F. Schumm (2025):

Images of Lichens Vol. 36
Vezda Lichenes Selecti Exsiccati part 11

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With this volume, I continue the documentation of Vezda's works on exiccata, now with Lichenes Selecti as part 11. 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/**

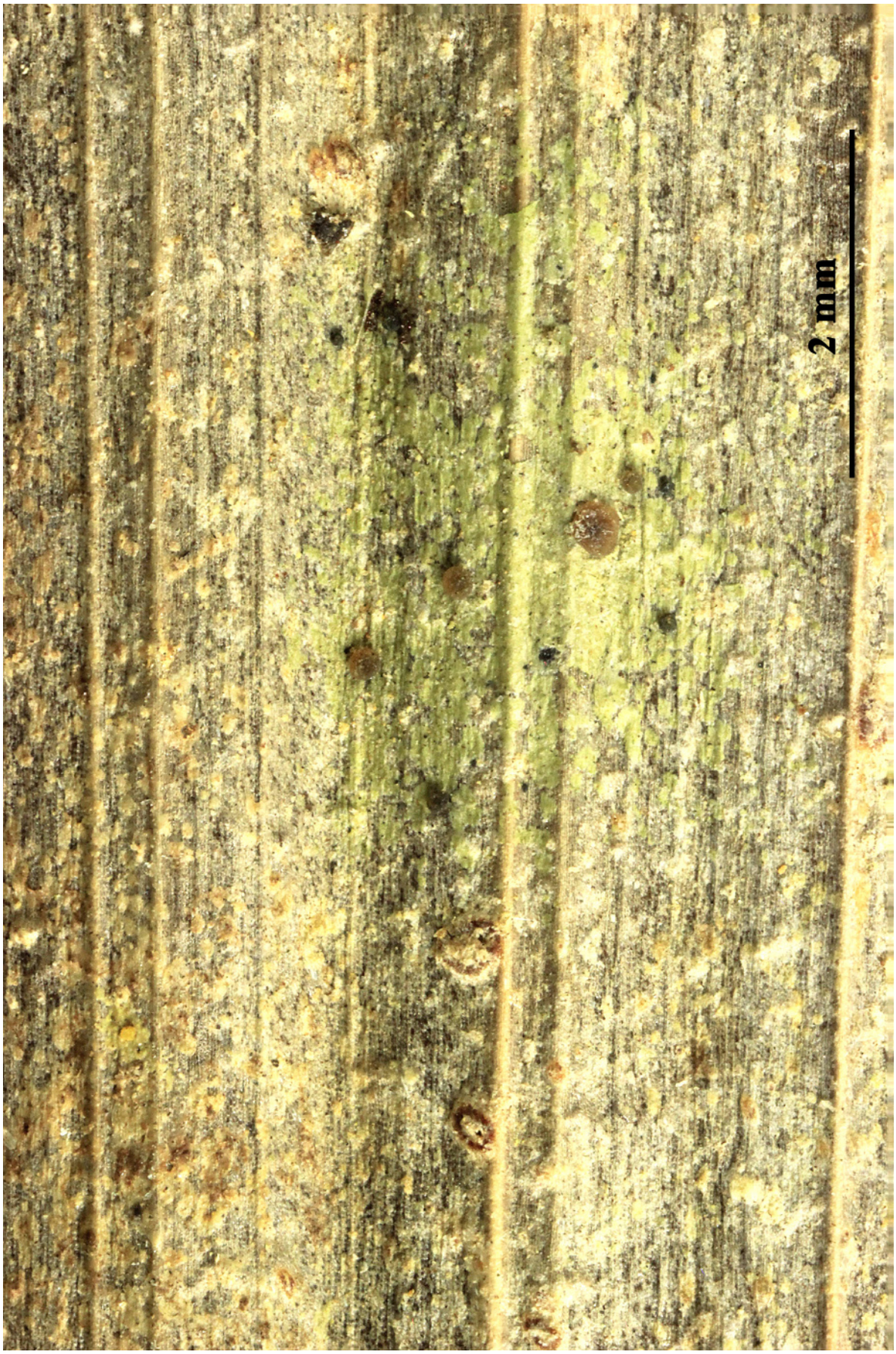
and the Australian Lichenslist under the Url:
https://www.anbg.gov.au/abrs/lichenlist/lichenchecklist_e_o.html

F. Schumm, 12.2025

Bacidia lisowskii Vězda, Folia geobot. phytotax. 15(1): 87 (1980)

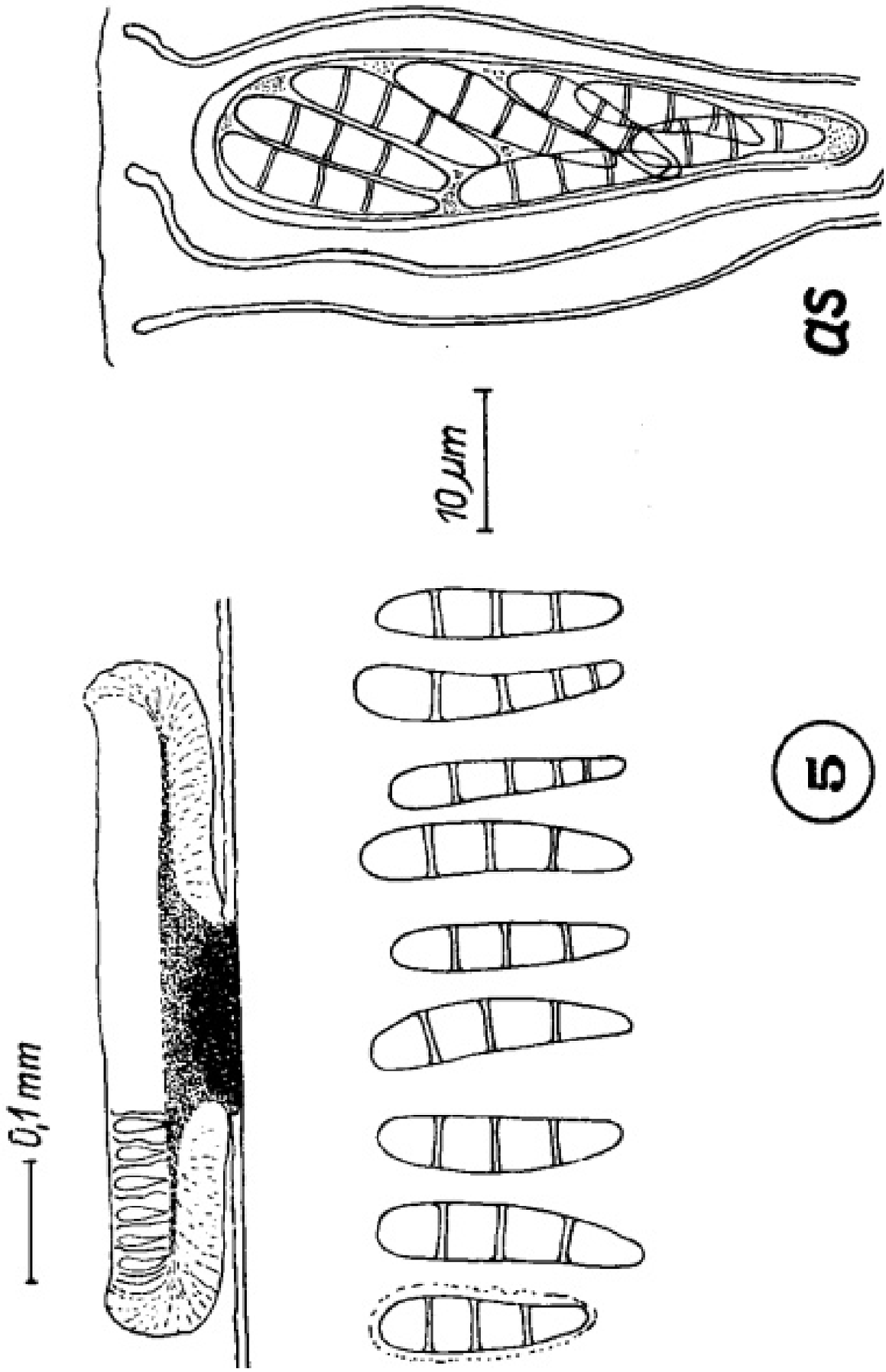
[VZ1690], Zaire. Haut-Zaire: Kisangani, prope vicum Batiambale. Ad folia arborum. Leg. S. Lisowski, 27.10.1976. - ISOTYPUS. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1690.

Thallus epiphyllus, tenuis, continuus, glauco-cinereus, haud bene limitatus, protothallo nullo; 25—30 µm altus, cellulis algarum globosis vel polyedricis, 8-10 µm in diametro, ad familiam Chlorococcaceae pertinentibus. Apothecia numerosa, dispersa, orbicularia, 0.4-0.5(-0.6) mm lata, 0.15 mm alta, basi arcte constricta, tenuiter marginata. Margo integer, fusco-luteus, postremo evanidus. Discus planus vel leviter convexus, pallide aurantiacus vel subochraceus, nudus vel dilute albopruinosus. Excipulum anulare, paraplectenchymaticum, granulis fusco-luteis in KOH sese dissolventibus impletum. Hypothecium tenue, in parte centrali autem modice crassum, pallide fuscum, K+ rubro-fuscum. Hymenium 40—55 µm altum, hyalinum, J+ caerulescens, superne granulis parvis fusco-luteis tectum. Paraphyses haud numerosae, plerumque simplices, flexuosae, hine inde ramosae anastomosantesque, tubulis 1 µm crassis. Asci cylindrico-clavati, 8-spori. Sporae ellipsoideae, rectae vel leviter arcuatae, 3-septatae (rarius septis 5), 15-20 x4.5-5 pm, halonatae. Pyecnidia non visa.



Bacidia lisowskii

Bacidia lisowskii



Bacidia lisowskii

Bacidia neglecta Vězda, Ćas. Slez. Mus., Ser. A, Hist. Nat. 10: 110 (1961)

[VZ1542], URSS. Georgia (Caucasus occid.) Distr. Sukhumi, in faucibus föuminis Vostočnaja Gumista prope pagum Kaman, 250 m. Ad folia Laurocerasi officinalis, Leg. Y. Vašák ez A. Vězda. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1542.

Thallus rinden-, moos- oder holzbewohnend, ohne Isidien.Apothecien 0.1-0.3 mm diam. Hypothecium rötlich Sporen 3-5-septiert, 47-70 x 1-1.5 µm.

Bacidia neglecta

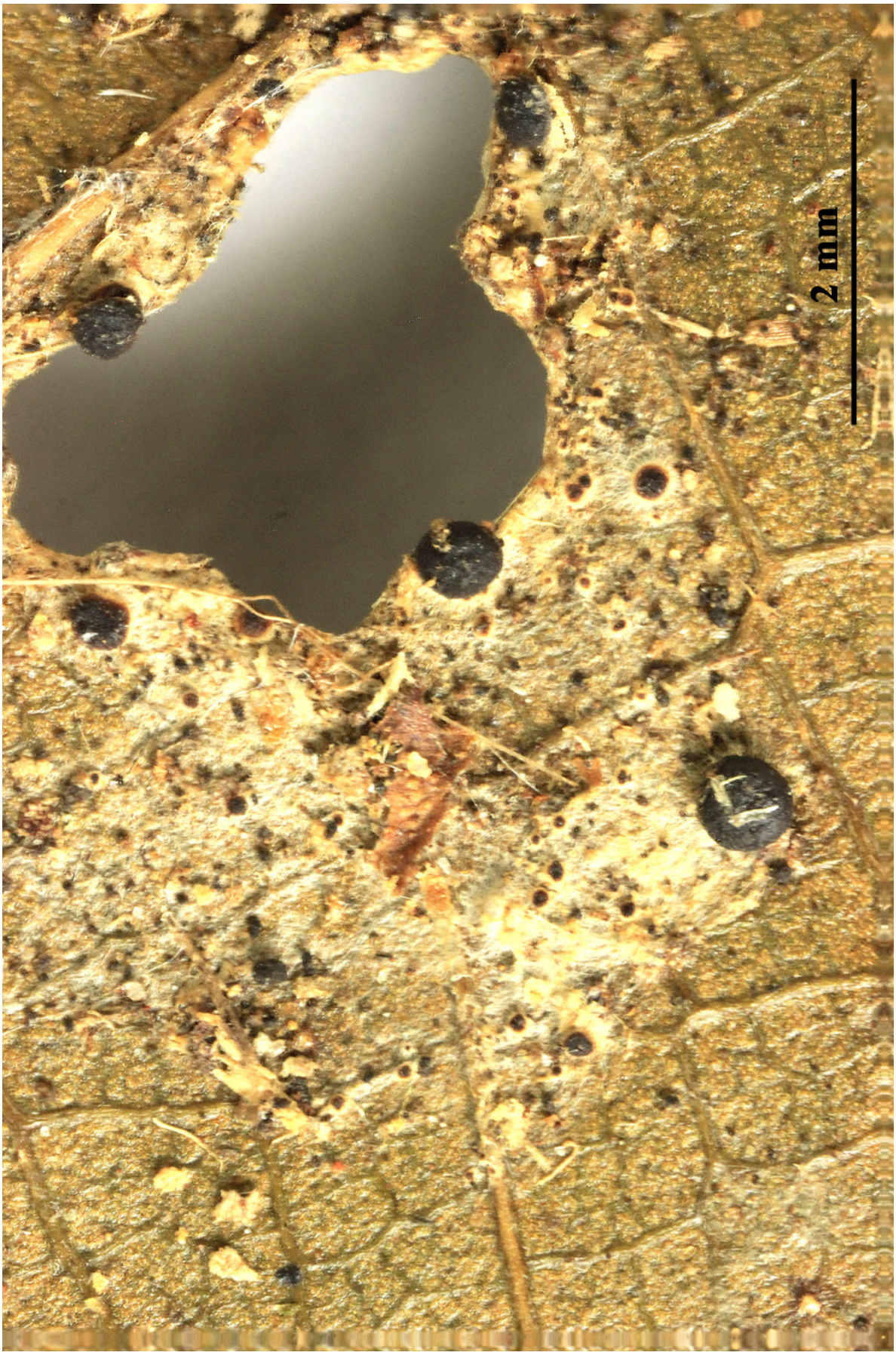
Bacidia neglecta

Bacidia palmularis (Müll. Arg.) Zahlbr., Cat. Lich. Univers. 4: 231 (1926) [1927]
= *Bapalmuia palmularis* (Müll. Arg.) Sérus., Nordic J. Bot. 13(4): 451 (1993)
= *Patellaria palmularis* Müll. Arg., Lich. Epiph. Novi: 10 (1890)

[VZ1484], Zaire, Prov. Haut-Zaire: prope stationem 78 km signatam viae a Kisangani ad Bafwasende ducentis, 300 m. Foliicola in silva primaria. Leg. S. Lisowski (no. 43172), det. A- Vězda. - Annot. Vězda: Species thallo epiphylla apothesiisque hypophyllis praedita. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1484.

Thallus continuous, 20–100 mm across and 20–30 µm thick, smooth, pale greenish grey to green. Apothecia usually marginally hypophyllous, rounded, 0.4–1 mm diam. and 300–400 µm high; disc strongly convex, in young apothecia orange to reddish brown, in old apothecia dark reddish to blackish brown; margin thin, evanescent, chamois-colored to white, in young apothecia basally forming root-like mycelium. Excipulum with radiating cell rows, 50–80 µm broad, colorless to pale yellow. Hypothecium 100–160 µm high, pale orange-yellow to pale brown. Epithecium indistinct. Hymenium 120–150 µm high, colorless. Asci 100–140 x 6–10 µm. Ascospores filiform, 25–35-septate, without constrictions at septa, 70–120 x 1.5–2.5 µm, 40–50 times as long as broad, colorless. Pycnidia sessile, hemispherical, 0.1–0.15 mm diam. and 50–70 µm high, grey. Conidia fusiform, non-septate, 4–6 x 1–1.5 µm, colorless. Chemistry: 4,5-dichlorolichexanthone (coronatone). Distribution and Ecology. Pantropical. A common species and a typical member of foliicolous communities in the lowland rain forest understory.

Bacidia palmularis

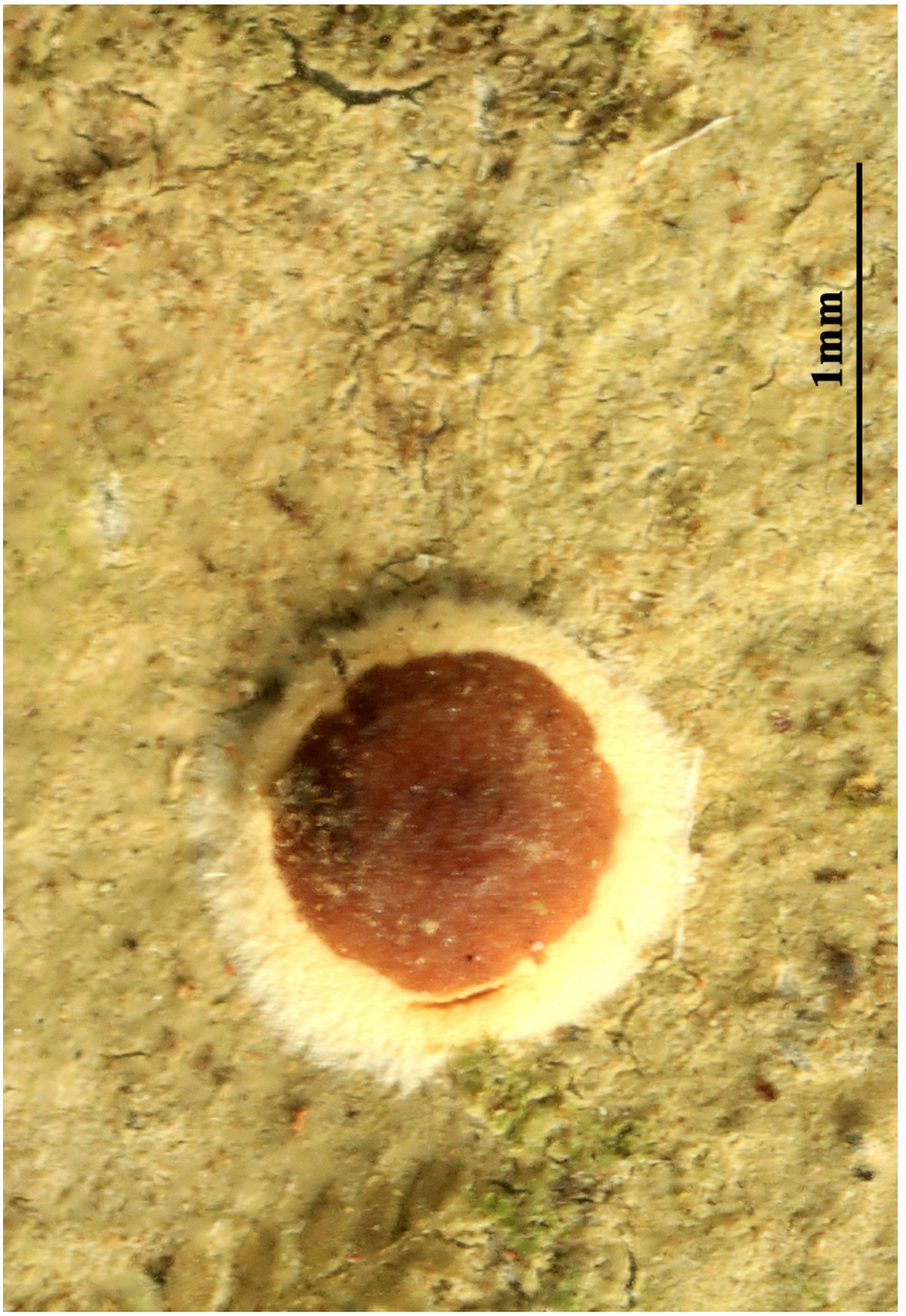


Bacidia palmularis

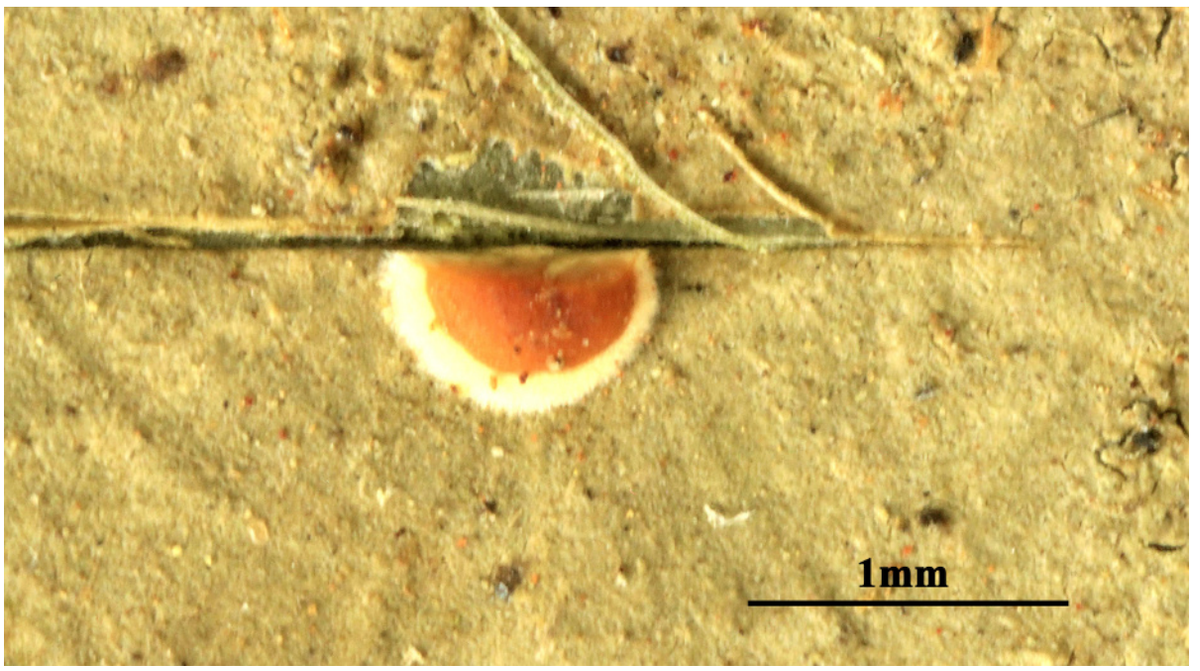
Bacidia palmularis (Müll. Arg.) Zahlbr., Cat. Lich. Univers. 4: 231 (1926) [1927]
= *Bapalmuia palmularis* (Müll. Arg.) Sérus., Nordic J. Bot. 13(4): 451 (1993)
= *Patellaria palmularis* Müll. Arg., Lich. Epiph. Novi: 10 (1890)

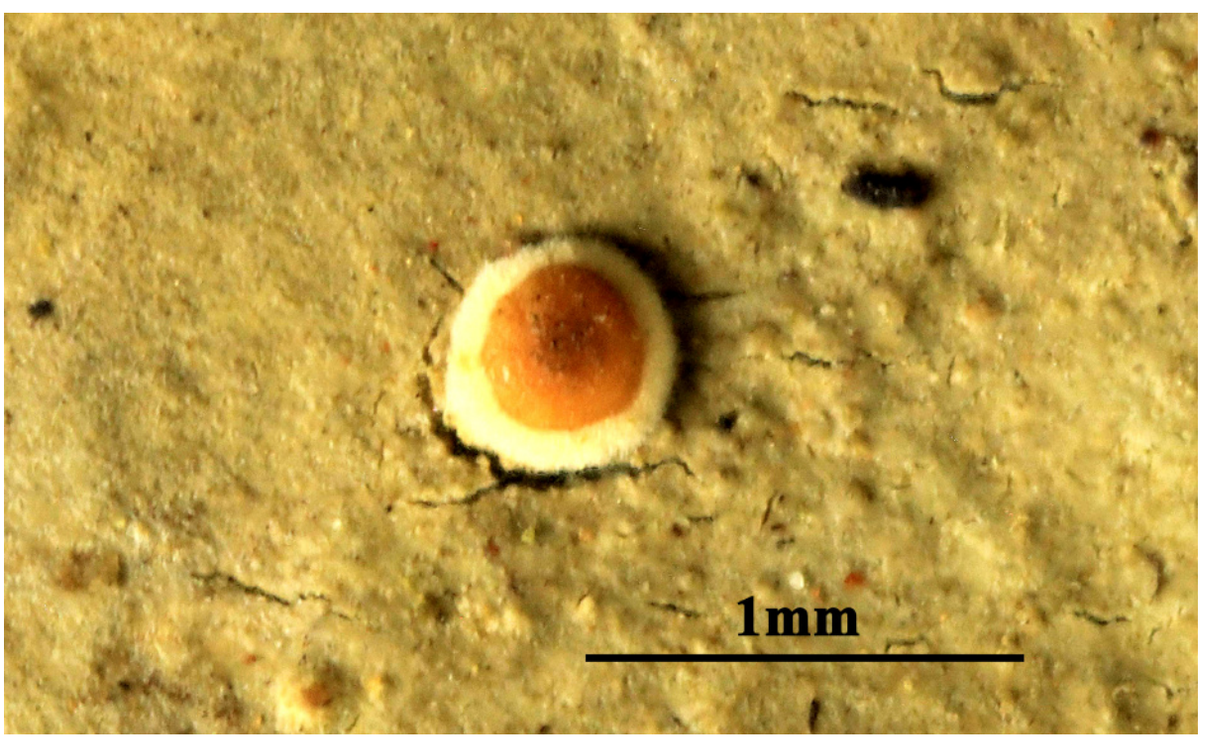
[VZ2031], Tansania. Regio Tanga, montes Usambara, locus scaturiginis rivi Kambi dicti prope vicum Mazumbai, 1780 m. Foliicola, in pluviisilva. Leg. T. Pócs (8405), 23.2.1984, det. A. Vězda. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 2031.

Thallus continuous, 20–100 mm across and 20–30 µm thick, smooth, pale greenish grey to green. Apothecia usually marginally hypophyllous, rounded, 0.4–1 mm diam. and 300–400 µm high; disc strongly convex, in young apothecia orange to reddish brown, in old apothecia dark reddish to blackish brown; margin thin, evanescent, chamois-colored to white, in young apothecia basally forming root-like mycelium. Excipulum with radiating cell rows, 50–80 µm broad, colorless to pale yellow. Hypothecium 100–160 µm high, pale orange-yellow to pale brown. Epithecium indistinct. Hymenium 120–150 µm high, colorless. Asci 100–140 x 6–10 µm. Ascospores filiform, 25–35-septate, without constrictions at septa, 70–120 x 1.5–2.5 µm, 40–50 times as long as broad, colorless. Pycnidia sessile, hemispherical, 0.1–0.15 mm diam. and 50–70 µm high, grey. Conidia fusiform, non-septate, 4–6 x 1–1.5 µm, colorless. Chemistry: 4,5-dichlorolichexanthone (coronatone). Distribution and Ecology. Pantropical. A common species and a typical member of foliicolous communities in the lowland rain forest understory.



Bacidia palmularis





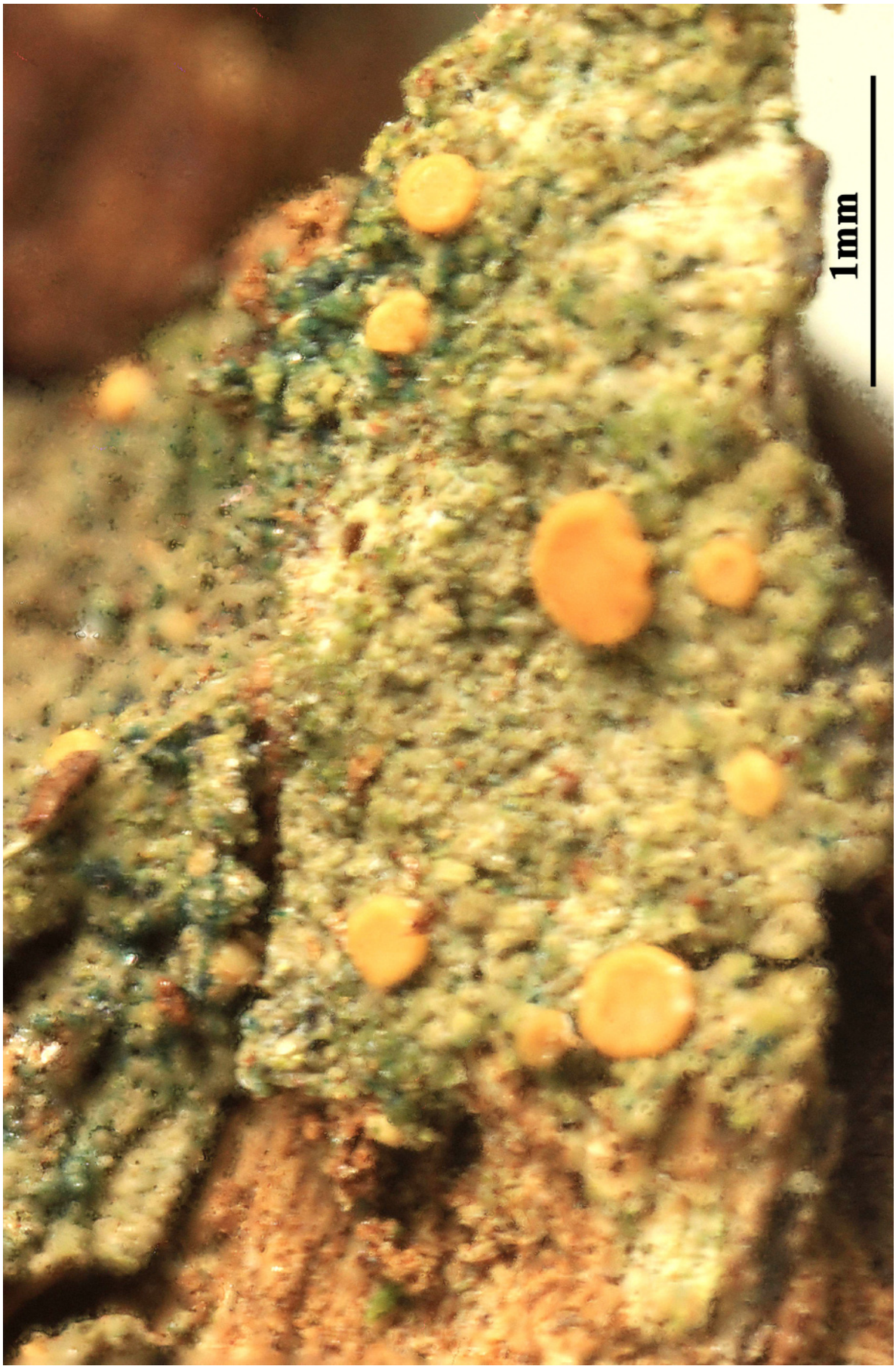
Bacidia palmularis

Bacidia phacodes Körb., Parerga lichenol. (Breslau) 2: 130 (1860) [1865]
= *Bacidina phacodes* (Körb.) Vězda, Folia geobot. phytotax. 25(4): 432 (1991) [1990]
= *Bacidia albescens* (Stizenb.) Bausch, Verh. naturw. Verein. Karlsruhe 4: 102-107 (1869)
= *Lecidea chlorotica var. phacodes* (Körb.) Stizenb., Ber. Tät. St Gall. naturw. Ges.: 420 (1882) [1880-81]
= *Lecidea phacodes* (Körb.) Leight., Lich.-Fl. Great Brit.: 343 (1871)
= *Secoliga arceutina var. albescens* Stizenb., Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur. 30(no. 3): 43 (1863)

[VZ2211], Italia. Sardinia. Prov. Nuoro: Barbagia Seulo, M. Arbu, in valle rivi S. Girolamo, 900-1100 m. Ad corticem *Quercus ilicis*. Leg. P. L. Nimis et A. Vězda., 16.7.1987. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 2211.

Thallus crustose, white to grey-green, thin to irregularly warted or scurfy, but without goniocysts. Apothecia biatorine, 0.2-0.5 mm across, sessile, often confluent and appearing tuberculate, whitish, cream-coloured to pale orange-brown when dry, translucent when wet, with a flat to strongly convex disc and a usually paler, soon excluded proper margin. Proper exciple > 6 cells thick, colourless, of radiating hyphae; epithecium colourless or pale brownish yellow, scarcely differentiated from the hymenium; hymenium mostly colourless, 35-50 µm high (30–40% of the total apothecium height), hemiamyloid; paraphyses simple, 1-1.5 µm thick at mid-level, the apical cells sometimes clavate and to 3 µm wide; hypothecium colourless. 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 3-7-septate, hyaline, acicular but often gradually tapering at one end, often curved, (20-)25-35(-45) x 1.5-2 µm. Pycnidia rather rare, immersed, the walls colourless. Conidia thread-like, 3-7-septate, straight, (24-)28-50(-60) x 1-1.5(-2) µm. Photobiont chlorococcoid, the cells 7-10 µm in diam. Spot tests: thallus and apothecia K-, C-, KC-, P-, UV-. Chemistry: thallus without lichen substances. - Note: a mild-temperate to humid subtropical lichen found on bark of broad-leaved trees, more rarely on rock, often on dry undersides of thick branches of ancient trees; in the Mediterranean belt confined to humid evergreen forests, sometimes on silicicolous mosses.

Bacidia phacodes



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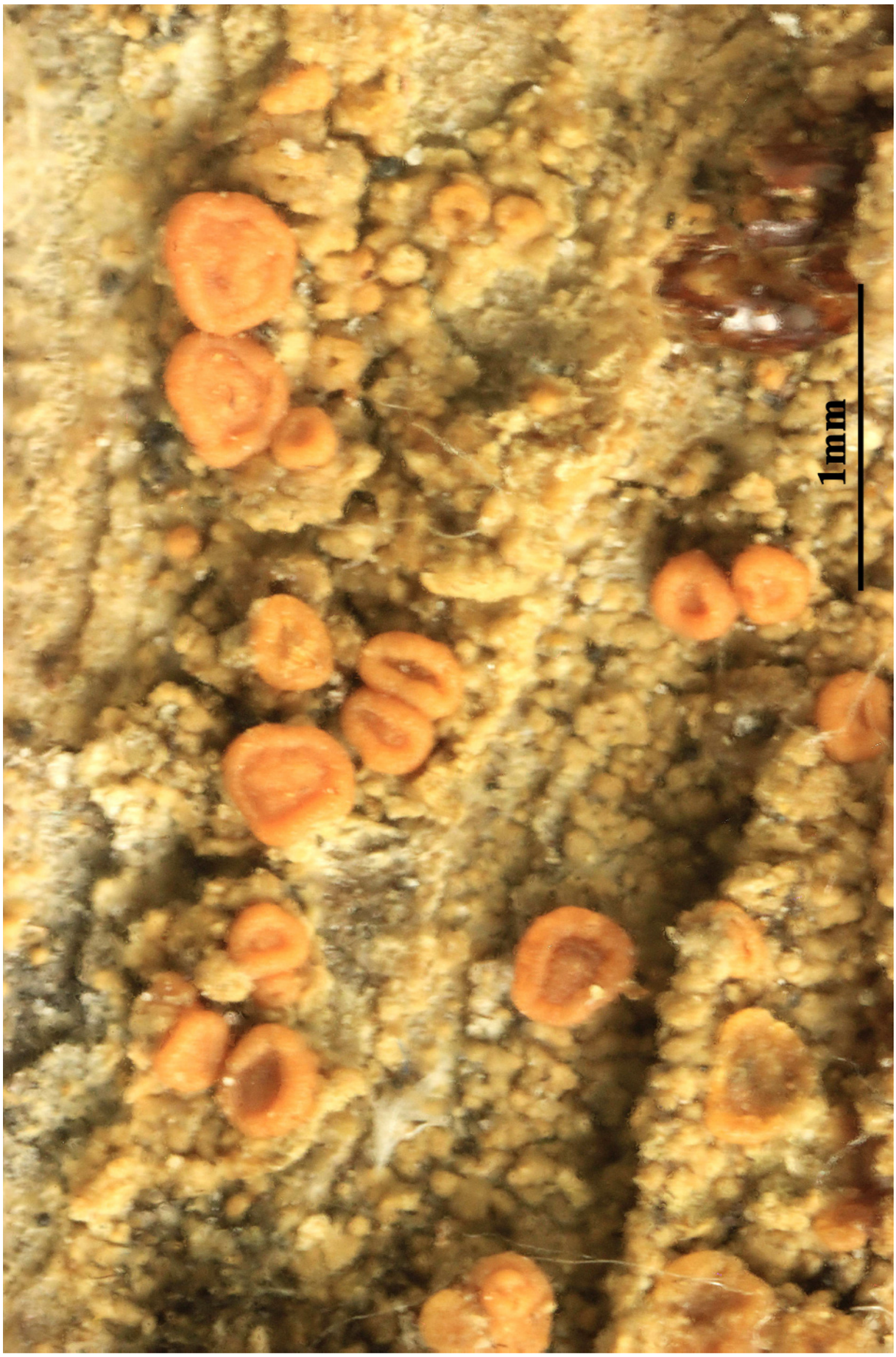
= *Lecidea phacodes* (Körb.) Leight., Lich.-Fl. Great Brit.: 343 (1871)
= *Secoliga arceutina var. albescens* Stizenb., Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur. 30(no. 3): 43 (1863)

[VZ1090}, Gallia. Pyrenaei montes occidentales. Sauveterre-de Béarn. Insula parva in torrente Cave d'Oloron, 50 m. Ad corticem *Hederae helicis*. Leg. J. Vivant, 28.1.1972. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1090.

Thallus crustose, white to grey-green, thin to irregularly warted or scurfy, but without goniocysts. Apothecia biatorine, 0.2-0.5 mm across, sessile, often confluent and appearing tuberculate, whitish, cream-coloured to pale orange-brown when dry, translucent when wet, with a flat to strongly convex disc and a usually paler, soon excluded proper margin. Proper exciple > 6 cells thick, colourless, of radiating hyphae; epithecium colourless or pale brownish yellow, scarcely differentiated from the hymenium; hymenium mostly colourless, 35-50 µm high (30–40% of the total apothecium height), hemiamyloid; paraphyses simple, 1-1.5 µm thick at mid-level, the apical cells sometimes clavate and to 3 µm wide; hypothecium colourless. 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 3-7-septate, hyaline, acicular but often gradually tapering at one end, often curved, (20-)25-35(-45) x 1.5-2 µm. Pycnidia rather rare, immersed, the walls colourless. Conidia thread-like, 3-7-septate, straight, (24-)28-50(-60) x 1-1.5(-2) µm. Photobiont chlorococcoid, the cells 7-10 µm in diam. Spot tests: thallus and apothecia K-, C-, KC-, P-, UV-. Chemistry: thallus without lichen substances. - Note: a mild-temperate to humid subtropical lichen found on bark of broad-leaved trees, more rarely on rock, often on dry undersides of thick branches of ancient trees; in the Mediterranean belt confined to humid evergreen forests, sometimes on silicicolous mosses.

Bacidia phacodes

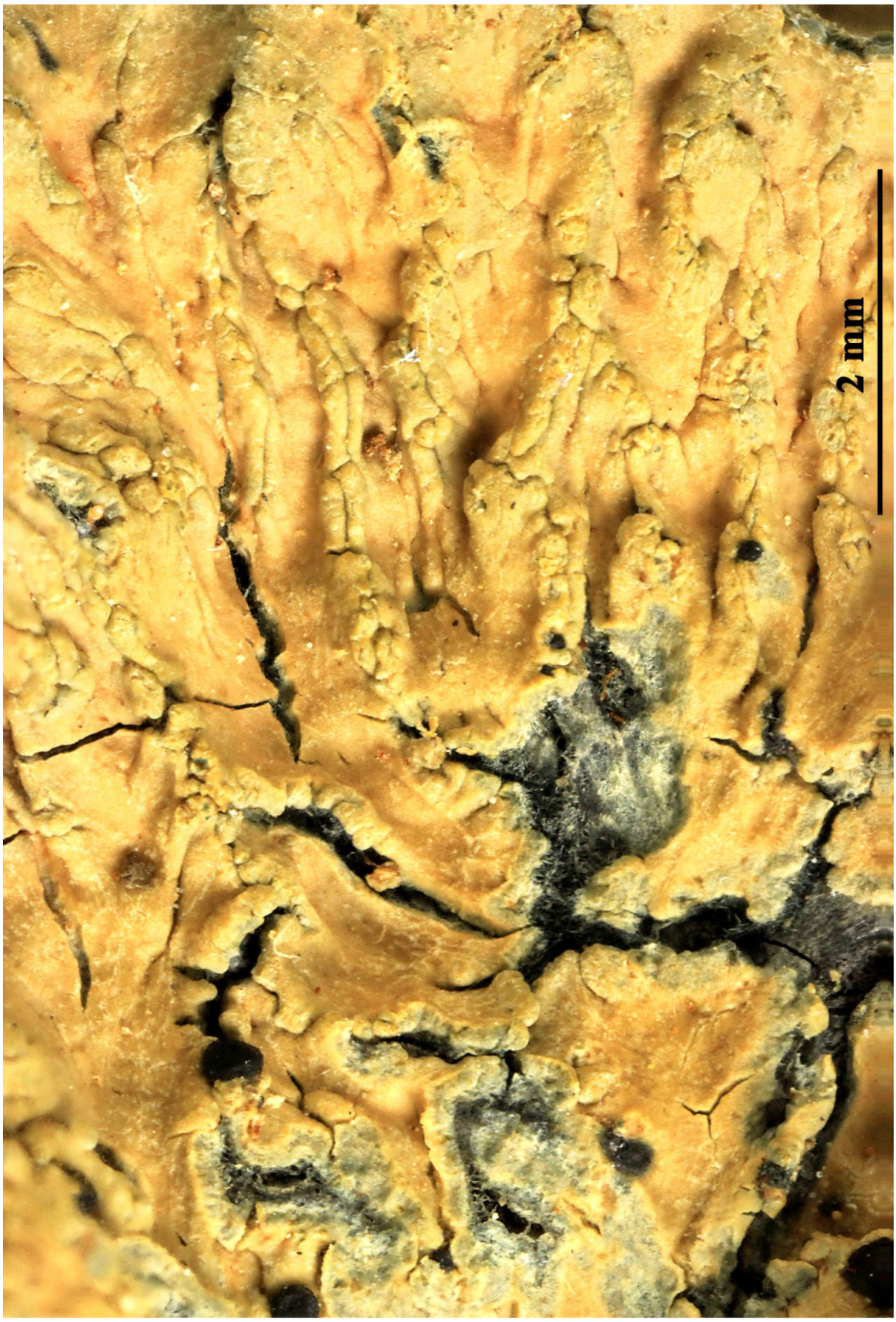


Bacidia phacodes

Bacidia plumbina (Anzi) R. Sant., Svensk bot. Tidskr. 54(4): 513 (1960)
= *Toninia plumbina* (Anzi) Hafellner & Timdal, in Timdal, Op. bot. 110: 85 (1991)
= *Bilimbia plumbina* (Anzi) H. Olivier, Bull. Acad. Intern. Géogr. Bot. 15: 213 (1905)
= *Dactylospora plumbina* (Anzi) Arnold, Flora, Regensburg 57(7): 108 (1874)
= *Lahmia plumbina* (Anzi) Keissl., Rabenh. Krypt.-Fl., Edn 2 (Leipzig) 8: 176 (1930)
= *Lecidea plumbina* (Anzi) Nyl., Flora, Regensburg 52(19): 296 (1869)
= *Leciographa plumbina* Anzi, Comm. Soc. crittog. Ital. 1(fasc. 3): 158 (1862)

[VZ2084], Caledonia. West Ross. Loch Maree, Talladale, 15 m. Ad thallos *Parmeliellae plumbeae* ad truncos *Quercus* in nemore. Leg. B. J. Coppins (no. 11222). EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 2084.

Thallus not apparent, not lichenized, developing inside the thalli of *Pectenia*-species. Apothecia lecideine, black, to 0.6 mm across, with a flat to slightly convex, epruinose disc, and a thin, finally often excluded proper margin. Proper exciple brownish black to greenish black in outer part, dark brown within, K-, the greenish pigment reacting N+ violet; epithecium dark olivaceous green to bright green, K-, N+ violet, lacking crystals; hymenium colourless, 50-60 µm high; paraphyses simple or sparingly branched and anastomosing, not conglutinated, the apical cell distinctly swollen and covered by a gelatinous pigment cap; hypothecium dark brown. Asci 8-spored, clavate, surrounded by a gelatinous I+ blue coat, with a well-developed I+ blue tholus with a I+ darker blue tube and a well-developed ocular chamber, Bacidia-type. Ascospores (1-)3(-5)-septate, hyaline. fusiform to bacilliform. (14-)18-30 x 3-4.5 µm. Photobiont absent. Spot tests: all negative. Chemistry: without lichen substances. - Note: a Mediterranean-Atlantic, mainly western lichenicolous fungus growing on species of *Pectenia*, most frequent in Tyrrhenian Italy.



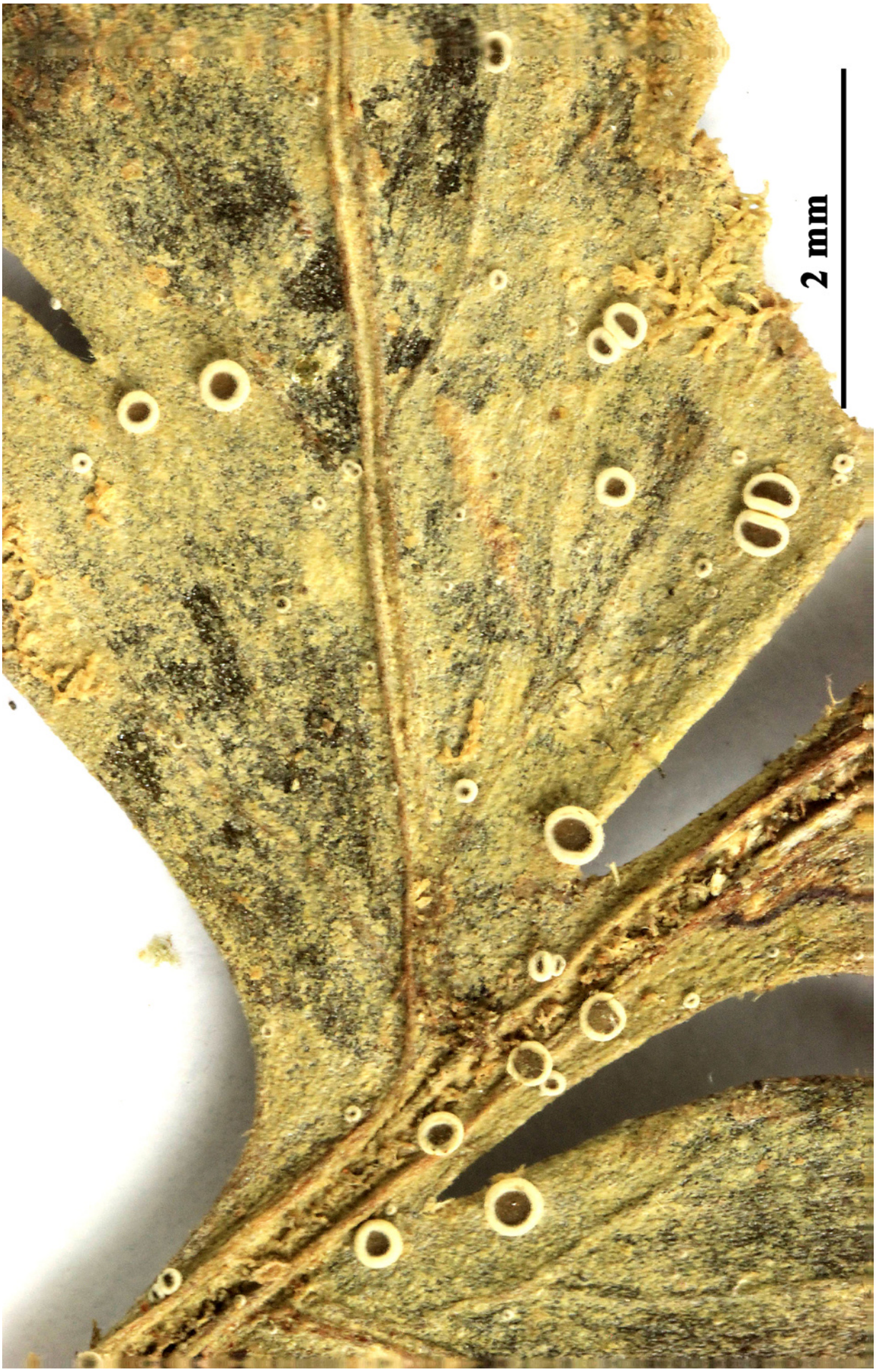
Bacidia plumbina

Bacidia plumbina

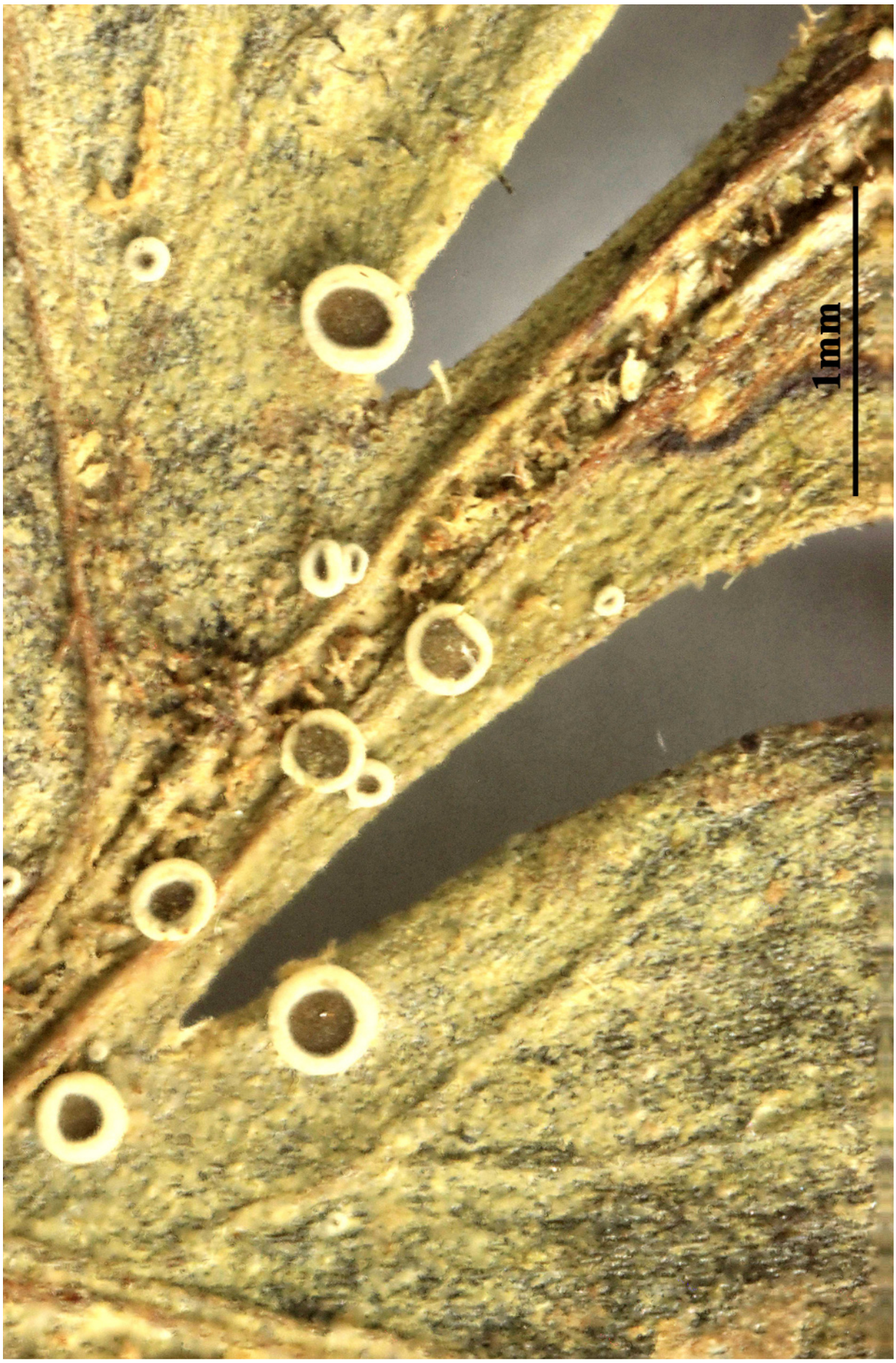
Bacidia psychotriae (Müll. Arg.) Zahlbr., Cat. Lich. Univers. 4: 137 (1926) [1927]
= *Eugeniella psychotriae* (Müll. Arg.) Lücking, Sérus. & Kalb, in Lücking, Fl. Neotrop., Monogr. 103: 714 (2008)
= *Patellaria psychotriae* Müll. Arg., Flora, Regensburg 64(15): 229 (1881)

[VZ2032], Brasilia. São Paulo, Serrado Mar: Serra do Garrãozinho, inter Mogi das Cruzes et Bertioga, 100-300 m. Foliicola. Leg. K. Kalb, 6.9.1980, det. A. Vězda. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 2032.

Thallus continuous, 5–20 mm across and 10–20 µm thick, distinctly verrucose, pale greenish grey; verrucae wart-shaped to hemispherical, 0.07-0.15 mm diam., white. Apothecia rounded, 0.2-0.5 mm diam. and 150-200 µm high; disc plane, brownish black; margin very distinct, slightly prominent, white. Excipulum 30-50 µm broad, colorless to grey. Hypothecium 30-50 µm high, dark brown to brownish black, K–. Apothecial base brownish black, K–. Epithecium indistinct. Hymenium 50-70 µm high, colorless. Paraphyses unbranched. Asci 45-65 x 10-14 µm. Ascospores oblong-ellipsoid, 3-septate, with constrictions at septa, 11-18 x 3.5-4.5 µm, 3-4 times as long as broad, colorless. Pycnidia not observed. Chemistry: unidentified substances detected by HPLC (currently under study by J. Elix, pers. comm. 2008). Distribution and Ecology. Neotropics. Particularly common in the Amazon and surroundings, but also found in the lowland rain forest of Costa Rica, with a preference towards the shady understory. - *Eugeniella psychotriae* features a distinctly verrucose thallus, whereas the closely related *E. ortizii* has predominantly 5-septate ascospores.



Bacidia psychotriae



Bacidia psychotriae

Bacidia rosella (Pers.) De Not., G. bot. ital. 2(1.1): 190 (1846)
= *Biatora rosella* (Pers.) Fr., K. svenska Vetensk-Akad. Handl., ser. 3: 272 (1822)
= *Lecanora rosella* (Pers.) D. Dietr., Lichenogr. Germ. Deutschl. Flecht. naturg. Abbild. Beschreib. (Jena): 38 (1837) [1832-37]
= *Lecidea alabastrina var. rosella* (Pers.) Ach., K. Vetensk-Acad. Nya Handl. 29: 264 (1808)
= *Lecidea rosella* (Pers.) Ach., Methodus, Sectio prior (Stockholmiæ): 57 (1803)
= *Lichen rosellus* Pers., Ann. Bot. (Usteri) 7: 25 (1794)
= *Patellaria rosella* (Pers.) DC., in Lamarck & de Candolle, Fl. franç., Edn 3 (Paris) 2: 355 (1805)
= *Secoliga rosella* (Pers.) Stizenb., Ber. Tät. St Gall. naturw. Ges.: 159 (1862) [1861-62]
= *Verrucaria rosella* (Pers.) Hoffm., Deutschl. Fl., Zweiter Theil (Erlangen): 176 (1796) [1795]

[VZ1933], Graecia. Thessalia, Olympos, secus viam inter Litophoron et Prionia, 1000 m. Ad corticem *Abietis*. Leg. A. Vězda, 31.7.1983. Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1933.

Thallus crustose, thinly episubstratic, continuous, slightly cracked or rarely warted-areolate, mostly finely granulose, pale grey to greenish grey. Apothecia lecideine, 0.6-1.5(-3) mm across, sessile and constricted at base, pale pink, with a flat to finally convex, epruinose or slightly pruinose disc, and thin, usually paler, finally sometimes excluded proper margin. Proper exciple colourless, >80 µm wide laterally, of narrow, not distinctly radiating cell lumina with gelatinized walls which are thicker than the lumina, with evenly dispersed, very small, reddish crystals soluble in K, especially in upper part, the outer rim; epithecium colourless, inspersed with small crystals forming a sharply delimited layer; hymenium colourless, 75-85 µm high; paraphyses 0.8-1.2 µm thick at mid-level, the apical cells more or less clavate, to 3 µm wide; hypothecium colourless or very pale yellow. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall K/I-, but the thin outer gel K/I+ blue, Bacidia-type. Ascospores (3-)5-15-septate, hyaline, acicular, curved or sigmoid, 65-100 x (2.5-)3-4(-5) µm. Pycnidia colourless, half-immersed. Conidia 5-9-septate, hyaline, thread-like, slightly curved, 10-17 x 0.5-0.8 µm. Photobiont chlorococcoid, the cells 5-12 µm in diam. Spot tests: thallus and apothecia K-, C-, KC-, P-, UV-. Chemistry: thallus without lichen substances. - Note: a mild-temperate to

Mediterranean-Atlantic lichen found on deciduous trees (especially Acer and Fraxinus, but also on Quercus ilex) in humid, open forests and in woodlands along rivers.

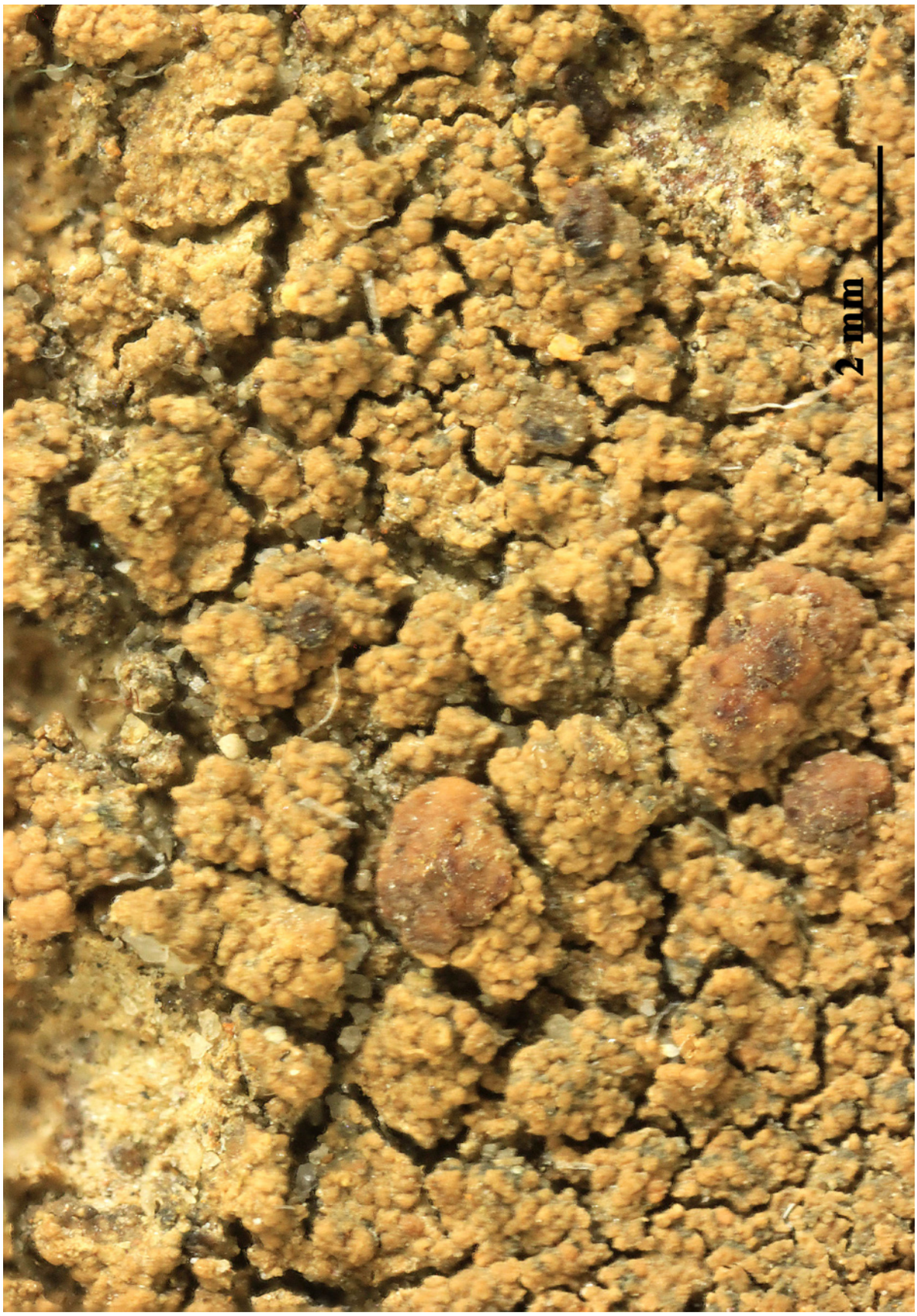
Bacidia rosella

Bacidia rosella

Bacidia scopulicola (Nyl.) A.L. Sm., Monogr. Brit. Lich. 2: 156 (1911)
= *Lecidea scopulicola* Nyl., Flora, Regensburg 57(20): 312 (1874)

[VZ1163], Hispania. Distr. Guipizcoa, Fuentarrabia, in pede montis Jaizquibel. Ad saxa arenacea maritima cum *Verrucaria maura*. Leg. J. Vivant, 16.4.1973, det A. Vězda. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1163.

Thallus pale olive-green to fawn-brown (sometimes dark green in extreme shade), mostly thick, warted and coarsely granular, with short, coralloid, isidium-like protuberances, or extreme morphs with soredia-like, ± loose granules 40-80 µm diam. Photobiont chlorococcoid with cells 5-10 µm diam. Anamorph: conidiomata pycnidia, red-brown, ± immersed. Conidia 18-30 × ca 0.7 µm, strongly curved. Teleomorph: ascomata apothecia, 0.4-1.3 mm diam., often few or absent, at first flat but soon convex and often irregularly shaped or tuberculate, pale to dark brown, often with a pink tinge, rarely black. Margin thick and usually darker than the disc, but often becoming excluded. True exciple orange-brown (K–) in the inner part, the outer and sometimes lower parts hyaline, of radiating, thick, densely gelatinized hyphae with narrow lumina (to 2 µm), but lumina near outer edge often widening to 5 (-7) µm. Hymenium 45-60 µm high, hyaline or with the lower part pale red-orange. Hypothecium hyaline except for the upper part (subhymenium) which is usually pale red-orange. Interascal tissue of paraphyses 1-1.5 µm diam., simple, often forked above, the apices sometimes slightly swollen to 2(-4) µm diam. Ascospores often coiled in the ascus, (21-) 29-45 (-51) × 1.7-2 µm, acicular, 3- to 7-septate, hyaline, smooth, without an epispore, gelatinous sheath or appendages. Chemistry: no lichen substances detected by TLC.



Bacidia scopulicola

Bacidia scopulicola

Bacidia scutellifera Vězda, Folia geobot. phytotax. 10: 421 (1975)
= *Bacidina scutellifera* (Vězda) Vězda, Folia geobot. phytotax. 25(4): 432 (1991) [1990]

[VZ1310], Tanzania. Distr. Morogoro. montes Nguru, in monte Mafulumula supra vicum Mnembule, 1650-1800 m. Epiphylla in pluviisilva montana. Leg. T. Pócs (no. 6438), 20.-21. 8.1971. -ISOTYPUS-. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1310.

Thallus aus kurz fadenférmigen, verzweigten, mit einem Hyphenmantel umgebenen Algenkolonien zusammengesetzt; schildférmige Isidien immer vorhanden. Apothecien hell braunrot, Sporen 3-septiert, 35-45 x 1-1.5 µm.

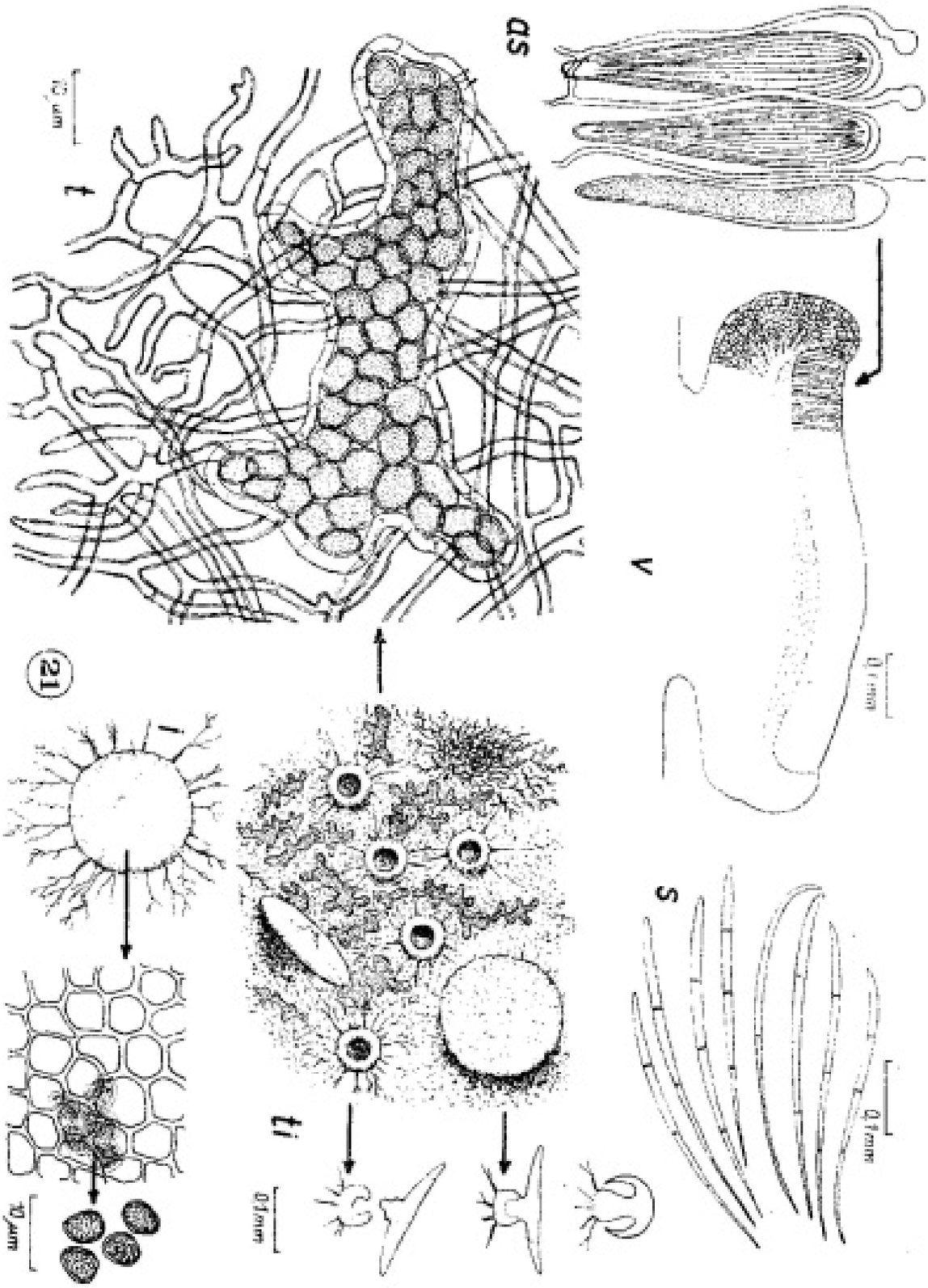
Thallus pallide griseus vel pallide luteo-fuscescens, tenuis, ex hyphis irregulariter contextis formatus, glomerulas algarum primum dispersas demum confluentes ferens. Glomerulae adpressae, filiformes, irregulariter ramosae, usque ad 25 µm crassae, hyphis parenchymatice contextis obductae, cellulas algarum globosas, 4—6 pm latas continentes. Thallus vulgo isidiis scutelliformibus, breviter stipitatis, thallo concoloribus instructus. Apothecia 0.8-1.2 mm lata, 0.2-0,4 mm alta (nonnunquam autem valde minora), basi arcte constricta, primum orbicularia, demum ambitu flexnoso. Margo crassus, integer, fusco-luteus vel fusco-ruber, discum haud superans. Discus nudus, aurantiacus vel fusco-ruber, planus vel demum convexus. Excipulum ad latera thecii 70-80 µm, in parte basali 200-250 µm crassum, pallide fuscum, paraplectenchymaticum, cellulis 4-6 µm crassis. Hypothecium eire. 50 µm altum, colore obscuriore quam in excipulo, K+ flavescens. Thecium 40-50 µm altum, hyalinum, in strato epitheciali fuscescens, J+ caerulescens. Paraphyses simplices, 2 µm crassae, apicibus clavatis et usque ad 4µm crassis. Asei numerosi, cylindrico-clavati, 8-spori. Sporae aciculares, rectae vel leviter curvulae, 3-septatae, 35-45 x 1-1.5 µm. Alga ad Trebouxia pertinens.

Der Aufbau des epiphyllen, blassgrauen oder gelbbraunen Lagers ist vor allem in der Randzone gut erkennbar. Die unregelmissig verlaufenden, um 2 µm dicken Hyphen bilden ein loses Netz, auf dem die kurz fadenférmigen, reichlich lobatverzweigten Algenkonglomerate liegen. Sie sind um 25 µm dick, bis 300 µm lang, jedes von einem farblosen, paraplectenchymatischen Hyphenmaltel umgeben; die Algenzellen (zu Trebouxia gehörend) sind reingrüin, diinnwandig, kugelig oder ellipsoidisch, 4-6 µm im Durchmesser. In älteren Lagerteilen

sind die Algenkonglomerate dicht gehiuft und mit den Lagerhyphen verflochten, so dass sie eine zusammenhingende, bis 50 µm dicke und manchmal mehrere cm breite Kruste bilden. Aus dem Hyphennetz zwischen den Algenkonglomeraten wachsen pilz-bis fast reisszwecken-formige Isidien von eigenartigen Bau: der kurze, um 0.08 mm hohe Stiel trigt einen zuerst schirmformig gewélbten, dann flachen, 0,2 mm breiten, in Aufsicht runden, blass lehmfarbenen Schild. Diese verjiingt sich zu den Randern hin (Vertikallschnitt). Die Ober- und Unterseite des Schildes besteht aus paraplectenchymatischem „Gewebe‘’, der zentrale Teil enthält eine Gruppe von Algen Die Schildchen springen bei Beriihrung sehr leicht ab. Die Abbruchzone im Stielbereich ist so spezifisch differenziert, dass nach dem Abbrechen des Schildes der basale, etwas verdickte Teil des Stieles als innen hohles, fast krugfér-miges, nach oben etwas verjiingtes Gebilde stehen bleibt; es erinnert etwas an eine leere, weisse Pyknide. Am abgebrochenen Schild, vom Aussehen einer Reisszwecke mit kurzem Stift, bleibt ein Teil des Stieles sitzen. Das Stielfragment des Schildes passt wie ein Zapfen in den krugférmigen, auf dem Lager dauernd verbleibenden Stielteil. Die Schildchen keimen auf freien Flachen des Blattes zu neuen Lagern aus. Apothecien ziemlich selten vorhanden und auch dann nicht zahlreich, 0.8-1.2 mm breit, 0.2-0.4 mm hoch, sehr oft auch kleiner (doch mit reifen Asci!), unten stark eingezogen, anfangs kreisrund, spiter mit im Umriss welligem, wulstigem Rand. Rand dick, ungeteilt, gelbbraun oder rotbraun, den orangeroten oder blassbraunen, flachen oder spater konvexen, unbereiften Discus nicht wesentlich iiberragend. Excipulum seitlich 70-80 µm, unten 200-250 µm dick, blassbraun (an den sehr diinnen Vertikalschnitten fast farblos), paraplectenchymatisch, die Zel-len 4-6 µm im Durchmesser. Hypothecium um 50µum hoch, dunkler als das Excipulum, K+ gelb. Thecium 40-50 µm hoch, farblos, nur im epithecialen Bereich briunlich, J+ blau. Paraphysen meist einfach, gerade, 2 µm dick, mit kopfig oder keulig verdickten, bis 4 µm breiten Enden. Asci zahlreich, zylindrisch-keulig, 25-40 x 5-8 µm, 8-sporig. Sporen nadelférmig, gerade oder leicht gebogen, mit 3 Quer-Septen, 35-45 x 1—1.5 µm.

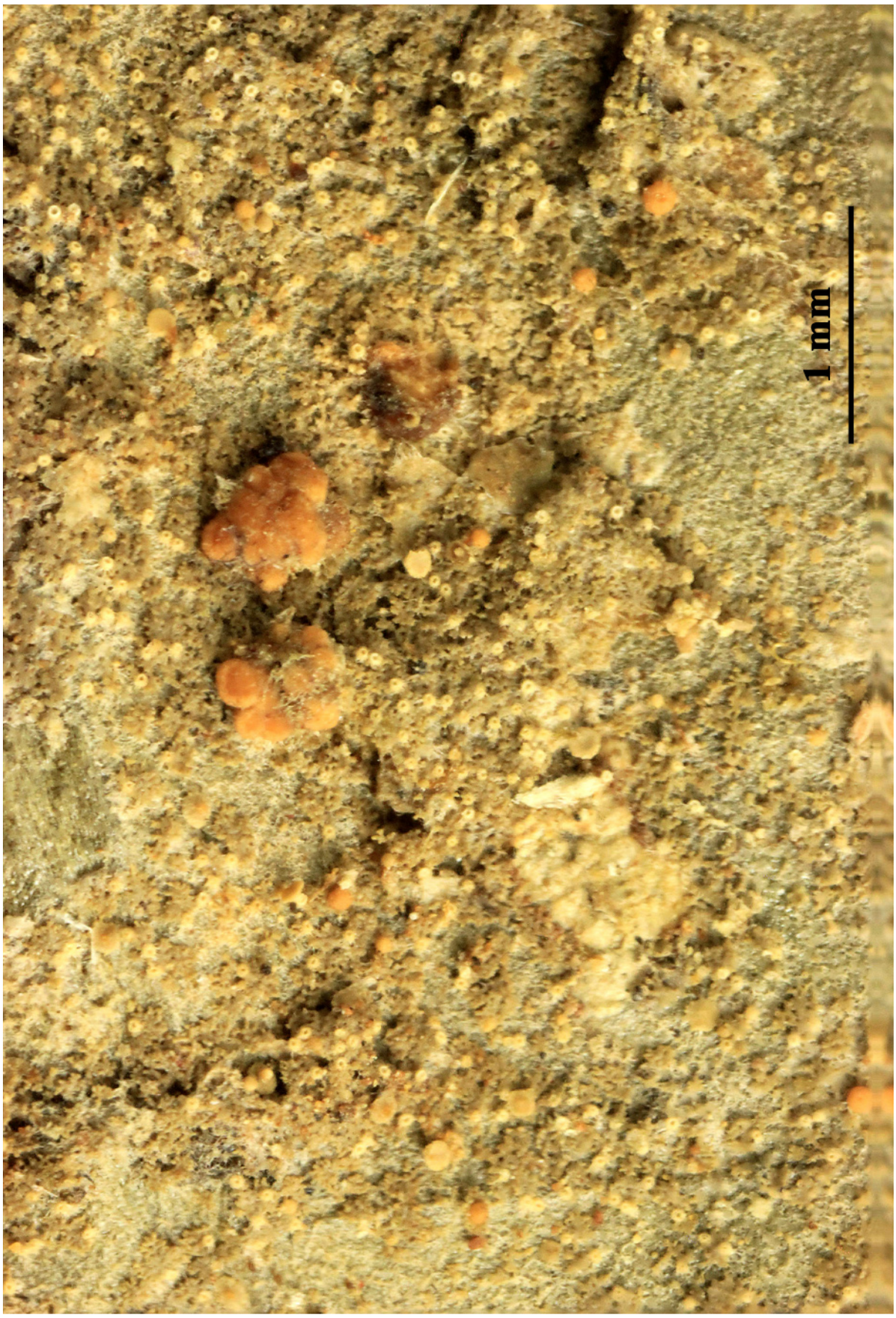
Die in den Bergen von Tanzania weit verbreitete Art scheint in anderen Gebieten Afrikas selten zu sein. Sie wurde nun auch ausserhalb Afrikas gefunden: West-Malaysia: Selangor, Kuala Bacidia scutellifera sp. n. (Orig. Koll.). — as Asci mit Paraphysen, ¢ keimendes Isidium, rechts

Bacidia scutellifera



paraplectenchymatische Rinde und darunter liegenden Algenzellen, s Sporen, t Lagerhyphen mit einer Algenkolonie, ¢¢ Thallus mit schildférmigen Isidien, rechts ein junges, links ein reifes und ein gerade abspringendes Isidium, » Vertikalschnitt durch ein Apothecium. Lumpur , India, Assam, KhasiaGebirge, bei Cherrapungi.

Bacidia scutellifera



Bacidia scutellifera

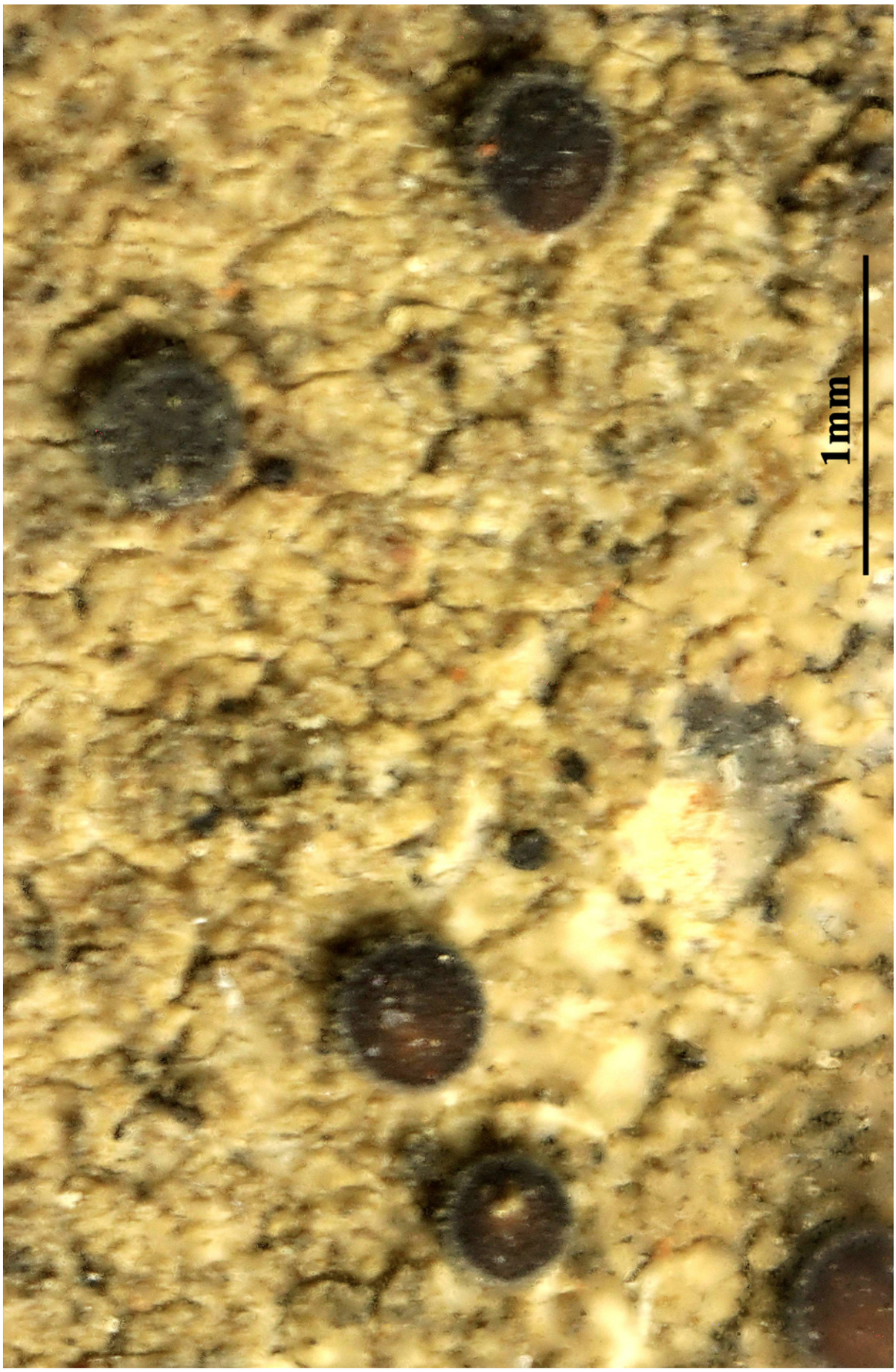
Bacidia scutellifera

Bacidia subacerina Vain., Acta Soc. Fauna Flora fenn. 53(no. 1): 174 (1922)

[VZ1517], Persia borealis. Prov. Gorgan: Shari, 6 km ad occidentem versus a vico Zirab. Ad corticem *Diospyros lotus* L. Leg. J. Soják, 24.6.1977, det. A. Vězda. *Ex A. Vězda: Lichenes Selecti Exsiccat Nr. 1517.*

Thallus crustose, episubstratic, continuous to rimose-areolate, grey to grey-green, sometimes delimited by a dark prothallus. Apothecia lecideine, (0.5-)0.5-0.8(-1.2) mm across, with a flat to finally convex, usually epruinose, dark purple-brown to black, often mottled disc, and a concolorous or slightly paler, smooth, persistent or rarely excluded proper margin. Proper exciple 45-120 µm wide, without crystals or rarely with radiating clusters of crystals, brown or red-brown in upper and outer parts, pale yellow to colourless within, the pigmented parts K+ purplish; epithecium brown to black-brown, K+ purplish N+ orange-red, the pigment dissolved in the gelatinous matrix or as granules between apices of paraphyses; hymenium colourless or with brown vertical streaks, 75-115 µm high; paraphyses 0.8-1.6 µm thick at mid-level, the apical cells slightly swollen to clavate, (1.2-)2-3(-4) µm wide; hypothecium colourless or pale yellow. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall K/I-, but the thin outer gel K/I+ blue, Bacidia-type. Ascospores (2-)6-16-septate, hyaline, needle-like, straight to slightly curved, (32-)36-75(-86) x (2.5-)3-4(-4.3) µm. Pycnidia partly or entirely immersed, dark in uppermost part. Conidia simple, thread-like, curved, (5-)10-15(-17) x c. 1 µm. Photobiont chlorococcoid. Spot tests: thallus K- or rarely K+ yellowish, C-, KC-, P-. Chemistry: thallus without lichen substances or with traces of atranorin; epithecium, rim of proper exciple, and pycnidial wall with the Laurocerasi-brown pigment; hypothecium and inner part of proper exciple with the Rubella-orange pigment. - Note: a humid subtropical to Mediterranean-Atlantic lichen found on smooth bark of broad-leaved trees in open humid forests; most frequent in Tyrrhenian Italy. According to Ekman (in litt.) the species might have been confused with *B. heterochroa* in the past (see note to *B. heterochroa*).

Bacidia subacerina



Bacidia subacerina

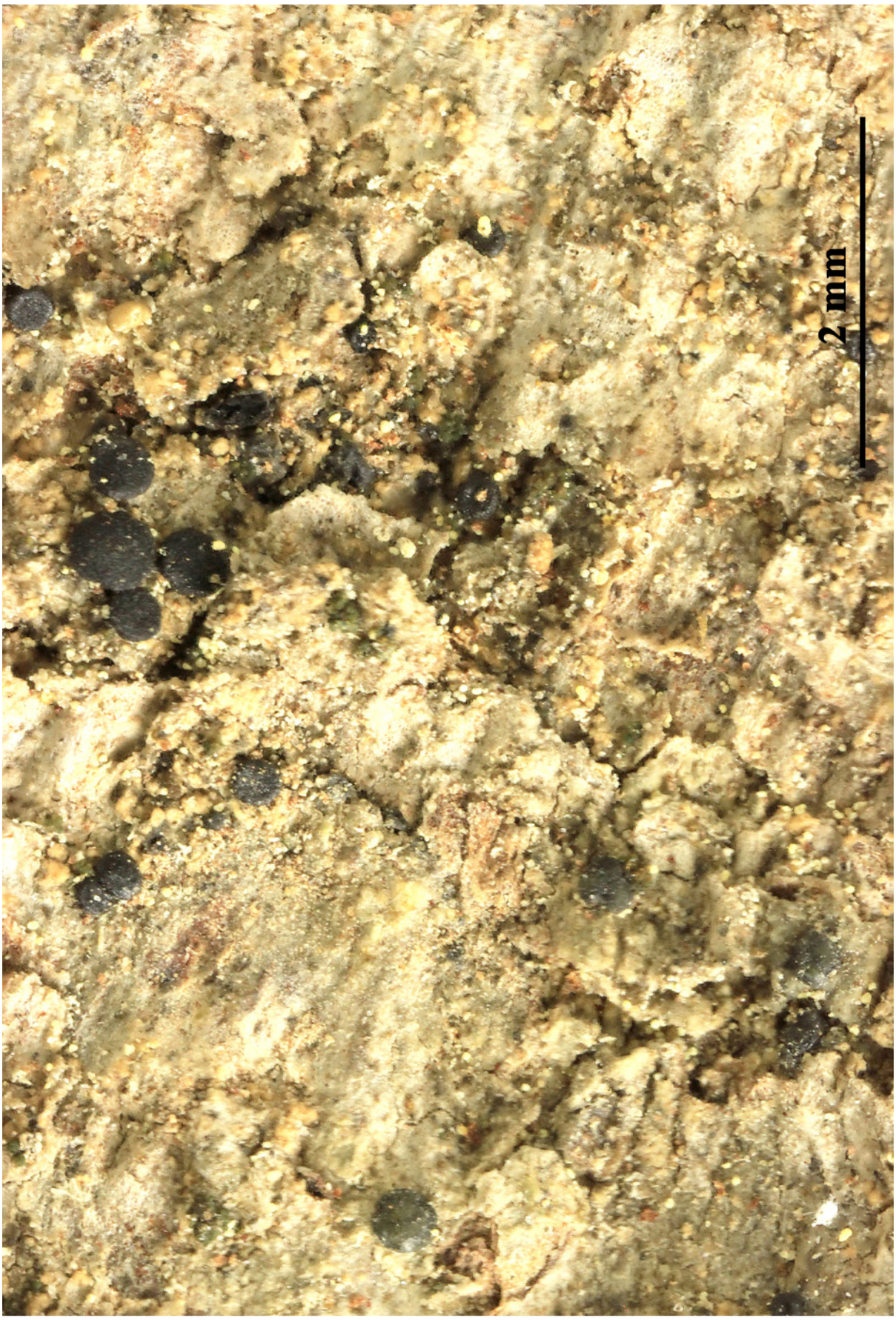
Bacidia subincompta (Nyl.) Arnold, Flora, Regensburg 53(30–31): 472 (1871) [1870]
= *Toniniopsis subincompta* (Nyl.) Kistenich, Timdal, Bendiksby & S. Ekman, Taxon 67(5): 898 (2018)
= *Bacidia affinis* (Stizenb.) Vain., Acta Soc. Fauna Flora fenn. 53(no. 1): 146 (1922)
= *Bacidia atrosanguinea* (Schaer.) Anzi, Cat. Lich. Sondr.: 70 (1860)
= *Bacidia atrosanguinea* f. *subincompta* (Nyl.) Blomb. & Forssell, Enum. Pl. Scand.: 81 (1880)
= *Bacidia incompta* var. *atrosanguinea* (Schaer.) Mudd, Man. Brit. Lich.: 184 (1861)
= *Biatora atrosanguinea* (Schaer.) Hepp, Summa veg. Scand., Sectio Prior (Stockholm): 112 (1845)
= *Lecidea anomala* var. *atrosanguinea* Schaer., Lich. helv. spicil. 4-5: 170 (1833)
= *Lecidea atrosanguinea* (Schaer.) Hedl., Bih. K. svenska VetenskAkad. Handl., Afd. 3 18(no. 3): 71 (1892)
= *Lecidea atrosanguinea* f. *subincompta* (Nyl.) Vain., Meddn Soc. Fauna Flora fenn. 10: 17 (1883)
= *Lecidea bacillifera* f. *subincompta* (Nyl.) Nyl., Flora, Regensburg 50(24): 373 (1867)
= *Lecidea bacillifera* subsp. *subincompta (Nyl.) Nyl.*, in Norrlin, Meddn Soc. Fauna Flora fenn. 1: 31 (1876)
= *Lecidea bacillifera* var. *subincompta* (Nyl.) Nyl., Not. Sällsk. Fauna et Fl. Fenn. Förh., Ny Ser. 8: 155 (1866)
= *Lecidea subincompta* Nyl., Flora, Regensburg 48: 147 (1865)
= *Patellaria atrosanguinea* (Schaer.) Müll. Arg., Mém. Soc. Phys. Hist. nat. Genève 16(2): 401 (1862)
= *Raphiospora atrosanguinea* (Schaer.) Körb., Parerga lichenol. (Breslau) 3: 237 (1861) [1865]
= *Scoliciosporum atrosanguineum* (Schaer.) Arnold, Flora, Regensburg 41(30): 475 (1858)
= *Scoliciosporum atrosanguineum* var. *affine* (Stizenb.) Arnold, Flora, Regensburg 47: 596 (1864)
== *Secoliga atrosanguinea* (Schaer.) Stizenb., Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur. 30(no. 3): 16 (1863)
= *Secoliga atrosanguinea* var. *affinis* Stizenb., Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur. 30(no. 3): 18 (1863)

[VZ1458], Turcia asiatica. Prov. Bursa. Uludag. 20 km in austro-orient. a Burso, 1550 m. Ad truncum *Abietis* vetustae. Leg. K. Kalb et G.

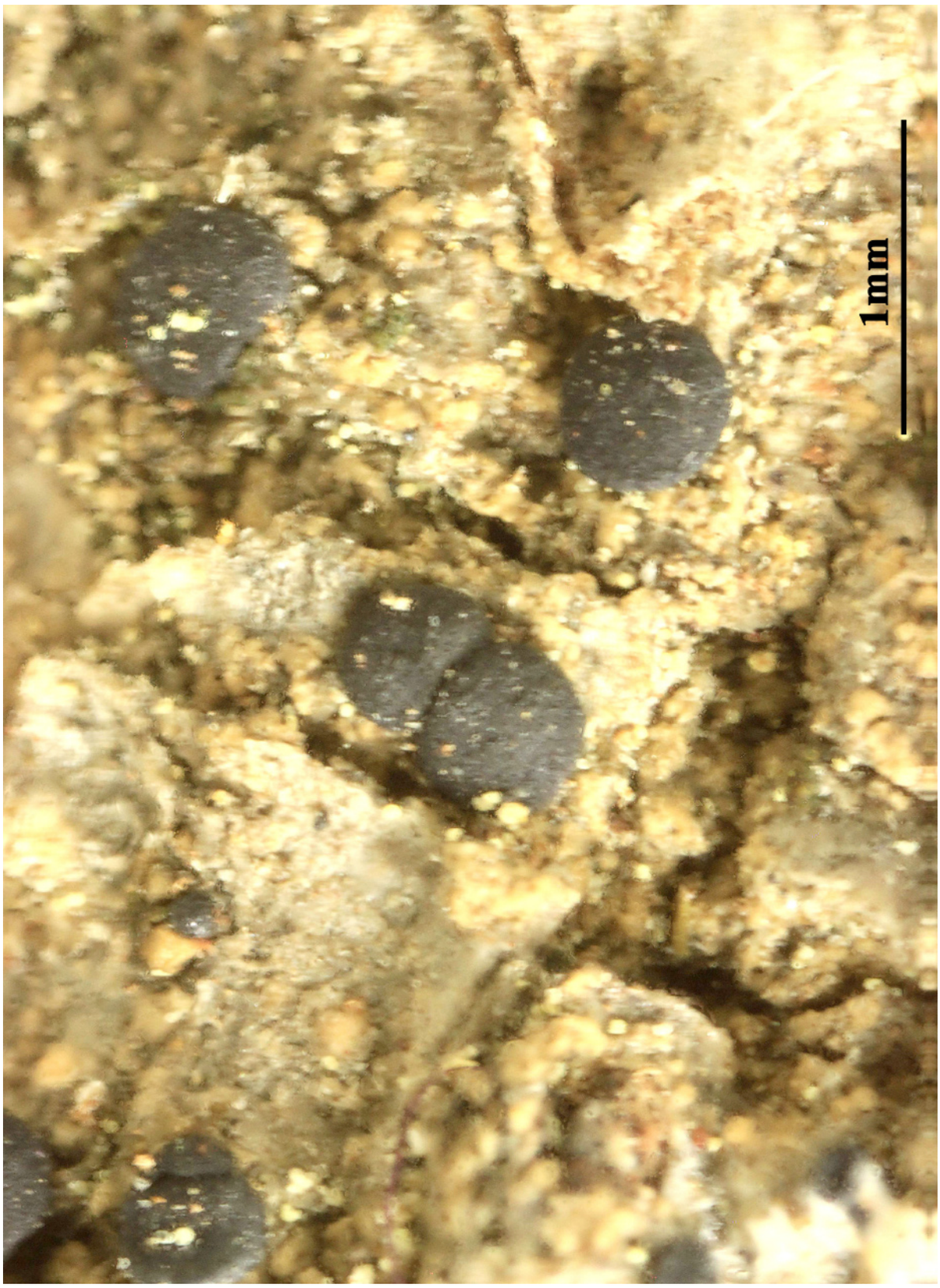
Plöbst, 6.8. 1976. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1458.

Thallus crustose, mostly episubstratic, grey-green, grey-brown or grey-white, granular-verrucose. Apothecia lecideine, (0.2-)0.3-0.8(-1) mm across, sessile an constricted at base, dark purple-brown to black, with a flat to slightly convex disc and a thin, persistent, often slightly paler proper margin. Proper exciple hyphal in construction, with globose outer cells, dark red-brown, K+ purple, the outermost part sometimes colourless; epithecium colourless to reddish, K-; hymenium colourless or pale red in upper part, 35-50 µm high, I+ blue; paraphyses 1.5-2(-2.5) µm thick at mid-level, simple or rarely forked in upper part, the apical cells up to c. 3 µm wide; hypothecium dark red-brown, K+ purple. Asci 8-spored, clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores (1-)3(-5)-septate, hyaline, elongate-bacilliform to cylindrical, 15-25(-27) x 2-3 µm, fasciculate in the asci. Pycnidia small, semi-immersed, with thin, red-brown, K+ purple walls. Conidia cylindrical-ellipsoid, 0-1-septate, 5-9 x 2-2.5 µm. Photobiont chlorococcoid, the cells globose, 5-12(-14) µm in diam. Spot tests: thallus K-, C-, KC-, P-, UV-. Chemistry: thallus without lichen substances. -Note: a temperate species found on base-rich bark, especially of *Ulmus*, near wounds of the trunk, more rarely on plant debris and terricolous mosses.

Bacidia subincompta



Bacidia subincompta



Bacidia subincompta

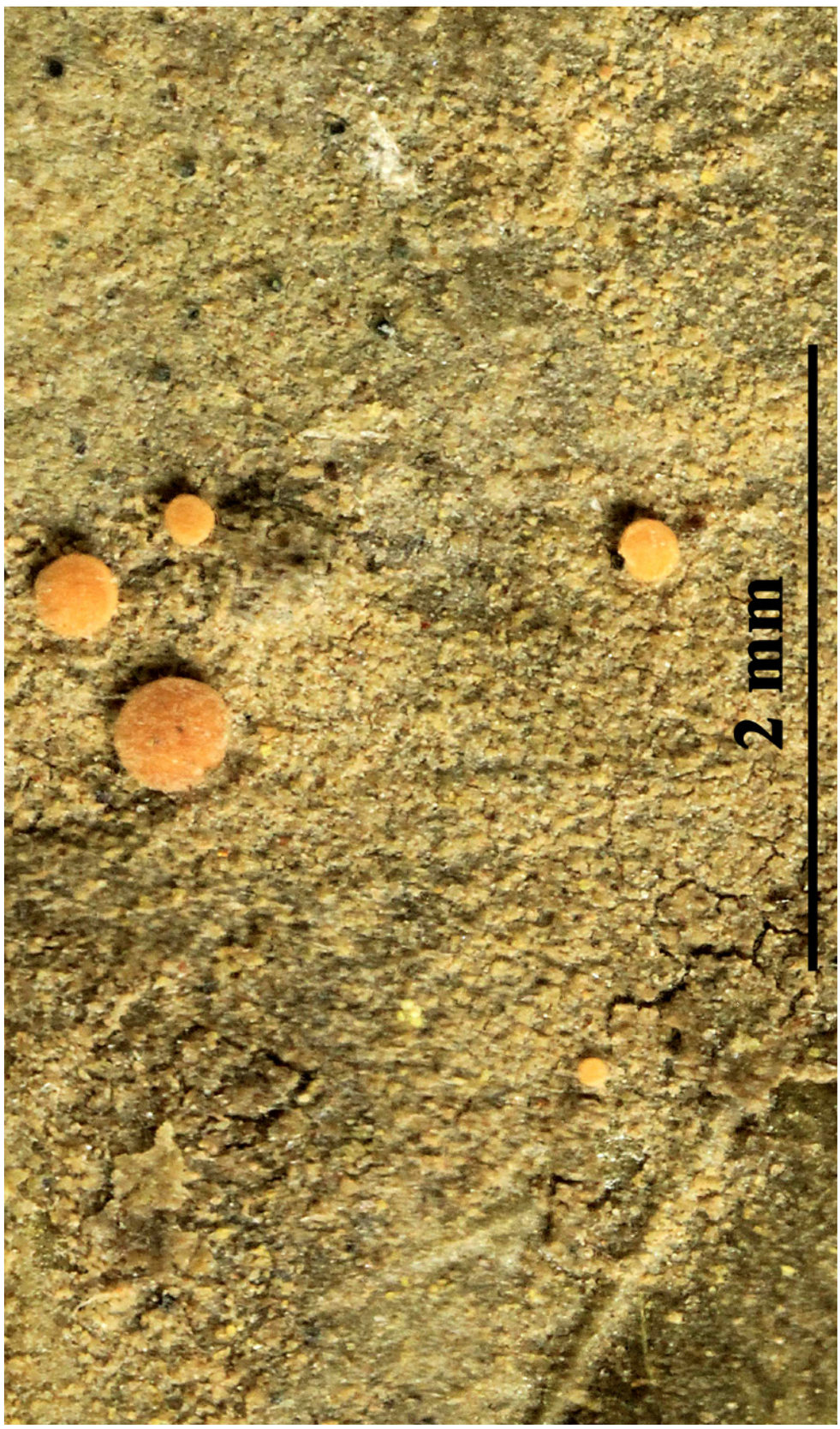
Bacidia vasakii Vězda, Folia geobot. phytotax. 18(1): 64 (1983)

[VZ1869], URSS. Rossia merid., Colchis (Transcaucasia occid.) distr. Adler: in valle angusta rivi Kudepsta, 5 km ab ostio in mare, 20-30 m. Ad folia *Buxi colchicae*. Leg. A. Vězda, 19.6.1979. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1869.

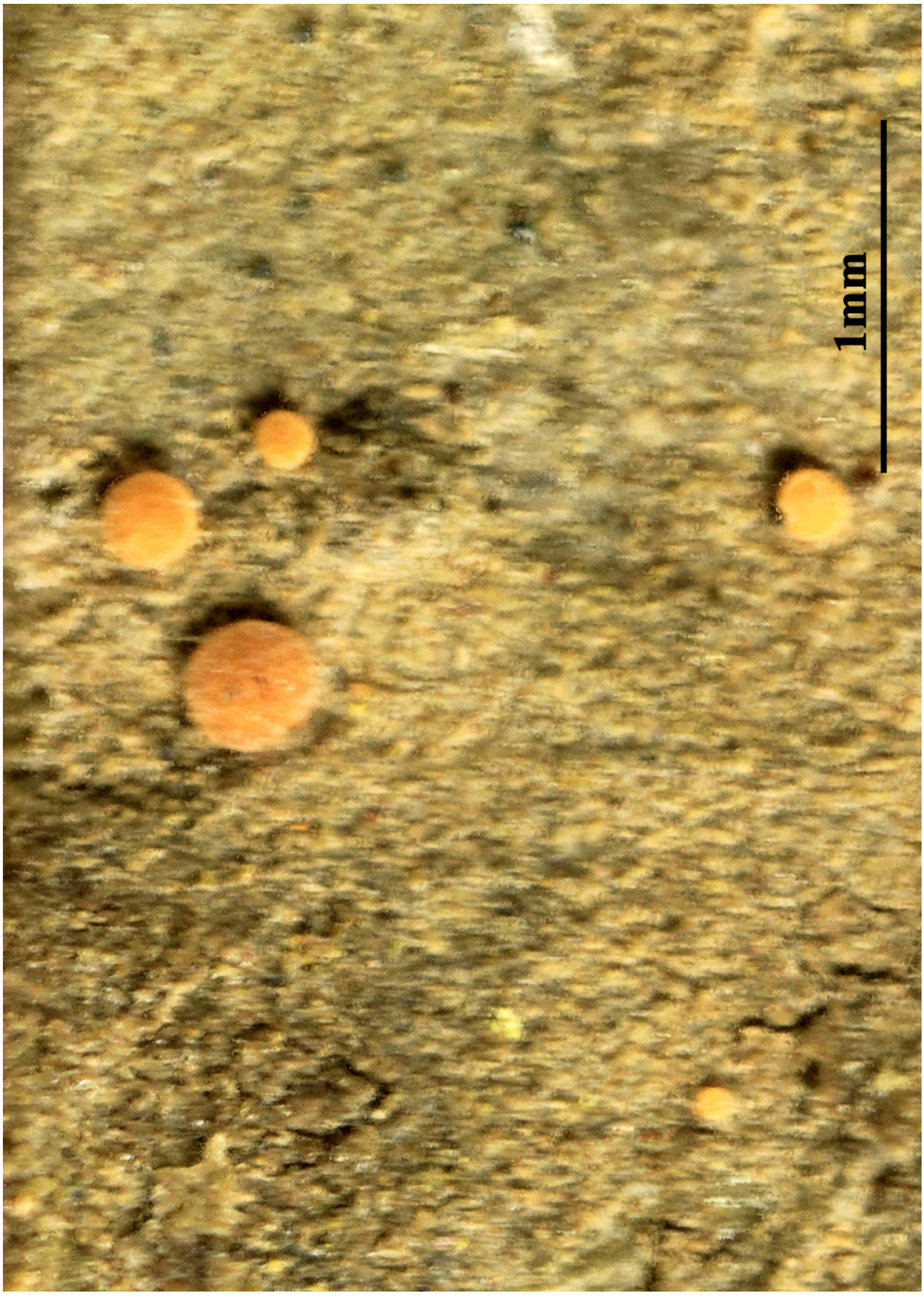
DESCRIPTION EX VEZDA: FOLIICOLE FLECHTEN AUS DER KOLCHIS (WEST-TRANSKAUKASIEN, UDSSR). - Folia Geobotanica et Phytotaxonomica 18, 1983.
Thallus epiphyllus, granulosus, bene evolutus subcoralloideus, cinereo-viridescens Apothecia vulgo sparsa, dispersa, ab initio hemiglobosa, margine distincto nullo, impure albida vel luteo-albida (in herbario demum subaurantiaca), 0.4—0.6 mm in diametro. Excipulum hyalinum, paraplectenchymaticum, membranis cellularum modice crassis. Hymenium circ. 50 µm altum hyalinum. Paraphyses sparsae, apicibus globosis. Asci copiosi, cylindrico-clavati, 8-spori. Sporae aciculares, 3-septatae, 36—45 µm longae, 1.6 µm crassae, rectae vel arcuatae vel (praesertim in ascis) spiraliter contortae. Alga ad Chlorococcaceae pertinens, cellulae algarum globosae, glomerulosae, glomeruli hyphis parenchymatice contextis obducti.

Lager epiphyll, dicht kornig, bei guter Entwicklung aus dicht stehenden, kompakte Krusten bildenden, koralloid aufsteigenden Körnchen bestehend, graugrün. Apothecien einzeln stehend und in geringer Zahl, von Anfang an mit hochgewölbtem Discus und ohne erkennbaren Rand, 0.4-0.6 mm im Durchmesser, schmutzig. weisslich bis weissgelblich (nach längerer Aufbewahrung im Herbar fast orangerot). Vertikalschnitt durch ein Apothecium: Excipulum farblos, paraplectenchymatisch, die Einzelzellen dickwandig, das Lumen daher abgerundet; Hypothecium farblos, Hymenium um 50 µm hoch, farblos; Paraphysen sehr spärlich vorhanden, einfach, gerade, mit kopfigen Endzellen; Asci zahlreich, keulig-zylindrisch, 8-sporig. Sporen im Ascus spiralig gedreht, frei gerade oder unregelmässig gekriimmt, nadelférmig, 36-45 µm lang, 1.5 µm dick, mit 3 meist undeutlichen Septen. Algenzellen kugelig, reingriin, Pleurococcus-artig, in ungleich grossen, von einem parenchytischen Hyphenmantel umgebenen Kolonien. Kennzeichnend fiir die Art sind das bei guter Entwicklung kompakte Lager mit koralloid aufsteigenden Lagerkörnchen, von Anfang an gewölbte, weissliche Apothecien und das epiphylle Wachstum. Sie gehört in die enge Ver-

wandschaft von *Bacidia phacodes* Körb. , von der sie sich nur durch das epiphylle Wachstum und das subcoralloide Lager unterscheidet. Auf vollbeschatteten *Buxus*-, selten auch anderen Geholz-Blättern, ist sie in der Kolchis nicht selten.



Bacidia vasakii



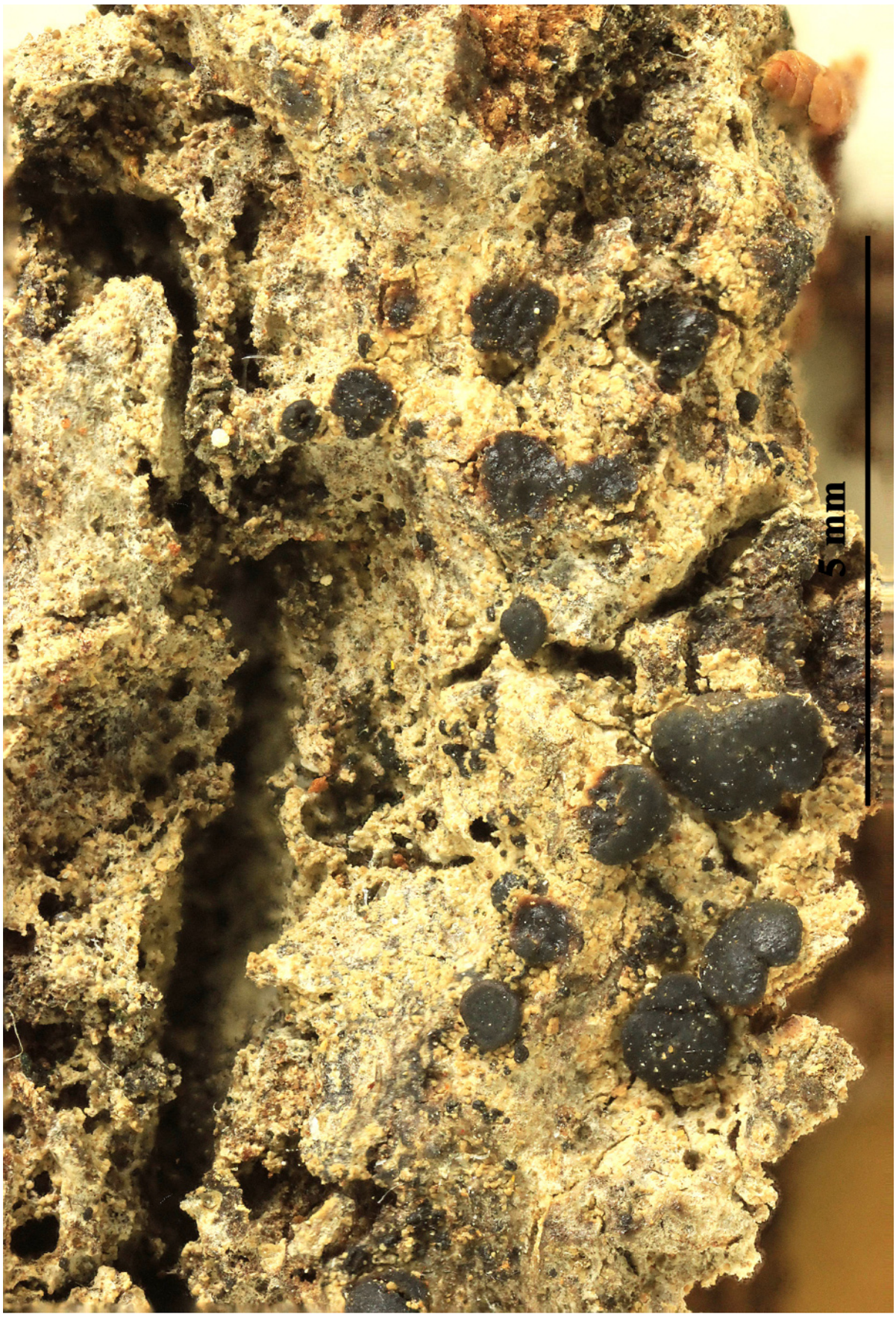
Bacidia vasakii

Bacidia vivantii Vězda, Bull. Soc. bot. Fr., Let. bot. 119(3-4): 247 (1973) [1972]

[VZ1162], Gallia. Pyrenaei montes occidentales. Saint-Pée-sur-Nivelle. vallis silvatica 3 km in septentrionibus pagi, 35 m. Ad corticem *Quercus pdeunculatae* Ehrh. Leg. J. Vivant. ISOTYPUS - Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1162.

Thallus epiphleodes, tennis, effusus. leproso-granulosus, einereovirens K-; eellulae algarum 8-15 µm crassac ad Trebouxiam pertinentes. Apotheeia dispersa, orbicularia vel varie lobata, adnata, primum listinde marginata planaque, demum immarginata bene convexa, ea. 1-2 mm lata, 0.2-0,5 mm alta, nigra, haud pruinata. Excipulum croceorubescens, inhibito K ruhricosum, in parte suhhymeniali ca. 200 µm, ad latera hymenii ca. 50 µm erassum. Hymenium 100-120 µm altum, supcrne smaragdulum, ceterum hyalinum, J+ eoerulescens. Paraphyses 1.5 µm erassae, simplices, rarius furcatae, septatae, apieihus paulum inerassatis. Asei numerosis, cylindrico-clavati, 8 spori. Sporae aciculari-hacillares, 5-9-septatae, leptoderrnaticae, 38-45 µm longae, 3 µm crassae.

Apothecia up to 1.2 mm actross, disc black, epruinose, surrounded by black exciple; hymenium pale yellow 50-75 m in height, covered by blue epithecium; exciple and subhymenium dark brown in colour. Ascospores 8/ascus, hyaline, 5-9 septate, 30-36 x 3.3 µm.



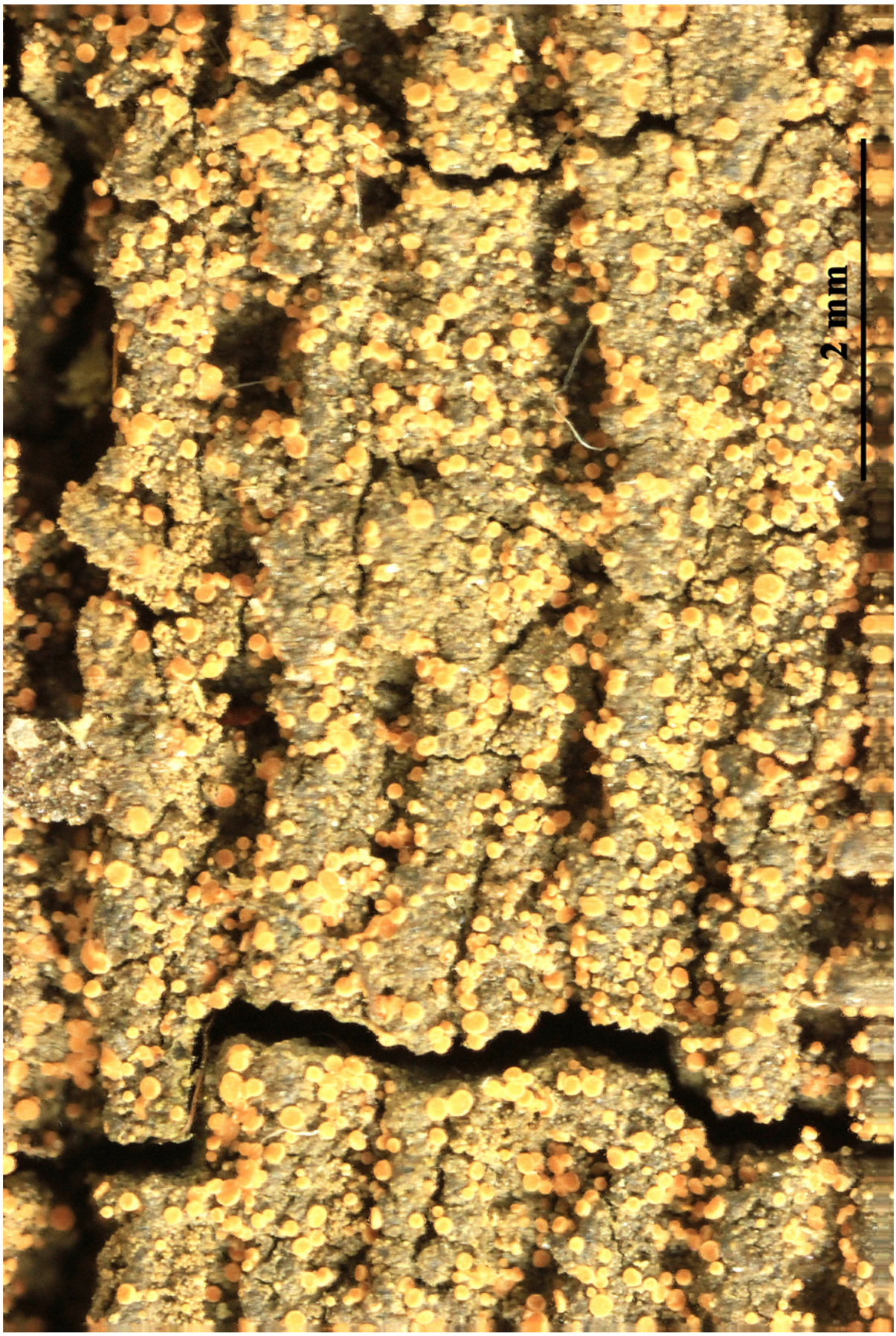
Bacidia vivantii

Bacidia vivantii

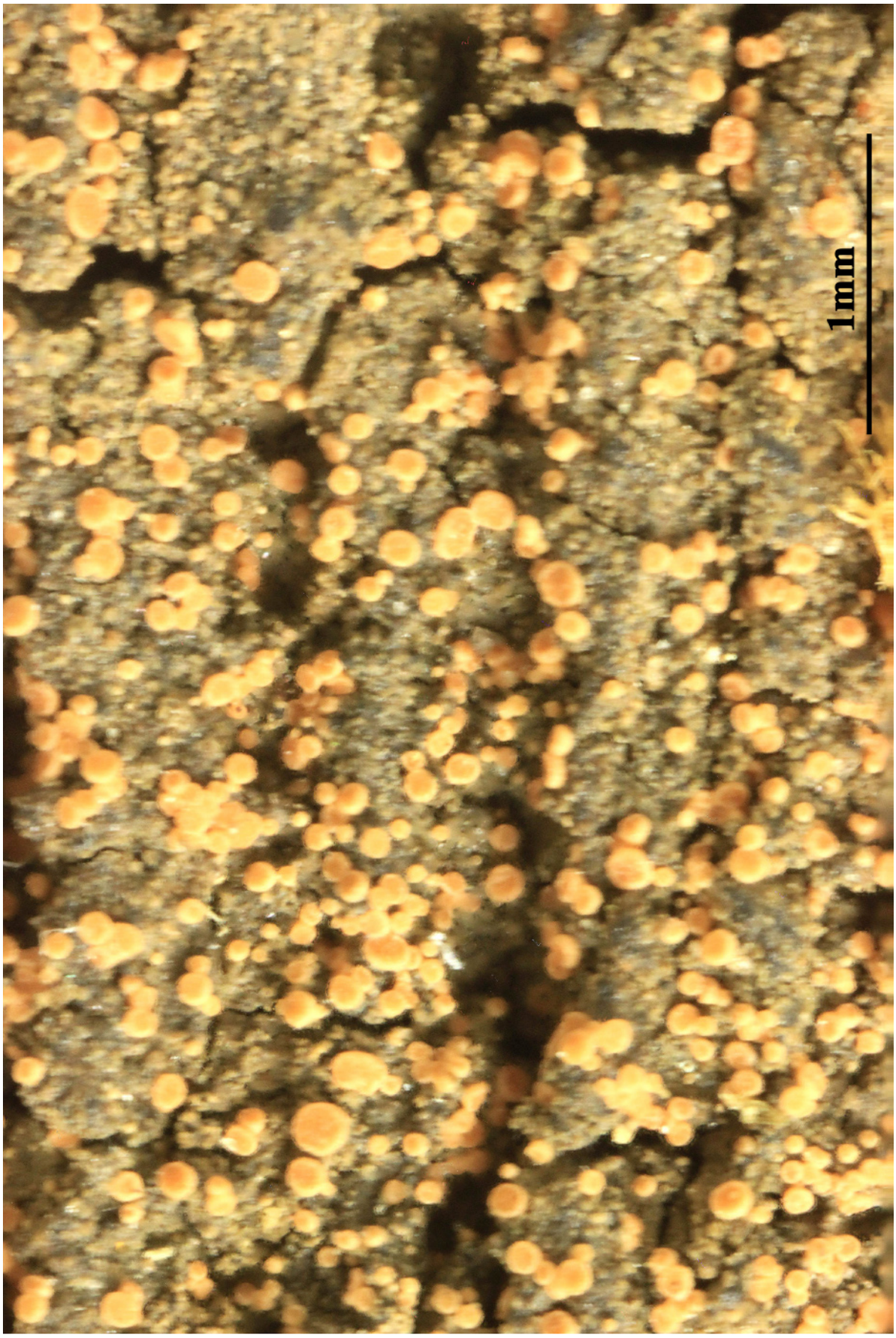
Bacidina chloroticula (Nyl.) Vězda & Poelt, in Vězda, Folia geobot. phytotax. 25(4): 432 (1991) [1990]
= *Bacidia chloroticula* (Nyl.) A.L. Sm., Monogr. Brit. Lich. 2: 155 (1911)
= *Lecidea chloroticula* Nyl., Flora, Regensburg 60: 564 (1877)

[VZ2457], Austria. Styria: Graz, loco dicto "Obere Teichstrasse", 395 m. Ad lignum humidum impregnatum in terra horti insertum. Leg. J. Poelt et A. Vězda. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 2457.

Thallus crustose, thin, ecorticate, continuous, rimose or warted, grey-green, smooth to granulose, usually not producing goniocysts. Apothecia biatorine, usually numerous, 0.15-0.25 mm across, whitish, pale yellow or pale grey, with a flat to slightly convex, epruinose disc, and a usually paler, white or very pale yellow, persistent proper margin. Proper exciple 4-6 cells thick, 24-33 µm wide laterally, without crystals, of very thin-walled (0.5-1 µm), not distinctly radiating hyphae, the outer rim colourless or very pale brown in uppermost part, the medullary part colourless; epithecium colourless or rarely very pale brown and in this case K+ purple, indistinctly delimited from the hymenium; hymenium 30-40(-50) µm high, mostly colourless; paraphyses mostly simple, 1.5-2 µm thick at mid-level, the apical cells clavate or only slightly thickened, to 3-4(-6) µm wide; hypothecium poorly developed, colourless. 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 (0-)1-3-septate, hyaline, needle-like, straight to sigmoid, twisted in the asci, (17-)21-34(-39) x 0.9-1.8 µm. Pycnidia immersed, colourless. Macroconidia thread-like, curved and non-septate, microconidia lageniform, 3-4 x 1-1.5 µm. Photobiont chlorococcoid, the cells 5-12(-14) µm wide. Spot tests: thallus and apothecia K-, C-, KC-, P-, UV-. Chemistry: thallus without lichen substances. - Note: a mainly temperate to southern boreal species found on tree stumps, rotten woodwork, rusted iron, plant remnants, ground-cover plastic, rubber waste, coniferous twigs and needles, twigs of Vaccinium myrtillus, decaying vascular plant remnants, moribund bryophytes, pebbles and boulders of siliceous rock, mostly near the ground (Ekman 2023); certainly overlooked, and perhaps more widespread in Italy below the alpine belt, including in the Alps.



Bacidina chloroticula



Bacidina chloroticula

Bacidina inundata (Fr.) Vězda, Folia geobot. phytotax. 25(4): 432 (1991) [1990]
= *Bacidia arceutina* var. *inundata* (Fr.) Branth & Rostr., Bot. Tidsskr. 3: 233 (1869)=
= *Bacidia arnoldiana* var. *inundata* (Fr.) Körb., Parerga lichenol. (Breslau) 2: 135 (1860) [1865]
= *Bacidia inundata* (Fr.) Körb., Syst. lich. germ. (Breslau): 187 (1855)
= *Bacidia inundata* subsp. *allecta* (Nyl.) A.L. Sm., Monogr. Brit. Lich. 2: 156 (1911)
= *Bacidia inundata var. allecta* (Nyl.) B. de Lesd., Bull. Soc. bot. Fr. 52: 618 (1905)
= *Bacidia luteola* var. *inundata* (Fr.) Mudd, Man. Brit. Lich.: 183 (1861)
= *Biatora inundata* Fr., K. svenska Vetensk-Akad. Handl., ser. 3: 270 (1822)
= *Biatora luteola* var. *inundata* (Fr.) Fr., Summa veg. Scand., Sectio Prior (Stockholm): 112 (1845)
= *Biatora rubella* subsp. *inundata* (Fr.) Tuck., Syn. N. Amer. Lich. (Boston) 2: 45 (1888)
= *Biatora vernalis * inundata* (Fr.) Fr., Lich. eur. reform. (Lund): 261 (1831)
= *Biatora vernalis* var. *inundata* (Fr.) Mont., in Durieu, Expl. Sci. Alg., Fl. Algér. 1(livr. 7): 265 (1848) [1848-49]
= *Lecidea effusa* var. *inundata* (Fr.) Leight., Lich.-Fl. Great Brit.: 344 (1871)
= *Lecidea inundata* (Fr.) Nyl., Flora, Regensburg 50(12): 178 (1867)
= *Lecidea inundata* var. *allecta* Nyl., Flora, Regensburg 60: 567 (1877)
= *Lecidea luteola* var. *inundata* (Fr.) Nyl., Lich. Scand. (Helsinki): 209 (1861)
= *Lichen caesiorufus* var. *inundatus* (Fr.) Wahlenb., Fl. Suec. 2: 801 (1826)
= *Secoliga inundata* (Fr.) Stizenb., Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur. 30(no. 3): 33, tab. I, fig. 14 (1863)
= *Woessia inundata* (Fr.) Sérus. & Diederich, in van den Boom, Sérusiaux, Diederich, Brand, Aptroot & Spier, Lejeunia, n.s. 158: 39 (1998)

[VZ2459], Austria. Stiria: montes "Zeller Startzen" dicti, in faucibus Gschrödinggraben, ad orientem versus Greith in valla Salza, 720-750 m. In trunco arboris emortuo iacenti *Piceae* interdum irrorato. Leg. J. Poelt & H. Pittoni, 20.9.1990. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 2459.

Thallus crustose, episubstratic, continuous or rimose, the surface granulose-warted, grey-green to greenish brown, often delimited by a white, fimbriate prothallus. Apothecia biatorine, sessile, pale cream-coloured to deep reddish brown or (rarely) black-brown when old, 0.2-0.6(-0.8)

mm across, with an initially concave, then flat and finally convex disc, and a thin, usually paler, finally often excluded proper margin. Proper exciple dark brown or violet-brown brown in outer and upper parts, colourless within; epithecium pale brown, K+ purplish, scarcely differentiated from the hymenium; hymenium mostly colourless, 45-55 µm high; paraphyses mostly simple, 1-1.5(-2) µm thick at mid-level, the apical cells often swollen, 3.5-5 µm wide; hypothecium colourless or pale yellow 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 3(-7)-septate hyaline, needle-like, 20-45 x 1.5-2.5(-3) µm. Pycnidia rare, of two types: a) white, with 23-55 x 0.5-1 µm, curved conidia, b) brown, with 11-19 x c. 1 µm, curved conidia. Photobiont chlorococcoid, the cells 5-12(-14) µm in diam. Spot tests: thallus and apothecia K-, C-, KC-, P-, UV-. Chemistry: thallus without lichen substances. - Note: apparently this is a holarctic lichen, found on periodically inundated or otherwise moist siliceous rocks, more rarely on lignum, in humid-shaded situations, with a wide altitudinal range.

Bacidina inundata

Bacidina inundata

Bacidina inundata

Bacidina inundata (Fr.) Vězda, Folia geobot. phytotax. 25(4): 432 (1991) [1990]
= *Bacidia arceutina* var. *inundata* (Fr.) Branth & Rostr., Bot. Tidsskr. 3: 233 (1869)=
= *Bacidia arnoldiana* var. *inundata* (Fr.) Körb., Parerga lichenol. (Breslau) 2: 135 (1860) [1865]
= *Bacidia inundata* (Fr.) Körb., Syst. lich. germ. (Breslau): 187 (1855)
= *Bacidia inundata* subsp. *allecta* (Nyl.) A.L. Sm., Monogr. Brit. Lich. 2: 156 (1911)
= *Bacidia inundata var. allecta* (Nyl.) B. de Lesd., Bull. Soc. bot. Fr. 52: 618 (1905)
= *Bacidia luteola* var. *inundata* (Fr.) Mudd, Man. Brit. Lich.: 183 (1861)
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= *Biatora rubella* subsp. *inundata* (Fr.) Tuck., Syn. N. Amer. Lich. (Boston) 2: 45 (1888)
= *Biatora vernalis * inundata* (Fr.) Fr., Lich. eur. reform. (Lund): 261 (1831)
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= *Lecidea luteola* var. *inundata* (Fr.) Nyl., Lich. Scand. (Helsinki): 209 (1861)
= *Lichen caesiorufus* var. *inundatus* (Fr.) Wahlenb., Fl. Suec. 2: 801 (1826)
= *Secoliga inundata* (Fr.) Stizenb., Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur. 30(no. 3): 33, tab. I, fig. 14 (1863)
= *Woessia inundata* (Fr.) Sérus. & Diederich, in van den Boom, Sérusiaux, Diederich, Brand, Aptroot & Spier, Lejeunia, n.s. 158: 39 (1998)

[VZ1691], URSS. Transcaucasia, Colchis. Distr. Lazarevskoje: Dagomys, in rivo Dagomys Vostočnyi, supra vicum Baranovka, 100-150 m. Ad radices Buxi colchicae. Leg. V. Vašák et A- Vězda, 24.6.1979. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1691.

Thallus crustose, episubstratic, continuous or rimose, the surface granulose-warted, grey-green to greenish brown, often delimited by a white, fimbriate prothallus. Apothecia biatorine, sessile, pale cream-coloured to deep reddish brown or (rarely) black-brown when old, 0.2-0.6(-0.8) mm across, with an initially concave, then flat and finally convex disc,

and a thin, usually paler, finally often excluded proper margin. Proper exciple dark brown or violet-brown brown in outer and upper parts, colourless within; epithecium pale brown, K+ purplish, scarcely differentiated from the hymenium; hymenium mostly colourless, 45-55 µm high; paraphyses mostly simple, 1-1.5(-2) µm thick at mid-level, the apical cells often swollen, 3.5-5 µm wide; hypothecium colourless or pale yellow 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 3(-7)-septate hyaline, needle-like, 20-45 x 1.5-2.5(-3) µm. Pycnidia rare, of two types: a) white, with 23-55 x 0.5-1 µm, curved conidia, b) brown, with 11-19 x c. 1 µm, curved conidia. Photobiont chlorococcoid, the cells 5-12(-14) µm in diam. Spot tests: thallus and apothecia K-, C-, KC-, P-, UV-. Chemistry: thallus without lichen substances. - Note: apparently this is a holarctic lichen, found on periodically inundated or otherwise moist siliceous rocks, more rarely on lignum, in humid-shaded situations, with a wide altitudinal range.

Bacidina inundata

Bacidina inundata

Bacidina inundata

Bacidina mirabilis (Vězda) Vězda, Folia geobot. phytotax. 25(4): 432 (1991) [1990]
= *Catillaria mirabilis* Vězda, Folia geobot. phytotax. 15(1): 80 (1980)

[VZ2458], Tanzania. Regio Morogoro, montes Nguru, reservatum naturae forestale "Manyangu Forest Reserve, 560-680 m. Foliicola in pluviisilva. Leg, E. Farkas (no. 89104). EX A. VěZDA; LICHENES SELECTI EXSICCATI NR. 2458.

Thallus aus ±kugeligen, 15—25 µm breiten Goniocysten zusammensetzt. Apothecien 0,4—0,7 mm breit, unten stark eingezogen, zuerst mit wulstigem Rand, spiiter randlos, rotbraun bis fast orangerot, mit flacher oder leicht konvexer Scheibe. Excipulum paraplectenchymatisch, die Zellen dickwandig, Paraphysen auffallend dick, um 2—2,56 µm breit, gerade, je mit 2—4 Septen, Sporen 7,6-9 x 2-2,6 um, nicht halonat. Bisher aus Zaire und NeuGuinea bekannt.

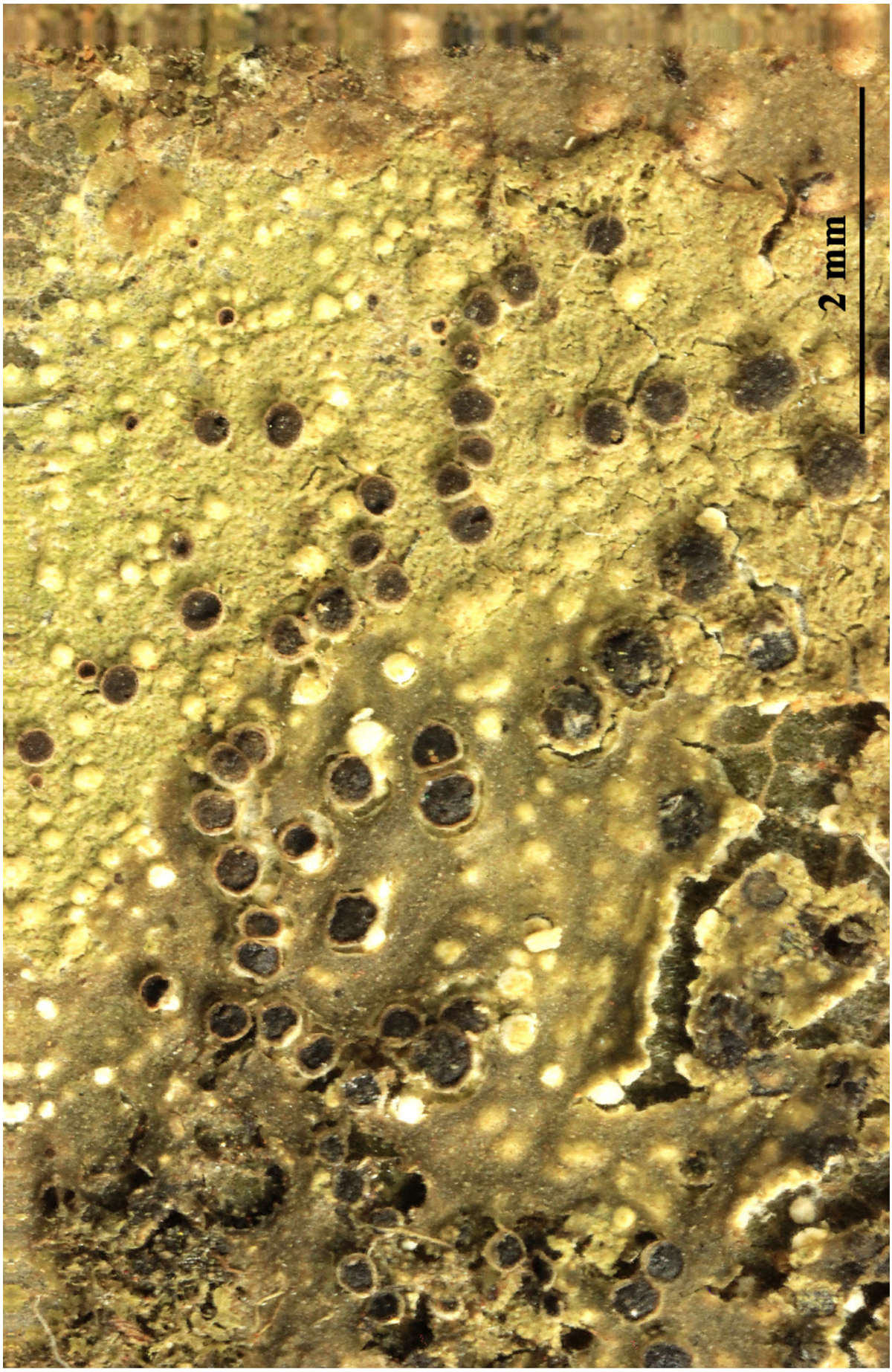
Bacidina mirabilis

Bacidina mirabilis

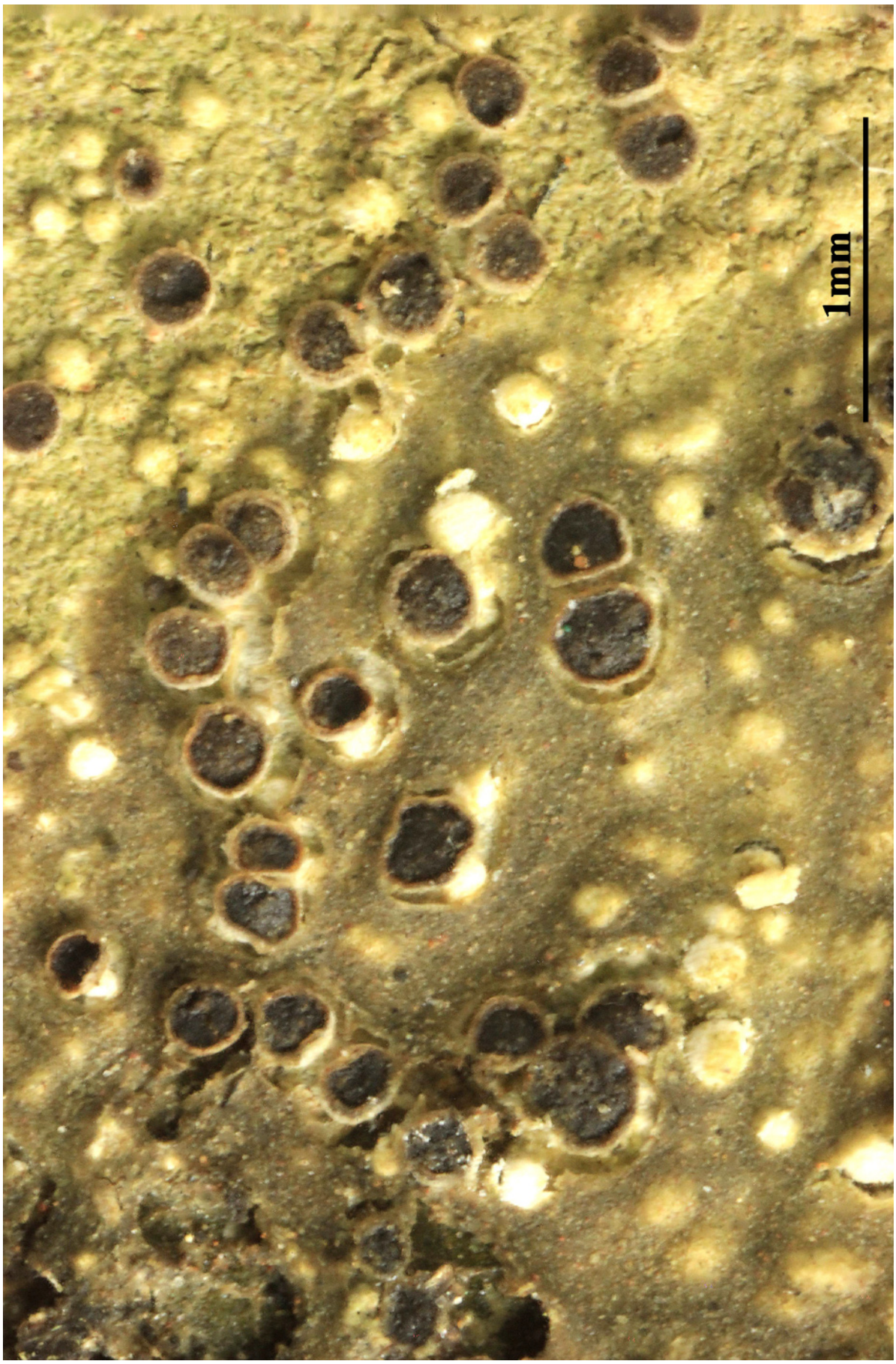
Badimia stanhopeae (Müll. Arg.) Vězda, Lichenes Selecti Exsiccati, Fascicle 93 (nos 2301-2325) (Průhonice): 2 (no. 2307) (1989)
= *Patellaria stanhopeae* Müll. Arg. [as 'stanhopiae'] 1881

[VZ2307], Brasilia. São Paulo. Insula Sao Sebastião: Morra das Tacas, 500 m. Foliicola in pluviisilva. Leg. J. Poelt, 7.7.1979, det. A Vězda. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 2307.

Thallus continuous, 10–25 mm across and 15–20 µm thick, smooth to minutely farinose and with dense verrucae, greenish grey to green; verrucae hemispherical, 0.15–0.25 mm, white, sometimes breaking up into soralia. Apothecia rounded, 0.25–0.5 mm diam. and 130–180 µm high; disc plane, dark brown to blackish brown; margin thin, pale brownish grey to white. Excipulum strongly incrusted with colorless crystals that dissolve in K and under pressure reveal partly free, moniliform hyphae, 30-50 µm broad, its lateral surface rather irregular and often with short threads of globose cells. Hypothecium 20-50 µm high, dark brown, K+ dark sordid brown. Apothecial base dark brown, K-. Epithecium thin, 5-10 µm, pale yellowish brown. Hymenium 45-55 µm high, colorless. Asci 40-50 x 10-12 µm. Ascospores 8 per ascus, fusiform ellipsoid, 3-septate, without constrictions at septa, 11-17 x 3-5 µm, 3-4 times as long as broad. Pycnidia not observed. Chemistry: usnic acid, isousnic acid, zeorin. Distribution and Ecology. Pantropical. A rather abundant species in the lowland rain forest, usually found in more open situations, such as tree-fall gaps. Specimens at higher elevations tend to lack apothecia, and the thallus verrucae frequently break up into soralia. The species has recently been reported from South Africa (Farkas, 2004), and a typical specimen has also been found in Australia [Queensland: Mossman Gorge National Park.



Badimia stanhopeae

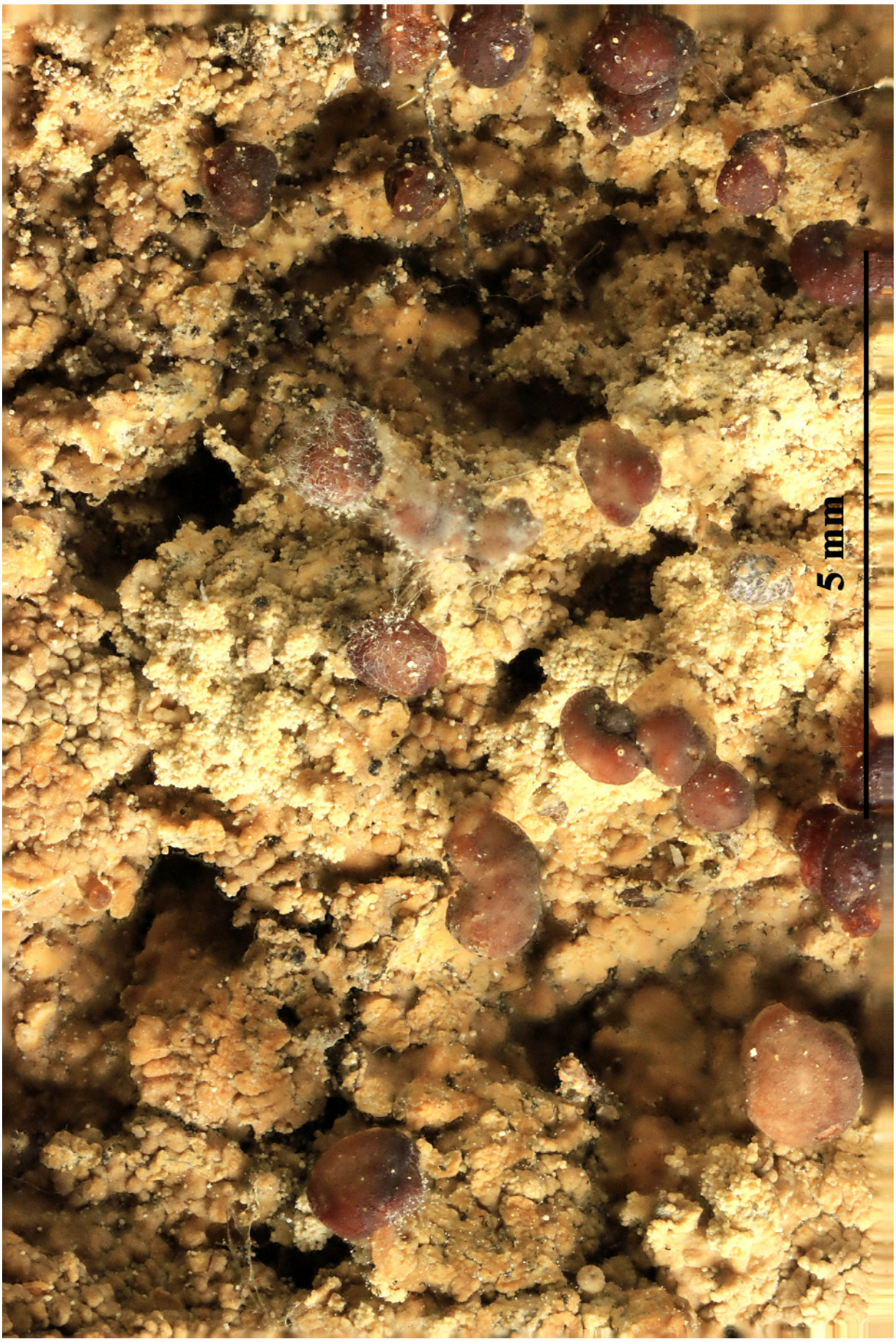


Badimia stanhopeae

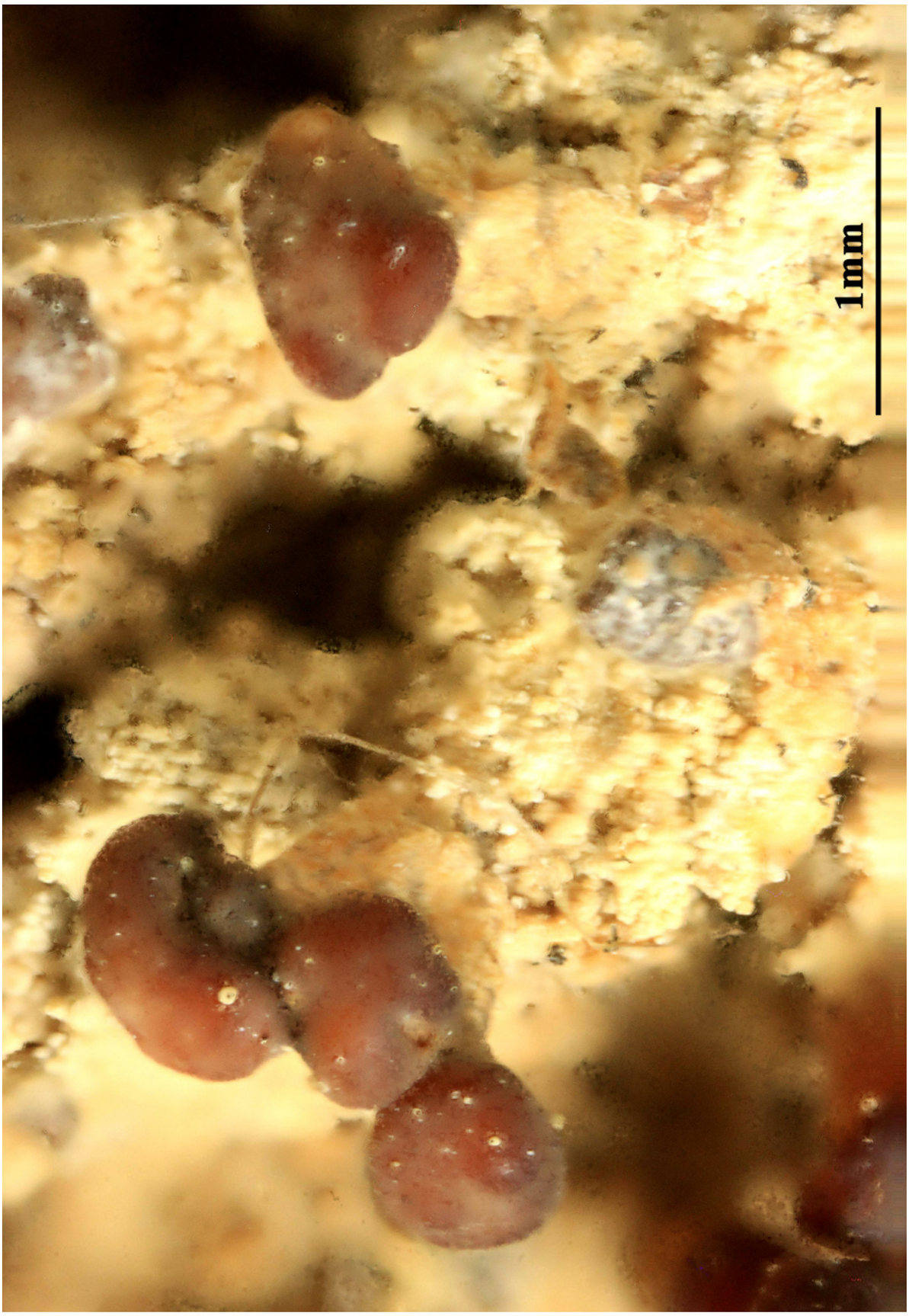
Baeomyces callianthus Lettau, Hedwigia 52(3-4): 160 (1912)

[VZ1712], Bohemoslovacia. Slovacia, Carpates, montes Polana, in valle rivi Slatinka, supra pagum Hriňova secus viam Podkriváň - Brezno, 750 m. Ad terram macram in fossis viae. Leg, A. Vězda, 27.5.1979. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1712.

Primary thallus minutely squamulose, the squamules 0.3-0.5 mm wide, crenulate, more or less contiguous, grey-green to greenish white, often powdery-sorediate, the soredia greenish grey. Apothecia frequent, biatorine, emarginate, up to 2 mm across, with a pink, flat to slightly convex disc (the marginal parts often paler), single or 4-8 and coalescing, terminal, brought on erect, subfruticose, smooth, flattened to subcylindrical, simple or branched, white stipes which are 1-2(-3) mm tall. Epithecium pale reddish brown, K+ orange then blood-red; hymenium colourless, K/I-; paraphyses simple to sparingly branched in upper part, slender, 1-1.8 µm thick, the apical cell only slightly wider; hypothecium pale. Asci 8-spored, cylindrical, thin-walled, the apex truncated, with a single functional wall layer, with a poorly differentiated, non-amyloid tholus. Ascospores 1(-2)-celled, hyaline, fusiform, 10-17 x 3-5 µm. Pycnidia rare. Conidia bacilliform. Photobiont chlorococcoid. Spot tests: thallus K+ yellow, C-, KC+ yellow, P+ orange-yellow, UV-; disc of apothecia K+ orange, then blood-red. Chemistry: thallus with stictic acid, mature apothecia with norstictic and constictic acids. - Note: a rare species with a Central European distribution, growing on acid soil, on acid soil, more rarely on stumps or encrusting bryophytes, in rather humid situations, with several stations in the Eastern Alps (Austria); perhaps just a chemical variety of B. rufus.



Baeomyces callianthus

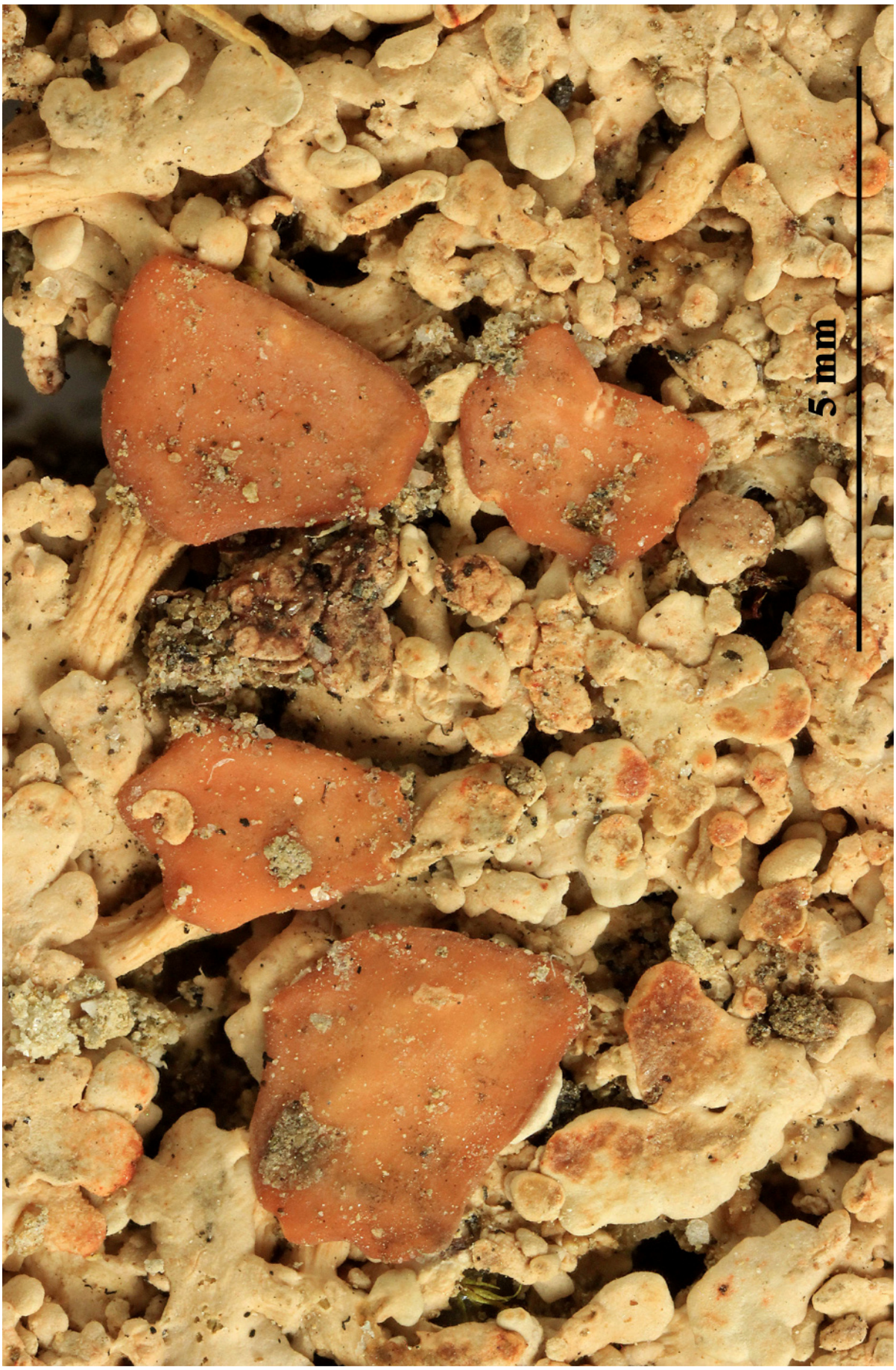


Baeomyces callianthus

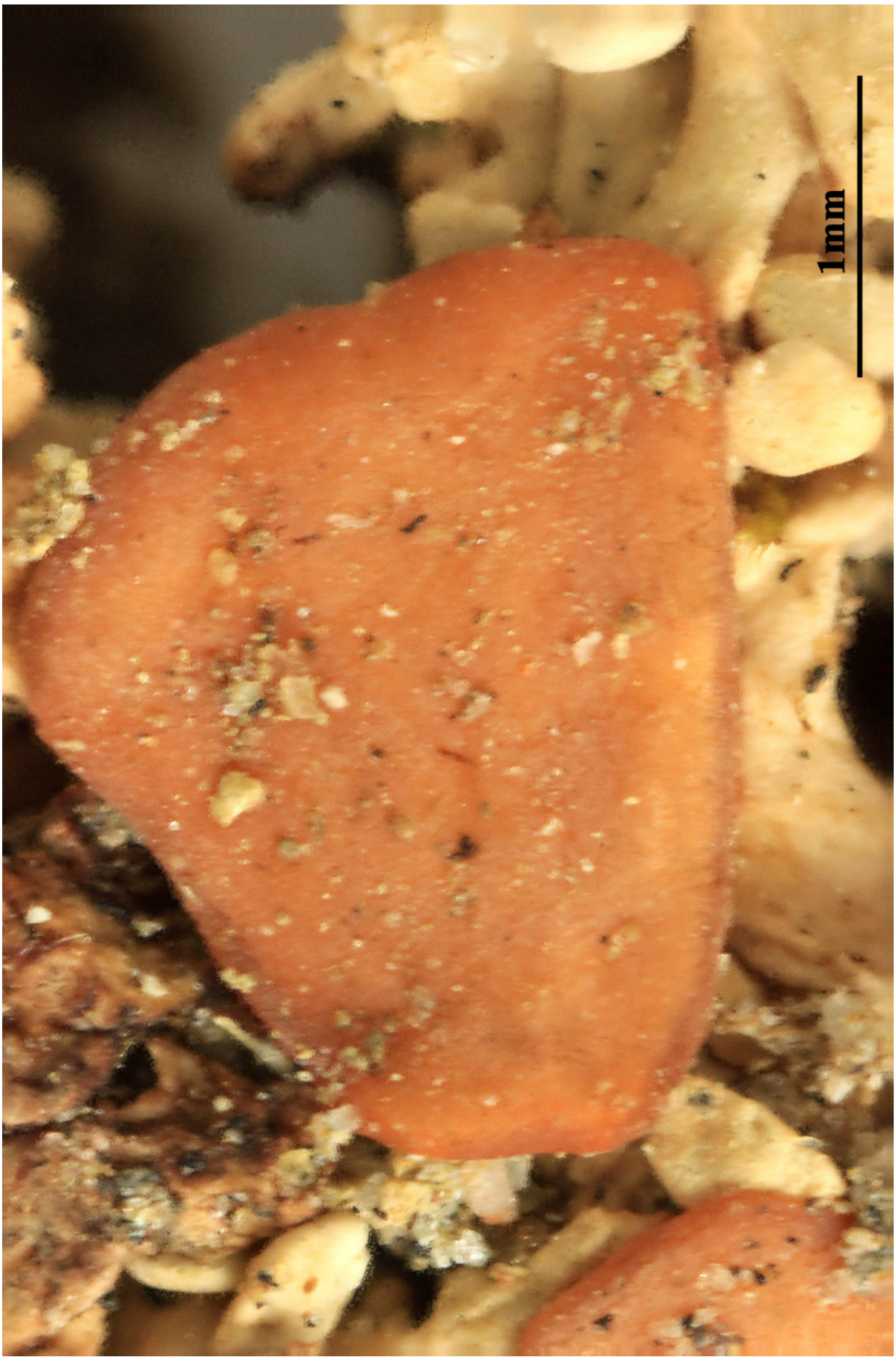
Baeomyces imbricatus Hook., in Kunth, Syn. pl. (Paris) 1: 33 (1822)
= *Phyllobaeis imbricata* (Hook.) Kalb & Gierl, in Gierl & Kalb, Herzogia 9(3-4): 610 (1993)
= *Ludovicia imbricata* (Hook.) Trevis., Revta Period. Lav. Regia Accad. Sci., Padova 5: 71 (1857)
= *Tubercularia imbricata* (Hook.) Kuntze, Revis. gen. pl. (Leipzig) 2: 877 (1891)

[VZ2088], Venezuela. Estado Tachira: Pregonero, El Portachuelo, 2350 m. Ad terran secus viam. Leg. M. Lopez-Figueiras (no. 32489). Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 2088.

Primary thallus squamules much longer than wide and deeply lobed; mostly above 3000 m. Chemie: Norstictinsäure (major), Connorstictin-säure (minor), Gyrophorsäure (major), Lecanorsäure (trace) (anal. Gierl, by TLC).



Baeomyces imbricatus



Baeomyces imbricatus

Baeomyces placophyllus Ach., Methodus, Sectio post. (Stockholmiæ): 323 (1803)
= *Biatora placophylla* (Ach.) Fr., Lich. eur. reform. (Lund): 257 (1831)
= *Lecidea placophylla* (Ach.) Link, Grundr. Krauterk. 3: 200 (1833)
= *Lichen placophyllus* (Ach.) Lam., Encycl. Méth., Bot. Suppl. (Paris) 3(1): 367 (1813)
= *Ludovicia placophylla* (Ach.) Trevis., Revta Period. Lav. Regia Accad. Sci., Padova 5: 71 (1857)
= *Patellaria placophylla* (Ach.) Spreng., Syst. veg., Edn 16 4(1): 269 (1827)
= *Sphyridium placophyllum* (Ach.) Th. Fr., Nova Acta R. Soc. Scient. upsal., Ser. 3 3: 277 (1861) [1860]
= *Tubercularia placophylla* (Ach.) Kuntze, Revis. gen. pl. (Leipzig) 2: 877 (1891)

[VZ2044], Germania. Baden-Baden. Silva nigra, in valle rivi Scwarzenbach, prope Herrenwies, 700 m. Ad terram macram. Leg. H. Schindler, 19.6.1983. *Ex A. Vězda: Lichenes Selecti Rxsiccati Nr. 2044.*

Primary thallus crustose-placodioid, well-delimited, glaucous grey-green to brownish, turning bright green when wet, thick, forming up to 12 cm wide rosettes, the central parts subsquamulose, often covered in peltate, light-coloured, fragile, up to 0.6 mm wide schizidia leaving shallow scars when they fall off, the margins with radiating, up to 6 mm broad, flattened, contiguous, lobes which are often raised at tips. Apothecia frequent, biatorine, emarginate, with an ochraceous to reddish brown, flat, oftem narginally reflexed disc, up to 4(-5) mm across, terminal on furrowed, subfruticose, solid, up to 6 mm tall and to 2 mm thick stipes which are corticate and sometimes microsquamulose in lower part. Epithecium yellowish brown, C+ red; hymenium colourless, 70-120(-150) µm high, K/I-; paraphyses 2-2.5 µm thick at mid-level, slender, simple or sparingly branched towards the tips, not anastomosing, the apical cell c. 3 µm wide; hypothecium pale. Asci 8-spored, cylindrical, thin-walled, the apex truncated, with a single functional wall layer, with a poorly differentiated, non-amyloid tholus. Ascospores 1(-2)-celled, hyaline, fusiform, 8-14(-16) x (2-)3-4(-5.5) µm. Photobiont chlorococcoid. Spot tests: thallus K+ yellow, C-, KC+ orange, P+ orange, UV+ pale yellow; mature apothecia C+ red. Chemistry: thallus with the stictic acid complex, incl. traces of norstictic acid and an unidentified substance; gyrophoric and lecanoric acids in mature apothecia. - Note: an arctic-alpine to boreal-montane, probably circumpolar lichen found on sandy-clay soil in open stands (e.g. montane-subalpine grasslands), often in moderately disturbed habitats.

Baeomyces placophyllus

Baeomyces placophyllus

Baeomyces placophyllus Ach., Methodus, Sectio post. (Stockholmiæ): 323 (1803)
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= *Lecidea placophylla* (Ach.) Link, Grundr. Krauterk. 3: 200 (1833)
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= *Ludovicia placophylla* (Ach.) Trevis., Revta Period. Lav. Regia Accad. Sci., Padova 5: 71 (1857)
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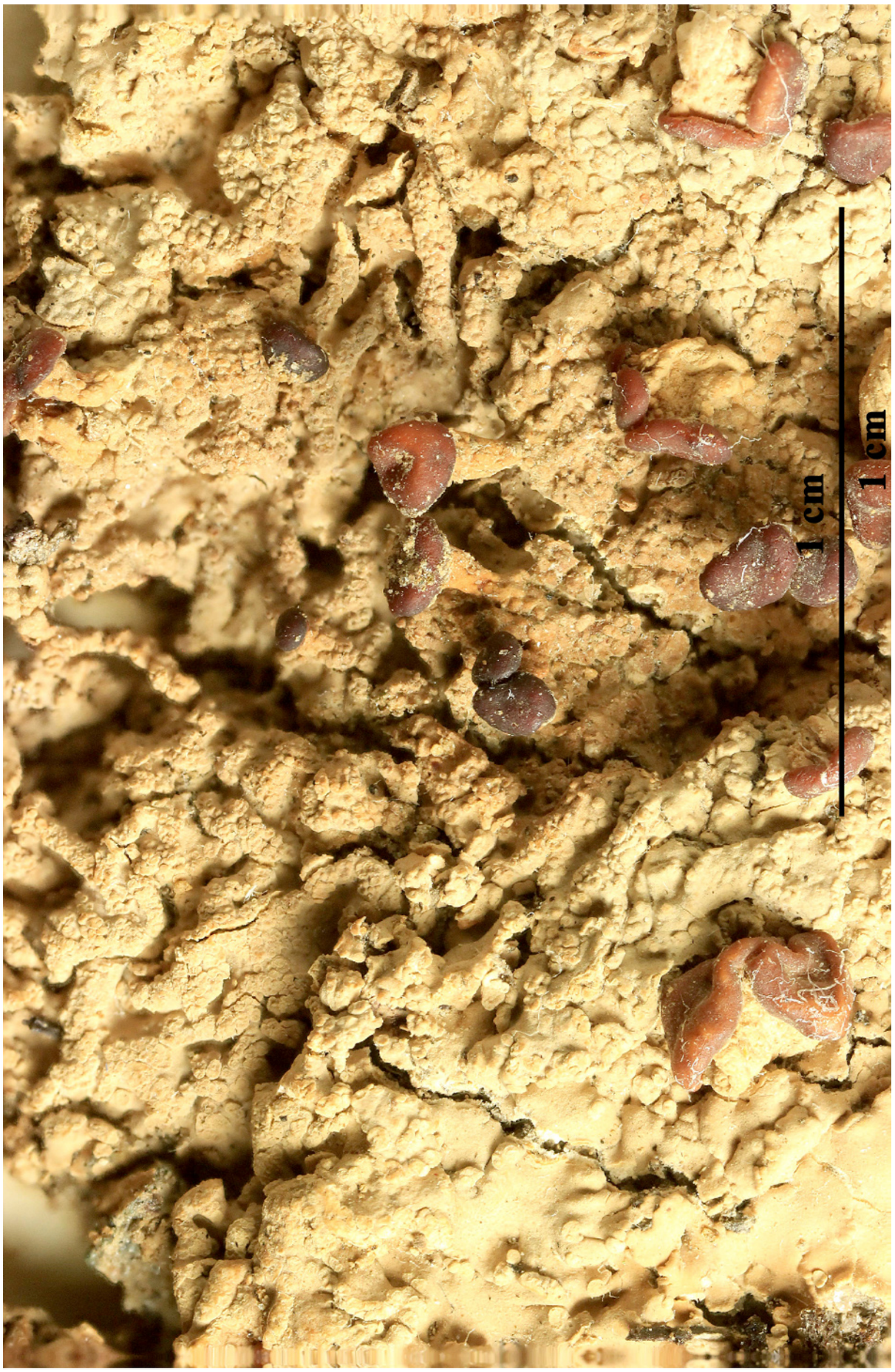
= *Tubercularia placophylla* (Ach.) Kuntze, Revis. gen. pl. (Leipzig) 2: 877 (1891)

[VZ1711], Suecia. Värmland: Dalby, Digerfallet, 230 m. Ad terram macram. Leg. S. W. Sundell (13407). *Ex A. Vězda: Lichenes Selecti Exsiccati Nr. 1711.*

Primary thallus crustose-placodioid, well-delimited, glaucous grey-green to brownish, turning bright green when wet, thick, forming up to 12 cm wide rosettes, the central parts subsquamulose, often covered in peltate, light-coloured, fragile, up to 0.6 mm wide schizidia leaving shallow scars when they fall off, the margins with radiating, up to 6 mm broad, flattened, contiguous, lobes which are often raised at tips. Apothecia frequent, biatorine, emarginate, with an ochraceous to reddish brown, flat, oftem narginally reflexed disc, up to 4(-5) mm across, terminal on furrowed, subfruticose, solid, up to 6 mm tall and to 2 mm thick stipes which are corticate and sometimes microsquamulose in lower part. Epithecium yellowish brown, C+ red; hymenium colourless, 70-120(-150) µm high, K/I-; paraphyses 2-2.5 µm thick at mid-level, slender, simple or sparingly branched towards the tips, not anastomosing, the apical cell c. 3 µm wide; hypothecium pale. Asci 8-spored, cylindrical, thin-walled, the apex truncated, with a single functional wall layer, with a poorly differentiated, non-amyloid tholus. Ascospores 1(-2)-celled, hyaline, fusiform, 8-14(-16) x (2-)3-4(-5.5) µm. Photobiont chlorococcoid. Spot tests: thallus K+ yellow, C-, KC+ orange, P+ orange, UV+ pale yellow; mature apothecia C+ red. Chemistry: thallus with the stictic acid complex, incl. traces of norstictic acid and an unidentified substance; gyrophoric and lecanoric acids in mature apothecia. - Note: an arctic-alpine to boreal-montane, probably circumpolar lichen found on sandy-clay soil in open stands (e.g. montane-subalpine grasslands), often in moderately disturbed habitats.



Baeomyces placophyllus

Baeomyces placophyllus

Brigantiaea leucoxantha (Spreng.) R. Sant. & Hafellner, in Hafellner & Bellemère, Nova Hedwigia 35(2 & 3): 246 (1982) [1981]

= *Biatora leucoxantha* (Spreng.) Bél., Voy. Indes Or., Bot. 2(Cryptog.): 128 (1834)

= *Heterothecium leucoxanthum* (Spreng.) A. Massal., Miscell. Lichenol.: 39 (1856)

= *Lecanora leucoxantha* (Spreng.) Cromb., J. Linn. Soc., Bot. 15: 437 (1876) [1877]

= *Lecidea leucoxantha* Spreng., K. svenska Vetensk-Akad. Handl., ser. 3 41: 46 (1820)

= *Lopadium leucoxanthum* (Spreng.) Zahlbr., Sber. Akad. Wiss. Wien, Math.-naturw. Kl., Abt. 1 111: 398 (1902)

= *Miltidea leucoxantha* (Spreng.) Stirt., Trans. Proc. N.Z. Inst. 30: 387 (1898) [1897]

= *Patellaria leucoxantha* (Spreng.) Spreng., Syst. veg., Edn 16 4(1): 267 (1827)

= *Sporopodium leucoxanthum* (Spreng.) Vain., Ann. Acad. Sci. Fenn., Ser. A 15(no. 6): 88 (1921)

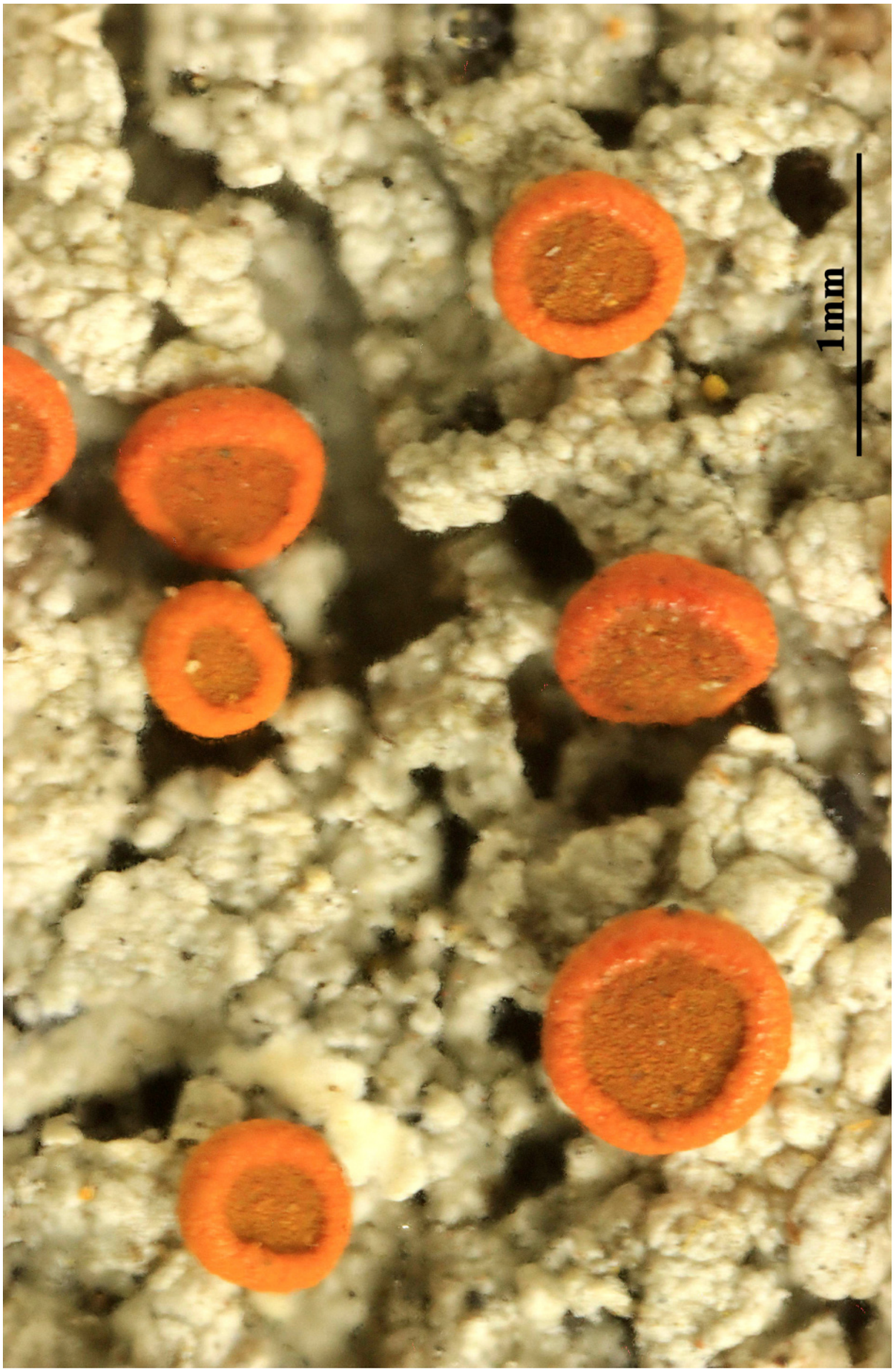
= *Xanthocarpia leucoxantha* (Spreng.) Hampe, in Müller, Bot. Ztg. 15: 386 (1857)

[VZ1888], USA. Florida. Columbia County: O'Leno State Park. Ad corticem *Lyoniae ferrugineae*. Leg. B. J. Moore (no. 1285), 12.5.1964, det. J. Hafellner. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1888.

Thallus whitish, greyish to slightly greenish, thin, effuse, spreading, rarely with diffuse patchy soralia. Apothecia common and dispersed over the thallus, sessile, basally constricted, up to 2 mm in diam.; disc flat, vivid orange, often with yelloworange pruina; margin prominent, rather fragile, vivid orange. Exciple biatorine, cortical layer deeply penetrated by orange crystals, medullary layer hyaline or indistinct. Hymenium hyaline, clear, 120-150 µm. Hypothecium hyaline to slightly brownish. Asci single-spored, 85-110 x 30-45 µm. Paraphyses with few ramifications and anastomoses, ¢. 1.5-2 µm thick; tips slightly enlarged and encrusted with anthraquinone crystals. Ascospores hyaline, muriform, ellipsoid to oblong, 65-105 x 22-40 µm. Spore-borne microconidia frequently observed. Pycnidia globose to ovate, 50-100 µm in diam., of the Umbilicariatype. Conidiophores consisting of branched rows of cells with intercalar and terminal conidiogenous cells. Pycnoconidia produced on indistinct protrusions near the upper septa,

bacilliform to subfusiform, 3-4 x 1 µm. Chemistry: Thallus K+ yellow, C-, P-; Apothecia K+ purple-red. Apothecial sections: exciple and epihymenium K+ purple-red. TLC: thalline substances: atranorin, zeorin, sometimes with further terpenoids; apothecial substances: unidentified anthraquinones. - *B. leucoxantha* is widely distributed in tropical and subtropical regions of Africa and the Americas, while it seems extremely rare in Asia, where it is commonly replaced by *B. tricolor*. So most of the previous records from Papua New Guinea (e.g. Aptroot & Sipman 1991: 221) refer to that species. The species mostly grows corticolous where it is sometimes spreading over bark-inhabiting bryophytes. Rarely it is also found on wood and exceptionally even on rock. The following phorophytes were mentioned on the labels: *Acer rubrum*, *Avicennia* spec., *Bersama* spec., *Carpinus* spec., - Note: The colour of both thallus and apothecia is rather variable. As the anthraquinone crystals deeply penetrate the exciple, apothecia damaged by grazing or other reasons show an orange interior. This is an almost distinct feature of *B. leucoxantha*. The taxonomic value of patchy soralia is little understood and is here regarded of minor importance. Similar soralia occur also in other species, e.g. *B. tricolor*. Sorediate thalli always bear apothecia at the same time. According to the late J. Poelt who made field observations on this topic, the formation of soralia may be a response to disturbed habitats.

Brigantiaea leucoxantha



Brigantiaea leucoxantha

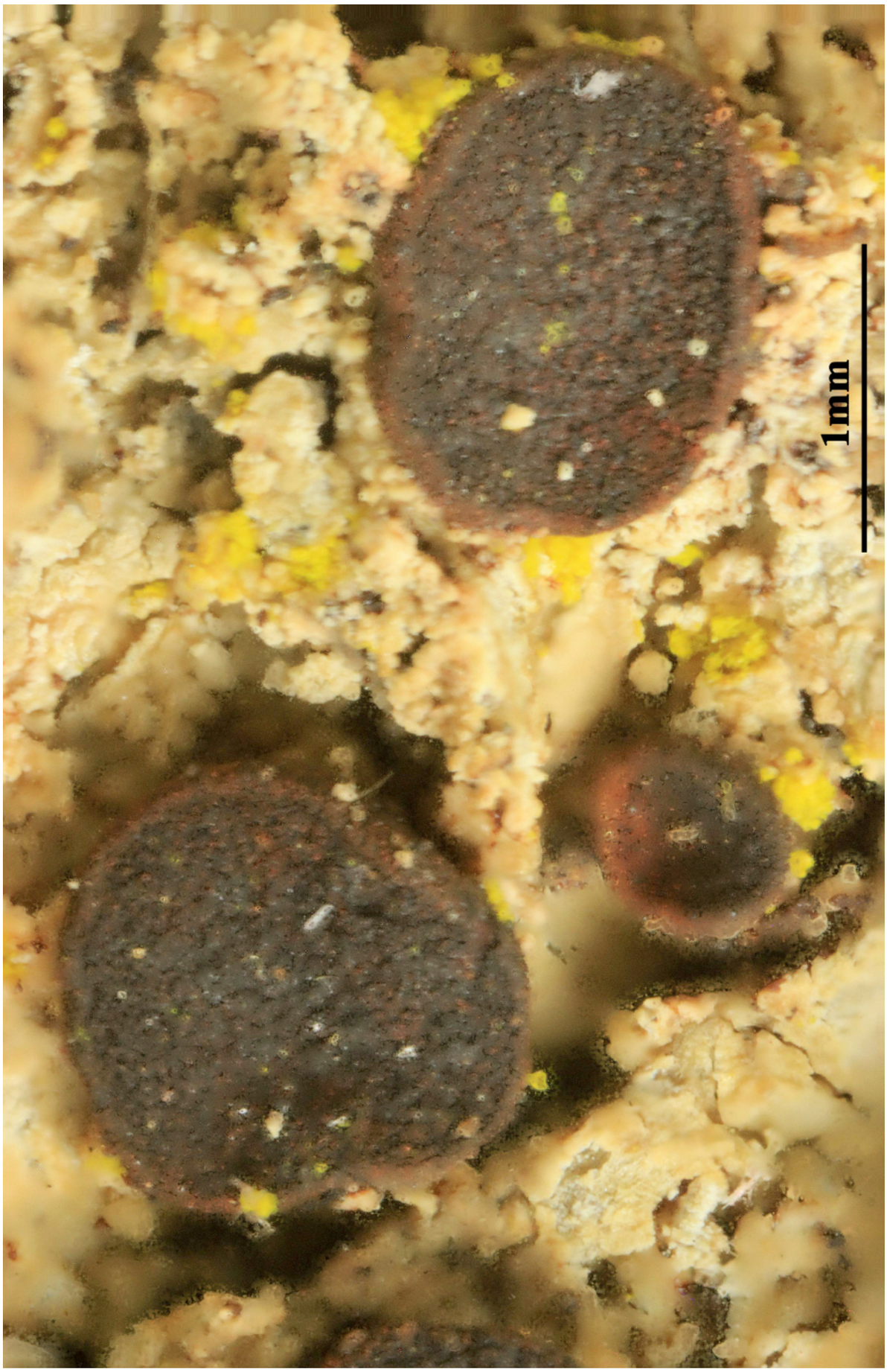
Brigantiaea leucoxantha

Brigantiaea lobulata F.J. Walker & Hafellner, in Hafellner, Lichenologist 15(3): 263 (1983)

[VZ2278], Nova Zelandia, Otago: reservatum naturae Fiordland National Park dictum, Eglington Valley, secus viam loco dicto Eglington prope Eglington Flat, 410 m. Ad corticem arboris. Leg. H. Mayrhofere et H. Hertel, 6.11.1986, det. J. Hafellner. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 2278.

Thallus greenish-grey to grey-white, matt, thin, covered with small, suberect (ascending) somewhat flattened lobules, thallus spreading, to 10 cm diam., corticolous. Apothecia usually present, to 2 mm diam., sessile, constricted at base, plane to somewhat convex, distinctly marginate, disc and margins concolorous, rust-brown or blackish with rust-brown granular pruina. Excipulum biatorine. Hypothecium colourless to brownish. Hymenium colourless 150-200 µm tall, covered with brown anthraquinone crystals. Asci and paraphyses as in genus description. Ascospores 1 per ascus, colourless, muriform, ellipsoid, 80-120 × 25-45 µm.

Brigantiaea lobulata



Brigantiaea lobulata

Bryoria capillaris (Ach.) Brodo & D. Hawksw., Op. bot. 42: 115 (1977)
= *Alectoria cana* (Ach.) Leight., Lich.-Fl. Great Brit.: 88 (1871)
= *Alectoria capillaris* (Ach.) Cromb., J. Bot., Lond. 9: 177 (1871)
= *Alectoria implexa* var. *cana* (Ach.) Flagey, Mém. Soc. ému. Doubs, sér. 5 7: 353 (1882)
= Alectoria implexa *var*. capillaris (Ach.) Stizenb., Annln K. K. naturh. Hofmus. Wien 7: 131 (1892)
= *Alectoria jubata* [unranked] *cana* Ach., Lich. Univ.: 593 (1810)
= *Alectoria jubata* f. *cana* (Ach.) Linds., Proc. Linn. Soc. London 9: 375 (1867)
= *Alectoria jubata* var. *capillaris* (Ach.) Ach., Lich. Univ.: 593 (1810)
= *Bryopogon canus* (Ach.) M. Choisy, Icon. Lich. Univ., fasc. 2 (Lyon): 13 (1930)
= *Bryopogon implexus* f. *canus* (Ach.) Savicz ex Rass., Trav. Mus. Bot. Acad. Sc. URSS. 22: 246 (1930)
= *Bryopogon implexus* f. *capillaris* (Ach.) Gyeln., Feddes Repert. Spec. Nov. Regni veg. 38: 242 (1935)
= *Bryopogon implexus* var. *capillaris* (Ach.) M. Choisy, Bull. mens. Soc. linn. Soc. Bot. Lyon 21: 171 (1952)
= *Bryopogon jubatus* f. *canus* (Ach.) Körb. [as 'canum'], Syst. lich. germ. (Breslau): 5 (1855)
= *Bryopogon jubatus* f. *capillare* (Ach.) Körb., Syst. lich. germ. (Breslau): 5 (1855)
= *Bryopogon jubatus* var. *canum* (Ach.) Arnold, Flora, Regensburg 51(33): 520 (1868)
= *Bryopogon jubatus* var. *capillaris* (Ach.) Rabenh., Krypt.-Fl. Sachsen, Abth. 2 (Breslau): 382 (1870)
= *Cornicularia jubata* var. *cana* (Ach.) Schaer., Enum. critic. lich. europ. (Bern): 5 (1850)
= *Cornicularia jubata* var. *capillaris* (Ach.) Duby, Bot. Gall., Edn 2 (Paris) 2: 616 (1830)
= *Parmelia jubata* var. *cana* (Ach.) Schaer., Lich. helv. spicil. 10: 503 (1840)
= *Parmelia jubata* ß *capillaris* Ach., Methodus, Sectio post. (Stockholmiæ): 273 (1803)

[VZ1935], Italia. Trentino, prov. Merano, Venosta Alta: 1 km ad orientem versus a Gomagoi, 1600 m. Ad ramulos arborum (*Picea abies*). Leg. H. T. Lumbsch, 11.5.1983. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1935.

Thallus fruticose, filamentous, attached by a basal holdfast, long-pendent, soft, to 30 cm long, whitish grey to brownish grey, very rarely dark brown in sun-exposed morphs, usually without a main branch, irregularly branching with acute angles, the branches terete to flattened at axils, to 0.5 mm thick. Soralia absent to usually abundant, small, tuberculate, with farinose soredia. Pseudocyphellae sparse, fusiform, usually inconspicuous; medulla white, compact. Apothecia extremely rare (never observed in Italian material), zeorine, with a brown disc, to 1-2 mm across. Asci 8-spored, Lecanora-type. Ascospores 1-celled, hyaline, subglobose to ellipsoid, 5-9 x 4-6 µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K+ yellow, C+ red or C-, KC+ red, P+ yellow; soralia P+ red; apothecia P+ yellow. Chemistry: barbatolic acid, sometimes alectorialic acid and atranorin in cortex; fumarprotocetraric acid in soralia; psoromic acid in apothecia. - Note: a temperate to boreal-montane, circumpolar lichen, with optimum in montane humid *Fagus-Abies* forests, mostly on twigs, but also on boles of isolated trees in areas with frequent fog.

Bryoria capillaris

Bryoria capillaris

Bryoria capillaris

Bryoria capillaris (Ach.) Brodo & D. Hawksw., Op. bot. 42: 115 (1977)
= *Alectoria cana* (Ach.) Leight., Lich.-Fl. Great Brit.: 88 (1871)
= *Alectoria capillaris* (Ach.) Cromb., J. Bot., Lond. 9: 177 (1871)
= *Alectoria implexa* var. *cana* (Ach.) Flagey, Mém. Soc. ému. Doubs, sér. 5 7: 353 (1882)
= Alectoria implexa *var*. capillaris (Ach.) Stizenb., Annln K. K. naturh. Hofmus. Wien 7: 131 (1892)
= *Alectoria jubata* [unranked] *cana* Ach., Lich. Univ.: 593 (1810)
= *Alectoria jubata* f. *cana* (Ach.) Linds., Proc. Linn. Soc. London 9: 375 (1867)
= *Alectoria jubata* var. *capillaris* (Ach.) Ach., Lich. Univ.: 593 (1810)
= *Bryopogon canus* (Ach.) M. Choisy, Icon. Lich. Univ., fasc. 2 (Lyon): 13 (1930)
= *Bryopogon implexus* f. *canus* (Ach.) Savicz ex Rass., Trav. Mus. Bot. Acad. Sc. URSS. 22: 246 (1930)
= *Bryopogon implexus* f. *capillaris* (Ach.) Gyeln., Feddes Repert. Spec. Nov. Regni veg. 38: 242 (1935)
= *Bryopogon implexus* var. *capillaris* (Ach.) M. Choisy, Bull. mens. Soc. linn. Soc. Bot. Lyon 21: 171 (1952)
= *Bryopogon jubatus* f. *canus* (Ach.) Körb. [as 'canum'], Syst. lich. germ. (Breslau): 5 (1855)
= *Bryopogon jubatus* f. *capillare* (Ach.) Körb., Syst. lich. germ. (Breslau): 5 (1855)
= *Bryopogon jubatus* var. *canum* (Ach.) Arnold, Flora, Regensburg 51(33): 520 (1868)
= *Bryopogon jubatus* var. *capillaris* (Ach.) Rabenh., Krypt.-Fl. Sachsen, Abth. 2 (Breslau): 382 (1870)
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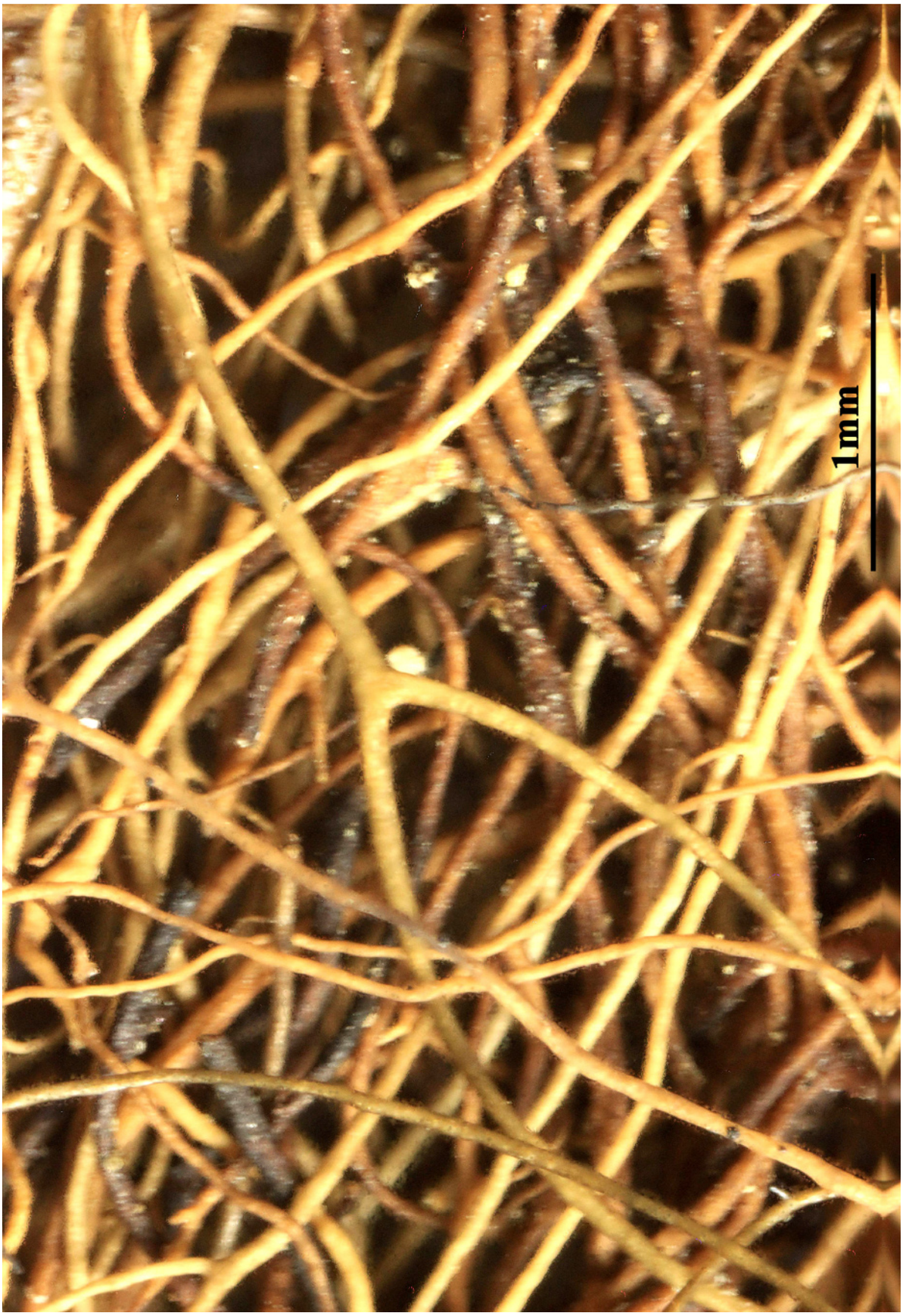
= *Cornicularia jubata* var. *capillaris* (Ach.) Duby, Bot. Gall., Edn 2 (Paris) 2: 616 (1830)
= *Parmelia jubata* var. *cana* (Ach.) Schaer., Lich. helv. spicil. 10: 503 (1840)
= *Parmelia jubata* ß *capillaris* Ach., Methodus, Sectio post. (Stockholmiæ): 273 (1803)

[VZ2383], USA. Washington. Clallam County: in silva Olympic National Forest, in declivitate meridionali et occidentali jugi dicti Hurricane Ridge. Ad ramulos *Abietis* sp. . Leg. C. F. Culberson, 3.9.1969. - Annot: Barbatolic acid, alectoroalic acid (trace), and haematommic acid by TLC, anal. A. Johnson and C. F. Culberson. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 2383.

Thallus fruticose, filamentous, attached by a basal holdfast, long-pendent, soft, to 30 cm long, whitish grey to brownish grey, very rarely dark brown in sun-exposed morphs, usually without a main branch, irregularly branching with acute angles, the branches terete to flattened at axils, to 0.5 mm thick. Soralia absent to usually abundant, small, tuberculate, with farinose soredia. Pseudocyphellae sparse, fusiform, usually inconspicuous; medulla white, compact. Apothecia extremely rare (never observed in Italian material), zeorine, with a brown disc, to 1-2 mm across. Asci 8-spored, Lecanora-type. Ascospores 1-celled, hyaline, subglobose to ellipsoid, 5-9 x 4-6 µm. Photobiont chlorococcoid. Spot tests: cortex and medulla K+ yellow, C+ red or C-, KC+ red, P+ yellow; soralia P+ red; apothecia P+ yellow. Chemistry: barbatolic acid, sometimes alectorialic acid and atranorin in cortex; fumarprotocetraric acid in soralia; psoromic acid in apothecia. - Note: a temperate to boreal-montane, circumpolar lichen, with optimum in montane humid *Fagus-Abies* forests, mostly on twigs, but also on boles of isolated trees in areas with frequent fog.

Bryoria capillaris

Bryoria capillaris



Bryoria capillaris

Bryoria furcellata (Fr.) Brodo & D. Hawksw., Op. bot. 42: 103 (1977)
= *Alectoria chalybeiformis* f. *nidulifera* (Norrl. ex Nyl.) G. Merr., Bryologist 14: 37 (1911)
= *Alectoria nidulifera* Norrl. ex Nyl., Flora, Regensburg 58(1): 8 (1875)
= *Alectoria simplicior* var. *alba* Gyeln., Nytt Mag. Natur. 70: 62 (1932)
= *Bryopogon nidulifer* (Norrl. ex Nyl.) Elenkin, Lich. Fl. Ross. Med. 1: 84 (1906)
= *Bryopogon nidulifer* f. *albus* (Gyeln.) Gyeln., Tisia 2: 166 (1937)
= *Bryopogon nidulifer* f. *compactus* Gyeln., Tisia 2: 166 (1937)
= *Bryopogon nidulifer* f. *isidialus* Gyeln., Tisia 2: 166 (1937)
= *Bryopogon simplicior* f. *albus* (Gyeln.) Gyeln., Feddes Repert. Spec. Nov. Regni veg. 38: 234 (1935)
= *Cetraria furcellata* Fr., Syst. orb. veg. (Lundae): 283 (1825)
= *Evernia furcellata* (Fr.) Mont., in Sagra, Hist. phys. Cuba, Bot. Pl. Cell. 9: 152 (1845)
= *Ramalina furcellata* (Fr.) Zahlbr., Cat. Lich. Univers. 6: 489 (1930)

[VZ1977], Mexico. Durango, 3.5 km ad orientem a Las Adjuntas, 11 km ad occidentem ab El Salto. Ad corticem *Pini* sp. in pineta. Leg. R. Ornduff, 24.12.1978, det. W. L. Culberson. -Annot: Atranorin, fumarprotocetraric acid (trace), and a trace of unidentified compound by TLC, anal. by A. Johnson et F. C. Culberson. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1695.

Thallus caespitose. usually 3-5(-12) cm long;-branching regularly isotomic dichotomous, angles between the basal dichotomies usually broad, those between the apical dichotomies usually acute; branches even in diameter, sometimes becoming slightly compressed towards the base, 0.3-0.4(-0.5) mm diam.; very pale brown to cervine brown or rarely dark brown to black, often darker towards the base; base persistent. Short perpendicular lateral spinulose branches sometimes present, occasionally abundant. Pseudocyphellae absent. Soralia usually abundant, fissurai, sometimes slightly raised, narrower than the branches on which they occur, white. 0.3-1.0 mm long, becoming covered with tufts of isidiiform spinules 0.5-2.5 mm long. Apothecia very rare, lateral; excipulum thallinum concolourous with the thallus, thick, usually becoming sorediate; disc concave at first but becoming convex and excluding the margin with age, light brown to reddish brown, 0.8-2.0(-4.0) mm diam. Spores 8 per ascus, subglobose, hyaline, simple, 6-7 x 3-4 µm. Outermost portion of cortex K-, C-, KC-, P- ; inner cortex and

medulla K-, C-, KC-, P+ red or very rarely P- ; soralia K-, C-, KC-, P+ red. Contains fumarprotocetraric acid. Ecology. Mainly on coniferous trees but also found especially *Pinus* spp. and *Picea mariana*, but also found on rock faces, boulders, coastal heaths (especially in Newfoundland, lignum (especially fence rails), and rarely, soil. In northeastern United States, it is feequently associated with bogs and pine stands. In the southeastern United States, it seems to be largely restricted to pine forests at high elevations. - *Bryoria furcellata* is the most widespread species.

Bryoria furcellata

Bryoria furcellata

Bryoria furcellata

Bryoria nitidula (Th. Fr.) Brodo & D. Hawksw., Op. bot. 42: 107 (1977)
= *Alectoria bicolor* var. *nitidula* (Th. Fr.) Du Rietz, Ark. Bot. 20A(no. 11): 17 (1926)
= *Alectoria jubata* var. *nitidula* (Th. Fr.) Th. Fr., Lich. Scand. (Upsaliae)(1): 25 (1871)
= *Alectoria nitidula* (Th. Fr.) Vain., Meddn Soc. Fauna Flora fenn. 6: 116 (1881)
= *Bryopogon bicolor* var. *nitidulus* (Th. Fr.) Gyeln., Feddes Repert. Spec. Nov. Regni veg. 38: 237 (1935)
= *Bryopogon jubatus* var. *nitidulus* Th. Fr., Nova Acta R. Soc. Scient. upsal., Ser. 3 3: 125 (1861) [1860]
= *Bryopogon nitidulus* (Th. Fr.) Savicz & Elenkin, Trud. Student. Nautsch. fis.-mat. fak. Univers. Jurjew. 3: 40 (1911)

[VZ1864], Groenlandia. Disko: Diskofjord, 50 m. Ad terram in caespitibus plantarum (*Carex nordia, C. ruoestris*, etc.) locis ventosis. Leg. J. Poelt et H. Ullrich, 3.8.1982. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1864.

Thallus erect to decumbent, 5-8 cm tall; branching isotomic dichotomous at the base, becoming anisotomic dichotomous towards the apices, angles between the dichotomies mainly acute; branches even in diameter, straight, 0.5-0.6(-0.8) mm diam.; cervine brown to dark brown or black, usually concolourous; dying Irom the base. Lateral spinules usually frequent, slightly constricted basally, arising over the whole lhallus. Pseudocyphellae usually present, sparse, inconspicuous to conspicuous, elongate fusiform, plane to slightly raised, c. 0.5 mm long, brownish to dark brown or black. Soralia absent. Apothecia and pycnidia unknown. Inner cortex and medulla K-, C- , KC-, P+ red at least in parts. Contains fumarprotocetraric acid. Ecology. On dry or wet tundra, or occasionally, in pine stands in the northern hemiarctic region; generally associated with rocks, especially non-calcareous rocks, although we have seen some specimens from calcareous tundra. - *B. nitidula* is circumpolar, but is of very scattered occurrence in northern Europe and Asia.

Bryoria nitidula

Bryoria nitidula

Buellia almeriensis Llimona, in Vězda, Lichenes Selecti Exsiccati, Fascicle 88 (nos 2176-2200) (Průhonice) 48: 7 (no. 1199) (1973)

[VZ1199], Hispania. Almeria. Cuevas de los Medinas. In collibus gypsacis. Supra crustam gypsaceam locis subhorizontalibus valde apricis. Leg. X. Llimona, 31.12.1972. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1199.

Thallus pro maxime parte endolithicus, haud visibilis. Apothecia primum sessilis mox peltata substipataque, usque ad 1.5 mm lata, nigra, margine crasso, pruinoso, disco plano vel leviter convexo, subpruinoso vel nudo. Sporae bicellulares, 13-18 x 5.5-6.5 µm. Ab aliis speciebus iam apotheciis peltatis substipitatisque bene distincta.

Thallus crustose, endosubstratic or thinly episubstratic and then rimose, whitish. Medulla white, not amyloid, I-. Apothecia lecideine, black, 0.3-0.7 mm across, sessile and constricted at base, with a flat to slightly convex disc, and a thin, raised, usually persistent proper margin. Proper exciple up to 60 µm wide laterally, Leptocline-type, homogeneously dark brown, with an additional orange pigment reacting K+ reddish (solution), the inner part of long-celled, interwoven hyphae, the outer part of long-celled, parallel, strongly agglutinated and thick-walled hyphae; epithecium brown, N-; hymenium colourless or pale yellow in upper and lower parts, not inspersed with oil droplets, 90-100 µm high; paraphyses simple to sparingly branched, the apical cells swollen, with a dark cap; hypothecium dark brown. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 1-septate, not constricted at septum, brown, narrowly oblong, with obtuse ends, 13-18 x 5.5-6.5 µm, Buellia-type, thin-walled throughout, with a smooth wall. Pycnidia black, semi-immersed in the thallus. Conidia bacilliform, c. 5 µm long. Photobiont chlorococcoid. Spot tests: K+ yellow turning red, C-, KC-, P+ yellow-orange, UV-. Chemistry: atranorin, norstictic and connorstictic acid. - Note: a gypsicolous species known from the SE part of the Iberian Peninsula.

Buellia almeriensis

Buellia almeriensis

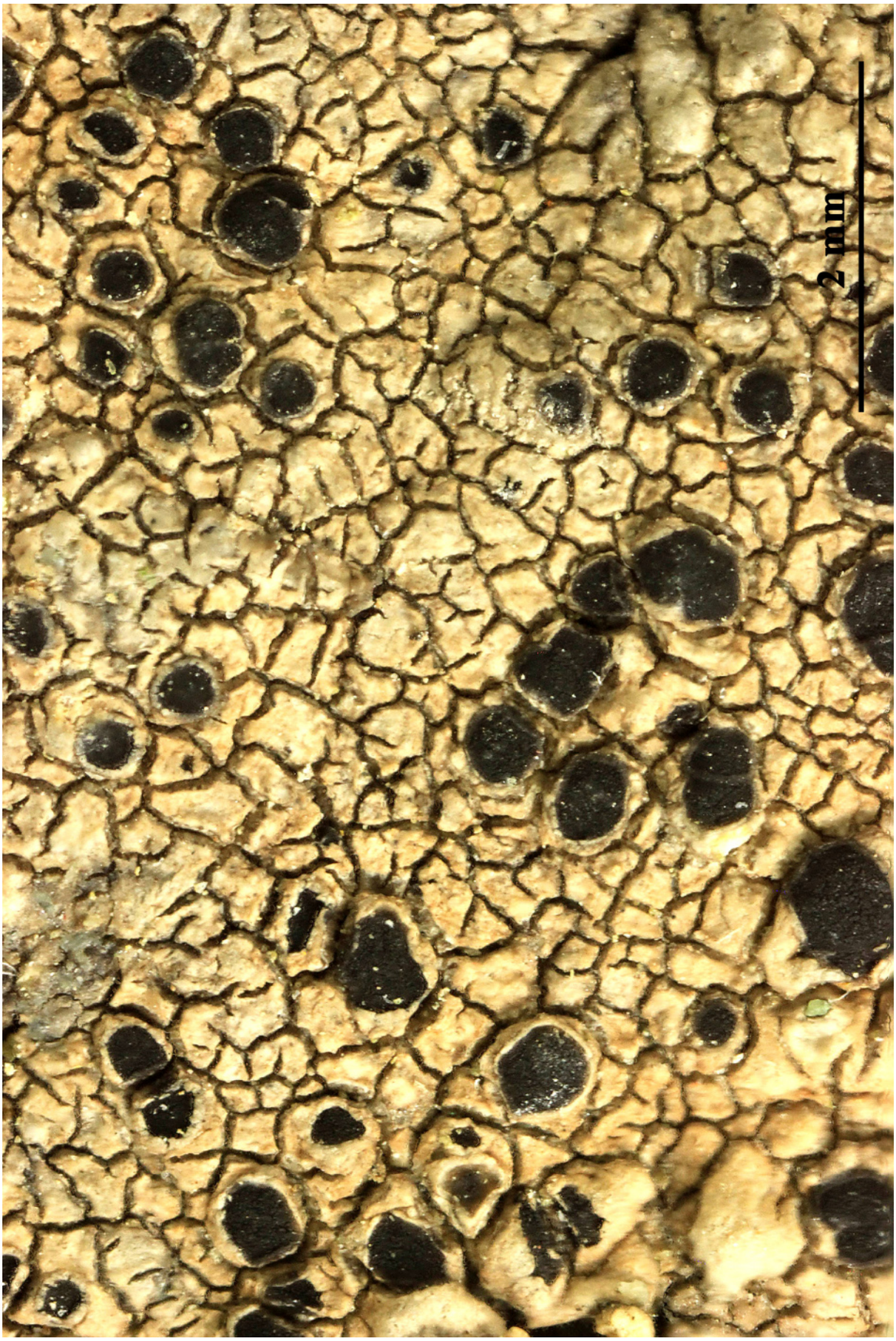
Buellia ambigua (Ach.) Malme
= *Abacina alboatra* (Hoffm.) Norman
= *Buellia alboatra* (Hoffm.) Th. Fr.
= *Buellia alboatra var. ambigua* (Ach.) Th. Fr.
= *Buellia alboatra var. subochracea* Zahlbr.
= *Buellia alboatra var. vulgata* Th. Fr.
= *Buellia alboatra var. zabotica* (Körb.) Th. Fr.
= *Buellia atromaculata* Sandst.
= *Buellia lainea* (Ach.) Clauzade & Ozenda
= *Buellia subochracea* (Zahlbr.) J. Steiner
= *Diplotomma ambiguum* (Ach.) Flagey
= *Diplotomma epipolium var. ambiguum* (Ach.) Arnold
= *Diplotomma heppianum* (Müll. Arg.) Arnold
= *Diplotomma subochraceum* (Zahlbr.) Szatala
= *Diplotomma tegulare* Körb.
= *Lecidea ambigua* Ach.
= *Lecidea heppiana* Müll. Arg.
= *Rhizocarpon alboatrum* (Hoffm.) Anzi
= *Rhizocarpon soreumidium* (Stirt.) A.L. Sm.

[VZ1366], Bulgaria. Pontus, distr. Burgas: in litore inter pagos Mičurin et Varvara, 3 m. Ad saxa silicea. Leg. A. Kiszely et A. Vězda. Ex A. VěZDA: LICHENES SELECTI EXSICCATI NR. 166.

Thallus crustose, episubstratic, pale grey, epruinose, forming up to 2 cm wide patches, smooth or rimose, without a distinct prothallus. Cortex colourless, indistinctly paraplectenchymatous; medulla white, I-. Apothecia lecideine, black, 0.2-1.3(-1.5) mm across, immersed to subsessile, with a flat to convex, often pruinose disc, a thin sometimes excluded proper margin, and sometimes a pseudothalline margin in young apothecia. Proper exciple thin, brown in outer part, colourless to pale brown in inner part, of radiating hyphae; epithecium brown; hymenium colourless, 45-75 µm high, K/I+ blue; paraphyses simple, c. 2 µm thick at mid-level, the apical cells slightly capitate, up to 3 µm wide; hypothecium brown. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, approaching the Bacidia-type. Ascospores at first 3-septate, then most often submuriform, brown, ellipsoid, sometimes slightly curved, thick-walled, (11-)13-20(-25) x (6-)8-10(-15) µm. Pycnidia rare, immersed, the

wall brown in upper part, colourless in lower part. Conidia ellipsoid. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. Note: a mild-temperate to southern boreal-montane lichen found on bark and on base-rich or slightly calciferous rocks, brick, roofing tiles etc., below the subalpine belt.

Buellia ambigua



Buellia ambigua

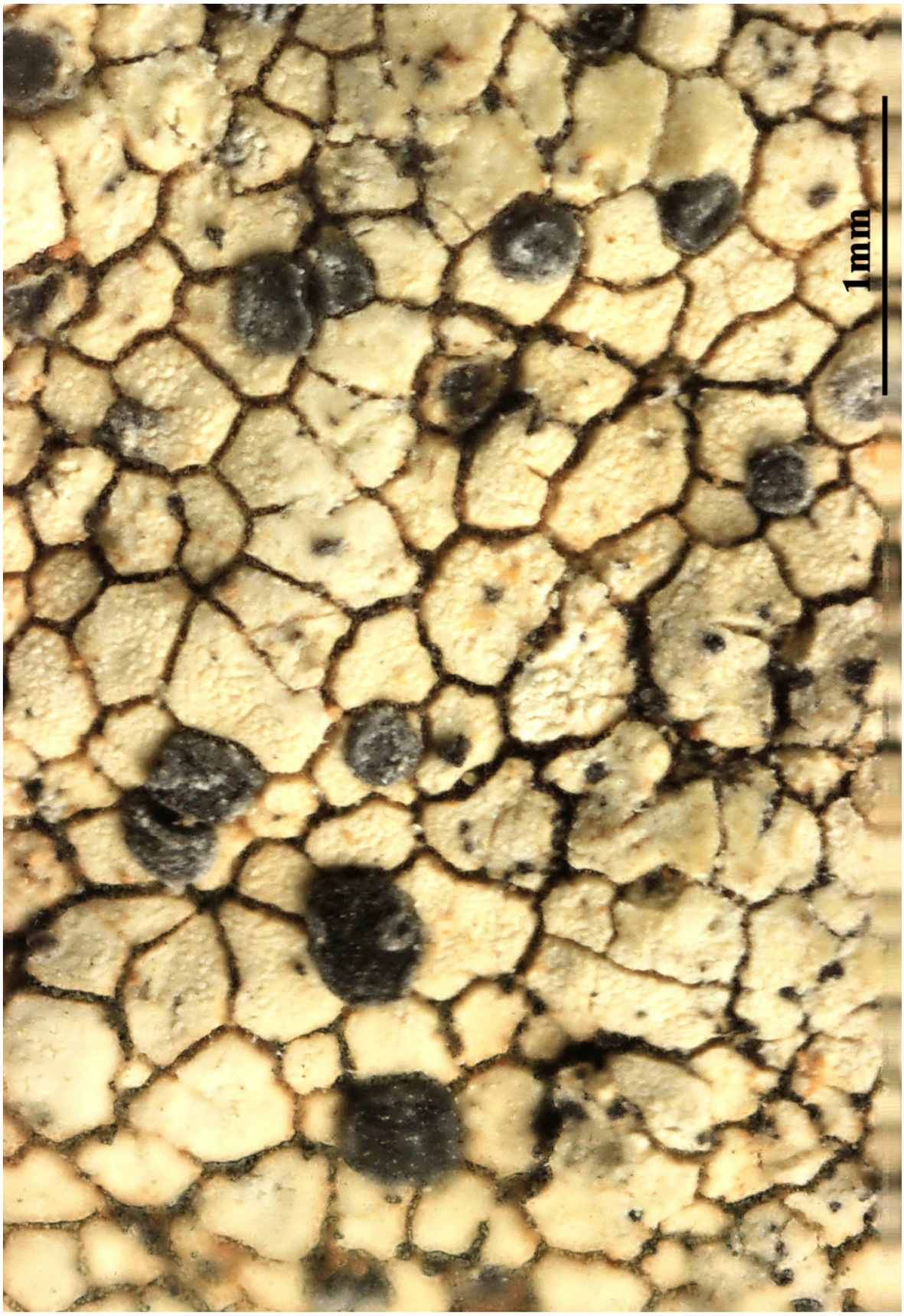
Buellia ambigua

Buellia cerussata Llimona & Werner, Acta Phytotax. Barcinon. 16: 18 (1975)
= *Buellia fimbriata* (Tuck.) Sheard
= *Rinodina radiata* var. *fimbriata* Tuck.

[VZ1325], Hispania. Almeria, Sierra del Cabo de Gata, loco El Mosul dicto, prope San José, 20 m. Ad saxa andesitica ad septentrionem paulum inclinata. Leg. X. Llimona, 20.11.1970. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1325 -ISOTYPUS.

Thallus crustose, areolate, white, pale bluish grey or rarely grey-brown, delimited by a black, fimbriate prothallus. Medulla I-. Apothecia lecideine or cryptolecanorine, 0.2-0.5 mm across, immersed in the areoles, with a black, often whitish-pruinose, flat to convex disc, and a thin, often finally excluded proper margin. Proper exciple poorly differentiated, Aethalea-type, the inner hyphae hyaline, prosoplectenchymatous, the outer hyphae parallel and usually strongly brown-pigmented, N-; epithecium brown, N-, with crystals soluble in K; hymenium colourless, not inspersed with oil droplets; paraphyses simple to sparingly branched, the apical cells swollen, to 6 µm wide, with a brown cap; hypothecium dark reddish brown. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 1-septate, not or slightly constricted at septum, brown, oblong to ellipsoid with obtuse ends, 9-12 x 4-6.5 µm, the wall with a distinctly regulate ornamentation, Buellia-type. Pycnidia infrequent, black. Conidia bacilliform, (6-)8-11 x c. 1 µm. Photobiont chlorococcoid. Spot tests: medulla K+ yellow-brown, rarely K+ red (crystals), C- or rarely C+ fleeting pink, KC-, rarely KC+ brownish orange or fleeting pink, P- or rarely P+ faintly yellow. Chemistry: atranorin and chloroatranorin, divaricatic, nordivaricatic, and 3-chlorodivaricatic acid, rarely also with norstictic, cryptostictic, and stictic acids. - Note: a xeric subtropical, widely distributed lichen of hard siliceous rocks, mostly near the coast; related to Dimelaena radiata.

Buellia cerussata



Buellia cerussata

Buellia dialyta (Nyl.) Tuck., Gen. lich. (Amherst): 187 (1872)
= *Lecidea dialyta* Nyl. 1869

[VZ1497], USA. Michigan. Cheboygan County: in faucibus Carp Creek prope University of Michigan Biological Station. Ad corticem *Tsugae canadensis*. Leg. R. C. Harris (no 9277), 1.8.1974. Ex A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1498.

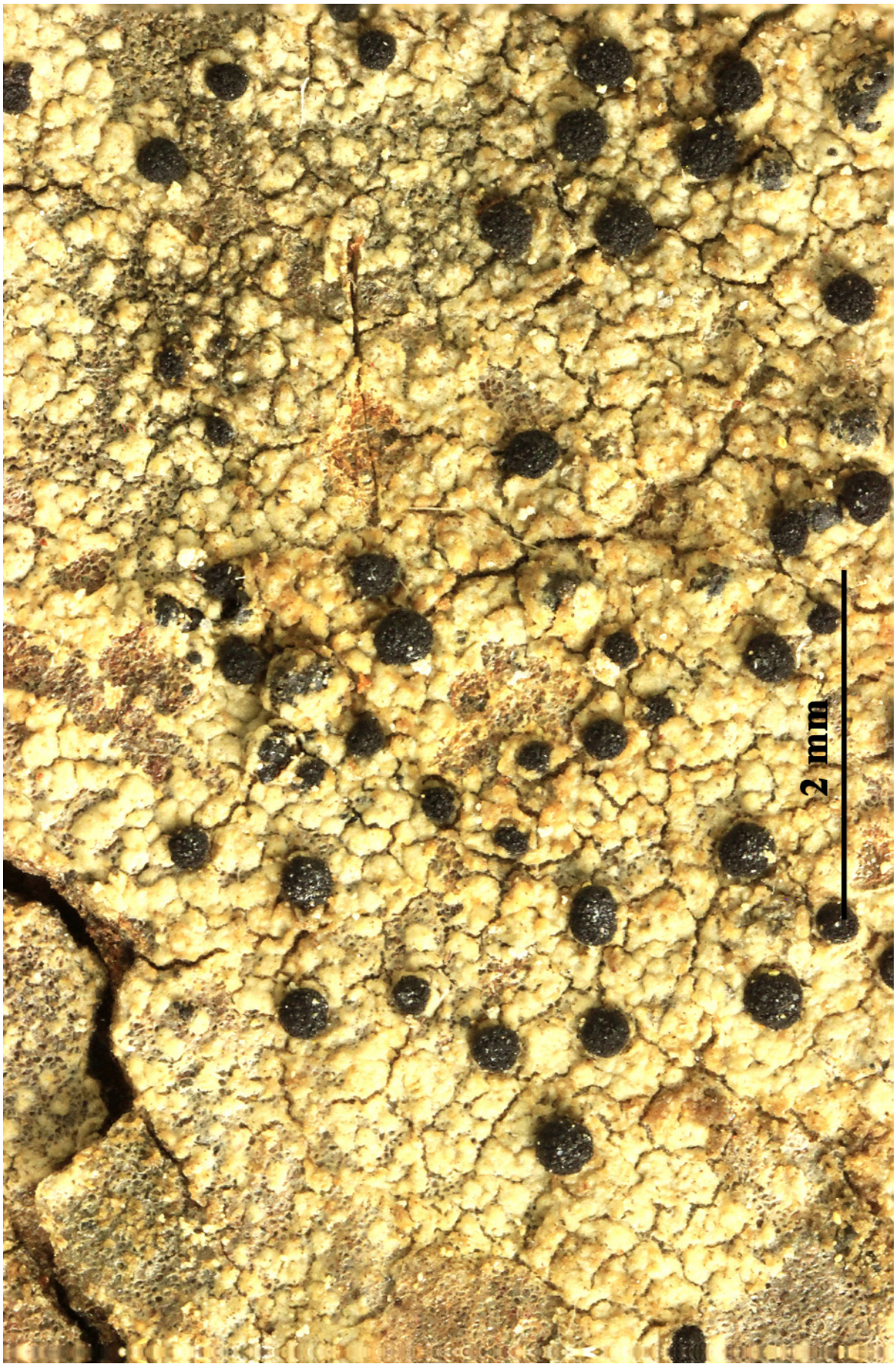
Thallus crustose, white, granular. Photobiont trebouxoid alga. Ascomata lecideine apothecia, adnate to sessile, 0.2-0.6 mm; disk black, convex; margin thin to disappearing. Epithecium brown; hymenium hyaline, not inspersed, 50-65 µm high; paraphyses agglutinate, branched, tips swollen and brown; hypothecium dark red-brown, not extending into a stipe. Asci clavate, 8-spored. Ascospores brown, 2-celled, fusiform-ellipsoid, often curved, 19-30 × 7-11 µm. Pycnidia not reported. Chemistry: Thallus K+ yellow, PD+ yellow-deep orange; hymenium I+ deep blue. Substrate and Habitat. Corticolous and lignicolous on conifers in forests. Distribution. North America; in North Carolina found in the Blue Ridge ecoregion.

Literature:

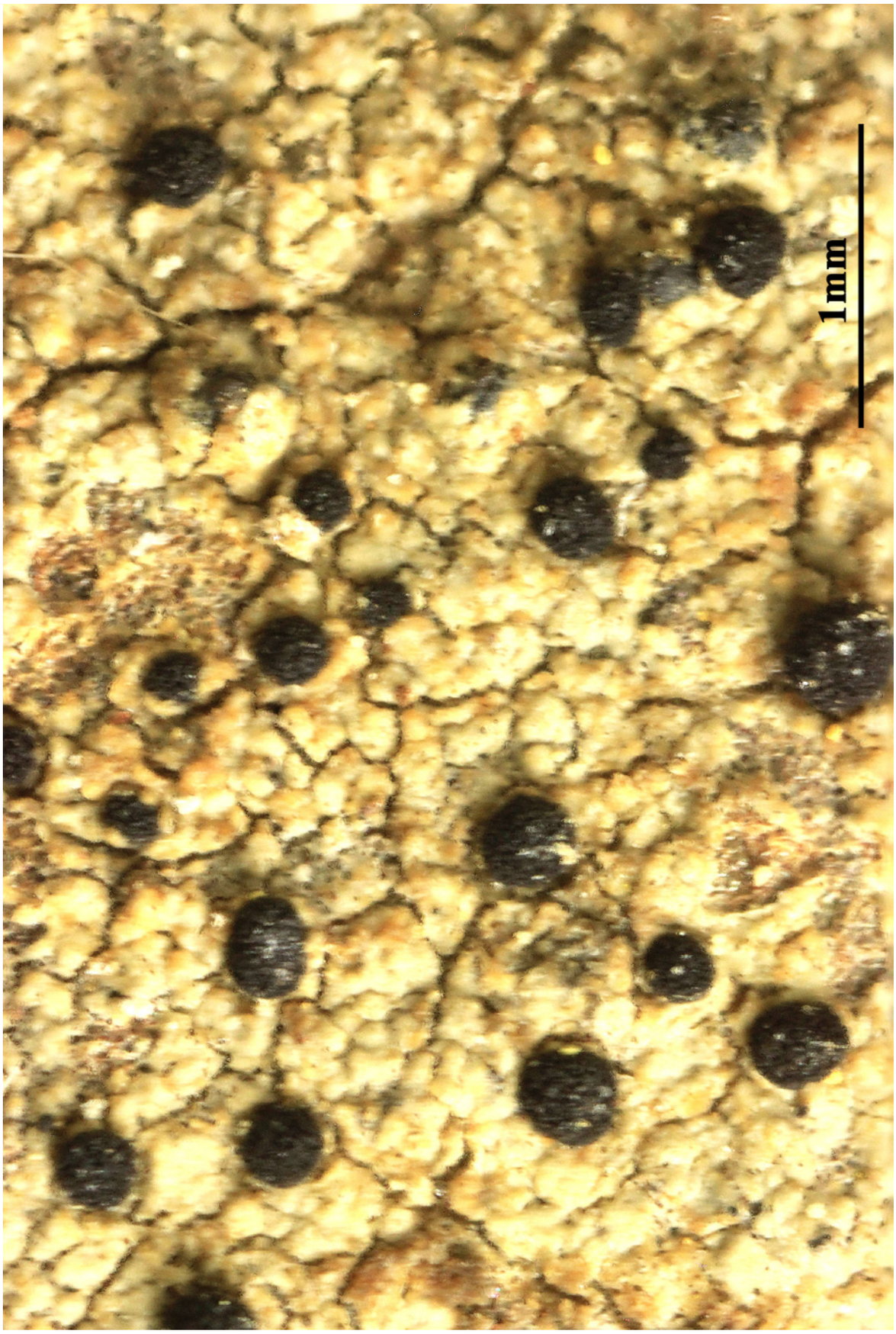
Fink, B. (1935) The Lichen Flora of the United States. University of Michigan Press, Ann Arbor. 426 pp (description as Buellia dialyta).

Imshaug, H.A. (1951) The Lichen-forming Species of the Genus Buellia in the United States and Canada. University Microfilms. Ann Arbor, Michigan. Publication No. 2607. vi + 217 pp (description as Buellia dialyta).

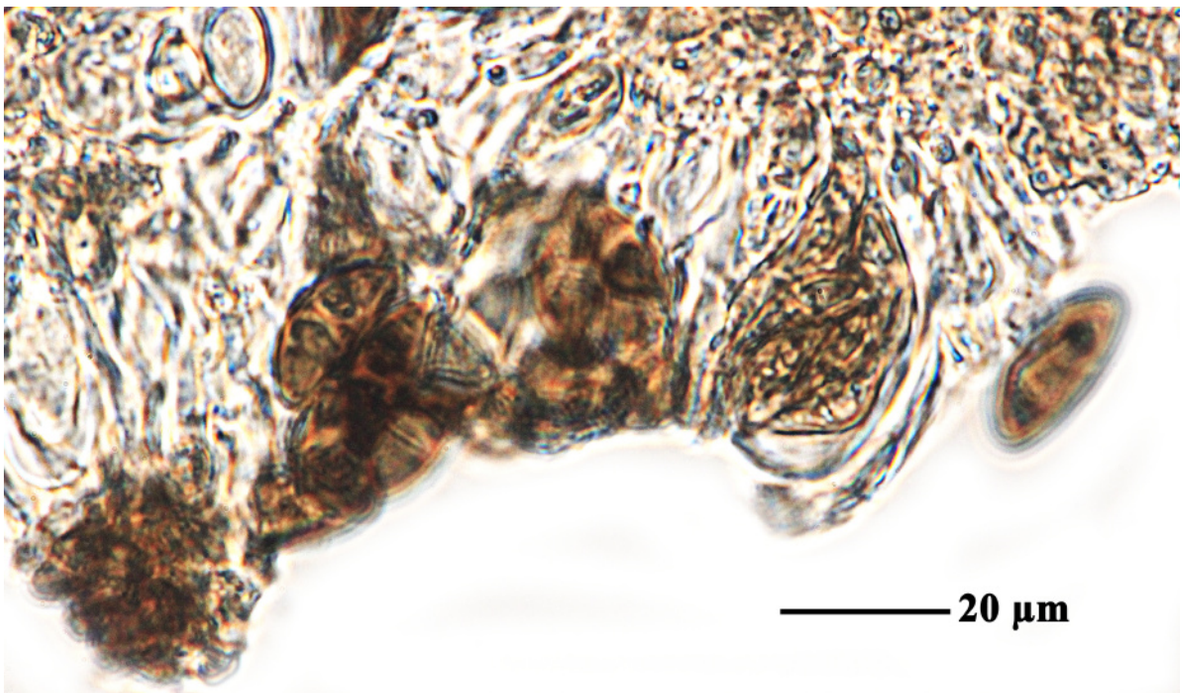
Nylander, W. (1869) Lichenes in Brasilia a cl. Glaziou collecti. Flora (Regensburg) 52: 117-126 (original description as Lecidea dialyta).

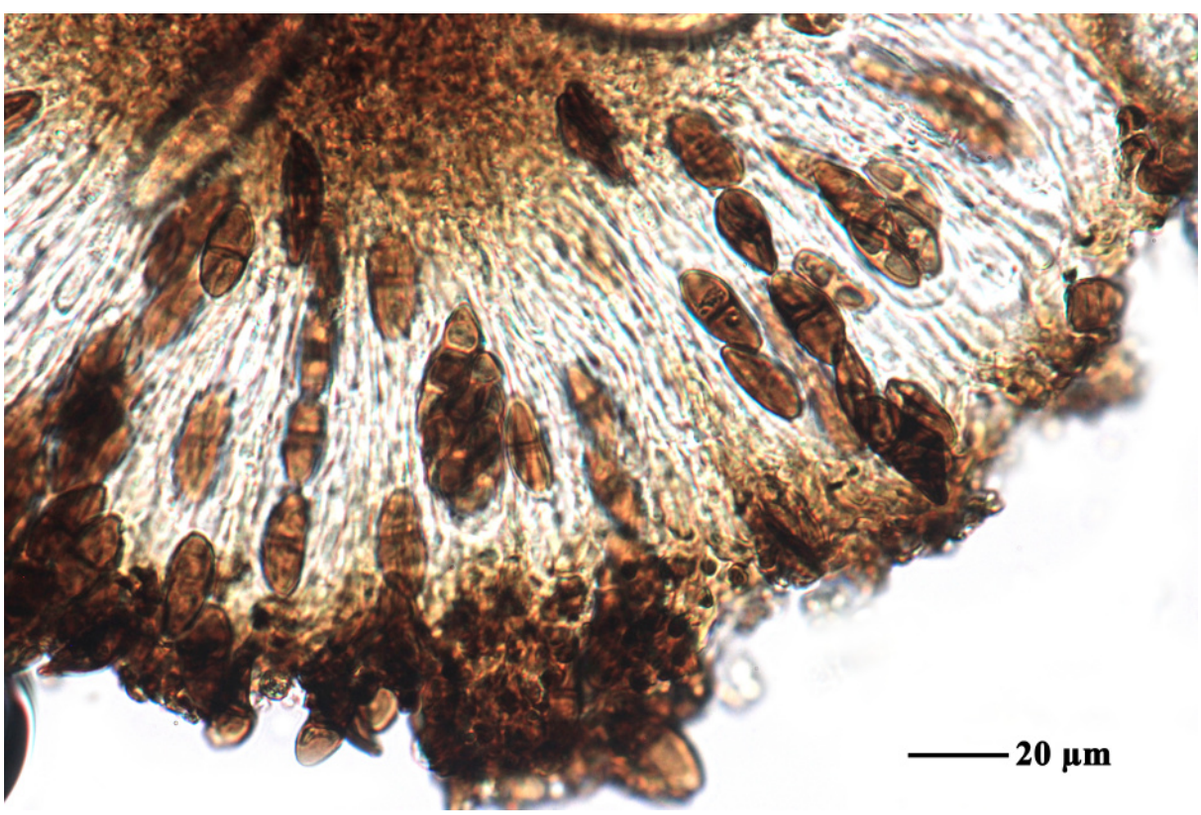


Buellia dialyta



Buellia dialyta





Buellia dialyta

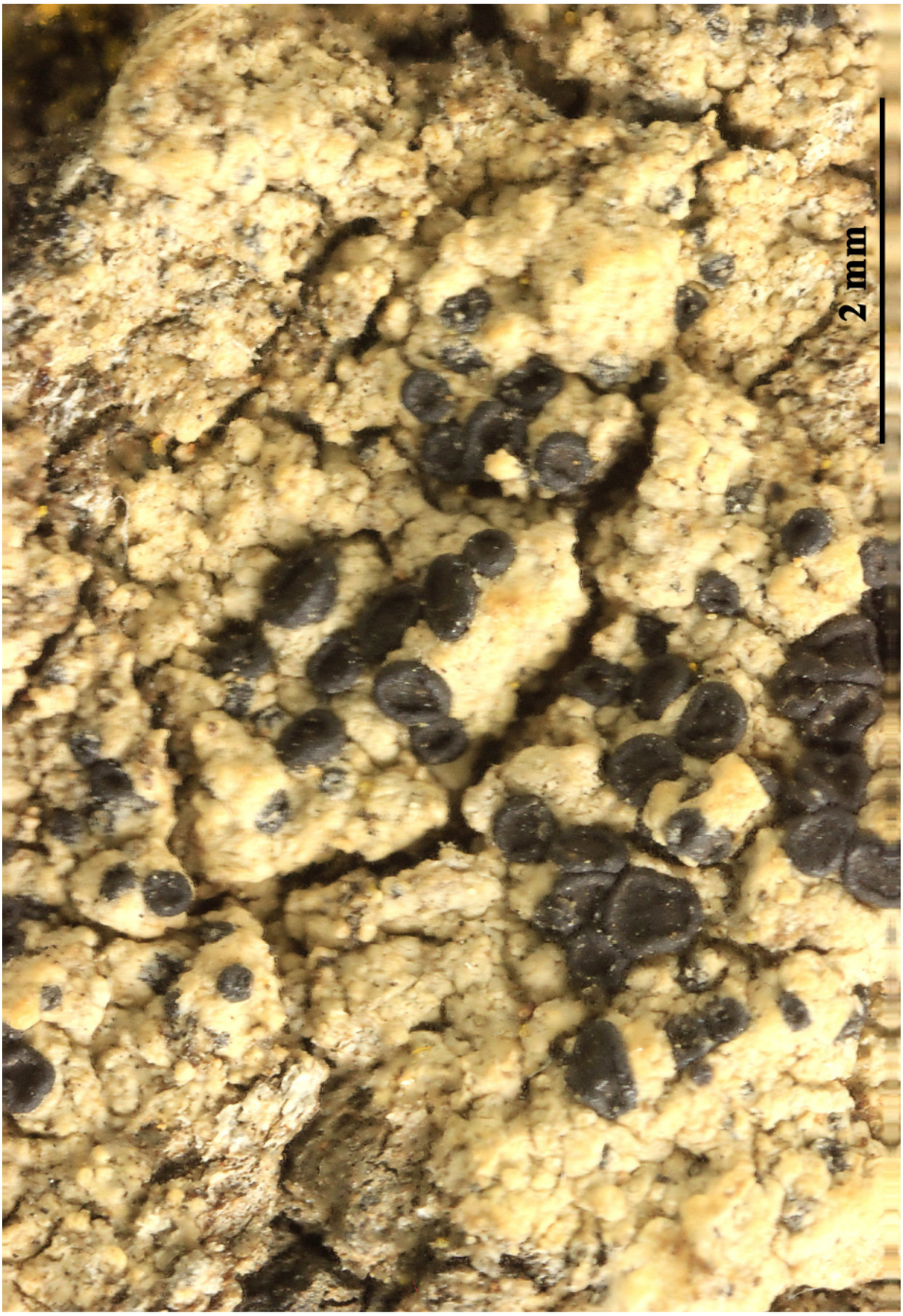
Buellia disciformis (Fr.) Mudd, Man. Brit. Lich.: 216 (1861)
= *Buellia disciformis* var. *cinereoferruginea* (C. Knight ex Shirley) Zahlbr., Cat. Lich. Univers. 7: 352 (1931)
= *Buellia disciformis* var. *vulgata* (Th. Fr.) H. Olivier, Fl. Lich. Orne 2: 219 (1884)
= *Buellia disciformis* var. *wilsonii* Räsänen, Arch. Soc. Zool. Bot. fenn. Vanamo 3: 181 (1949)
= *Buellia parasema* f. *vulgata* (Th. Fr.) Arnold, Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 30: 140 (1881) [1880]
= *Buellia parasema* subsp. *vulgata* (Th. Fr.) Hasse, Contr. U.S. natnl. Herb. 17(1): 121 (1913)
= *Buellia parasema* var. *disciformis* (Fr.) Th. Fr., Lich. Scand. (Upsaliae)(2): 590 (1874)
= *Buellia parasema* var. *vulgata* Th. Fr., Lich. Scand. (Upsaliae)(2): 590 (1874)
= *Hafellia disciformis* (Fr.) Marbach & H. Mayrhofer, in Marbach, Biblthca Lichenol. 74: 264 (2000)
= *Lecidea disciformis* var. *cinereoferruginea* C. Knight ex Shirley [as 'cinereo-ferruginea'], Proc. R. Soc. Qd. 6: 182 (1889)
= *Lecidea parasema* var. *disciformis* Fr., Nov. Sched. Critic. Lich. (Lundae): 9 (1826)
= *Lecidea punctata* f. *disciformis* (Fr.) Hepp, Flecht. Europ.: no. 315 (1857)

[VZ1793], URSS. Transcaucasia, Georgia. Distr. Chokhautauri, montes Meskhedski khrebet, in monte Sacornia, 2000-2400 m. Ad truncum arborum. Leg. V. Vašák, 20.7.1980, det. A. Vězda. - 6-O-Methylarthothelin anal. by K. Kalb.- EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1793.

Thallus crustose, episubstratic or rarely endosubstratic, continuous to rimose-areolate, thin to moderately thick, pale white to greenish grey, dull, smooth, epruinose, sometimes delimited by a dark prothalline line. Phenocortex present; medulla white, without crystals of calcium oxalates, I-. Apothecia lecideine, 0.3-1.5 mm across, with a black, flat to rarely convex, epruinose disc, and a thick, persistent, raised proper margin. Proper exciple Dispersa-type, of radially arranged hyphae, the outer part of short-celled, angular, distinctly swollen, ±carbonized hyphae, the inner part prosoplectenchymatous, paler pigmented, extending from the hypothecium; epithecium brown, N-; hymenium colourless, 70-90(-100) µm high, strongly inspersed with oil droplets; paraphyses simple to moderately branched in upper part, the apical cells

swollen, with a brown cap; hypothecium deep reddish brown. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 1-septate, but sometimes with 2 additional false septa, not constricted at septa, soon brown, narrowly ellipsoid with pointed, paler ends, straight or sometimes slightly curved, (12-)17-27(-30) x (5.5-)7-10(-13) µm, the wall thickened subapically, but not at septum, not ornamented, Callispora-type. Pycnidia rare, black, globose, unilocular. Conidia bacilliform, straight, 2.5-6(-9) x 0.5-1 µm. Photobiont chlorococcoid. Spot tests: K+ yellow, then sometimes brownish, C-, KC-, P- or P+ faintly yellow, UV-. Chemistry: atranorin, fulgidin, plus traces of norfulgoicin and fulgoicin. - Note: a holarctic, humid subtropical to southern boreal-montane lichen found on smooth bark in rather humid woodlands, especially in open beech forests of the montane belt.

Buellia disciformis



Buellia disciformis

Buellia disciformis

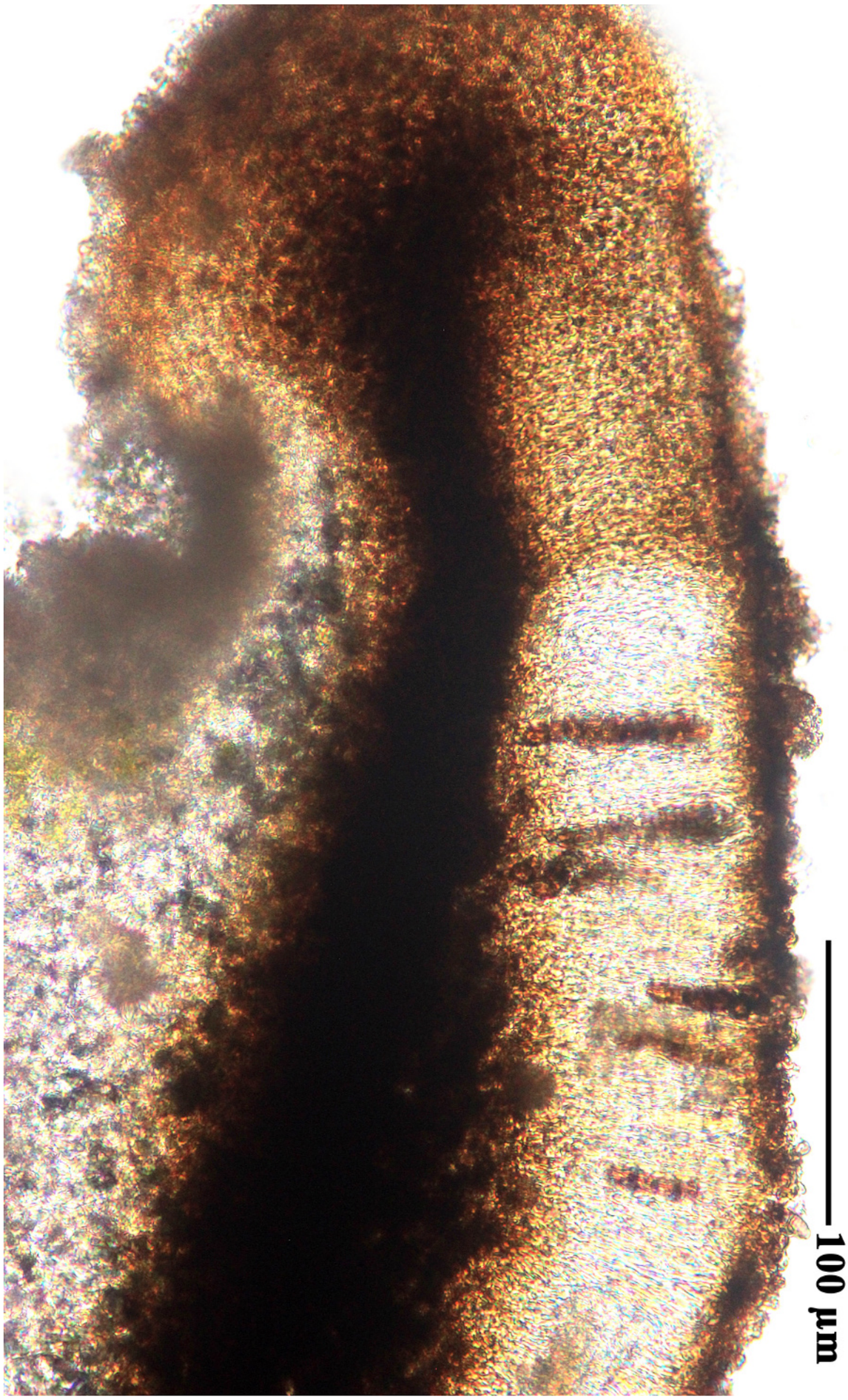
Buellia elegans Poelt, Nova Hedwigia 25(1-2): 184 (1974)

[VZ1423], URSS. Caucasus Magnus, Ostija Sept. distr. Ordžonikidze: in valle rivi Fiagdon supra vicum Zivgis, 1600 m. Ad caespites plantarum emortiarum in rupibus subcalcareis. Leg. E. Jelínková et A. Vězda. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1423.

Thallus crustose-placodioid, episubstratic, of radiating, white-pruinose, 1-2 cm long, 0.3-1.2 mm wide lobes, forming orbicular to irregular, up to 4 cm wide rosettes. Cortex c. 20 µm thick, filled with crystals; medulla white, I-; lower surface pale, attached with rhizohyphae. Apothecia not always present, lecideine, 0.6-1.8 mm across, at first immersed but soon becoming adnate, with a black, flat to slightly convex, soon epruinose disc, and a thin, black, often pruinose, persistent proper margin; a pseudothalline margin is sometimes present at the base of the proper margin. Proper exciple dark red-brown in outer part, paler within; hymenium colourless, not inspersed with oil droplets, 70-150 µm high, I+ blue; paraphyses 1-1.5 µm thick at mid-level, the apical cells 4-5 µm wide, with a brown cap; hypothecium black-brown to black-grey, sometimes paler orange-brown in lower part. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 1-septate, slightly constricted at septa, brown, oblong-ellipsoid, (12-)13-20(-23) x (5.5-)6-9.5(-10.5) µm, with a thin, minutely warted wall. Pycnidia black. Conidia bacilliform, 5-8 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: cortex K+ yellow (reaction sometimes faint), C-, KC-, P-; medulla K-, P-, or K+ red, P+ orange-red in spots. Chemistry: cortex with atranorin; medulla sometimes with norstictic and stictic acids, or with 2'-O-methylperlatolic acid. - Note: a widespread steppe-species found on soil deriving from calciferous schists in open grasslands, restricted to dry-warm sites in the Alps.

Buellia elegans

Buellia elegans



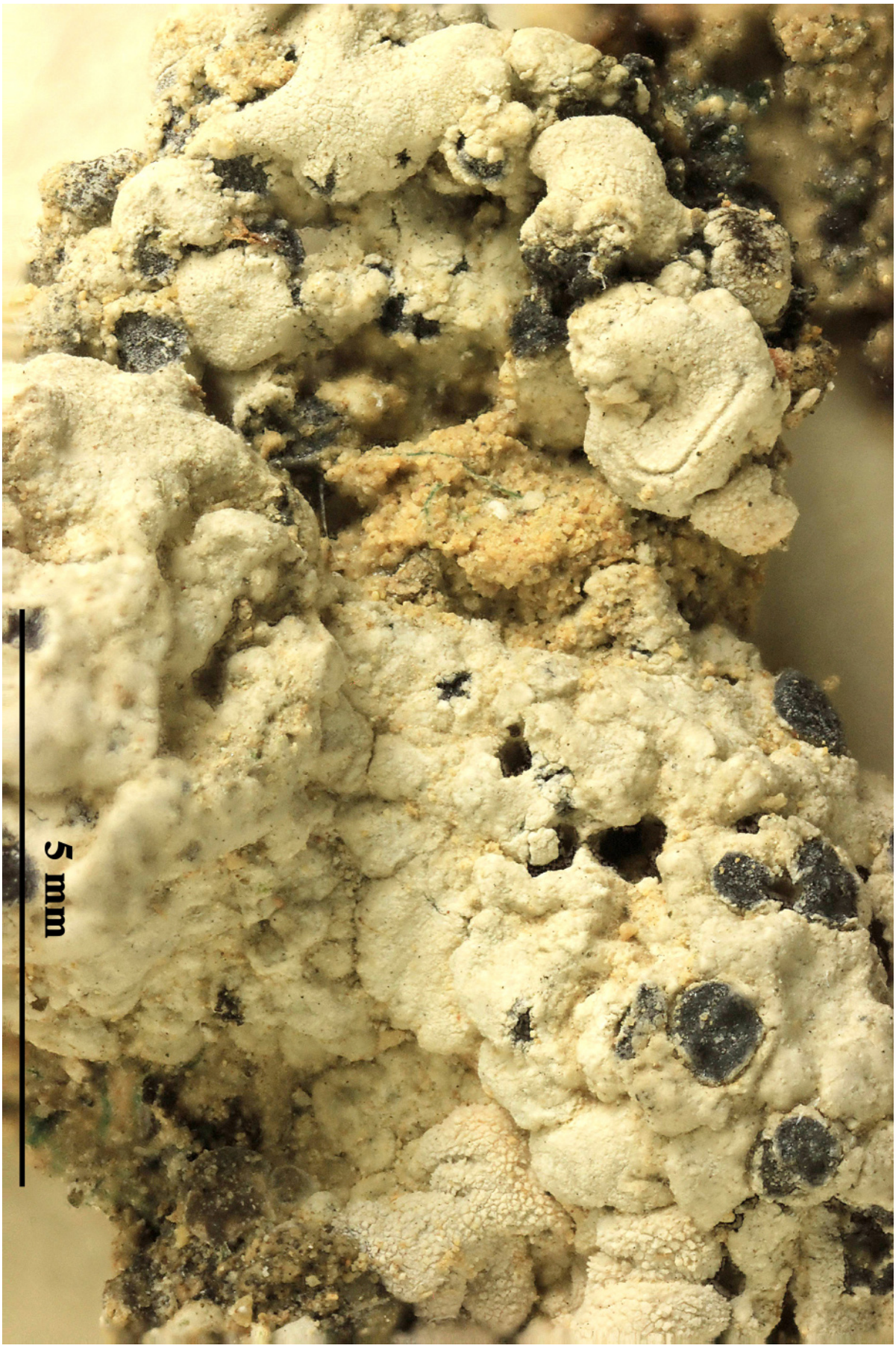
Buellia elegans

Buellia elegans

Buellia epigea (Pers.) Tuck., Lichens of California (Berkeley): 25 (1866)
= *Lichen epigeus* Pers. 1794

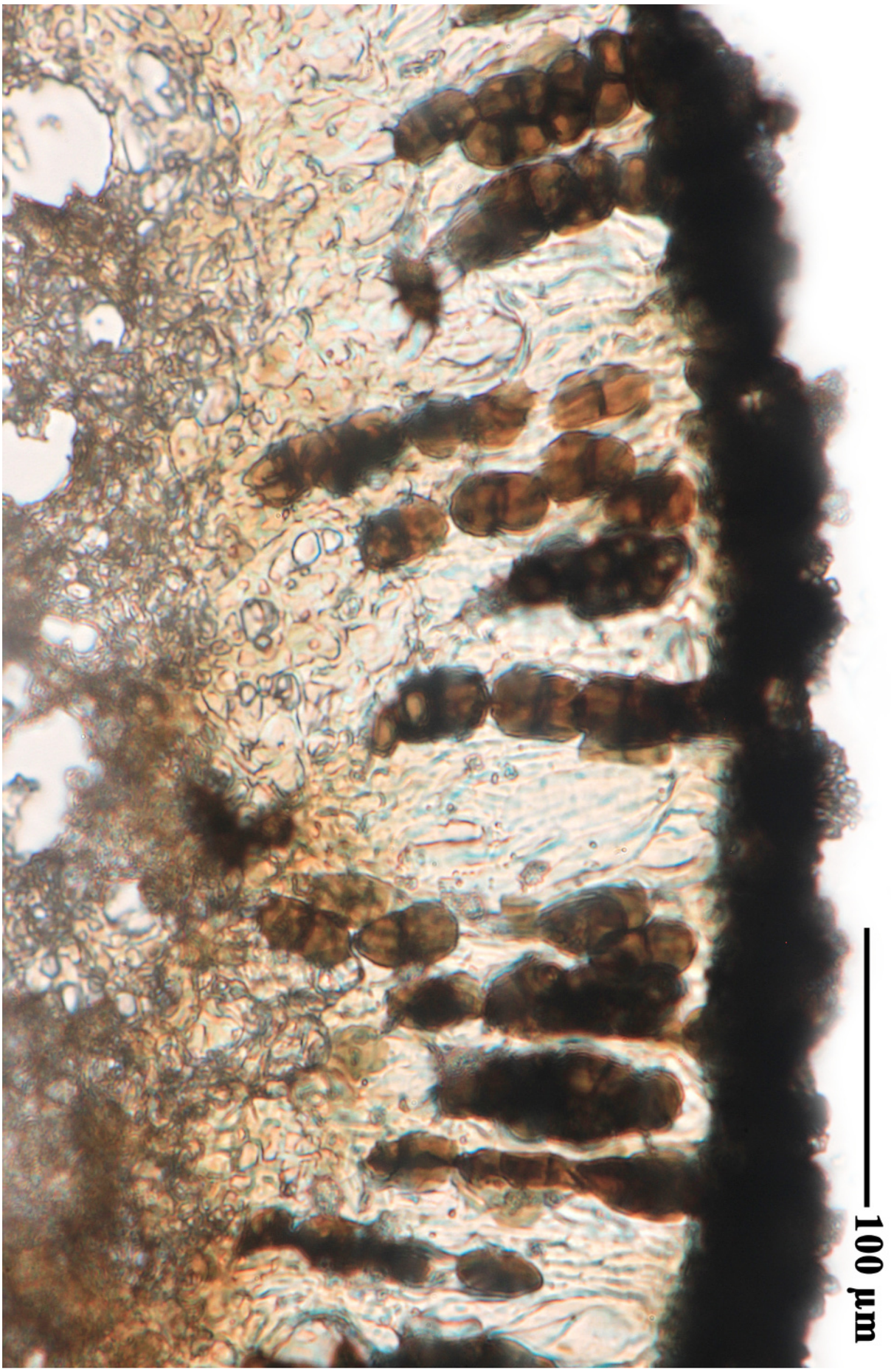
[VZ1424], URSS. Azerbajdzania. Distr. Baku, reservatum Kobistan dictum (in litore maris Caspii 60 km in austro-occidente a Baku), 200 m. Ad terram locis desertis in saxosis arenareis. Leg. E. Jelínková et A. Vězda, 15.5.1978. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1424.

Thallus crustose, episubstratic, 0.2-1 mm thick, chalky white to pale grey-white or cream-coloured, the surface often farinose to small-granulose, irregularly areolate to bullate, forming irregular, 1-1.5 cm wide patches, without a distinct prothallus. Phenocortex up to 150 µm thick; medulla white, filled with crystals of calcium-oxalates, I-. Apothecia lecideine, bluish black but usually slightly white-pruinose, (0.3-)0.5-1.5 mm across, immersed to sessile, often provided with a thin thalline rim when young. Proper exciple up to 50(-90) µm wide laterally, Aethalea-type, the inner hyphae hyaline, prosoplectenchymatous, the outer hyphae parallel and usually strongly brown-pigmented; epithecium brown, 5-10(-15) µm high; hymenium colourless, not inspersed with oil droplets, up to 130 µm high; paraphyses sparingly branched in upper part, 1.5-3 µm thick at mid-level, the apical cells 3-8 µm wide, with a dark cap; hypothecium colourless to pale brown, up to 100 µm high. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 1-septate, slightly constricted at septum, brown, ellipsoid, (14-)15-22(-26) x (6-)7-10(-12) µm, Buellia-type, thin-walled throughout, the wall minutely areolate. Pycnidia rare, black, pear-shaped, immersed. Conidia bacilliform, 5-7 x c. 1 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: widely distributed in Europe, from submediterranean regions to Scandinavia, on base-rich mineral soil, on weathered gypsum and gypsum soil.

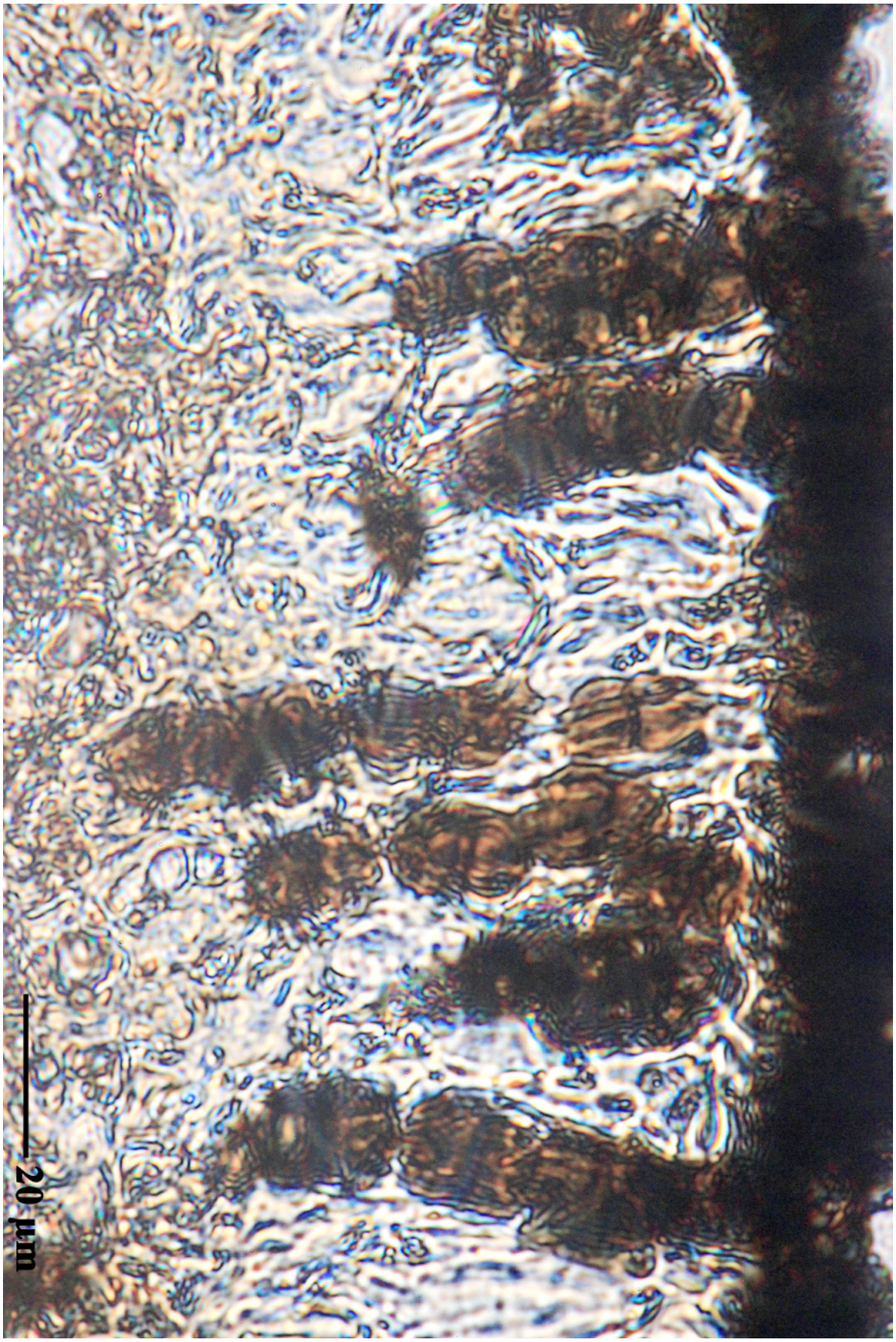


Buellia epigea

Buellia epigea



Buellia epigea



Buellia epigea

Buellia epigea (Pers.) Tuck., Lichens of California (Berkeley): 25 (1866)
= *Lichen epigeus* Pers. 1794

[VZ1338], Jugoslavia. Macedonia, Ohrid, supra lacum Ohridsko ezero, prope vicum Elsani haud procul Peštani, 980 m. In rupibus calcareis, supta terram et muscos emortuos. Leg. A. Vězda, 10.7.1975. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1338.

Thallus crustose, episubstratic, 0.2-1 mm thick, chalky white to pale grey-white or cream-coloured, the surface often farinose to small-granulose, irregularly areolate to bullate, forming irregular, 1-1.5 cm wide patches, without a distinct prothallus. Phenocortex up to 150 µm thick; medulla white, filled with crystals of calcium-oxalates, I-. Apothecia lecideine, bluish black but usually slightly white-pruinose, (0.3-)0.5-1.5 mm across, immersed to sessile, often provided with a thin thalline rim when young. Proper exciple up to 50(-90) µm wide laterally, Aethalea-type, the inner hyphae hyaline, prosoplectenchymatous, the outer hyphae parallel and usually strongly brown-pigmented; epithecium brown, 5-10(-15) µm high; hymenium colourless, not inspersed with oil droplets, up to 130 µm high; paraphyses sparingly branched in upper part, 1.5-3 µm thick at mid-level, the apical cells 3-8 µm wide, with a dark cap; hypothecium colourless to pale brown, up to 100 µm high. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 1-septate, slightly constricted at septum, brown, ellipsoid, (14-)15-22(-26) x (6-)7-10(-12) µm, Buellia-type, thin-walled throughout, the wall minutely areolate. Pycnidia rare, black, pear-shaped, immersed. Conidia bacilliform, 5-7 x c. 1 µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: widely distributed in Europe, from submediterranean regions to Scandinavia, on base-rich mineral soil, on weathered gypsum and gypsum soil.

Buellia epigea

Buellia epigea

Buellia geophila (Flörke ex Sommerf.) Lynge, Meddr Grønland, Biosc. 118(no. 8): 177 (1937)
= *Bacidia rubella* var. *triphagmia* (Nyl.) Koltz, Recl Mém. Trav. Soc. bot. Luxemb. 13: 233 (1897)
= *Buellia disciformis* f. *triphragmia* (Nyl.) Lettau, Hedwigia 52(3-4): 245 (1912)
= *Buellia disciformis* var. *triphragmia* (Nyl.) H. Olivier, Fl. Lich. Orne 2: 220 (1884)
= *Buellia insignis* var. *geophila* (Flörke ex Sommerf.) Th. Fr., Nova Acta R. Soc. Scient. upsal., Ser. 3 3: 328 (1861) [1860]
= *Buellia insignis* var. *triphragmia* (Nyl.) M. Choisy, Bull. mens. Soc. linn. Lyon 19: 157 (1950)
= *Buellia parasema* f. *triphragmia* (Nyl.) Tuck., Syn. N. Amer. Lich. (Boston) 2: 93 (1888)
= *Buellia parasema* subsp. *triphragmia* (Nyl.) Fink, Contr. U.S. natnl. Herb. 14(1): 94 (1910)
= *Buellia parasema* var. *triphragmia* (Nyl.) Th. Fr., Nova Acta R. Soc. Scient. upsal., Ser. 3 3: 327 (1861) [1860]
= *Buellia triphragmia* (Nyl.) Arnold, Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 19: 637 (1869)
= *Diplotomma geophilum* (Flörke ex Sommerf.) S.R. Singh & D.D. Awasthi, Geophytology 19(2): 175 (1990) [1989]
= *Diplotomma triphragmium* (Nyl.) Szatala, in Rechinger, Denkschr. Kaiserl. Akad. Wiss., Math.-Naturwiss. Kl. 105(Halbband 1): 55 (1943)
= *Lecidea disciformis* subsp. *triphragmia* (Nyl.) Nyl., Annls Sci. Nat., Bot., sér. 4 15: 48 (1861)
= *Lecidea disciformis* var. *triphragmia* (Nyl.) Vain., Meddn Soc. Fauna Flora fenn. 10: 112 (1883)
= *Lecidea geophila* Flörke ex Sommerf., Suppl. Fl. lapp. (Oslo): 157 (1826)
= *Lecidea triphragmia* Nyl., Mém. Soc. Imp. Sci. Nat. Cherbourg 5: 126 (1858) [1857]
= Mattickiolichen triphragmium (Nyl.) Tomas. & Cif., Archo. bot. ital. 28: 7 (1952)
= *Tetramelas geophilus* (Flörke ex Sommerf.) Norman, Conat. Praem. Gen. Lich.: 25 (1852)

[VZ2287], Austria. Tirolia, alpes "Hohe Tauern" dicti, Gruben, secus viam inter Stein et casas alpinas "Sudetendeutsche Hütte" dictas, 1800 m. Ad saxa schistosa, supra muscos emortuos. Leg. J. Horáková et. A. Vězda. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 2287.

Thallus crustose, episubstratic, continuous to granulose-verrucose, white to grey-white, without a distinct prothallus. Cortex with calcium

oxalate crystals: medulla white, I-. Apothecia lecideine, black, to 0.3-1.2(-1.5) mm across, immersed to sessile, with a flat to convex, rarely pruinose disc and a thin, finally often excluded proper margin. Proper exciple brown-black throughout, with rounded, thin-walled cells, the pigment giving a K+ yellow solution; epithecium brown, N-; hymenium colourless, not inspersed with oil droplets, 70-85(-100) µm high, I+ blue; paraphyses branched in upper part, the apical cell swollen, 4-5 µm wide, with a brown cap; hypothecium brown-black. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 3-septate, dark brown, often curved, narrowly ellipsoid, (20-)24-38(-43) x 6-13 µm, the wall uniformly thick, indistinctly rugulate. Pycnidia rare, black, immersed in thallus. Conidia bacilliform, 4-6 x c. 1 µm. Photobiont chlorococcoid. Spot tests: thallus K- or K+ indistinctly yellow, C-, but C+ intensely yellow under the dissecting microscope, KC+ yellow to orange-yellow, P-, UV+ orange. Chemistry: 6-O-methylarthothelin. - Note: a mainly boreal-montane to arctic-alpine, circumpolar lichen overgrowing terricolous and epilithic mosses on calciferous substrata, rarely corticolous, near and above treeline.

Buellia geophila

Buellia geophila

Buellia geophila

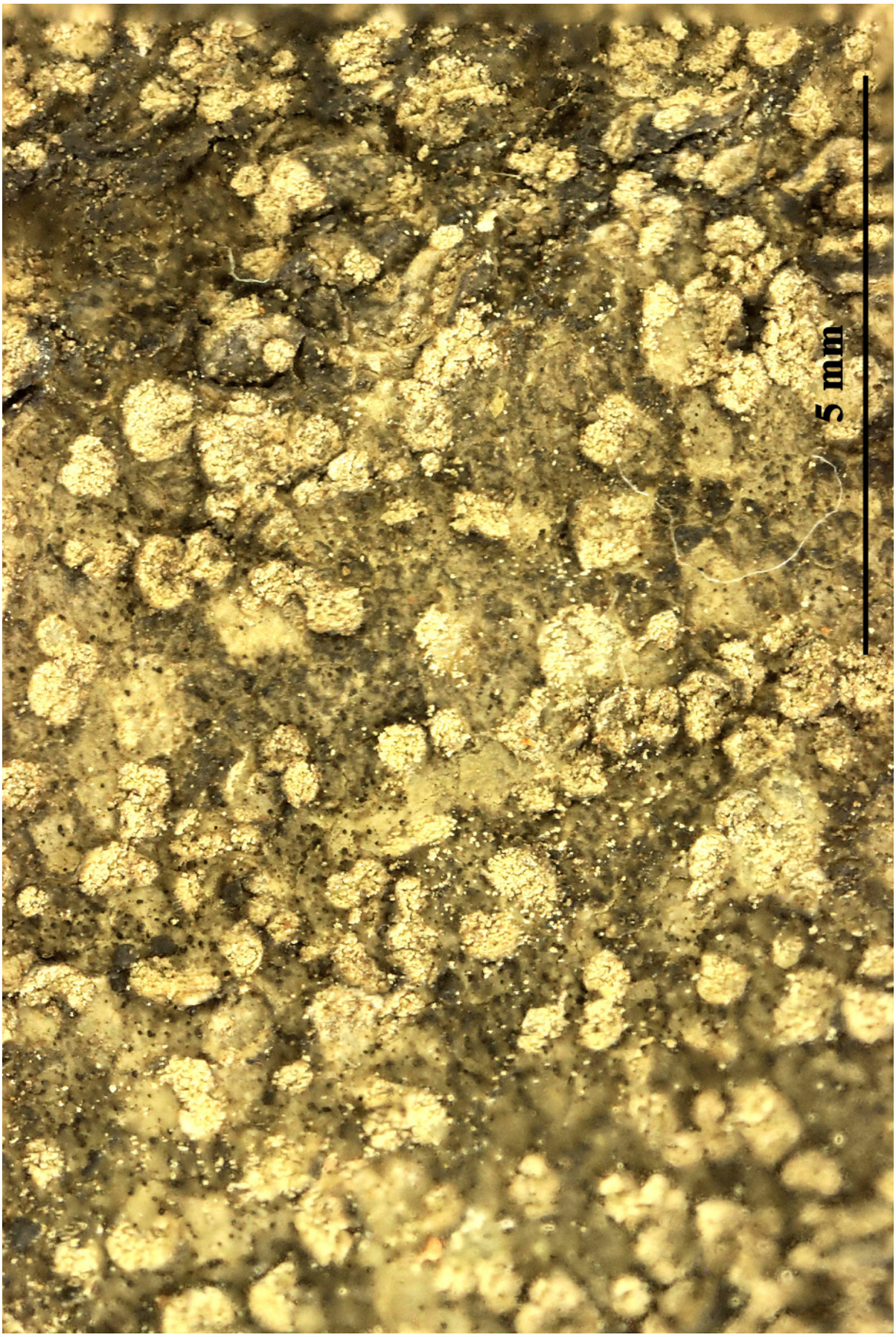
Buellia griseovirens (Turner & Borrer ex Sm.) Almb., Bot. Notiser: 246 (1952)
= *Aplotomma betulinum* (Hepp ex Zwackh) A. Massal. ex Bausch, in Zwackh, Verh. naturw. Verein. Karlsruhe 4: 132 (1869)
= *Buellia betulina* (Hepp ex Zwackh) Th. Fr., Lich. Scand. (Upsaliae)(2): 610 (1874)
= *Diplotomma betulinum* (Hepp ex Zwackh) Arnold, Flora, Regensburg 67(30): 591 (1884)
= *Lecidea betulina* (Hepp ex Zwackh) Nyl., Bull. Soc. linn. Normandie, sér. 2 6(2): 305 (1873) [1872]
= *Rhizocarpon betulinum* Hepp ex Zwackh, Flora, Regensburg 45(33): 524 (1862)
= *Sporopodium betulinum* (Hepp ex Zwackh) Vain., Acta Soc. Fauna Flora fenn. 53(no. 1): 269 (1922)
= *Variolaria griseovirens* Turner & Borrer ex Sm. [as 'griseo-virens'], in Smith & Sowerby, Engl. Bot. 34: [2400] (1812)

[VZ1661], Bohemoslovacia. Slovacia, Carpathi montes, Tatra Minor, Predajná, in valle rivi Jesenský potok loco Kyslá dicto, 650 m. Ad corticem *Alni incanae*. Leg. A. Vězda, 26.9.1979. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 1661.

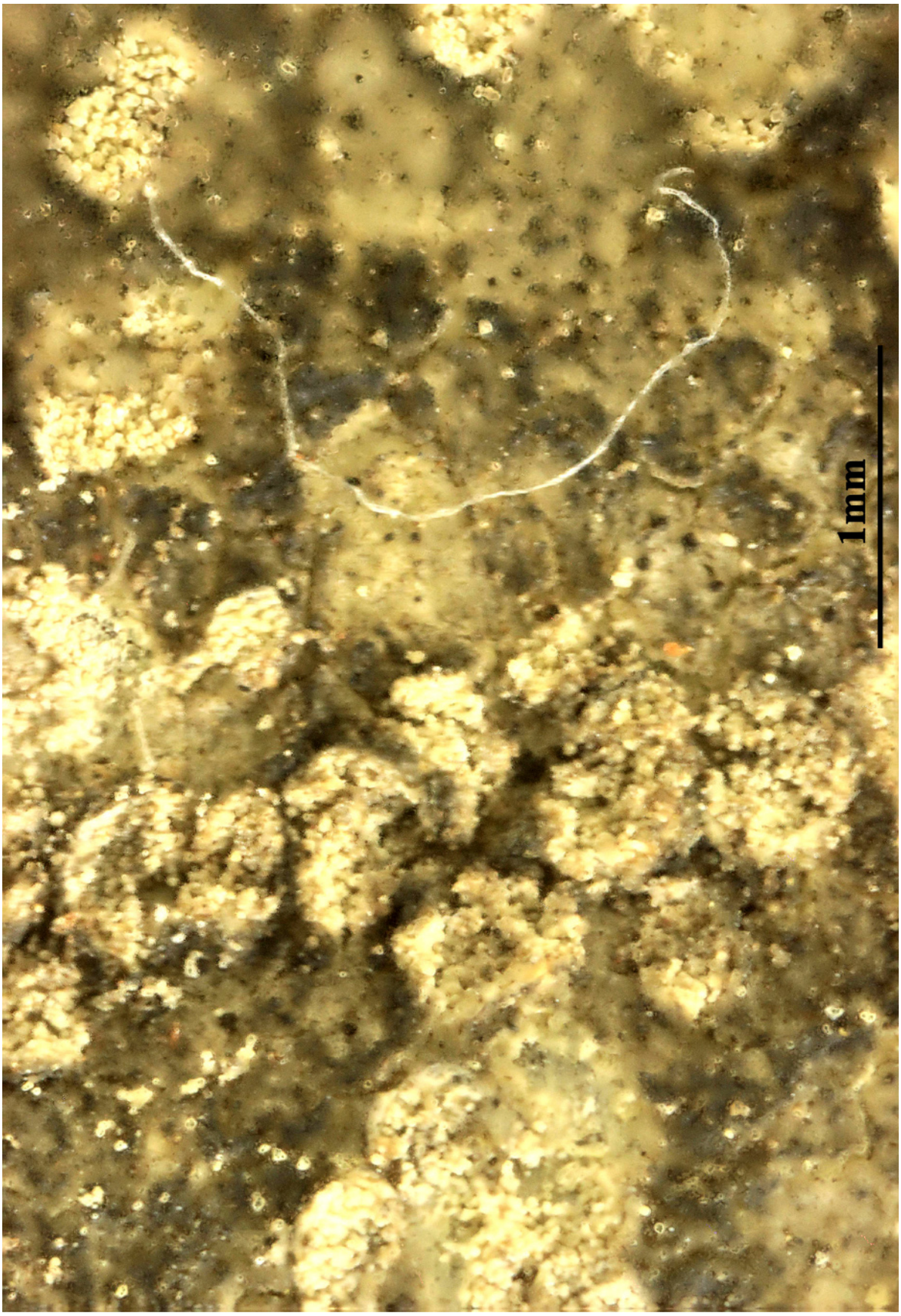
Thallus crustose, continuous to rimose, mostly episubstratic, grey-white, pale grey-brown to greenish grey, delimited by a dark prothallus, with abundant, discrete, rounded, (0.1-)0.2-0.4 mm wide, bluish grey, greenish or pale yellow (when abraded) soralia bearing 15-25 µm wide, farinose soredia. Medulla white, lacking calcium oxalate crystals, non-amyloid. Apothecia rare, lecideine, sessile, 0.3-1(-1.5) mm across, with a black, epruinose, concave to slightly convex disc and a black, thick, persistent proper margin. Proper exciple 80-120 µm wide laterally, dark brown outer part, pale in the intermediate part, and dark brown in inner part with carbonized cells (K+ yellow, N-); epithecium brown; hymenium colourless, not inspersed with oil droplets.80-100(-120) µm high; paraphyses with swollen tips (c. 6 µm wide), and distinct apical caps; hypothecium dark, up to 240 µm high, K+ yellow, N-. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores at first 3-septate, then submuriform with 8-12 cells in optical view, brown, ellipsoid, (13-)18-25(-28) x (7-)9-12(-13.5) µm, the wall with a microrugulate ornamentation. Pycnidia rare, black, with a projecting uppermost part, the wall

pigmented in upper part. Conidia bacilliform, 4-6 x 1 µm. Photobiont chlorococcoid. Spot tests: thallus and soralia K+ yellow turning red (needle-like crystals), but sometimes K+ yellow to orange, C- or rarely C+ yellow, KC-, P+ yellow-orange, UV- (very rarely UV+ orange). Chemistry: atranorin (major), norstictic acid (major), connorstictic acid (traces), unknowns. - Note: a probably holarctic, temperate to boreal-montane lichen found on smooth bark of deciduous trees and shrubs in rather humid, well-lit situations, more rarely on wood, with optimum above the Mediterranean belt, also occurring in heavily disturbed areas.

Buellia griseovirens



Buellia griseovirens



Buellia griseovirens

Buellia maunakeaensis Zahlbr. [as 'maunakeansis'], Annls mycol. 10(4): 383 (1912)

[VZ1495], Hawaii Insulae. Hawaii, South Point, Pahala, 30 m. Ad lavam nudam loco ventoso. Leg. O. et I. Degener (no.34186), 28.12.1976, det. K. Kalb. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1495.

Thallus crustaceus, uniformis, subtartareus, continuus vel insulatim dispersus, carneo-isabellinus vel subcarneo-cineraseens, opacus, K+ flavo sanguineus, CaCl-, subpruinosus, verruculoso-areolatus, areolis parvis, 0.3-0,8 mm latis et fere totidem altis, convexis, sorediis et isidiis destitutus, linea obscuriore non cinctus, ecorticatus, medulla alba, J -. apothecia crebra, plus minus congesta, 0,3-0,6 mm lata, sessilia, sessilia, sordidescenti diffusa, primum plana, margine tenuissimo, acutiusculo prominulo et integro cincta, mox convexa, margine depresso, spurie thallino-vestita; perithecio dimidiato, tenui, nigro; epithecio insperso, fuscescente, N-; hypothecio crasso, fusco-nigricante, versus hymenium lutescenti-fuscescenti; hymenio dilute sordidescente vel subdecolore, 75-80 µm alto, guttulis oleosis non insperso, J+ coeruleo; paraphysibus filiformibus, simplicibus, eseptatis, conglutinatis, ad apicem modice clavatis; ascis oblongo-clavatis, hymenio parum brevioribus, 8-sporis; sporis in ascis biserialibus, obscure fuscis, ellipsoideis vel ovalibus, rectis vel subrectis, uniseptatis, septo tenui, ad septum non constrictis, cellulis guttula oleosi unica majuscula impletis, membrana undique tenui cinctis, 12-14.5 x 7.5-9 µm. Conceptacula pycnoconidiorum immersa, subglobosa, vertice nigro, punctiformi; fulcris exobasidialibus; basidiis sublageniformibus, fasciculatis; pycnoconidiis oblongo-bacillaribus, 3-4 x 1 µm. - Kommt der Buellia diplotomoidcs Müll. Arg. zunachst, von welcher sie sich durch die warzigen Lagerschollen, die gewölbten und etwas bereiften Apothezien, das dunkle Hypothezium und durch zartere, deutliche erkennbare Paraphysen unterscheidet.

Buellia maunakeaensis

Buellia maunakeaensis

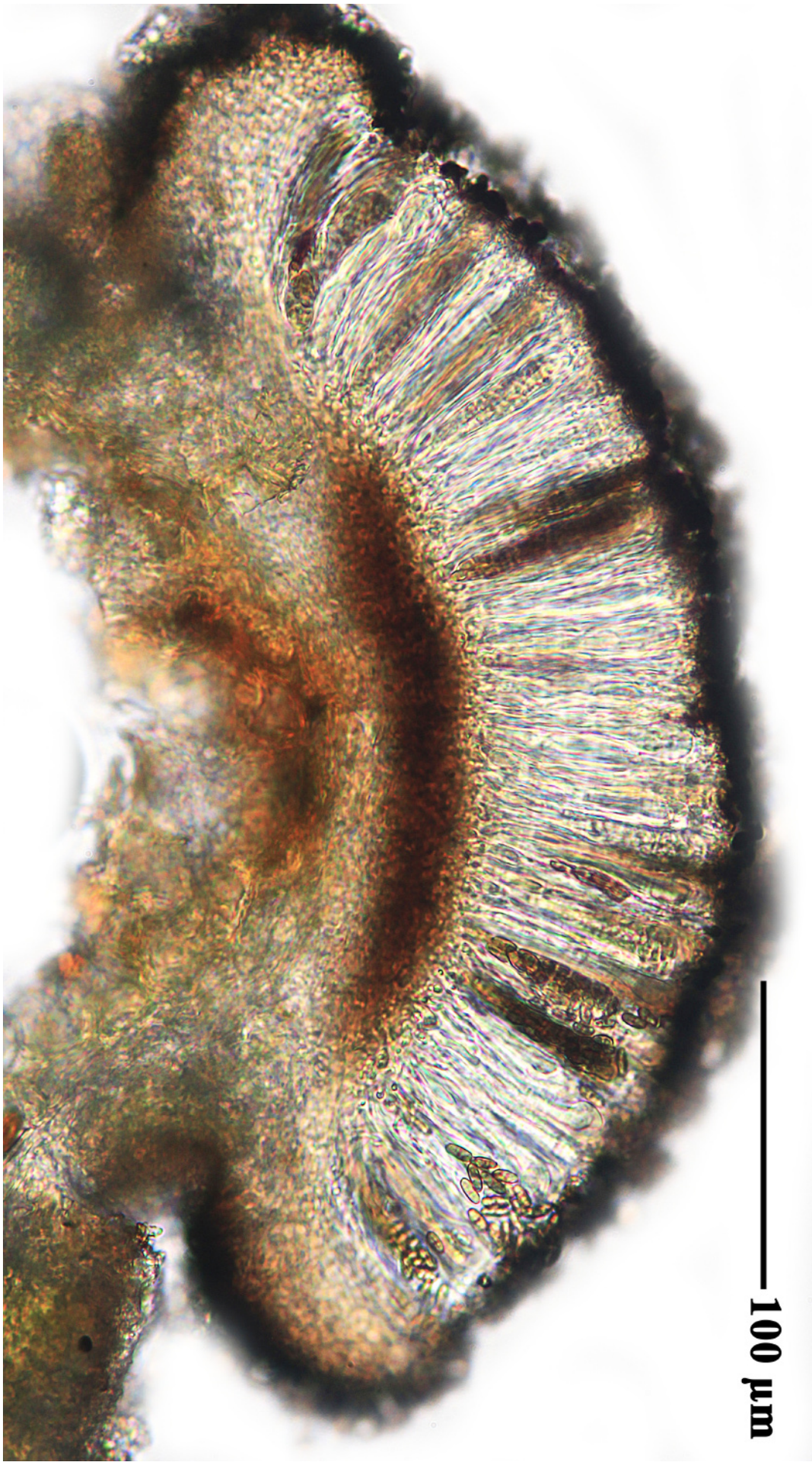
Buellia multispora Kalb & Vězda, Folia geobot. phytotax. 14(2): 203 (1979)
= *Amandinea multispora* (Kalb & Vězda) Marbach, Biblthca Lichenol. 74: 94 (2000)

[VZ1670], Hawaii Insulae. Oahu. Keawaula Valley, in litore. Ad corticem *Leucenae* sp. Leg. O. et Z. Degener (no. 34257), 16.3.1977. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1679 - ISOTYPUS.

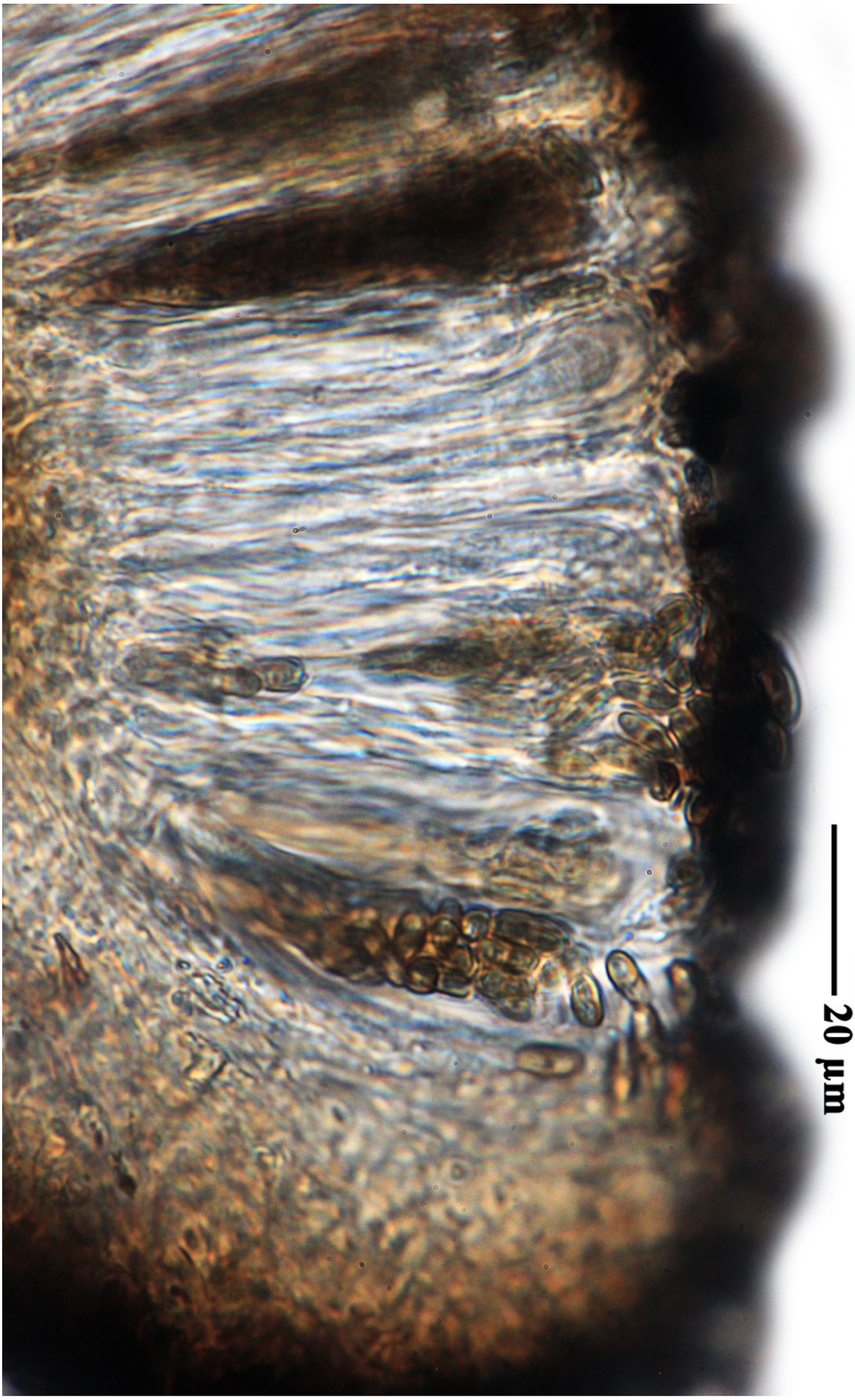
Thallus auf Rinde oder Holz, 1-2 cm im Durchmesser, oft kleinflächig und zerstreut wachsend, weil, grauweiß, geschlossen, leicht warzig, 50-60 µm dick, UV-, K-; obere und untere Rinde 10-15 µm dick; Rand nicht differenziert ausgebildet. Apothecien bis 0.3 mm im Durchmesser, unbereift, sitzend, flach bis gewölbt; Rand schmal bis verschwindend. Excipulum 20-30 µm breit, K-; auBere Zone dunkelbraun, innere Zone hell. Hypothecium 70-80 µm hoch, dunkelbraun. Hymenium 60-100 µm hoch, nicht inspers; Epihymenium olivbraun, dunkelbraun. Paraphysen ca. 1.5 µm dick, an den Enden einfach, gegabelt oder schwach verzweigt; Apikalzellen 4-5 µm breit, mit sehr breiter brauner, stark pigmentierter Kappe. Asci mit 30-50 Sporen. Ascosporen zweizellig, oliv, olivgrau, olivbraun, 7-9 x 3-4.5 µm; Oberflache glatt; Wand gleichmaBig verdickt. Conidiogone ca. 0.05 mm im Durchmesser, schwarz. Conidien filiform, 18-27 x 0.6-0.8 µm. Chemie: HPLC (KALB & ELIx 1998): 4,5-Dichlorlichexanthon, Spuren von Atranorin, Myeloconon D1 und unbekannte Secalonsdurederivate. - Kurzcharakteristik: Thallus wei8, K-; Ascosporen 7 — 9 x 3 — 4.5 µm; mit glatter Oberflache, zu 30-50 im Ascus; Conidien bis 27 µm lang.

Buellia multispora

Buellia multispora



Buellia multispora

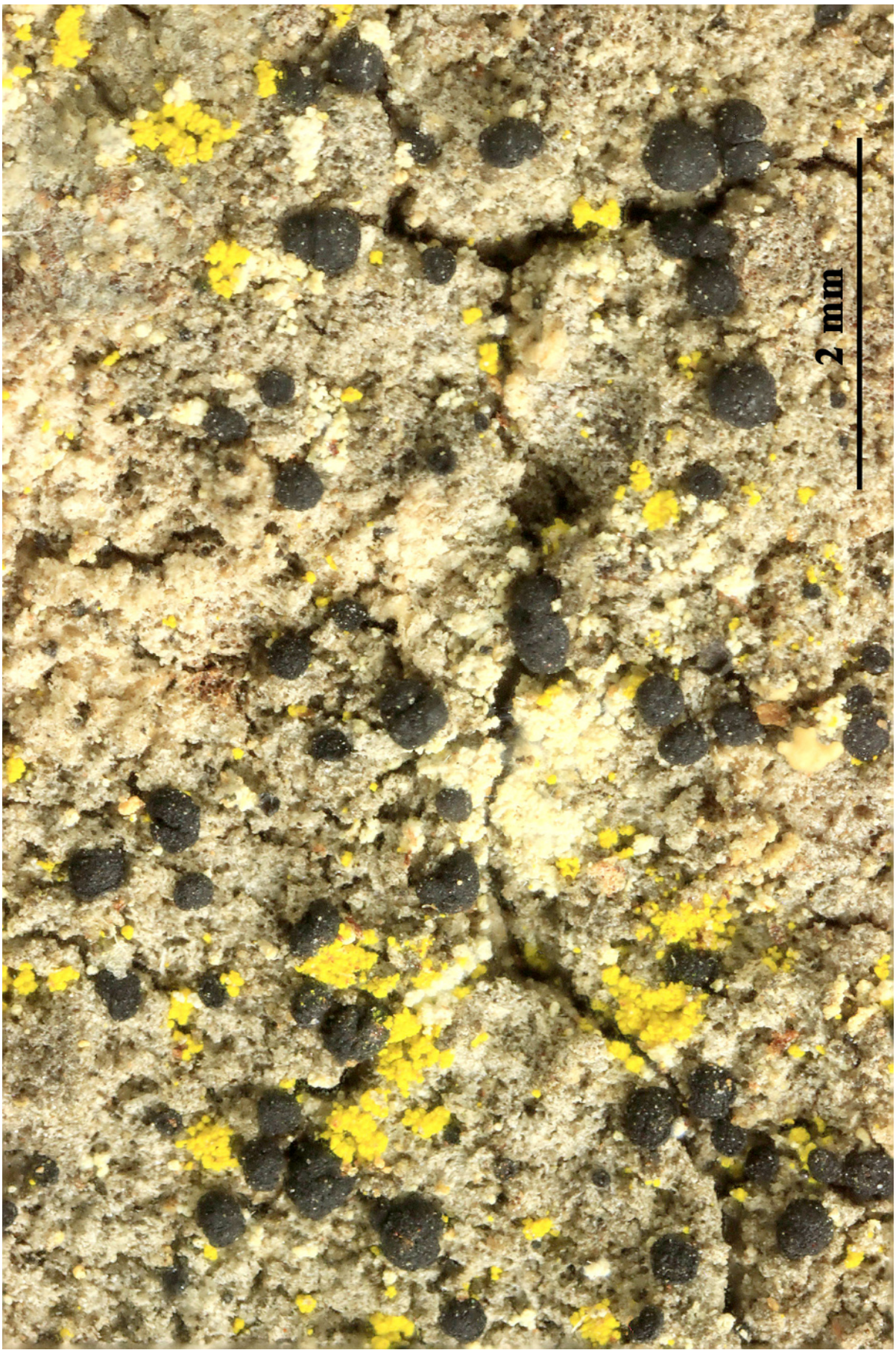


Buellia multispora

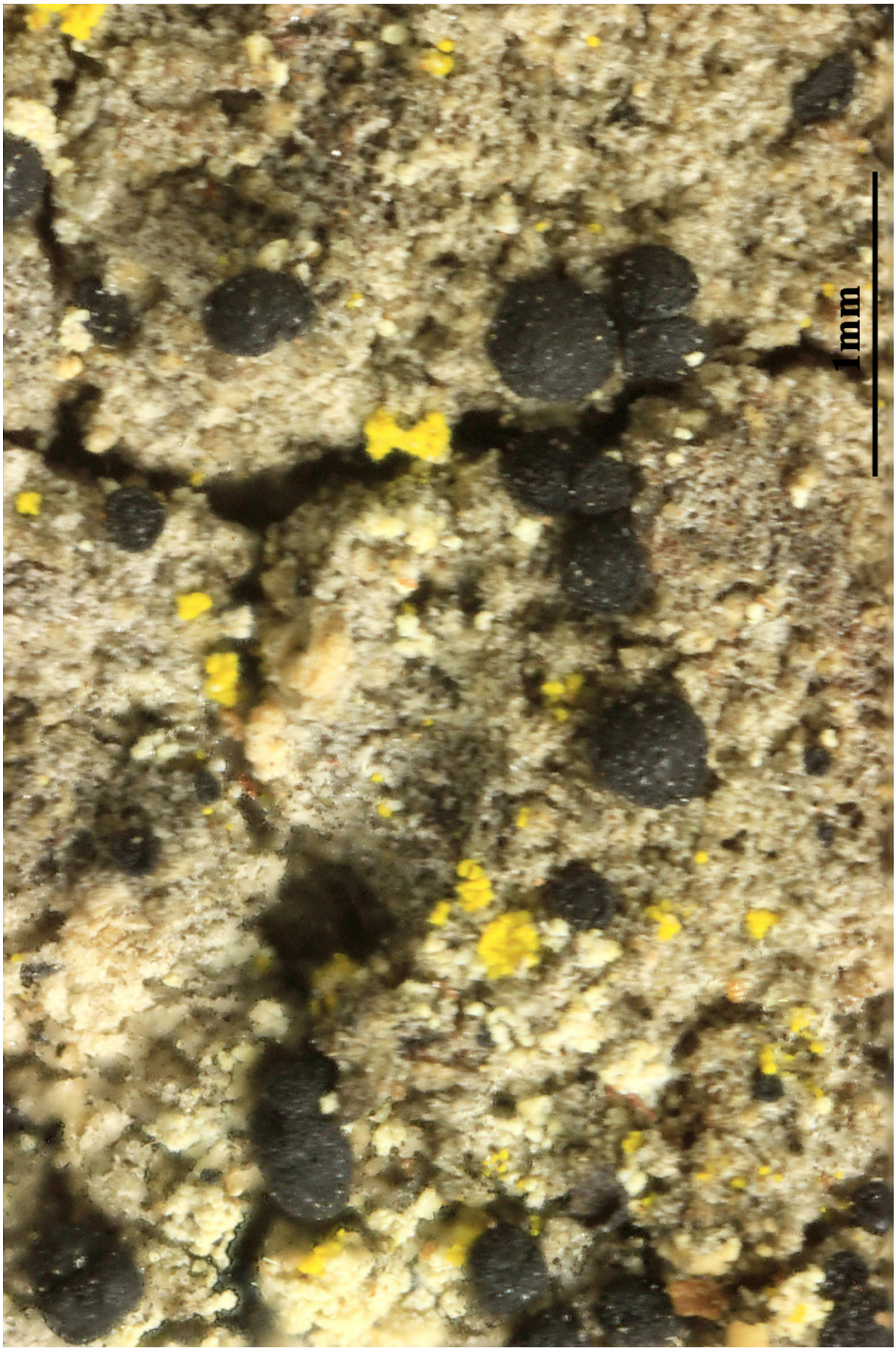
Buellia schaereri De Not., G. bot. ital. 2(1.1): 199 (1846)
= *Karschia destructans* Tobler, Jb. wiss. Bot. 49: 389-409 (1911)
= *Karschia schaereri* (De Not.) Sacc. & Traverso, Syll. fung. (Abellini) 19: 995 (1910)
= *Lecidea schaereri* (De Not.) Vain., Meddn Soc. Fauna Flora fenn. 2: 69 (1878)

[VZ2024], Jugoslavia. Crna Gora (Montenegro): montes Durmitor, toco Surduo dicto supra lacum Zminje jezero, 1600 m. Ad corticem arboris (*Abies*). Leg. A. Vězda, 21.6.1984. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2024.

Thallus crustose, often almost entirely hidden in the substrate, sometimes thinly episubstratic and rimose, appearing as a grey-white to olive-brown patch. Medulla poorly developed, I-. Apothecia lecideine (0.1-)0.2-0.3(-0.5) mm across, soon sessile, with a black, epruinose, at first flat then soon convex disc, and a thin, soon excluded proper margin. Proper exciple narrow, poorly differentiated, Aethalea-type, the inner hyphae hyaline, prosoplectenchymatous, the outer hyphae parallel and usually strongly brown-pigmented; epithecium brown, N-; hymenium colourless, 35-60 µm high, not inspersed with oil droplets; paraphyses simple to moderately branched, the apical cells swollen, with a brown cap; hypothecium dark reddish brown. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 1-septate, soon brown, ellipsoid with obtuse ends, not constricted at septum, 6-10(-12) x 2.5-4(-4.5) µm, Buellia-type, thin-walled throughout, the wall not ornamented. Pycnidia often numerous, globose, unilocular. Conidia very short, oblong to ellipsoid, some of them almost globose, 1.5-3 x 0.5-1(-1.4) µm. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a mainly cool-temperate to boreal-montane, circumpolar species found on acid bark, especially of conifers, and on wooden poles in upland areas.



Buellia schaereri



Buellia schaereri

Buellia subcallispora H. Magn., Ark. Bot., Ser. 2 3(no. 10): 375 (1955)

[VZ1496], Hawaii Insulae- Hawaii, Puna, reservatum naturae "Mac Kenzie", in vicinitate maris. Ad truncum *Casuarinae*. Leg. O. et I. Degener (no 34199], 9.1.1077, det. K. Kalb. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1496.

Description ex Ark. Bot., Ser. 2 3(no. 10): 375 (1955). -A catalogue of the Hawaiian Lichens.
Thallus maculifor,is, albidus, tenuis, continuus, rimulosus, vel subareolatus, hypothallo atro ad marginem thalli distincte visibili, J-,C-, K-ruber,P+ flavus. Apothecia numerosa, arcte adpresssa, minuta, atra, plane, margine sensim excluso. Excipulum cum hypozhecio atrum, Thecium subtenue, oleoso inspersum, superne fuscoviride, K+ cioöascens. Paraohyses arcte conglutonatae, ondistinctae. Sporae octonae, uniseptatae, pallide, viridi-fuscae, minutae, sicut spurie 4-loculares, parite inaequaliter incrassato.

Buellia subcallispora

Buellia subcallispora

Buellia subdisciformis (Leight.) Jatta, Nuovo G. bot. ital. 24(1): 21 (1892)
= *Buellia disciformis* subsp. *subdisciformis* (Leight.) Vain., Acta Soc. Fauna Flora fenn. 7(no. 1): 167 (1890)
= *Buellia disciformis* var. *subdisciformis* (Leight.) H. Olivier, Expos. Lich. Ouest France, Suppl. 2: 145 (1901)
= *Buellia meiosperma* (Nyl.) Müll. Arg., Rev. Mycol., Toulouse 9(no. 34): 80 (1887)
= *Buellia ryssolea* (Leight.) A.L. Sm., Monogr. Brit. Lich. 2: 173 (1911)
= *Buellia subdisciformis* var. *meiosperma* (Nyl.) J. Steiner, Verh. Kaiserl.-Königl. zool.-bot. Ges. Wien 57: 363 (1907)
= *Lecidea disciformis* subsp. *meiosperma* Nyl., Annls Sci. Nat., Bot., sér. 4 15: 49 (1861)
= *Lecidea disciformis* var. *meiosperma* (Nyl.) Nyl., Flora, Regensburg 51: 478 (1868)
= *Lecidea meiosperma* (Nyl.) Nyl., in Fournier, Mexic. Pl. 1: 6 (1872)
= *Lecidea ryssolea* Leight., Trans. Linn. Soc. London, Bot., Ser. 2 1(5): 237 (1878)
= *Lecidea subdisciformis* Leight. [as 'sub-disciformis'], Lich.-Fl. Great Brit.: 308 (1871)
= *Lecidea subdisciformis* var. *meiosperma* (Nyl.) Leight., Lich.-Fl. Great Brit.: 308 (1871)

[VZ1523], Bulgaria. Pontus, distr. Burgas: in litore loco Kavacite dicto prope pagum Sozopol, 5 m. Ad scopulum maritimum. Leg. A. Vězda, 26.8.1977. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1523.

Thallus crustose, episubstratic, rimose to bullate-areolate, up to 1 mm thick, white to pale grey-brown, often delimited by a black prothallus, forming large, often more than 5 cm wide patches, the areoles 0.2-1.3 mm wide, flat to strongly convex. Medulla white, I-. Apothecia lecideine, black, rarely faintly white-pruinose when young, (0.2-)0.4-1(-1.8) mm across, sessile, with a flat to slightly convex disc, and a rather thick, raised, usually persistent proper margin. Proper exciple thick, Leptocline-type, homogeneously dark brown, with an additional orange pigment reacting K+ reddish (solution), the inner part of long-celled, interwoven hyphae, the outer part of long-celled, parallel, strongly agglutinated and thick-walled hyphae; epithecium brown, N-; hymenium colourless or pale yellow in upper and lower parts, not inspersed with oil droplets; paraphyses simple to sparingly branched, the apical cells swollen, with a dark cap; hypothecium dark red-brown. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue

with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 1-septate, brown, oblong to ellipsoid, with obtuse ends, (9-)11-16(-20) x (5-)6-8(-10) µm, Physconia-type, with a microrugulate ornamentation. Pycnidia black, semi-immersed in the thallus. Conidia bacilliform, 6-14.5 x 0.8-1.5 µm. Photobiont chlorococcoid. Spot tests: K+ yellow turning red, C-, KC-, P+ yellow-orange, UV-. Chemistry: atranorin, norstictic, and secalonic acids, plus traces of other substances of the stictic acid complex. - Note: a mild-temperate to humid subtropical species found on siliceous rocks at low elevations, chiefly Mediterranean-Atlantic in Europe and Tyrrhenian in Italy.

Buellia subdisciformis

Buellia subdisciformis

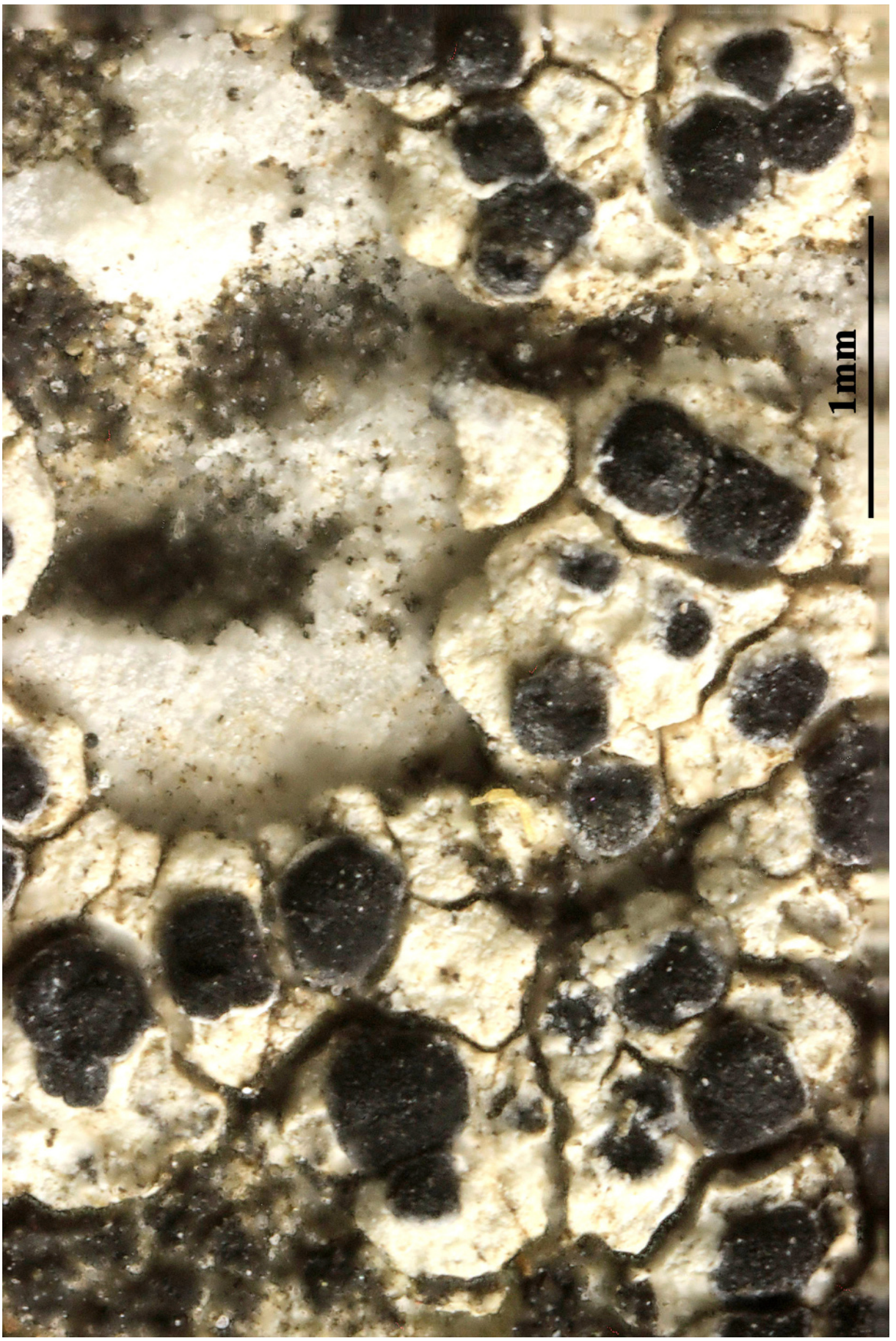
Buellia subdisciformis

Buellia subdispersa Mig., Krypt.-Fl. Deutschl. Österr. Schweiz., Abt. 2 (Leipzig) 12: 88 (1924)
= *Diplotomma subdispersum* (Mig.) Etayo & Breuss
= *Diplotomma dispersum* (Kremp.) Arnold Flora, 55: 195, 1872.
= *Diplotomma alboatrum var. dispersum* Kremp. - Denkschr. kgl. bayer. bot. Ges., Abt. 2, 4: 209, 1861

[VZ2023], Austria. Styria, montes Grazer Bergland, St. Radegrund, in monte Schöckl, 1440 m. Ad saxa calcarea. Leg. J. Poelt et A. Vězda. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2023.

Thallus crustose, episubstratic, rather thick, chalky white, areolate, forming small (1-4 mm wide) patches, the areoles irregular in outline, flat to slightly convex, dispersed to contiguous and separated by deep cracks. Medulla white, I+ blue. Apothecia lecideine, black, 0.3-0.4(-0.6) mm across, subimmersed to subsessile, with a soon convex, usually epruinose disc, and a soon excluded proper margin. Proper exciple brown in outer part, paler within, c. 30 µm wide; epithecium brown; hymenium colourless, K/I+ blue; paraphyses simple, slightly capitate; hypothecium reddish brown. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, approaching the Bacidia-type. Ascospores (2-)3-septate, brown, ellipsoid, slightly curved and bean-shaped, 12-19(-22) x 5-8 µm, with a minutely granulose ornamentation over the whole surface. Photobiont chlorococcoid. Spot tests: K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: an apparently widespread but rare, or at least rarely distinguished, calcicolous species, most often found on weakly to strongly calcareous rocks, often on rain-protected surfaces, mostly above treeline; it often starts the life-cycle on other crustose lichens. The species, characterised by four-celled spores with transverse septa only, and by the I+ blue reaction of the medulla, is very closely related to (and often synonymized with) the silicicolous *D. lutosum*, which differs in the more strongly ornamented spores and in the ecology.

Buellia subdispersa



Buellia subdispersa

Buellia teloschistis Vězda, Lichenes Selecti Exsiccati, Fascicle 88 (nos 2176-2200) (Průhonice): 7 (no. 2199) (1988)

[VZ2199], Namibia (Africa Austro-Occidentalis). Lüderitz, deserta Namib, loco Grosse Bucht dicto prope Lüderitzbucht, in proxumitate maris, 30 m. Cum hospite in ramulis emortuis fruticum, Leg. O. Volk. EX A. VEZDA LICHENES SELECTI EXSICCATI NR. 2199.

Mycelium in thallo lichenis (*Teloschistes* sp.) parasitans. Apothecia supra thallum hospitis late adnata 0.6-0.8 mm in diametro, nigra discis planis, marginibus persistenter elevatis. Hypothecium atrofuscum. Hymenium hyalinum, paraphyses apicibus globosis fusconigris. Asci 8-spori, . Ascosporae bicellulares, 14-16 xx 6-7 µm

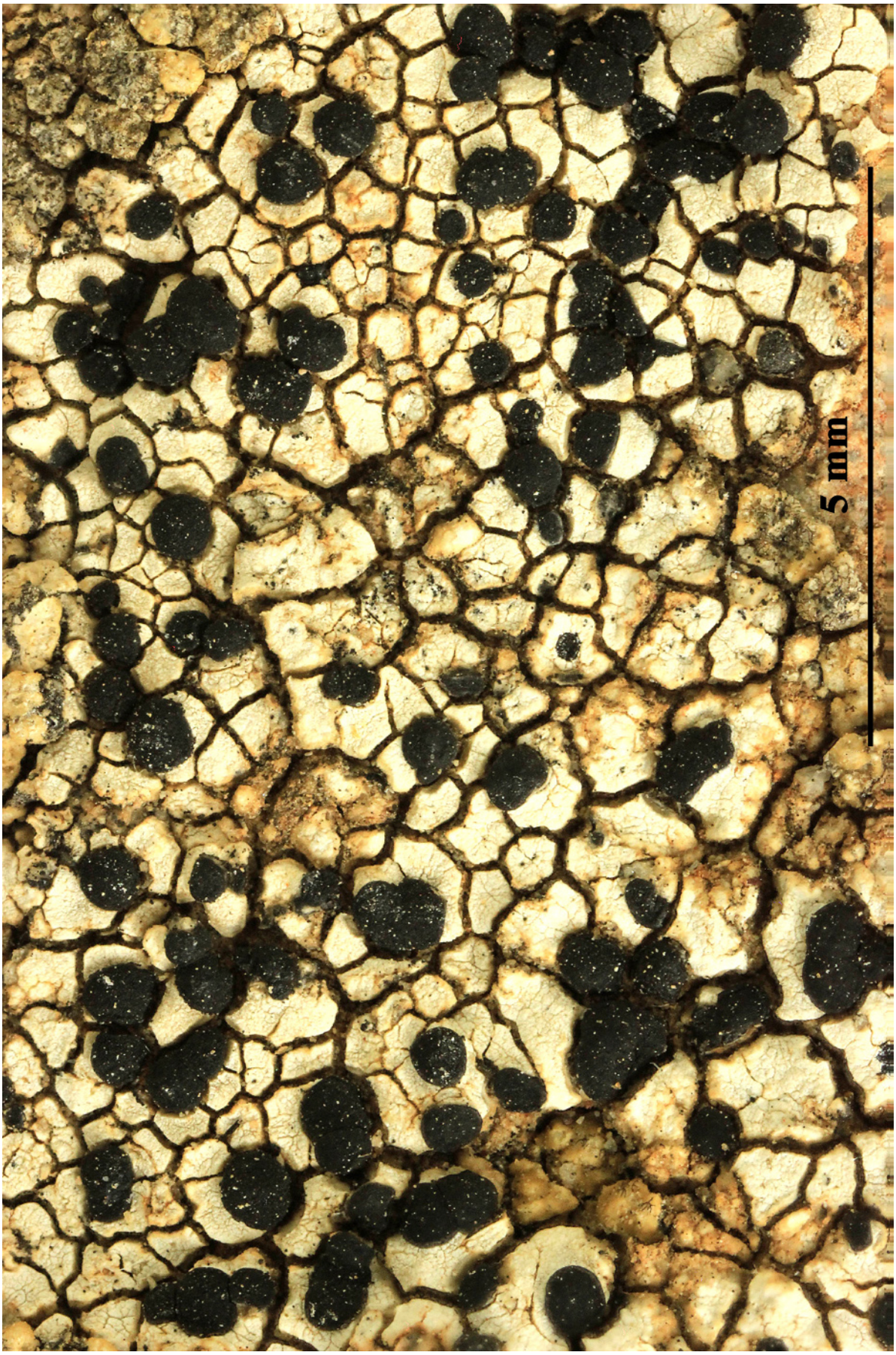
Buellia teloschistis

Buellia teloschistis

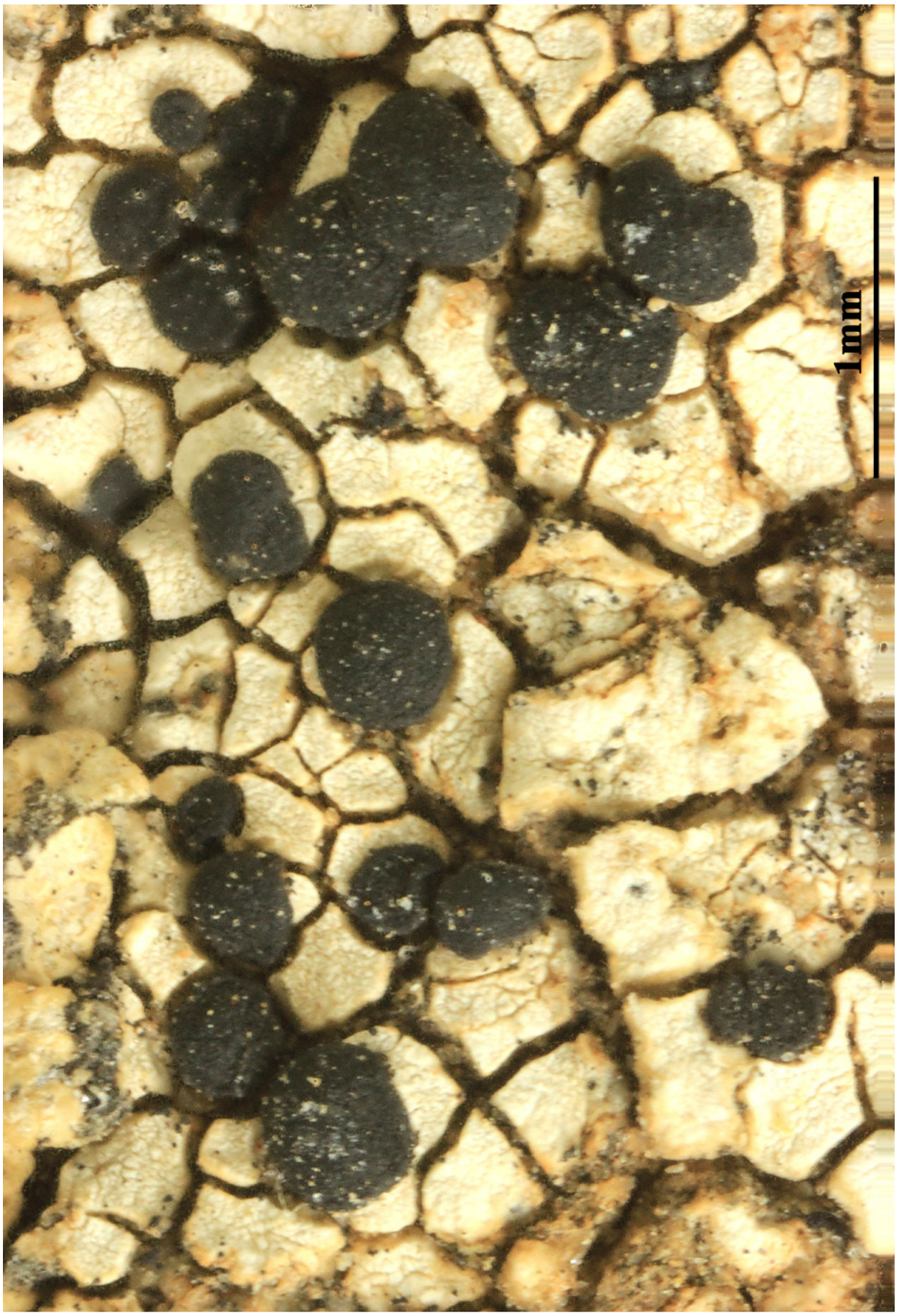
Buellia tergestina J. Steiner & Zahlbr., Annln K. K. naturh. Hofmus. Wien 9: 134 (1894)
= *Buellia dispersa* (A. Massal.) A. Massal. Sched. Crit., 8: 150, 1856.
= *Catolechia maritima var. dispersa* A. Massal. - Symmicta Lich.: 52, 1855.
= *Buellia dispersa var. cinerascens* Bagl.
= *Buellia duartei* Samp.
= *Buellia italica var. tumida* A. Massal.
= *Buellia squamulata* (Nyl.) Zahlbr.
= *Buellia tumida* (A. Massal.) Bagl.
=*Lecidea squamulata* Nyl.

[VZ2242], Hispania. Prov. Almeria: Nijar, in colle El Joyazo, 200 m-Ad lavam. Leg. X. Llimona, 12.9.1975. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2242.

Thallus crustose, very variable, of dispersed to contiguous areoles, often becoming subsquamulose and sometimes sublobate at margins, thick, ivory, beige to deep brown or grey, smooth to deeply fissured, with fine or coarse pruina, rarely epruinose, phenocorticate. Medulla white, non-amyloid. Apothecia lecideine; (0.3-)0.4-0.7(-0.8) mm across, sessile, with a black, flat to strongly convex disc and a persistent, rarely excluded proper margin. Proper exciple well developed, brown throughout, N-, up to 80 µm thick, Dispersa-type, of radially arranged hyphae, the inner part of long-celled, parallel, strongly agglutinated and thick-walled hyphae, the outer part of short-celled, isodiametric hyphae without intercellular spaces; epithecium brown, N-; hymenium colourless, not inspersed with oil droplets; paraphyses simple or sparingly branched, apically swollen, with a brown pigment cap. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 1-septate, usually not constricted at septum, brown, narrowly-oblong to ellipsoid with obtuse ends, not curved, (9-)12-16(-19) x (4-)7-9 µm, Physconia-type, the wall microrugulate. Photobiont chlorococcoid. Pycnidia rare, urceolate to globose, unilocular. Conidia bacilliform, 5-6 x 1-1.5 µm. Spot tests: thallus K+ yellow, C-, KC-. P+ yellow. Chemistry: atranorin, 2-O-methylperlatolic and sometimes confluentic acid. - Note: a xeric subtropical to mild-temperate lichen of base-rich or slightly lime-containing siliceous rocks in warm-dry situations, present both in the Mediterranean area and in dry Alpine valleys.



Buellia tergestina



Buellia tergestina

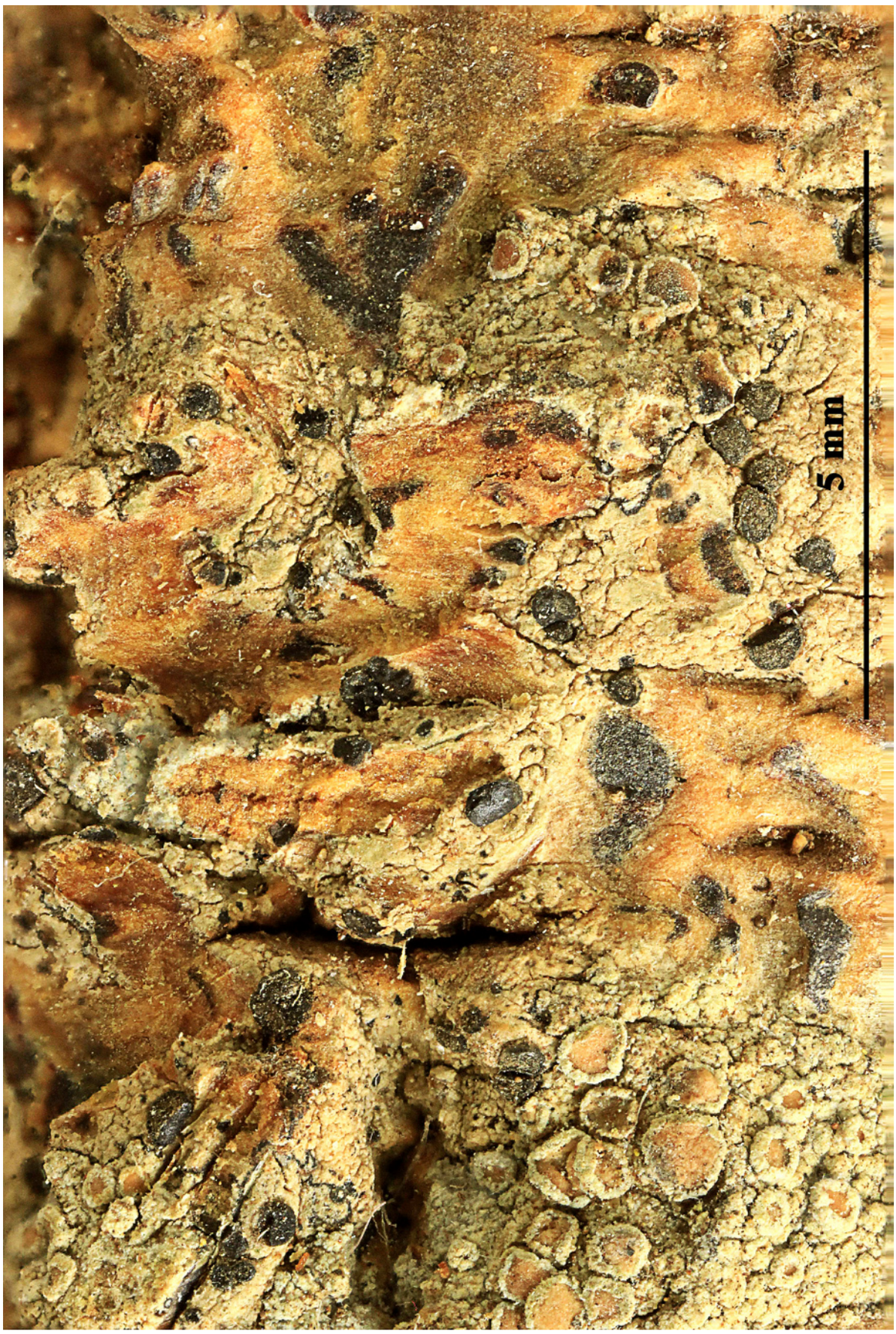
Buellia tincta J. Steiner ex H. Magn., in Magnusson & Zahlbruckner, Ark. Bot. 32A(no. 2): 44 (1945)

[VZ1563], Hawaii Insulae. Kohala Streem secus viam Waimea - Kohala, 1050 m. Ad corticem in ramulis *Acaciae koaiae*. Leg. O. Degener (no. 34227), 26.1.1977, det. K. Kalb. EX A. V ZDA LICHENES SELECTI EXSICCATI NR. 1563.

Description from: Magnusson & Zahlbruckner, Ark. Bot. 32A(no. 2): 44:

Thallus late expansus, sordide albescens, continuus, tenuis, rimulosus, K+ rubescens. Apothecia sparsa (vel densa), adpressa, majuscula, disco atro, plano, margine subtenui prominente cincto. Excipulum haud obscurum, K+ rubescens. Hypothecium tenue, fuscum. 'I'hecium non oleoso-inspersum. Sporae minutae, pariete subtenui, uniseptatae.

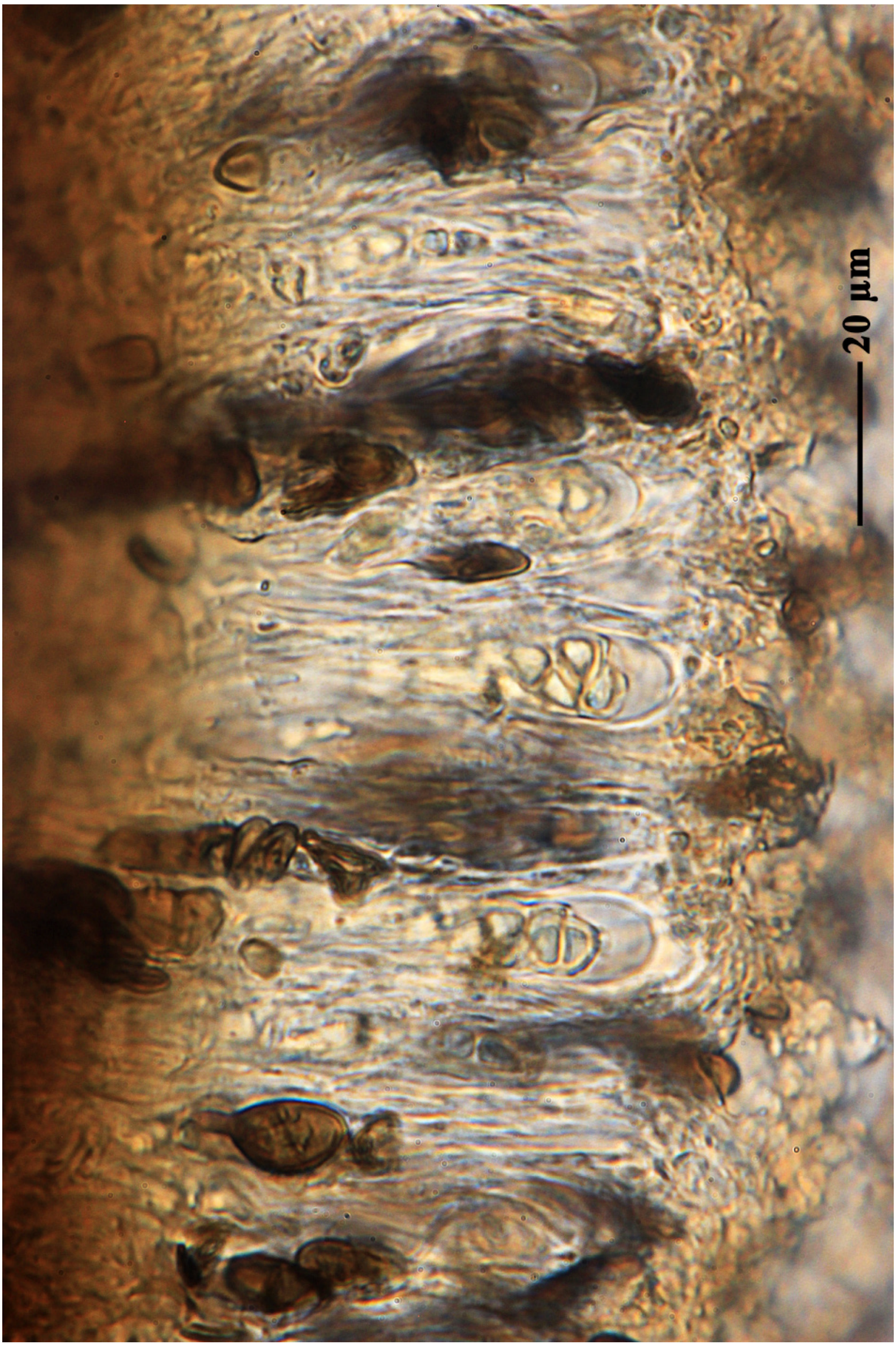
Thallus (in the type) effuse, with slightly convex parts, not distinctly areolate, J-, C-. Apothecia scattered, 0.5-1 mm wide, margin sometimes subflexuose; in the other specimen very dense, 0.7-1.5 mm wide. Thallus 100-150 µm thick, opaque without conspicuous cells or hyphae, in K producing a dark yellow mist, soon with rusty crystals, at last colourless. Gonidia 6-8 µm between the 3-3.5 µm thick, intricate hyphae. No cortex observed. - Apothecia 200-250 µm thick. Margin 50-70 µm thick, dark, surface 7-8 µm dark greenish brown, the interior dark sordid yellowish green with perpendicular to intricate hyphae, innermost layerdark brown, confluent with 35-50 µm dark brown hypothecium Thallus late expansus, sordide albescens, continuus, tenuis, rimulosus, K+ rubescens. Apothecia sparsa (vel densa), adpressa, majuscula, disco atro, plano, margine subtenui prominente cincto. Excipulum haud obscurum, K+ rubescens. Hypothecium tenue, fuscum. 'I'hecium non oleoso-inspersum. Sporae minutae, pariete subtenui, uniseptatae. - Thallus (in the type) effuse, with slightly convex parts, not distinctly areolate, J-, C-. Apothecia scattered, 0.5-1 mm wide, margin sometimes subflexuose; in the other specimen very dense, 0.7-1.5 mm wide. Thallus 100-150 µm thick, opaque without conspicuous cells or hyphae, in K producing a dark yellow mist, soon with rusty crystals, at last colourless. Gonidia 6-8 µm between the 3-3.5 µm thick, intricate hyphae. No cortex observed. - Apothecia 200-250 µm thick. Margin 50-70 µm thick, dark, surface 7-8 µm dark greenish brown, the



Buellia tincta

Buellia tincta

Buellia tincta



Buellia tincta

Buellia tincta

Buellia venusta (Körb.) Lettau, Hedwigia 52(3-4): 244 (1913)
= *Diplotomma venustum* Körb., Parerga lichenol. (Breslau) 2: 179 (1860) [1865]
= *Buellia alboatra* var. *venusta* (Körb.) Th. Fr., Lich. Scand. (Upsaliae)(2): 608 (1874)
= Buellia epipolia *var*. venusta (Körb.) Mong., Bull. Géogr. Bot. 9: 242 (1900)
= *Buellia margaritacea* var. *venusta* (Körb.) Räsänen, Ann. bot. Soc. Zool.-Bot. fenn. Vanamo 18(no. 1): 48 (1943)
= *Diplotomma epipolium* f. *venustum* (Körb.) Arnold, Flora, Regensburg 67(30): 590 (1884)
= *Diplotomma epipolium* var. *venustum* (Körb.) Szatala [as 'venusta'], in Degen, Flora Velebitica 3: 375 (1938)
= *Lecidea alboatra* var. *venusta* (Körb.) Vain., Meddn Soc. Fauna Flora fenn. 10: 122 (1883)
= *Lichen amylaceus* var. *venusta* (Körb.) Mong., Bull. Géogr. Bot. 9: 242 (1900)
= *Rhizocarpon alboatrum* var. *venustum* (Körb.) Anzi, Comm. Soc. crittog. Ital. 2(fasc. 1): 20 (1864)

[VZ1149], Gallia. Savole, Montgirod, prope lacum Arcachat, 1940 m. Ad saxa calcarea. Leg. J. Asta et Cl. Roux. EX VěZDA LICHENES SELECTI EXSICCATI NR. 1149.

Thallus crustose, episubstratic, white to pale grey, continuous to verrucose-areolate, very thick, forming up to 4 cm wide, orbicular patches. Cortex colourless, indistinctly paraplectenchymatous; medulla chalky white, I-. Apothecia lecideine, at first immersed then subsessile, 0.4-1.5 mm across, with an initially flat, then soon strongly convex, often slightly white-pruinose disc, a thin, soon excluded proper margin, and usually a pseudothalline margin in young apothecia. Proper exciple dark brown in section, not continuous with hypothecium; epithecium brown; hymenium colourless, K/I+ blue; paraphyses simple, 1-1.5 µm thick at mid-level, the apical cells 2.5-4.5 µm wide; hypothecium pale brown. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, approaching the Bacidia-type. Ascospores 3-septate, brown, ellipsoid, often slightly curved, 16-22 x 7-10 µm. Photobiont chlorococcoid. Spot tests: medulla K+ yellow turning red (needle-like crystals), C-, KC-, P+ yellow, UV-. Chemistry: medulla with norstictic acid. - Note: this mild-temperate to Mediterranean lichen, at least when young, is a constant parasite on *Protoparmeliopsis versicolor*, reaching above treeline south of the Alps.

Buellia venusta

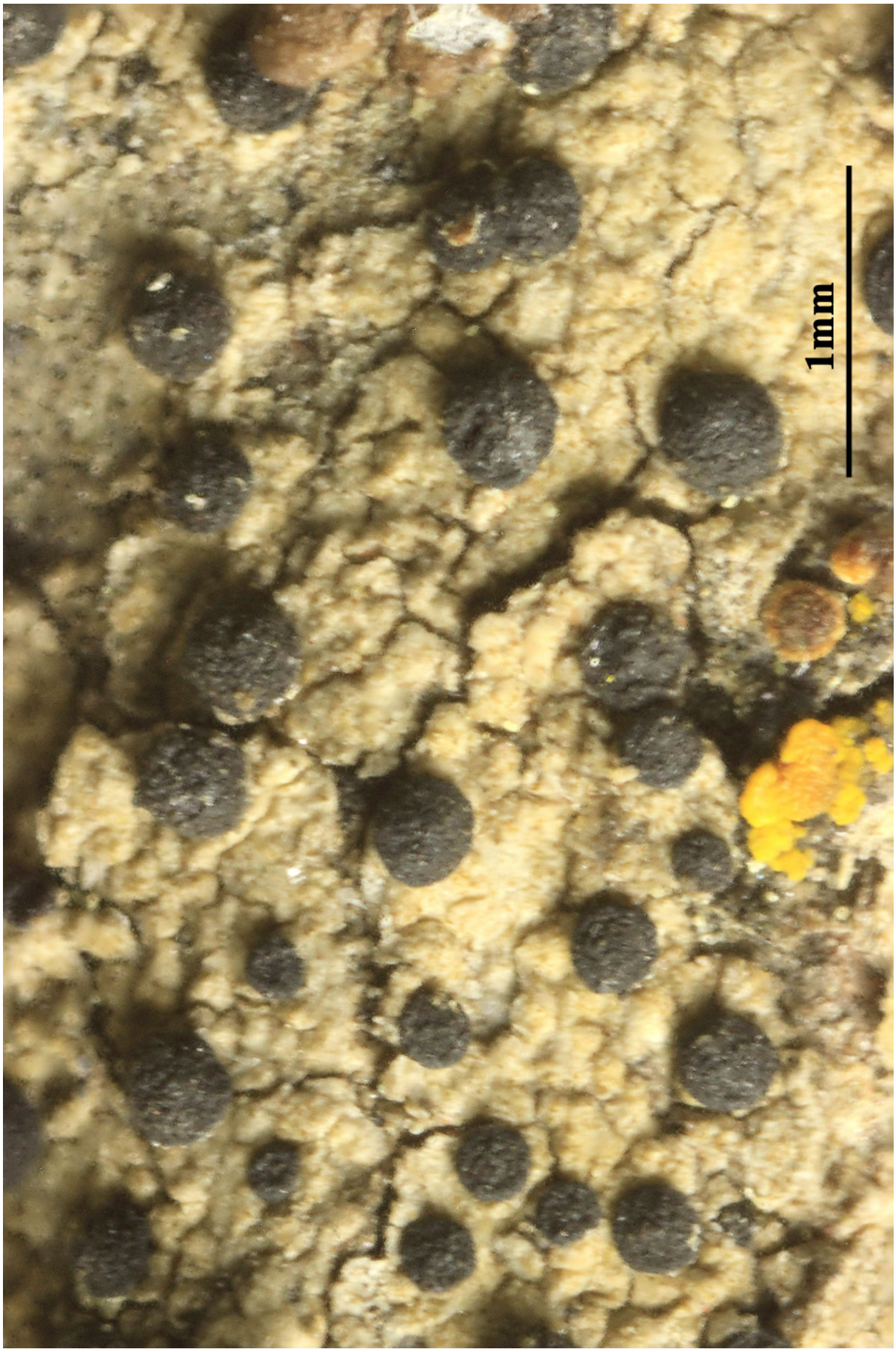
Buellia venusta

Buellia zahlbruckneri J. Steiner, in Zahlbruckner, Denkschr. Kaiserl. Akad. Wiss., Math.-Naturwiss. Kl. 83: 193 (1909)
= *Buellia erubescens* Arnold Verh. zool.-bot. Ges. Wien, 25: 493, 1875.
= *Buellia jorgei* Samp.

[VZ1814],URSS. Caucasus Magnus, regio montis Elbrus. Baksan, in valle torrentis Adyrsu, 1850 m. Ad ramulos Pino silvestris in ripa torrentis. Leg. V. Vašák et A. Vězda, 25.6.1980. Ex A. Vězda Lichenes Selecti Exsiccati Nr. 1814.

Thallus crustose, episubstratic, smooth to rimose, white to whitish grey, often delimited by a black prothalline line. Medulla white, lacking calcium oxalates, I- Apothecia lecideine, black, (0.3-)0.5-1.2(-1.6) mm across, sessile, with a flat to convex, often pruinose disc, and an initially thick, later thinner and finally excluded proper margin. Proper exciple well developed, 80-125 µm wide in lower part, brown throughout, Dispersa-type, of radially arranged hyphae, the inner part of long-celled, parallel, strongly agglutinated and thick-walled hyphae, the outer part of short-celled, isodiametric hyphae without intercellular spaces, N-, K+ yellow or K+ yellow then red (red crystals); epithecium brown, N-, in pruinose specimens inspersed with crystals reacting K+ red; hymenium colourless, not inspersed with oil droplets, (80-)100-110 µm high; paraphyses simple to sparingly branched, the apical cells slightly swollen, 2-4 µm wide, with a dark cap. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 1-septate, not constricted at septum, brown, ellipsoid to broadly ellipsoid with rounded apices, not curved, (10-)13-18(-20) x (6-)7-8.5(-9.5) µm, Physconia-type when young, Buellia-type when mature, with a rough to faint microrugulate ornamentation. Pycnidia rare, black, immersed. Conidia bacilliform, 6-9 x 0.5-1 µm. Photobiont chlorococcoid. Spot tests: K+ yellow or K+ yellow-orange turning red, C-, KC-, P- or P+ faintly yellow, UV-. Chemistry: chemotype 1) atranorin, norstictic and connorstictic acids, plus traces of salazinic and hyposalazinic acids, zeorin and an unknown secalonic acid derivative; chemotype 2) atranorin, traces of norstictic and connorstictic acids, and of a secalonic acid derivative. - Note: on acid and smooth bark in warm-humid areas.

Buellia zahlbruckneri



Buellia zahlbruckneri

Buellia zoharyi Galun, The Lichens of Israel (Jerusalem): 74 (1970)
= *Buellia patouillardii* (Hue) Zahlbr. Cat. Lich. Univ., 7: 387, 1931.
= *Lecidea patouillardii* Hue - in Patouillard, Cat. Rais. Pl. Cellul. Tunisie: 149, 1897

[VZ2172], Cyprus. Larnaca, in vicinitate vici Oroklini, haud procul a litore, 5 m. Ad saxa parva conglomerata arenacea, Leg. A. Vězda, 25.6.1987. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2172.

Thallus crustose-placodioid, episubstratic, of radiating, white-pruinose, 1-2 cm long, 0.4-1 mm wide lobes, forming orbicular to irregular, up to 4 cm wide rosettes. Cortex c. 75 µm thick; medulla white, filled with crystals, I-; lower surface pale, attached with rhizohyphae. Apothecia not always present, lecideine, 0.5-1.7 mm across, at first immersed but soon becoming adnate, with a black, sometimes white-pruinose, flat to slightly convex disc, and a thin, black, often pruinose, persistent proper margin; a pseudothalline margin is sometimes present at the base of the proper margin. Proper exciple of radiating hyphae, dark red-brown, 50-110(-200) µm wide; hymenium colourless, not inspersed with oil droplets, 60-90 µm high, I+ blue; paraphyses 2-3.5 µm thick at mid-level, the apical cells up to 7.5 wide, with a brown cap; hypothecium greenish brown in upper part, black-brown in lower part, up to 200 µm high. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 1-septate, slightly constricted at septa, brown, oblong-ellipsoid, (10-)10.5-15(-17.5) x 5.5-8.5 µm, with a microfoveate ornamentation. Pycnidia black, cylindrical to pear-shaped. Conidia bacilliform, 4-6.5 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: cortex K+ yellow (reaction sometimes faint), C-, KC-, P-; medulla K-, P-, or K+ red, P+ orange-red in spots. Chemistry: cortex with atranorin; medulla sometimes with norstictic and stictic acids. - Note: a widespread Macaronesian-Mediterranean species growing on gypsum and calciferous soil.

Buellia zoharyi

Buellia zoharyi

Buellia zoharyi Galun, The Lichens of Israel (Jerusalem): 74 (1970)
= *Buellia patouillardii* (Hue) Zahlbr. Cat. Lich. Univ., 7: 387, 1931.
= *Lecidea patouillardii* Hue - in Patouillard, Cat. Rais. Pl. Cellul. Tunisie: 149, 1897

[VZ1308], Hispania. Distr. Madrid, prope Ciempozuelos, 600 m. Ad solum gypsaceum, meridiem versus inclinatum. Leg. X. Llimona, 18.6.1973. EX A VěZDA LUICHENES SELECTI EXSICCATI NR. 1308.

Thallus crustose-placodioid, episubstratic, of radiating, white-pruinose, 1-2 cm long, 0.4-1 mm wide lobes, forming orbicular to irregular, up to 4 cm wide rosettes. Cortex c. 75 µm thick; medulla white, filled with crystals, I-; lower surface pale, attached with rhizohyphae. Apothecia not always present, lecideine, 0.5-1.7 mm across, at first immersed but soon becoming adnate, with a black, sometimes white-pruinose, flat to slightly convex disc, and a thin, black, often pruinose, persistent proper margin; a pseudothalline margin is sometimes present at the base of the proper margin. Proper exciple of radiating hyphae, dark red-brown, 50-110(-200) µm wide; hymenium colourless, not inspersed with oil droplets, 60-90 µm high, I+ blue; paraphyses 2-3.5 µm thick at mid-level, the apical cells up to 7.5 wide, with a brown cap; hypothecium greenish brown in upper part, black-brown in lower part, up to 200 µm high. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 1-septate, slightly constricted at septa, brown, oblong-ellipsoid, (10-)10.5-15(-17.5) x 5.5-8.5 µm, with a microfoveate ornamentation. Pycnidia black, cylindrical to pear-shaped. Conidia bacilliform, 4-6.5 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: cortex K+ yellow (reaction sometimes faint), C-, KC-, P-; medulla K-, P-, or K+ red, P+ orange-red in spots. Chemistry: cortex with atranorin; medulla sometimes with norstictic and stictic acids. - Note: a widespread Macaronesian-Mediterranean species growing on gypsum and calciferous soil.

Buellia zoharyi

Buellia zoharyi

Buellia zoharyi Galun, The Lichens of Israel (Jerusalem): 74 (1970)
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= *Lecidea patouillardii* Hue - in Patouillard, Cat. Rais. Pl. Cellul. Tunisie: 149, 1897

[VZ2288], Maroccanum Regnum. Atlas Magnus. Marruecos, 9 km ad septentriones et occidente, ab Alt Baha. Ad terram. Leg. J. M. Egea, 8.4.1897. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 2288.

Thallus crustose-placodioid, episubstratic, of radiating, white-pruinose, 1-2 cm long, 0.4-1 mm wide lobes, forming orbicular to irregular, up to 4 cm wide rosettes. Cortex c. 75 µm thick; medulla white, filled with crystals, I-; lower surface pale, attached with rhizohyphae. Apothecia not always present, lecideine, 0.5-1.7 mm across, at first immersed but soon becoming adnate, with a black, sometimes white-pruinose, flat to slightly convex disc, and a thin, black, often pruinose, persistent proper margin; a pseudothalline margin is sometimes present at the base of the proper margin. Proper exciple of radiating hyphae, dark red-brown, 50-110(-200) µm wide; hymenium colourless, not inspersed with oil droplets, 60-90 µm high, I+ blue; paraphyses 2-3.5 µm thick at mid-level, the apical cells up to 7.5 wide, with a brown cap; hypothecium greenish brown in upper part, black-brown in lower part, up to 200 µm high. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 1-septate, slightly constricted at septa, brown, oblong-ellipsoid, (10-)10.5-15(-17.5) x 5.5-8.5 µm, with a microfoveate ornamentation. Pycnidia black, cylindrical to pear-shaped. Conidia bacilliform, 4-6.5 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: cortex K+ yellow (reaction sometimes faint), C-, KC-, P-; medulla K-, P-, or K+ red, P+ orange-red in spots. Chemistry: cortex with atranorin; medulla sometimes with norstictic and stictic acids. - Note: a widespread Macaronesian-Mediterranean species growing on gypsum and calciferous soil.

Buellia zoharyi

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= *Lecidea patouillardii* Hue - in Patouillard, Cat. Rais. Pl. Cellul. Tunisie: 149, 1897

[VZ1425], URSS. Azerbajdzania. Distr. Baku, reservatum Kobistan dictumj (in litore maris Caspii 60 km in austro- occidente a Baku), 200 m. Ad terram locis desertis in saxosis arenaceis. Leg. E. Jelínková et. A. Vezda, 17.5.1976. EX A. VEZDA LICHENES SELECTI EXSICCATI NR. 1425.

Thallus crustose-placodioid, episubstratic, of radiating, white-pruinose, 1-2 cm long, 0.4-1 mm wide lobes, forming orbicular to irregular, up to 4 cm wide rosettes. Cortex c. 75 µm thick; medulla white, filled with crystals, I-; lower surface pale, attached with rhizohyphae. Apothecia not always present, lecideine, 0.5-1.7 mm across, at first immersed but soon becoming adnate, with a black, sometimes white-pruinose, flat to slightly convex disc, and a thin, black, often pruinose, persistent proper margin; a pseudothalline margin is sometimes present at the base of the proper margin. Proper exciple of radiating hyphae, dark red-brown, 50-110(-200) µm wide; hymenium colourless, not inspersed with oil droplets, 60-90 µm high, I+ blue; paraphyses 2-3.5 µm thick at mid-level, the apical cells up to 7.5 wide, with a brown cap; hypothecium greenish brown in upper part, black-brown in lower part, up to 200 µm high. Asci 8-spored, clavate to cylindrical-clavate, the apical dome K/I+ dark blue with a pale, conical-pointed apical cushion (axial mass), the wall I-, but the thin outer gel I+ blue, Bacidia-type. Ascospores 1-septate, slightly constricted at septa, brown, oblong-ellipsoid, (10-)10.5-15(-17.5) x 5.5-8.5 µm, with a microfoveate ornamentation. Pycnidia black, cylindrical to pear-shaped. Conidia bacilliform, 4-6.5 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: cortex K+ yellow (reaction sometimes faint), C-, KC-, P-; medulla K-, P-, or K+ red, P+ orange-red in spots. Chemistry: cortex with atranorin; medulla sometimes with norstictic and stictic acids. - Note: a widespread Macaronesian-Mediterranean species growing on gypsum and calciferous soil.

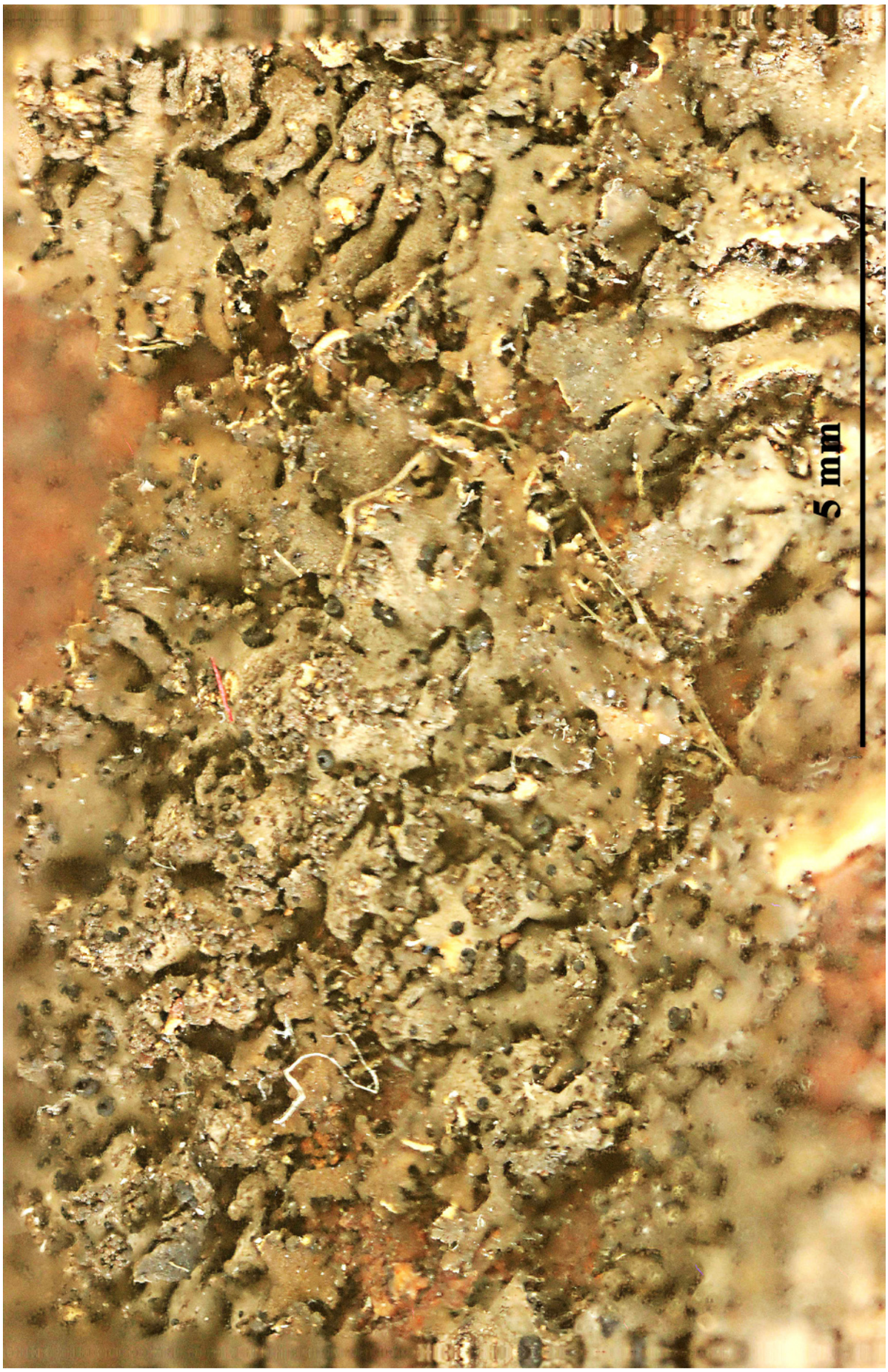
Buellia zoharyi

Buellia zoharyi

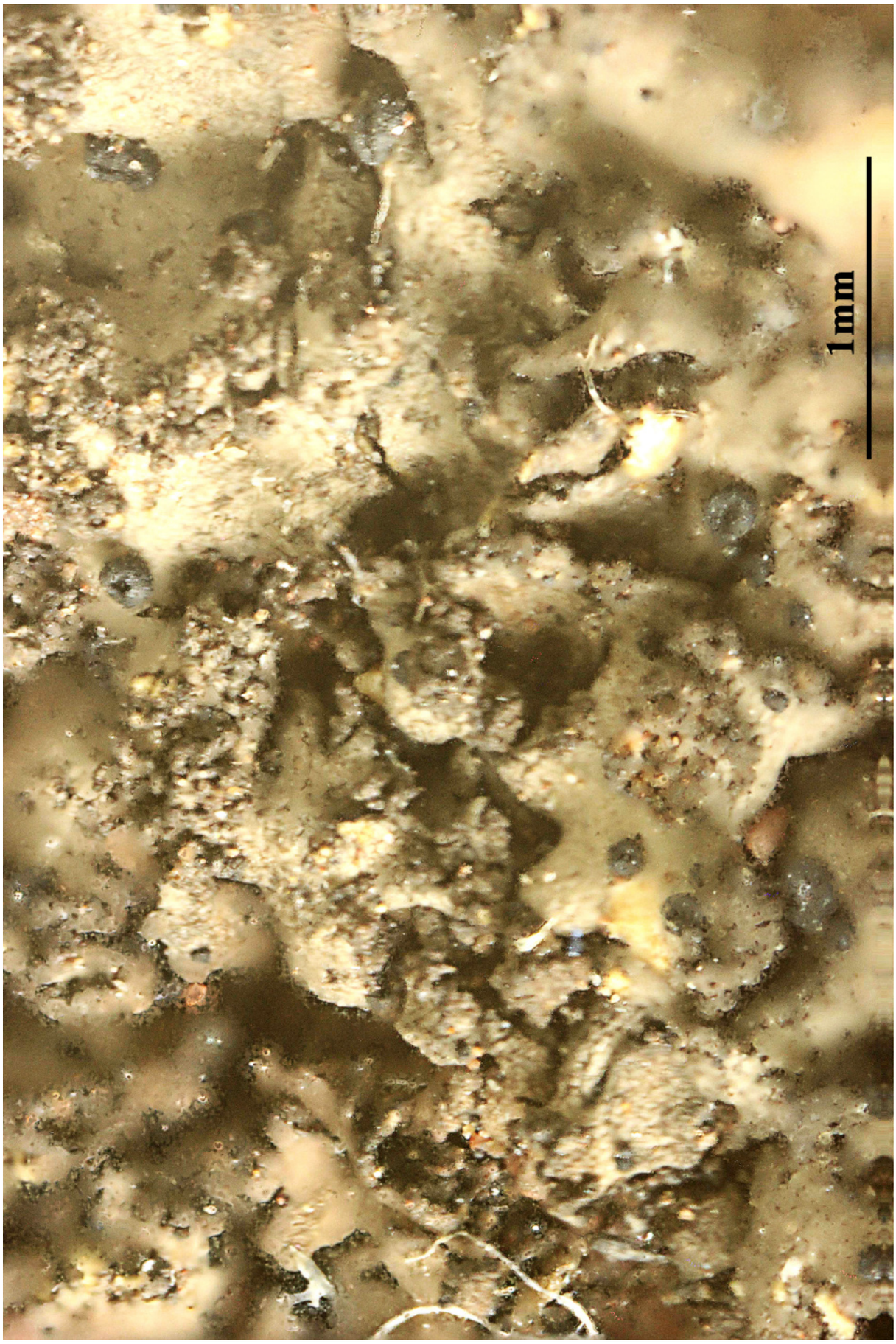
Buelliella physciicola Poelt & Hafellner, Beih. Nova Hedwigia 62: 155 (1979)

[VZ1675], Bohemoslovacia. Moravia austro-occidentalis, in valle fluminis Rokytná supra urbem Moravský Krumlov, 280 m. In thallo *Physciae sciastrae* parasitice vigens, in rupibus conglomeraticis. Leg. J. Poelt et A. Vězda. EX A. VěZDA LICHENES SELECTI EXSICCATI NR. 1675. - ISOTYPUS.

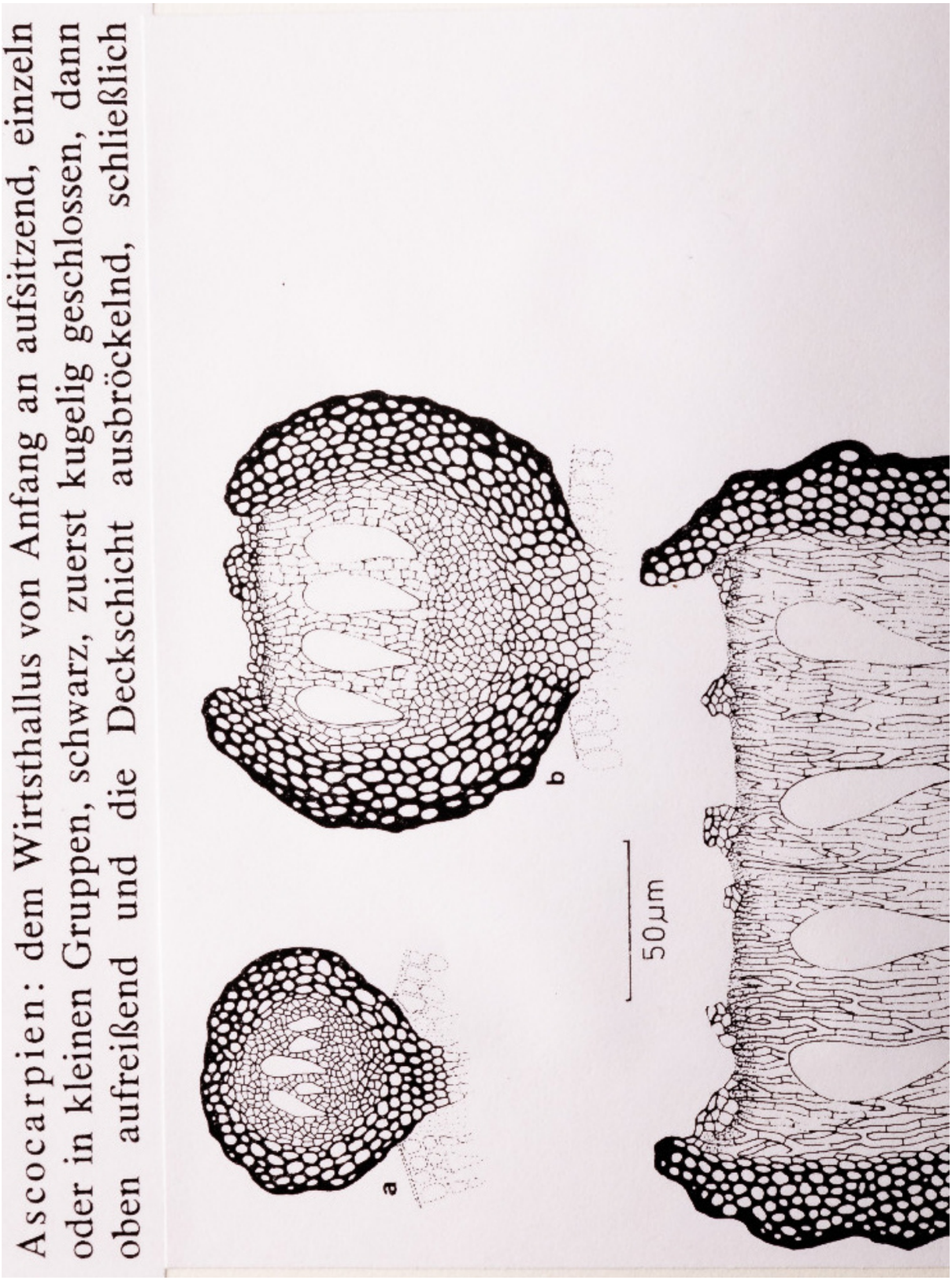
Mycelium: immersed, invisible Pseudothecia: black, sessile, spherical at first, apothecioid when mature, hymenium: hyaline, pale brown in the uppermost part, 70-80 µm tall, I-; paraphysoids: branched and with anastomoses, 2-3 µm thick, with slightly enlarged end cells, embedded in a pale brown gel asci: broadly cylindrical, 50-60 x 12-17 µm, mostly 8-spored, rarely single asci with only 6 or 4 ascospores ascospores: remaining hyaline for a long time, finally pale brown, 1-septate, (12-)13-17 x 6-8.5 µm Hosts: commensalic to slightly parasitic on thalli of *Phaeophyscia cernohorskyi, P. hirsuta, C. hispidul*a and *P. orbicularis,* and *P. sciastra* (host of the type), *P. endococcinodes* and *P. cf. hirtuosa*; host thalli not or only slightly discolored by the infection World distribution: known from several scattered localities in Europe, Asia (Japan), Africa (Canary Islands), North America and South America (Peru). - *Buelliella physciicola* is normally found growing on thalli of populations of *Phaeophyscia* species on rocks living under semi-arid climatic conditions. Thalli of Phaeophyscia species on rock and soil may also be infested with the endoparasitic lichen *Buellia pulverulenta* (Anzi) Jatta, but this species is easily distinguished by its 3-septate ascospores and the lecanoralean asci.



Buelliella physciicola



Buelliella physciicola



Ascocarpien: dem Wirtsthallus von Anfang an aufsitzend, einzeln oder in kleinen Gruppen, schwarz, zuerst kugelig geschlossen, dann oben aufreißend und die Deckschicht ausbröckelnd, schließlich

Buelliella physciicola

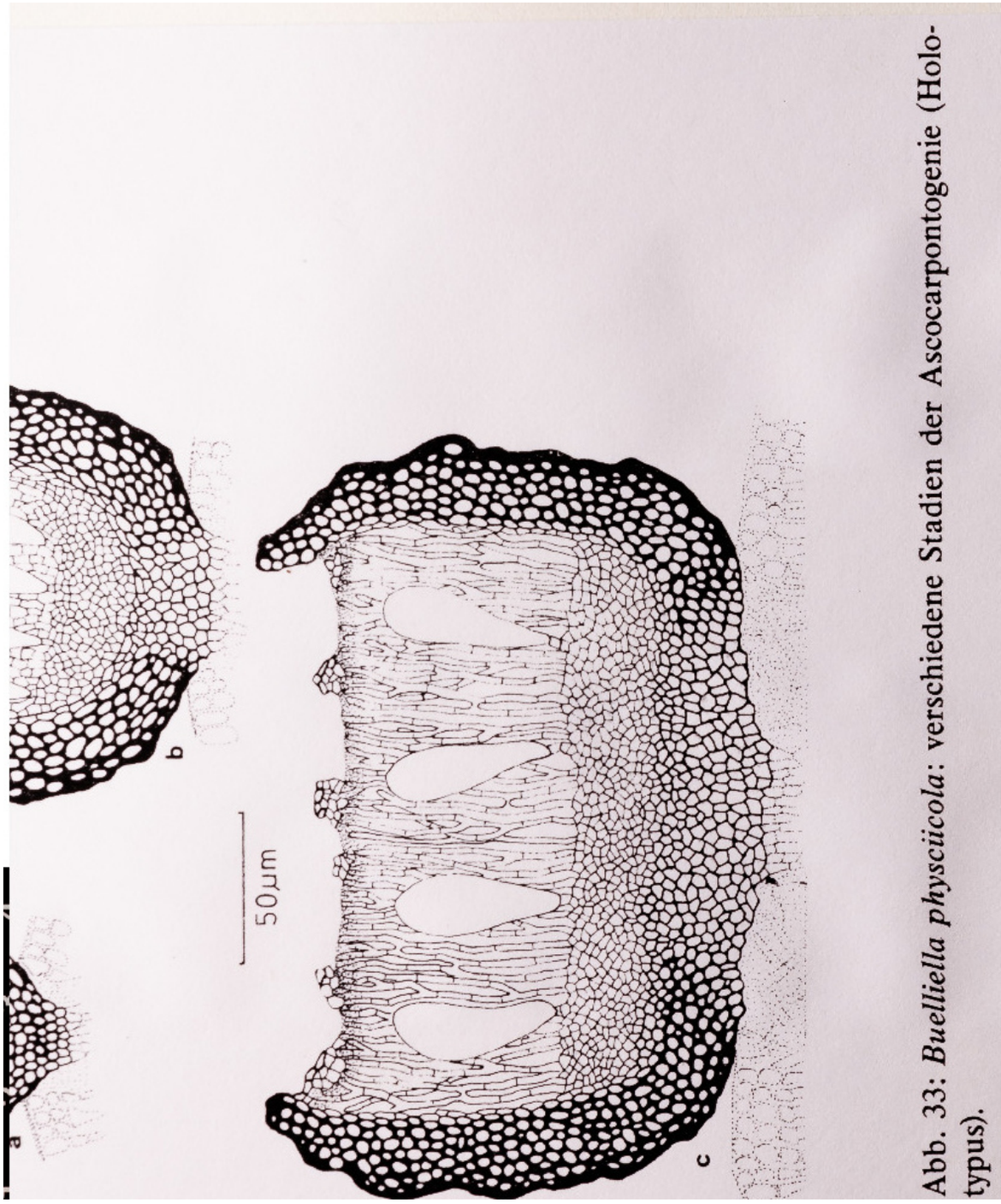
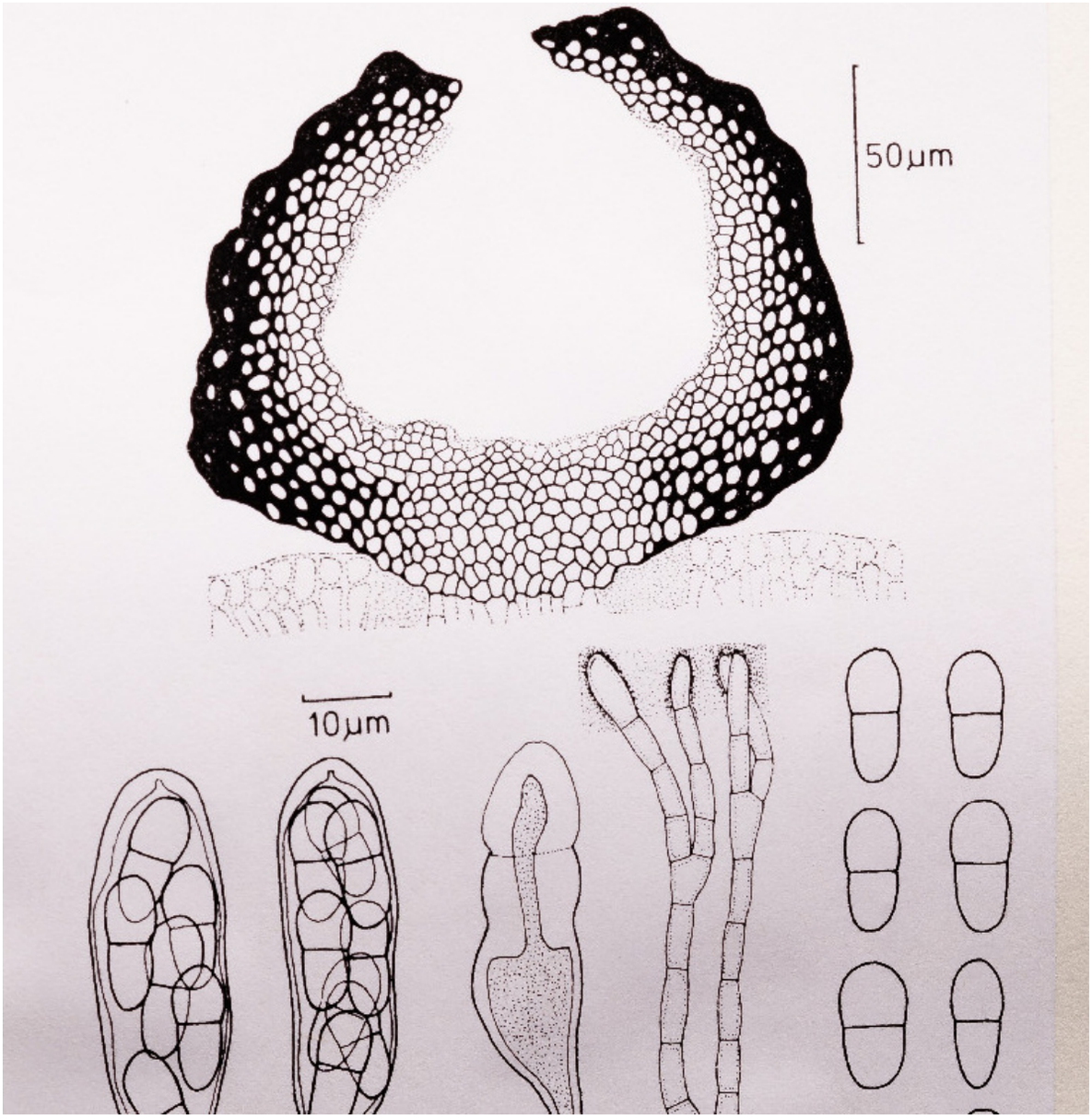


Abb. 33: *Buelliella physciicola*: verschiedene Stadien der Ascocarpontogenie (Holotypus).

Buelliella physciicola



Buelliella physciicola

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Bacidia inundata subsp. allecta (Nyl.) A.L. Sm..... 54, 58
Bacidia inundata var. allecta (Nyl.) B. de Lesd..... 54, 58
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