F. Schumm (2026):

Images of Lichens *from Japan 08*

ARCHIVE FOR LICHENOLOGY Vol 119
ISSN 1868-4173

With this volume I document a collection of images mainly out of the Exsiccats of Kashiwadani, Kurokawa and Ohmura from Japan 08 . The main names are always the names that are written on the Exsiccats. That is the reason why Parmelia, Punctelia, Flavoparmelia etc appear on different places. New synonyms can be found in the Index. I mostly omitted the search for description from the literature because most of them could be found in the earlier Vols. of Vezda

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

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

F. Schumm, 2026

Alectoria pubescens (L.) R. Howe, Lich. Cyan. et Fungi Sax. Exsicc.: 23 (1912)
= *Lichen pubescens* L. 1753
= *Pseudephebe pubescens* (L.) M. Choisy, Icon. Lich. Univ., fasc. 2 (Lyon): sine pag. (1930)

[KU454], Japan. Hokkaido. Prov. Ishikari: Takanegahara, Daisetsu Mts. On rocks, 1750 m. Leg. H. Kashiwadani (no.16278) and Y. Endo, 5.8.1980, det. H. Kashiwadani. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr. 454.

Thallus fruticose-filamentous, decumbent to shrubby, attached by disc-like hapters, dark brown to black, isotomic- or anisotomic-dichotomously branched, the internodes 1-3(-5) mm long (rarely <1 mm), forming rather loose, entangled mats on the rock. Branches to 0.5 mm thick, usually terete throughout (rarely weakly flattened at base and tips), shiny, without vegetative diaspores and pseudocyphellae or with usually inconspicuous pseudocyphellae. Cortex compact, 2-layered, the outer layer of rectangular to irregularly isodiametrical cells, the inner layer prosoplectenchymatous, of elongated, periclinallly arranged hyphae; medulla white, the cell walls with Cetraria-type and intermediate-type lichenan. Apothecia rare, lateral, zeorine, to 5.5 mm across, with a dark brown to black disc and a usually smooth margin. Proper exciple more or less distinct, colourless, slightly gelatinized; epithecium olive-brown, K+ grey-green; hymenium colourless; paraphyses branched and anastomosing, the apical cells not capitate; hypothecium colourless. Asci 8-spored, elongate-clavate, very thin-walled, with a K/I+ blue, tall tholus penetrated by a faintly amyloid apical cushion, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid, 7-12 x 5.5-8 µm, without a perispore. Pycnidia immersed in conspicuous, mainly axillay warts, with broadly gaping, clearly visible ostioles. Conidia slightly dumbbell-shaped, 5-7 x c. 1 µm. Photobiont chlorococcoid. Spot tests: K- or rarely K+ yellow turning red, C-, KC-, P-, UV-. Chemistry: without lichen substances or rarely with usually small amounts of norstictic acid. - Note: an arctic-alpine to (more rarely) boreal-montane lichen which is ecologically similar to *P. minuscula*, but with a somehow broader altitudinal range; more frequent than *P. minuscula* in the mountains of Southern Italy.



Alectoria pubescens



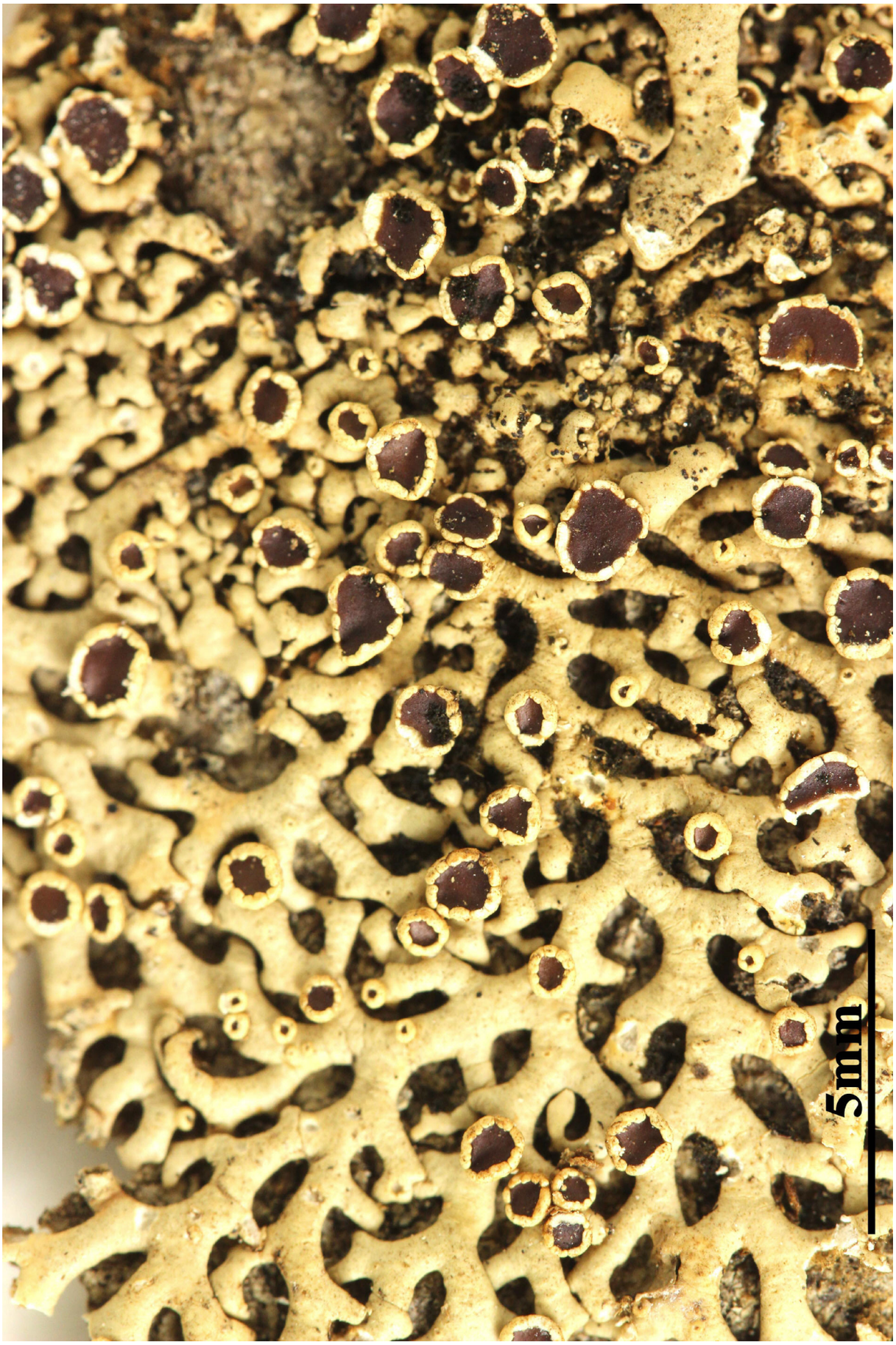
Alectoria pubescens

Parmelia intertexta Mont. & Bosch, in Montagne, Syll. gen. sp. crypt. (Paris): 327 (1856)

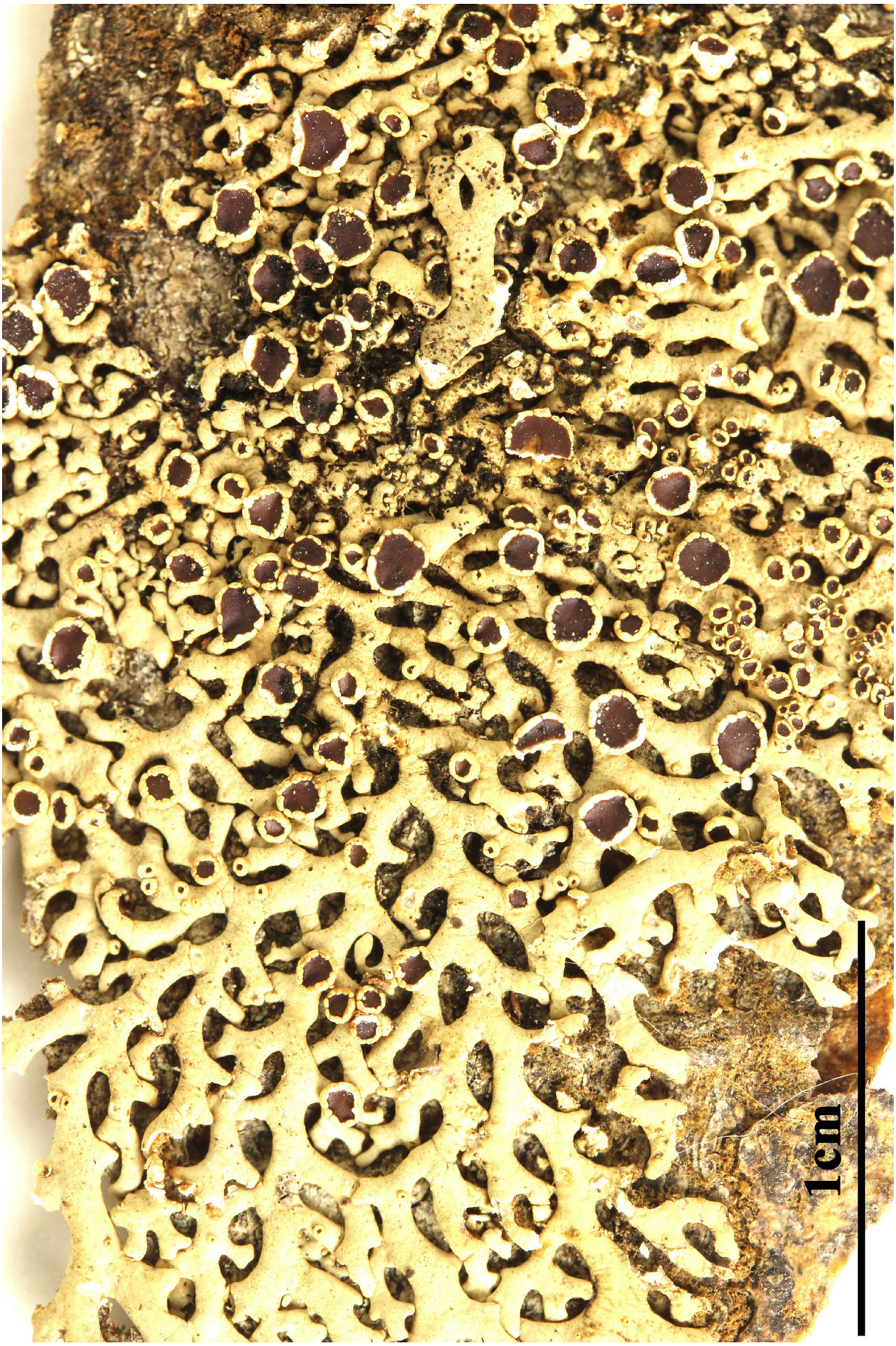
= *Relicina intertexta* (Mont. & Bosch) Kirika, Divakar & Lumbsch, in Kirika, Divakar, Leavitt, Buaruang, Crespo, Mugambi, Gatheri & Lumbsch, Lichenologist 49(3): 195 (2017)

[KU579], Papua New Guinea. Moroe District: Singarica Logging Area of South Pacific Timber Company, about 50 km north-east of Lae. On bark of trrr, 40 m. Leg. S. Kurokawa (no.9545), 9.11.1975, det. S. Kurokawa. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr. 579.

Thallus foliose, adnate, coriaceous, to 3–10 cm wide. Lobes contiguous centrally to separate at the periphery, imbricate, sublinear-elongate, dichotomously to subdichotomously branched, 0.5–2 mm wide; eciliate. Upper surface ±convex, dull, faintly maculate, smooth or becoming cracked, lacking isidia. Lower surface pale brown to tan; primary rhizines moderately dense, scattered, with a thick mass of fine, pale tan, densely branched or agglutinated secondary rhizines developing from primary rhizines or lower surface. Apothecia common, to 2 mm wide; disc ±flat or shallowly concave, pale brown to cinnamon-brown. Ascospores 5–7 × 3–5 µm. Pycnidia common. Conidia fusiform to bacilliform, 5–7 × 1 µm. CHEMISTRY: cortex K-, UV-; medulla K- or K+ pale brown, C-, KC+ pale brown, P+ orange-red; containing usnic acid, atranorin, protocetraric acid and ±protolichesterinic acid. - This rare species is found on the bark of mangroves and in the canopy of trees in coastal rainforests in north Qld Australia. It is common in dipterocarp forests in the Andaman Is., the Philippines, Thailand, West Malaysia, Sabah, Indonesia and Papua New Guinea.



Parmelia intertexta



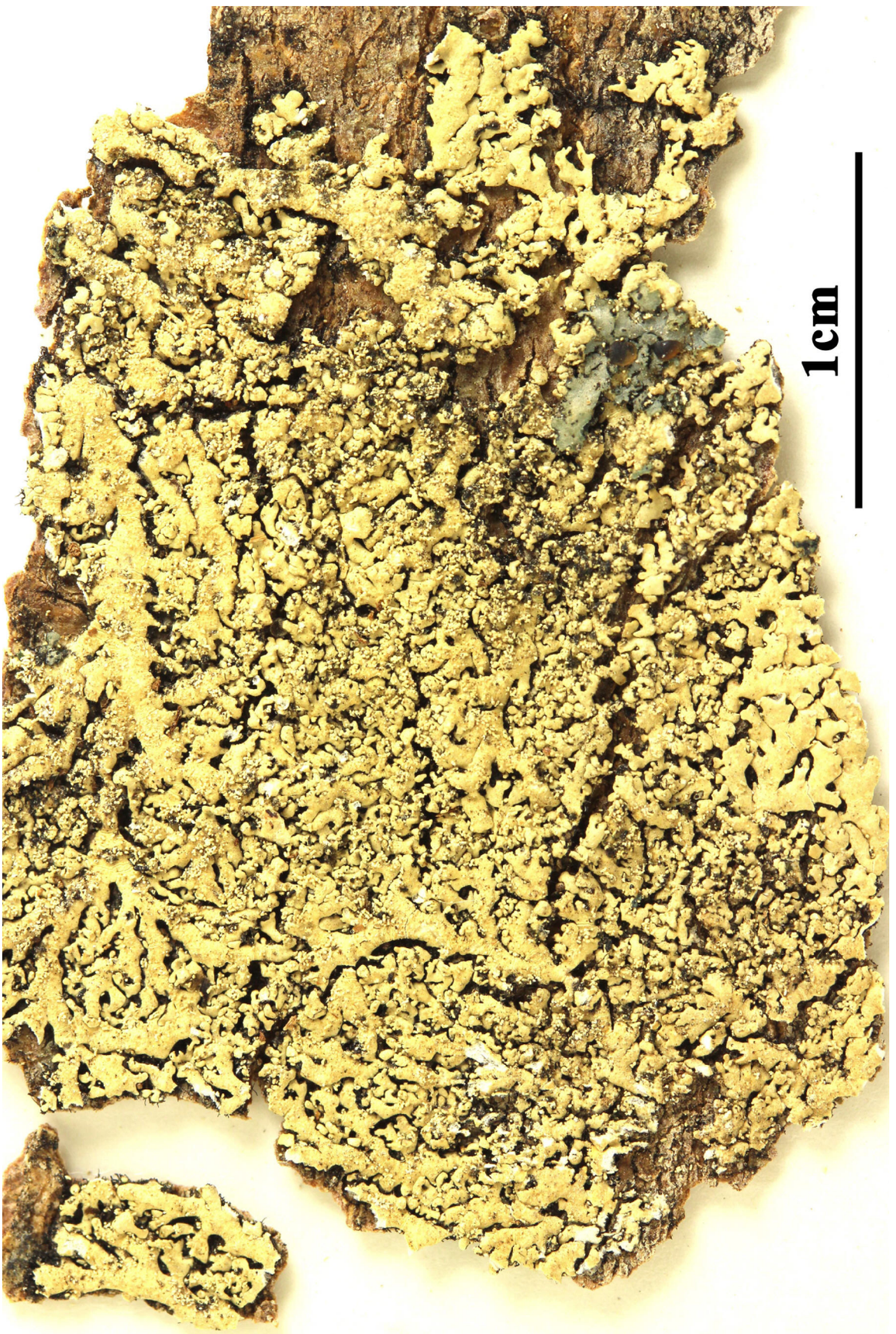
Parmelia intertexta

Parmelia malaccensis Nyl., in Nylander & Crombie, J. Linn. Soc., Bot. 20: 52 (1883)

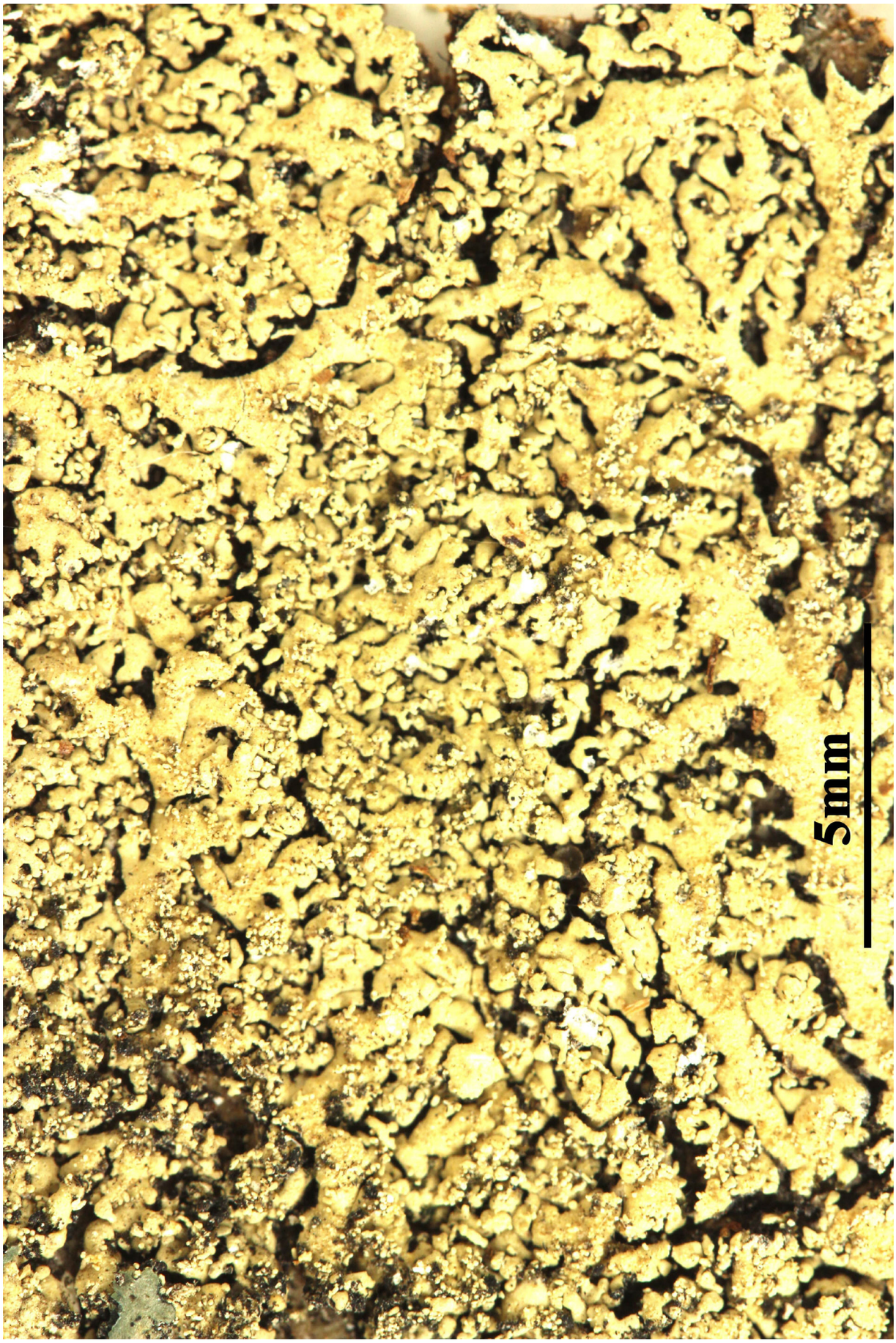
= *Relicina malaccensis* (Nyl.) Kirika, Divakar & Lumbsch, in Kirika, Divakar, Leavitt, Buaruang, Crespo, Mugambi, Gatheri & Lumbsch, Lichenologist 49(3): 195 (2017)

[KU580], Papua New Guinea. Morobe District: Singarica Logging Area of South Pacific Timber Company, 50 km north-east of Lae. On bark of tree, 40 m. Leg. S. Kurokawa (no. 9544), 9.11.1975, det. S. Kurokawa. Ex S. Kurokawa And H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr. 580.

Thallus foliose, tightly adnate, to 2–8 cm wide. Lobes contiguous centrally to ±separate at periphery, imbricate, sublinear, dichotomously to subdichotomously branched, short, 0.5–1.5 mm wide; eciliate or with simple cilia. Upper surface flat to slightly convex, shiny, white-maculate at lobe apices, transversely cracked with age; isidia simple, cylindrical, 0.1–0.5 mm high. Lower surface pale brown; rhizines dense, simple to sparsely branched, becoming dark brown. Apothecia rare, to 2 mm wide; disc ±flat or shallowly concave, cinnamon-brown. Ascospores 6–7 × 4–5 µm. Pycnidia not seen. CHEMISTRY: cortex K-, UV-; medulla K- or K+ pale brown, C-, KC+ pale brown, P+ orange-red; containing usnic acid, ±atranorin and protocetraric acid. - This scattered species is found on bark, on mangroves and trees in coastal rainforests in the N.T. and north Qld Australia. It is widespread on trunks and canopy branches of trees in lowland rainforests in Africa (Ivory Coast), southern India, Sri Lanka, the Philippines, West Malaysia, Sabah, Sarawak, Indonesia and Papua New Guinea.



Parmelia malaccensis

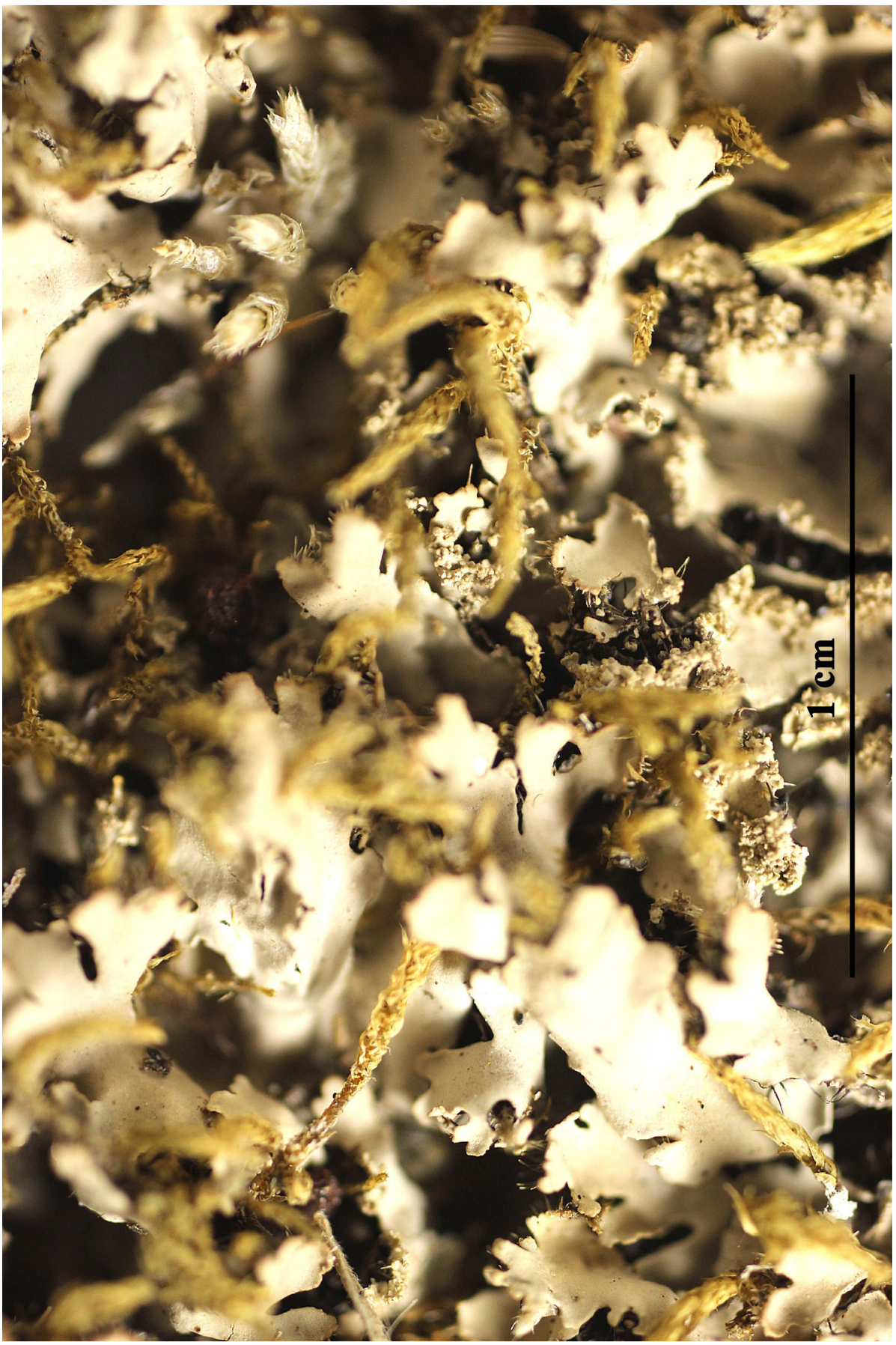


Parmelia malaccensis

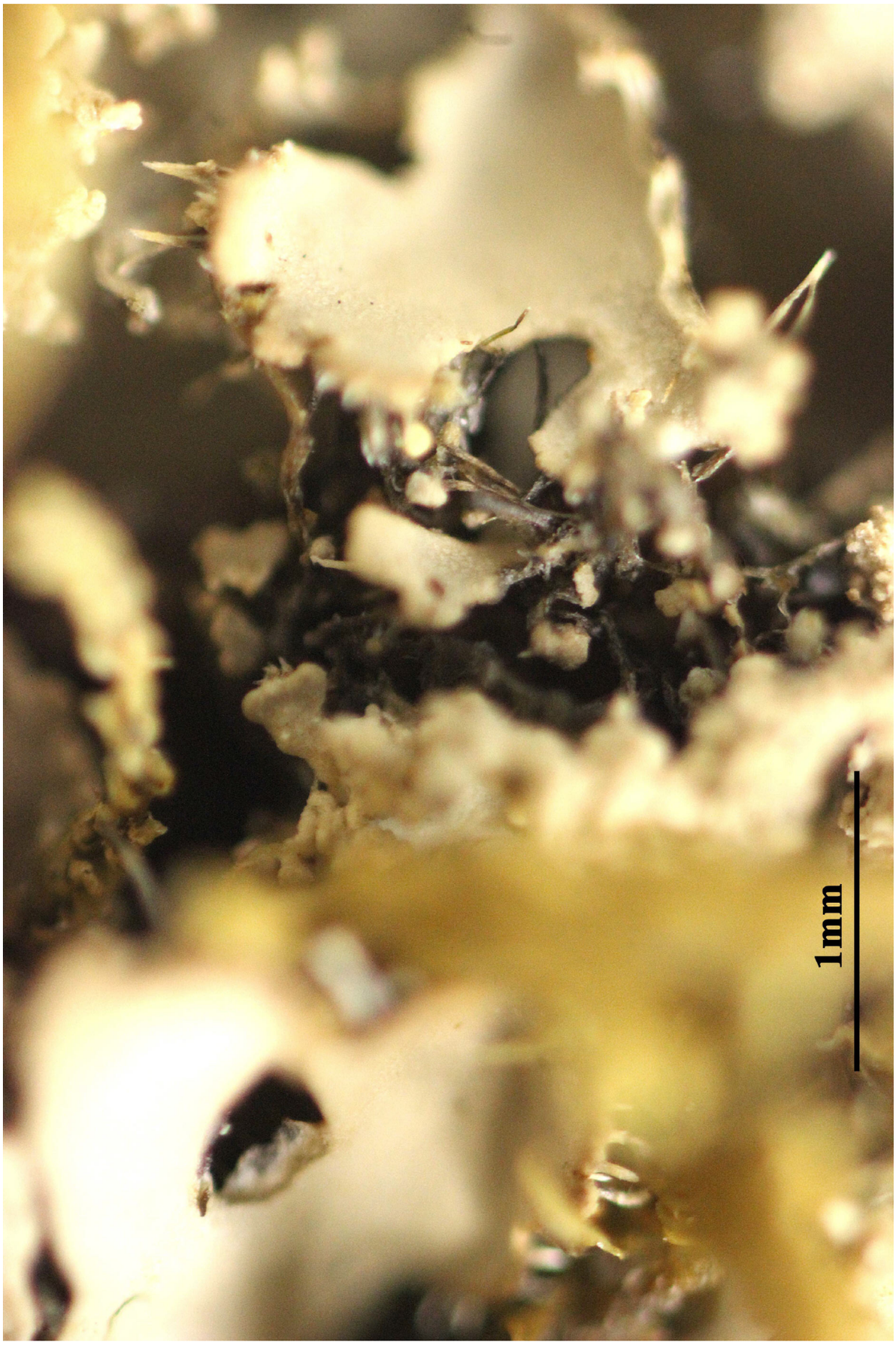
Phaeophyscia hispidula (Ach.) Essl. Mycotaxon, 7: 305, 1978.
= *Parmelia hispidula* Ach. - Lichenogr. Univ.: 468, 1810.
= *Phaeophyscia hispidula* (Ach.) Moberg, Bot. Notiser 131(2): 259 (1978)

[OH440], Japan. Kyushu. Prov. Bungo (pref. Ohita): Jobutsu, Kunisaki-cho, Higashi-kunisaki-gun. Onstone works,260 m. Leg. H. Kashiwadani (no. 45015), & Y. Umezu, 21.10.2002, det. H. Kashiwadani. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NHR. 440.

Thallus foliose, heteromerous, dorsiventral, forming orbicular to irregular, up to 10(-12) cm wide rosettes. Lobes discrete or partly imbricate, (1-)2-4(-6) mm wide, concave, usually slightly ascending at apex, surrounded by numerous dark, projecting rhizines. Upper surface grey to grey-brown, usually dull, epruinose, with granular to isidioid, mostly marginal or submarginal, soredia which are sometimes gathered in capitate soralia. Lower surface black, sometimes dark brown at lobe ends, with dark, mostly simple rhizines well-projecting beyond the margins. Upper and lower cortex paraplectenchymatous; medulla white. Apothecia very rare, lecanorine, up to 2 mm across, sessile, with a dark disc and an entire to irregularly crenate thalline margin that often bears a dense corona of rhizines. Epithecium brown; hymenium and hypothecium colourless; paraphyses slender, often forked in upper part, the apical cells clavate, with a thin dark cap. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, brown, ellipsoid, 18-25(-28) x 7-12(-14) µm, Physcia-type. Spot tests: cortex and medulla K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a mainly circumboreal-montane species, mostly found on terricolous or saxicolous bryophytes in upland areas.



Phaeophyscia hispidula



Phaeophyscia hispidula

Phaeophyscia hispidula (Ach.) Moberg, Bot. Notiser 131(2): 259 (1978)
= *Parmelia hispidula* Ach. 1810

[OH470], Taiwan. Chiayi Co.: along Fenchihu-Rueili Historic Trail, Fencihu. Jhuci Township (23°30'E, 120°41'). On concrete, 1400 m. Leg. Y. Ohmura (no.8678), 3.10.2011, det. Y. Ohmura. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 470.

Thallus foliose, heteromerous, dorsiventral, forming orbicular to irregular, up to 10(-12) cm wide rosettes. Lobes discrete or partly imbricate, (1-)2-4(-6) mm wide, concave, usually slightly ascending at apex, surrounded by numerous dark, projecting rhizines. Upper surface grey to grey-brown, usually dull, epruinose, with granular to isidioid, mostly marginal or submarginal, soredia which are sometimes gathered in capitate soralia. Lower surface black, sometimes dark brown at lobe ends, with dark, mostly simple rhizines well-projecting beyond the margins. Upper and lower cortex paraplectenchymatous; medulla white. Apothecia very rare, lecanorine, up to 2 mm across, sessile, with a dark disc and an entire to irregularly crenate thalline margin that often bears a dense corona of rhizines. Epithecium brown; hymenium and hypothecium colourless; paraphyses slender, often forked in upper part, the apical cells clavate, with a thin dark cap. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, brown, ellipsoid, 18-25(-28) x 7-12(-14) µm, Physcia-type. Spot tests: cortex and medulla K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a mainly circumboreal-montane species, mostly found on terricolous or saxicolous bryophytes in upland areas.



Phaeophyscia hispidula

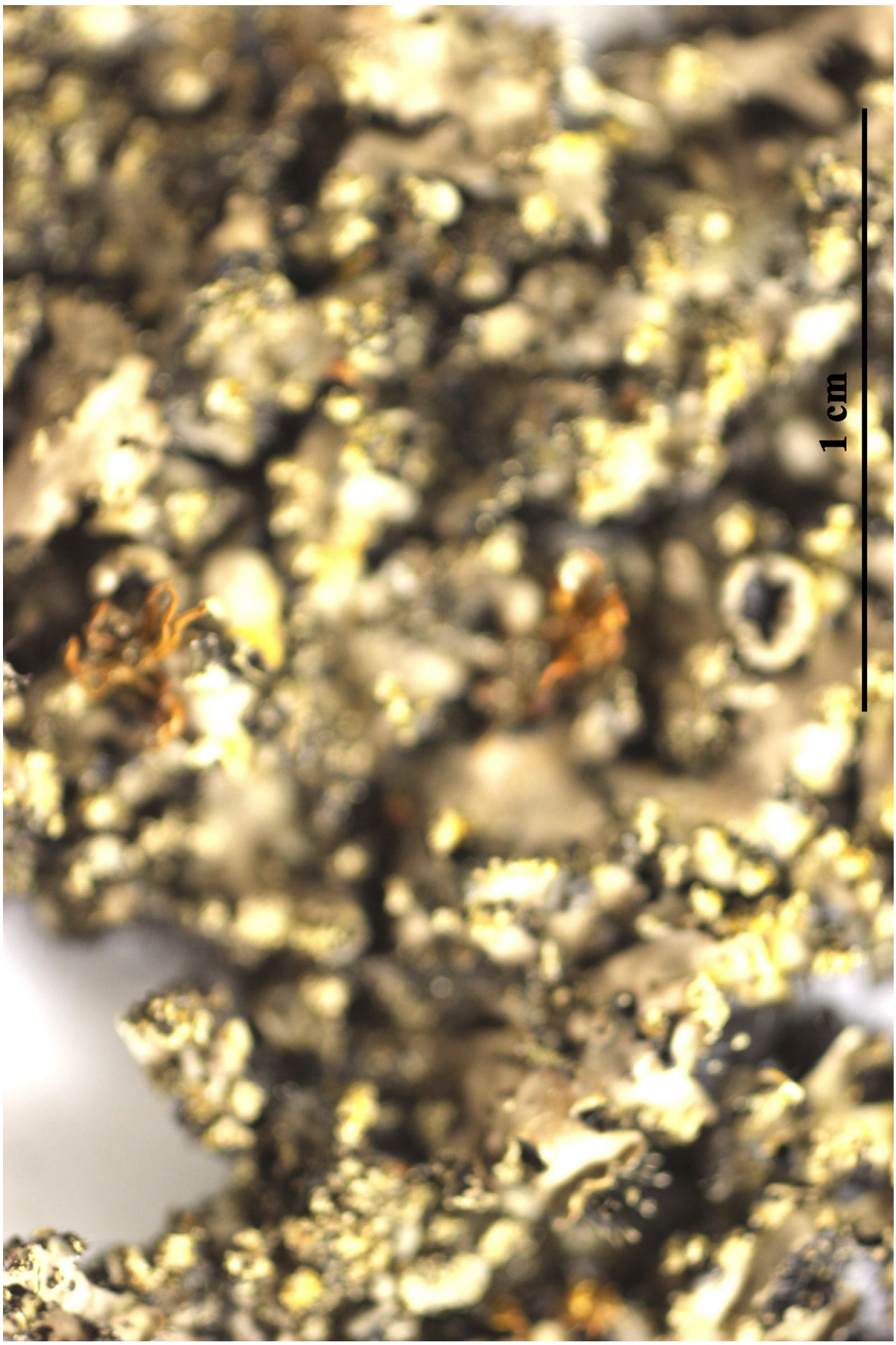


Phaeophyscia hispidula

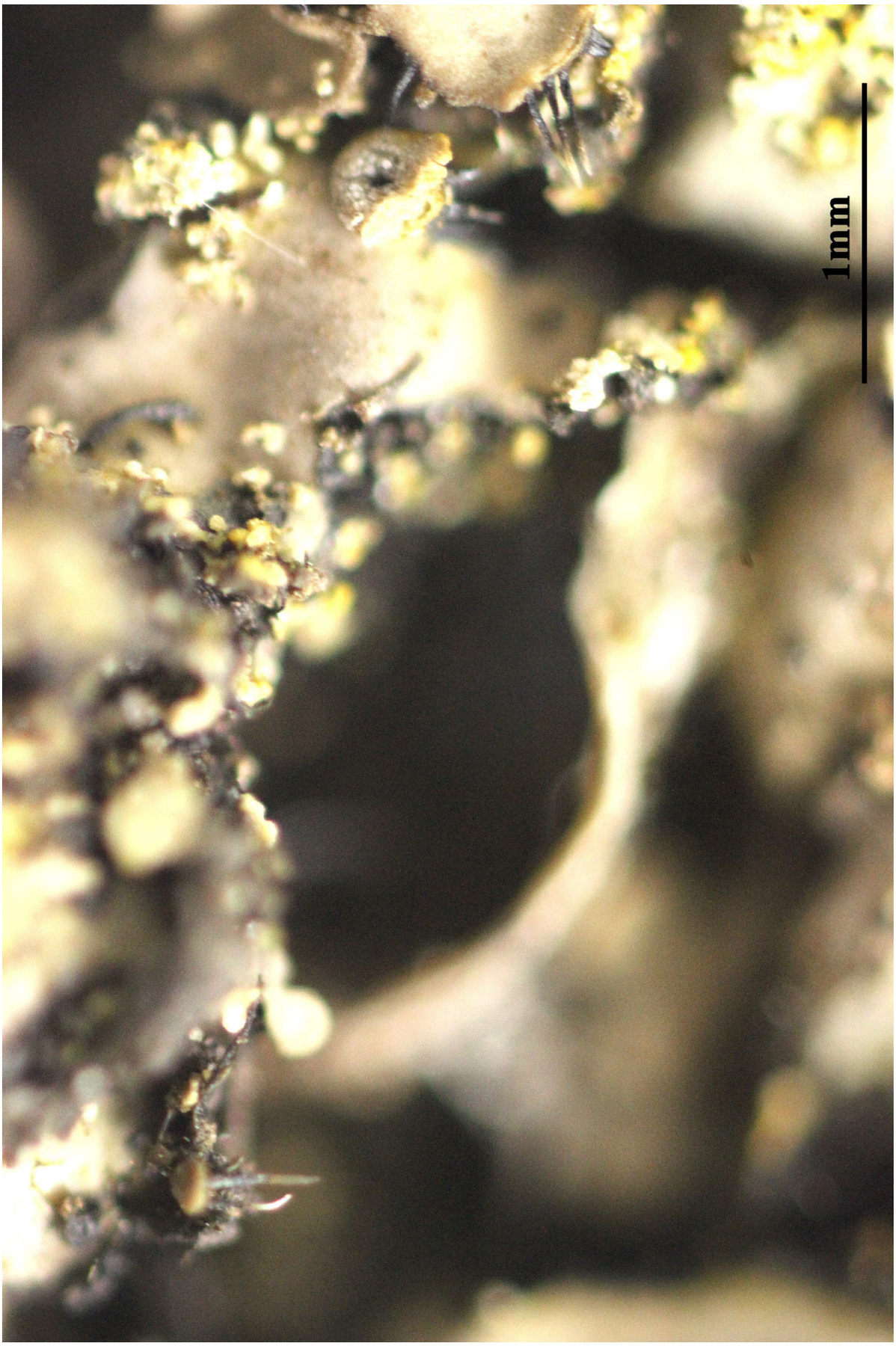
Phaeophyscia hispidula (Ach.) Moberg, Bot. Notiser 131(2): 259 (1978)
= *Parmelia hispidula* Ach. 1810

[OH492], Tiwan. Hualien Co.: Sipan. Shulin-gun. On calcareous rock, 950 m. Leg. H. Kashiwadani (no. 44014), 3.3.1901, det. H. Kashiwadani. EX Y. OHMURA LICHENES MINUS COGNITI NR. 492.

Thallus foliose, heteromerous, dorsiventral, forming orbicular to irregular, up to 10(-12) cm wide rosettes. Lobes discrete or partly imbricate, (1-)2-4(-6) mm wide, concave, usually slightly ascending at apex, surrounded by numerous dark, projecting rhizines. Upper surface grey to grey-brown, usually dull, epruinose, with granular to isidioid, mostly marginal or submarginal, soredia which are sometimes gathered in capitate soralia. Lower surface black, sometimes dark brown at lobe ends, with dark, mostly simple rhizines well-projecting beyond the margins. Upper and lower cortex paraplectenchymatous; medulla white. Apothecia very rare, lecanorine, up to 2 mm across, sessile, with a dark disc and an entire to irregularly crenate thalline margin that often bears a dense corona of rhizines. Epithecium brown; hymenium and hypothecium colourless; paraphyses slender, often forked in upper part, the apical cells clavate, with a thin dark cap. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, brown, ellipsoid, 18-25(-28) x 7-12(-14) µm, Physcia-type. Spot tests: cortex and medulla K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a mainly circumboreal-montane species, mostly found on terricolous or saxicolous bryophytes in upland areas.



Phaeophyscia hispidula

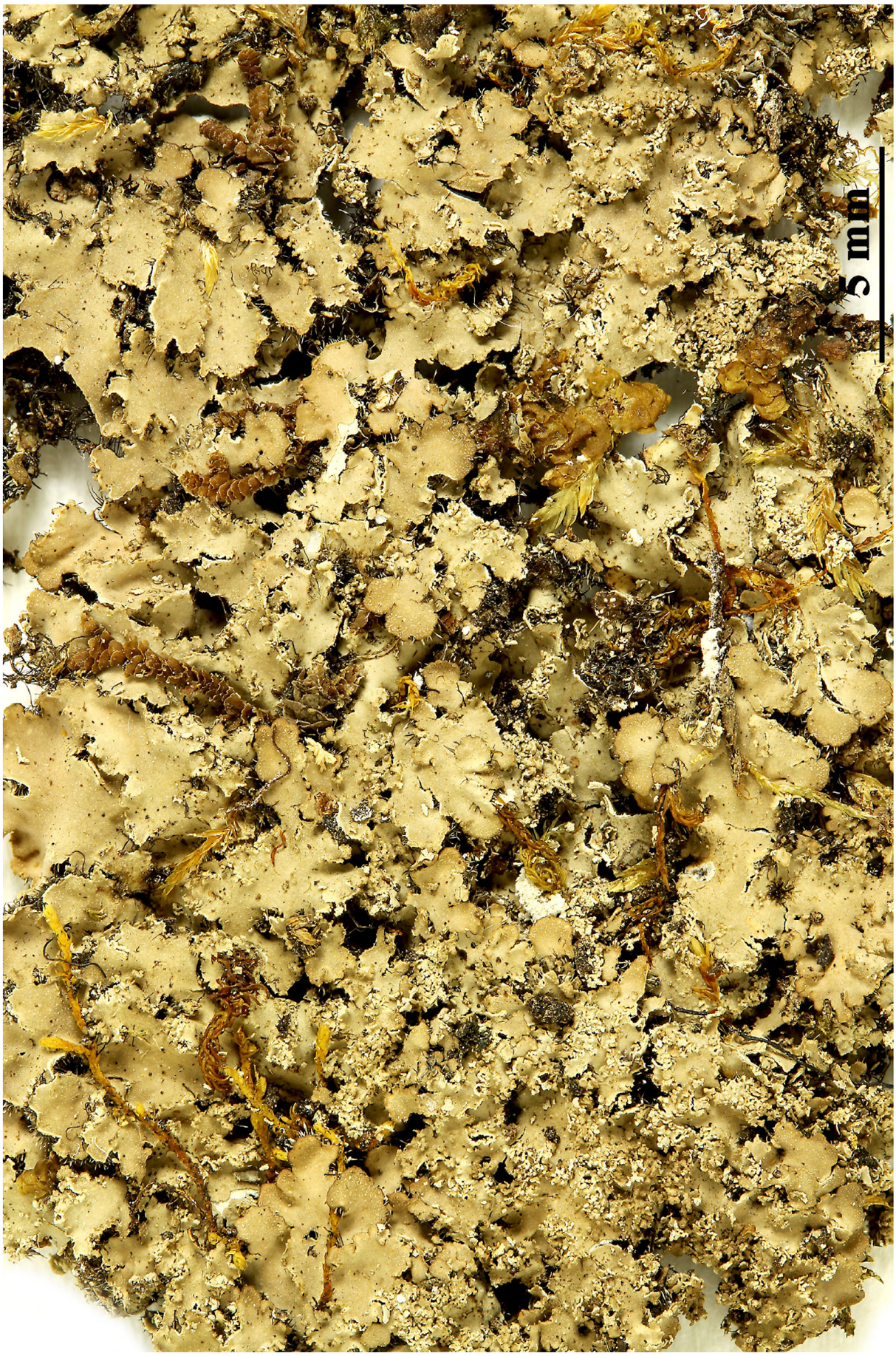


Phaeophyscia hispidula

Phaeophyscia imbricata (Vain.) Essl. in Mycotaxon 7: 308 (1978)
[= *Physcia imbricata* Vain., Bot. Mag., Tokyo 35: 60 (1921)]

[Ku640], Honshu, Prov. Hitachi, Jaketsu, Daigo-cho, Kuji-gun. On rocks with mosses, ca. 340 m. Leg. H. Kashiwadani (Nr. 17014) & W. Yoshitake, 21.02.1982, det. H. Kashiwadani. Ex S. KUROKAWA AND H. KASHIWADANI LICHENES RARIORES ET CRITICI NR. 640.

Lappen dichotom oder unregelmäßig verzweigt, grau bis graubraun, 0.5-2 mm breit, mit marginalen Läppchen. Oberseite schwach- oder unbereift. Unterseite am Rand blaß braun in der Mitte schwarz. Rhizinen dicht, schwarz, bis 3 mm lang. Ober- und Unterrinde paraplektenchymatisch (zellig). Apothecien selten, bis 2 mm breit, Scheibe rötlich braun, unbereift. Amphithecium am Grund haarig. Sporen braun, dickwandig, 1-septiert, 8/Ascus, 18-26 x 8-12 µm, Physcia-Typ. Chemie: Rinde und Mark K-, C-, KC-, P-; (nach Kashiwadani angeblich im TLC Spuren von Atranorin Zeorin und Leucotylin nachweisbar, was sonst nicht bestätigt wird). Corticol, muscicol. Charakteristisch sind die marginalen Läppchen durch welche sich die Art von *Ph. hispidula* unterscheidet.



Phaeophyscia imbricata



Phaeophyscia imbricata

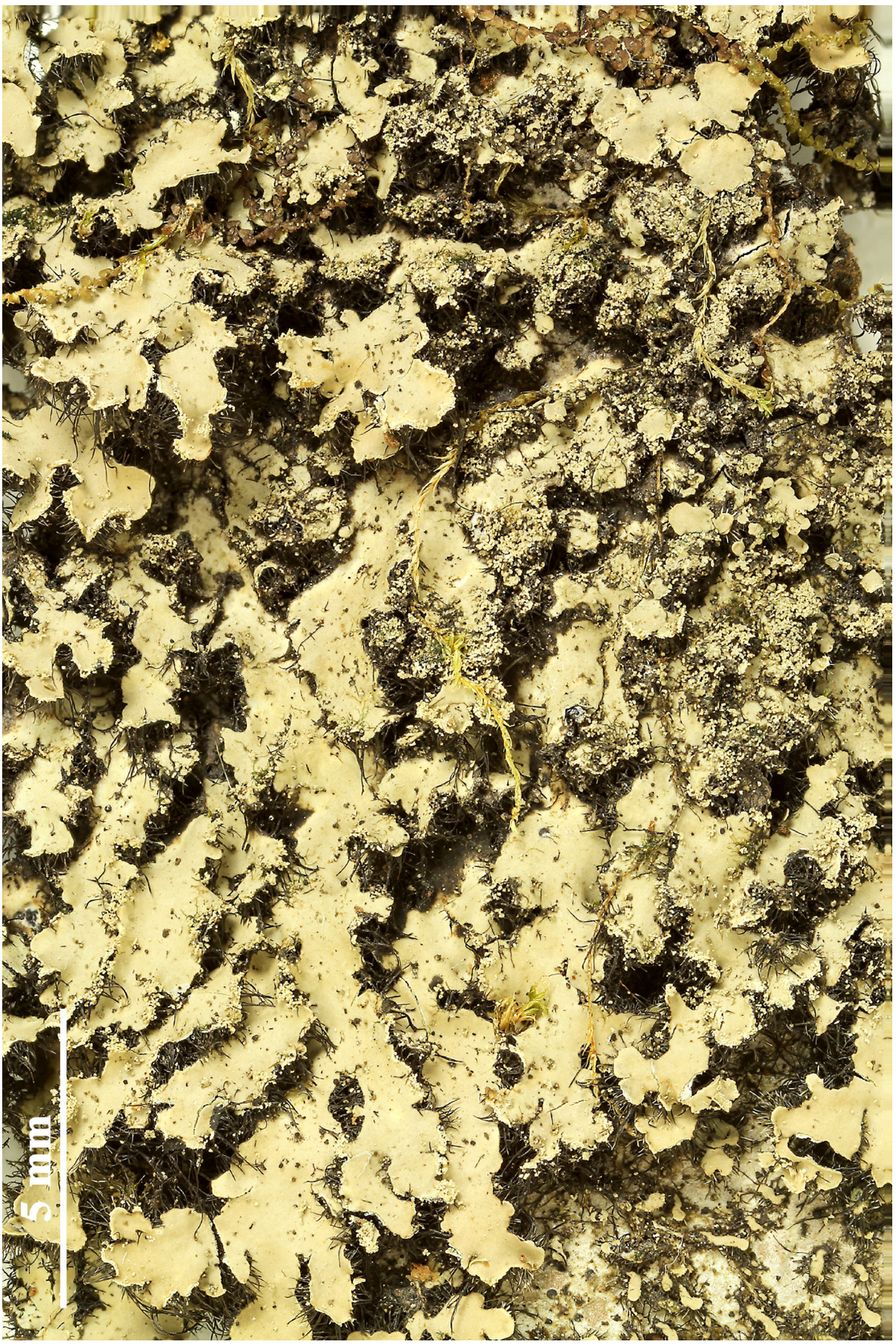


Phaeophyscia imbricata

Phaeophyscia limbata (Poelt) Kashiw.
= *Physcia hispidula* subsp. *limbata* Poelt, Khumbu Himal 6(2): 81 (1974)]

[KU641], Japan, Honshu, Prov. Shimotsuke, Mt. Kohshin, Kamitsuga-gun. On bark of *Acer mono*, ca. 1100 m. Leg. H. Shibuichi (Nr. 7748), det. H. Kashiwadani. S. KUROKAWA AND H. KASHIWADANI: LICHENES RARIORES ET CRITICI EXSICCATI NR. 641.

Unterscheidet sich von *Ph. hispidula* durch körnige, marginale Soredien statt den Kugel-Kopfsoralen, welche *Ph. hispidula* besitzt. Siehe auch die Bemerkungen zu *Phaeophyscia primaria :*



Phaeophyscia limbata



Phaeophyscia limbata



Phaeophyscia limbata

Phaeophyscia limbata (Poelt) Kashiw.
= *Physcia hispidula* subsp. *limbata* Poelt, Khumbu Himal 6(2): 81 (1974)

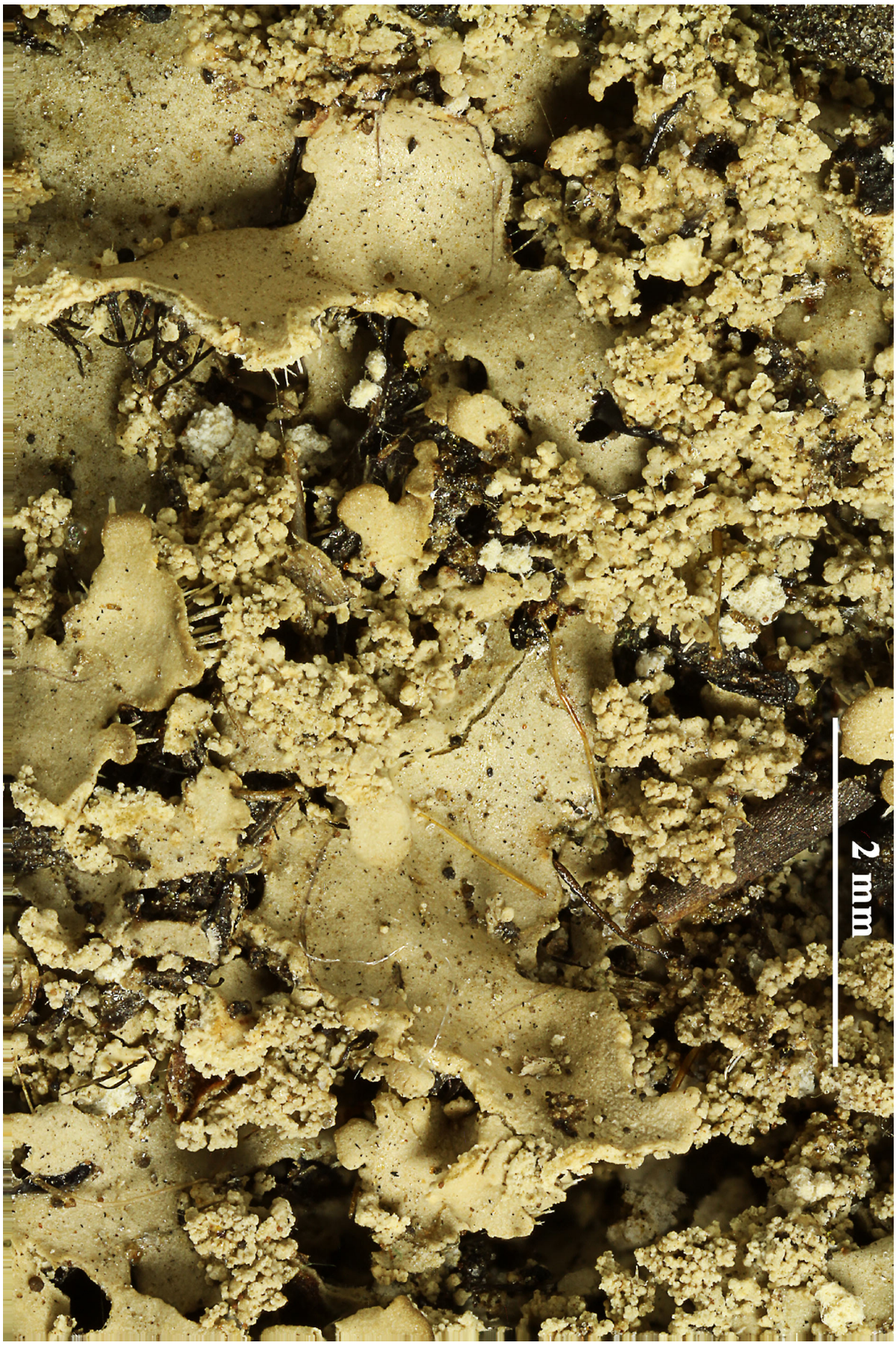
[OH418], Japan, Honshu, Prov. Shinano (Pref. Nagano), Saru-Iwa, Komagane-city. On rock, ca. 600 m. Leg. H. Shibuichi (Nr. 10148), 25.10.2002, det. H. Shibuichi. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 418.



Phaeophyscia limbata



Phaeophyscia limbata



Phaeophyscia limbata



Phaeophyscia limbata

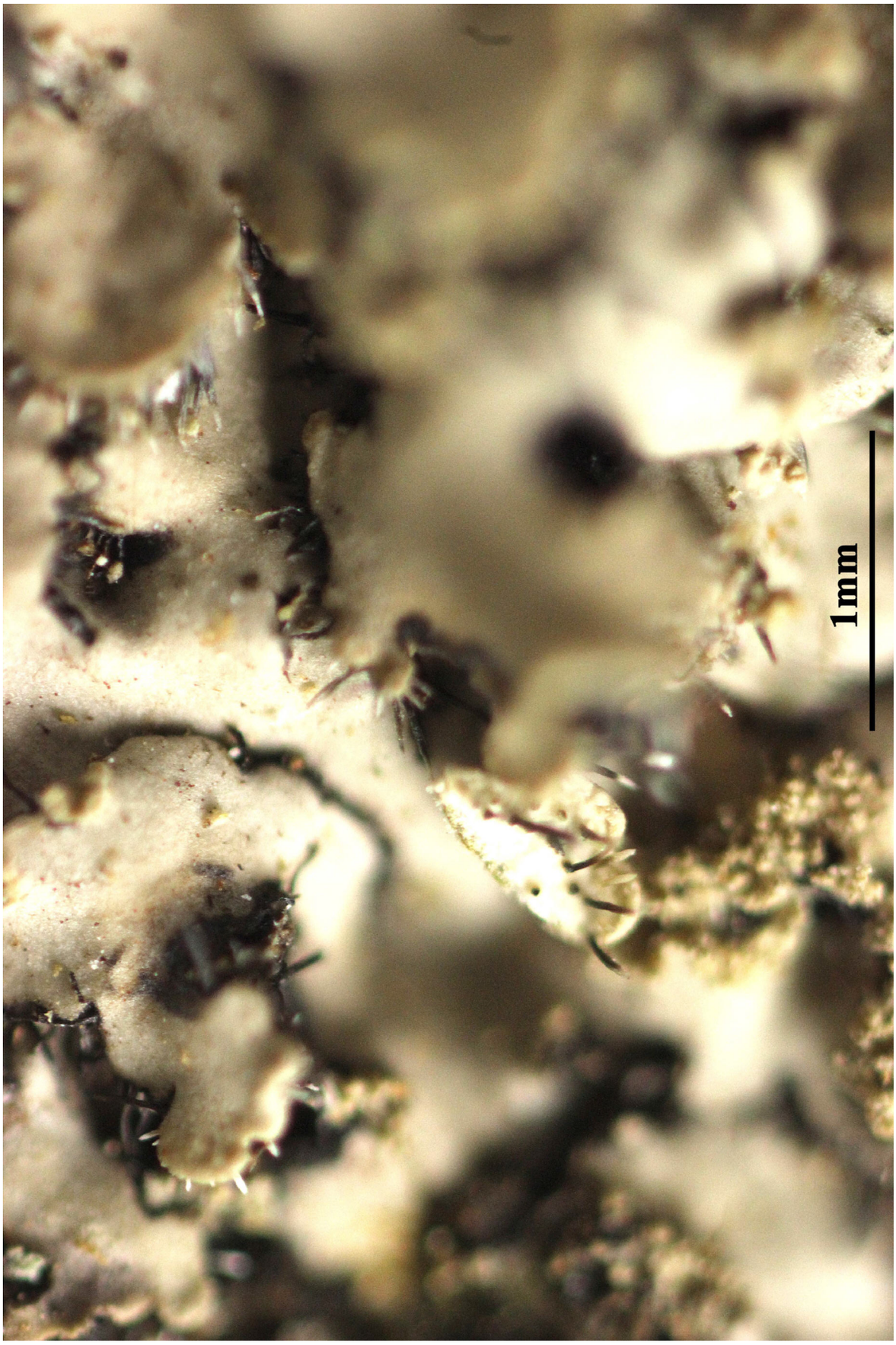
Phaeophyscia limbata (Poelt) Kashiw.
= *Physcia hispidula* subsp. *limbata* Poelt, Khumbu Himal 6(2): 81 (1974)]

[OH642], Japan. Honshu. Prov. Aki (Hiroshima Pref.) Tsutsumigaura. Miyajima Island, Hatsukaichi-city (34°17'24" N, 132°20'27" E). On trunk base of *Cinnamomum camphora*, 25 m. Leg. Y. Ohmura (no. 12449), K. Tadome & H. Masumoto, 21.10.2019, det. Y. Ohmura. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 642.

Unterscheidet sich von *Ph. hispidula* durch körnige, marginale Soredien statt den Kugel-Kopfsoralen, welche *Ph. hispidula* besitzt. Siehe auch die Bemerkungen zu *Phaeophyscia primaria :*



Phaeophyscia limbata



Phaeophyscia limbata

Phaeophyscia limbata (Poelt) Kashiw.
= *Physcia hispidula* subsp. *limbata* Poelt, Khumbu Himal 6(2): 81 (1974)

KU642], Japan, Honshu, Prov. Settsu, Mt. Myoken. On rocks.
Leg. M. Togashi (Herb. Y.Asahina nr. 59815), 15.08.1959, det. H. Kashiwadani. Ex S. KUROKAWA AND H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 642.



Phaeophyscia limbata



Phaeophyscia limbata



Phaeophyscia limbata

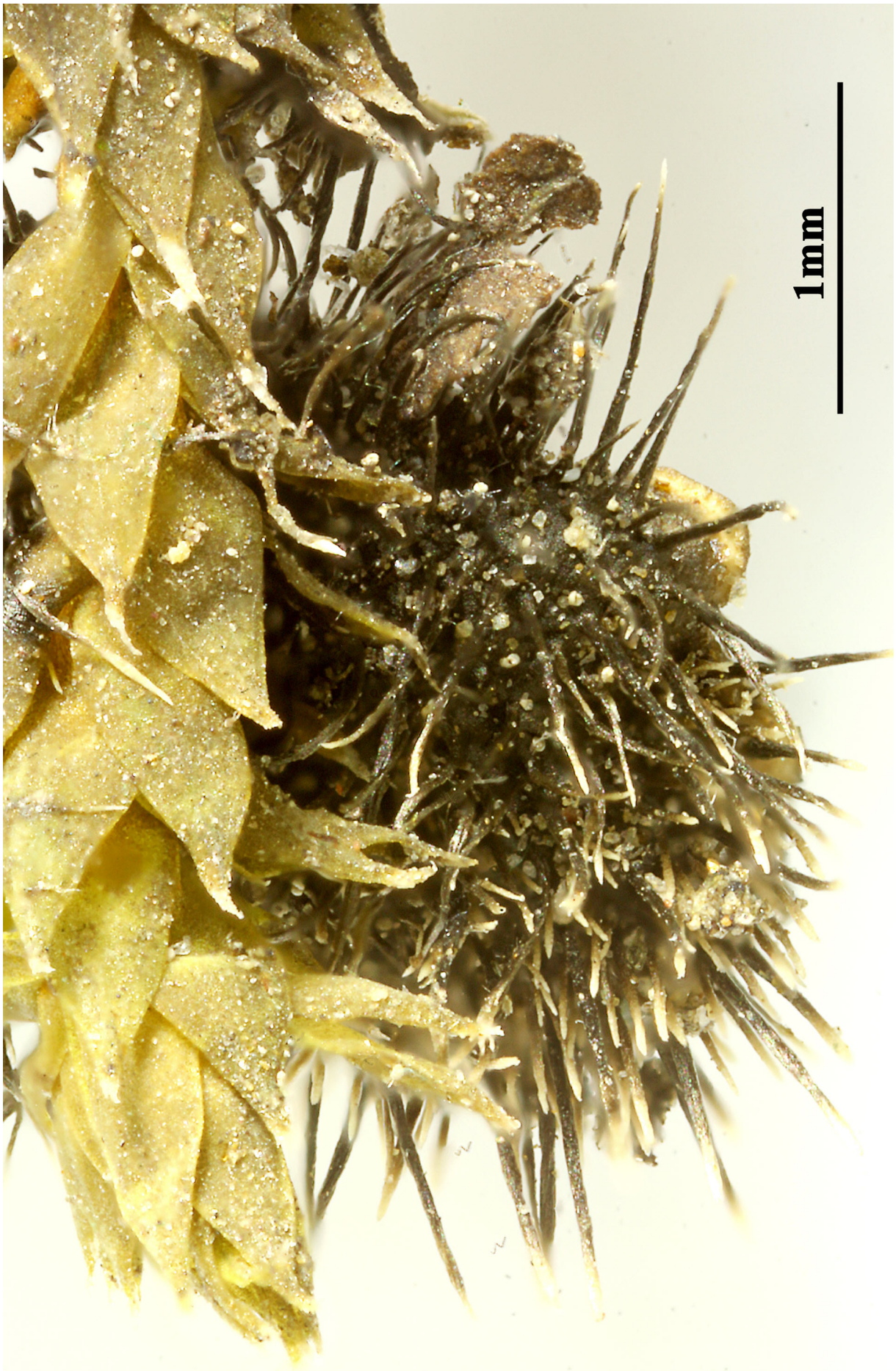
Phaeophyscia primaria (Poelt) Trass
= *Physcia hispidula* (Ach.) Frey subsp. *primaria* Poelt, Khumbu Himal 6(2): 80 (1974)

[OH471]Korea, Prov. Gyeongsangnam-do, Byocksong Temple, Chsong-ri, Macheon-myun, Hamyang-gun (35°23' N, 127°41' E, ca. 400 m). On rocks. Leg. K. H. Moon (Nr. 8585) & H. Moon, 25.11.2005, det. H. Kashiwadani. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 471.

Die Art wird auch als subsp. von *Ph. hispidula*, welche weder Isidien noch Sorale entwickelt hat, aufgefasst Die Loben sind von vorstehenden Rhizinen, die auf der Unterseite und am Rand entspringen, quasi eingefasst. Unterseite dunkelbraun bis tiefschwarz. Rhizinen lang, starr schwarz mit Ausnahme der wachsenden Spitzen, alt unregelmäßig auffasernd. Sporen 18-27 x 9-13 µm, Physcia-Typ. Rinde K-, Mark K-. Asien. Nah verwandt und teils ebenfalls als subsp. von *Ph. hispidula* werden aufgefasst: *Ph. hispidula* (mit submarginalen Kugel-Kopfsoralen), *Ph. exornatula* (mit verflachten Isidien), *Ph. limbata* (Sorale marginal, etwas körnig, Loben 1-2 mm breit).



Phaeophyscia primaria



Phaeophyscia primaria



Phaeophyscia primaria



Phaeophyscia primaria

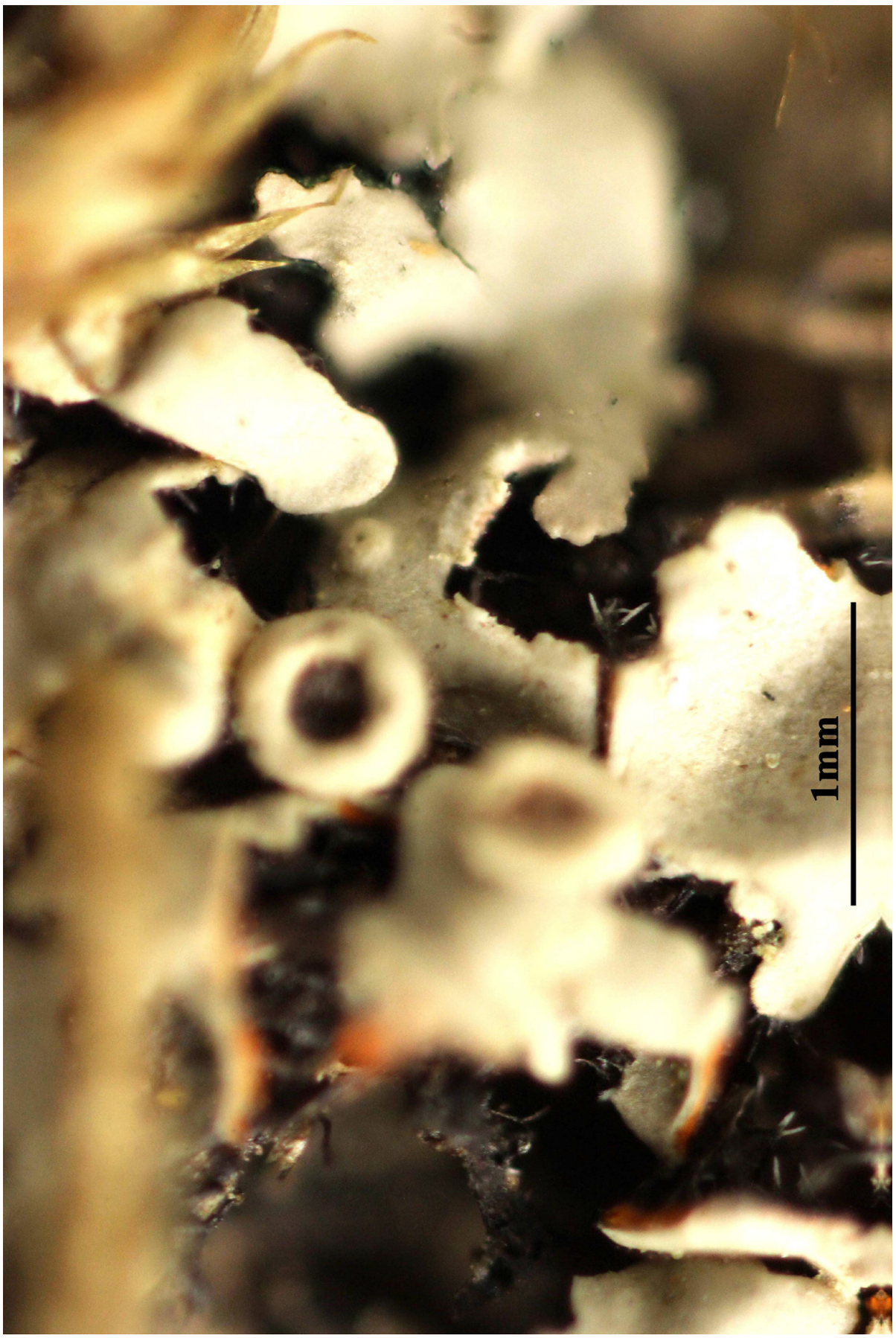
Phaeophyscia pyrrhophora (Poelt) D.D. Awasthi & M. Joshi, Indian J. mycol. Res. 16(2): 278 (1978)
= *Physcia pyrrhophora* Poelt 1974

[OH544], Japan. Honshu. Prov.Suruga (Pref. Shizuoka): en route from Umega-shima to Abe Pass (35°18' N, 138°21' E). On tree bark, 1200-1420 m. Leg. H. Kashiwadani (no. 13826), 28.4.1976, det. H. Kashiwadani. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 544.

Phaeophyscia pyrrhophora can be easily distinguished by its broad lobes and pachysporaria type of ascospore sometimes having sporoblastidia.



Phaeophyscia pyrrhophora



Phaeophyscia pyrrhophora

Phaeophyscia spinellosa Kashiw., Bull. natn. Sci. Mus., Tokyo, B 10(1): 46 (1984)

Thallus groß, 4-7 cm im Durchmesser. Lappen bis 4 mm breit, ohne Soredien, ohne Isidien, sich gegenseitig überdeckend. Oberseite ohne weiße Punkte. Ränder der Apothecien durchwegs sehr spärlich bis meist fehlend behaart. Ascosporen klein 15-18(-20) x 7-11 µm. Saxicol.

[OH387], Honshu, Prov. Hitachi (Pref. Ibaraki), University of Tsukuba, Tennoudai, Tsukuba-city. On concrete, 25 m. Leg. Y. Ohmura (No. 6878), G. Tanaka & S. Ichikawa, 19.02.2010, det. Y. Ohmura. Ex Y. OHMURA: LICHENES MINUS COGNITI EXSICCATI NR. 387.



Phaeophyscia spinellosa



Phaeophyscia spinellosa



Phaeophyscia spinellosa

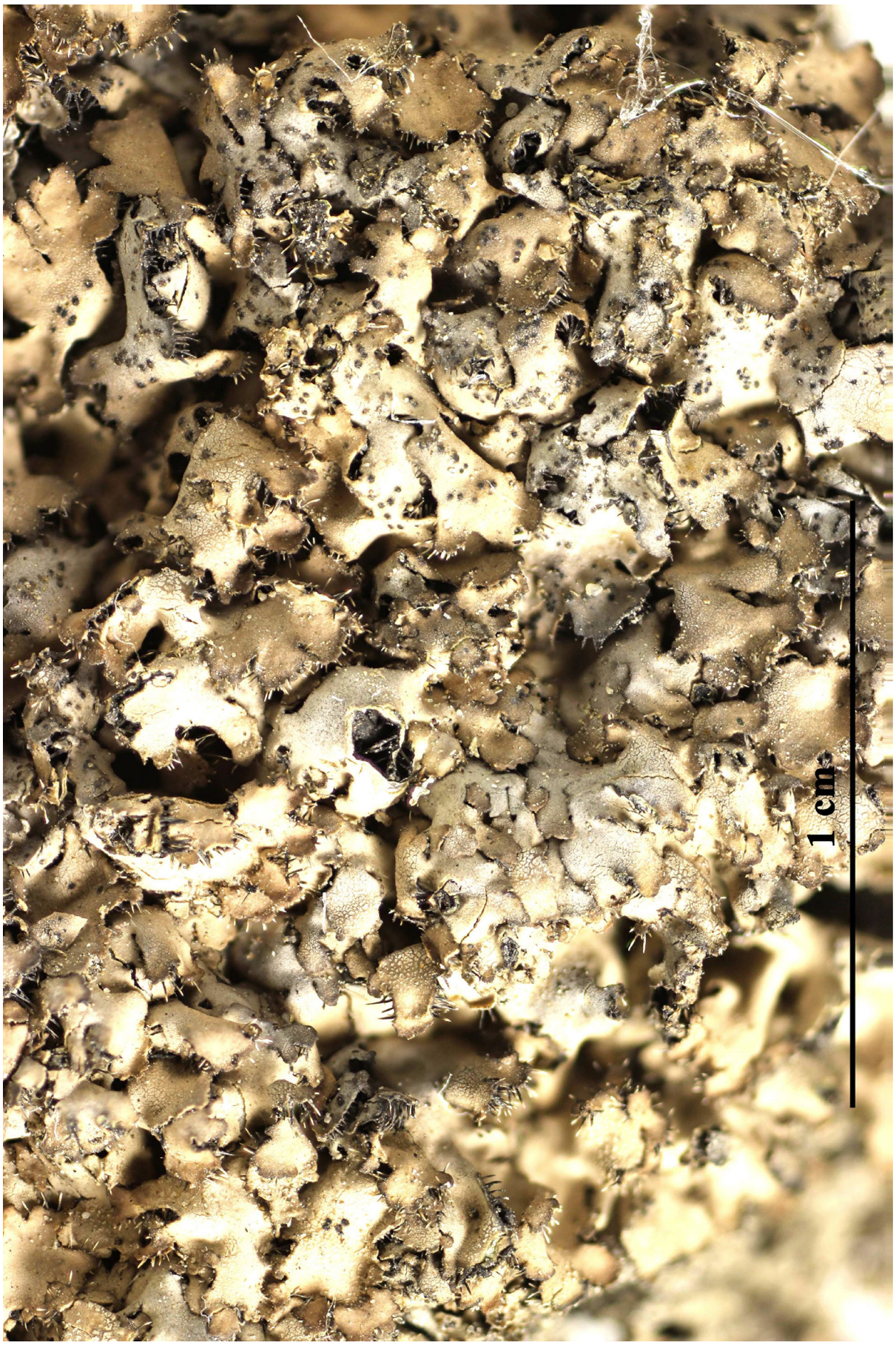


Phaeophyscia spinellosa

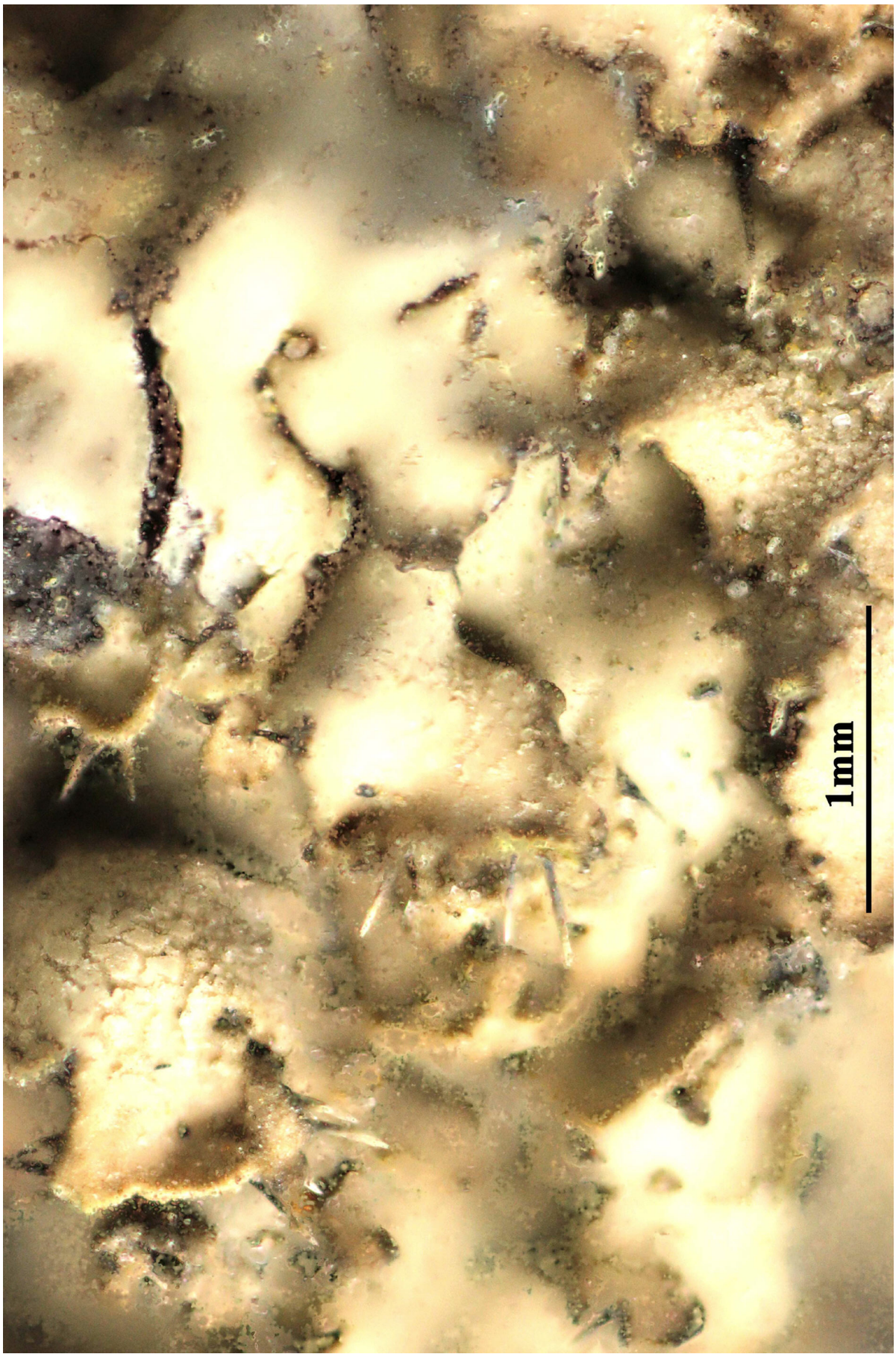
Phaeophyscia spinellosa Kashiw., Bull. natn. Sci. Mus., Tokyo, B 10(1): 46 (1984)

[KU585], Japan. Honshu. Prov. Suruga: Fujieda-city. On rocks, 20 m. Leg. K. Sugyiama, 10.8.1974, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 585.

Thallus groß, 4-7 cm im Durchmesser. Lappen bis 4 mm breit, ohne Soredien, ohne Isidien, sich gegenseitig überdeckend. Oberseite ohne weiße Punkte. Ränder der Apothecien durchwegs sehr spärlich bis meist fehlend behaart. Ascosporen klein 15-18(-20) x 7-11 µm. Saxicol.



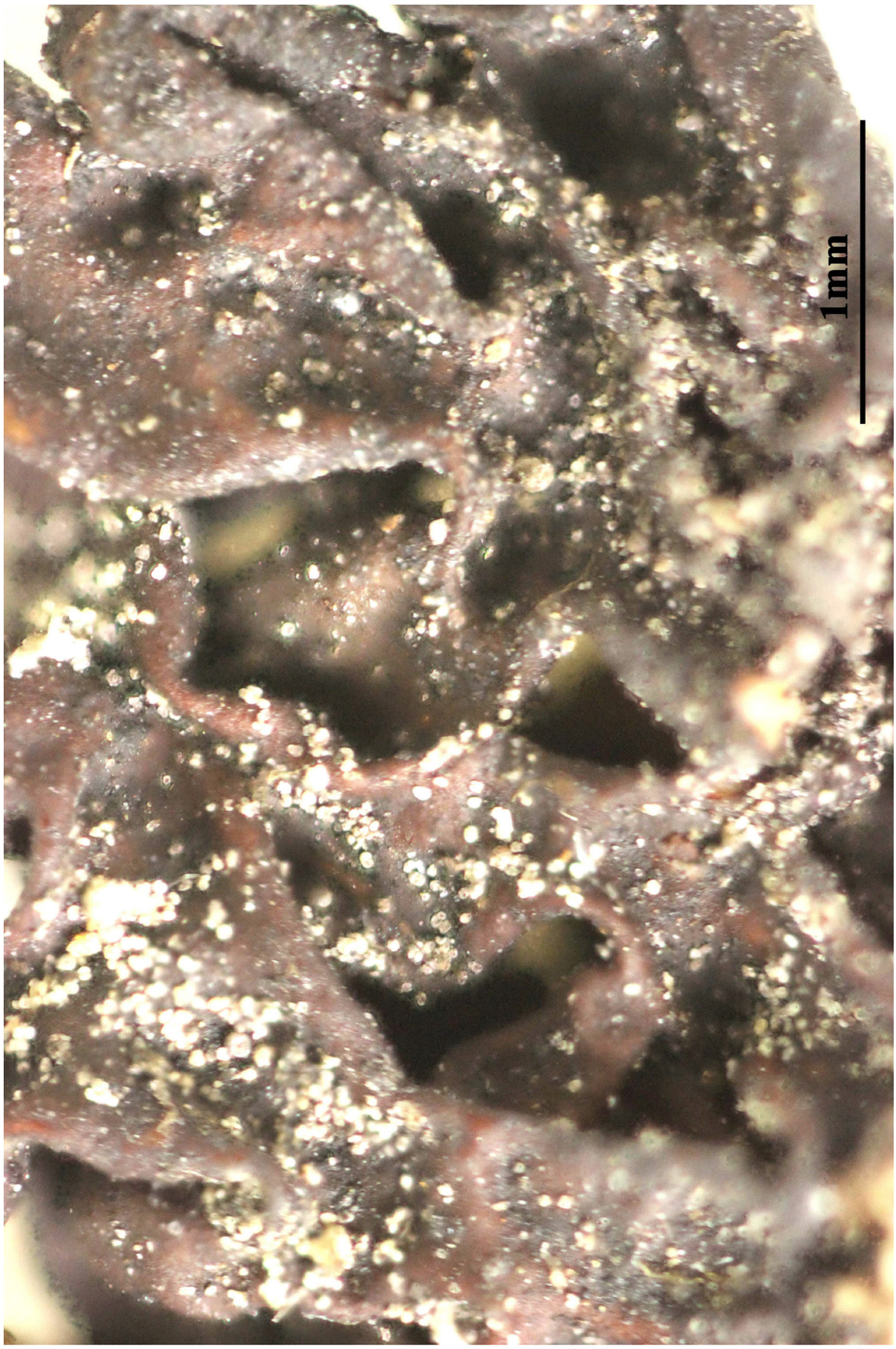
Phaeophyscia spinellosa



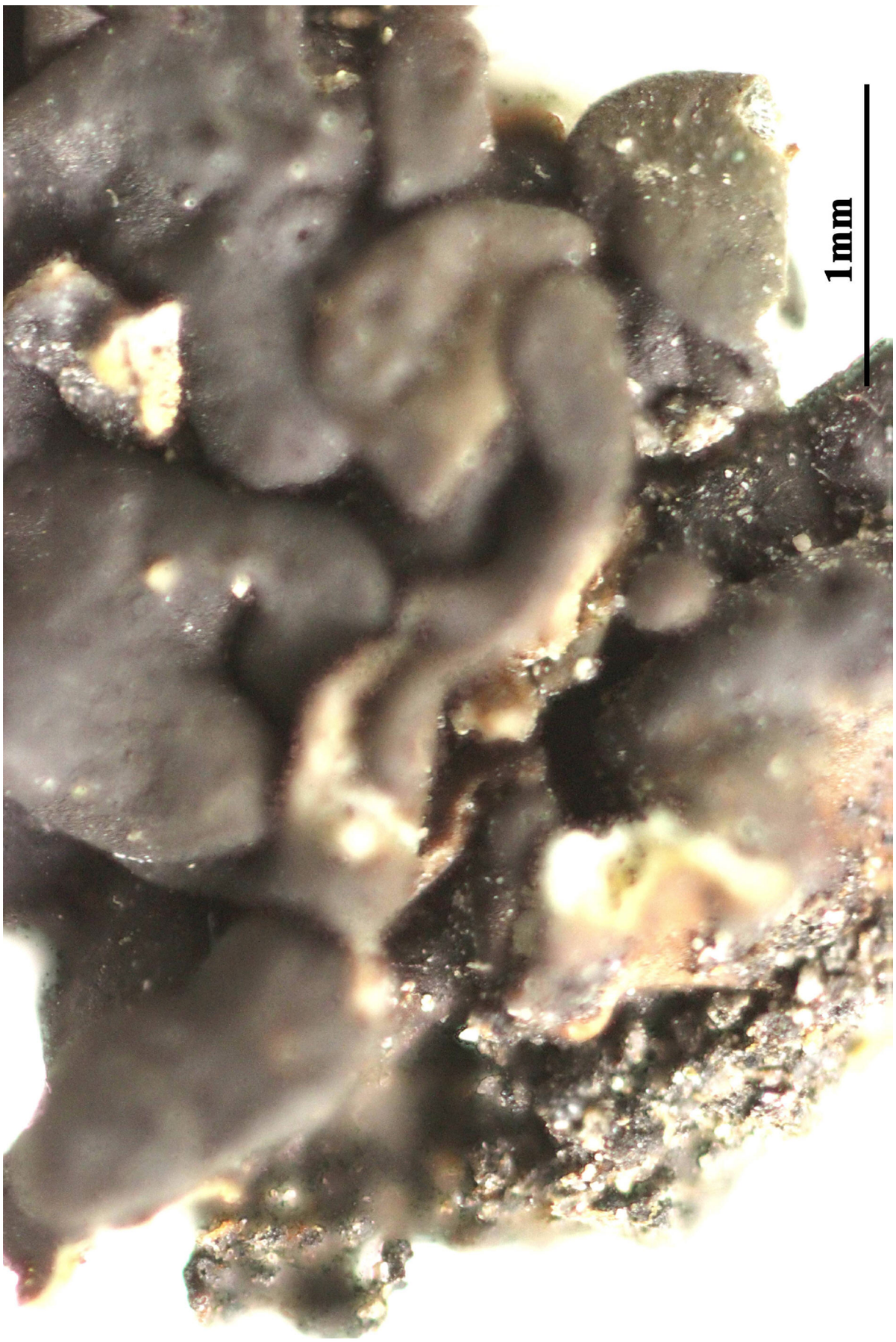
Phaeophyscia spinellosa

Phylliscum japonicum Zahlbr., Bot. Mag., Tokyo 41: 320 (1927)

[KU486}, Japan. Honshu. Prov. Ise: Yachi, Misugi-mura, Ichishi-gun. On rocks (granite), 120 m. Leg. H. Kashiwadani (no.13224), 18.3.1976, det. H. Kashiwadani. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr. 586.



Phylliscum japonicum

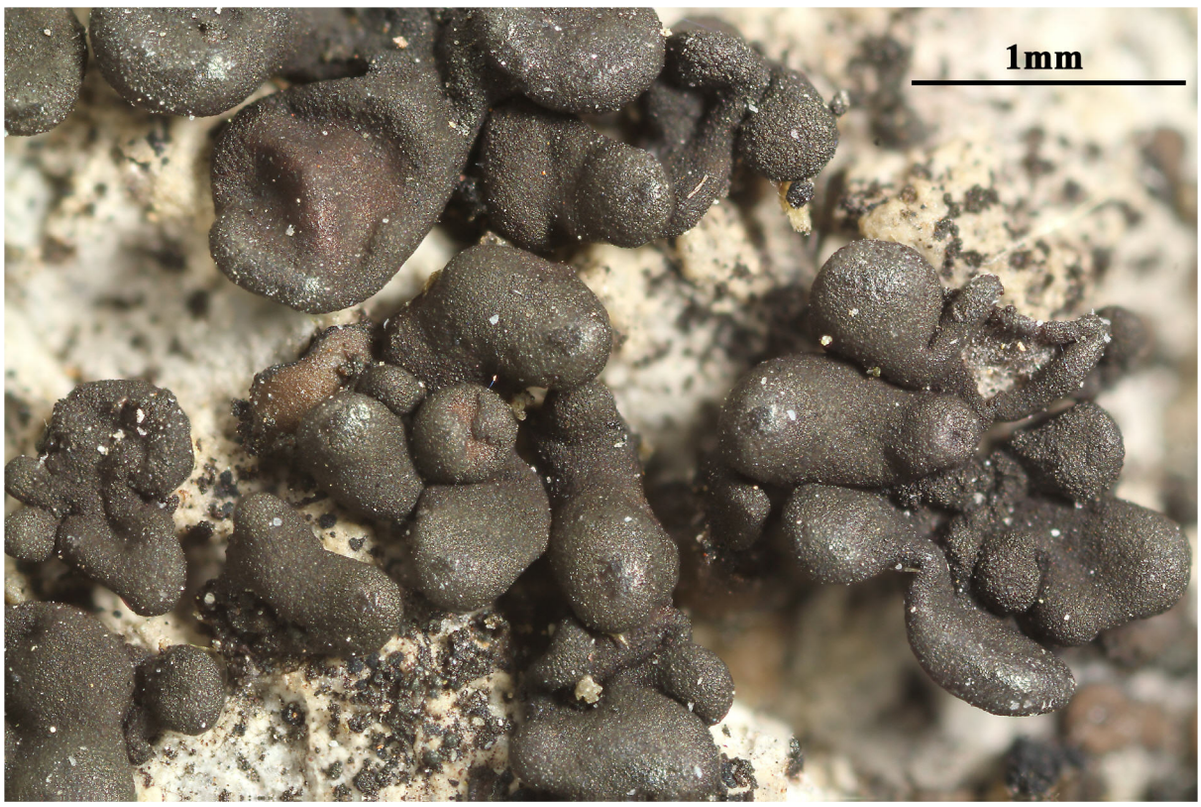


Phylliscum japonicum

Phylliscum japonicum Zahlbr., Bot. Mag., Tokyo 41: 320 (1927)

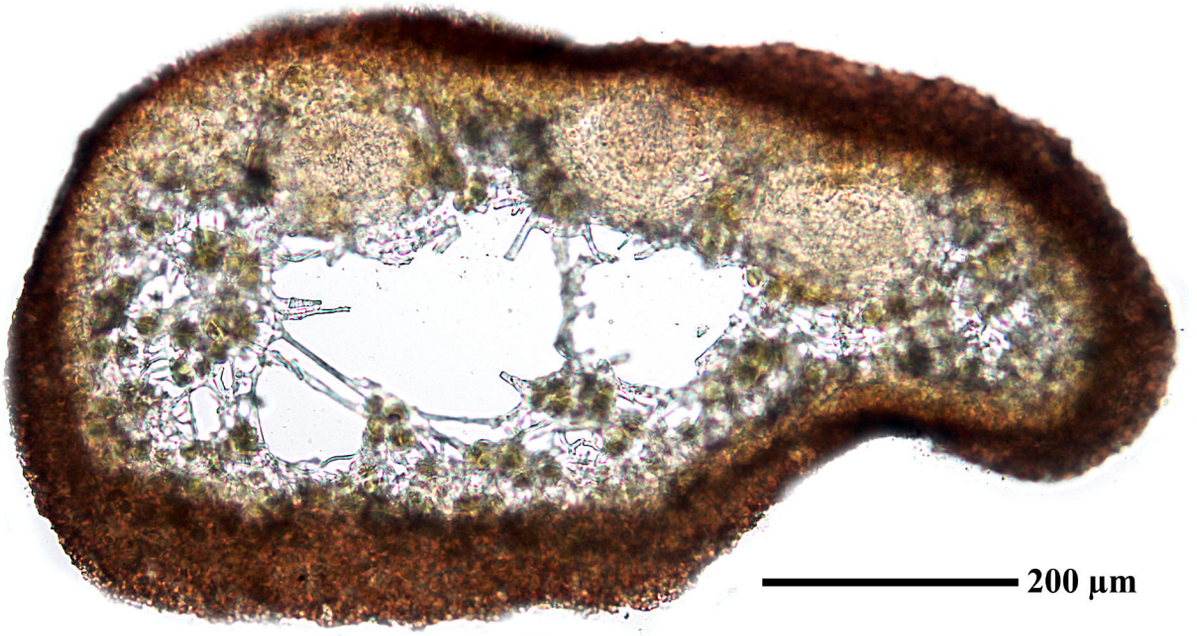
[ABL71446], Korea, Prov. Jeollanam-do, Goheumg-gun Distr., Jeomam-myeun, St. Palbong-gil, Mt. Palyeoungaround Yuyoung-bong. On siliceous rock. 34°37’42’’ N, 127°25’48’’ E, 430-490 m. Leg. A. Aptroot (no 71446), 17.10.2013, det. A. Aptroot, 2013.

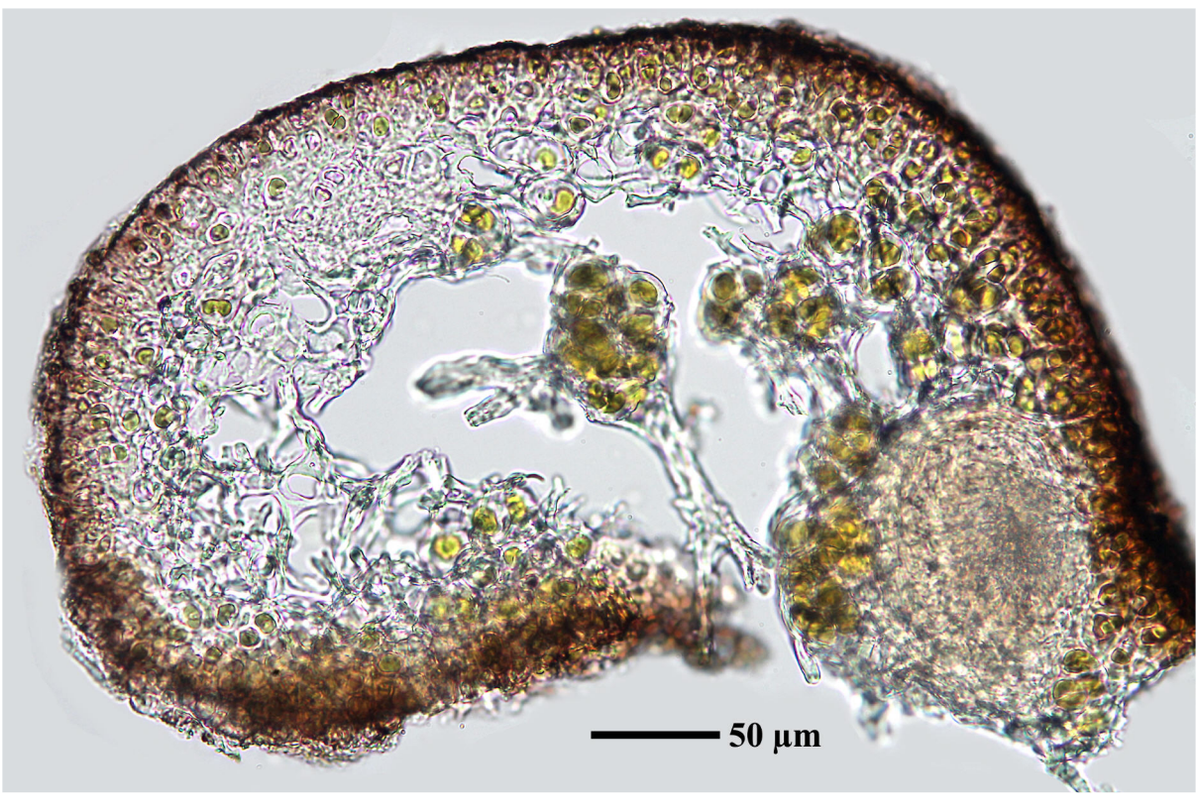




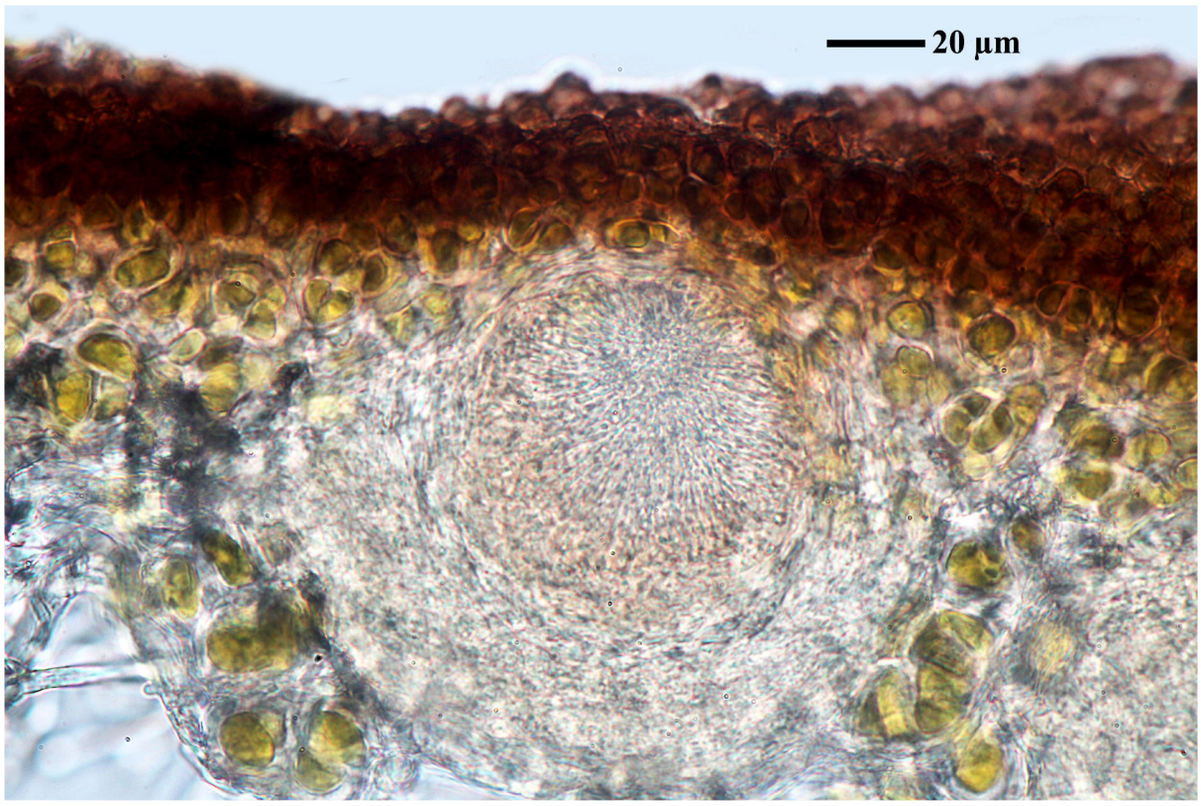


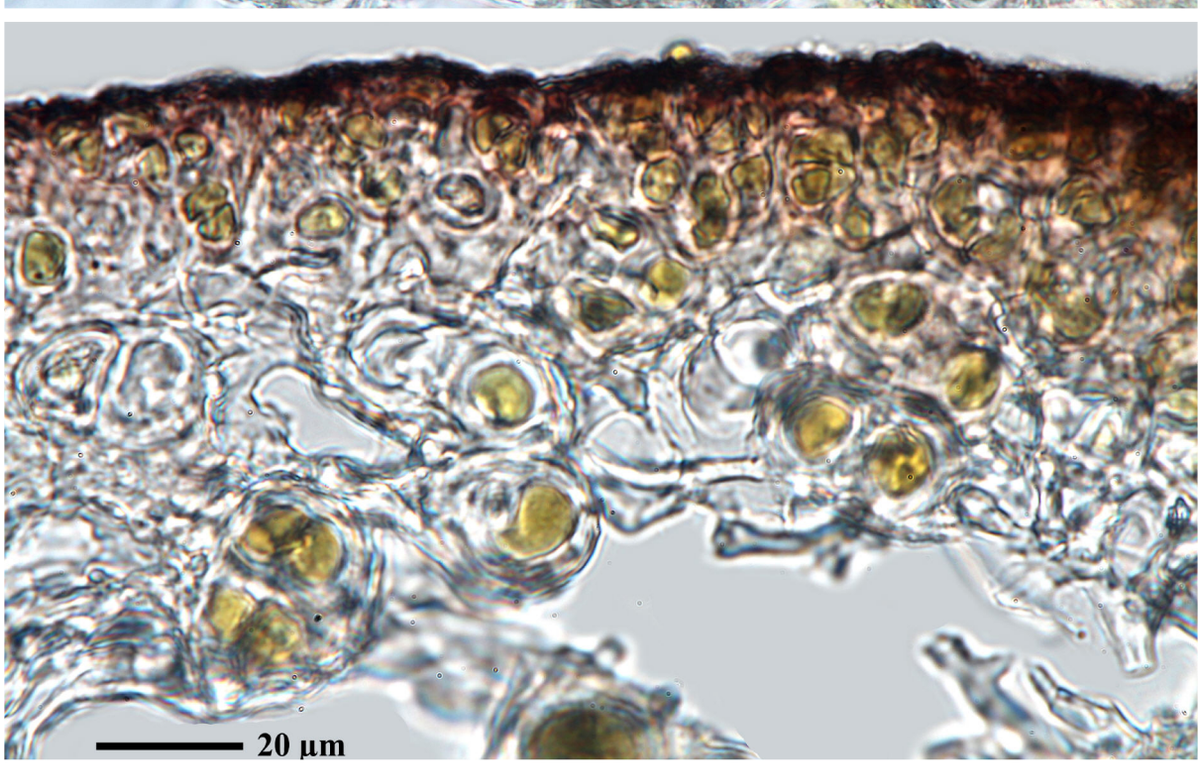
Phylliscum japonicum



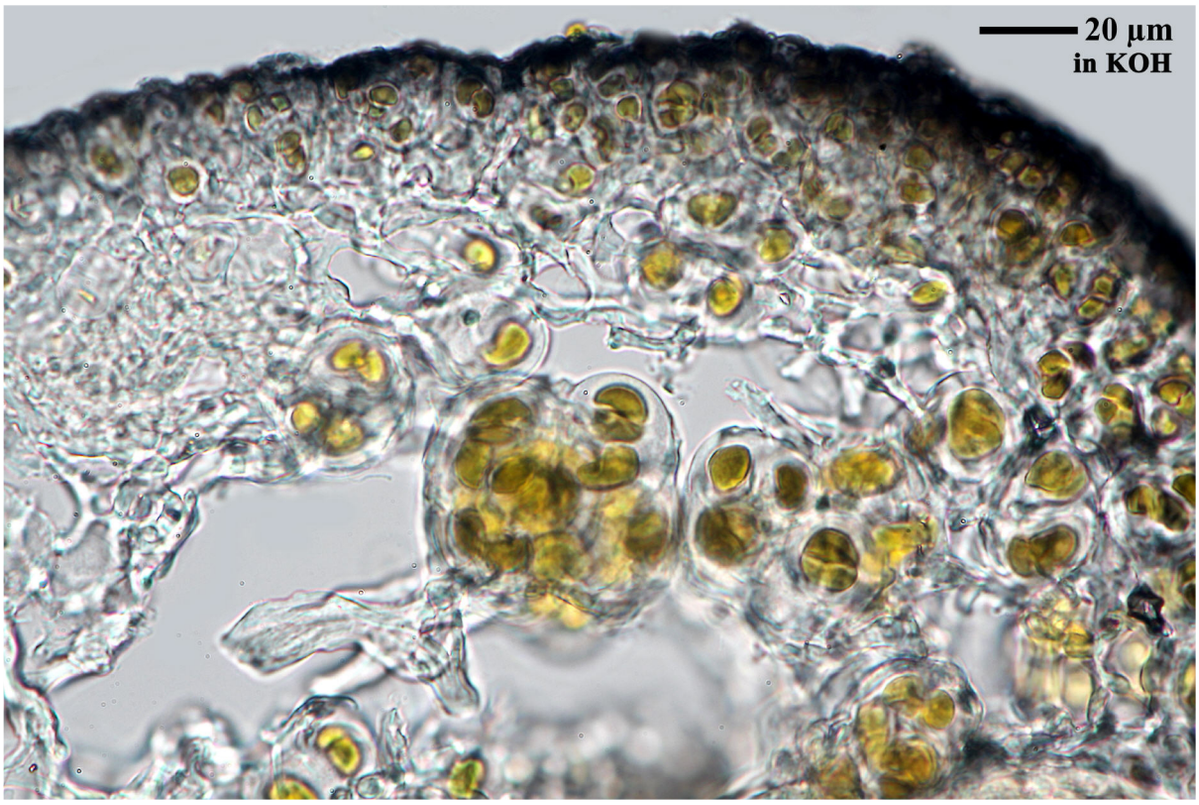


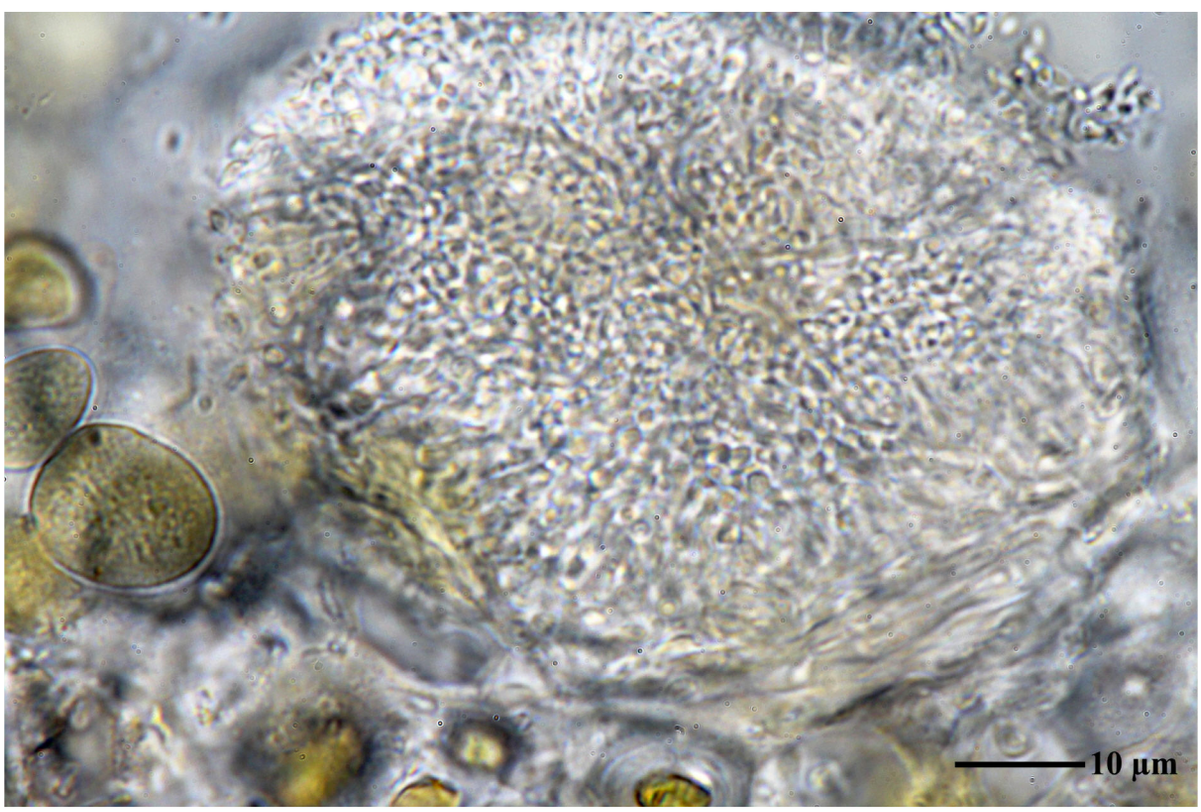
Phylliscum japonicum



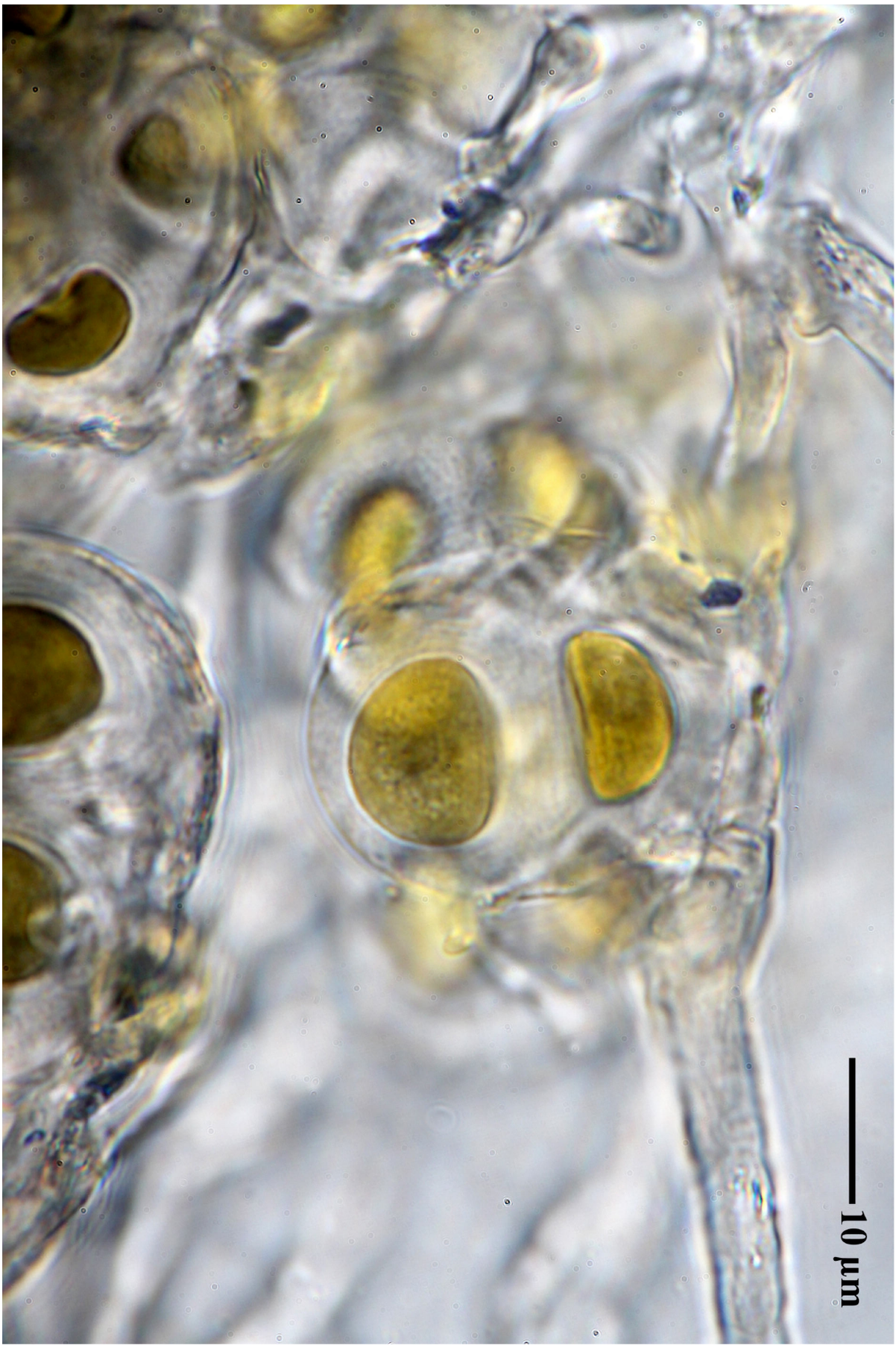


Phylliscum japonicum





Phylliscum japonicum



Phylliscum japonicum

Physcia aipolia (Ehrh. ex Humb.) Fürnr., Naturhist. Topogr. Regensburg (Regensburg) 2: 249 (1839)
= *Lichen aipolius* Ehrh. ex Humb. 1793

[KU242], Japan. Hokkaido. Prov. Kitami: 2 km noth-east of Hamatombetsu. Esashi-gun. On truncs of *Quercus* sp., 2 m. Leg. S. Kurikawa (no.70860), 18.8.1970, det. H. Kashiwadani. EX S. KUROKAWA LICHENES RARIORES ET CRITICI EXSICCATI NR. 242.

Thallus: orbicular to irregular, to 5 cm diam. lobes: up to 2 mm broad, flat to convex, eciliate; upper surface whitish gray to dark gray, rarely brownish gray, usually distinctly white-maculate, sometimes weakly white-pruinose; without soredia or isidia; medulla white; lower cortex prosoplectenchymatous with the lowermost part gradually forming rounded, isodiametric cells; lower surface white to dark lead colored. Apothecia usually abundant, up to 2 mm diam.; disc often white-pruinose. Ascospores brown, 1-septate, vary from Physcia- to Pachysporaria-type, (19-) 21-25 (-28) x 9-11 (-13) µm. Pycnidia: common, immersed conidia: subcylindrical, 4-6 x 1 µm. Spot tests cortex and medulla K+ yellow, C-, KC-, P+ yellow. Secondary metabolites upper cortex with atranorin; medulla with atranorin, zeorin and rarely other triterpenes. Substrate and ecology: growing on trees in fairly open situations World distribution: widely distributed within arctic, boreal and temperate areas of North American and Eurasia, also known from South America.



Physcia aipolia



Physcia aipolia

Physcia aipolia (Ehrh. ex Humb.) Fürnr., Naturhist. Topogr. Regensburg (Regensburg) 2: 249 (1839)
= *Lichen aipolius* Ehrh. ex Humb. 1793

[18563], Österreich, Tirol, Tannheimer Tal, bei Nesselwängle an Ebereesche, 1150 m. Leg. F. Schumm, 15.03.1968. EX HERBARIO F. SCHUMM NR. 18563.

Thallus ohne Soreien oder Isidien. Oberseite mit auffallenden, weißen punktf. Pseudocyphellen (weiß gepunktet). Oberrinde und Mark K+ gelb. P-. Unterseite hellbraun, Rhizinen hell bis dunkel, büschelig. Oberrinde paraplektenchymatisch, Unterrinde prosoplektenchymatisch. Sporen braun, 2-zellig, 8/Ascus, Wand an den Enden und am Septum verdickt, Lumina teils sanduhrförmig. 20-24 x 10 µm. Chemie: Atranorin, Zeorin. Corticol. Europa, Asien, Amerika.



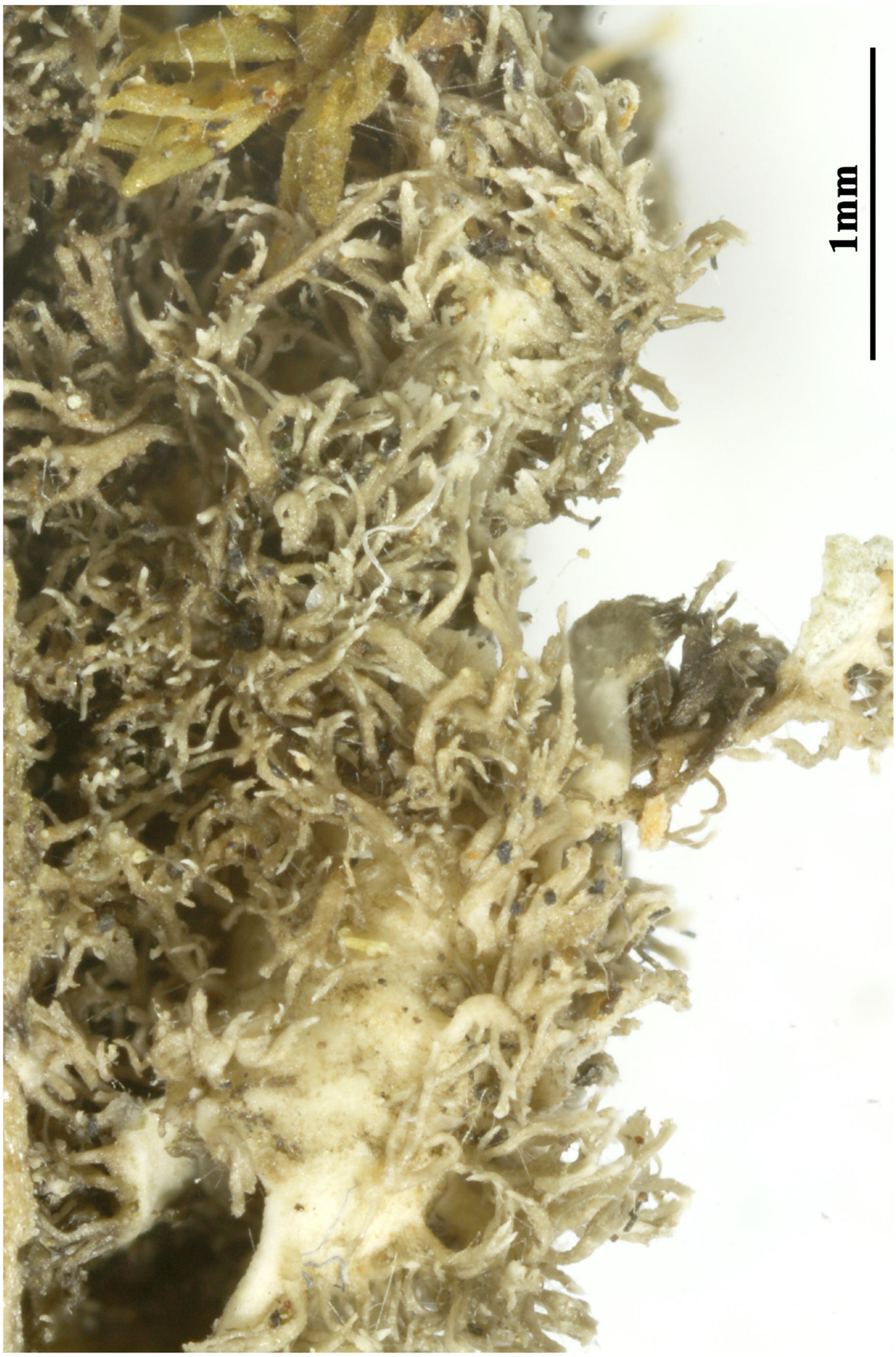
Physcia aipolia



Physcia aipolia



Physcia aipolia

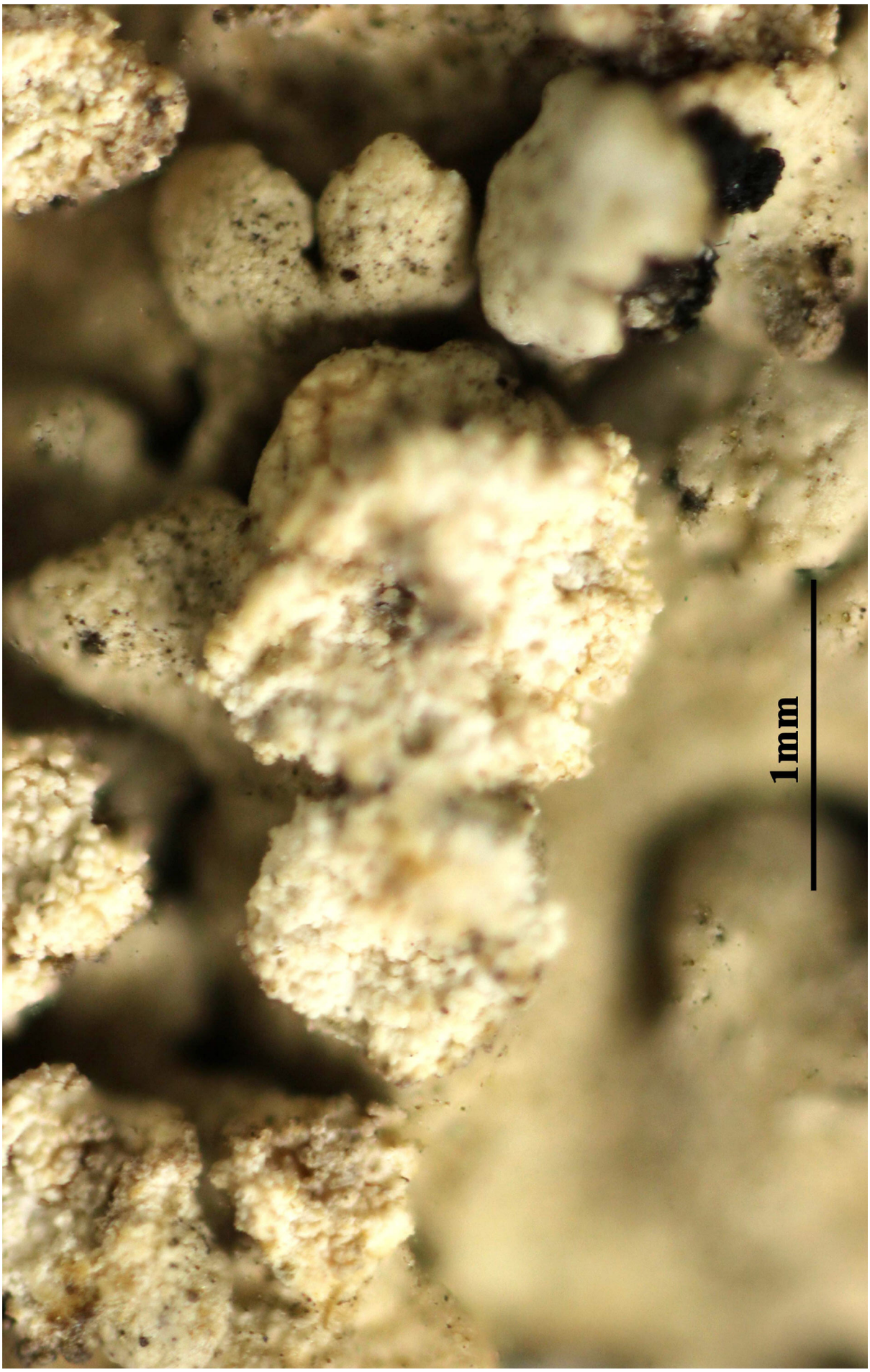


Physcia aipolia

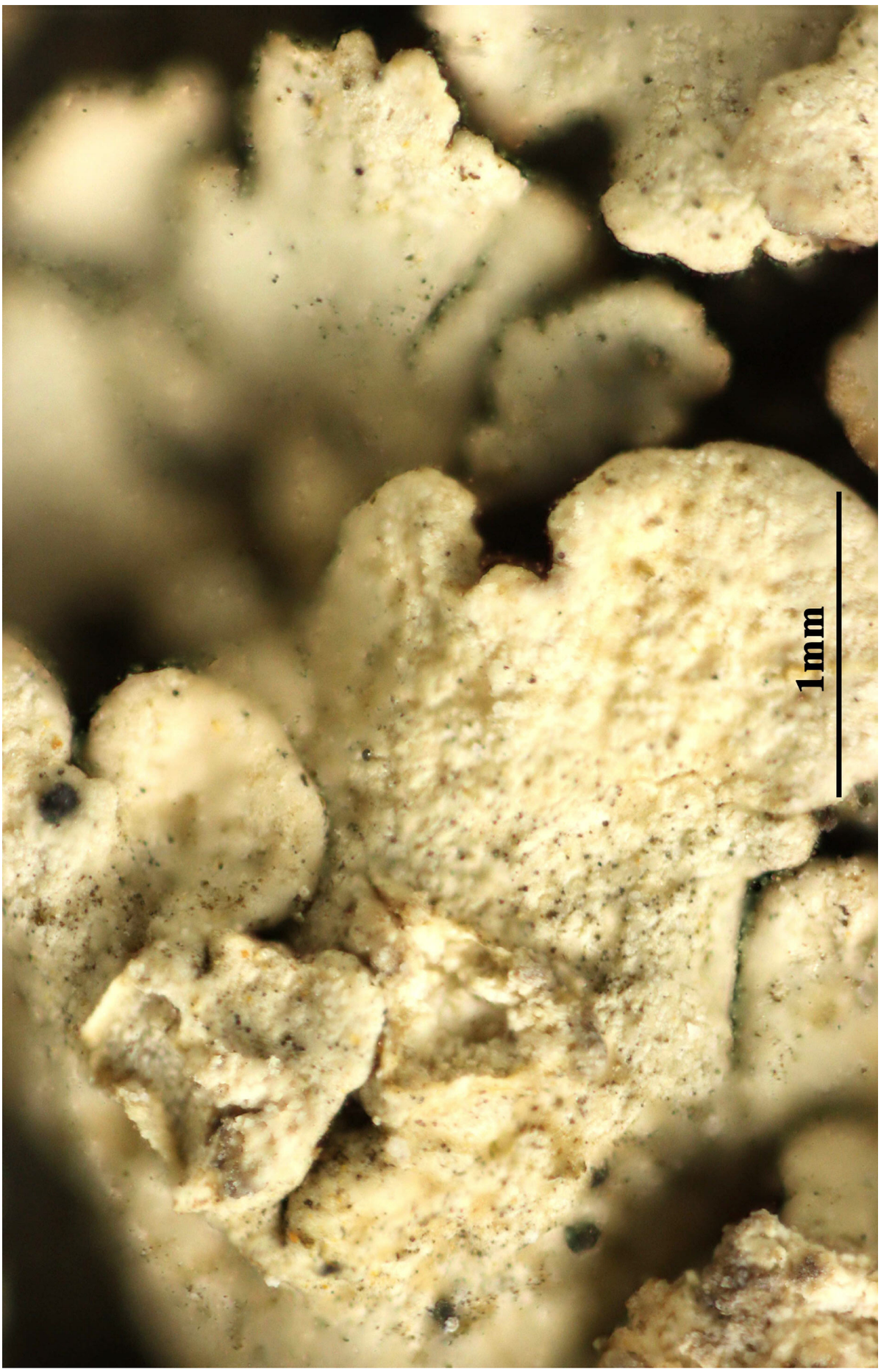
Physcia caesia (Hoffm.) Fürnr., Naturhist. Topogr. Regensburg (Regensburg) 2: 250 (1839)
= *Lichen caesius* Hoffm. 1784

[KU380], Japan. Hokkaido. Prov. Kitami: Otoshibe,Esashi-gun. On rocks, 10 m. Leg. H. Kashiwadani (no 8167), 18.8.1970, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI N. 380.

Thallus foliose, heteromerous, dorsiventral, narrow-lobed, closely adpressed, forming orbicular to irregular, up to 5(-10) cm wide rosettes. Lobes 0.5-1(-1.5) mm wide, radiating, separated to overlapping, whitish to bluish grey, white-maculate owing to breaks in the photobiont layer, with 1-2 mm wide, marginal to apparently laminal, orbicular, often capitate, blue-grey soralia. Lower surface white to dark grey, with dark, mostly simple rhizines. Upper cortex paraplectenchymatous; medulla white; lower cortex prosoplectenchymatous with the lowermost part gradually forming rounded, isodiametric cells. Apothecia rare, lecanorine, to 1.5(-2) mm across, with a brown-black, sometimes pruinose disc and an entire to crenulate thalline margin. Epithecium brown; hymenium and hypothecium colourless; paraphyses slender, simple or forked in upper part, the apical cells clavate, with a thin, dark brown cap. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, brown, ellipsoid, 17-25 x 6-11 µm, the wall thickened at apex and at septum, Physcia-type. Pycnidia black, immersed. Conidia subcylindrical, 4-6 x c. 1 µm. Photobiont chlorococcoid. Spot tests: upper cortex and medulla K+ yellow, C-, KC-, P- or P+ faintly yellow. Chemistry: upper cortex with atranorin; medulla with atranorin, zeorin and sometimes unidentified triterpenes. - Note: a cool-temperate to arctic-alpine, circumpolar species, common only in upland areas, mostly in natural habitats (e.g. on the top of calcareous boulders); it exceptionally grows also on bark and lignum impregnated with calcareous dust.



Physcia caesia



Physcia caesia

Physcia caesia (Hoffm.) Fürnr., Naturhist. Topogr. Regensburg (Regensburg) 2: 250 (1839)
= *Lichen caesius* Hoffm. 1784

[16594], Germany, Baden-Württemberg, Kreis Reutlingen, 2.5 km westlich von Münsingen, „Altes Lager“ auf dem ehemaligen Truppenübungsplatz, auf Beton, 48,41935° N, 9,53646° E, 817 m. Leg. et det. Schumm 14.08.2010. EX HERBARIO F. SCHUMM NR. 16594.

Thallus foliose, heteromerous, dorsiventral, narrow-lobed, closely adpressed, forming orbicular to irregular, up to 5(-10) cm wide rosettes. Lobes 0.5-1(-1.5) mm wide, radiating, separated to overlapping, whitish to bluish grey, white-maculate owing to breaks in the photobiont layer, with 1-2 mm wide, marginal to apparently laminal, orbicular, often capitate, blue-grey soralia. Lower surface white to dark grey, with dark, mostly simple rhizines. Upper cortex paraplectenchymatous; medulla white; lower cortex prosoplectenchymatous with the lowermost part gradually forming rounded, isodiametric cells. Apothecia rare, lecanorine, to 1.5(-2) mm across, with a brown-black, sometimes pruinose disc and an entire to crenulate thalline margin. Epithecium brown; hymenium and hypothecium colourless; paraphyses slender, simple or forked in upper part, the apical cells clavate, with a thin, dark brown cap. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, brown, ellipsoid, 17-25 x 6-11 µm, the wall thickened at apex and at septum, Physcia-type. Pycnidia black, immersed. Conidia subcylindrical, 4-6 x c. 1 µm. Photobiont chlorococcoid. Spot tests: upper cortex and medulla K+ yellow, C-, KC-, P- or P+ faintly yellow. Chemistry: upper cortex with atranorin; medulla with atranorin, zeorin and sometimes unidentified triterpenes. - Note: a cool-temperate to arctic-alpine, circumpolar species, common only in upland areas, from the Alps to Sicilia, mostly in natural habitats (e.g. on the top of calcareous boulders); it exceptionally grows also on bark and lignum impregnated with calcareous dust.

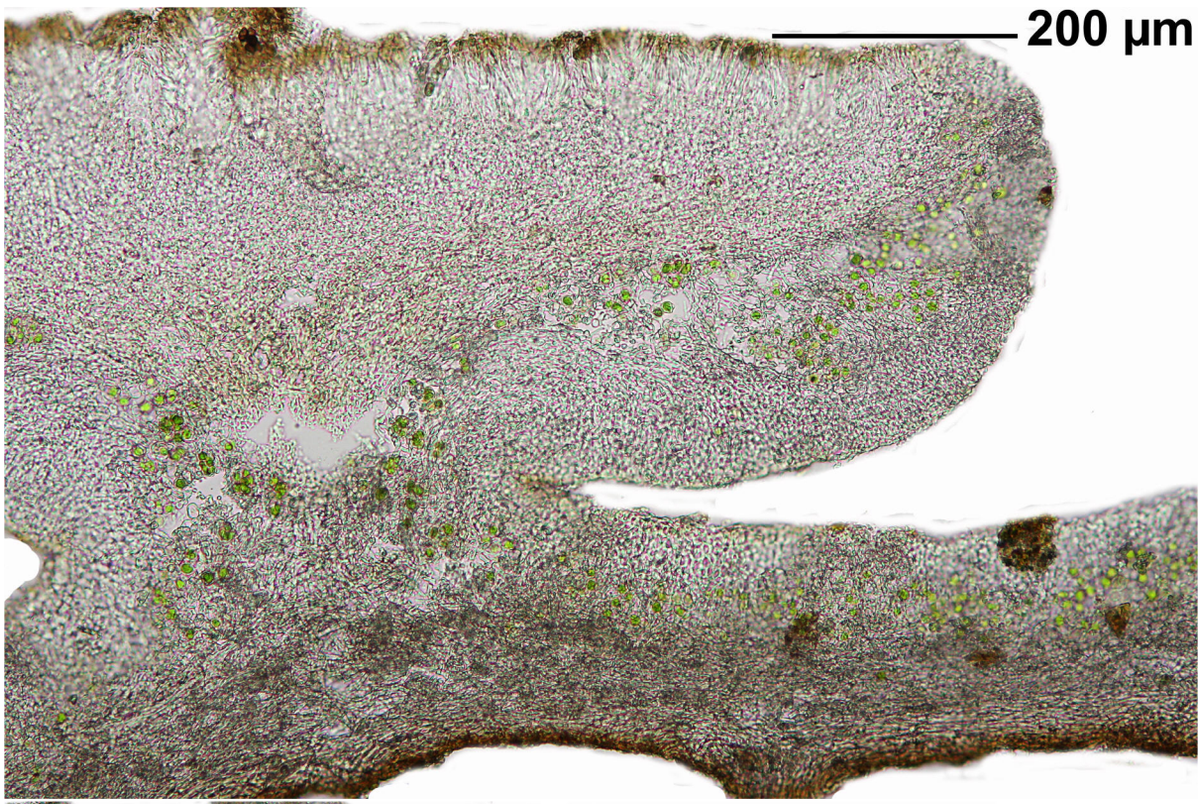
Thallus hellgrau, weiß gepunktet, mit laminalen, halbkugeligen, bis 2 mm breiten, weißgrauen, oft etwas bläulichen Soralen. Oberrinde paraplektenchymatisch. Untere Rinde prosoplektenchymatisch (periklinale, parallele Hyphenstränge). Sporen braun, 2-zellig, 8/Ascus, 17-24-7-11 µm, Sporenwände seitlich und an den Enden stark verdickt. Chemie: Mark und Rinde K+ gelb, C-, KC-, P+ gelb, Atranorin, Zeorin. Saxicol selten auch auf staubimprägnierten Stammbasen. Europa, Afrika, Amerika, Asien.

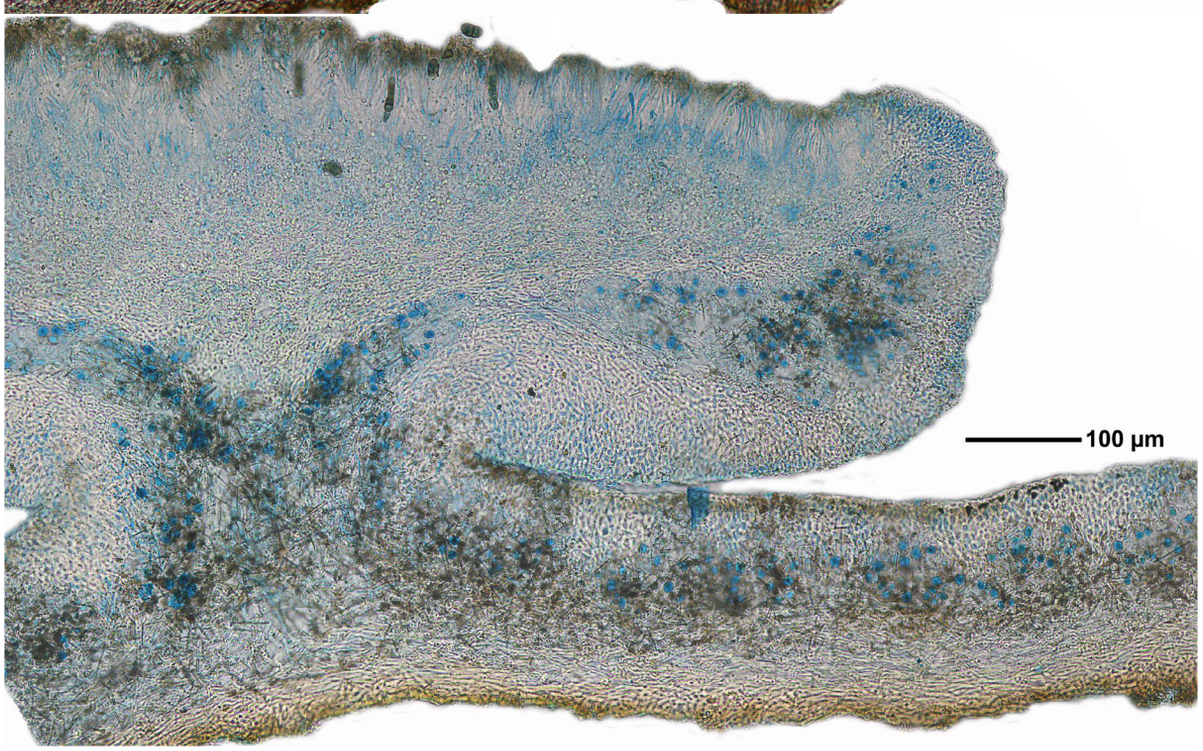


Physcia caesia



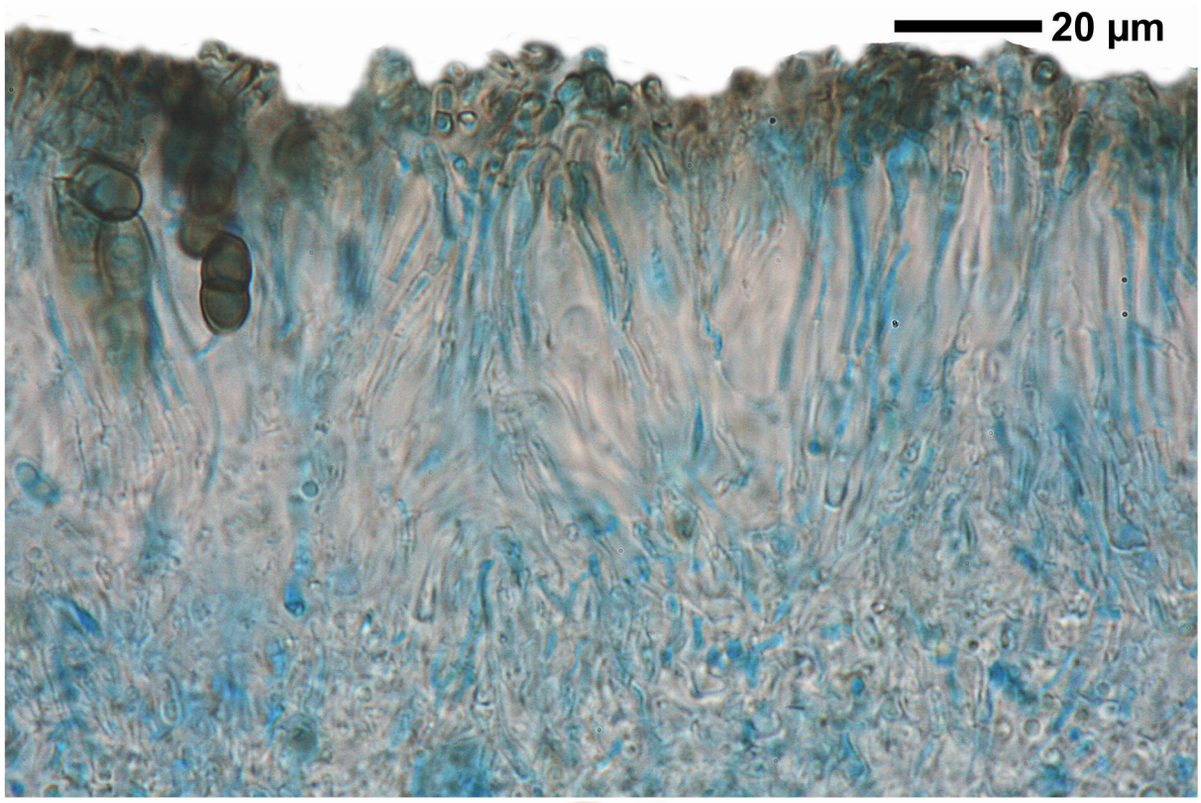
Physcia caesia

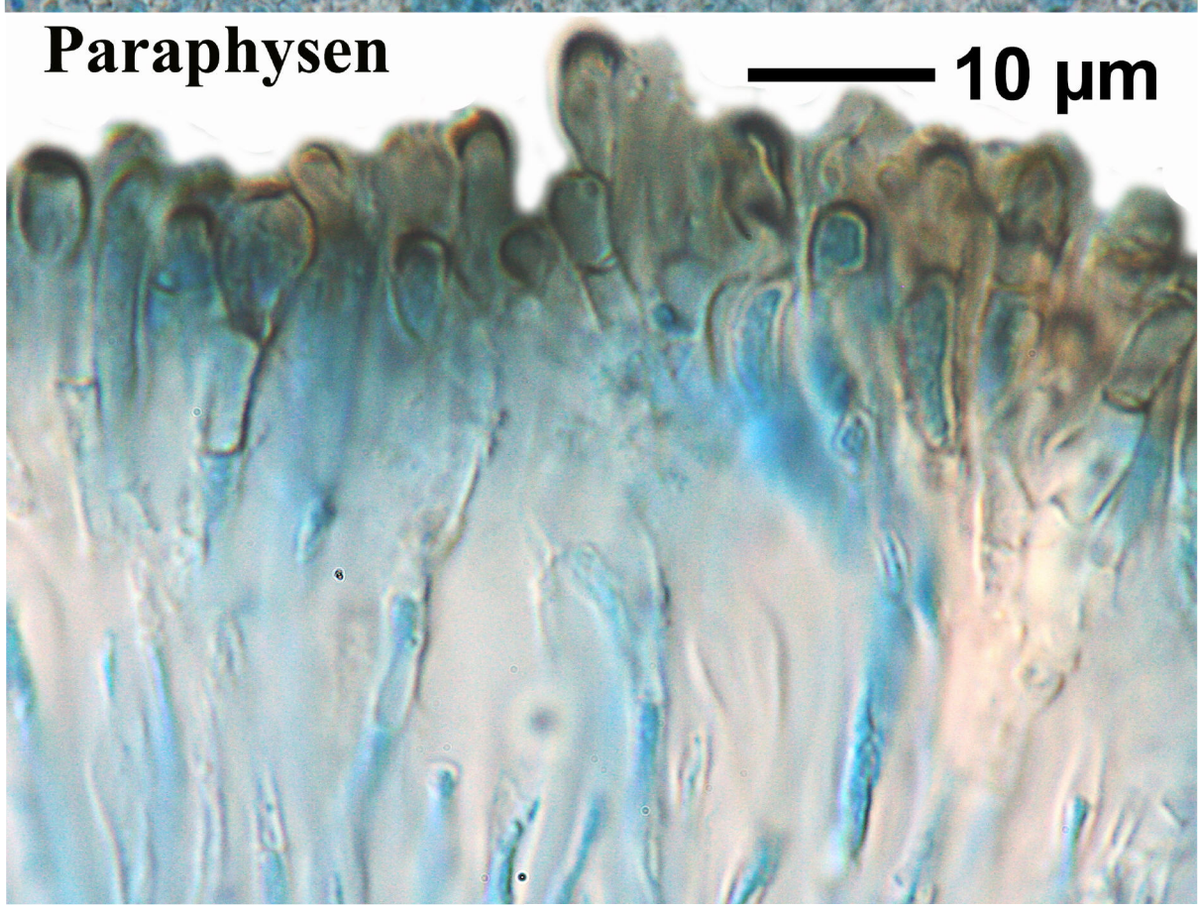






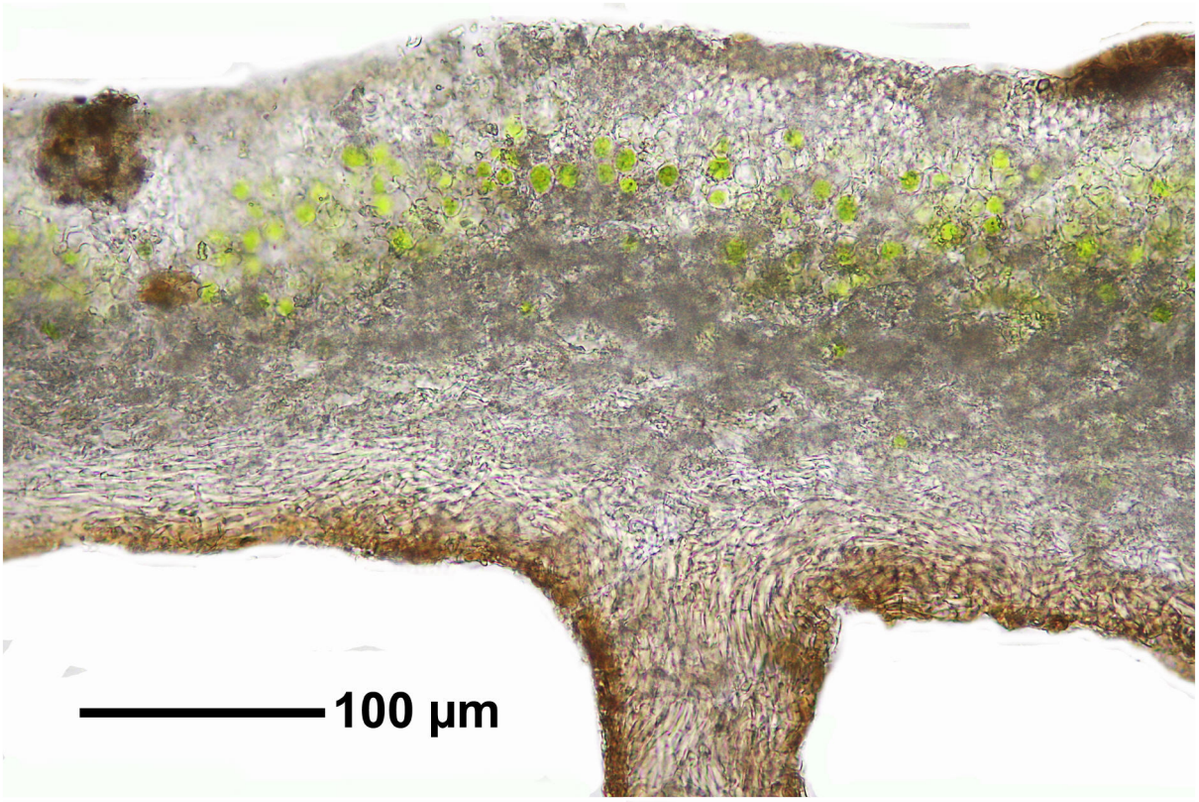
Physcia caesia



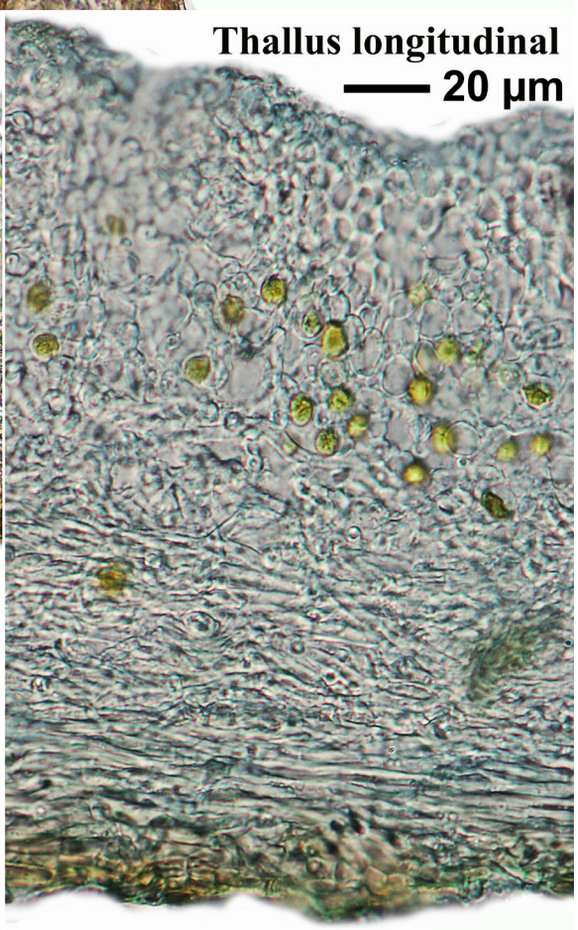




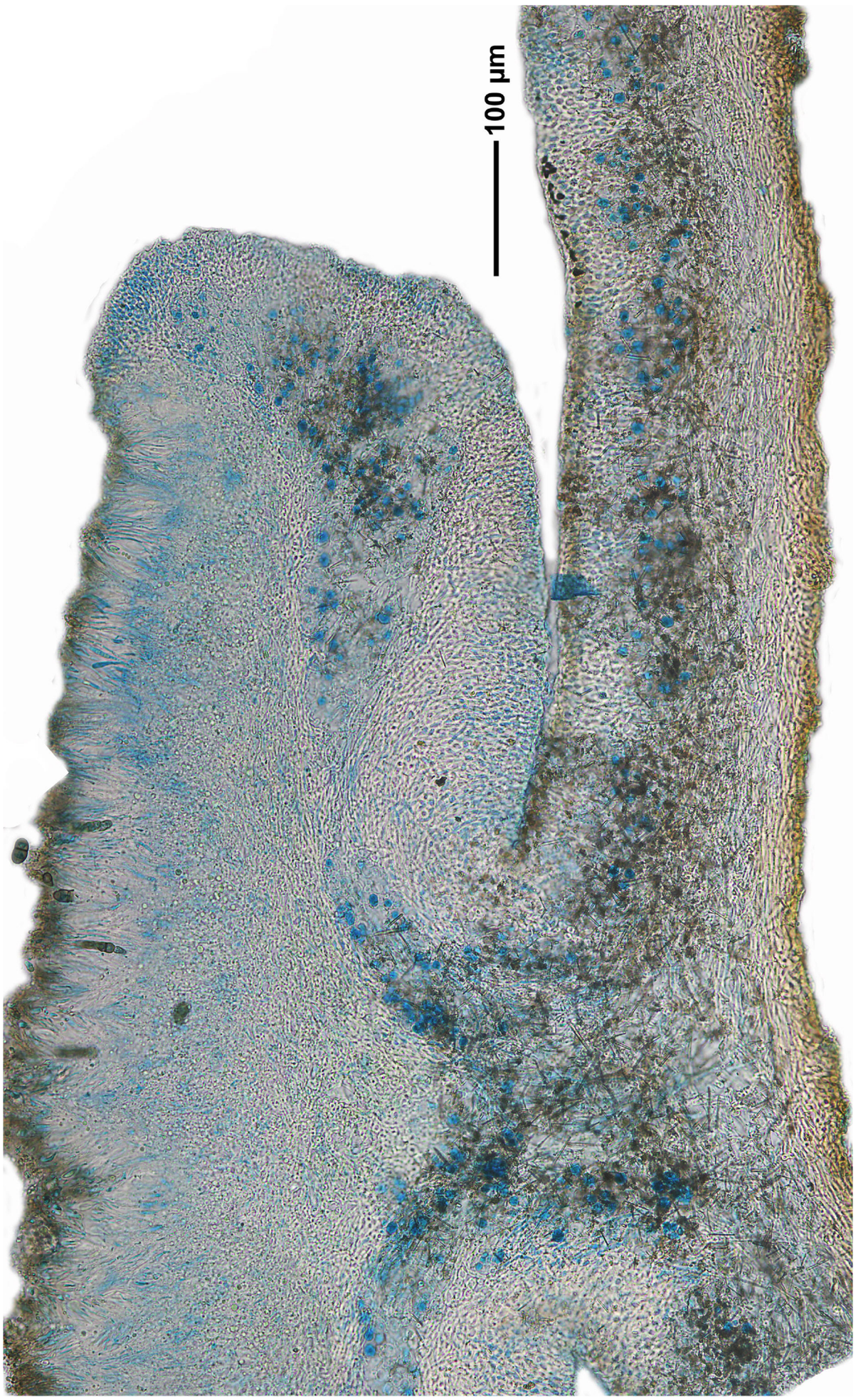
Physcia caesia







Physcia caesia

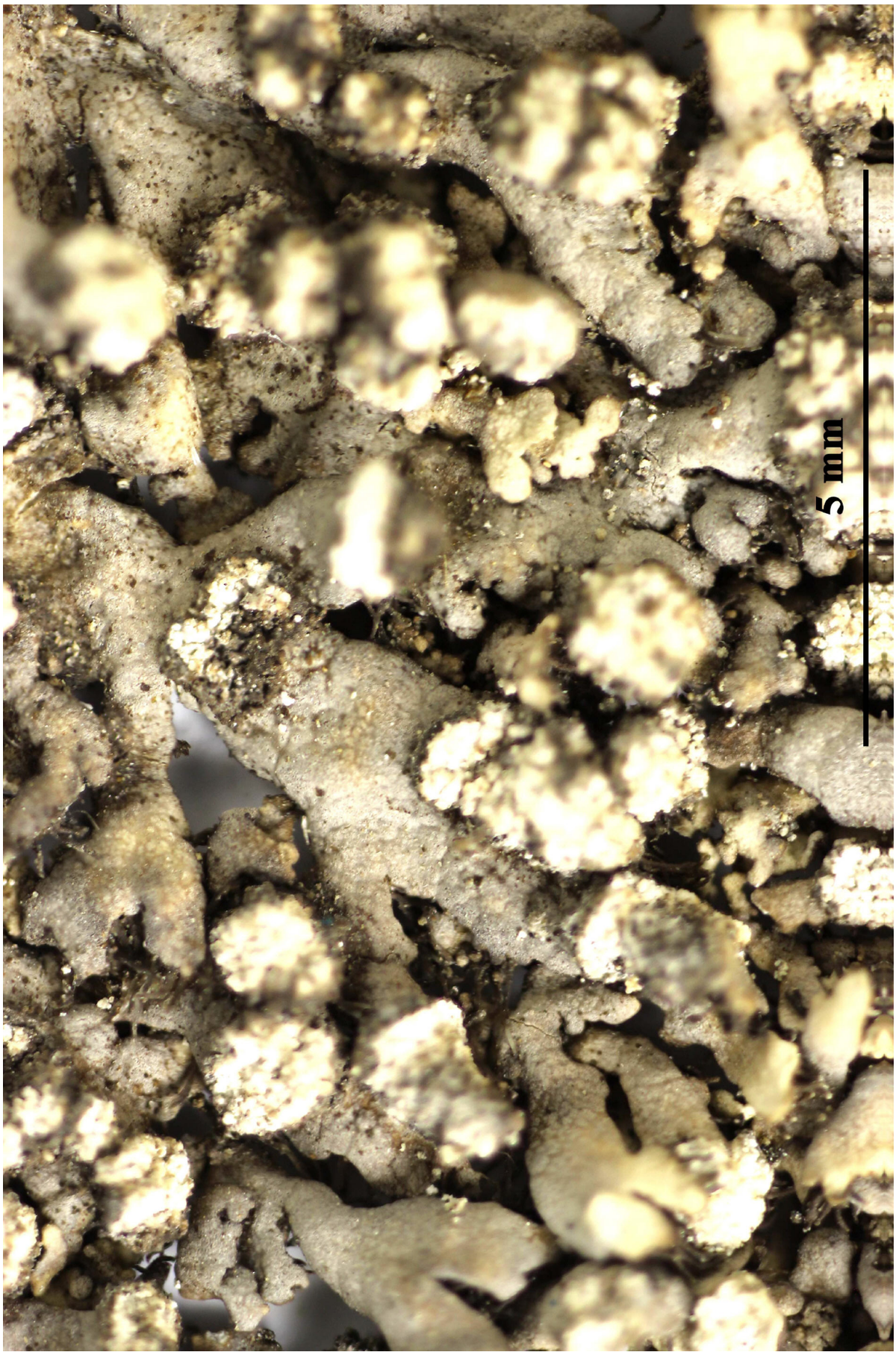


Physcia caesia

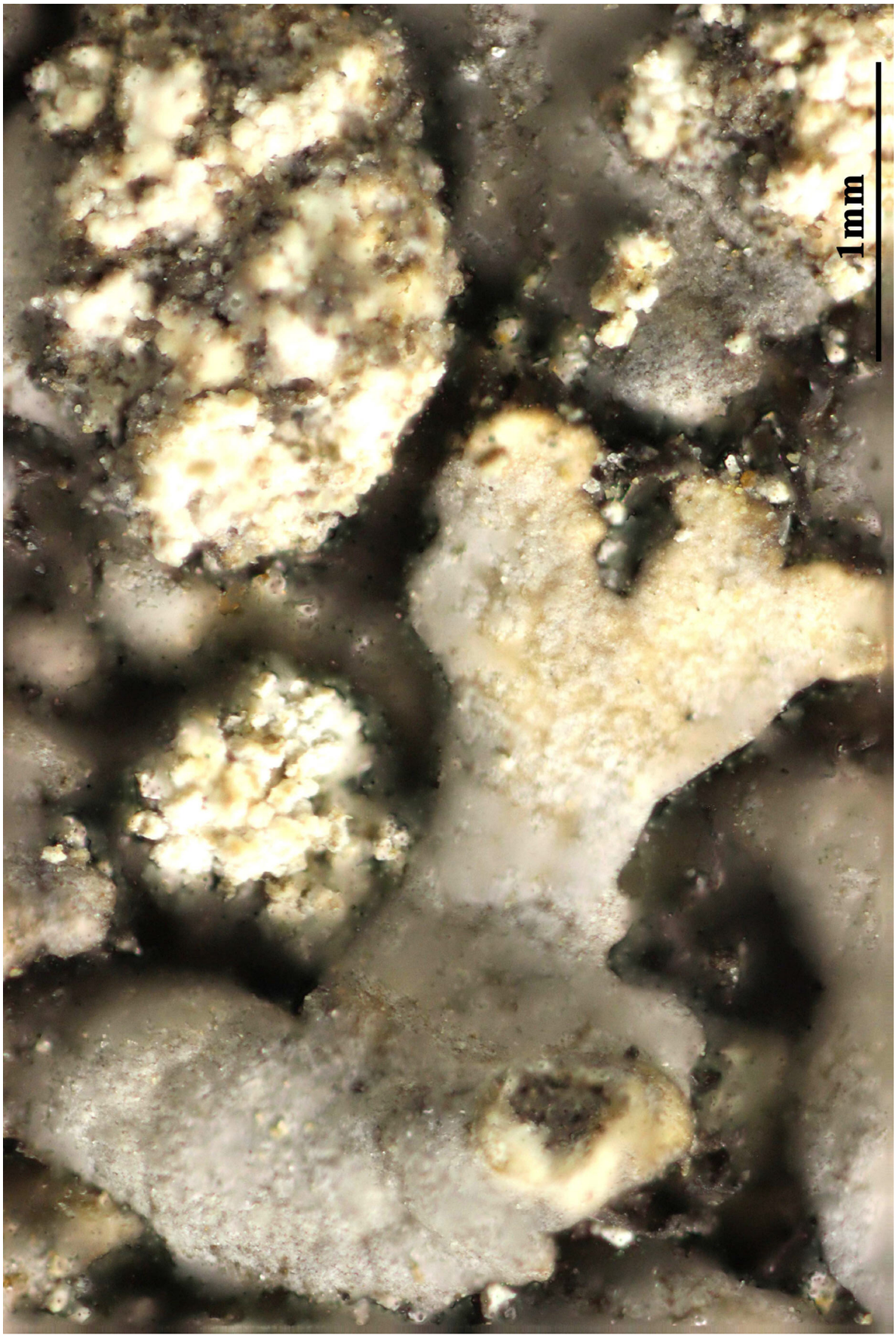
Physcia caesia (Hoffm.) Fürnr., Naturhist. Topogr. Regensburg (Regensburg) 2: 250 (1839)
= *Lichen caesius* Hoffm. 1784

[KU379], Japan. Hokkaido, Prov. Nemuro: Sakaki-machi, Akkeshi-gun. On rocks along the sea. Leg. H. Kashiwadani (no.7604), 6.8.1970, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 379.

Thallus foliose, heteromerous, dorsiventral, narrow-lobed, closely adpressed, forming orbicular to irregular, up to 5(-10) cm wide rosettes. Lobes 0.5-1(-1.5) mm wide, radiating, separated to overlapping, whitish to bluish grey, white-maculate owing to breaks in the photobiont layer, with 1-2 mm wide, marginal to apparently laminal, orbicular, often capitate, blue-grey soralia. Lower surface white to dark grey, with dark, mostly simple rhizines. Upper cortex paraplectenchymatous; medulla white; lower cortex prosoplectenchymatous with the lowermost part gradually forming rounded, isodiametric cells. Apothecia rare, lecanorine, to 1.5(-2) mm across, with a brown-black, sometimes pruinose disc and an entire to crenulate thalline margin. Epithecium brown; hymenium and hypothecium colourless; paraphyses slender, simple or forked in upper part, the apical cells clavate, with a thin, dark brown cap. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, brown, ellipsoid, 17-25 x 6-11 µm, the wall thickened at apex and at septum, Physcia-type. Pycnidia black, immersed. Conidia subcylindrical, 4-6 x c. 1 µm. Photobiont chlorococcoid. Spot tests: upper cortex and medulla K+ yellow, C-, KC-, P- or P+ faintly yellow. Chemistry: upper cortex with atranorin; medulla with atranorin, zeorin and sometimes unidentified triterpenes. - Note: a cool-temperate to arctic-alpine, circumpolar species, common only in upland areas, mostly in natural habitats (e.g. on the top of calcareous boulders); it exceptionally grows also on bark and lignum impregnated with calcareous dust.



Physcia caesia

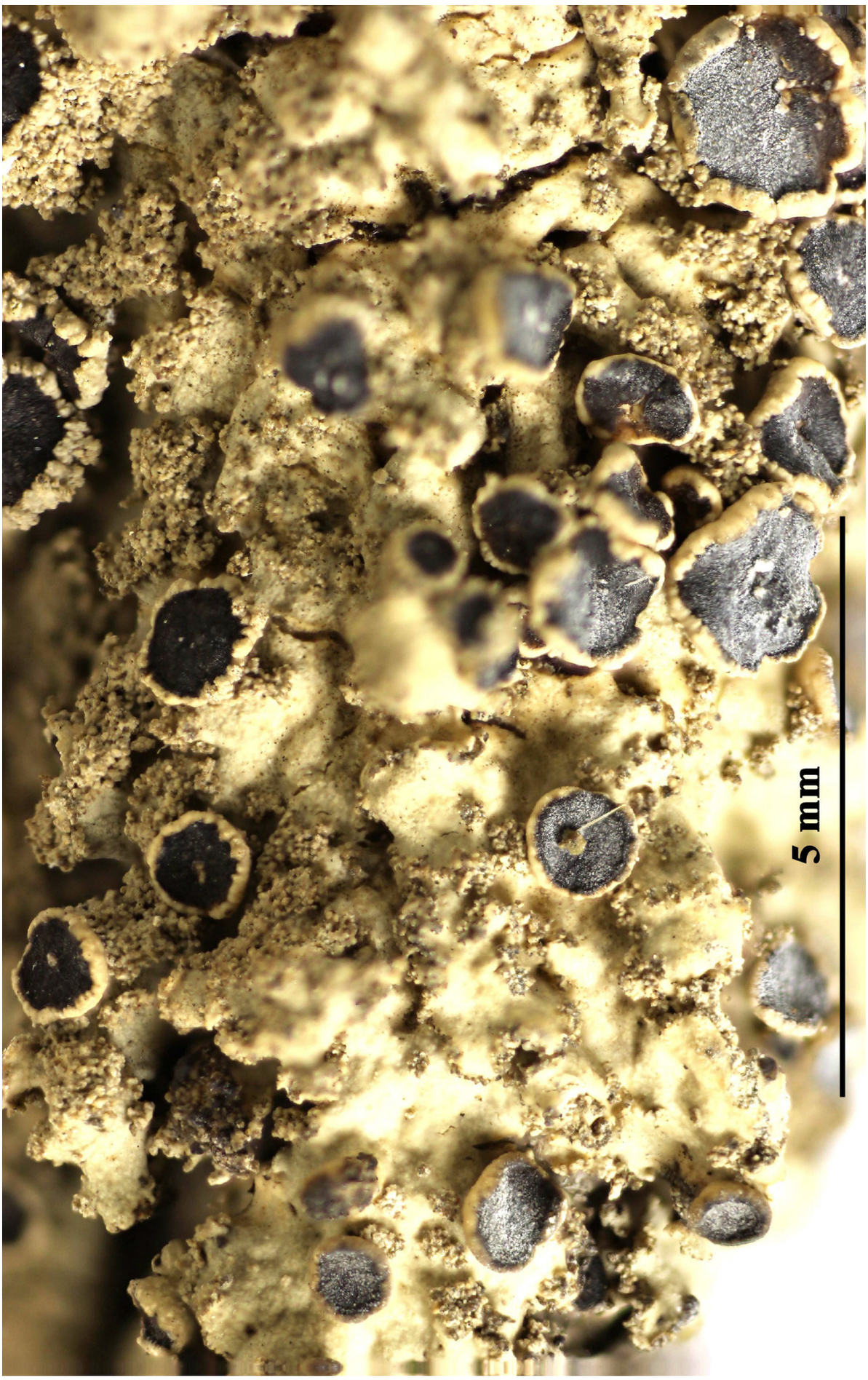


Physcia caesia

Physcia dimidiata (Arnold) Nyl., Flora, Regensburg 64(34): 537 (1881)
= *Parmelia pulverulenta* var. *dimidiata* Arnold 1864

[KA363], Mexico Baja California: Isla Cedros, N-end road to water tanks (28°89' N, 115°13' W). On bark of *Juniperus californica*, 1000 m. Leg. H. Kashiwadani (no. 44868), 21.3.1994, det. T. L. Esslinger. EX H. KASHIWADANI LICHENES MINUS COGNITI EXSICCATI NR. 363.

Thallus foliose, heteromerous, dorsiventral, narrow-lobed, forming irregular to rarely orbicular, up to 2(-3) cm wide rosettes, several thalli sometimes merging to cover larger surfaces. Lobes overlapping, usually 0.5-1.2(-1.5) mm wide, rarely wider, eroded-crenulate and minutely lobulate at tips, the upper surface brownish grey to cream-coloured, emaculate, markedly and densely pruinose, with granular soredia arranged in elongated, marginal soralia which, in old specimens, may extend to the central parts; lower surface whitish to brownish, with pale, mostly simple rhizines. Upper cortex paraplectenchymatous; medulla white; lower cortex indistinctly prosoplectenchymatous. Apothecia very rare, lecanorine, up to 2 mm across, with a white-pruinose disc and an often sorediate thalline margin. Epithecium brown; hymenium and hypothecium colourless; paraphyses slender, simple or forked in upper part, the apical cells clavate, with a thin, dark brown cap. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, brown, ellipsoid, 17-23 x 8-12 µm, the wall thickened at apex and at septum, Physcia-type. Photobiont chlorococcoid. Spot tests: upper cortex K+ yellow, C-, KC-, P- or P+ faintly yellow; medulla K-, C-, KC-, P-. Chemistry: upper cortex with atranorin. - Note: a Mediterranean to mild-temperate, probably holarctic lichen found on steeply inclined surfaces of basic siliceous rocks and of calciferous sandstones, on old walls, more rarely on basal parts of old trees, mostly below the montane belt.



Physcia dimidiata

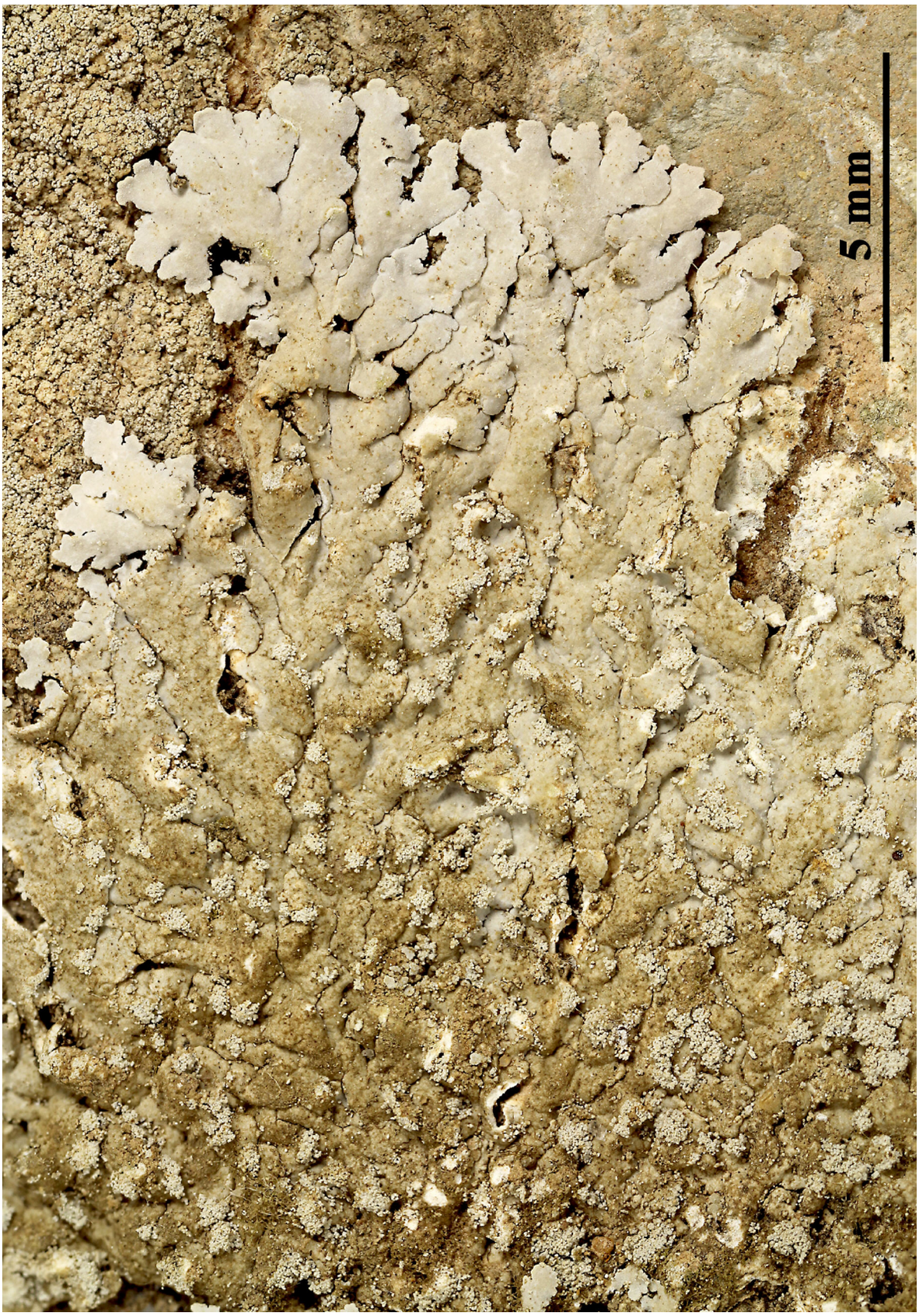


Physcia dimidiata

Physcia dimidiata (Arnold) Nyl., Flora, Regensburg 64(34): 537 (1881)
= *Parmelia pulverulenta var. dimidiata* Arnold 1864

[13203],Vietnam, Süd-Vietnam, Region-Saigon, Mekong-Delta bei Vinh Long, auf der Insel Bink Hoa Phuoc, an Rinde. Leg. F. Schumm, 01.05.2007, det. Aptroot 2019. Ex Herbarioa F. Schumm Nr. 13203.

Mit marginalen teils laminal erscheinenden kreisförmigen Soralen. Unterseite hell, Rhizinen einfach, hell. Oberrinde paraplektenchymatisch, Unterrinde prosoplektenchymatisch. Chemie: Rinde und Mark K+ gelb; atranorin, zeorin,, und 2 weitere Triterpene.



Physcia dimidiata



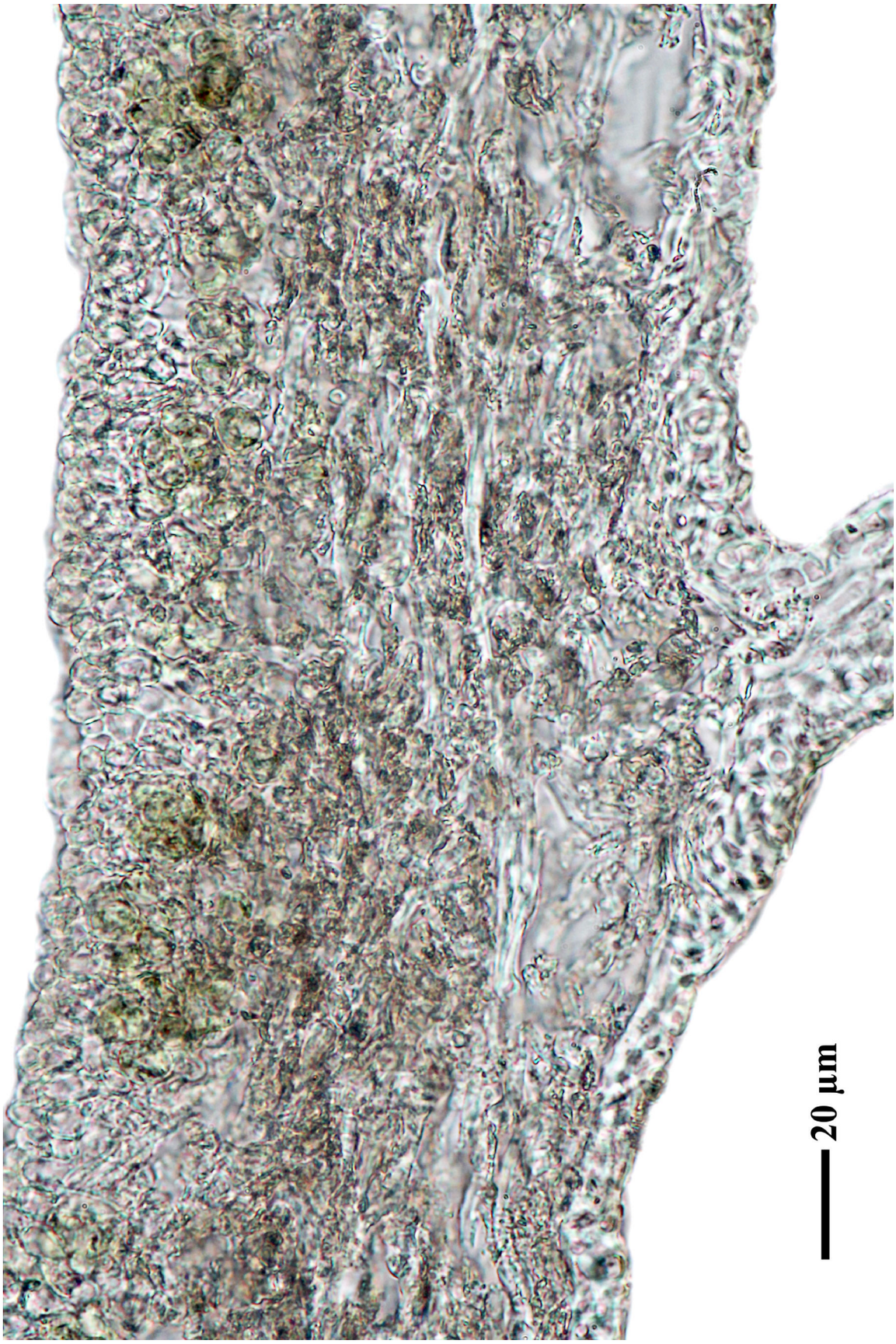
Physcia dimidiata



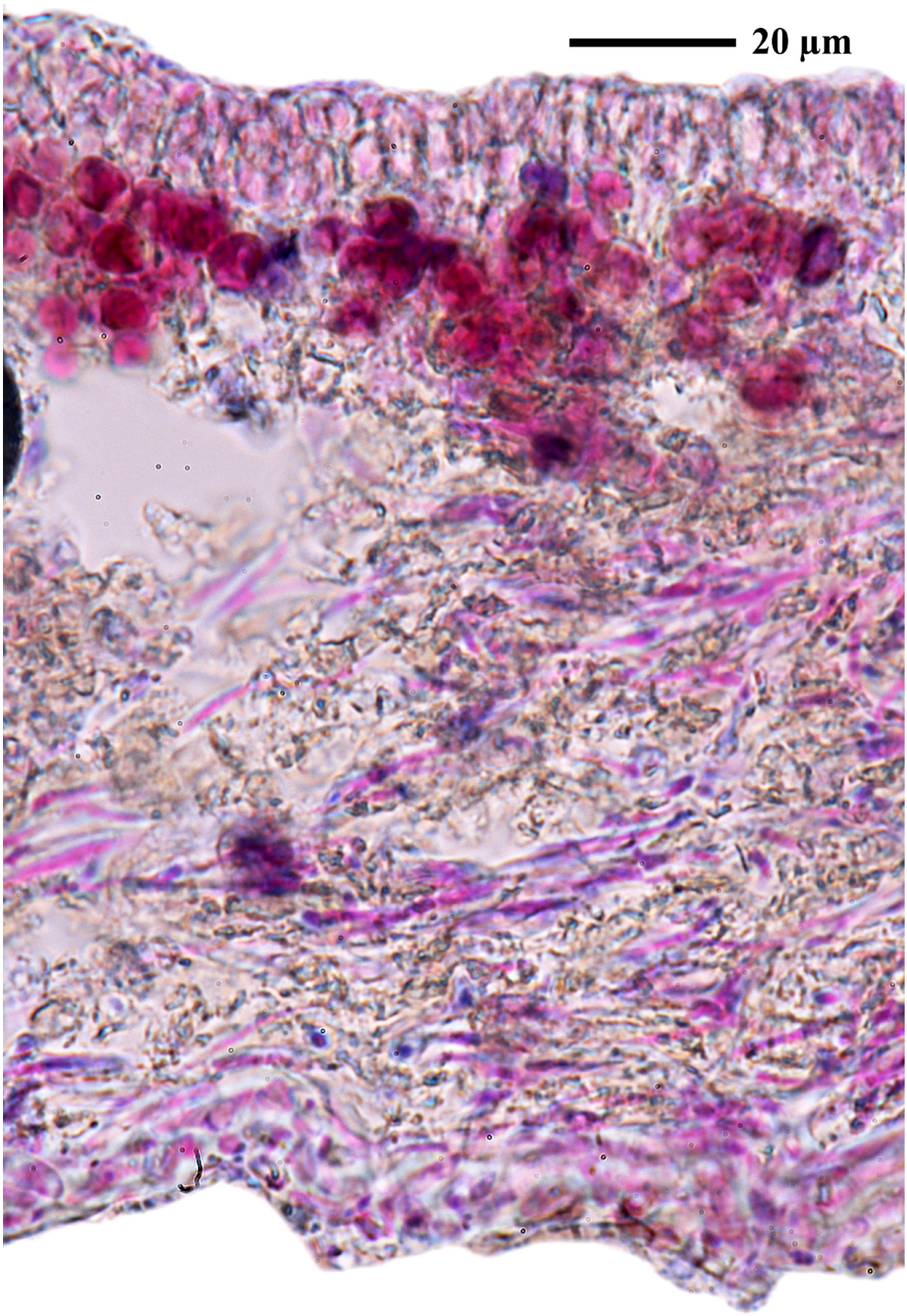
Physcia dimidiata



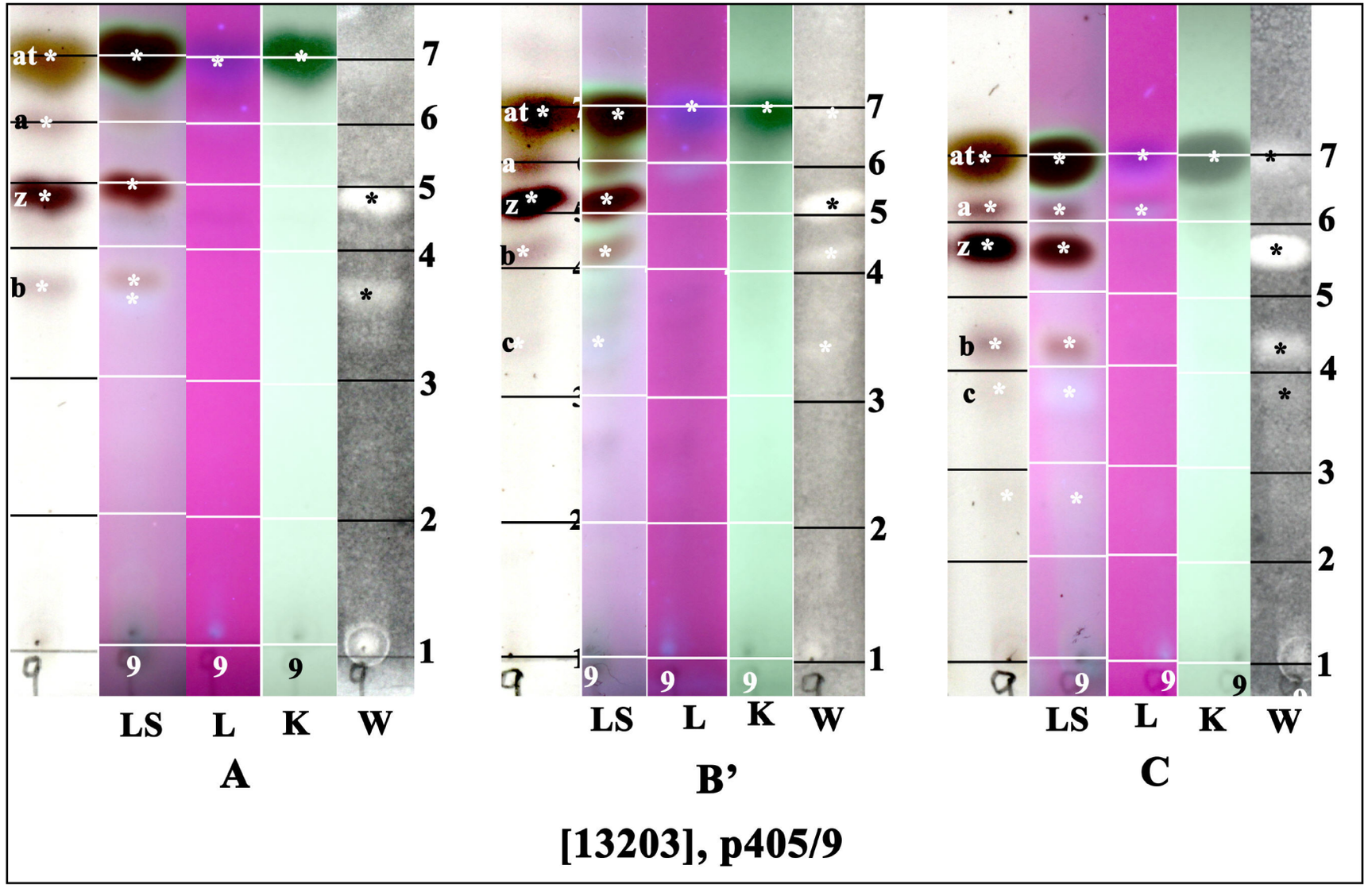
Physcia dimidiata



Physcia dimidiata



Physcia dimidiata



at: atranorin, z: zeorin, a,b: unknown

Physcia melanchra Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 4 sér. 2: 75 (1900)
= *Physciella melanchra* (Hue) Essl., Mycologia 78(1): 95 (1986)
= *Phaeophyscia melanchra* (Hue) Hale, Lichenologist 15(2): 158 (1983)

[KU528], Japan, Honshu, Prov. Musahi, Hyakunin-cho, Shinjuku-ku, Tokio. On concrete roof, ca. 20 m. Leg. H. Kashiwadani (no. 16987) & Y. Itake, 22.01.1982, det. H. Kashiwadani. Ex S. Kurokawa and H. Kashiwadani: Lichenes Rariores Et Critici Exsiccati Nr. 528.

Thallus grünlich grau, im Herbar blass ocker, unbereift, ohne weiße Punkte. Lappen 0.5-1.2 mm breit, eben bis konkav, unbereift, mit laminalen punktförmigen Soralen, die sich über die Lappen ausbreiten. Unterseite blaßbraun mit spärlichen Rhizinen. Oberrinde paraplektenchymatisch. Unterrinde prosoplektenbchymatischaus aus periklinal orientierten, dickwandigen Hyphen. Apothecien selten, 1-2 mm breit. Scheibe unbereift rötlich braun. Sporen braun, 1-septiert, 8/Ascus, 18-21 x 7-8 µm. Chemie: Thallus K-, Mark K-, C-, KC-,P-, nach Kashiwadani angeblich auch Spuren von Atranorin Zeorin und Leucotylin im TLC nachweisbar. Saxicol und corticol. In Japan häufig (endemisch?).



Physcia melanchra



Physcia melanchra



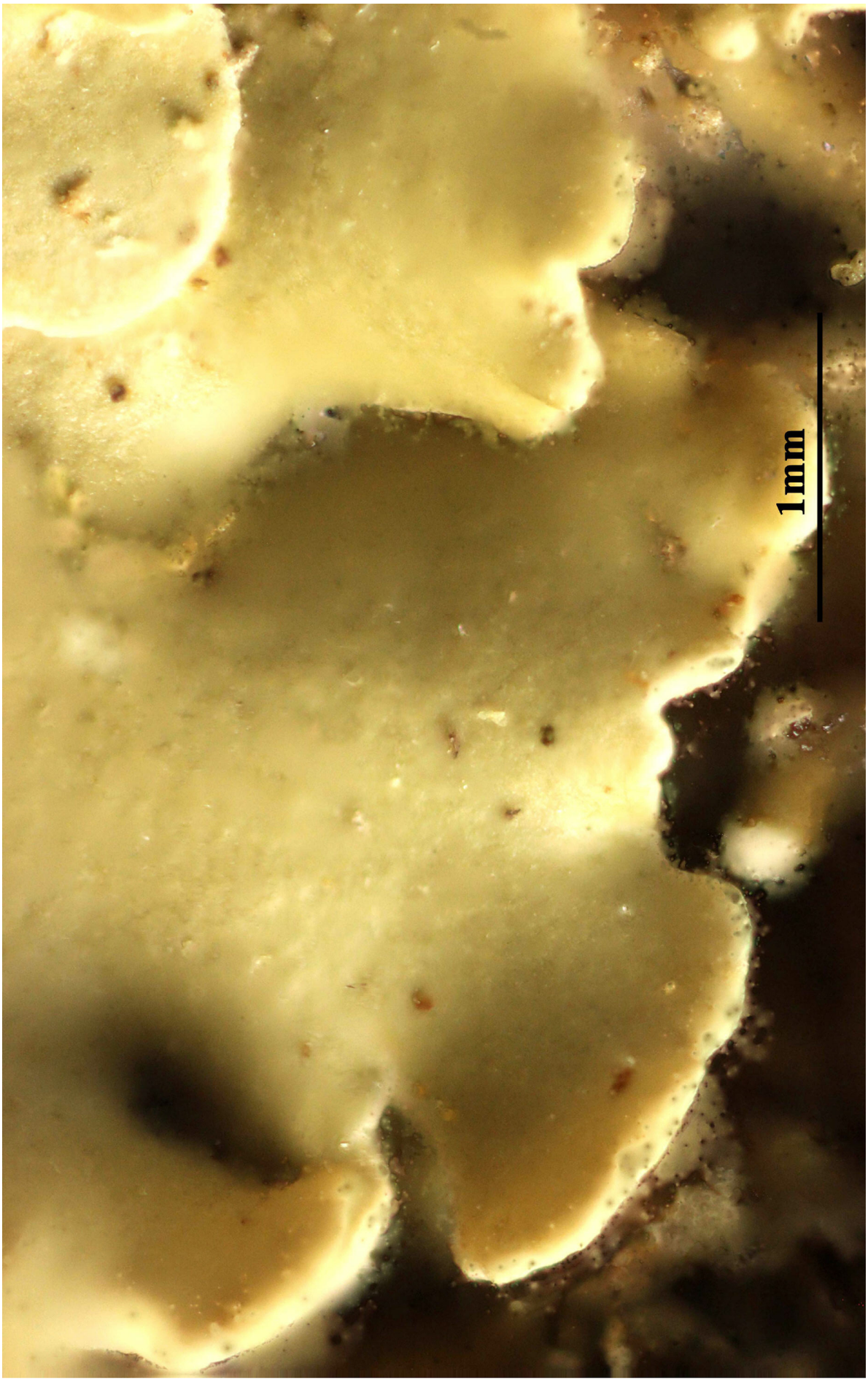
Physcia melanchra

Physcidia cylindrophora (Taylor) Hue, Bull. Soc. linn. Normandie, sér. 6 1: 97 (1908) [1907]
= *Parmelia cylindrophora* Taylor 1847
= *Bacidia cylindrophora* (Taylor) Kistenich, Timdal, Bendiksby & S. Ekman, Taxon 67(5): 889 (2018)

[OH441], Taiwan. Taichung Co: Mt. Yuanzue. On bark of broadleaf deciduous tree, 1800 m. Leg. Y. Ohmura (no. 7091), 4.10.2009, det. Y. Ohmura. EX Y. OHMURA LICHENES MINUS COGNITI NR. 441.



Physcidia cylindrophora

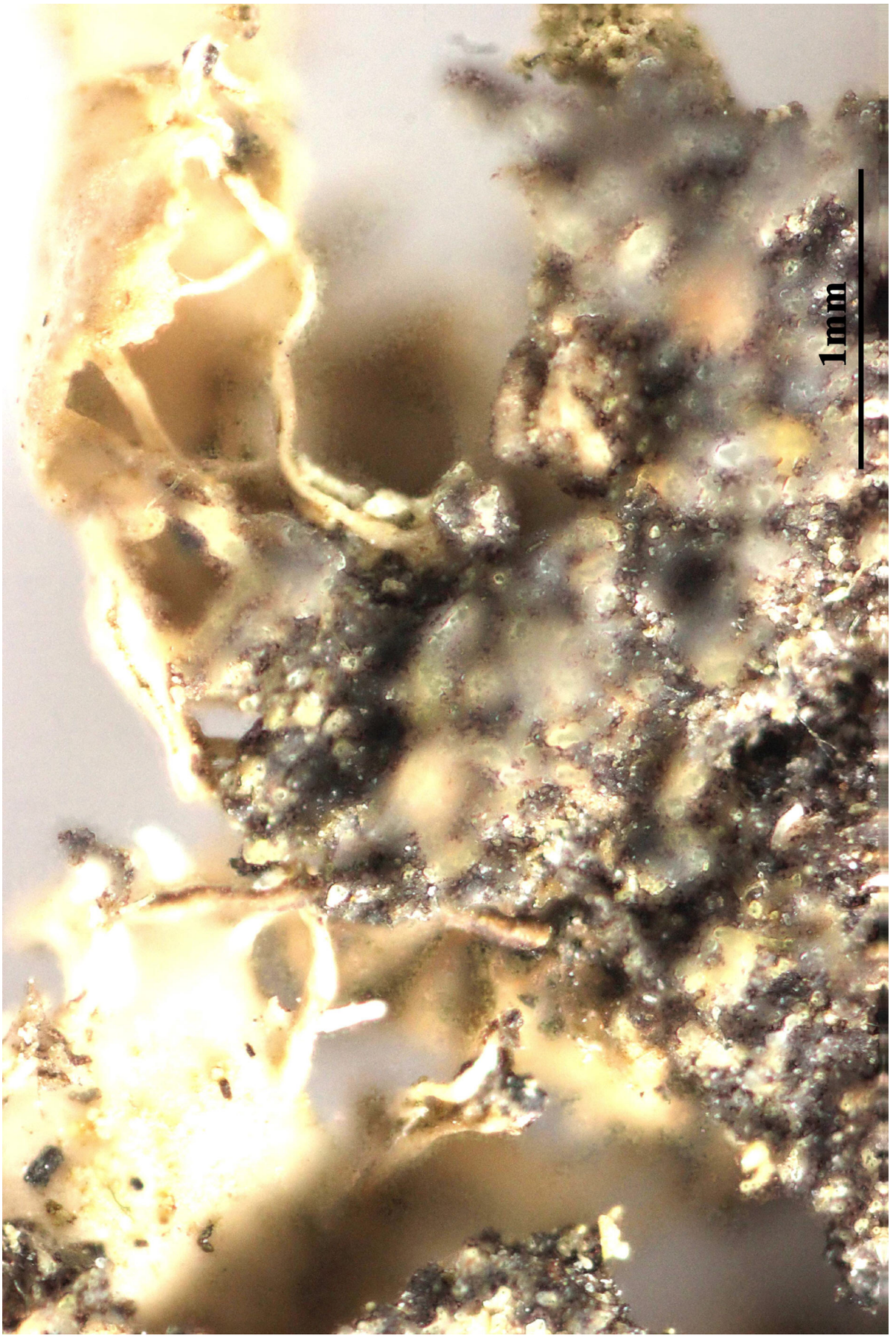


Physcidia cylindrophora

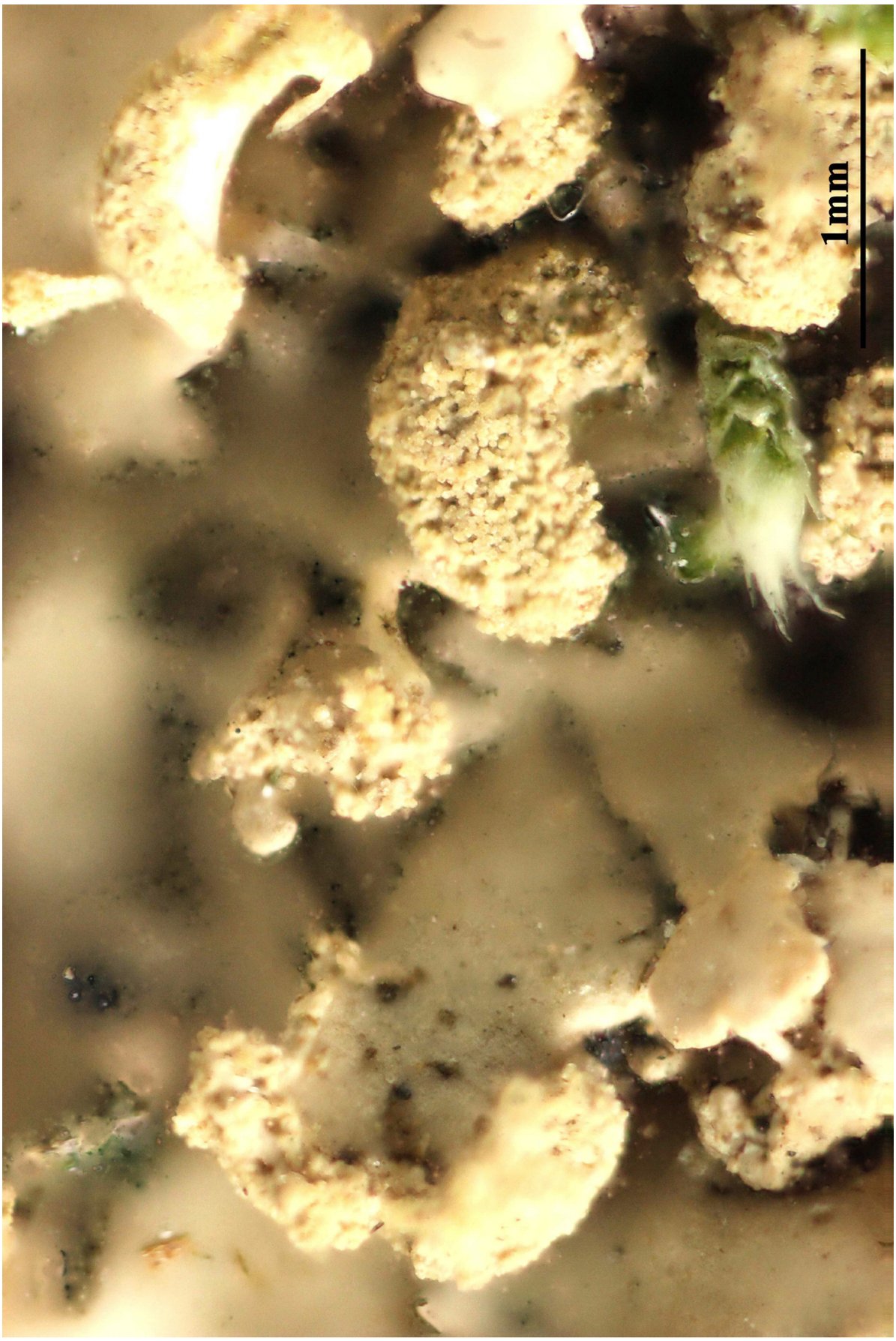
Physciella chloantha (Ach.) Essl., Mycologia 78(1): 94 (1986)
= *Parmelia chloantha* Ach. 1814

[OH620], Japan, Honshu. Prov. Bitchu (Pref. Okayama): Ikura, Niimi-city (34°55'37" N, 133°50'53" E). On concrete, 218 m. Leg. M. Sugimoto (no. 578), 18.10.2018, det. Y. Ohmura. EX Y.OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 620.

Thallus foliose, heteromerous, dorsiventral, narrow-lobed, rather loosely attached, forming at first orbicular, then irregular, up to 3 cm wide rosettes. Lobes discrete to imbricate, (0.2-)0.5-1(-1.5) mm broad, flat, whitish to pale brown, epruinose, with terminal labriform soralia at the tips of ascending lobules. Lower surface white to pale tan, with simple, pale rhizines. Upper cortex paraplectenchymatous; medulla white; lower cortex prosoplectenchymatous. Apothecia very rare, lecanorine. Asci 8-spored, clavate, the K/I+ blue tholus penetrated by a faintly amyloid apical cushion with parallel or diverging flanks, the wall K/I-, surrounded by a K/I+ blue outer layer, Lecanora-type. Ascospores 1-septate, brown, ellipsoid, 17-23 x 8-11 µm, the wall thickened at apex and at septum, Physcia-type. Pycnidia rare. Conidia short-ellipsoid. Photobiont chlorococcoid. Spot tests: cortex and medulla K-, C-, KC-, P-, UV-. Chemistry: without lichen substances. - Note: a mild-temperate, typically submediterranean species occurring on a wide range of substrata (mostly on bark of isolated trees, but also on limestone in open woodlands).



Physciella chloantha

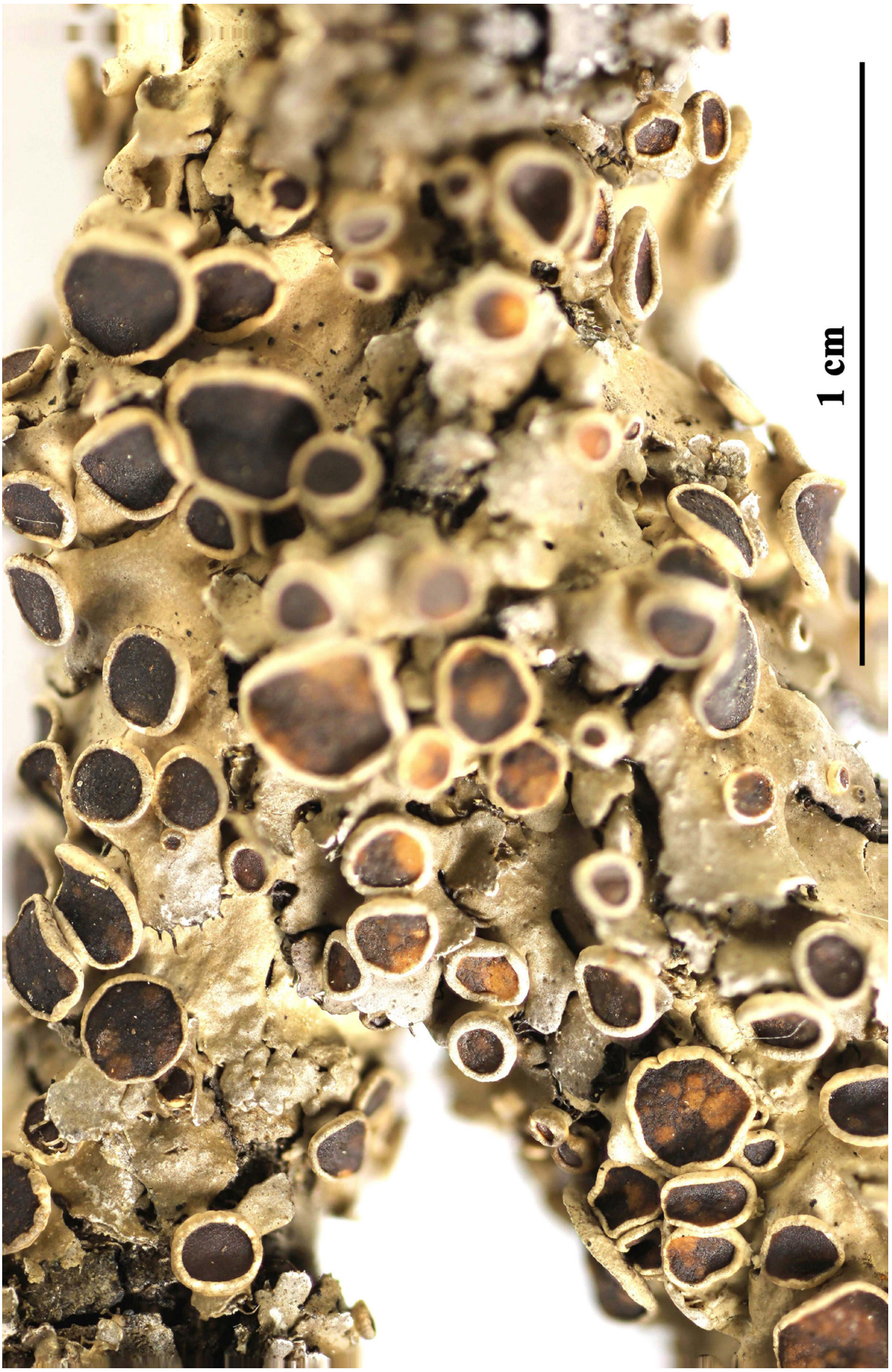


Physciella chloantha

Physciella denigrata (Hue) Essl., Mycologia 78(1): 95 (1986)
= *Physcia denigrata* Hue 1900

[OH493], Japan. Honshu. Prov. Kai (Pref. Yamanashi): Lakeside of Motosu-ko, Motosu, Fujikawaguchiko-machi, Minamitsuru-gun (35°27' N, 138°36' E). On branches of *Salix* sp., 910 m. Leg. K. Yoshida & H. Kashiwadani, (Herb. Y. Ohmura no. 9907), 3.12.2013, det. Y. Ohmura & H. Kashiwadani. EX Y. OHMURA LICHENES MINUA COGNITI EXSICCATI NR. 493.

Thallus orbicular, up to 5 cm in diam. Lobes 1-3 mm broad, short and rounded, becoming imbricate, more or less appressed; without soredia or isidia. Lower surface white to pale tan, with sparse concolorous rhizines. Apothecia abundant, up to 2.5 mm in diam, short stipitate, the margin entire to weakly crenate; spores 22- 27(-29) x 9-11.5 µm, of the Pachysporaria-type. Conidia ellipsoid, 3-4 x 1-1.5 µm. *Physciella denigrata* is apparently restricted to eastern Asia. It is a very common species in Ja- pan and has also been reported from China and Taiwan (Kashiwadani, 1975). It is primarily a corticolous species but occurs also on rock. The above description is based on only a small series of specimens available to me (Esslinger), and, according to Kashiwadani, this species is quite variable in size, with lobes ranging occasionally up to 7 mm wide and the thalli up to 7 cm in diameter. The only similar species is *Physciella nepalensis* (Poelt) Essl.



Physciella denigrata

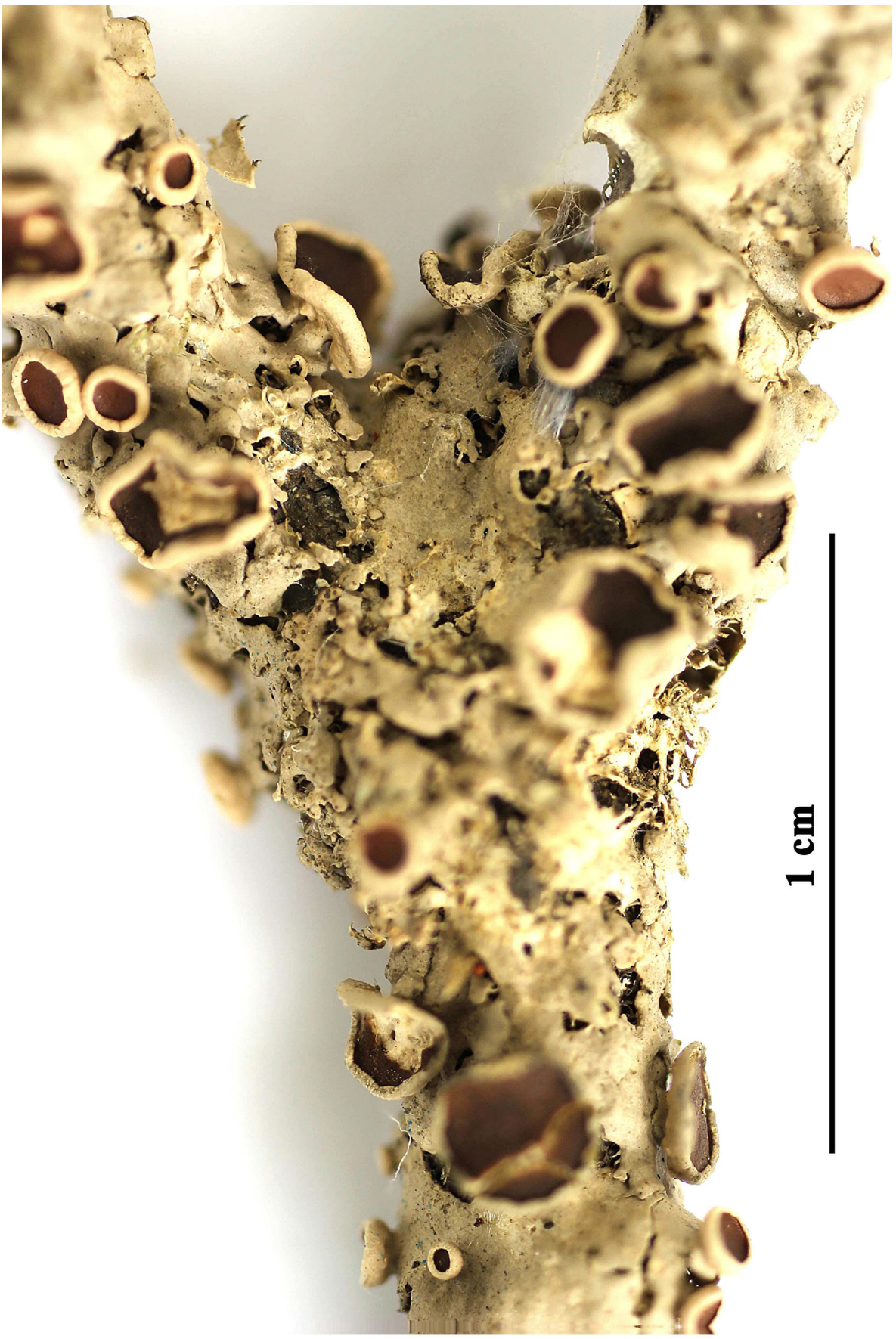


Physciella denigrata

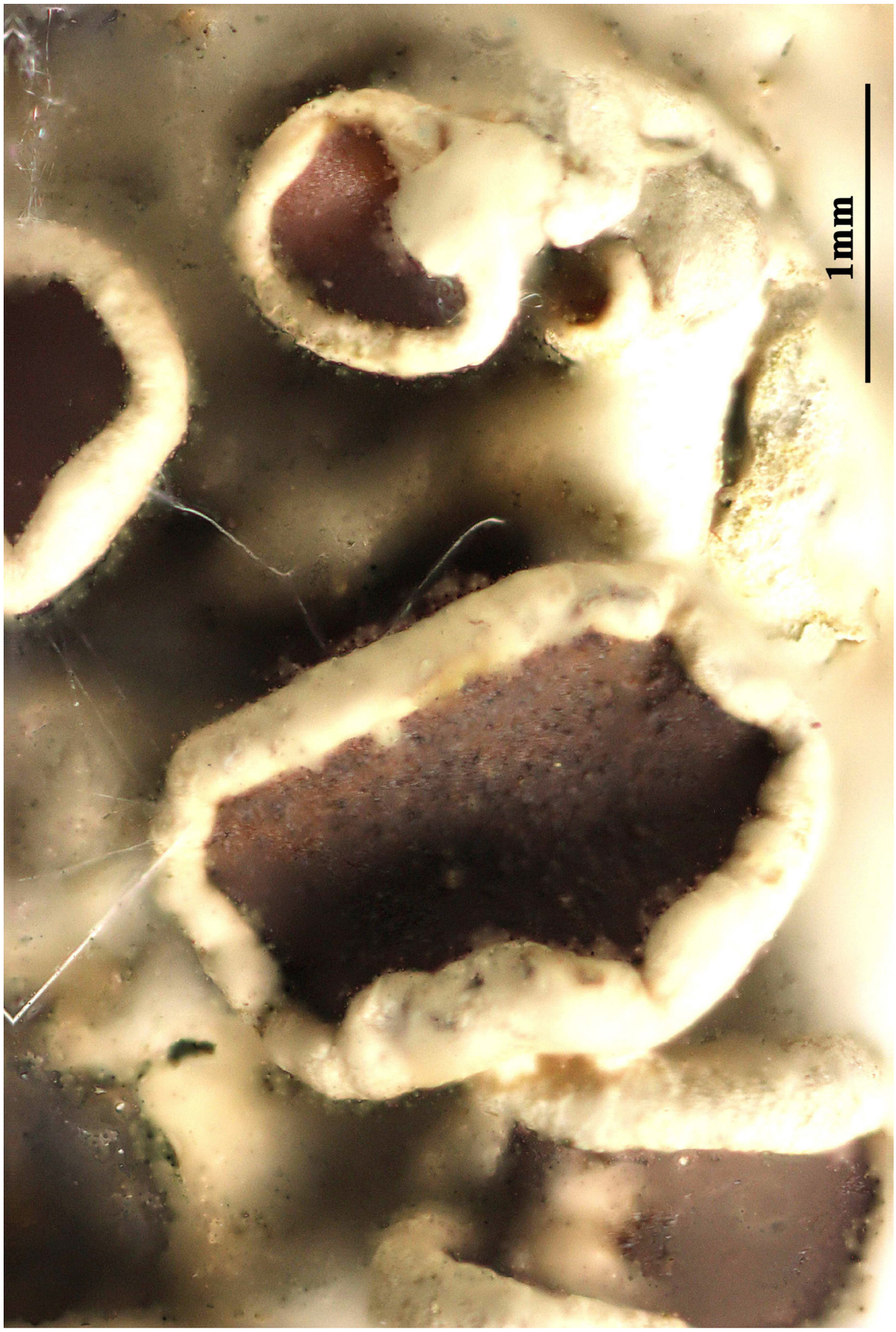
Physciella denigrata (Hue) Essl., Mycologia 78(1): 95 (1986)
= *Physcia denigrata* Hue 1900

[OH545], Japan. Honshu. Prov. Shinano (Pref. Nagano): Kodougi,Minamishi-nano-mura, Shimoina-gun (35°20' N, 137°57' E). On bark of *Prunus mume*, 550 m. Leg. H. Kashiwadani (no. 42754), 4.10.2000, det H. Kashiwadani. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 545.

Thallus orbicular, up to 5 cm in diam. Lobes 1-3 mm broad, short and rounded, becoming imbricate, more or less appressed; without soredia or isidia. Lower surface white to pale tan, with sparse concolorous rhizines. Apothecia abundant, up to 2.5 mm in diam, short stipitate, the margin entire to weakly crenate; spores 22- 27(-29) x 9-11.5 µm, of the Pachysporaria-type. Conidia ellipsoid, 3-4 x 1-1.5 µm. *Physciella denigrata* is apparently restricted to eastern Asia. It is a very common species in Ja- pan and has also been reported from China and Taiwan (Kashiwadani, 1975). It is primarily a corticolous species but occurs also on rock. The above description is based on only a small series of specimens available to me (Esslinger), and, according to Kashiwadani, this species is quite variable in size, with lobes ranging occasionally up to 7 mm wide and the thalli up to 7 cm in diameter. The only similar species is *Physciella nepalensis* (Poelt) Essl.



Physciella denigrata

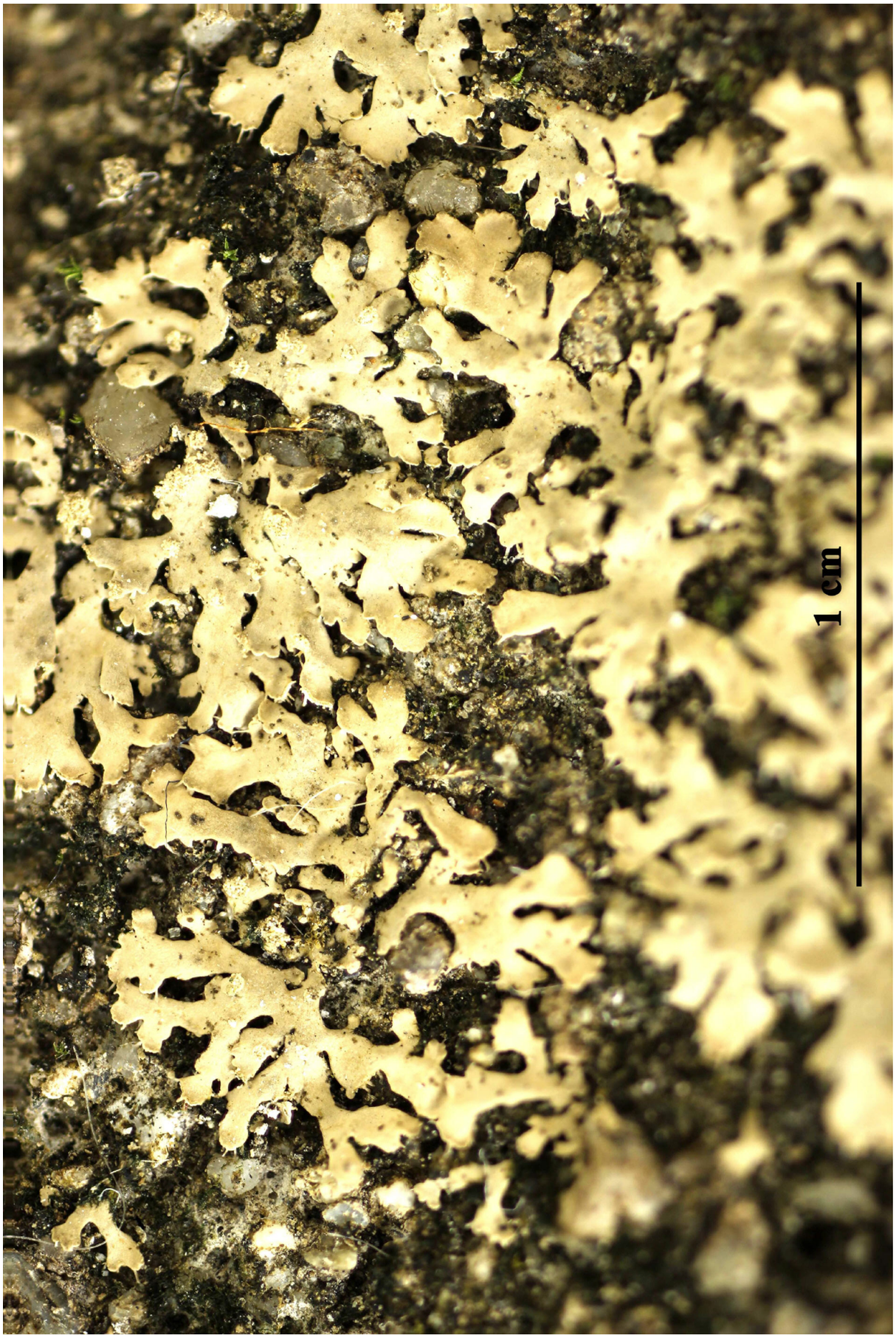


Physciella denigrata

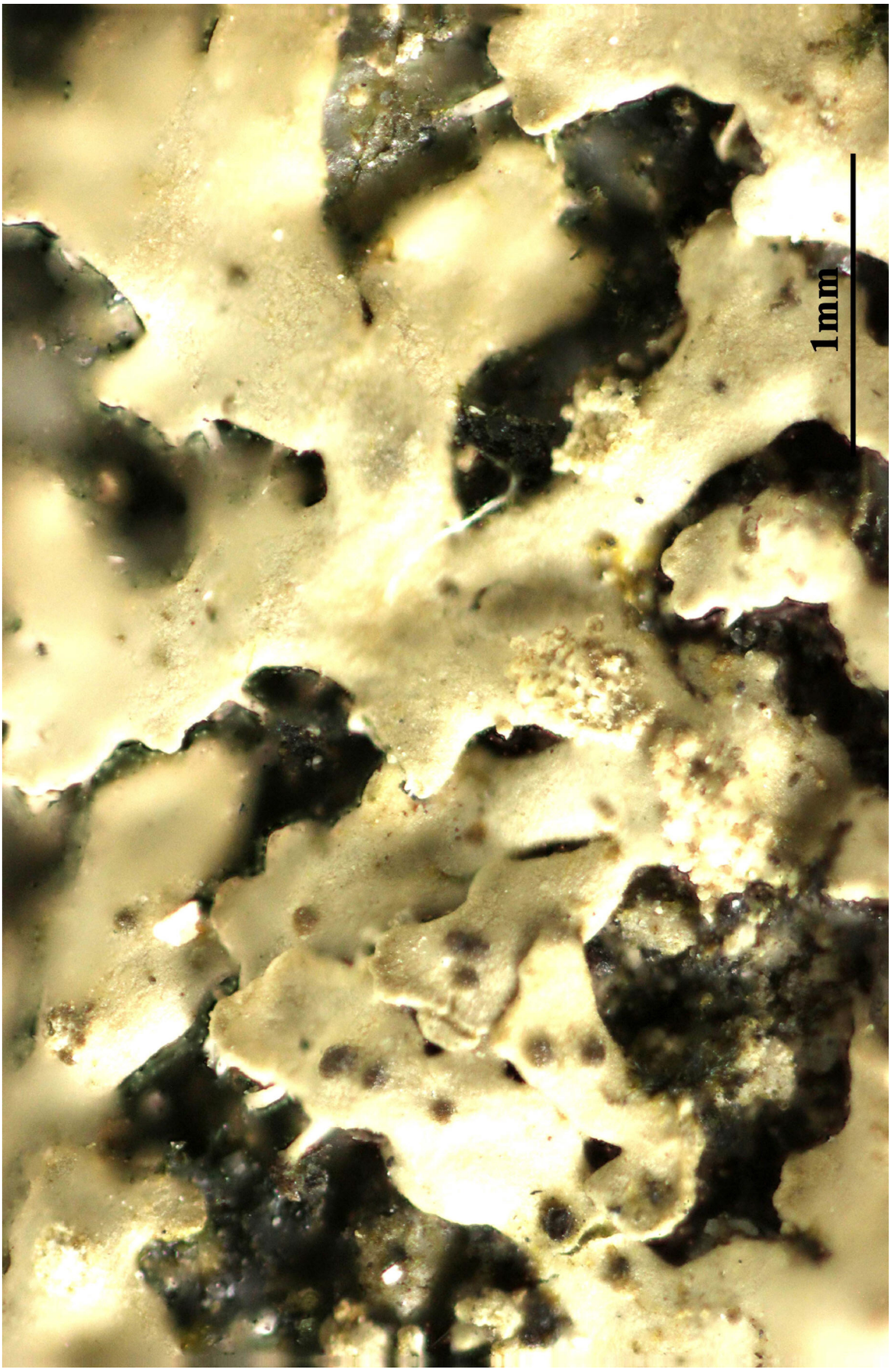
Physciella melanchra (Hue) Essl., Mycologia 78(1): 95 (1986)
= *Physcia melanchra* Hue 1900

[OH565], Japan. Honshu. Prov. Aki (Pref. Hiroshima): Ujinakanda, Minami- Ku, Hiroshima-city (34°33' N, 132°28' E). On concrete block, 5 m. Leg. M. Chaki (nr.7), 4.12.2016, det. Y. Ohmura. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 565.

Thallus foliose, up to 3 or 4 cm in diam., ±orbicular; lobes elongate and discrete to somewhat irregularly rounded and partly imbricate, 0.5-1.5(-2) mm broad, ±flat, prostrate or weakly ascending; upper surface gray-white to brownish gray, epruinose, sorediate; soredia granular, in primarily laminal soralia which are rounded to somewhat irregular, a few submarginal soralia also developing; upper cortex paraplectenchymatous; medulla white; lower cortex prosoplectenchymatous; lower surface white to pale tan, dull or weakly shiny; rhizines simple, concolorous with the lower surface, rather sparse; Apothecia occasional (not seen from the study area), up to 2 mm in diam., sessile to very short stipitate; margin entire to weakly crenate or rarely sorediate; ascospores brown, 1-septate, ellipsoid, (14-)16-21(-24) x (6-)7-10 µm, Physcia-type; Spot tests: cortex and medulla all spot tests negative; Secondary products: none detected. Substrate and ecology: bark, less often on rock World distribution: North America and Asia. - Notes: *Physciella melanchra* is closely related to *P. chloantha* and when the latter species has unusually numerous laminal soralia, the two may be confused. Normally, the labriform soralia of *P. chloantha* clearly outnumber the laminal soralia, and although *P. melanchra* may have some submarginal/marginal soralia, they are not distinctly labriform.



Physciella melanchra

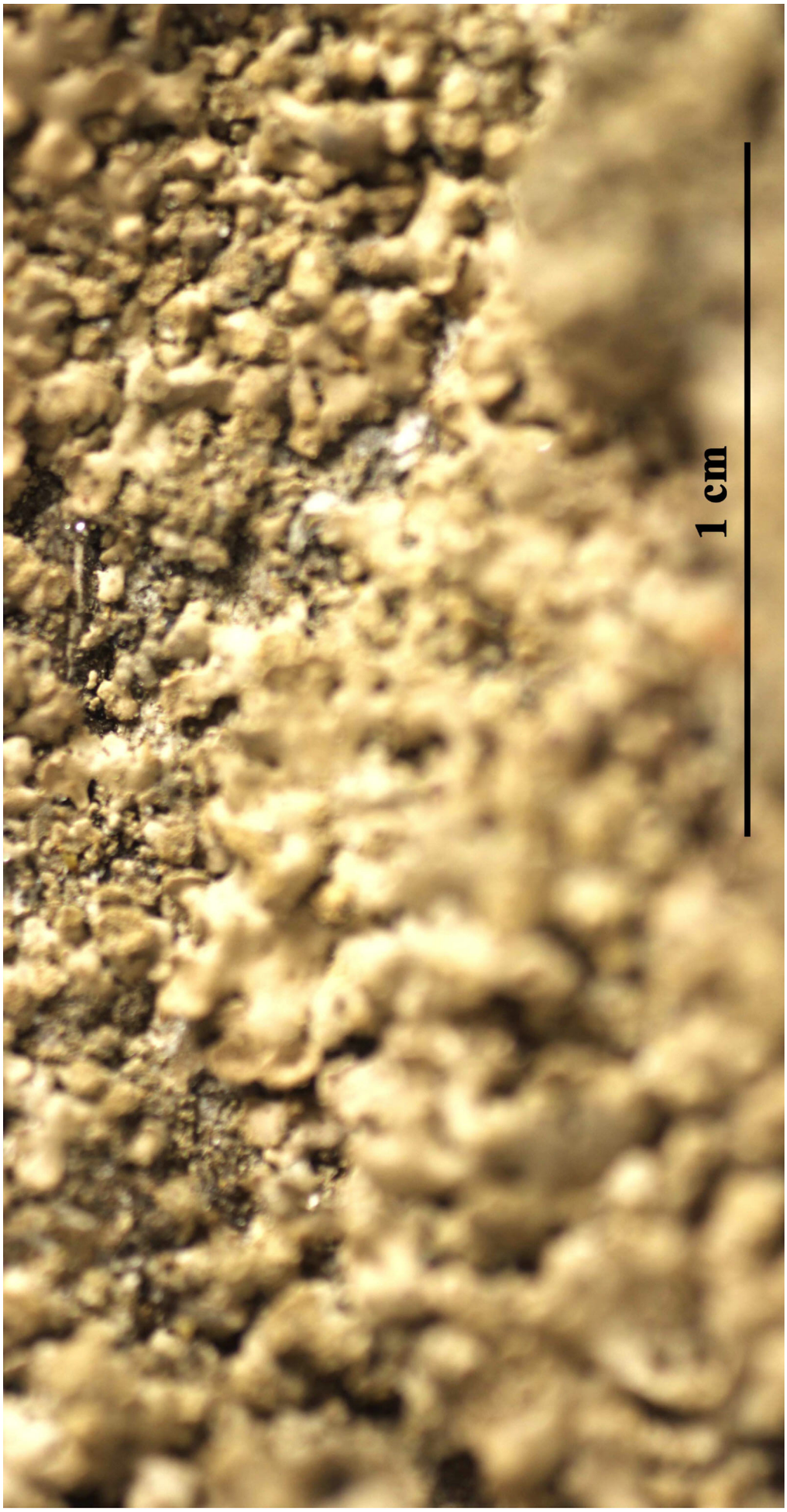


Physciella melanchra

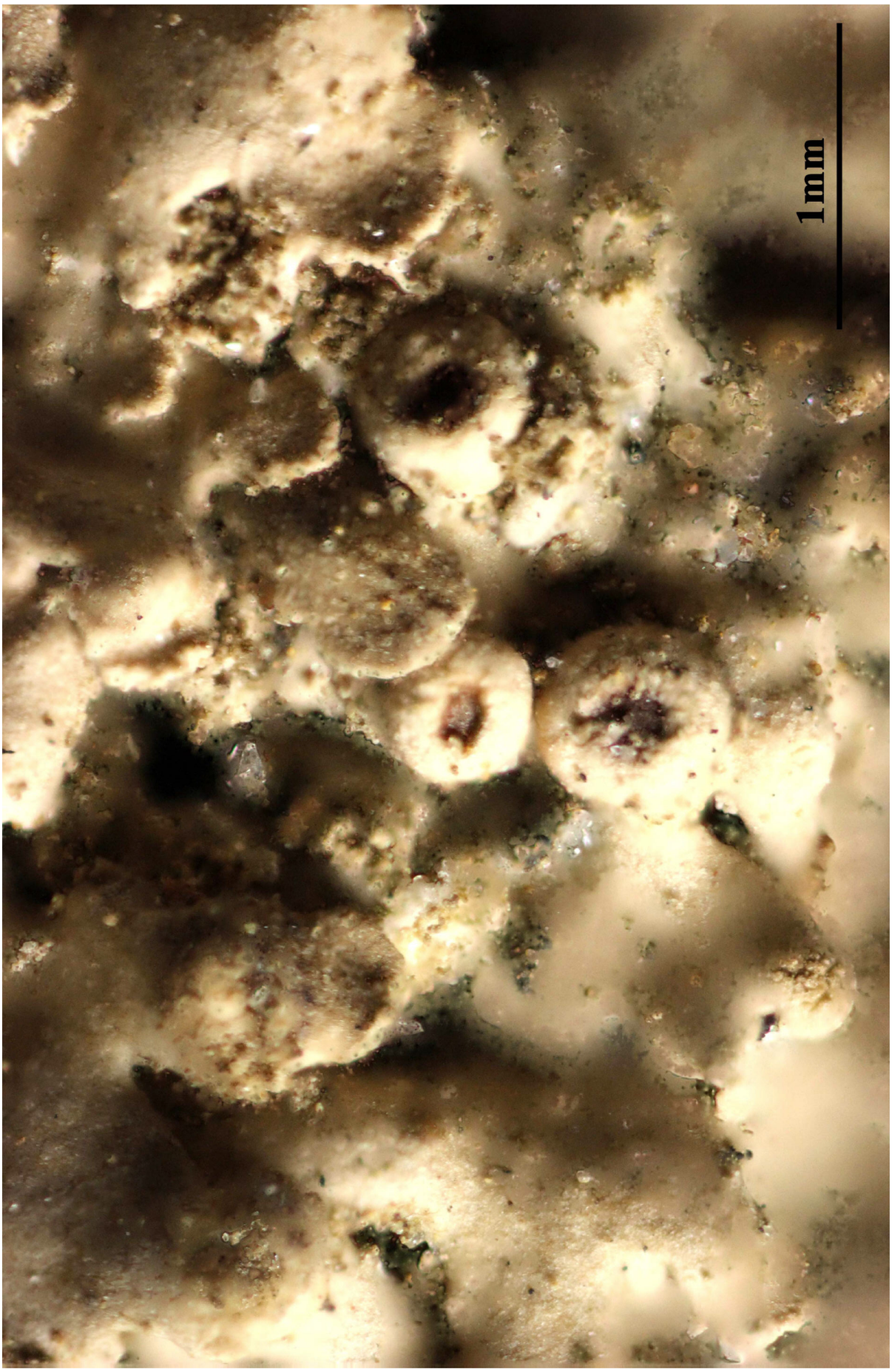
Physciella melanchra (Hue) Essl., Mycologia 78(1): 95 (1986)
= *Physcia melanchra* Hue 1900

[OH388], Japan. Honshu. Prov. Hitachi (Pref.Ibaraki):Amakubo, Tsukuba-city. On bark of *Acer buergerianum*, 20 m. Leg.Y. Ohmura (no.6873), G. Tanaka & S. Ichikawa, 29.1.2010, det. Y. Ohmura. EX Y. OHMURA LICHENES MINUS COGNITI NR.388.

Thallus foliose, up to 3 or 4 cm in diam., ±orbicular; lobes elongate and discrete to somewhat irregularly rounded and partly imbricate, 0.5-1.5(-2) mm broad, ±flat, prostrate or weakly ascending; upper surface gray-white to brownish gray, epruinose, sorediate; soredia granular, in primarily laminal soralia which are rounded to somewhat irregular, a few submarginal soralia also developing; upper cortex paraplectenchymatous; medulla white; lower cortex prosoplectenchymatous; lower surface white to pale tan, dull or weakly shiny; rhizines simple, concolorous with the lower surface, rather sparse; Apothecia occasional (not seen from the study area), up to 2 mm in diam., sessile to very short stipitate; margin entire to weakly crenate or rarely sorediate; ascospores brown, 1-septate, ellipsoid, (14-)16-21(-24) x (6-)7-10 µm, Physcia-type; Spot tests: cortex and medulla all spot tests negative; Secondary products: none detected. Substrate and ecology: bark, less often on rock World distribution: North America and Asia. - Notes: *Physciella melanchra* is closely related to *P. chloantha* and when the latter species has unusually numerous laminal soralia, the two may be confused. Normally, the labriform soralia of *P. chloantha* clearly outnumber the laminal soralia, and although *P. melanchra* may have some submarginal/marginal soralia, they are not distinctly labriform.



Physciella melanchra



Physciella melanchra

Pilophorus curtulus Kurok. & Shibuichi [as 'Pilophoron'], J. Jap. Bot. 45(3): 78 (1970)

[KU], Japan. Honshu. Prov. Musashi: Mt. Kumotori. On rocks, 1950 m. Leg. H. Shibuichi (no. 4560), det. S. Kurokawa. EX S. KUROKAWA LICHENS RARIORES ET CRITICI EXSICCATI NR. 185,



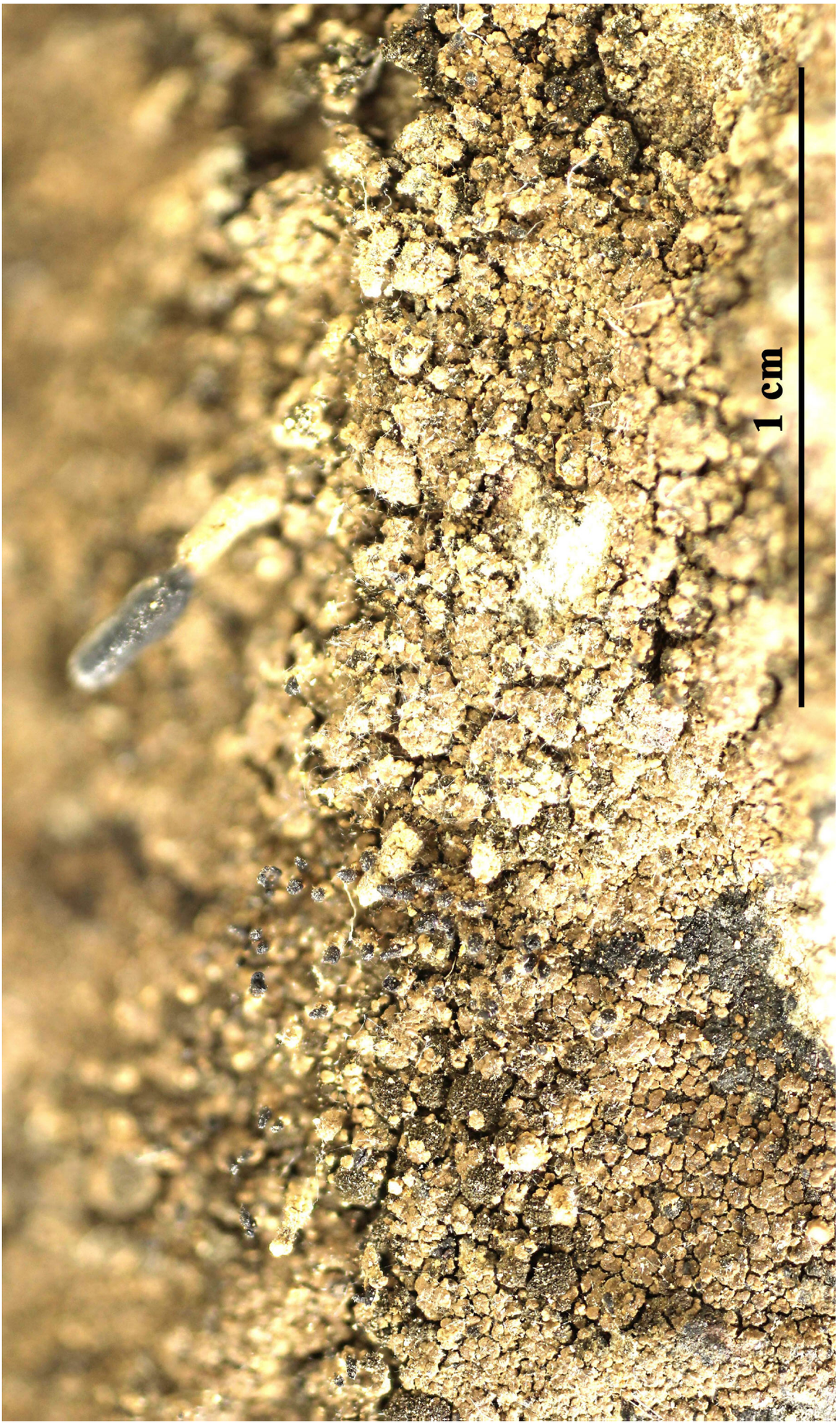
Pilophorus curtulus



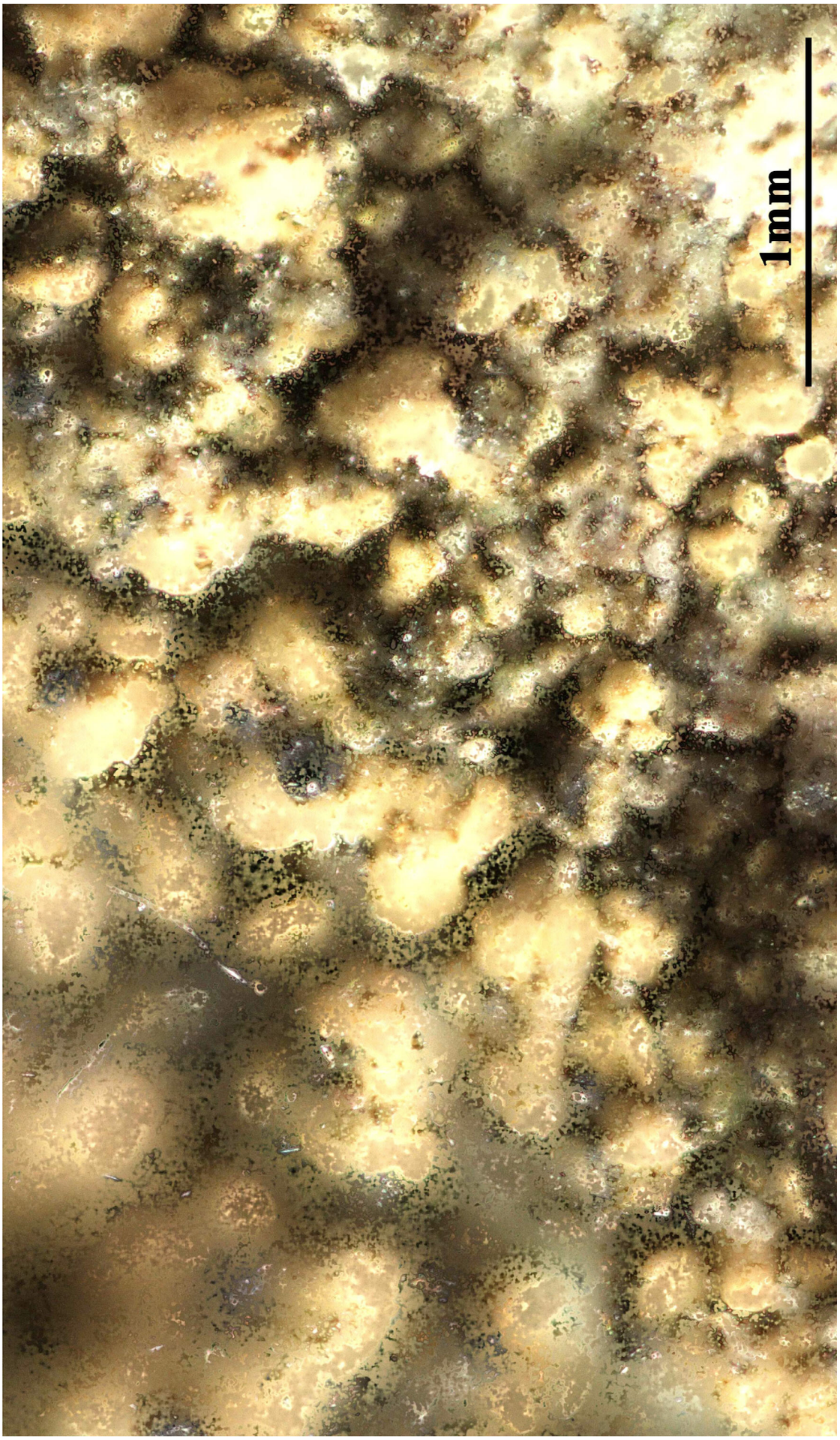
Pilophorus curtulus

Pilophorus hallii (Tuck.) Vain., Bot. Mag., Tokyo 35: 59 (1921)
= *Pilophorus acicularis* f. *hallii* Tuck. 1877

[KU186], Japan. Honshu. Prov. Musashi: Mt. Kumotori. On rocks,1950 m. Leg. H. Shibuichi (no. 4559), det. S. Kurokawa. Ex S. Kurokawa Lichenes Rariores Et Critici Exsiccati Nr. 186.



Pilophorus hallii

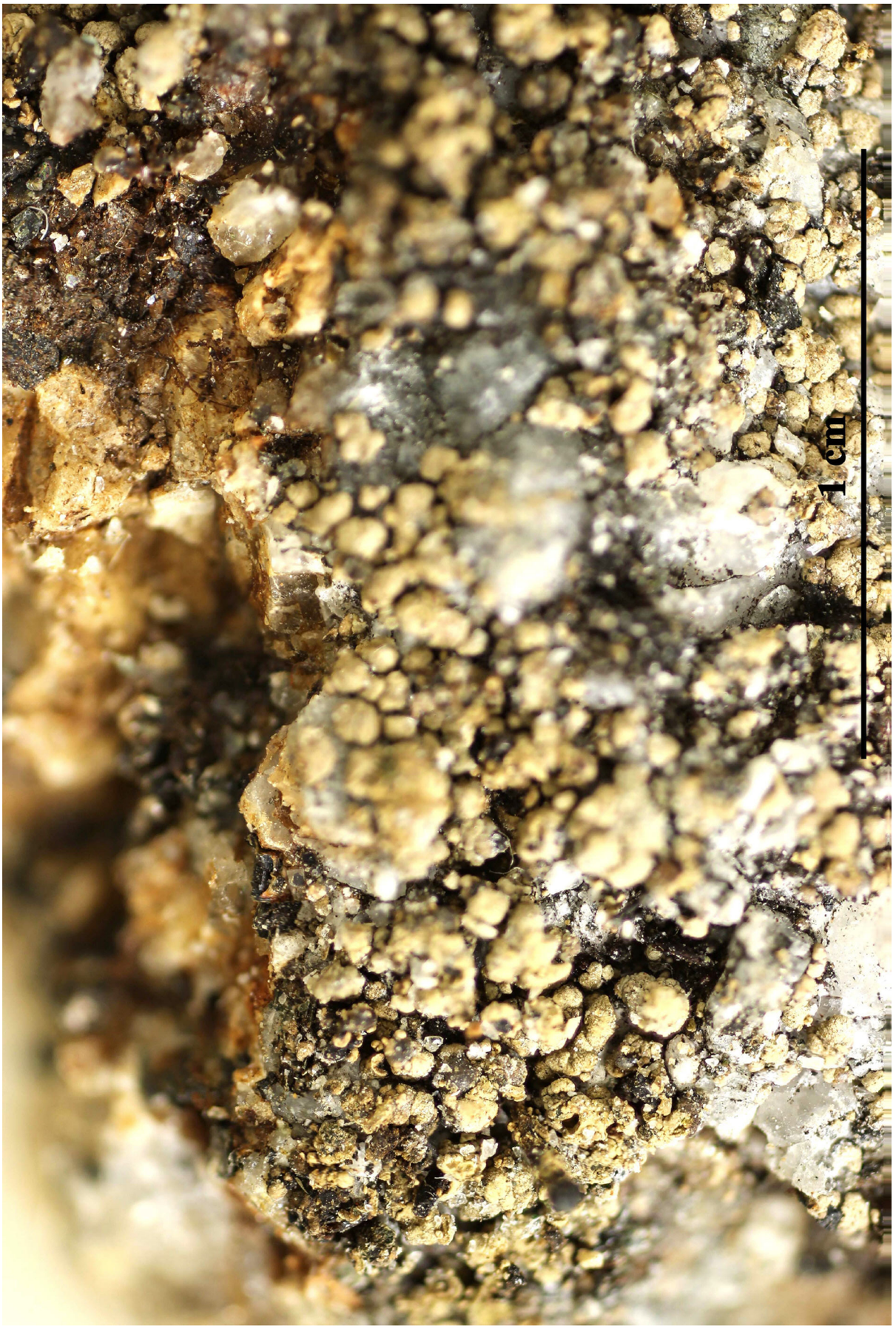


Pilophorus hallii

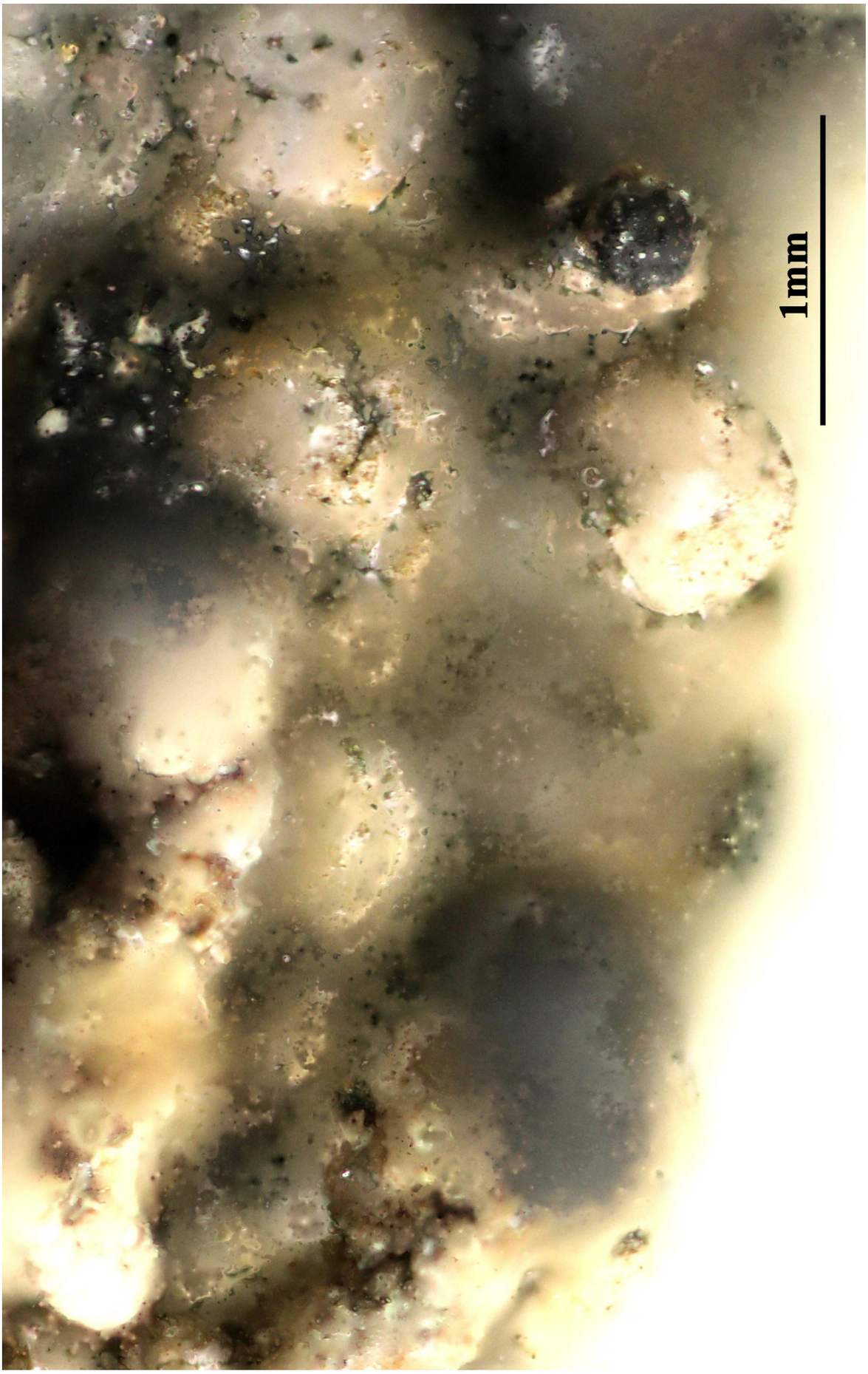
Pilophorus nigricaulis M. Satô [as 'nigricaule'], J. Jap. Bot. 16(3): 173 (1940)

[KU131], Japan. Honshu. Prov. Shimano: Mt. Sannosawa-dake, Kiso-Komagatake Mts. On rocks, 2700 m. Leg. S. Kurokawa (no. 69062), 6.8.1969, det. S. Kurokawa and H. Shibuichi. EX S. KUROKAWA LICHENES RARIORES ET CRITICI EXSICCATI NR. 131.

Pilophorus nigricaulis is rare throughout its range, known only from Japan and the west coast of North America, from Alaska south to Washington and Oregon, primarily west of the Cascade crest. It is reported from about 25 sites in the Pacific Northwest. Most sites are on federal lands and include the Mt. Baker-Snoqualmie, Gifford Pinchot, Willamette, and Okanogan-Wenatchee National Forests; Columbia River Gorge National Scenic Area; and Northwest Oregon District BLM. Specific Habitat: Pilophorus niaricaulis grows on rock substrates from 40-1430 m (130-4700 ft) elevation, it is primarily found in non-forest communities on talus slopes, cliffs, rock outcrops, and large boulders; it may also occur on these substrates within a forest setting. Volcanic rock is the predominant substrate reported. Adjacent vegetation has been noted as old growth forests, vine maple communities, sub-alpine parkland, and moss- and lichen-dominated communities.



Pilophorus nigricaulis



Pilophorus nigricaulis

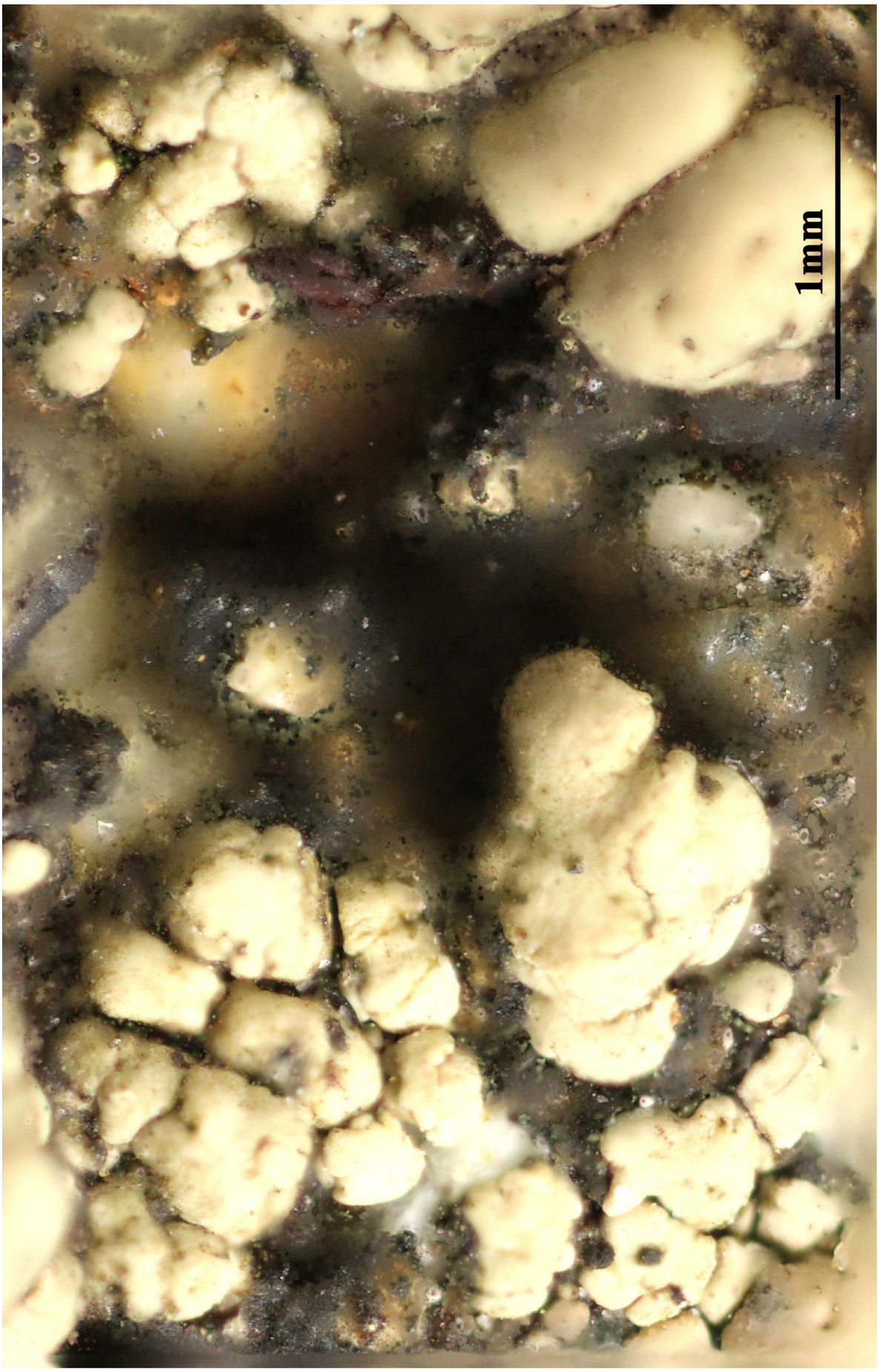
Pilophorus nigricaulis M. Satô [as 'nigricaule'], J. Jap. Bot. 16(3): 173 (1940)

[KA337], Japan. Honshu. Prov. Shinano (Pref. Nagano): Mt. Sannosa-wa-dake, Kisokomagadake Mts. Kami-ina-gun. On rocks (granite), 2800 m. Leg. H. Shibuichi (no. 10142), 23.11.2002, det. H. Shibuichi. EX H. KASHIWADANI LICHENES MINUS COGNITI EXSICCATI NR. 337.

Pilophorus nigricaulis is rare throughout its range, known only from Japan and the west coast of North America, from Alaska south to Washington and Oregon, primarily west of the Cascade crest. It is reported from about 25 sites in the Pacific Northwest. Most sites are on federal lands and include the Mt. Baker-Snoqualmie, Gifford Pinchot, Willamette, and Okanogan-Wenatchee National Forests; Columbia River Gorge National Scenic Area; and Northwest Oregon District BLM. Specific Habitat: Pilophorus niaricaulis grows on rock substrates from 40-1430 m (130-4700 ft) elevation, it is primarily found in non-forest communities on talus slopes, cliffs, rock outcrops, and large boulders; it may also occur on these substrates within a forest setting. Volcanic rock is the predominant substrate reported. Adjacent vegetation has been noted as old growth forests, vine maple communities, sub-alpine parkland, and moss- and lichen-dominated communities.



Pilophorus nigricaulis

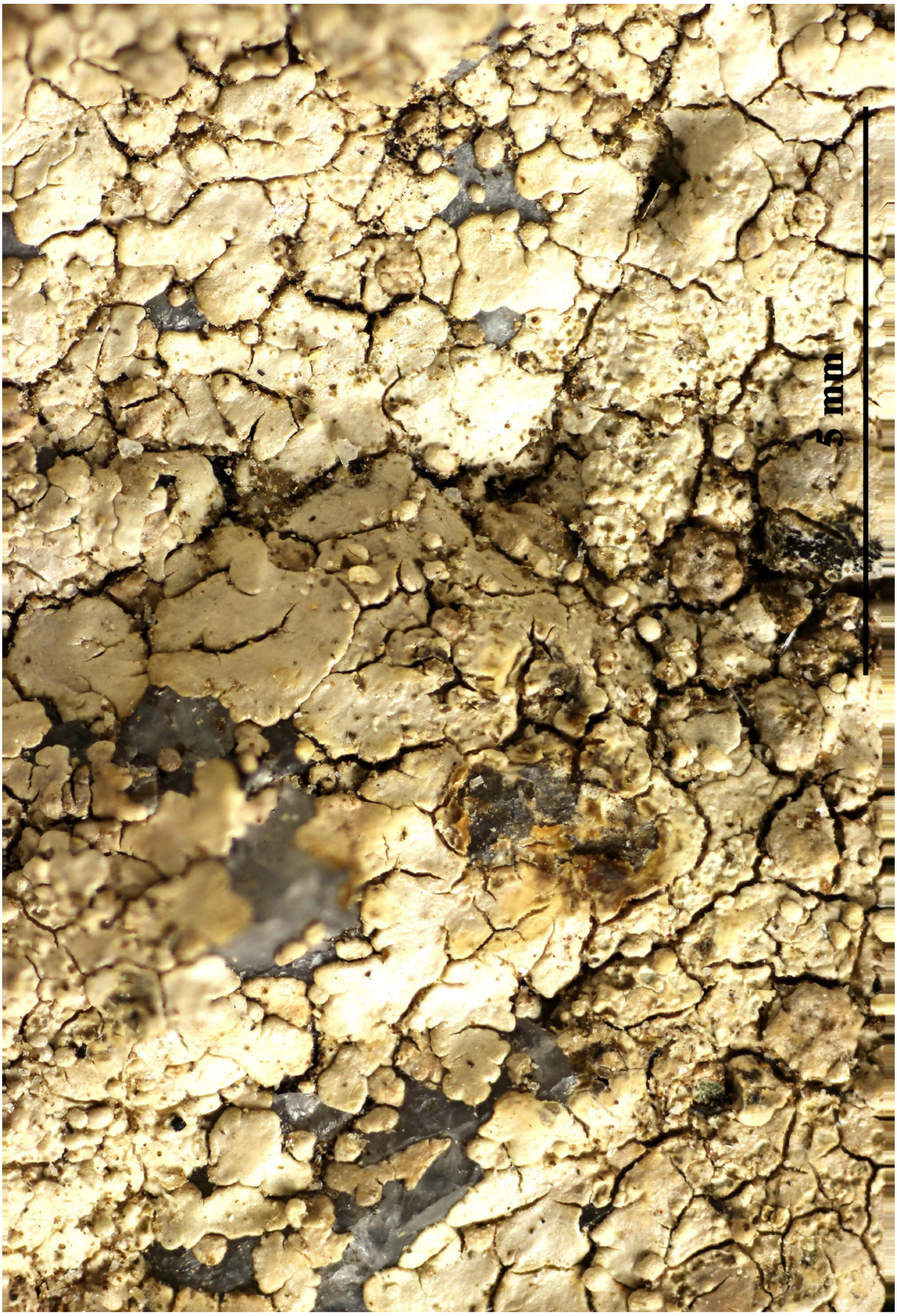


Pilophorus nigricaulis

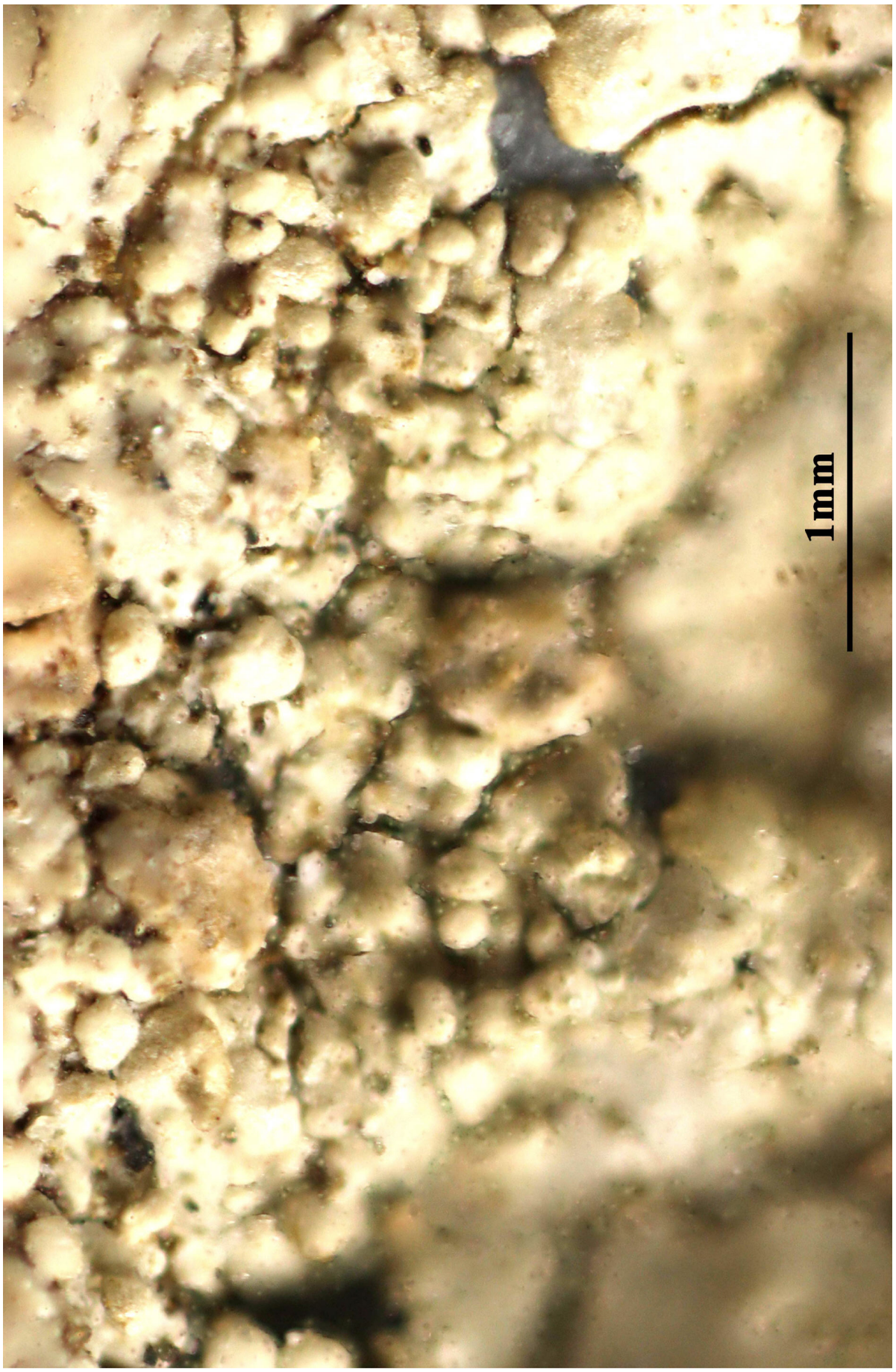
Placopsis cribellans (Nyl.) Räsänen, J. Jap. Bot. 16(2): 90 (1940)
= *Lecanora cribellans* Nyl. 1890

[KU643], Japan. Kyushu. Prov. Ohsumi: Mt. Kuromi-dake, Yakushima Island. On rocks (granite), 1800 m. Leg. H. Shibhuchi (nr. 7632), 26.7.1984, det. H. Kashiwadani. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr. 643.

Thallus forming small lobate thalli, marginal lobes divided and crenulate with rounded ends, flattened, centrally chinky or areolate with areolae to 1.8 mm broad; cream-colored or whitish or becoming light olive-brownish, the surface closely pitted with pockmark depressions from the loss of isidia or with entire globose isidia; lacking soredia or hypothallus; cephalodia sessile, scattered, flattened or depressed-convex, radially folded and chinky, pale yellowish or flesh-colored. Apothecia scattered, constricted at base, to 1.3 mm broad; margin persistent, prominent, entire to subcrenulate; proper exciple thin, sometimes visible, flesh-colored; disk flat or slightly concave, flesh-colored to rose-red or red-brown, bare or whitish pruinose; hypothecium hyaline; epihymenium yellowish; hymenium 90-180 µm, hyaline; paraphyses slightly thicker at tips; spores ellipsoid, 12-16.5 x 6-9 µm. Conidia filiform, slightly curved, 21-29 µn. Reactions: cortex K+ faint yellow, C+ red, P+ roseate; medulla K+ yellowish or K—, C+ red, P—. Contents: unreported but probably gyrophoric acid. - The species grows on rocks and pebbles, sometimes on sandy soil. It is distributed on the Pacific Ocean shores in both the Northern and Southern Hemispheres, with a disjunct occurrence on Tristan da Cunha in the Atlantic. In Alaska it is reported from Unalaska and from Port Clarence on the Seeward Peninsula. In British Columbia it occurs near Bella Coola and at the Kitimat Arm.



Placopsis cribellans



Placopsis cribellans

Porina hirsuta Aptroot & K.H. Moon, in Moon & Aptroot, Biblioth. Lichenol. 99: 304 (2009)

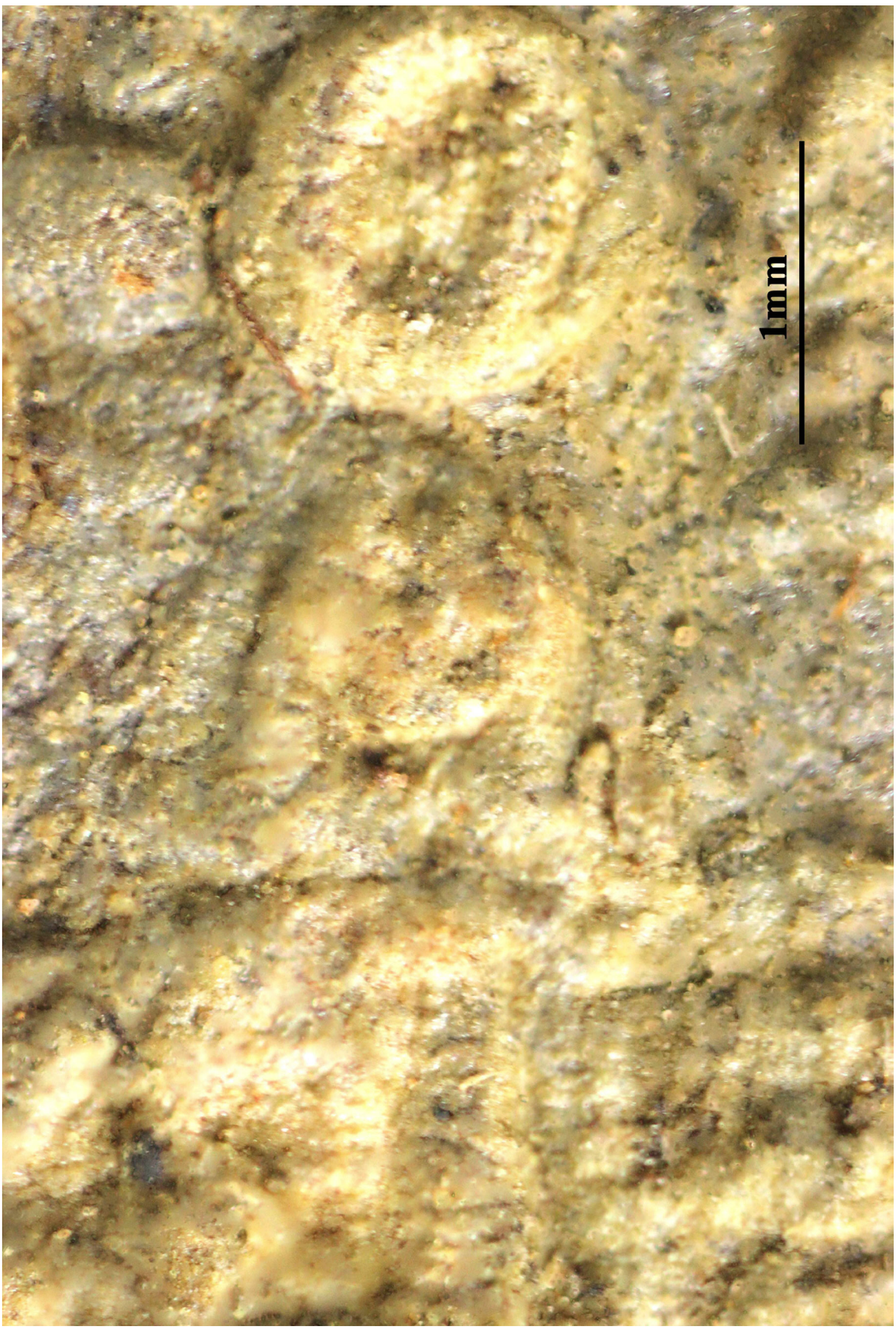
[OH621], Japan. Honshu. Prov. Hitachi (Pref. Ibaraki): Mt. Atago, Kasama-city (36°17'32" N, 49°15'48" E). On trunc base,73 m. Leg. M. Sugimoto (no. 579), 23.1.2019, det. N. Sugimoto & Y. Ohmura. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 621.

Thallus corticate, olive-green to olive-brown, occupying areas up to 5 cm in diam., smooth, with Trentepohlia. Ascomata simple, c. 0.2-0.3 mm diam, hemisphaerical, mostly superficial on the thallus, black, carbonized above, largely covered with curved whitish hairs. Hamathecium filaments simple, c. 1 pm wide. Ascospores hyaline, 8/ascus, irregularly biseriate, 5(-6)-septate, fusiform, 23-27 x 5-6 jum. Pycnidia absent. Chemistry: none. Notes: This species resembles *Porina trichothelioides* R. Sant. by the upright hairs on the perithecia, but that species differs by the 7-septate ascospores and the foliicolous habitat. *P. perminuta* Vain. is similar, but differs by the 3-septate ascospores and is foliicolous.

Type: Korea. Jeju-do, Sogwipo-shi, Andok-myun, Sagey-ri, Mt. Sanbang, 33°14’30, 126°18°55, 200-380 m, tree, 14. V. 2007, A. Aptroot 67418 [NIBR holotype; ABL, B isotypes].



Porina hirsuta



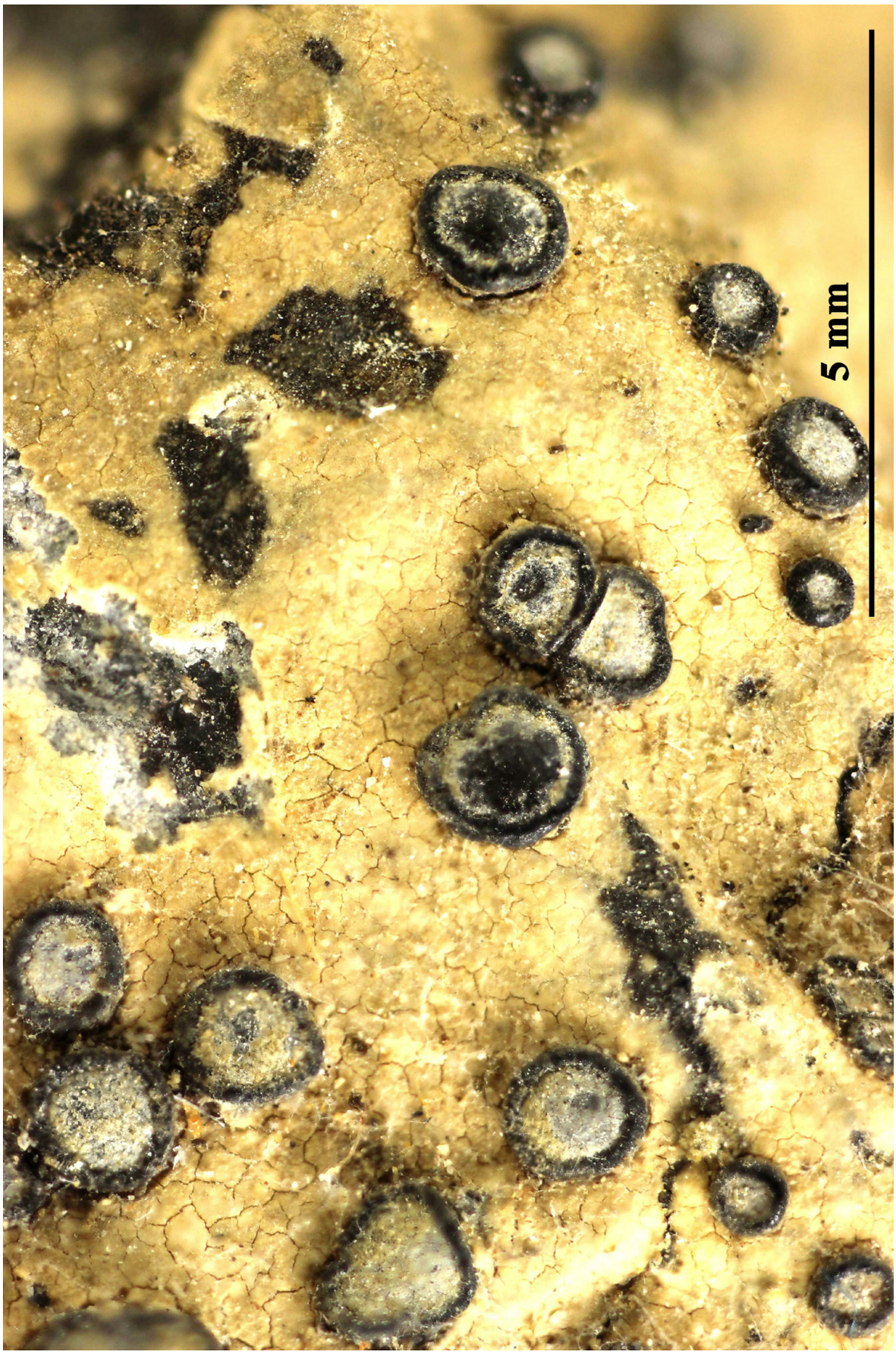
Porina hirsuta

Porpidia albocaerulescens (Wulfen) Hertel & Knoph, in Hertel, Beih. Nova Hedwigia 79: 433 (1984)
= *Lichen albocaerulescens* Wulfen 1789

[OH592], Japan. Honshu. Prov. Suo (Pref. Yamaguchi): Tenno, Iwakuni-city. On rock, 50-100 m. Leg. S. Takaki & S. Soga (herb. Inoue no. 10956), 25-10.1975, det. M. Inoue. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 592.

Thallus crustose, continuous, finely rimose when dry, light brownish to greenish; vegetative diaspores soredia in soralia, rare (in exposed habitats); prothallus often weak or absent, black. Photobiont Trebouxia alga. Ascomata lecideine apothecia, immersed to sessile, 0.5-1.5 mm diam, frequent, especially near thallus center. Disk flat to slightly convex, black, covered in white pruina; exciple dark brown to blackish, paler inward; epithecium brown to dark brown; hymenium hyaline, 70-110 um high; subhymenium 20-40 μm high; paraphyses conglutinate and often indistinct, weakly to moderately anastomosed. Asci 8-spored. Ascospores colorless, ellipsoid, simple, 17-25 x 6-10 μm. Chemistry. Secondary metabolites include stictic acid (main), cryptostictic acid, constictic acid, and norstictic acid. Substrate and Habitat. On siliceous rocks in shaded, humid areas, often along waterbodies. Distribution. Australia and New Zealand, eastern to southeastern Asia, Europe, and eastern North America.

Lit.:
Gowan, S. P. (1989) The Lichen Genus Porpidia (Porpidiaceae) in North America. The Bryologist 92(1): 25-59.
Hertel, H. (1977) Gesteinsbewohnende Arten der Sammelgattung Lecidea (Lichenes) aus Zentral-, Ost- und Sudasien. Khumbu Himal, Ergebnisse des Forschungsunternehmens Nepal Himalaya 6: 145-378.
Jacquin, N.J. (1791) Collectanea ad botanicam, chemiam, et historiam naturalem spectantia 2: 1-374 (original description as Lichen albocaerulescens)
Wang XY, Joshi Y, Hur JS. (2011) A lichen genus Porpidia (Porpidiaceae) from South Korea. Mycobiology 39(1): 61-63



Porpidia albocaerulescens



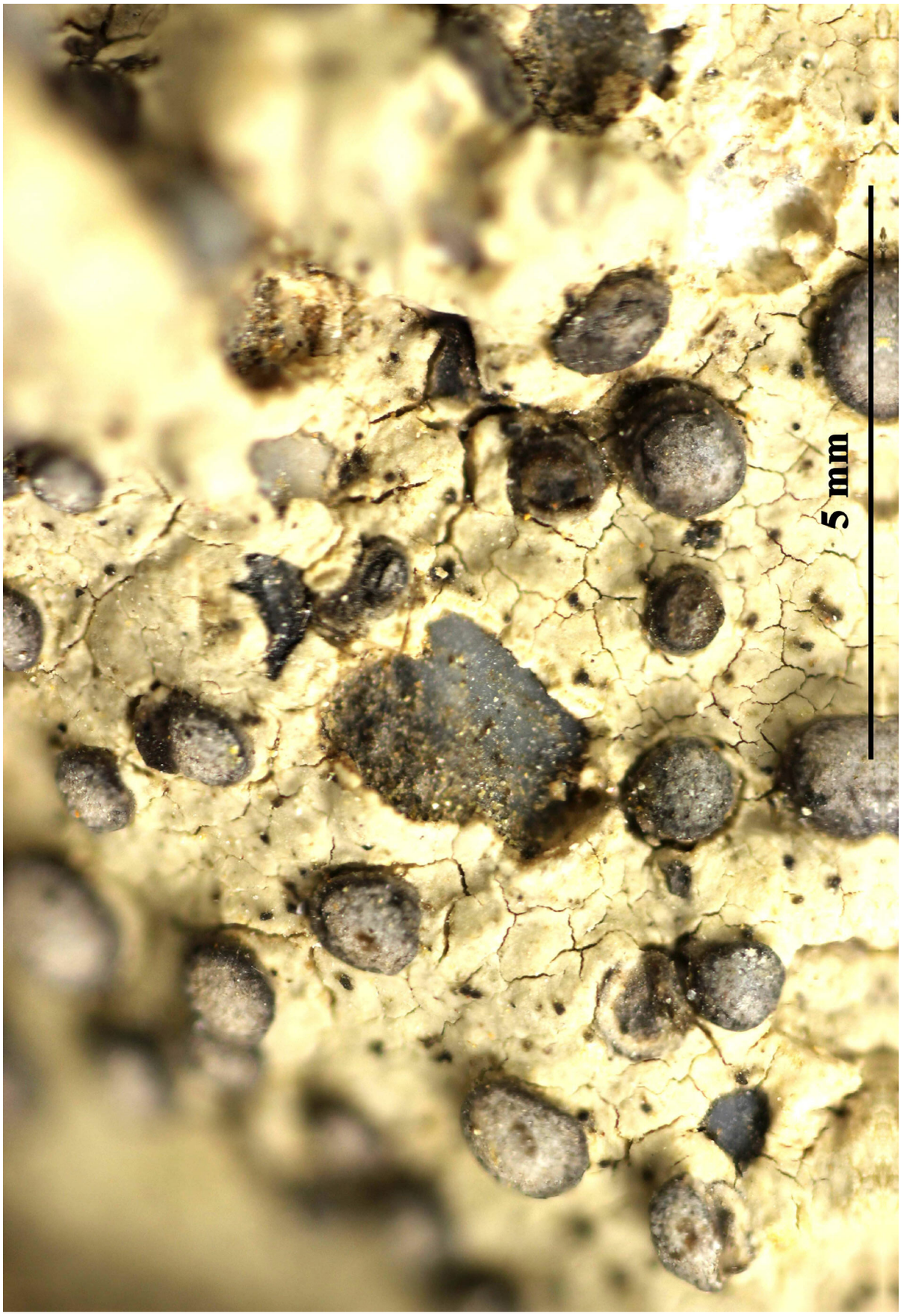
Porpidia albocaerulescens

Porpidia albocaerulescens (Wulfen) Hertel & Knoph, in Hertel, Beih. Nova Hedwigia 79: 433 (1984)
= *Lichen albocaerulescens* Wulfen 1789

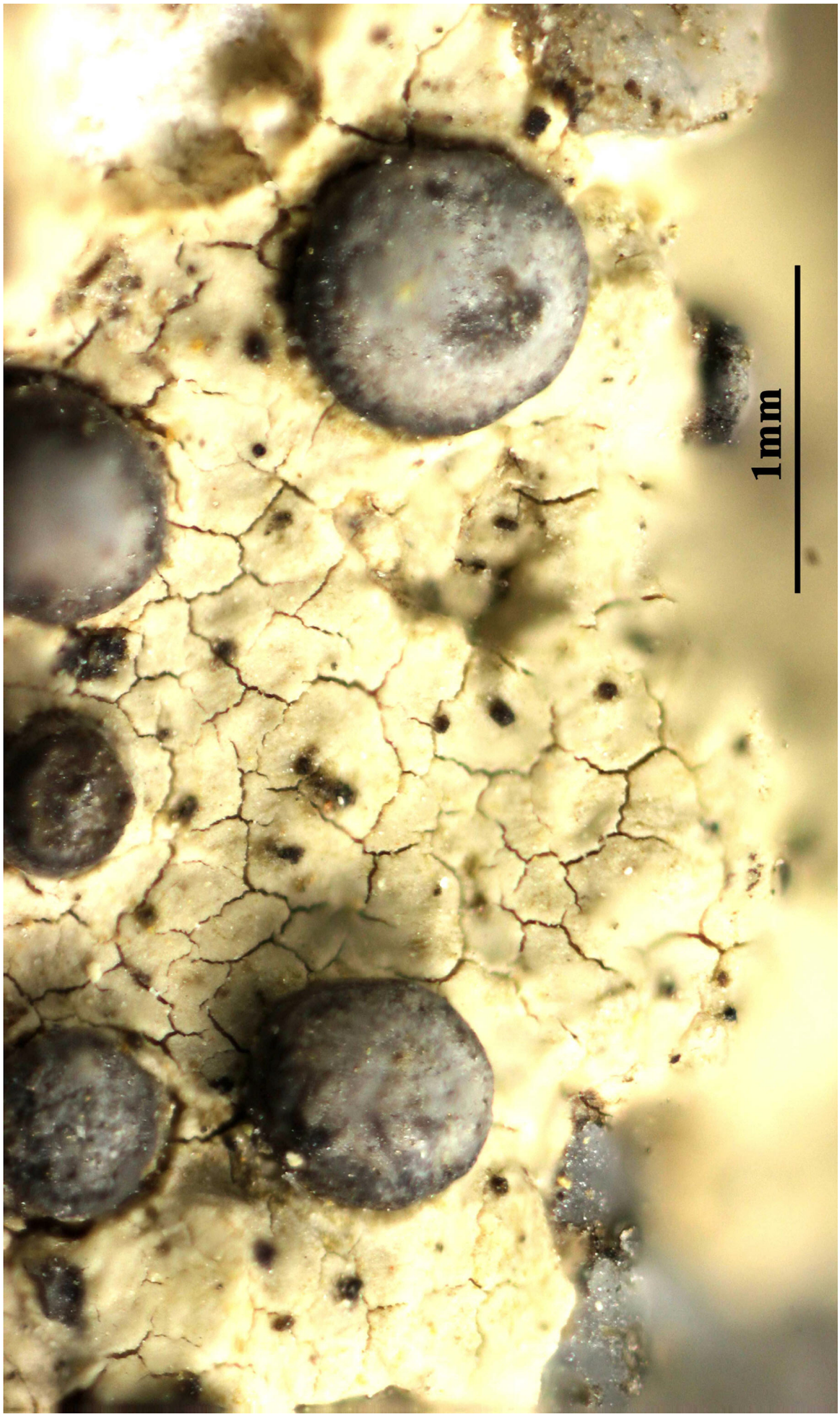
[OH591], Japan. Honshu. Prov. Suo (Pref. Yamaguchi): Datoko, Tokushima-city. On rock, 330 m. Leg. M. Inoue (no. 12076), 23.4.1978, det. M. Inoue. EX Y. OHMURA LICHENES MINUS COGNITI NR. 591.

Thallus crustose, continuous, finely rimose when dry, light brownish to greenish; vegetative diaspores soredia in soralia, rare (in exposed habitats); prothallus often weak or absent, black. Photobiont Trebouxia alga. Ascomata lecideine apothecia, immersed to sessile, 0.5-1.5 mm diam, frequent, especially near thallus center. Disk flat to slightly convex, black, covered in white pruina; exciple dark brown to blackish, paler inward; epithecium brown to dark brown; hymenium hyaline, 70-110 um high; subhymenium 20-40 μm high; paraphyses conglutinate and often indistinct, weakly to moderately anastomosed. Asci 8-spored. Ascospores colorless, ellipsoid, simple, 17-25 x 6-10 μm. Chemistry. Secondary metabolites include stictic acid (main), cryptostictic acid, constictic acid, and norstictic acid. Substrate and Habitat. On siliceous rocks in shaded, humid areas, often along waterbodies. Distribution. Australia and New Zealand, eastern to southeastern Asia, Europe, and eastern North America.

Lit.:
Gowan, S. P. (1989) The Lichen Genus Porpidia (Porpidiaceae) in North America. The Bryologist 92(1): 25-59.
Hertel, H. (1977) Gesteinsbewohnende Arten der Sammelgattung Lecidea (Lichenes) aus Zentral-, Ost- und Sudasien. Khumbu Himal, Ergebnisse des Forschungsunternehmens Nepal Himalaya 6: 145-378.
Jacquin, N.J. (1791) Collectanea ad botanicam, chemiam, et historiam naturalem spectantia 2: 1-374 (original description as Lichen albocaerulescens)
Wang XY, Joshi Y, Hur JS. (2011) A lichen genus Porpidia (Porpidiaceae) from South Korea. Mycobiology 39(1): 61-63



Porpidia albocaerulescens



Porpidia albocaerulescens

Porpidia albocaerulescens (Wulfen) Hertel & Knoph, in Hertel, Beih. Nova Hedwigia 79: 433 (1984)
= *Lichen albocaerulescens* Wulfen 1789

[OH590}, Japan. Honshu. Prov. Aki (Pref Hiroshima): Itane, Yasuno, Kake-cho. Yamagata-gun. On rock, 150 m. Leg. N. Jinno (Herb. M. Inoue no. 11881), 18.4.1976, det. M. Inoue. EX Y. OHMURA LICHENES MINUS COGNITI NR. 590.

Thallus crustose, continuous, finely rimose when dry, light brownish to greenish; vegetative diaspores soredia in soralia, rare (in exposed habitats); prothallus often weak or absent, black. Photobiont Trebouxia alga. Ascomata lecideine apothecia, immersed to sessile, 0.5-1.5 mm diam, frequent, especially near thallus center. Disk flat to slightly convex, black, covered in white pruina; exciple dark brown to blackish, paler inward; epithecium brown to dark brown; hymenium hyaline, 70-110 um high; subhymenium 20-40 μm high; paraphyses conglutinate and often indistinct, weakly to moderately anastomosed. Asci 8-spored. Ascospores colorless, ellipsoid, simple, 17-25 x 6-10 μm. Chemistry. Secondary metabolites include stictic acid (main), cryptostictic acid, constictic acid, and norstictic acid. Substrate and Habitat. On siliceous rocks in shaded, humid areas, often along waterbodies. Distribution. Australia and New Zealand, eastern to southeastern Asia, Europe, and eastern North America.

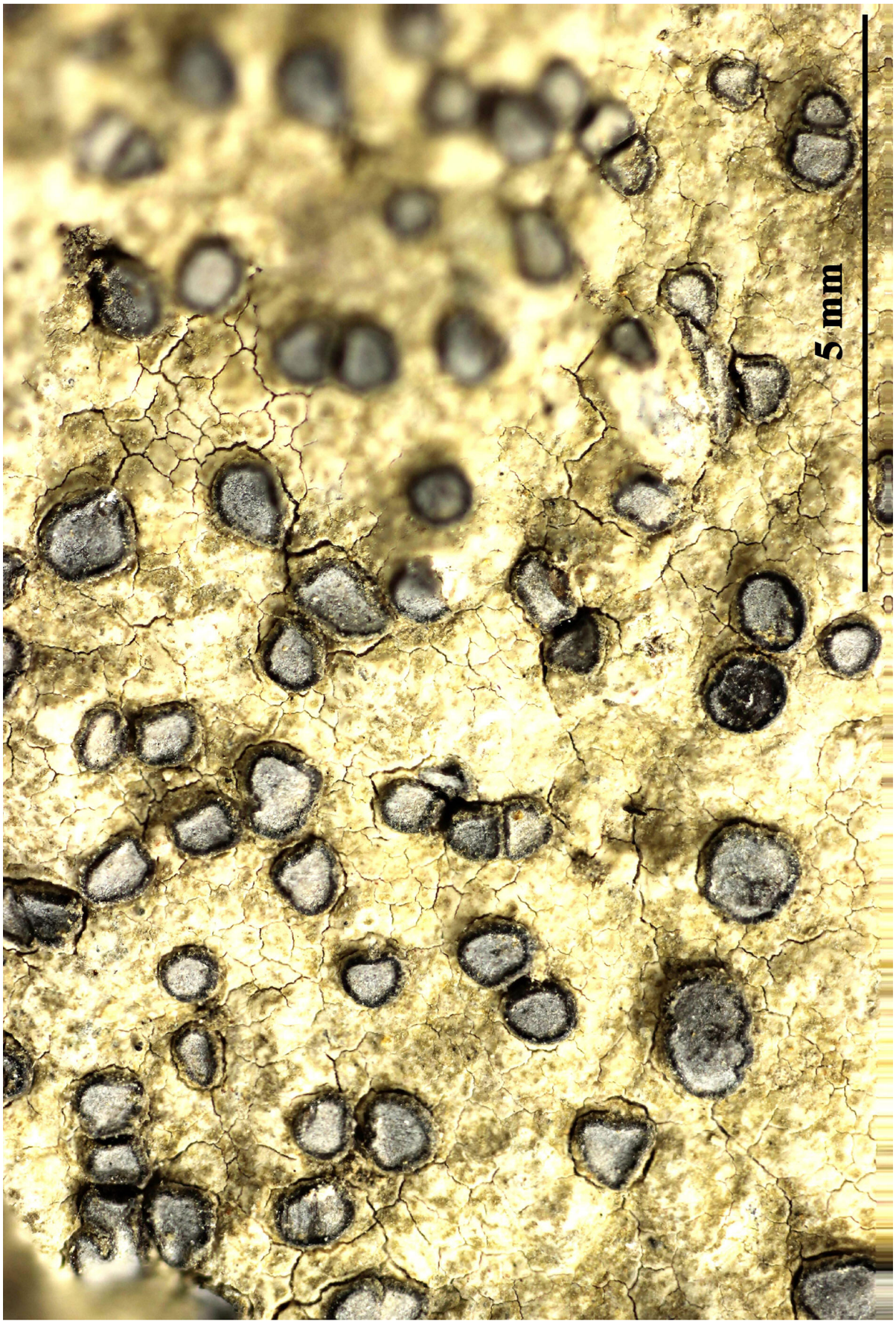
Lit.:

Gowan, S. P. (1989) The Lichen Genus Porpidia (Porpidiaceae) in North America. The Bryologist 92(1): 25-59.

Hertel, H. (1977) Gesteinsbewohnende Arten der Sammelgattung Lecidea (Lichenes) aus Zentral-, Ost- und Sudasien. Khumbu Himal, Ergebnisse des Forschungsunternehmens Nepal Himalaya 6: 145-378.

Jacquin, N.J. (1791) Collectanea ad botanicam, chemiam, et historiam naturalem spectantia 2: 1-374 (original description as Lichen albocaerulescens)

Wang XY, Joshi Y, Hur JS. (2011) A lichen genus Porpidia (Porpidiaceae) from South Korea. Mycobiology 39(1): 61-63



Porpidia albocaerulescens

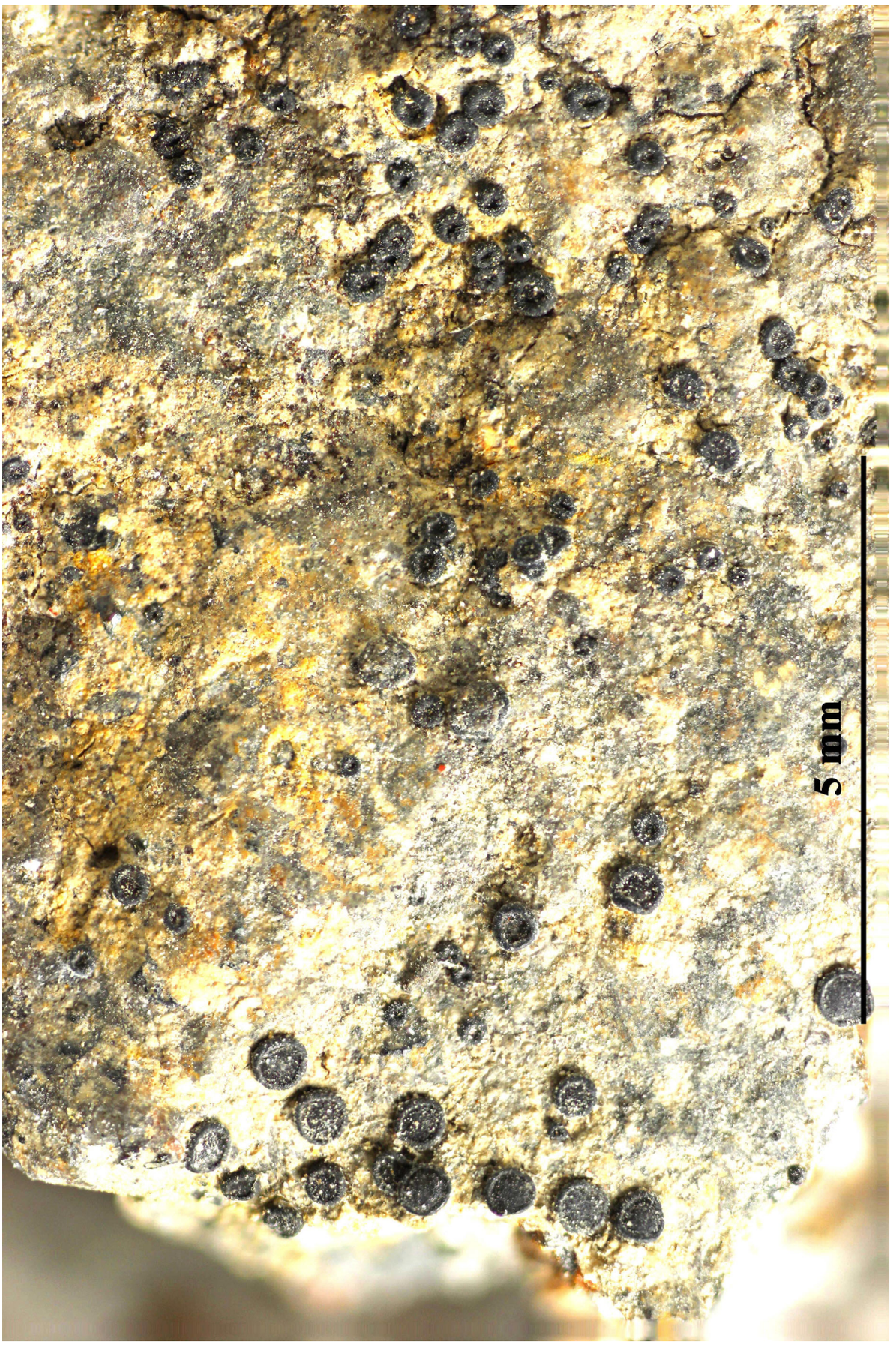


Porpidia albocaerulescens

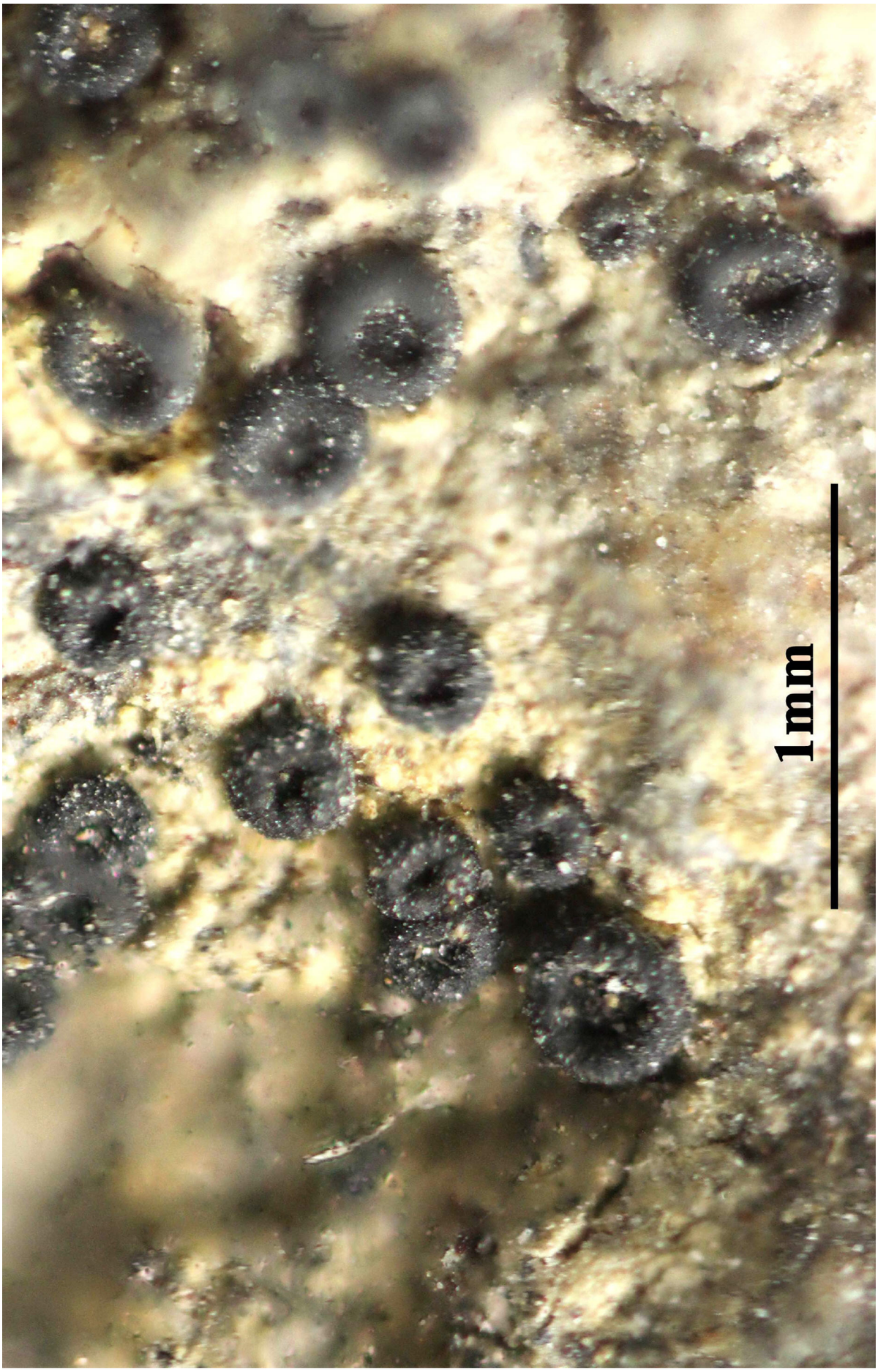
Porpidia crustulata (Ach.) Hertel & Knoph, in Hertel, Beih. Nova Hedwigia 79: 435
= *Lecidea parasema var. crustulata* Ach. 1810

[OH643], Japan. Honshu. Prov. Ugo (Akita Pref.): Sukawako.-Mt. Magusa - Mt. Kurikoma. On rock, 1050 m. Leg. M. Inoue (no. 16792), 24.8.1983, det. M. Inoue. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR.643.

Thallus crustose, endolithic or thinly epilithic, continuous to rimose-areolate, white, yellowish white, or pale grey, rarely ochre-coloured, sometimes delimited by a dark prothallus. Medulla white, I-. Apothecia lecideine, more or less round, sometimes clustered, slightly constricted at base, 0.3-0.8(-1.5) mm across, with a black, slightly concave to convex, usually epruinose disc, and a more or less persistent, usually entire, thin (0.07-0.17 mm wide), barely raised proper margin. Proper exciple black to dark brown in outer part, pale brown and K+ yellow (rarely K-) within, with 4-8 µm wide hyphae; epithecium brown or olivaceous brown; hymenium colourless, 60-90(-110) µm high, I+ blue; paraphyses weakly branched and anastomosing; hypothecium pale to usually dark brown. Asci 8-spored, elongate-clavate, with a thin, outer amyloid layer and a thickened tholus penetrated by a pore, the sides of which are strongly amyloid, Porpidia-type. Ascospores 1-celled, hyaline, ellipsoid, 10-18(-22) x 5-10 µm, not halonate. Pycnidia immersed. Conidia hyaline, bacilliform, 9-14 x c. 1 µm. Photobiont chlorococcoid. Spot tests: thallus K- or K+ yellow, C-, KC-, P- or P+ orange. Chemistry: stictic acid (major), constictic, norstictic and cryptostictic acids (all minor or trace), or without lichen substances. - Note: a widespread, holarctic early coloniser of siliceous pebbles and small stones on the ground, with a wide altitudinal range. The distinction from P. macrocarpa is still an open problem.



Porpidia crustulata

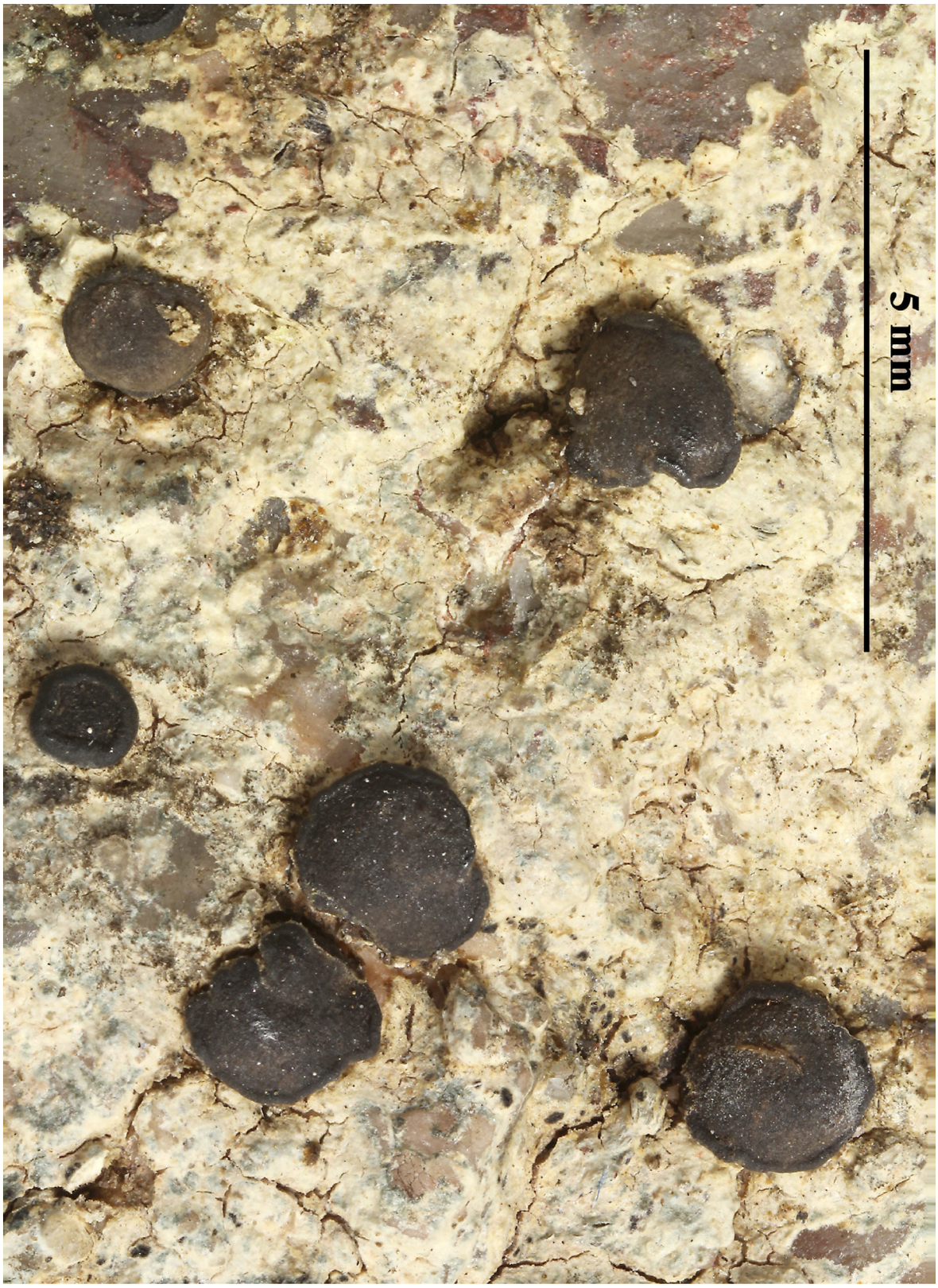


Porpidia crustulata

Porpidia crustulata (Ach.) Hertel & Knoph, in Hertel, Beih. Nova Hedwigia 79: 435
= *Lecidea parasema var. crustulata* Ach. 1810

[3100], Germany, Baden-Württemberg, Schwarzwald, Kreis Rottweil, zwischen Schiltach und Schenkenzell, an snkrechten sickerfeuchten Granitfelsen, ca. 330 m, TK 7716. Leg. F. Schumm, 20.04.1986, det. F. Schumm. - TLC p398/4: nil. - Epithecium braun, 19 µm; Hymenium hyalin, 95-105 µm; Hypothecium braun, 125 µm und mehr; Amphithecium braunschwarz, 60 µm; Sporen 16.5-23.5 x 6.9-8.3 µm, 1-zellig, 8/Ascus. Rinde und Mark J-, C-, K-. EX ERBARIO F. SCHUMM NR. 3100.

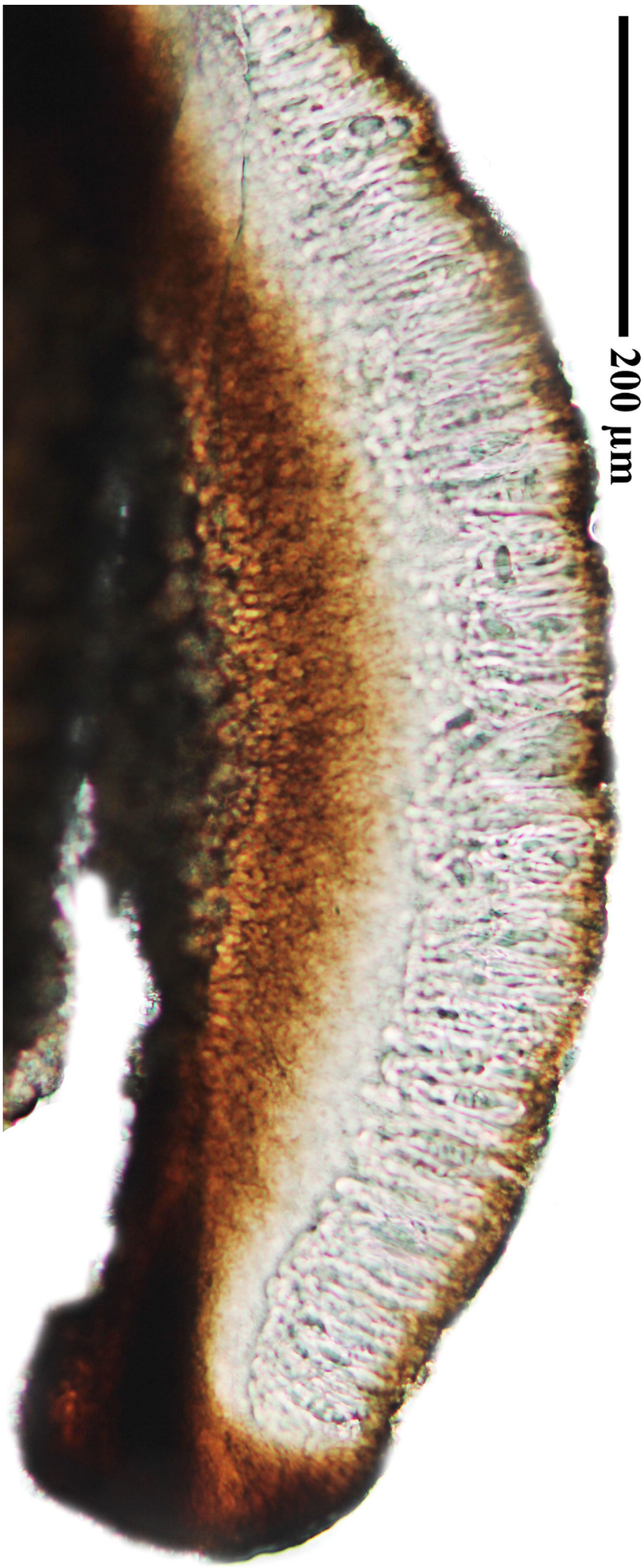
Thallus crustose, endolithic or thinly epilithic, continuous to rimose-areolate, white, yellowish white, or pale grey, rarely ochre-coloured, sometimes delimited by a dark prothallus. Medulla white, I-. Apothecia lecideine, more or less round, sometimes clustered, slightly constricted at base, 0.3-0.8(-1.5) mm across, with a black, slightly concave to convex, usually epruinose disc, and a more or less persistent, usually entire, thin (0.07-0.17 mm wide), barely raised proper margin. Proper exciple black to dark brown in outer part, pale brown and K+ yellow (rarely K-) within, with 4-8 µm wide hyphae; epithecium brown or olivaceous brown; hymenium colourless, 60-90(-110) µm high, I+ blue; paraphyses weakly branched and anastomosing; hypothecium pale to usually dark brown. Asci 8-spored, elongate-clavate, with a thin, outer amyloid layer and a thickened tholus penetrated by a pore, the sides of which are strongly amyloid, Porpidia-type. Ascospores 1-celled, hyaline, ellipsoid, 10-18(-22) x 5-10 µm, not halonate. Pycnidia immersed. Conidia hyaline, bacilliform, 9-14 x c. 1 µm. Photobiont chlorococcoid. Spot tests: thallus K- or K+ yellow, C-, KC-, P- or P+ orange. Chemistry: stictic acid (major), constictic, norstictic and cryptostictic acids (all minor or trace), or without lichen substances. - Note: a widespread, holarctic early coloniser of siliceous pebbles and small stones on the ground, with a wide altitudinal range. The distinction from P. macrocarpa is still an open problem.



Porpidia crustulata



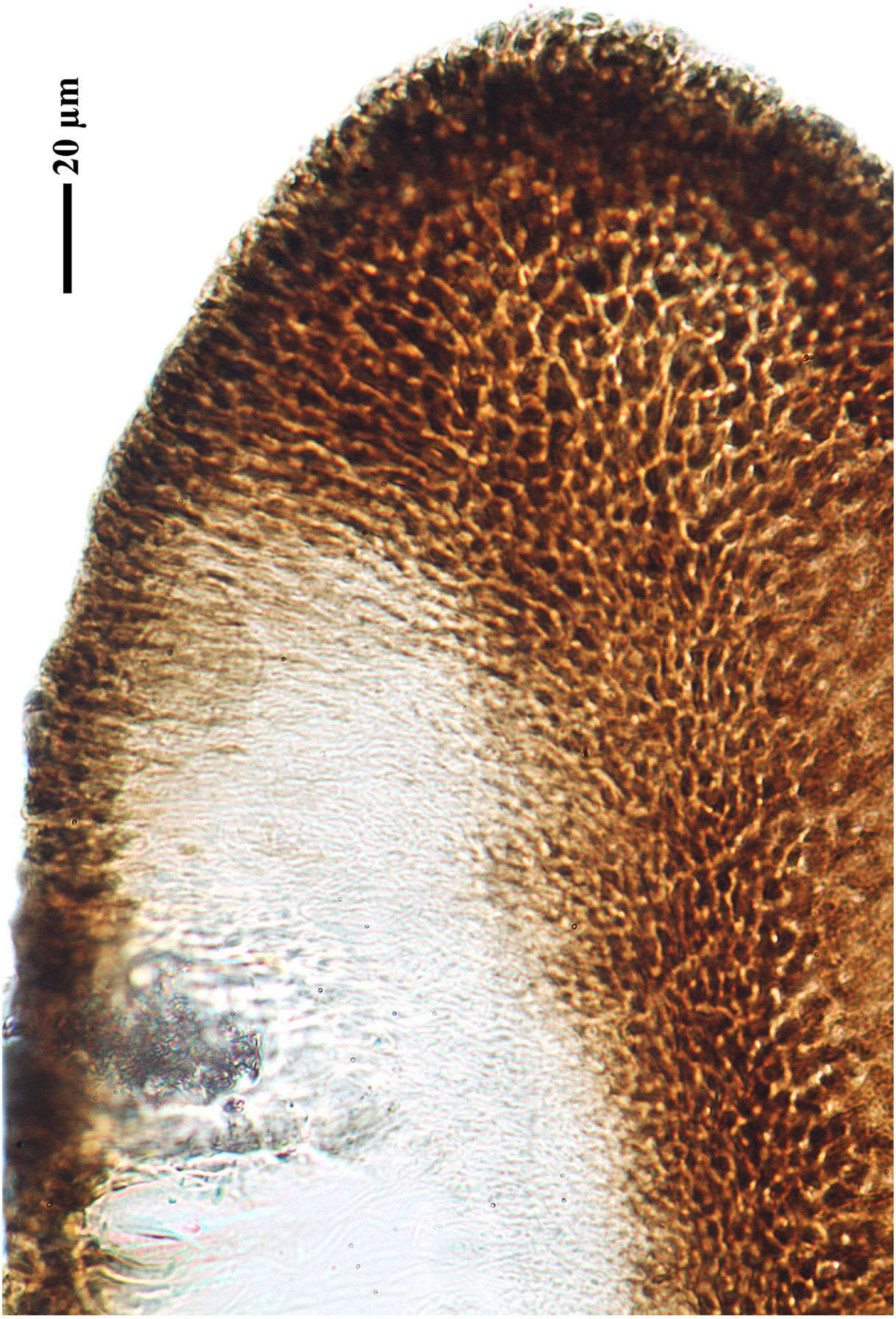
Porpidia crustulata



Porpidia crustulata



Porpidia crustulata



Porpidia crustulata

Porpidia crustulata

Porpidia crustulata (Ach.) Hertel & Knoph, in Hertel, Beih. Nova Hedwigia 79: 435
= *Lecidea parasema var. crustulata* Ach. 1810

[17271], Germany, Baden-Württemberg, Schwarzwald-Baar-Kreis, zwischen Villingen und Stockburg, ca. 3 km NW von Villingen, 48.071988° N, 8.419199° E, 740 m. An Granitsteinen in Bodennähe, TK 7916. Leg. F.Schumm, 03.06.2011,det. F. F.Schumm 2011. EX HERBARIO F. SCHUMM NR. 17271.

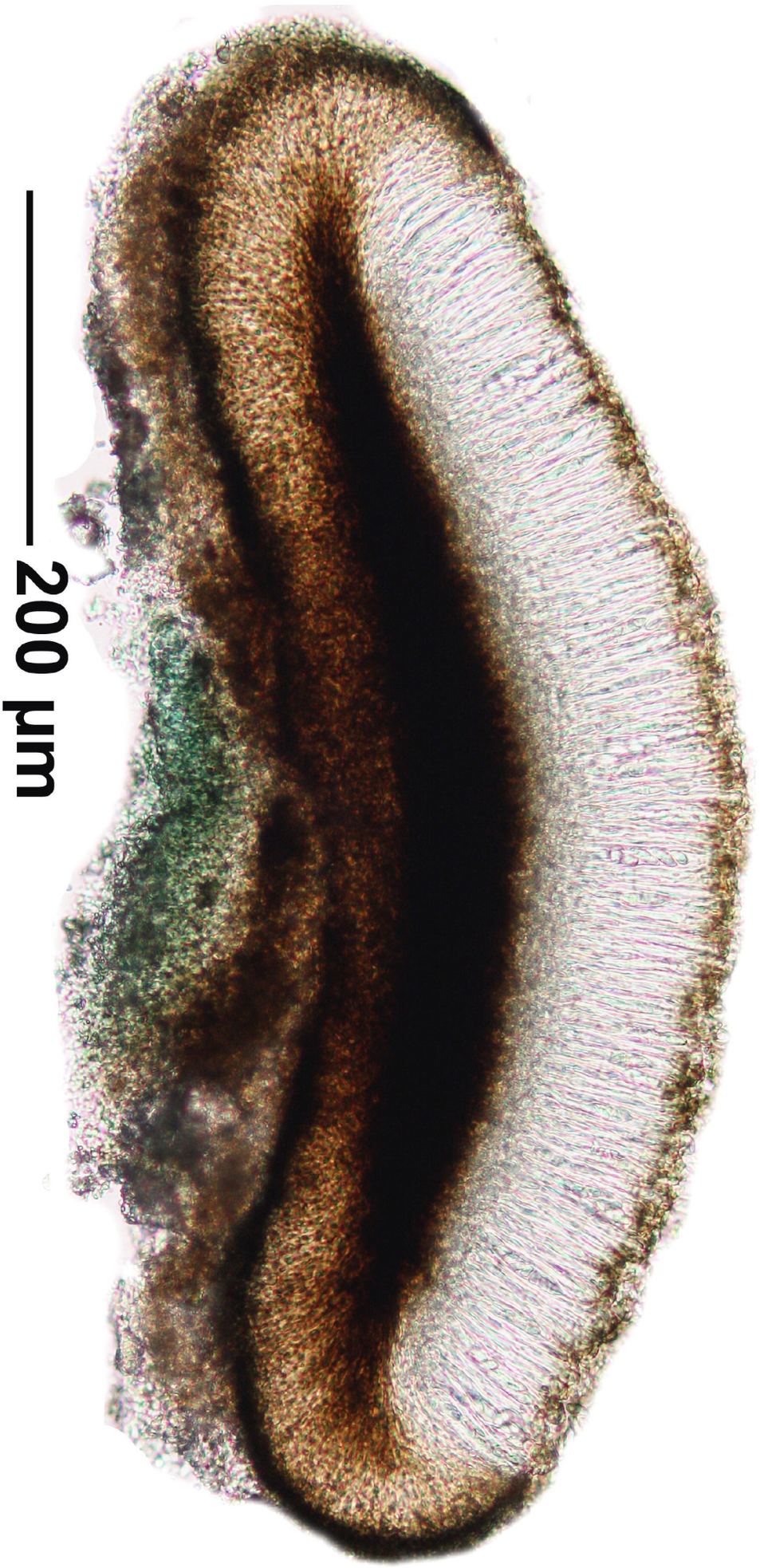
Thallus crustose, endolithic or thinly epilithic, continuous to rimose-areolate, white, yellowish white, or pale grey, rarely ochre-coloured, sometimes delimited by a dark prothallus. Medulla white, I-. Apothecia lecideine, more or less round, sometimes clustered, slightly constricted at base, 0.3-0.8(-1.5) mm across, with a black, slightly concave to convex, usually epruinose disc, and a more or less persistent, usually entire, thin (0.07-0.17 mm wide), barely raised proper margin. Proper exciple black to dark brown in outer part, pale brown and K+ yellow (rarely K-) within, with 4-8 µm wide hyphae; epithecium brown or olivaceous brown; hymenium colourless, 60-90(-110) µm high, I+ blue; paraphyses weakly branched and anastomosing; hypothecium pale to usually dark brown. Asci 8-spored, elongate-clavate, with a thin, outer amyloid layer and a thickened tholus penetrated by a pore, the sides of which are strongly amyloid, Porpidia-type. Ascospores 1-celled, hyaline, ellipsoid, 10-18(-22) x 5-10 µm, not halonate. Pycnidia immersed. Conidia hyaline, bacilliform, 9-14 x c. 1 µm. Photobiont chlorococcoid. Spot tests: thallus K- or K+ yellow, C-, KC-, P- or P+ orange. Chemistry: stictic acid (major), constictic, norstictic and cryptostictic acids (all minor or trace), or without lichen substances. - Note: a widespread, holarctic early coloniser of siliceous pebbles and small stones on the ground, with a wide altitudinal range. The distinction from P. macrocarpa is still an open problem.



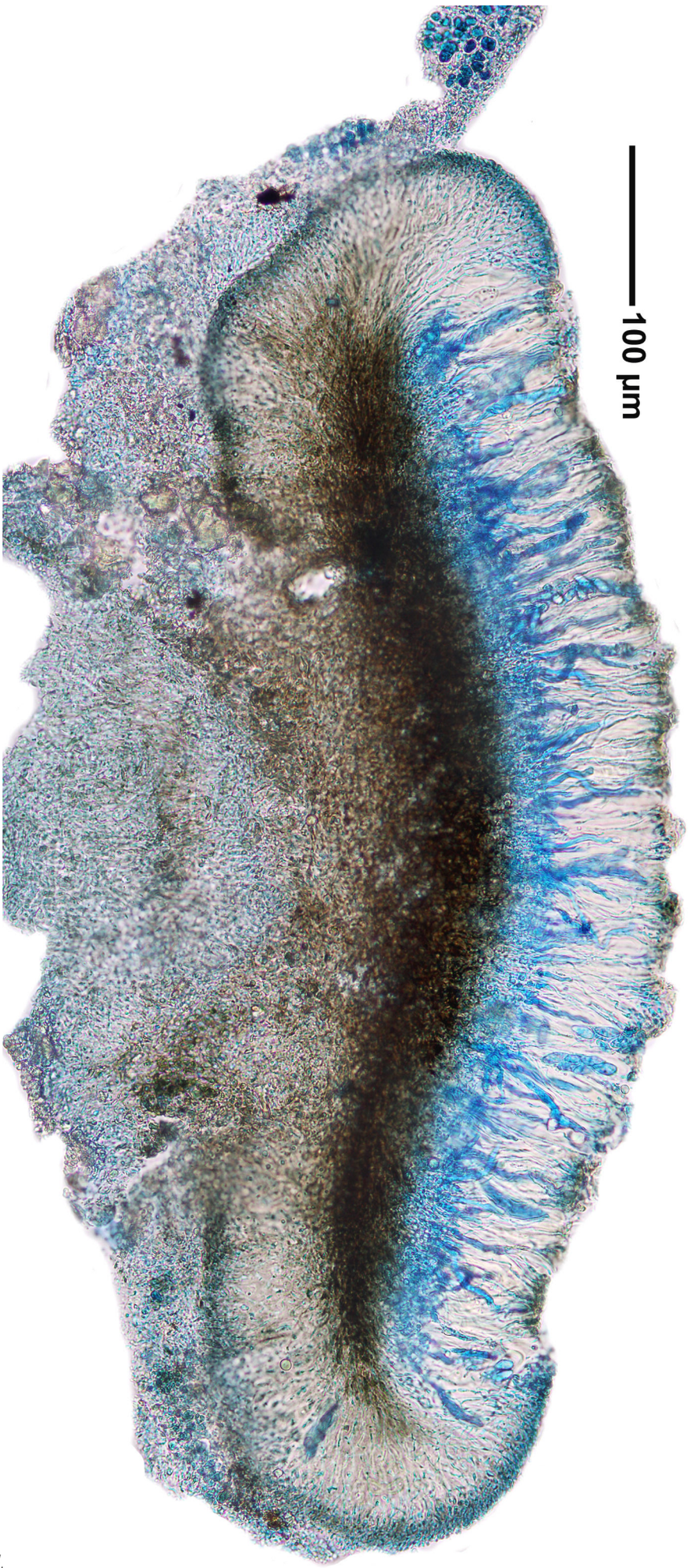
Porpidia crustulata



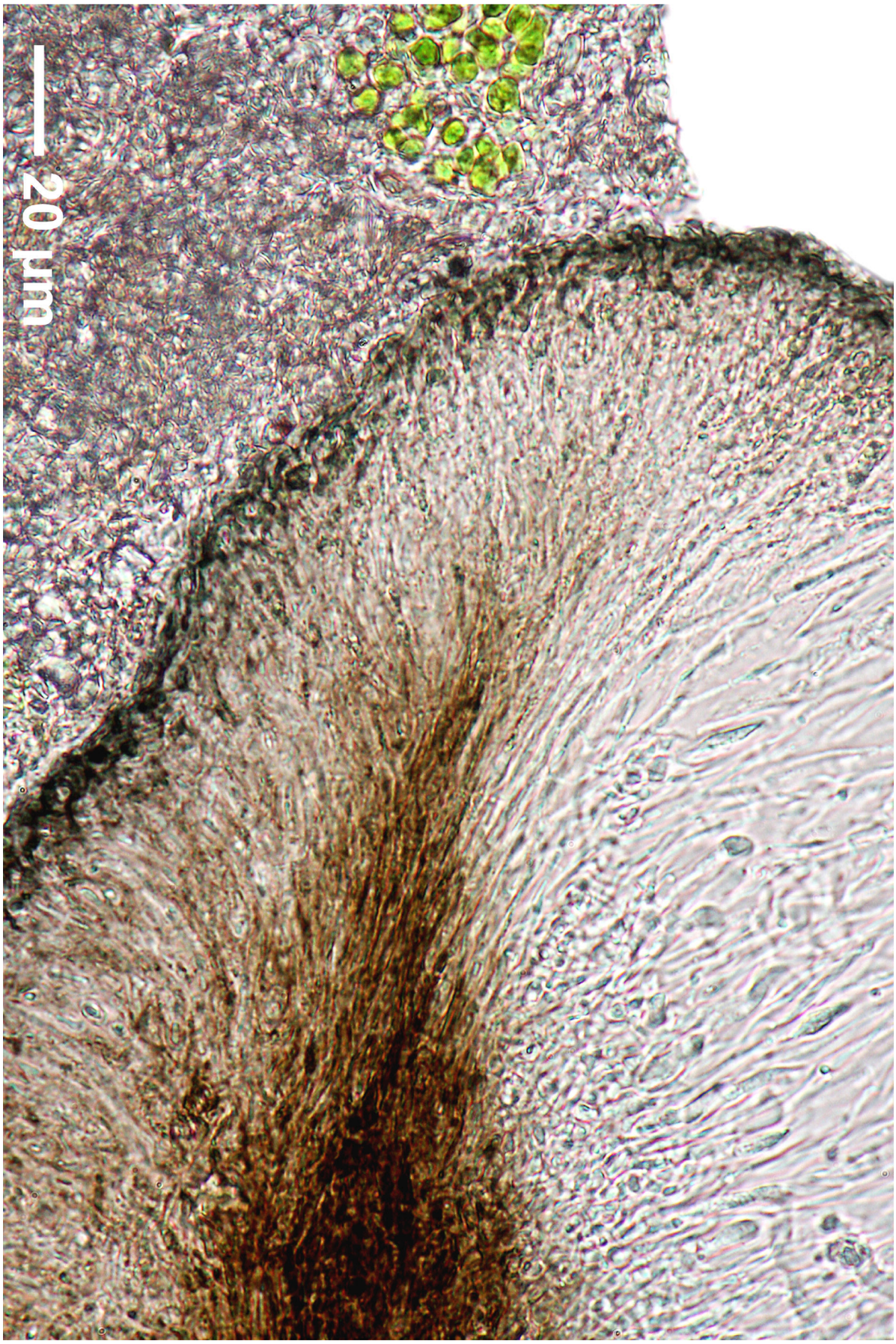
Porpidia crustulata



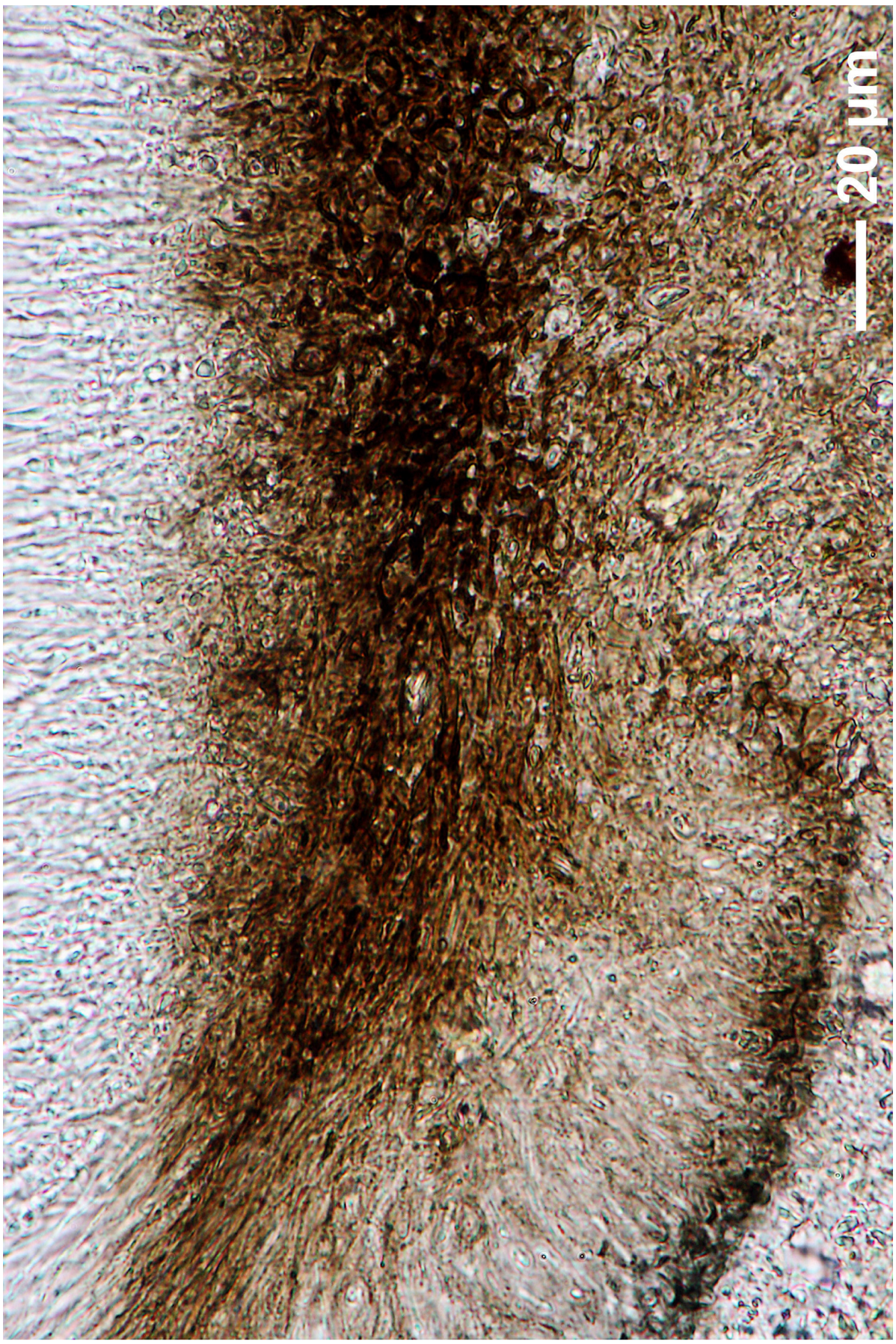
Porpidia crustulata



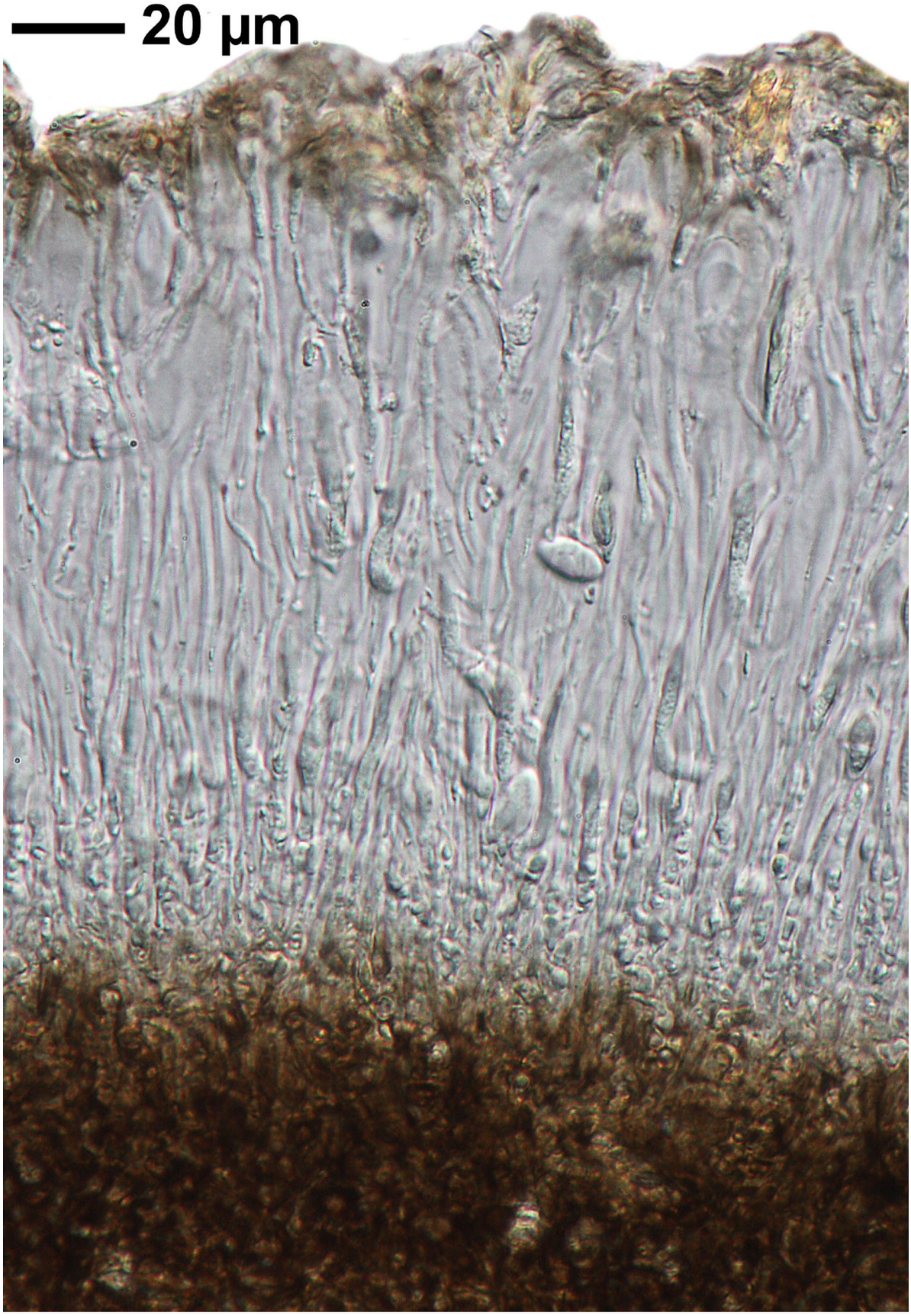
Porpidia crustul



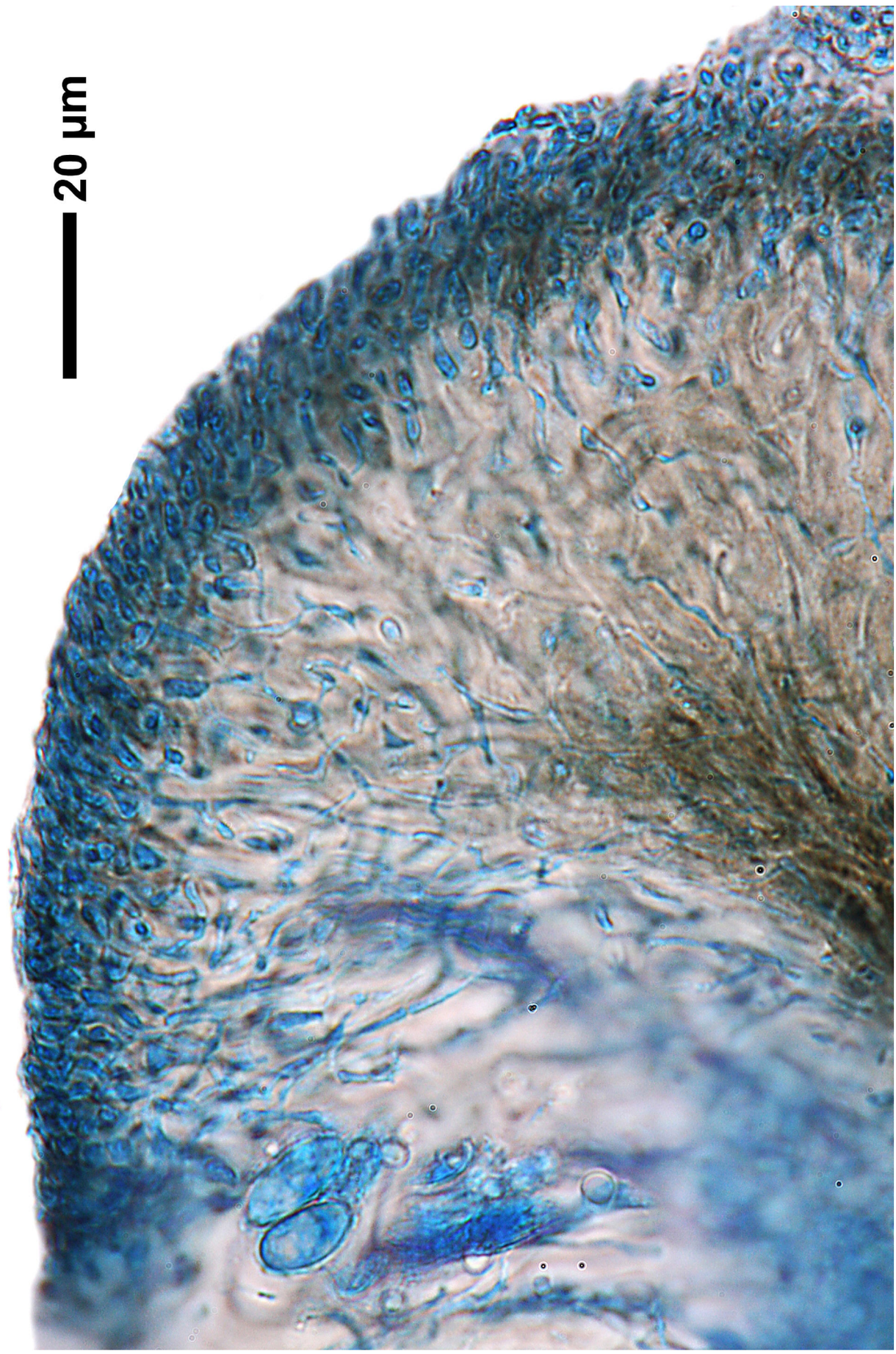
Porpidia crustulata



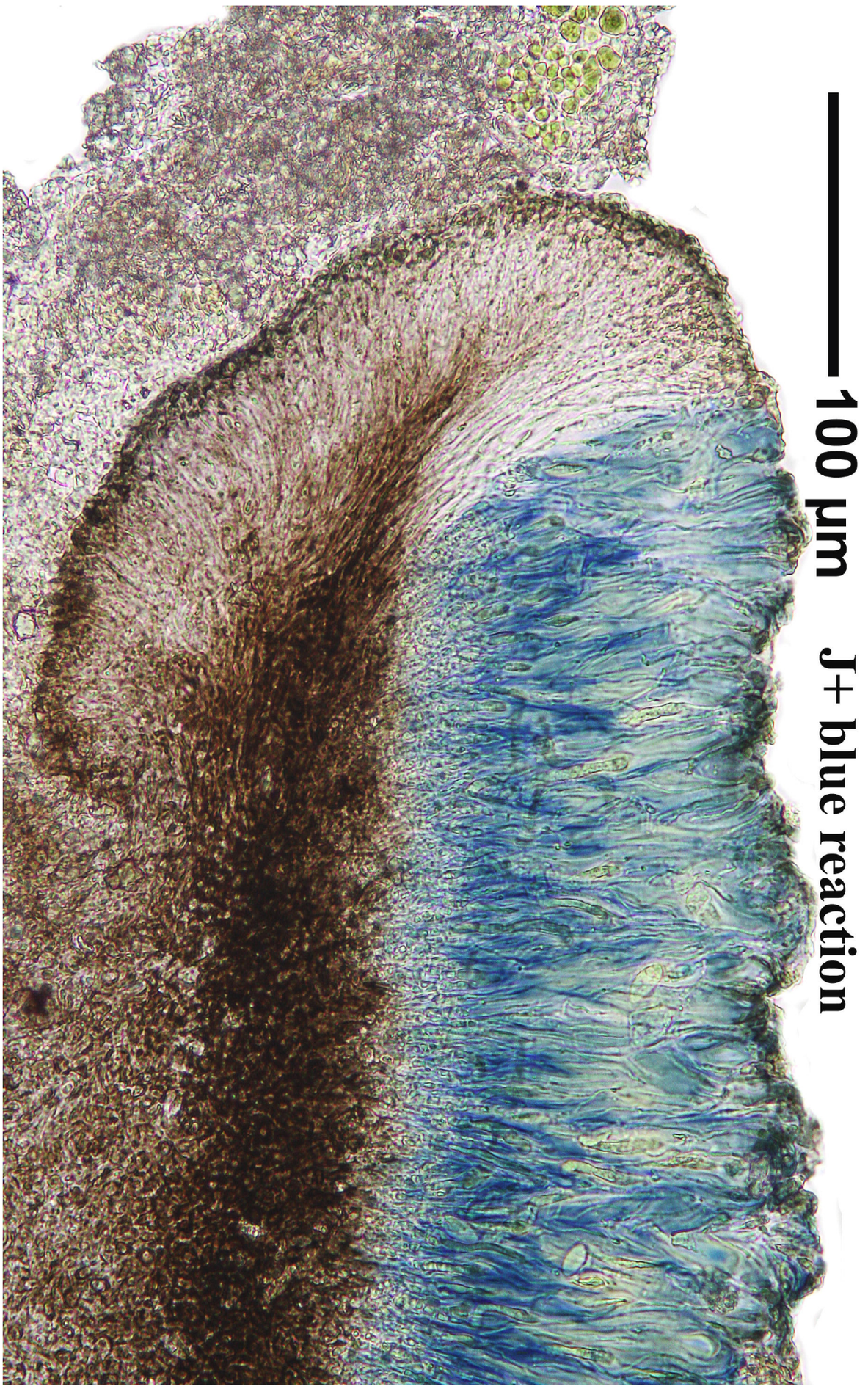
Porpidia crustulata



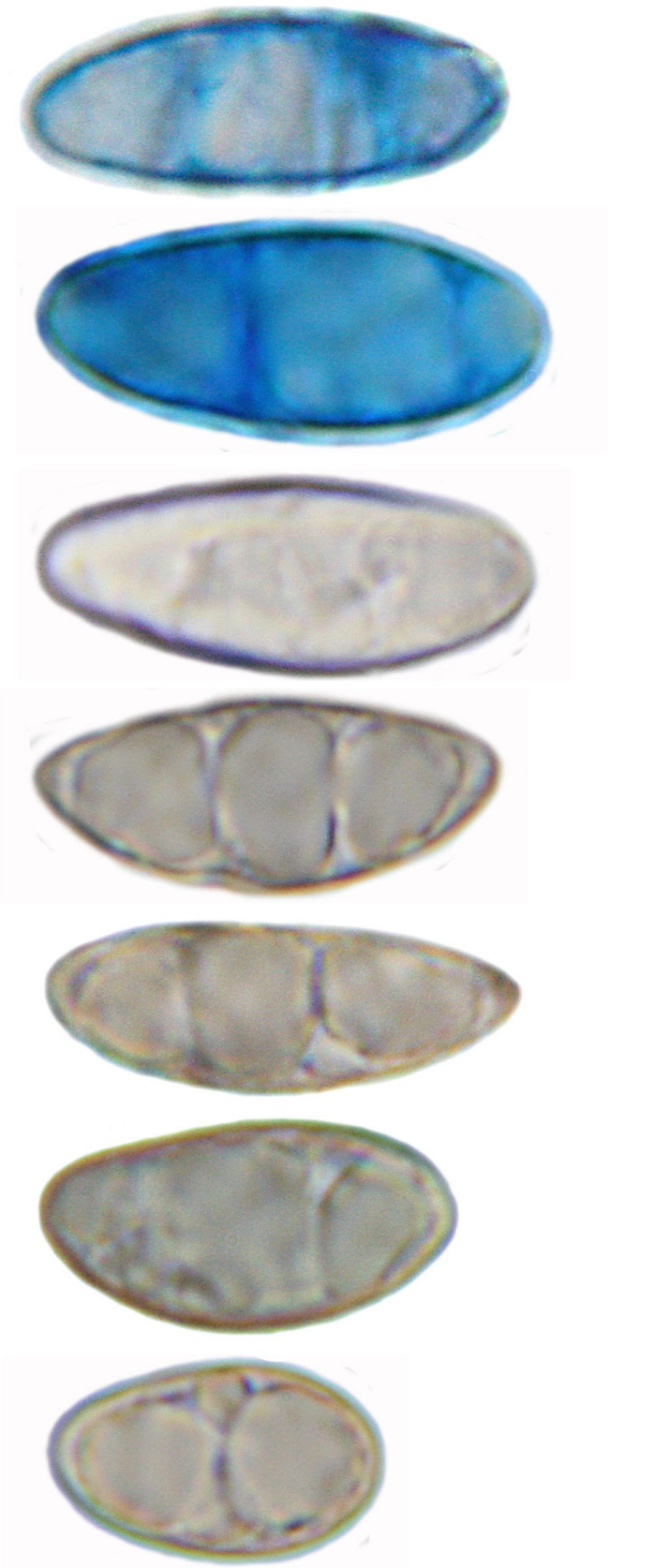
Porpidia crustulata



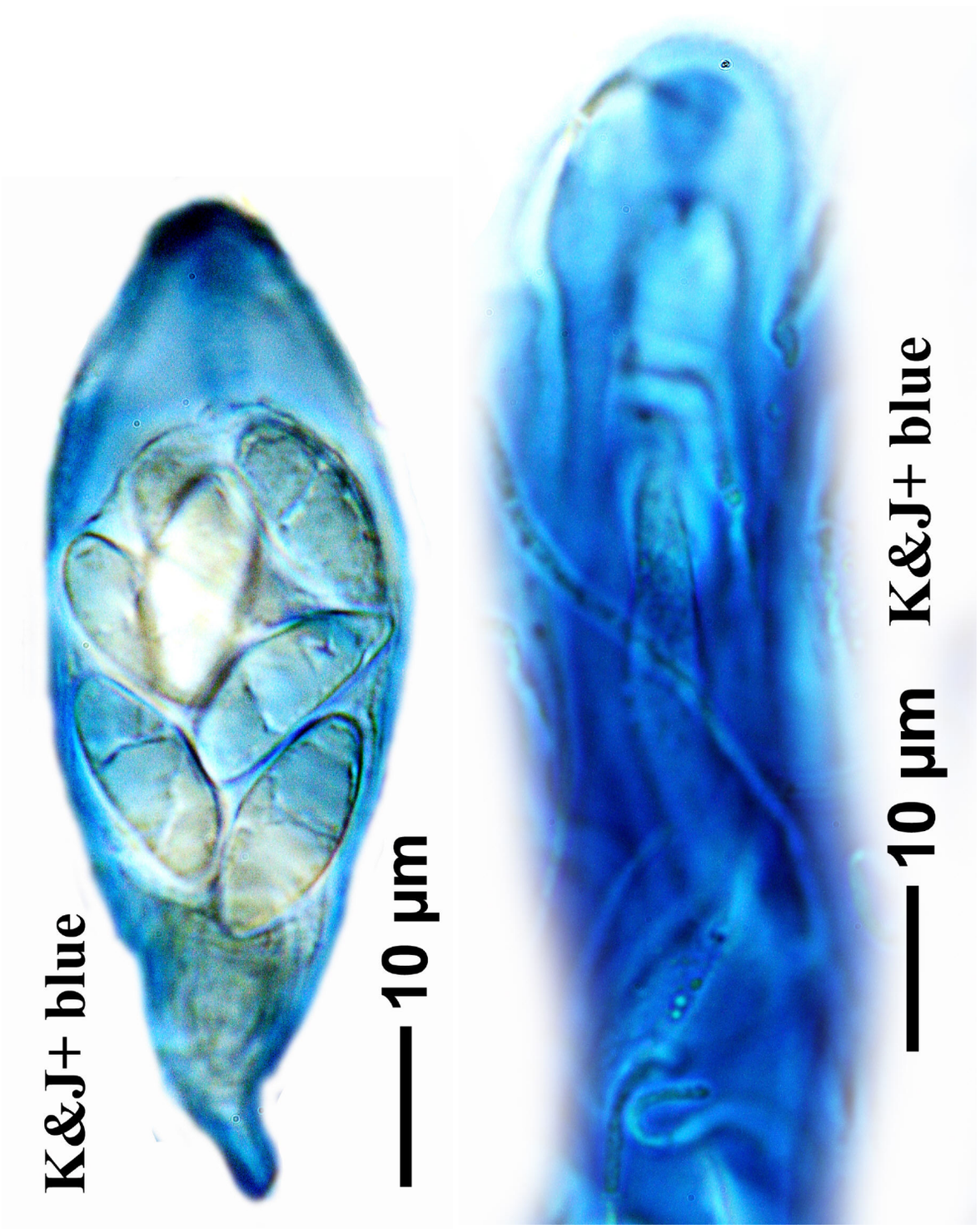
Porpidia crustulata



Porpidia crustulata



Porpidia crustulata



Porpidia crustulata

Porpidia flavicunda (Ach.) Gowan, Bryologist 92(1): 43 (1989)
= *Lecidea flavicunda* Ach. 1810

[OH516], Japan. Honshu. Prov. Uzen (Pref. Yamagata): en route from Mt. Ito to Mt. Kanko, Asahi Mts, Asahi-mura, Higashi-Tagawa-gun (38°19'05" N, 139°52'34" E). On rocks, 1530 m. Leg. M. Inoue (no. 10464), 12.-15.8 1975, det. M. Inoue. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 516.

Thallus crustose, episubstratic, orange to orange-yellow, sometimes with white or grey patches, smooth to rimose-areolate, delimited by a black prothallus. Medulla white, I-. Apothecia lecideine, black, at first semi-immersed, then sessile with a slightly constricted base, (0.2-)1-2(-4) mm across, with a mostly flat, finally convex, thinly to heavily pruinose, sometimes subgyrose or umbonate disc and a thick, raised, smooth to crenulate, often finally flexuous proper margin. Proper exciple of conglutinated, branched, (2-)3-4 µm thick hyphae radiating from the hypothecium, dark in outer part, much paler within, K-; epithecium olive-brown, granulose; hymenium colourless, 75-120(-140) µm high; paraphyses coherent, branched and anastomosing, slightly swollen at tips; hypothecium colourless or pale yellow-brown in upper part, dark brown in lower part. Asci 8-spored, elongate-clavate, with a thin, outer amyloid layer and a thickened tholus penetrated by a pore, the sides of which are strongly amyloid, Porpidia-type. Ascospores 1-celled, hyaline, ellipsoid, 14-19(-24) x (6-)8-11 µm, with a thin perispore. Photobiont chlorococcoid. Spot tests: cortex K-, C-, KC-, P-, UV-; medulla K/UV+ mauve. Chemistry: thallus with confluentic acid (other chemotypes known from N America). - Note: a variable species which can produce both apothecia and soredia, found on siliceous boulders in humid and wind-protected situations, e.g. in deep gorges, or along mountain creeks in woodlands, reaching beyond treeline.



Porpidia flavicunda

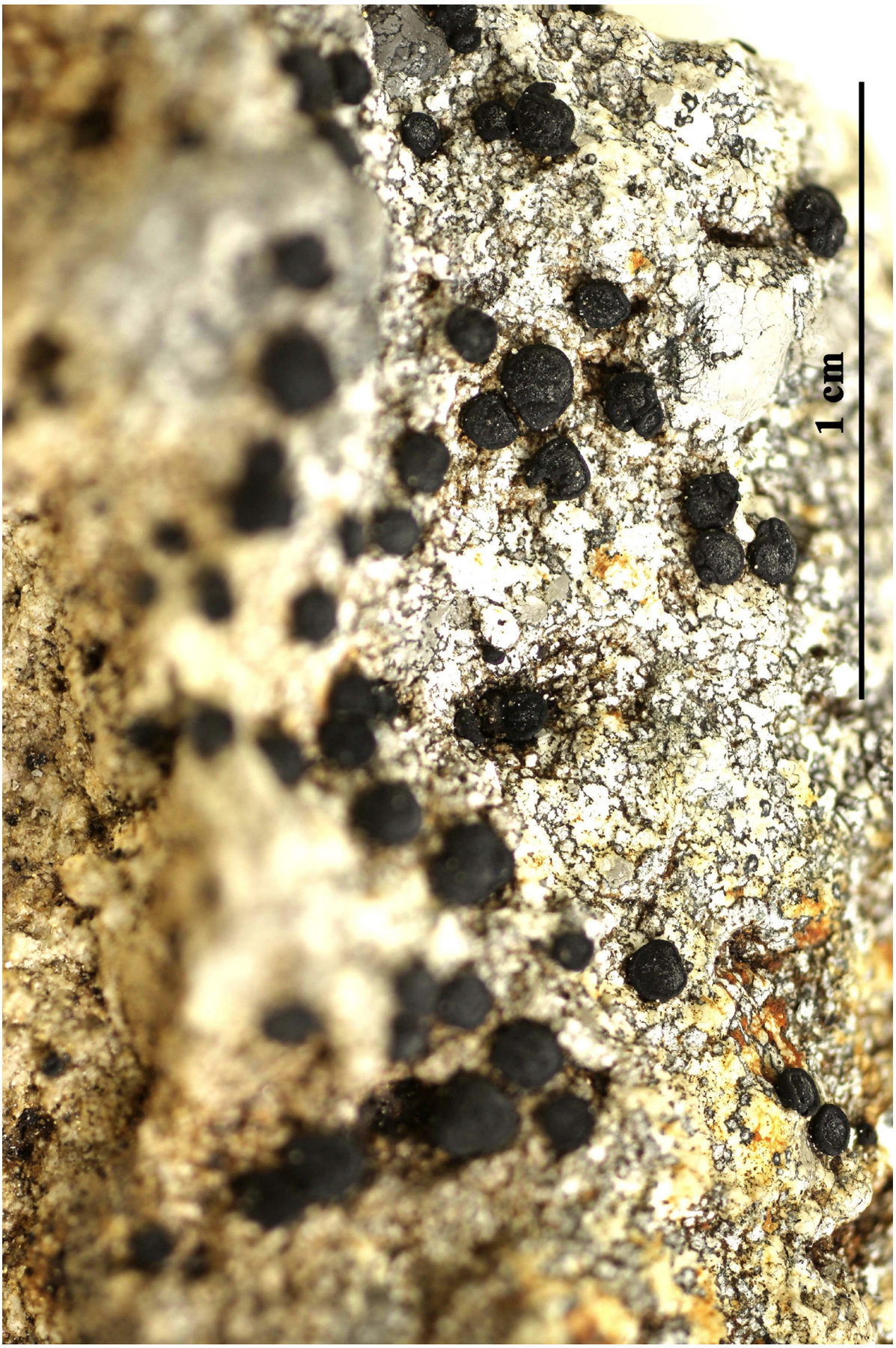


Porpidia flavicunda

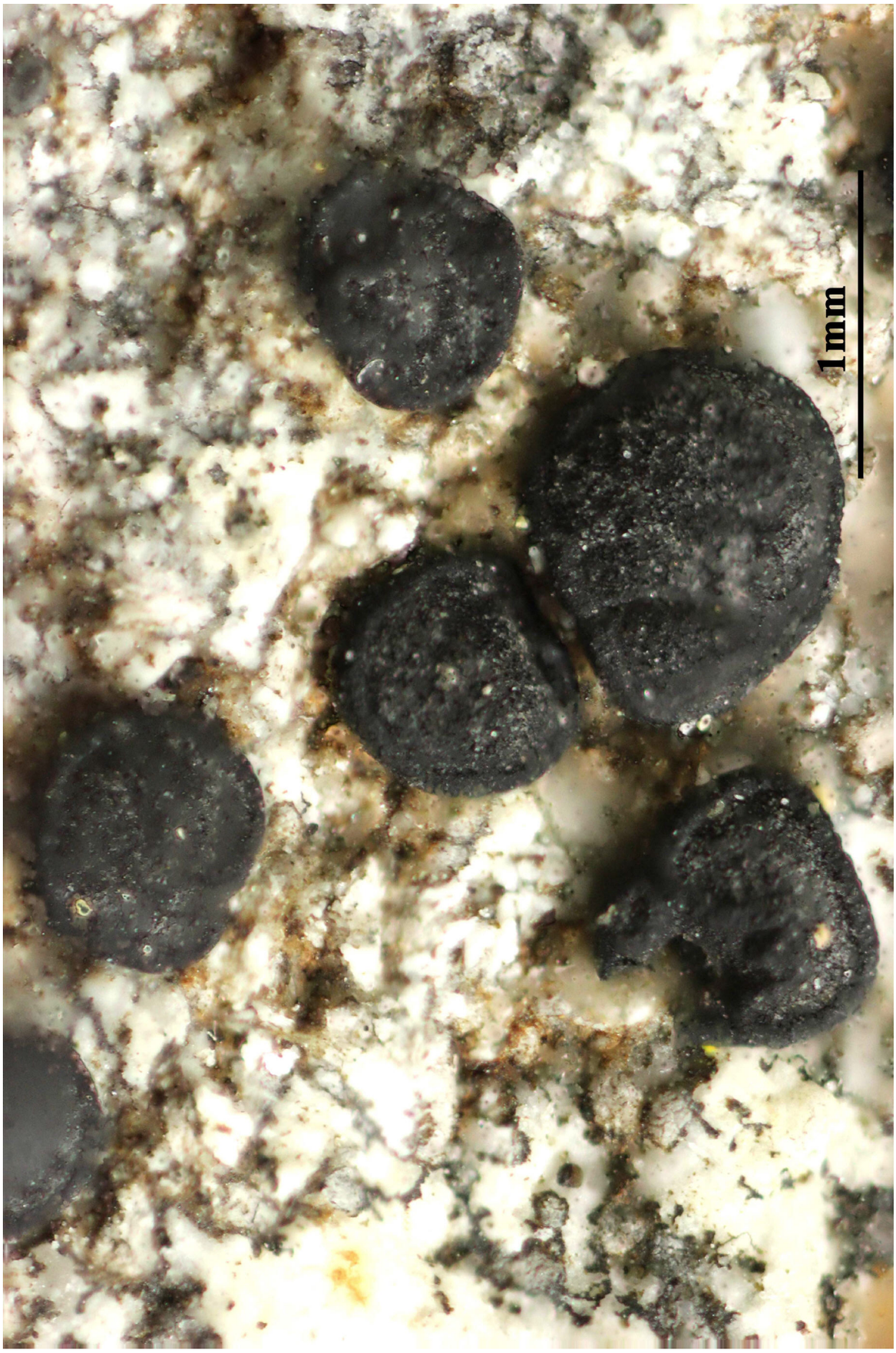
Porpidia macrocarpa (DC.) Hertel & A.J. Schwab, in Hertel, Beih. Nova Hedwigia 79: 437 (1984)
= *Patellaria macrocarpa* DC. 1805

[OH566], Japan, Honshu. Prov. Kai (Pref. Yamanashi): Mt. Kinpu, Kofu-city (35°52'20" N, 138°37'35" E). On rocks, 2580 m. Leg. Y. Ohmura (no. 9030), A. Frisch & G. Thor, 4.7.2012. det. G. Thor. Ex Y. Ohmura Lichenes Minus Cogniti Exsiccati Nr. 566.

Thallus crustose, endolithic or thinly epilithic, continuous to rimose-areolate, white, yellowish white, or pale grey, rarely ochre-coloured, sometimes delimited by a dark prothallus. Medulla white, I-. Apothecia lecideine, more or less round, sometimes clustered, slightly constricted at base, 1-4 mm across, with a black, flat to convex, sometimes slightly pruinose disc, and a more or less persistent, usually entire, thick and tumid (0.15-0.25 mm thick), raised proper margin. Proper exciple black to dark brown in outer part, paler and K- within (rarely K+ yellow), with 3-9 µm wide hyphae; epithecium brown or olivaceous brown; hymenium colourless, I+ blue, 90-130(-150) µm high; paraphyses sparingly branched and anastomosing; hypothecium pale to usually dark brown. Asci 8-spored, elongate-clavate, with a thin, outer amyloid layer and a thickened tholus penetrated by a pore, the sides of which are strongly amyloid, Porpidia-type. Ascospores 1-celled, hyaline, ellipsoid, (16-)18-25(-28) x (5-)7-11(-14) µm. Photobiont chlorococcoid. Spot tests: thallus K- or K+ yellow, C-, KC-, P- or P+ orange. Chemistry: stictic acid (major), constictic, norstictic and cryptostictic acids (all minor or trace), or without lichen substances. - Note: on siliceous rocks near the ground, sometimes on metal-rich substrata in humid-sheltered situations, with a wide altitudinal range.



Porpidia macrocarpa



Porpidia macrocarpa

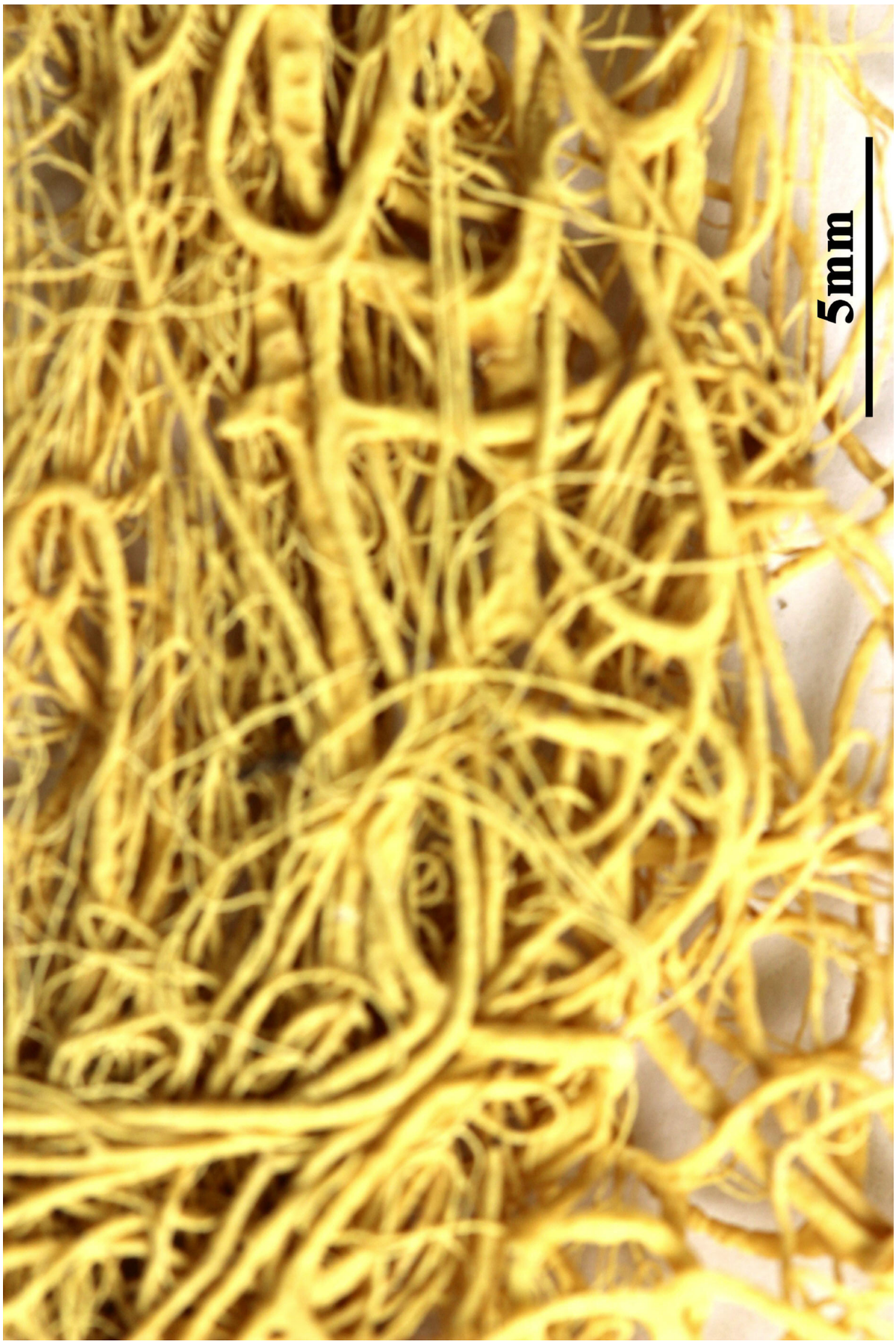
Protousnea magellanica (Mont.) Krog, Norw. Jl Bot. 23: 100 (1976)
= *Evernia magellanica* Mont. 1843

[KU588], Chile. Magellanes: Rio de Las Minas, about 5 km west of Punta Arenas. On bark of *Nothofagus* sp., 200 m. Leg. H. Kashiwadani (no. 19430), 15.12.1981, det. H. Krog. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr.588.

Thallus corticolous, pendulous, flaccid, to 30 cm long, stramineous. Primary branches ca. 1 mm broad, more or less angular and foveate near the base, branching at first dichotomous, but thallus scon dissolving into a mass of capillaceous, subparallel secondary branches, often with torulose or recurved branchlets. Cortex more or less maculate in basal parts, in distal parts thin, fragile, with numerous transversal cracks. Medulla lax. Axis occupying about one third of the width of the branch. Apothecia 1.0-3.2 mm in diameter, on thin and thick branches, thalline exciple pitted, thalline margin often eroded, narrow, becoming inapparent. TLC: usnic acid in the cortex, divaricatic acid in the medulla, with unknown Rl as an accessory substance. - *Protousnea magellanica* is distinguished by its flaccid thallus, its crowded, subparallel, filamentous secondary branches, which often bear small apothecia, and its fragile, easily eroded cortex. Together with *P. dusenii* it appears to be the commonest species in the genus. Annotations on labels indicate that it grows from about sealevel to more than 1300 m.



Protousnea magellanica



Protousnea magellanica

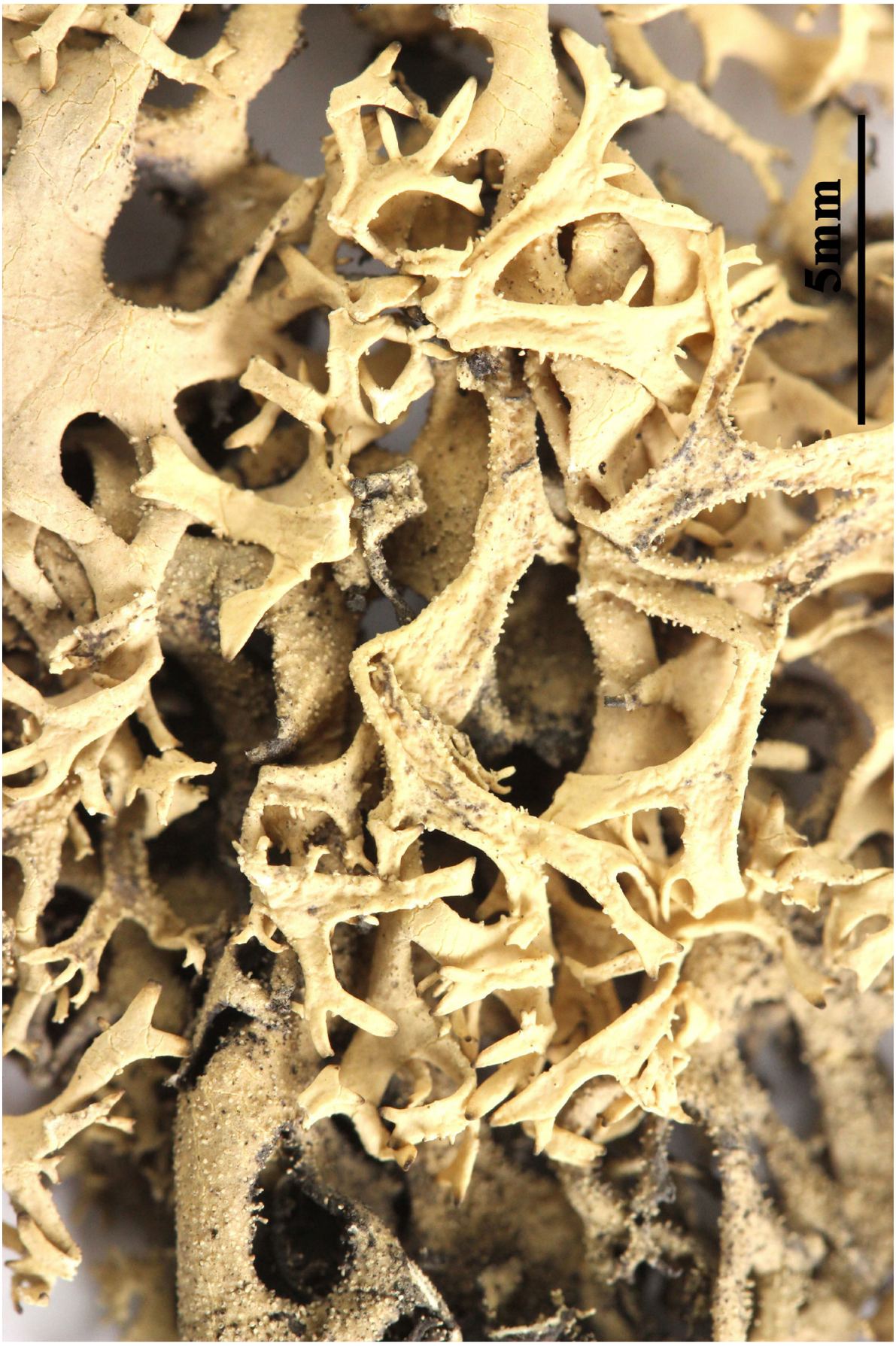
Pseudevernia consocians (Vain.) Hale & W.L. Culb., Bryologist 69(2): 165 (1966)
= *Parmelia consocians* Vain. 1926

[KU244], USA. Tennessee: Cherokee National Forest Farr Gap, Monroe Co. On bark of *Pinus echinata*, 2840 m. Leg. I. Yoshimura (no. 660830) and G. Morton, 20.10.1966, det. I. Yoshimura. EX S. KUROKAWA LICHENES RARIORES ET CRITICI EXSICCATI NR. 244.

Ex: Nash, T.H., Ryan, B.D., Gries, C., Bungartz, F., (eds.) 2002. Lichen Flora of the Greater Sonoran Desert Region. Vol 1.
Thallus foliose to subfruticose to caespitose, 4-10 cm across, separate: lobate lobes linear, 0.5-1.5 mm wide, subdichotomously branched, loosely imbricate; apices usually subtruncate, eciliate; upper surface light gray to gray, smooth, plane to rugulose, shiny or dull, weakly maculate, usually epruinose; isidia abundant, cylindrical; tips darker than the thallus, sometimes abrading, but not sorediate; soredia absent; medulla white, loosely packed; lower surface tan to black, sometimes mottled white, naked, channeled, erhizinate, attached by basal holdfasts Apothecia not seen; Pycnidia laminal or marginal, immersed or emergent to sessile; conidia not seen; Spot tests: upper cortex K+ yellow, C-, KC-, P+ yellow; medulla K-, C+ red, KC+ red, P- Secondary metabolites: upper cortex with atranorin and chloroatranorin; medulla with lecanoric acid (major). Substrate and ecology: usually on conifers (especially pines) in open pine-oak forests World distribution neotropics from northern Mexico to Central - Notes: In comparison with the European *P. furfuracea*, which can also be isidiate, *P. consocians* is a less robust species with narrower lobes. Although both may have a C+ medulla, in *P. furfuracea* it is due to olivetoric acid; in *P. consocians*, due to lecanoric acid.



Pseudevernia consocians



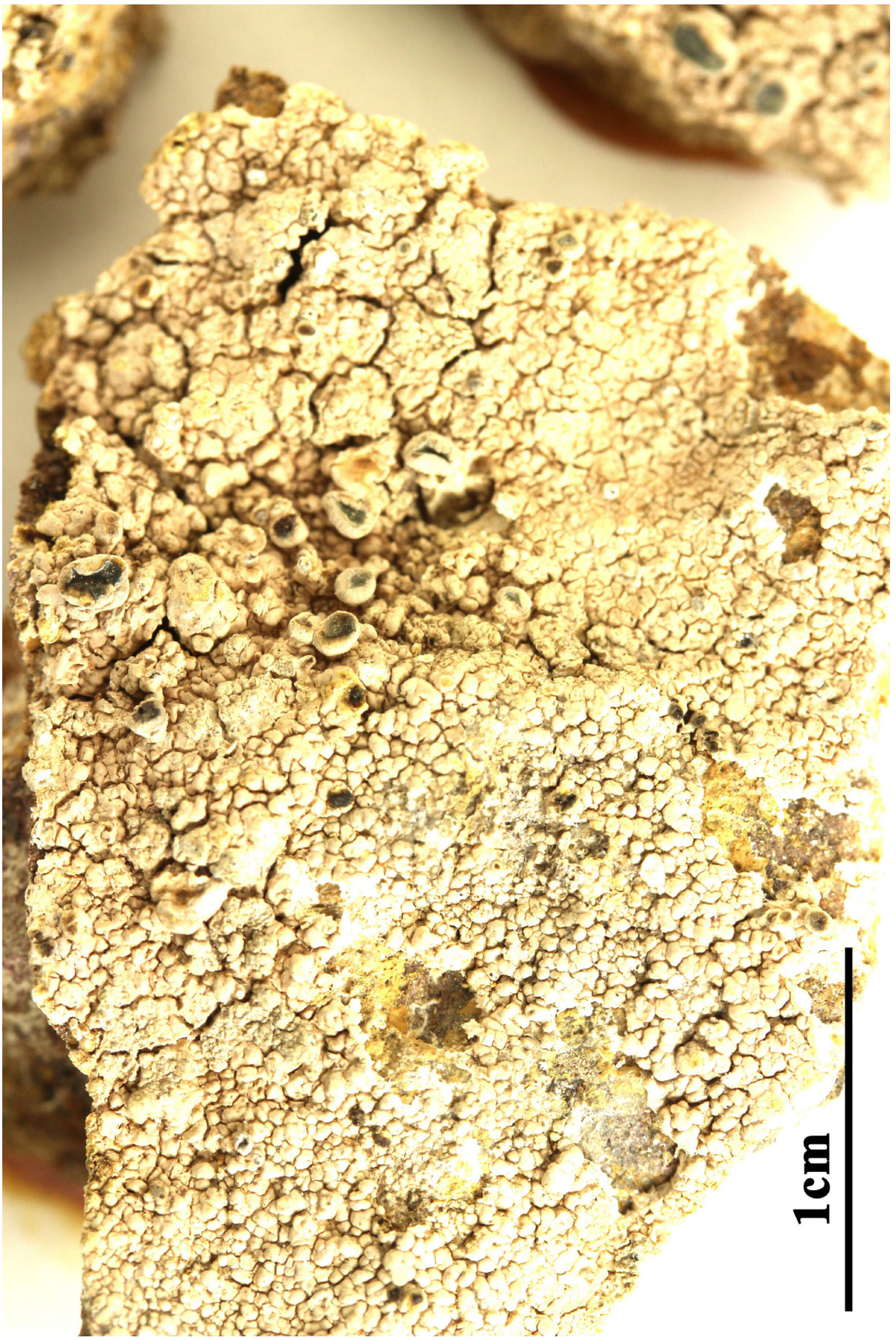
Pseudevernia consocians



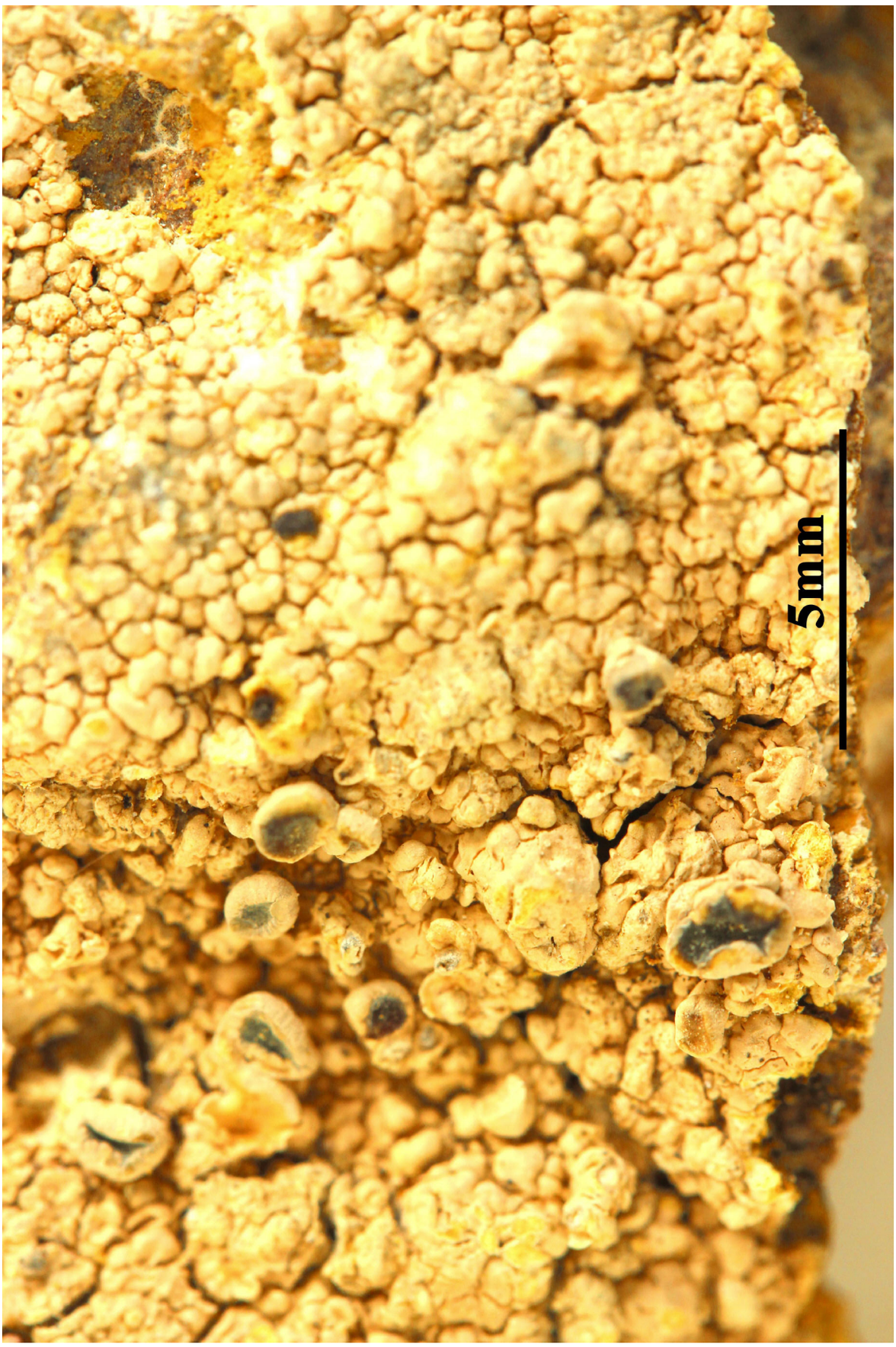
Pseudevernia consocians

Pseudobaeomyces insignis (Zahlbr.) M. Satô, J. Jap. Bot. 16(1): 42 (1940)
= *Baeomyces insignis* Zahlbr. 1927

[KU530], Japan. Honshu. Prov. Shimotsuke: Mt. Shirane. On rocks, 2550 m. Leg. H. Shibuichi (no. 6516) & Y. Yoshida, 4.8.1981, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 530.



Pseudobaeomyces insignis



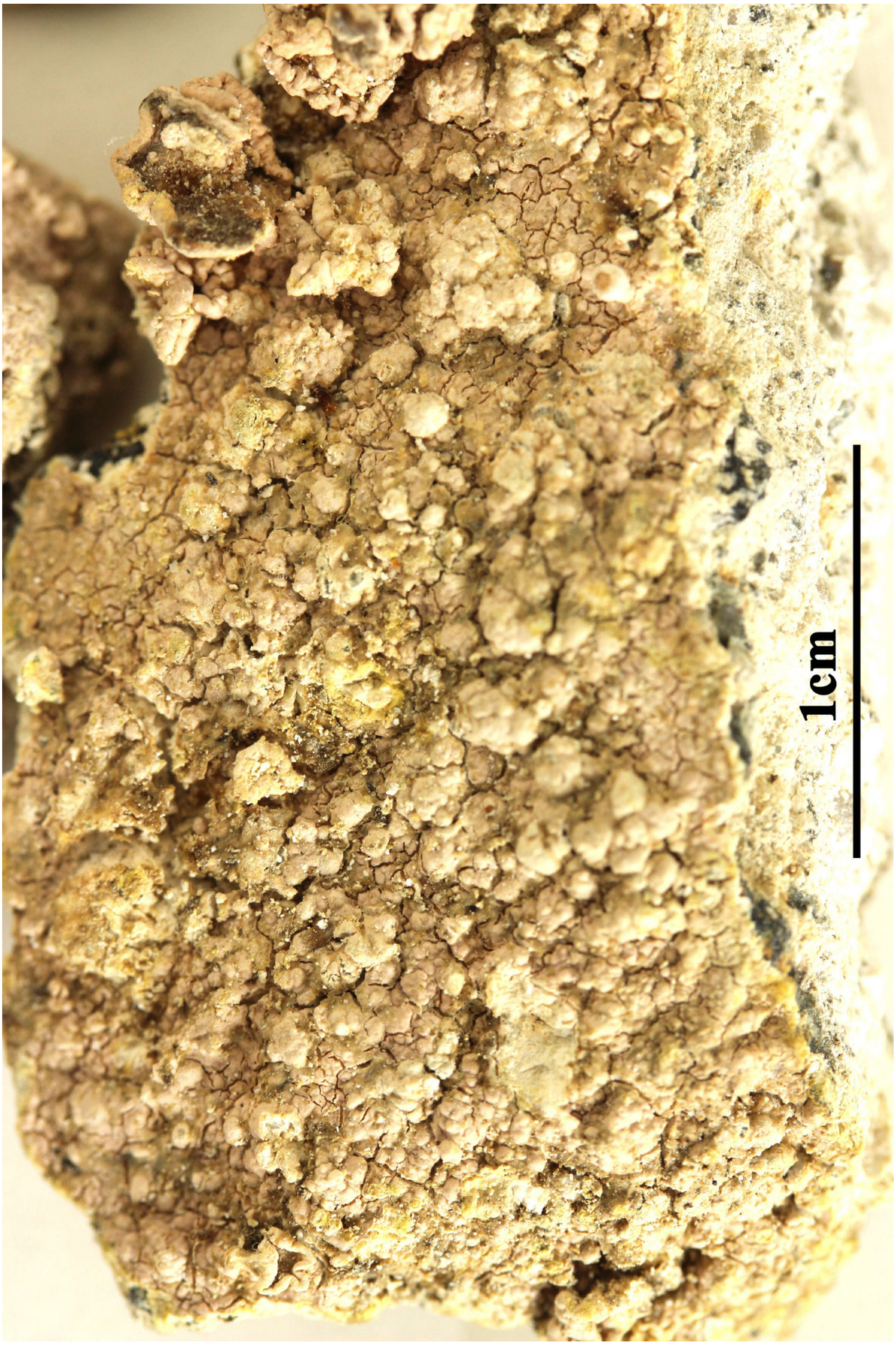
Pseudobaeomyces insignis

Pseudobaeomyces insignis (Zahlbr.) M. Satô, J. Jap. Bot. 16(1): 42 (1940)
= *Baeomyces insignis* Zahlbr. 1927

[KU381], Japan. Honshu. Prov. Kii: Yanoko Pass. Owase-city: On rocks, 800m. Leg. H. Kashiwadani (no. 14672), 27.7.1978, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 381.



Pseudobaeomyces insignis



Pseudobaeomyces insignis

Pseudocyphellaria argyracea (Delise) Vain., Hedwigia 37(Beibl.): (35) (1898)
= *Sticta argyracea* Delise 1822

[KU326], Japan. Bonin Islands: Mt. Chibusa, Hahajima Island. On bark of trees, 400 m. Leg. H. Kashiwadani (no. 14124), 14.6.1977, det. H. Kashiwadani. Ex S. Kurokawa and H. Kasiwadani Lichenes Rariores Et Critici Exsiccati Nr. 326.

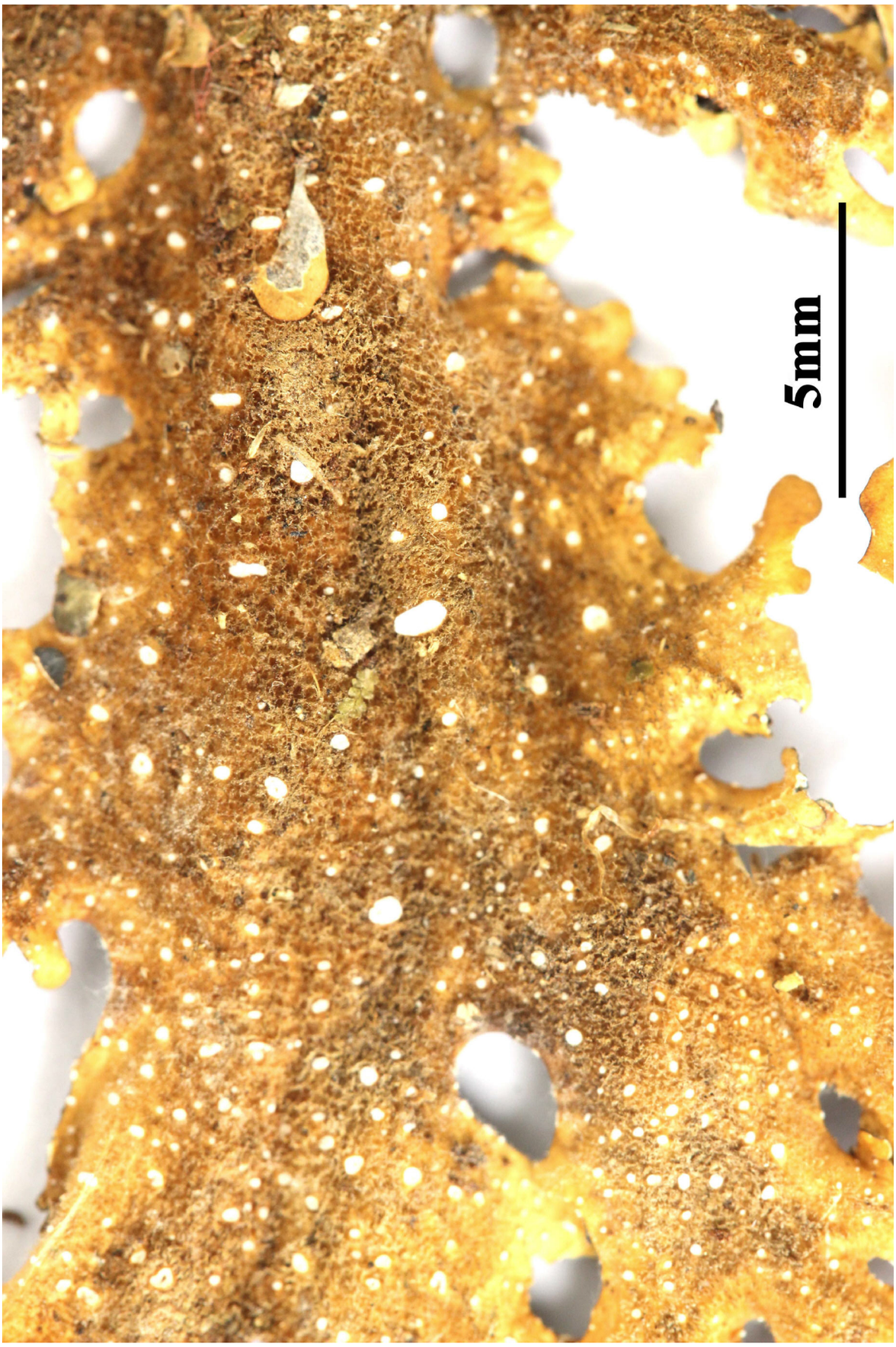
Thallus rosette-forming to irregularly spreading, loosely attached, 1–5 (–10) cm wide. Lobes irregularly laciniate to rounded, discrete to ±imbricate, 1–3 cm long, 3–10 (–20) mm wide; lobe margins entire to minutely crenate-incised, delicately isidiate. Upper surface pale grey-brown when dry, slatey blue-grey to blue-black when wet, plane to wrinkled, sorediate, isidiate, without maculae or phyllidia; pseudocyphellae laminal, few to numerous, ±evenly spaced, round to irregular, ulcerose, becoming sorediate, to 3 mm diam.; isidia minute, terete, simple to coralloid, clustered at margins of pseudocyphellae and at apices and margins of lobes. Medulla white. Photobiont Nostoc. Lower surface pale brownish, densely tomentose from margins to centre. Pseudocyphellae rather rare, white, scattered, irregular, best seen at margins. CHEMISTRY: Methyl gyrophorate (±), gyrophoric acid (±), 7β-acetoxyhopane-22-ol, hopane-7β,22-diol (trace) and hopane 15α,22-diol.



Pseudocyphellaria argyracea



Pseudocyphellaria argyracea

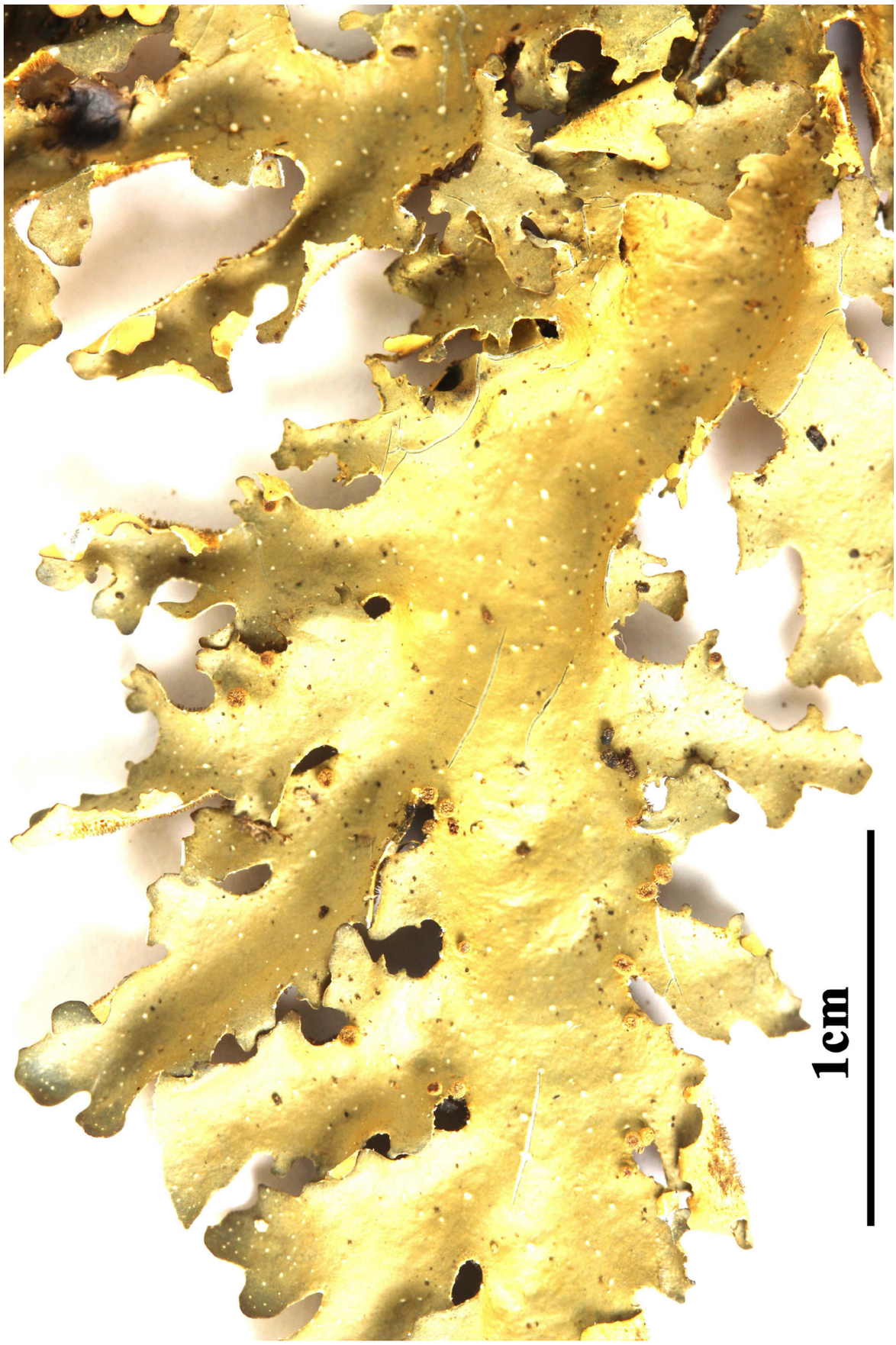


Pseudocyphellaria argyracea

Pseudocyphellaria argyracea (Delise) Vain., Hedwigia 37(Beibl.): (35) (1898)
= *Sticta argyracea* Delise 1822

[KU187], Japan. Bonin Islands: Mt. Chibusa, Hahajima Island. In the forest of *Ardisia sieboldii*, 250-400 m. Leg. H. Inoue (no. 19702), 13.7.1969, det. S. Kurokawa. Ex S. Kurokawa Lichenes Rariores Et Critici Exsiccati Nr. 187.

Thallus rosette-forming to irregularly spreading, loosely attached, 1–5 (–10) cm wide. Lobes irregularly laciniate to rounded, discrete to ±imbricate, 1–3 cm long, 3–10 (–20) mm wide; lobe margins entire to minutely crenate-incised, delicately isidiate. Upper surface pale grey-brown when dry, slatey blue-grey to blue-black when wet, plane to wrinkled, sorediate, isidiate, without maculae or phyllidia; pseudocyphellae laminal, few to numerous, ±evenly spaced, round to irregular, ulcerose, becoming sorediate, to 3 mm diam.; isidia minute, terete, simple to coralloid, clustered at margins of pseudocyphellae and at apices and margins of lobes. Medulla white. Photobiont Nostoc. Lower surface pale brownish, densely tomentose from margins to centre. Pseudocyphellae rather rare, white, scattered, irregular, best seen at margins. CHEMISTRY: Methyl gyrophorate (±), gyrophoric acid (±), 7β-acetoxyhopane-22-ol, hopane-7β,22-diol (trace) and hopane 15α,22-diol.



Pseudocyphellaria argyracea

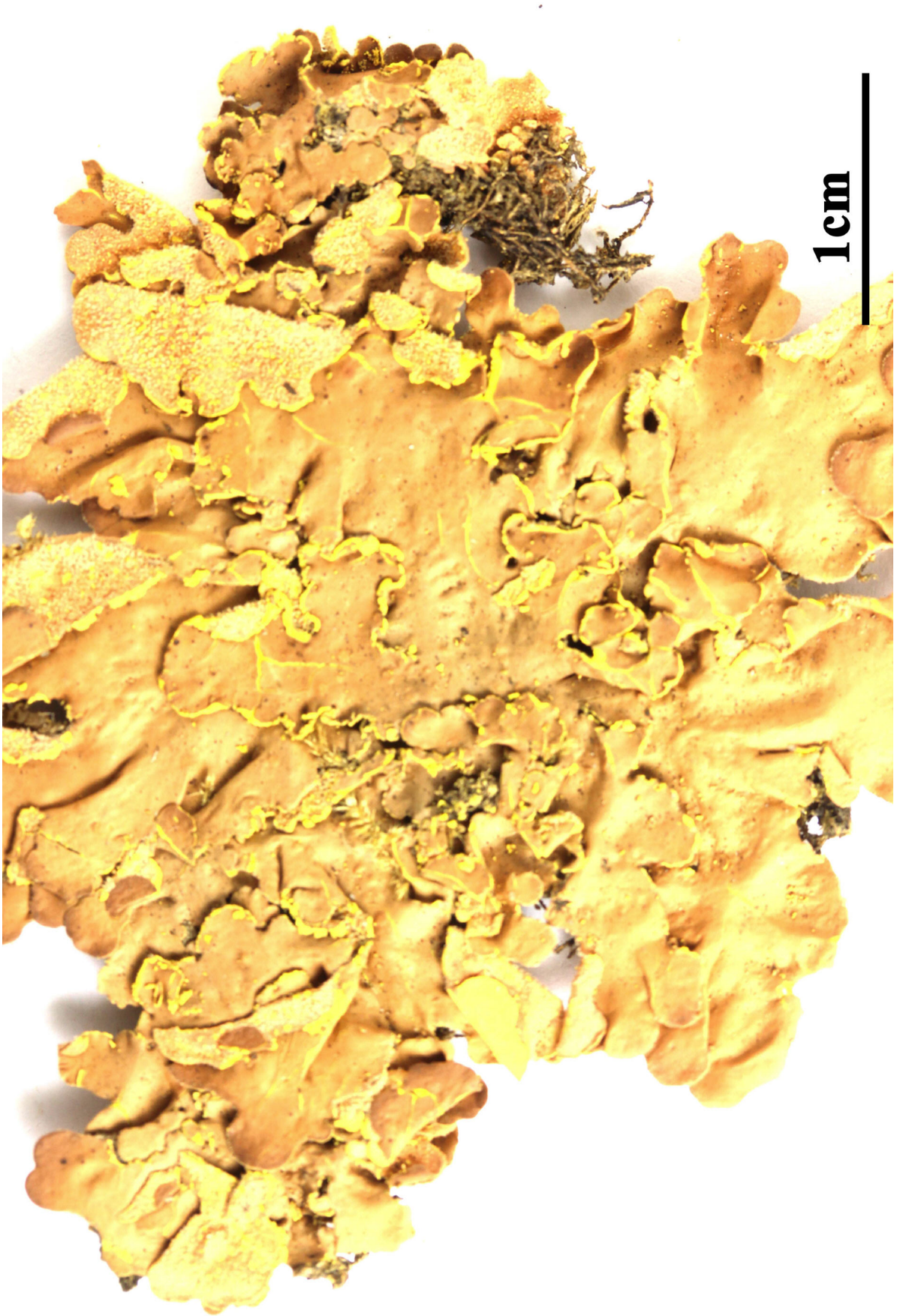


Pseudocyphellaria argyracea

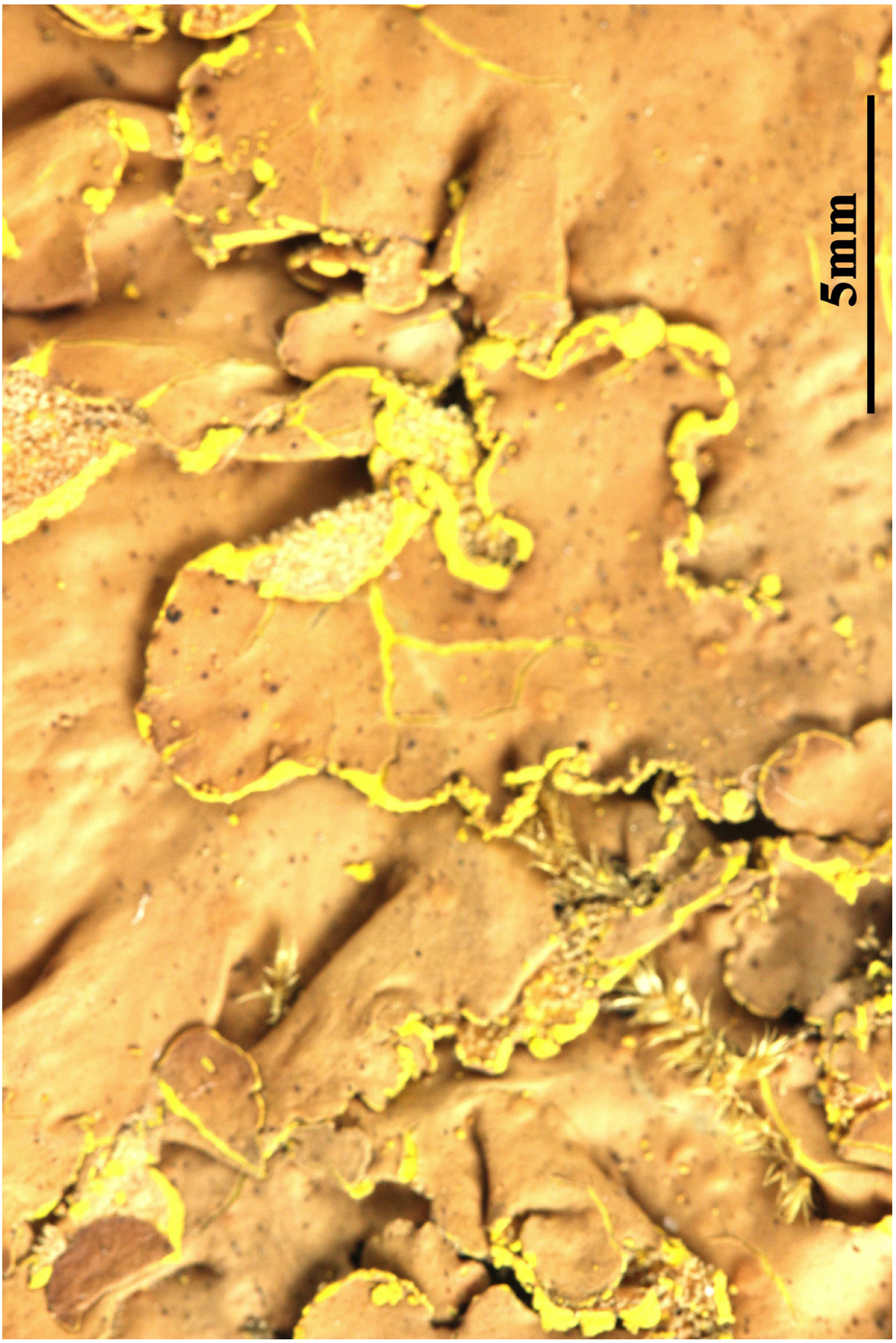
Pseudocyphellaria crocata (L.) Vain., Hedwigia 37(Beibl.): (34) (1898)
= *Lichen crocatus* L. 1771

[KU5319, Japan. Honshu. Prov. Awa: Mt. Kiyosumi. Leg. K. Shibyama, 28.3.1966, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 531.

Thallus rosette-forming to irregularly spreading, loosely to closely attached, 5–10 (–20) cm wide. Lobes broadly rounded and ±plane to narrow, canaliculate, deeply laciniate and discrete from margins to centre, to complex-imbricate, 1–5 (–7) cm long, 5–10 (–35) mm wide; lobe margins entire to ragged-incised, wavy, sorediate; soralia punctiform to linear, often eroding to lower surface. Upper surface fawnish grey to glaucous or brownish yellow when dry, grey-blue to bluish brown when wet, plane, undulate, shallowly wrinkled to densely faveolate, occasionally patchily short-tomentose, maculate and sorediate, without isidia, phyllidia or pseudocyphellae. Maculae delicate, white, distinctly reticulate, following ridges and in faveolae (×10 lens). Soredia common, yellow, farinose to granular, laminal and marginal, randomly scattered in erose laminal soralia, or erupting from laminal ridges. Medulla white to patchily yellow-white. Photobiont Nostoc. Lower surface pale whitish to buff, tomentose from margins to centre. Pseudocyphellae scattered, yellow. Apothecia sessile, marginal and laminal, 0.3–2.5 mm diam.; disc pale to dark red-brown, epruinose; exciple pinkish, verrucose-areolate; epithecium dark yellow-brown to olive-brown, dissolving in K; hymenium colourless to pale straw-yellow; hypothecium opaque, yellow-brown to red-brown intensifying in K. Ascospores broadly ellipsoidal, 3-septate, 22.5–27 (–29.5) × 7–9 µm, olive-brown to dark brown. CHEMISTRY: Tenuiorin, methyl gyrophorate, gyrophoric acid, hopane-7β,22-diol (trace), hopane-6α,7β,22-triol, 7β-acetoxyhopane-6α,22-diol (trace), 6α-acetoxyhopane-7β,22-diol (trace), physciosporin (trace), norstictic acid (trace), stictic acid, cryptostictic acid, (trace), constictic acid, pulvinic acid, pulvinic dilactone and calycin.



Pseudocyphellaria crocata

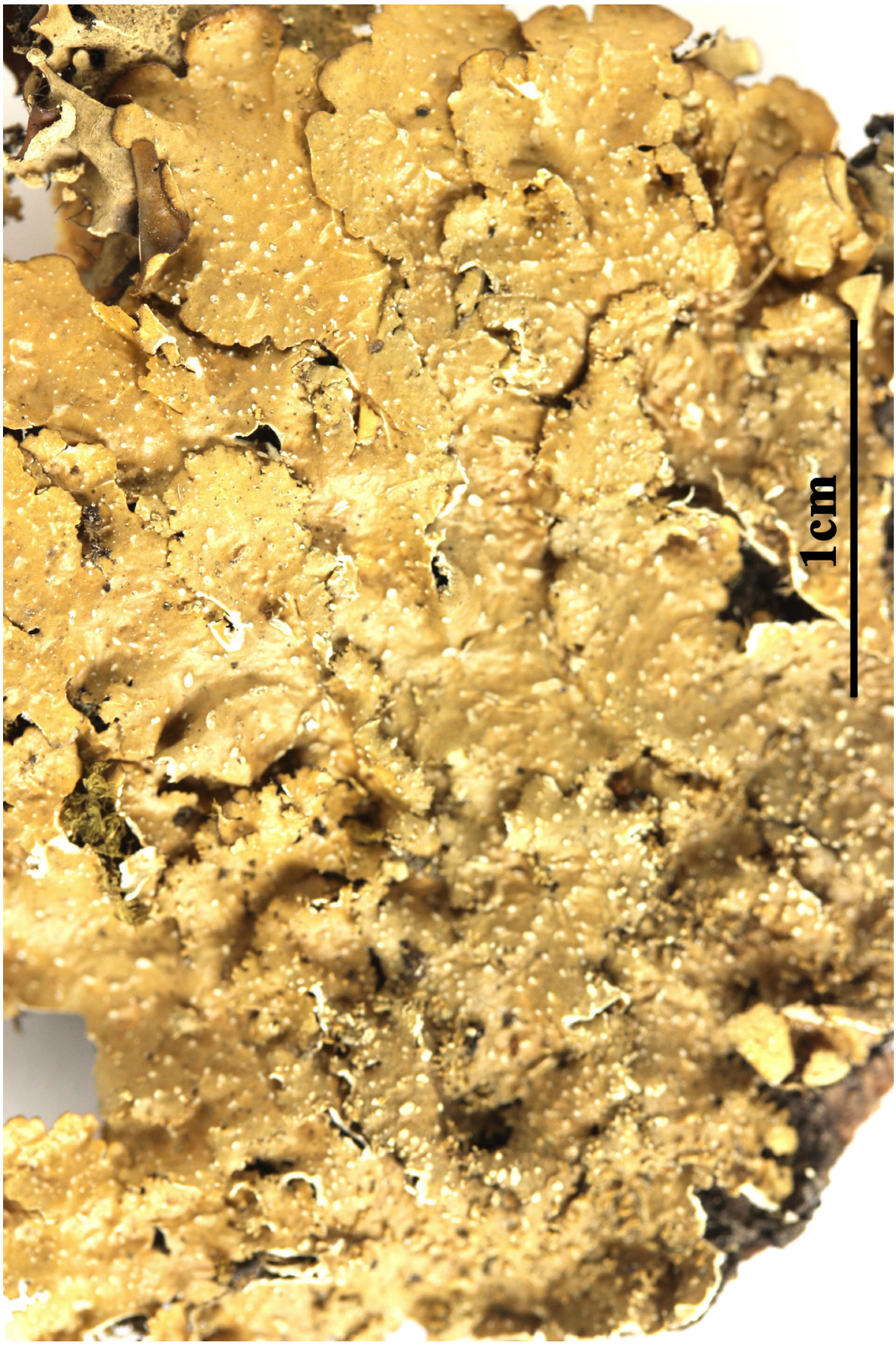


Pseudocyphellaria crocata

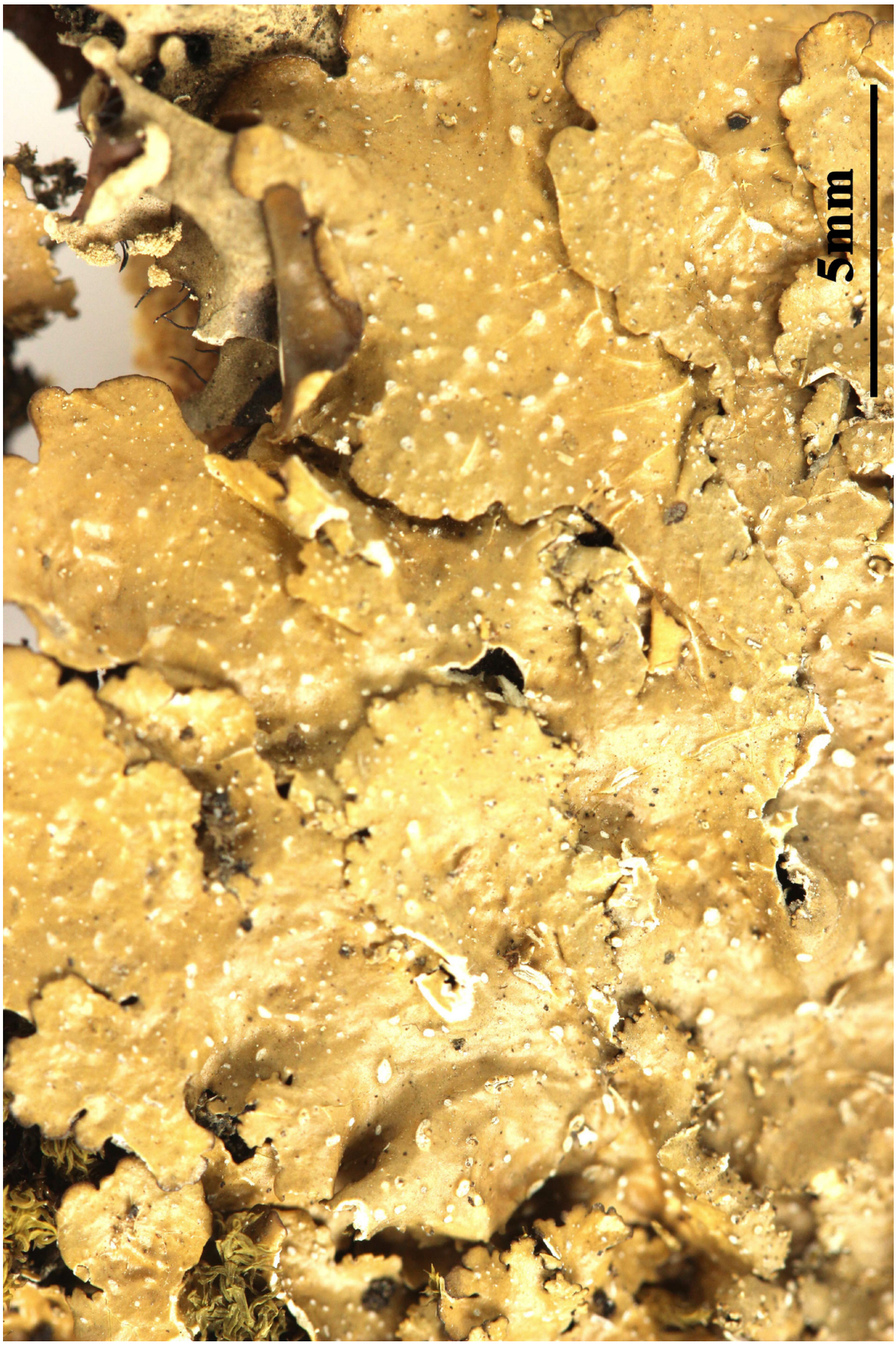
Punctelia rudecta (Ach.) Krog, Nordic J. Bot. 2(3): 291 (1982)
= *Parmelia rudecta* Ach. 1814

[OH517], Japan. Honshu. Prov. Shinano (Pref. Nagano): Yomikaki, Nagiso-machi, Kiso-gun. On bark of *Cerasus* x *yedoensis*, 430 m. Leg. M. Inoue (no. 26148), 3.1996, det. Y. Ohmura. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 517.

Thallus adnate to loosely attached, grey to greenish grey, often with a very narrow, brown marginal zone. Centre of thallus rugose and ridged, ridges usually extending to the peripheral lobes. Pseudocyphellae small, punctiform or elongate, often developing into effigurate fissures. Under side pale brown with long, slender, white or concolorous rhizines. Isidia laminal, often crowded, cylindrical, simple or coralloid, with glossy cortex and dark brown tips, interspersed with phyllidia, or only phyllidia present. Apothecia fairly common, with pseudocyphellate thalline exciple, with or without isidia. Spores subglobose or broadly ellipsoid, 15 X 10-12 f,tm. Pycnoconidia unciform, 5-7 f,tm long. . CHEMISTRY: Lecanoric acid (C+ red), atranorin. ECOLOGY: Corticolous, rarely saxicolous, in natural and artificial habitats, widespread and common between 1500 and 2800 m alt. DISTRIBUTION: Widespread in tropical and temperate regions of the northern and southern hemispheres.



Punctelia rudecta

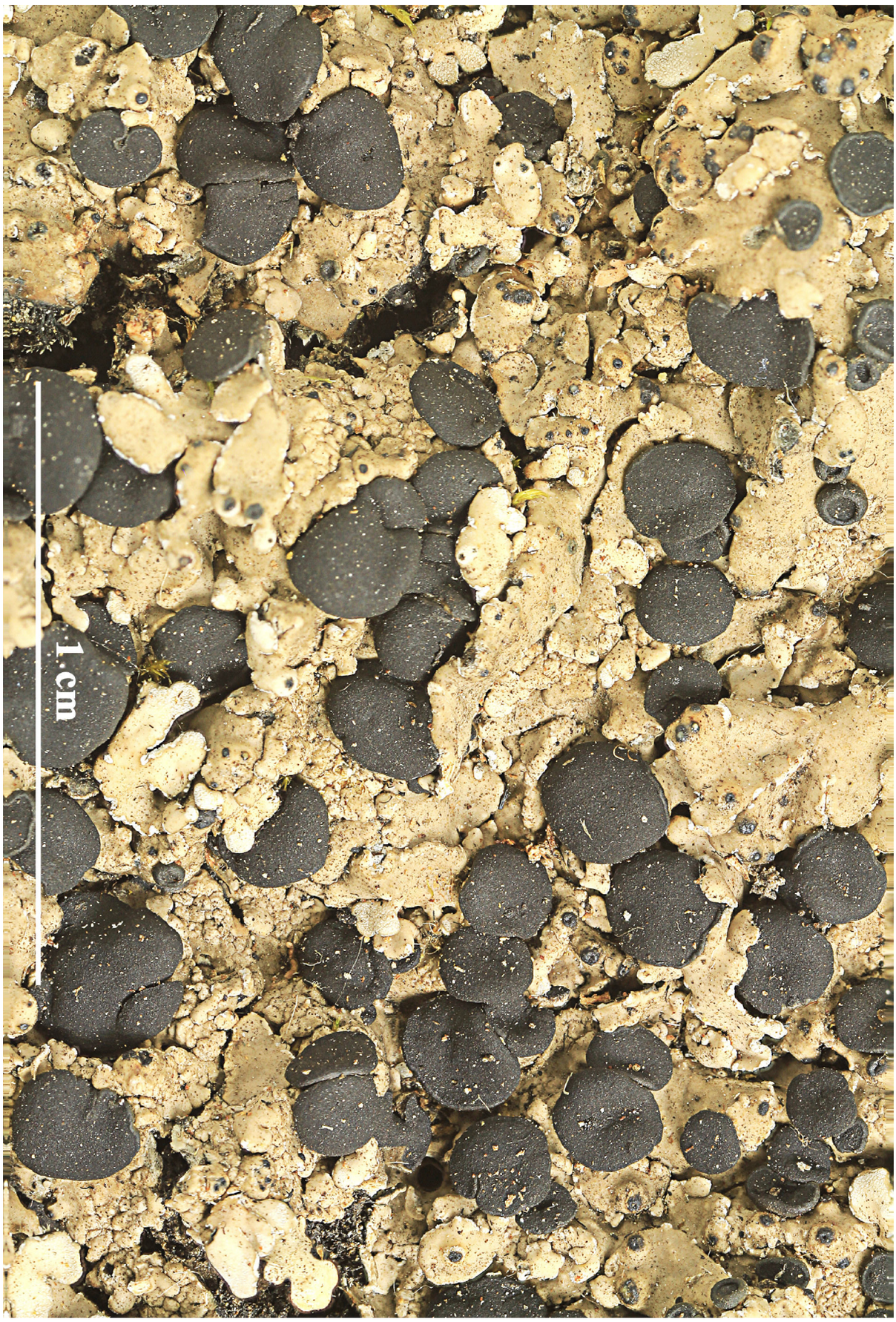


Punctelia rudecta

Pyxine endochrysina Nyl., Lich. Japon.: 34 (1890)

[OH644], Russia. Primorsky Territory: Khasansky District (43°05'55" N, 131°31'34" E). On trunc of fallen *Abies* sp., 175 m. Leg. Y Ohmura (11959), 09.06.2015, det. Y. Ohmura. EX Y. OHMURA LICHENES MINUS COGNITI NR. 644.

Thallus 3–8 cm wide, adnate to loosely adnate, subdichotomously lobate. Lobes radiating, contiguous to imbricate, plane to slightly concave, 0.6–1.3 mm wide, subrotund to truncate at the apices. Upper surface yellowish grey to brownish grey, lead grey or blue-grey, distinctly pruinose, the pruina punctiform towards the lobe apices; dactyls and soredia absent. Pseudocyphellae distinct at the margins, often grey-pruinose and becoming reticulate. Isidia marginal, nodulose to squamulose or lobulate, not branched, fragile and readily eroded, not sorediate. Medulla lemon-yellow to yellow-brown or yellow-orange above; lower part white. Lower surface black in the centre, paler towards the margin; rhizines ±dense, black to blue-black, furcate. Apothecia very rare, obscurascens-type, 0.5–1.5 mm wide; disc epruinose. Internal stipe distinct; upper part dark orange, K+ crimson, P–; lower part whitish, K–, P–. Ascospores 14–19 × 6–8 μm. Conidia bacilliform, 3–4 × c. 1 μm. CHEMISTRY: Cortex K+ yellow or K–, C–, KC–, P+ pale yellow or P–, UV–; medulla K–, C–, P–; containing atranorin (minor or trace), chloroatranorin (trace), unknown terpenes (major), unknown pigment (minor). - On rock in hinterland rainforest in Australia, Africa, Asia and Micronesia.



Pyxine endochrysina

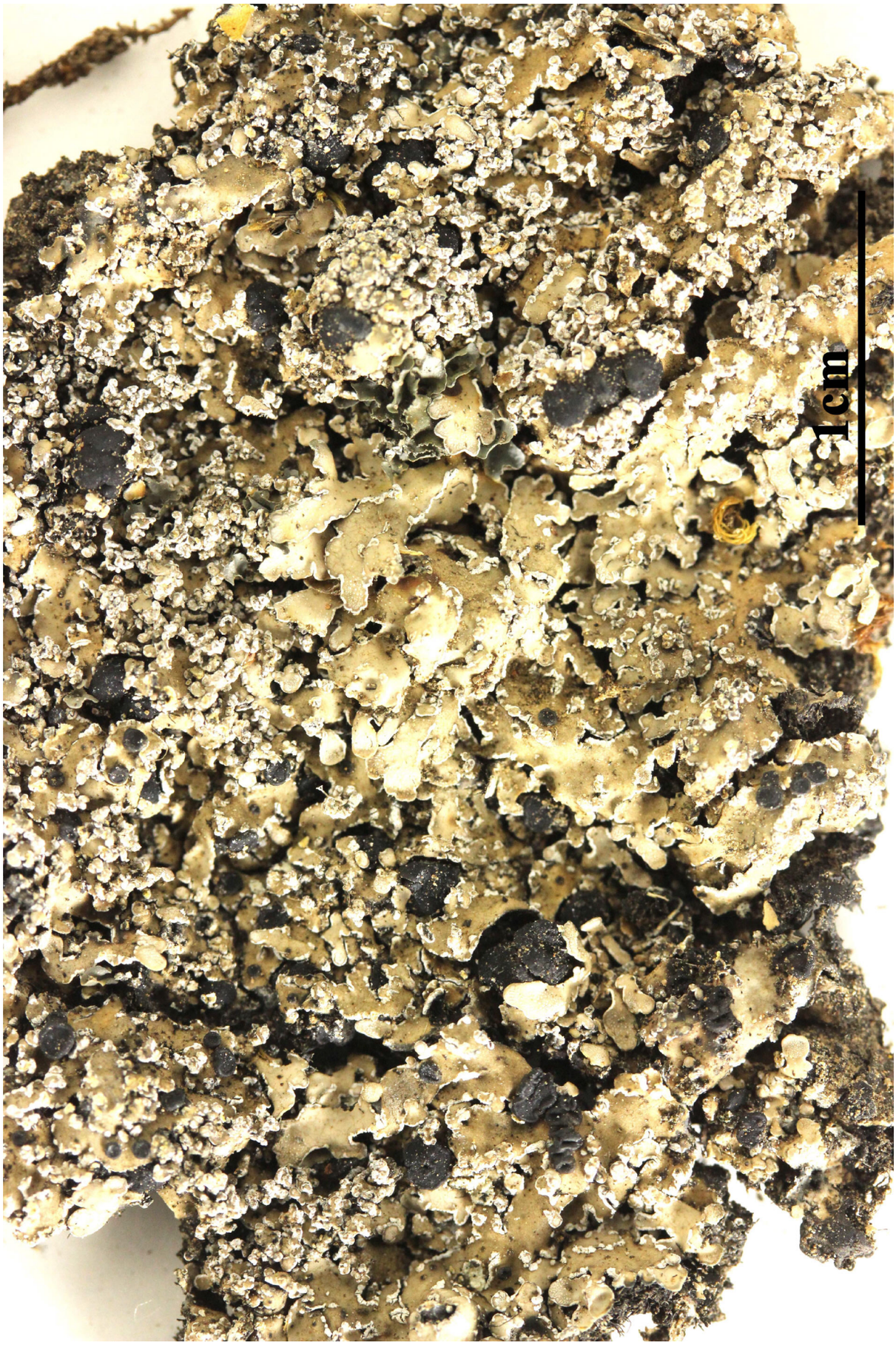


Pyxine endochrysina

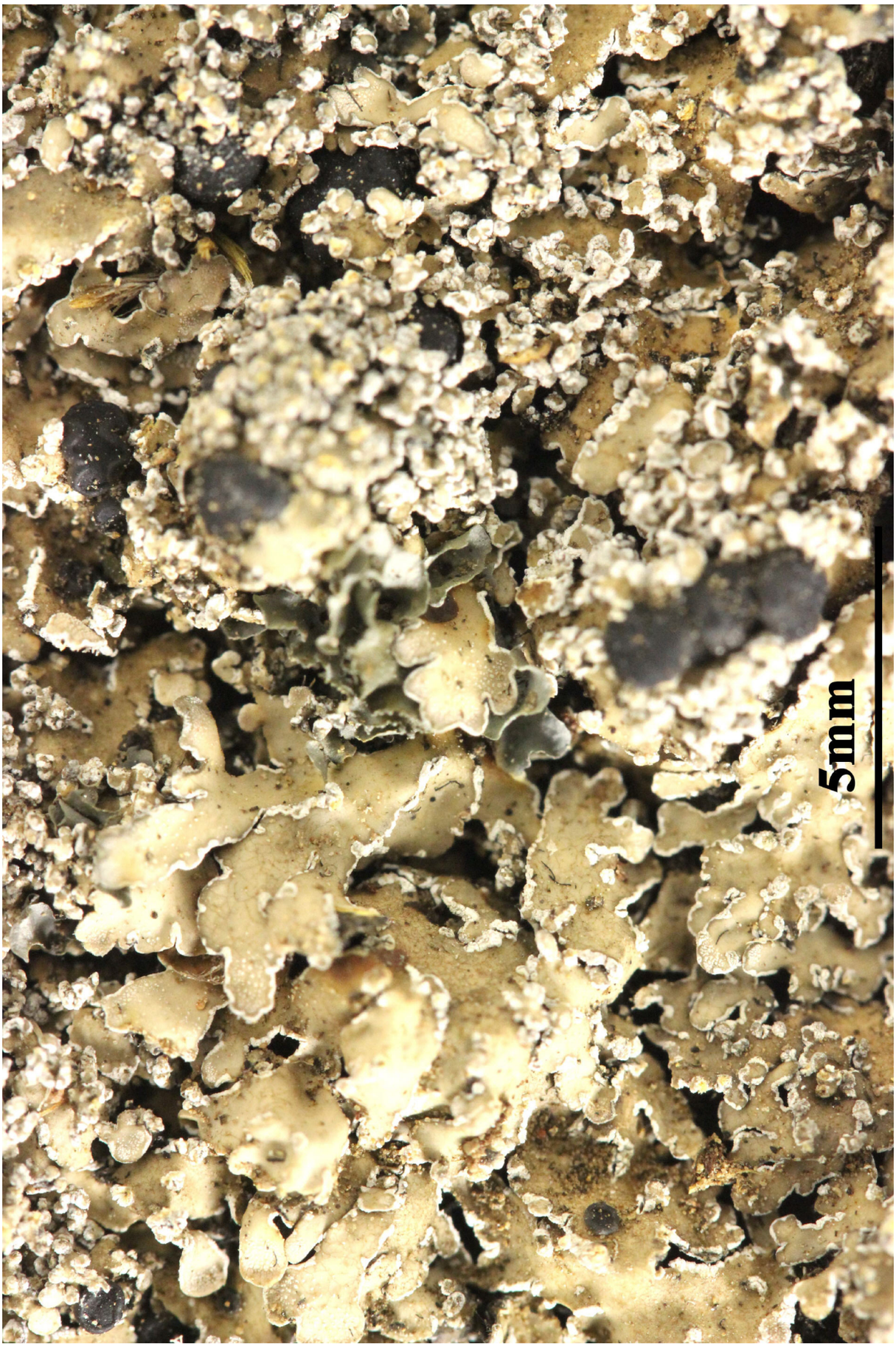
Pyxine endochrysina Nyl., Lich. Japon.: 34 (1890)

[KU284], Japan. Honshu. Prov. Kii: Cape Kuki, Kuki. Leg. S. Kurokawa (no. 59089), 8.6.1959, det. H. Kashiwadani. EX S. KUROKAWA LICHENES RARIORES ET CRITICI EXSICCATI NR. 284.

Thallus 3–8 cm wide, adnate to loosely adnate, subdichotomously lobate. Lobes radiating, contiguous to imbricate, plane to slightly concave, 0.6–1.3 mm wide, subrotund to truncate at the apices. Upper surface yellowish grey to brownish grey, lead grey or blue-grey, distinctly pruinose, the pruina punctiform towards the lobe apices; dactyls and soredia absent. Pseudocyphellae distinct at the margins, often grey-pruinose and becoming reticulate. Isidia marginal, nodulose to squamulose or lobulate, not branched, fragile and readily eroded, not sorediate. Medulla lemon-yellow to yellow-brown or yellow-orange above; lower part white. Lower surface black in the centre, paler towards the margin; rhizines ±dense, black to blue-black, furcate. Apothecia very rare, obscurascens-type, 0.5–1.5 mm wide; disc epruinose. Internal stipe distinct; upper part dark orange, K+ crimson, P–; lower part whitish, K–, P–. Ascospores 14–19 × 6–8 μm. Conidia bacilliform, 3–4 × c. 1 μm. CHEMISTRY: Cortex K+ yellow or K–, C–, KC–, P+ pale yellow or P–, UV–; medulla K–, C–, P–; containing atranorin (minor or trace), chloroatranorin (trace), unknown terpenes (major), unknown pigment (minor). - On rock in hinterland rainforest in Australia, Africa, Asia and Micronesia.



Pyxine endochrysina

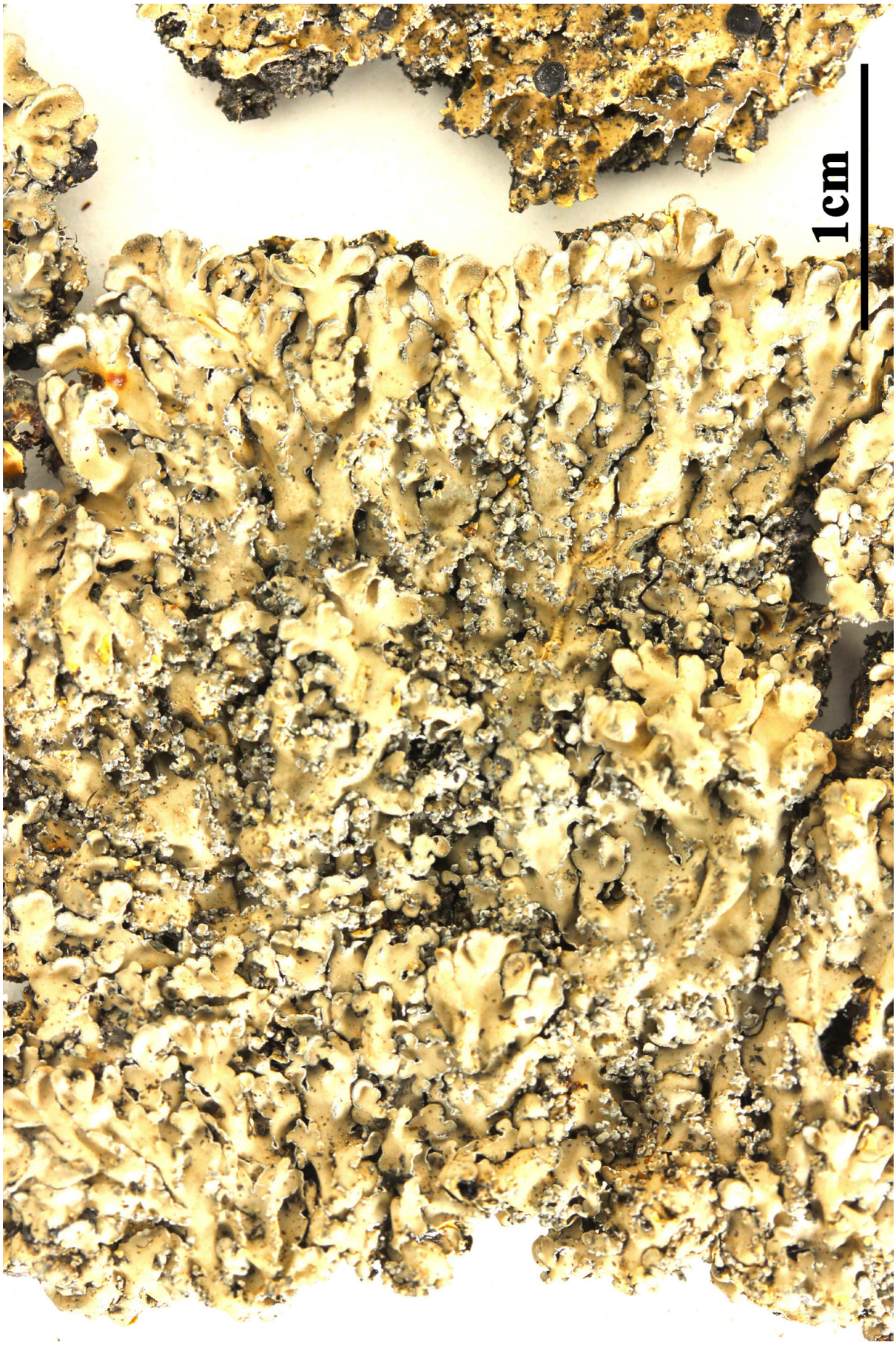


Pyxine endochrysina

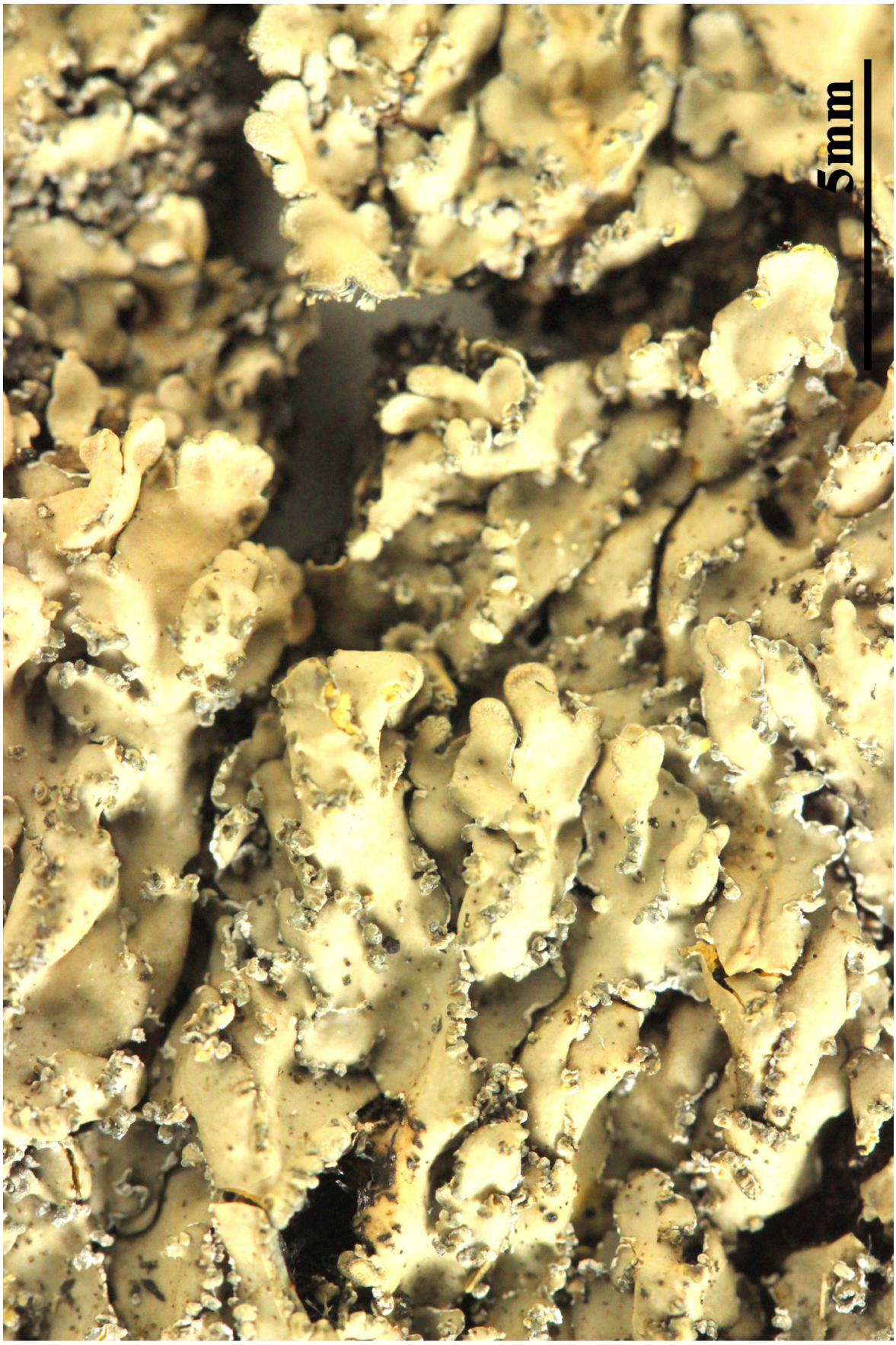
Pyxine endochrysina Nyl., Lich. Japon.: 34 (1890)

[KU382], Japan. Shikoku. Prov. Awa: Tai,Hiwasa-cho, Kaifu-gun. On rocks, 2 m. Leg. H. Kashiwadani (no. 14380), 28.3.1978, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 382.

Thallus 3–8 cm wide, adnate to loosely adnate, subdichotomously lobate. Lobes radiating, contiguous to imbricate, plane to slightly concave, 0.6–1.3 mm wide, subrotund to truncate at the apices. Upper surface yellowish grey to brownish grey, lead grey or blue-grey, distinctly pruinose, the pruina punctiform towards the lobe apices; dactyls and soredia absent. Pseudocyphellae distinct at the margins, often grey-pruinose and becoming reticulate. Isidia marginal, nodulose to squamulose or lobulate, not branched, fragile and readily eroded, not sorediate. Medulla lemon-yellow to yellow-brown or yellow-orange above; lower part white. Lower surface black in the centre, paler towards the margin; rhizines ±dense, black to blue-black, furcate. Apothecia very rare, obscurascens-type, 0.5–1.5 mm wide; disc epruinose. Internal stipe distinct; upper part dark orange, K+ crimson, P–; lower part whitish, K–, P–. Ascospores 14–19 × 6–8 μm. Conidia bacilliform, 3–4 × c. 1 μm. CHEMISTRY: Cortex K+ yellow or K–, C–, KC–, P+ pale yellow or P–, UV–; medulla K–, C–, P–; containing atranorin (minor or trace), chloroatranorin (trace), unknown terpenes (major), unknown pigment (minor). - On rock in hinterland rainforest in Australia, Africa, Asia and Micronesia.



Pyxine endochrysina



Pyxine endochrysina

Pyxine limbulata Müll. Arg., Flora, Regensburg 71: 112 (1888)

[KW317], Japan, Kyushu. Prov. Bungo (Pref. Ohita): Shiramizu Hot Spring, Shonai-cho, Ohita-gun. On bark of *Quercus acutissima*, 760 m. Leg. H. Kashiwadani (45012) & Y. Umezo & K. Umezo, 22.10.2002, det. H. Kashiwadani. EX H. KASHIWADANI: LICHENES MINUS COGNITI EXSICCATI NR. 317.

Thallus whitish to grey (herbarium specimens can be pale yellowish-brown), up to 14 cm in diam., consisting of radiating, elongated, unequally branched lobes (1.5–2(–3) mm wide), which are slightly concave at their growth tips and sometimes transversely cracked in central parts. Pseudocyphellae distinct, at the margin of the lobes. Lobes when young often with spotted, white pruina, but in some specimens, pruinose lobes are very scarce. Older portions of the lobes (= inner part of the thallus) epruinose or pruinose (in the latter case the pruina is not spotted but forms a thin, rather homogeneous whitish layer). Soralia or isidia-like structures absent (but from the radial margins of the main lobes, secondary lobules may be produced, these with a rather narrow base [less than 0.5 mm]). Medulla yellowish-ochraceous (a cut of the thallus shows a ±homogenous colouration), colour sometimes very weak, KOH gives no colour reaction. Apothecia mostly well developed, up to 2 mm in diam., either flat with a distinct and relatively thick margin, or (in older or regenerating specimens) strongly convex and without a visible margin. Epithecium greyish-black, KOH+ lilac. Hymenium colourless. Hypothecium developed as a rather thin, dark brown layer, KOH- (or a slightly intensifying brownish). Subhypothecial area (stipe) rather thick, reddish brown or yellowish brown in upper portions, KOH+ distinctly reddish-purple (not lilac), in lower portions almost colourless or faintly yellowish, KOH-. Basal part of the apothecium developed as all other parts of the medulla (colourless or slightly yellow in cross-section view, KOH-). Ascospores 17–25[27] x 7–9[11] µm, spore size variable in the same apothecium but hardly variable in the same ascus many spores with paler tips at both ends. Pycnidia laminal or submarginal, mostly sunken into the thallus, only the blackish, K+ lilac ostiole slightly raised. Conidia slightly asymmetric bifusiform with two unequal swellings, the broader one near the short stalk (where the conidium connects to the conidiophore) the smaller one apical, 3.5–4 x 1 µm [at the constricted area]–1.2 µm [at the swollen area]. Chemistry: Atranorin always only in trace

amounts, at least 2 yellowish pigments, a set of terpenoids (two or three of them in high concentrations), and unknown substances which are visible in long-wave UV after treatment with sulfuric acid.



Pyxine limbulata



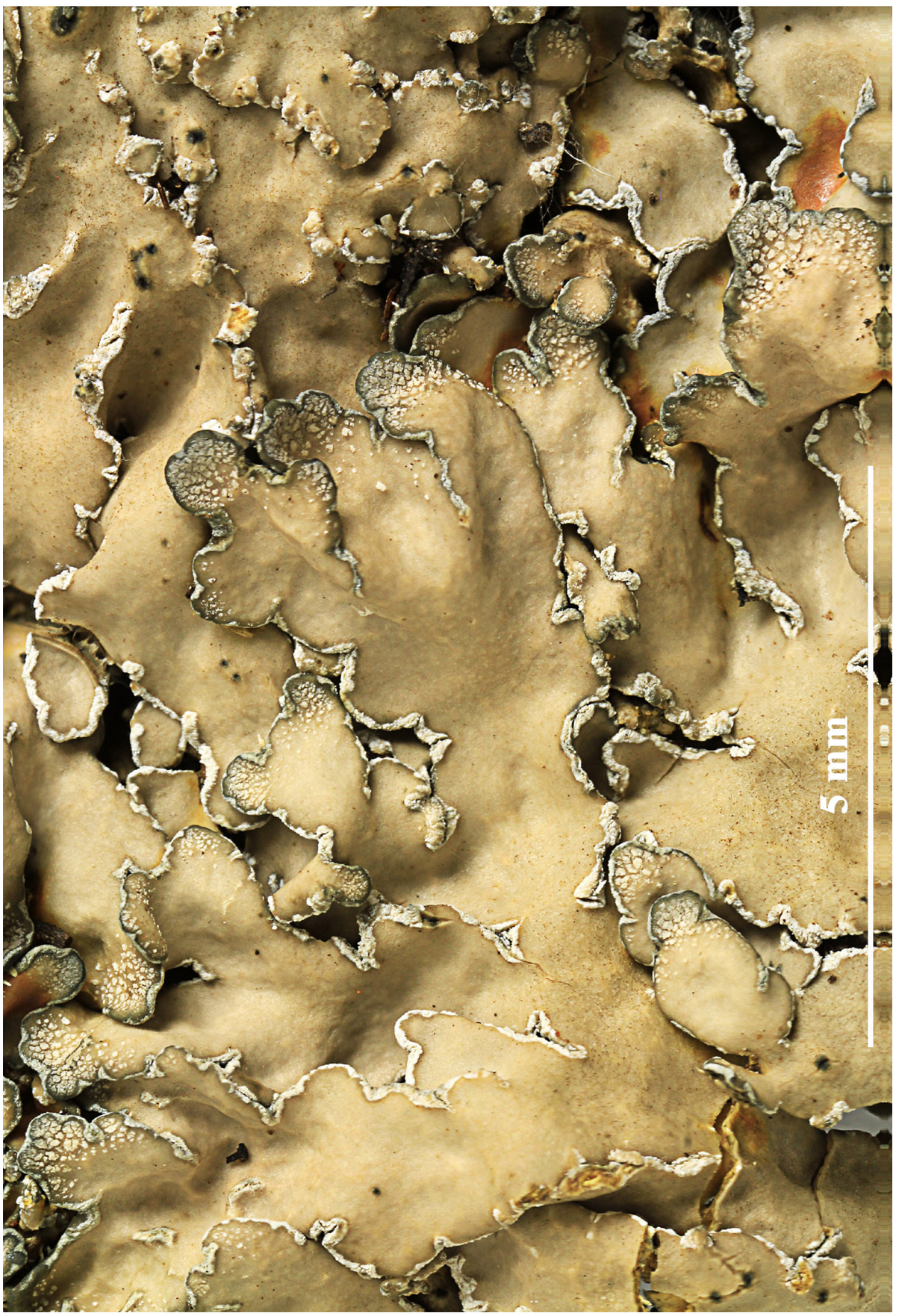
Pyxine limbulata

Pyxine limbulata Müll. Arg., Flora, Regensburg 71: 112 (1888)

[OH645], Japan. Honshu. Prov. Bizen (Okayama Pref.): Ohtahara. Wake-cho, Wake-gun (34°48'04" N, 134°08'59" E). On rock; 181 m. Leg. M. Sugumoto (585), 19.03.2019, det. M. Sugimoto & Y, Ohmura. EX Y. OHMURA: LICHENES MINUS COGNITI EXSICCATI NR. 645.

Thallus whitish to grey (herbarium specimens can be pale yellowish-brown), up to 14 cm in diam., consisting of radiating, elongated, unequally branched lobes (1.5–2(–3) mm wide), which are slightly concave at their growth tips and sometimes transversely cracked in central parts. Pseudocyphellae distinct, at the margin of the lobes. Lobes when young often with spotted, white pruina, but in some specimens, pruinose lobes are very scarce. Older portions of the lobes (= inner part of the thallus) epruinose or pruinose (in the latter case the pruina is not spotted but forms a thin, rather homogeneous whitish layer). Soralia or isidia-like structures absent (but from the radial margins of the main lobes, secondary lobules may be produced, these with a rather narrow base [less than 0.5 mm]). Medulla yellowish-ochraceous (a cut of the thallus shows a ±homogenous colouration), colour sometimes very weak, KOH gives no colour reaction. Apothecia mostly well developed, up to 2 mm in diam., either flat with a distinct and relatively thick margin, or (in older or regenerating specimens) strongly convex and without a visible margin. Epithecium greyish-black, KOH+ lilac. Hymenium colourless. Hypothecium developed as a rather thin, dark brown layer, KOH- (or a slightly intensifying brownish). Subhypothecial area (stipe) rather thick, reddish brown or yellowish brown in upper portions, KOH+ distinctly reddish-purple (not lilac), in lower portions almost colourless or faintly yellowish, KOH-. Basal part of the apothecium developed as all other parts of the medulla (colourless or slightly yellow in cross-section view, KOH-). Ascospores 17–25[27] x 7–9[11] µm, spore size variable in the same apothecium but hardly variable in the same ascus many spores with paler tips at both ends. Pycnidia laminal or submarginal, mostly sunken into the thallus, only the blackish, K+ lilac ostiole slightly raised. Conidia slightly asymmetric bifusiform with two unequal swellings, the broader one near the short stalk (where the conidium connects to the conidiophore) the smaller one apical, 3.5–4 x 1 µm [at the constricted area]–1.2 µm [at the swollen area]. Chemistry: Atranorin always only in trace amounts, at least 2 yellowish pigments, a set of terpenoids (two or three

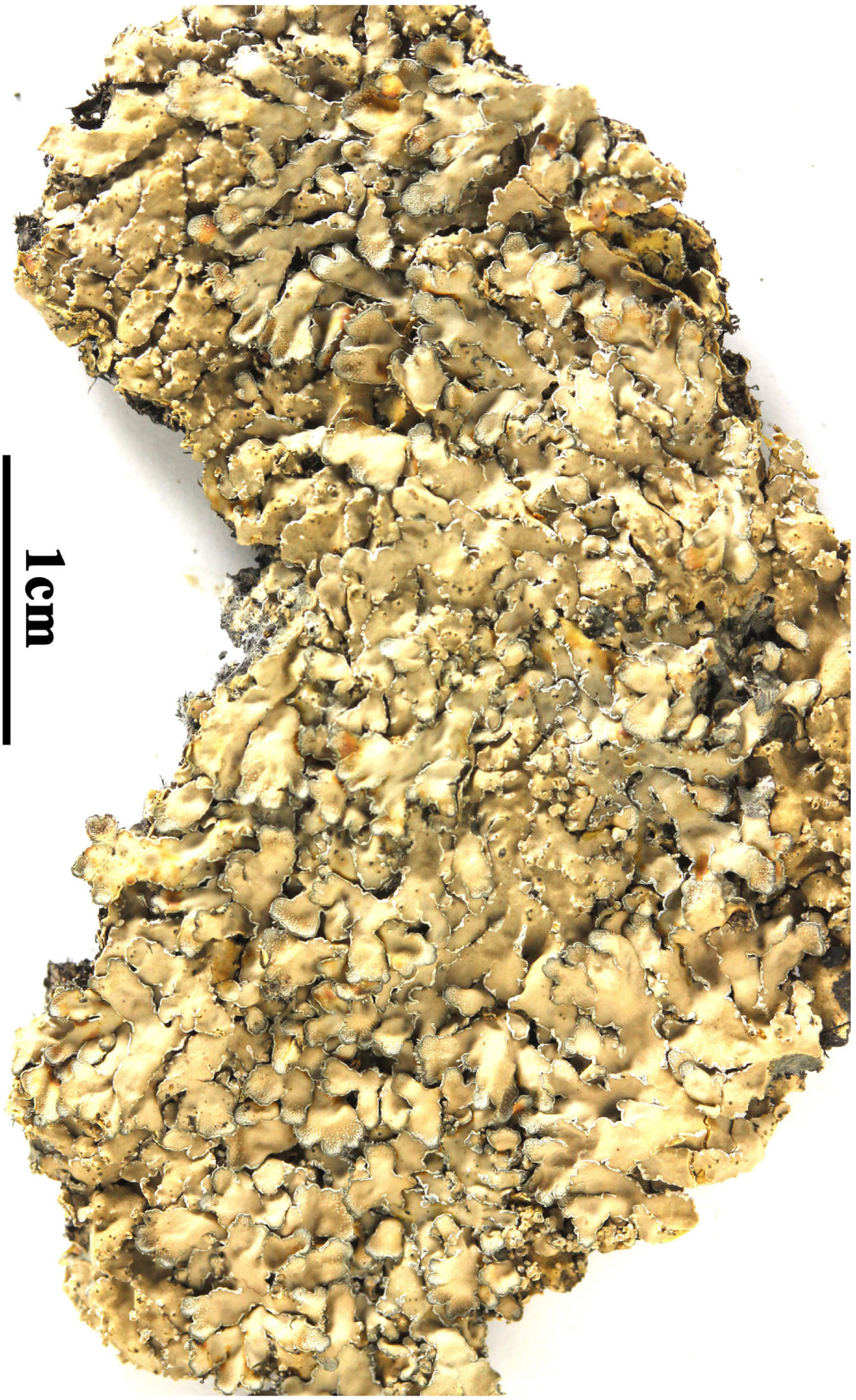
of them in high concentrations), and unknown substances which are visible in long-wave UV after treatment with sulfuric acid.



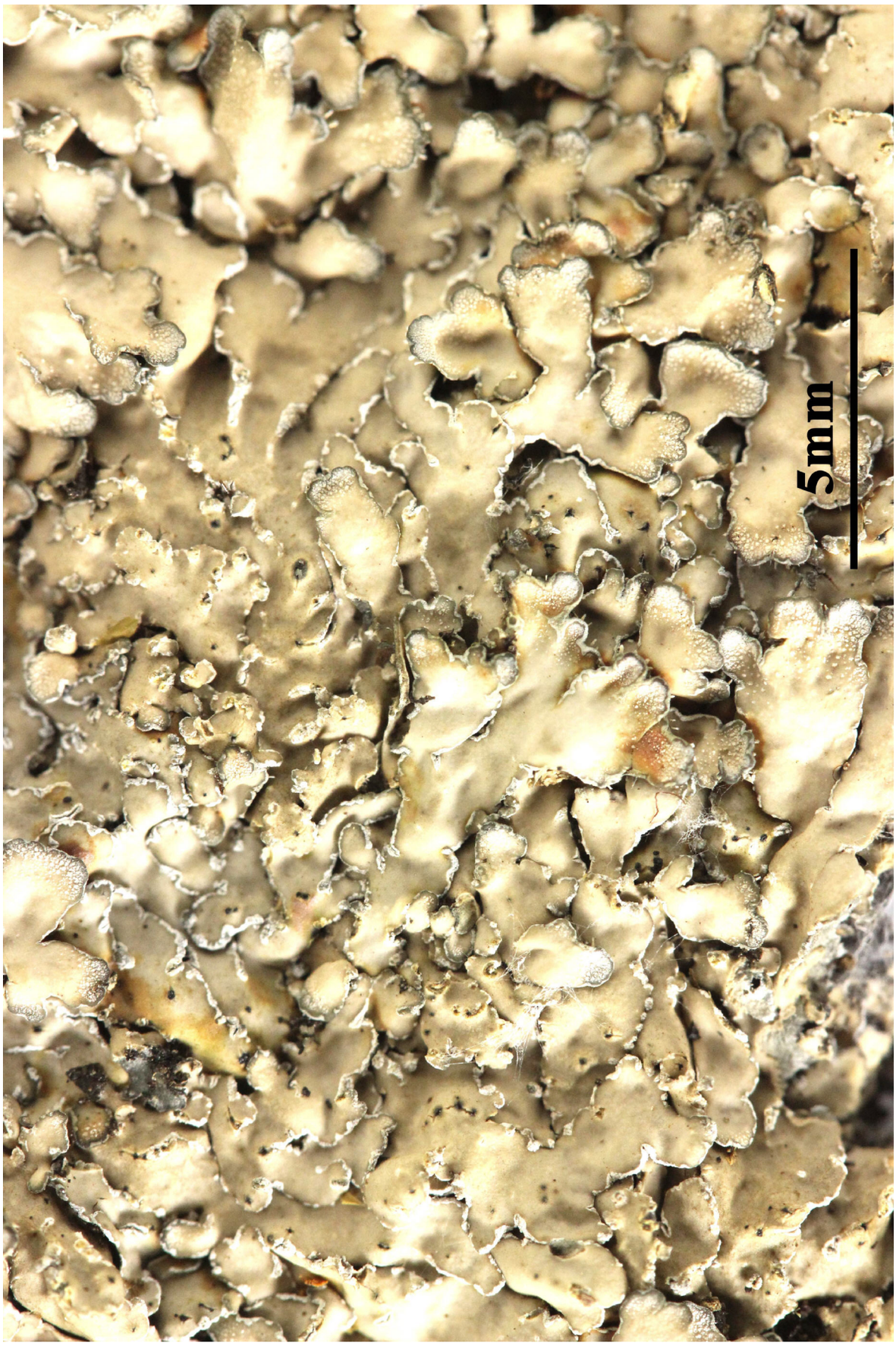
Pyxine limbulata



Pyxine limbulata



Pyxine limbulata



Pyxine limbulata

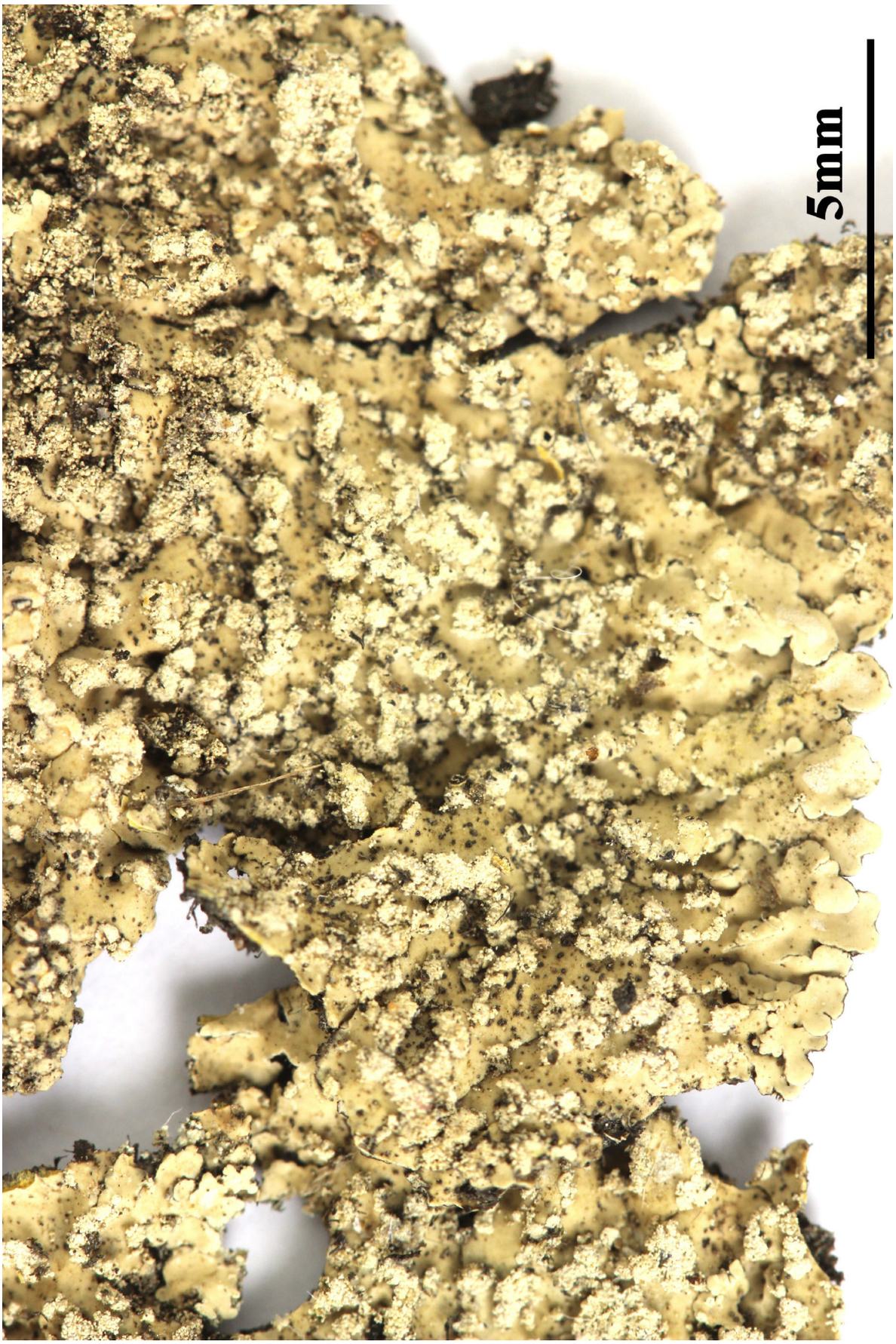
Pyxine subcinerea Stirt., Trans. Proc. N.Z. Inst. 30: 397 (1898) [1897]

[KU383], Japan. Shikoku. Prov Awa: Wajiki, Naka-gun. On rocks, 60 m. Leg. H. Kashiwadani (no 14324), 26.3.1978, det. H. Kashiwadani. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr. 383.

Thallus foliose, heteromerous, dorsiventral, rather firmly attached, sorediate, forming orbicular, 3-5(-8) cm wide rosettes. Lobes flat to slightly concave, 0.3-0.6 mm wide, grey to brownish grey, sometimes pruinose (the pruina forming distinct patches), rarely with a faint network of laminal, linear pseudocyphellae, with initially marginal, fissural, later laminal, orbicular, convex soralia; soredia farinose. Lower surface black in central parts, paler at margins, with black, furcate rhizines. Upper cortex paraplectenchymatous; medulla lemon-yellow to creamy yellow in upper part, white in lower part; lower cortex prosoplectenchymatous. Apothecia lecideine, very rare (not seen in Italian material), laminal, 0.3-1.5 mm wide, with a black, epruinose disc, without a distinct thalline margin. Internal stipe poorly developed, brownish-red and K+ purple in upper part, paler and K- in lower part; proper exciple blackened; epithecium bluish black, K+ purple; hymenium colourless; paraphyses capitate; hypothecium brown. Asci 8-spored, clavate, Bacidia-type. Ascospores 1-septate, brown, ellipsoid, 13-19 x 6-8 µm. Pycnidia black, immersed. Conidia bacilliform, 3-4 x c. 1 µm. Photobiont chlorococcoid. Spot tests: upper cortex and medulla K-, C-, KC-, P-, UV+ yellow. Chemistry: upper cortex with lichexanthone; medulla with terpenes and an unknown pigment. - Note: a subtropical species.



Pyxine subcinerea



Pyxine subcinerea

Pyxine subcinerea Stirt., Trans. Proc. N.Z. Inst. 30: 397 (1898) [1897]

[12995], Spanien, Kanaren, La Palma (NE), Los Cancajos südlich von Santa Cruz, küstennahe Lavafelder beim Hotel Las Olas, 28°38.657' N, 17°45.544' W, ca. 30 m. Leg. F. Schumm, 16.01.2007, det. F. Schumm, 2007.- Thallus UVL+ intensiv leuchtend orange; Mark direkt unter der Markschicht gelblich. EX HERBARIO F. SCHUMM NR.12995

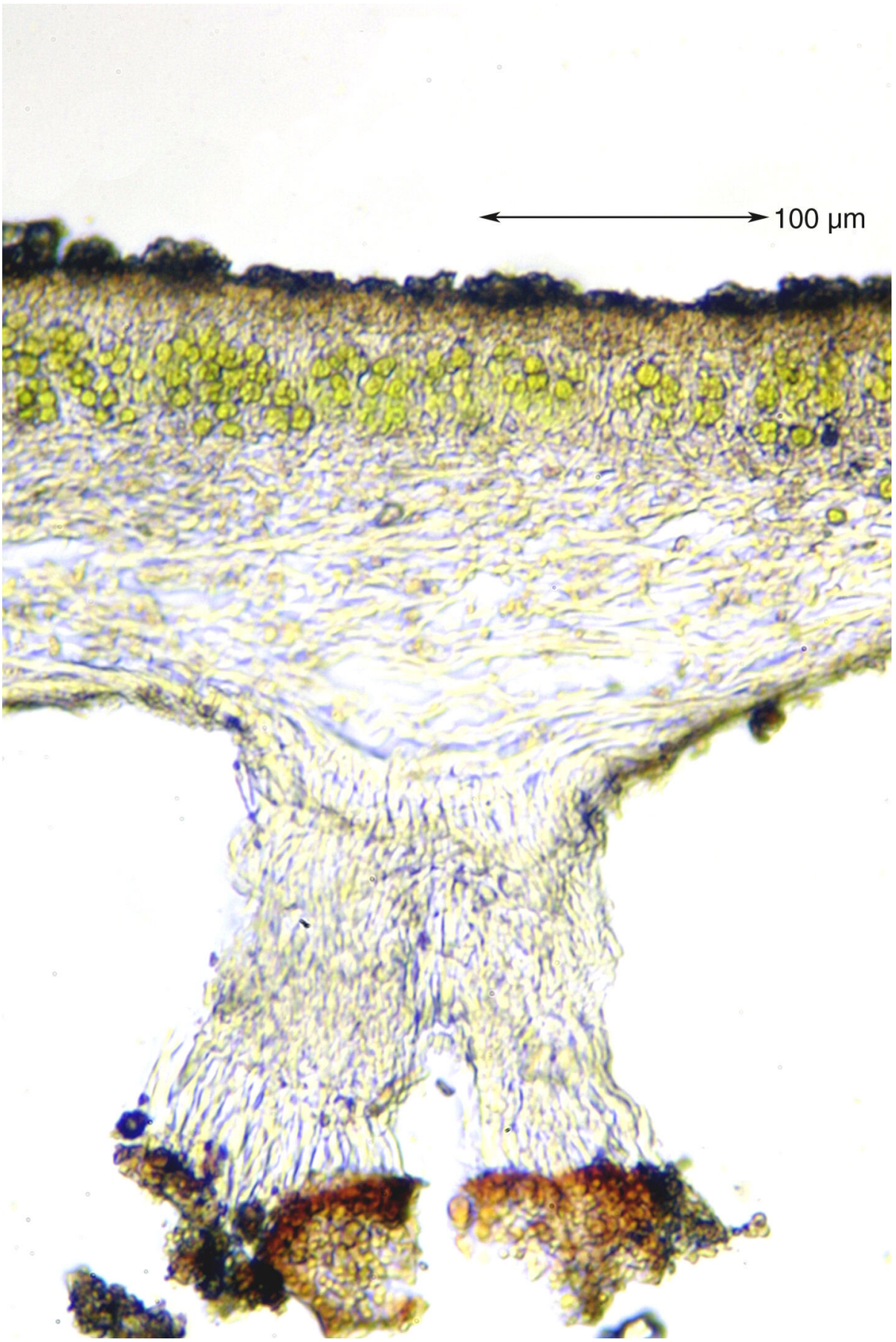
Thallus 3–8 cm wide, adnate to loosely adnate, subdichotomously lobate. Lobes radiating, contiguous to imbricate, plane but often slightly concave towards the tips, 0.3–1.5 mm wide, subrotund to subtruncate at the apices. Upper surface yellowish grey to grey to brownish grey or olive-grey, pruinose; pruina densely punctiform towards the lobe tips or forming larger plates within the thallus, often glistening; dactyls and isidia absent. Pseudocyphellae distinct at the margins, often spreading laminally, rarely reticulate. Soralia marginal or submarginal and linear, then laminal and punctiform, often coalescing; soredia farinose. Medulla very thin, yellow above, white below. Lower surface black in the centre, paler towards the margin; rhizines ±dense, furcate. Apothecia common, obscurascens-type, 0.3–1.5 mm wide; disc epruinose. Internal stipe indistinct; upper part red-brown, K+ purple, P–; lower part white, K–, P–. Ascospores 13–22 × 6–9 µm. Conidia bacilliform, 3–4 × c. 1 µm. Chemistry: Cortex K–, UV+ yellow; medulla K+ orange-red or purple, C–, KC–, P– or P+ orange-red; containing lichexanthone (major), triterpenes (major or minor), unknown pigment (minor or trace). - Occurs on rock, wood and bark in coastal and hinterland forest in Australia. This mainly pantropical species often extends into subtropical and temperate regions.



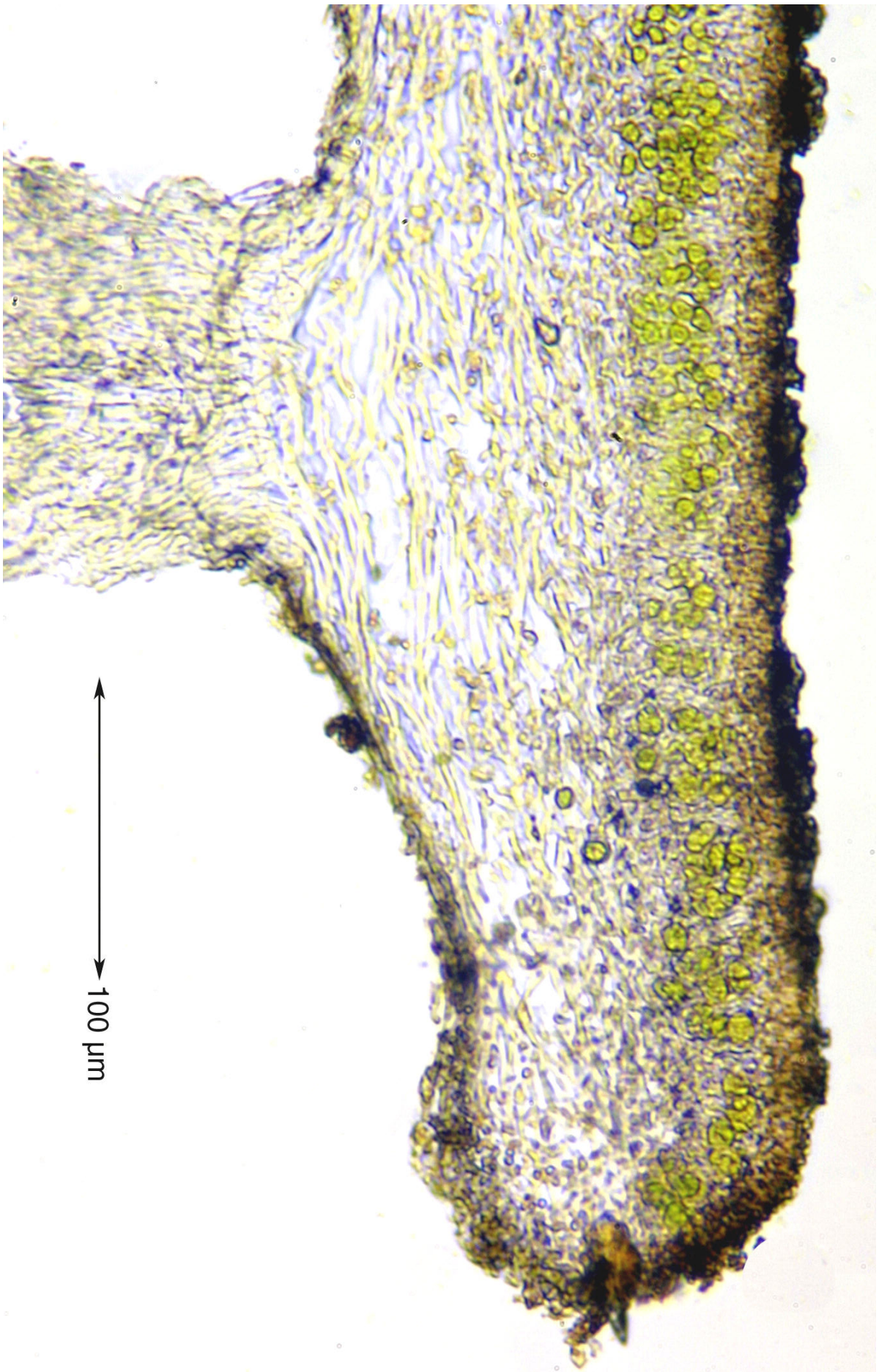
Pyxine subcinerea



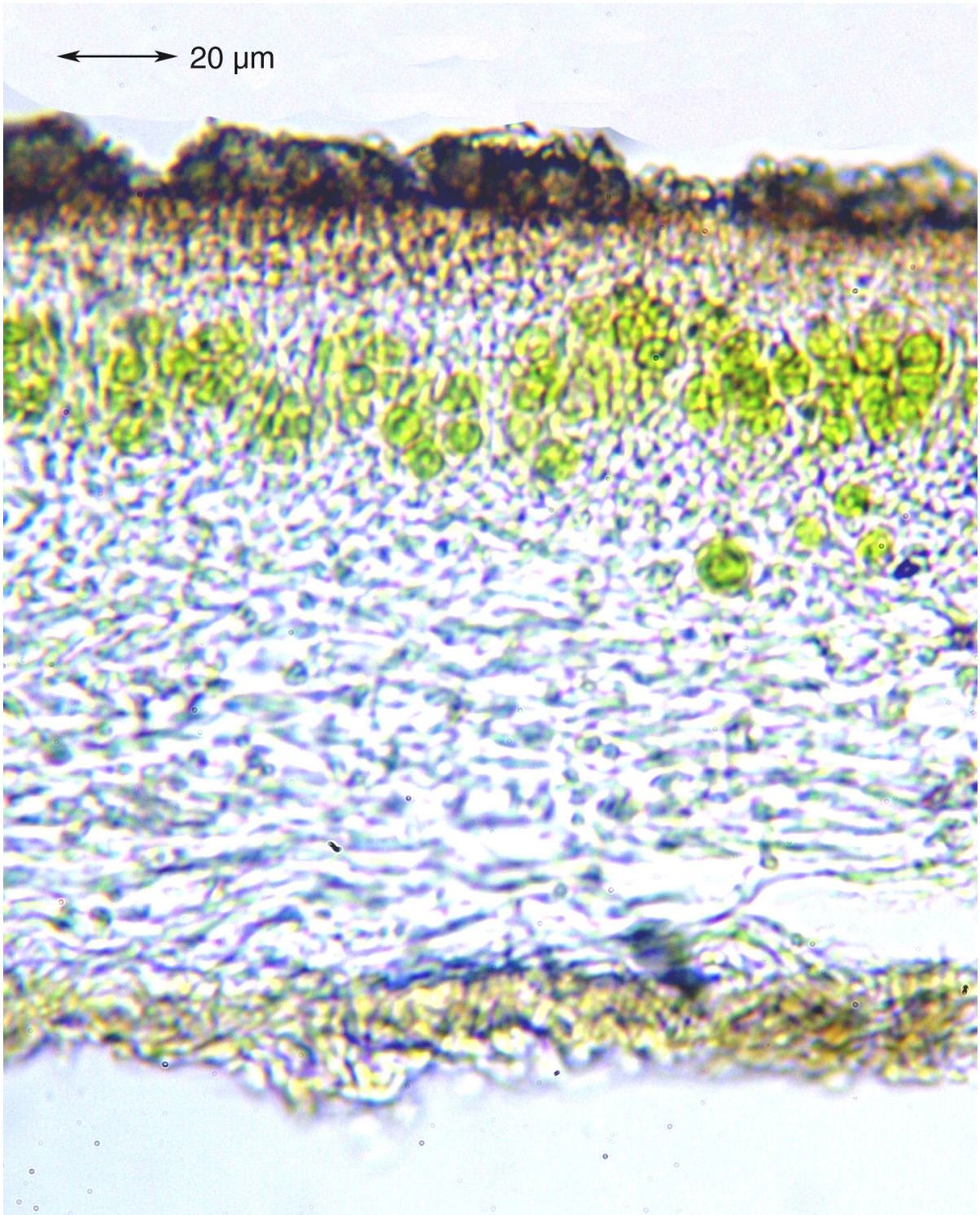
Pyxine subcinerea



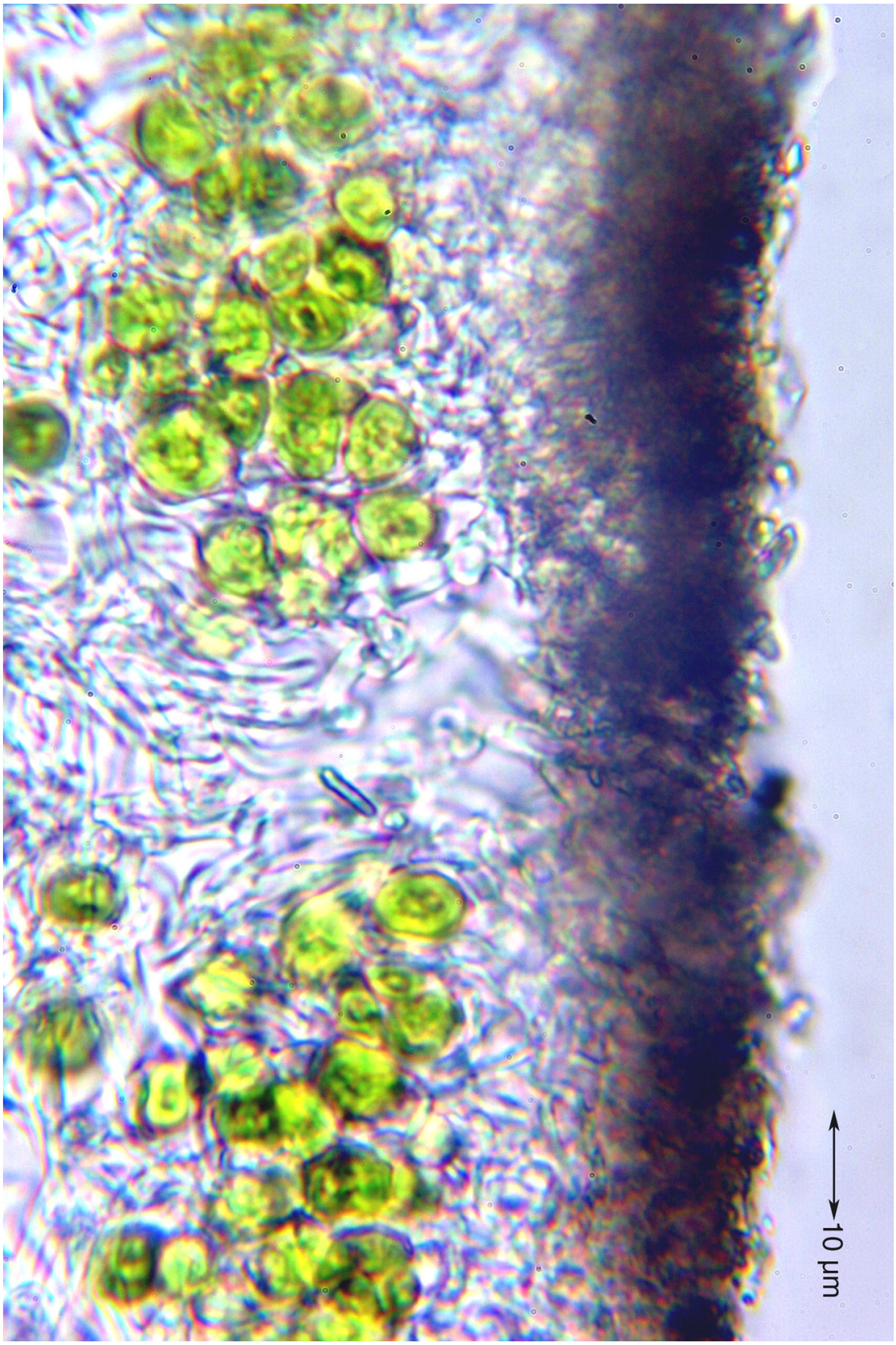
Pyxine subcinerea



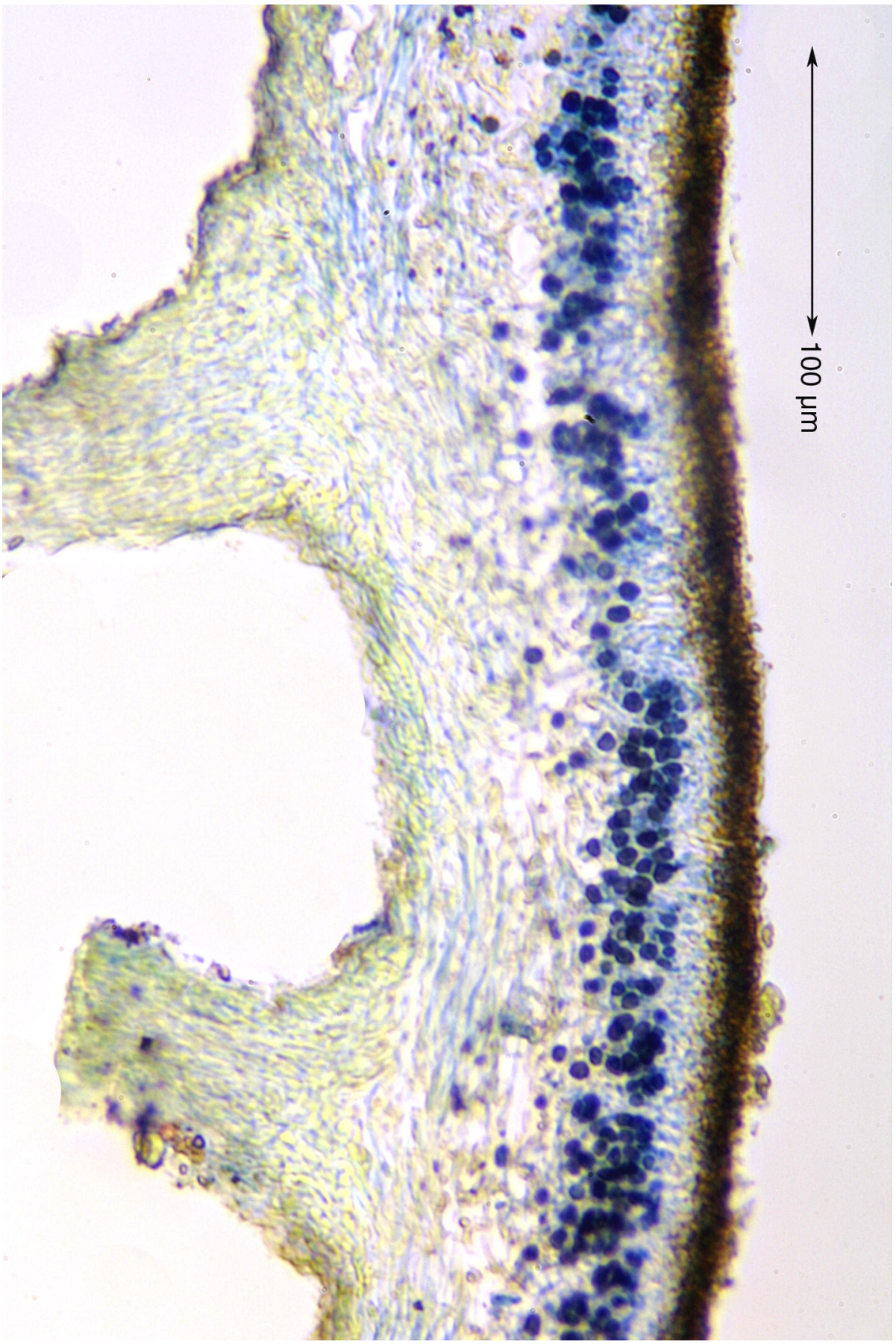
Pyxine subcinerea



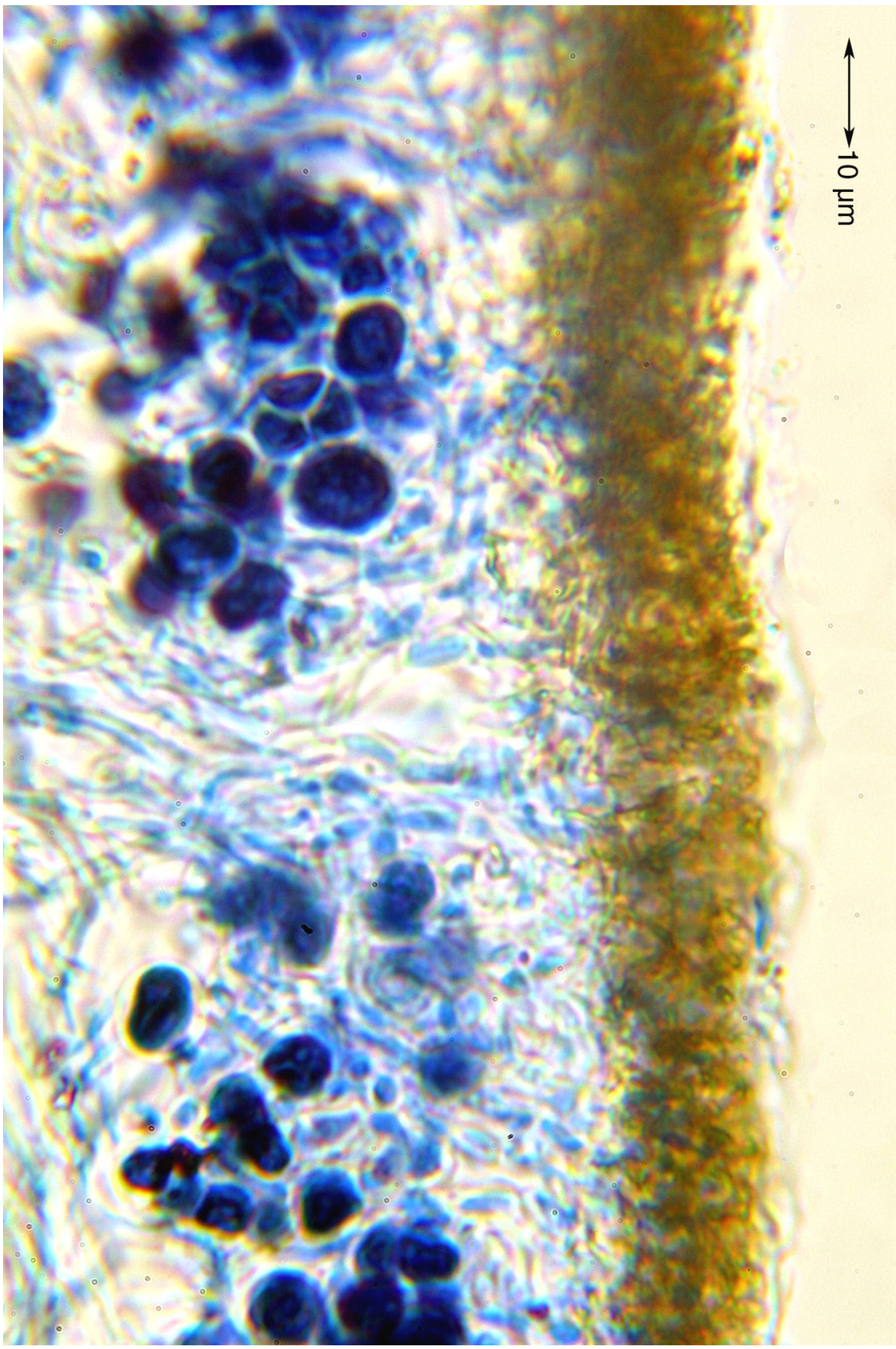
Pyxine subcinerea



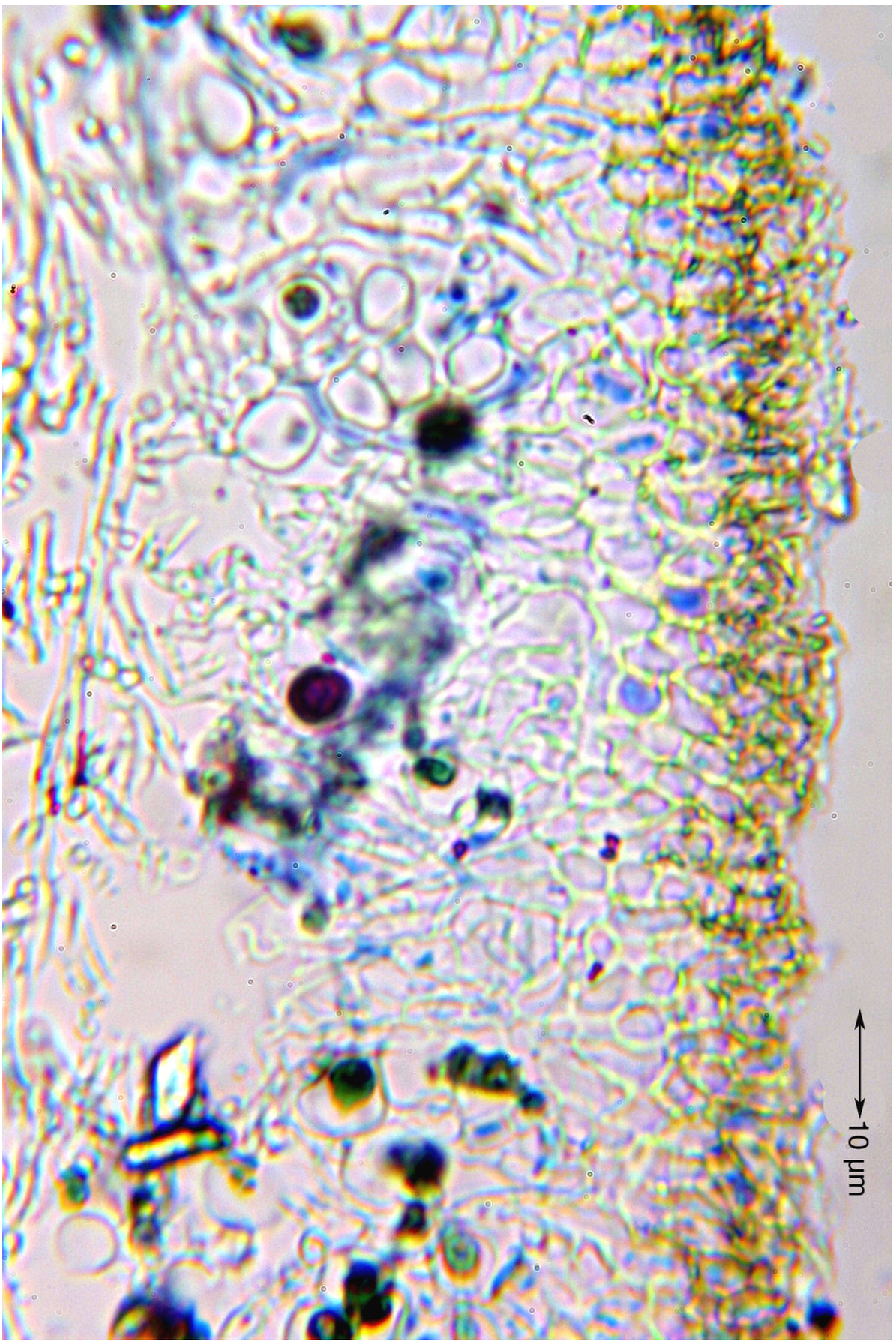
Pyxine subcinerea



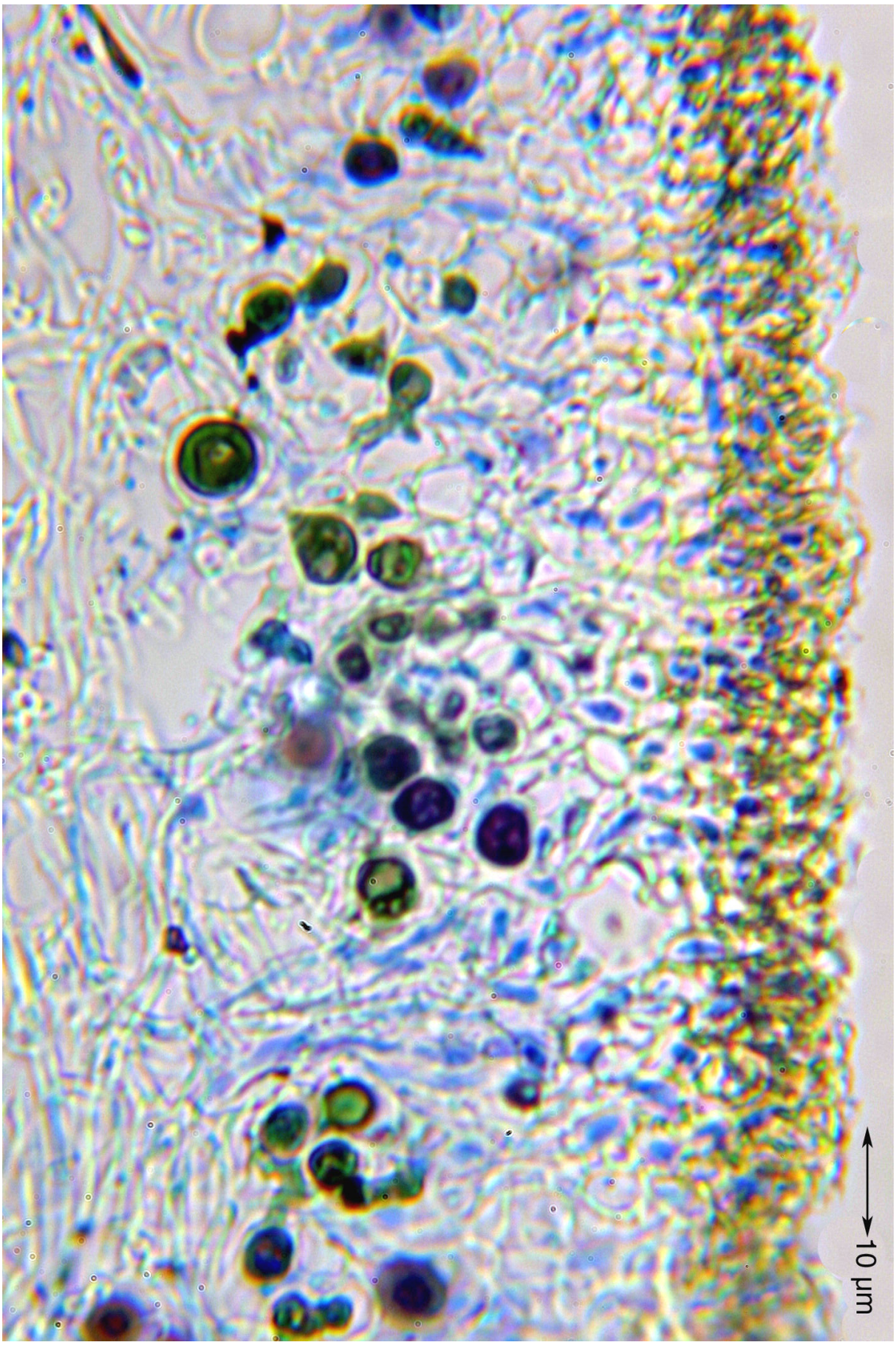
Pyxine subcinerea



Pyxine subcinerea



Pyxine subcinerea

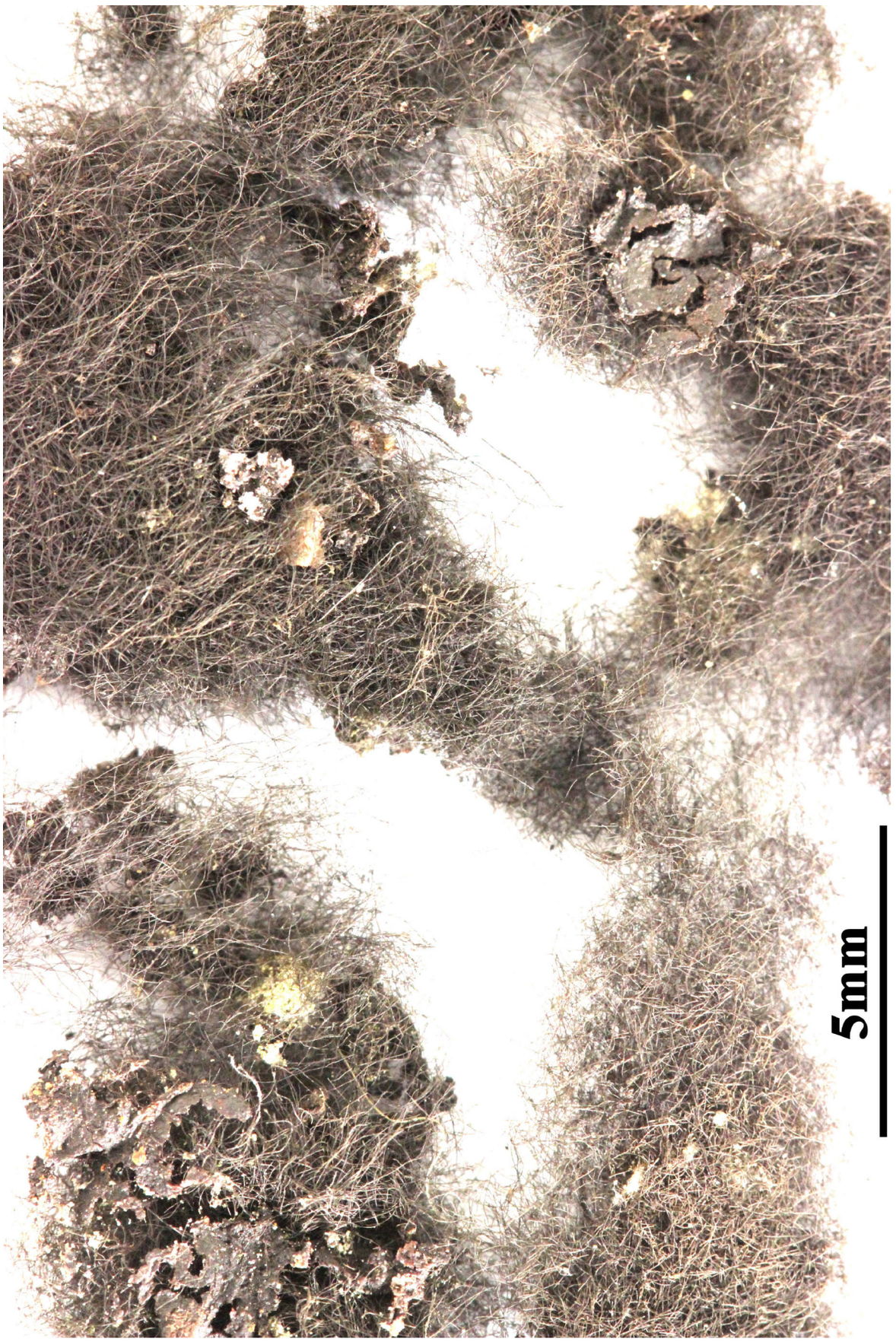


Pyxine subcinerea

Racodium rupestre Dill., Hist. musc.: Tab. 1, fig. 18 (1741)

[OH494], Japan. Honshu. Prof. Shinano:Azusayama, Kawakami-mura, Minamisaku-gun (35°57' N, 138°40' E). On rock, 1370 m. Leg. Y. Ohmura (no.8651), K. Yoshida & A. Frisch, 26.5.2013, det. A. Frisch & Y. Ohmura. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR.494.

Thallus minutely filamentous, black to brown-black, forming small tufts which often coalesce into 10-15 cm wide and 0.3-0.5 mm tall, cottony mats. Filaments rigid, straight, not nodulose, 9-15 µm thick, 0.2-1 cm long, consisting of dark brown, regularly parallel hyphae with straight walls (the individual cells appearing rectangular) closely surrounding and adhering to single filaments of Trentepohlia. Apothecia and pycnidia unknown. Photobiont trentepohlioid (the chloroplasts I+ blue-black). Spot tests: all negative. Chemistry: without lichen substances. - Note: a widespread, temperate to southern boreal-montane, circumpolar lichen found on shaded, more or less steeply inclined surfaces of siliceous rocks protected from rain, with a rather wide altitudinal range.



Racodium rupestre

Ramalina almquistii Vain. [as 'almquisti'], Ark. Bot. 8(no. 4): 17 (1909)

[KW339], Japan. Honshu. Prov. Mutsu (Pref. Aomori): Mt. Ido-dake, Hakkoda Mts. On rock, 1500 m. Leh. H. Kashiwadani (no. 43102), 17.08.1985, det. H. Kashiwadani. (Divaricatic acid race). EX H. KASHIWADANI: LICHENES MINUS COGNITI EXSICCATI NR. 339.

Thallus tufted fruticose 6-24 (-65) mm tall, terete or partly flattened, inflated, esore-diate, with few fenestrations, mainly toward the base, pale to dark yellow, the surface smooth, shining; the medulla white, lax in part, hollow in part. Apothecia to 4 mm broad, subterminal or lateral; margin concolorous with the thallus, reverse smooth; disk pale brownish, bare; spores oblong with rounded apices, straight, 2-celled, 11-13 x 4-5 µm. Pycnidia pale. Reactions: K — , KC—, C— , P— . Contents: usnic and divaricatic acids. This species grows on soil or rocks. It is amphi-Beringian, ranging in Siberia and from Alaska to King William Peninsula.





Ramalina almquistii

Ramalina almquistii Vain. [as 'almquisti'], Ark. Bot. 8(no. 4): 17 (1909)

[KU535], Japan. Honshu. Prov. Shinano: Mt. Sampo, Minami-Saku-gun. On rocks (granite), 2450 m. Leg. H. Shibuichi (no 5856) & K Yoshida, 12.07.1979, det. H. Kashiwadani. Ex S. Kurokawa and H. Kashiwadani: Lichenes Rariores Et Critici Exsiccati Nr. 535.

Thallus tufted fruticose 6-24 (-65) mm tall, terete or partly flattened, inflated, esore-diate, with few fenestrations, mainly toward the base, pale to dark yellow, the surface smooth, shining; the medulla white, lax in part, hollow in part. Apothecia to 4 mm broad, subterminal or lateral; margin concolorous with the thallus, reverse smooth; disk pale brownish, bare; spores oblong with rounded apices, straight, 2-celled, 11-13 x 4-5 µm. Pycnidia pale. Reactions: K — , KC—, C— , P— . Contents: usnic and divaricatic acids. This species grows on soil or rocks. It is amphi-Beringian, ranging in Siberia and from Alaska to King William Peninsula.





Ramalina almquistii

Ramalina almquistii Vain. [as 'almquisti'], Ark. Bot. 8(no. 4): 17 (1909)

[KU534], Japan. Honshu. Prov. Musashi: Jumonji Pass, Chichibu-gun. On rocks (chart), 2000 m. Leg. K. Yoshida (no. 4978), 4.6.1982, det. H. Kashiwadani. EX S. KUROKAWA END H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 534.

Thallus tufted fruticose 6-24 (-65) mm tall, terete or partly flattened, inflated, esore-diate, with few fenestrations, mainly toward the base, pale to dark yellow, the surface smooth, shining; the medulla white, lax in part, hollow in part. Apothecia to 4 mm broad, subterminal or lateral; margin concolorous with the thallus, reverse smooth; disk pale brownish, bare; spores oblong with rounded apices, straight, 2-celled, 11-13 x 4-5 µm. Pycnidia pale. Reactions: K — , KC—, C— , P— . Contents: usnic and divaricatic acids. This species grows on soil or rocks. It is amphi-Beringian, ranging in Siberia and from Alaska to King William Peninsula.



Ramalina almquistii



Ramalina almquistii

Ramalina almquistii Vain. [as 'almquisti'], Ark. Bot. 8(no. 4): 17 (1909)

[KU535], Japan. Honshu. Prov. Shinano: Mt. Sampo, Minami-Saku-gun. On rocks (granite), 2450 m. Leg. H. Shibuichi (no 5856) & K Yoshida, 12.07.1979, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI: LICHENES RARIORES ET CRITICI EXSICCATI NR. 535.

Thallus tufted fruticose 6-24 (-65) mm tall, terete or partly flattened, inflated, esore-diate, with few fenestrations, mainly toward the base, pale to dark yellow, the surface smooth, shining; the medulla white, lax in part, hollow in part. Apothecia to 4 mm broad, subterminal or lateral; margin concolorous with the thallus, reverse smooth; disk pale brownish, bare; spores oblong with rounded apices, straight, 2-celled, 11-13 x 4-5 µm. Pycnidia pale. Reactions: K — , KC—, C— , P— . Contents: usnic and divaricatic acids. This species grows on soil or rocks. It is amphi-Beringian, ranging in Siberia and from Alaska to King William Peninsula.



Ramalina almquistii



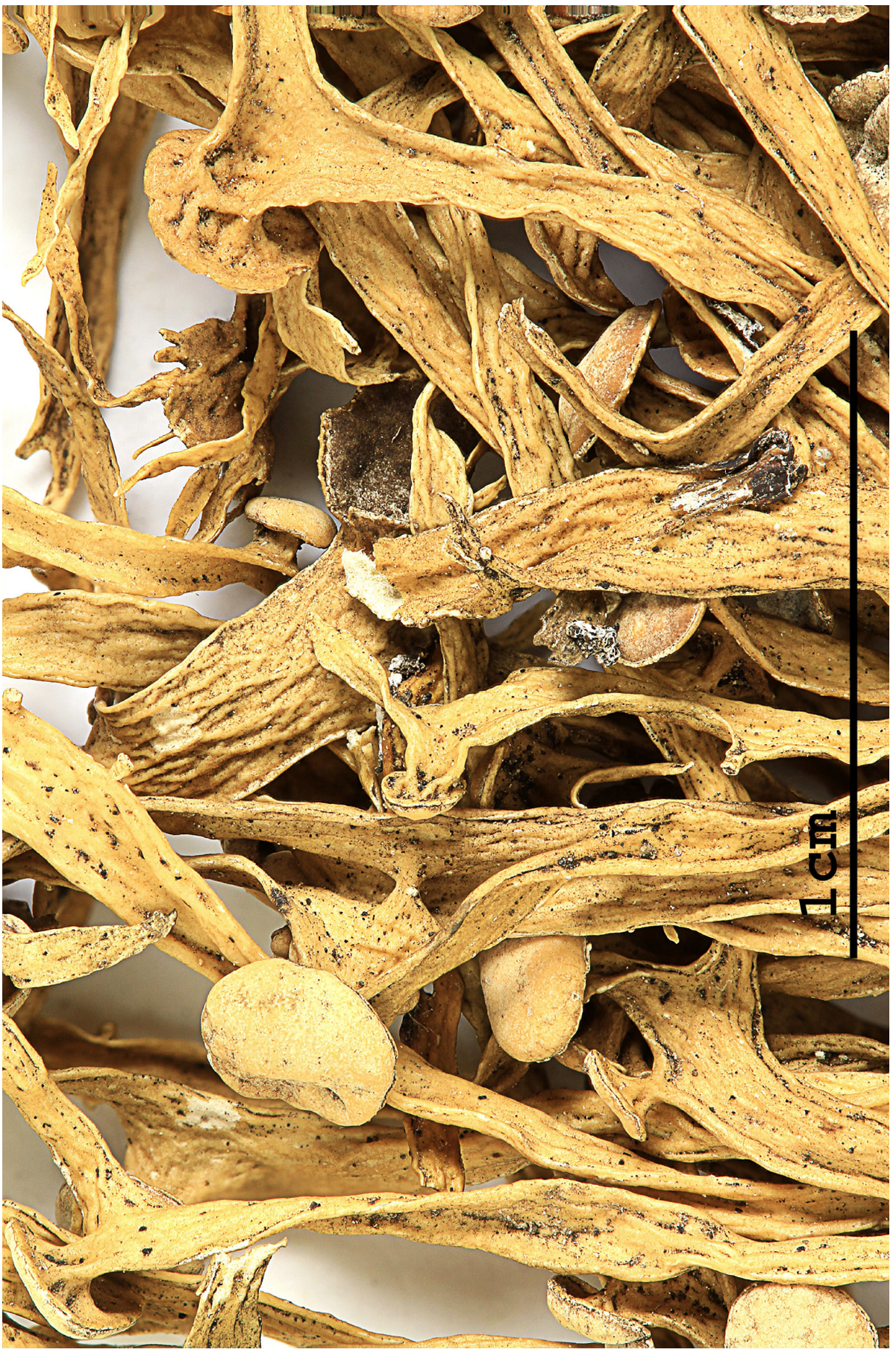
Ramalina almquistii

Ramalina boninensis Asahina, J. Jap. Bot. 14: 253 (1938)

[KU487], Japan. Bonin Islands. Chichijima Island: Miyanohama. On bark of *Ficus retusa*, 3 m. Leg. H. Inoue, 08.03.1980, det. H. Kashiwadani. EX: S. KUROKAWA AND H. KASHIWADANI: LICHENES RARIORES ET CRITICI EXSICCATI NO. 487.

Thallus glaucescens vel flavo-glaucescens suberectus vel subpendulus, compressus, basin versus subdigitatim laciniatus; laciniae -10 mm latae, 5-15 cm longae, subsimplices vel parce divisae, canaliculatae et striatae, opacaevel subnitidae, sorediis et isidiis destitutae, medulla KOH non reagens. Apothecia numerosa, usque ad 5 mm lata, marginalia et lateralia; sporae oblongo-fusiformes rectae vel subrectae, 12-16 x 4-5 µm.Ad corticem. Similis R. fraxinea, sed sporae non curvatae et medulla materiam alial continente differt





Ramalina boninensis

Ramalina boninensis Asahina, J. Jap. Bot. 14: 253 (1938)

[KU432], Japan. Bonin Islands. Hahajima Island: En route between Oki-mura and Cape Minamizaki. On bark of tree, 10m. Leg. S. Kurokawa (no. 77010), 03.08.1977, det. S. Kurokawa. EX S. KUROKAWA AND H. KASHIWADANI: LICHENES RARIORES ET CRITICI EXSICCATI NO. 432.

Thallus glaucescens vel flavo-glaucescens suberectus vel subpendulus, compressus, basin versus subdigitatim laciniatus; laciniae -10 mm latae, 5-15 cm longae, subsimplices vel parce divisae, canaliculatae et striatae, opacaevel subnitidae, sorediis et isidiis destitutae, medulla KOH non reagens. Apothecia numerosa, usque ad 5 mm lata, marginalia et lateralia; sporae oblongo-fusiformes rectae vel subrectae, 12-16 x 4-5 µm.Ad corticem. Similis R. fraxinea, sed sporae non curvatae et medulla materiam alial continente differt



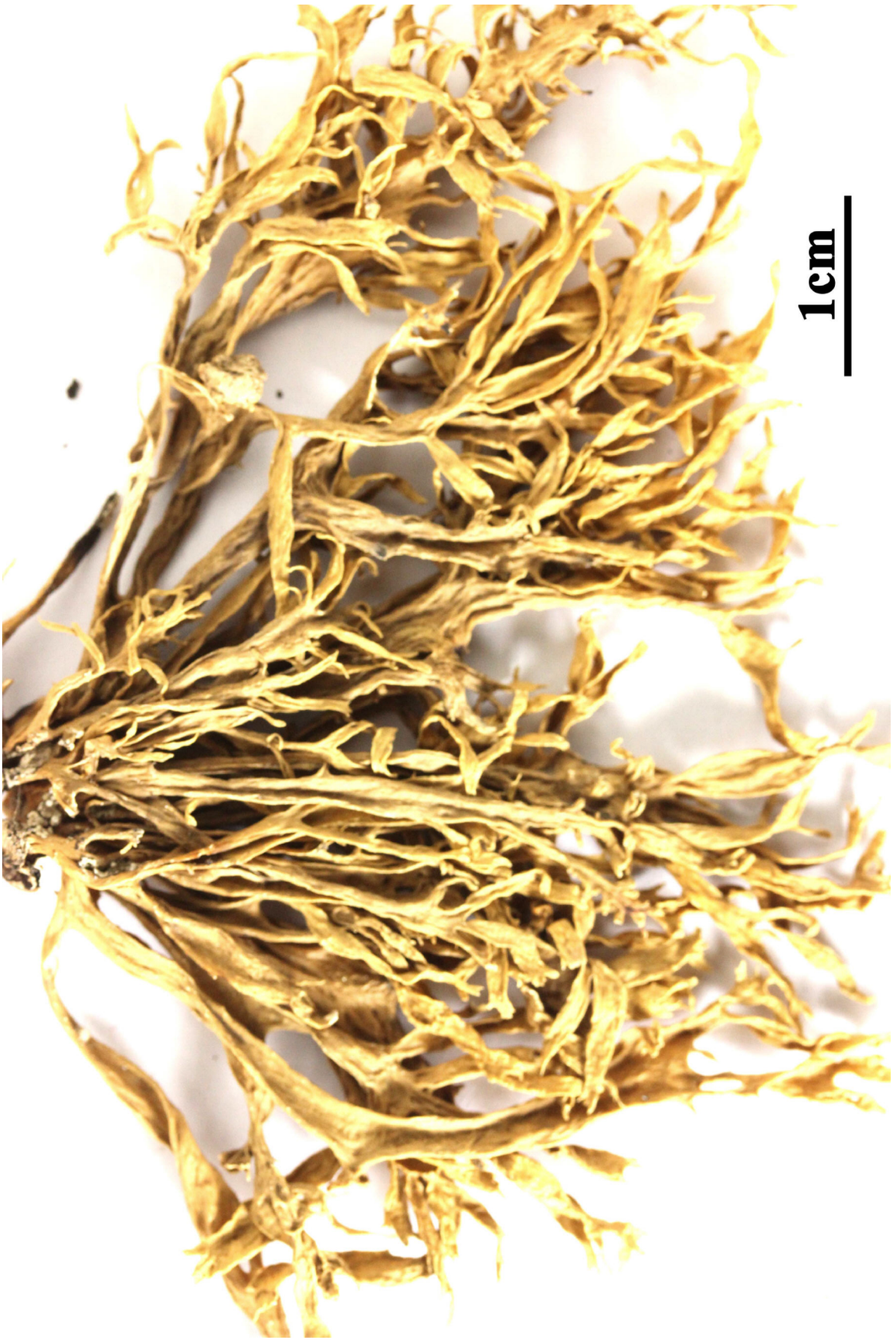


Ramalina boninensis

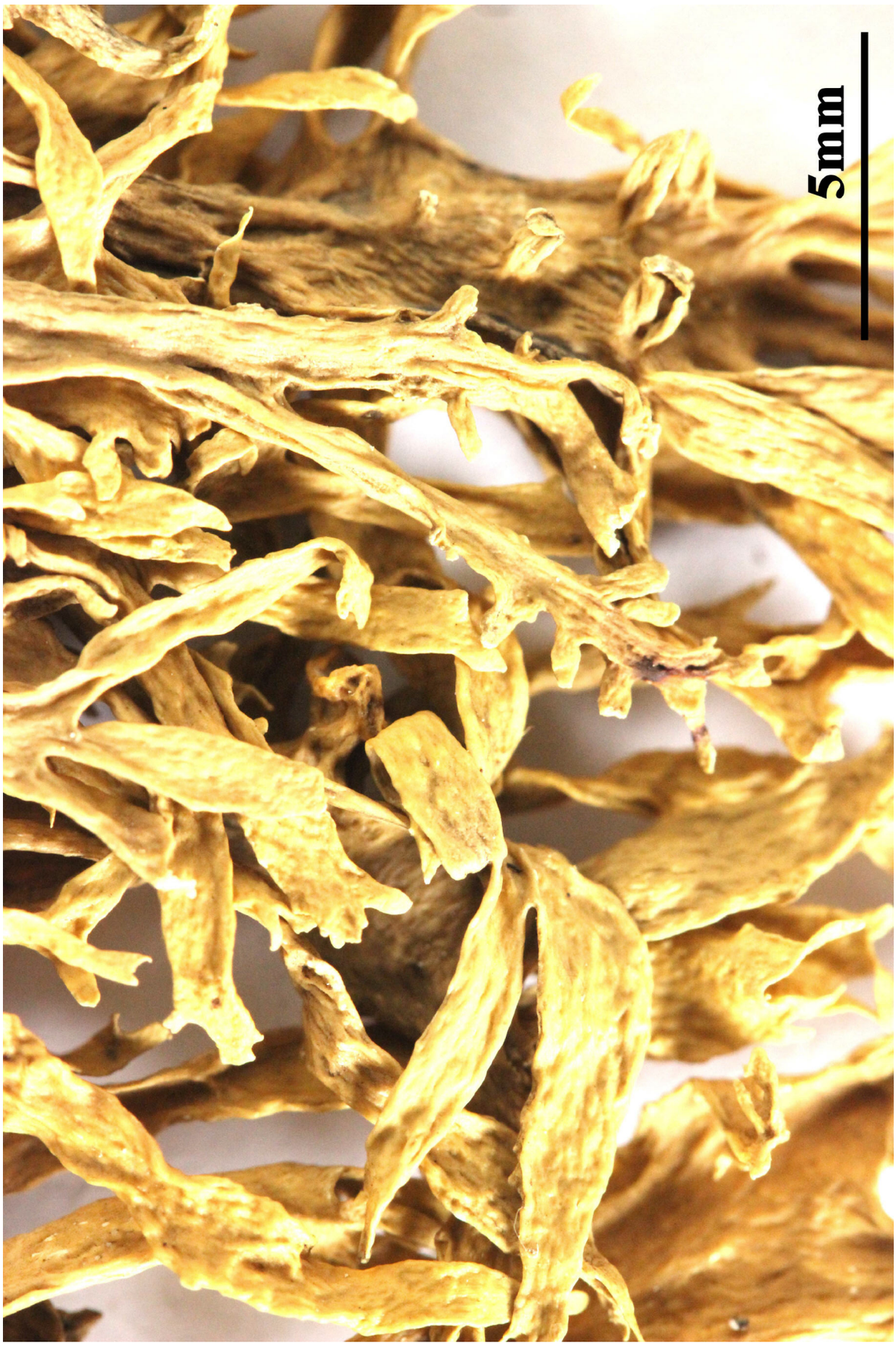
Ramalina boninensis Asahina, J. Jap. Bot. 14: 253 (1938)

[KU132], Bonin Islands: Along trail in the forest of *Calophyllum inophyllum* Terminalia catappa, between Okumura and Ohgiura, Chi-chi-jima Island. On *Calophyllum inophyllum*, 0-100 m. Leg. H. Inoue (no. 19684), 19.7.1969, det. S. Kurokawa. EX S. KUROKAWA LICHENES RARIORES ET CRITICI EXSICCATI NR. 132,

Thallus glaucescens vel flavo-glaucescens suberectus vel subpendulus, compressus, basin versus subdigitatim laciniatus; laciniae -10 mm latae, 5-15 cm longae, subsimplices vel parce divisae, canaliculatae et striatae, opacaevel subnitidae, sorediis et isidiis destitutae, medulla KOH non reagens. Apothecia numerosa, usque ad 5 mm lata, marginalia et lateralia; sporae oblongo-fusiformes rectae vel subrectae, 12-16 x 4-5 µm.Ad corticem. Similis R. fraxinea, sed sporae non curvatae et medulla materiam alial continente differt



Ramalina boninensis



Ramalina boninensis

Ramalina celastri subsp***. celastri*** (Spreng.) Krog & Swinscow, Norw. Jl Bot. 23: 159 (1976)

[KU678], Peru. Dept. Cuzco. Prov. Quispicanchia: Between Marcapata and Achubamba, along the road from Marcapata to Quincemille; in wet forest in "Ceja de Selva" zone. On rocks, 2500-2800 m. Leg. H. Kashiwadani (no. 21802), 13.09.1984, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI: LICHENES RARIORE ET CRITICI EXSICCATI NO. 678.

Thallus fruticose, shrubby to rarely subpendulous, up to 7(-15) cm long; branching moderately branched from a narrow holdfast; branches solid, lanceolate, plane or ±canaliculate; surface smooth in young branches, longitudinally to irregularly ridged by protruding cartilaginous tissues in older branches, up to 3(-5) mm wide; surface greenish gray to greenish yellow, smooth, shiny, without soredia; pseudocyphellae linear, laminal or rarely marginal, flat or more commonly depressed; cortex thin; chondroid strands continuous, smooth, never forming bundles of hyphae. Apothecia: commonly laminal on one side of blade, the other side have no or few apothecia, up to 1.5 mm in diam; disc flat to ±convex, without pruina, without white margin; margin concolorous with the thallus, entire, without pseudocyphellae; asci elongate-clavate, 8-spored; ascospores hyaline, 1-septate, broadly fusiform, 12-16 x 4-6 µm. Pycnidia not observed. Spot tests: cortex K-, C-, KC+ yellow, P-; medulla K-, C-, KC-, P-. Secondary metabolites: cortex with usnic acid (major); medulla: none detected. Substrate and ecology: on bark. World distribution: widely distributed in tropical and cool temperate regions in the Southern Hemisphere as well as southern North America, Central America, southeast Asia (Indonesia), Australasia, and East Africa.



Ramalina celastri



Ramalina celastri

Ramalina celastri subsp***. celastri*** (Spreng.) Krog & Swinscow, Norw. Jl Bot. 23: 159 (1976)

[KU589], Chile. Llanquihue: Chauca, about 5 km south of Lenca. On bark of *Prunus armeniaca* var. *anzu*, 5 m. Leg. H.Kashiwadani (no.17559), 10.11.1981, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI: LICHENES RARIORES ET CRITICI EXSICCATI NO. 589.

Thallus fruticose, shrubby to rarely subpendulous, up to 7(-15) cm long; branching moderately branched from a narrow holdfast; branches solid, lanceolate, plane or ±canaliculate; surface smooth in young branches, longitudinally to irregularly ridged by protruding cartilaginous tissues in older branches, up to 3(-5) mm wide; surface greenish gray to greenish yellow, smooth, shiny, without soredia; pseudocyphellae linear, laminal or rarely marginal, flat or more commonly depressed; cortex thin; chondroid strands continuous, smooth, never forming bundles of hyphae. Apothecia: commonly laminal on one side of blade, the other side have no or few apothecia, up to 1.5 mm in diam; disc flat to ±convex, without pruina, without white margin; margin concolorous with the thallus, entire, without pseudocyphellae; asci elongate-clavate, 8-spored; ascospores hyaline, 1-septate, broadly fusiform, 12-16 x 4-6 µm. Pycnidia not observed. Spot tests: cortex K-, C-, KC+ yellow, P-; medulla K-, C-, KC-, P-. Secondary metabolites: cortex with usnic acid (major); medulla: none detected. Substrate and ecology: on bark. World distribution: widely distributed in tropical and cool temperate regions in the Southern Hemisphere as well as southern North America, Central America, southeast Asia (Indonesia), Australasia, and East Africa.



Ramalina celastri



Ramalina celastri

Ramalina conduplicans Vain., Ann. bot. Soc. Zool.-Bot. fenn. Vanamo 1(no. 3): 35 (1921)

[KW340], Formosa (Taiwan). Prov. Hualien: Mt. Nan-Fu-Ta-Sam. On bark. 2400-2600 m. Leg.S. Kurokawa (no. 1048), 20.01.1964, det. S. Kurokawa. - (Homosekikaic acid aggr. race) - Ex H. Kashiwadani: Lichenes Minus Cogniti Exsiccati No. 340.

Ramalina conduplicans is characterized by the corticolous habit, shrubby thallus growing from a narrow holdfast, solid flattened or canaliculated branches, punctiform and ellipsoid pseudocyphellae, cracked chondroid tissue of branches, fusiform ascospores of 12–14 x 4–5 µm in size, and the presence of depsides and/or depsidones such as sekikaic, homosekikaic, divaricatic, and salazinic acids. *Ramalina conduplicans* is very variable morphologically and chemically. The holotype of this species is a fragmental specimen having dorsiventral main lobes with sparse secondary branches tapering towards the apices. Most of the specimens from Taiwan have narrow and canaliculated main branches with tapering side branches. Asahina (1939) reported such morphotype under *Ramalina calicaris* (L.) Röhl. var. *japonica* Hue. However, specimens with wider and dorsiventral lobes and flattened distal branches are also found from Taiwan. These morphological differences found in this species are consecutive and do not seem to have a taxonomic value. This species is widely distributed in eastern Asia, having been collected in China, Japan, Korea, and Himalayas (Kashiwadani, 1986). Two chemical races were found in the specimens from Taiwan; the chemical race 1, containing homosekikaic acid aggregates and the race 3, containing salazinic acid as a major chemical substance (Kashiwadani, 1986). The race 3 is more common than the race 1 in this area. This species was reported from Taiwan under *Ramalina calicaris* var. *japonica* Hue (Asahina,1939) or *R. subcomplanata* (Nyl.) Kashiw. (Kashiwadani, 1986). In Taiwan, it usually grows on bark of trees (very rarely on rocks) in mountainous regions at elevations between 800 and
2950 m.



Ramalina conduplicans



Ramalina conduplicans

Ramalina conduplicans Vain., Ann. bot. Soc. Zool.-Bot. fenn. Vanamo 1(no. 3): 35 (1921)

[KW318], Taiwan. Nantou Co: Along route 820, Hohuanshan Mts., Jen-Ai-Hasiang (24°17' N, 120°30' E). On bark, 2500m. Leg. H. Kashiwadani (no. 45535), 09.03.2003, det. H. Kashiwadani. EX H. KASHIWADANI: LICHENES MINUS COGNITI EXSICCATI NO. 318.

Ramalina conduplicans is characterized by the corticolous habit, shrubby thallus growing from a narrow holdfast, solid flattened or canaliculated branches, punctiform and ellipsoid pseudocyphellae, cracked chondroid tissue of branches, fusiform ascospores of 12–14 x 4–5 µm in size, and the presence of depsides and/or depsidones such as sekikaic, homosekikaic, divaricatic, and salazinic acids. *Ramalina conduplicans* is very variable morphologically and chemically. The holotype of this species is a fragmental specimen having dorsiventral main lobes with sparse secondary branches tapering towards the apices. Most of the specimens from Taiwan have narrow and canaliculated main branches with tapering side branches. Asahina (1939) reported such morphotype under *Ramalina calicaris* (L.) Röhl. var. *japonica* Hue. However, specimens with wider and dorsiventral lobes and flattened distal branches are also found from Taiwan. These morphological differences found in this species are consecutive and do not seem to have a taxonomic value. This species is widely distributed in eastern Asia, having been collected in China, Japan, Korea, and Himalayas (Kashiwadani, 1986). Two chemical races were found in the specimens from Taiwan; the chemical race 1, containing homosekikaic acid aggregates and the race 3, containing salazinic acid as a major chemical substance (Kashiwadani, 1986). The race 3 is more common than the race 1 in this area. This species was reported from Taiwan under *Ramalina calicaris* var. *japonica* Hue (Asahina,1939) or *R. subcomplanata* (Nyl.) Kashiw. (Kashiwadani, 1986). In Taiwan, it usually grows on bark of trees (very rarely on rocks) in mountainous regions at elevations between 800 and
2950 m.



Ramalina conduplicans



Ramalina conduplicans

Ramalina crassa (Delise ex Nyl.) Motyka, Fragm. flor. geobot. (Kraków) 6(no. 4): 696 (1961) [1960]
= *Ramalina cuspidata var. crassa* Delise ex Nyl. 1870

[KU679], Japan. Hokkaido. Prov. Nemuro: On rocks along the coast, Cape Nosappu. Leg. S. Kurokawa (no. 65711), 31.08.1965, det. H. Kashiwadani. Ex S. Kurokawa & H. Kashiwadani: Lichenes Rariores Et Critici Exsiccati No. 679.

Thallus fruticose, pale yellowish green to greenish grey, matt, tufted, 5-15 cm tall, highly variable in shape (usually erect) consisting of inflated, 2-10 mm wide, simple or very sparingly branched, pointed, more or less regular laciniae originating from a common holdfast, the surface usually richly fenestrate, exposing the hollow interior. Cortex 2-layered, the outer part paraplectenchymatous, the inner part with chondroid strands; medulla white, hollow, arachnoid near the cortex. Apothecia not observed. Photobiont chlorococcoid. Spot tests: cortex K-, C-, KC+ yellowish, P-; medulla K-, C-, KC-, P+ yellow to orange-red. Chemistry: cortex with usnic acid, medulla with protocetraric acid.



Ramalina crassa



Ramalina crassa



Ramalina crassa

Ramalina gracilis (Pers.) Nyl., Syn. meth. lich. (Parisiis) 1(2): 296 (1860)
= *Physcia gracilis* Pers., in Gaudichaud-Beaupré in Freycinet 1827

[KW290], USA. Hawaii. Maui Island. Lahaina District; Puu Kaeo Ridge. On branches of *Psidium cattleianum*, 400m. Leg. T. Tuyama, 11.1969, det. H. Kashiwadani. EX H. KASHIWADANI: LICHENES MINUS COGNITI EXSICCATI NO. 290.

Thallus corticolous, 3-5(-15) cm long, moderately branched, caespitose, growing from a delimited holdfast. Branches solid, 0.5-1.5(-2) mm wide, surface longitudinally grooved, semiangular, cylindrical to terete, apices tapering, squarrose short branches from main branches common, often black-spotted. Pseudocyphellae short linear, longitudinally disposed. Soredia absent. Thallus angular in cross-section; cortex indistinct; chondroid tissue discontinuous, clearly to very weakly cracked. Apothecia marginal, on geniculate branches, usually with short, cylindrical spurs; disc flat to convex; thalline exciple smooth, without pseudocyphellae; hymenium 60-70 µm thick; hypothecium 30-40 µm thick; proper exciple 50-90(-110) µm thick; ascospores broadly ellipsoid, straight, 12-16 x 6-8 µm. Chemistry*:* Race 1, usnic acid; Race 2, usnic and norstictic acids.



Ramalina gracilis



Ramalina gracilis

Ramalina gracilis (Pers.) Nyl., Syn. meth. lich. (Parisiis) 1(2): 296 (1860)
= *Physcia gracilis* Pers., in Gaudichaud-Beaupré in Freycinet 1827

[KW319], Brazil, Parana: Caioba, 10 m. Leg. S. Kurokawa (no. 8227) & L. X. Filho, 08.07.1971, det. H. Kashiwadani. EX H. KASHIWADANI: LICHENES MINUS COGNITI EXSICCATI NO. 319.

Thallus corticolous, 3-5(-15) cm long, moderately branched, caespitose, growing from a delimited holdfast. Branches solid, 0.5-1.5(-2) mm wide, surface longitudinally grooved, semiangular, cylindrical to terete, apices tapering, squarrose short branches from main branches common, often black-spotted. Pseudocyphellae short linear, longitudinally disposed. Soredia absent. Thallus angular in cross-section; cortex indistinct; chondroid tissue discontinuous, clearly to very weakly cracked. Apothecia marginal, on geniculate branches, usually with short, cylindrical spurs; disc flat to convex; thalline exciple smooth, without pseudocyphellae; hymenium 60-70 µm thick; hypothecium 30-40 µm thick; proper exciple 50-90(-110) µm thick; ascospores broadly ellipsoid, straight, 12-16 x 6-8 µm. Chemistry*:* Race 1, usnic acid; Race 2, usnic and norstictic acids.



Ramalina gracilis



Ramalina gracilis

Ramalina hossei Vain., Ann. bot. Soc. Zool.-Bot. fenn. Vanamo 1(no. 3): 36 (1921)

[KW364], Taiwan. Prov. Hualien: Mt. Nan-Fu-Ta-San. On twigs of *Osmanthus biuritsuensis*, 2400-2600m. Leg. S. Kurokawa (no. 1053), 20.01.1964, det. H. Kashiwadani. EX H. KASHIWADANIA: LICHENES MINUS COGNITI EXSICCARI NO. 364.

Ramalina hossei is characterized by solid and narrow (up to 1.5 mm wide) branches growing from a common holdfast, punctiform pseudocyphellae, finely divided terminal branches forming nodular branchlets, absence of soredia, cracked chondroid tissue, shortly fusiform ascospores of 14-16 x 4-5 µm in size, and the presence of divaricatic acid as major chemical substances (for specimens in Taiwan). - *Ramalina hossei* might be confused with *R. conduplicans*, because they both have similar solid branches, punctiform pseudocyphellae, and produce homosekikaic or divaricatic acids as chemical substances. However, it can be distinguished from the latter by the common holdfast and the presence of terminal branches with nodular and isidioid branchlets. - In Thailand, and Taiwan. In Taiwan, it is very common on tree trunks (*Alnus*, *Salix*, *Tsuga*, etc.) or rarely on rocks along trail in mountainous regions at elevations between 1500 and 2900 m.



Ramalina hossei



Ramalina hossei

Ramalina hossei Vain., Ann. bot. Soc. Zool.-Bot. fenn. Vanamo 1(no. 3): 36 (1921)

[KW341], Fornosa (Taiwan). Prov. Hualien: Mt. Nan-Fu-Ta-San. On bark, 1500-2400 m- Leg. S. Kurokawa (no. 941), 19.01.1964, det. H. Kashiwadani. EX H. KASHIWADANI: LICHENES MINUS COGNITI NO. 341.

Ramalina hossei is characterized by solid and narrow (up to 1.5 mm wide) branches growing from a common holdfast, punctiform pseudocyphellae, finely divided terminal branches forming nodular branchlets, absence of soredia, cracked chondroid tissue, shortly fusiform ascospores of 14-16 x 4-5 µm in size, and the presence of divaricatic acid as major chemical substances (for specimens in Taiwan). - *Ramalina hossei* might be confused with *R. conduplicans*, because they both have similar solid branches, punctiform pseudocyphellae, and produce homosekikaic or divaricatic acids as chemical substances. However, it can be distinguished from the latter by the common holdfast and the presence of terminal branches with nodular and isidioid branchlets. - In Thailand, and Taiwan. In Taiwan, it is very common on tree trunks (*Alnus*, *Salix*, *Tsuga*, etc.) or rarely on rocks along trail in mountainous regions at elevations between 1500 and 2900 m.



Ramalina hossei



Ramalina hossei

Ramalina incana Kashiw., Studies on Cryptogams in Southern Peru (Tokyo): 135 (1987)

[KW343], Peru. Dept. Puno. Prov. Puno: Around Laguna Umayo, Sillustani, about 20 km NW of Puno; in open dry place with Cacti. On rock, ca. 3900 m. Leg. H. Kashiwadani (no. 22203), 26.09.1984, det. H. Kashiwadani. - ISOTYPE - EX H. KASHIWADANI: LICHENES MINUS COGNITI EXSICCATI NO. 343.

Thallus saxicola, caespitosus, usque ad 2 cm altus. Rami solidi, graciles, margine subintegri, apices versus ramulis indeterminatibus, usque ad 1 mm lati, sorediis marginalibus, subgranulosis ornati; pseudocyphellae destitutae; superficies nitida, laevigata; cortex tenuis, indistinctus; textura chondroidea continua, eseparata; medulla densa. Apothecia et pycnidia non visa.

Chemistry; usnic acid and atranorin (±).

Type collection: PERU. Dept. Cuzco, Prov. Quispicanchis: Luisanpampa near Oropesa; rocky cliff along river; ca 3150 m, on rock, H. KASHIWADANI 21215, holotype in TNS.

Ramalina incana is characterized by 1) the tufted and erect branches growing from an extended holdfast, 2) the narrow, flat and unbranched branches with marginal soredia (Plate V:4, 3) the absence of pseudocyphellae, 4) the continuous chondroid tissue without cracks and 5) the absence of medullary substances.

Ramalina incana may be confused with *R. polymorpha* (ACH.) ACH., a polymorphous species widely distributed in the Northern Hemisphere, because they both have sorediate branches without medullary substances. However, it can be easily separated from the latter species by the slender branchs with smooth surface and by the marginal soredia. In *R. polymorpha,* the branches are always uneven or scabrid and have distinct pseudocyphellae and laminal or temrinal capitate soralia. On the other hand, *R. incana* resembles *R. pollinaria* (WESTR.) ACH. It is separated by the lack of medullary substances from *R. pollinaria,* in which evernic acid is constantly produced. In addition, the chondroid tissue is continuous in *R. incana,* whereas it is scattered under the cortex in *R. pollinaria.*



Ramalina incana



Ramalina incana



Ramalina incana

Ramalina inflata (Hook. f. & Taylor) Hook. f. & Taylor, in Hooker, Bot. Antarct. Voy. Erebus Terror 1839-1843 1: 194 (1845)
= *Cetraria inflata* Hook. f. & Taylor 1844

[KU680], South Africa. Kaappunt, Cape of Good Hope. On bark of tree, 100m. Leg. H. Kashiwadani (no. 4966), 05.03.1968, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI: LICHENES RARIORES RT CRITICI EXSICCATI NO. 680.

Thallus corticolous, erect, yellowish, to 4 cm tall, branched; branches subcylindrical, perforated, lacking pseudocyphellae and soredia; chondroid tissue uneven; medulla hollow. Apothecia to 7 mm in diam.; ascospores straight to curved, 10-13(-16) x 3-6 µm. Cortex and medulla K-, C-, P-. Divaricatic acid and sekikaic acid aggregate present. Reported also from India, Japan, Australia, New Zealand.



Ramalina inflata



Ramalina inflata

[
[ABL71446]..... 59
A
Alectoria pubescens (L.) R. Howe..... 2
B
Bacidia cylindrophora (Taylor) Kistenich, Timdal, Bendiksby & S. Ekman..... 101
Baeomyces insignis Zahlbr..... 181, 184
C
Cetraria inflata Hook. f. & Taylor..... 282
E
Evernia magellanica Mont..... 174
L
Lecanora cribellans Nyl..... 131
Lecidea flavicunda Ach..... 168
Lecidea parasema var. crustulata Ach..... 146, 149, 156
Lichen aipolius Ehrh. ex Humb..... 65, 68
Lichen albocaerulescens Wulfen..... 137, 140, 143
Lichen caesius Hoffm..... 73, 76, 83
Lichen crocatus L..... 194
Lichen pubescens L..... 2
P
Parmelia chloantha Ach..... 104
Parmelia consocians Vain..... 177
Parmelia cylindrophora Taylor..... 101
Parmelia hispidula Ach..... 11, 14, 17
Parmelia intertexta Mont. & Bosch..... 5
Parmelia malaccensis Nyl..... 8
Parmelia pulverulenta var. dimidiata Arnold..... 86, 89
Parmelia rudecta Ach..... 197
Patellaria macrocarpa DC..... 171
Phaeophyscia hispidula (Ach.) Essl..... 11
Phaeophyscia hispidula (Ach.) Moberg..... 11
Phaeophyscia imbricata (Vain.) Essl..... 20
Phaeophyscia limbata (Poelt) Kashiw..... 24, 28, 33, 36
Phaeophyscia melanchra (Hue) Hale..... 97
Phaeophyscia primaria (Poelt) Trass..... 40
Phaeophyscia pyrrhophora (Poelt) D.D. Awasthi & M. Joshi..... 45
Phaeophyscia spinellosa Kashiw..... 48, 53
Phylliscum japonicum Zahlbr..... 59

Phylliscum japonicum Zahlbr..... 56
Physcia aipolia (Ehrh. ex Humb.) Fürnr..... 65, 68
Physcia caesia (Hoffm.) Fürnr..... 73, 83
Physcia caesia (Hoffm.) Fürnr.,..... 76
Physcia denigrata Hue..... 107, 110
Physcia dimidiata (Arnold) Nyl..... 86, 89
Physcia gracilis Pers..... 266, 269
Physcia hispidula (Ach.) Frey subsp. primaria Poelt..... 40
Physcia hispidula subsp. limbata Poelt..... 24, 28, 33, 36
Physcia imbricata Vain..... 20
Physcia melanchra Hue..... 97, 113, 116
Physcia pyrrhophora Poelt..... 45
Physcidia cylindrophora (Taylor) Hue..... 101
Physciella chloantha (Ach.) Essl..... 104
Physciella denigrata (Hue) Essl..... 107, 110
Physciella melanchra (Hue) Essl..... 97, 113, 116
Pilophorus acicularis f. hallii Tuck..... 122
Pilophorus curtulus Kurok. & Shibuichi..... 119
Pilophorus hallii (Tuck.) Vain..... 122
Pilophorus nigricaulis M. Satô..... 125, 128
Placopsis cribellans (Nyl.) Räsänen..... 131
Porina hirsuta Aptroot & K.H. Moon..... 134
Porpidia albocaerulescens (Wulfen) Hertel & Knoph..... 137, 140, 143
Porpidia crustulata (Ach.) Hertel & Knoph..... 146, 149, 156
Porpidia flavicunda (Ach.) Gowan..... 168
Porpidia macrocarpa (DC.) Hertel & A.J. Schwab..... 171
Protousnea magellanica (Mont.) Krog..... 174
Pseudephebe pubescens (L.) M. Choisy..... 2
Pseudevernia consocians (Vain.) Hale & W.L. Culb..... 177
Pseudobaeomyces insignis (Zahlbr.) M. Satô..... 181, 184
Pseudocyphellaria argyracea (Delise) Vain..... 187, 191
Pseudocyphellaria crocata (L.) Vain..... 194
Punctelia rudecta (Ach.) Krog..... 197
Pyxine endochrysina Nyl..... 200, 203, 206
Pyxine limbulata Müll. Arg..... 209, 212
Pyxine subcinerea Stirt..... 217, 220

R

Racodium rupestre Dill..... 231
Ramalina almquistii Vain..... 233, 235, 237, 240
Ramalina boninensis Asahina..... 243, 245, 247

Ramalina celastri subsp. celastri (Spreng.) Krog & Swinscow 250, 253
Ramalina conduplicans Vain..... 256, 259
Ramalina crassa (Delise ex Nyl.) Motyka..... 262
Ramalina cuspidata var. crassa Delise ex Nyl..... 262
Ramalina gracilis (Pers.) Nyl..... 266, 269
Ramalina hossei Vain..... 272, 275
Ramalina incana Kashiw..... 278
Ramalina inflata (Hook. f. & Taylor) Hook. f. & Taylor..... 282
Relicina intertexta (Mont. & Bosch) Kirika, Divakar & Lumbsch..... 5
Relicina malaccensis (Nyl.) Kirika, Divakar & Lumbsch..... 8
S
Sticta argyracea Delise..... 187, 191