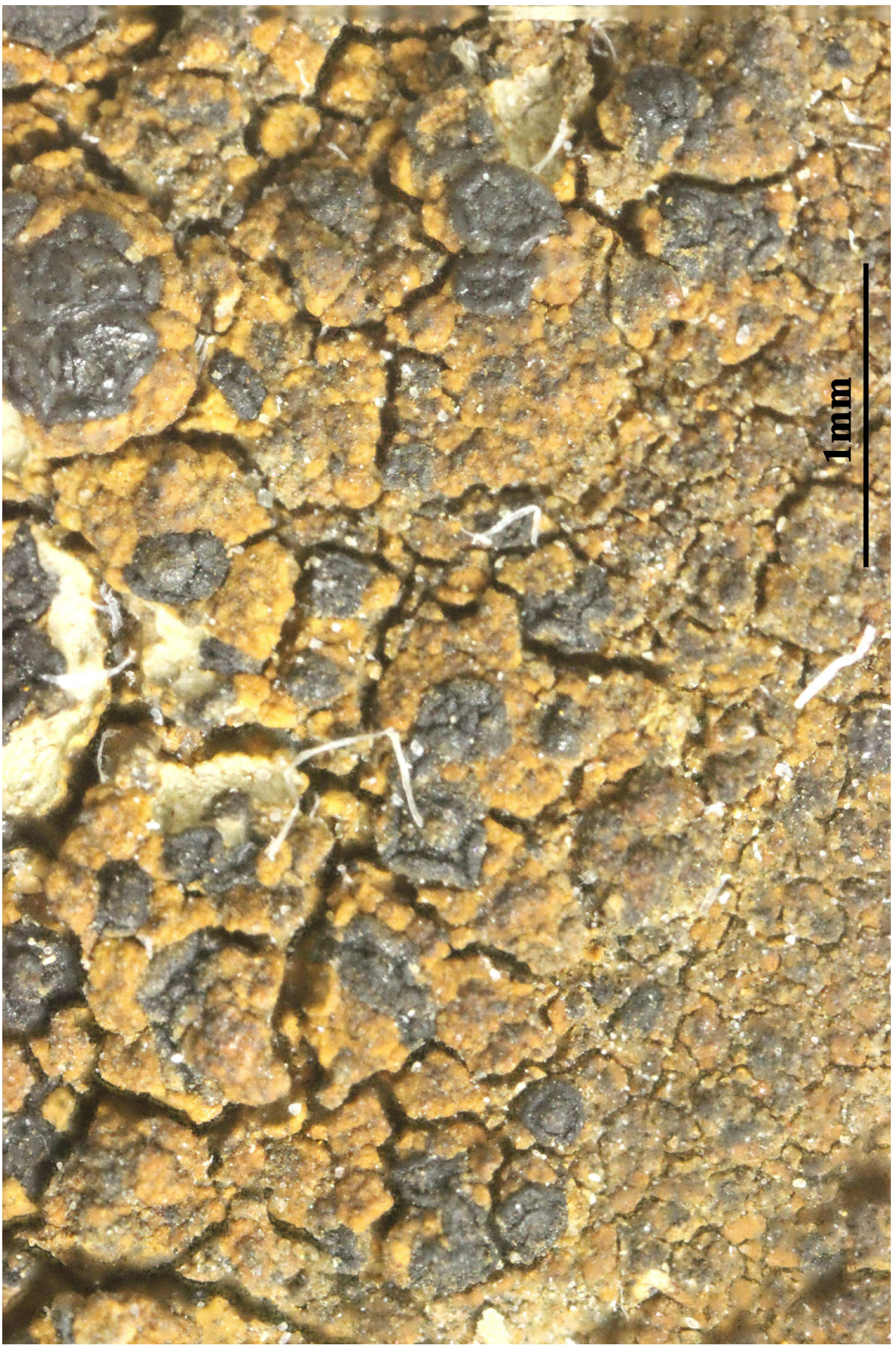
Rhizocarpon oederi (Ach.) Körb., Parerga lichenol. (Breslau) 3: 232 (1861) [1865]
= *Haugania oederi* (Ach.) E.J. Möller & Timdal, Revisions of British and Irish Lichens 41: 27 (2024)
= *Aspicilia oederi* (Ach.) A. Massal., Ric. auton. lich. crost. (Verona): 39 (1852)
= *Buellia petraea* subsp. *oederi* (Ach.) Tuck., Syn. N. Amer. Lich. (Boston) 2: 102 (1888)
= *Buellia petraea* var. *oederi* (Hoffm.) Branth & Rostr., Bot. Tidsskr. 3: 240 (1869)
= *Lecidea dicksonii* var. *oederi* (Ach.) Ach., K. Vetensk-Acad. Nya Handl. 29: 235 (1808)
= *Lecidea fuscoatra* var. *oederi* (Hoffm.) Spreng., Fl. halensis, Edn 2: 510 (1832)
= *Lecidea lavata* * *oederi* (Ach.) Stizenb., Ber. Tät. St Gall. naturw. Ges.: 455 (1882) [1880-81]
= *Lecidea oederi* Ach., Methodus, Sectio prior (Stockholmiæ): 49 (1803)
= *Lecidea petraea* *** *oederi* (Ach.) Nyl., Not. Sällsk. Fauna et Fl. Fenn. Förh., Ny Ser. 5: 234 (1861)
= *Lecidea petraea* var. *oederi* (Hoffm.) Malbr., Bull. Soc. Amis Sci. Nat. Rouen 5: 259 (1870) [1869]
= *Lichen dicksonii [*unranked*] oederi* (Ach.) Lam., Encycl. Méth. Bot., Suppl. (Paris) 3(2): 370 (1813)
= *Lichen oederi* Weber, Spicil. fl. goetting.: 182 (1778)
= *Patellaria oederi* (Ach.) Trevis., Revta Period. Lav. Imp. Reale Acad., Padova 1(3): 261 (1852) [1851-52]
= *Rhizocarpon distinctum* subsp. *oederi* (Ach.) Th. Fr., Lich. Scand. (Upsaliae)(2): 626 (1874)
= *Rhizocarpon petraeum* var. *oederi* (Ach.) Körb., Syst. lich. germ. (Breslau): 260 (1855)
= *Urceolaria oederi* (Ach.) Schaer., Lich. helv. spicil. 2: 69 (1826)

[VZ1295], Bohemoslovacia. Slovacia, Carpates, montes Slovenské Rudohorie: Smolnik, prope vicum Smolnická Huta, 500 m. In saxosis schistosis prope metalla ferrri vetusta. Leg. A. Kiszeley & A. Vězda, 30.08.1974. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1295

Thallus crustose, episubstratic, rust-red to orange-red, ochre-orange in shade-forms, rimose-areolate, without a distinct prothallus, forming 2-5(-10) cm wide patches. Areoles angular, contiguous, (0.2-)0.3-0.6(-0.8) mm wide, flat to convex. Medulla I+ pale blue. Apothecia lecideine, black, epruinose, sessile, irregular in outline, 0.3-0.5(-0.7) mm

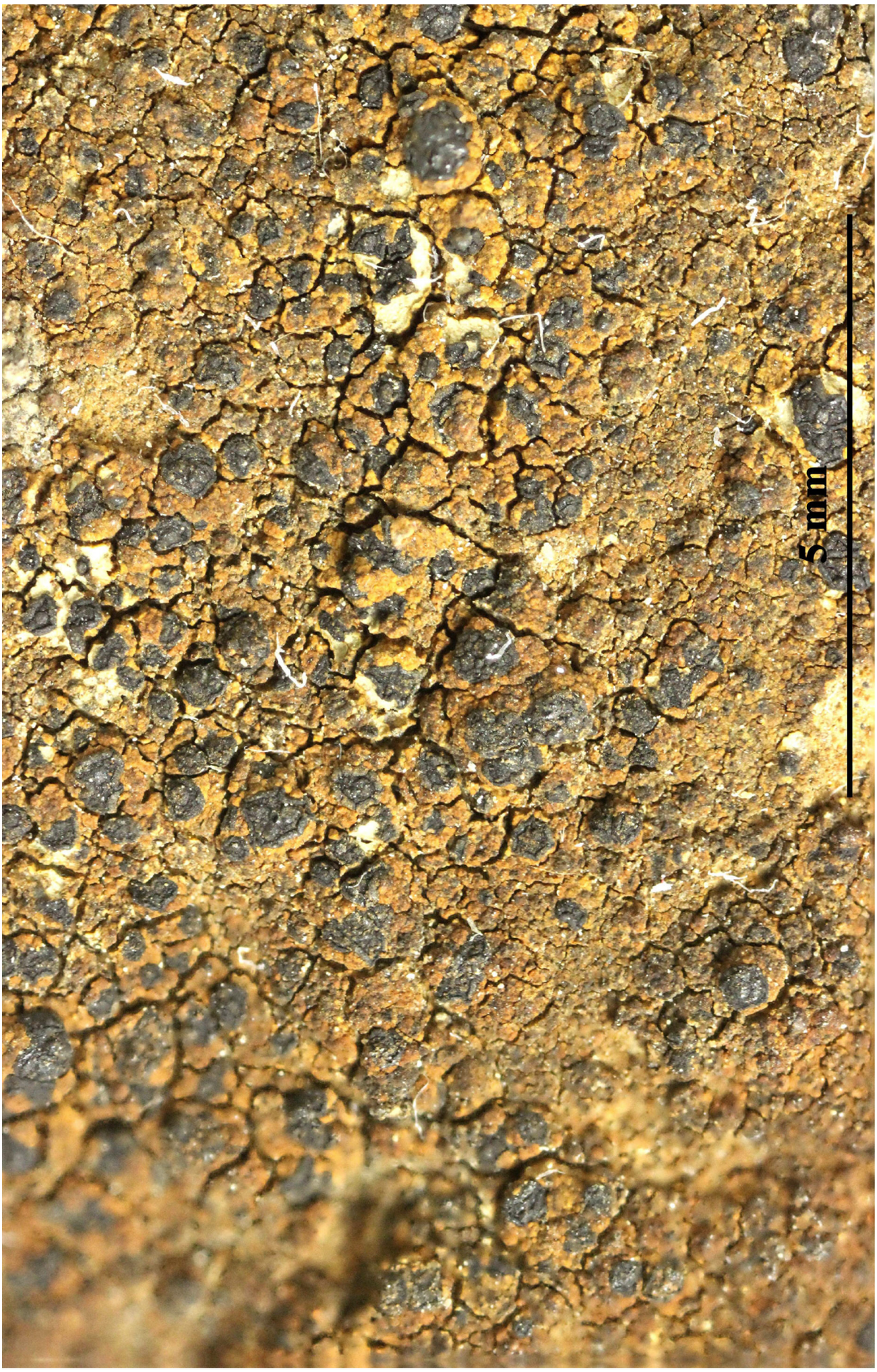
across, with a concave to flat, often umbonate or gyrose disc, and a persistent proper margin. Exciple brown-black to carbonized in outer part, paler within, K-; epithecium olive-green, bluish- or greenish black, K-; hymenium colourless or pale green in upper part, 80-120 µm high, sometimes interrupted by sterile stripes corresponding to the ridges on the apothecial disc; hypothecium dark brown to black, K-. Asci 8-spored, clavate fissitunicate, with a well-developed tholus which is K/I- in lower part and K/I+ blue at apex, without ocular chamber, Rhizocarpon-type. Ascospores 3-septate to submuriform, persistently hyaline, broadly ellipsoid, 12-18 x 3-7(-11) µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-, UV-. Chemistry: thallus without lichen substances. - A a mainly cool-temperate species with a wide but scattered distribution, found on metal-rich siliceous rocks, mostly at low elevations.

Rhizocarpon oederi



Rhizocarpon oederi

Rhizocarpon oederi



Rhizocarpon oederi

Rhizocarpon pulverulentum (Schaer.) Räsänen, Ann. bot. Soc. Zool.-Bot. fenn. Vanamo 16(Notul. Bot. 12): 59 (1942)
= *Lecidea geographica* var. *pulverulenta* Schaer. 1828
= *Rhizocarpon atroflavescens* subsp. *pulverulentum* (Schaer.) Runemark
= *Rhizocarpon chiastomerum* Lettau
= *Rhizocarpon geographicum* var. *contiguum* f. *calcicolum* Anzi

[VZ1433], Suecia, Härjedalen: Tännäs Paroecia, Funäsdalen, Tännforsen, 700 m. Ad rupes schistosas prope cataracta. Leg. R. Santesson (no. 26316), 24.07.1975. EX A. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1433.

Thallus crustose, episubstratic, rimose-areolate, yellowish white to white, farinose, forming patches to 2-5 cm in diam., delimited by a white to greyish prothallus. Areoles contiguous, forming a more or less continuous crust, 0.3-1.5 mm wide, irregularly subdivided by numerous cracks, more or less flat. Cortex without distinct structure, 40-75 µm thick; medulla white, I+ deep blue. Apothecia frequent, lecideine, but sometimes appearing almost lecanorine, being often surrounded by the areoles, arising between the areoles, rounded, 0.3-1.5 mm across, with a black, slightly concave to flat, epruinose disc, and a very thin, sometimes finally excluded proper margin. Proper exciple brownish red, K+ reddish-violet; epithecium reddish brown, K+ red; hymenium colourless, 90-150 µm high; paraphysoids strongly conglutinate, richly branched and anastomosing, clavate at apices; hypothecium brown, 100-300 µm high, K-. Asci 8-spored, clavate, fissitunicate, with a well-developed tholus, lacking an ocular chamber, Rhizocarpon-type. Ascospores 1-4-septate, rarely submuriform and with a single transverse septum, soon becoming dark green to brown, ellipsoid, 10-24 x 6-10 µm, halonate. Photobiont chlorococcoid. Spot tests: medulla K-, C-, KC-, P- or P+ yellow. Chemistry: cortex with rhizocarpic acid; medulla with psoromic acid. - A cool-temperate to arctic-alpine, perhaps circumpolar species found on steeply inclined surfaces of base-rich, or weakly calciferous siliceous rocks near or above treeline.

Rhizocarpon pulverulentum

Rhizocarpon pulverulentum

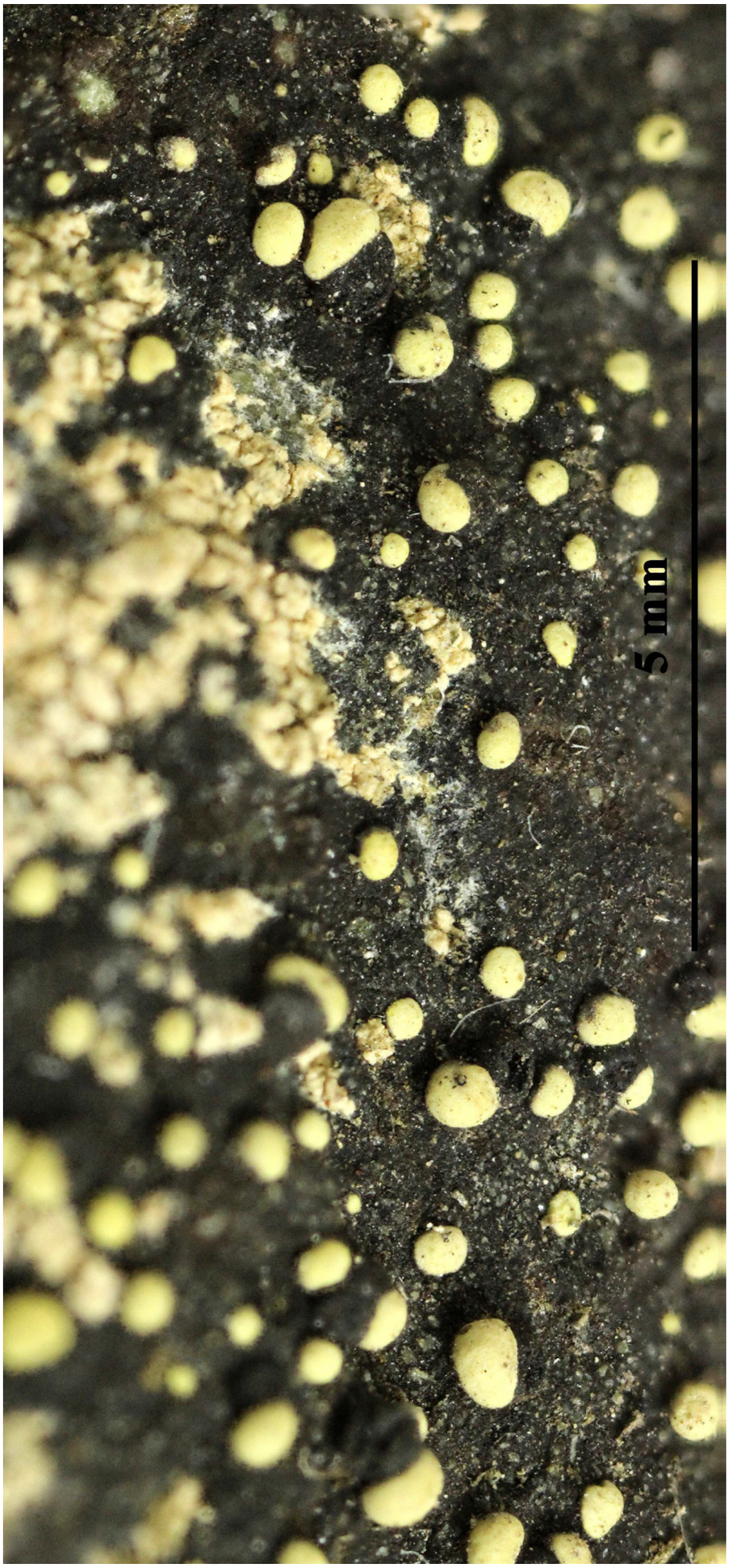
Rhizocarpon pulverulentum

Rhizocarpon pulverulentum

Rhizocarpon vermlandicum Räsänen, Feddes Repert. Spec. Nov. Regni veg. 52(2): 131, 139 (1943)

[VZ1816], Norvegia. Hordoland: Granvin, in loco dicto Gunnarsdalshaugen. In rupibus. Leg et det. J. J. Havaas, 20.05.1950. Annot.: Atranorin, rhizocarpic acid, psoromic acid, 2'-O-dimethylpsoromic acid by TLC, anal- A. Johnson & C. F. Culberson. EX A. VĚZDA: LICHENES SELECTO EXSICCATI NR. 1816.

Nach Runemark 1956, 119: synonym zu *Rh. geographicum*.



Rhizocarpon vermlandicum

Rhizocarpon vermlandicum

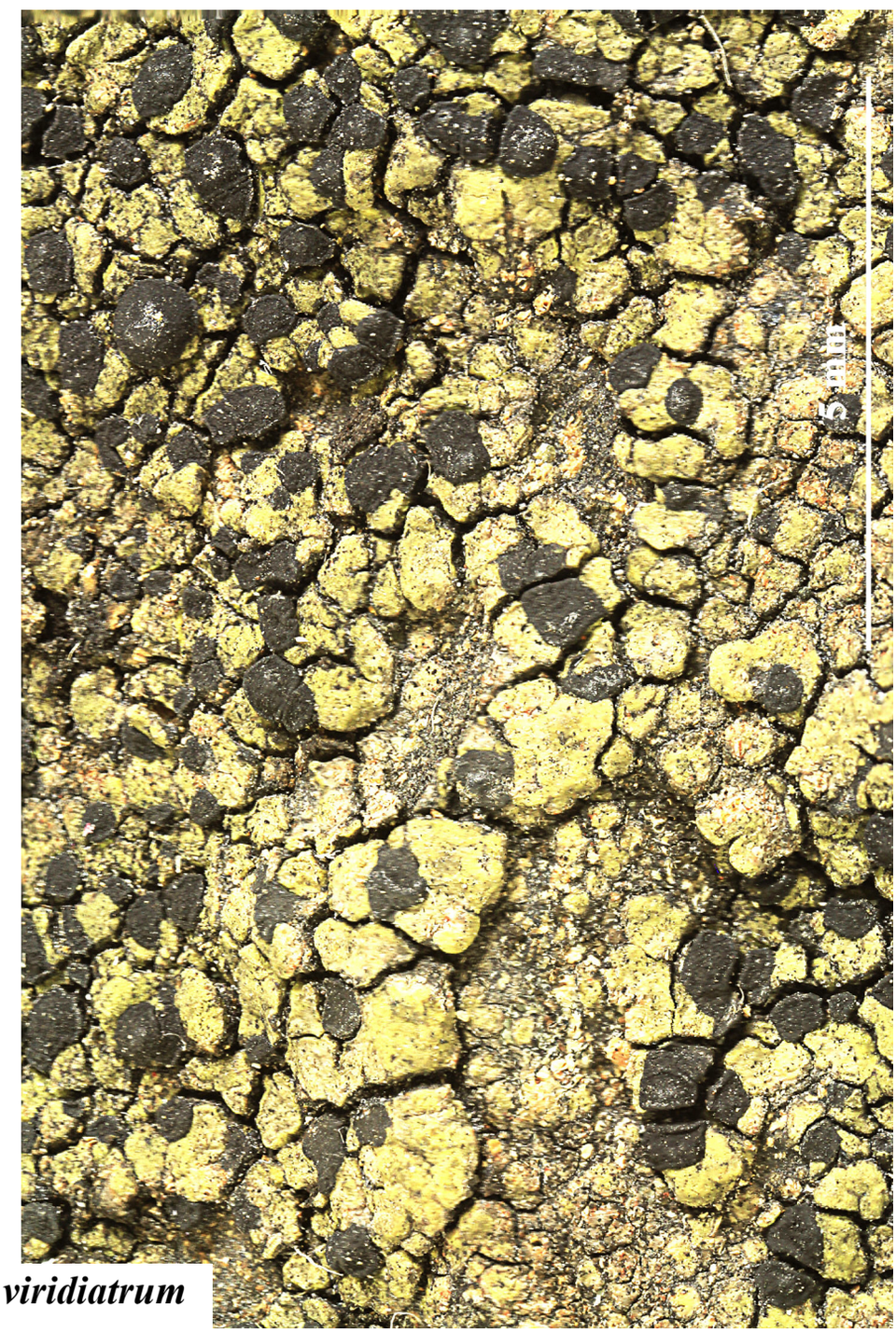
Rhizocarpon vermlandicum

Rhizocarpon viridiatrum (Wulfen) Körb., Syst. lich. germ. (Breslau): 262 (1855)
= *Buellia viridiatra* (Wulfen) H. Olivier, Expos. Lich. Ouest France, Suppl. 2: 170 (1901)
= *Catocarpus sphaericus* (Schaer.) Arnold, Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 43: 384 (1893)
= *Diplotomma viridiatrum* (Wulfen) Jatta, Syll. Lich. Ital. (Trano): 432 (1900)
= *Lecidea atrovirens* var. *viridiatra* (Wulfen) Flörke, Deutsche Lich. 4: 4 (1819)
= *Lecidea geographica* f. *sphaerica* (Schaer.) Leight., Lich.-Fl. Great Brit., Edn 3: 373 (1879)
= *Lecidea geographica* var. *sphaerica* Schaer., Lich. helv. spicil. 3: 124 (1828)
= *Lecidea geographica* var. *viridiatra* (Wulfen) Nyl., Act. Soc. linn. Bordeaux 21(4): 389 (1857) [1856]
= *Lecidea petraea* var. *viridiatra* (Wulfen) Flörke, in Flotow, Flora, Regensburg 11(2): 691 (1828)
= *Lecidea viridiatra* (Wulfen) Ach. [as 'viridi-atra'], Methodus, Sectio prior (Stockholmiæ): 50 (1803)
= *Lichen viridiater* Wulfen [as 'viridi-ater'], in Jacquin, Collnea bot. 2: 186 (1789) [1788]
= *Patellaria viridiatra* (Wulfen) Duby [as 'viridi-atra'], Bot. Gall., Edn 2 (Paris) 2: 656 (1830)
= *Psora viridiatra* (Wulfen) Anzi, Cat. Lich. Sondr.: 66 (1860)
= *Rhizocarpon geographicum* var. *sphaericum* (Schaer.) Mudd, Man. Brit. Lich.: 221 (1861)
= *Rhizocarpon geographicum* var. *viridiatrum* (Wulfen) Mudd, Man. Brit. Lich.: 221 (1861)

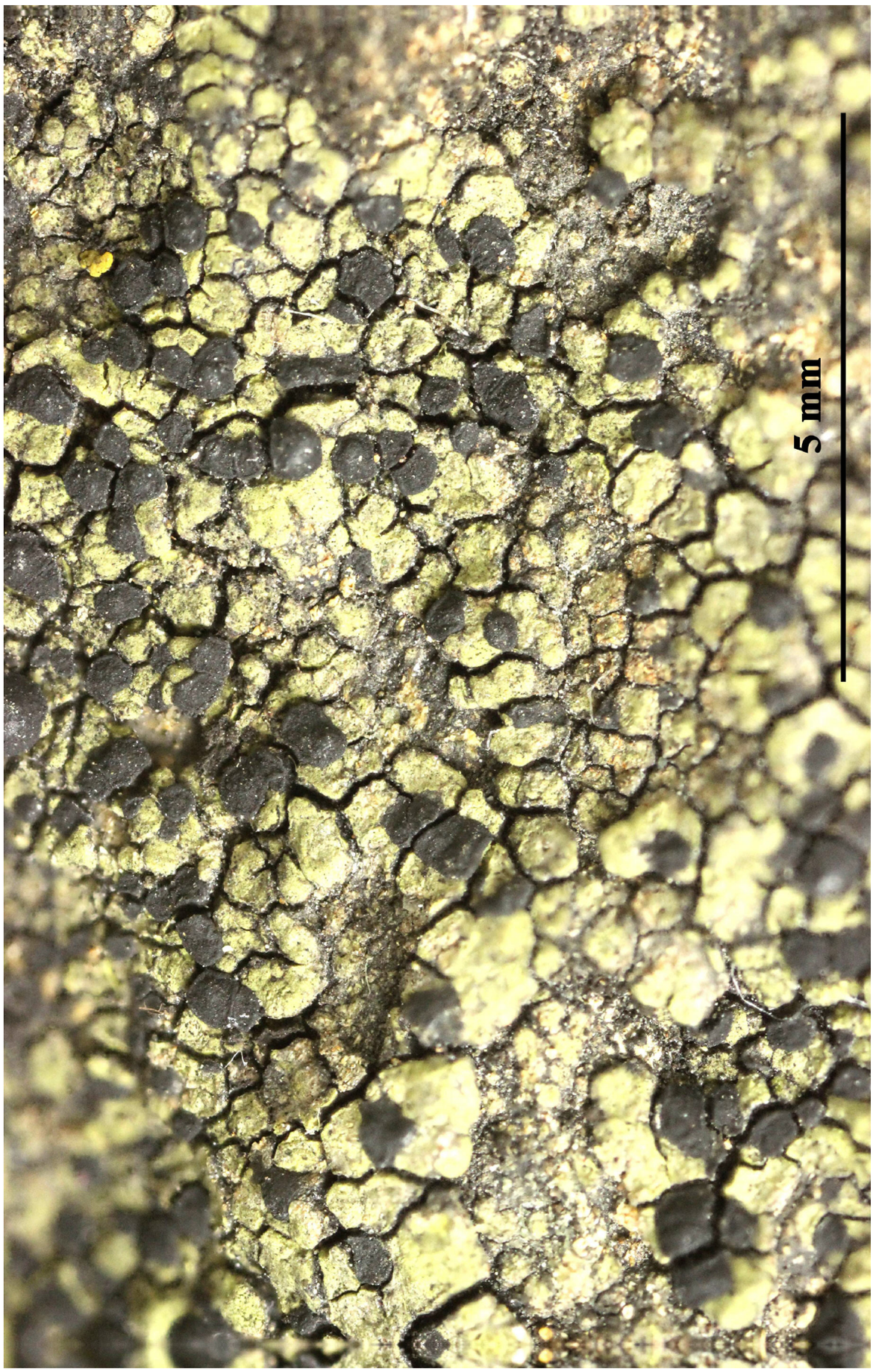
[VZ1639], Bohemoslovacia. Moravia austro-occid.: Mohelno, in valle fluminis Jihlavka, 250 m. Ad rupes serpenticas. Leg. A. Vězda, 25.09.1969. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1639.

Thallus crustose, greenish yellow, often growing on other crustose lichens, immersed in the host thallus or areolate, usually 0.5-2 cm across, rarely larger, usually without a distinct prothallus. Areoles round to angular, plane to strongly convex, 0.3-1.2 mm diam., smooth, epruinose. Cortex 20-40 µm thick; medulla white to yellowish in upper part, I-, K/I+ very faintly violet Apothecia lecideine, round or angular, 0.4-1 mm across, with a black, weakly to strongly convex, epruinose disc and a black, often finally excluded proper margin. Cortex cells of

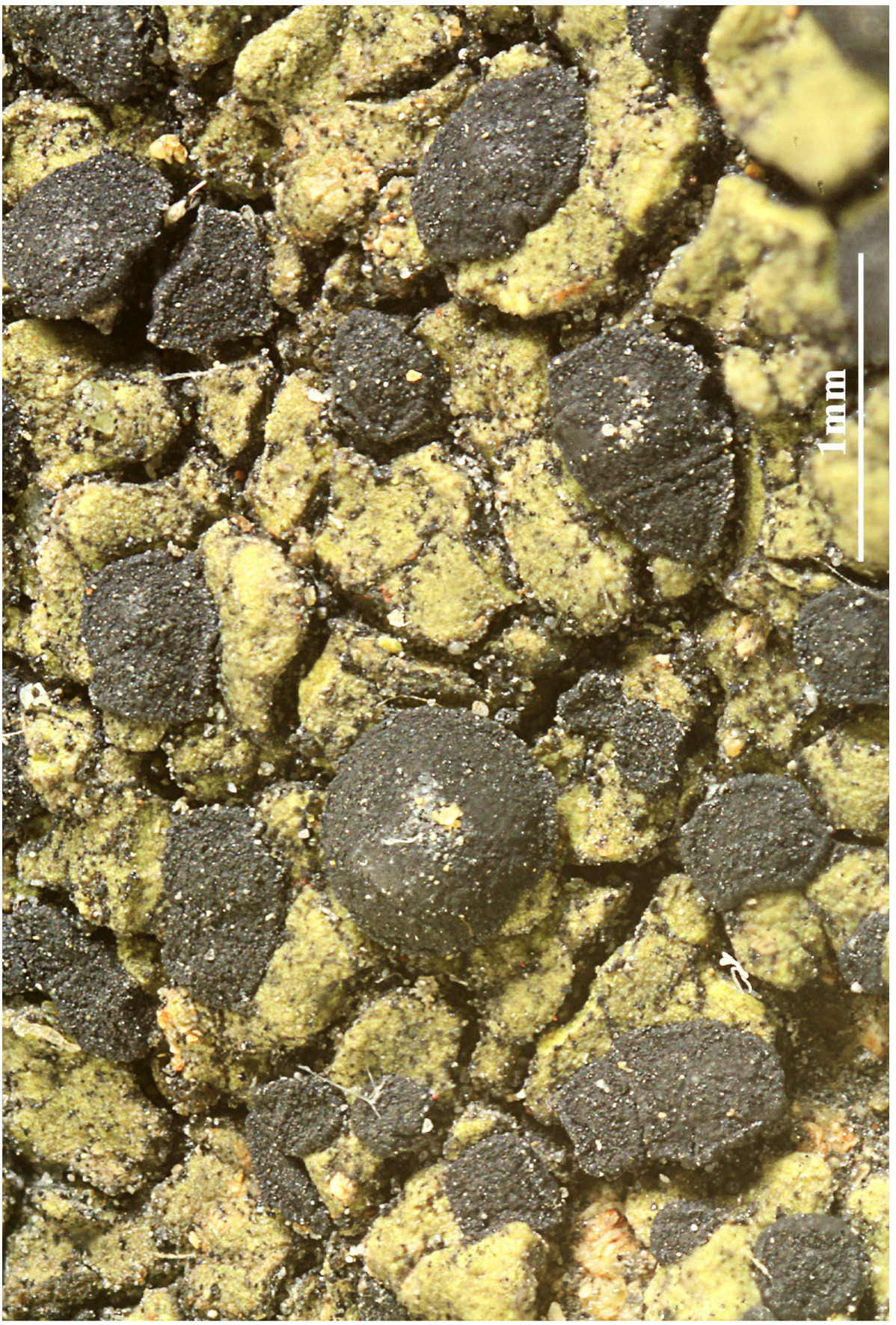
the proper exciple reddish brown, K+ reddish violet; epithecium brown, K+ red, granular; hymenium colourless, 85-140 µm tall; paraphysoids strongly conglutinated, richly branched and anastomosing, clavate at apex; hypothecium brown, K-. Asci 8-spored, clavate, fissitunicate, with a well-developed tholus, lacking an ocular chamber, Rhizocarpon-type. Ascospores submuriform, dark brown to almost black, ellipsoid, (12-)15-28(-32) x 7-13(-16) µm. Photobiont chlorococcoid. Spot tests: medulla K+ yellow, C-, KC-, P-. Chemistry: rhizocarpic acid (major) and unidentified fatty acids. - On basic siliceous rocks with optimum in dry-warm areas, sometimes on roofing tiles, starting the life-cycle on other crustose lichens (Aspicilia s.lat., Lecidea s.lat. and Tremolecia atrata), with a wide altitudinal range.



Rhizocarpon viridiatrum

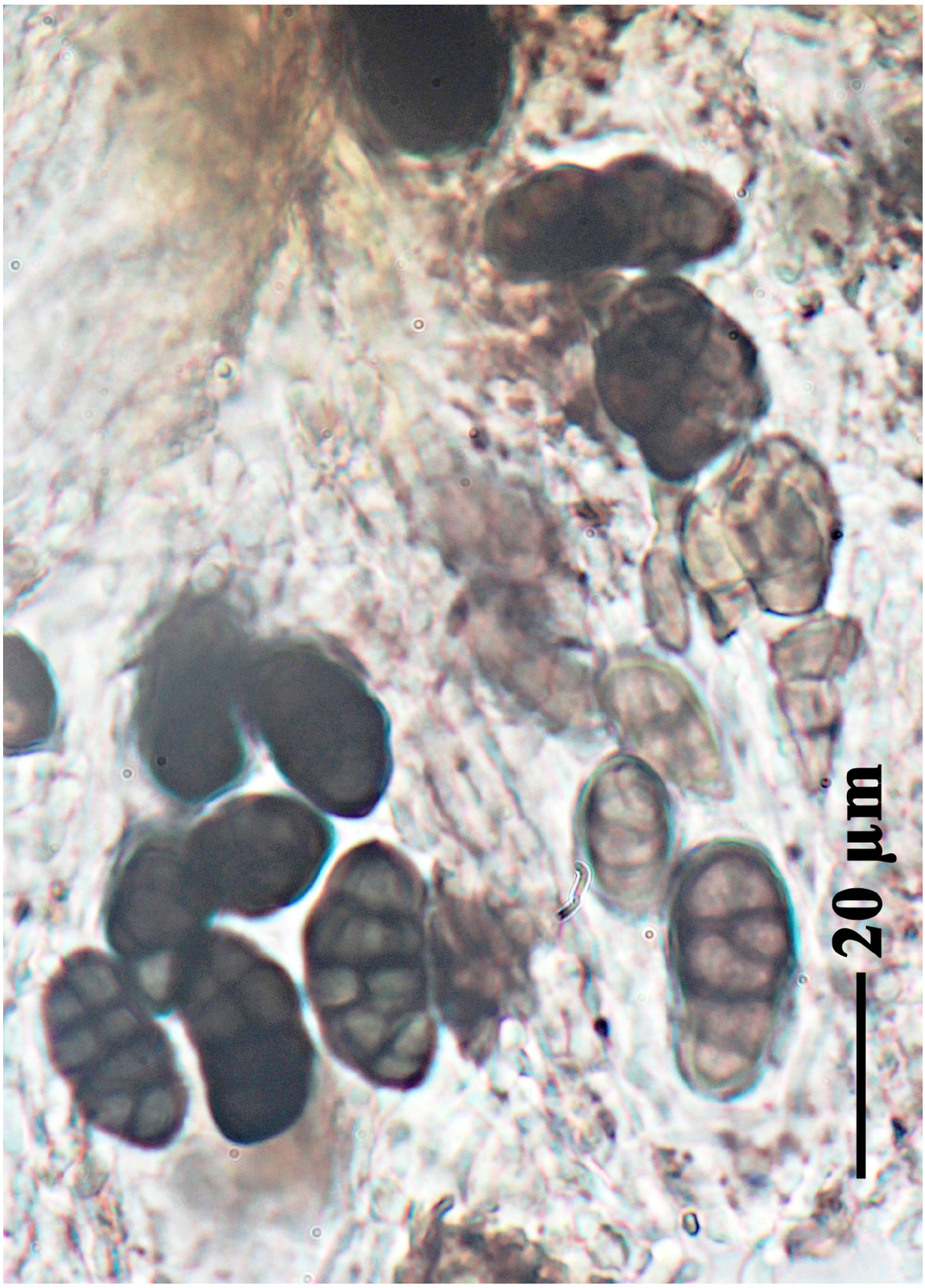


Rhizocarpon viridiatrum



Rhizocarpon viridiatrum

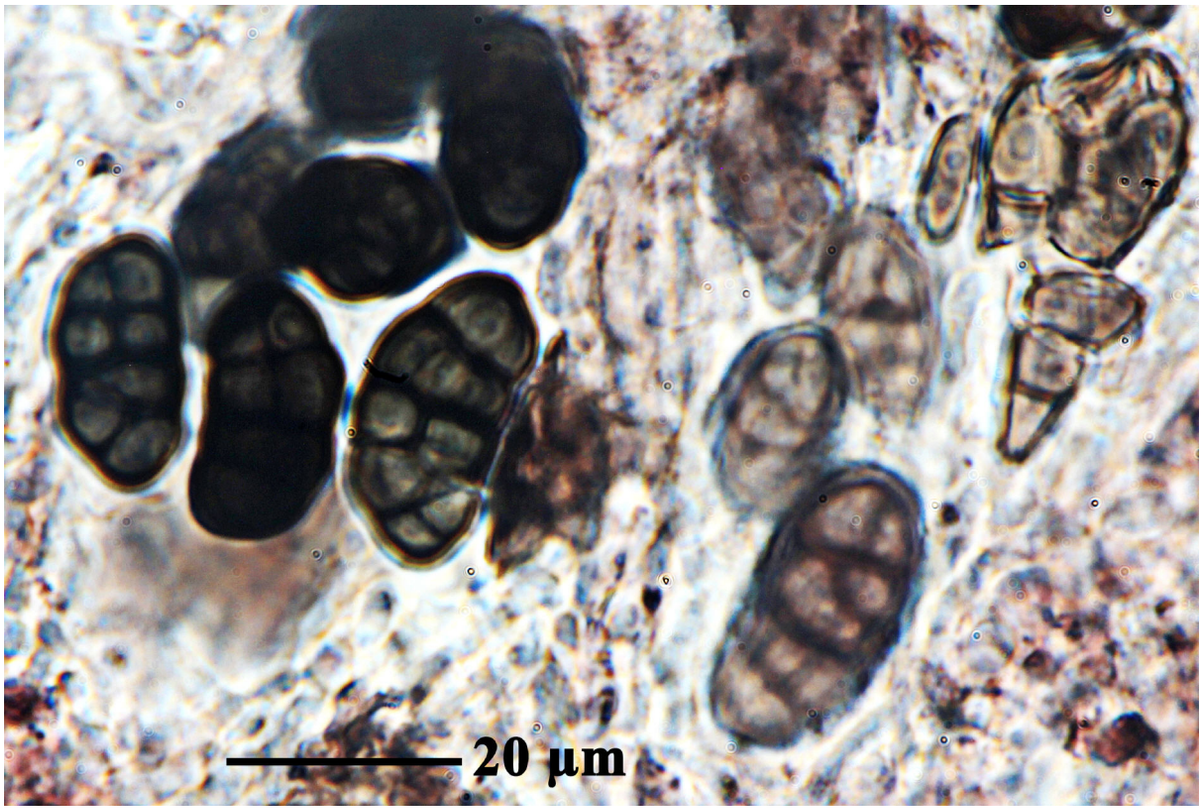
Rhizocarpon viridiatrum

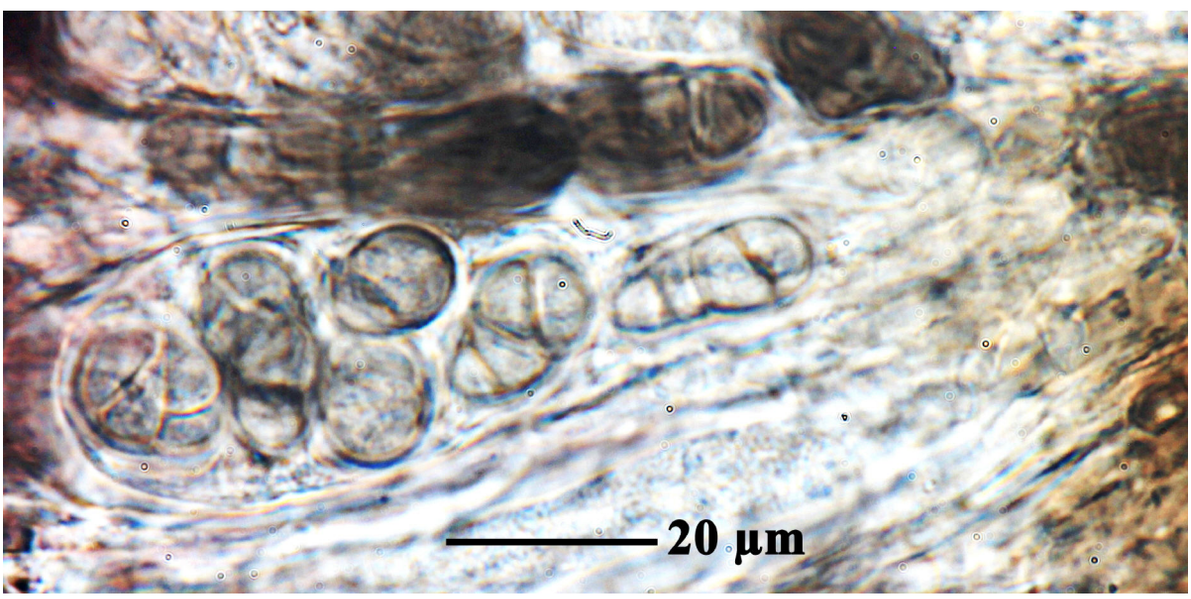


Rhizocarpon viridiatrum

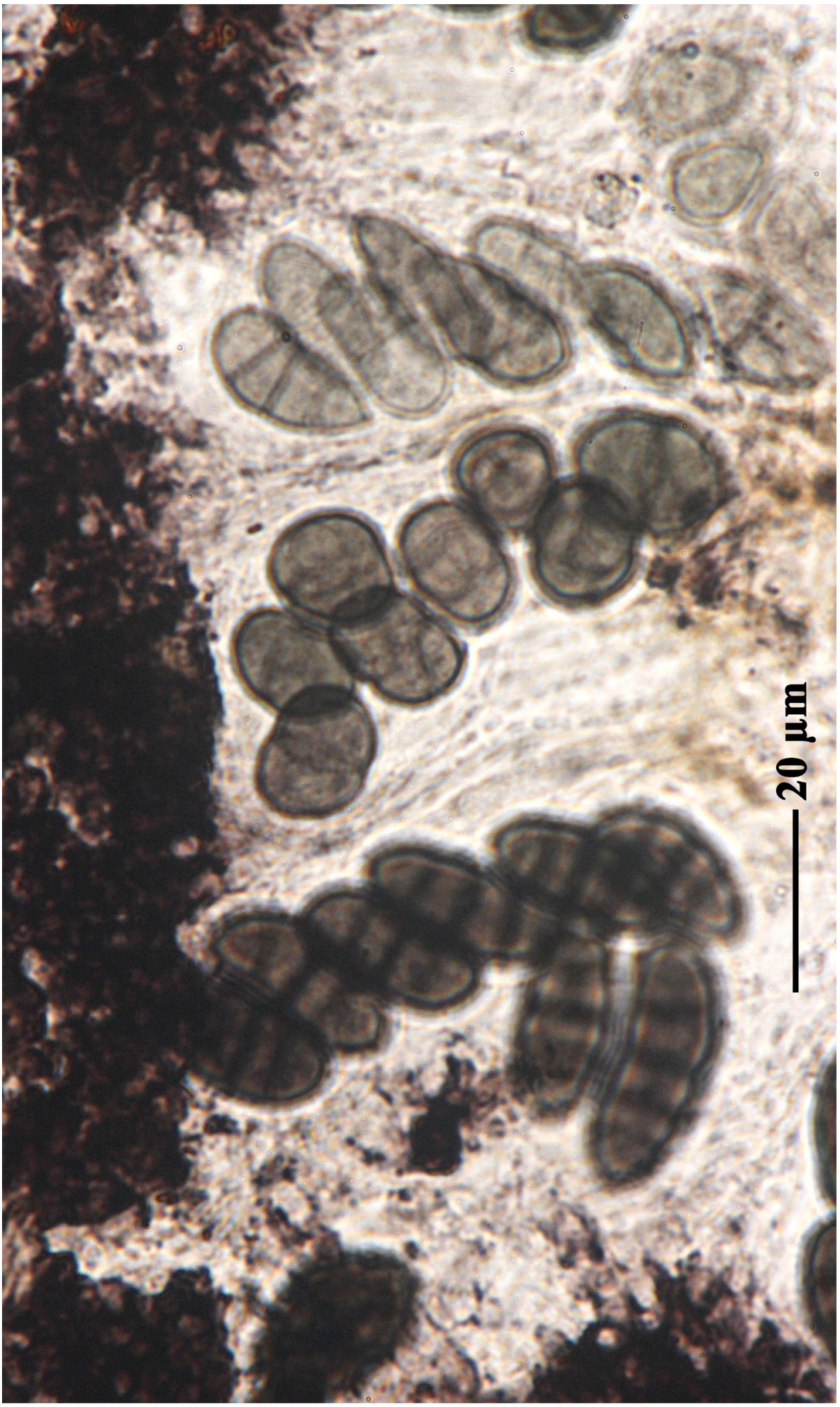
Rhizocarpon viridiatrum

Rhizocarpon viridiatrum

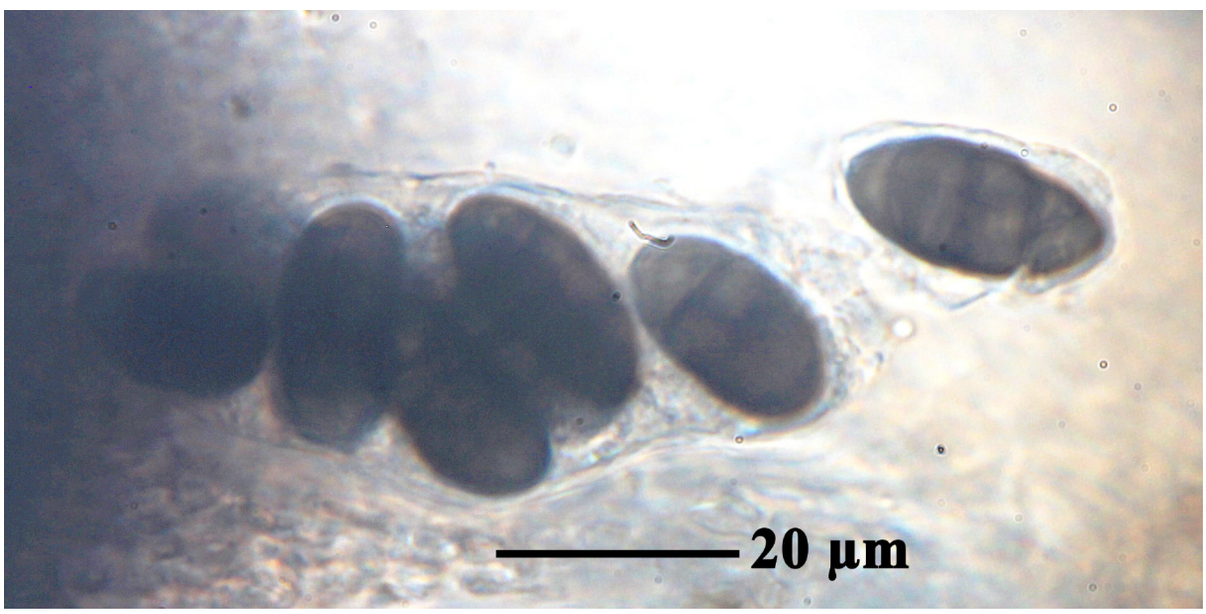




Rhizocarpon viridiatrum



Rhizocarpon viridiatrum

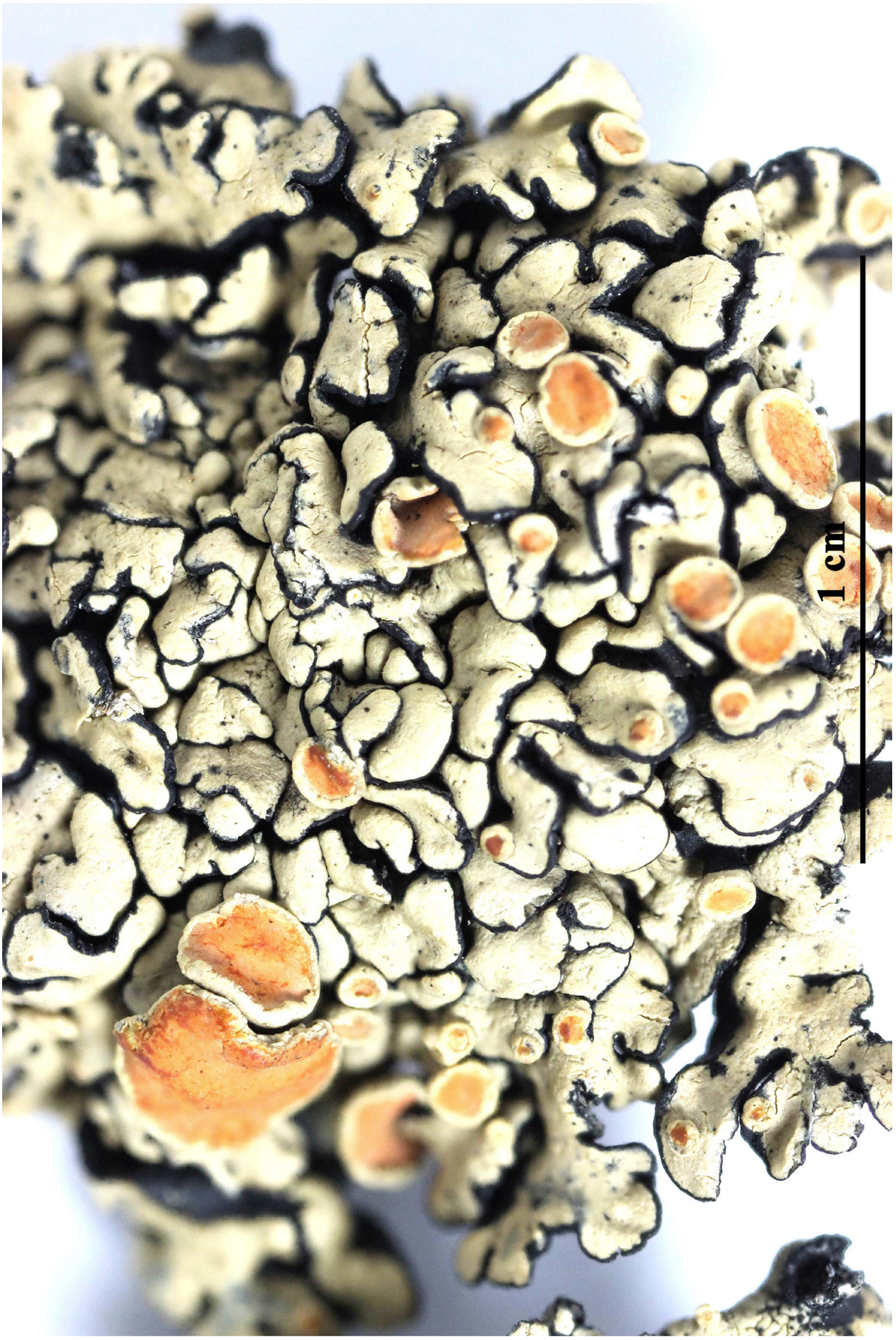


Rhizocarpon viridiatrum

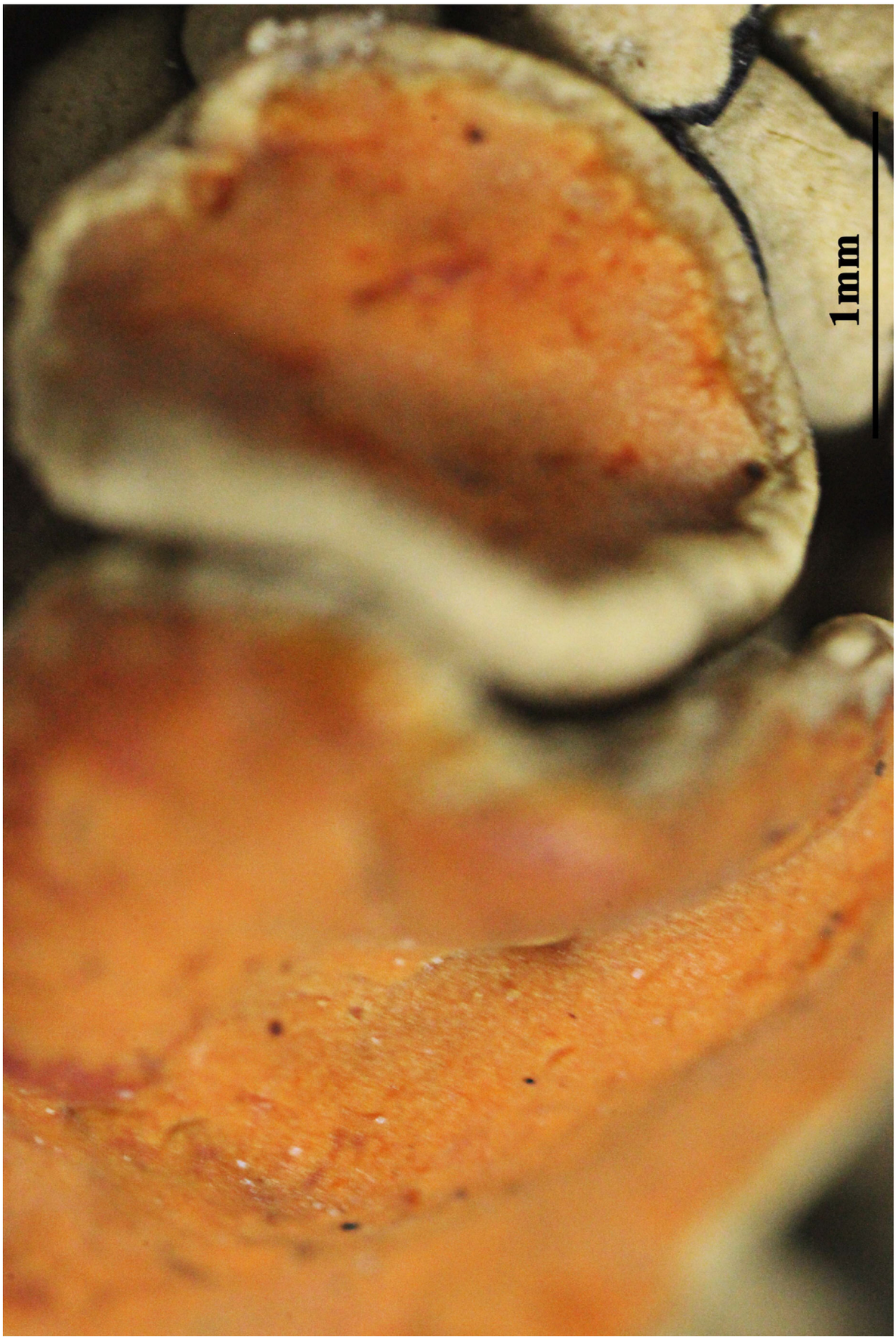
Rhizoplaca chrysoleuca (Sm.) Zopf, Justus Liebigs Annln Chem. 340: 291 (1905)
= *Lichen chrysoleucus* Sm. 1791

[VZ1792], URSS. Transcaucasia. Georgia. Distr. Chokhautauri, montes Meskhedki khrebet, in monte Mzis-chasvlis-mta, 200-2200 m. Ad saxum siliceum. Leg. V. Vašák, 12.7.1980, det. A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1782.

Thallus foliose-umbilicate, mono- or polyphyllous, to 2-3.5 cm across, pale yellowish green to greenish white, attached by a central holdfast. Lobes flat to concave, c. 0.5-1(-1.5) mm thick, crenate-incised, sometimes partly blackened at margins; lower surface dark brown to black, erhizinate. Upper cortex of strongly gelatinized hyphae, often heavily inspersed with crystals, the cell walls with isolichenan; medulla white, loose, but often filled with granules; lower cortex thicker than the upper one. Apothecia lecanorine, laminal or submarginal, 0.8-2.5 mm across, at first adnate, then sessile and constricted at base, with a flat to convex, reddish orange or yellow-orange, often pruinose disc, and an entire to flexuose-crenate, persistent or excluded thalline margin. Epithecium pale yellowish brown, with a superficial layer of granules; hymenium yellowish, not inspersed, (35-)50-60 µm high; paraphyses c. 2-3 µm thick, with swollen apical cells; hypothecium colourless. Asci 8-spored, clavate, the tholus with a strongly amyloid lateral part, a non-amyloid broadly diverging axial mass with a thick, non-amyloid cap above, and a weakly amyloid outer layer Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid to oblong-ellipsoid, 8-12 x 3-6 µm. Pycnidia rare, black, immersed. Conidia thread-like, 15-20(-30) µm long. Photobiont chlorococcoid. Spot tests: upper cortex K- or K+ yellow, C-, KC+ yellow, P-, UV-; medulla: K-, C- or rarely C+ red, KC-, KC+ pale yellow or rarely KC+ red, P-, or P+ yellow, UV-. Chemistry: upper cortex with usnic acid and variable amounts of either placodiolic or pseudoplacodiolic acid; medulla with aliphatic acids or no substances, or rarely with psoromic and/or lecanoric acids. - Note: a widespread holarctic lichen found on bird's perching siliceous rocks and boulders, especially in upland areas; most frequent in areas with a dry-subcontinental climate, e.g. in the central Alps, but also occurring on the high Mediterranean mountains.



Rhizoplaca chrysoleuca



Rhizoplaca chrysoleuca

Rinodina archaea (Ach.) Arnold, Flora, Regensburg 64(13): 195 (1881)
= *Parmelia sophodes* var. *archaea* Ach. 1803

[VZ1272], Suecia. Värmland, Nor. Ufterud, 100 m. Ad corticem *Quercus*. Leg. S. W. Sundell (no. 8912), 3.3.1973. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1272.

Thallus crustose, episubstratic, rather thick, whitish to pale grey, dull, without a distinct prothallus, rimose or areolate, the areoles 0.15-0.4 mm wide, flat to minutely verrucose. Apothecia lecanorine, subimmersed to broadly attached, abundant, often contiguous and angular by mutual compression, 0.3-0.7(-0.9) mm across, with a dark reddish brown to brown-black, flat to rarely convex disc, an up to 0.1 mm thick, entire, persistent thalline margin and often a thin parathecial ring. Thalline exciple corticate, 40-80 µm wide laterally, (30-)40-100 µm wide at base, the cortex paraplectenchymatous, 5-10 µm wide, I- or I+ blue; proper exciple 5-20 µm wide, weakly pigmented, expanding to 10-40 µm in upper part; epithecium red-brown, K-; hymenium colourless, 50-60(-100) µm high, not inspersed with oil droplets; paraphyses 1.5-2.5 µm thick at mid-level, often conglutinate, the apical cells up to 3.5-5(-7) µm wide, lightly pigmented; hypothecium colourless, (30-)40-80 µm high. Asci 8-spored, cylindrical-clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, pigmented, ellipsoid, (15.5-)19-20(-23.5) x (7.5-)9-10(-11) µm, Physconia-type, the wall minutely warted, the torus always well-developed, with an ontogeny of type A (apical wall thickening after septum formation). Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-, UV-. Chemistry: zeorin and an unidentified substance (traces). - Note: a mainly temperate lichen, typically lignicolous but also rarely occurring on bark, on basal parts of broad-leaved trees, more rarely of conifers, in open woodlands; exceptionally also found on siliceous rocks; optimum in the montane belt. The species, also in the recent past, was often confused with R. trevisanii (see Mayrhofer & Sheard 2007, Sheard 2010).

Rinodina archaea

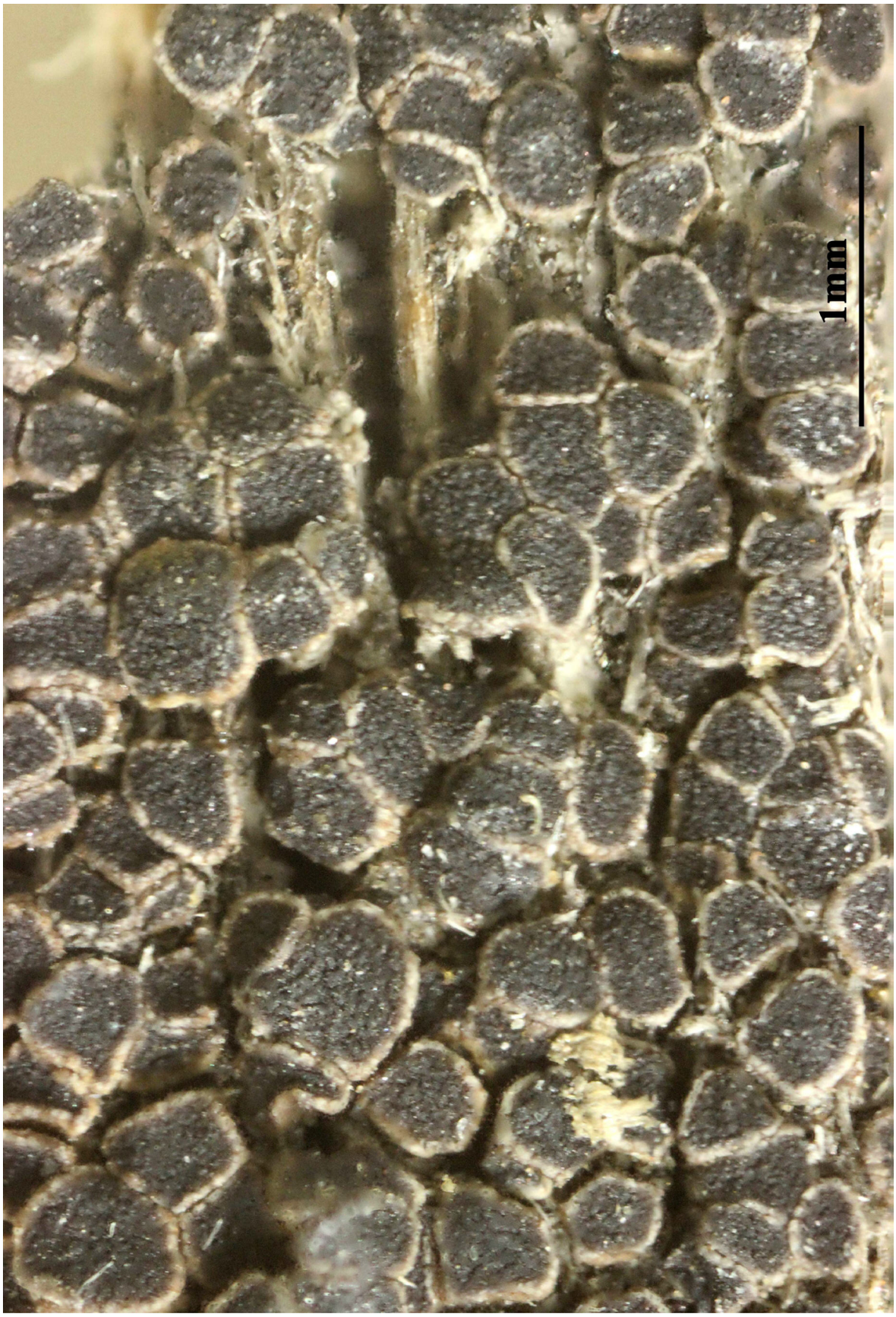
Rinodina archaea

Rinodina arctica H. Magn., Acta horti gothoburgensis 17: 308 (1947)

[VZ2296], Svalbard, Isfjorden-Grönfjorden, Festingsodden, in litore. Ad lignum casae vetustae. Leg. J. Liška, 4.8.1988, det. A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2296.

Ex Magnusson 1947:
Thallus indistinctus vel tenuis, fuscescens. Apothecia crebra vel congesta, subminuta, adpressa, disco atro, plano, margine tenui, rufofusco vel albofusco, saepe leviter flexuoso cincto. Cortex apothecii cellulosus, I-, cellulis rotundatis. Paraphyses subdiscrectae. Sporae mediocres, pariete apicali haud ints convexo.
Thallus covering several cm square, sometimes visible as a thin, not continuous reddish brown convex, usually concealed by the dense to crowded 0.5-0.8 mm wide apothecia, their margin sometimes subcreniculate, partly also brownish white. Apothecia 0.25-0.3 mm thick. K-, pale part 120-150 µm deep. margin 50-60 µm thick 35-45 µm gonidial stratum of 8-17 µm large gonidia continuous all round, hyphal cells 3.5-6.5 µm thick, rather thin-walled isometic. Cortex well developed below, 20-35 µm thick, hyaline with exterior 12-15 µm sordid fulvus tapering upwards to 10 µm or disappearig, I-, cells isometric, 3-5 µm, structurae somewhat lax. Exciple at base 15-35 µm. cells 1-2 µm laterally 6-8 µm and at edge to 35 µm with upper 20 µm bright brownish yellow, I-, cells there 2-3 µm. Hypothecium 15-20 mm, cells 1-1.5 µm, Thecium 75-85 µm. I+ dark blue to gonidia. upper 15 µm bright yellowish brown. Paraphyses distinct in water, 1.7 µm, apices contiguous, 3-4 µm. but rather well discernible in water, in K still contiguous, 4-5 µm, clavate, many paraphyses with several short, apical, contiguous branches, Spores 8, easily free, 21-35 x 9-10 µm, apical wall not convex inwards, 2.5- 3 µm, septum 2-4 µm lamella unusually distinct, I-. Paraphyses in H_2SO_4+ iodine distnctly jointed but not constricted at septa. Habitat on earth or wood.

Rinodina arctica



Rinodina arctica

Rinodina confragosa (Ach.) Körb., Syst. lich. germ. (Breslau): 125 (1855)

[VZ2219], Italia. Sardinia. Prov. Nuoro: Barbagia Seulo, M. Arbu, secus viam inter stationem viae ferreae S. Girolamo et casam forestalem, 950 m. Ad saxa schistosa. Leg. A. Vězda, 16.7.1987. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2219.

Thallus crustose, episubstratic, rather thick, verrucose-areolate to almost subsquamulose, sometimes delimited by a dark prothallus. Areoles to c. 0.7 mm wide, light whitish, pale grey to ochre-coloured, dull, sometimes subumbilicate. Cortex distinct, I+ faintly blue. Apothecia lecanorine, usually crowded, 0.5-1.5 mm across, with a black, flat to slightly convex disc, and a persistent or partly excluded, smooth to crenulate thalline margin; a raised, black parathecial ring is sometimes present. Thalline exciple 80-90 µm wide laterally, corticate; proper exciple colourless, 5-10 µm wide laterally, expanding to 15-25 µm at periphery; epithecium red-brown, K-; hymenium colourless, 80-90(-110) µm high, I+ blue; paraphyses mot strongly coherent, 1.5-2(-3) µm thick at mid-level, the apical cells 3.5-5 µm wide, immersed in a dispersed pigment; hypothecium colourless, (60-)100-150(-200) µm high, I+ blue. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, brown, ellipsoid, 16-27 x 8-13 µm, thickened at apex, the wall ornamented, Physcia-type, with spore ontogeny of type A (apical wall thickening after septum formation). Pycnidia black, immersed. Conidia bacilliform, 3.5-5.5 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: cortex K+ yellow, C-, KC-, P- or P+ faintly yellow. Chemistry: cortex with atranorin and chloroatranorin, medulla with variable amounts of zeorin. - Note: a cool-temperate to boreal-montane, circumpolar lichen found on vertical or rain-sheltered surfaces of hard siliceous rocks protected from rain, exceptionally reaching beyond treeline in dry-warm areas; the species is chemically variable.

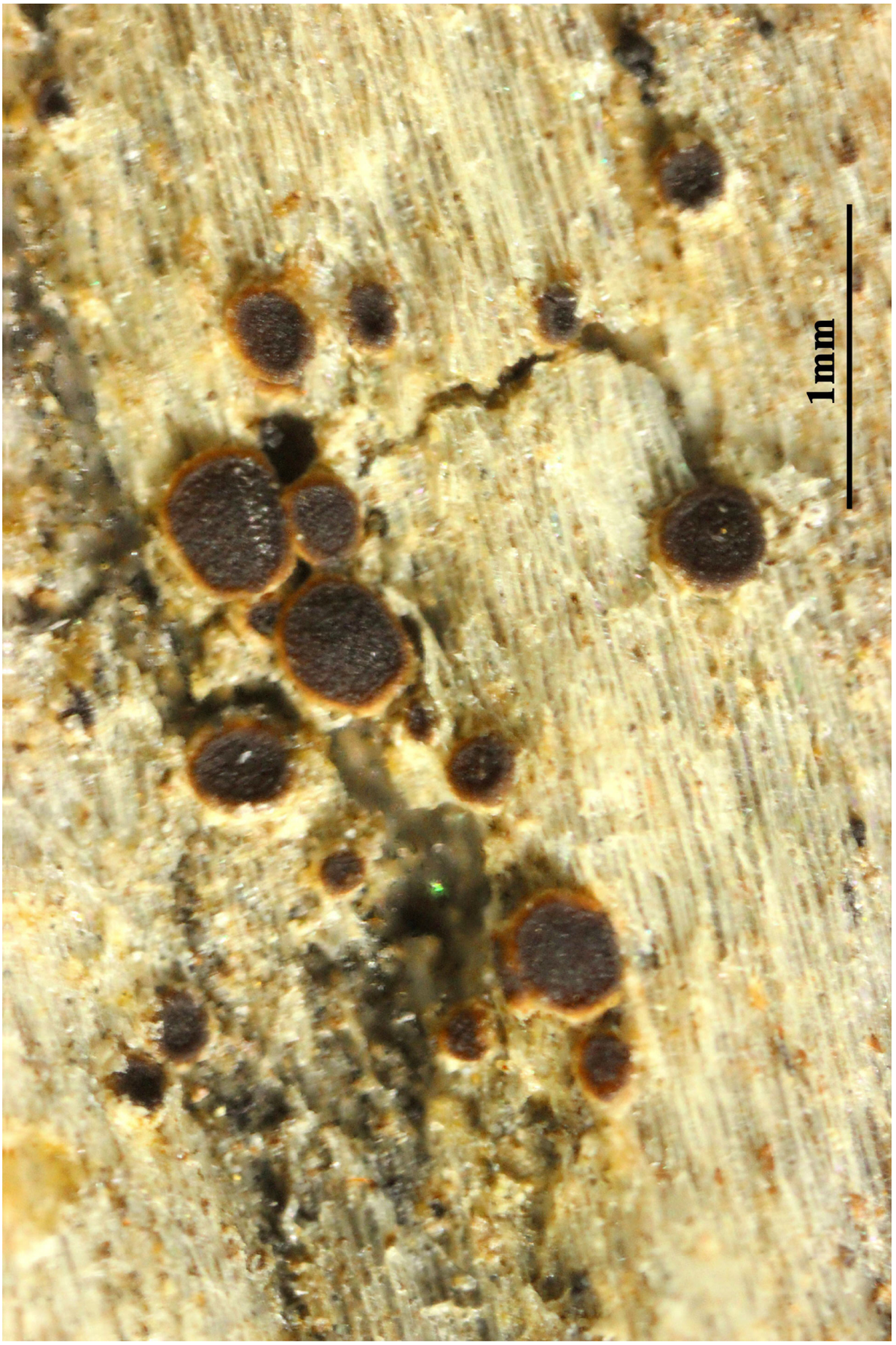
Rinodina confragosa

Rinodina confragosa

Rinodina conradii Körb., Syst. lich. germ. (Breslau): 123 (1855)

[VZ1799], Canada. Colombia britannica, Insula Vancouver: Ucluelet, in litore dicto "Little Beach", 0.5 m. Ad lignum nudum trabis. Leg. W. J. Noble (no. 7302), 26.1.1981. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1799.

Thallus crustose, episubstratic, usually thin, sometimes inconspicuous, continuous and smooth to finely rugose, cracked or rarely verrucose, pale grey to grey-brown, sometimes with a greenish tinge, usually not delimited by a distinct prothallus. Apothecia lecanorine, abundant and often crowded, 0.3-0.8(-1) mm across, sessile to adnate, with a dark brown to brown-black, flat to slightly convex disc and a distinct but thin, persistent thalline margin. Epithecium brown to red-brown, K-; hymenium colourless, 80-135 µm high; hypothecium colourless to pale yellow, (25-)35-60(-70) µm high. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores at first 1-septate, then 3(-5)-septate, brown, ellipsoid, (18-)25-31(-35) x 9-15 µm, Conradii-type, the wall strongly thickened with an evident torus, the ontogeny of type B (apical wall thickened prior to septum formation). Pycnidia black, immersed. Conidia bacilliform, 3.5-4 µm long. Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a widespread, short-lived early coloniser of base-rich soil and terricolous bryophytes in open habitats, sometimes on mosses on basal parts of ancient trees.



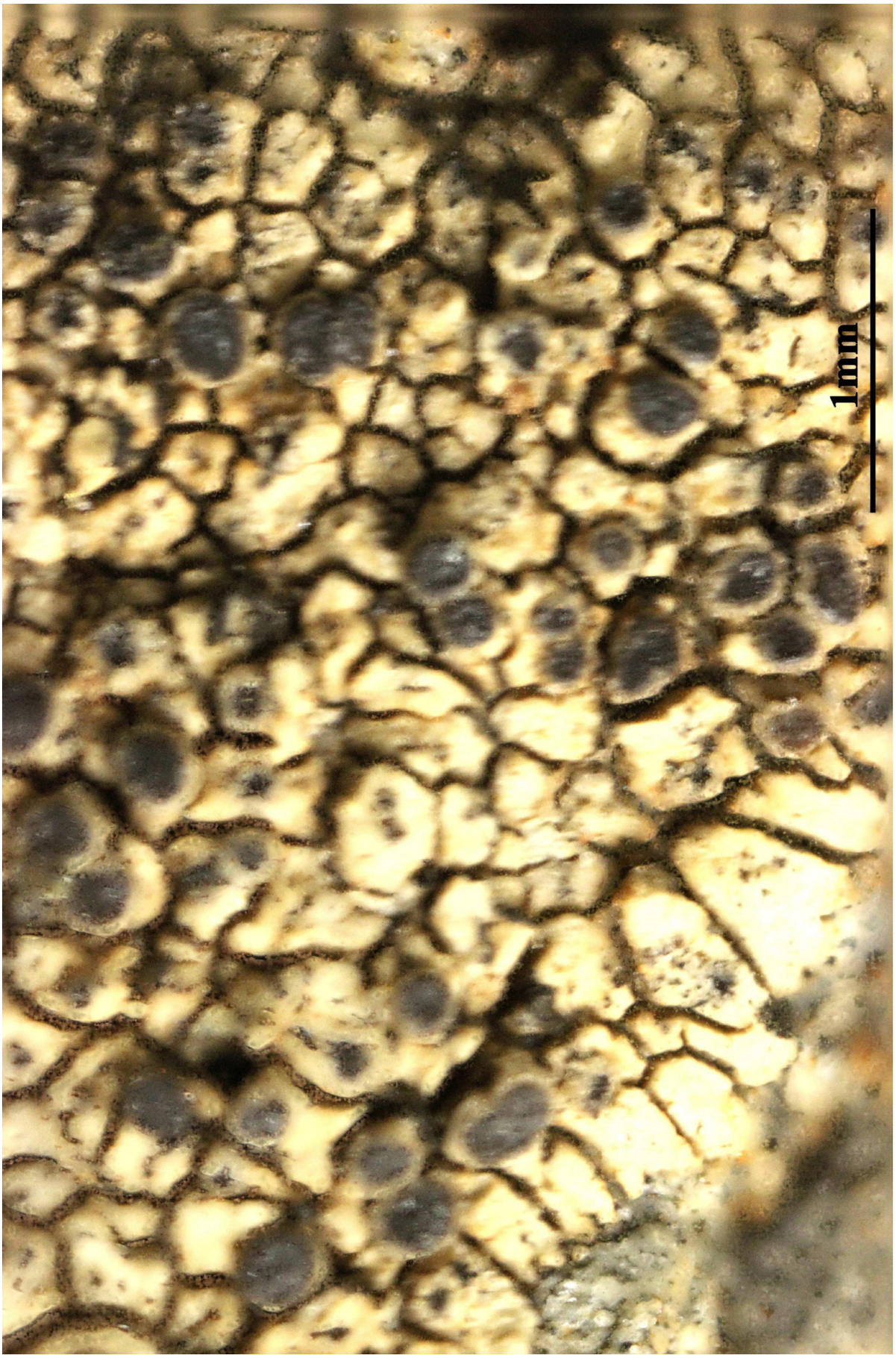
Rinodina conradii

Rinodina gennarii Bagl., Comm. Soc. crittog. Ital. 1(fasc. 1): 17 (1861)

[VZ2440], Lusitania. Madeira: Ponta de S. Laurenco, 5 km ad orientem a Canical, in colle "Pedras Brancas", 100 m. Ad saxa vulcanica. Leg J. & A. Hafellner, 13.2.1990, det. H. Mayrhofer. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2440.

Thallus crustose, thinly episubstratic, rimose to rimose-areolate, sometimes reduced to a few small areoles around the apothecia, whitish to dark grey or grey-brown, dull, rarely delimited by a dark prothallus. Apothecia lecanorine, abundant and usually crowded, adnate, 0.3-0.5(-0.7) mm across, with a dark brown to almost black, epruinose, flat to markedly convex disc and a thin, smooth, finally sometimes excluded thalline margin. Thalline exciple 20-100 µm wide laterally, expsnding in lower part, the cortex 5-10 µm thick; proper exciple 5-20 µm wide laterally, expanded to 20-30(-55) µm at periphery; epithecium dark brown, 5-15 µm high, K-; hymenium colourless, 60-80(-90) µm high, K/I+ blue; paraphyses 1.5-2.5 µm thick at mid-level, not very coherent, the apical cells 3-6 µm wide; hypothecium colourless, up to 150 µm high. Asci 8-spored, narrowly clavate to clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, brown, broadly ellipsoid, sometimes slightly curved, (11-)13-16(-18) x (6-)7-10(-11) µm, Dirinaria-type, not thickened at apex and slightly swollen at septum in K, the torus absent, the ontogeny of type B (apical thickenings visible before the insertion of the septum). Pycnidia immersed in thallus, black, pyriform. Conidia bacilliform, 4-6 x c. 1 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a mainly temperate species found on base-rich or slightly calciferous siliceous substrata, e.g. calciferous schists and sandstone, often also in small urban settlements, on brick walls, mortar, and roofing tiles, mostly below the subalpine belt. The species is very closely related to the epiphytic *R. oleae*, so much that it was considered as a synonym of the latter by Kaschik (2006).

Rinodina gennarii



Rinodina gennarii

Rinodina gennarii Bagl., Comm. Soc. crittog. Ital. 1(fasc. 1): 17 (1861)

[VZ1958], Norvegia. Hordaland: Granvin, in loco dicto Gjeitabrekkeberget. Ad saxa schistosa. Leg. J. J. Havaas, 9.5.1949, det H. Mayrhofer. - Annot.: Unknwen pigment SV-1 and traces of terpene like spots by TLC - A. Johnson and C. Culberson (no. 8462). Collected for Lichenes Norvegiae Occidentalis Exsiccati but not issued in that series. - Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1958.

Thallus crustose, thinly episubstratic, rimose to rimose-areolate, sometimes reduced to a few small areoles around the apothecia, whitish to dark grey or grey-brown, dull, rarely delimited by a dark prothallus. Apothecia lecanorine, abundant and usually crowded, adnate, 0.3-0.5(-0.7) mm across, with a dark brown to almost black, epruinose, flat to markedly convex disc and a thin, smooth, finally sometimes excluded thalline margin. Thalline exciple 20-100 µm wide laterally, expsnding in lower part, the cortex 5-10 µm thick; proper exciple 5-20 µm wide laterally, expanded to 20-30(-55) µm at periphery; epithecium dark brown, 5-15 µm high, K-; hymenium colourless, 60-80(-90) µm high, K/I+ blue; paraphyses 1.5-2.5 µm thick at mid-level, not very coherent, the apical cells 3-6 µm wide; hypothecium colourless, up to 150 µm high. Asci 8-spored, narrowly clavate to clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, brown, broadly ellipsoid, sometimes slightly curved, (11-)13-16(-18) x (6-)7-10(-11) µm, Dirinaria-type, not thickened at apex and slightly swollen at septum in K, the torus absent, the ontogeny of type B (apical thickenings visible before the insertion of the septum). Pycnidia immersed in thallus, black, pyriform. Conidia bacilliform, 4-6 x c. 1 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a mainly temperate species found on base-rich or slightly calciferous siliceous substrata, e.g. calciferous schists and sandstone, often also in small urban settlements, on brick walls, mortar, and roofing tiles, mostly below the subalpine belt. The species is very closely related to the epiphytic *R. oleae*, so much that it was considered as a synonym of the latter by Kaschik (2006).

Rinodina gennarii

Rinodina gennarii

Rinodina gennarii

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Rinodina gennarii

Rinodina luridescens (Anzi) Arnold, Flora, Regensburg 55: 39 (1872)
= *Buellia luridescens* Anzi 1862

[VZ1597], Bulgaria. Pontus Euxinus. Distr. Burgas, 6 km ad meridiem versus a pago Sozopol, 3-5 m. Ad scopulum maritimum. Leg. A,Vězda, 22.9.1978, det. H. Mayrhofer. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1597.

Thallus crustose, episubstratic, 0.5-1 mm thick, dark grey-brown with a faint violet tinge, continuous to rimose-areolate, forming up to 12 cm wide patches or mosaics, often delimited by a dark hypothalline line, the areoles 1.2-2.7 mm wide. Apothecia cryptolecanorine to lecideine, subinnate, 0.5-1.5 mm across, with a flat to slightly convex, black disc, a thin, entire, very soon excluded thalline margin, and a persistent, prominent proper margin. Proper exciple dark brown in outer part, paler brown within, 45-90 µm wide laterally; epithecium brown, C+ fleeting pink; hymenium colourless, 75-120 µm high; paraphyses 1-1.7 µm thick at mid-level, the apical cells 3.5-5 µm wide, with a brown cap; hypothecium pale brown, 70-155 µm high. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, brown, broadly ellipsoid, 15-23 x 7.5-13 µm, Milvina-type, tending towards the Physcia-type. Photobiont chlorococcoid. Spot tests: thallus K-, C+ pink, KC+ pink, P- (reactions best visible on a thick section under the microscope). Chemistry: gyrophoric acid, zeorin. - Note: a Mediterranean-Atlantic lichen described from Tuscany, found on hard siliceous rocks subject to frequent humid winds, often near the coast; not uncommon in some parts of Mediterranean Italy, e.g. in Sardinia, on nuraghes.

Rinodina luridescens

Rinodina luridescens

Rinodina malangica (Norman) Arnold, Flora, Regensburg 64(13): 196 (1881)
= *Rinodina leprosa* var. *malangica* Norman 1868

[VZ2346], Austria. Lechtaler Alpen: transitus Arlbergpass, prope St. Christoph am Arlberg, 1820 m. Leg. E. Hinteregger et M. & H. Mayrhofer,25.7.1986. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 2346.

Thallus crustose-subsquamulose, episubstratic, well developed, yellowish brown, olivaceous, grey-brown or grey-green, of contiguous, sublobate areoles/squamules more or less entirely covered in coralloid, (30-)50-60 µm thick blastidia. Apothecia lecanorine, immersed, scattered, (0.2-)0.5-0.8 mm across, with a mostly persistently flat, brown disc, and a thick, usually blastidiate thalline margin. Thalline exciple 80-100 µm wide laterally, cellular, with a thin, indistinct cortex; proper exciple 10-15 µm wide laterally, expanded to 30-35 µm in upper part; epithecium reddish brown, K-; hymenium colourless, 70-90 µm high; paraphyses 2-2.5 µm thick at mid-level, the apical cells up to 5 µm wide; hypothecium colourless, 50-100 µm high. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, not constricted at septum, brown, ellipsoid, 13-18 x 6-9 µm, with a well-developed torus and smooth walls, Physcia-type, the ontogeny of type A (apical wall thickening after the early septum formation). Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a species known from the central European mountains, the Pyrenees, Norway and the Canary Islands, found on shrubs (often on *Rhododendron*) in the subalpine belt, especially on the basal parts of stems, where it can be very abundant, sometimes on lignum; probably widespread throughout the Alps.

Rinodina malangica

Rinodina malangica

Rinodina milliaria Tuck., Proc. Amer. Acad. Arts & Sci. 12: 175 (1877)

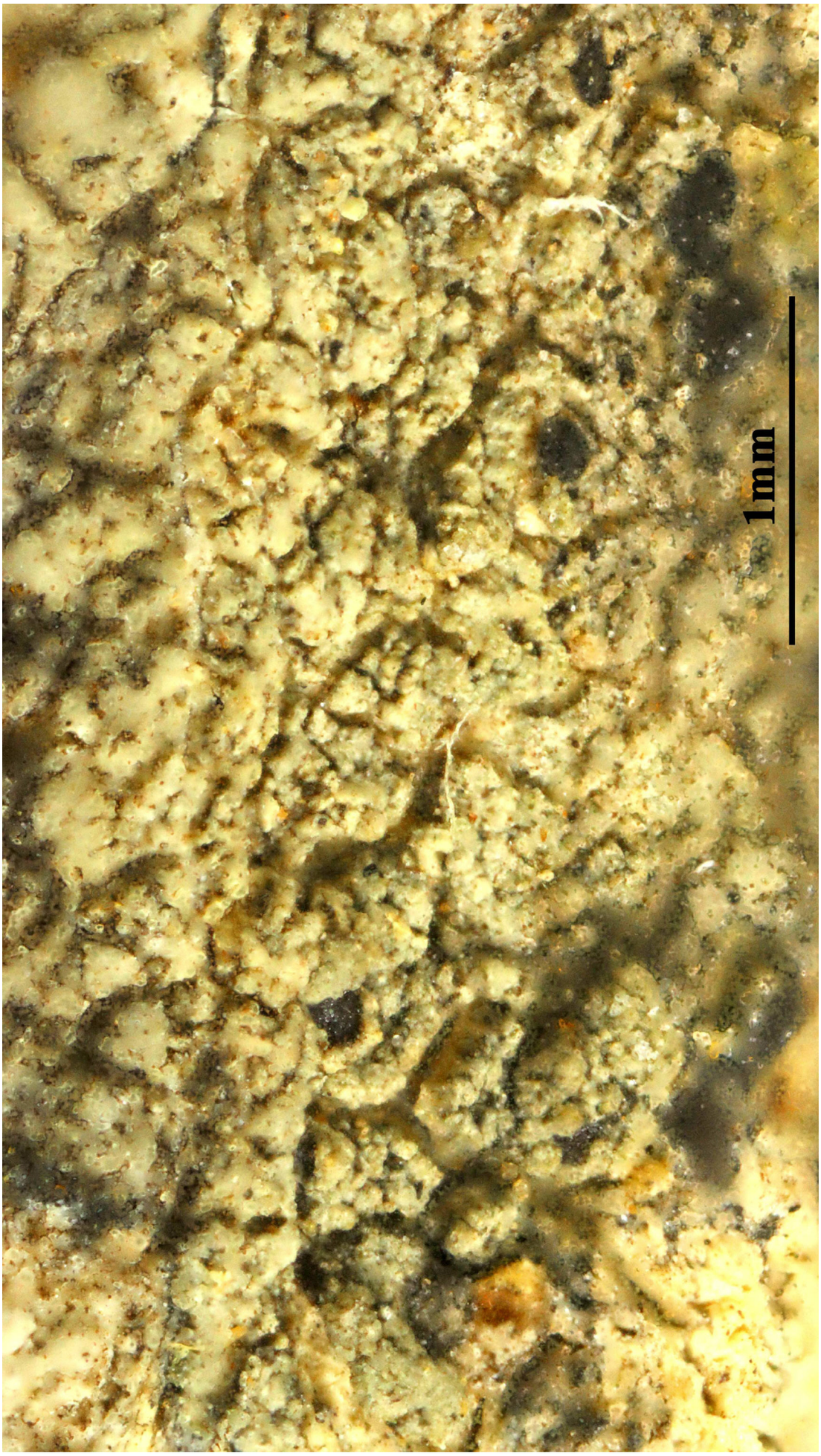
[VZ1982],USA. Lousiana, East Baton Rouge paroecia, vicinitas Universitatis Lousianae, Baton Rouge. Ad corticem *Lagerstroemiae indicae* (cult.). Leg. S. C. Tucker (no. 2094), 18.5.1980. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1982.

Thallus thin, light gray to light olive or a shade of light yellow-green, continuous or rimose, plane or more usually slightly rugose, matt. Thallus determinate, sometimes limited by gray or dark brown, entire to fimbriate prothallus. Apothecia frequent and often contiguous, 0.30-0.50(-0.70) mm diam., typically erumpent and broadly attached, then overgrowing thallus. Disc black, plane but may become convex; at first surrounded by collar of thallus tissue raised by emerging apothecium (pseudothalline margin), rarely developing thin lecanorine margin concolorous with thallus or more frequently thin lecideine margin concolorous with disc, <0.05 mm wide. Mature apothecia frequently lacking obvious margin, either thalline or proper. Thalline exciple usually absent, (25-)35-45 µm wide when present. Phenocortex, 5-25(-35) µm wide, excreted epicortex _5(-10) µm, cortical cells to (3.0-)4.0-6.5(-8.0) µm wide, rarely pigmented, algal cells to 6.0-13.0(-15.0) µm diam. Proper exciple hyaline, 5-10(-15) µm wide laterally, expanding to 20-25 µm wide above when pseudothalline margin present, or 20-35 µm wide when forming proper margin, and then pigmented yellowish brown, often lighter within. Hypothecium always dark in median section, (25-)40-100 µm deep, pigmented yellowish brown to olive brown, the upper part (subhymenium) often with a bluish green pigment, brighter with HNO_3, fading in K, fading to olive gray and finally to yellowish brown in storage. Hymenium (35-)55-90 µm high, paraphyses 1.5-2.5 µm wide, apical cells to 3.5-7.0 µm wide, pigmented brown to olive black, often immersed in diffuse bluish green pigment (the same color but usually lighter than hypothecium), fading to olive gray or yellowish brown. Epithecium therefore dark brown, often with a blue green, or olive tinge when freshly collected. Ascus (40-65) x (9-17) µm; apical cushion typically long conic or arch-shaped but sometimes cylindric, with or without a distinct amyloid layer above; amyloid layer stained darkest adjacent to apical cushion. Spores buellia-type, usually not waisted, 8.6-(10.9-11.4)-13.8, 11.2 x 5.6, 4.6-(5.5-5.7)-6.5 mm, length/breadth ratio 1.9-2.1, torus absent, sometimes with transient wall thickening at septum, walls ornamented (x 1250),

microrugulate by SEM at maturity. Condiophores resembling type III, conidia filiform, arcuate, 13-(18-20)-25 μm long. Thalline reactions negative, no substances found by TLC. - Taxonomic notes.-*Rinodina* (*Amandinea milliaria*) is a distinctive species which is usually easy to identify due to its light gray thallus color, erumpent apothecia, black apothecium disc, dark hypothecium, and unwaisted spores. The erumpent apothecia may retain thalline remnants (pseudothalline margin), develop a thin proper margin or, more rarely, a narrow but true thalline margin, or fail to develop either an obvious thalline or proper margin.

Rinodina milliaria

Rinodina milliaria



Rinodina milliaria

Rinodina milvina (Wahlenb. ex Ach.) Th. Fr., Lich. arct. (Uppsala): 124 (1860)

[VZ2297], Austria. Tirolia, alpes dicti "Hohe Tauern": Gruben, secus viam inter Stein et Casas alpinas "Sudetendeutsche Hütte" dictas, 1800 m. Ad saxa Schistosa. Leg. J. Horáková et A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2297.

Thallus crustose, episubstratic, rimose-areolate, often delimited by a black prothallus, the areoles up to 0.5-1 mm wide, smooth to rugose, dark grey, reddish brown or dark brown, dull. Medulla white, I-. Apothecia lecanorine, adnate to subsessile, contiguous, sometimes angular by mutual compression, 0.3-1(-1.5) mm across, with a dark brown to black, concave to flat, rarely slightly convex disc and a thick, smooth to crenulate, persistent thalline margin. Thalline exciple 60-100 µm wide laterally, corticate, without crystals; proper exciple colourless, 5-20 µm wide laterally, expanding to 10-40 µm in upper part; epithecium reddish brown, K-; hymenium colourless, (65-)100-120 µm high; paraphyses not strongly coherent, 1.5-2.5 µm thick at mid-level, the apical cells 3.5-5.5 µm wide, immersed in dispersed pigment; hypothecium colourless. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, often constricted at septum, brown, broadly ellipsoid, (13-)16-19(-23) x (7-)9-11(-13) µm, Milvina-type, often grading into Pachysporaria-type at maturity, with a well-developed torus, the walls finely warted, the ontogeny of type A (apical wall thickening after septum formation). Pycnidia dark, immersed. Conidia bacilliform, 4-5 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a cool-temperate to arctic-alpine, circumpolar lichen found on boulders of siliceous rocks, usually on steeply inclined surfaces, often (but not always) parasitic on other crustose lichens; the Italian distribution ranges from the Alps to the high Mediterranean mountains, with optimum near or above treeline.

Rinodina milvina

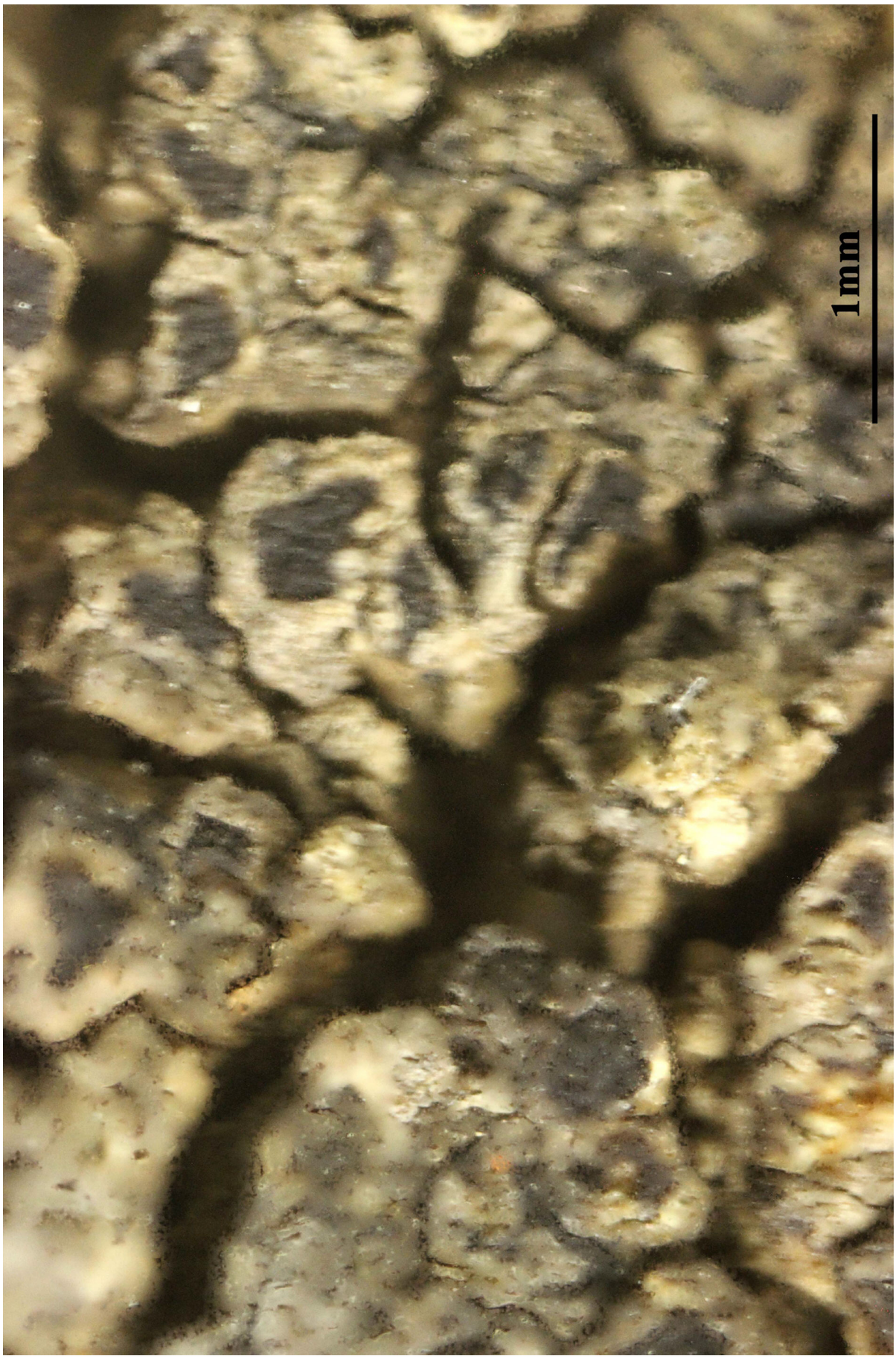
Rinodina milvina

Rinodina milvina (Wahlenb. ex Ach.) Th. Fr., Lich. arct. (Uppsala): 124 (1860)

[VZ1861], Urss. Armenia, distr. Krasnosirijsk: ad latera merid. montium Sevanskij xhrebret, supra lacum Sevan dictutm, 000 m. Ad saxa vulcanica. Leg. A. Vezda et V. Vašák, 6.7.1983, det H. Mayrhofer. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 1861.

Thallus crustose, episubstratic, rimose-areolate, often delimited by a black prothallus, the areoles up to 0.5-1 mm wide, smooth to rugose, dark grey, reddish brown or dark brown, dull. Medulla white, I-. Apothecia lecanorine, adnate to subsessile, contiguous, sometimes angular by mutual compression, 0.3-1(-1.5) mm across, with a dark brown to black, concave to flat, rarely slightly convex disc and a thick, smooth to crenulate, persistent thalline margin. Thalline exciple 60-100 µm wide laterally, corticate, without crystals; proper exciple colourless, 5-20 µm wide laterally, expanding to 10-40 µm in upper part; epithecium reddish brown, K-; hymenium colourless, (65-)100-120 µm high; paraphyses not strongly coherent, 1.5-2.5 µm thick at mid-level, the apical cells 3.5-5.5 µm wide, immersed in dispersed pigment; hypothecium colourless. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, often constricted at septum, brown, broadly ellipsoid, (13-)16-19(-23) x (7-)9-11(-13) µm, Milvina-type, often grading into Pachysporaria-type at maturity, with a well-developed torus, the walls finely warted, the ontogeny of type A (apical wall thickening after septum formation). Pycnidia dark, immersed. Conidia bacilliform, 4-5 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a cool-temperate to arctic-alpine, circumpolar lichen found on boulders of siliceous rocks, usually on steeply inclined surfaces, often (but not always) parasitic on other crustose lichens; the Italian distribution ranges from the Alps to the high Mediterranean mountains, with optimum near or above treeline.

Rinodina milvina

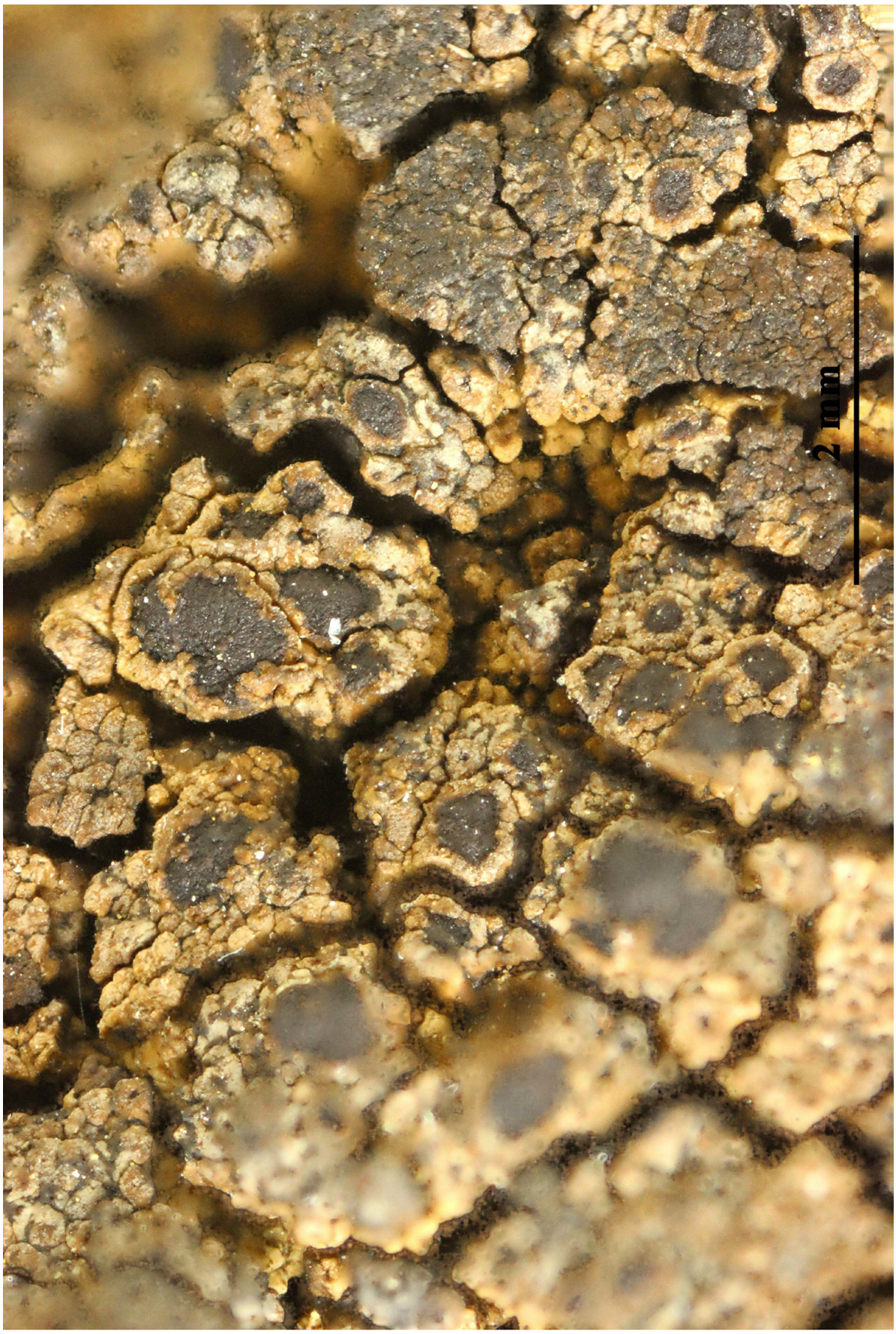


Rinodina milvina

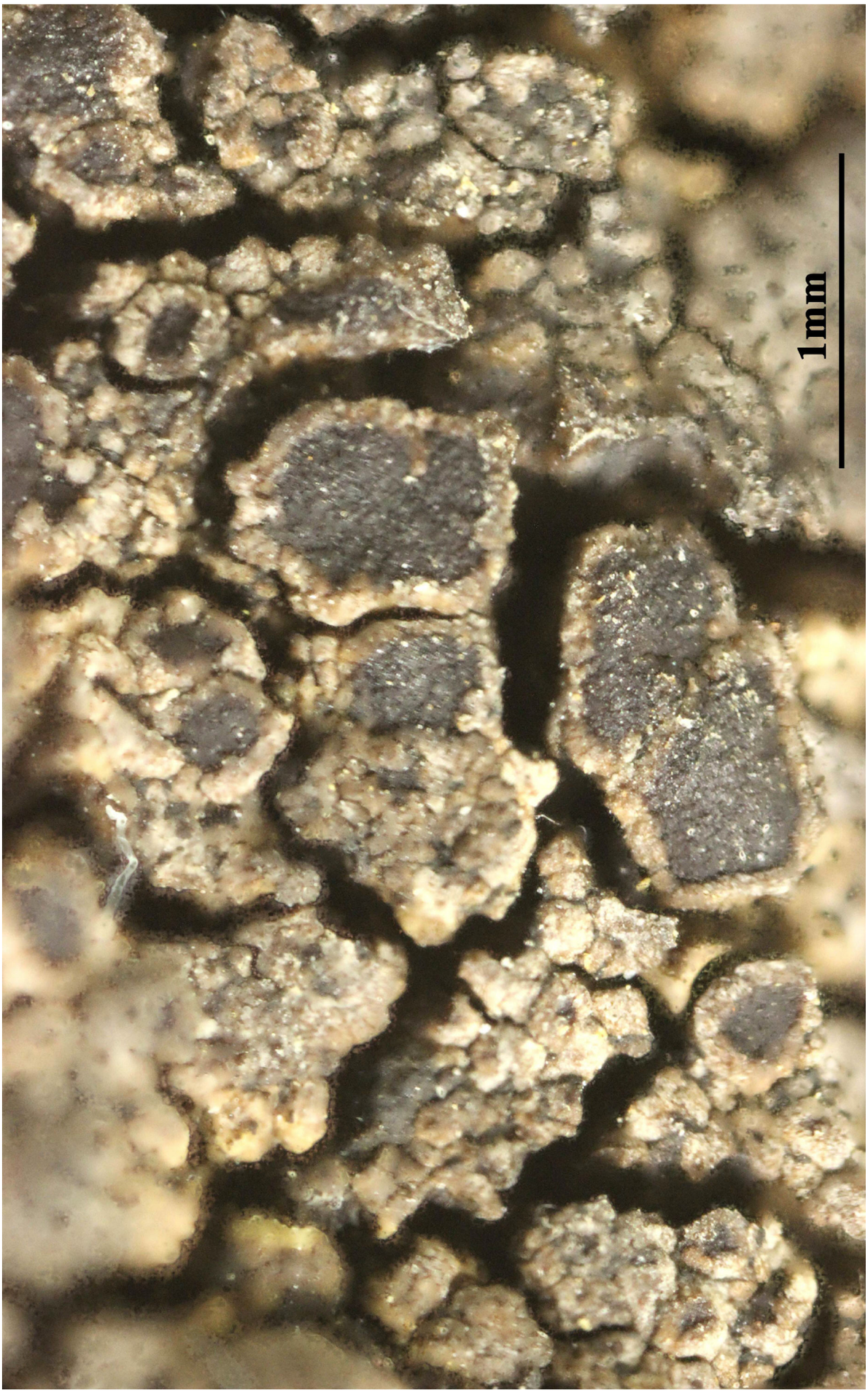
Rinodina milvina (Wahlenb. ex Ach.) Th. Fr., Lich. arct. (Uppsala): 124 (1860)

[VZ1748], Italia.Basilicata, Prov. Potenza: Monte Pollino, Vacquarro, 1460 m. Ad saxa siliceo-calcarea. Leg. H. Mayrhofer, 2.7.1980. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1748.

Thallus crustose, episubstratic, rimose-areolate, often delimited by a black prothallus, the areoles up to 0.5-1 mm wide, smooth to rugose, dark grey, reddish brown or dark brown, dull. Medulla white, I-. Apothecia lecanorine, adnate to subsessile, contiguous, sometimes angular by mutual compression, 0.3-1(-1.5) mm across, with a dark brown to black, concave to flat, rarely slightly convex disc and a thick, smooth to crenulate, persistent thalline margin. Thalline exciple 60-100 µm wide laterally, corticate, without crystals; proper exciple colourless, 5-20 µm wide laterally, expanding to 10-40 µm in upper part; epithecium reddish brown, K-; hymenium colourless, (65-)100-120 µm high; paraphyses not strongly coherent, 1.5-2.5 µm thick at mid-level, the apical cells 3.5-5.5 µm wide, immersed in dispersed pigment; hypothecium colourless. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, often constricted at septum, brown, broadly ellipsoid, (13-)16-19(-23) x (7-)9-11(-13) µm, Milvina-type, often grading into Pachysporaria-type at maturity, with a well-developed torus, the walls finely warted, the ontogeny of type A (apical wall thickening after septum formation). Pycnidia dark, immersed. Conidia bacilliform, 4-5 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a cool-temperate to arctic-alpine, circumpolar lichen found on boulders of siliceous rocks, usually on steeply inclined surfaces, often (but not always) parasitic on other crustose lichens; the Italian distribution ranges from the Alps to the high Mediterranean mountains, with optimum near or above treeline.



Rinodina milvina



Rinodina milvina

Rinodina mniaroea (Ach.) Körb., Syst. lich. germ. (Breslau): 126 (1855)
= *Lecanora mniaroea* Ach. 1814

[VZ2174], URSS. Transcaucasus, Georgia. Distr. Gulripshi, in vicinitate pagi Khida, 200-2400 m. Ad terram humosam. Leg. V. Vašák, 7.7.1986, det. A. Vězda. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2174.

Thallus crustose, episubstratic, more or less continuous to verrucose, grey, ochraceous to reddish brown, rugose, without a distinct prothallus. Medulla white, without crystals. Apothecia lecanorine, 0.7-1.5 mm across, usually crowded, adnate to sessile, with a dark brown to black-brown, sometimes pruinose, flat to convex disc, a thin, entire, prominent, usually persistent thalline margin, and often a distinct parathecial ring. Thalline exciple 70-100 µm wide laterally, indistinctly corticate, overlain by an epinecral layer; proper exciple colourless, (10-)15-30 µm wide laterally, expanding to (25-)40-60(-70) µm at periphery; epithecium brownish orange; hymenium colourless, 80-150(-170) µm high; paraphyses coherent, 2-3 µm thick at mid-level, the apical cells 4.5-5.0(-6) µm wide; hypothecium colourless to pale brown, (80-)120-250 µm high, inspersed with oil droplets, especially in older apothecia. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, often with slightly unequal cells, brown, ellipsoid, 20-35 x 9-15 µm, Physcia-type, with a well-developed torus and smooth walls, the ontogeny of type A (apical wall thickening after septum formation). Pycnidia dark, immersed. Conidia bacilliform, 4-5 µm long. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: with variable amounts of variolaric acid and an unidentified terpenoid. - Note: an arctic-alpine, circumpolar species found on soil, mosses, and plant debris in tundra-like environments, mainly over subacid substrata, reaching the nival belt in the Alps. For further details see Resl & al. (2016).

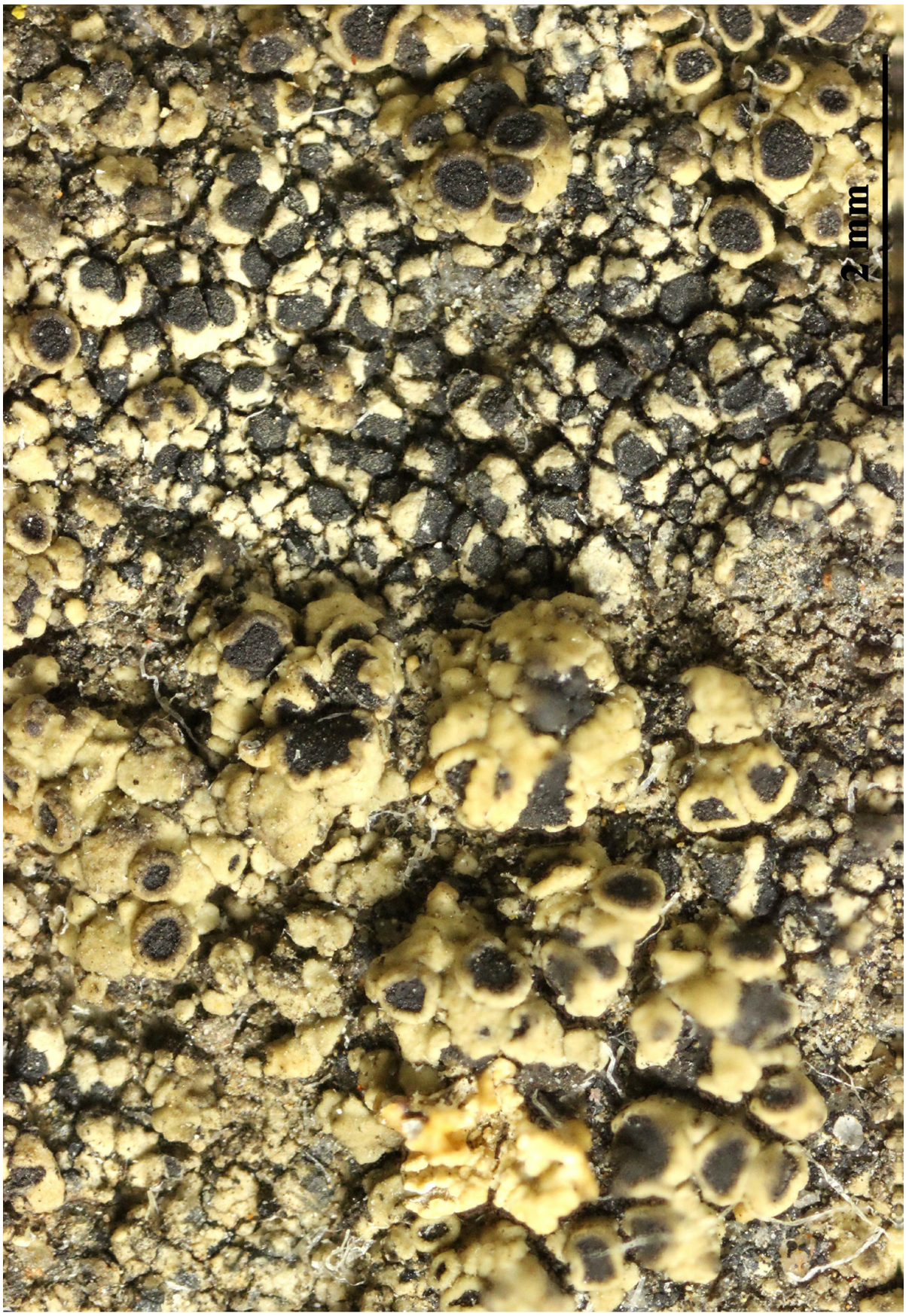
Rinodina mniaroea

Rinodina mniaroea

Rinodina murrayi H. Mayrhofer [as 'murrayii'], Lichenologist 15(3): 273 (1983)

[VZ1963], Australia, Tasmania. Hobart, Grass Tree Hill. ad septentriones versus a via Risdon Vale - Richmond. Ad saxa. Leg. H. Mayrhofer et G. Kantvilas, 26.19.1981, det H. Mayrhofer. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1963.

Thallus sordid grey-brown, membranous, rimose or rimose-areolate, prothallus blackish, saxicolous. Apothecia lecideine, sessile, dispersed, to 0.8 mm diam., disc blackish, plane becoming convex. Hymenium 80-100 µm tall. Epihymenium dark brown. Hypothecium brownish. Ascospores 12-16 × 6-8.5 µm, wall warted. Chemistry: -.



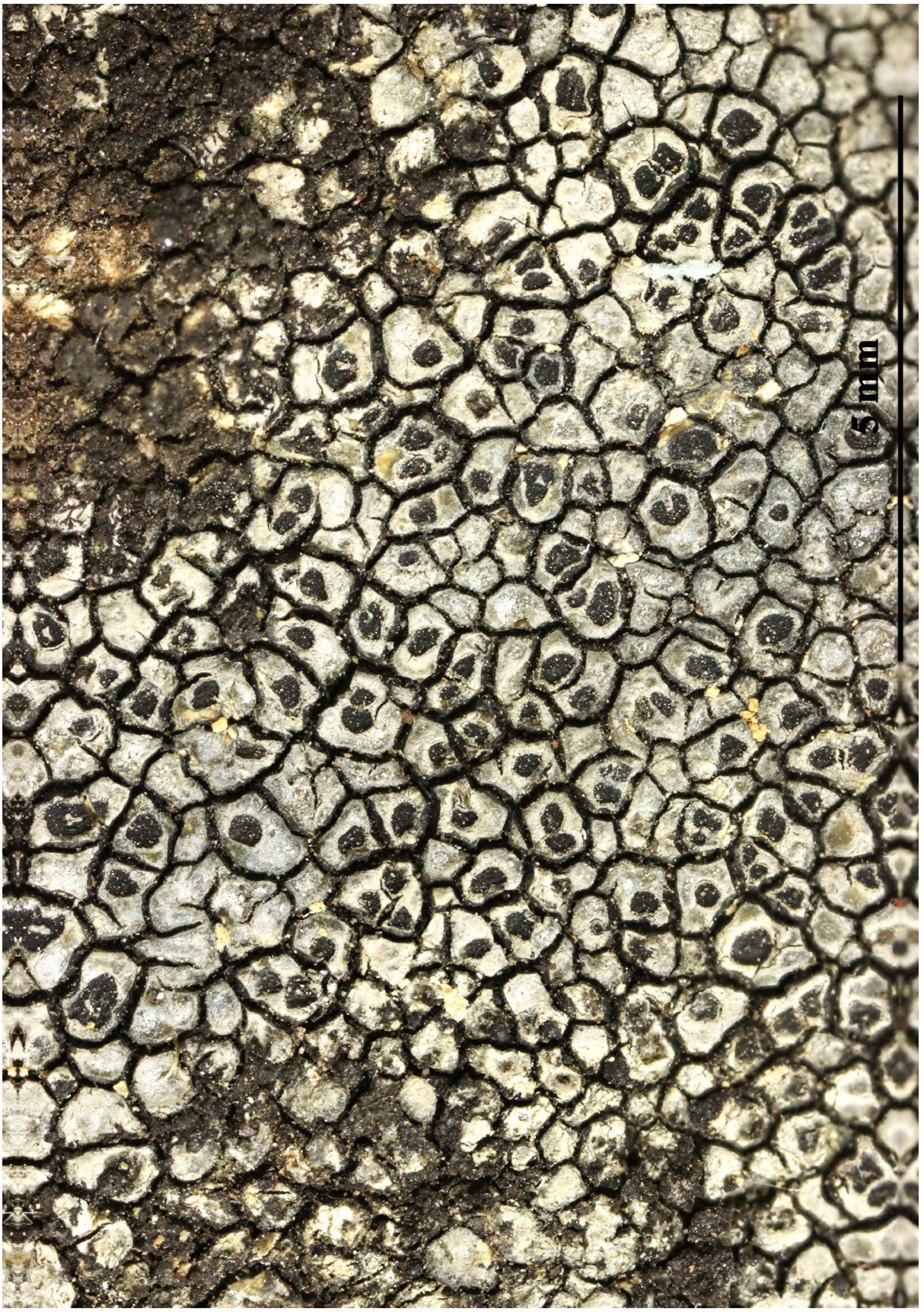
Rinodina murrayi

Rinodina murrayi

Rinodina obnascens (Nyl.) H. Olivier, Bull. Acad. Intern. Géogr. Bot. 15: 210 (1905)
= *Lecanora obnascens* Nyl. 1886

[VZ1964], Hispania. Prov Albacete, Bienservida, Canada del Conejo, 850 m. Ad saxa schistosa. in thallo lichenis (Aspicilia intermutanbs) parasitans. Leg. J. Egea et X. Llimona, 27.5.1978, det. J. Egea. Ex A. Vězda Lichenes Select5i Exsiccati Nr. 1964.

Thallus crustose, thinly episubstratic, dark reddish grey to brown-black, rimose-areolate, isidiate-blastidiate, forming small islands on the thalli of (mainly) aspicilioid lichens. Areoles to 0.7 mm wide, developing on a black hypothallus, flat, with marginal, blackish, isidioid blastidia which may cover the whole thallus surface. Apothecia lecanorine, sessile and constricted at base, 0.3-0.8 mm across, with a dark brown to black, mostly flat disc, a smooth to blastidiate thalline margin, and a more or less evident parathecial ring. Thalline exciple 60-70 µm laterally, the cortex c. 10 µm thick, without an epinecral layer, without crystals; proper exciple to 10 µm wide laterally, 25-40 µm wide in upper part; epithecium dark red-brown, K-; hymenium colourless, 70-90 µm high, not inspersed with oil droplets; paraphyses 1.5-2(-3) µm thick at mid-level, the apical cells 3.5-6 µm wide; hypothecium colourless, up to 150 µm high. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, brown, ellipsoid 13-21 x 7-12 µm, Milvina-type, the torus well developed, the walls ornamented. Pycnidia black, immersed. Conidia bacilliform, 3-4 x c. 1 µm. Photobiont chlorococcoid. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a Mediterranean-Atlantic lichen found on weakly inclined to horizontal surfaces of siliceous rocks wetted by rain, starting the life-cycle especially on *Aspiciliella intermutans*, but sometimes on other lichens, e.g. *Rhizocarpon*-species; mostly Tyrrhenian in Italy, but also reported from the Alps.



Rinodina obnascens

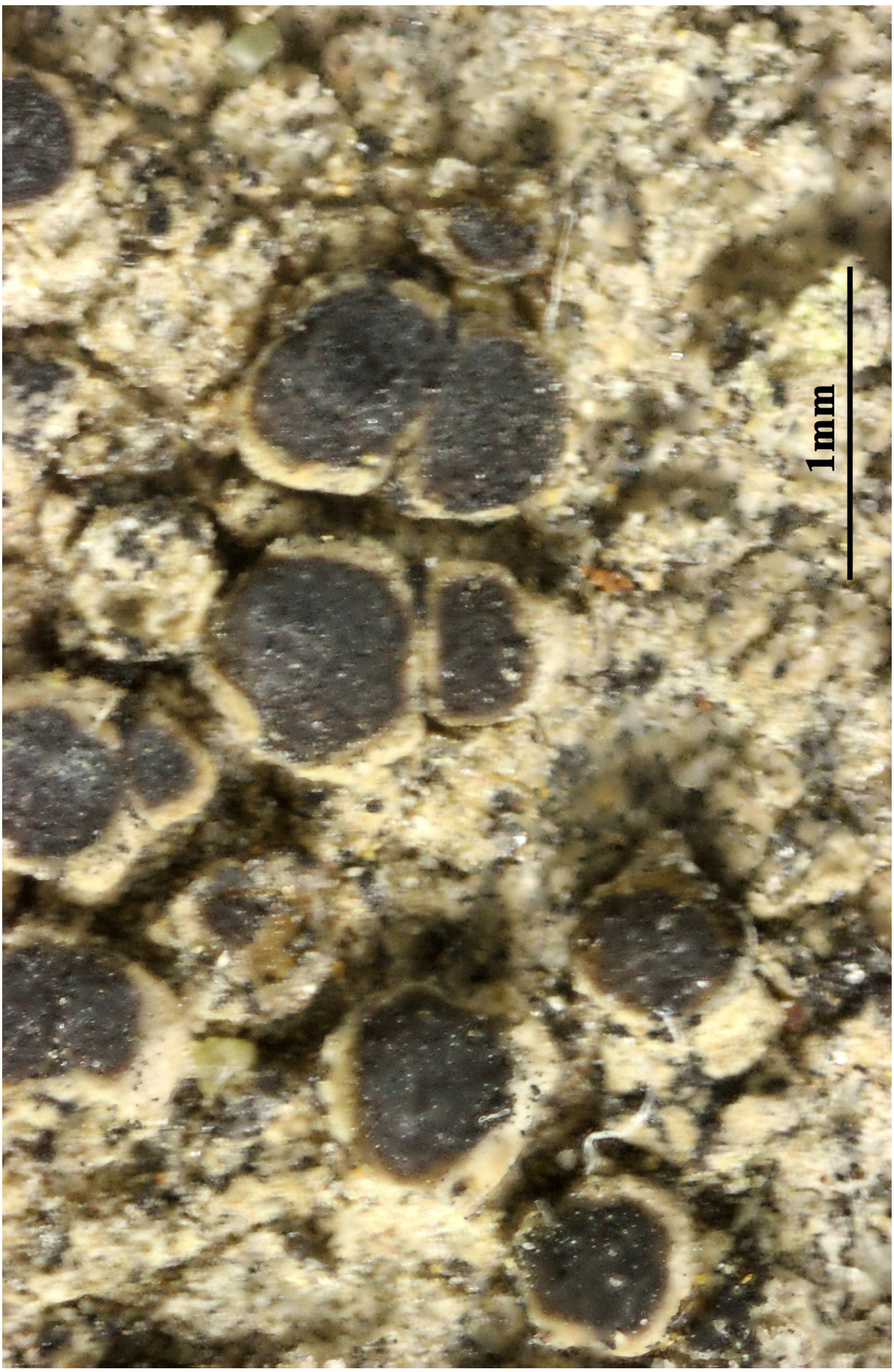
Rinodina obnascens

Rinodina peloleuca (Nyl.) Müll. Arg., Nuovo G. bot. ital. 23(1): 125 (1891)
= *Lecanora peloleuca* Nyl. 1865

[VZ2175], Nova Zelandia. Canterbury, Peninsula Banks: Tumbledown Bay via ad Te Oka, 0-10 m. Ad saxa litoralia. Leg. H. Mayrhofer (6840), H. Hertel, C. D. Meurk et H. D. Wilson, 18.1.1985, det. H. Mayrhofer. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2175.

Thallus thin, sordid whitish or pale grey, membranous or rimose to rimose- areolate, prothallus evanescent or blackish, cortex with granular inclusions, saxicolous. Apothecia cryptolecanorine to lecanorine, innate or adnate, frequent, to 1 mm diam., disc blackish, plane, becoming convex. Hymenium 90-130 µm tall. Epihymenium red-brown. Hypothecium colourless. Ascospores of - type, torus small, not well-developed, 17-25 × 10-14 µm, wall finely warted. Chemistry: Zeorin and four unidentified triterpenoids.

Rinodina peloleuca



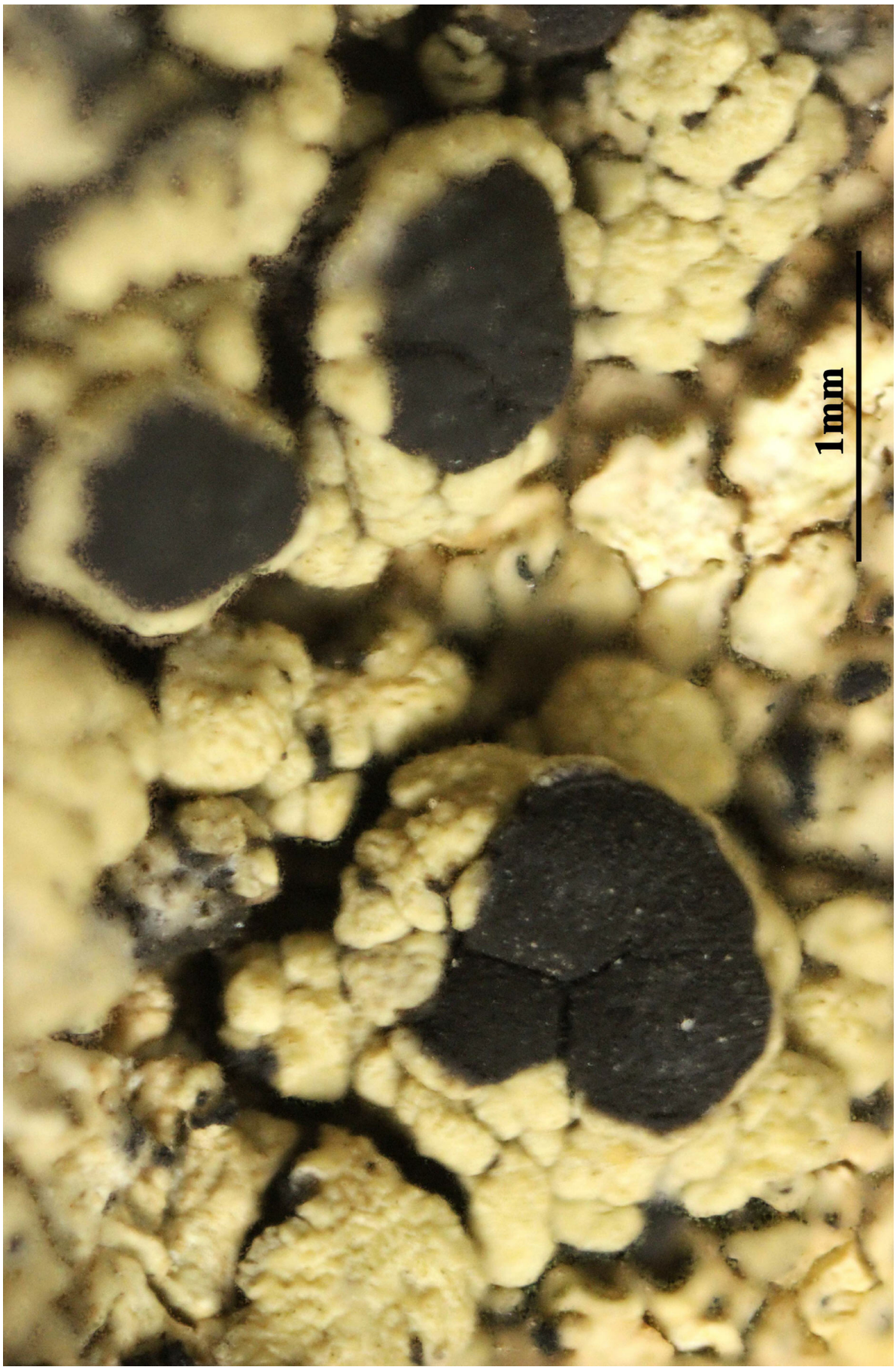
Rinodina peloleuca

Rinodina subexigua (Nyl.) H. Olivier, Mém. Soc. natn. Sci. nat. Cherbourg 37: 170 (1909)
= *Lecanora subexigua* Nyl. 1874
= *Rinodina gennarii* Bagl., Comm. Soc. crittog. Ital. 1(fasc. 1): 17 (1861)

[VZ1364],Bulgaria. Pontus, distr. Burgas: in litore prope pagum Lozonec, 1-3 m. Ad scopulos siliceos. Leg. A. Kiszely et A. Vězda, 15.8.1975. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1364.

Thallus crustose, thinly episubstratic, rimose to rimose-areolate, sometimes reduced to a few small areoles around the apothecia, whitish to dark grey or grey-brown, dull, rarely delimited by a dark prothallus. Apothecia lecanorine, abundant and usually crowded, adnate, 0.3-0.5(-0.7) mm across, with a dark brown to almost black, epruinose, flat to markedly convex disc and a thin, smooth, finally sometimes excluded thalline margin. Thalline exciple 20-100 µm wide laterally, expsnding in lower part, the cortex 5-10 µm thick; proper exciple 5-20 µm wide laterally, expanded to 20-30(-55) µm at periphery; epithecium dark brown, 5-15 µm high, K-; hymenium colourless, 60-80(-90) µm high, K/I+ blue; paraphyses 1.5-2.5 µm thick at mid-level, not very coherent, the apical cells 3-6 µm wide; hypothecium colourless, up to 150 µm high. Asci 8-spored, narrowly clavate to clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, brown, broadly ellipsoid, sometimes slightly curved, (11-)13-16(-18) x (6-)7-10(-11) µm, Dirinaria-type, not thickened at apex and slightly swollen at septum in K, the torus absent, the ontogeny of type B (apical thickenings visible before the insertion of the septum). Pycnidia immersed in thallus, black, pyriform. Conidia bacilliform, 4-6 x c. 1 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a mainly temperate species found on base-rich or slightly calciferous siliceous substrata, e.g. calciferous schists and sandstone, often also in small urban settlements, on brick walls, mortar, and roofing tiles, mostly below the subalpine belt. The species is very closely related to the epiphytic *R. oleae*, so much that it was considered as a synonym of the latter by Kaschik (2006).

Rinodina subexigua



Rinodina subexigua

Rinodina subglaucescens (Nyl.) Sheard, Lichenologist 3: 358 (1967)
= *Lecanora subglaucescens* Nyl. 1873
= *Rinodina beccariana* Bagl., Nuovo G. bot. ital. 3: 239 (1871)

[VZ2220], Italia. Sardinia. Prov. Nuoro: Scopulum Torre Argentina dictum, prope oppidum Basa, 4-20 m. Ad saxa eruptiva mollia. Leg. J. Poelt et A. Vězda, 19.7.1897, det H. Mayrhofer. - Annot.: Planta parasitica in thallo *Pertusariae* sp. vigens. EX A. VĚZDA LICHENES SELECTI EXSICCATI NR. 2220.

Thallus crustose, episubstratic, up to 0.25 mm thick, continuous to rimose-areolate, pale glaucous grey to dark grey, rarely delimited by a dark prothallus. Apothecia lecanorine, adnate to sessile, (0.5-)0.7-1-(1.2) mm across, with a flat to finally slightly convex, dark brown to black disc and an entire to crenulate, persistent thalline margin. Proper exciple dark brown to blue-green in outer part, the blue-green parts N+ red: epithecium dark brown to blue-green and then N+ red; hymenium colourless to olivaceous, 80-100 µm high; paraphyses branched in upper part, 1-2 µm thick at mid-level, the apical cells 4-7 µm wide, with a dark cap; hypothecium colourless, up to 250 µm high. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, pigmented, ellipsoid, (15-)16-22(-29) x (6-)8-12(-15) µm, Pachysporaria-type, with thick walls and rounded lumina, when young showing tendencies towards the Physcia-type, the wall warted, the tholus well-developed, the ontogeny of type A (apical wall thickening after septum formation). Pycnidia black, immersed. Conidia bacilliform, 3-6 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: thallus K+ yellow, C-, KC-, P- or P+ faintly yellow. Chemistry: atranorin, sometimes also chloroatranorin and zeorin. - Note: a mainly Mediterranean-Atlantic lichen of siliceous rocks; common, and often abundant, only in Tyrrhenian Italy.

Rinodina subglaucescens

Rinodina subglaucescens

Rinodina subglaucescens (Nyl.) Sheard, Lichenologist 3: 358 (1967)
= *Lecanora subglaucescens* Nyl. 1873
= *Rinodina beccariana* Bagl., Nuovo G. bot. ital. 3: 239 (1871)

[VZ1365], Bulgaria. Pontus, distr. Burgas: in litore inter pagos Mičurin et Varvara, 3-5 m. Ad scopulos siliceos. Leg. A. Kiszely et A. Vězda, 18.8.1975. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1365.

Thallus crustose, episubstratic, up to 0.25 mm thick, continuous to rimose-areolate, pale glaucous grey to dark grey, rarely delimited by a dark prothallus. Apothecia lecanorine, adnate to sessile, (0.5-)0.7-1-(1.2) mm across, with a flat to finally slightly convex, dark brown to black disc and an entire to crenulate, persistent thalline margin. Proper exciple dark brown to blue-green in outer part, the blue-green parts N+ red: epithecium dark brown to blue-green and then N+ red; hymenium colourless to olivaceous, 80-100 µm high; paraphyses branched in upper part, 1-2 µm thick at mid-level, the apical cells 4-7 µm wide, with a dark cap; hypothecium colourless, up to 250 µm high. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, pigmented, ellipsoid, (15-)16-22(-29) x (6-)8-12(-15) µm, Pachysporaria-type, with thick walls and rounded lumina, when young showing tendencies towards the Physcia-type, the wall warted, the tholus well-developed, the ontogeny of type A (apical wall thickening after septum formation). Pycnidia black, immersed. Conidia bacilliform, 3-6 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: thallus K+ yellow, C-, KC-, P- or P+ faintly yellow. Chemistry: atranorin, sometimes also chloroatranorin and zeorin. - Note: a mainly Mediterranean-Atlantic lichen of siliceous rocks; common, and often abundant, only in Tyrrhenian Italy.

Rinodina subglaucescens

Rinodina subglaucescens

Images of Lichens (Vezda Exsiccat Lichenes Selecti Part 28)