Bildtafeln von Flechten der

LICHENOTHECA AFGHANICA

Faszikel 1: 01-25 (1986)
Faszikel 2: 26-50 (1987)
Faszikel 3: 51-78 (1988)

herausgegeben von
M. Steiner und J. Poelt 1986-88.

und zusätzlichen Proben
aus dem Herbarium GZU (Graz)

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At a lichenology conference in Frankfurt, Dr. H. Mayrhofer asked me if I could take photographs of the Lichenotheca Adghanistan. A specimen, originally intended for Kabul, was still in Graz and was loaned to me for this purpose. I took photographs of the samples, compiled the preliminary results, and sent the dried specimen back to Graz. The manuscript remained unpublished, unrevised, and never printed. I am posting this compilation, with all its errors, as it is, in the Archives for Lichenology in the hope that the overview might still be of use to someone.

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Steiner, M. (1986): Flechten aus Afghanistan - II. Die Laub- und Strauchflechten. -Nova Hedwigia 42(1-4): 213-236.

Steiner, M. & Poelt, J. (1982): Caloplaca sect. Xanthoriella, sect nov.: Untersuchungen über die "Xanthoria lobulata-Gruppe" (Lichenes Teloschistaceae). -Pl. Syst. Evol. 140: 151-177.

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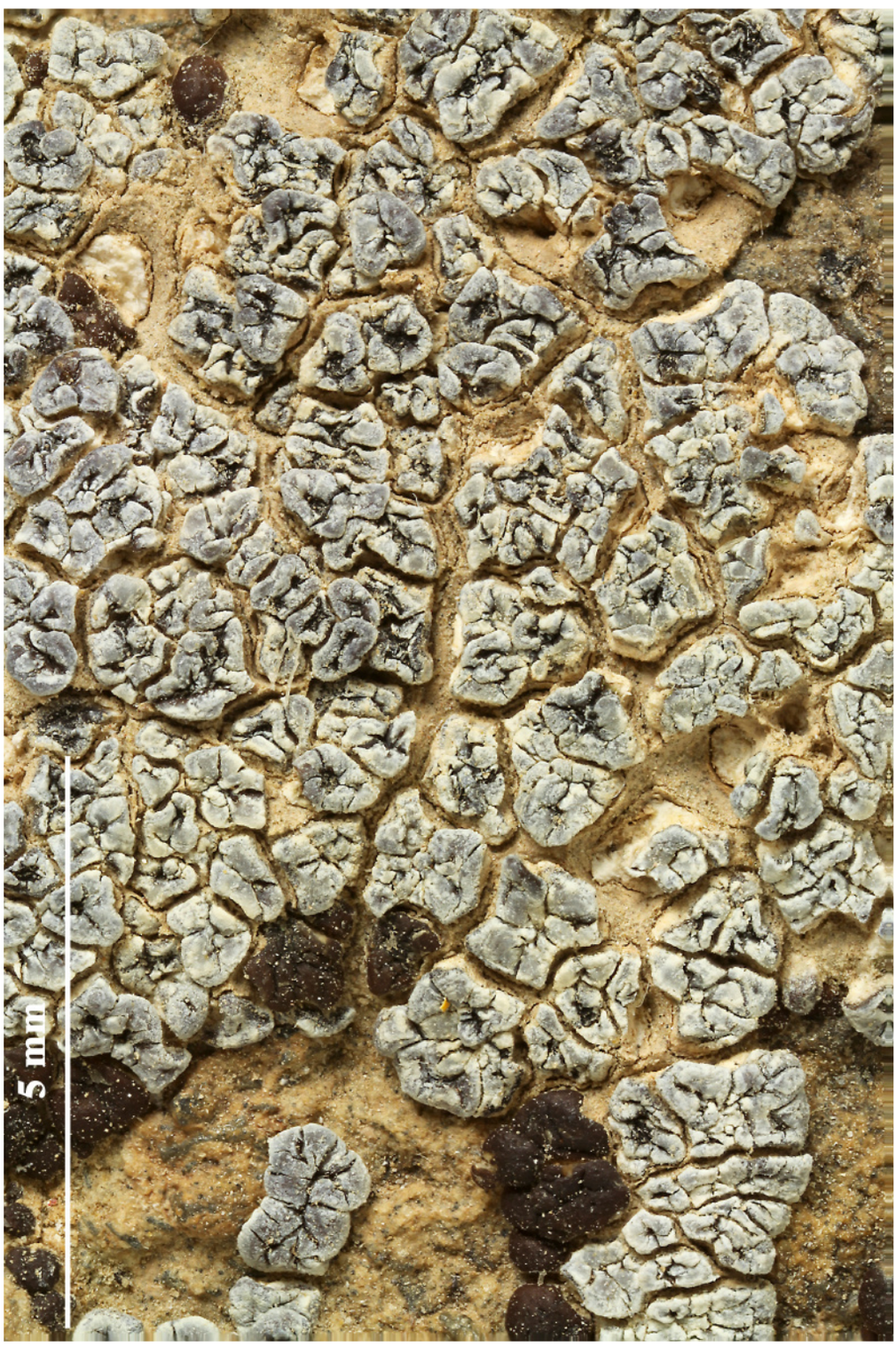
Poelt, J. & Wirth, V. (1968): Flechten aus dem nordöstlichen Afghanistan gesammelt von H. Roemer im Rahmen der Deutschen Wakhan- Expedition 1964. - Mitt. ot. München, Bd. 7: 219-261.

Acarospora bicolor Vain.
Acta Horti Petropolit. 10(2): 558 (1888)

[GZU 151-88], Afghanistan, Prov. Ghazni, Dasht-i-Nawar. 67°42’ E, 33°31’ N, 3120-3200 m. W-seitiger Hang, karbonathaltiger Vulkanit, z.Z. mit Kalksinterauflage. Leg. S. W. Breckle (Bre 3/4), 16.08.1976. Det- K. Knudsen, 14.11.2017.

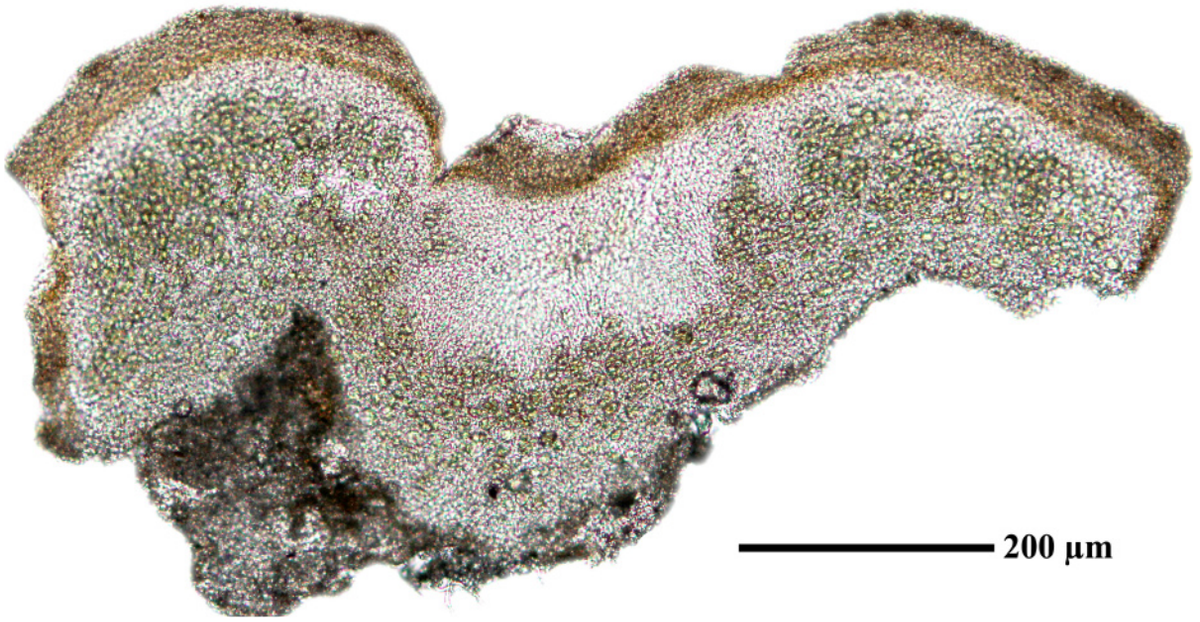
Notes: probably synonym of A. interrupta (Knudsen). Probe ursprünglich unter Acarospora strigata (Nyl.) Jatta abgelegt.

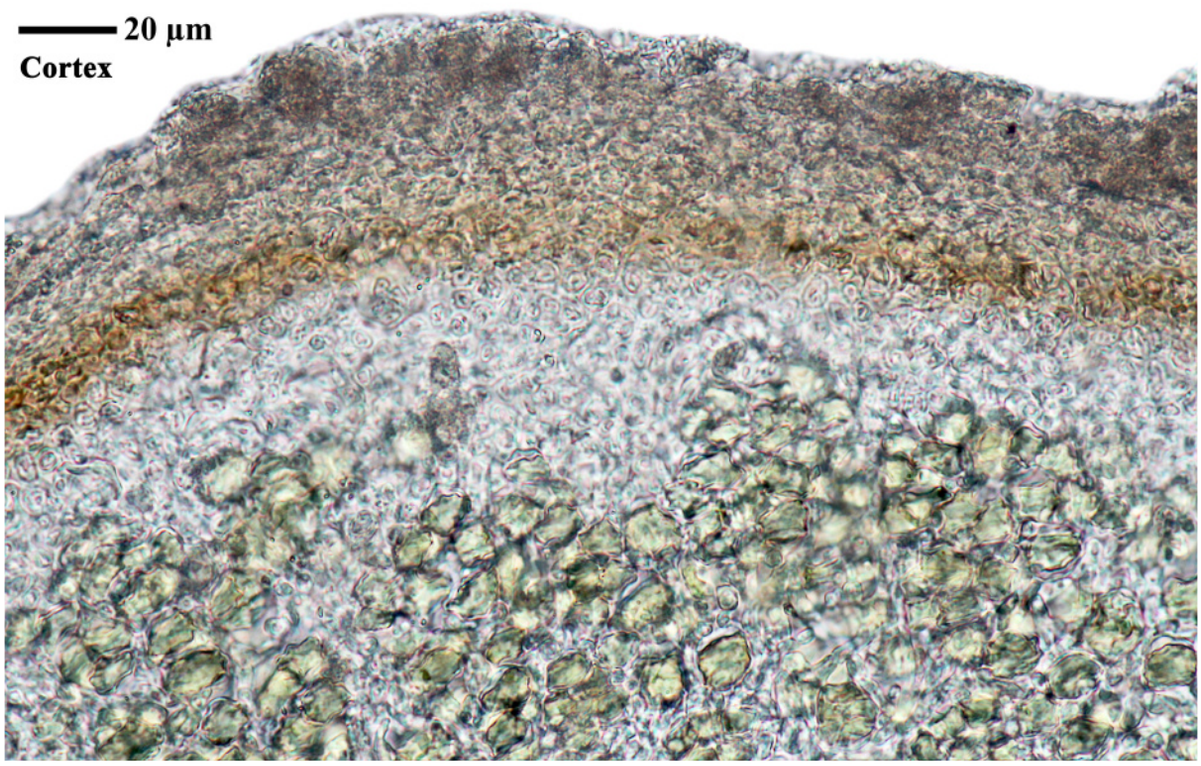






Acarospora bicolor





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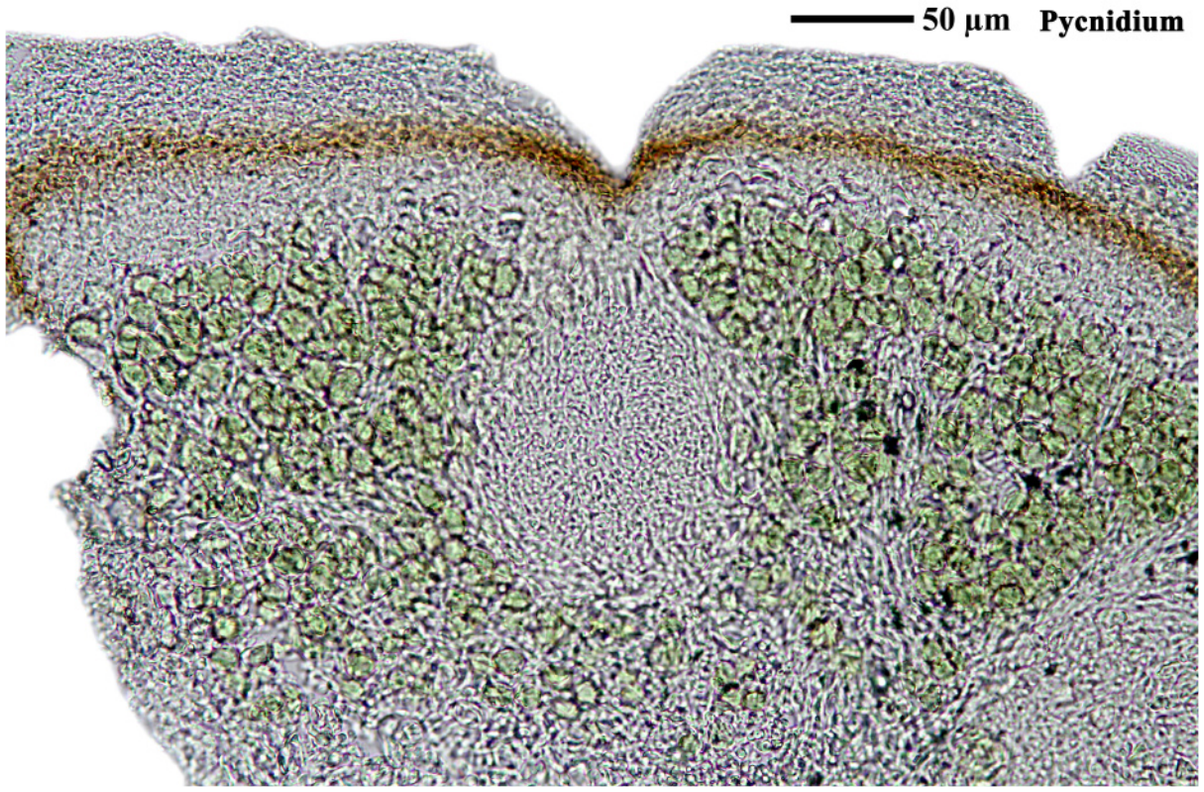
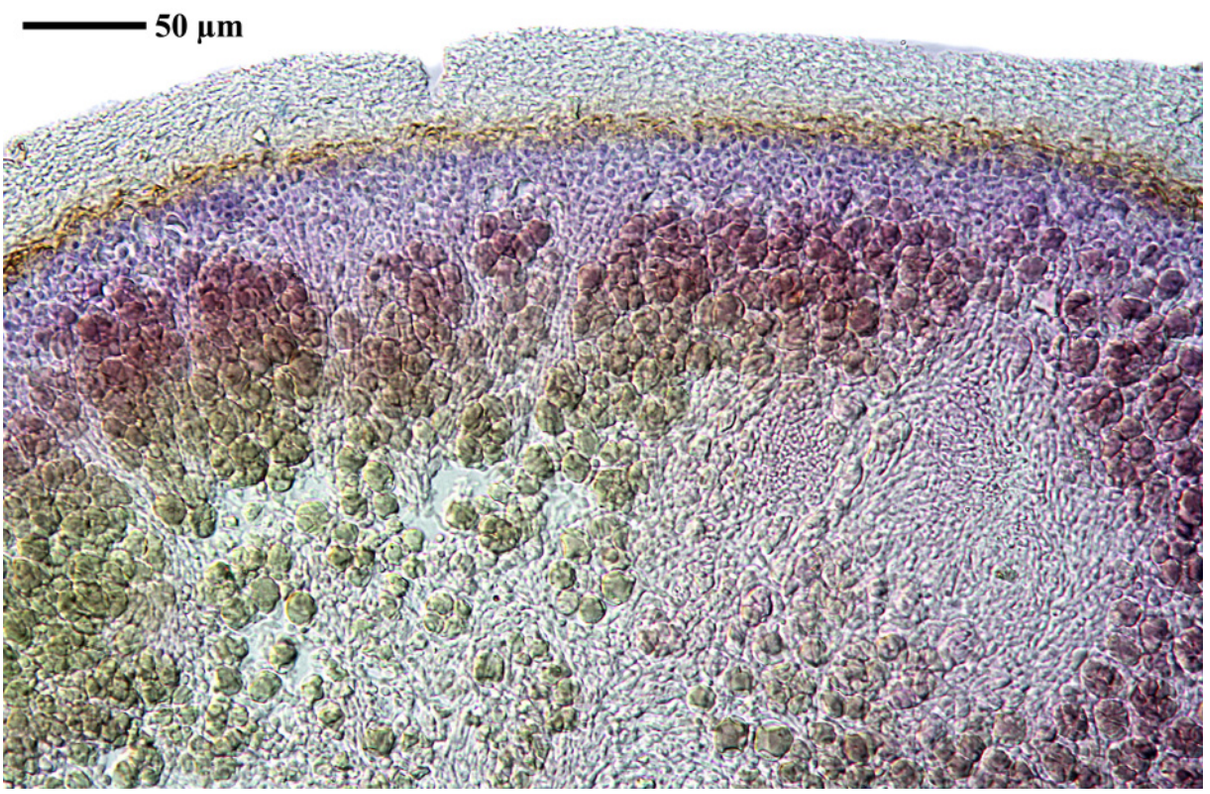
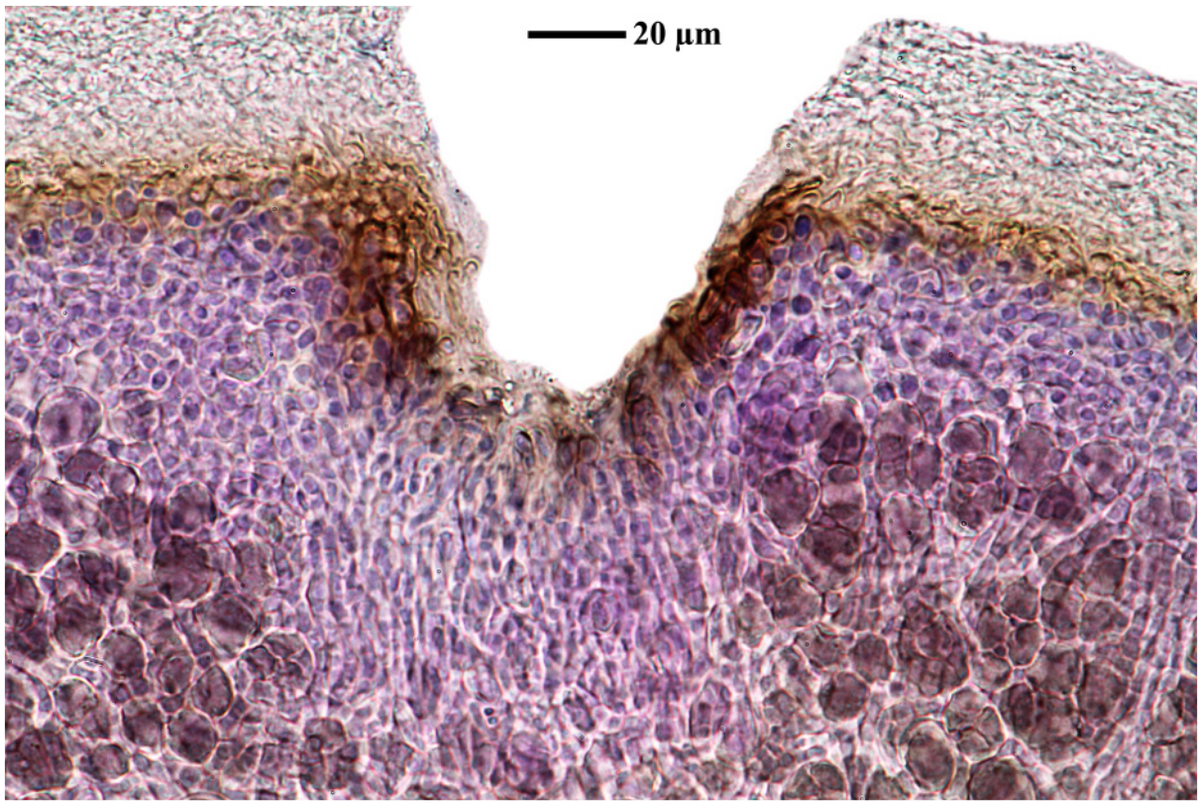
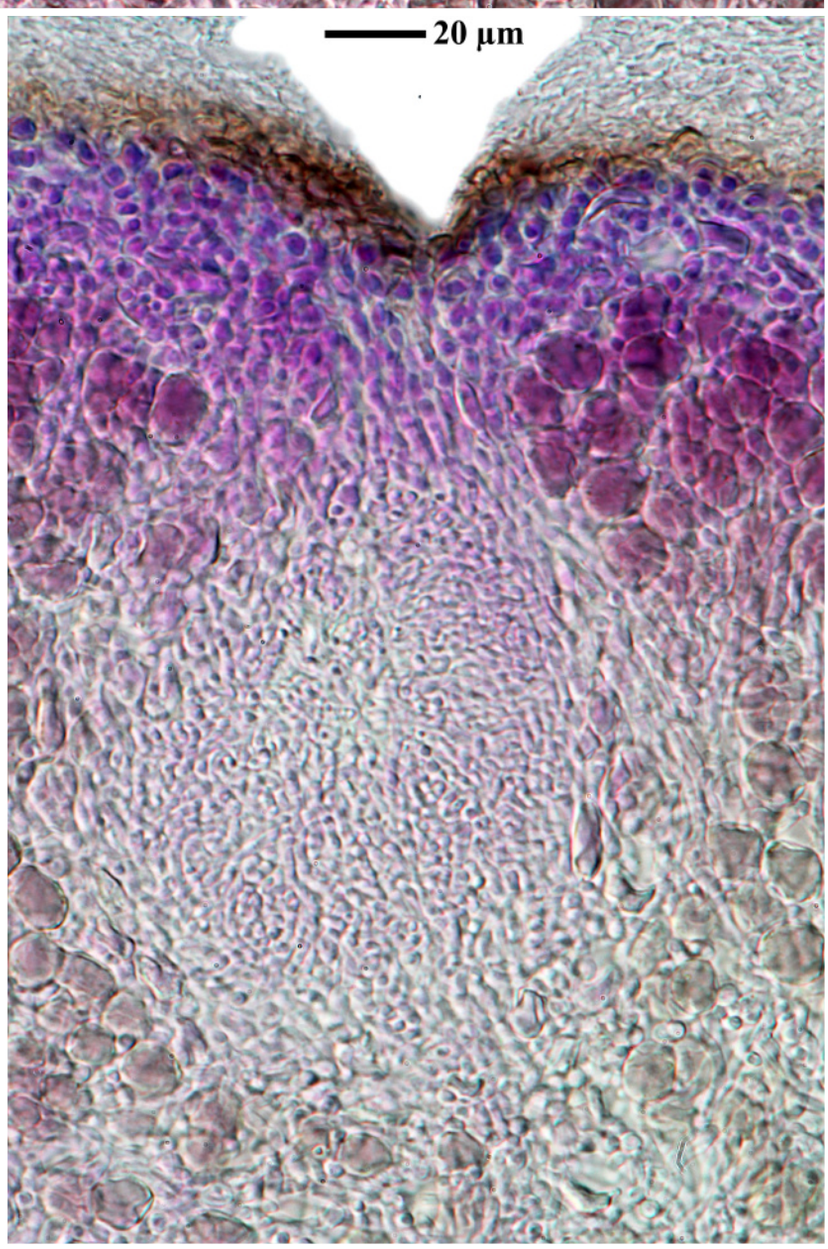


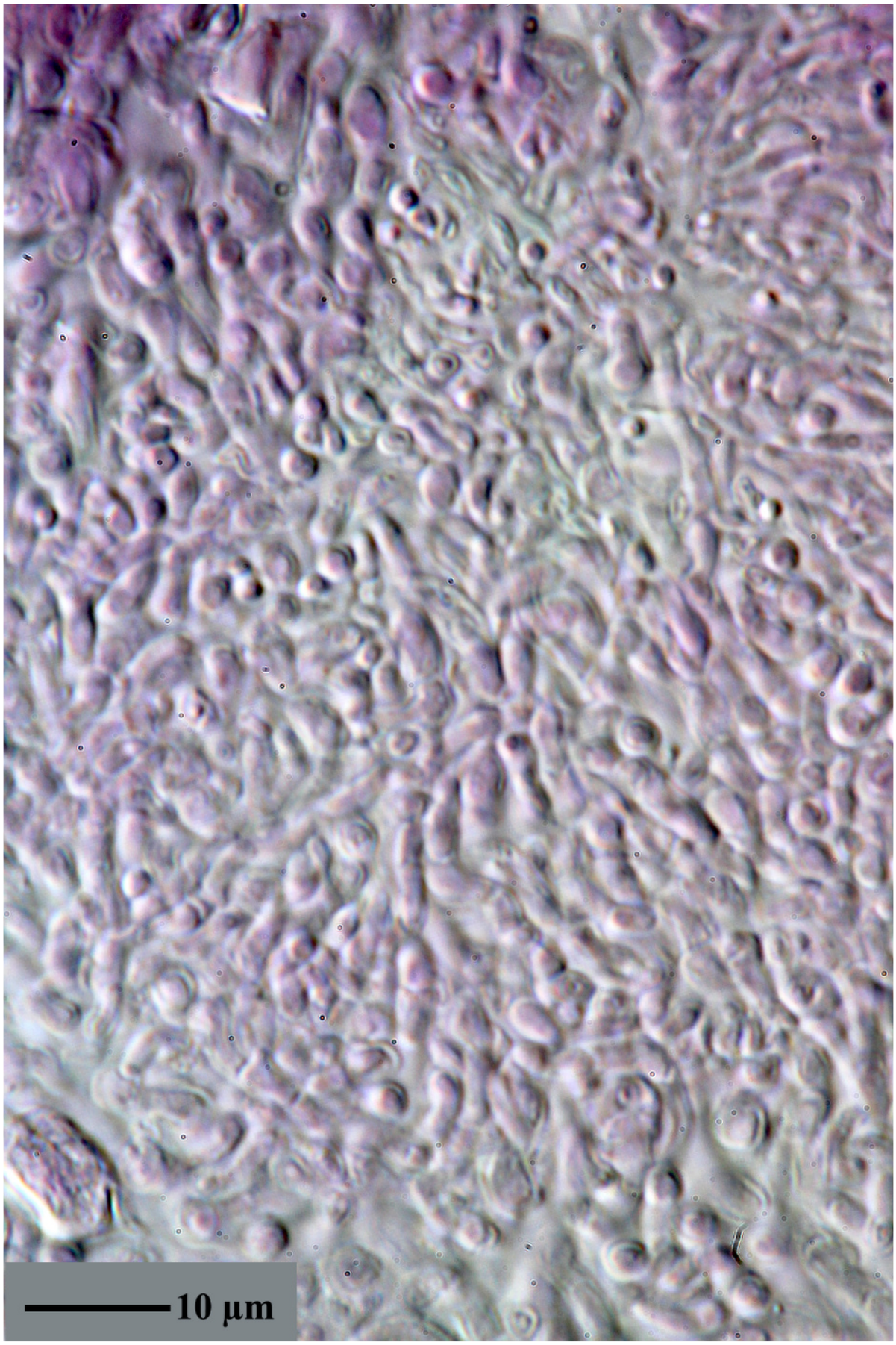


Acarospora bicolor





Acarospora bicolor



Acarospora bicolor

Acarospora bohlinii H.Magn.

[GZU 54-88], Afghanistan, Prov. Baghlan, oberes Darrah-i-Kayan, beim Dorf Dahane Ahanfalad, 68°26' E, 35°39.5' N, 2150 m. Fuß eines Steppenhügels, Blöcke von feinkörnigem Glimmerschiefer mit Kalkadern. Leg. et det. M. Steiner (Ste 52/3), 07.06.1970, conf. K. Knudsen, 17.11.2017. LICHENOTHECA AFGHANICA NO 77.

Notes:
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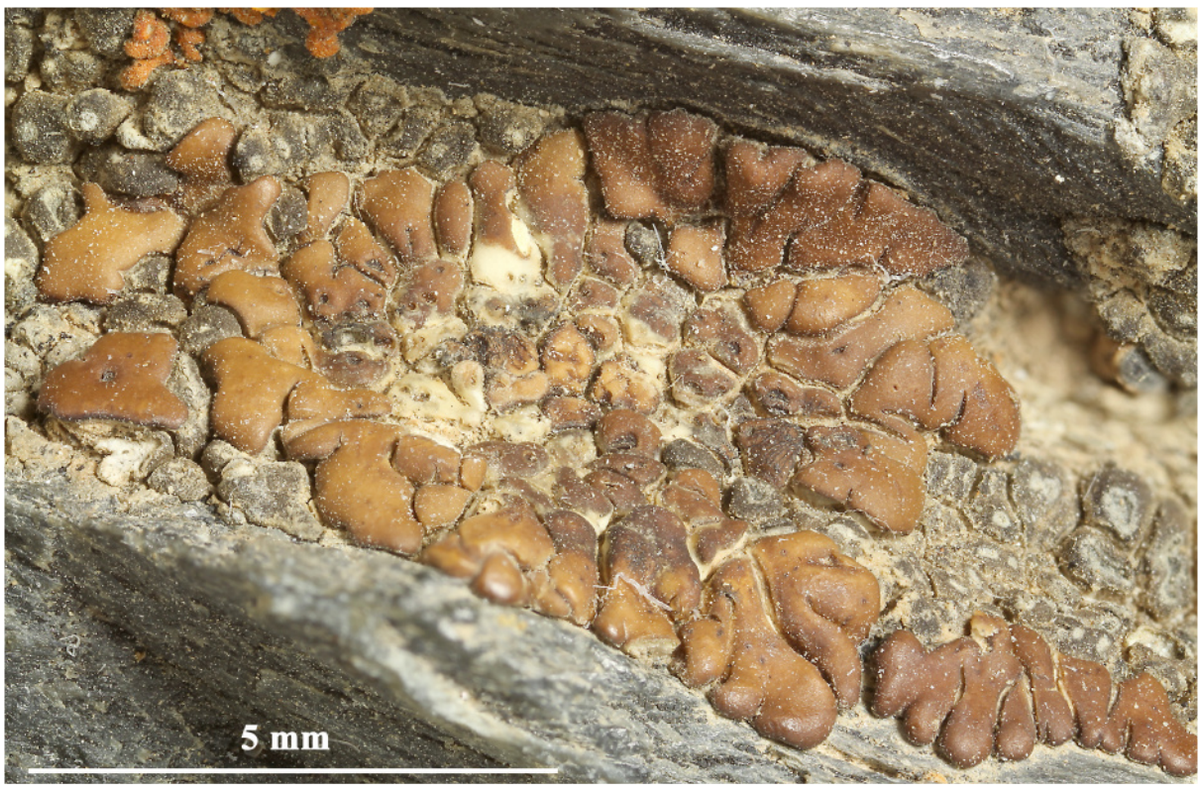
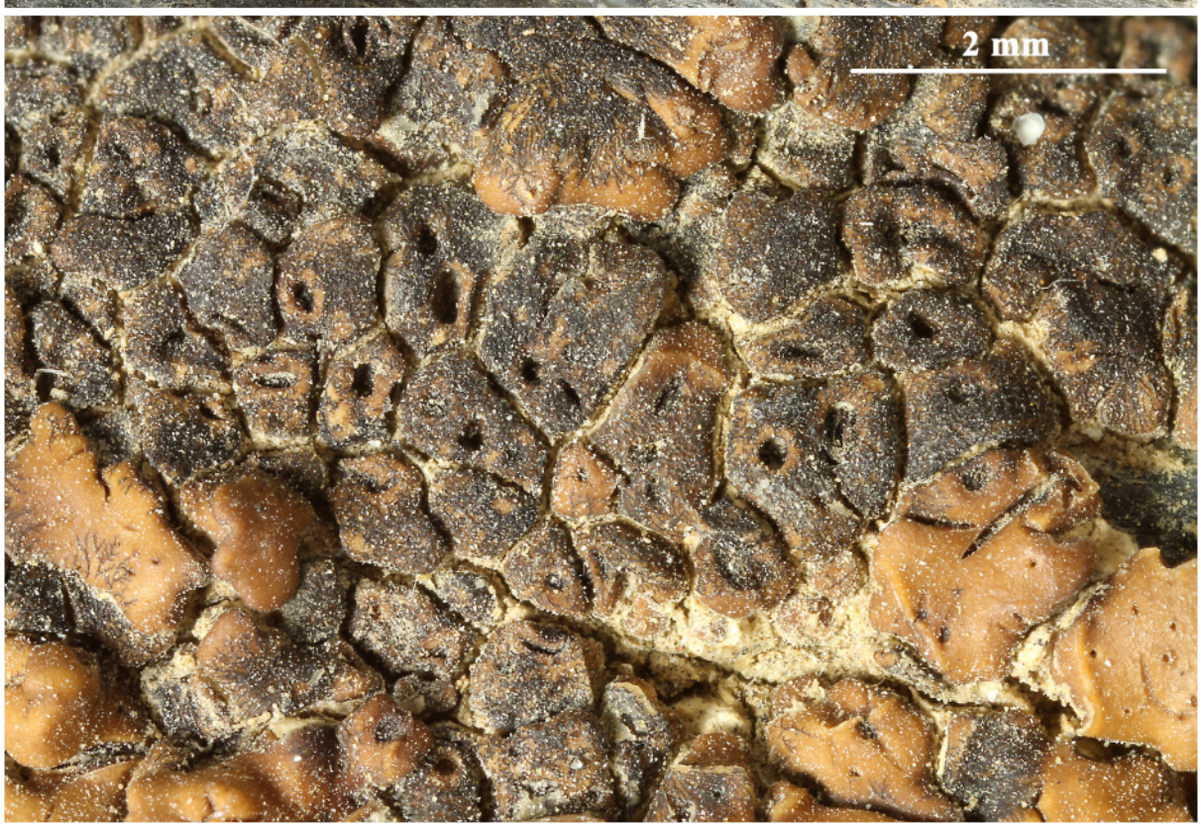
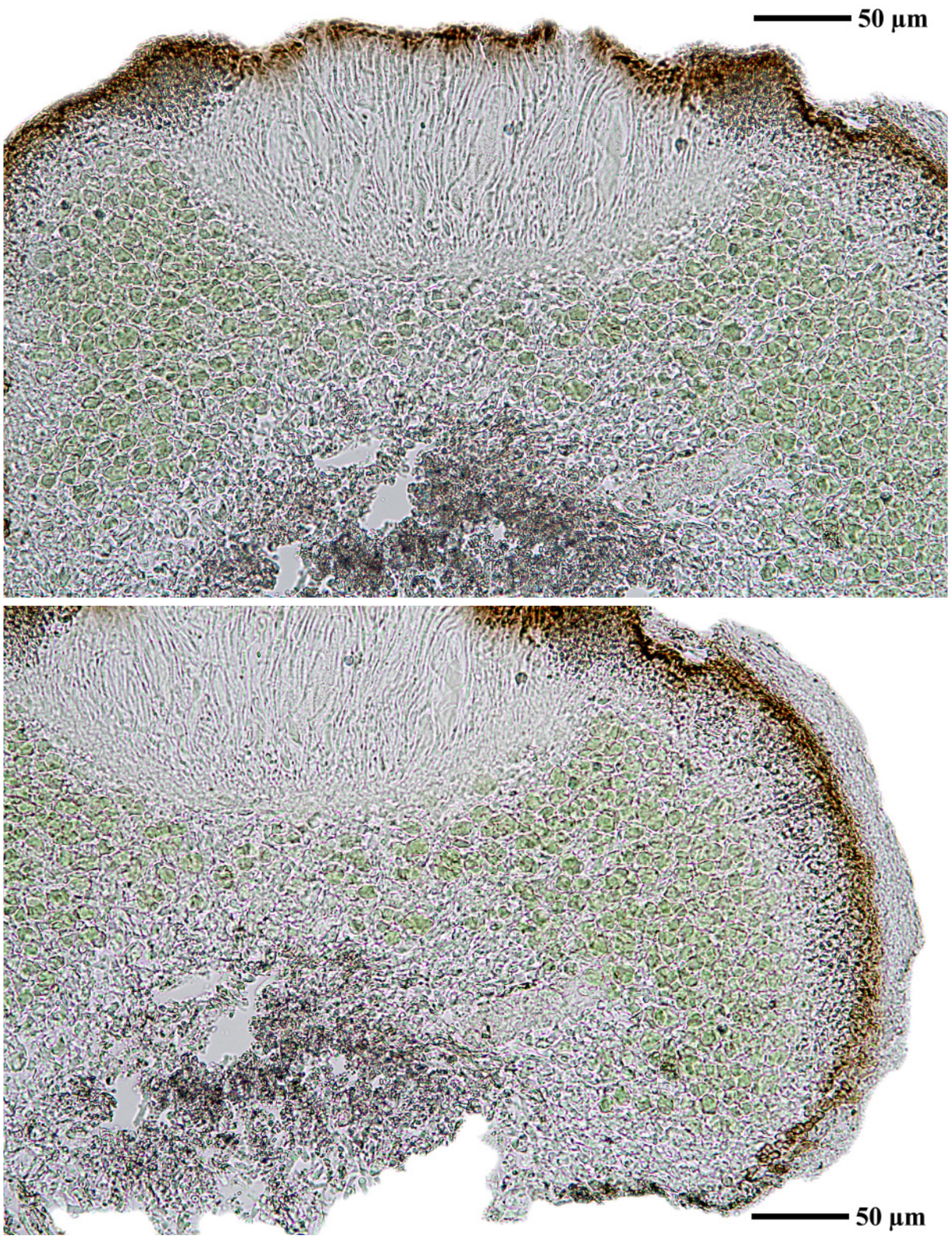




Acarospora bohlinii



Acarospora bohlinii



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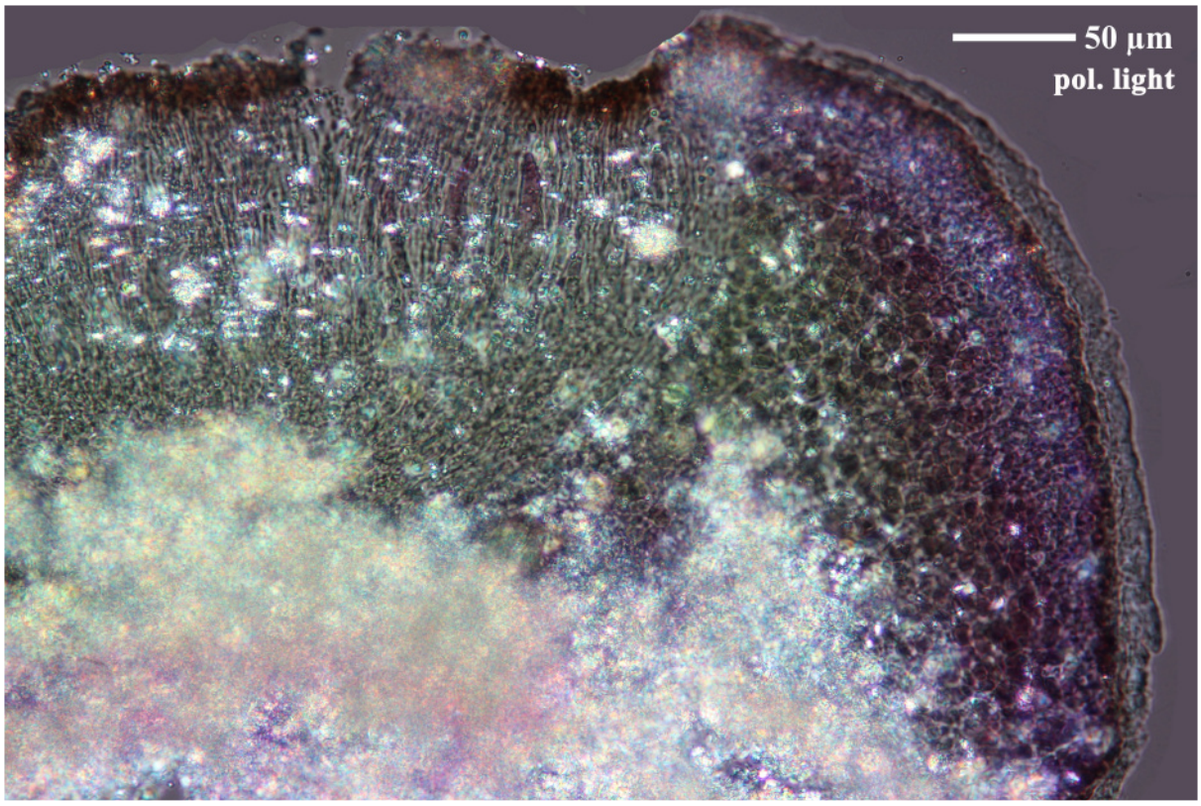

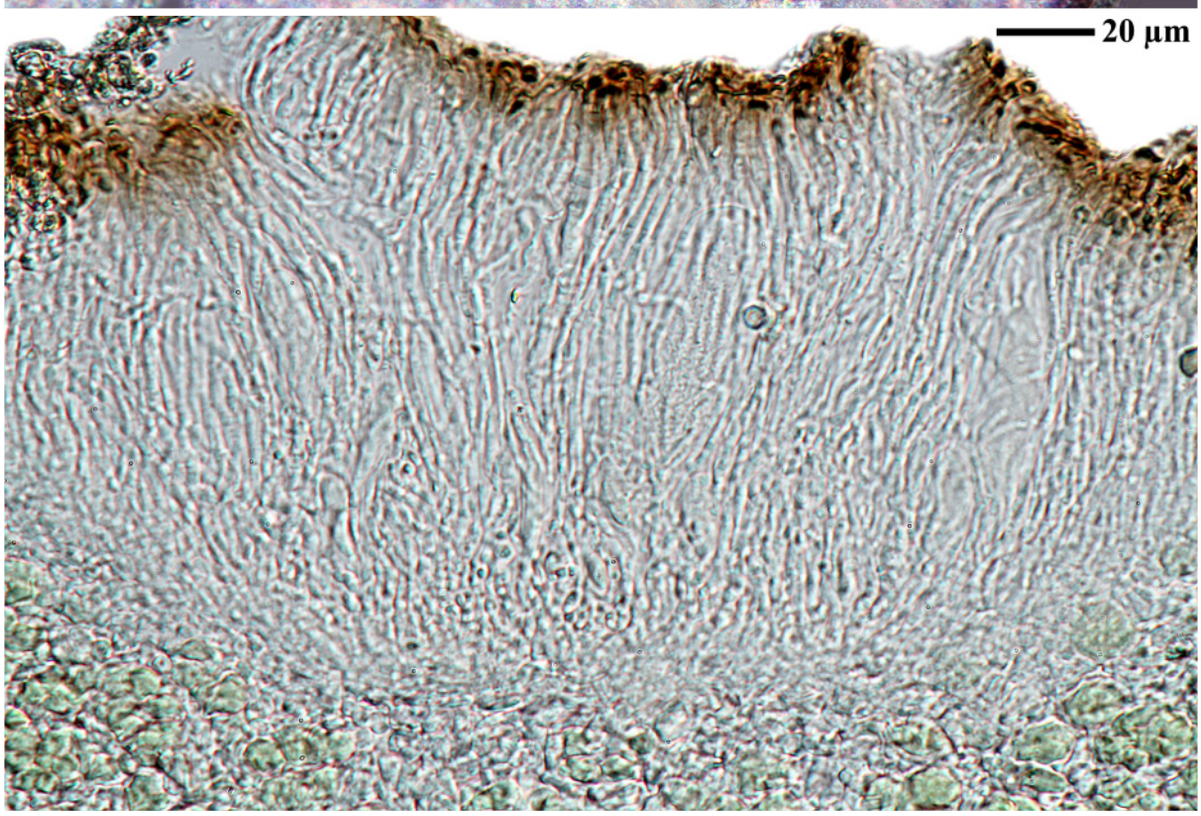

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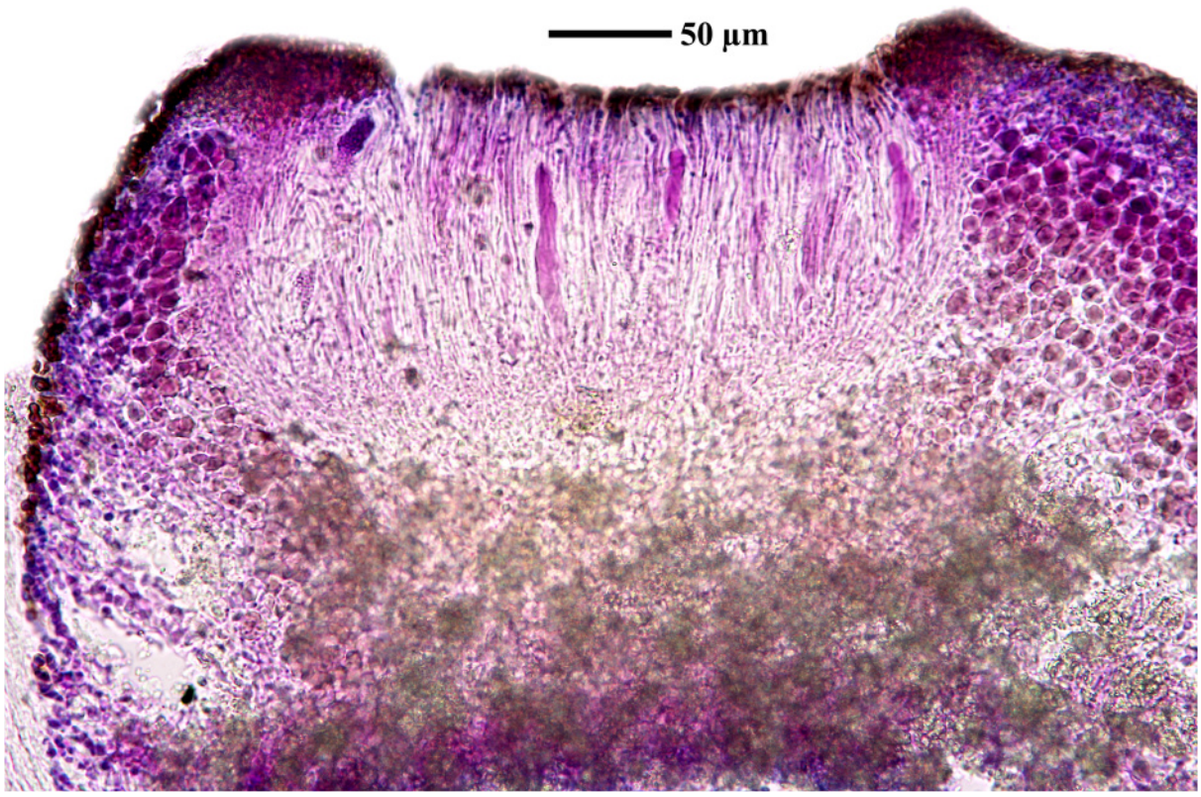
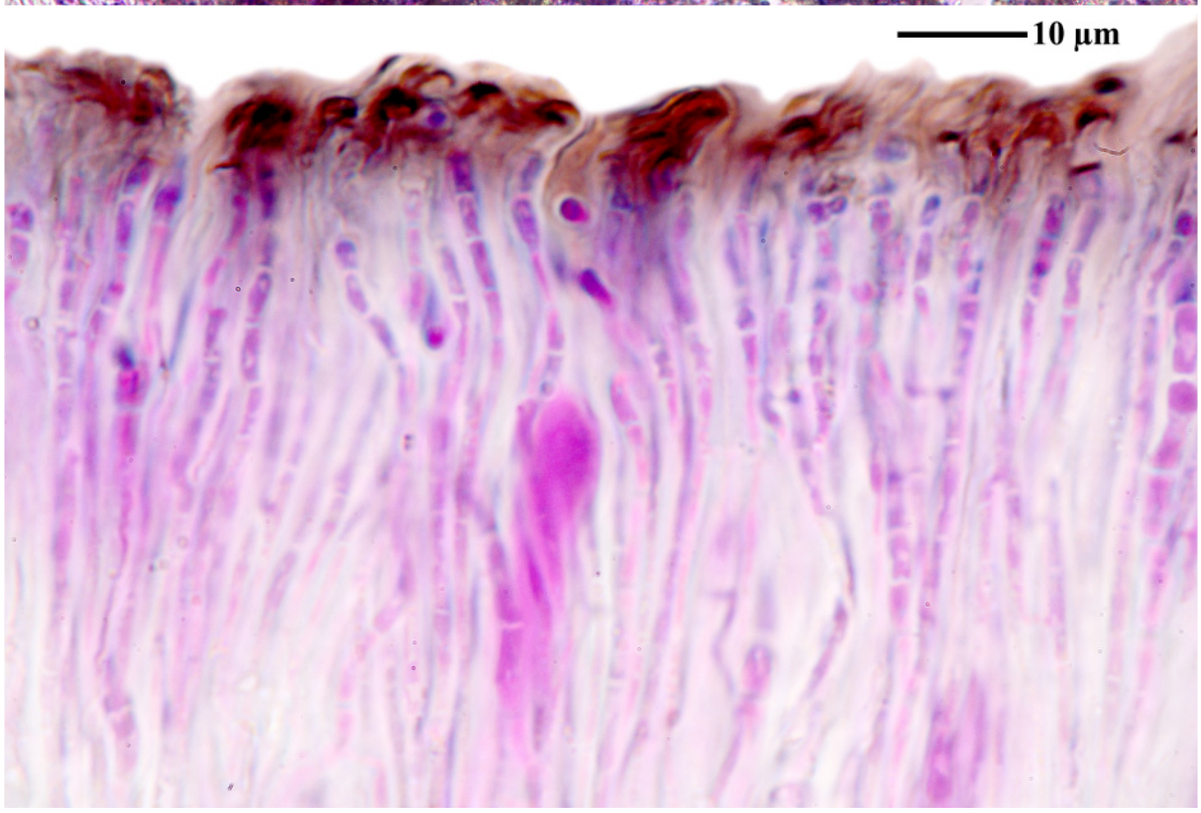
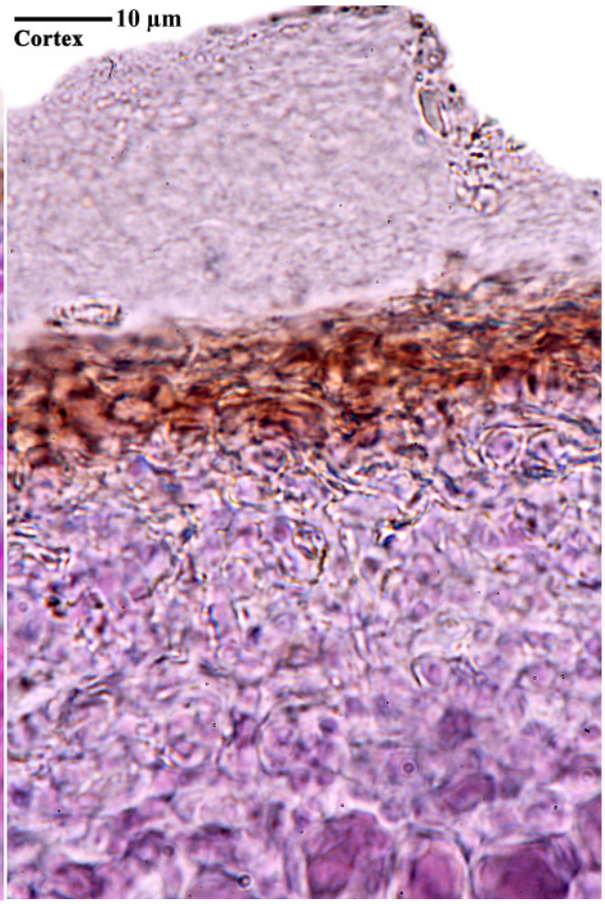
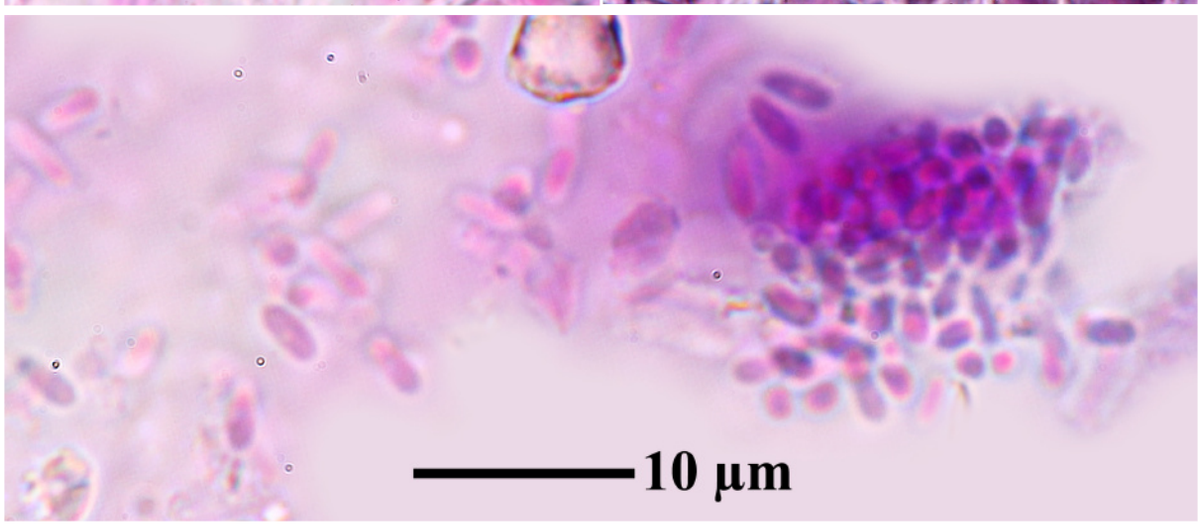


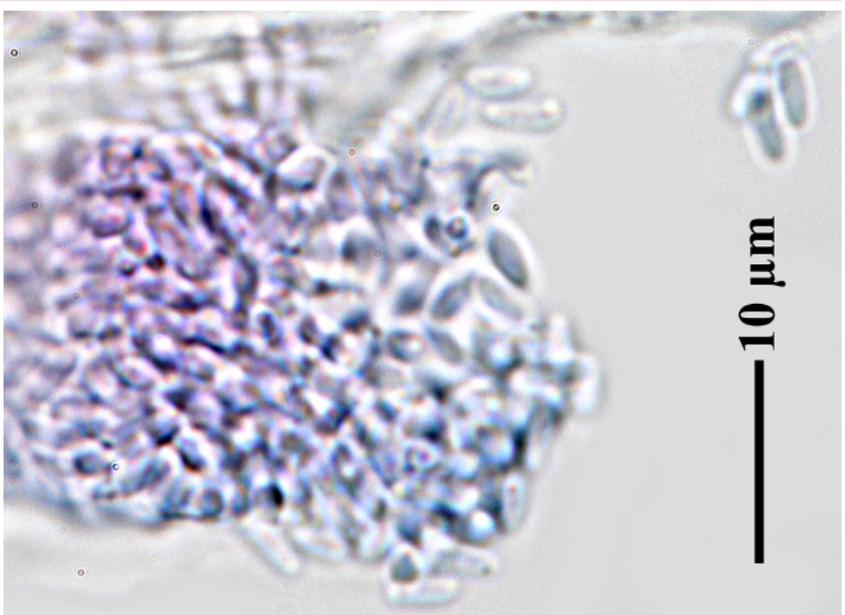


Acarospora bohlinii









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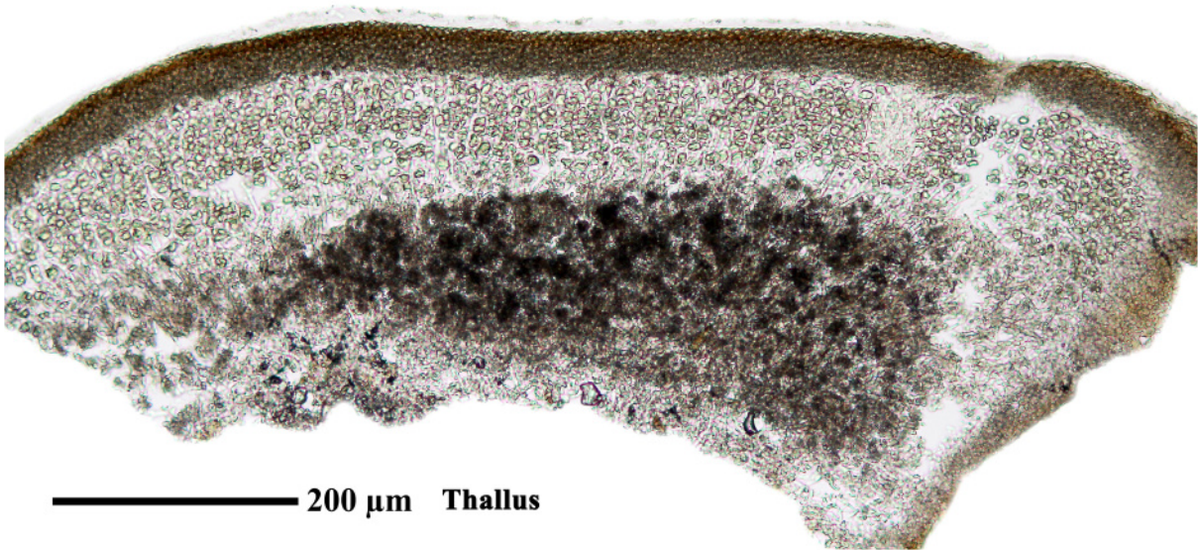

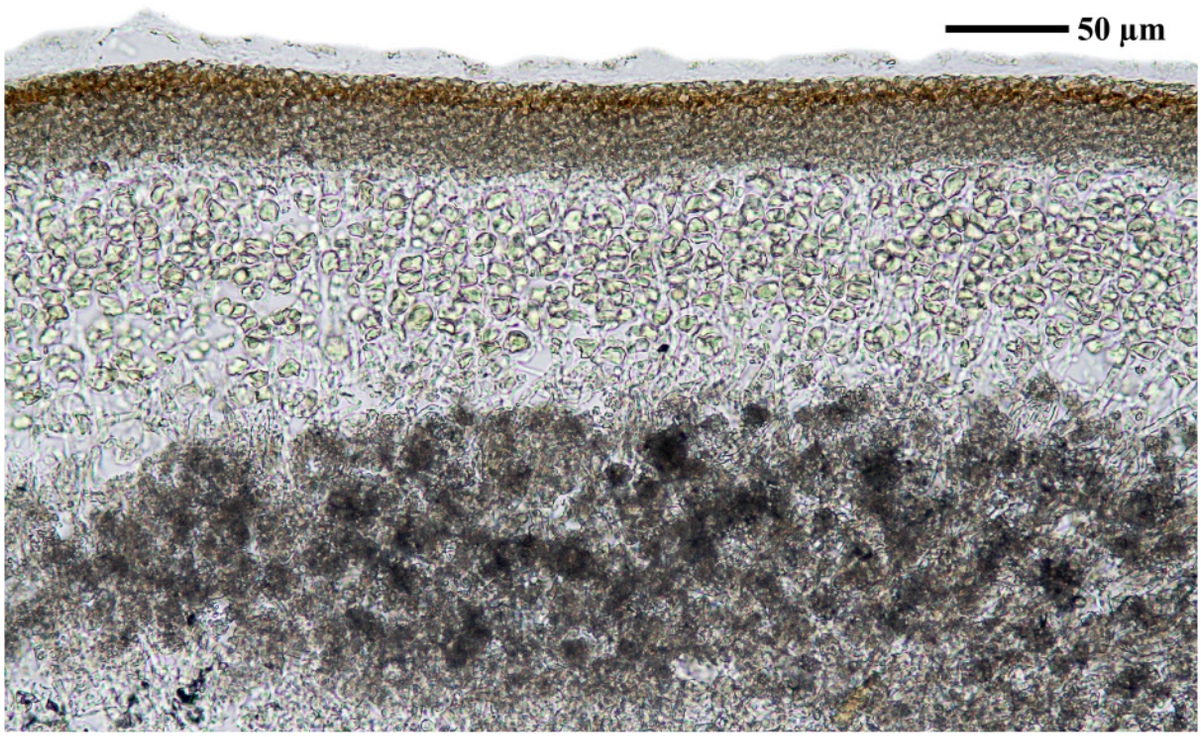

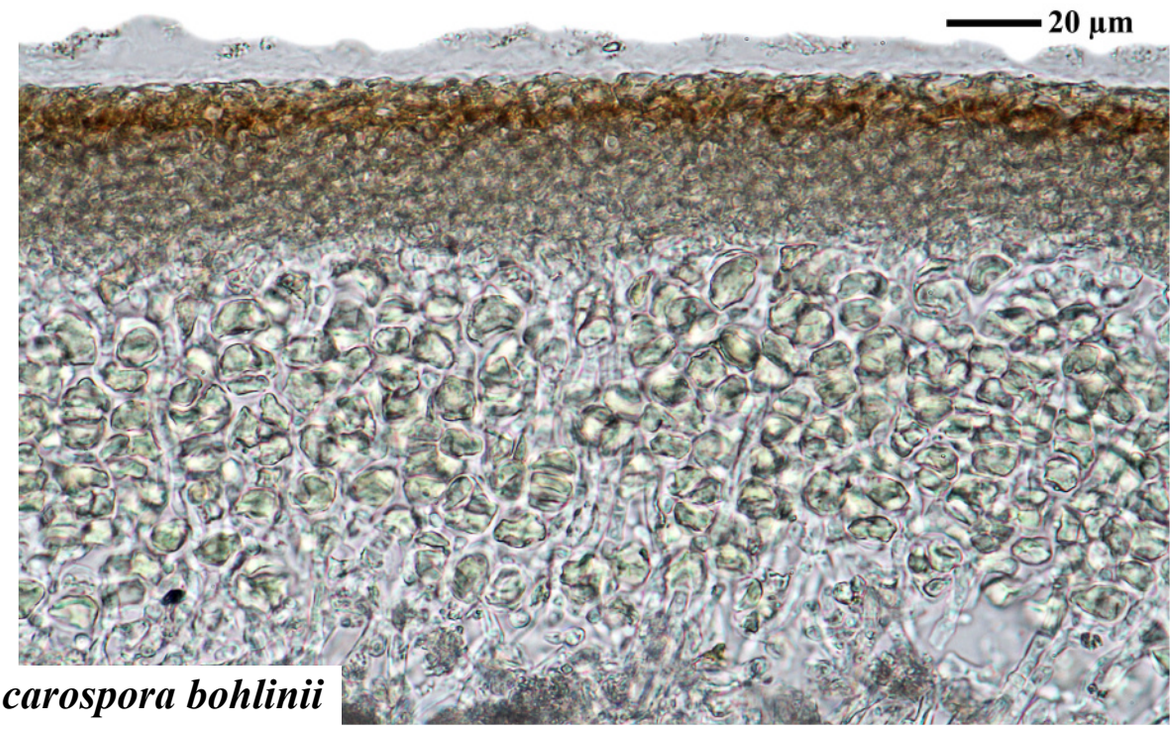

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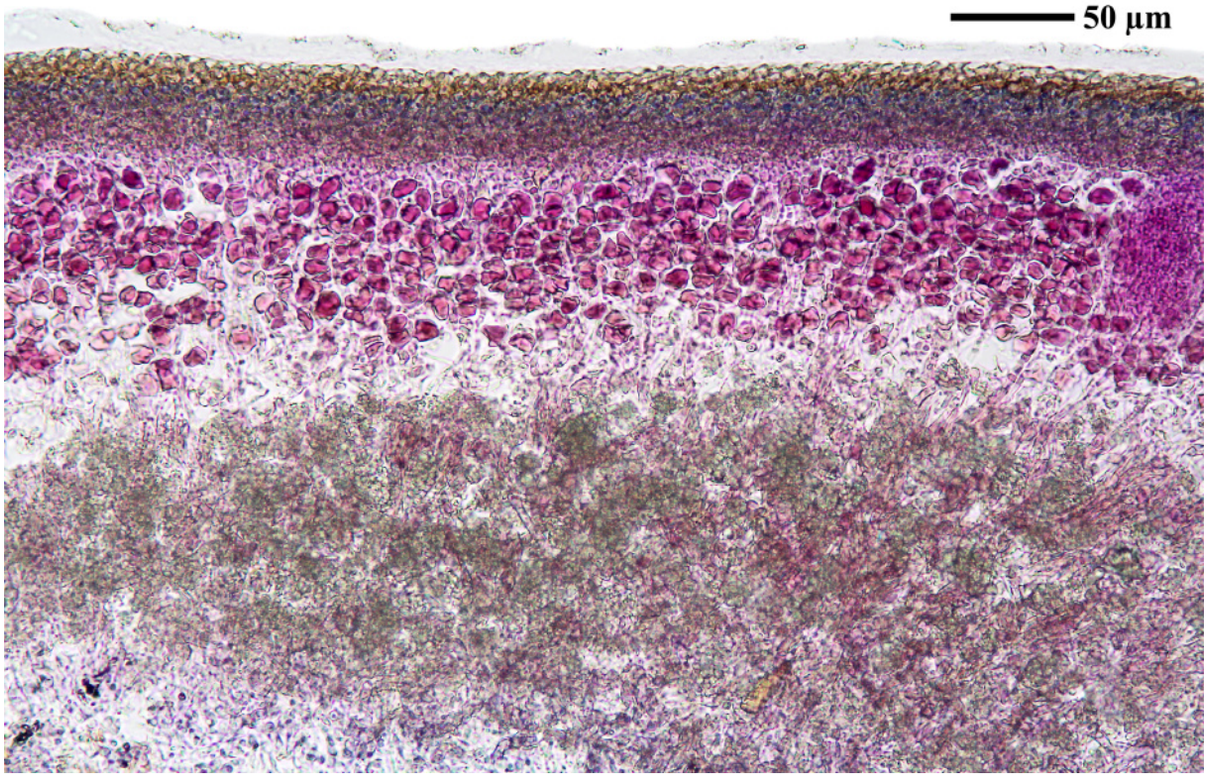

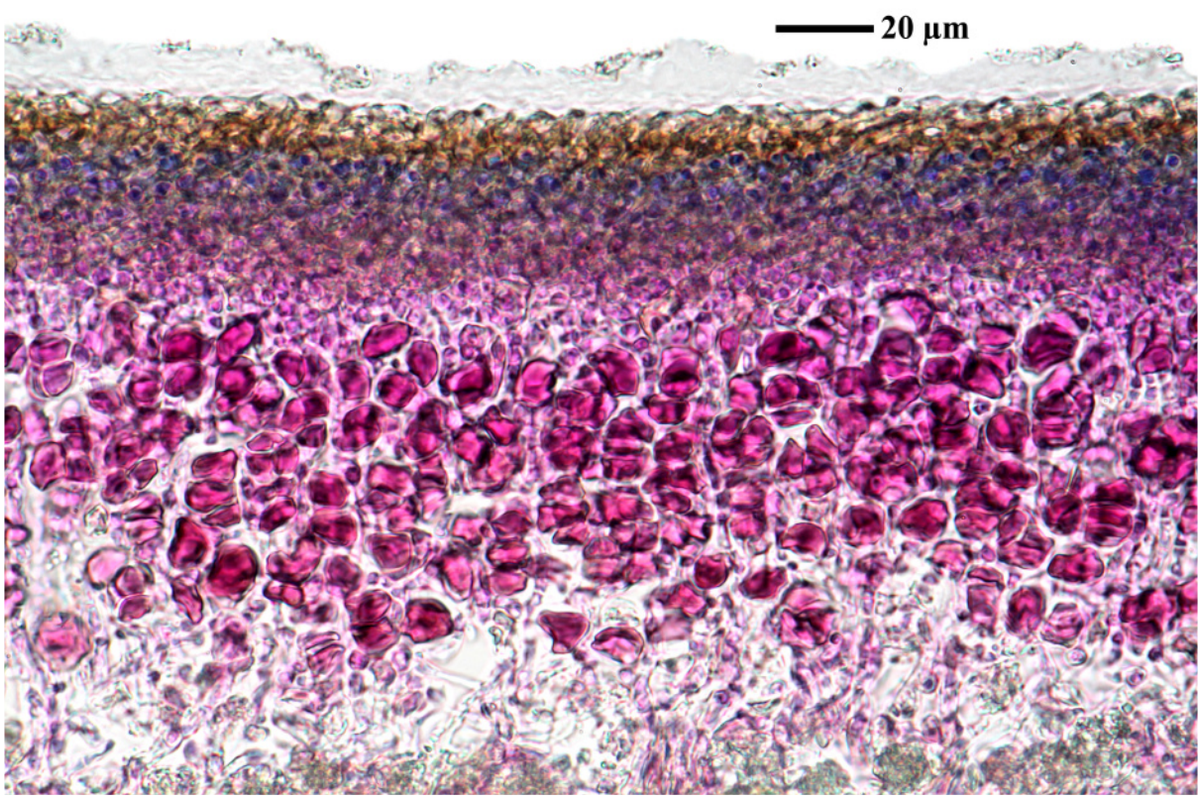

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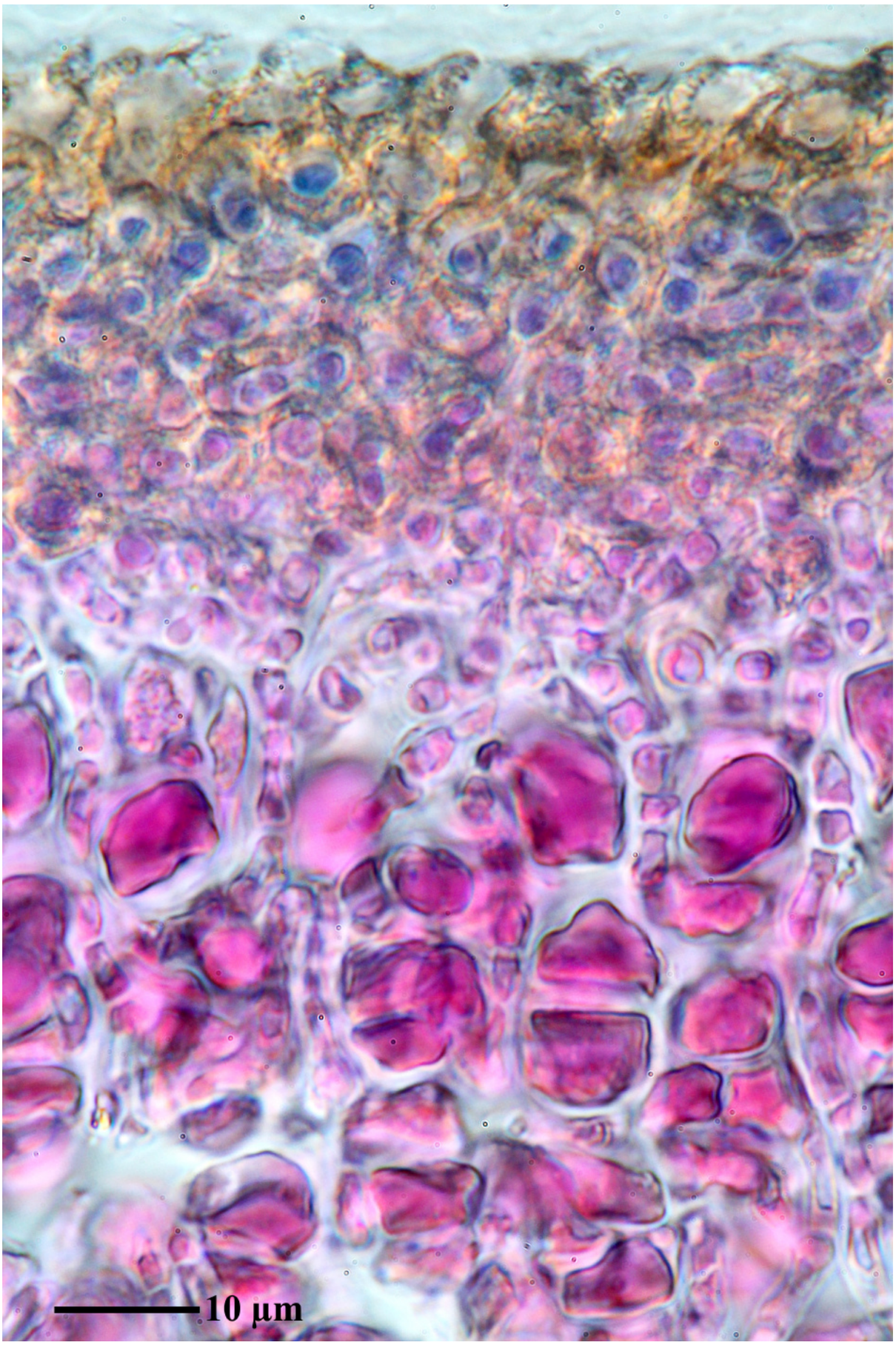

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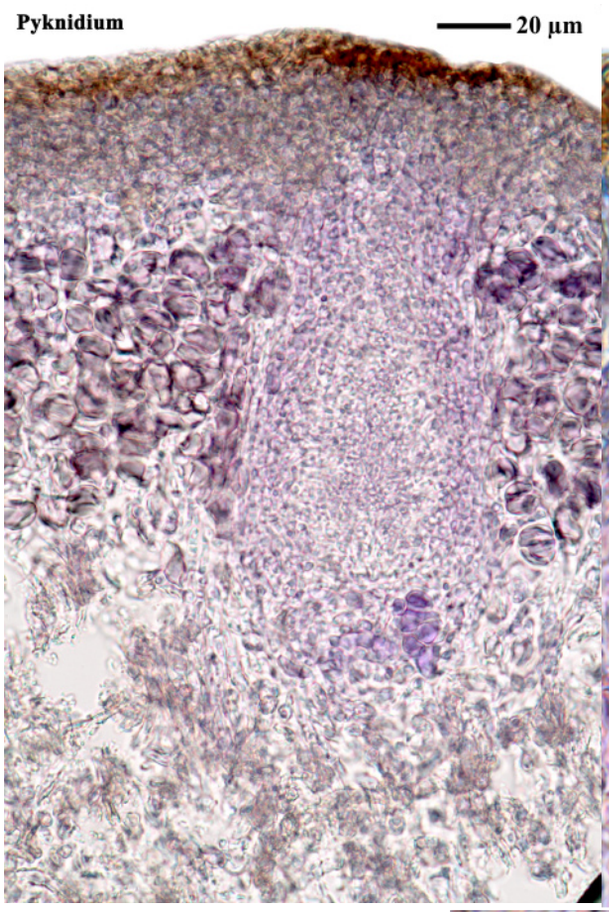

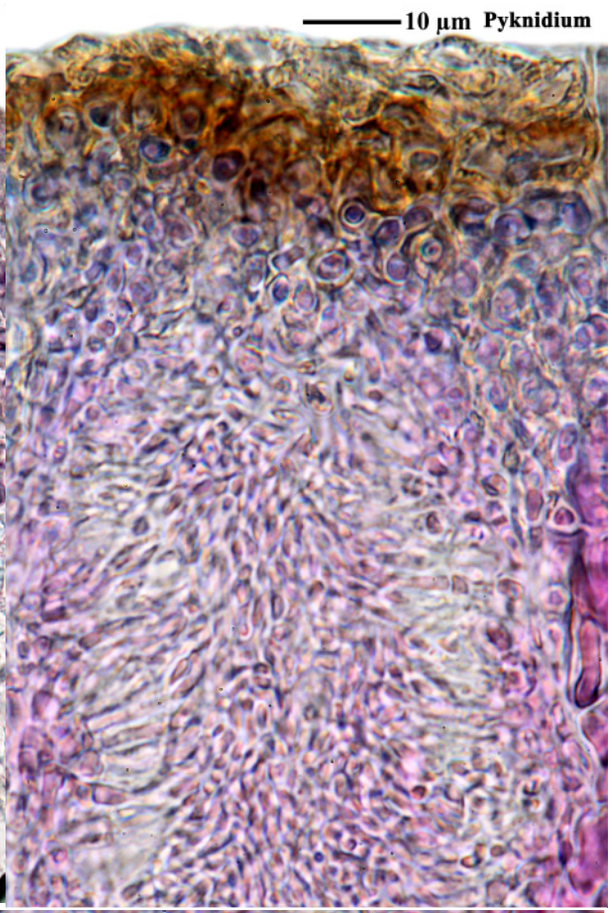

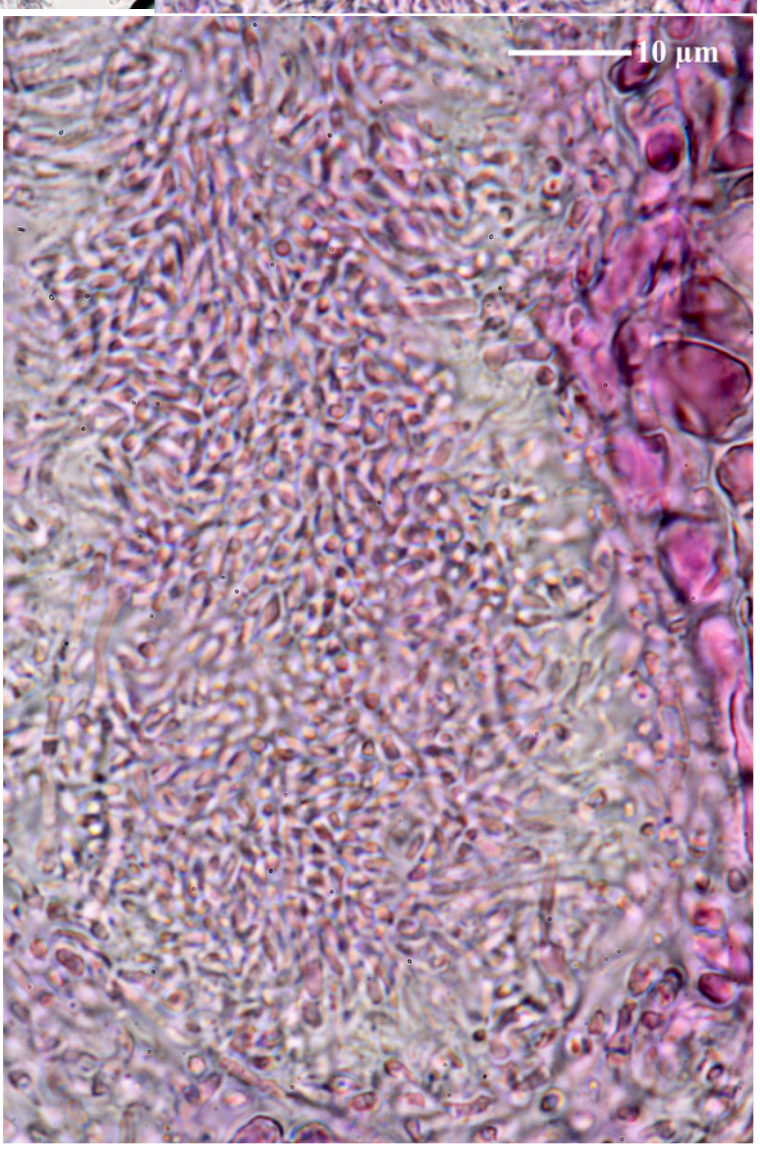

Acarospora bohlinii

Acarospora bohlinii H.Magn.

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Notes:
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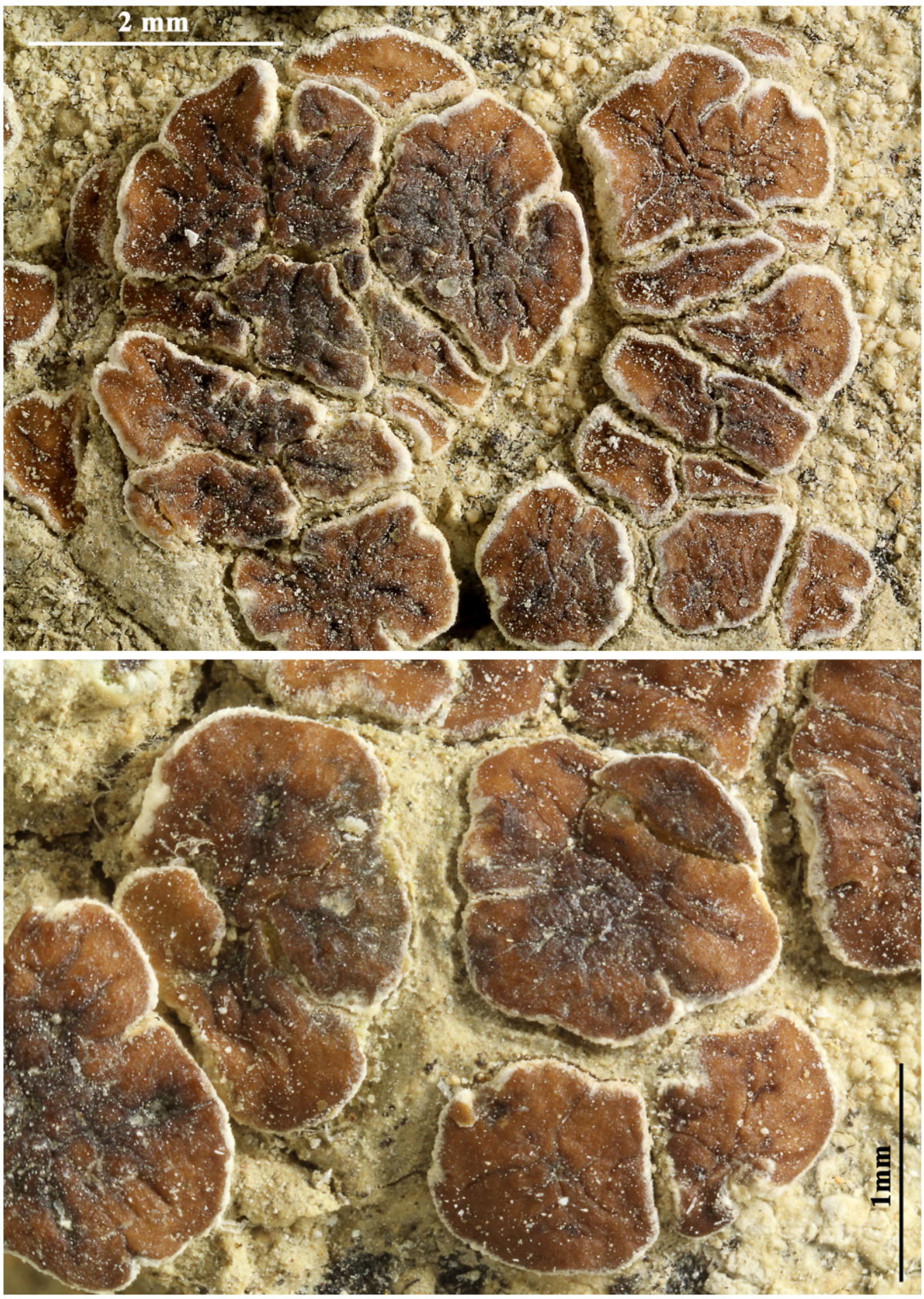
Acarospora bohlinii

Acarospora brevilobata H.Magn., Lichens Central Asia 1: 79 (1940)

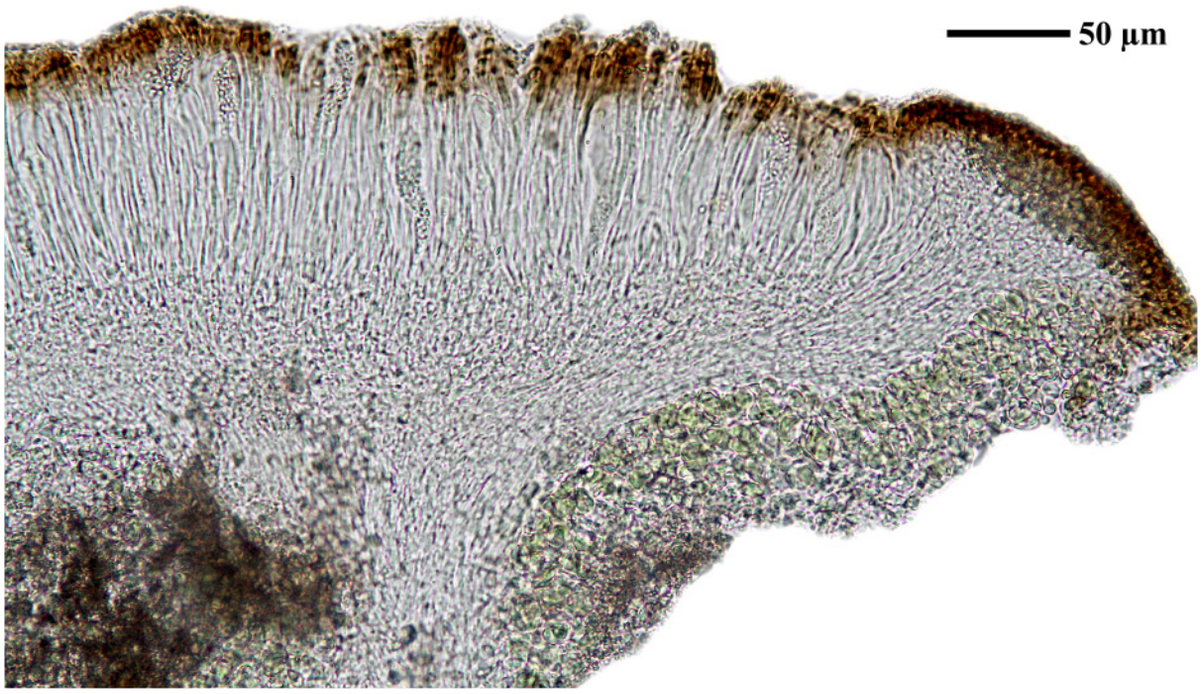
[GZU 54-88], Aghanistan, Prov. Paktia, Sardrane Ebrahim Khel, an der Straße von Gardez nach Kost, 69°22.5’ E, 33°24’ N, 2299 m. Fast senkrechte Felswämde wenig oberhalb der Sdtraße, schieferiges Gestein, Sandstein mit karbonatischem Bindemittel (teste H. Kulke). Leg. M. Steiner (Ste 69/1), 06.07.1970 (LICHENOTHECA AFGHANICA), det K. Knudsen, 14.11.2917.

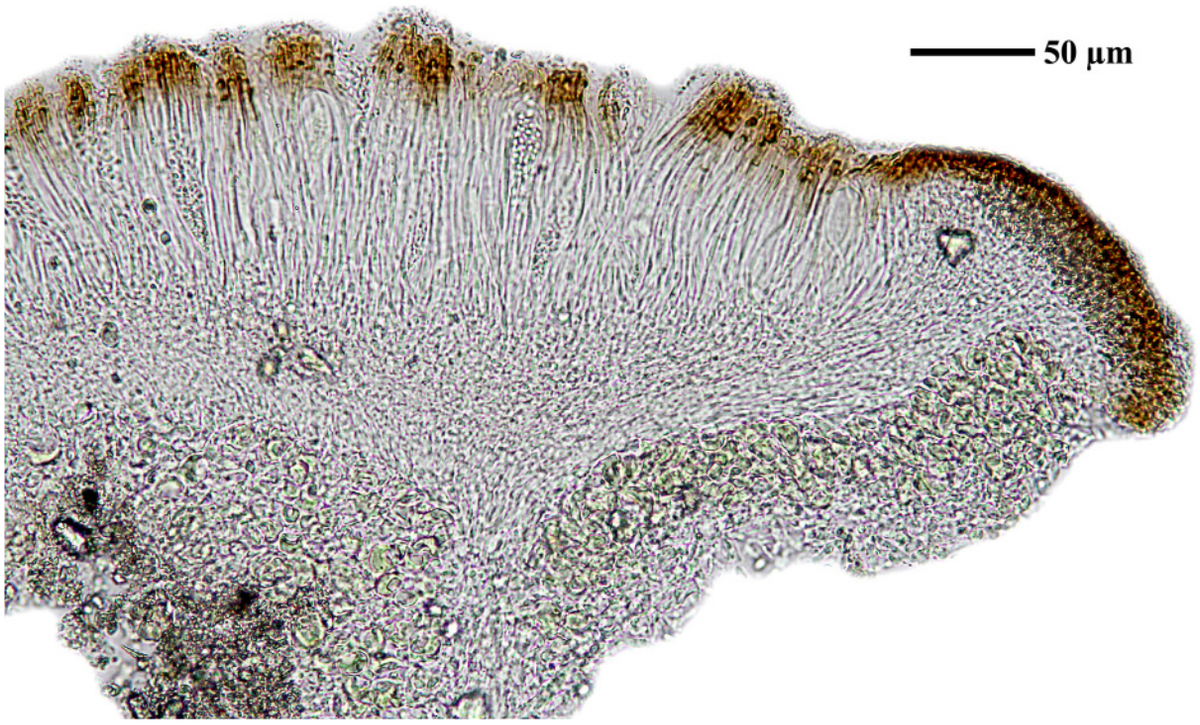
Notes: Thallus teils aus einzelnen, braunen, weiß berandeten, 3-5 x 2.5-3 mm, Lappen, die runde Gruppen bilden. Ahnlich ist *A. rufotestacea* Harm. aus Algier.





Acarospora brevilobata





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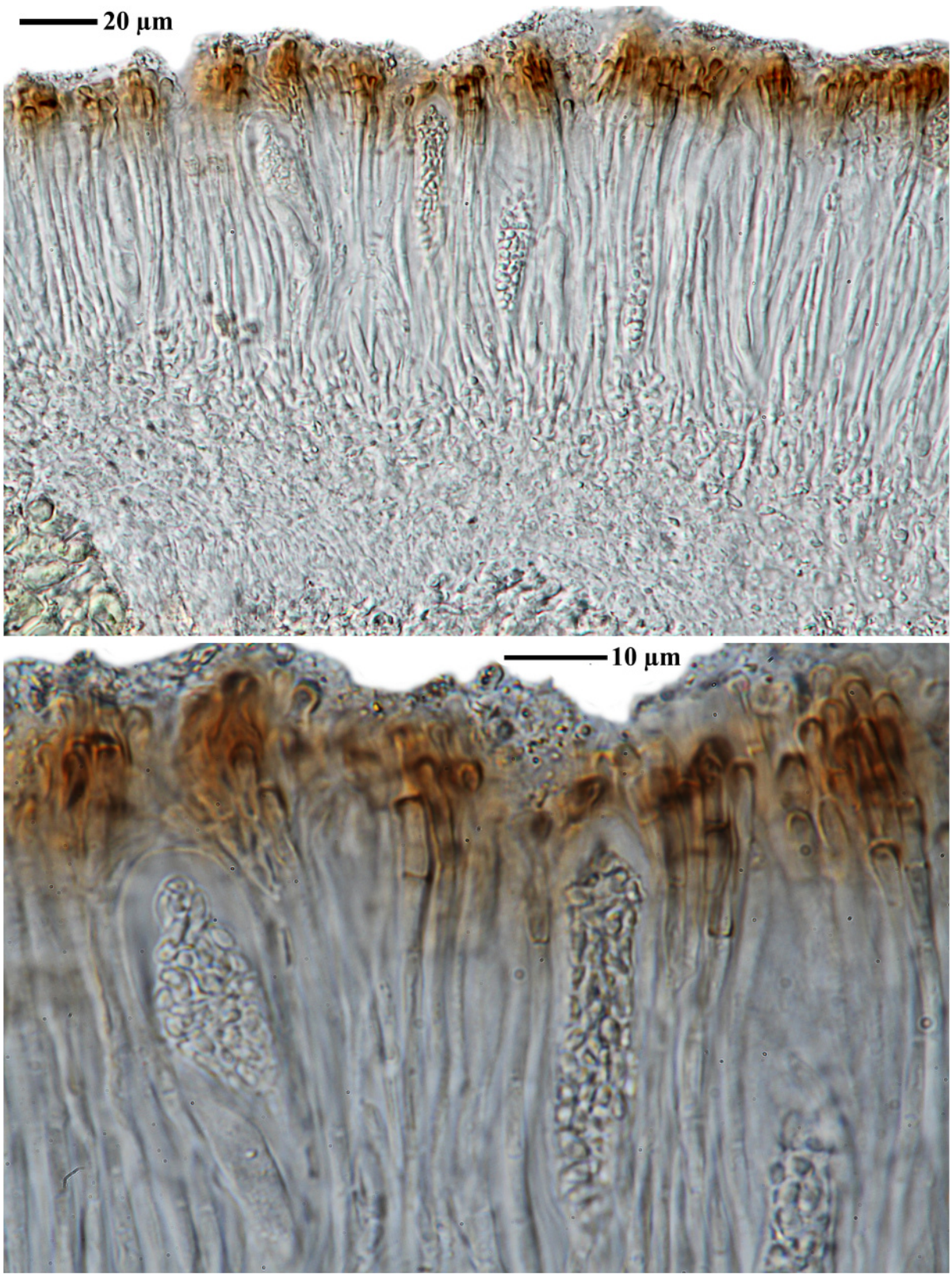

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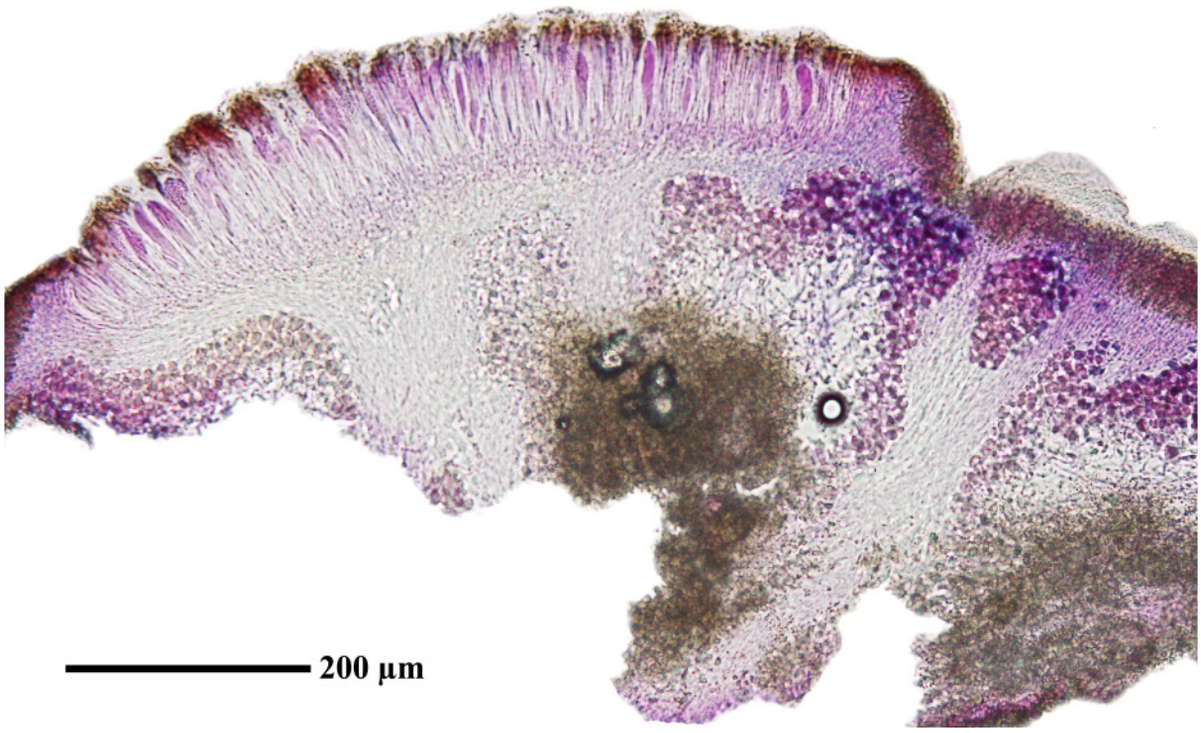



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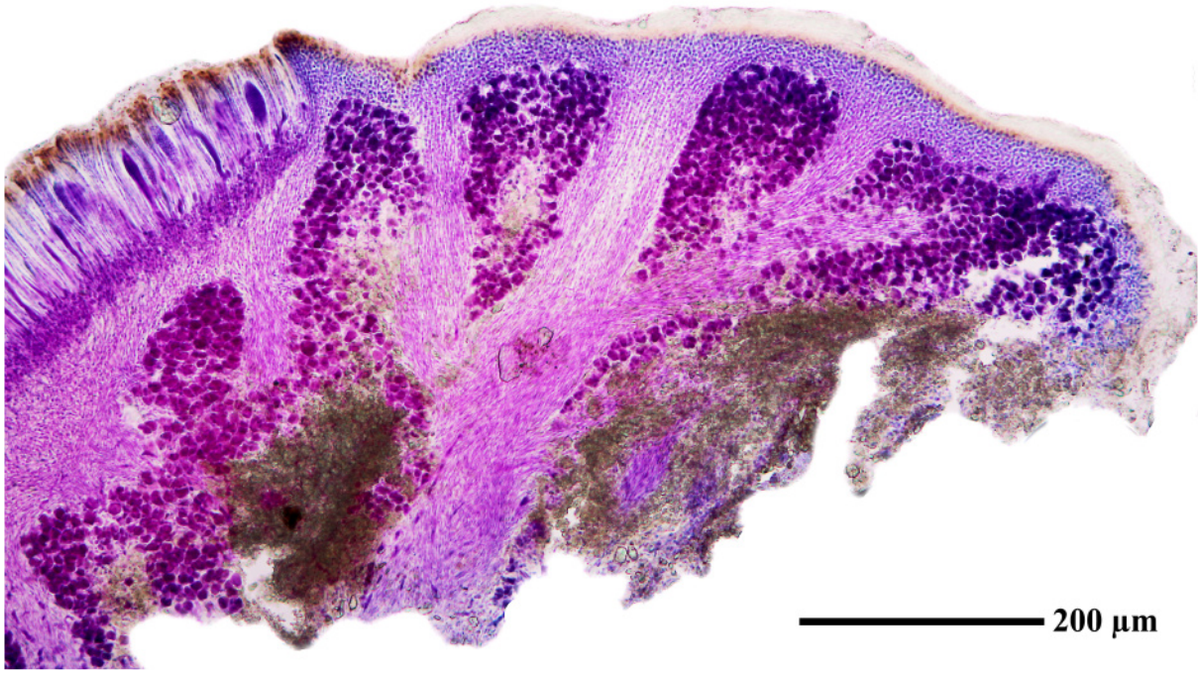



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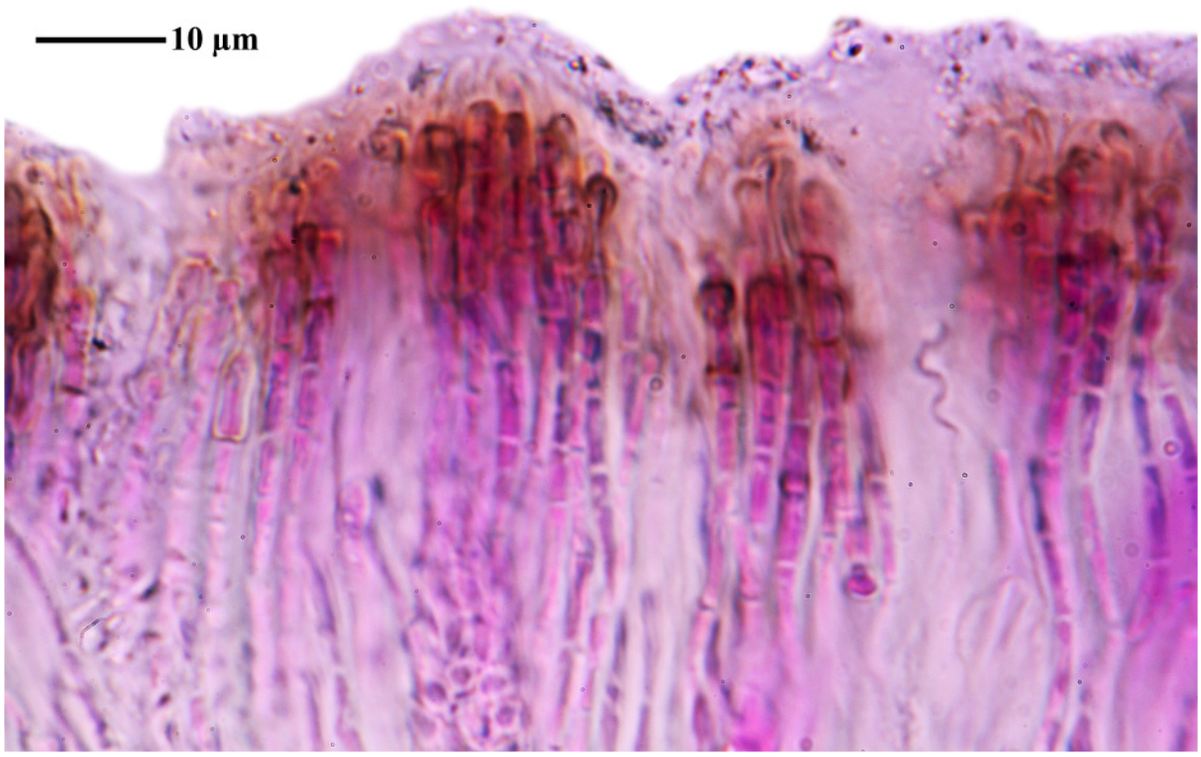

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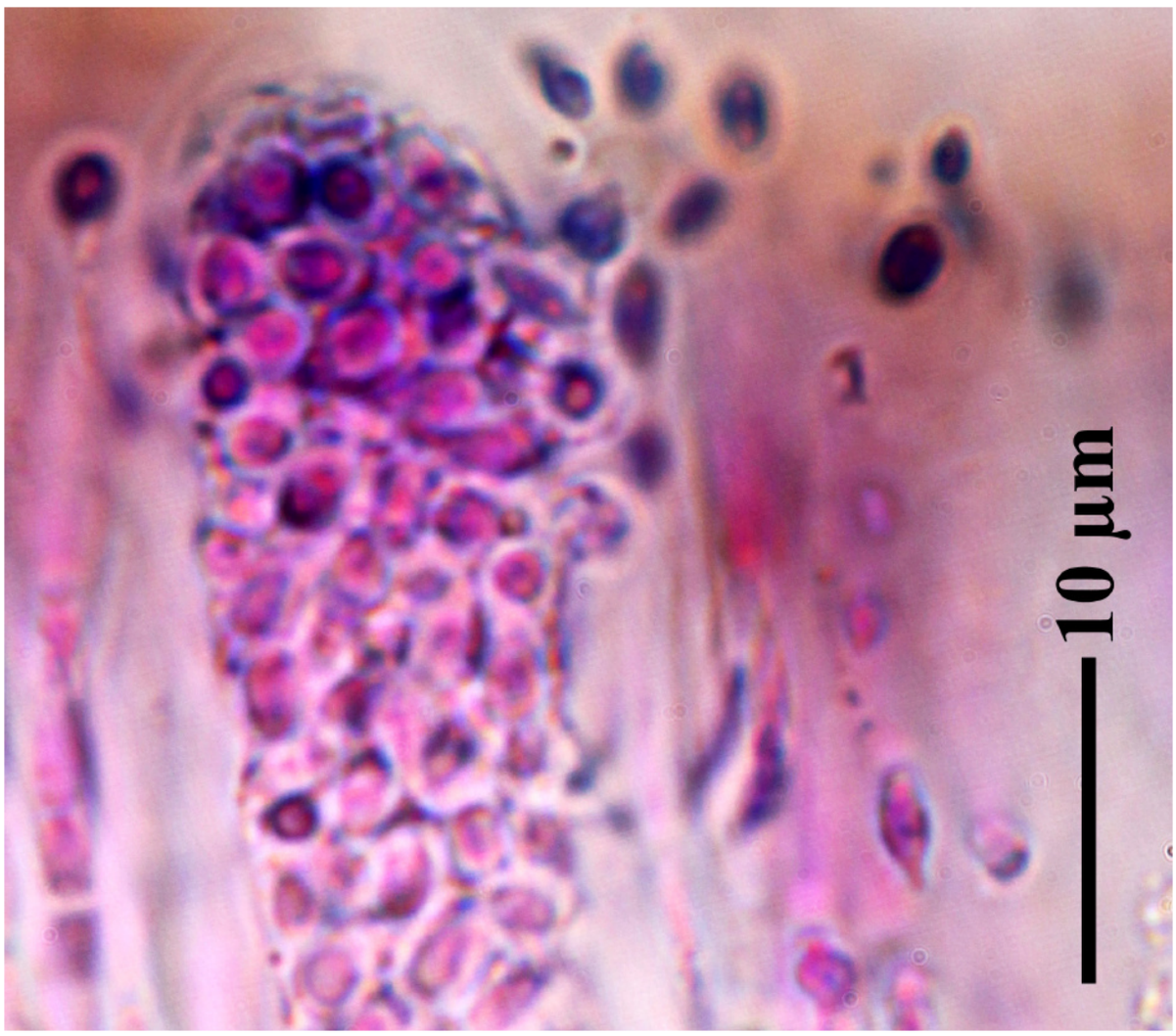



Acarospora brevilobata

Acarospora brevilobata H.Magn., Lichens Central Asia 1: 79 (1940)

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Acarospora brevilobata



Acarospora brevilobata

Acarospora cervina (Ach.) A.Massal f. ***larvata*** (Müll.Arg.) H.Magn.

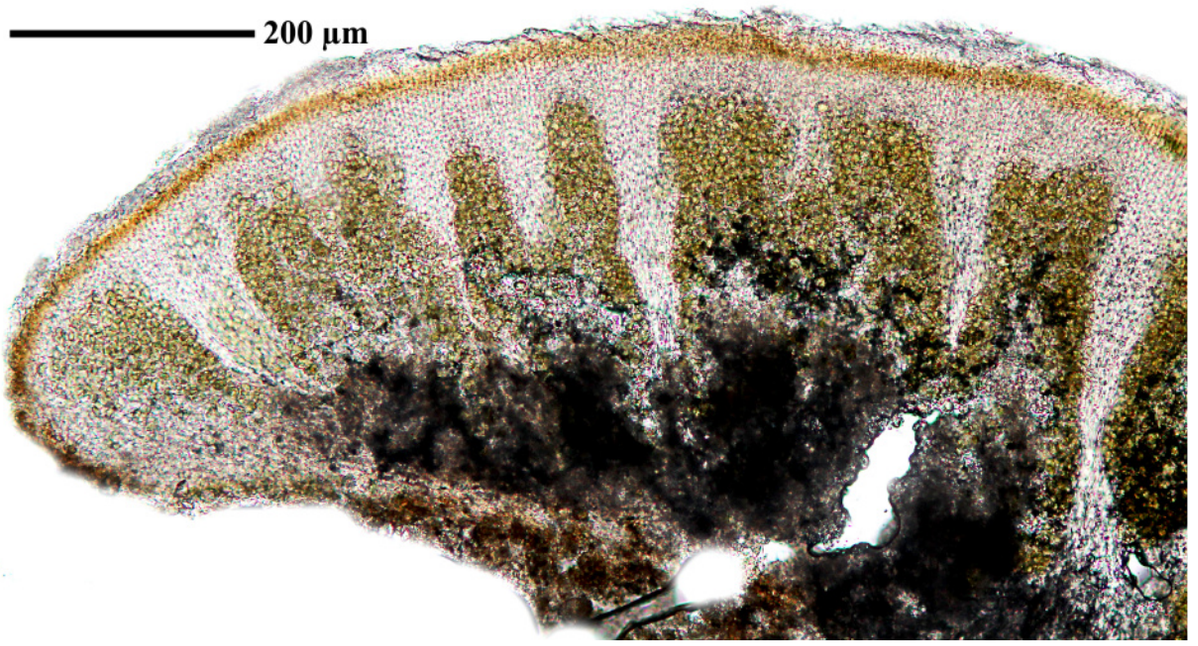
[GZU 27-94], Afghanistan,Prov. Kunar, Muristan oberhalb Kamdesch. 21°71’ E, 35°24’N, 2000 m. Auf Kalkfelsen. Leg. S. Podlech (Pod 61), 30.07.1978, det. K. Knudsen, 17.11.2017.

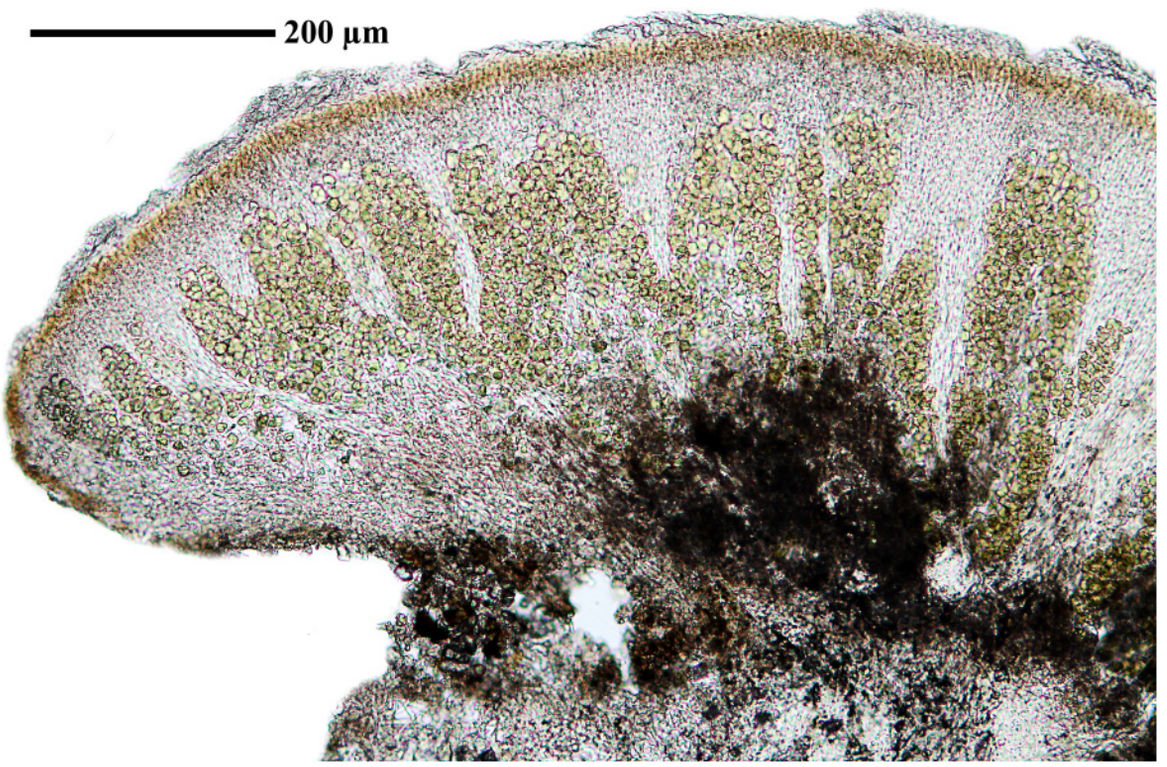
Notes: Knudsen:Young squamules!
Lit. Magnusson (Monograph, 1929 p. 248), die Form mit der dicksten weißen Bereifung, welche die braune, oft rauhe oder körnige Oberfläche verdeckt. Steril schwer von *A. interrupta* zu unterscheiden.





Acarospora cervina f. ***larvata***





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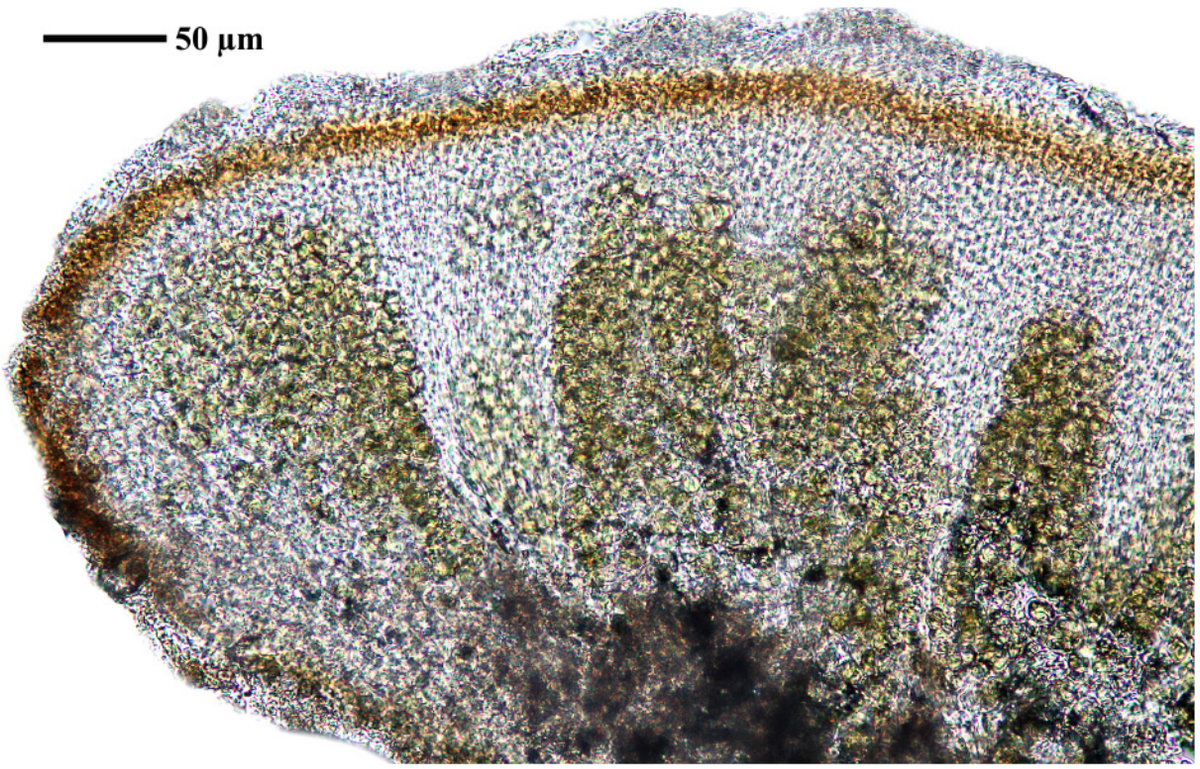
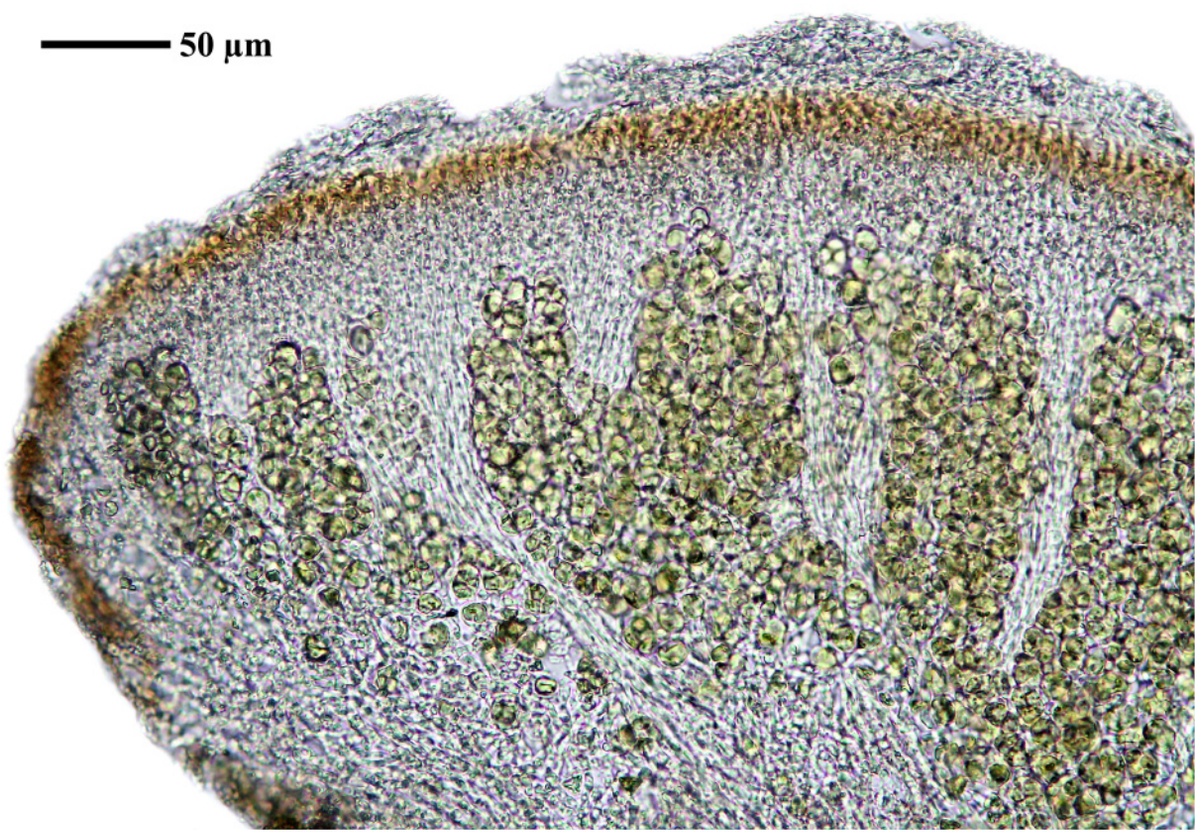


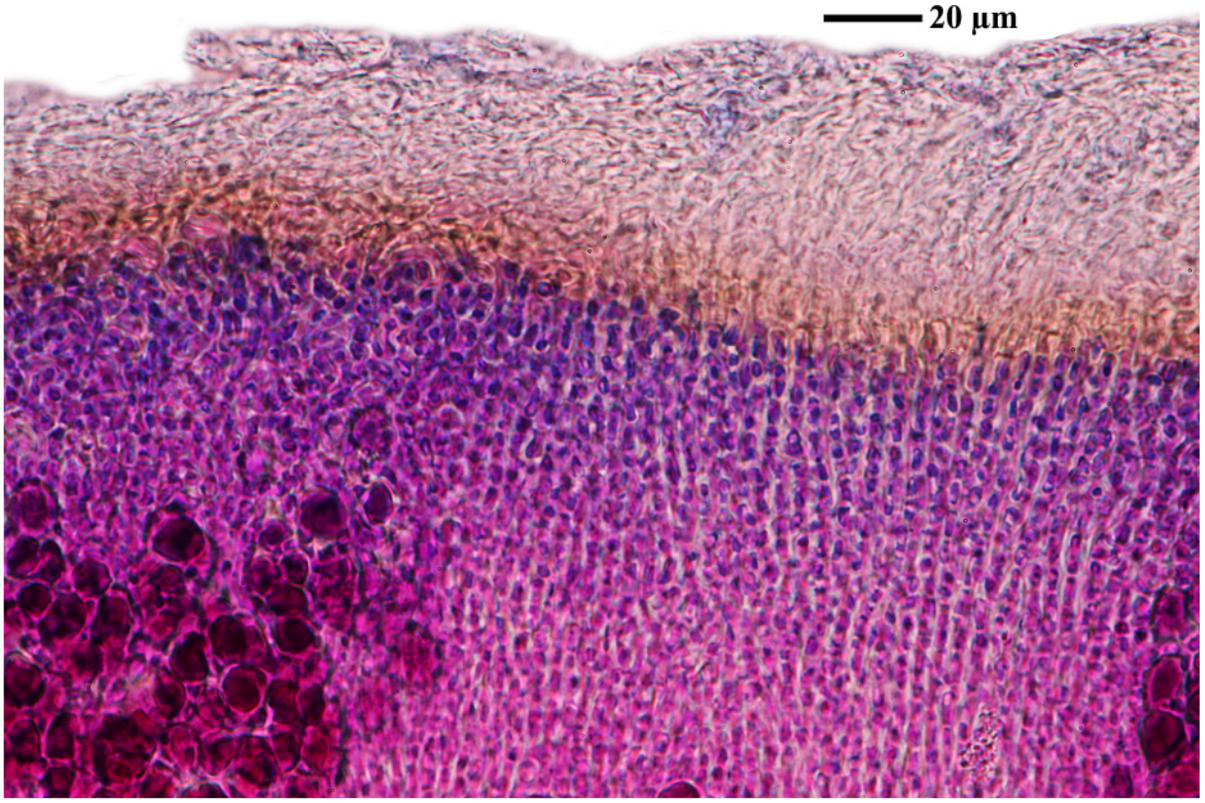


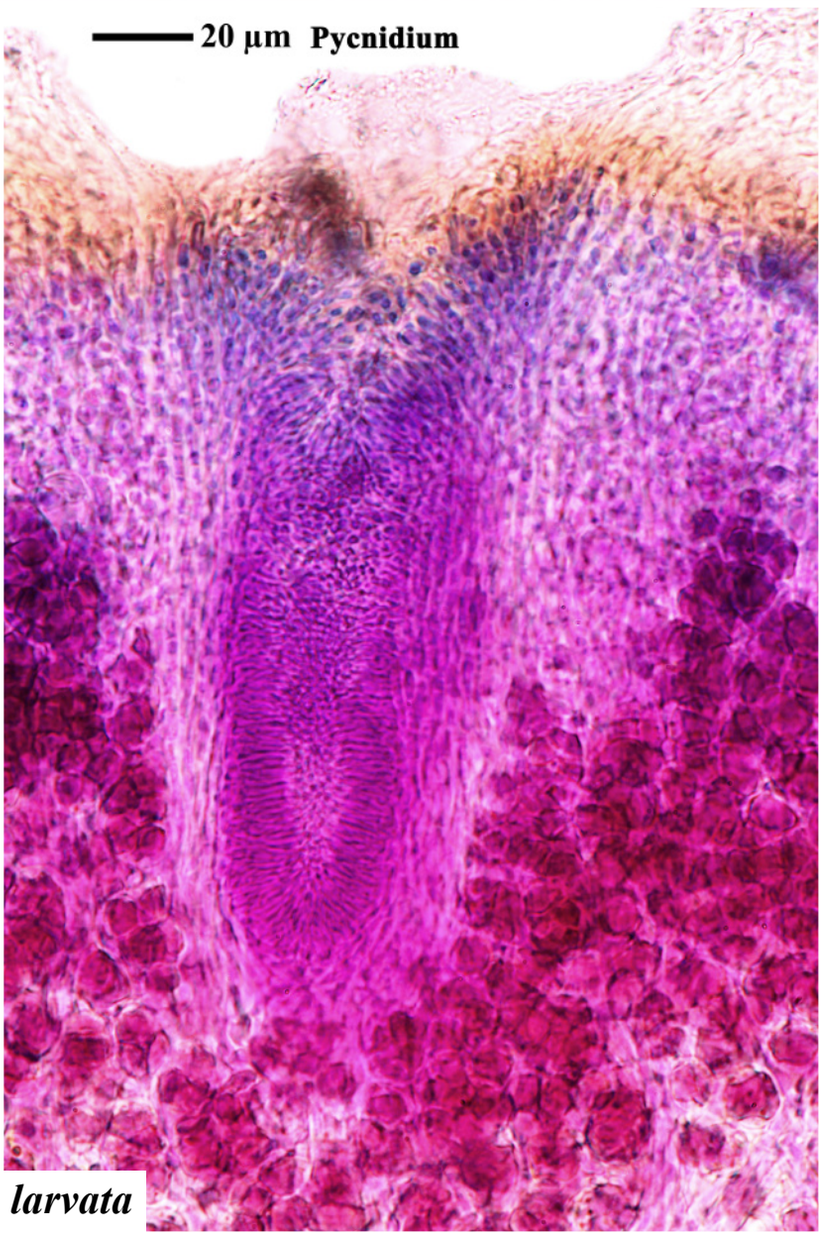
Acarospora cervina f. ***larvata***



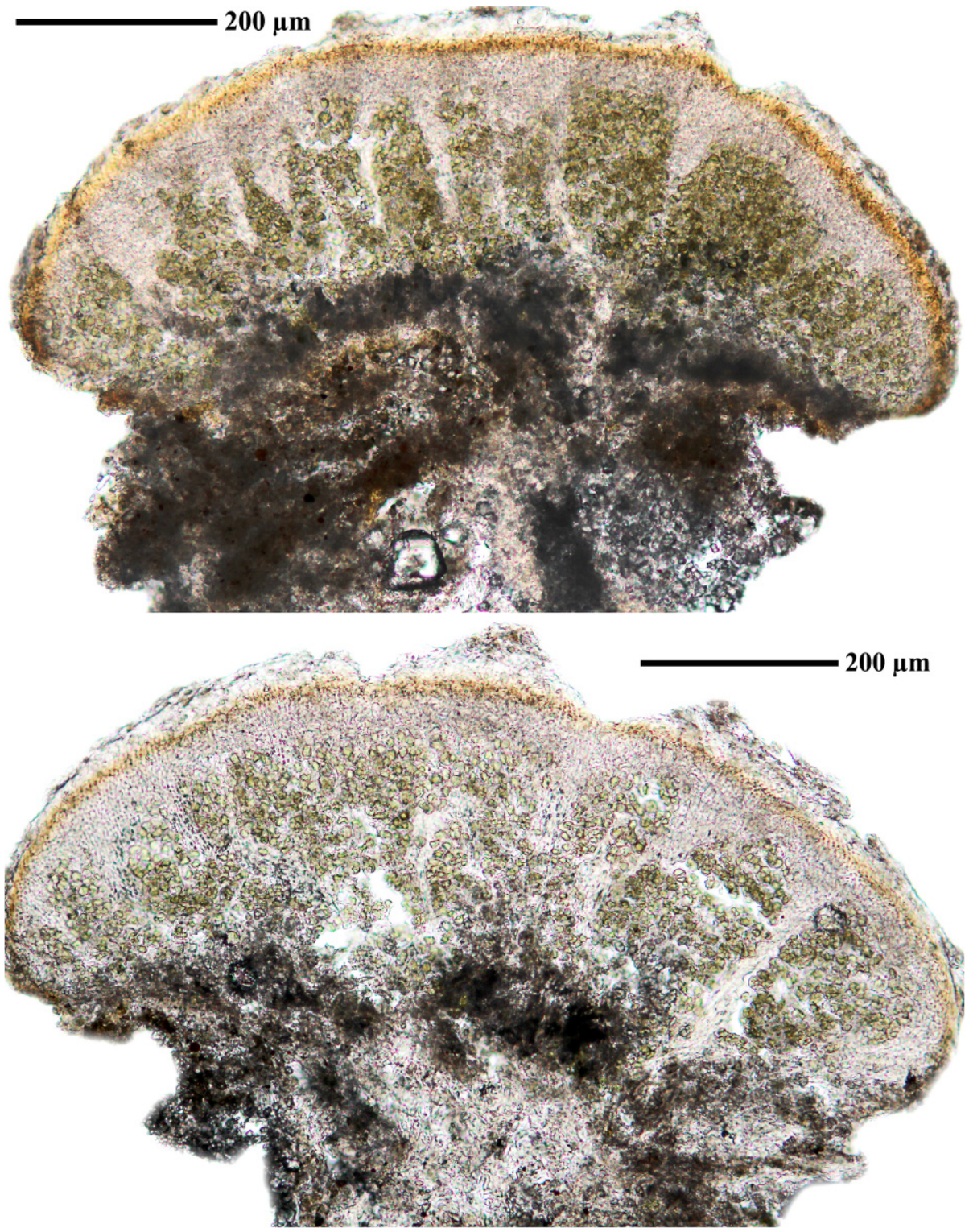


Acarospora cervina f. ***larvata***

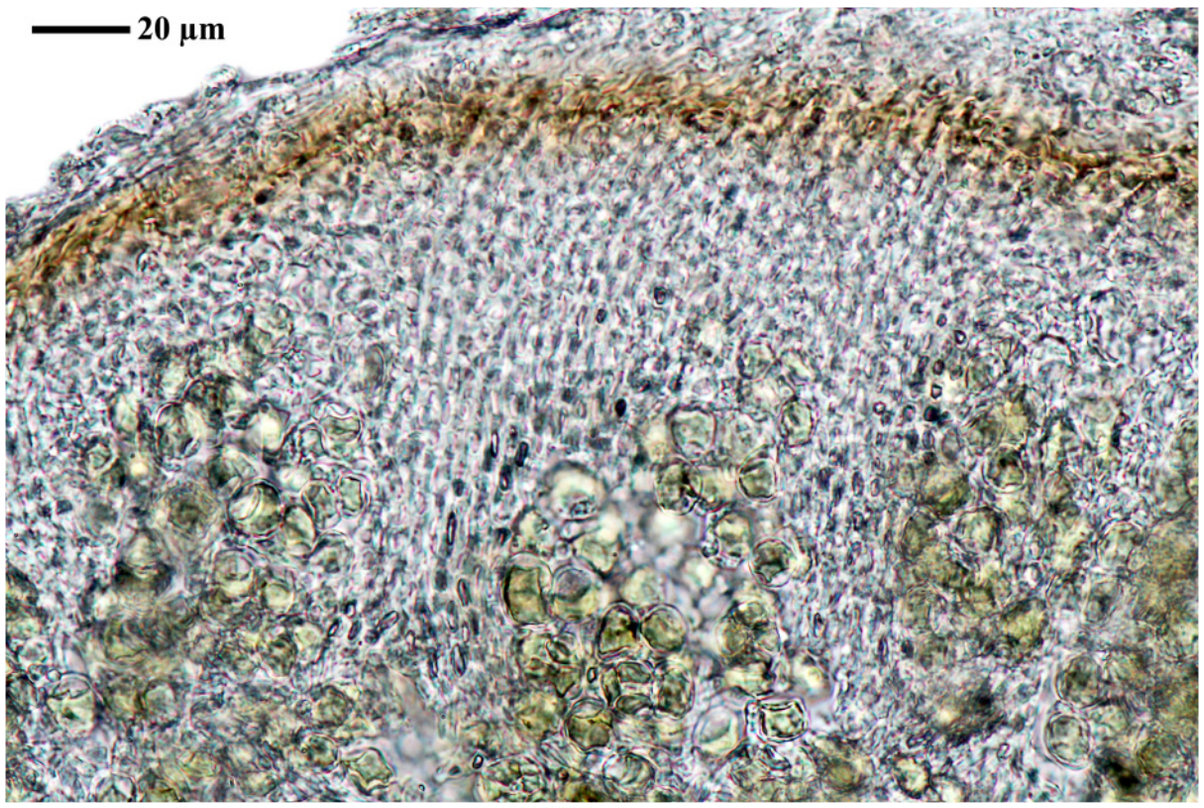


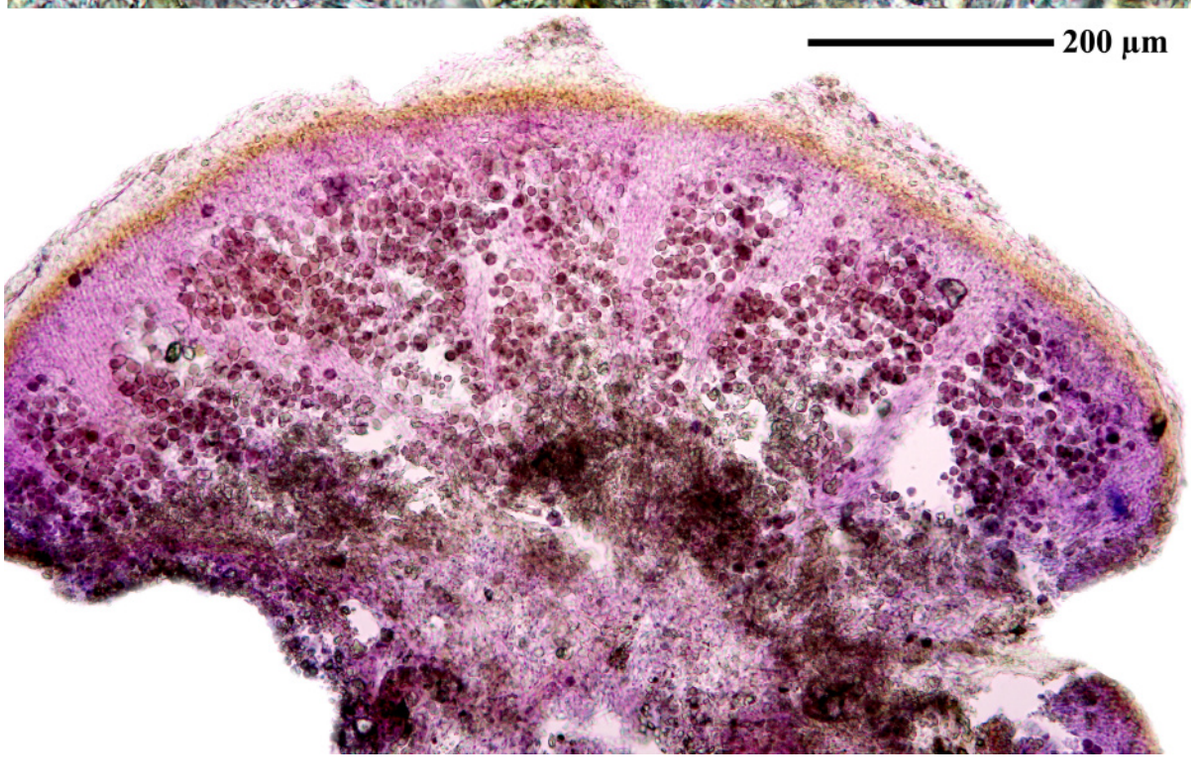


Acarospora cervina f. ***larvata***

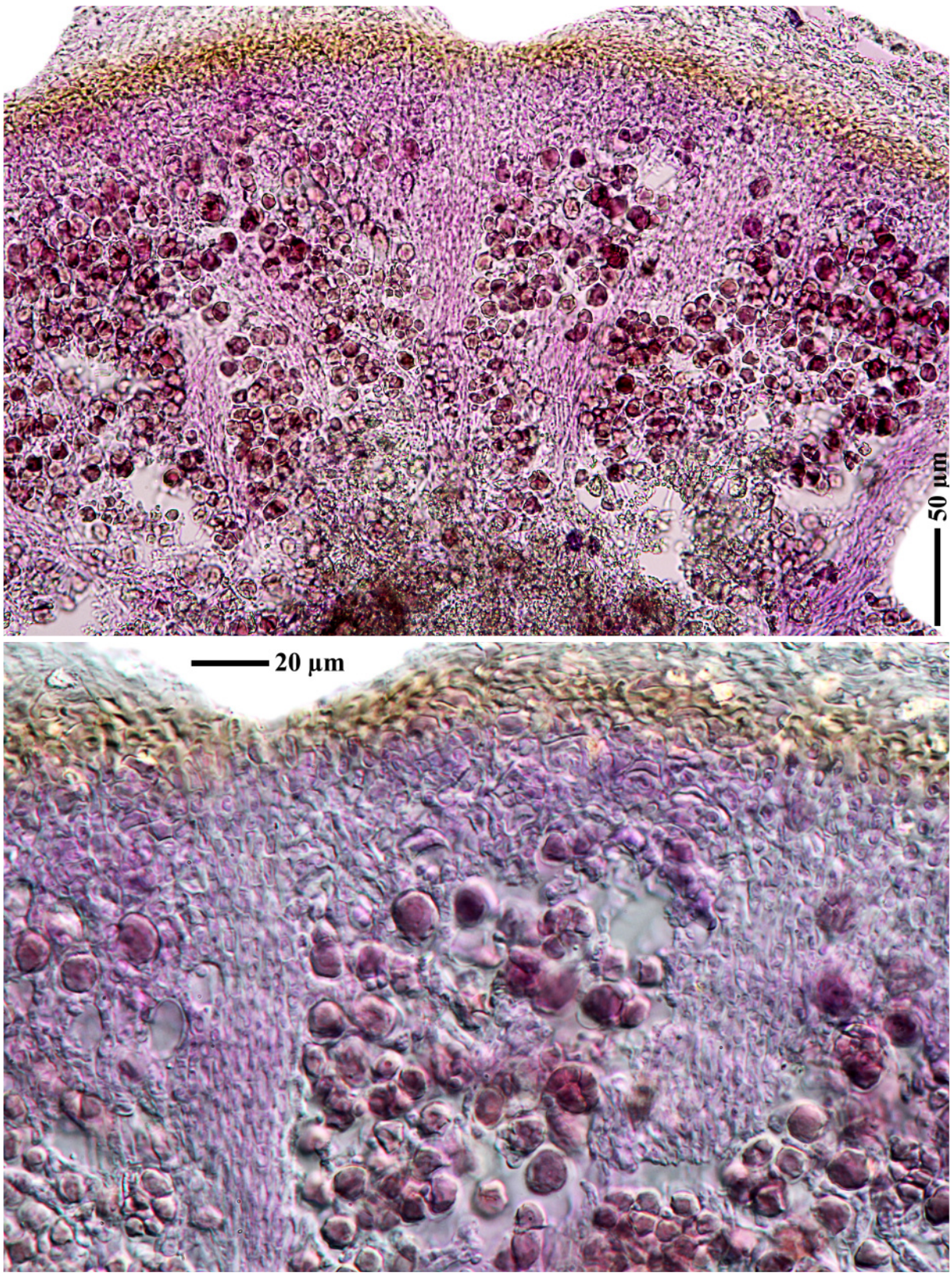


Acarospora cervina f. ***larvata***





Acarospora cervina f. ***larvata***



Acarospora cervina f. ***larvata***

Acarospora cervina (Ach.) A.Massal.
Ric. auton. lich. crost. (Verona): 28 (1852)

[GZU 5-83], Afghanistan, Prov. Samangan, ca. 15 km W des Passes Kotal-i-Mirza Atbili (Kotal-i-Rabotak), ca 10 km E Aybak. 68°08’ E, 36°13’ N, ca. 1170 m. Auf Zenitflächen flachbankiger Kalke. Leg. M. Steiner (Ste 44/3), 05.06.1970. Det K. Knudsen, 19.11.2017.

Note: Sporen 3.7-3.9 x 1.3 µm. Algenschicht durch anticlinale Hyphenstränge unterbrochen. A lichenicolous fungi (*Tichothecium*?) was found on the lower (!) surface of a squamula. (FS)

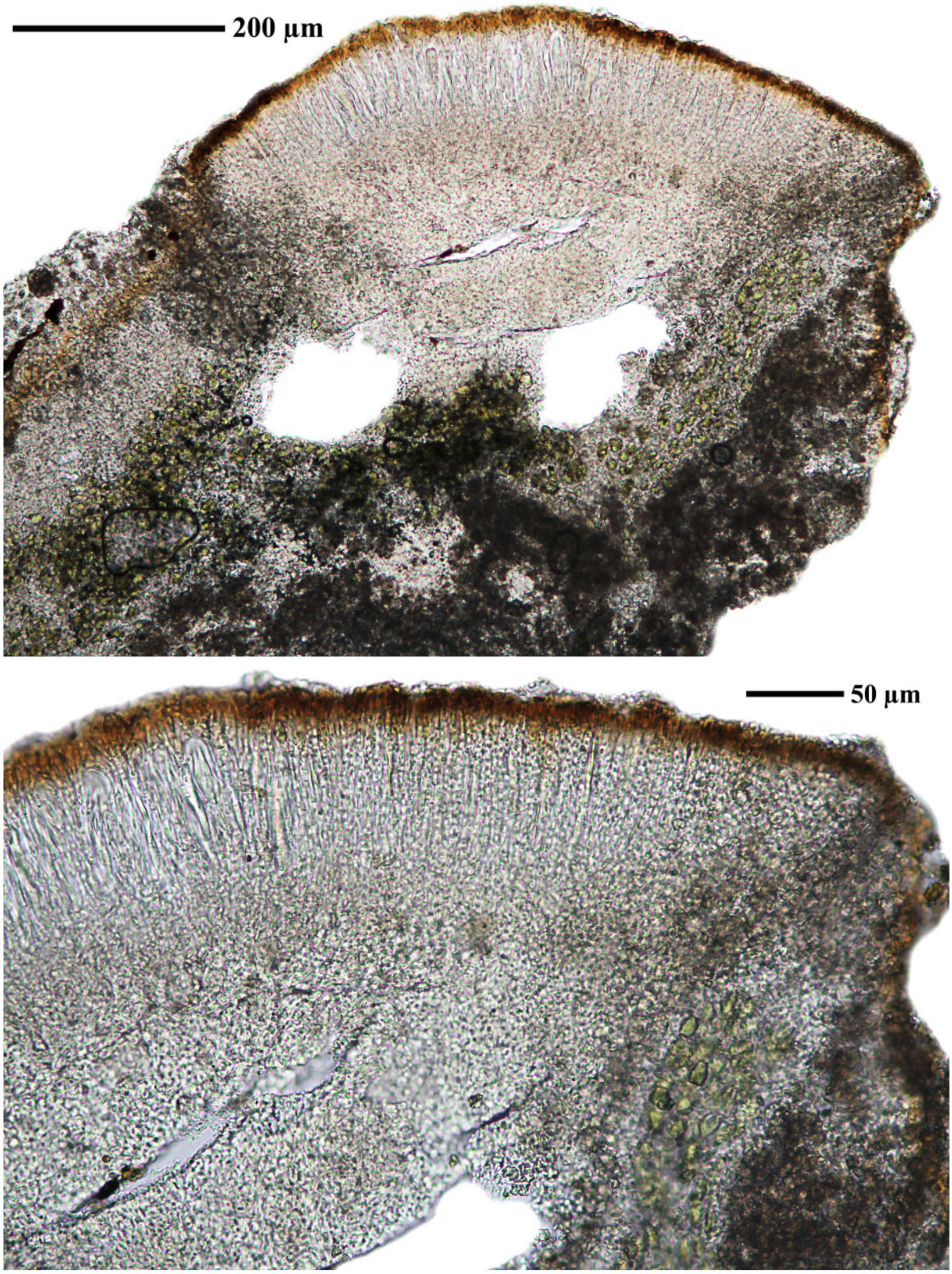




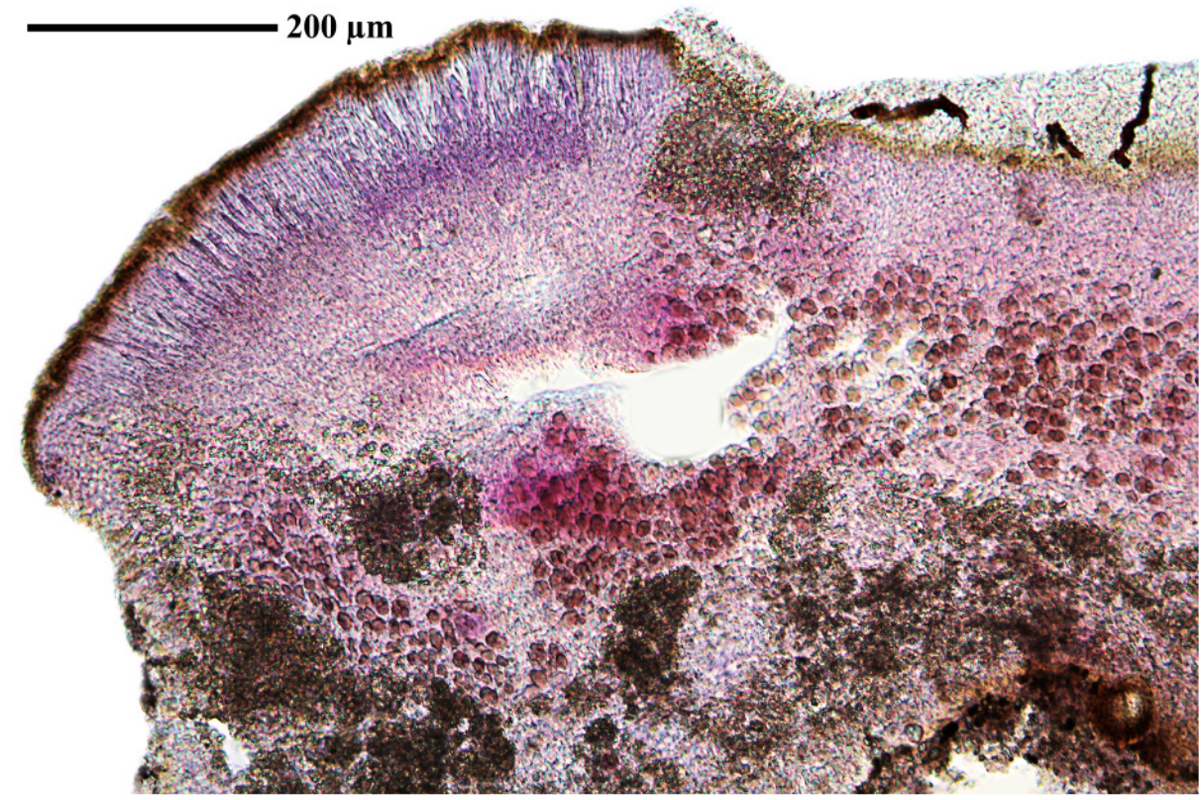
Acarospora cervina

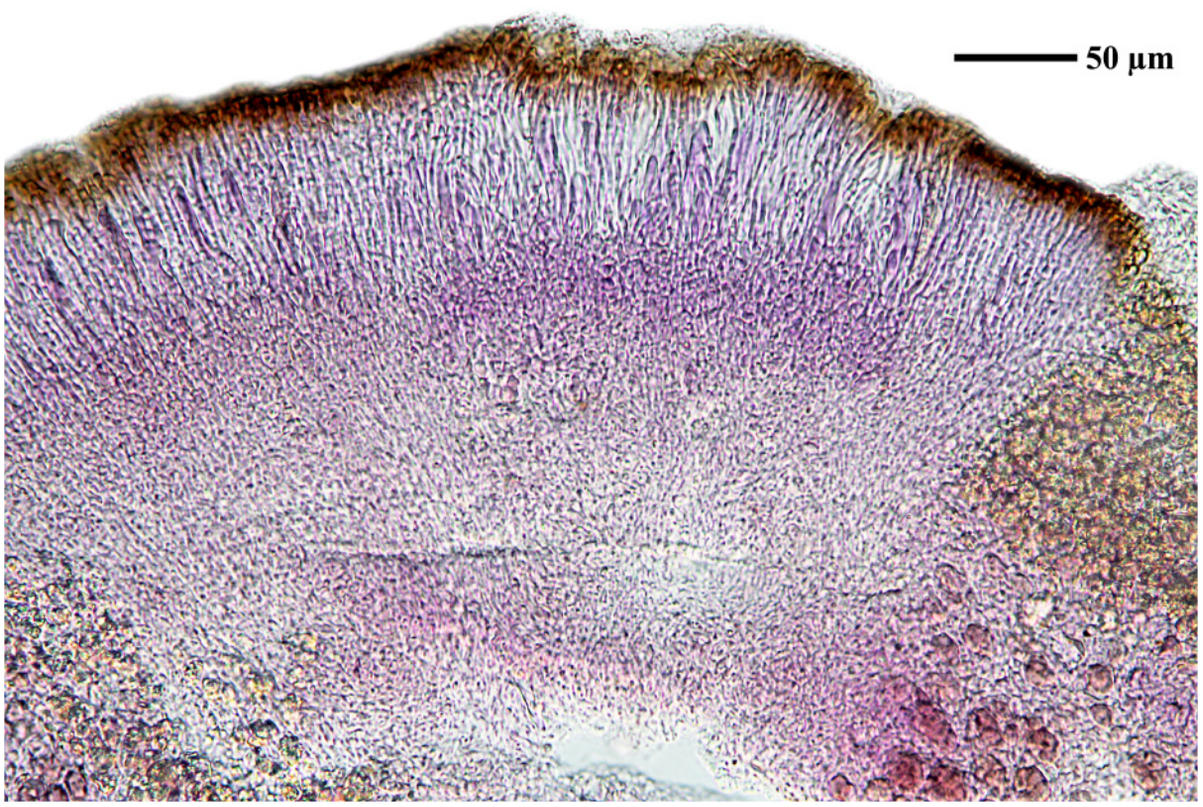


Acarospora cervina

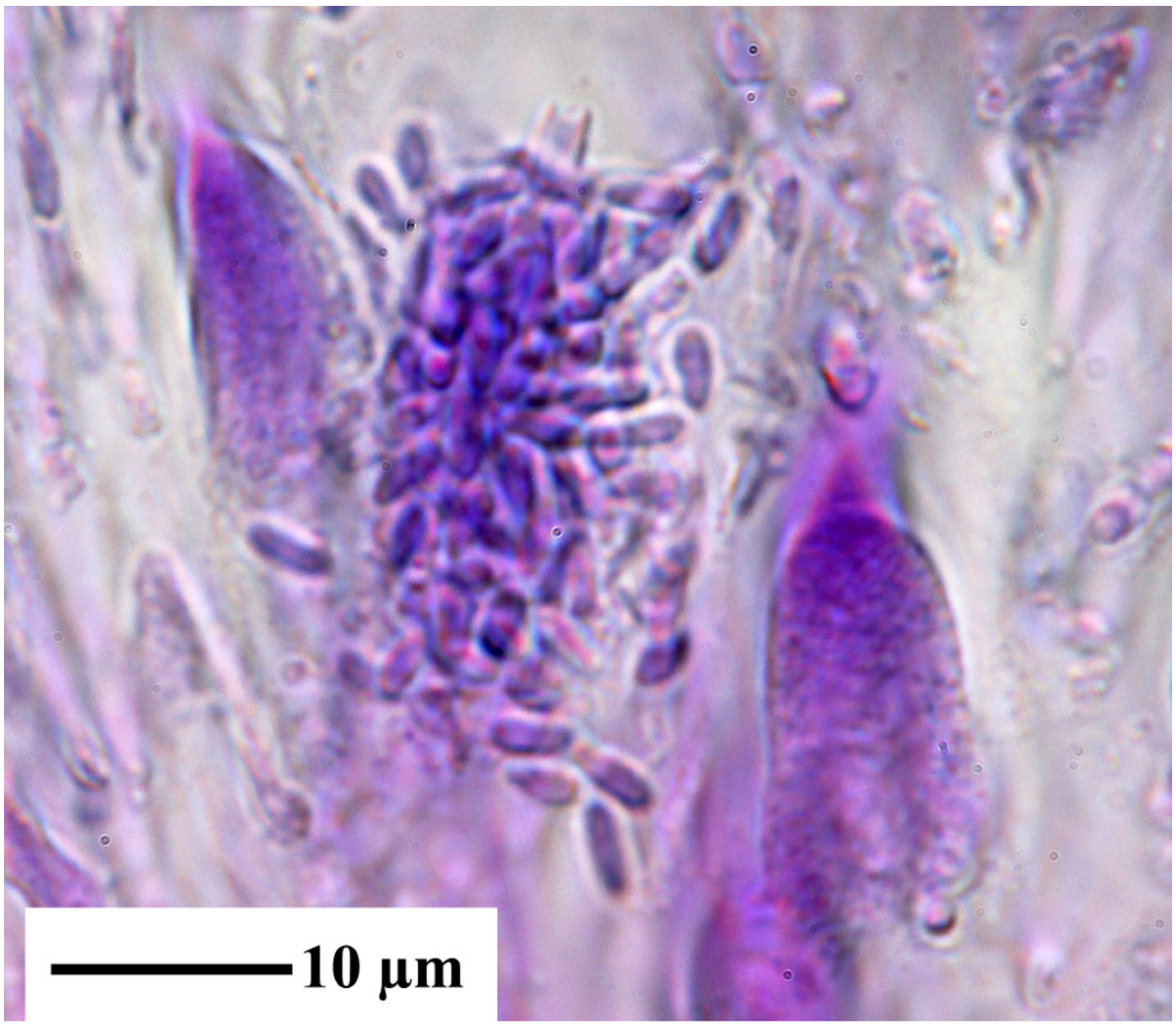


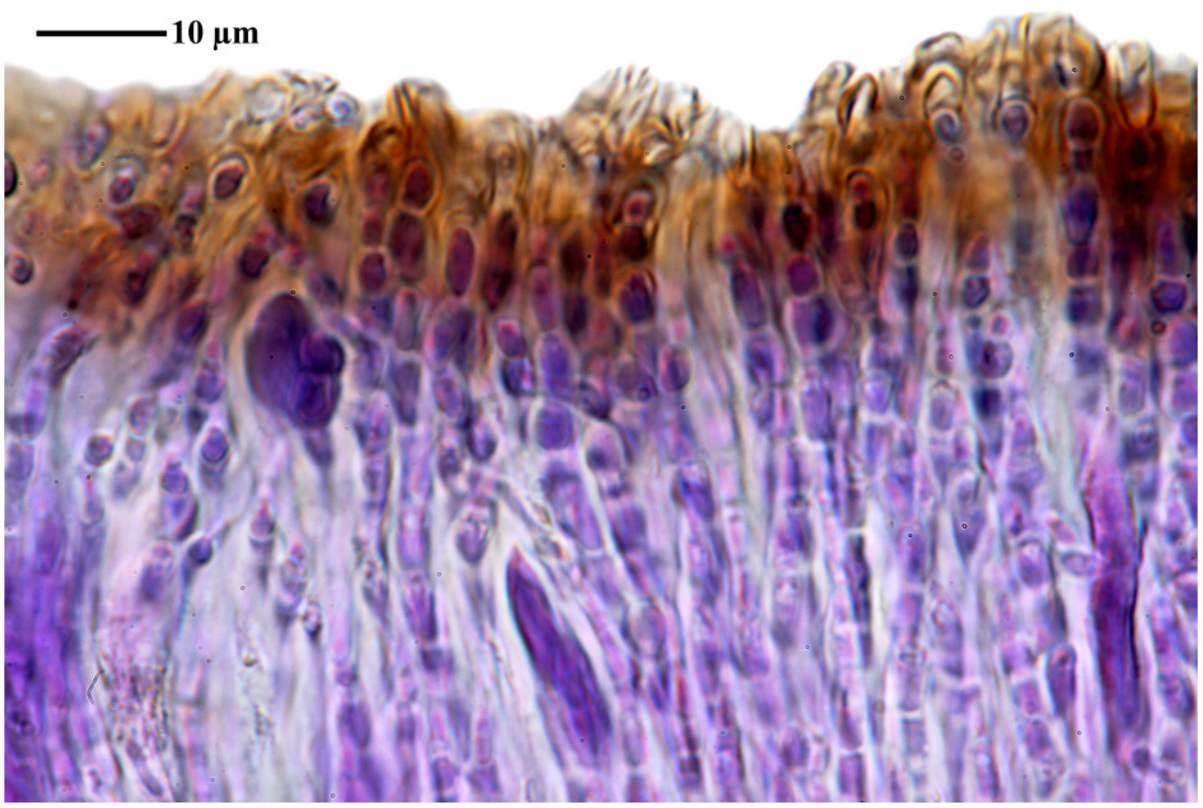
Acarospora cervina



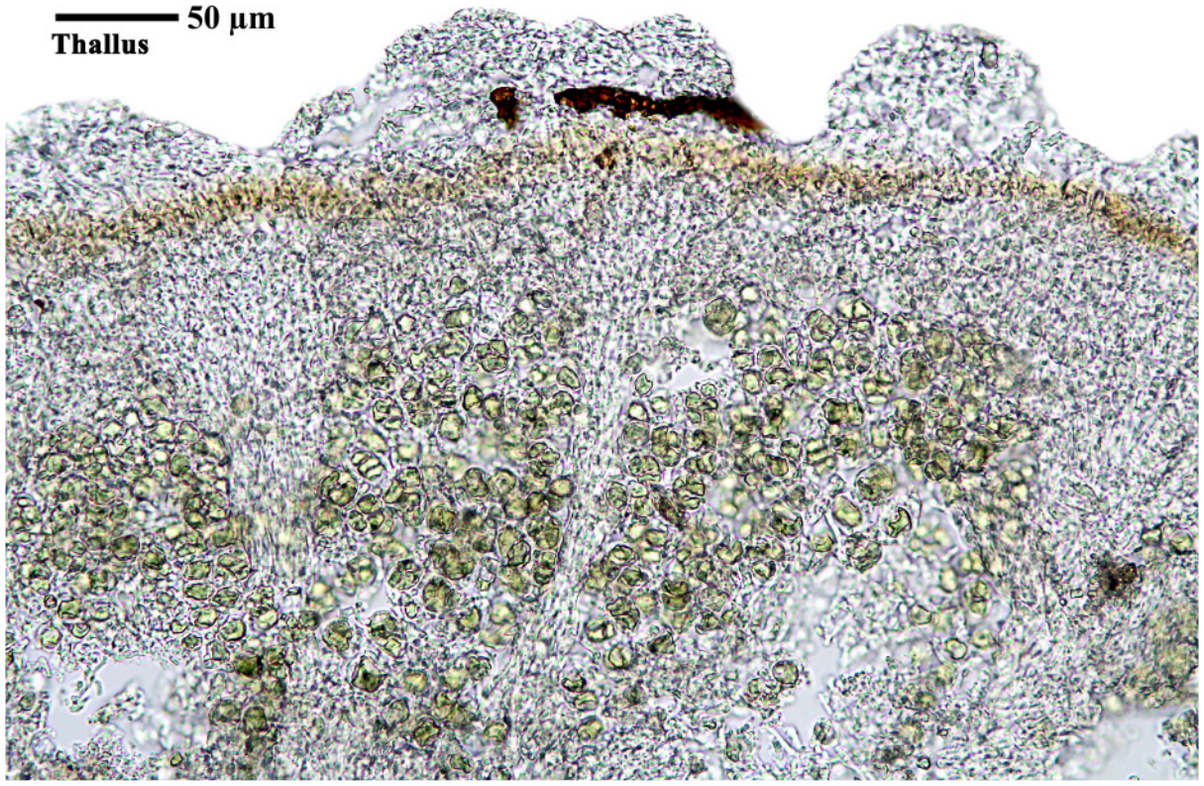


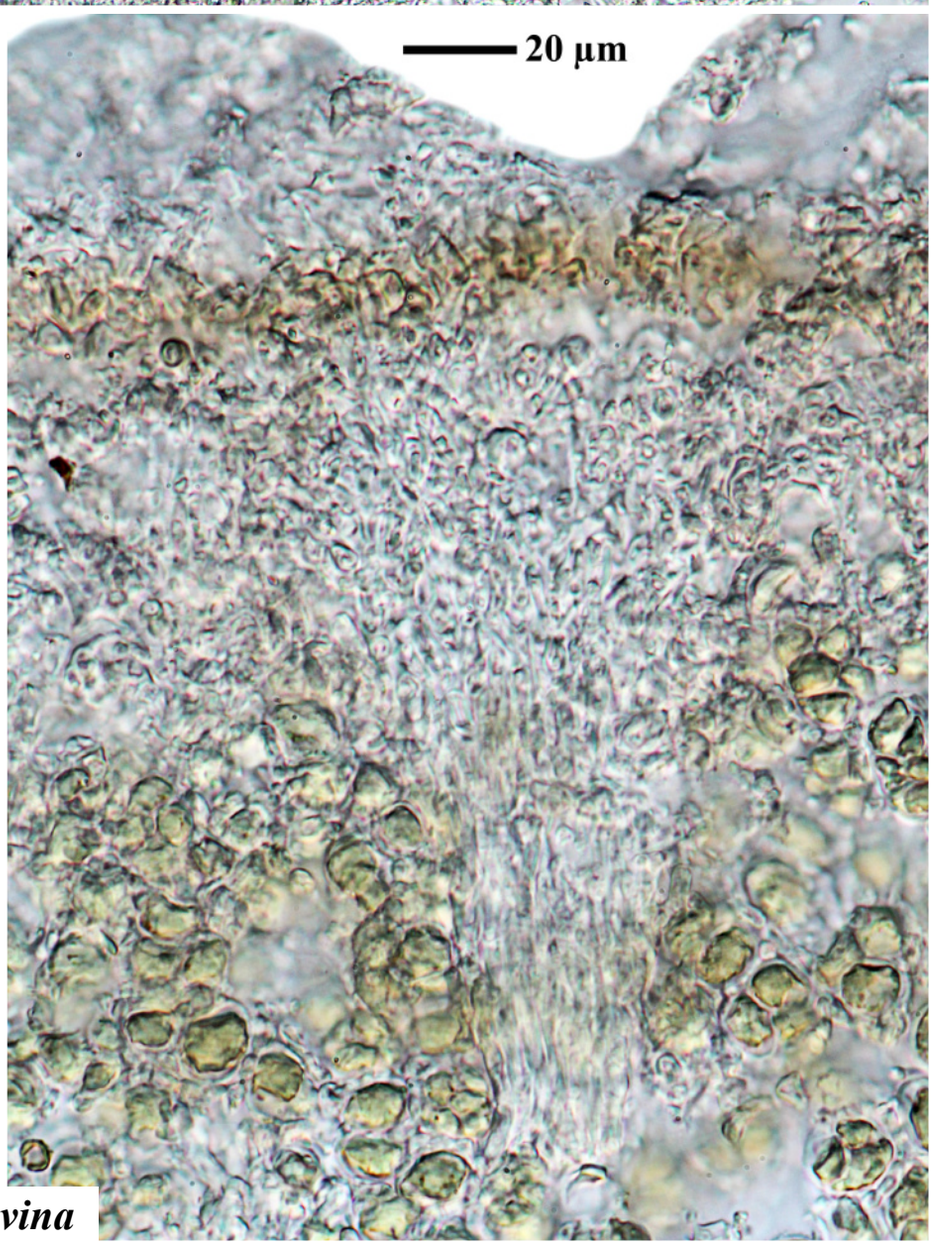
Acarospora cervina



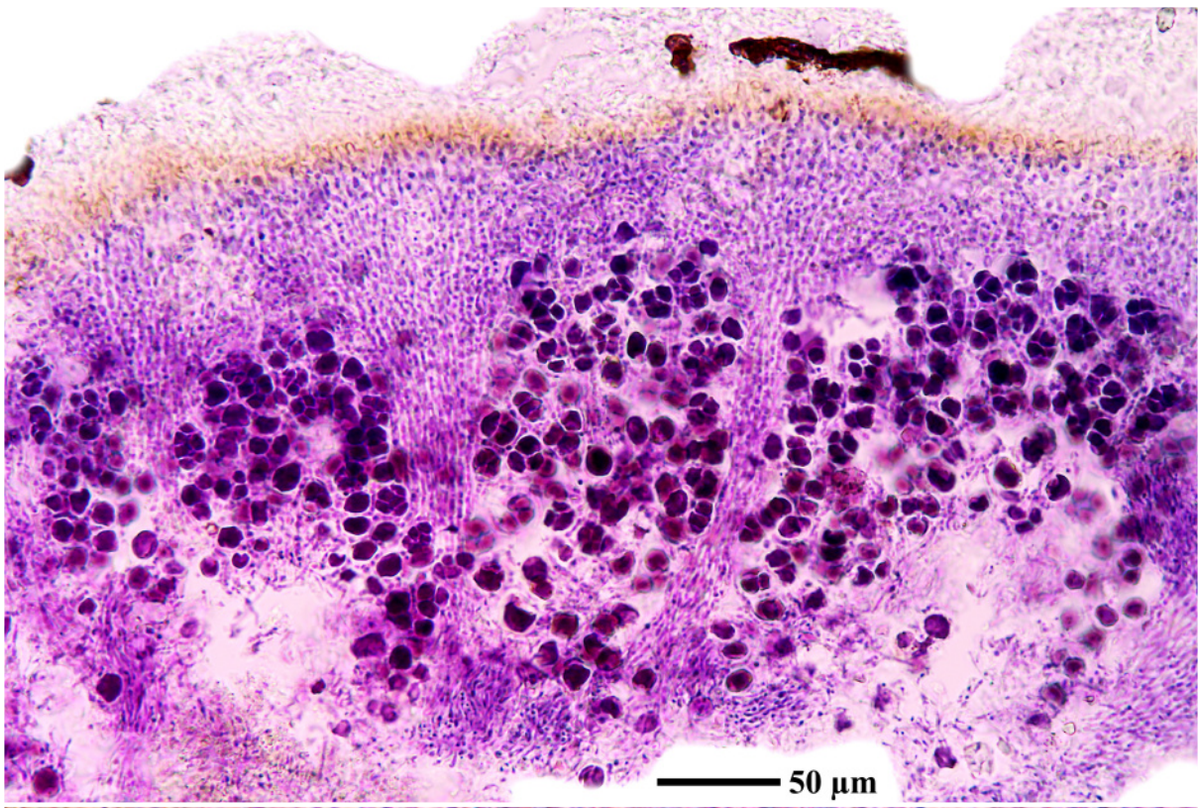


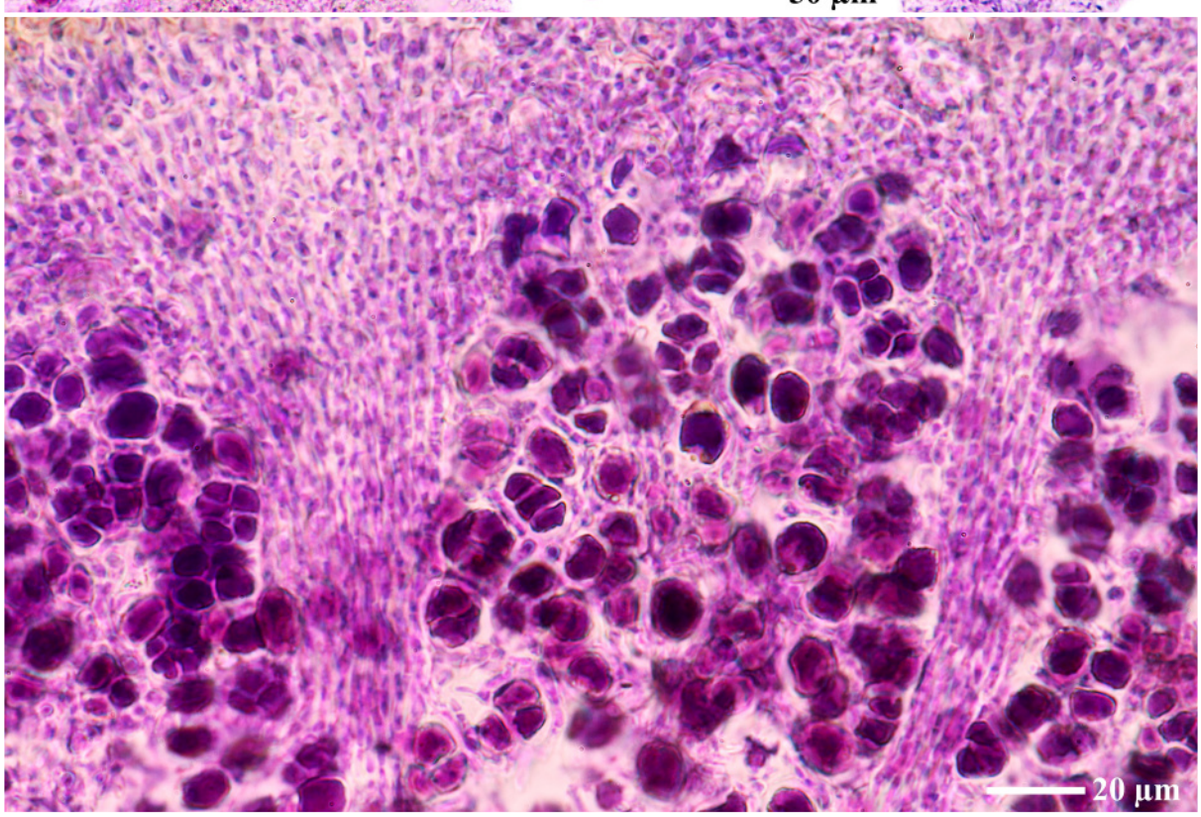
Acarospora cervina



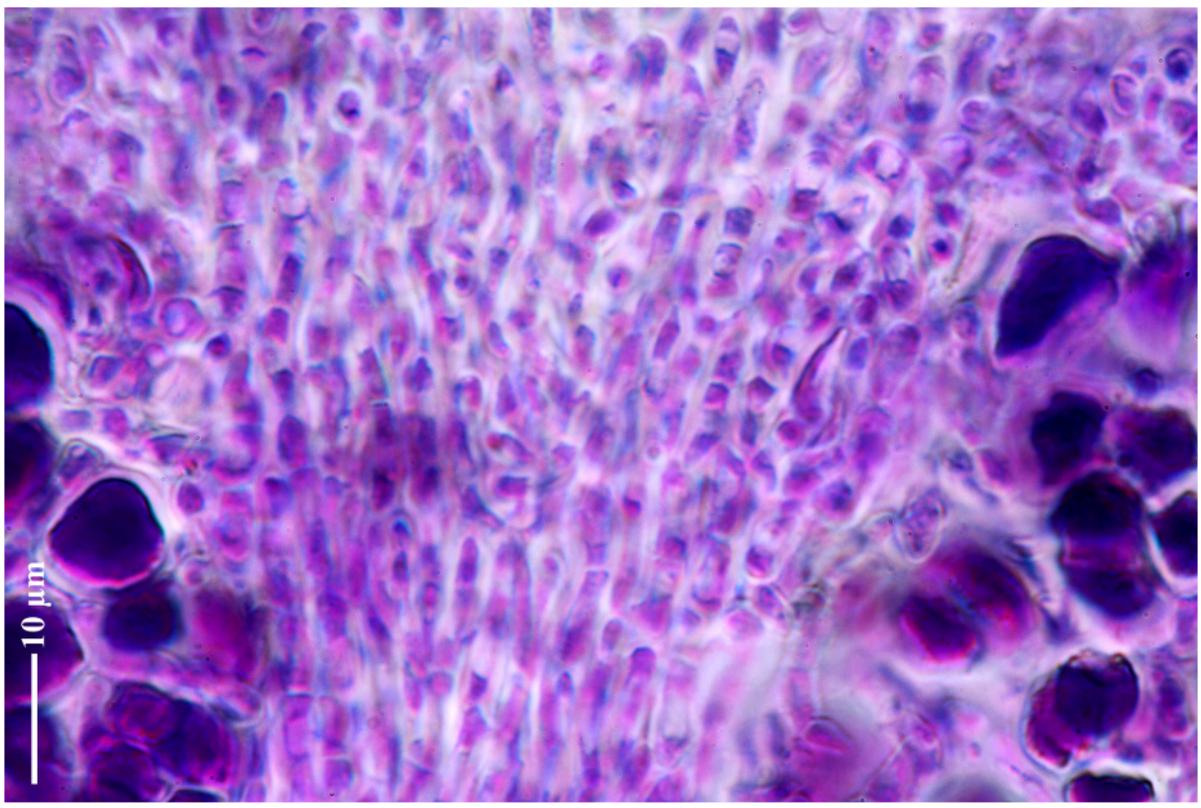


Acarospora cervina

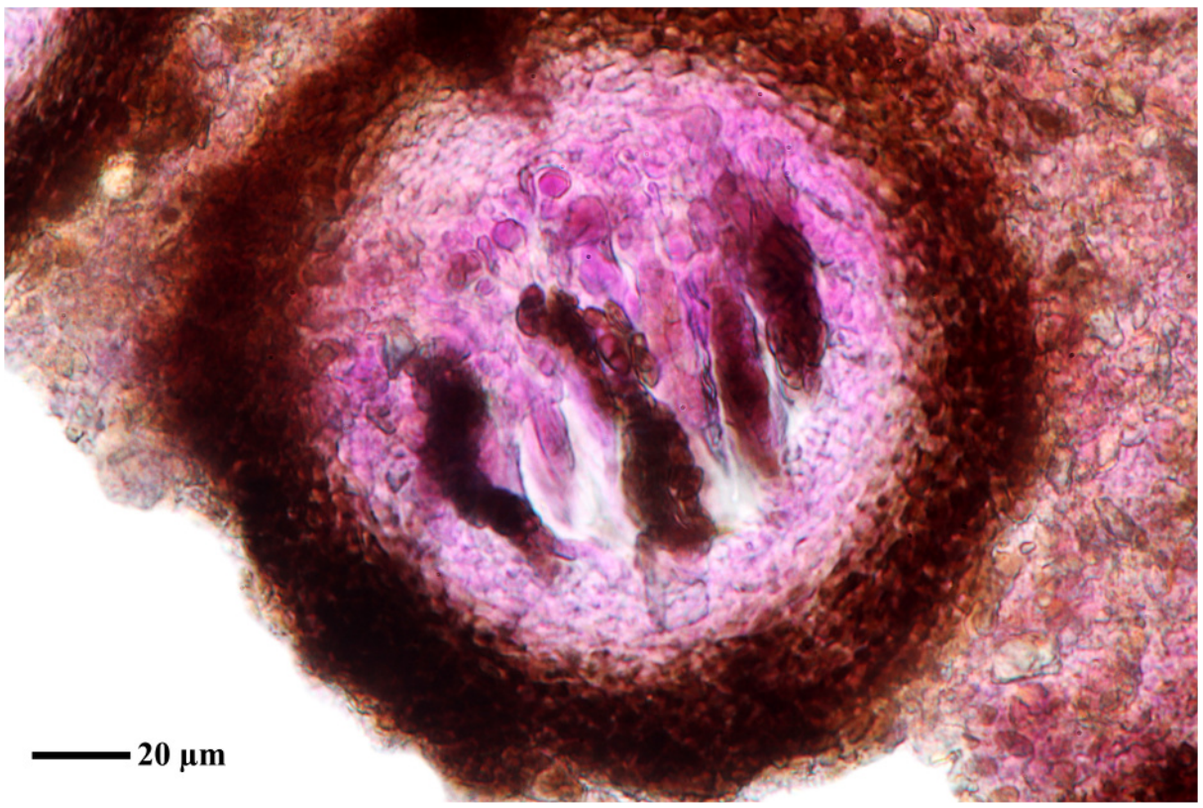


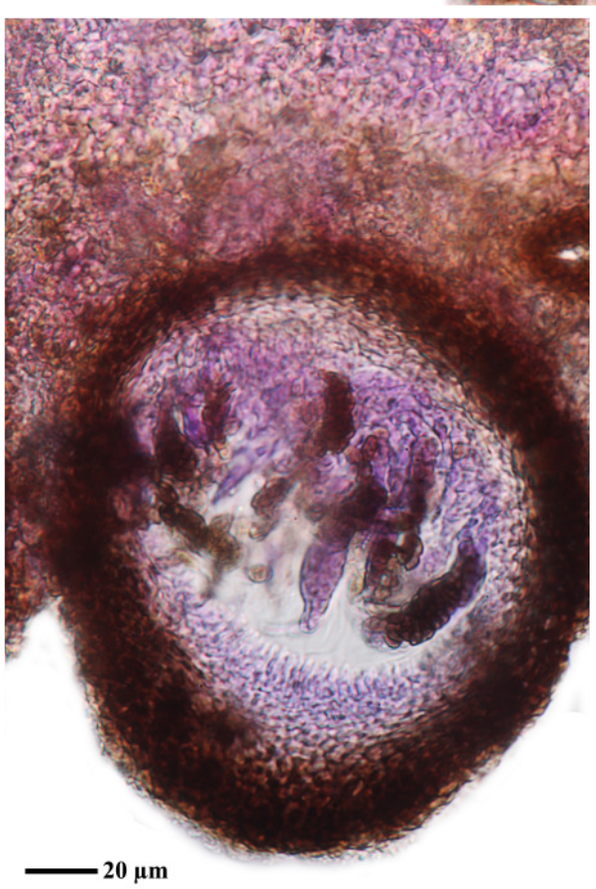


Acarospora cervina



Acarospora cervina





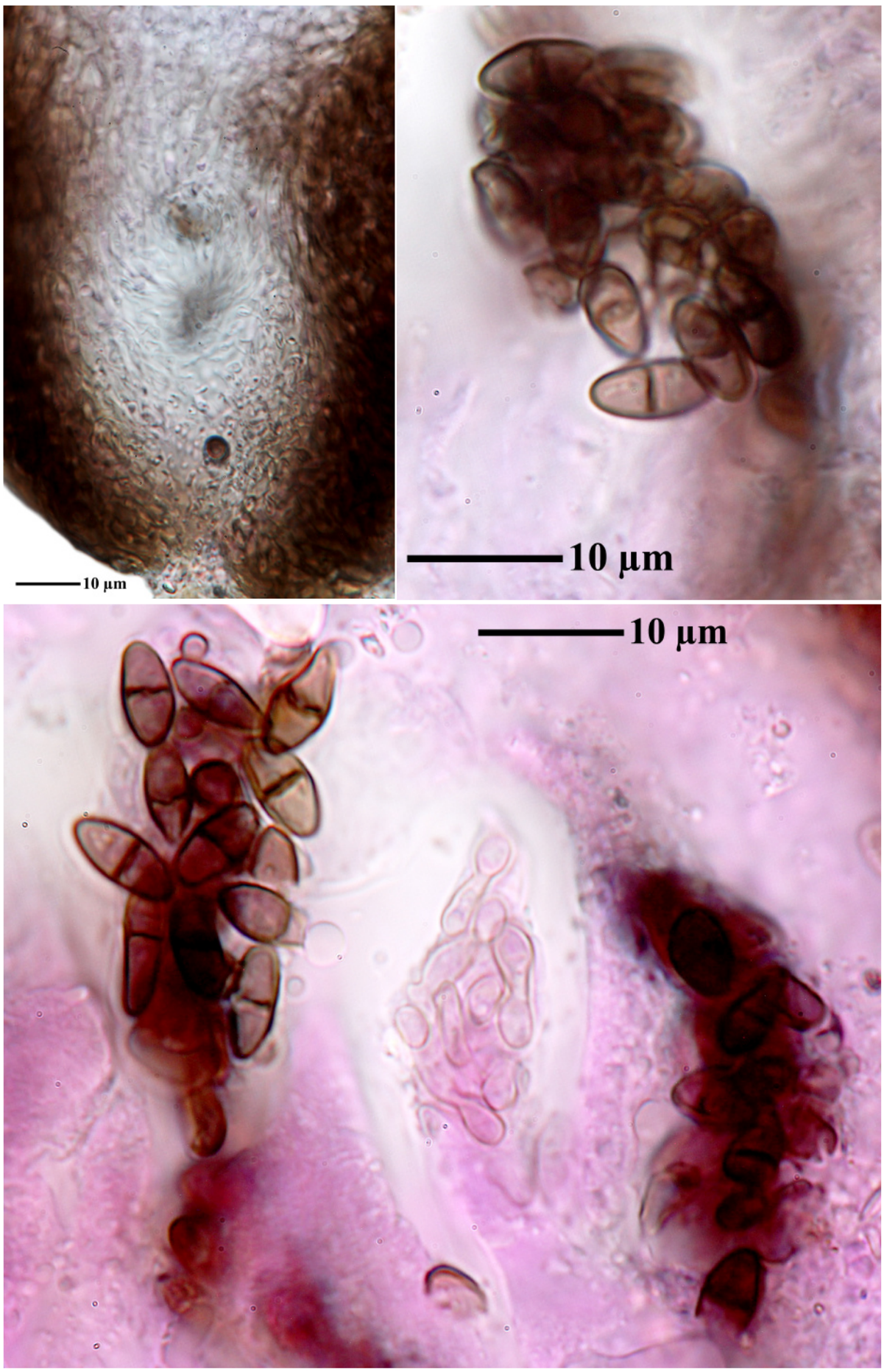


Tichothecium sp.?
on Acarospora cervina





Tichothecium sp.?
on Acarospora cervina



Tichothecium sp.?
on Acarospora cervina

Acarospora glypholecioides H.Magn.

[GZU U-P2], E-Afghanistan, Prov. Gardez, in jugo Sata Kandao, inter Gardez, 33°37’ M, 69°09’ E, et Khost, 33°22’ N, 70°01’ E. Substr. Tonschiefer, 2900 m. Leg. K. H. Rechinger, 08.07.1965 (ITER ORIENTALE). Det. K. Knudsen 15.11.2017.

Notes:
Knudsen: KC+ red, Ascospores 4 x 3 µm, broadly ellipsoid, differing from description
FS: Thallus auf Erde, schuppig peltat, 1.5 -3 mm, mit runden Loben, weiß bereift; Rinde 50-60 µm, C+ rot. Algenschicht des Thallus durch antklinale Hypenbündel unterbrochen. Sporen mindestens 100/Ascus, 3-3.5 µm lang, ellipsoid. Mark durch graue Körnchen trüb, in HCl löslich. Lit. Magnusson (1940, Lichens from Central Asia, p. 76).



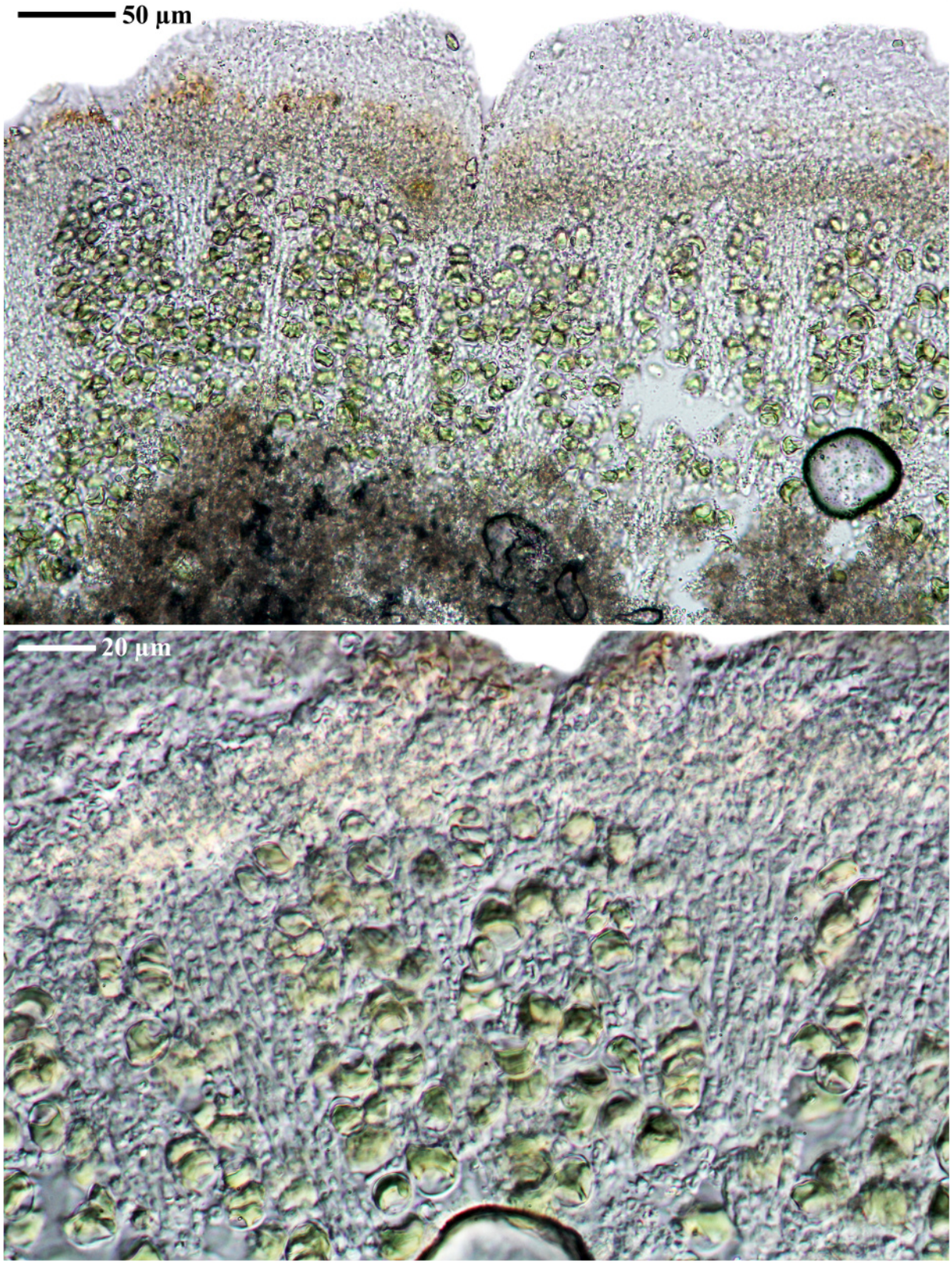




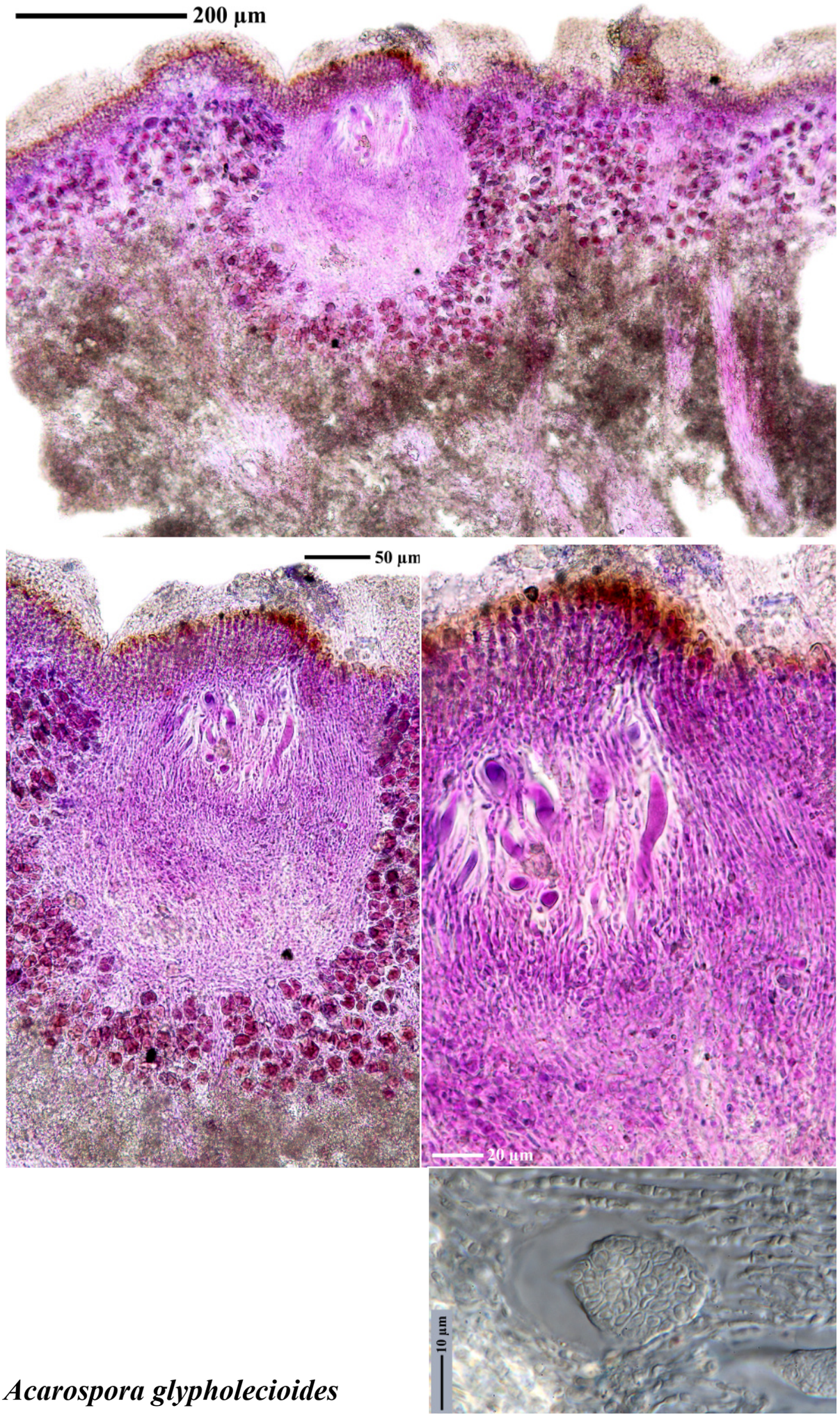
Acarospora glypholecioides



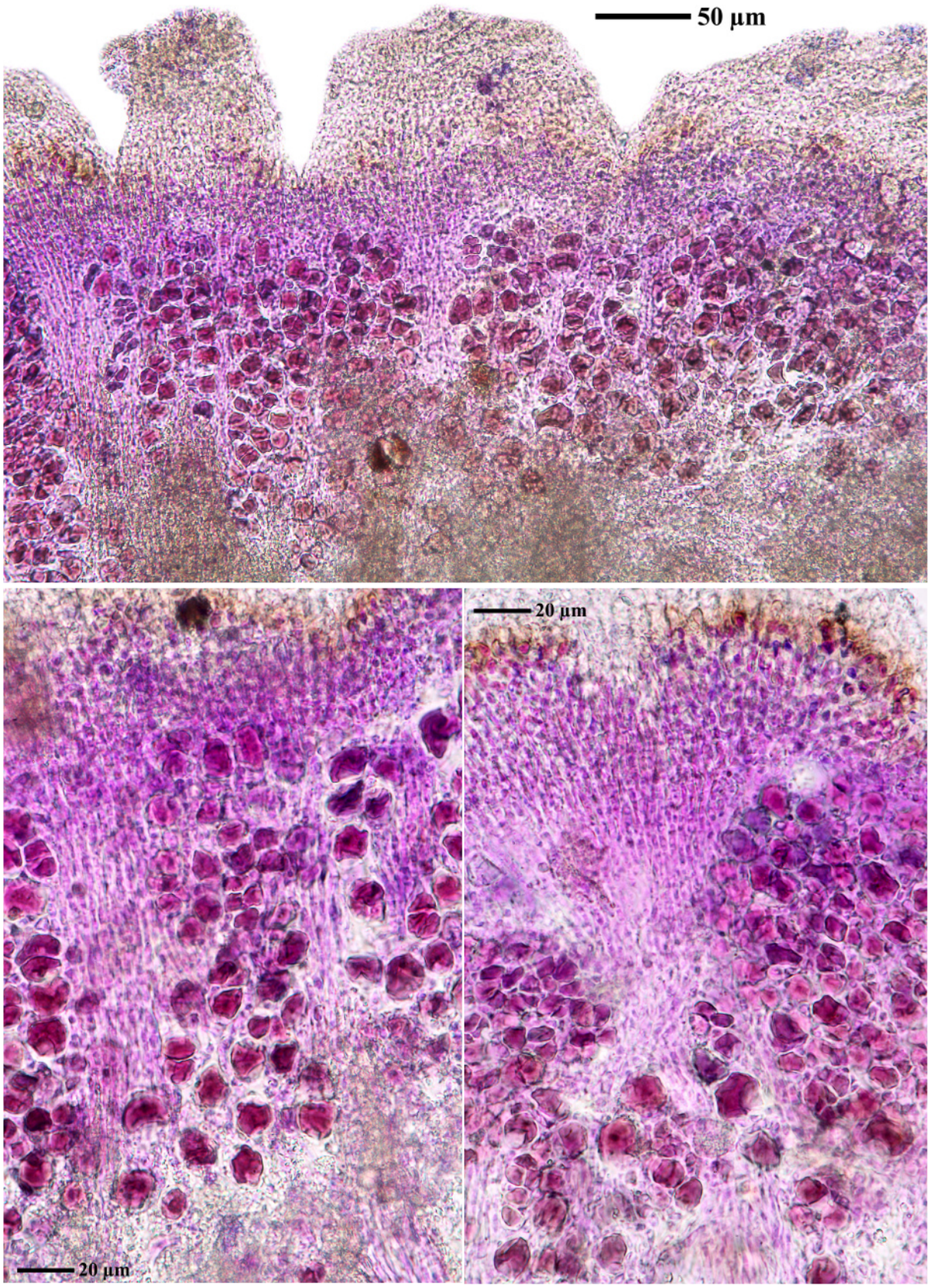
Acarospora glypholecioides



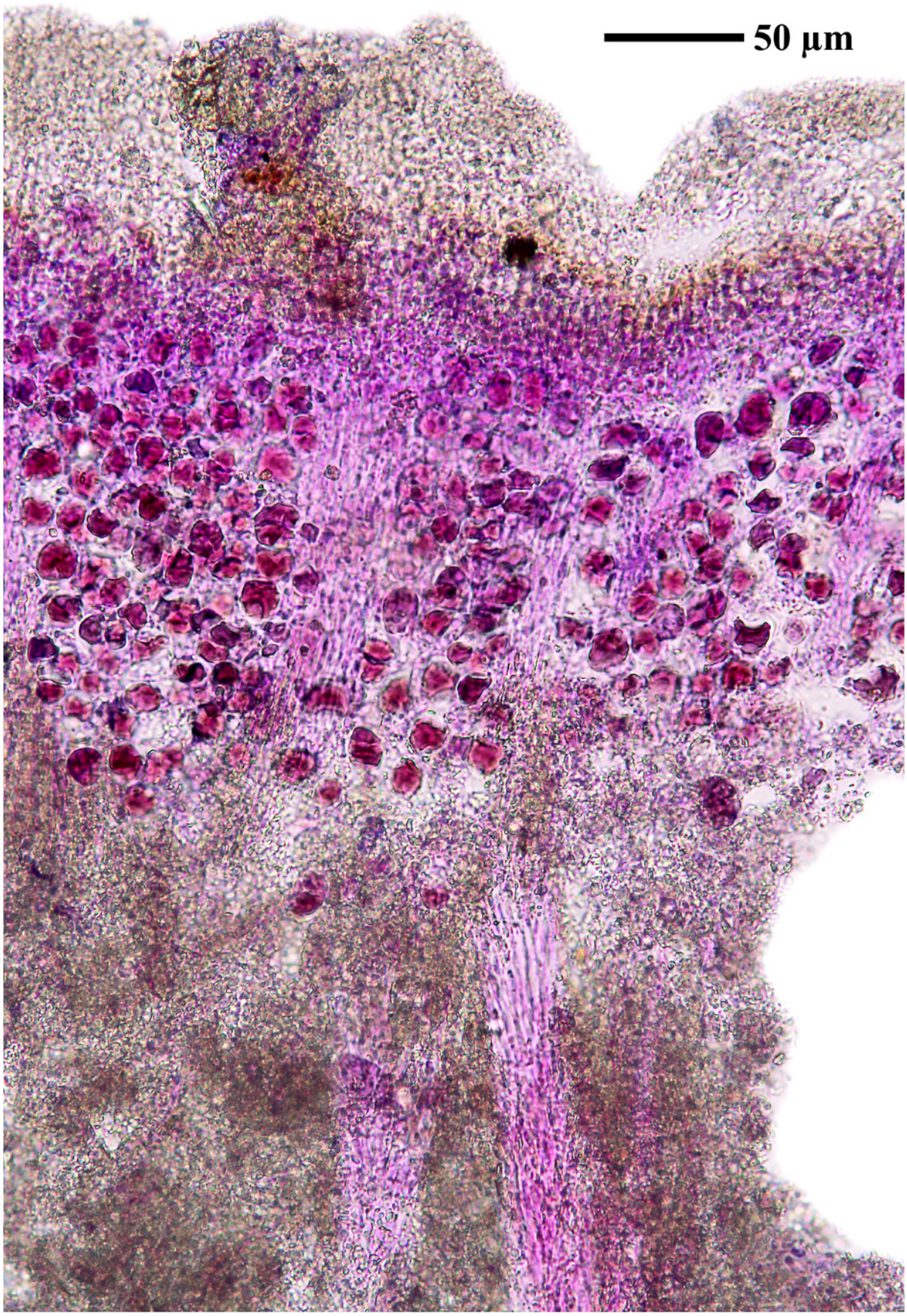
Acarospora glypholecioides



Acarospora glypholecioides



Acarospora glypholecioides

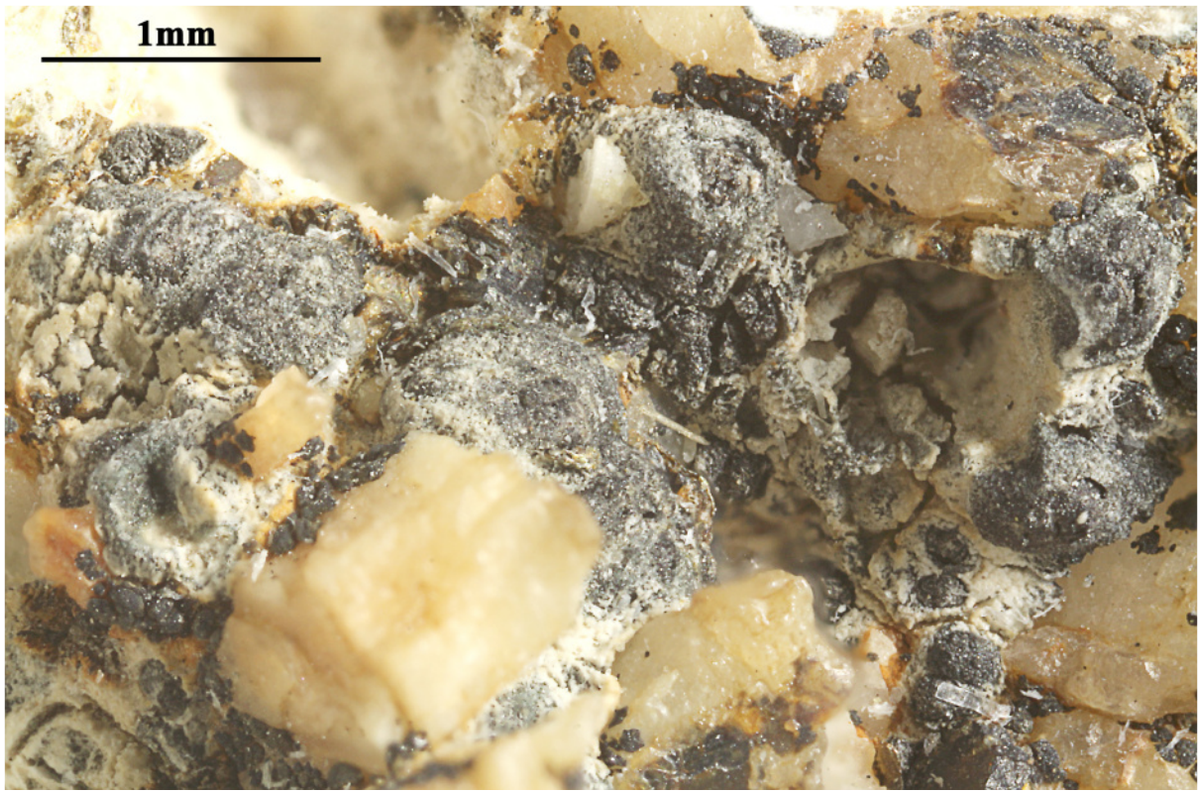


Acarospora glypholecioides

Acarospora gyrocarpa **(**H.Magn.) K.Knudsen & M.Westb.
[= *Sarcogyne gyrocarpa* H.Magn. - in Meddel. Götborgs bot. trädg. 12, 1937]
[= *Polysporina gyrocarpa* (H.Magn.) Golubk.]

[GZU 24-84], Afghanistan, Prov. Parwan, oberstes Salang-tal, südlich des Tunnelausgangs. 59°42,5’ E, 35°57’ N, 3150 m, ± NE-exponierte Granitsteilfläche. Leg. M. Steiner (Ste 25/2+3), 25.05.1970, det. K. Knudsen, 22.11.2017.





Acarospora gyrocarpa

Acarospora gyrocarpa **(**H.Magn.) K.Knudsen & M.Westb.
[= *Sarcogyne gyrocarpa* H.Magn. - in Meddel. Götborgs bot. trädg. 12, 1937]
[= *Polysporina gyrocarpa* (H.Magn.) Golubk.]
[= *Biatorella gyrocarpa* (H.Magn.) Zahlbr.]

[GZU 24-P3], Afghanistan,Prov. Bamyan, ca. 10 km W Bamyan, an der Straße nach Band-i-Amir, bei der Einmündung des Darrak-i-Sabzak. 67°52’ E, 34°52’ N, ca. 2600 m, auf Kalkblock. Leg. M. Steiner (20/3), 13.05.1970, det. K. Knudsen, 21.11.2017.

Notes: Auf beigefügtem Zettel ist von M. Steiner (?) notiert: Nur Pykniden, Fulkren ca. 12 µm, Pyknosporen 2 x 0.5-1.0 µm. Magnusson (1940, Lichenes from Central Asia, p. 70) gibt anApothecien 0.5-1 mm, eben, genabelt, Sporen 4-5 x 2-2.5 µm; Hymenium J+ dunkel blau. Knudsen, K. (2017, Opuscula Philol. 16: p. 40) stellt die Art einzig und allein auf Grund von DNA-Gewurstel ohne weitere Diskussion zu *Acarospora* („*Polysporina* is polyphyletic, this sp. is embedded in the clade of Acarospora“). Ein ausführliche neue Beschreibung der Art findet man bei Knudsen & Kocourková (2009, Bibl. Lich. 100: p 200-202) unter *Polysporina gyrocarpa.*

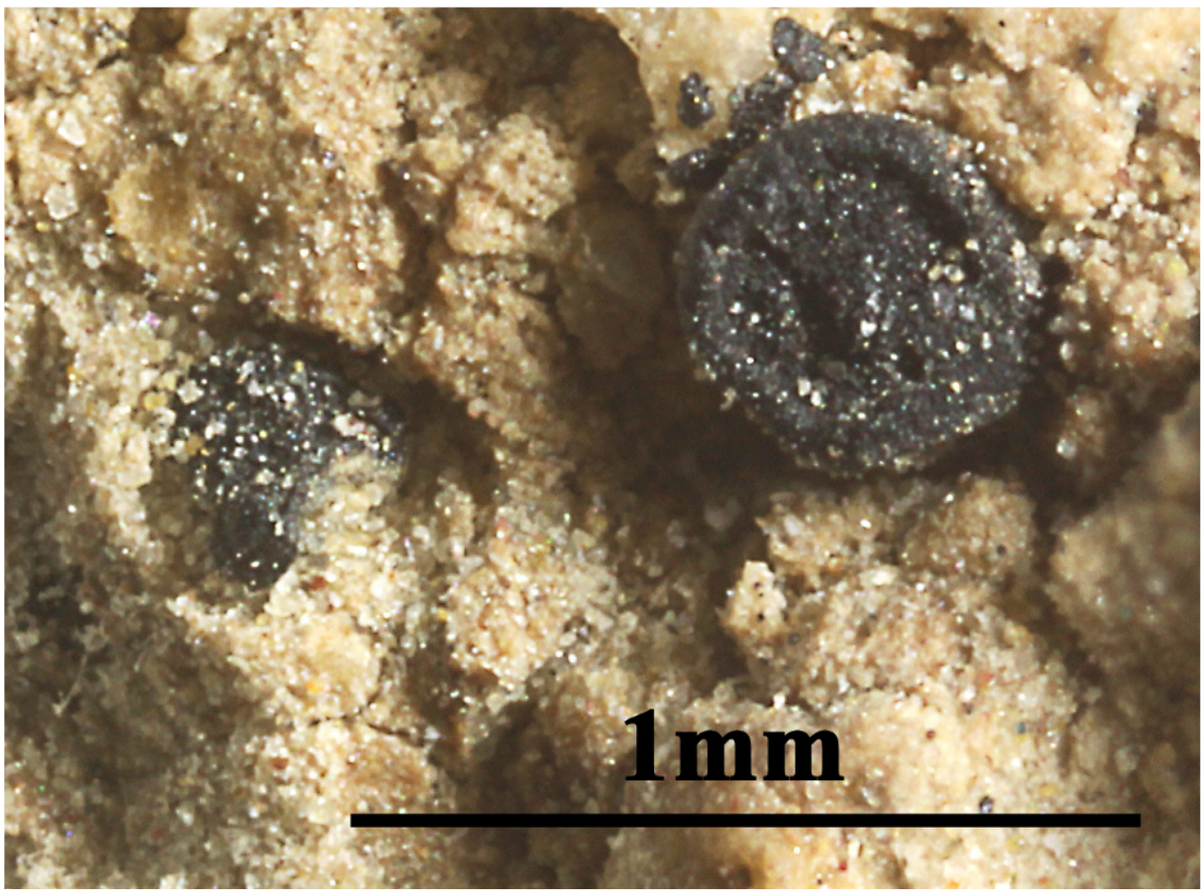
Von der erbärmlichen Probe mache ich keine Schnitte!

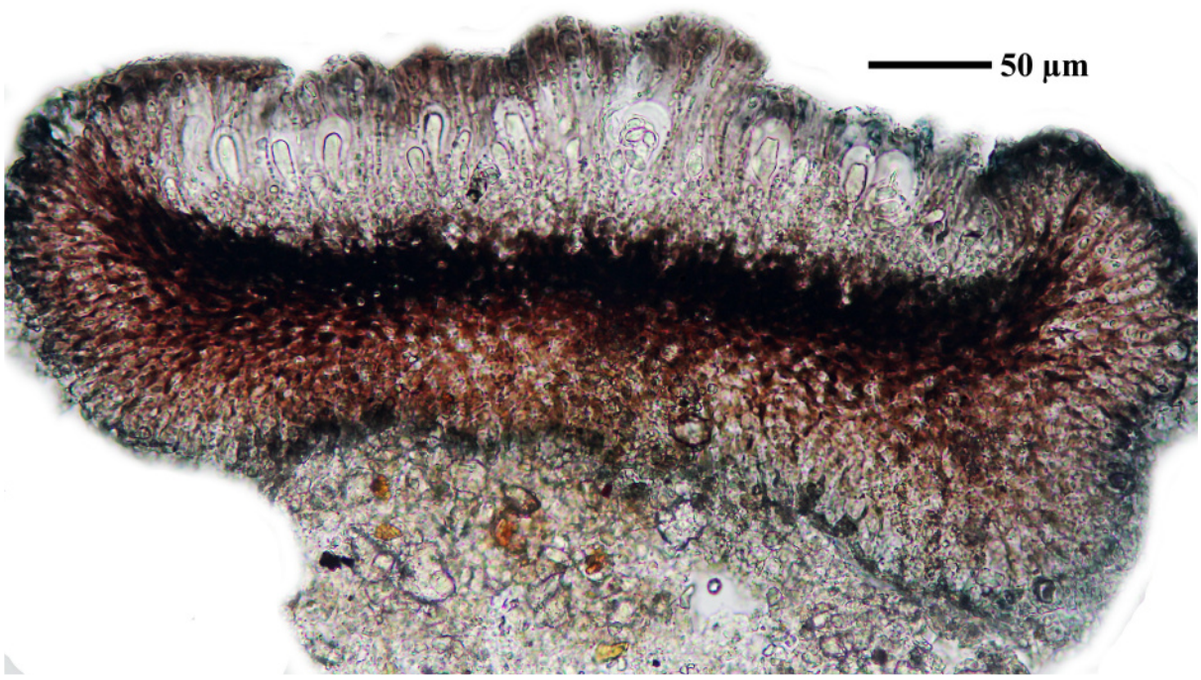




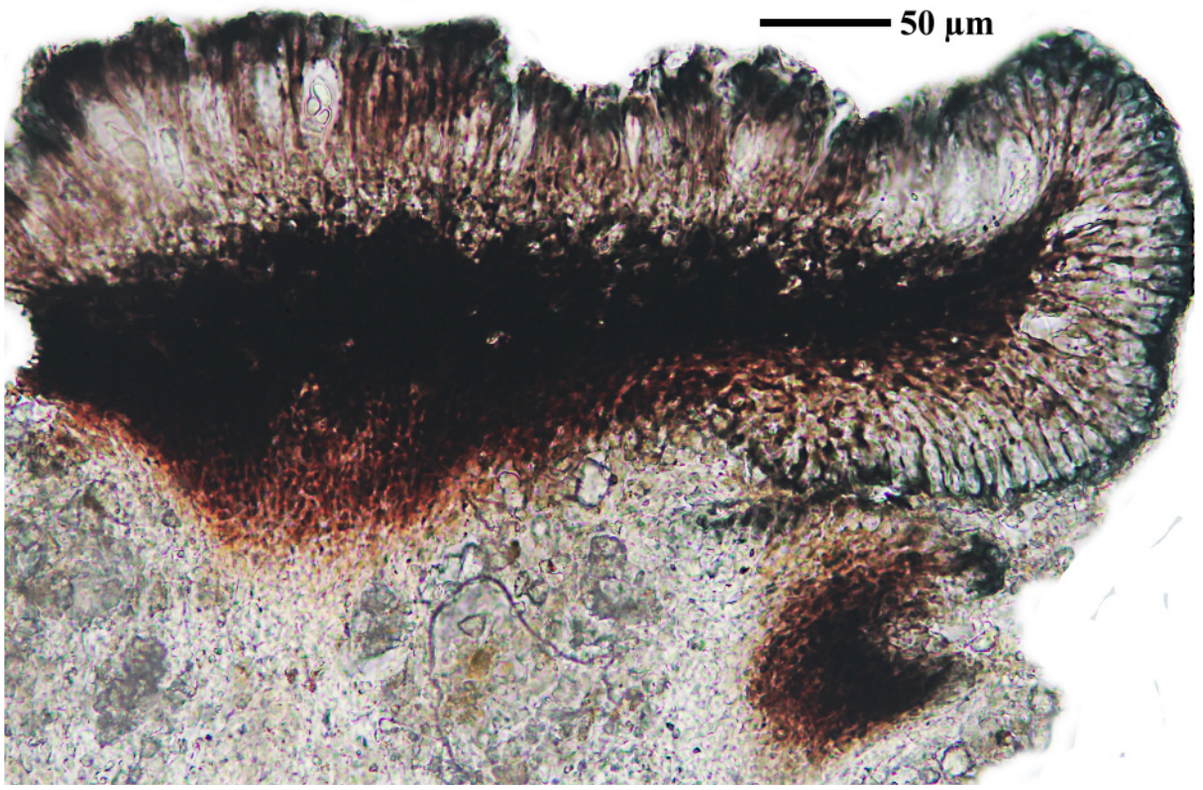
Acarospora gyrocarpa

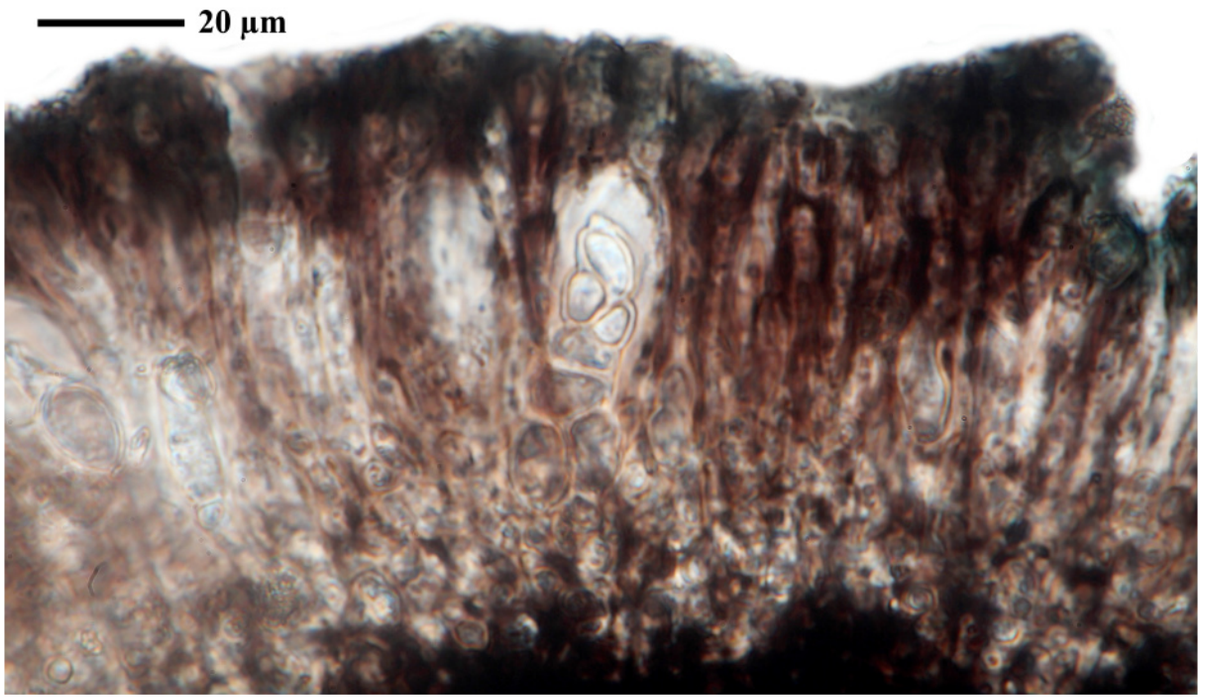
Ein isoliertes kleines schwarzes Apothecium, das in der Mitte genabelt erscheint und mir den Eindruck einer *Sarcogyne* machte, habe ich jetzt doch geschnitten. Offenbar handelt es sich aber um eine ***„Lecidea“*** s. lat. Die nachsten Bilder stammen von dieser *„Lecidea“*.



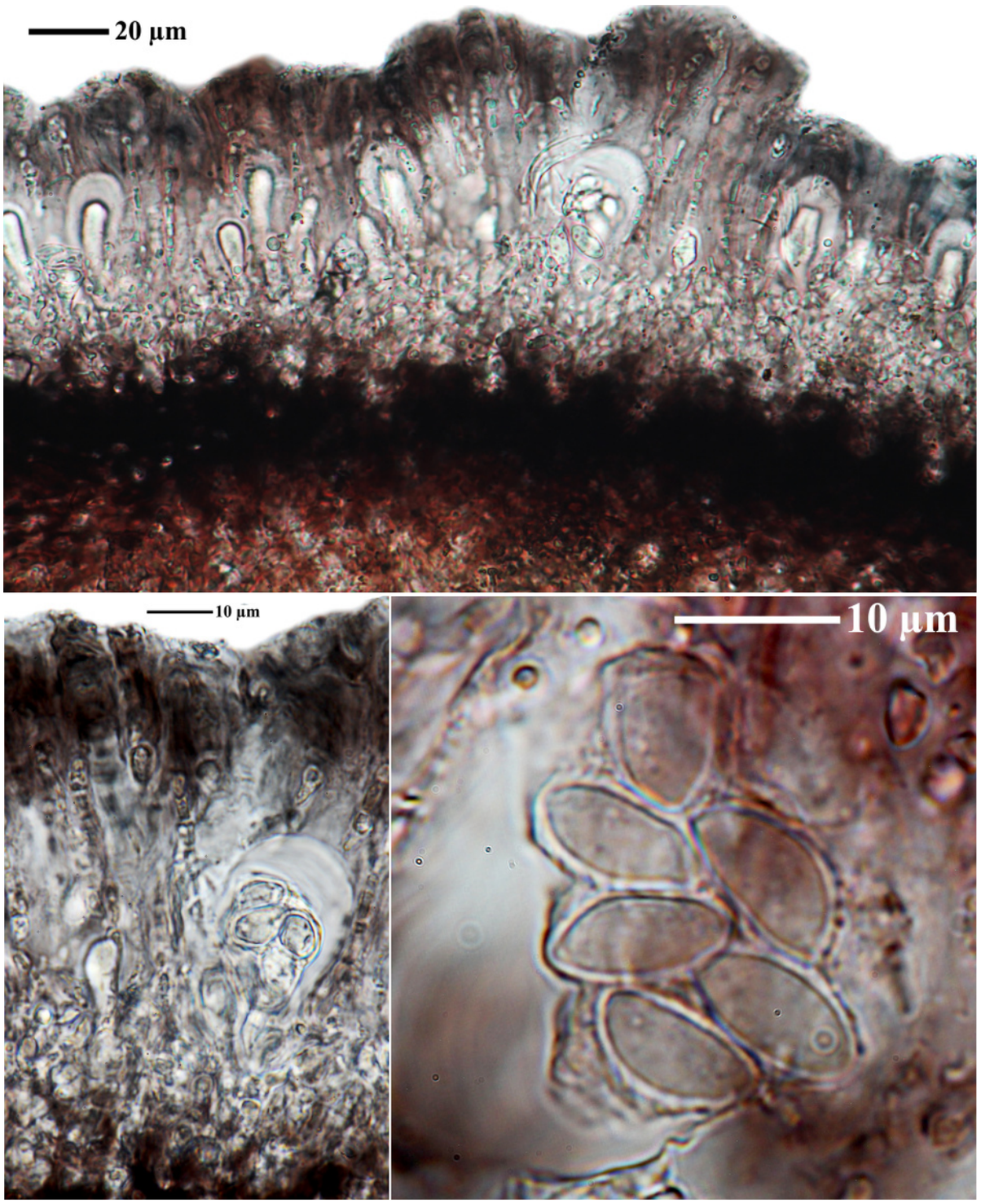


NON *Acarospora gyrocarpa*

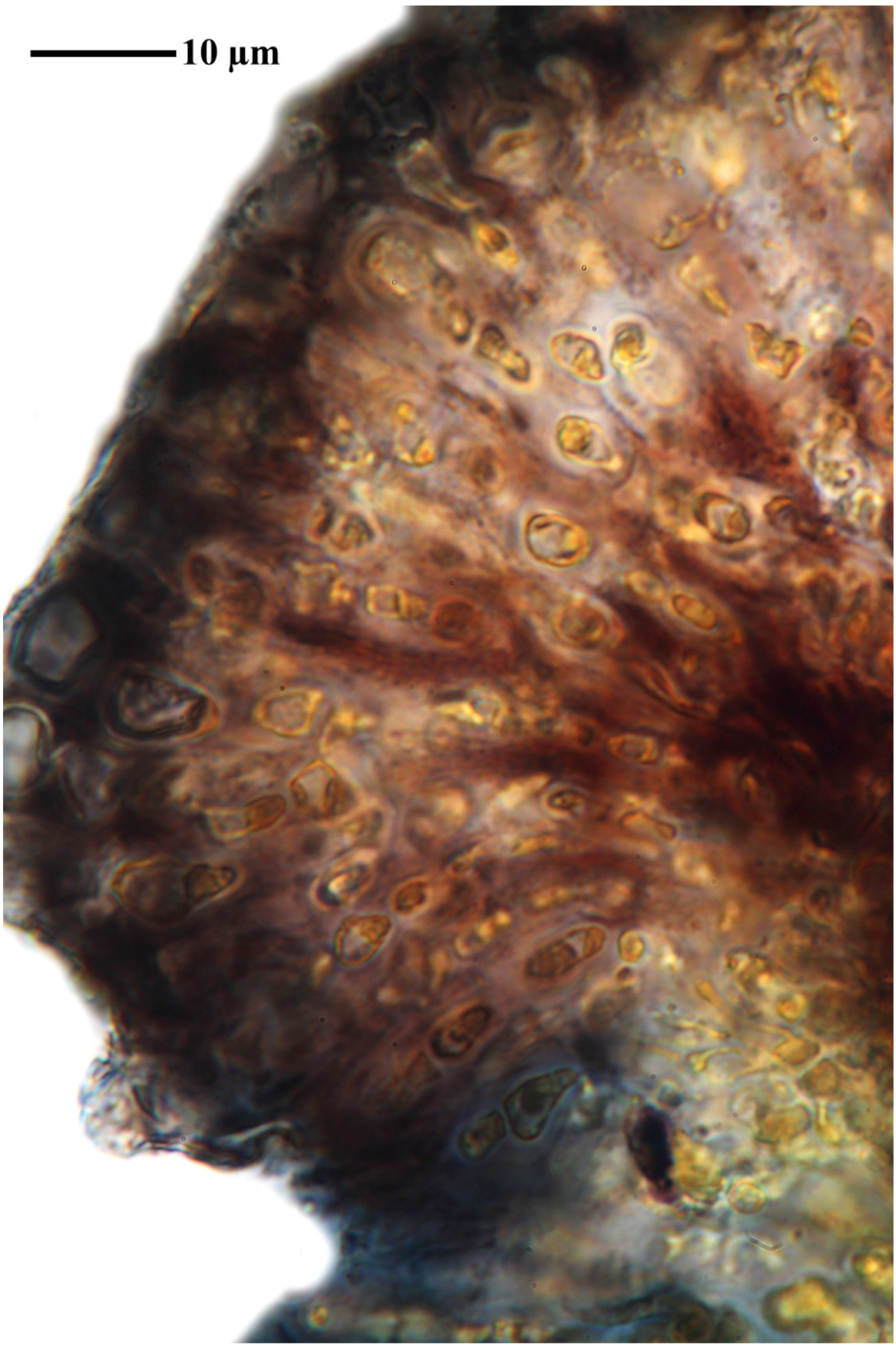




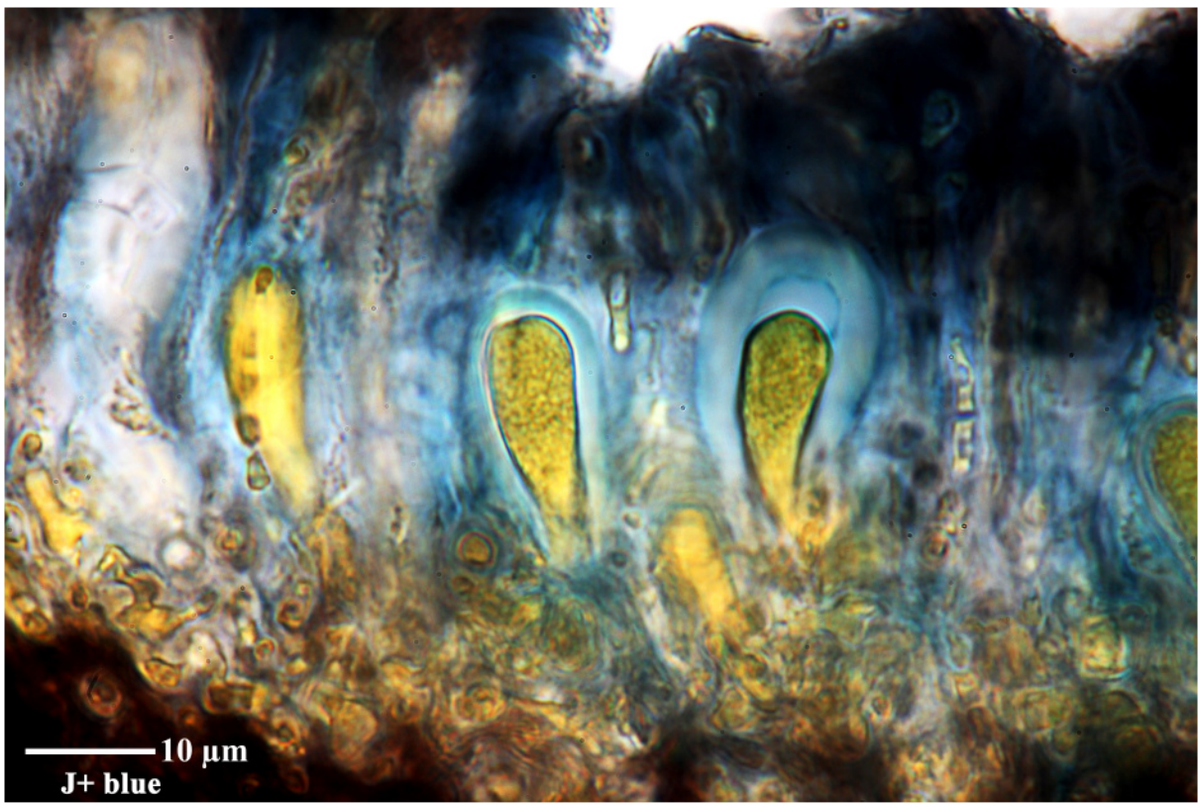
NON *Acarospora gyrocarpa*

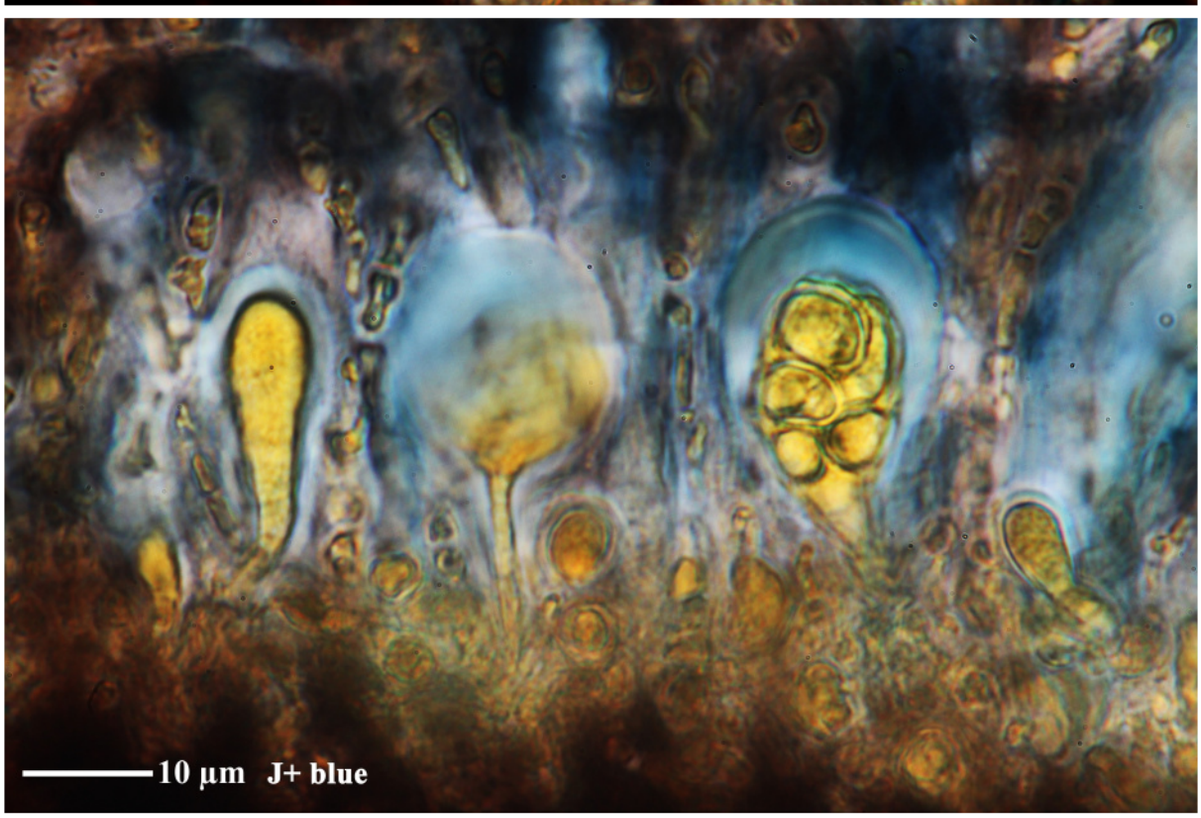


NON *Acarospora gyrocarpa*



NON *Acarospora gyrocarpa*





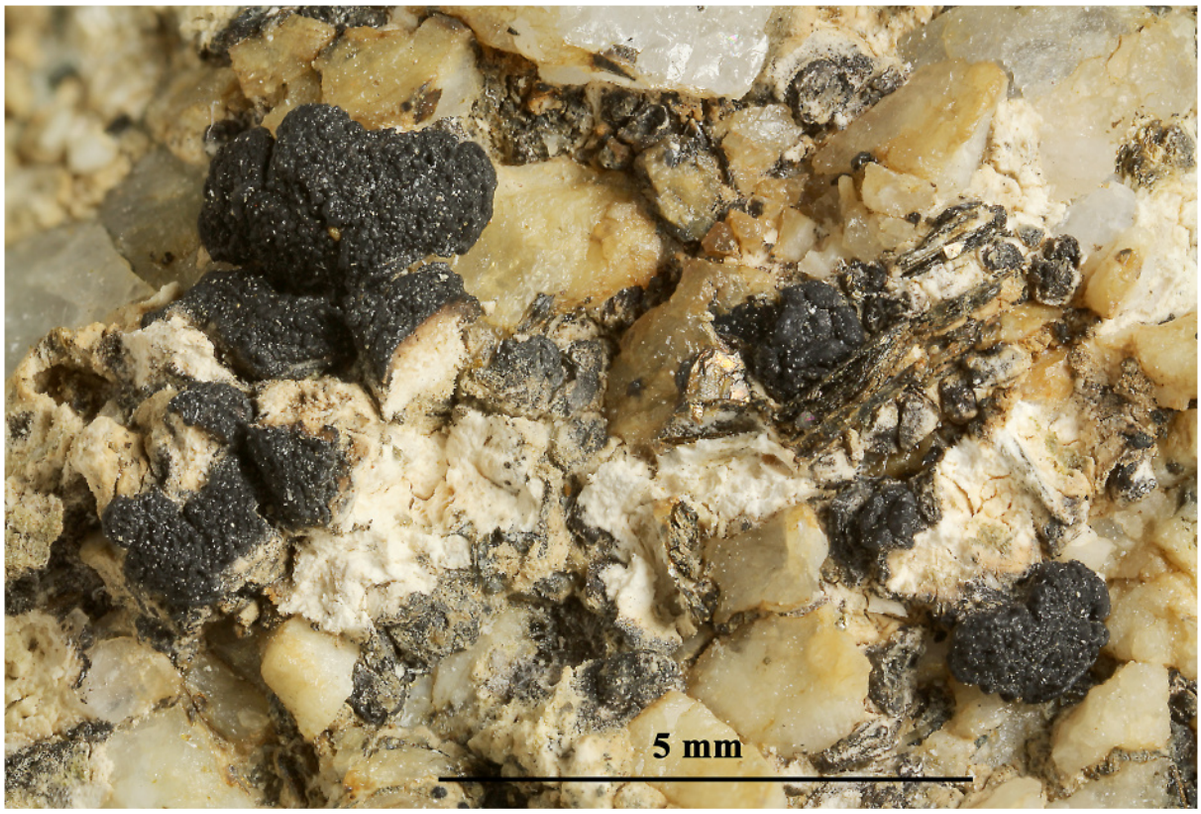
NON *Acarospora gyrocarpa*

Acarospora gyrocarpa (H.Magn.) K.Knudsen & M.Westb.
[= *Sarcogyne gyrocarpa* H.Magn.]

Notes: Siehe *Acarospora gyrocarpa* GZU 24-P3

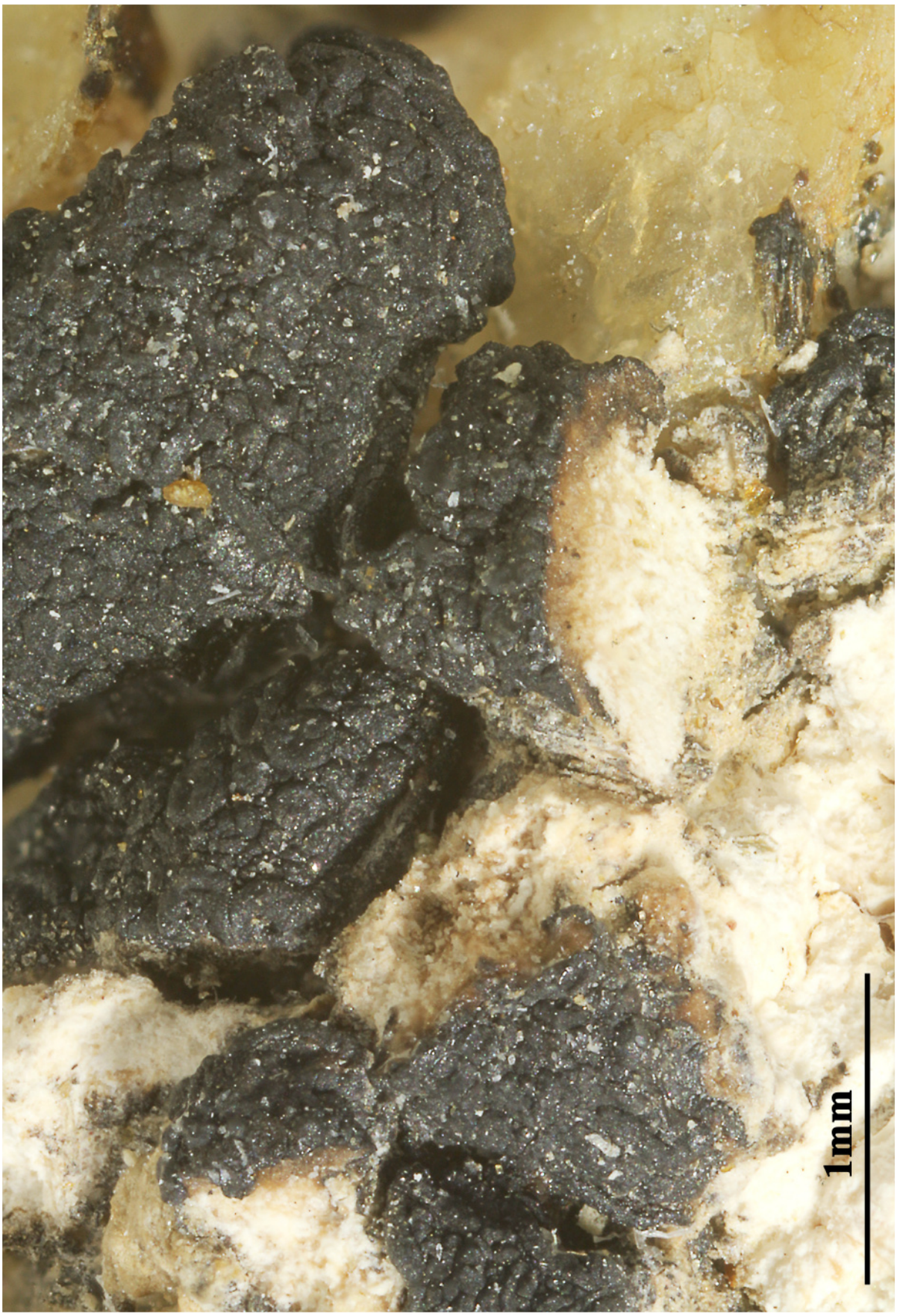
[GZU 24-P3b], Afghanistan, Prov. Parwan, oberstes Salangtal, südöich des Tunnelausgangs. 59°42,5’ E, 35°57’ N, 3150 m. ± NE-exponierte Granitsteinflächen. Leg. M. Steiner, 25.05.1970. Det. K. Knudsen, 22.11.2017.







Acarospora gyrocarpa



Acarospora gyrocarpa

Acarospora interrupta (Ehrenb. ex Nyl.) Vain. Bot. Tidsskr. 26: 248 (1904)

[GZU 27-94], Afghanistan, Prov. Ghazni, Dasht-i-Nawar. 67°42’ E, 33°31’ N, 3120-3200 m. W-seitiger Hang, karbonathaltiger Vulkanit, z.Z. mit Kalksinterauflage. Leg. S. W. Breckle (3/14), 16.08.1976. Det. K. Knudsen 14.11.2017.

Notes: Algenzone des Thallus teils druchgehend, teils deutlich durch antklinale Hyphenbündel unterbrochen. Rinde C-; Hymenium 90-100 µm, J+ blau; Paraphysen ca. 2.0 µm; Sporen 4.5 x 3 µm. Von Breckle und ebenso wohl Poelt als *Acarospora strigata* (Nyl.) Jatta, Malpighia 20: 10 (1906) bestimmt.



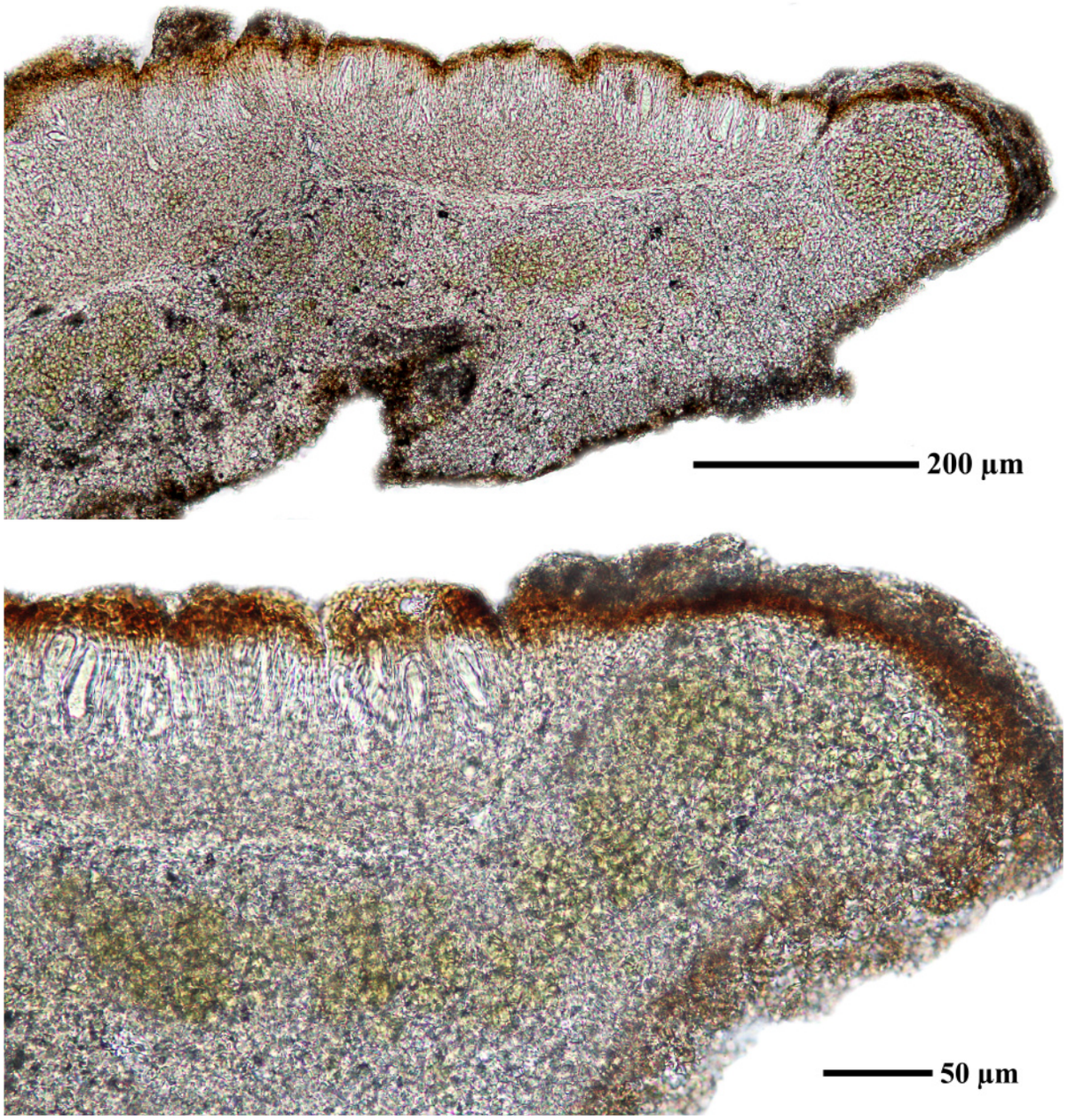




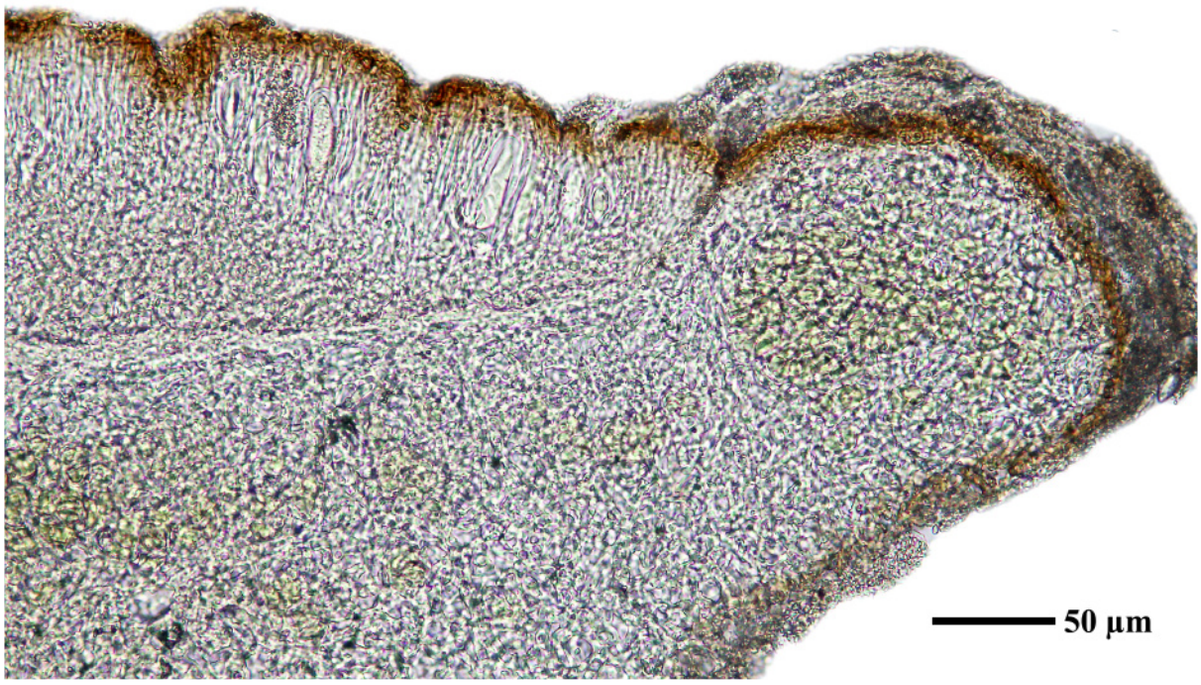
Acarospora interrupta

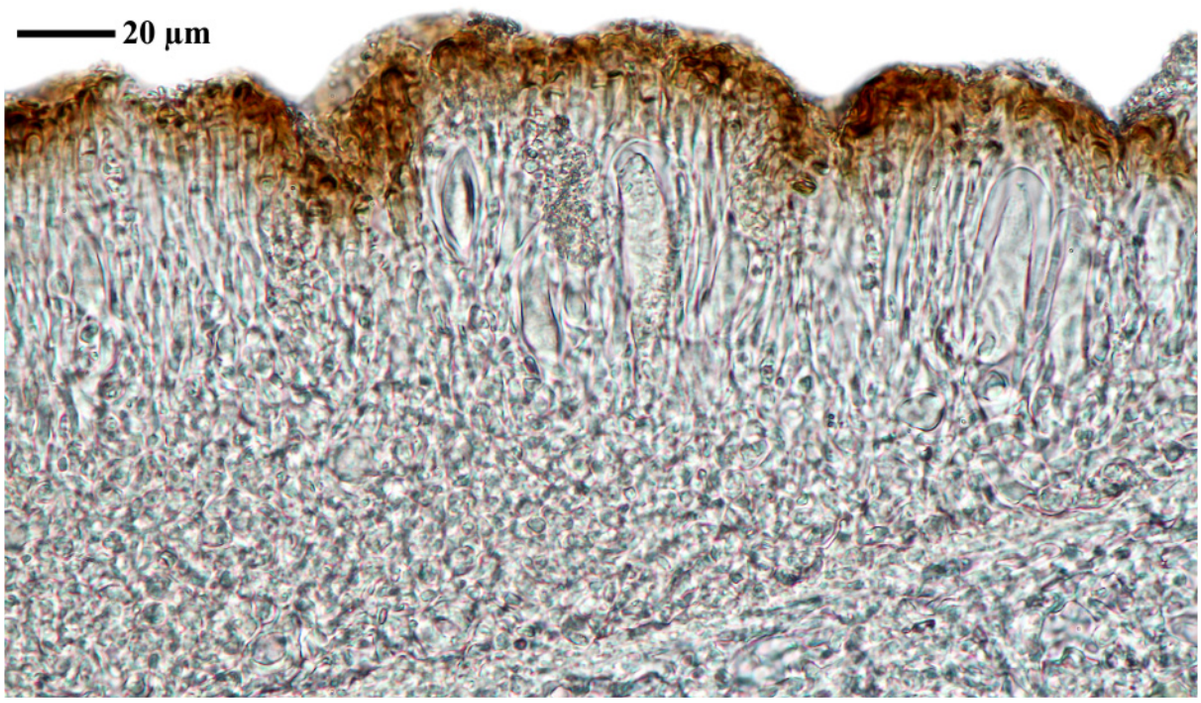


Acarospora interrupta

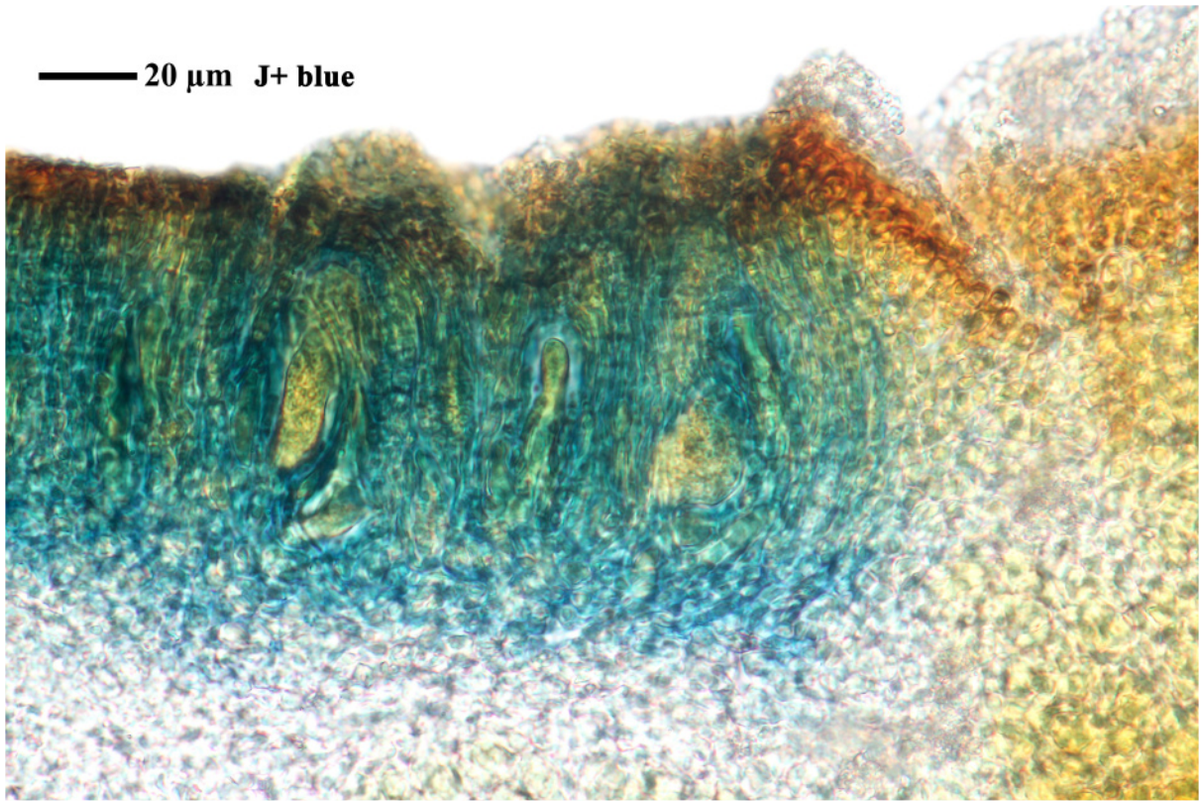


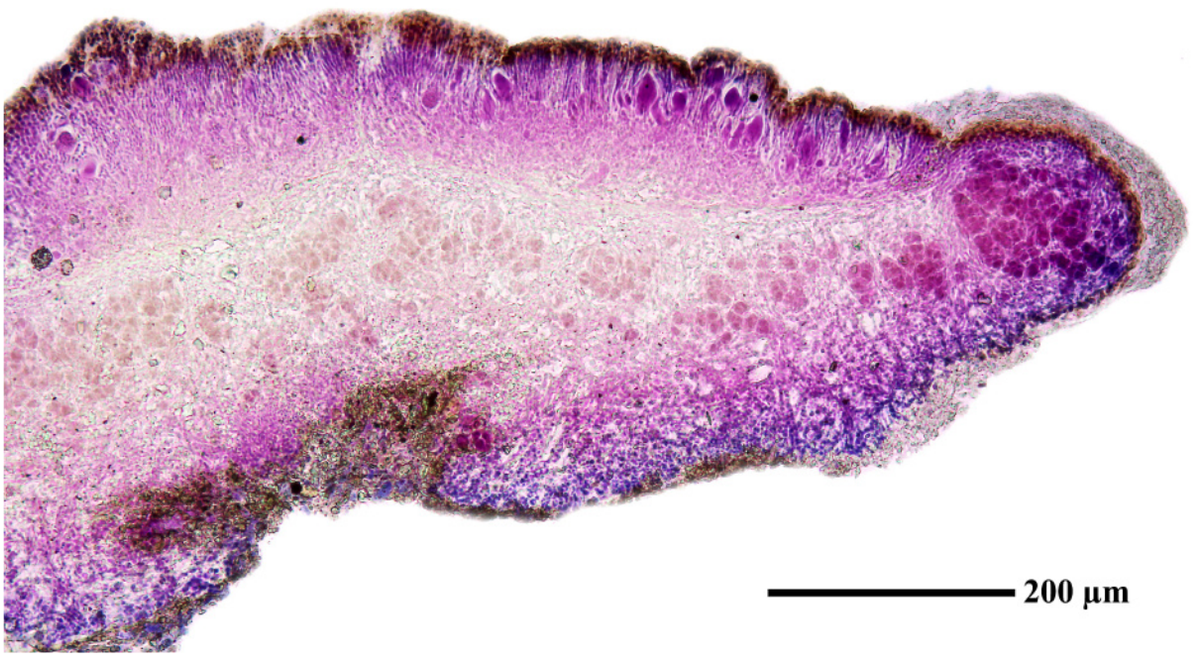
Acarospora interrupta



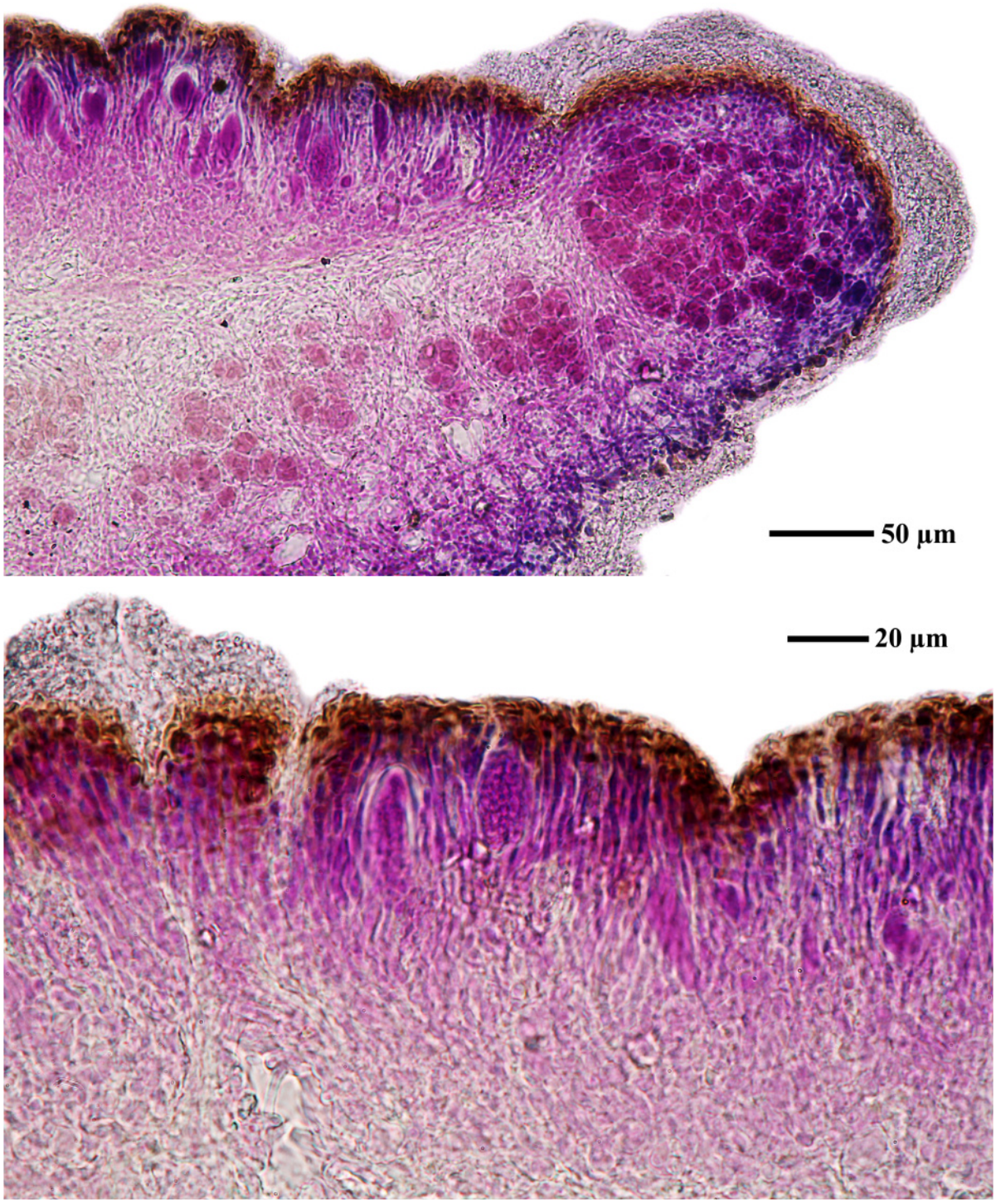


Acarospora interrupta





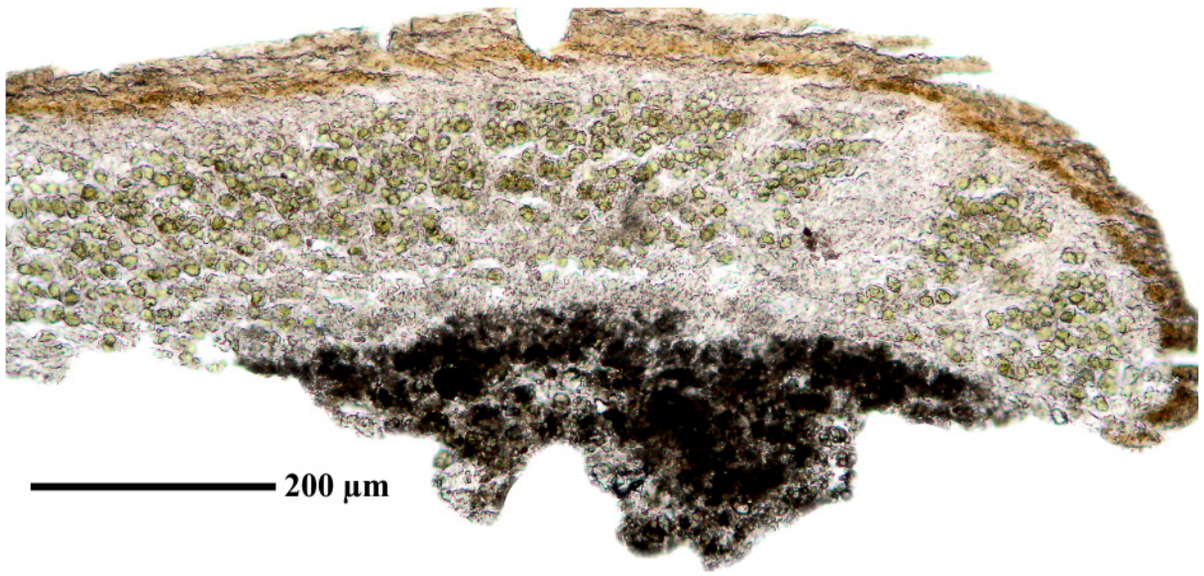
Acarospora interrupta

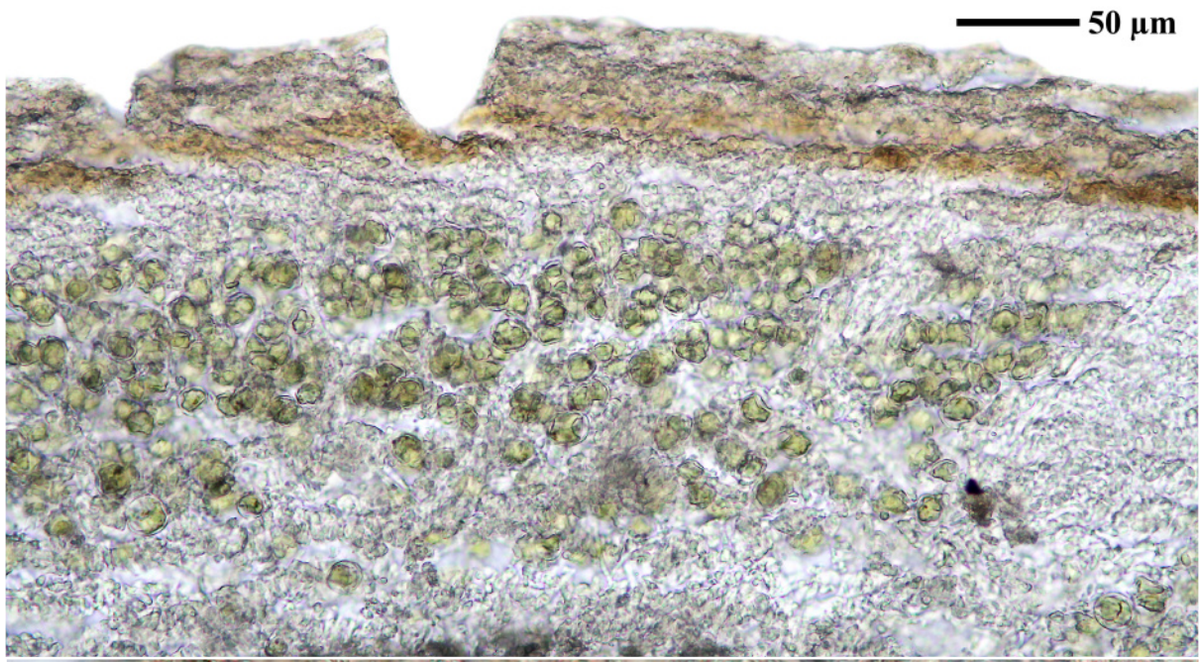


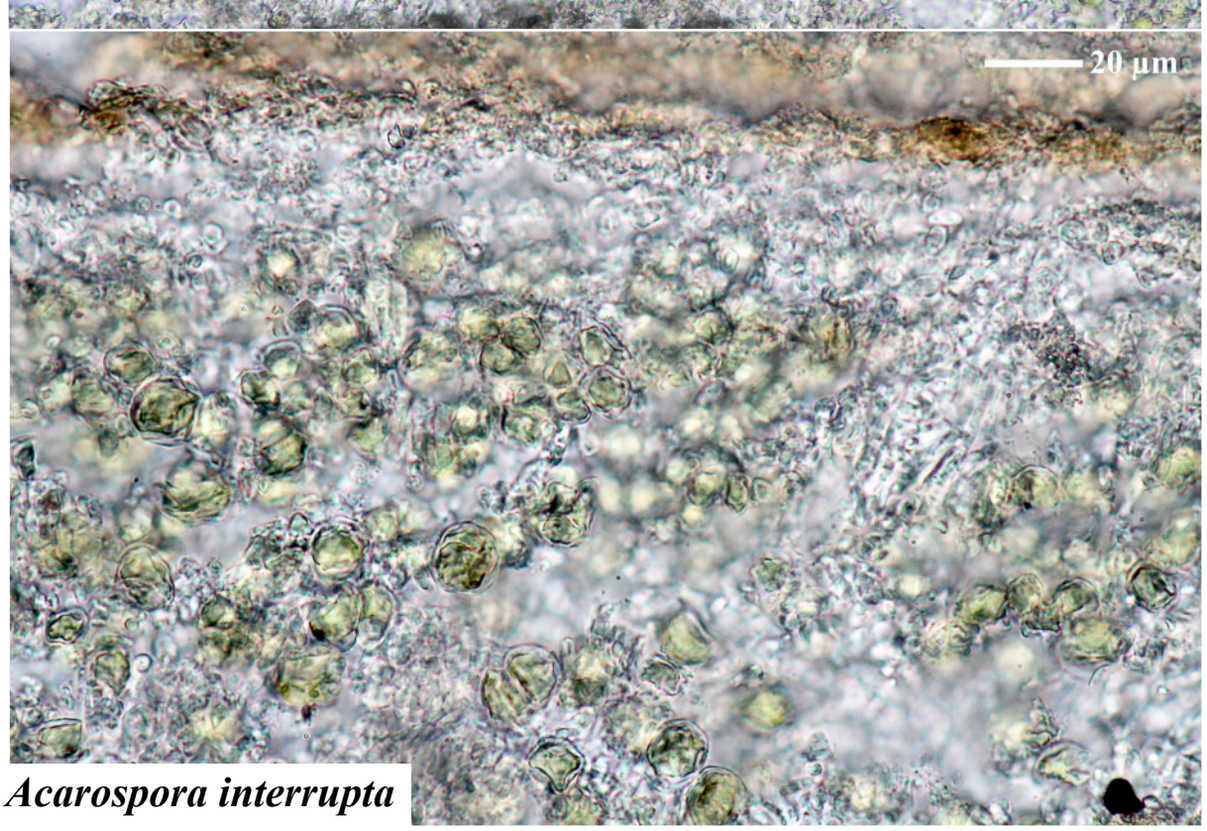
Acarospora interrupta



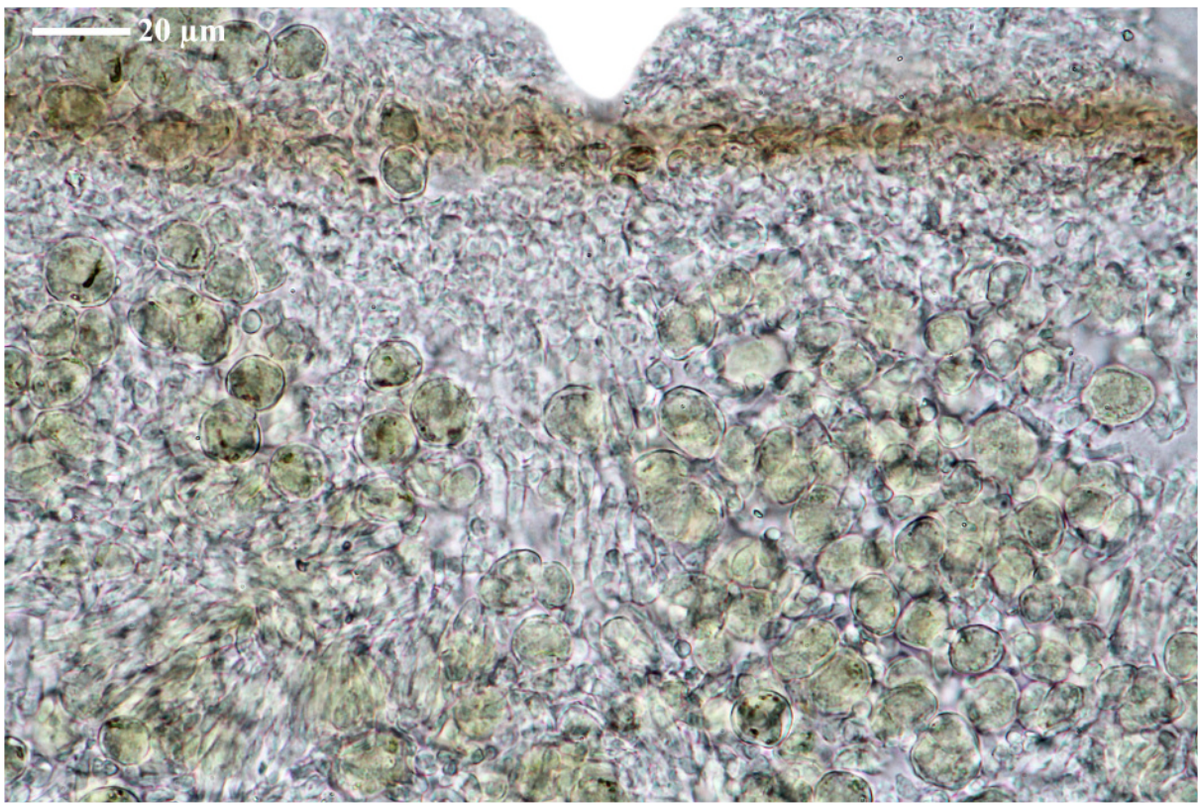
Acarospora interrupta

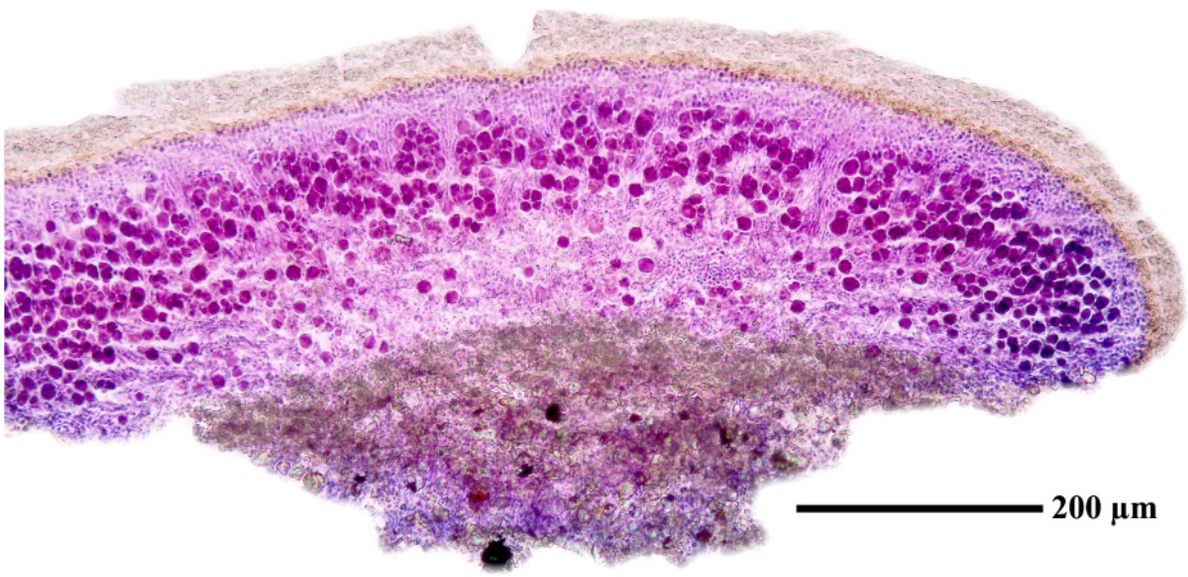




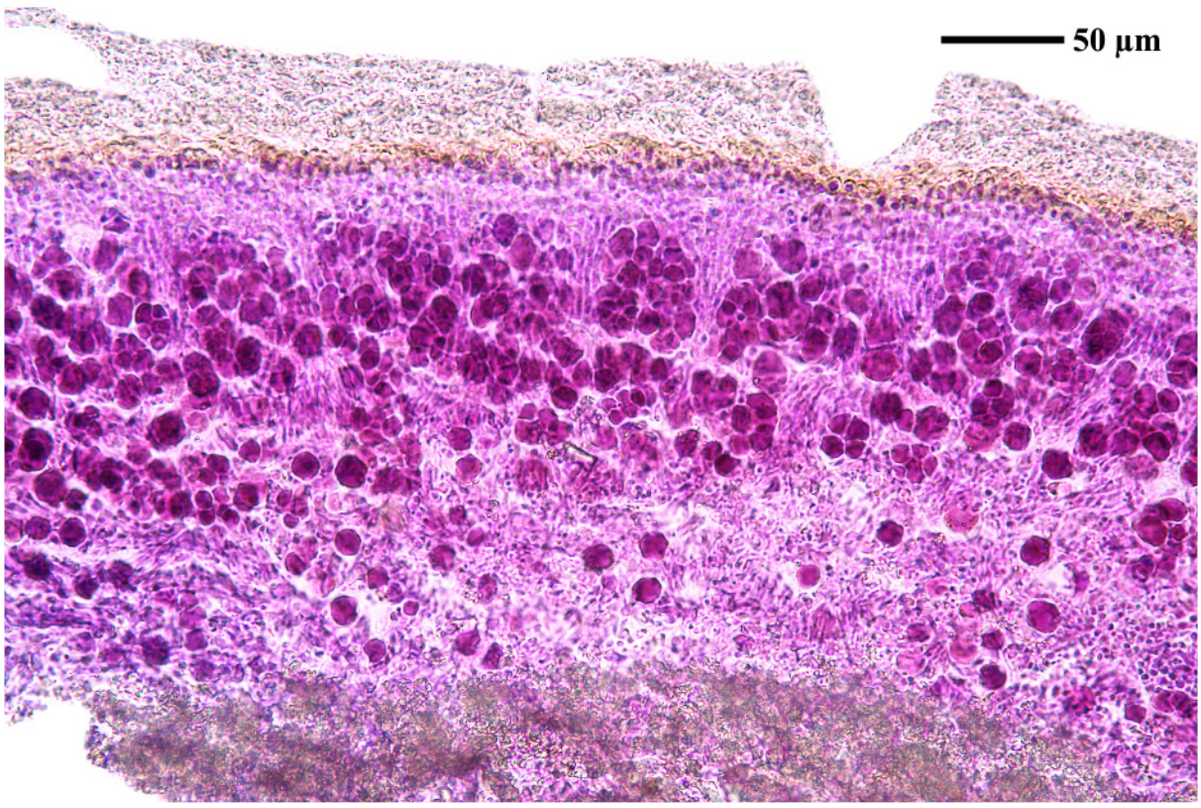


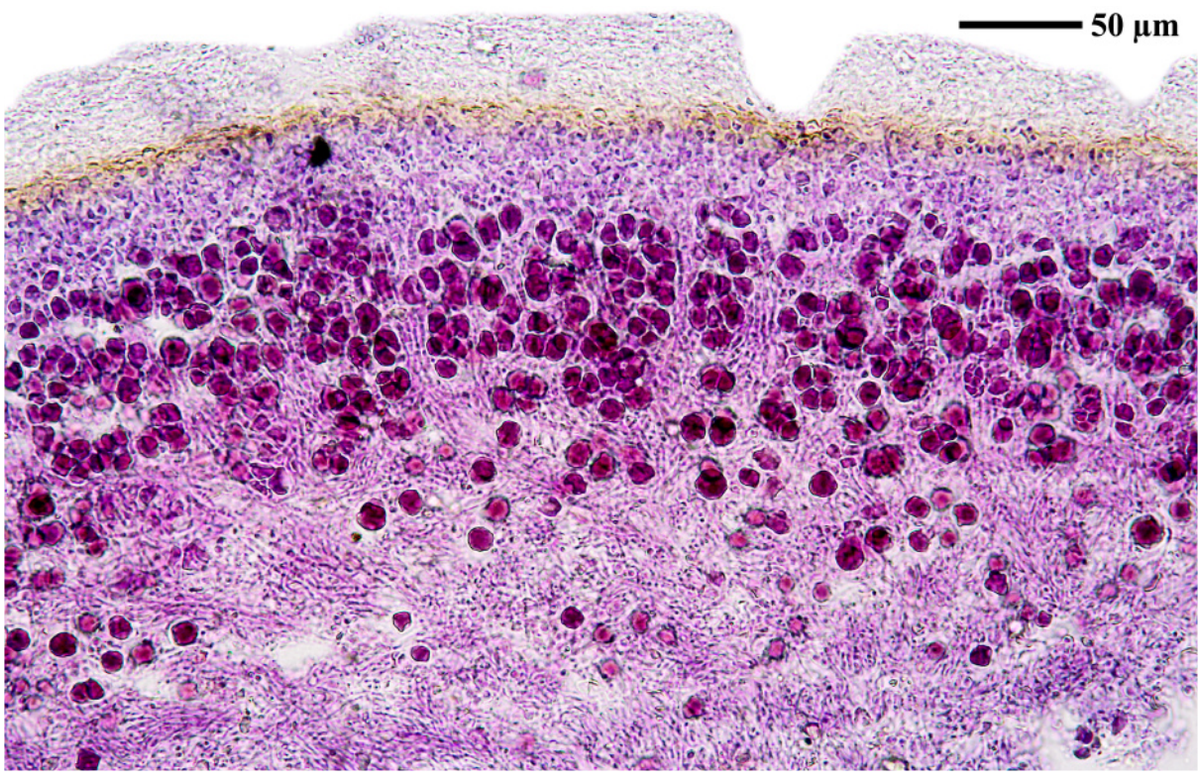
Acarospora interrupta



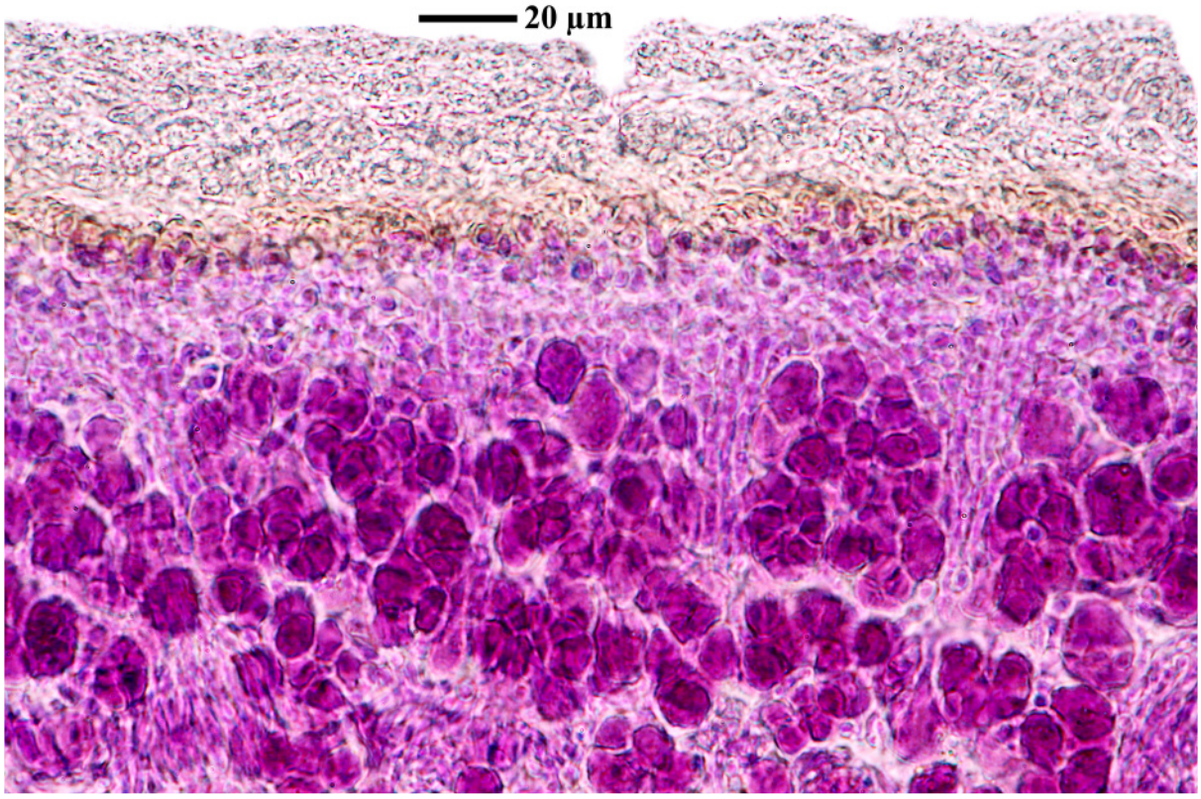


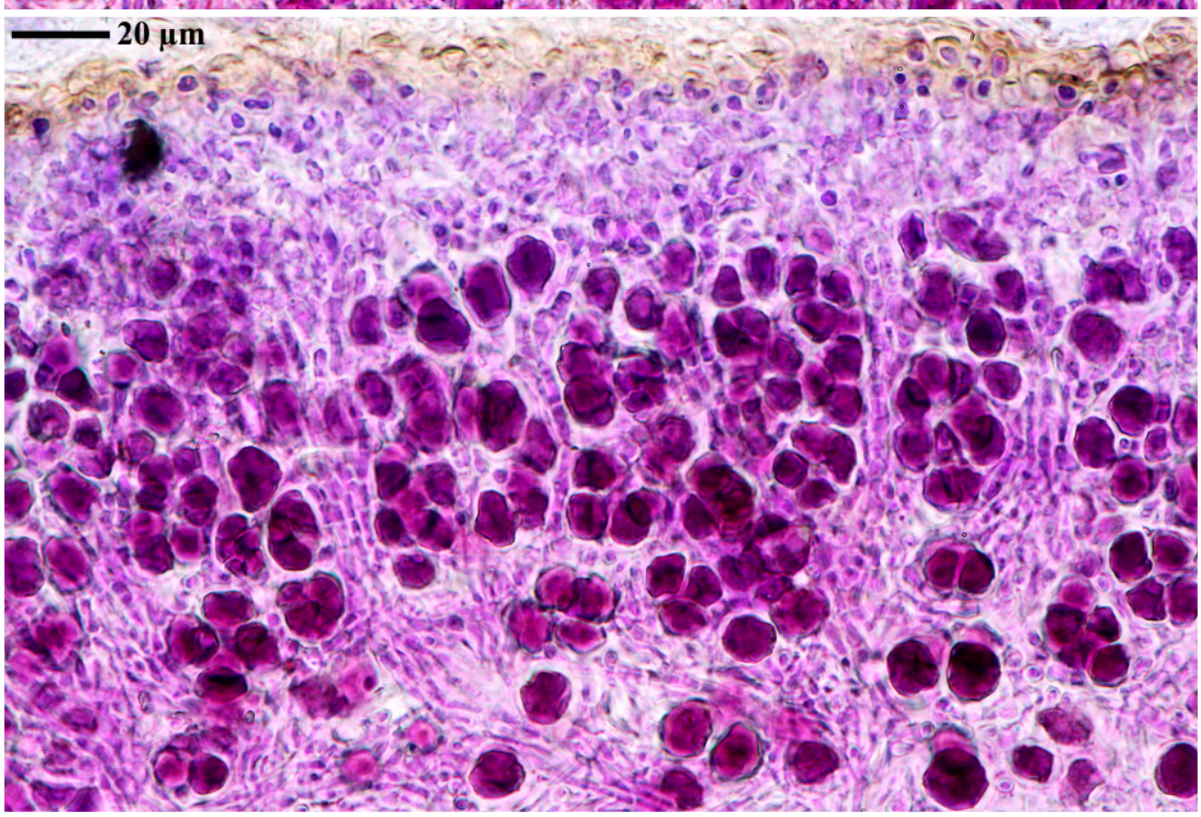
Acarospora interrupta





Acarospora interrupta





Acarospora interrupta

Acarospora interrupta (Ehrenb. ex Nyl.) Vain.

[GZU 27-P4], Afghanistan, Prov. Zabul, Oasshöhe 20 km NW Shenkay, an der Straße von Qualat-Ghilzai nach Shenkay. 67°10’ E, 32°05’ N, 2170 m. An kalkhaltigen Felsen. Leg. D. Podlech (Pod 50), 25.03.1971, det. K. Knudsen, 15.11.2017.

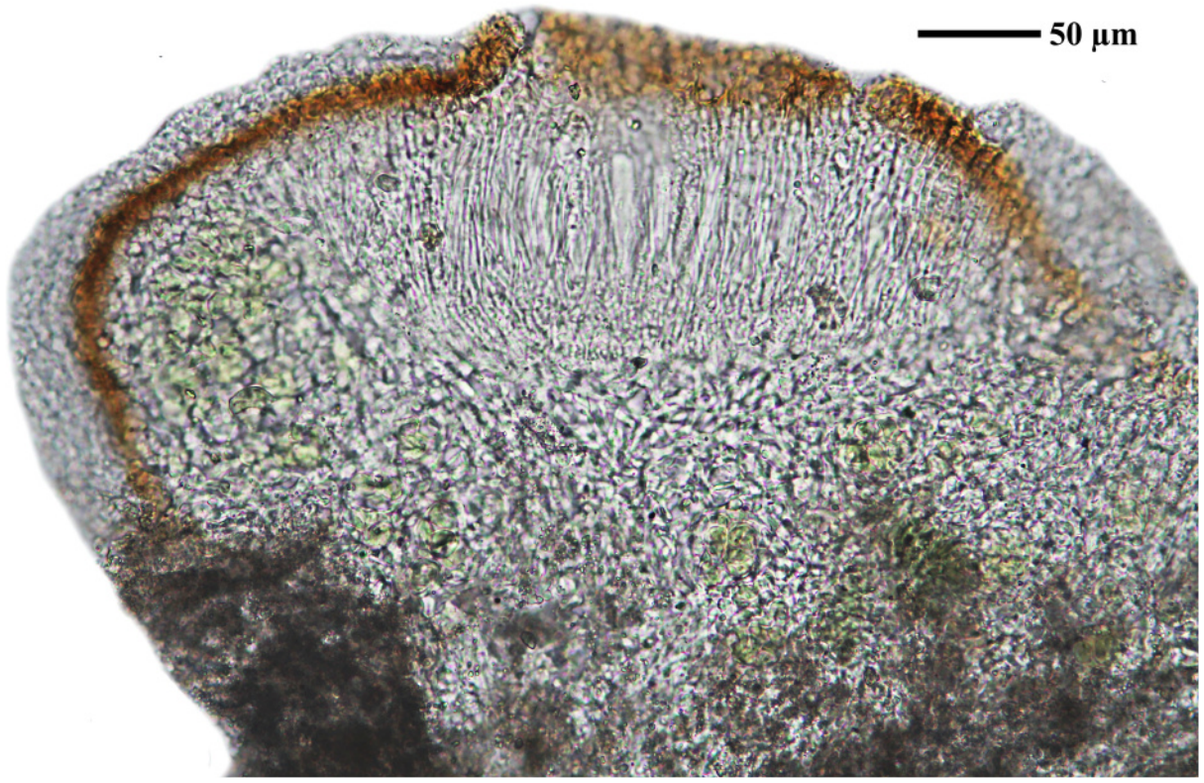
Notes: Spores 3.3 x 1.5 µm. Algenschicht der Thallusschuppen zusammenhängend, nur an wenigen Stellen durch dünnere antklinale Hyphenbündel unterbrochen. (FS)
Ursprünglich als *Acarospora strigata* (Nyl.) Jatta bestimmt, welche nach Magnussons Monographie synonym zu A. interrupta ist. Im Index Fungorum werden beide Arten jetzt jedoch getrennt aufgeführt.





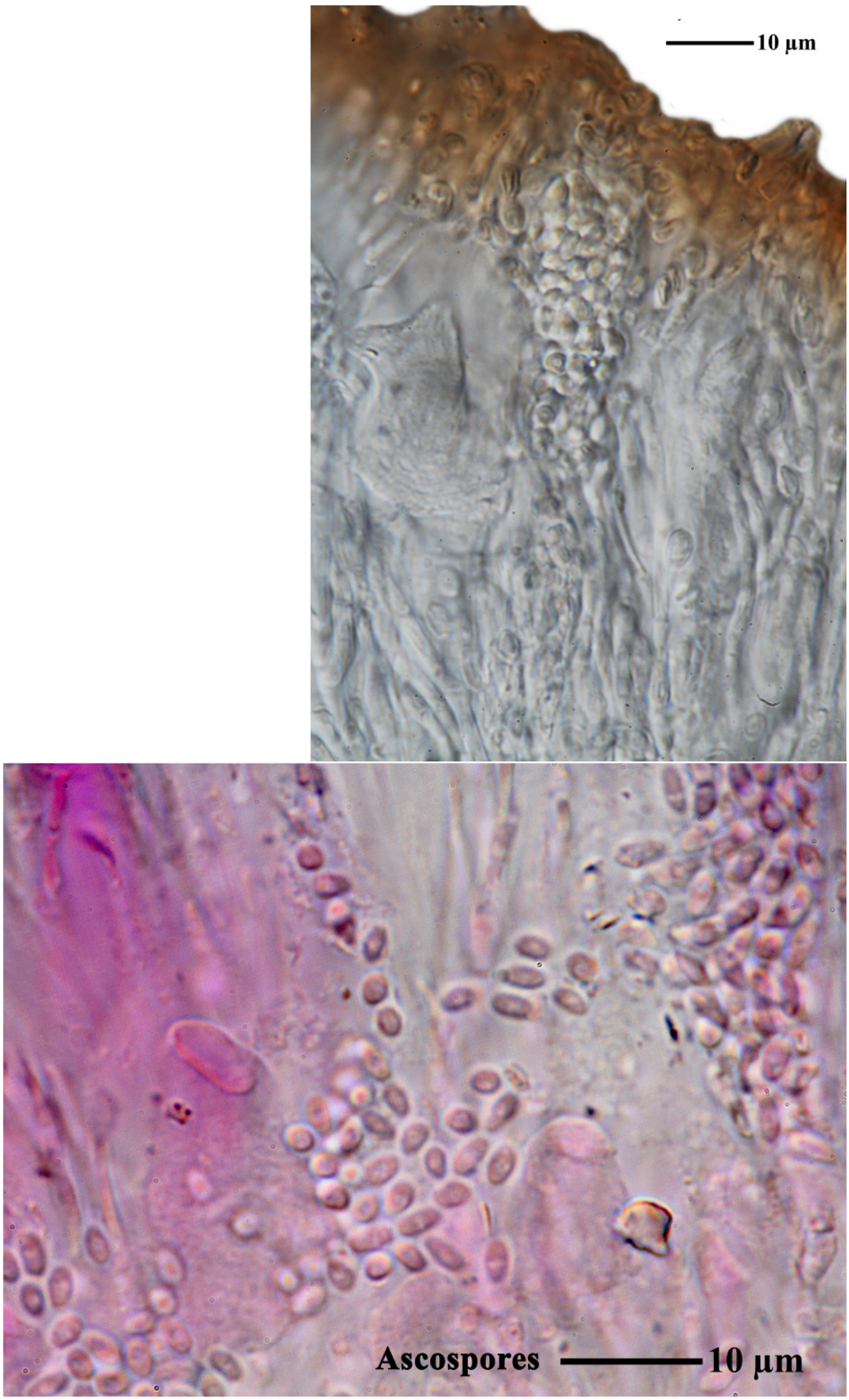


Acarospora interrupta

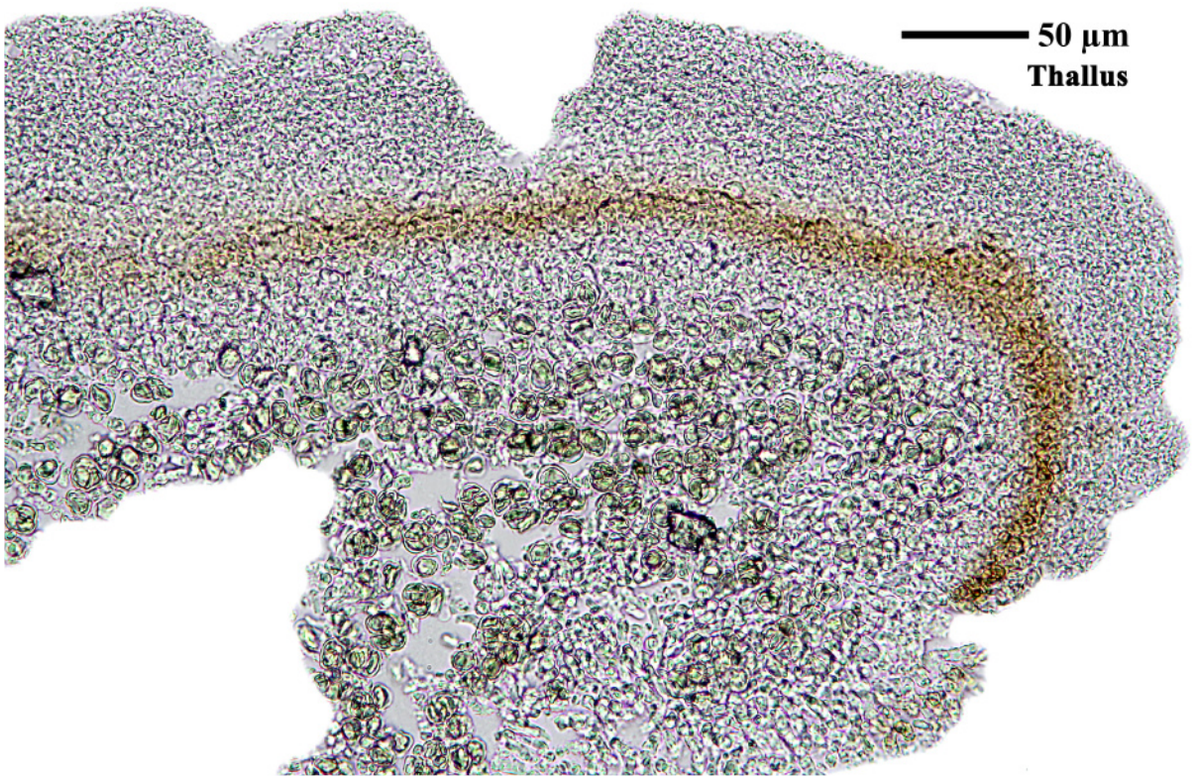


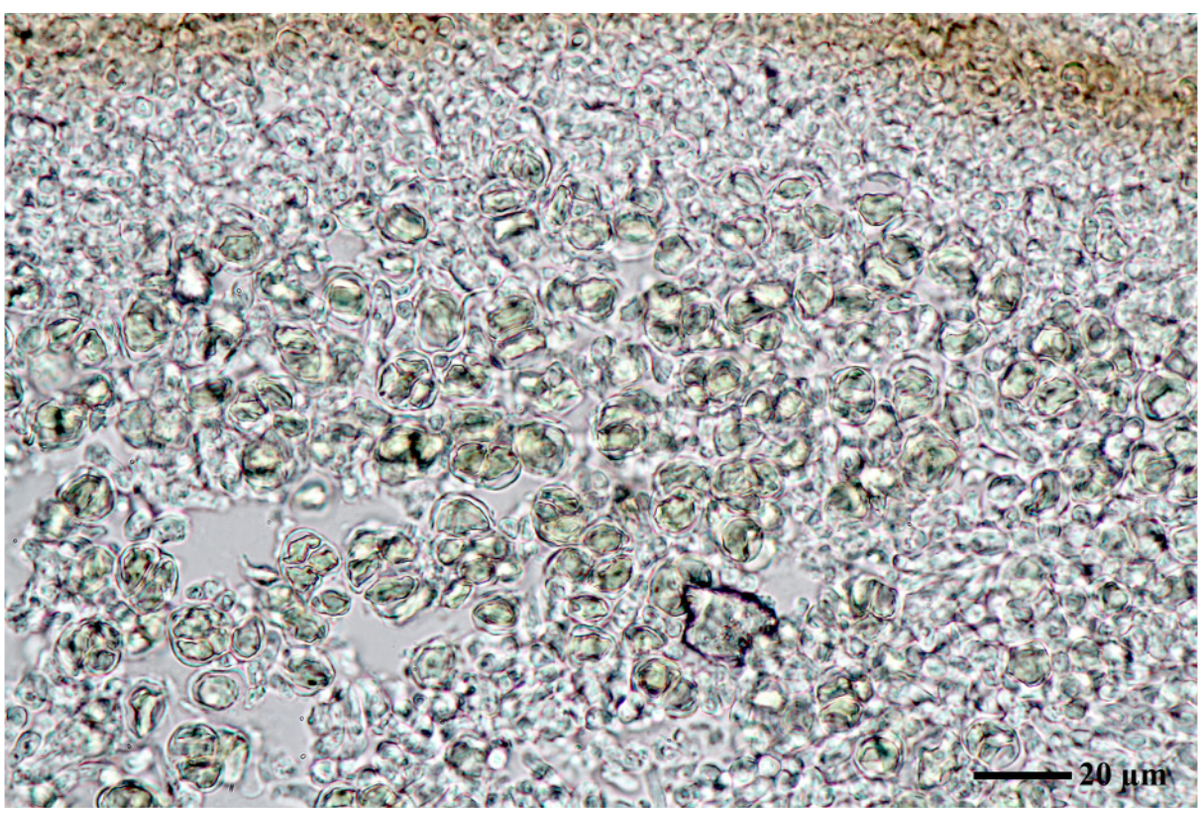


Acarospora interrupta

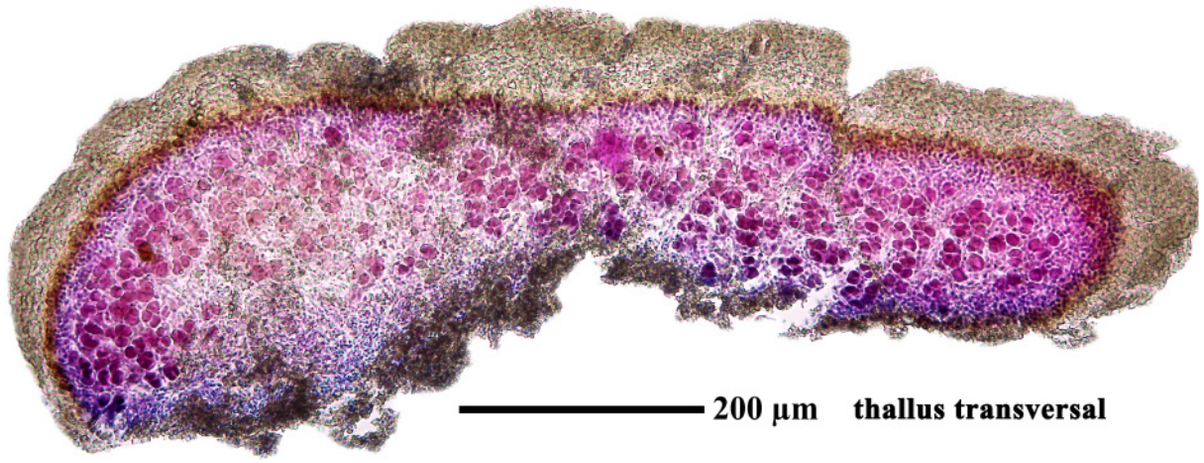


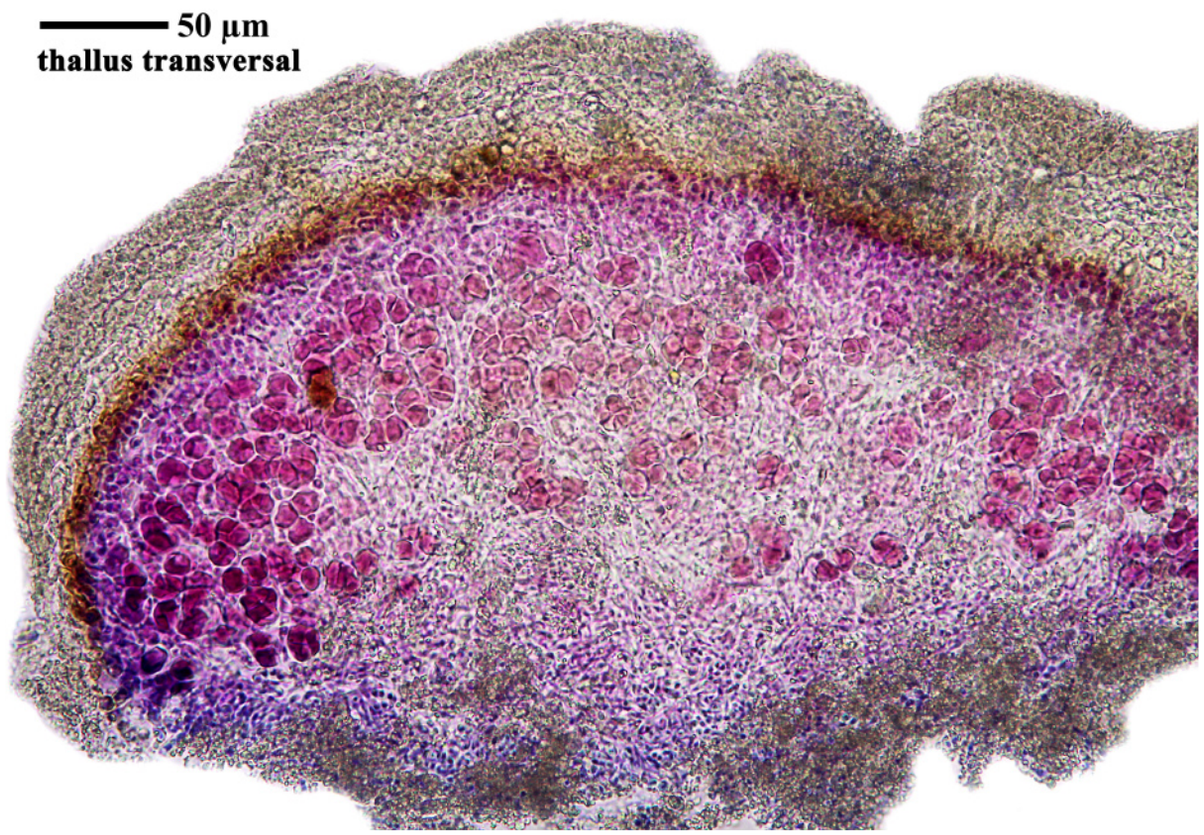
Acarospora interrupta

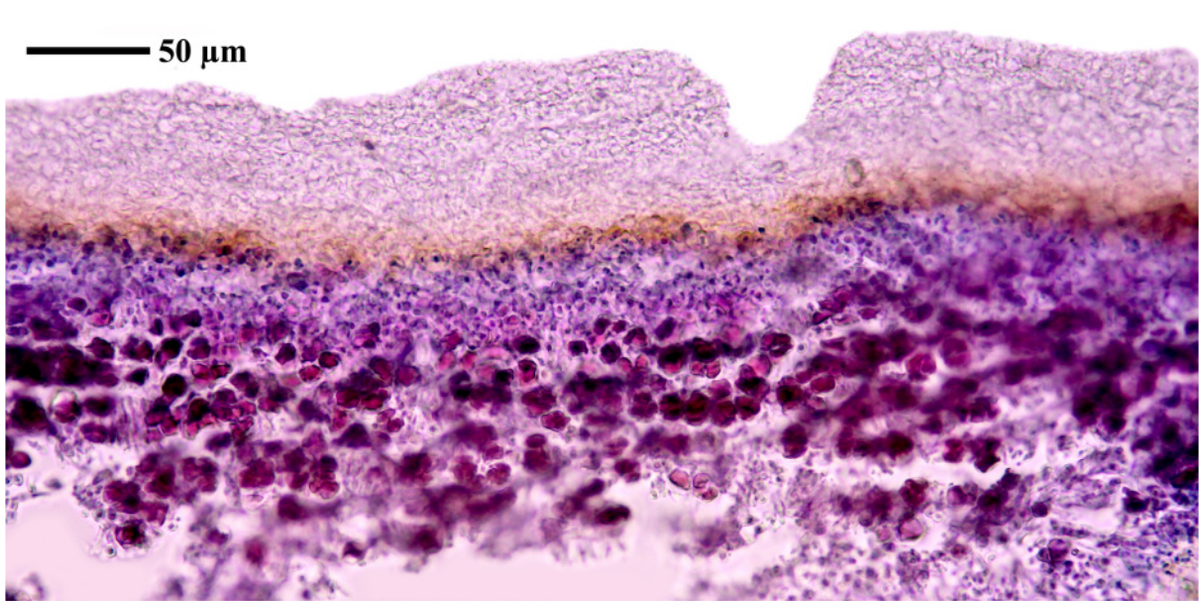




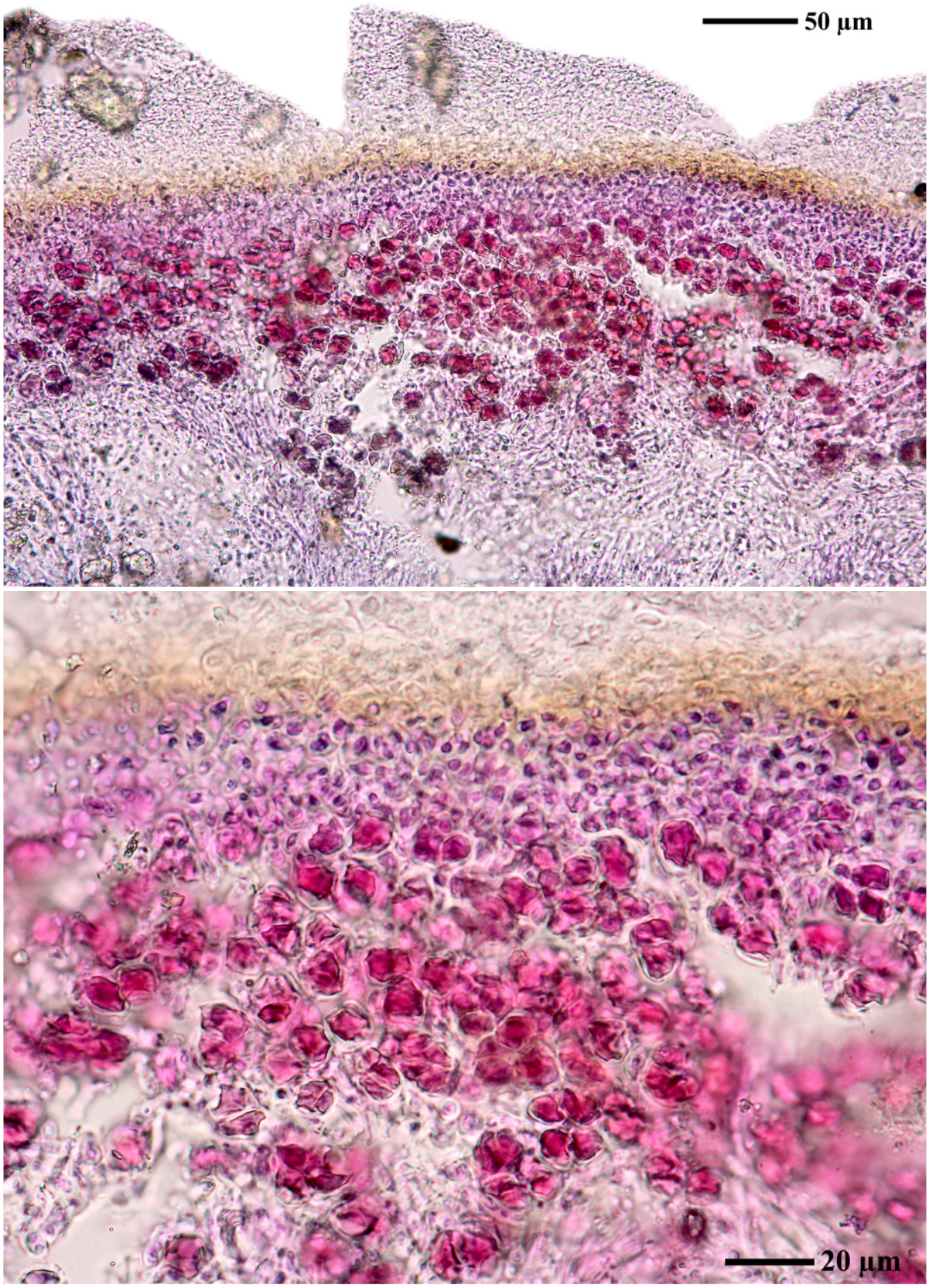
Acarospora interrupta



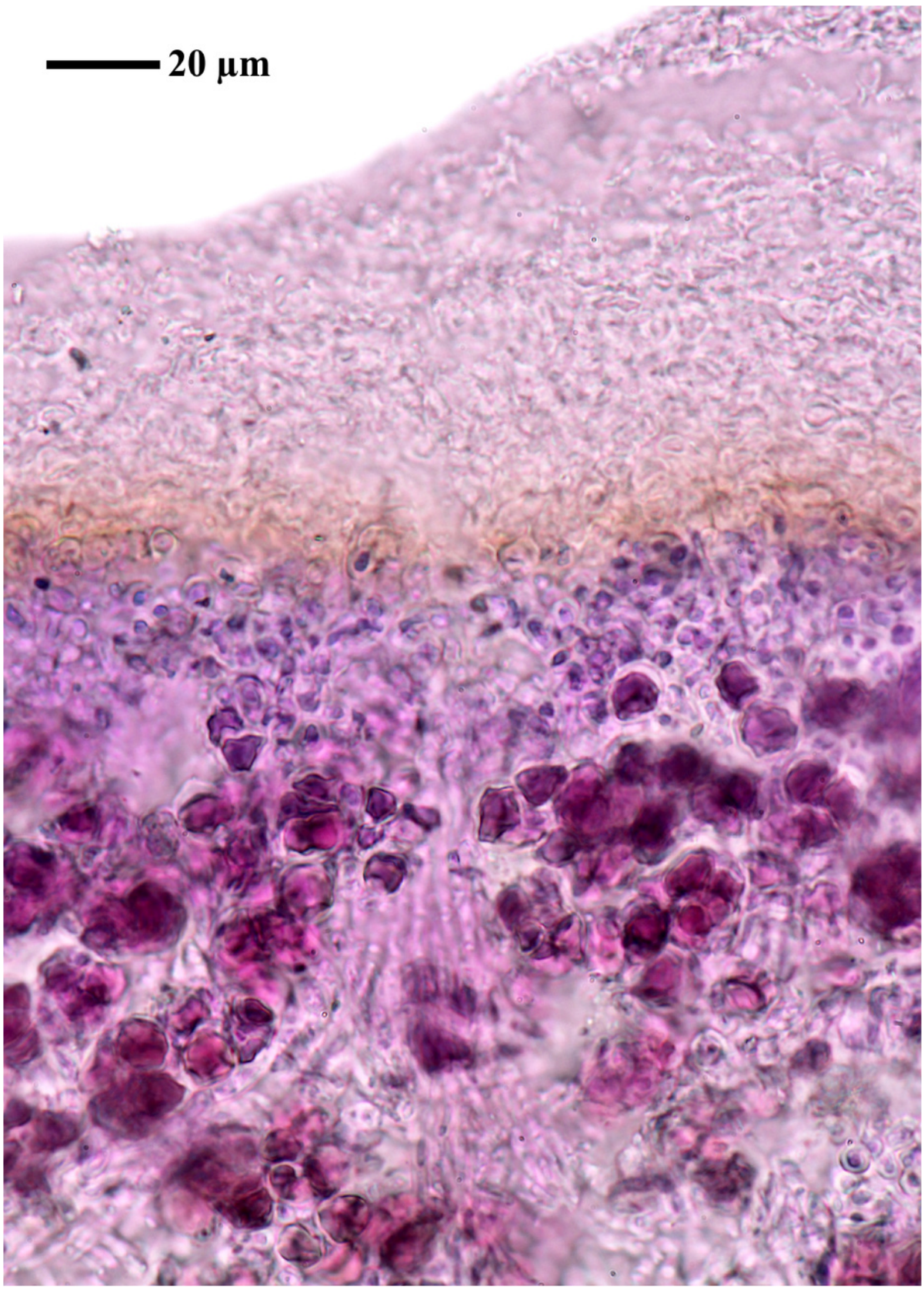




Acarospora interrupta



Acarospora interrupta



Acarospora interrupta

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

[GZU 105-89], Afghanistan, Prov. Zabul, Passhöhe 20 km NW Shnkay, an der Straße von Qualat-Ghlzai nach Sehnkay. 67°10’ E, 32°05’ N, 2170 m. Kalkhaltige Felsen. Leg. M. Steiner (Ste 50), 25.03.1971. Det. et rev. K. Knudsen 14.11.2017, 2022.

Notes: an HCL-rock. Ursprünglich unter *A. strigata* (Nyl.) Jatta abgelegt.

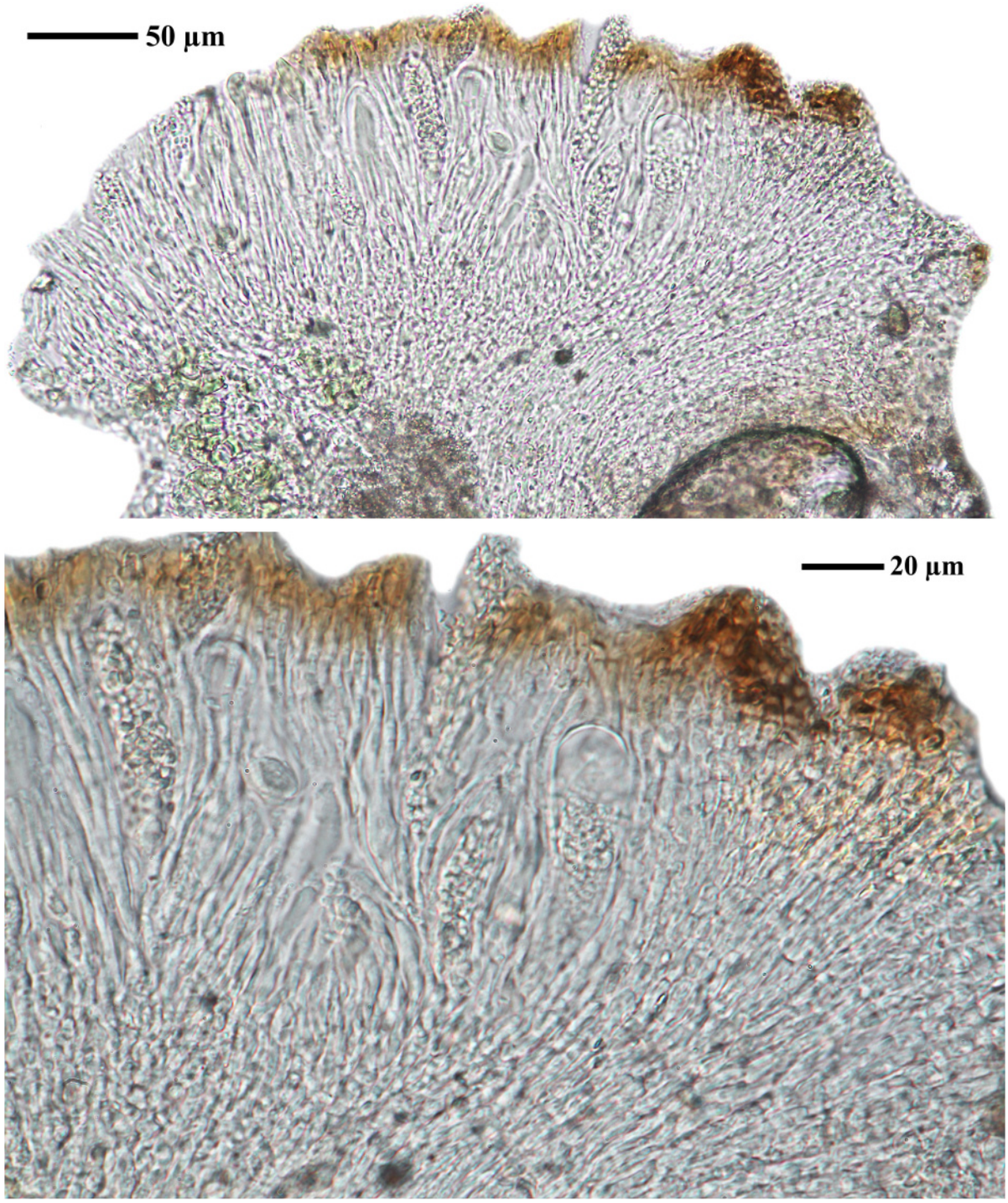




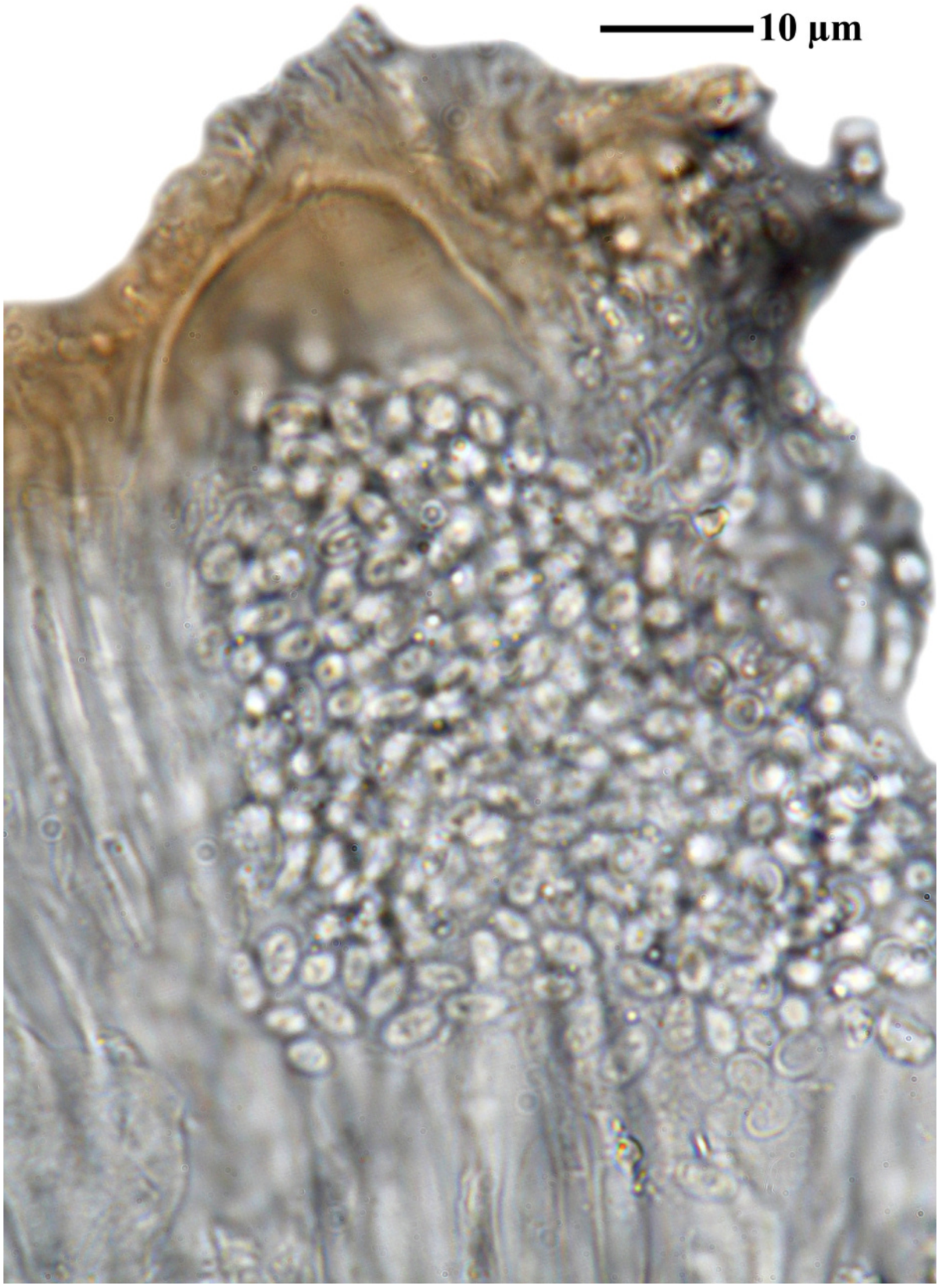
Acarospora interrupta



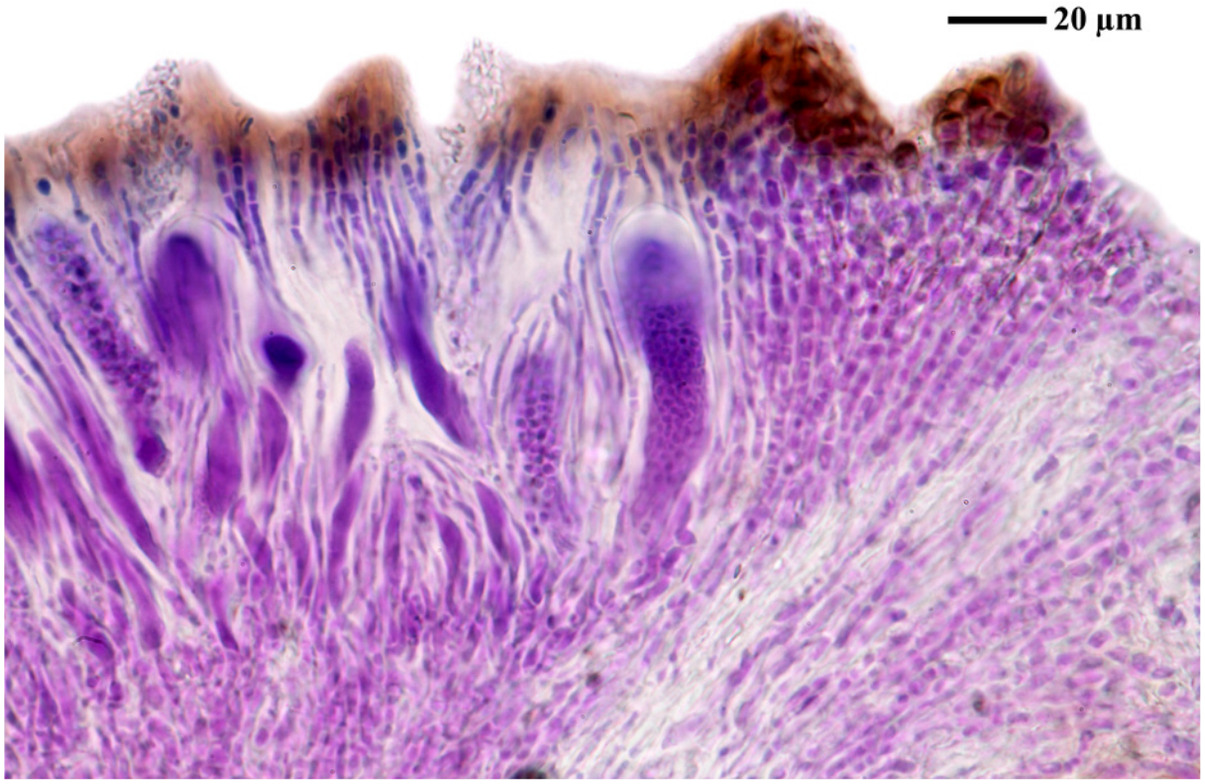
Acarospora interrupta

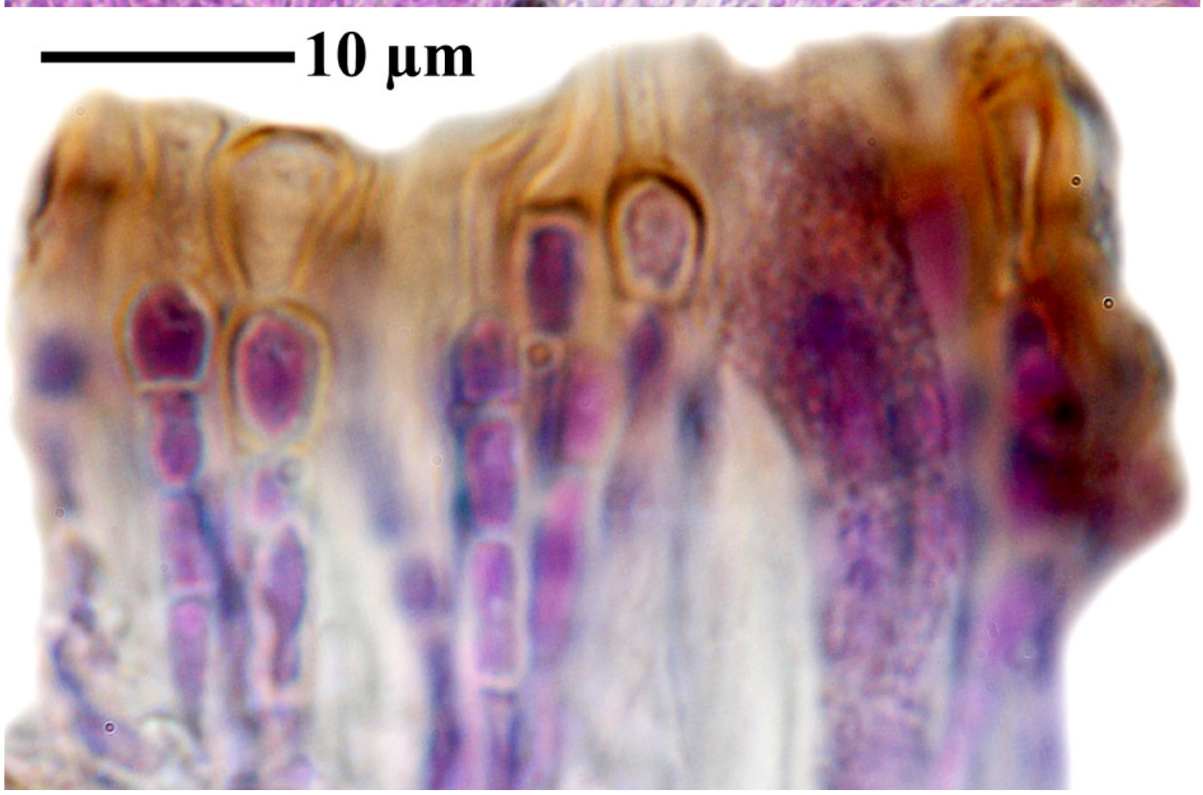


Acarospora interrupta

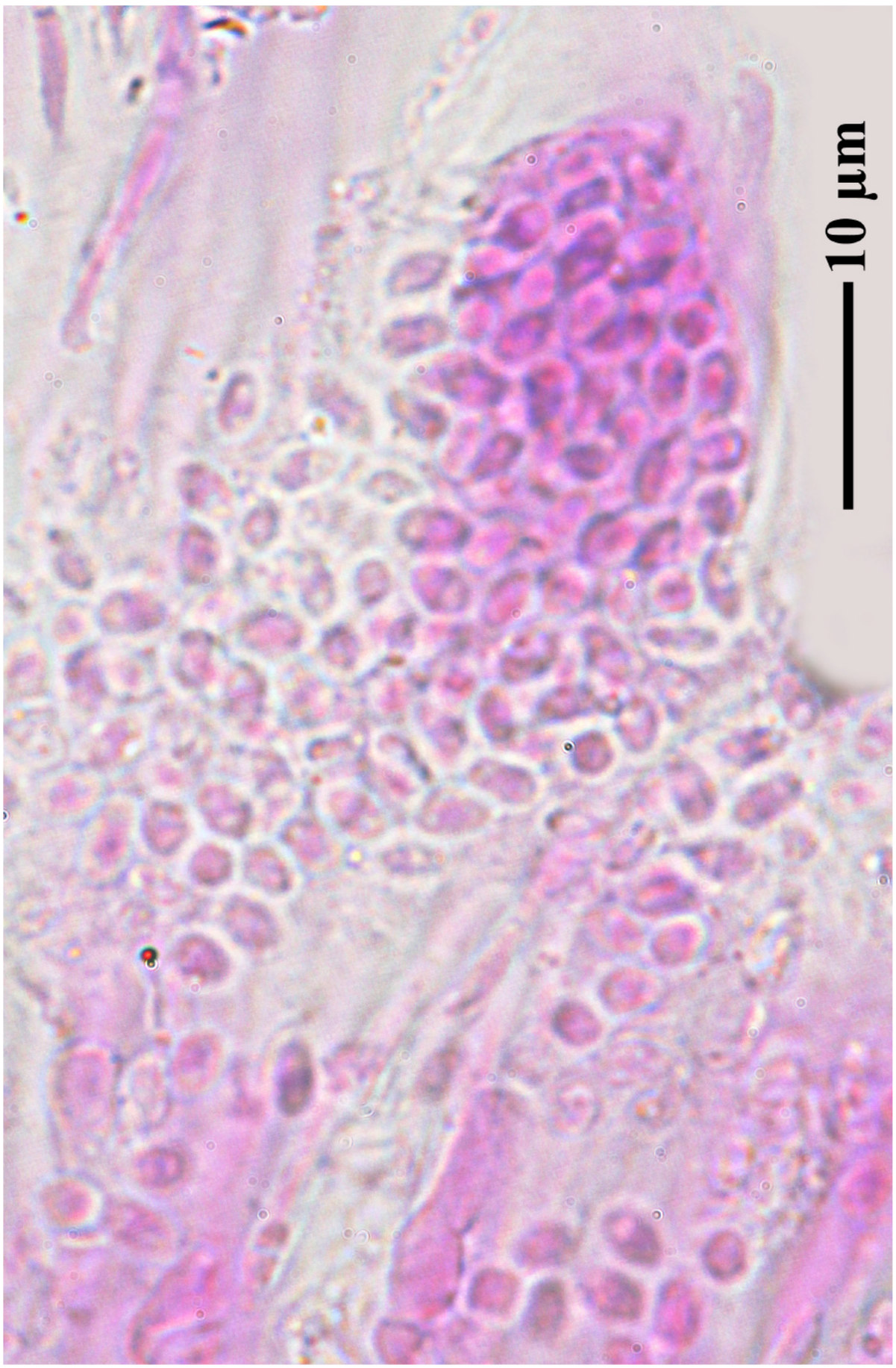


Acarospora interrupta

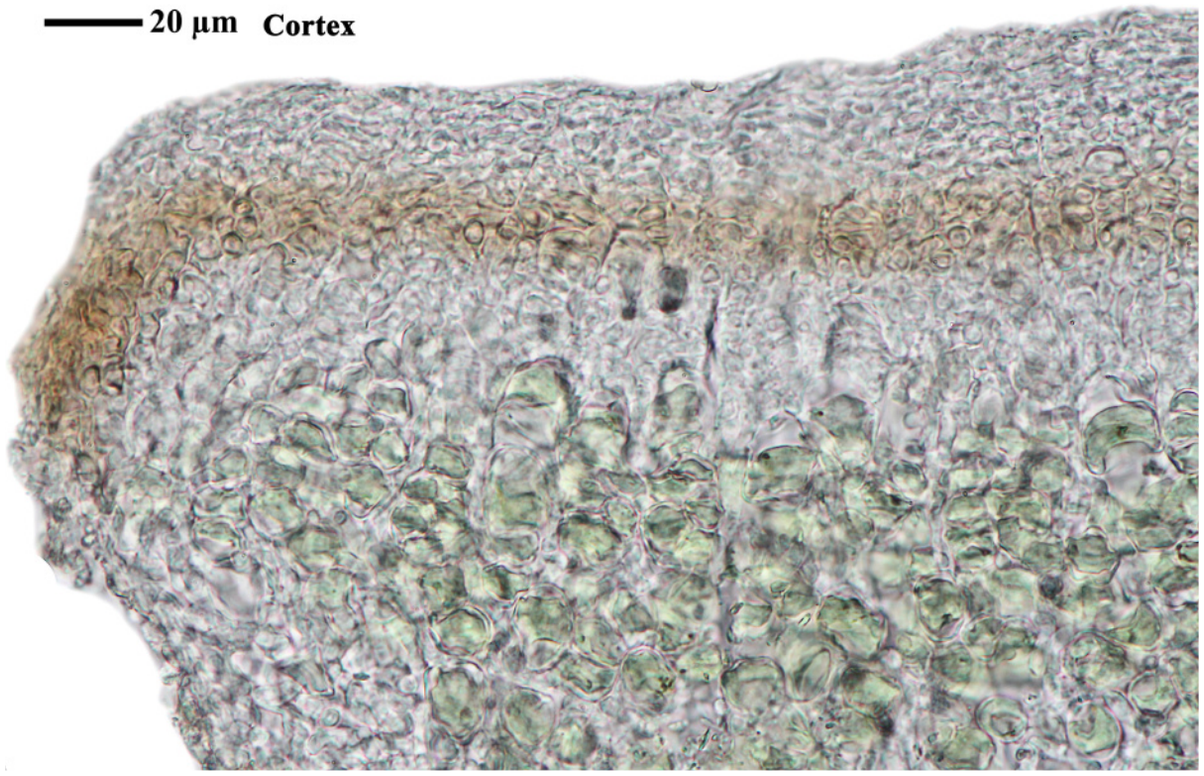


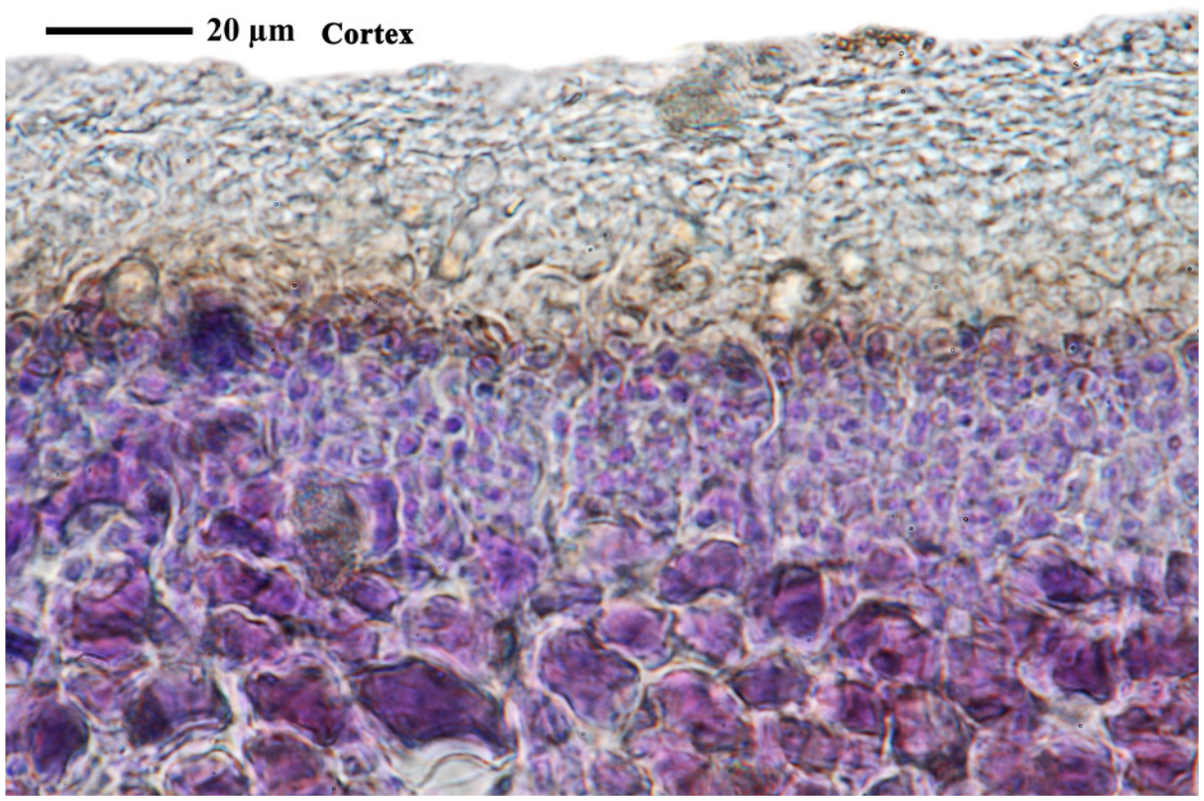


Acarospora interrupta



Acarospora interrupta





Acarospora interrupta

Acarospora stapfiana (Müll.Arg.) Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 5 sér. 1: 161 (1909)

parasitisch auf ***Caloplaca trachyphylla*** (Tuck.) Zahlbr.

[LIAF_01], Afghanistan, Prov. Logar, Kotal-i-Tera, Felsköpfe ca.20 m W der Paßhöhe, 69°08’ E, 33°45’ N, 2870 m. Vorwiegend auf Zenitflächen schwach serpentinisierter Peridotit-Felsen. Leg. M. Steiner (Ste 66/2), 02.07.1970. LICHENOTHECA AFGHANICA NR. 01. Identisch mit LICH AFGH. NR. 74.



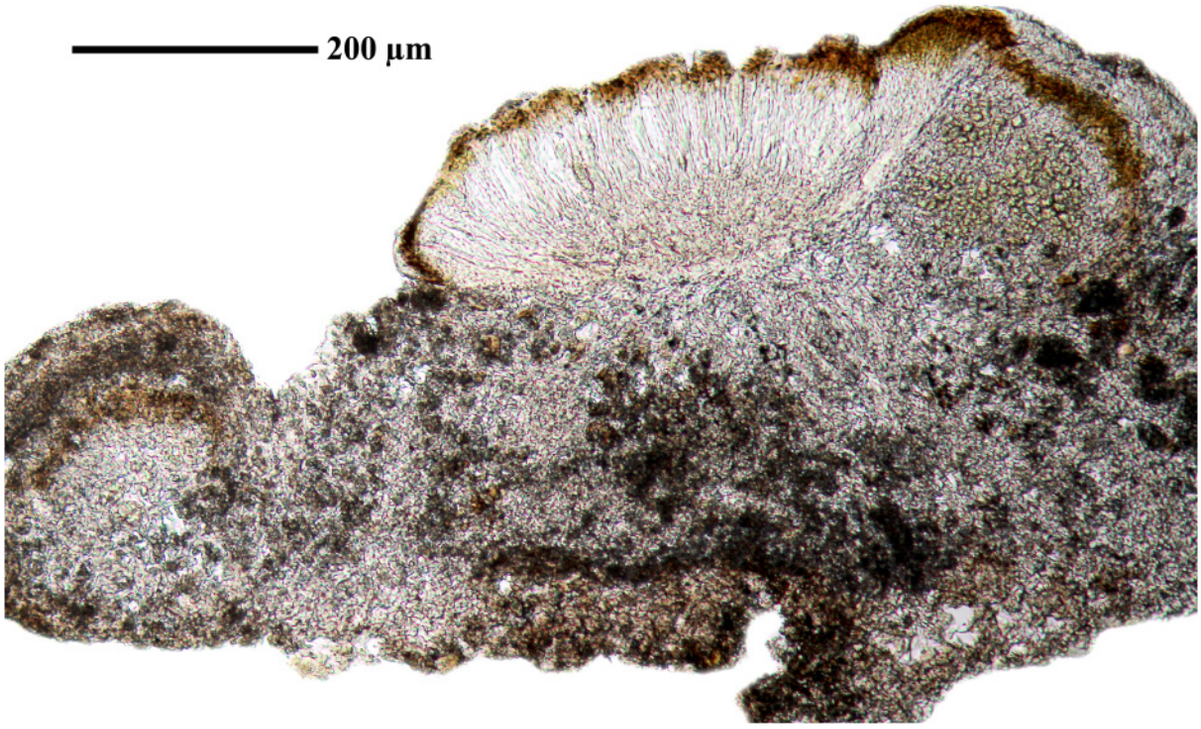


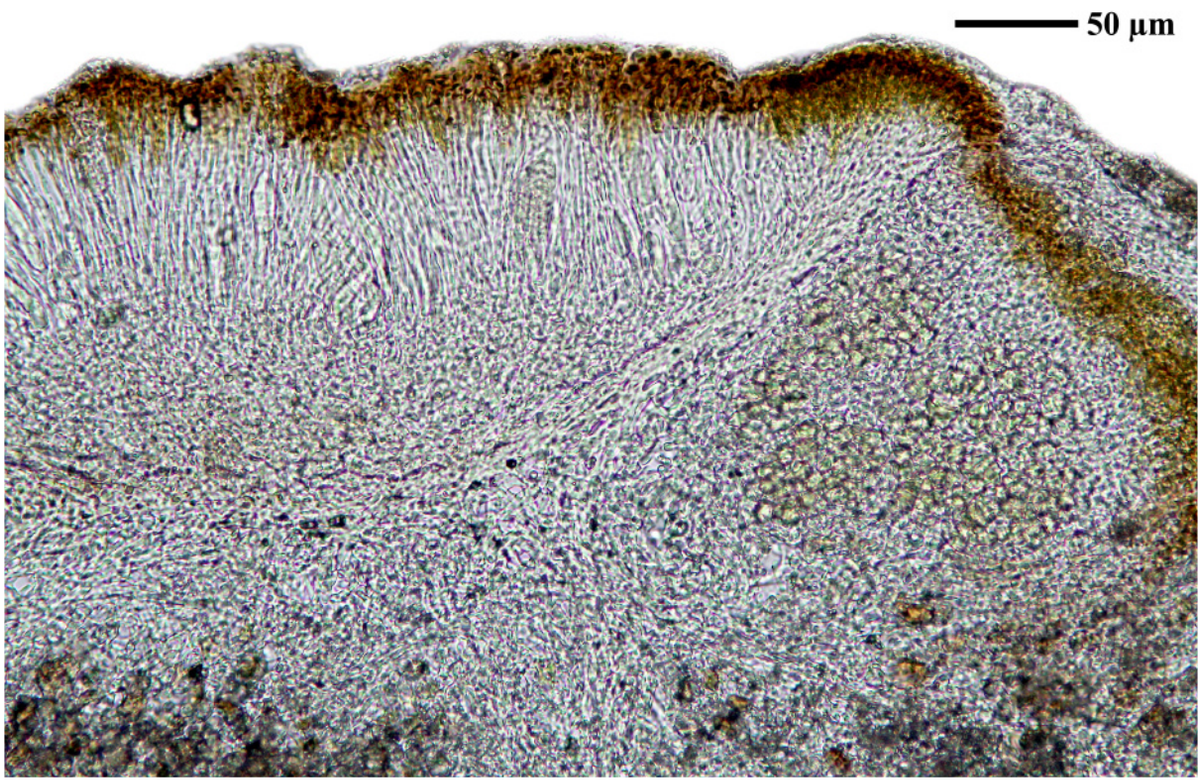


Acarospora stapfiana

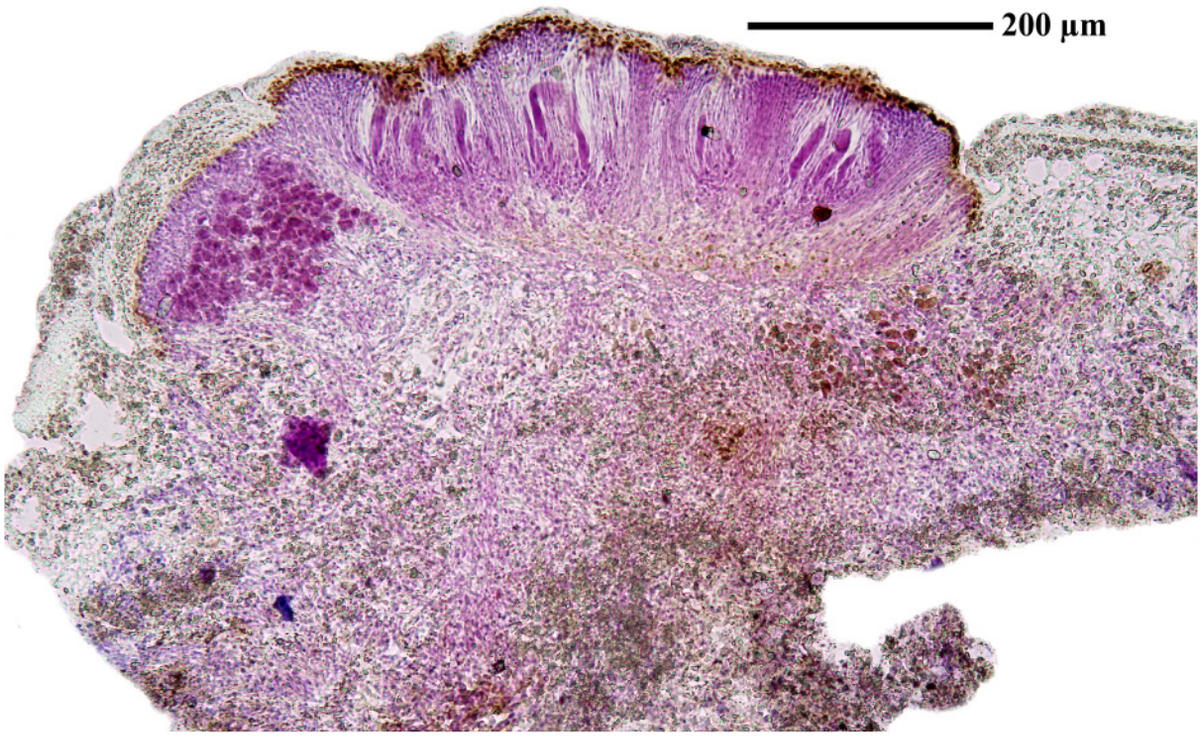


Acarospora stapfiana



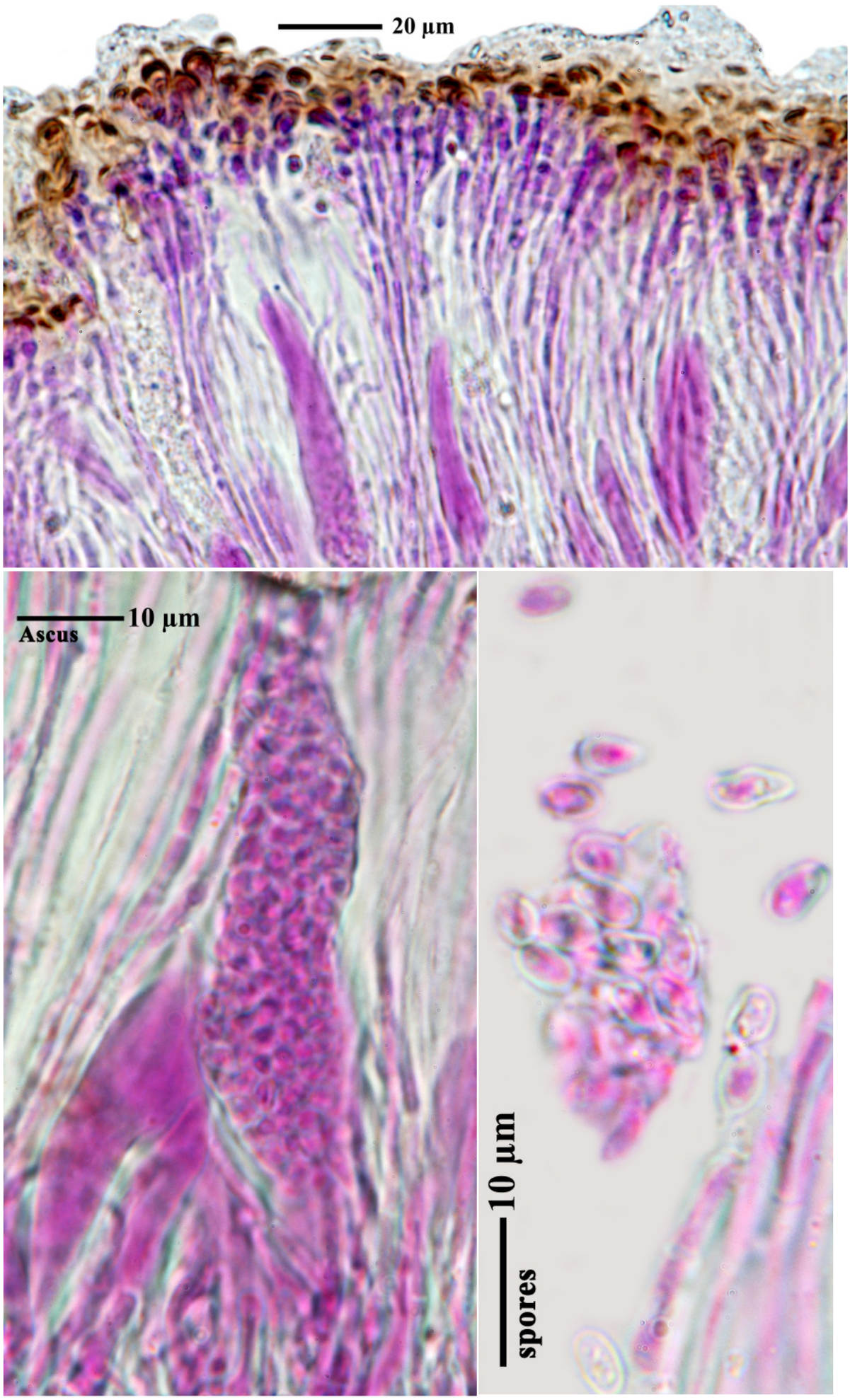


Acarospora stapfiana

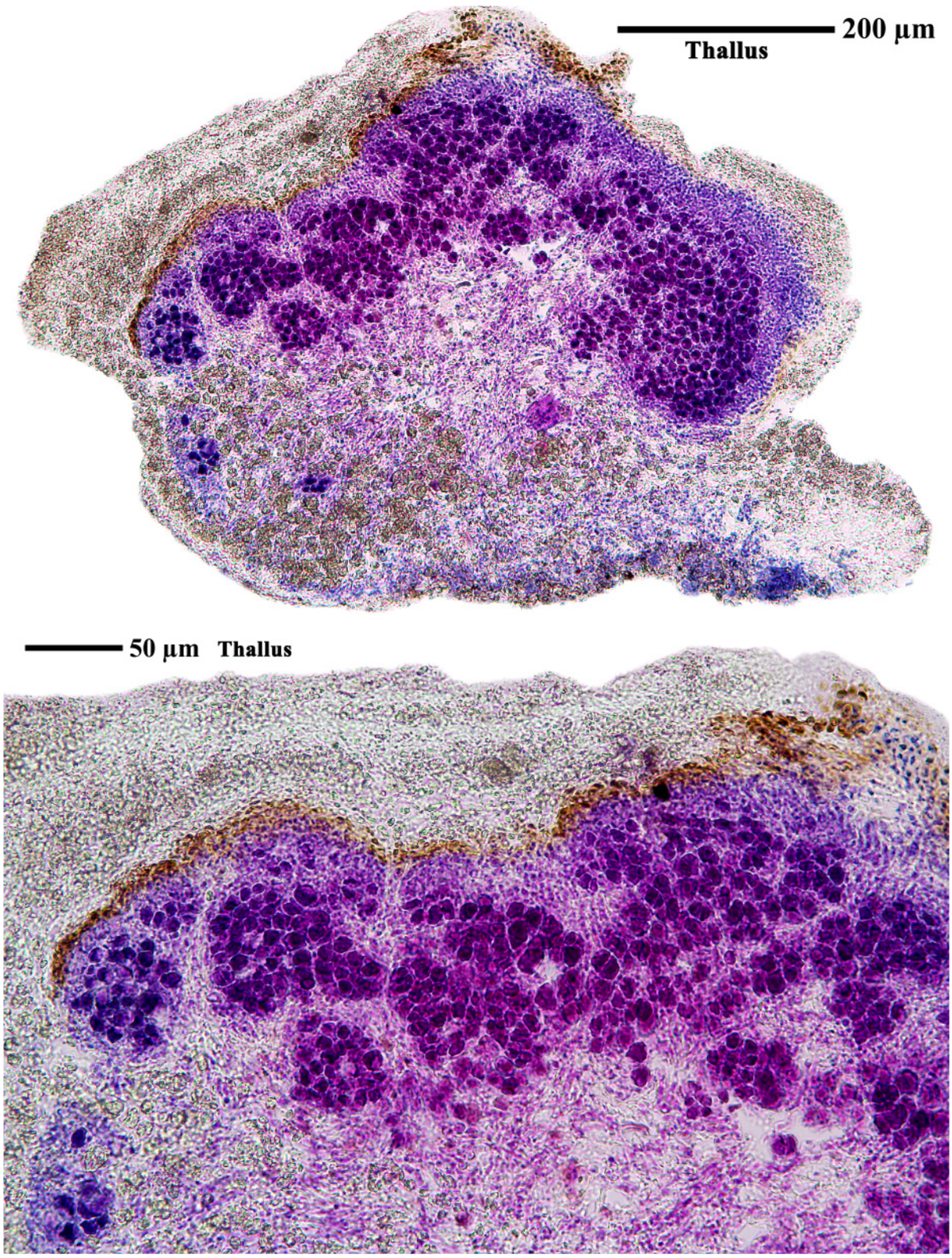




Acarospora stapfiana



Acarospora stapfiana



Acarospora stapfiana

Acarospora stapfiana (Müll.Arg.) Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 5 sér. 1: 161 (1909)

parasitisch auf ***Caloplaca trachyphylla*** (Tuck.) Zahlbr.

[LIAF_74], Afghanistan, Prov. Logar, Kotal-i-Tera, Felsköpfe ca.20 m W der Paßhöhe, 69°08’ E, 33°45’ N, 2870 m, Vorwiegend auf Zenitflächen schwach serpentinisierter Peridotit-Felsen. Leg. M. Steiner (Ste 66/2), 02.07.1970. LICHENOTHECA AFGHANICA NR. 74. Identisch mit LICH AFGH. NR. 1.







Acarospora stapfiana





Acarospora stapfiana



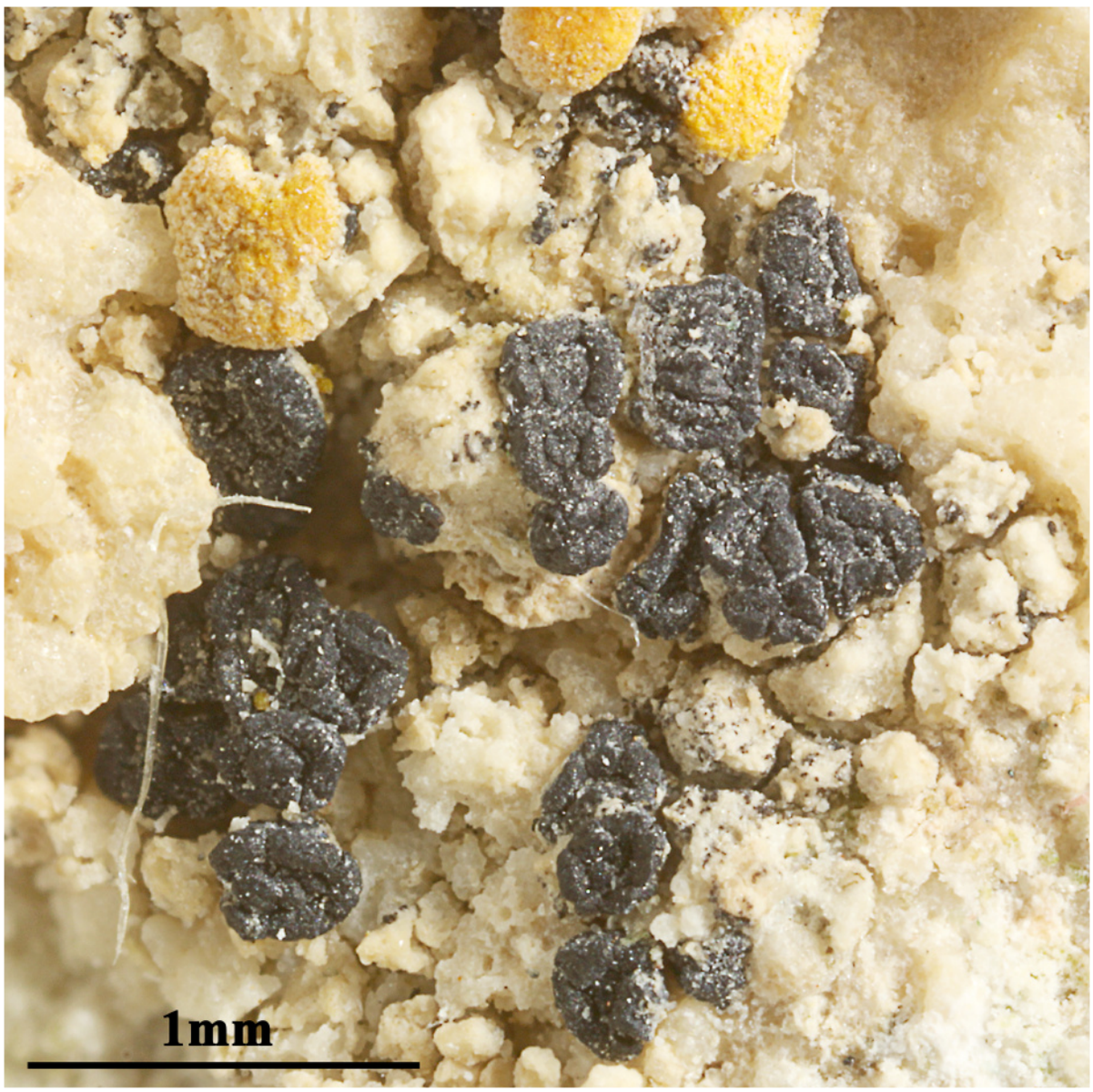
Acarospora stapfiana

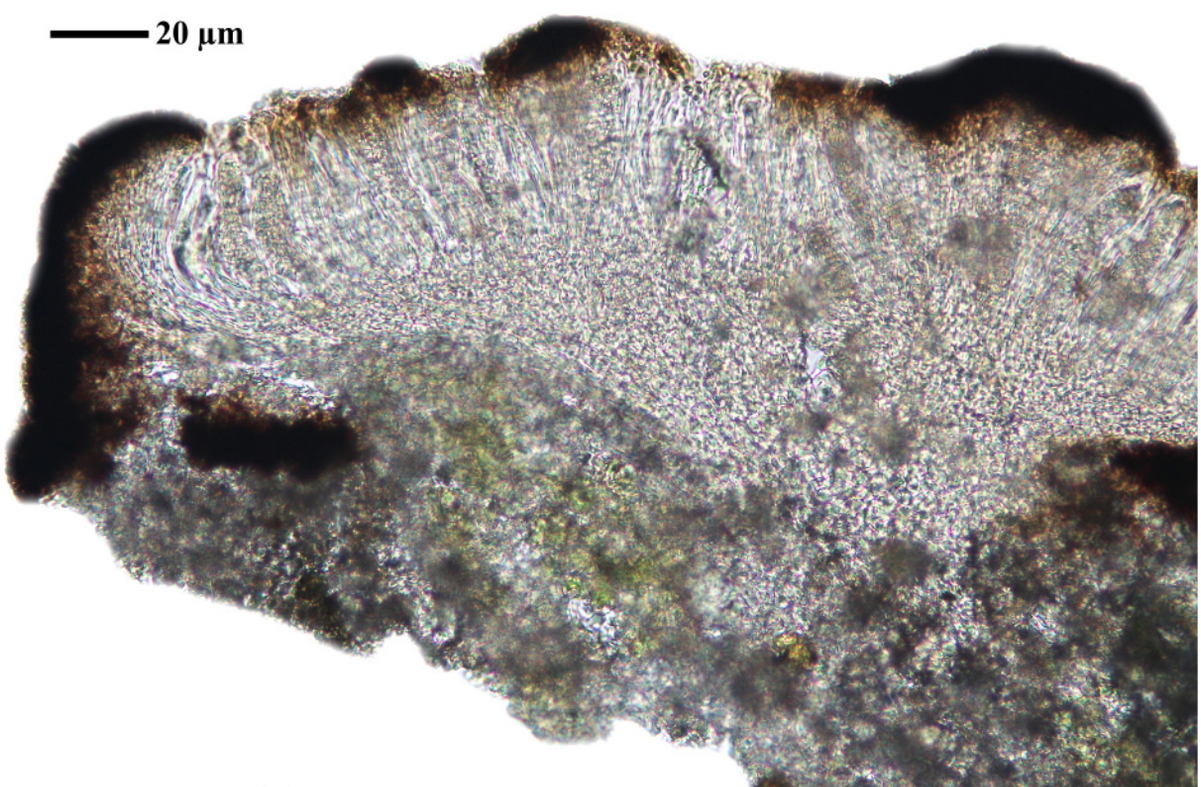
Acarospora subfuscescens (Nyl.) H.Magn., Rabenh. Krypt.-Fl., Edn 2 (Leipzig) 9(5.1): 136 (1935)
[= *Polysporina subfuscescens* (Nyl.) K.Knudsen & Kocourk., Mycotaxon 105: 151 (2008)]

[GZU 24-84], Afghanistan, Prov. Bamyan, Band-i-Amir, ca. 50 m oberhalb des islamischen Heiligtums, S-Kante der Terasse. 67°10.5’ E, 34°49’ N. ca. 2950 m. Freistehende Felsköpfe, Kalktuffe der Amir-Schichten. Leg. M. Steiner (Ste 19/2), 12.05.1970, det. K Knudsen, 22.11.2017.

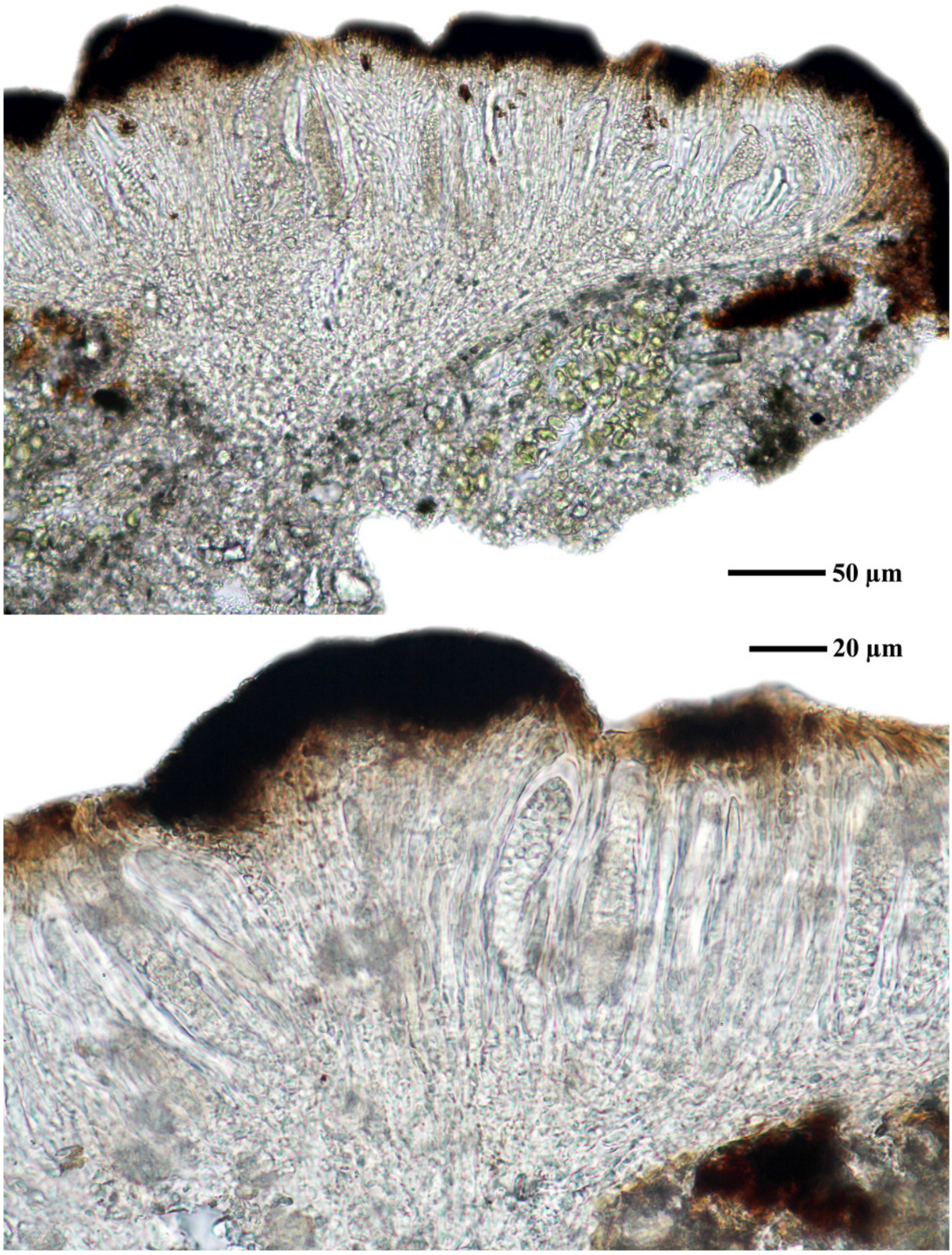
Notes: lichenicolous fungus
Beschreibung z.B. bei:
Knudsen, K. & Kocourková, J. (2008): A study of lichenicolous species of Polysporina (Acarosporaceae). - Mycotaxon 105: p 151.



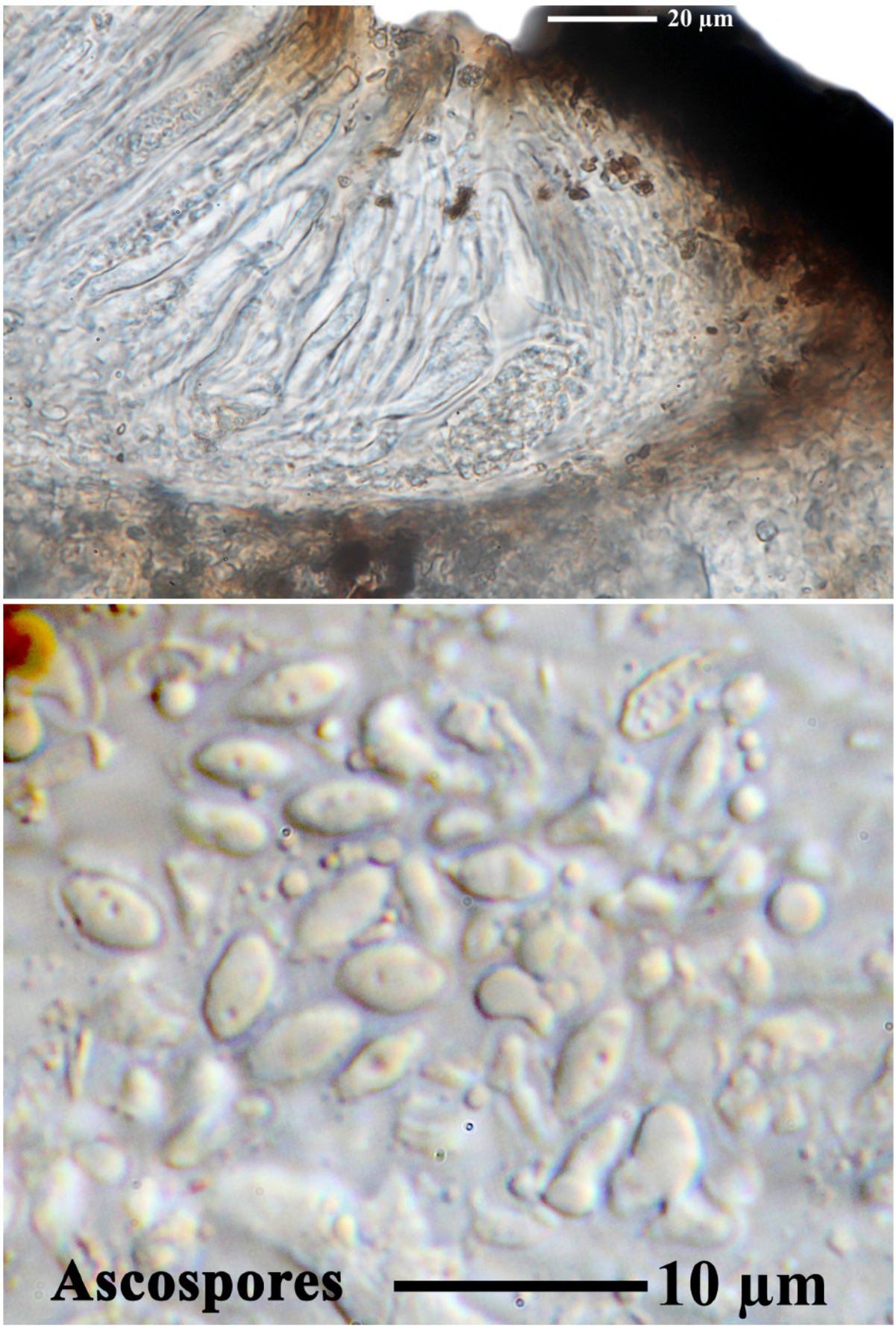




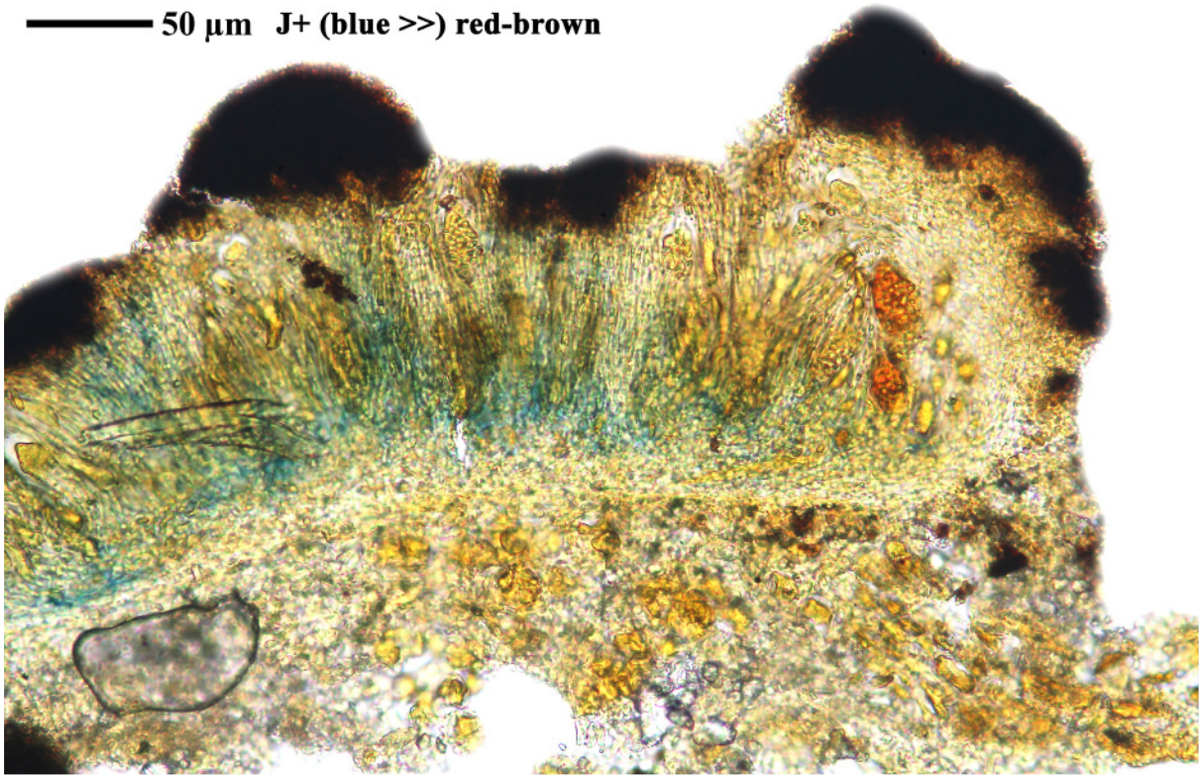
Acarospora subfuscescens

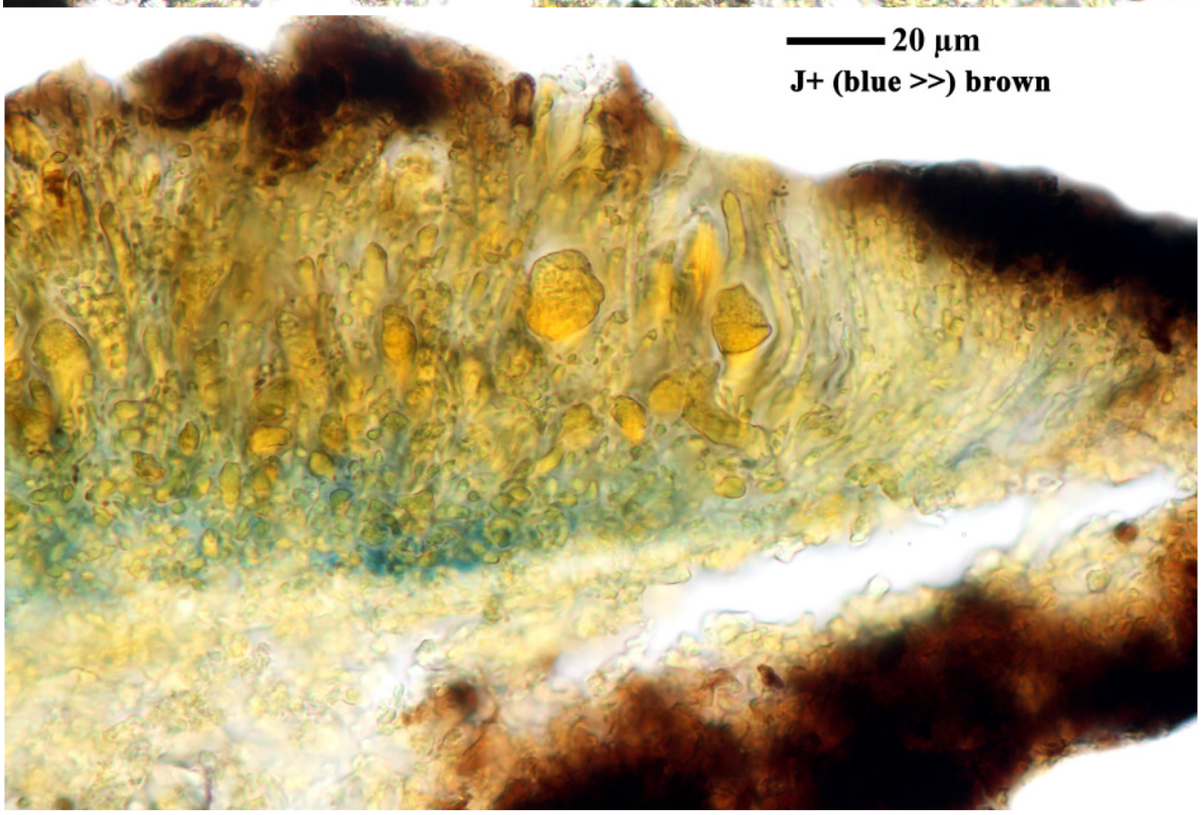


Acarospora subfuscescens

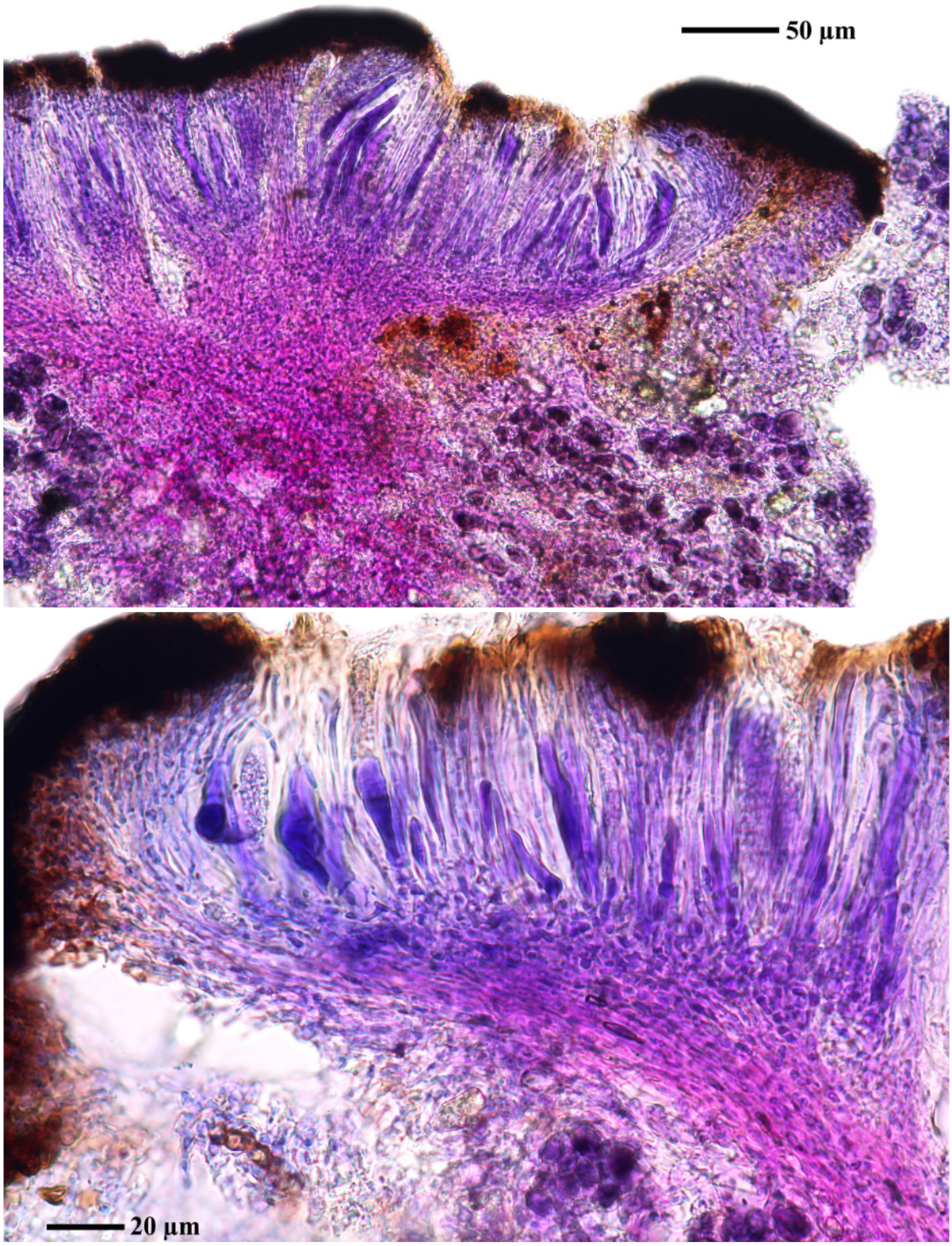


Acarospora subfuscescens

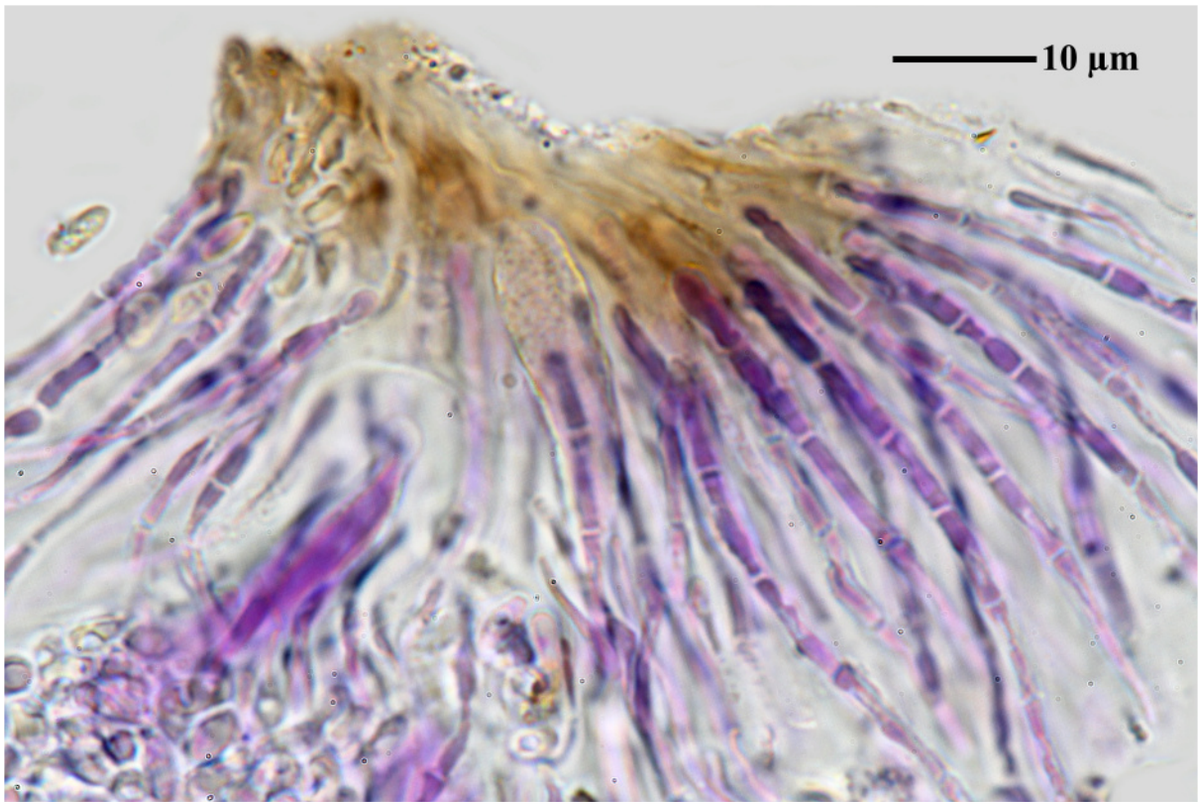


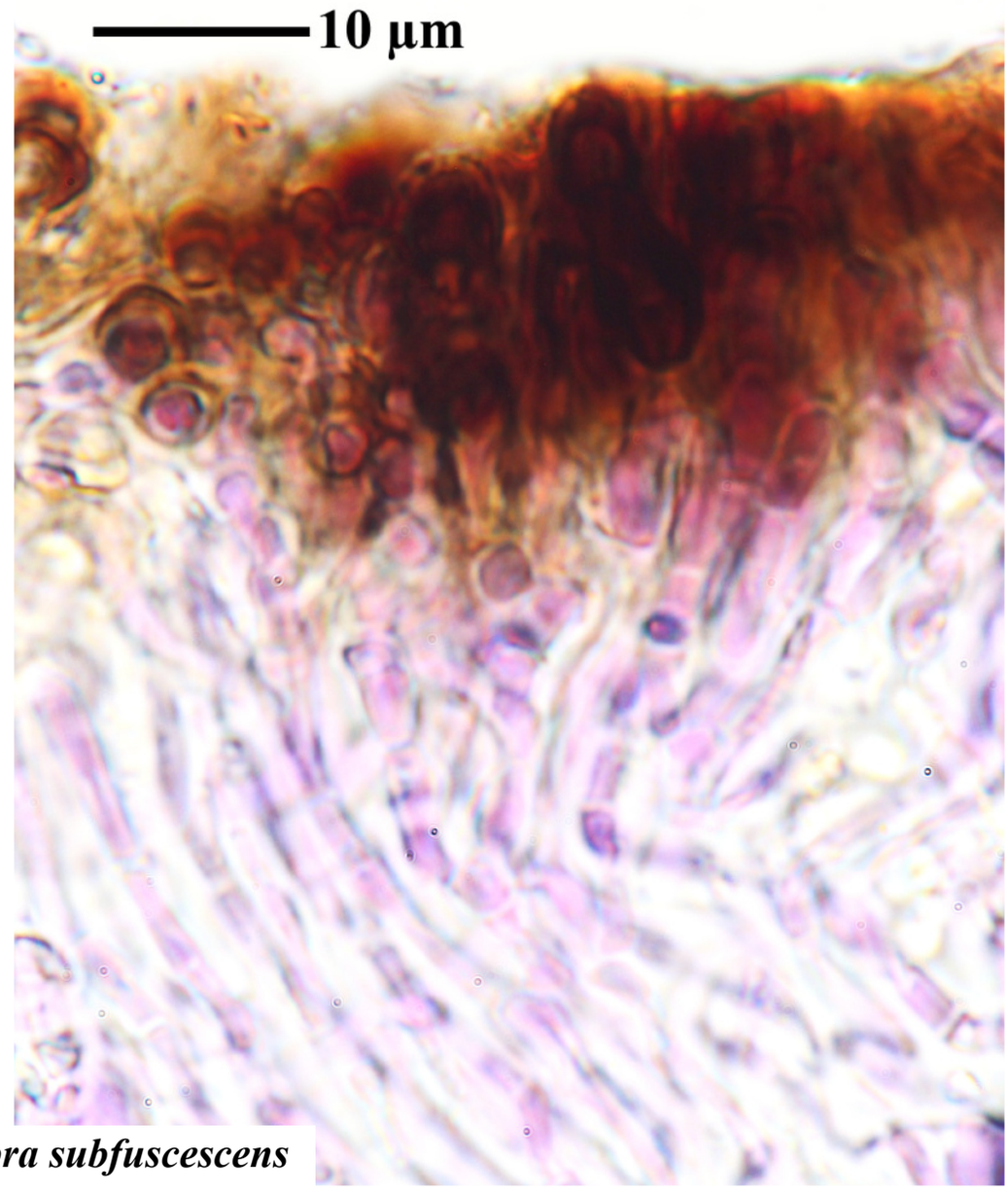


Acarospora subfuscescens

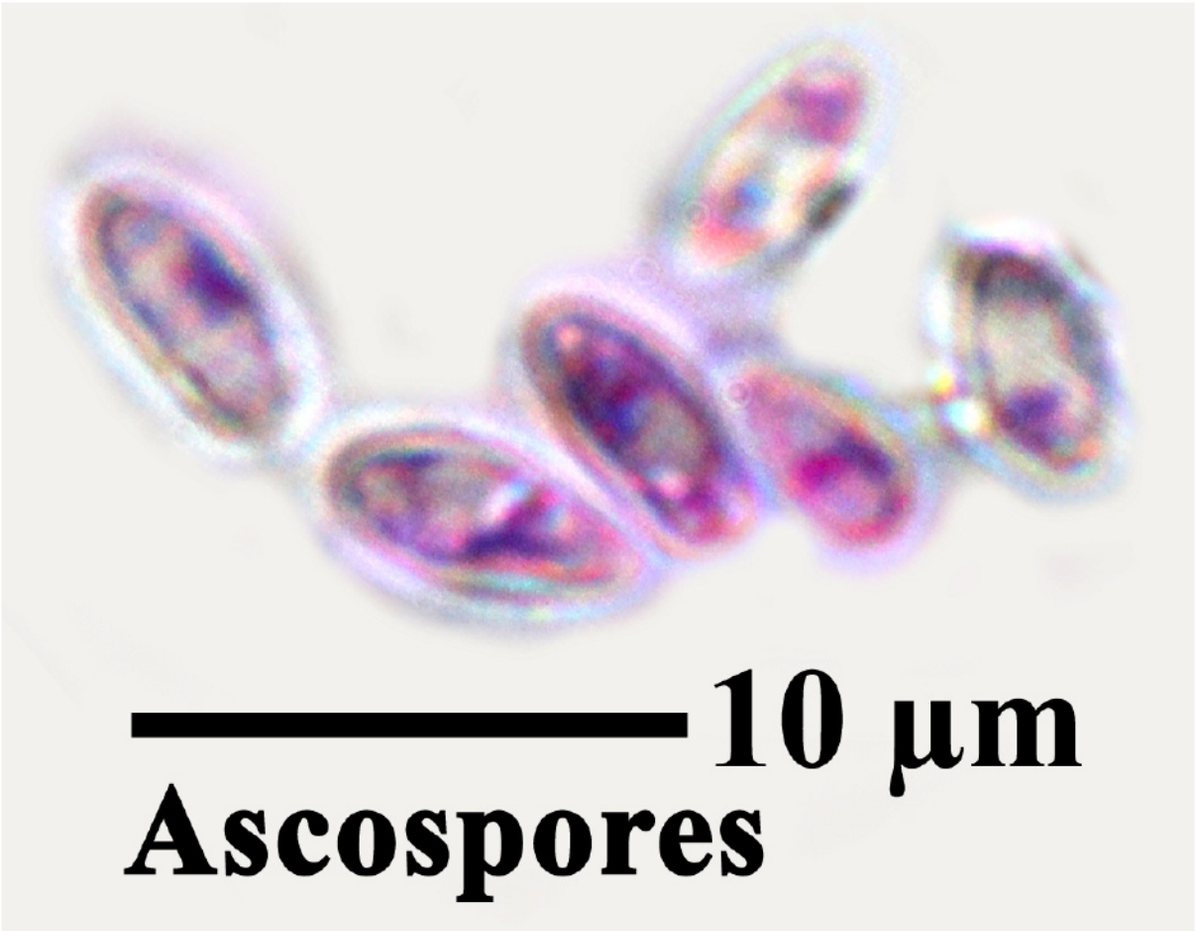


Acarospora subfuscescens





Acarospora subfuscescens



Acarospora subfuscescens

Acarospora subfuscescens (Nyl.) H.Magn., Rabenh. Krypt.-Fl., Edn 2 (Leipzig) 9(5.1): 136 (1935)

[= *Polysporina subfuscescens* (Nyl.) K.Knudsen & Kocourk., Mycotaxon 105: 151 (2008)]

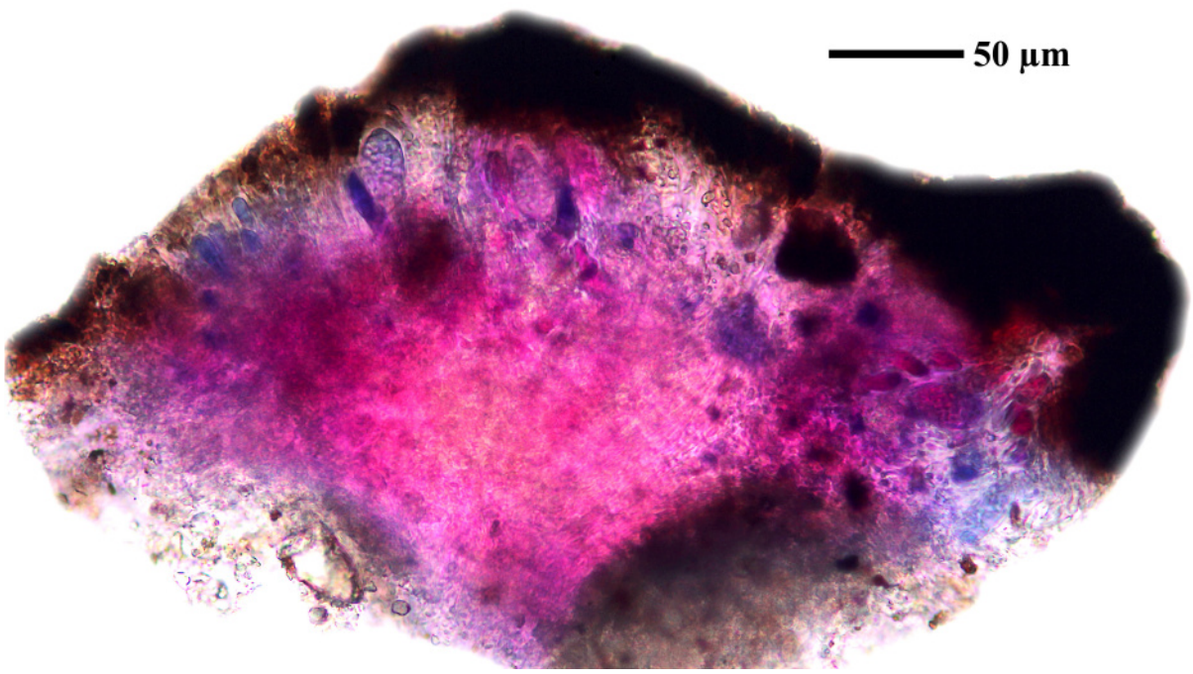
[GZU 24-P3], Afghanistan, Prov. Bamyan, Bandi-Amir, ca, 50 m oberhalb des islamischen Heiligtums, S-Kante der Terasse. 67°10,5' E, 34°49' N, 2950 m. Freistehende Felsköpfe, Kalktuffe der Amir-Schichten. Leg. M. Steiner (19/12), 12.05.1970. Det. K. Knudsen 23.11.2017.

Notes: Apothecien ± 0.5(-1.0) mm, Oberfläche rauh (Rest unleserlich); Hymenium ca. 70-80 µm, J blau bis grün; Sporen 6 x 2.1, 6 x 2.5, 6 x 2.5, 7.5 x 3, 7 x 3.5, 7 x 3 µm; Paraphysen 1.5 µm, verklebt, einfach (?); Ascus 65 x 21, 50 x 18.5 µm. Ursprünglich einsortiert als Sarcogyne cf. polackiana (Müll.Arg.) H.Magn.

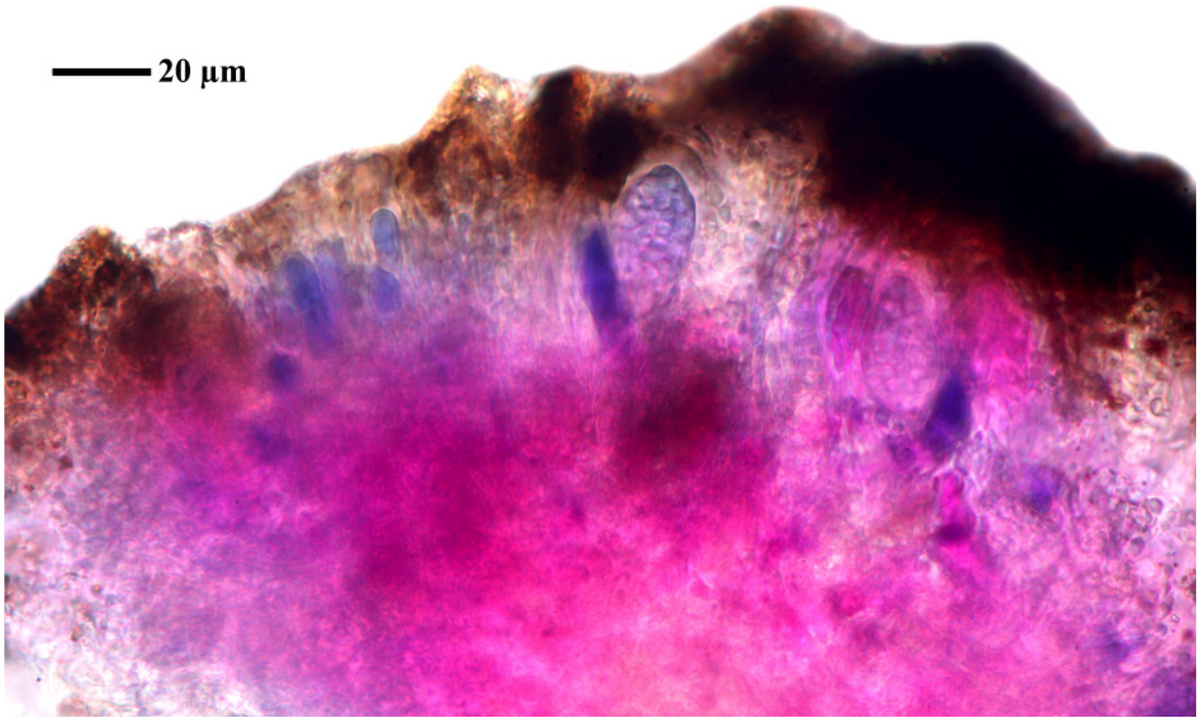


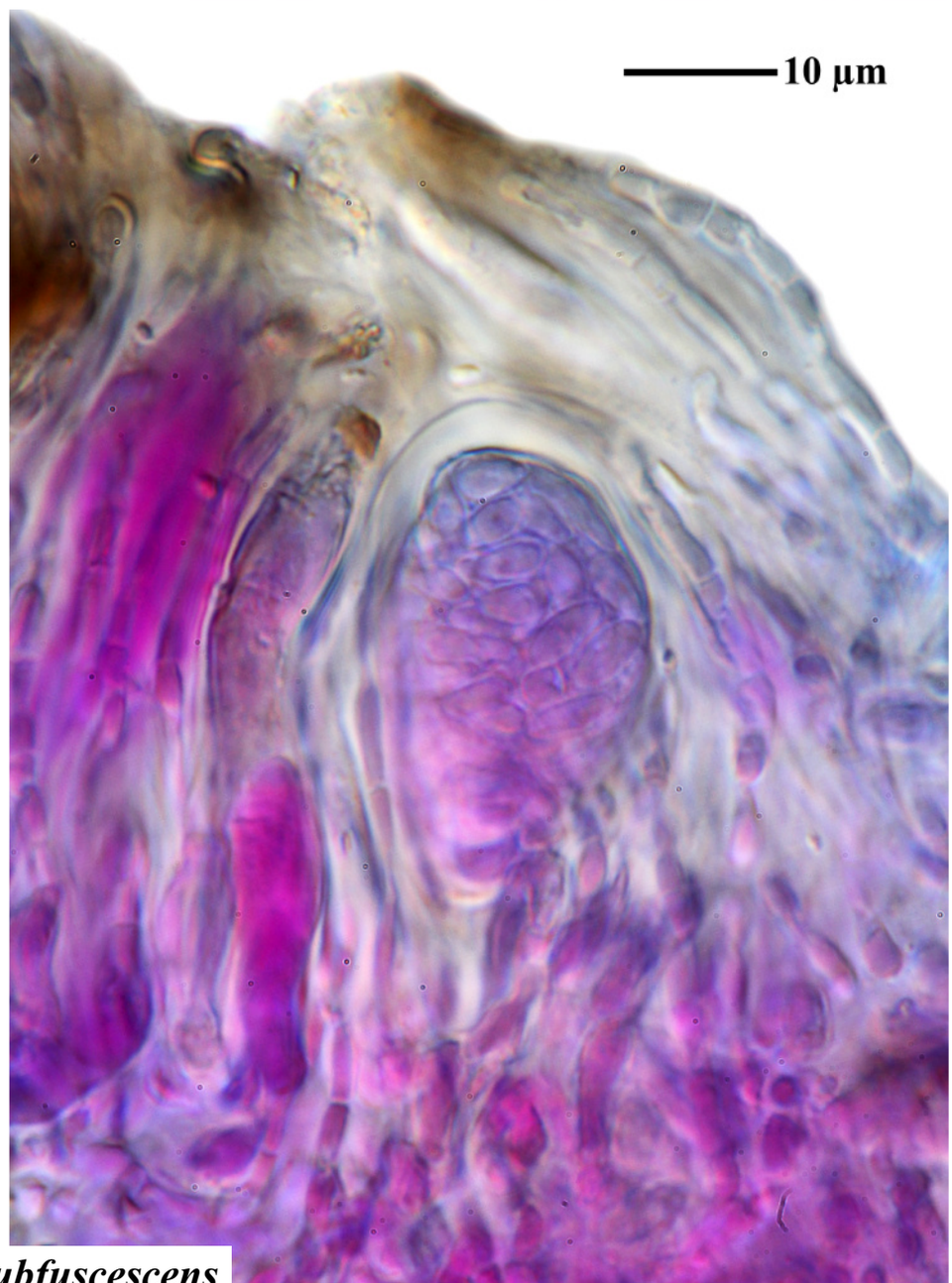


Die folgenden dicken Handschnitte stammen von dem obersten Apothecium.

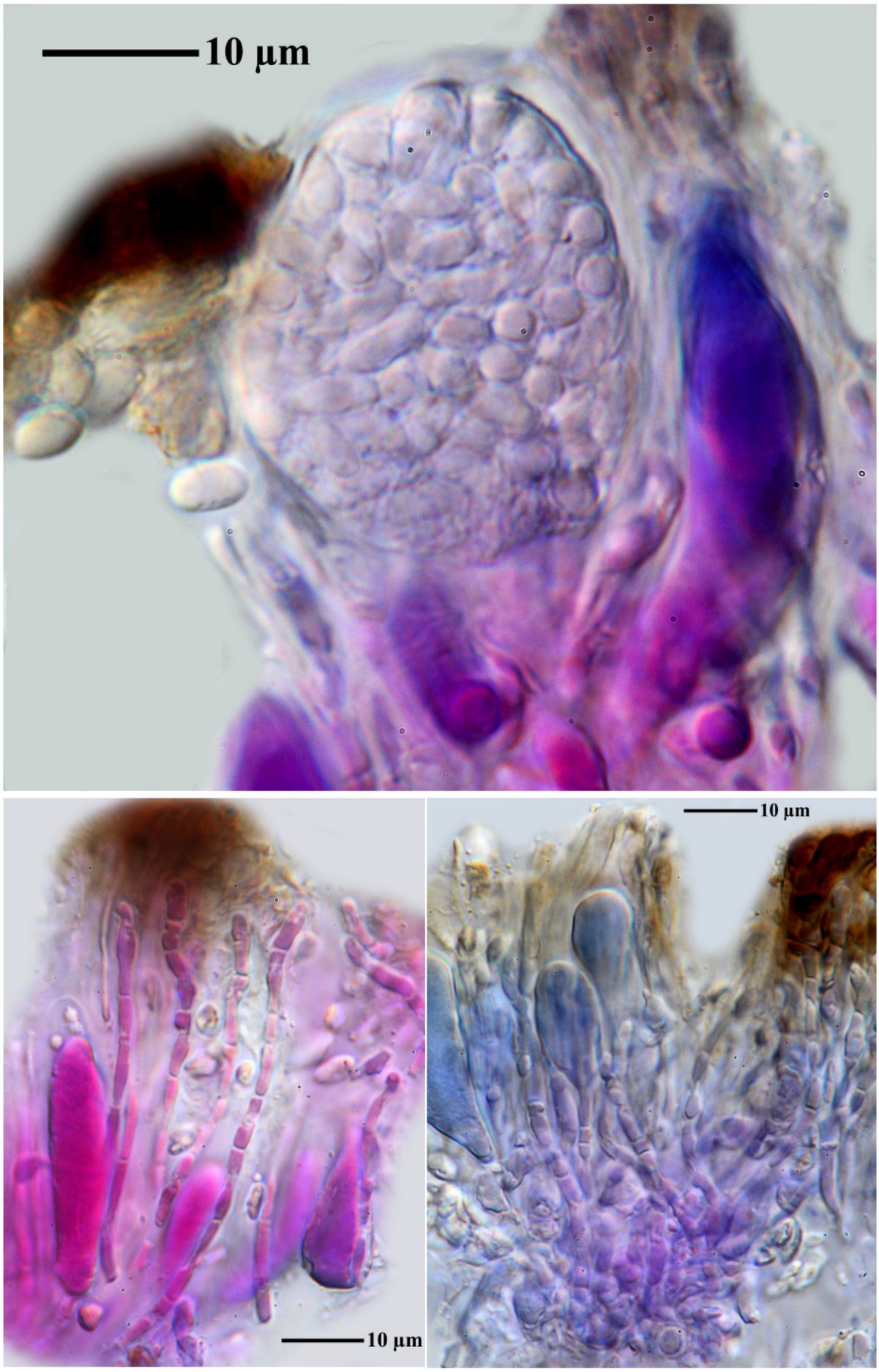


Acarospora subfuscescens

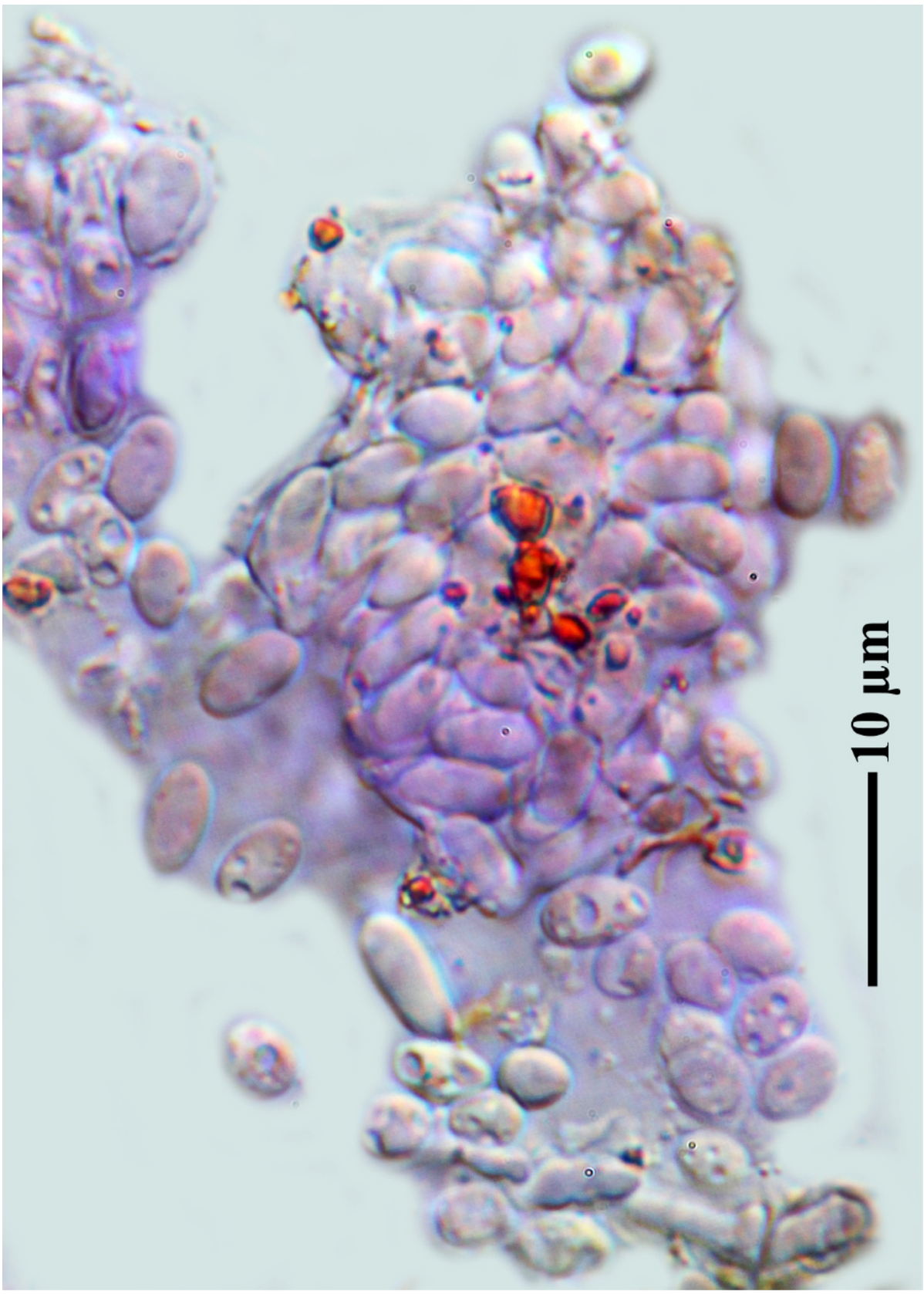




Acarospora subfuscescens



Acarospora subfuscescens



Acarospora subfuscescens

Anaptychia ulothricoides (Vain.) Vain., Bot. Tidsskr. 26: 245 (1904)

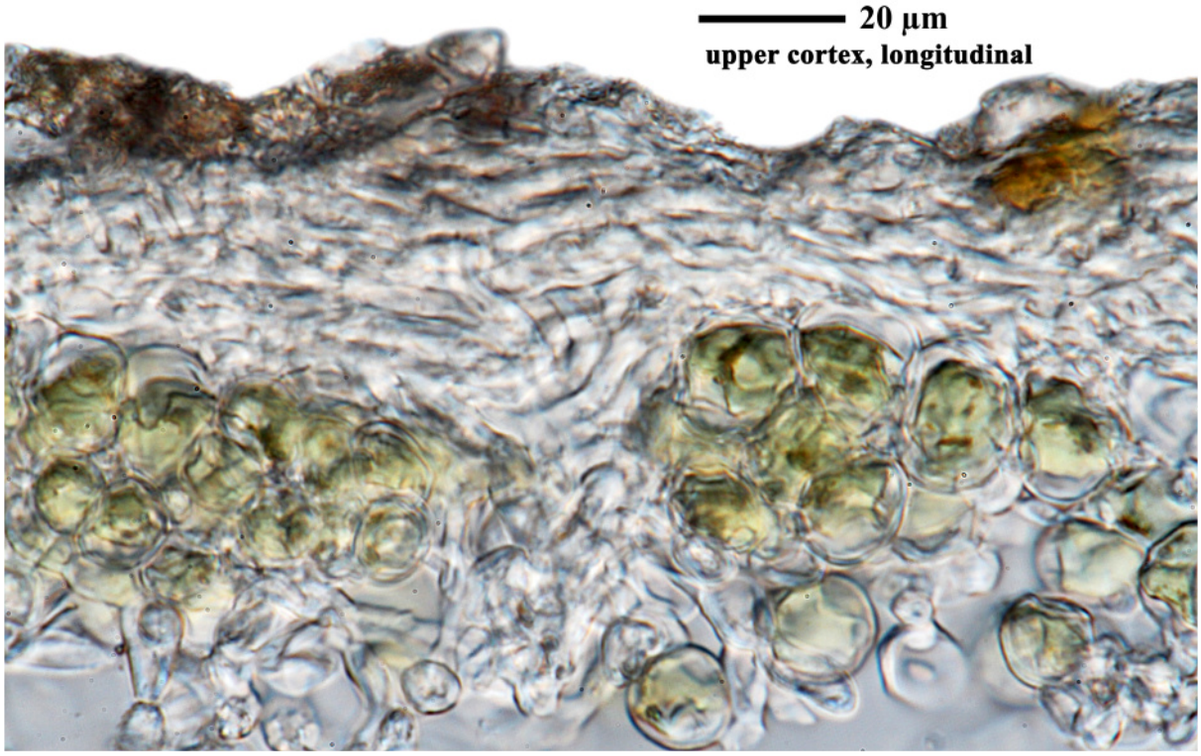
Hyphen der oberen Rinde in longitudinaler Richtung periclinal verlaufend. Sporen braun, 2-zellig, 8/Ascus, warzig.

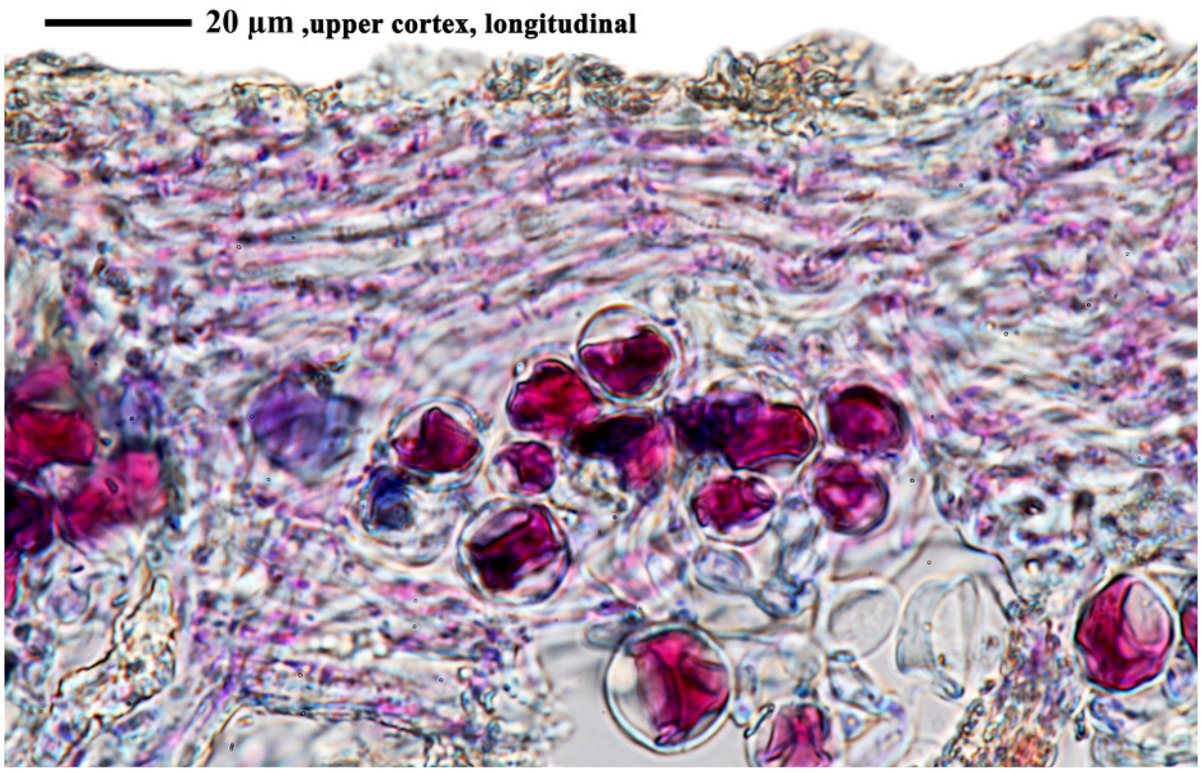
[LIAF_06], Afghanistan, Prov. Paktia, Musakhel, an der Straße von Gardez nach Khost. 69°22’ E, 33°26’ N, ca, 2370 m. An *Quercus baloot* Griff. Leg. M. Steiner (Ste 68), 02.07.1970. LICHENOTHECA AFGHANICA NR. 06.



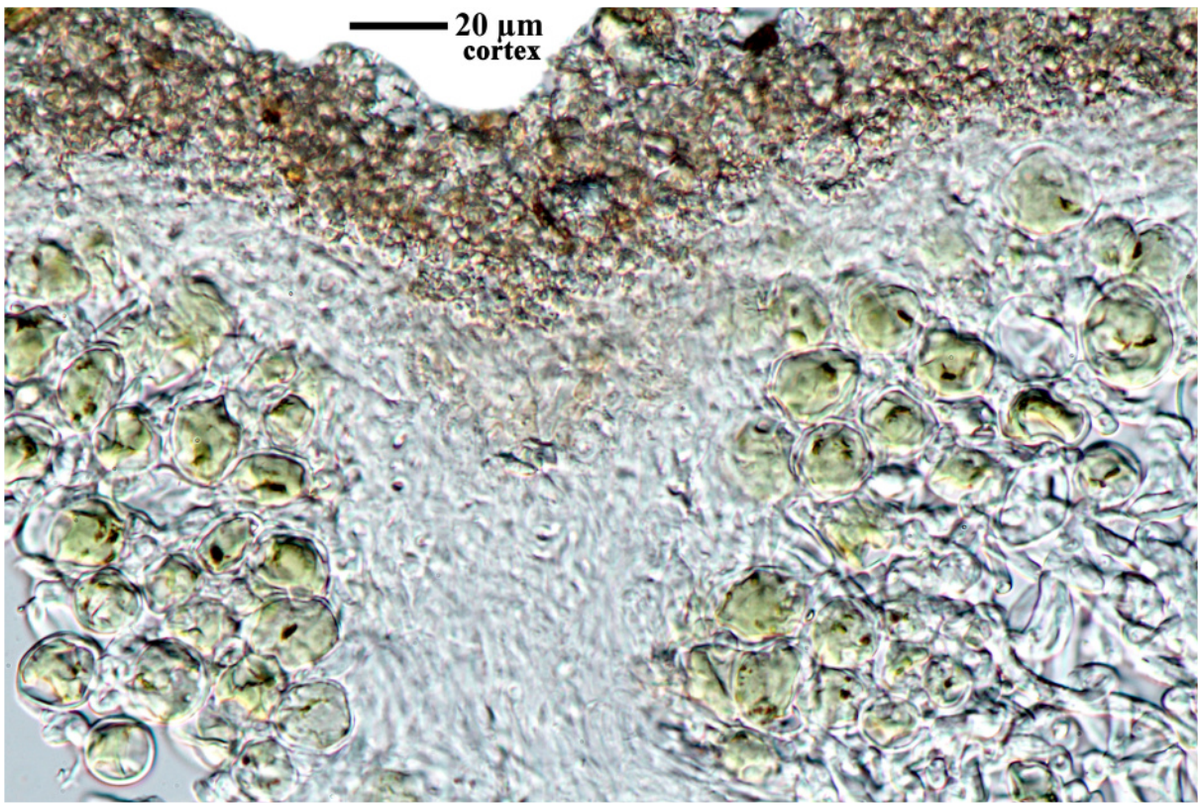


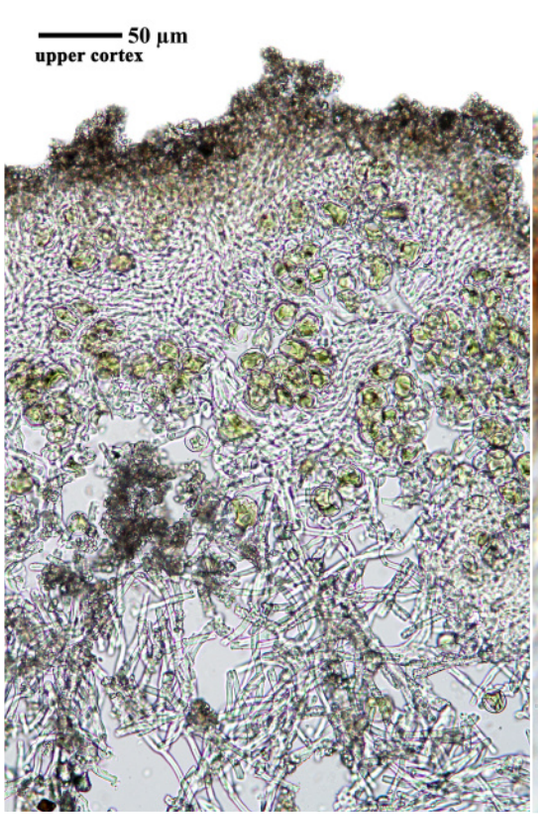
Anaptychia ulothricoides

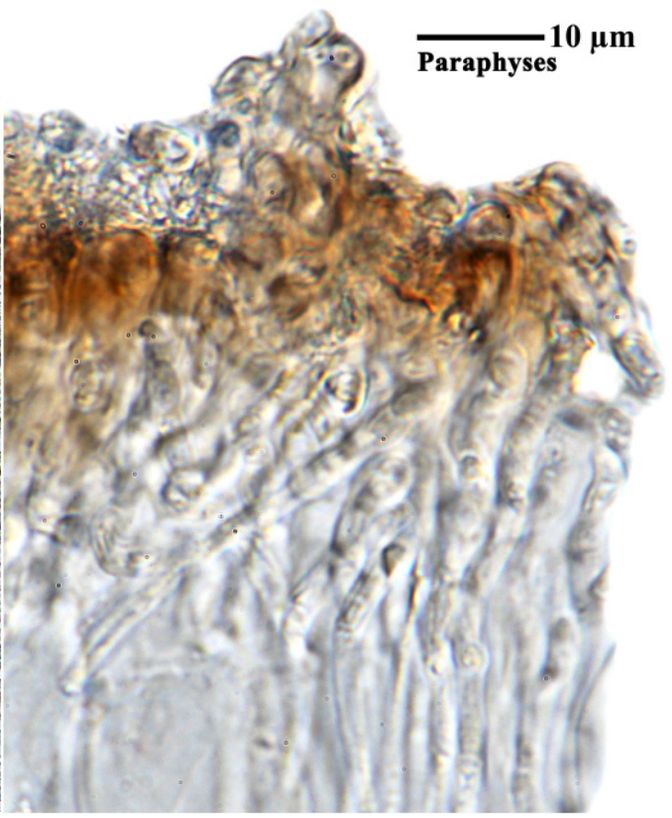




Anaptychia ulothricoides









Anaptychia ulothricoides

Anaptychia ulothricoides (Vain.) Vain., Bot. Tidsskr. 26: 245 (1904)

Thallus unterseits berindet, beige, ohne gelbe Pigmente; Rhizinen hell bis dunkelbraun.

[LIAF_18], Afghanistan, Prov. Kabul, Siau, 27 km N Kabul, an der Straße nach Charikar, 69°06’ E, 34°42’ N, ca, 1750 m, Alte Nußbäume im bewässerten Park eine Landgutes. Leg. M. Steiner (Ste 30/2), 29.05.1970. Identisch mit Lich. Afgh. Nr. 76. LICHENOTHECA AFGHANICA NR. 18. Fälschlich als *Anaptychia ulotrichoides* (Vain.) Vain verteilt.







Anaptychia ulothricoides





Anaptychia ulothricoides

Anaptychia ulothricoides (Vain.) Vain., Bot. Tidsskr. 26: 245 (1904)

[LIAF_38], Afghanistan, Prov. Paktia, 4 km N Rabat, ca. 10 km S Chamkani, an der Straße nach Zambar, 68°47.5’ E, 33°42.5’ N, ca, 1880 m, am Stamm einer Cedrus deodara (Lamb.) G.Don. Leg. M. Steiner (Ste 81a), 04.07.1970. LICHENOTHECA AFGHANICA NR. 38.







Anaptychia ulothricoides

Anaptychia ulothricoides (Vain.) Vain., Bot. Tidsskr. 26: 245 (1904)

[LIAF_41], Afghanistan, Prov. Samangan, E und W der Paßhöhe des Kotal-i-Mirza Atbili (Kotal-i-Rabotak), 68°18’ E, 36°10.5’ N, ca, 1200 m, Lösshügel. Leg. M. Steiner (Ste 43/2, 50/5), 05.-06.06.1970. LICHENOTHECA AFGHANICA NR. 41.





Anaptychia ulothricoides

Anaptychia ulothricoides (Vain.) Vain., Bot. Tidsskr. 26: 245 (1904)

[LIAF_76], Afghanistan, Prov. Kabul, Siau, 27 km N Kabul, an der Straße nach Charikar, 69°06’ E, 34°42’ N, ca, 1750 m, Alte Nußbäume im bewässerten Park eine Landgutes. Leg. M. Steiner (Ste 30/2), 29.05.1970. Identisch mit Lich. Afgh. Nr. 18. LICHENOTHECA AFGHANICA NR. 76.





Anaptychia ulothricoides

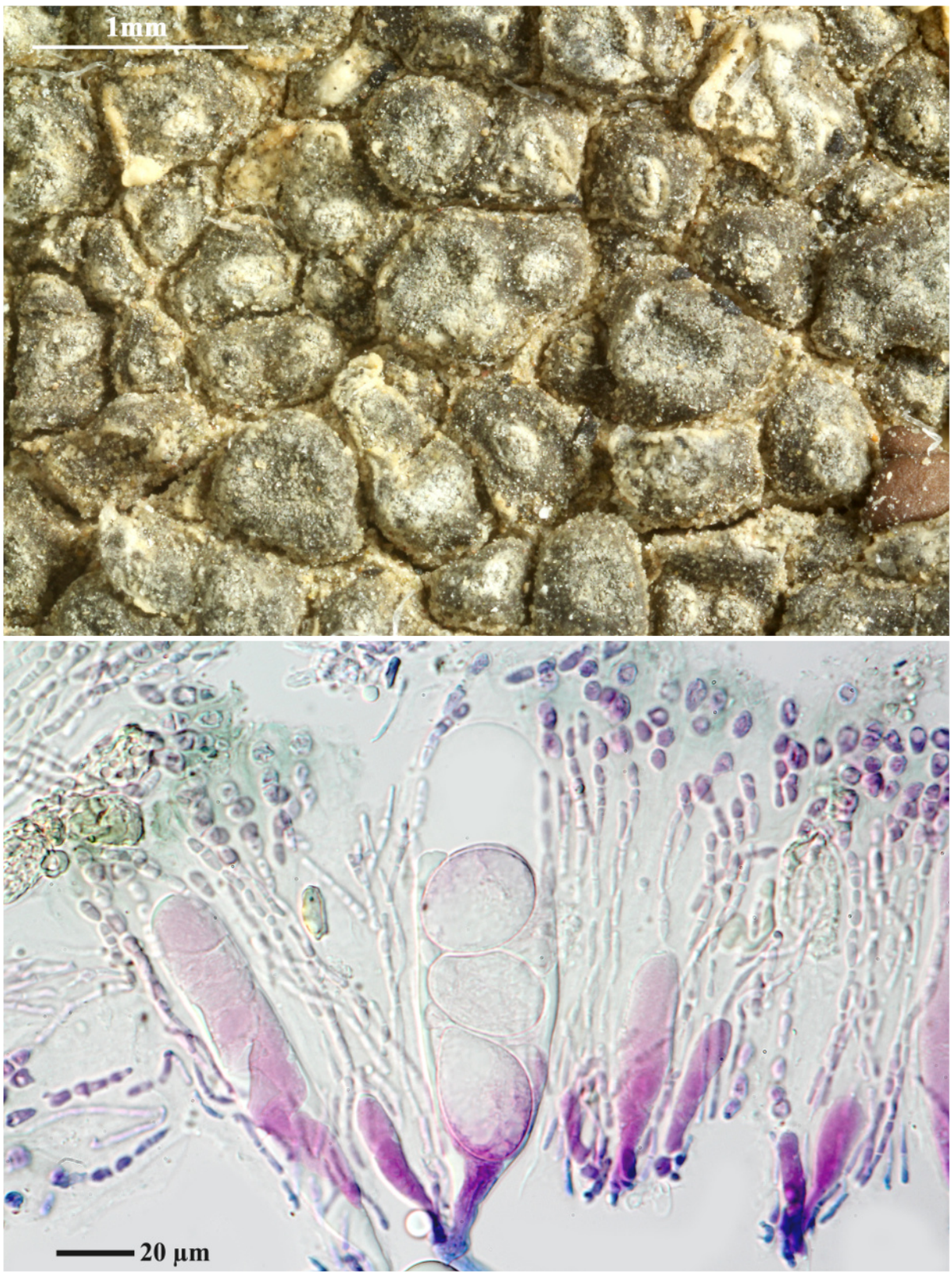
Aspicilia sp.

in der Tüte von *Acarospora bohlinii* H.Magn.

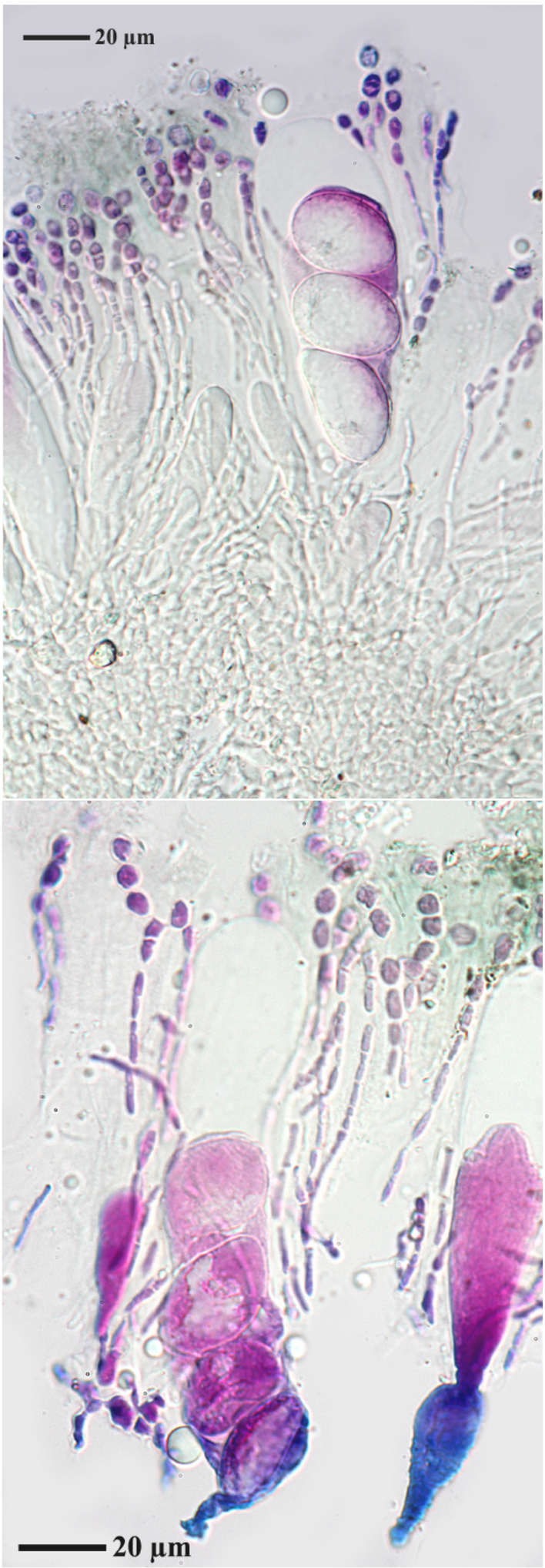
[GZU 54-88], Afghanistan, Prov. Baghlan, oberes Darrah-i-Kayan, beim Dorf Dahane Ahanfalad, 68°26’ E, 35°39.5’ N, 2150 m. Fuß eines Steppenhügels, Blöcke von feinkörnigem Glimmerschiefer mit Kalkadern. Leg. et det. M. Steiner (Ste 52/3), 07.06.1970. In: LICHENOTHECA AFGHANICA NO 77.

Notes:
Sporen hyalin, 1-zellig, 4/Ascus. Paraphysen moniliform. Epithecium HCL grünlich. (FS).





Aspicilia sp.



Aspicilia sp.

Buellia sp.

Diese Flechte befindet sich in der Tüte für
Acarospora subfuscescens (Nyl.) H.Magn.
[= *Polysporina subfuscescens* (Nyl.) K.Knudsen & Kocourk.]

[GZU 24-P3], Afghanistan, Prov. Bamyan, Bandi-Amir, ca, 50 m oberhalb des islamischen Heiligtums, S-Kante der Terasse. 67°10,5' E, 34°49' N, 2950 m. Freistehende Felsköpfe, Kalktuffe der Amir-Schichten. Leg. M. Steiner (19/12), 12.05.1970. Det. K. Knudsen 23.11.2017.

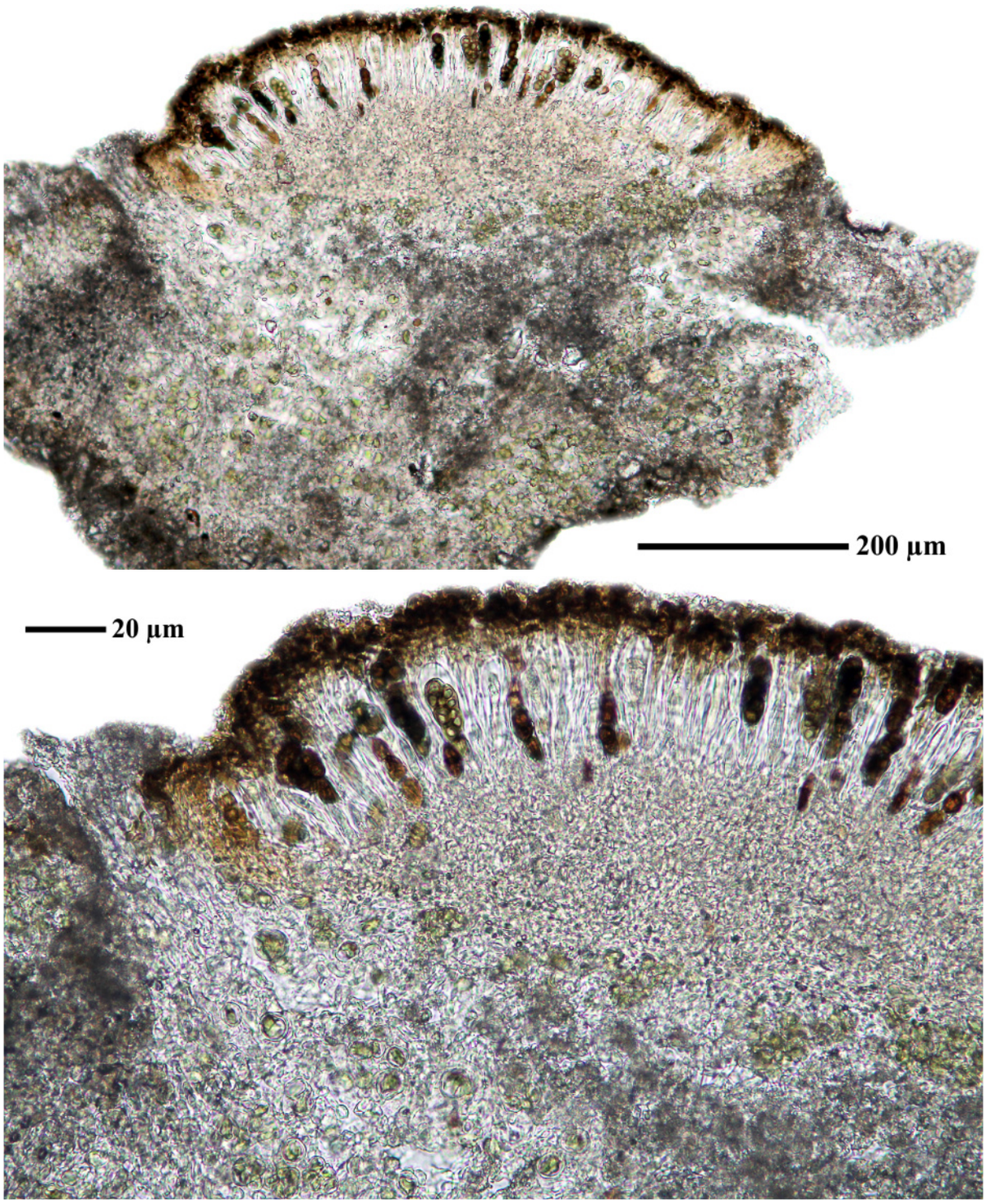
Notes: Hypothecium farblos;Sporen braun, 2-zellig, 8/Ascus; Paraphysen mit braunen Pigmentkappen.



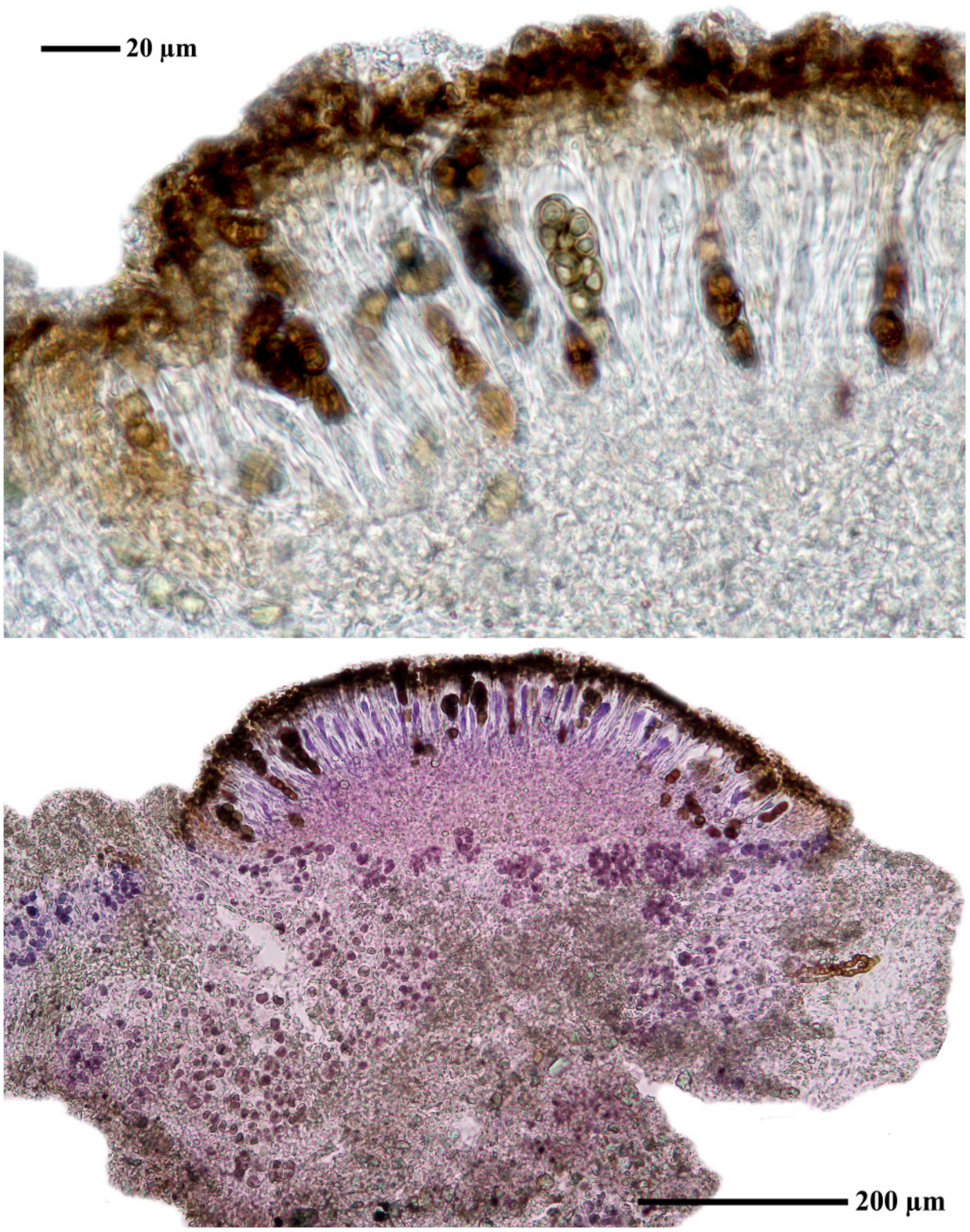




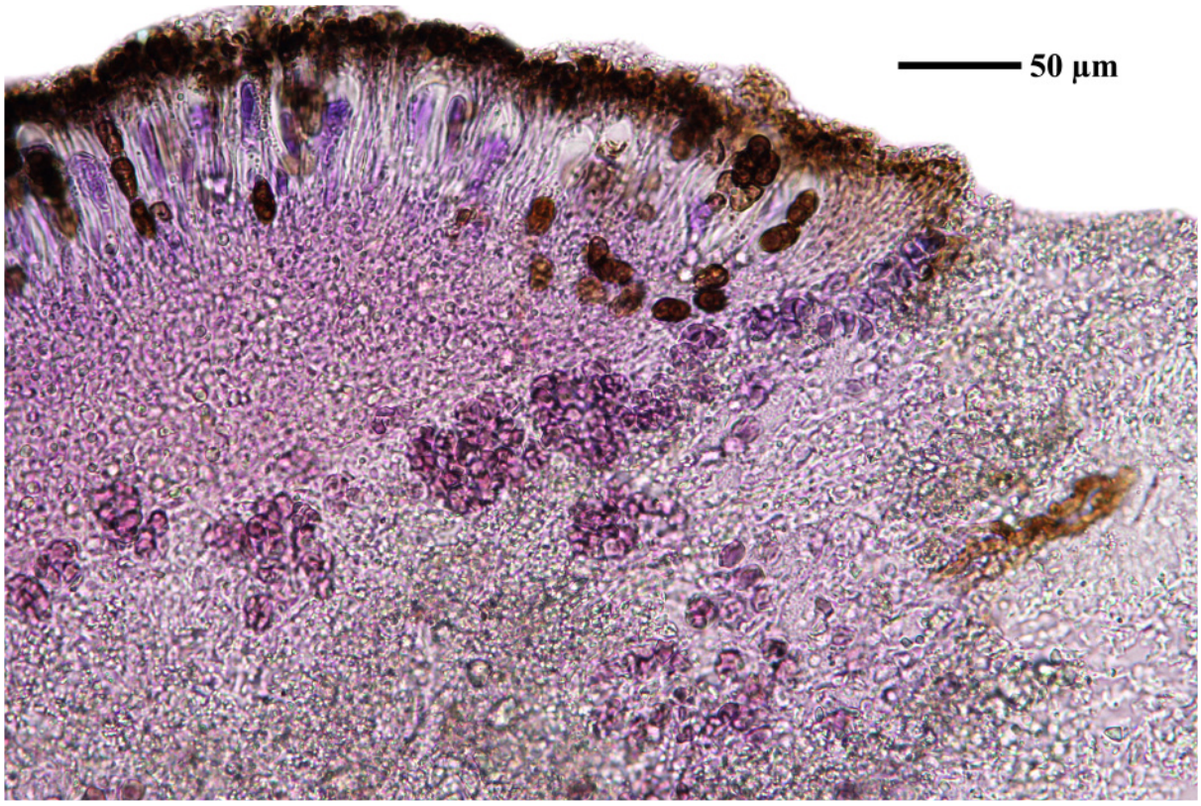
Buellia sp.

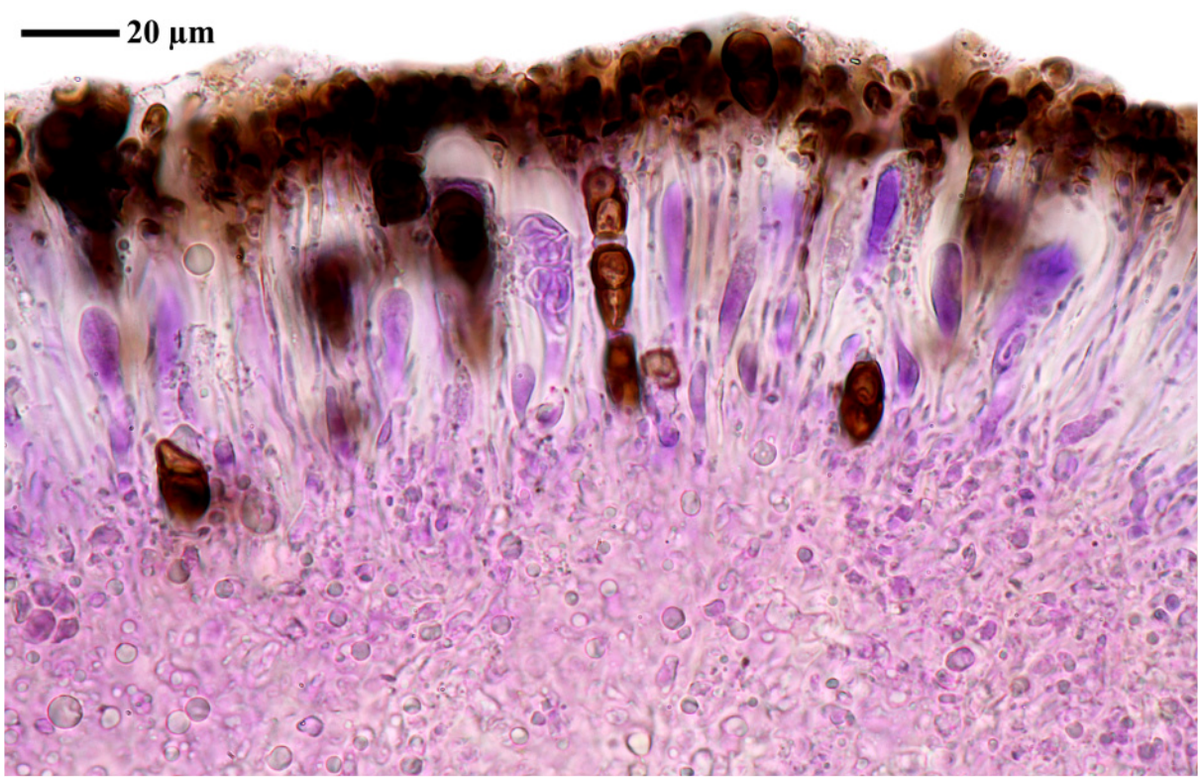


Buellia sp.



Buellia sp.



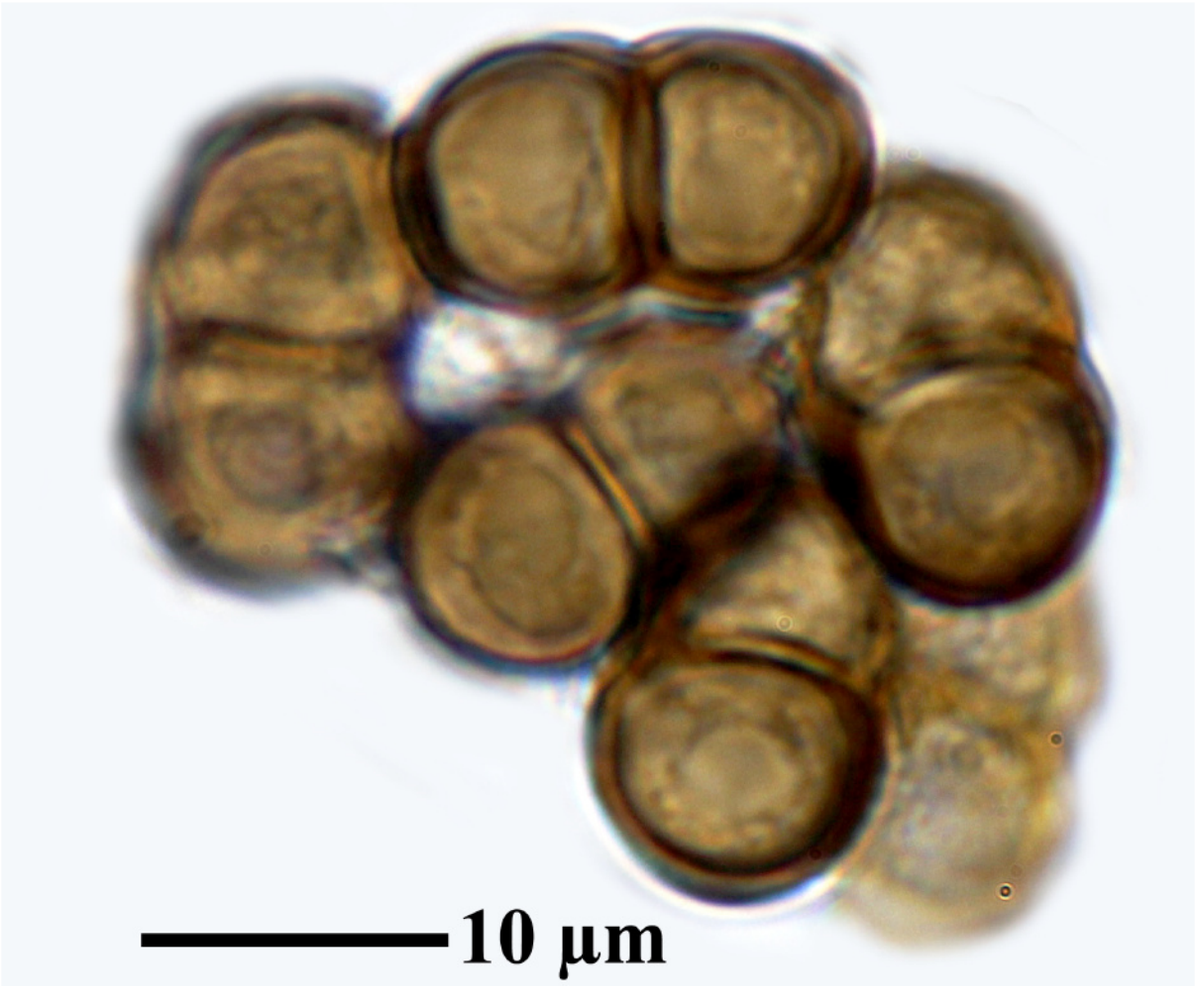


Buellia sp.





Buellia sp.







Buellia sp.

Caloplaca biatorina (A.Massal.) J.Steiner, Annls mycol. 8(2): 239 (1910)
[= *Calogaya biatorina* (A.Massal.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 38 (2013)]

[LIAF_11], Afghanistan, Prov. Bamyan, Band-i-Amir, ca. 50 m oberhalb des islamischen Heiligtums, S-Kante der Terrasse, 67°10.5’ E, 34°49’ N, ca. 2950 m, Freistehende Felsköpfe aus Kalktuffen der Amir-Schichten. Leg. M. Steiner (Ste 19/1), 12.05.1970. LICHENOTHECA AFGHANICA NR. 11.

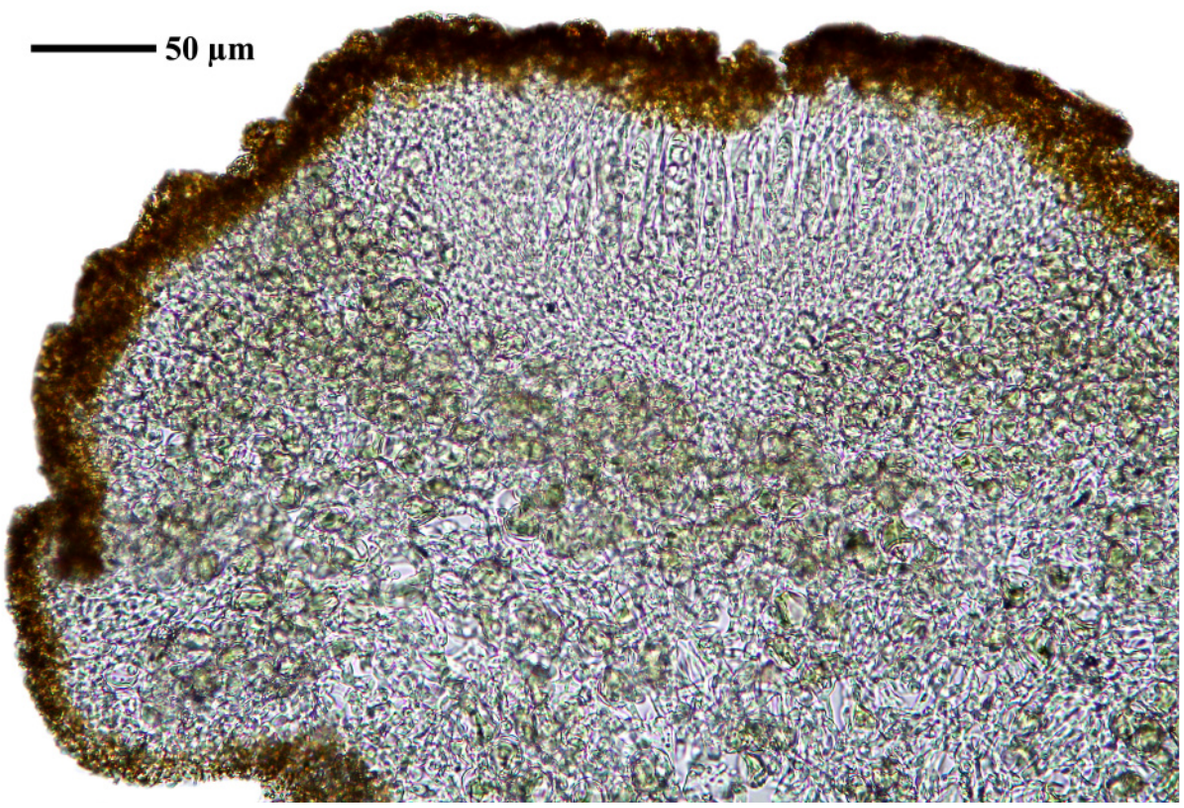




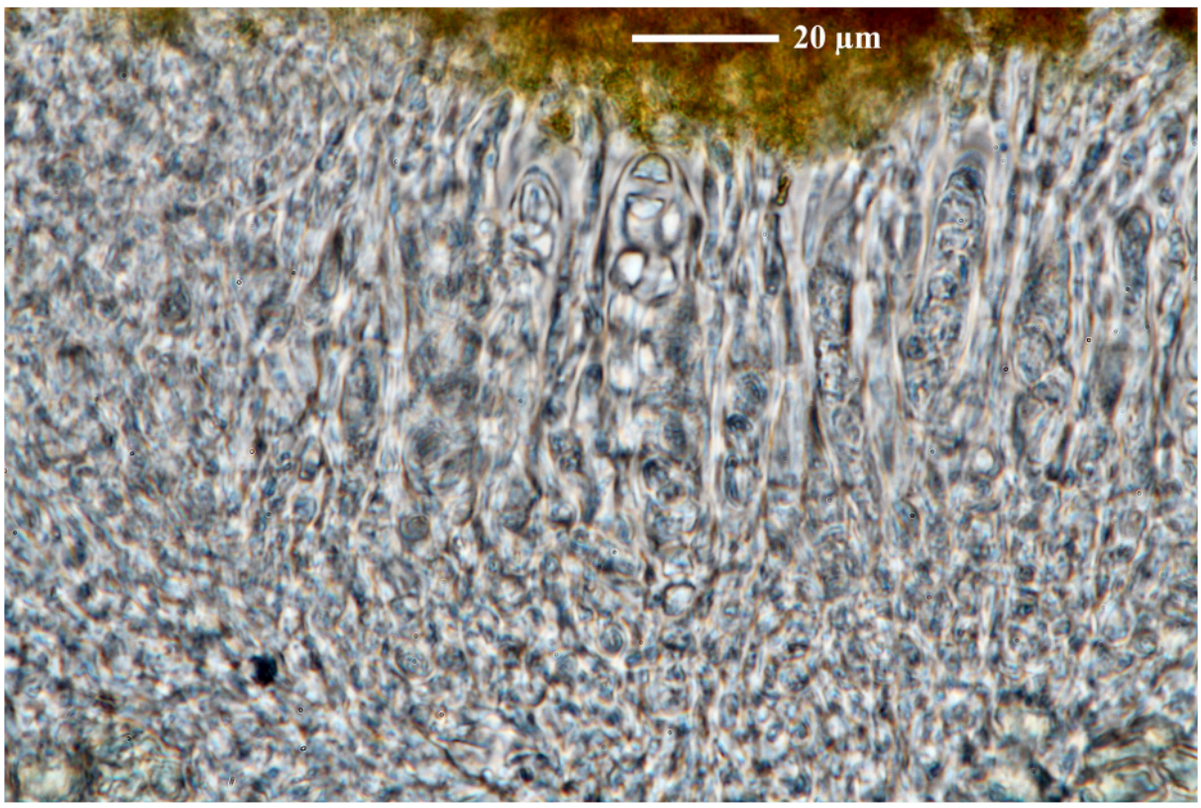


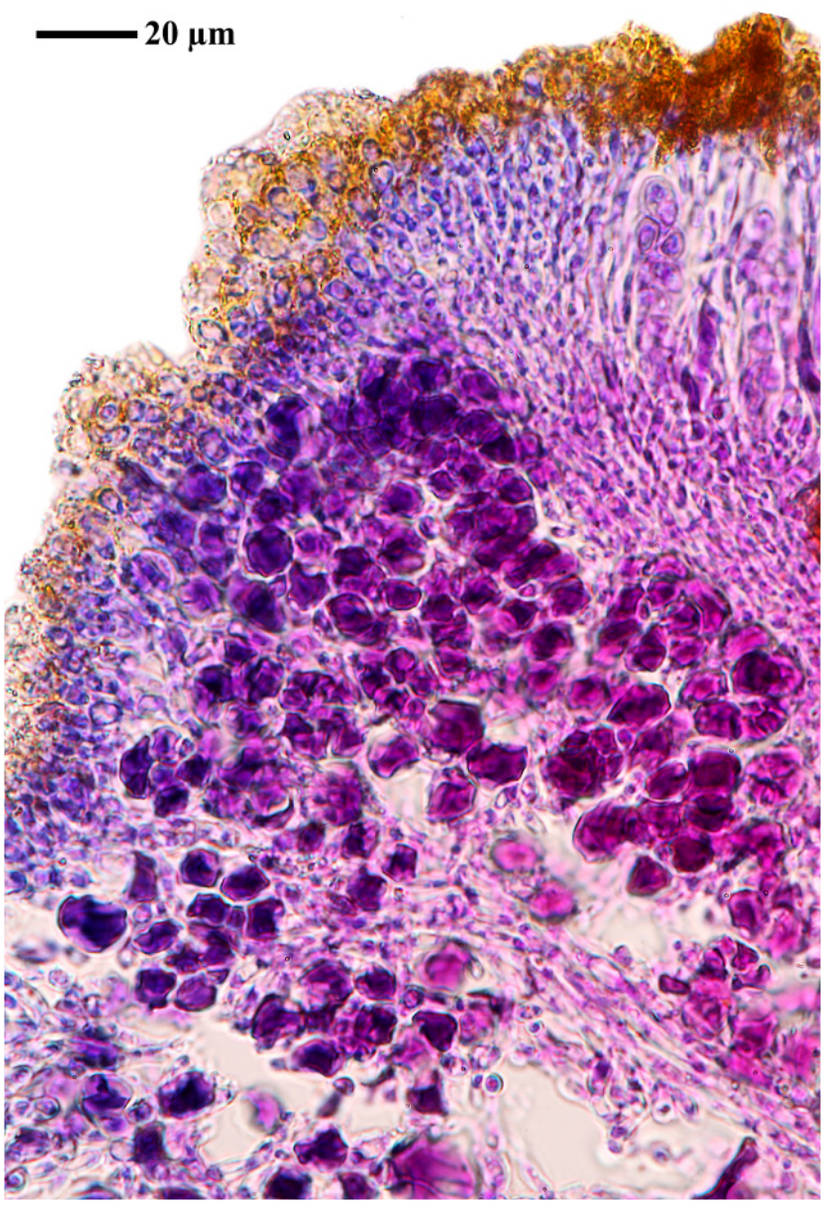
Caloplaca biatorina



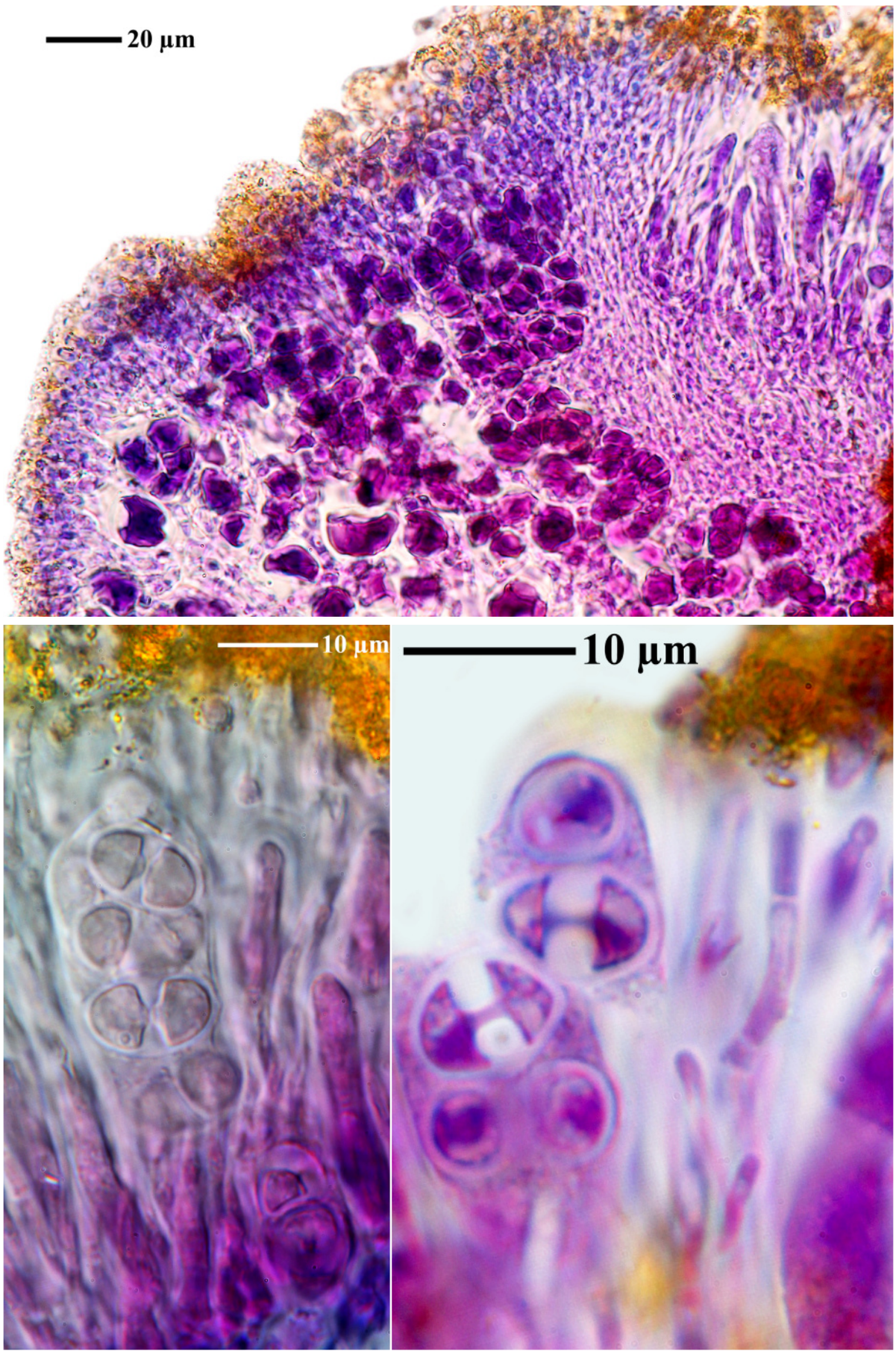


Caloplaca biatorina

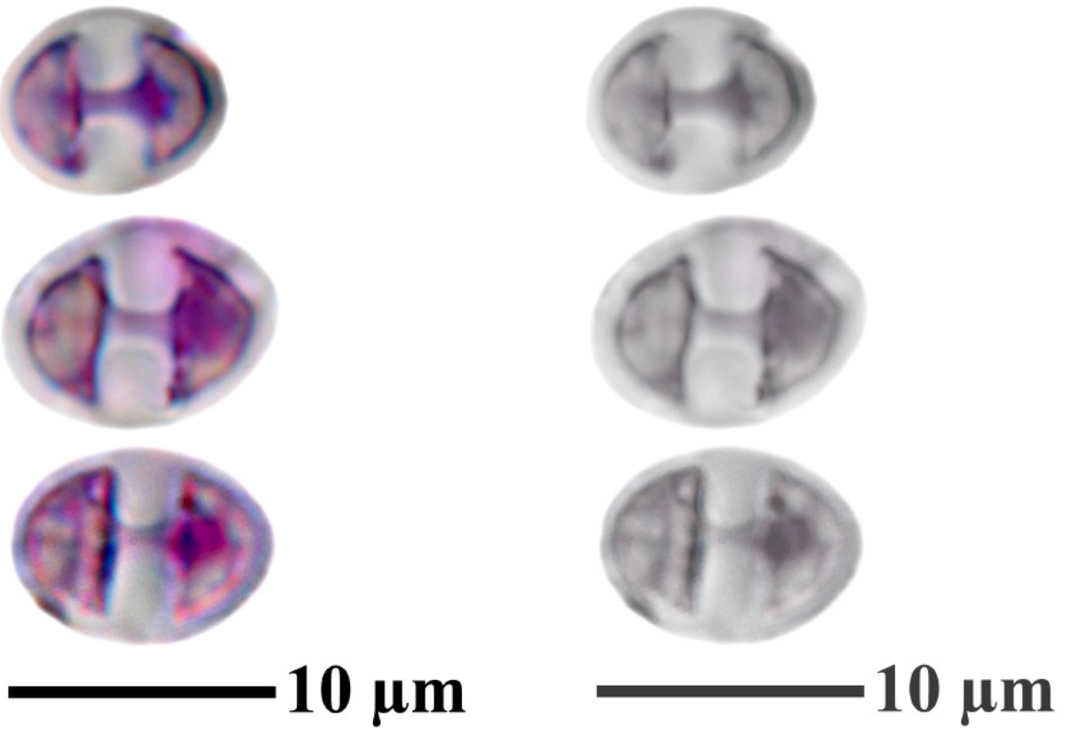


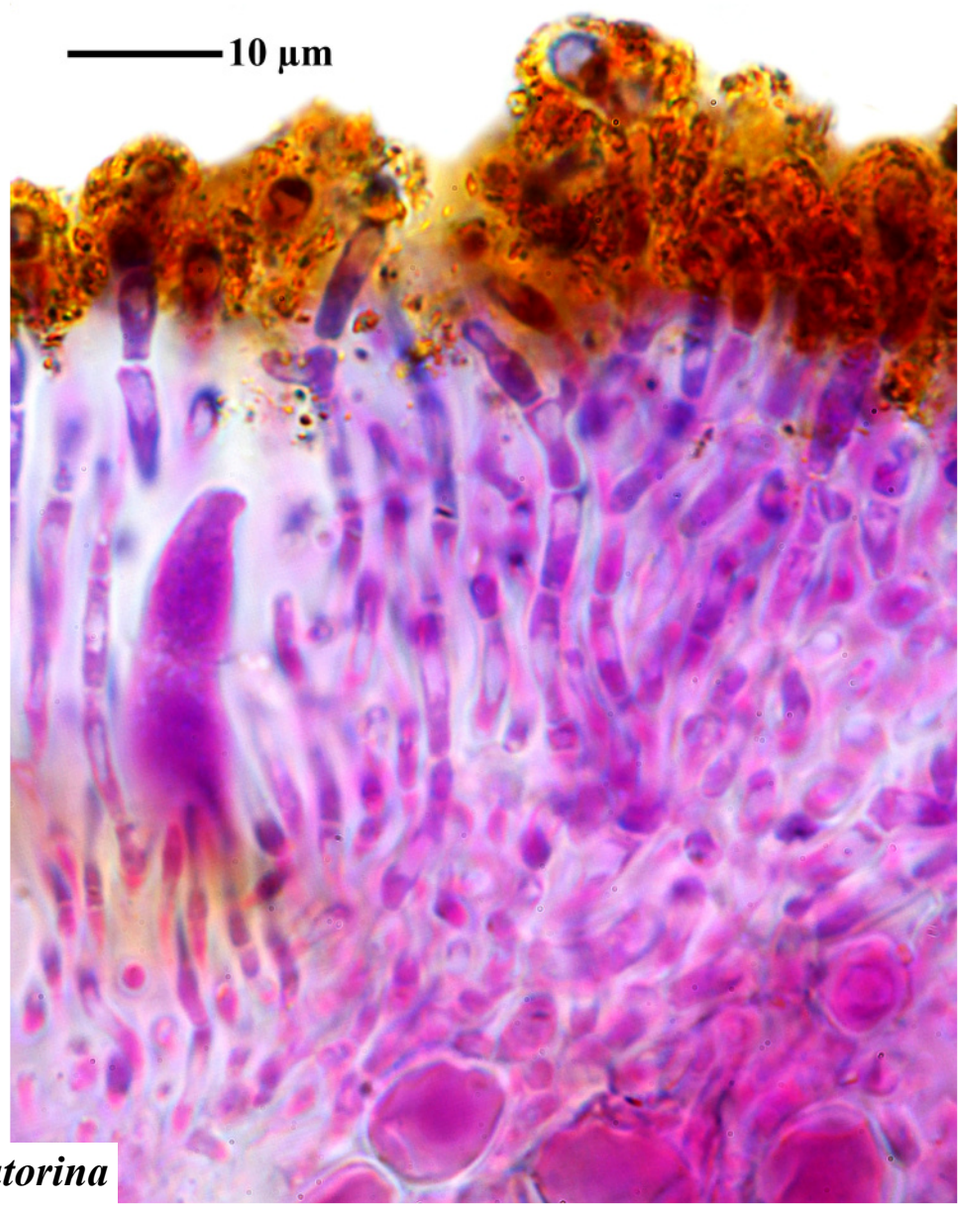


Caloplaca biatorina

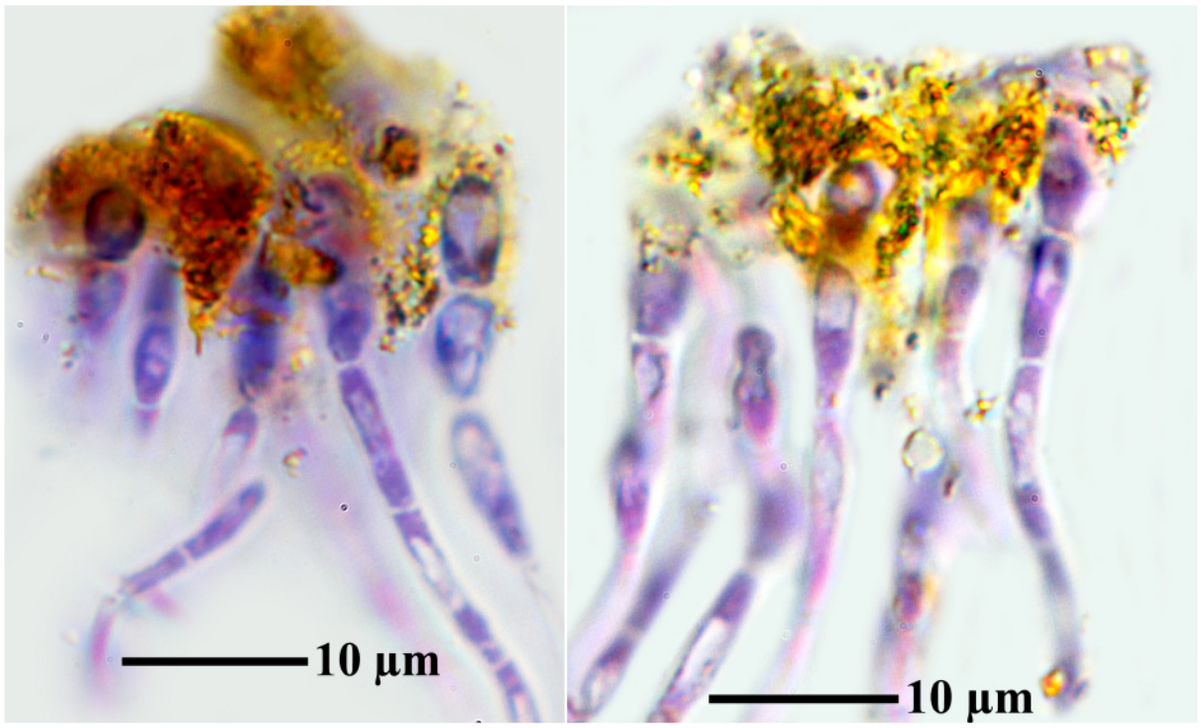


Caloplaca biatorina





Caloplaca biatorina





Caloplaca biatorina

Caloplaca decipiens (Arnold) Blomb. & Forssell, Cat. Lich. Univers. 7: 226 (1931)
[= *Calogaya decipiens* (Arnold) Arup, Frödén & Søchting], Nordic Jl Bot. 31(1): 38 (2013)

[LIAF_26], Afghanistan, Prov. Bamyan, Koh-i-Baba, Paßhöhe des Kotal-i-Devali, 66°58’ E, 34°38’ N, ca. 3000 m. Mit viel *Staurothele levinae* Oxner. Leg. A. Dieterle (Pod 45/3), 18.07.1970. LICHENOTHECA AFGHANICA NR. 26.

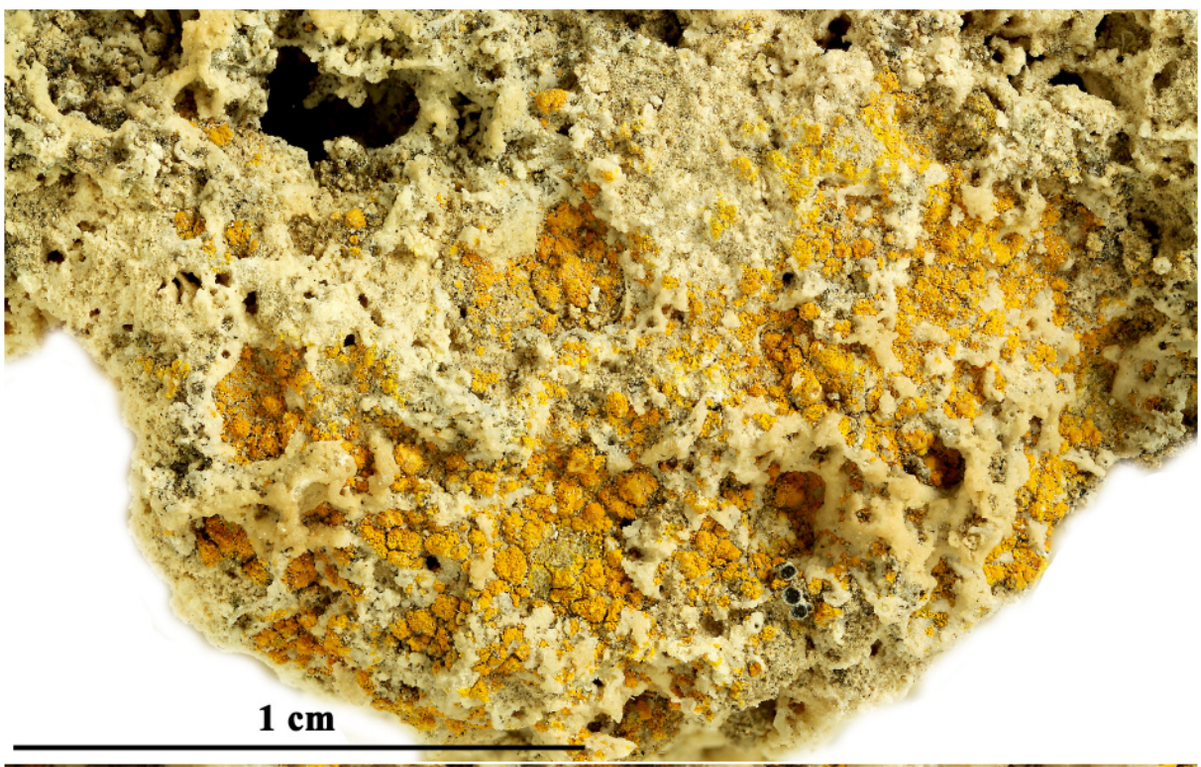




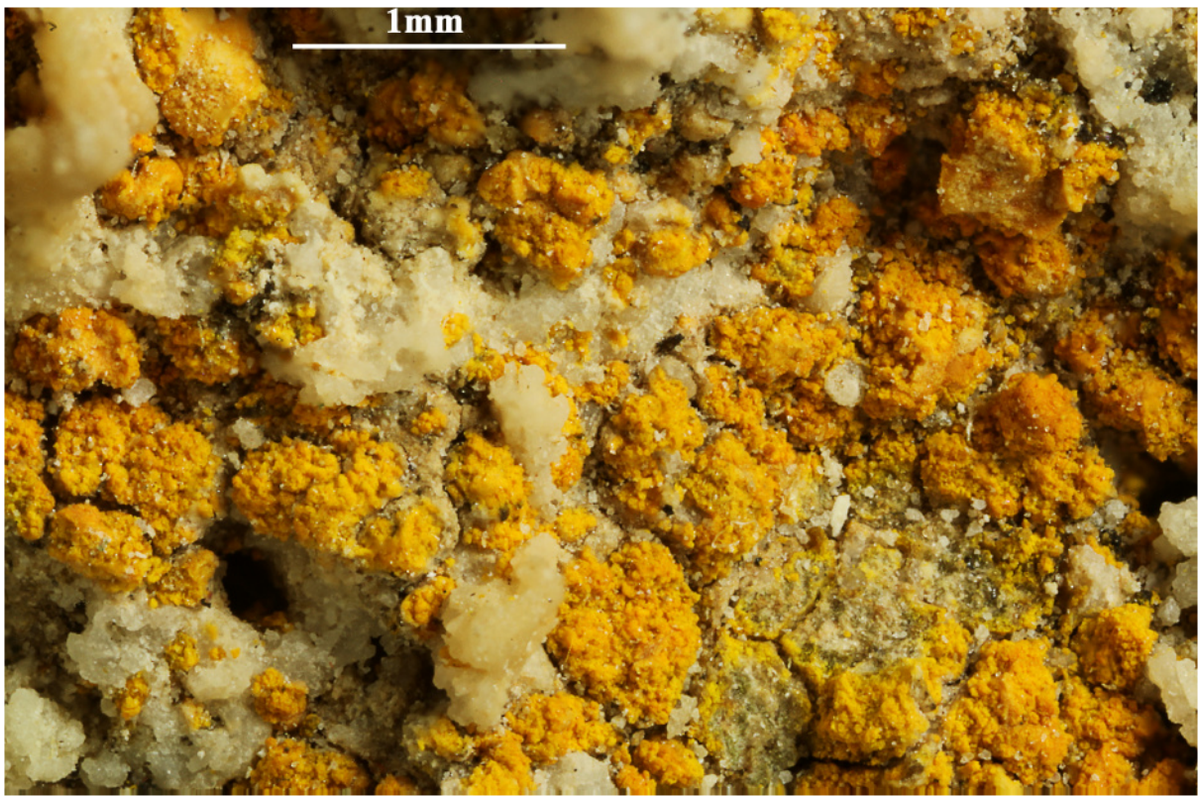
Caloplaca decipiens

Caloplaca cf. flavocitrina (Nyl.) H.Olivier, Mém. Soc. natn. Sci. nat. Cherbourg 37: 110 (1909)
[= *Flavoplaca cf. flavocitrina* (Nyl.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 45 (2013)]
[= *Caloplaca citrina* cf. var. *flavocitrina* (Nyl.) Walt.Watson, Trans. R. Soc. Edinb. 34: 238 (1945)]

[LIAF_53], Afghanistan, Prov. Bamyan, Band-i-Amir, nördliches Seeufer, unmittelbar beim islamischen Heiligtum, 67°10.5' E, 34°49' N, ca. 2900 m. Weiche junge Kalktuffe unmittelbar am Seeufer, ca.0.5-1 m über dem Seespiegel. Mit *Lecanora cf. percrenata* H.Magn., u.a. Leg. A. Dieterle (Pod 36/1), 30.05.1970. LICHENOTHECA AFGHANICA NR. 53.







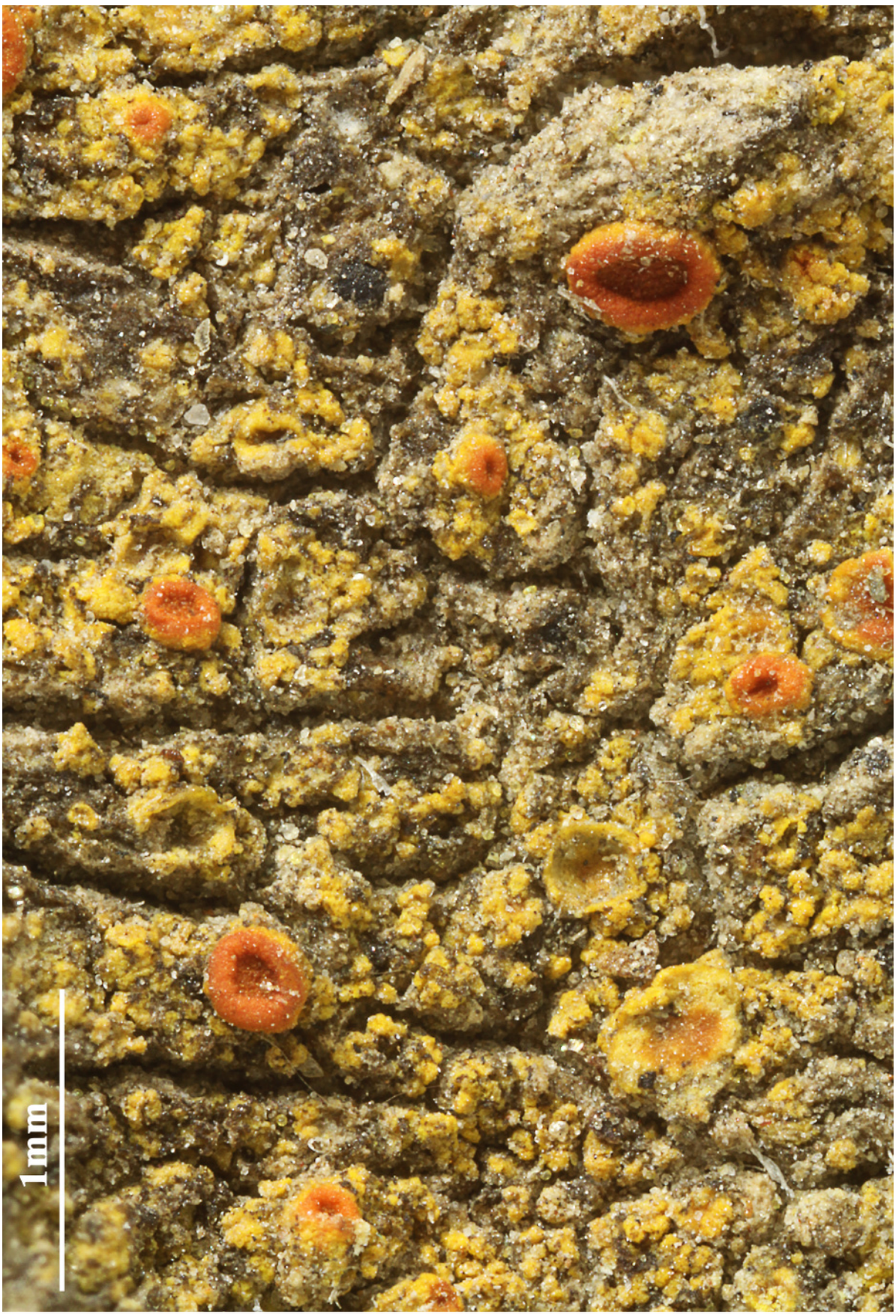


Caloplaca cf. flavocitrina

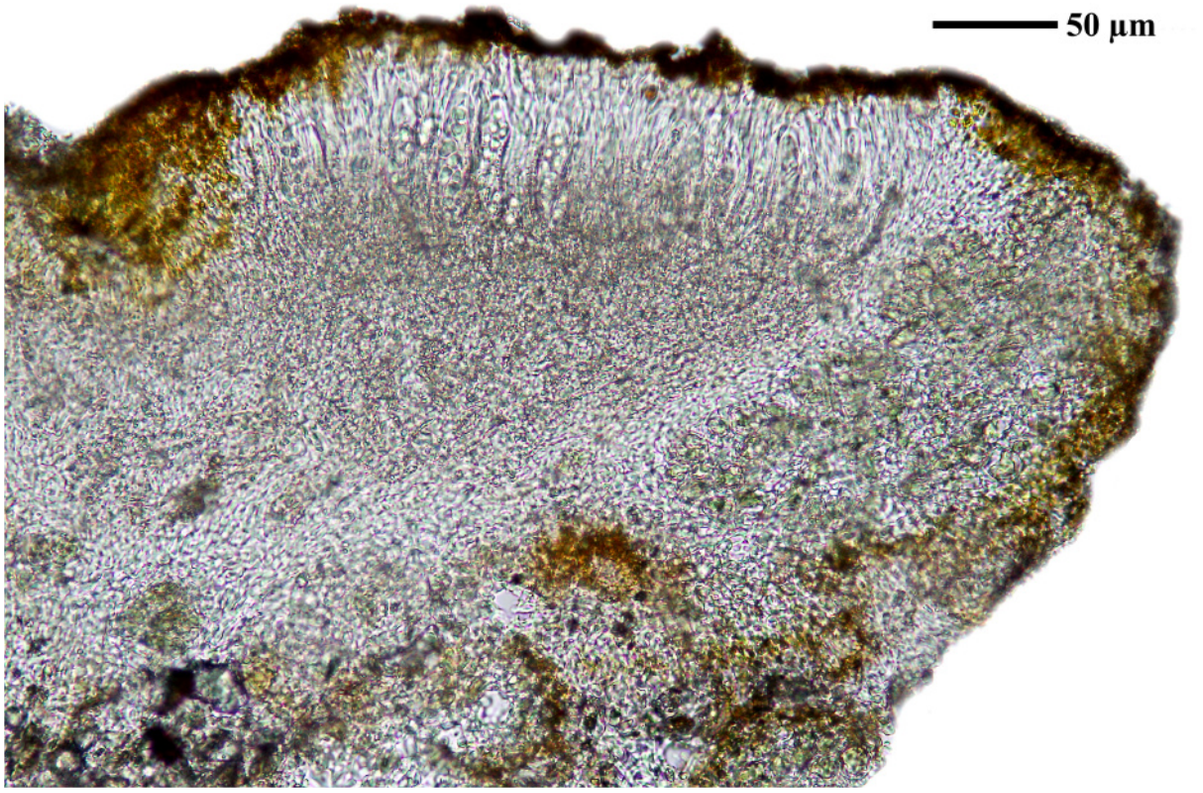
Caloplaca juniperina Tomin, (1953)
[= *Gyalolechia juniperina* (Tomin) Søchting, Frödén & Arup, Nordic Jl Bot. 31(1): 71 (2013)]

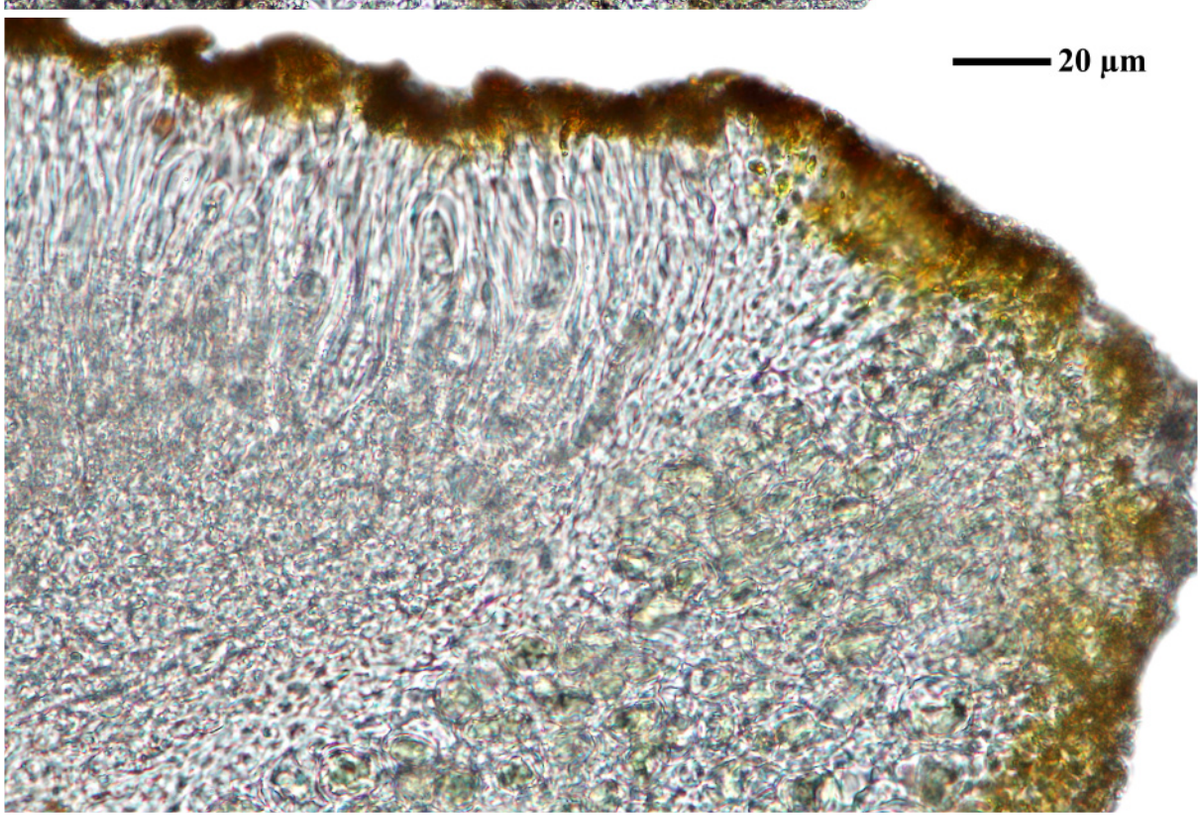
[LIAF_31], Afghanistan, Prov. Parwan, Salangtal bei Qalatak, 60°12’ E, 35°14’ N, 1950 m, auf Ästen von alten Nußbäumen an der Straße. Leg M. Steiner (Ste 27/6), 25.05.1970. LICHENOTHECA AFGHANICA NR. 31.



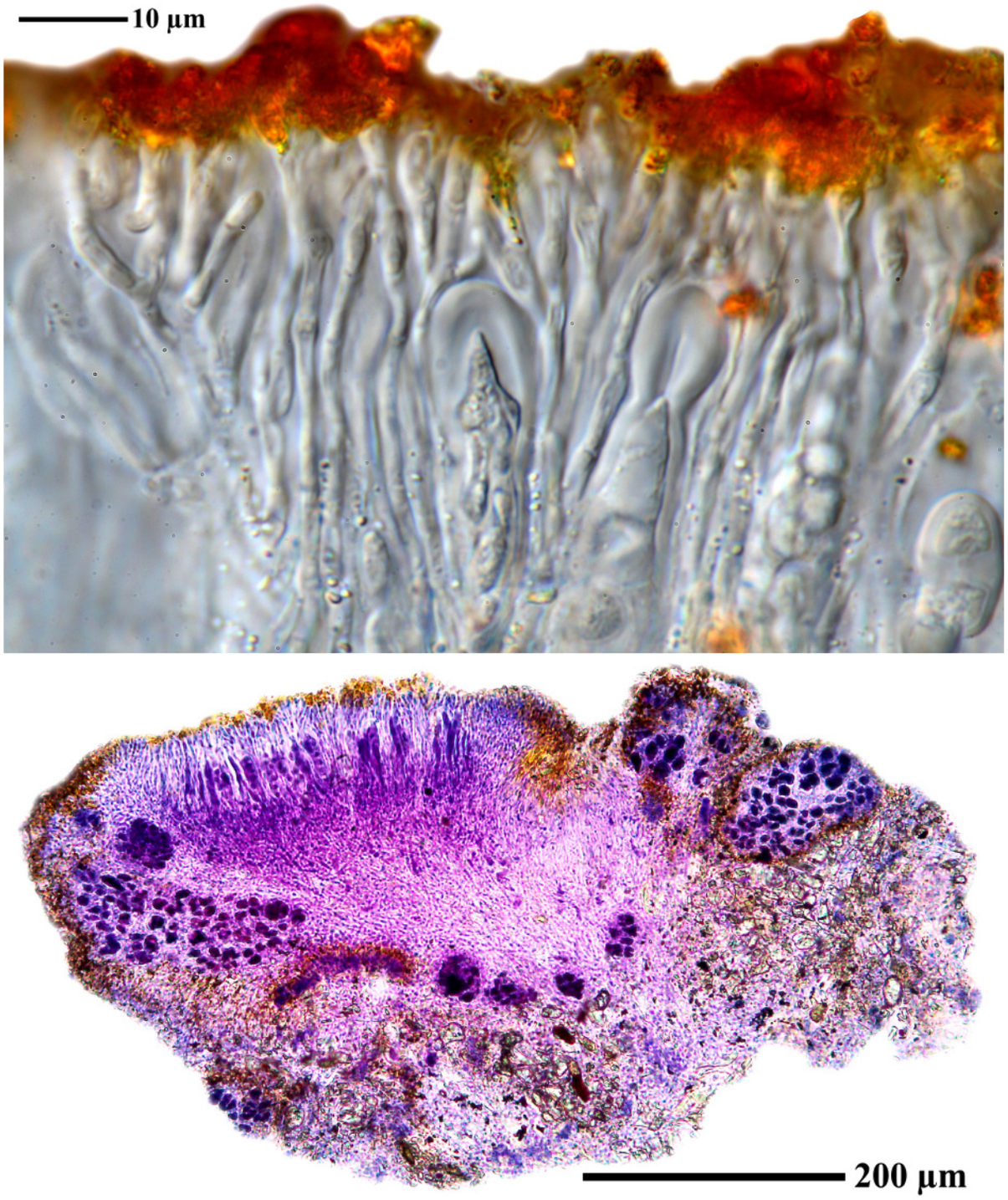


Caloplaca juniperina

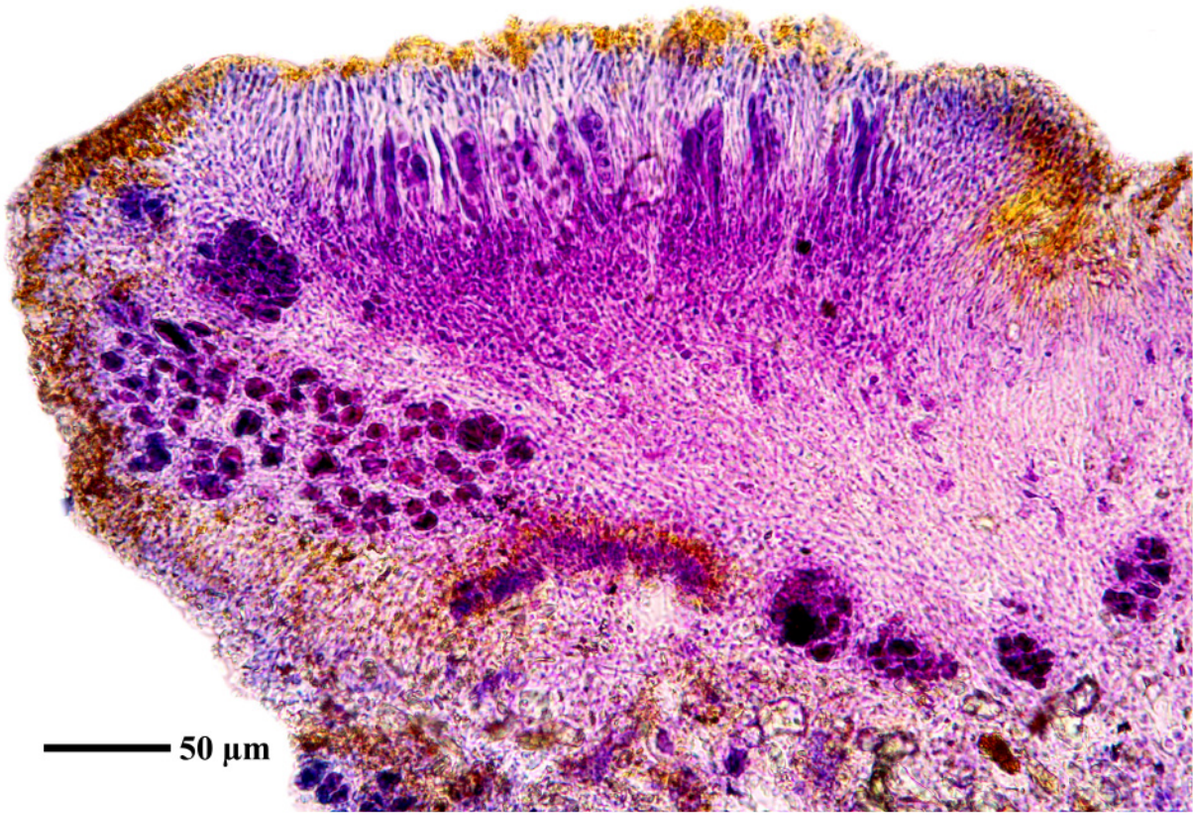


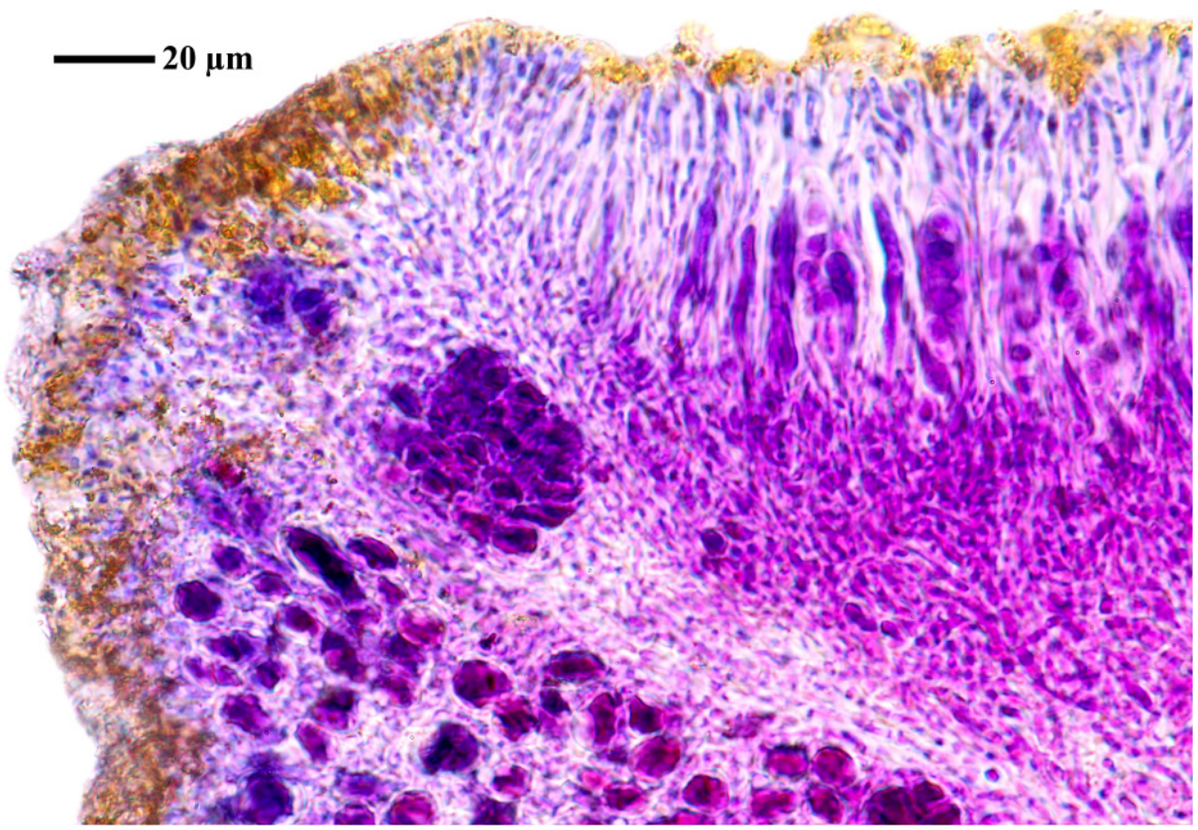


Caloplaca juniperina

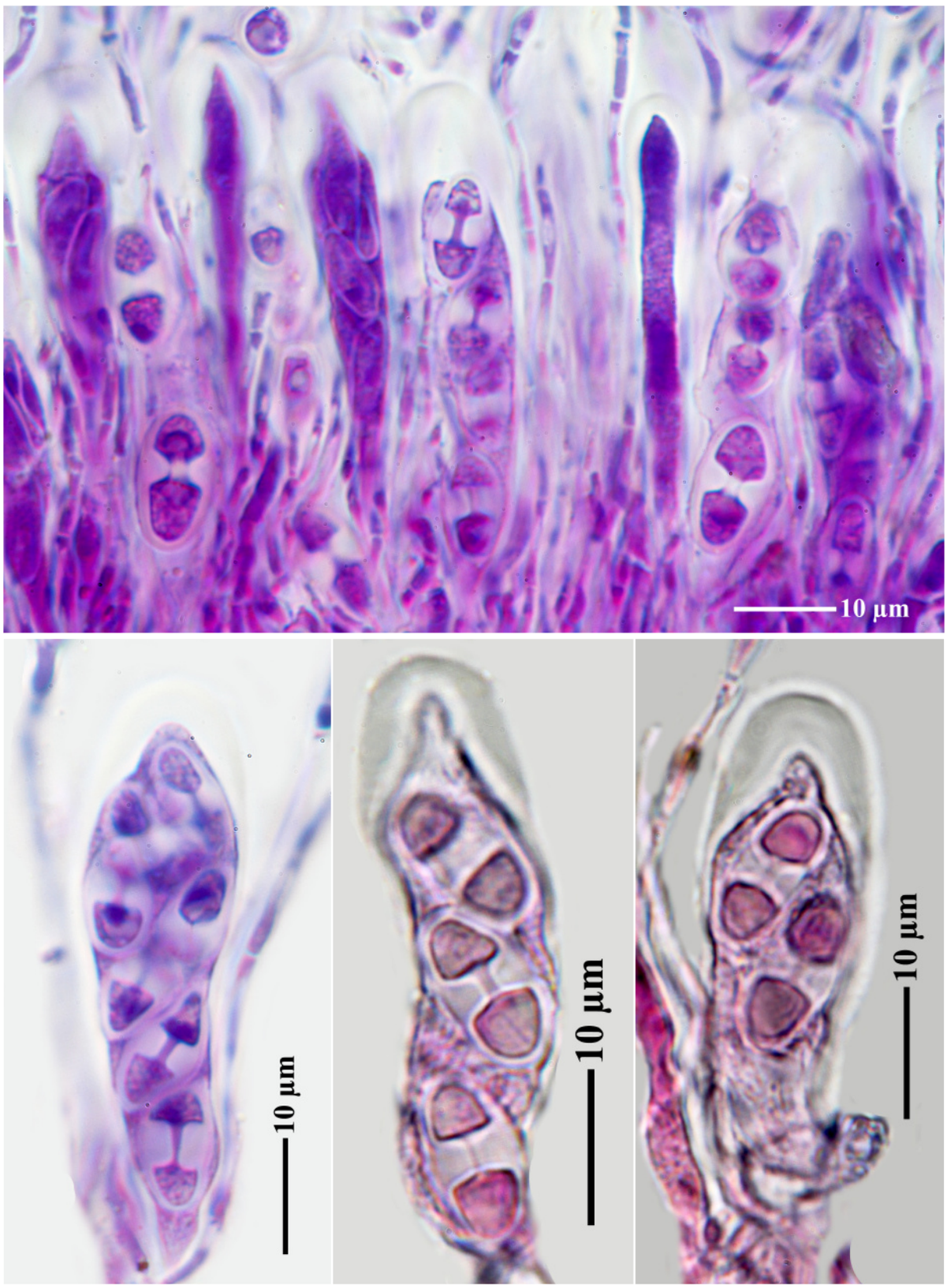


Caloplaca juniperina

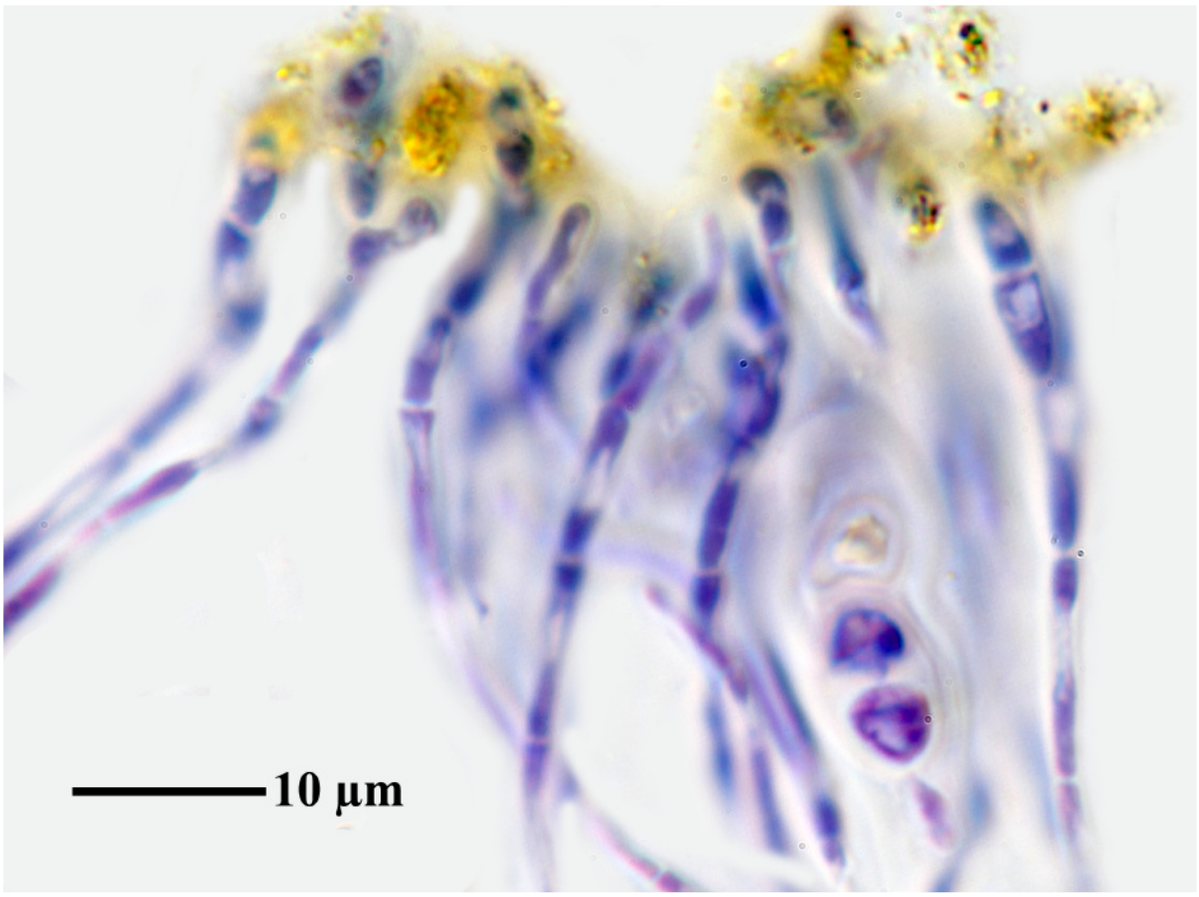




Caloplaca juniperina



Caloplaca juniperina





Caloplaca juniperina

Caloplaca persica (J.Steiner) M.Steiner & Poelt, Pl. Syst. Evol. 140(2-3): 168 (1982)

[= *Calogaya persica* (J.Steiner) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 39 (2013)]

[= *Xanthoria persica* (J.Steiner) Szatala, (1957)]

[LIAF_22], Afghanistan, Prov. Kabul, Siau, 27 km N von Kabul, an der Straße nach Charikar. 69°06’ E, 34°42’ N, ca. 1750 m. Auf *Ailanthus altissima* (Mill.) Swingle an einem Bewässerungsgraben im Park eines Landgutes. Leg. M. Steiner (Ste 31/1), 19.05.1970. LICHENOTHECA AFGHANICA NR. 22.





Caloplaca persica

Caloplaca persica (J.Steiner) M.Steiner & Poelt, Pl. Syst. Evol. 140(2-3): 168 (1982)

[= *Calogaya persica* (J.Steiner) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 39 (2013)]

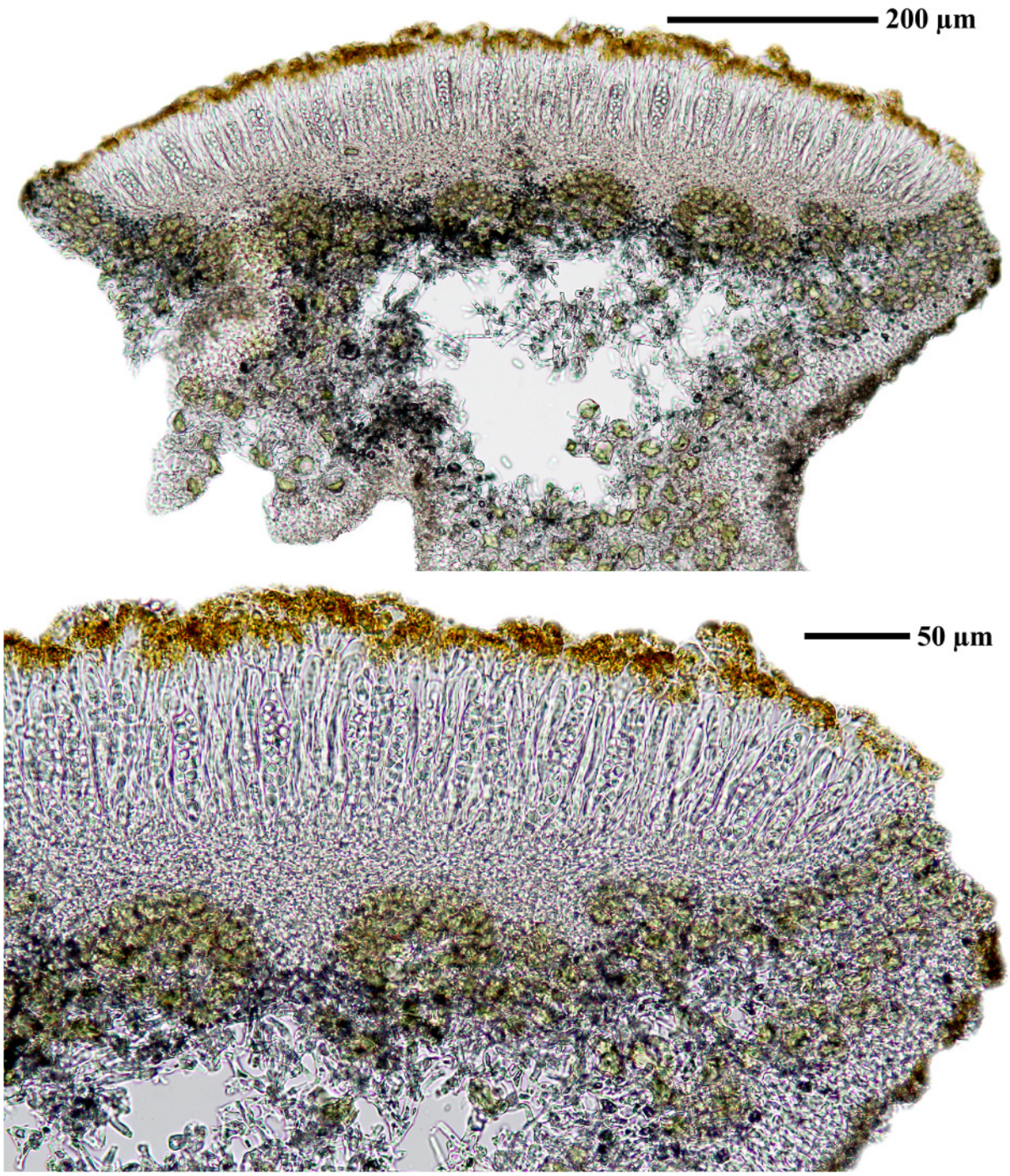
[= *Xanthoria persica* (J.Steiner) Szatala, (1957)]

[LIAF_39], Afghanistan, Prov. Kabul, Karizemir, ca. 18 km N Kabul, an der Straße nach Charikar. 69°03' E, 34°38' N, ca. 1850 m. An *Ulmus campestris* L. im bewässerten Park eines Landgutes mit *Xanthoria fallax* (Hepp) Arn. u. a.. Leg. M. Steiner (Ste 28/2), 25.07.1970. LICHENOTHECA AFGHANICA NR. 39.

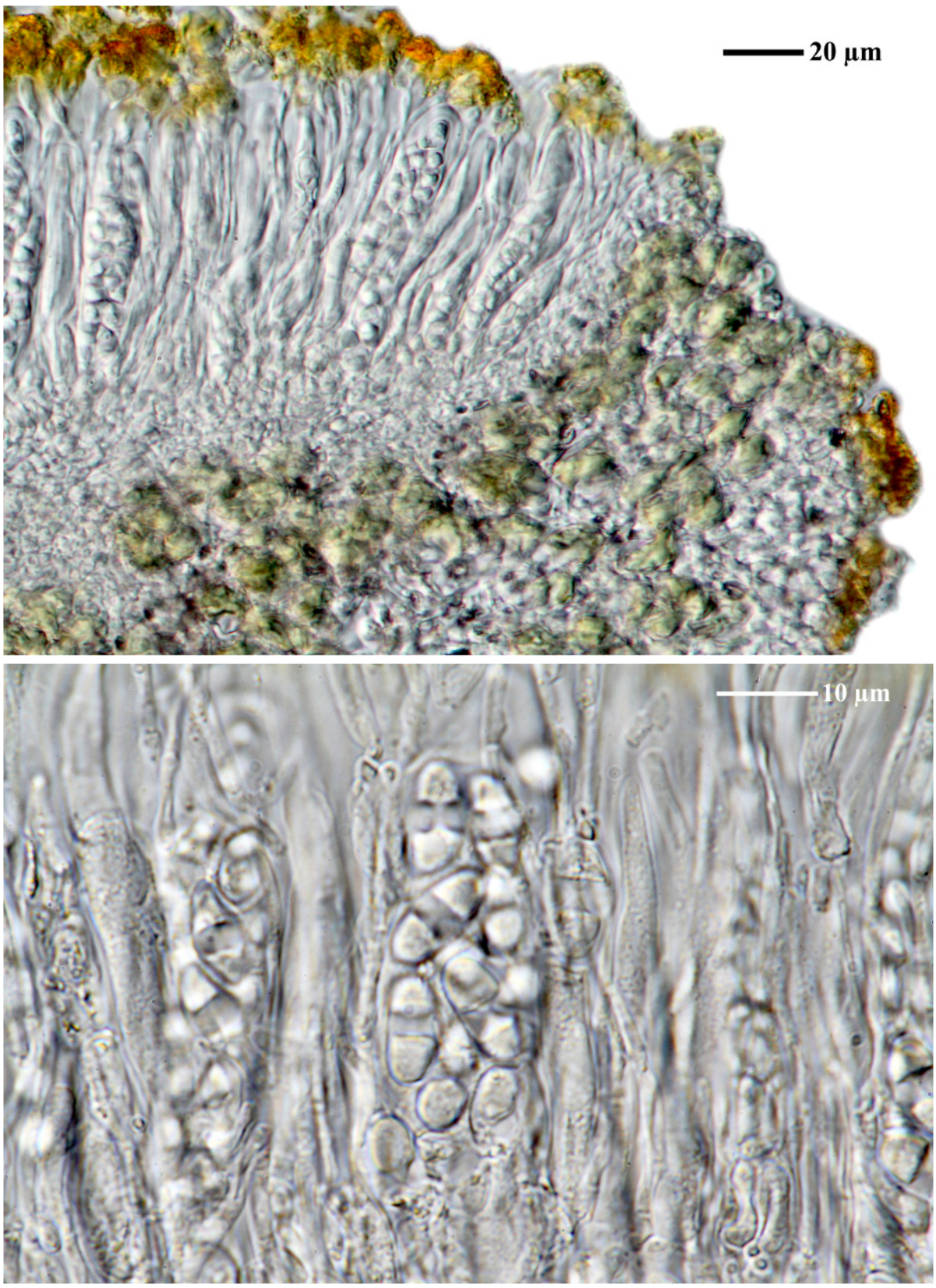




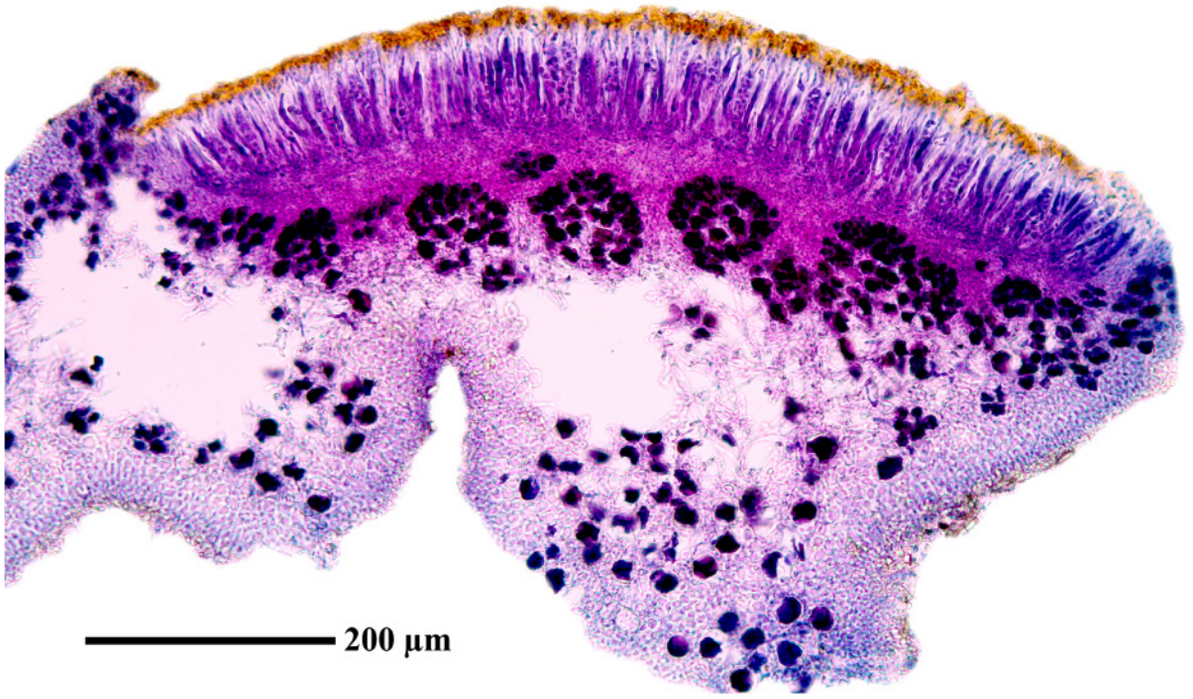
Caloplaca persica

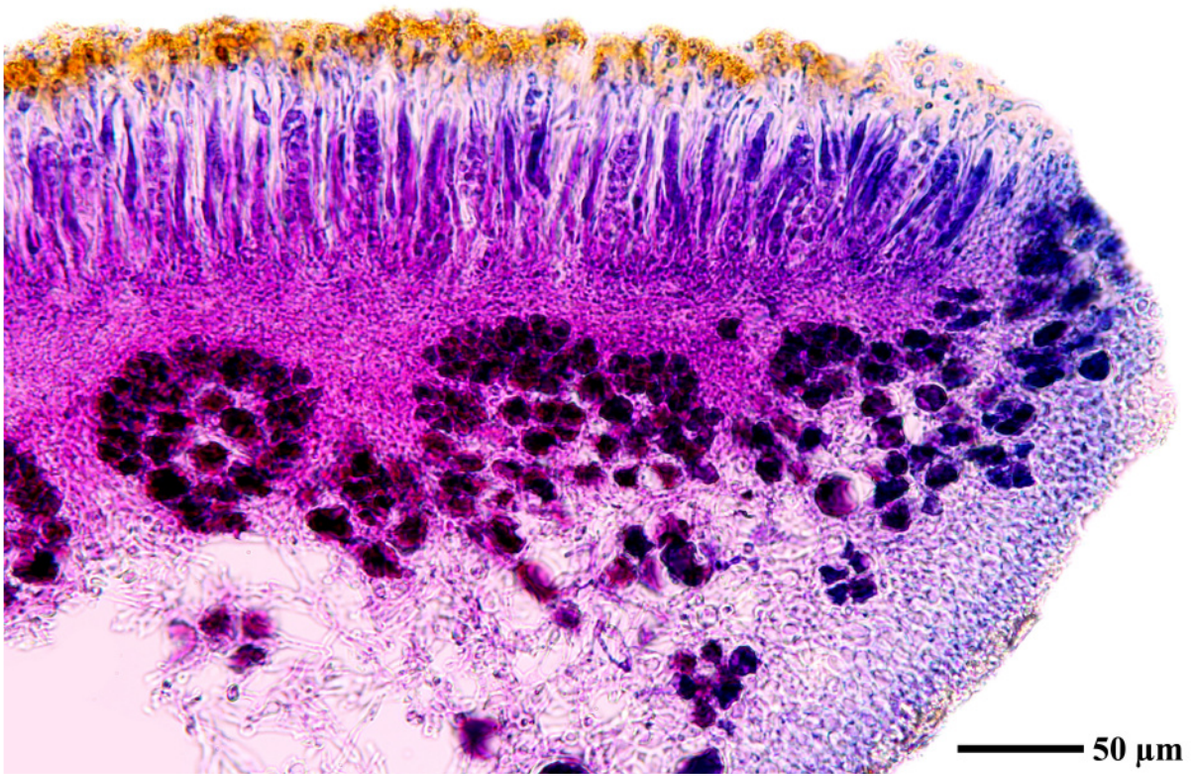


Caloplaca persica

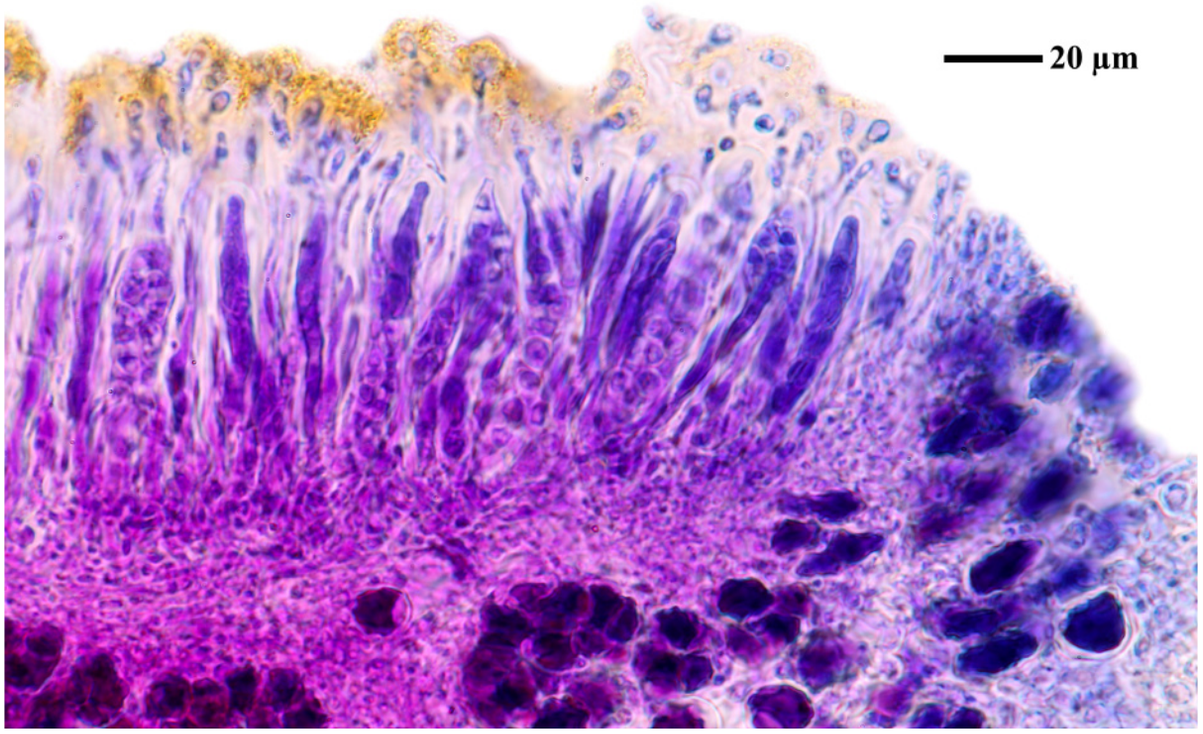


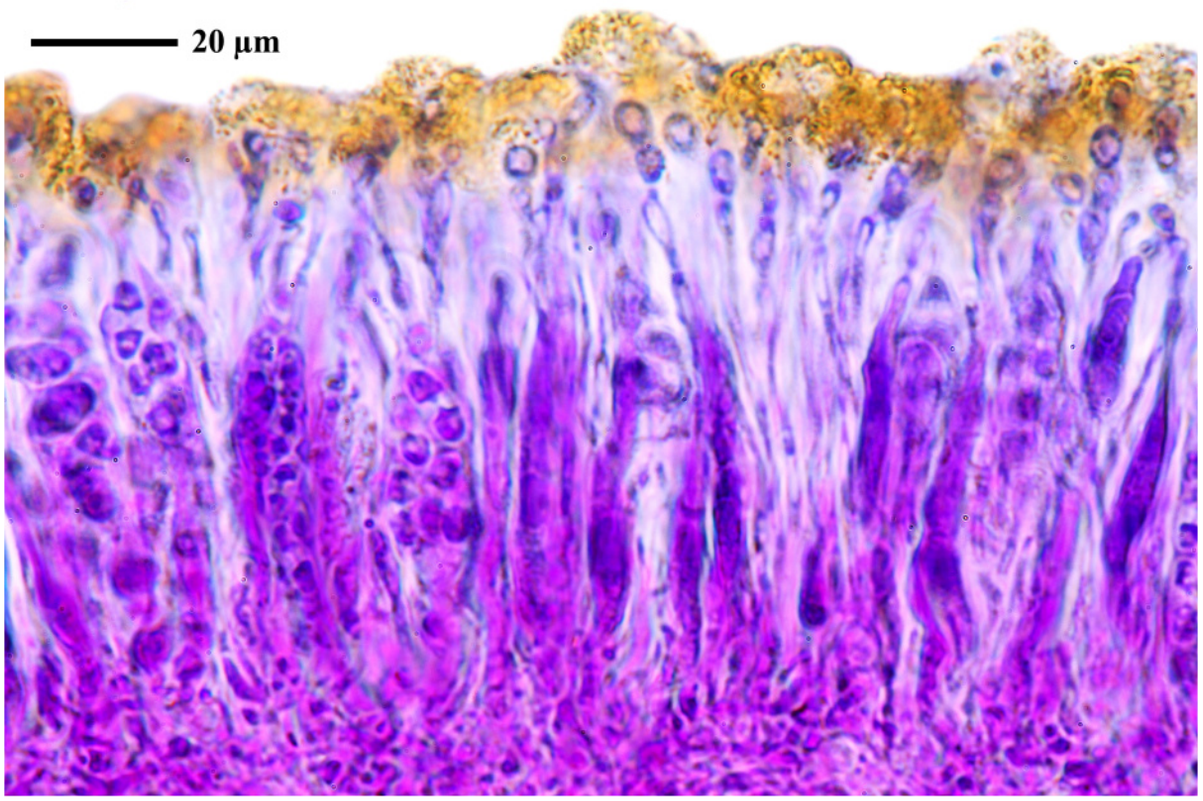
Caloplaca persica



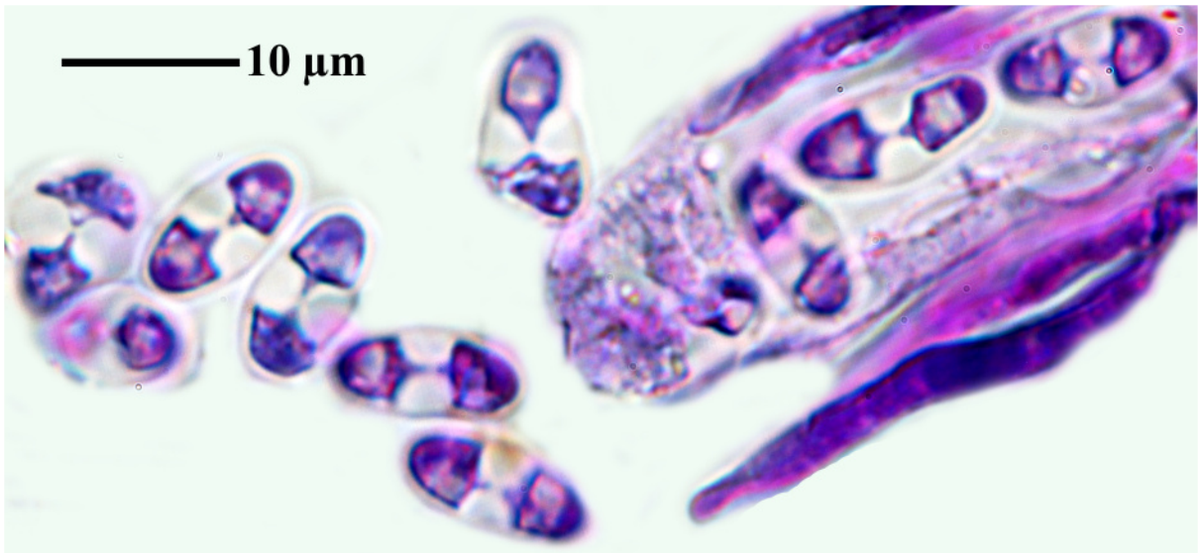


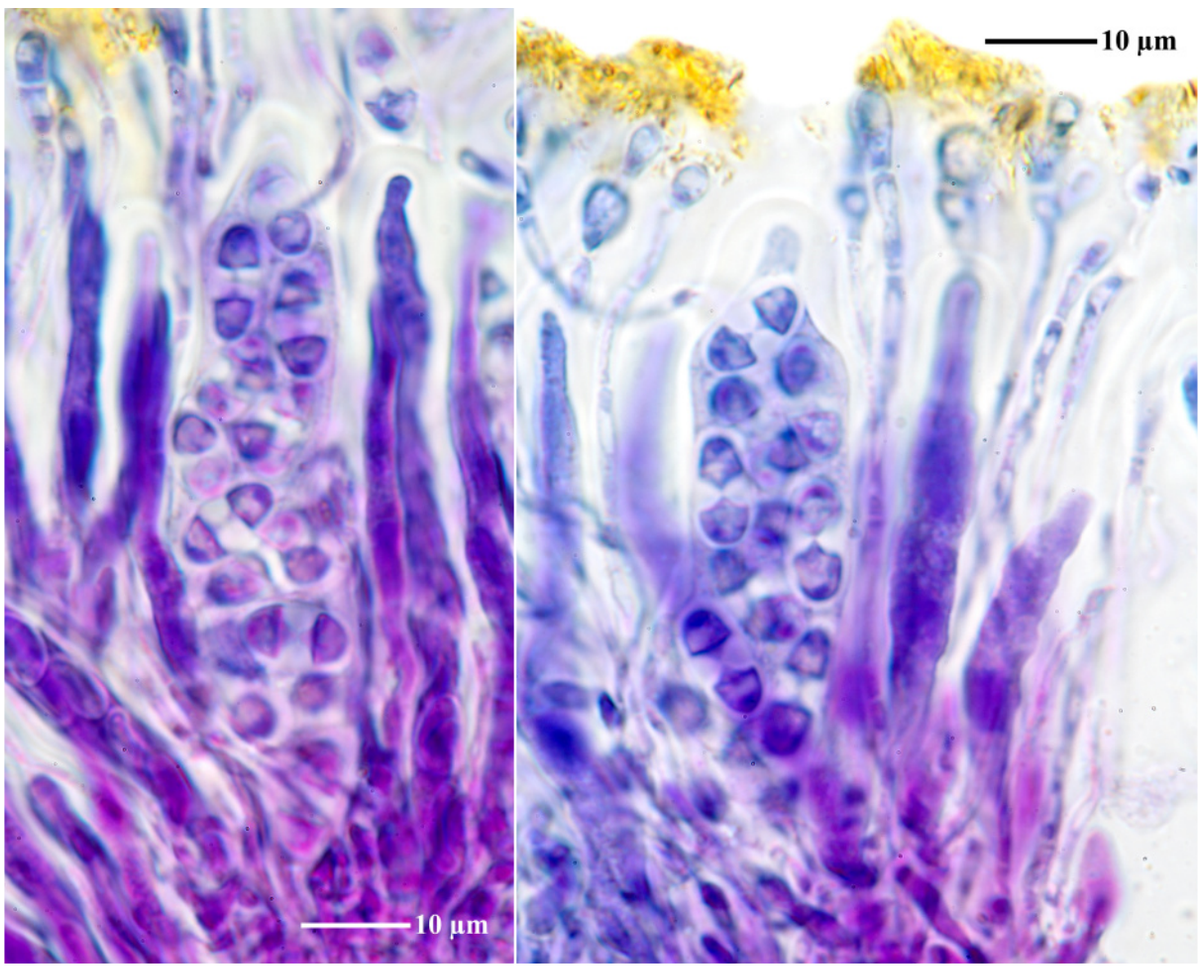
Caloplaca persica



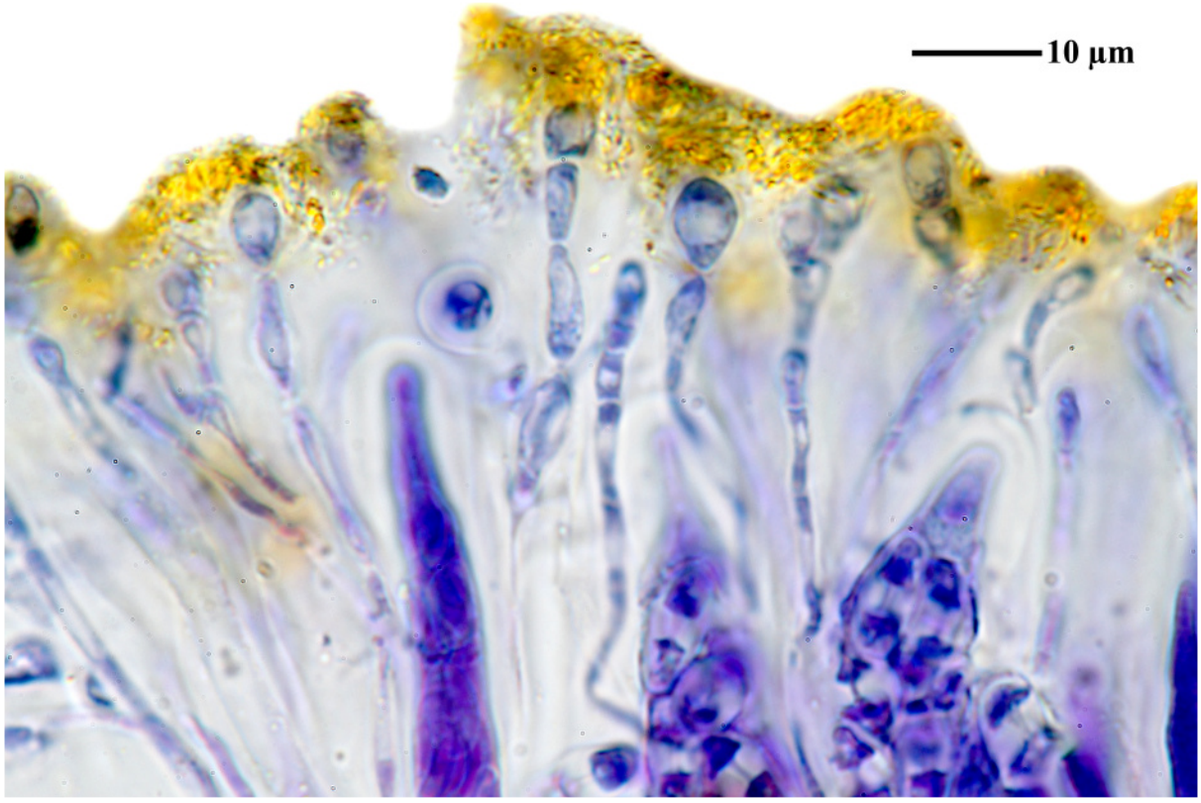


Caloplaca persica





Caloplaca persica



Caloplaca persica

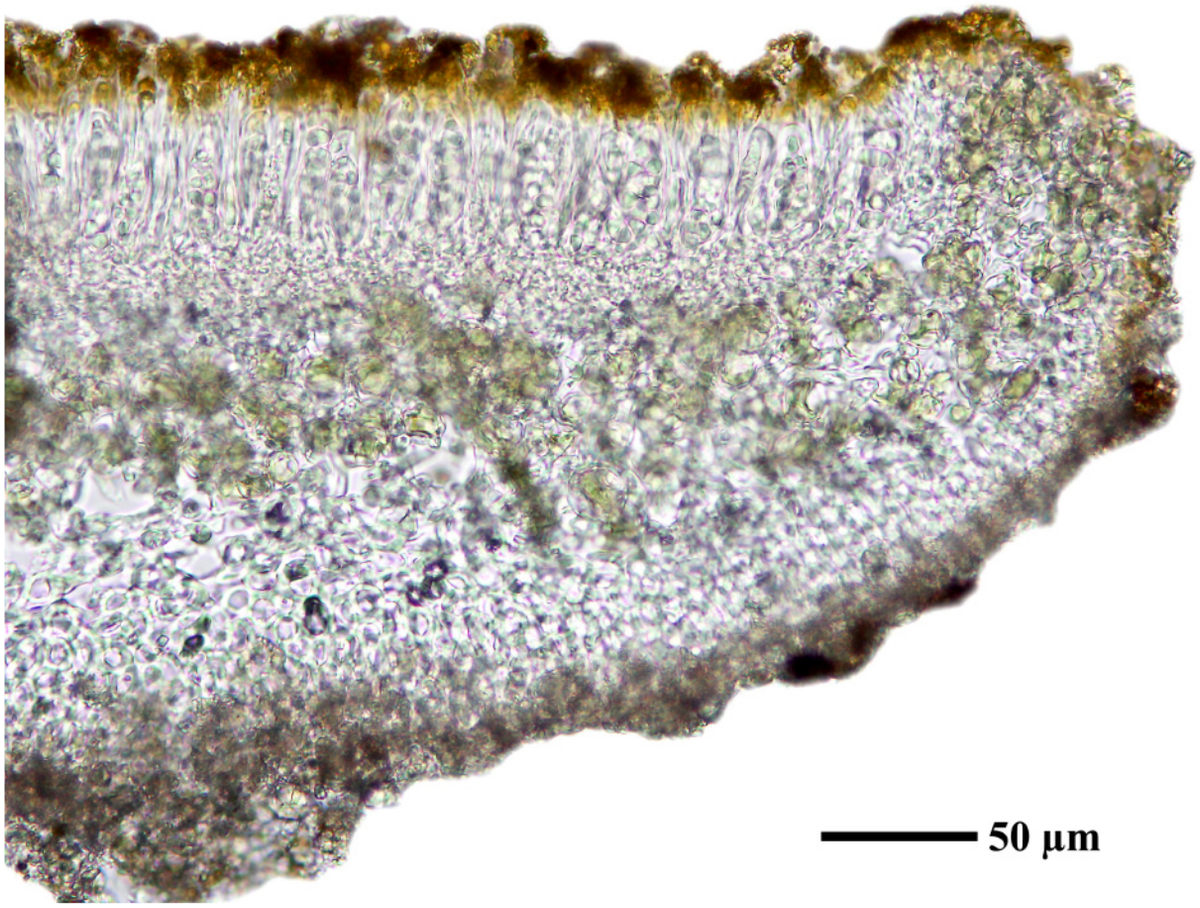
Caloplaca polycarpoides (J.Steiner) M.Steiner & Poelt, Pl. Syst. Evol. 140(2-3): 168 (1982)
[= *Calogaya polycarpoides* (J.Steiner) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 39 (2013)]

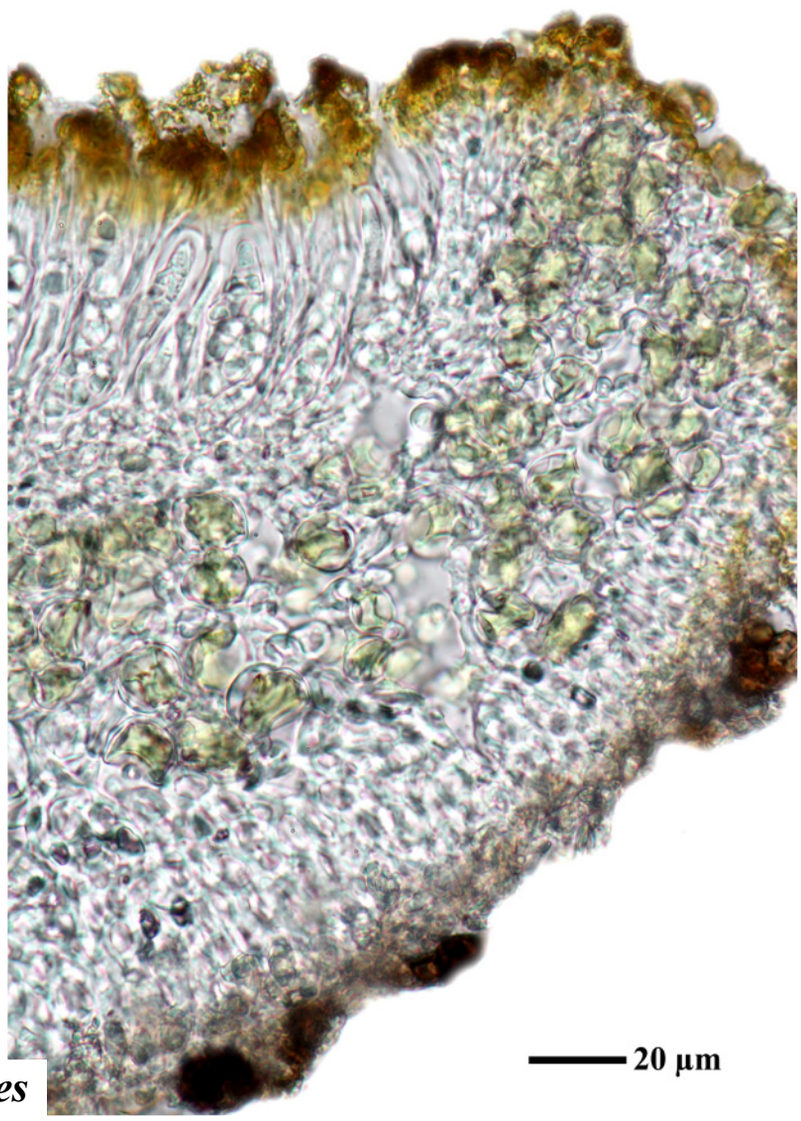
[LIAF_60], Afghanistan, Prov. Paktia, Nordhänge der Paßhöhe des Kotal-i-Taraki, an der Straße von Chamkani nach Zambar, 69°47.5 E, 33°38.5’ N, 2150 m. Auf toten Ästen einer verkrüppelten *Cedrus deodara* (Lamb.) G.Don.. Leg. M. Steiner (86/1), 04.07.1970. LICHENOTHECA AFGHANICA NR. 60.





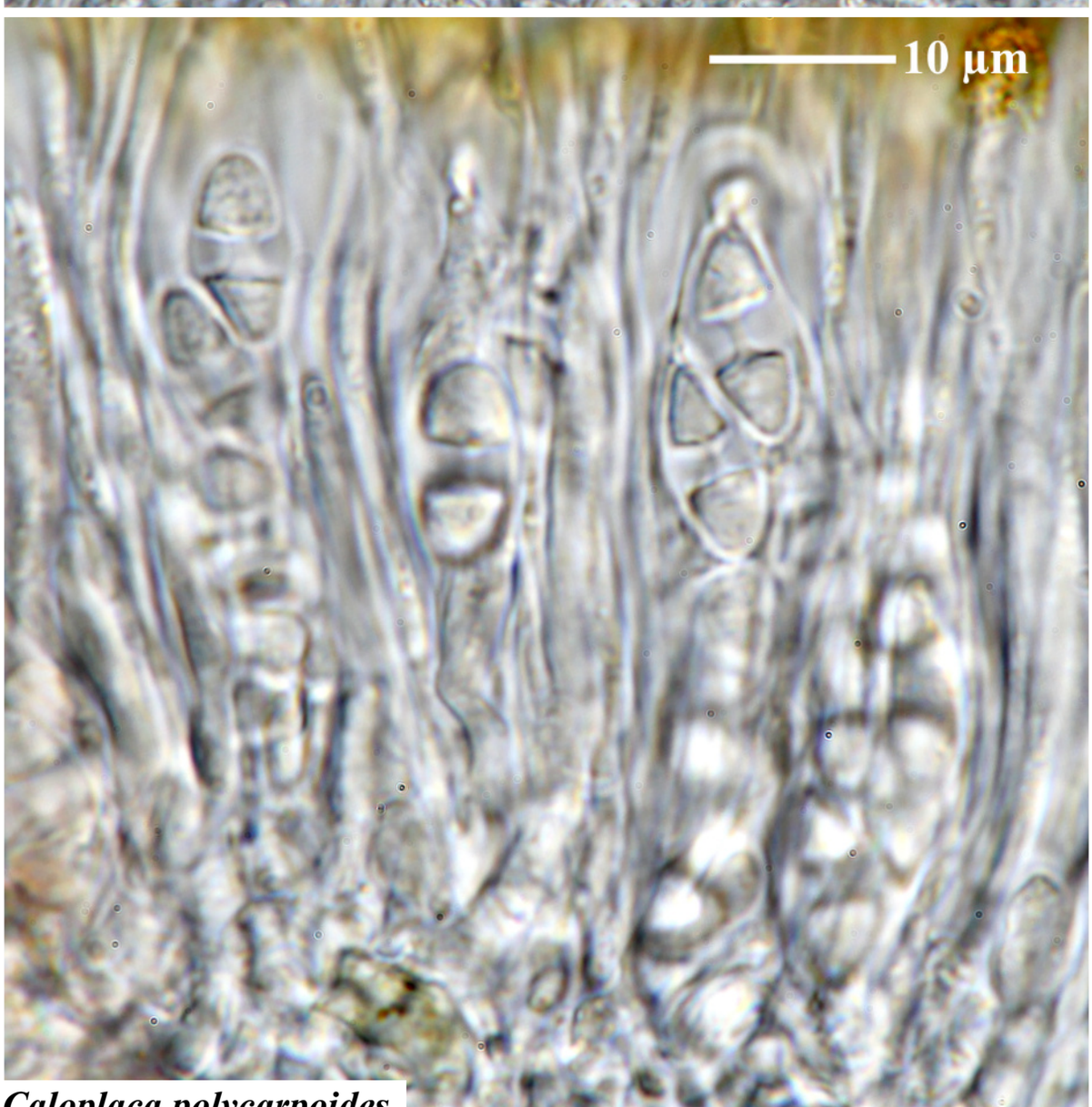
Caloplaca polycarpoides



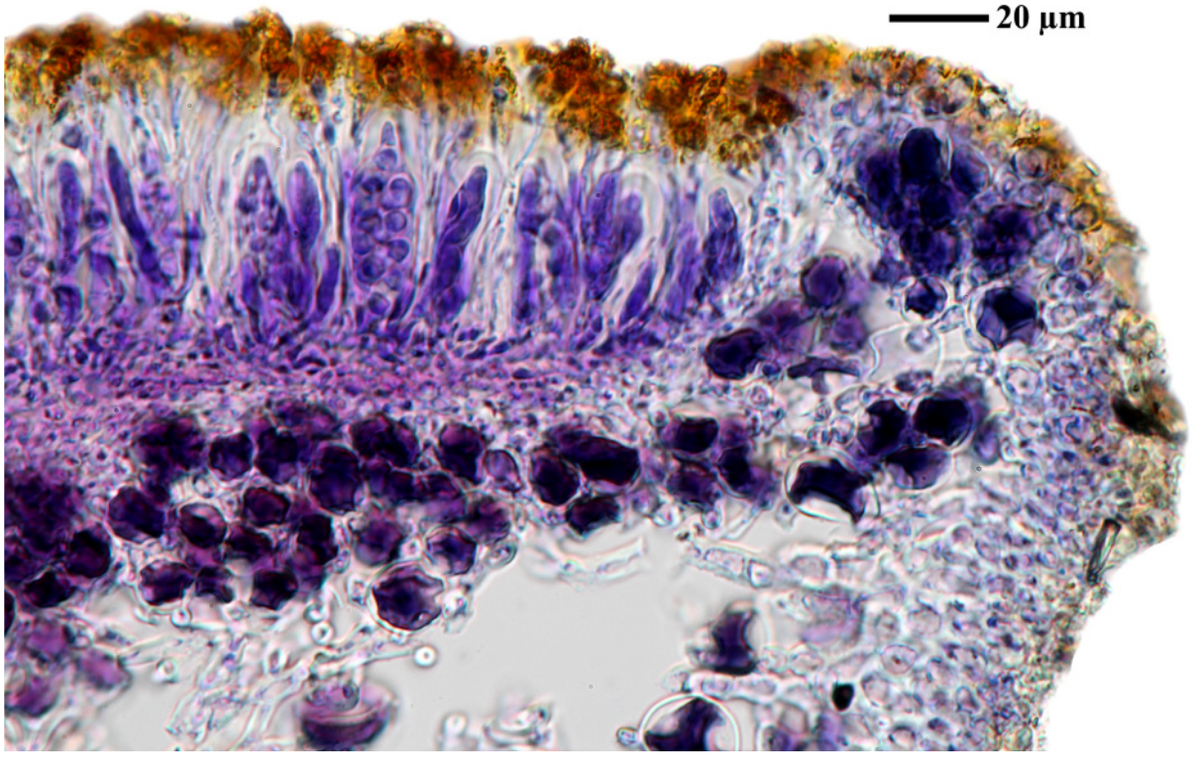


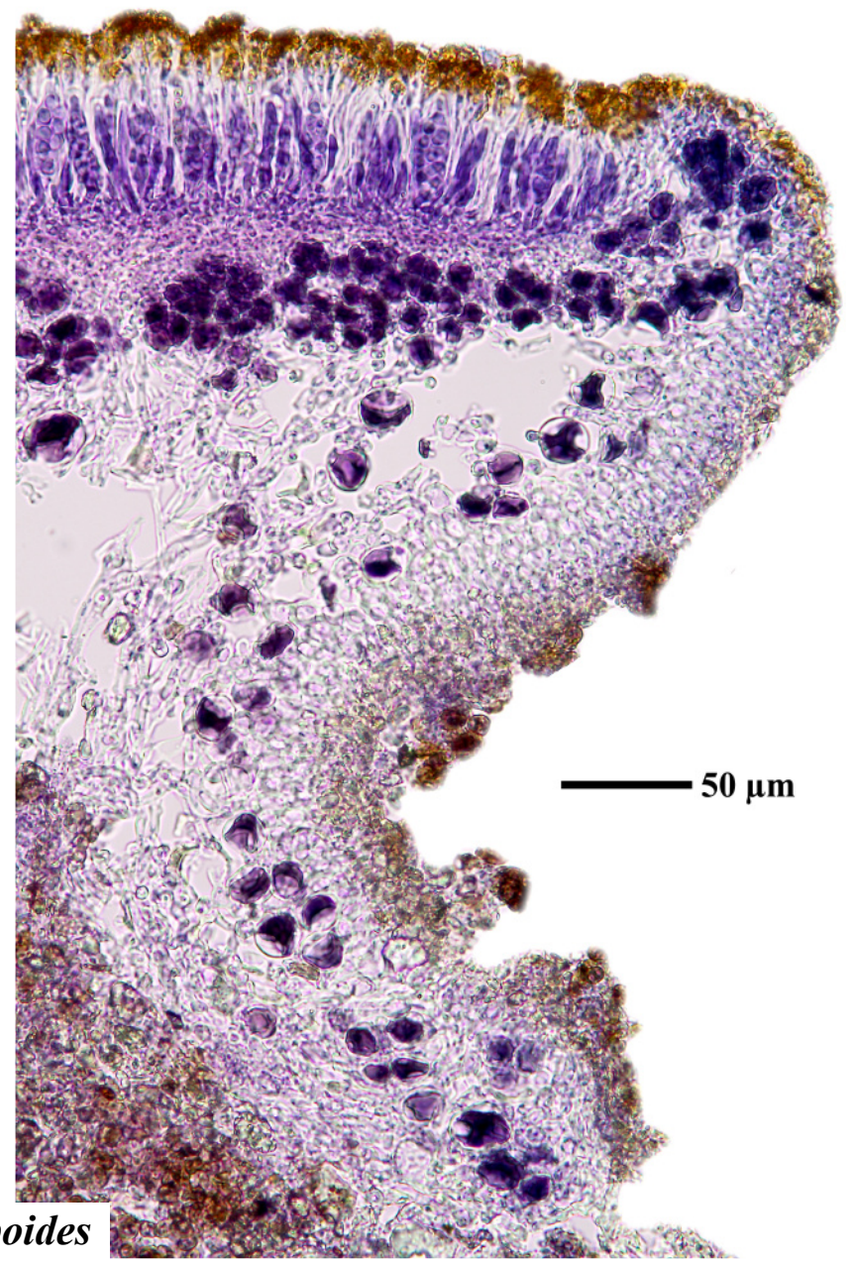
Caloplaca polycarpoides



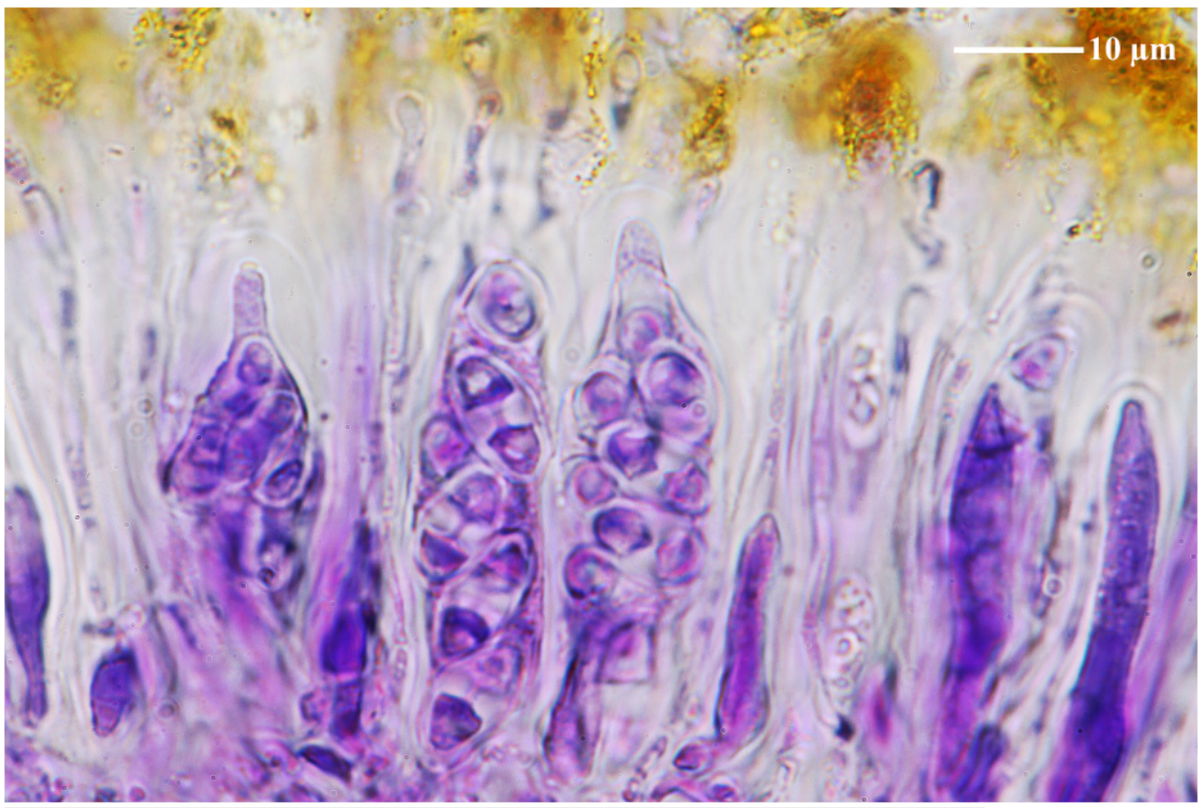


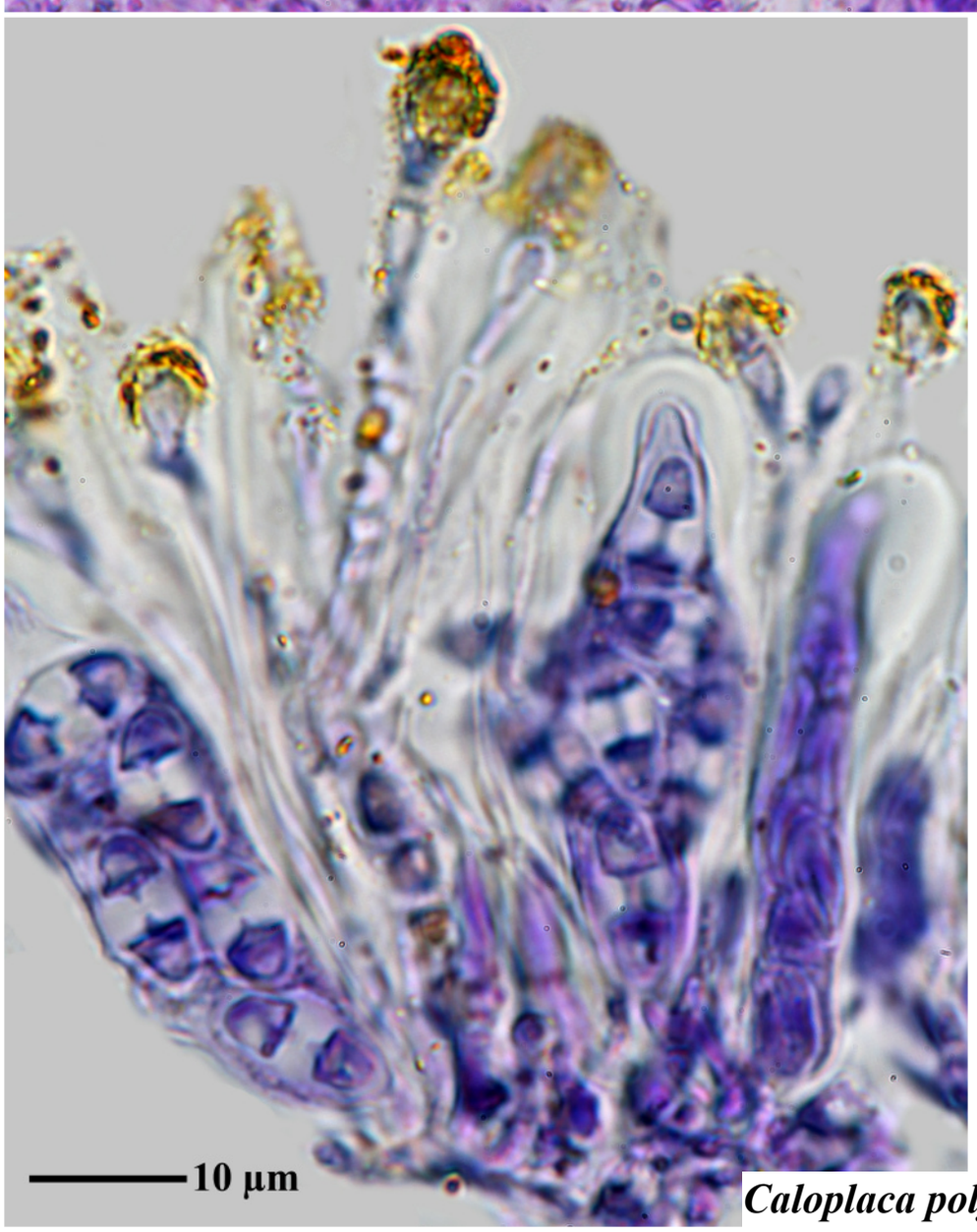
Caloplaca polycarpoides





Caloplaca polycarpoides

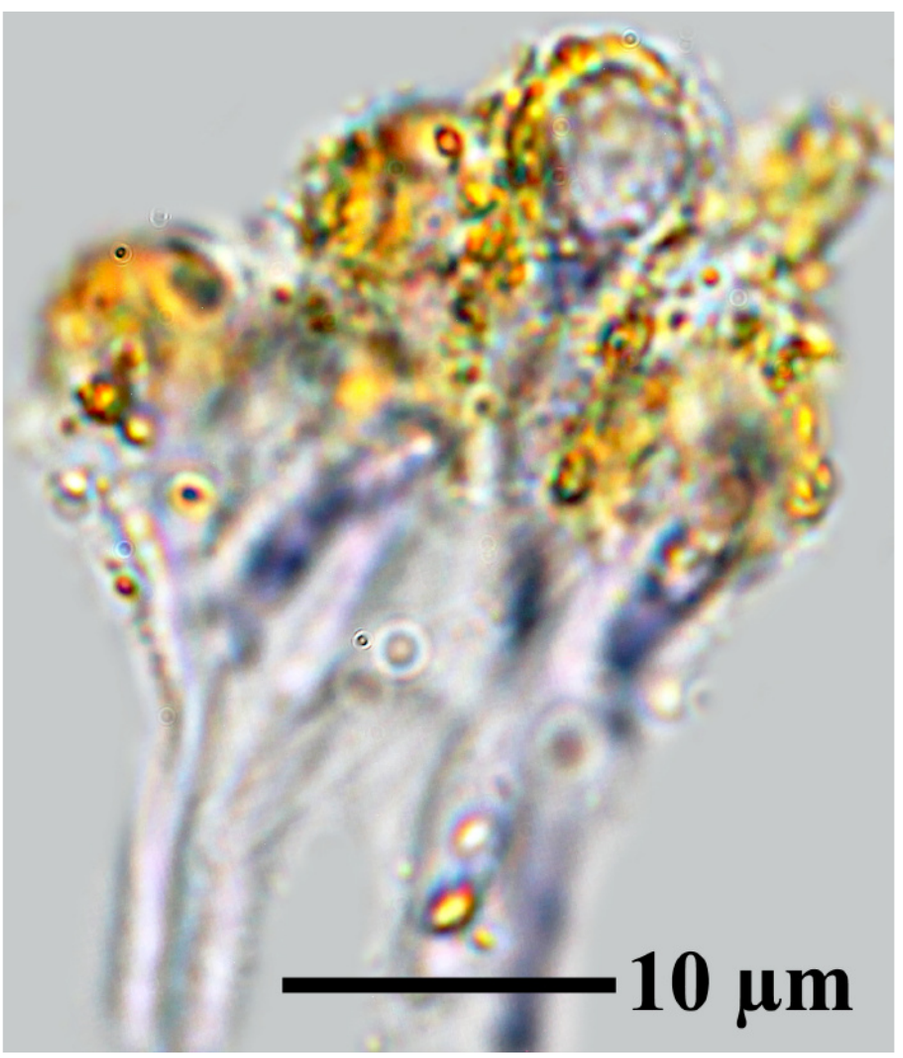




Caloplaca polycarpoides







Caloplaca polycarpoides

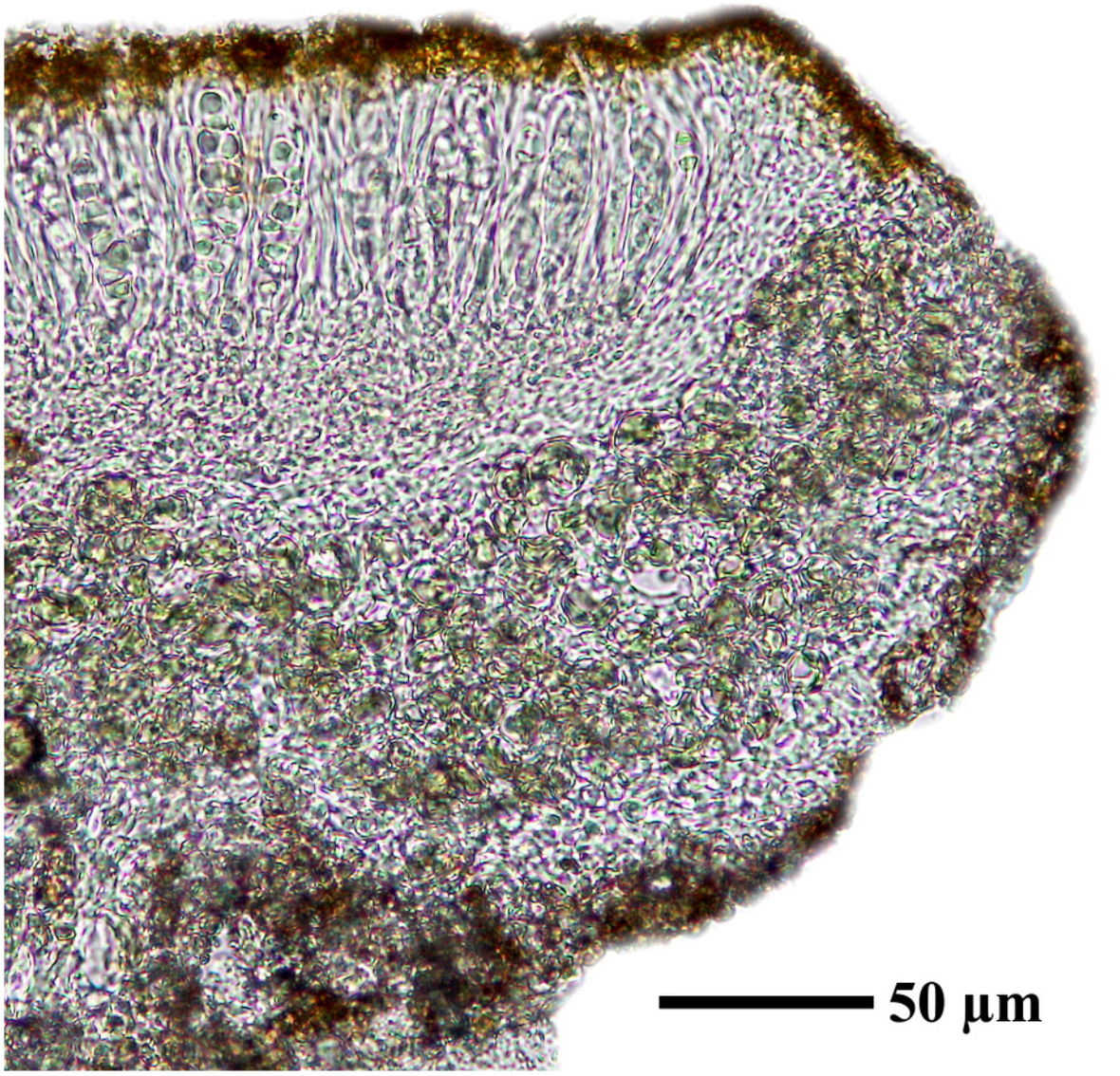
Caloplaca pyracea (Ach.) Zwackh, Flora, Regensburg 45(31): 487 (1862) [= *Athallia pyracea* (Ach.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 36 (2013)]

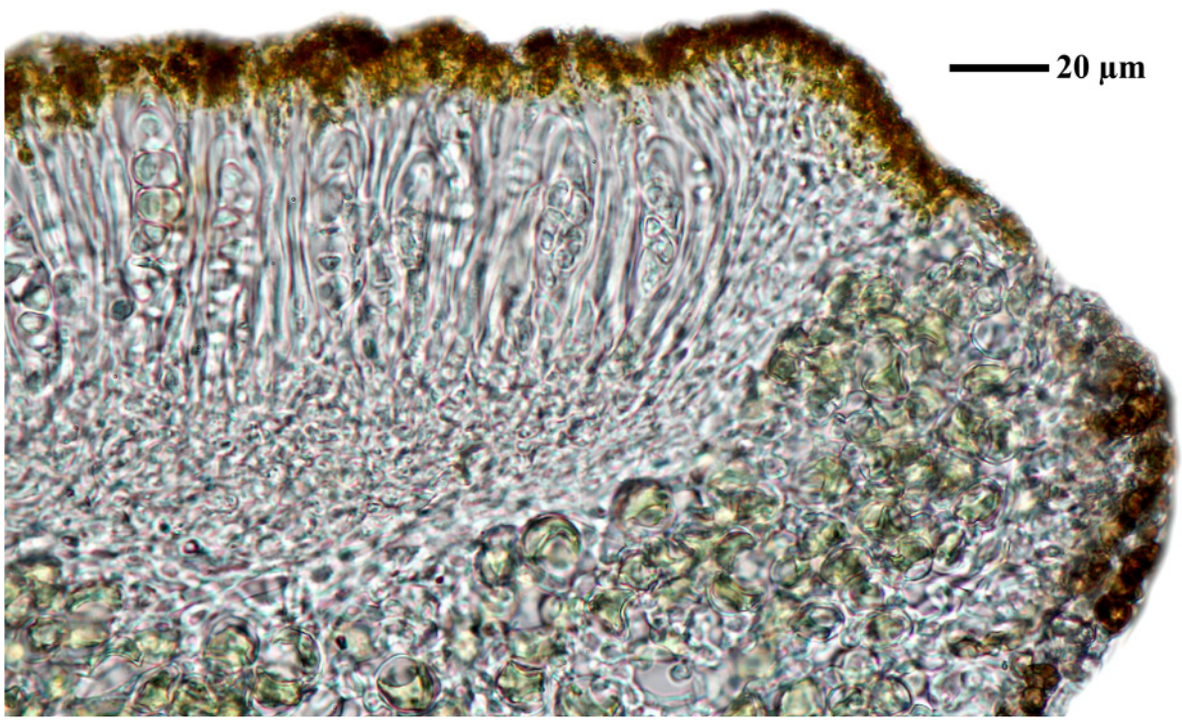
[LIAF_65], Afghanistan, Prov. Paktia, 3 km N Rabat, ca. 10 km S Chamkani, an der Straße nach Zambar, 69°47.5' E, 33°42.5' N, 1880 m. Auf *Cotoneaster* cf. *subuniflora* (Kitamura) Klotz. Leg. M. Steiner (Ste 82), 04.07.1970. LICHENOTHECA AFGHANICA NR. 65.



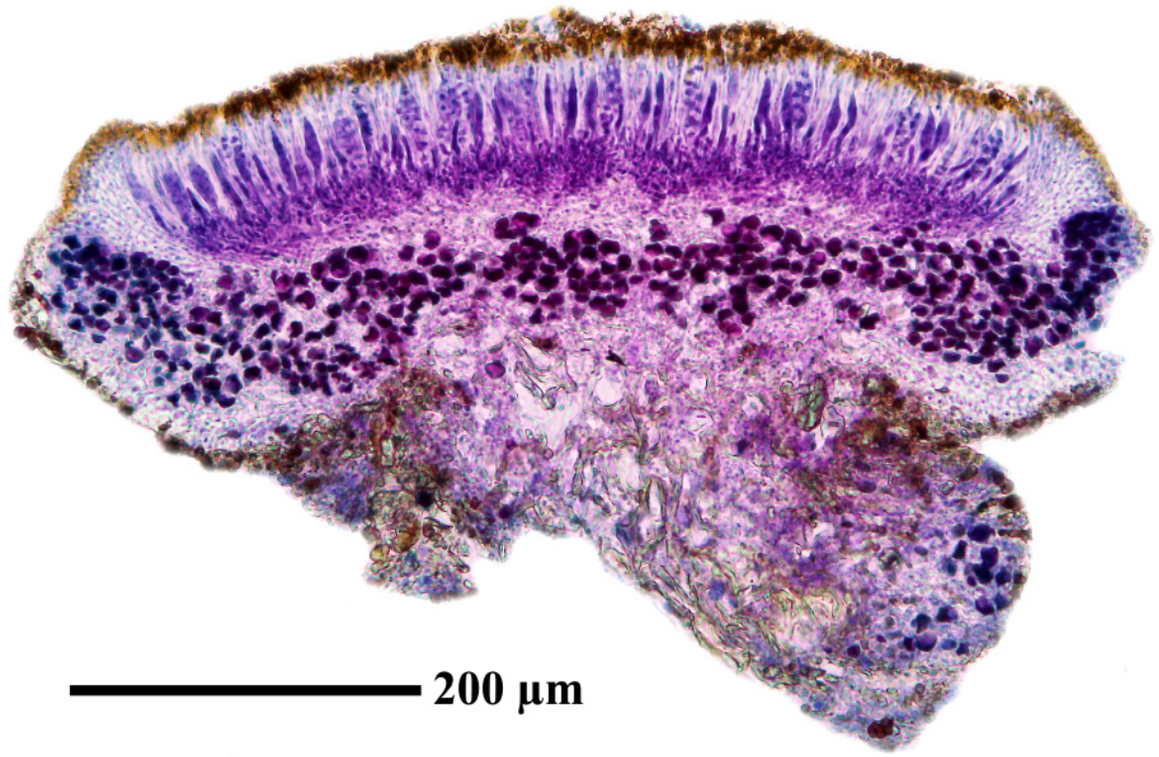


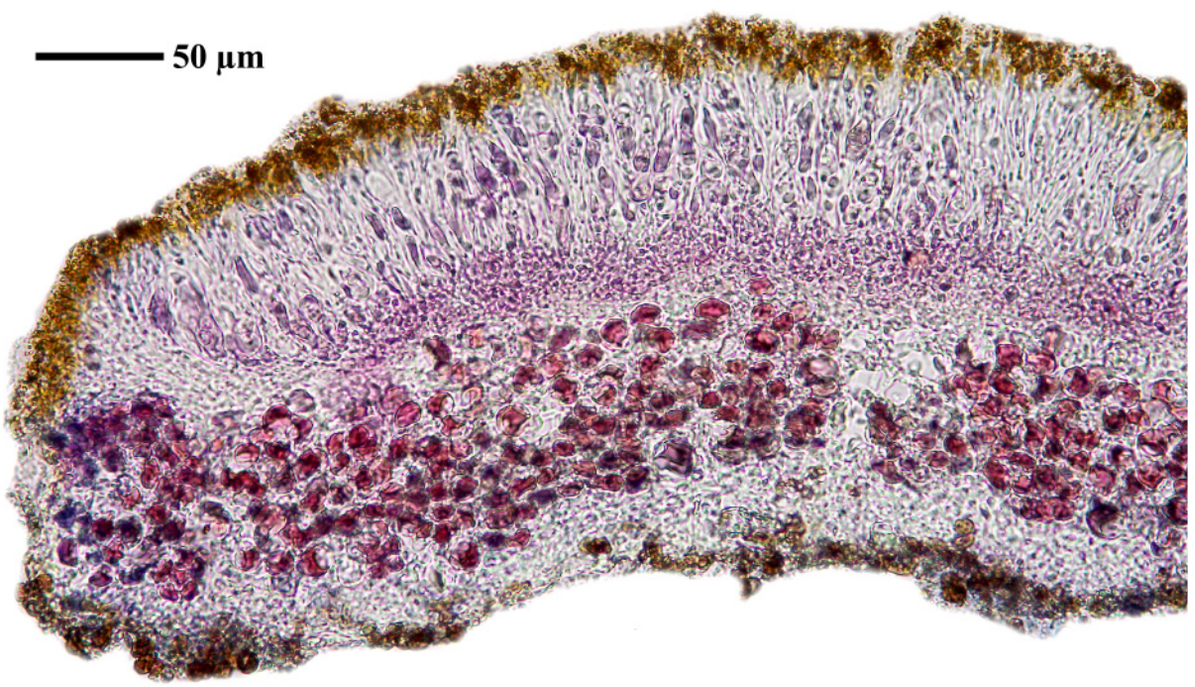
Caloplaca pyracea



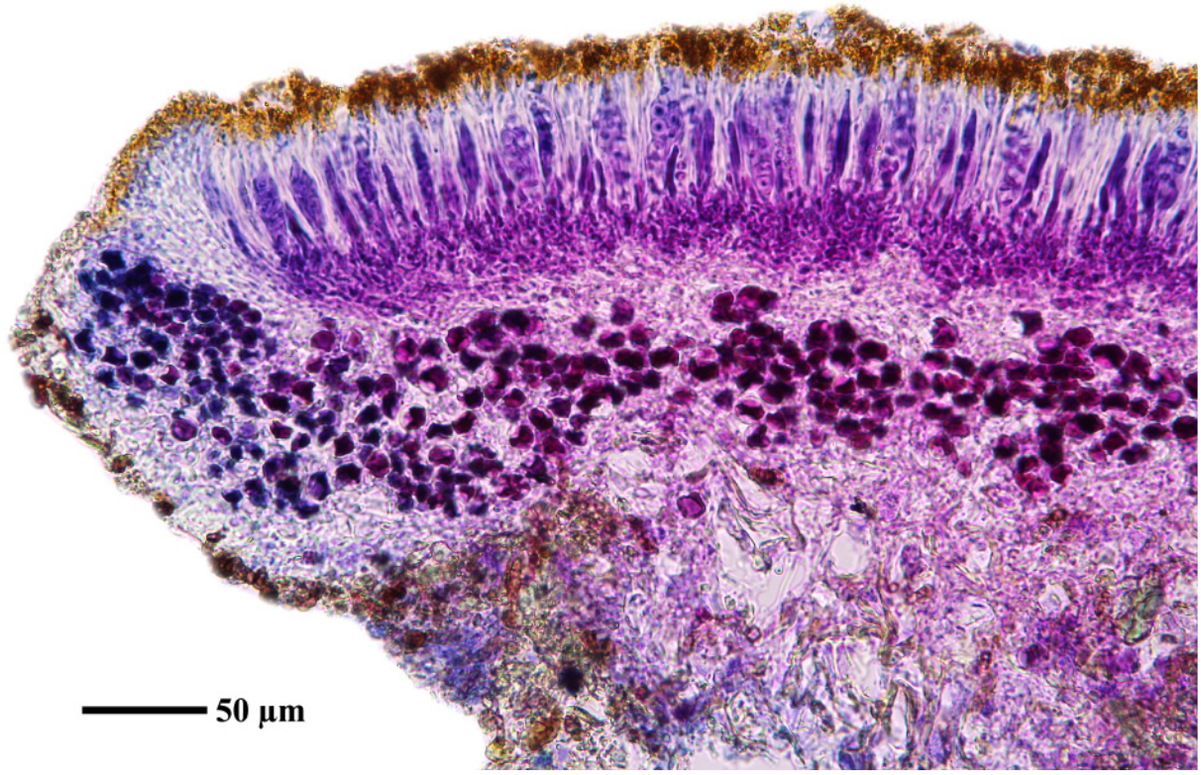


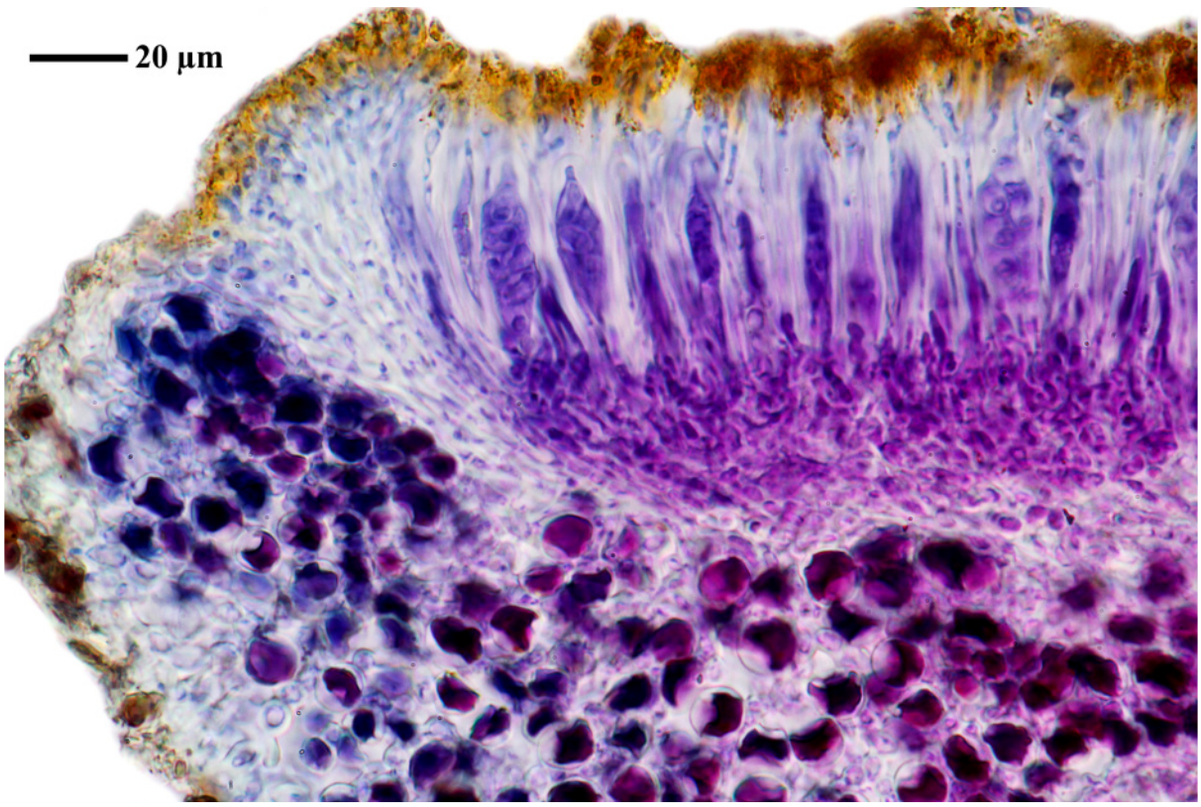
Caloplaca pyracea



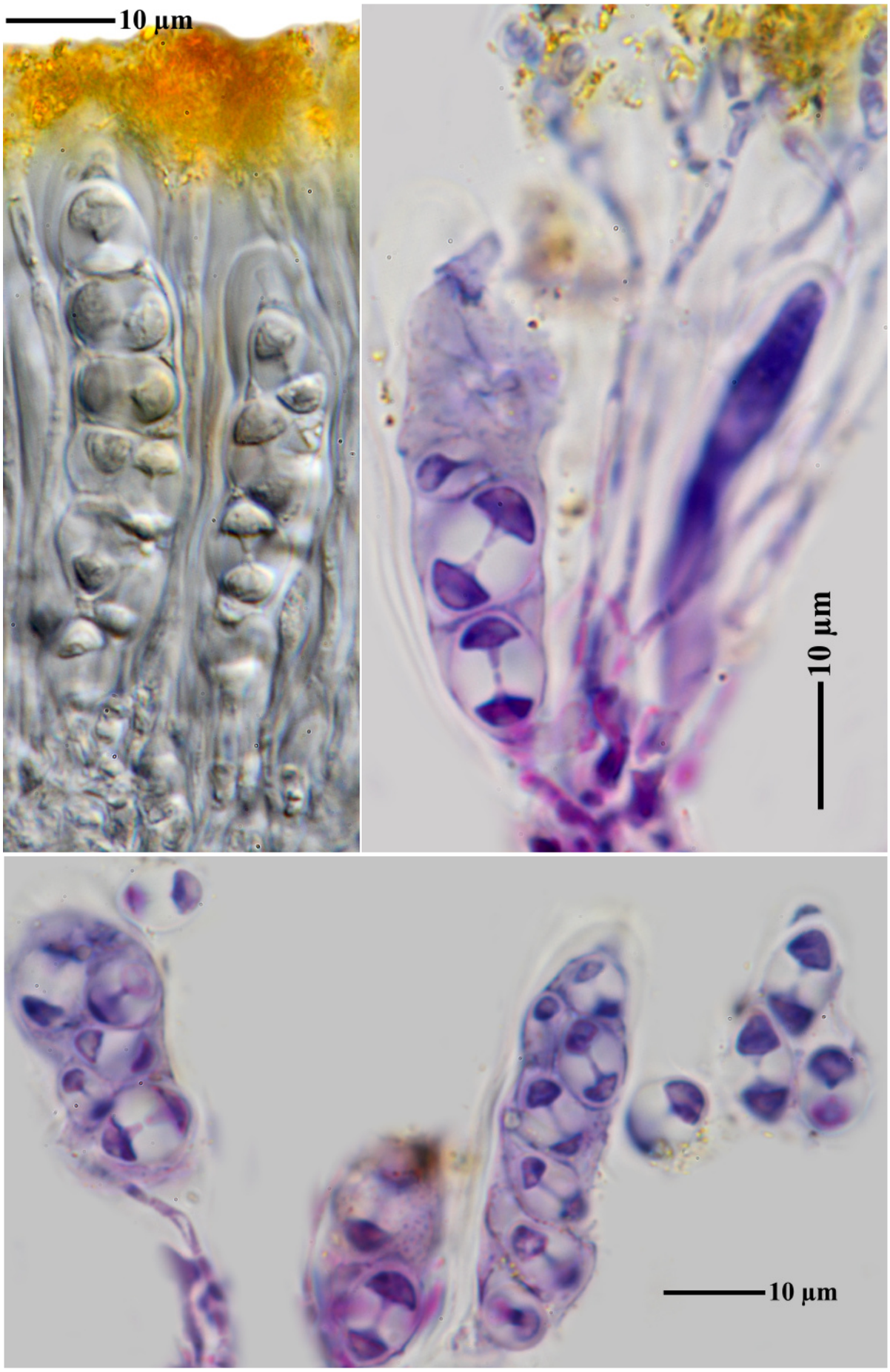


Caloplaca pyracea

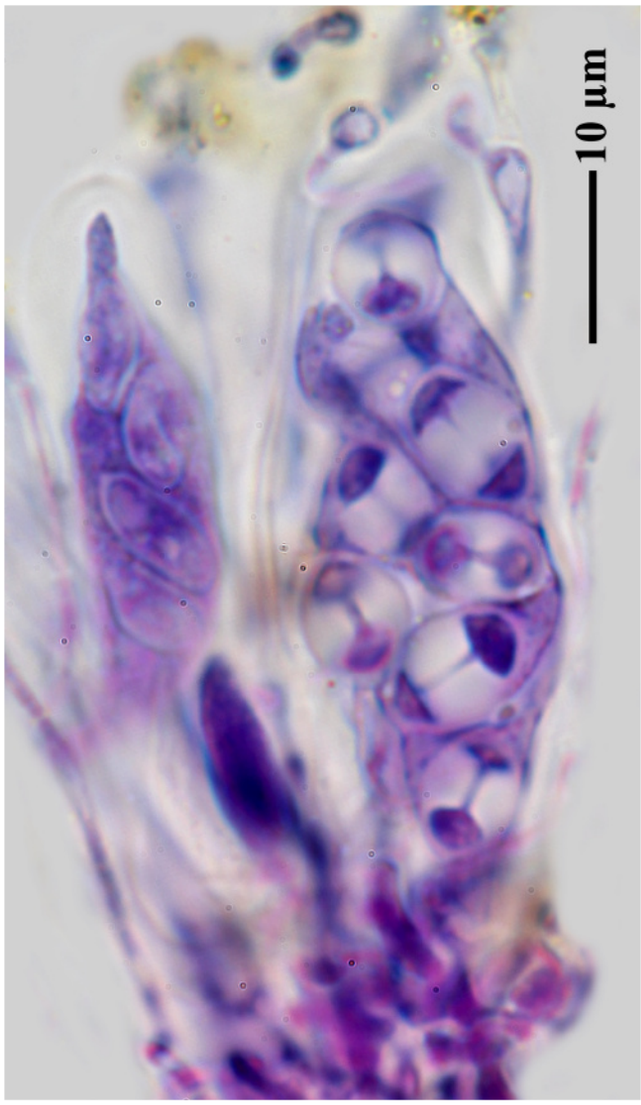


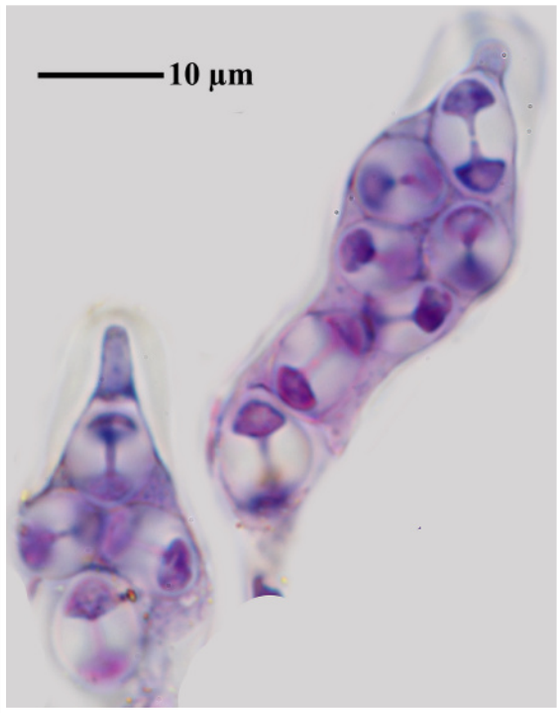


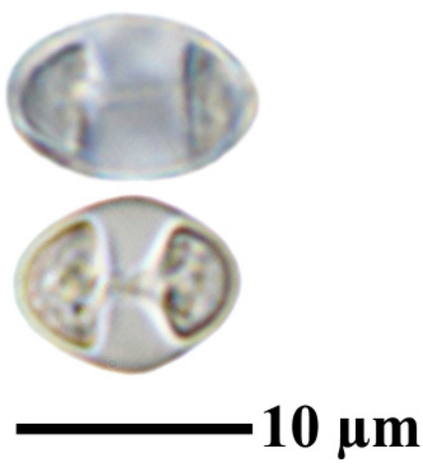
Caloplaca pyracea



Caloplaca pyracea







Caloplaca pyracea

Caloplaca saxicola (Hoffm.) Nordin

[= ***Calogaya saxicola*** (Hoffm.) Vondrák, in Vondrák, Frolov, Davydov, Urbanavichene, Chesnokov, Zhdanov, Muchnik, Konoreva, Himelbrant & Tchabanenko, Lichenologist 48(3): 178 (2016)]

[LIAF_12], Afghanistan, Prov. Samangan, etwa 15 km W des Passes Kotal-i-Mirza Atbili (Kotal-i-Rabotak), ca. 10 km E Ayvak, 68°08’ E, 36°13’ N, ca. 1170 m. Zenitflächen von Felsrücken eines flachbankigen Kalkes. Leg. M. Steiner, (Ste 44/2), 03.-06.06.1970. LICHENOTHECA AFGHANICA NR. 12 (ausgegeben als C. biatorina (A.Massal.) J.Steiner);det. A.Aptroot & P.L.Nimis





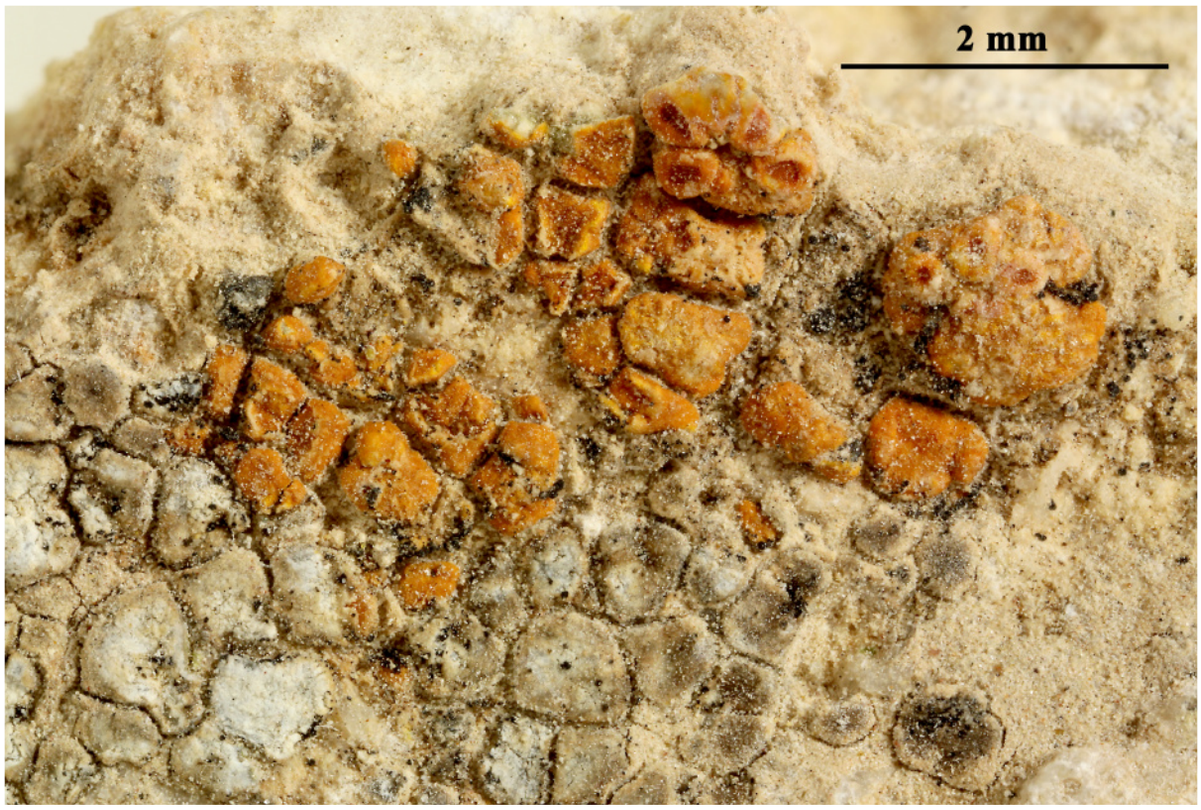


Caloplaca saxicola

Caloplaca sororicida M. Steiner & Poelt, in Poelt & Hinteregger, Biblthca Lichenol. 50: 201 (1993)
Auf *Caloplaca transcaspica* (Nyl.) Zahlbr.

[LIAF_62], Afghanistan, Prov. Samangan, 15 km W des Passes Kotal-i-Mirza Atbili (Kotal-i-Rabotak), 68°08’ E, 36°13’ N, 1170 m. An S-exponierten Steilflächen eines Felsrückens aus flachbankigem Kalk. Leg. M. Steiner (Ste 44/1a), 5-6.06.1970. LICHENOTHECA AFGHANICA NR. 62.







Caloplaca sororicida





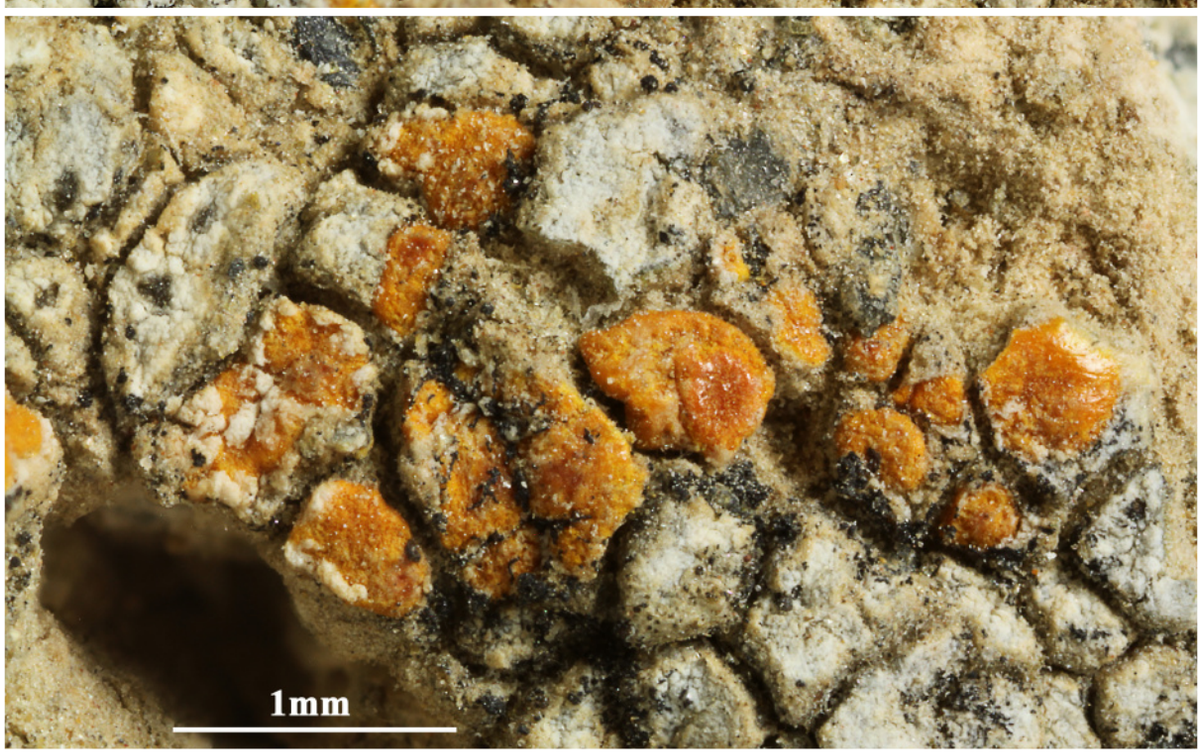
Caloplaca sororicida

Caloplaca sororicida M. Steiner & Poelt, ISOTYPUS, in Poelt & Hinteregger, Biblthca Lichenol. 50: 201 (1993)
Auf *Caloplaca transcaspica* (Nyl.) Zahlbr.

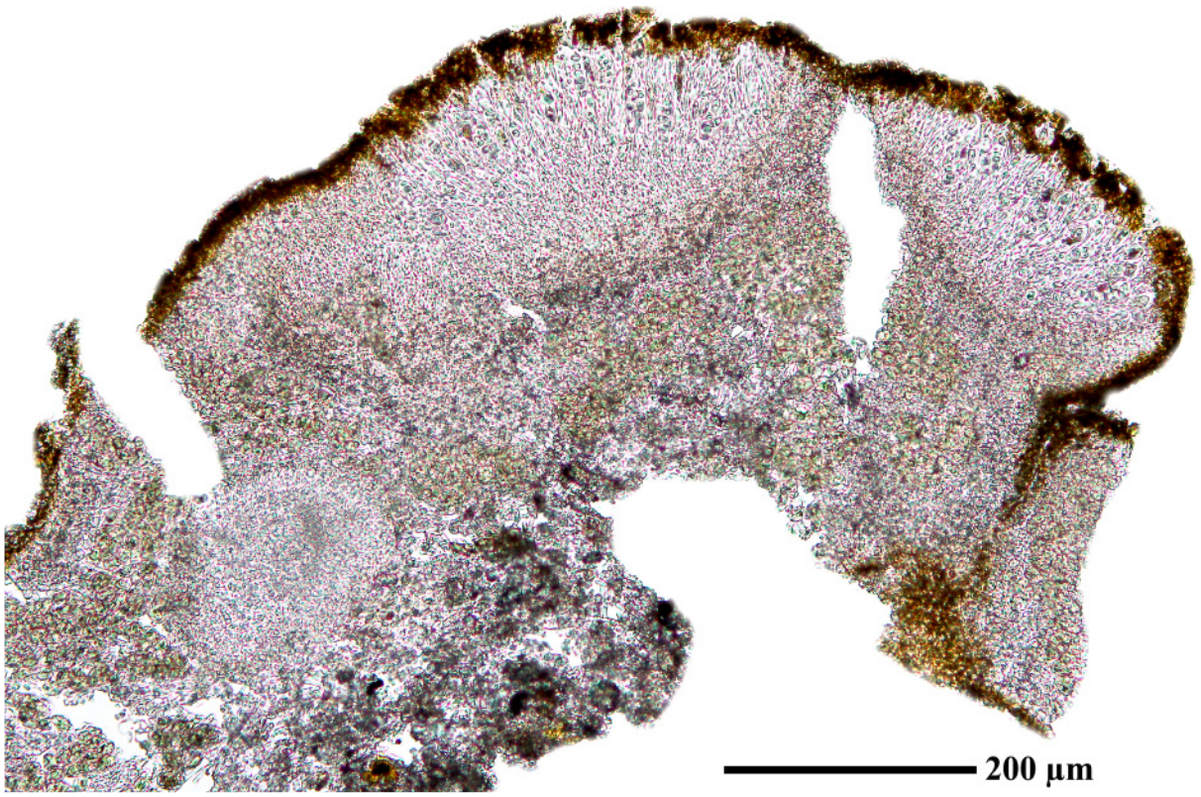
[LIAF_63], Afghanistan, Prov. Kabul, Hügel ca. 3 km E des neuen Flughafens von Kabul, 69°17’ E, 34°35’ N, 1850 m. Felsköpfe von Kalkschiefer in einem S-exponierten Steppenhang. Leg. M. Steiner (Ste 3/1), 30.04.1970. LICHENOTHECA AFGHANICA NR. 63.

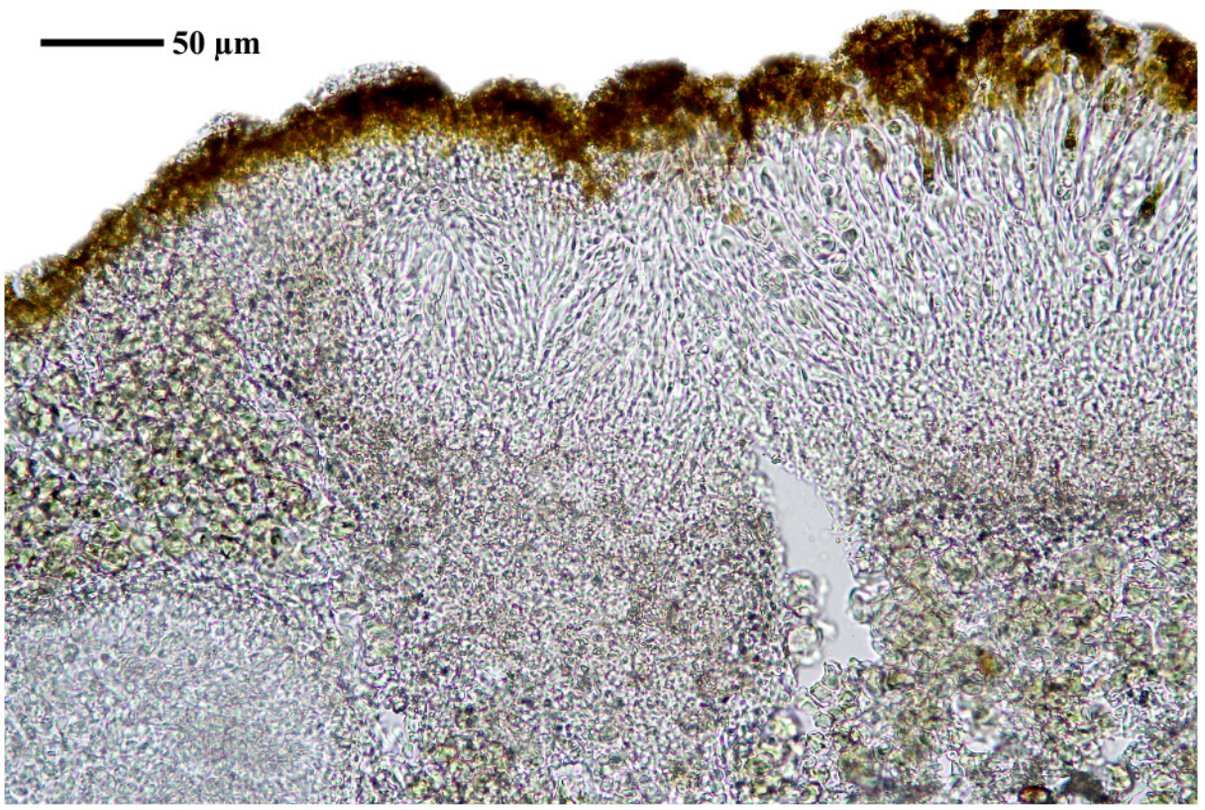




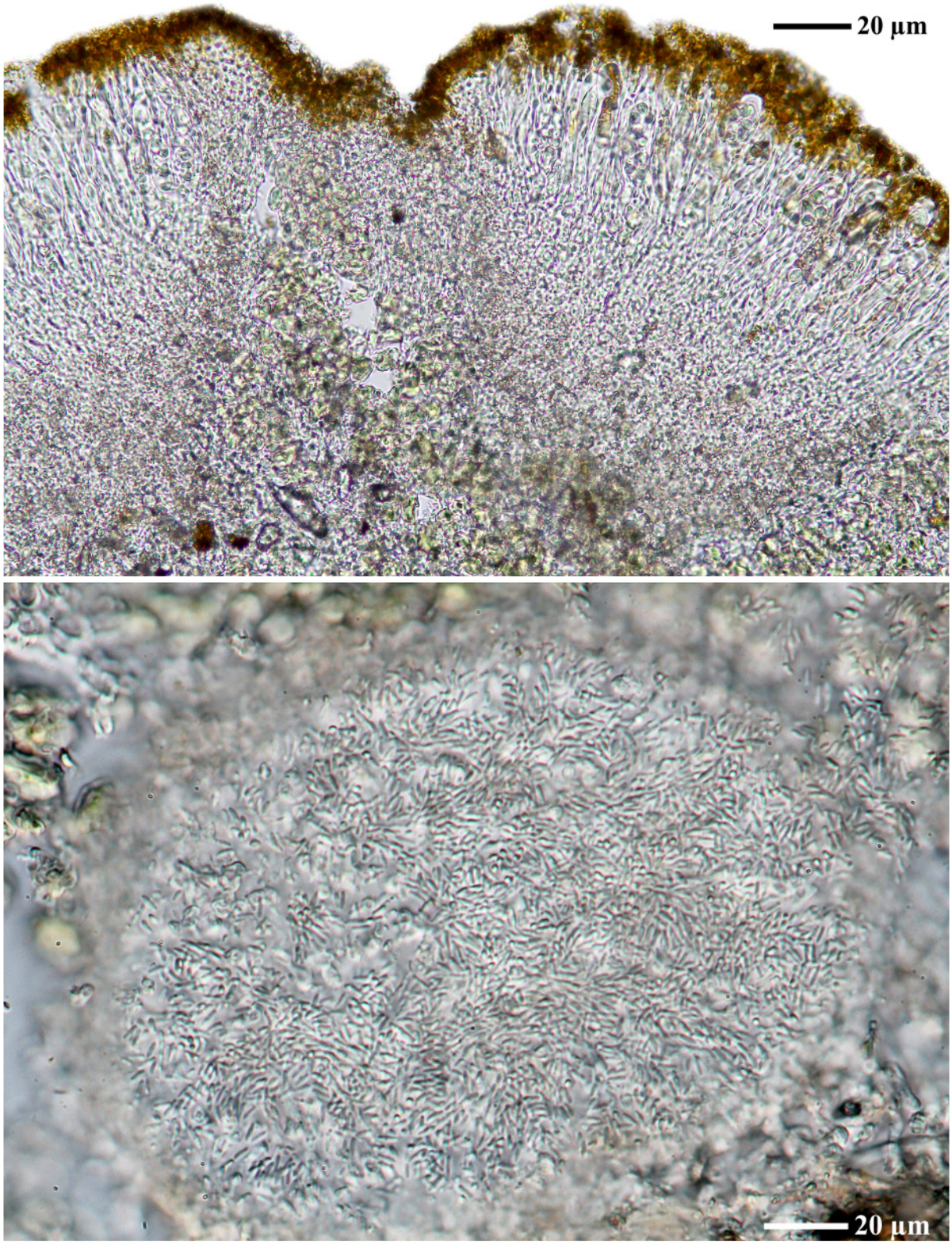


Caloplaca sororicida

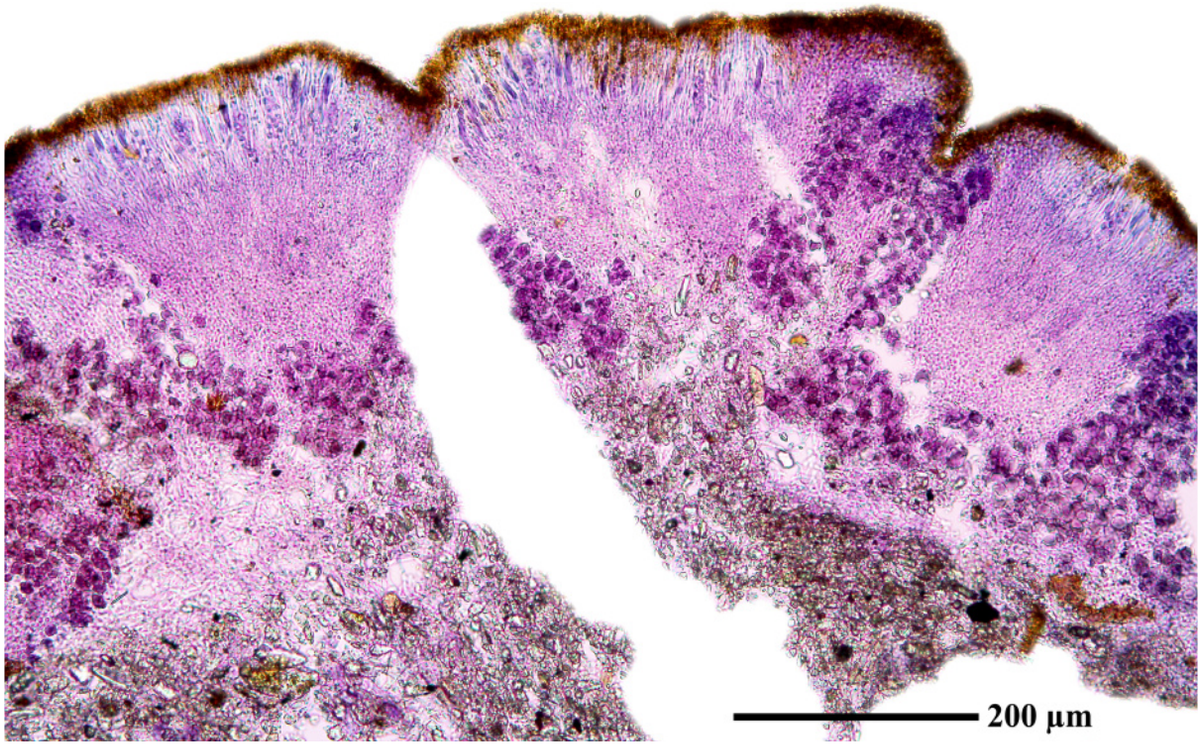


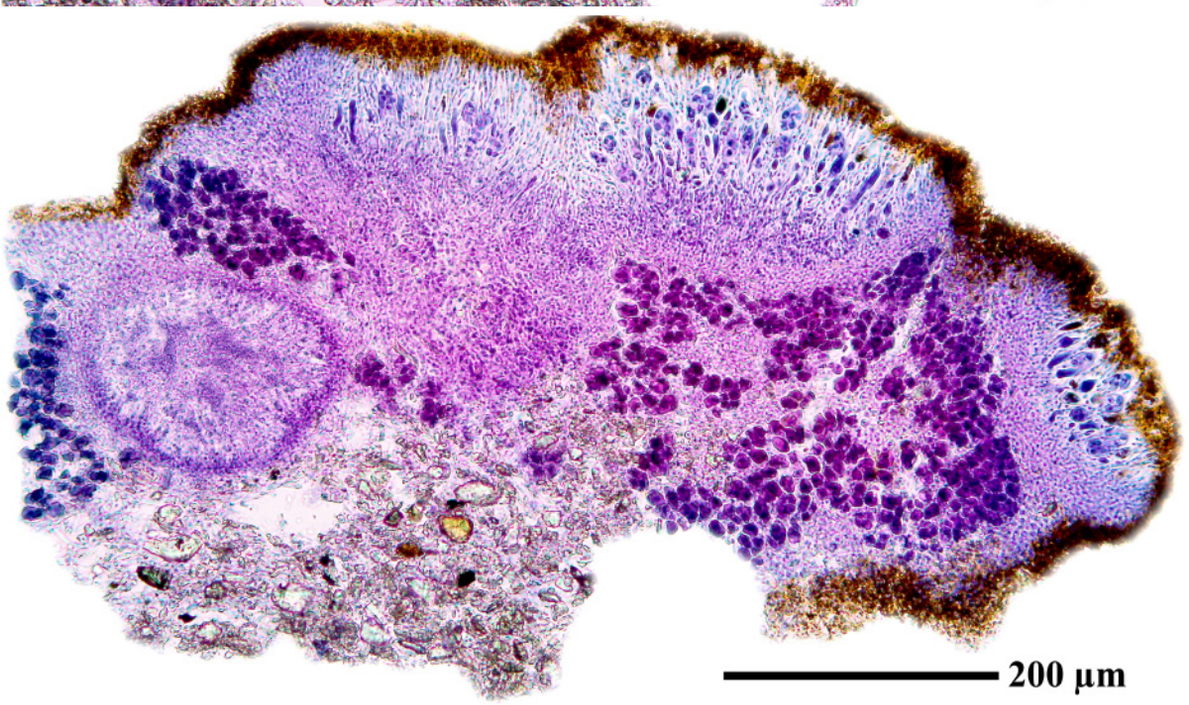


Caloplaca sororicida

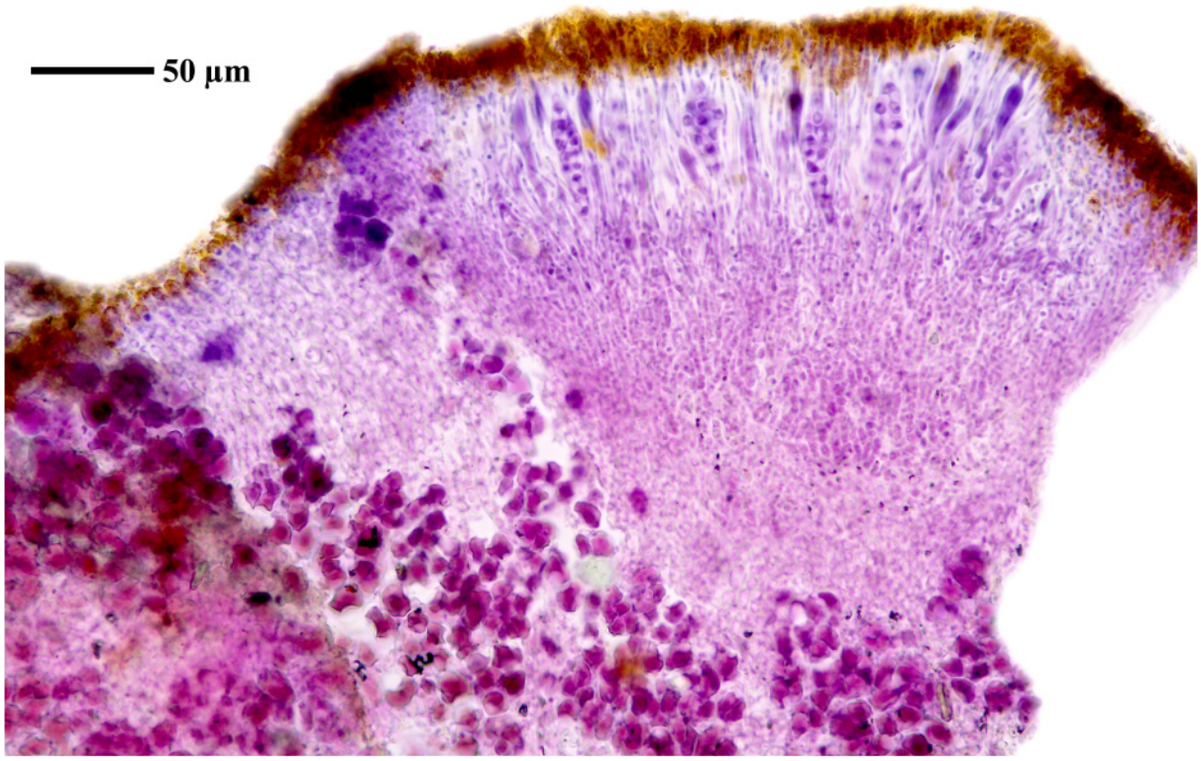


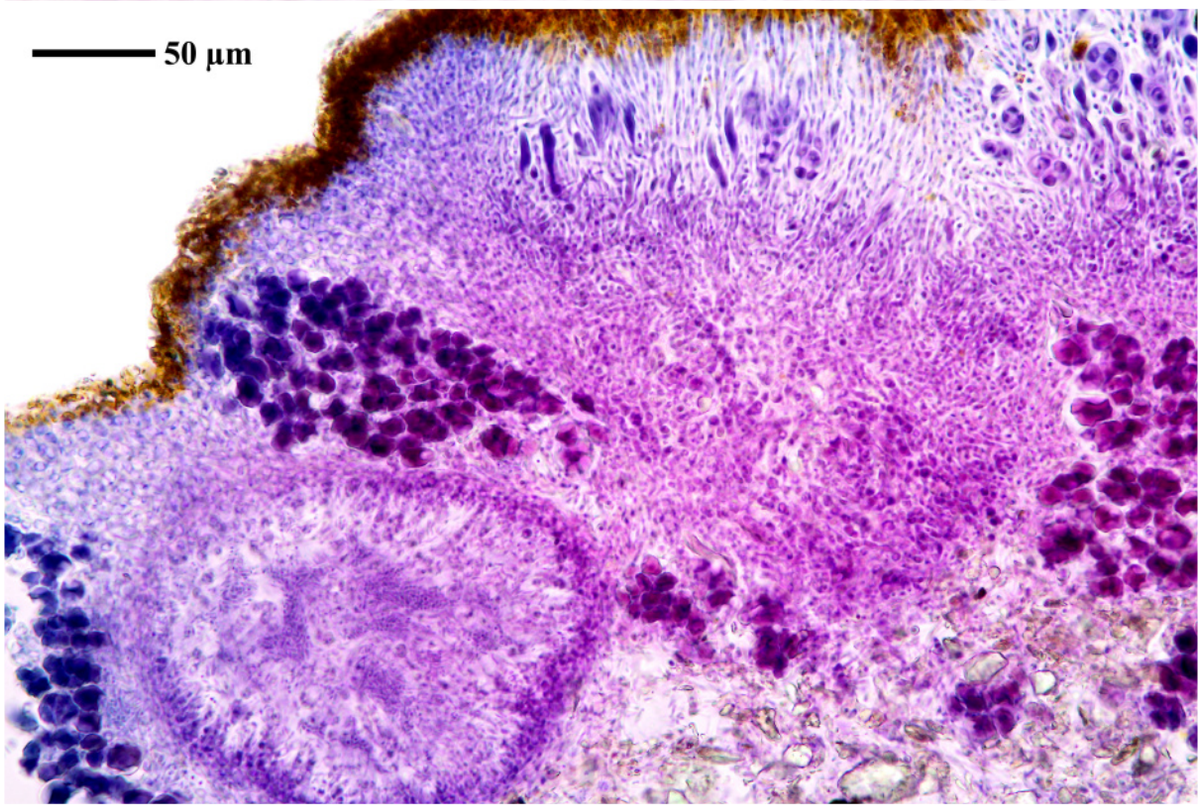
Caloplaca sororicida





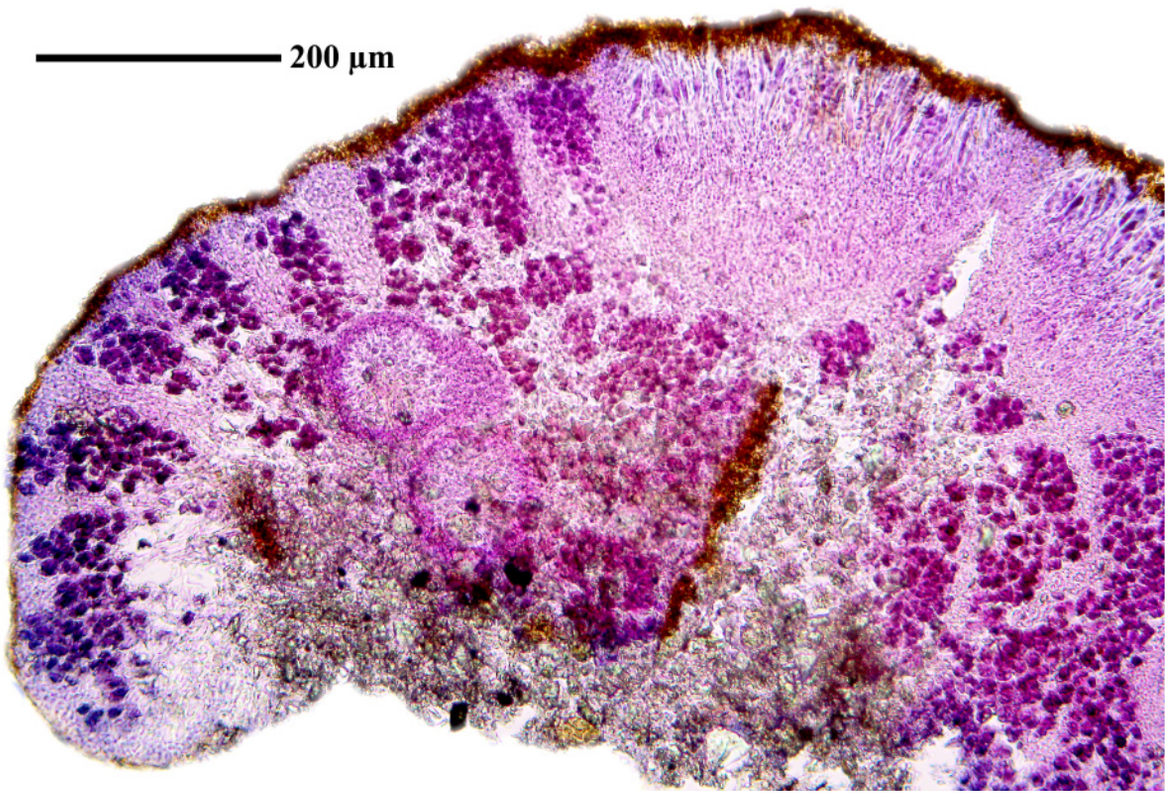
Caloplaca sororicida



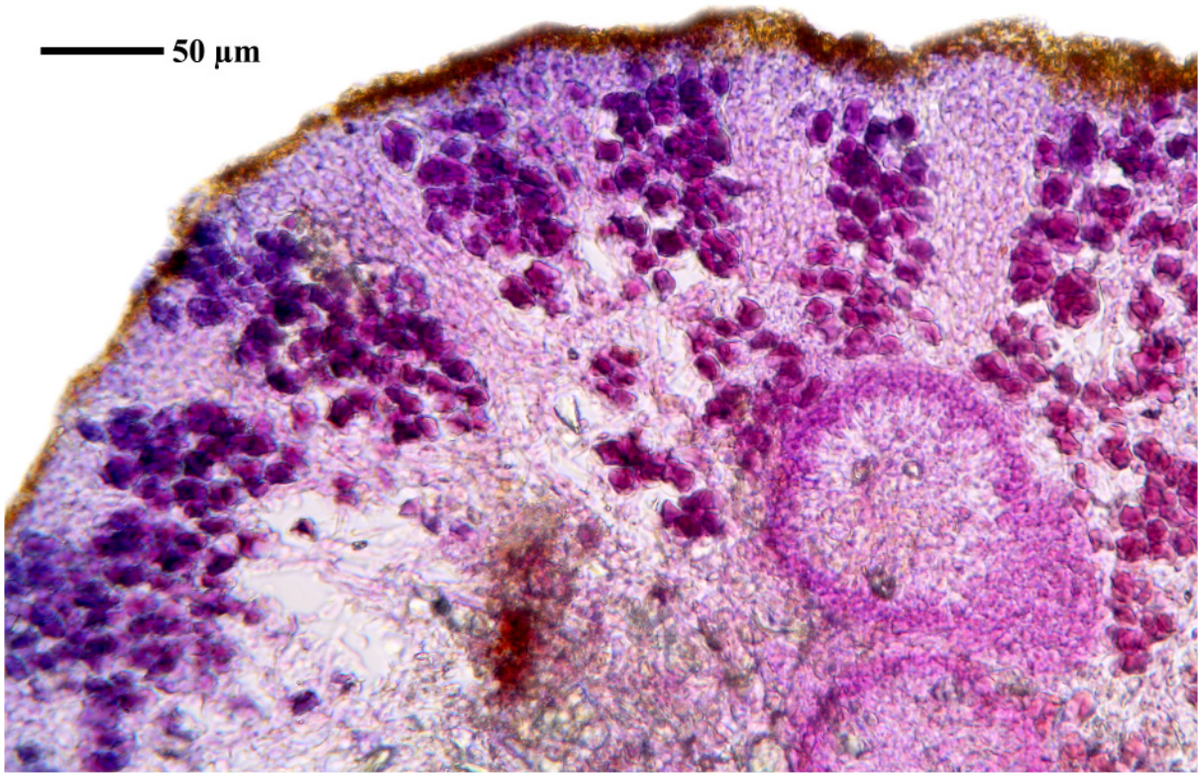


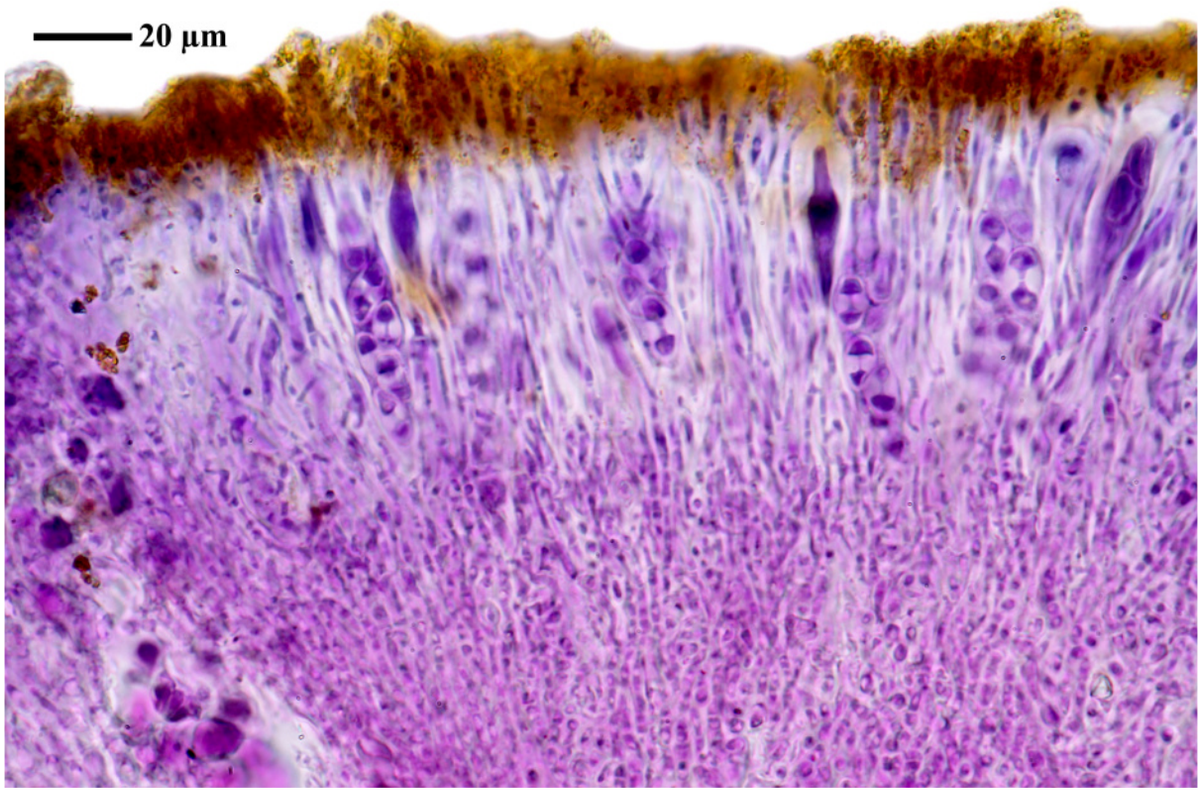
Caloplaca sororicida



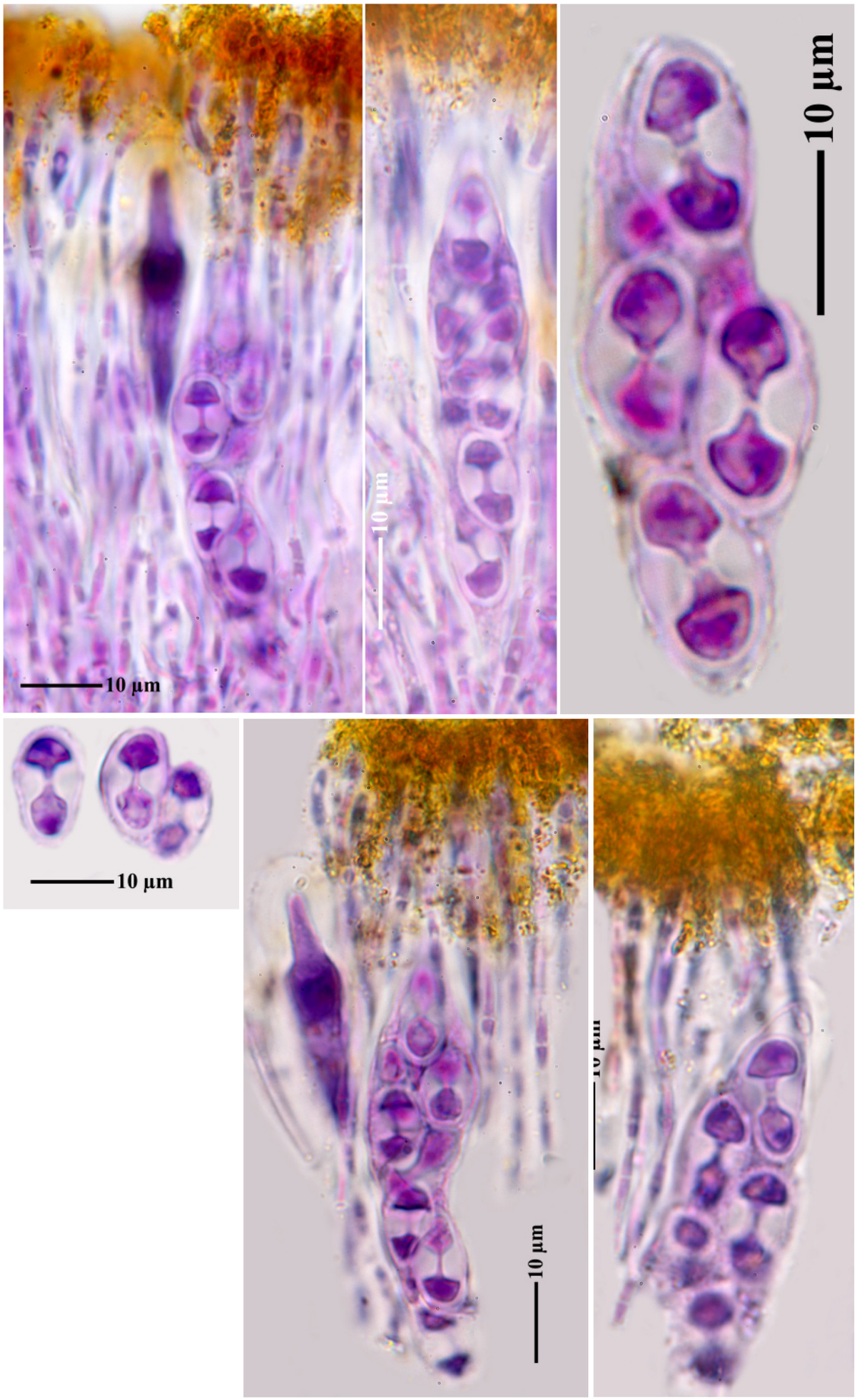


Caloplaca sororicida

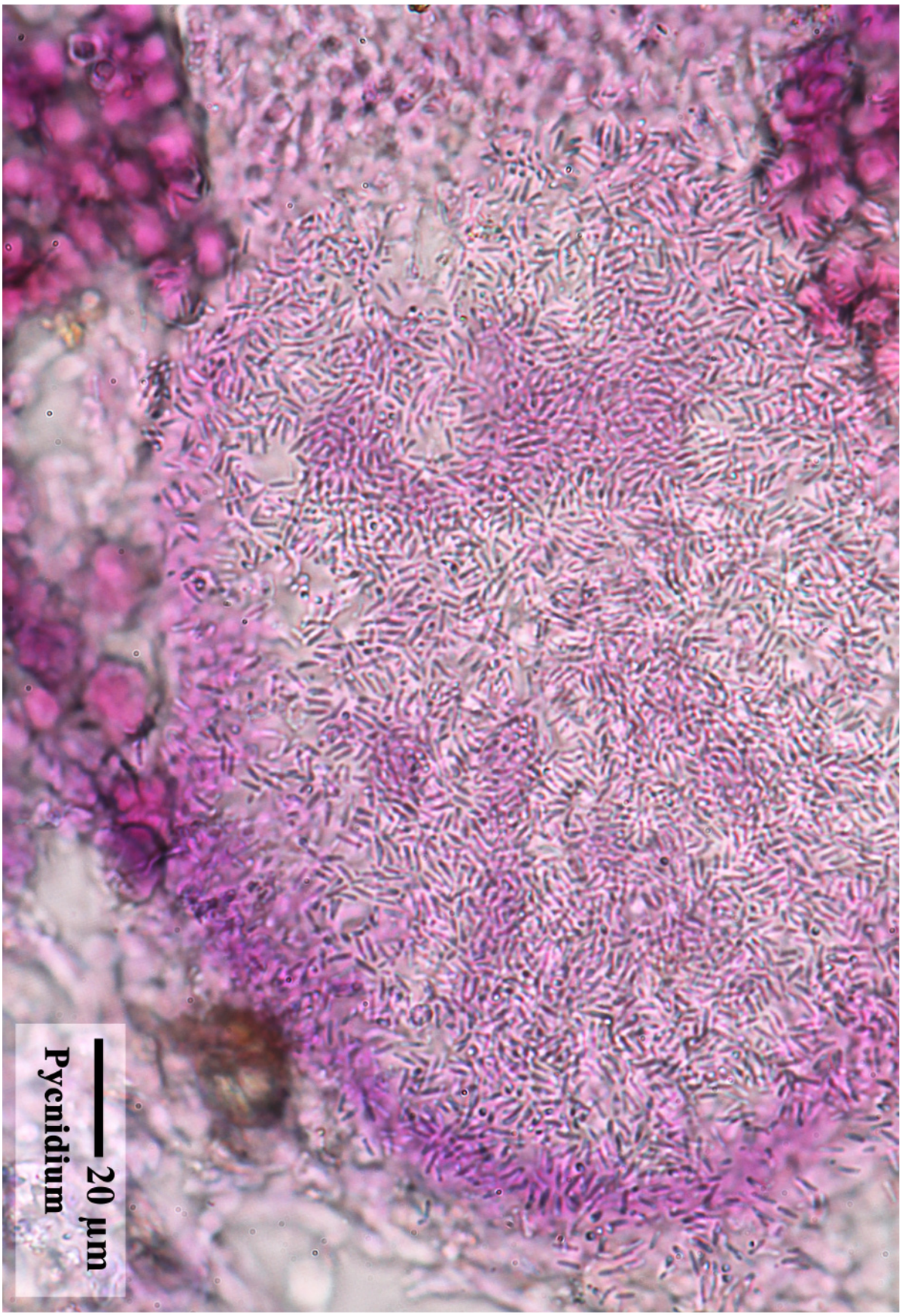




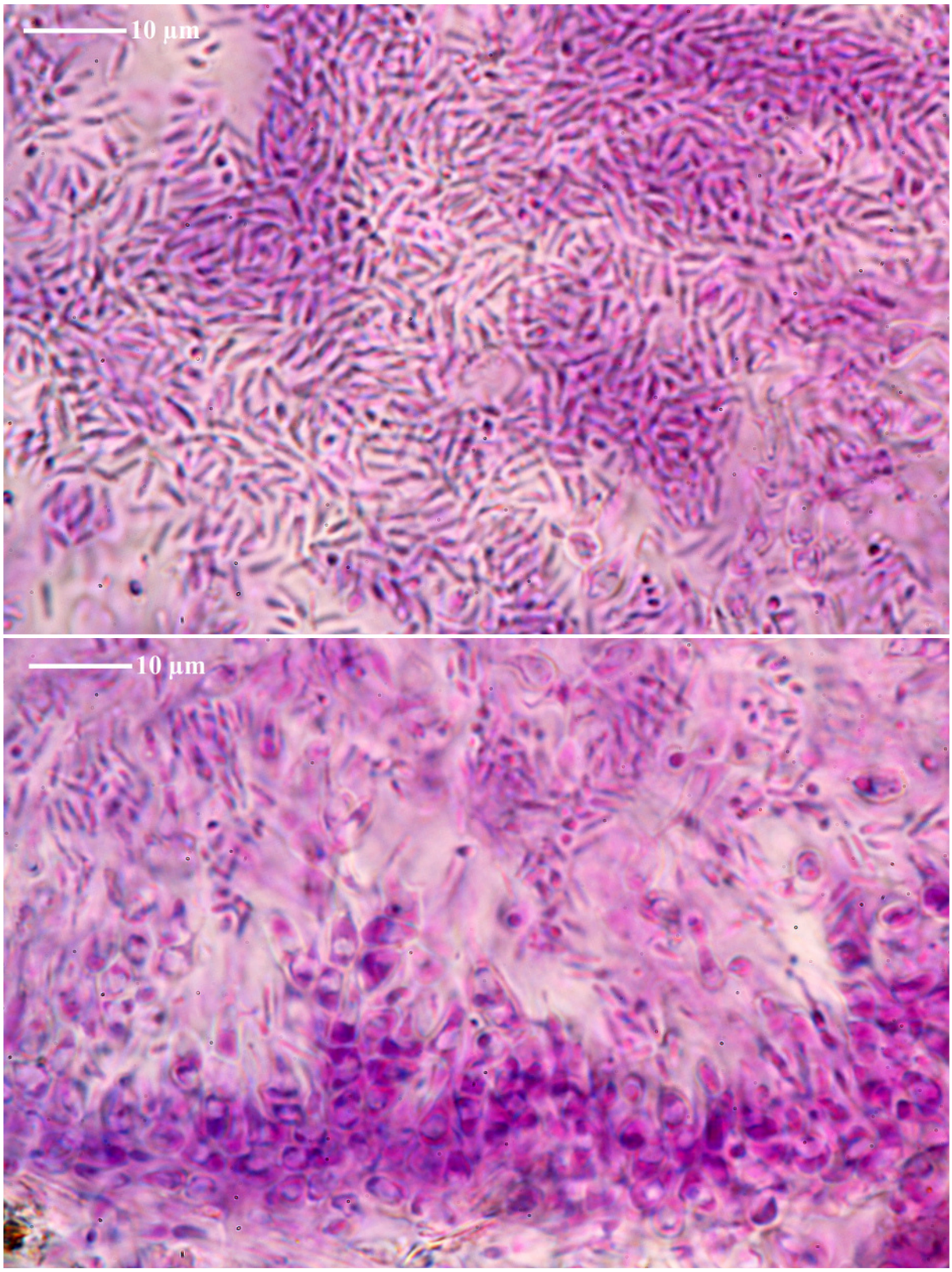
Caloplaca sororicida



Caloplaca sororicida



Caloplaca sororicida



Caloplaca sororicida

Caloplaca trachyphylla (Tuck.) Zahlbr., Cat. Lich. Univers. 7: 189 (1931)
[= *Caloplaca elegans* var. *trachyphylla* (Tuck.) Fink, Lich. Fl. U.S.: 362 (1935)]
[= *Caloplaca hedinii* H.Magn., Lichens Central Asia 1: 141 (1940)]
[= *Golubkovia trachyphylla* (Tuck.) S.Y.Kondr., Kärnefelt, Elix, A.Thell, Jung Kim, M.H.Jeong, N.N.Yu, A.S.Kondr. & Hur, in Kondratyuk, Kärnefelt, Thell, Elix, Kim, Jeong, Yu & Hur, Acta bot. hung. 56(1-2): 164 (2014)]

[LIAF_03], Afghanistan, Prov. Logar, Kotal-i-Terg, Felsköpfe ca. 20 m W der Paßhöhe, 69°08' E, 33°45' N, 2870 m. Vorwiegend auf Zenitflächen schwach serpentinisierter Peridotit-Felsen. Leg. M. Steiner (Ste 66/1), 02.07.1970. LICHENOTHECA AFGHANICA NR.03.



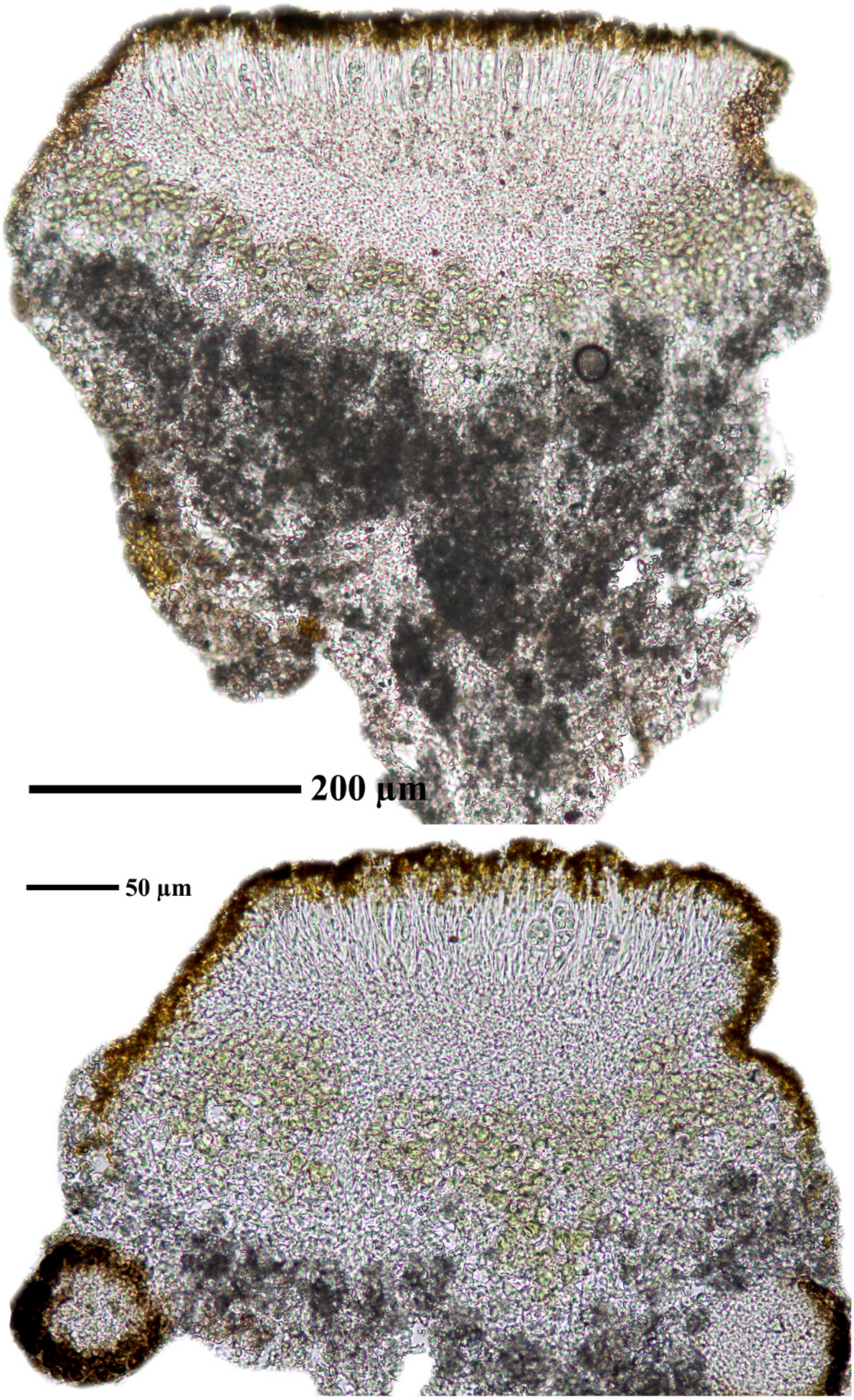




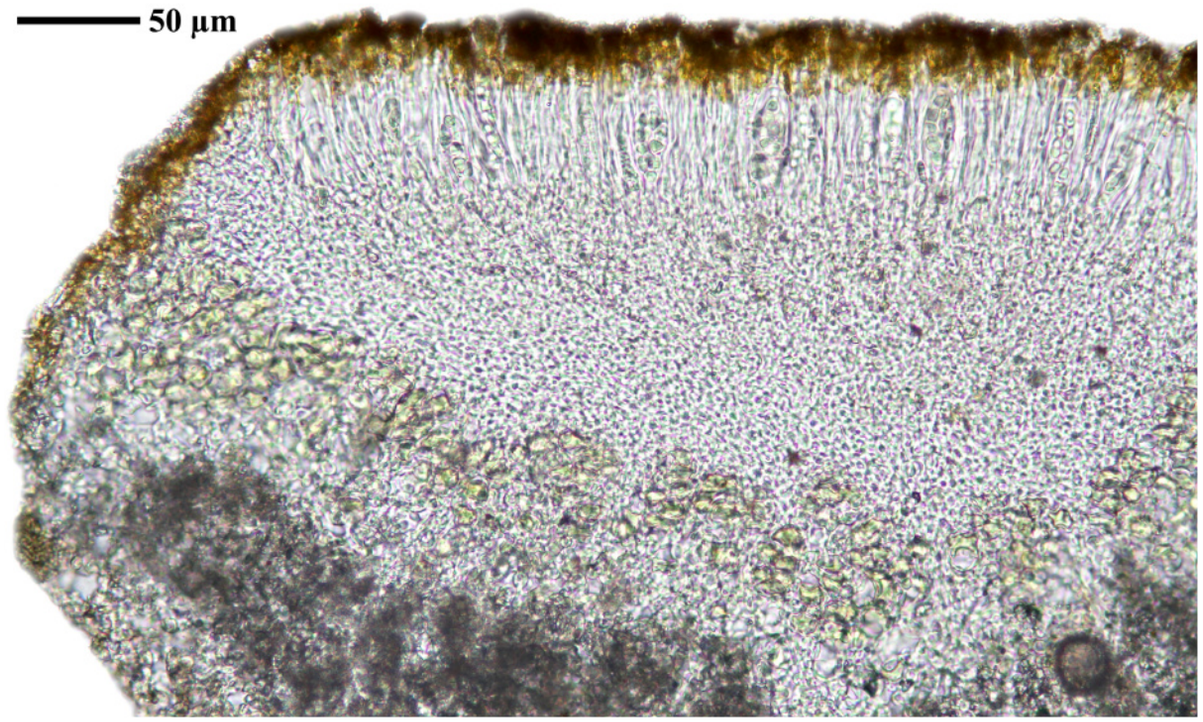
Caloplaca trachyphylla

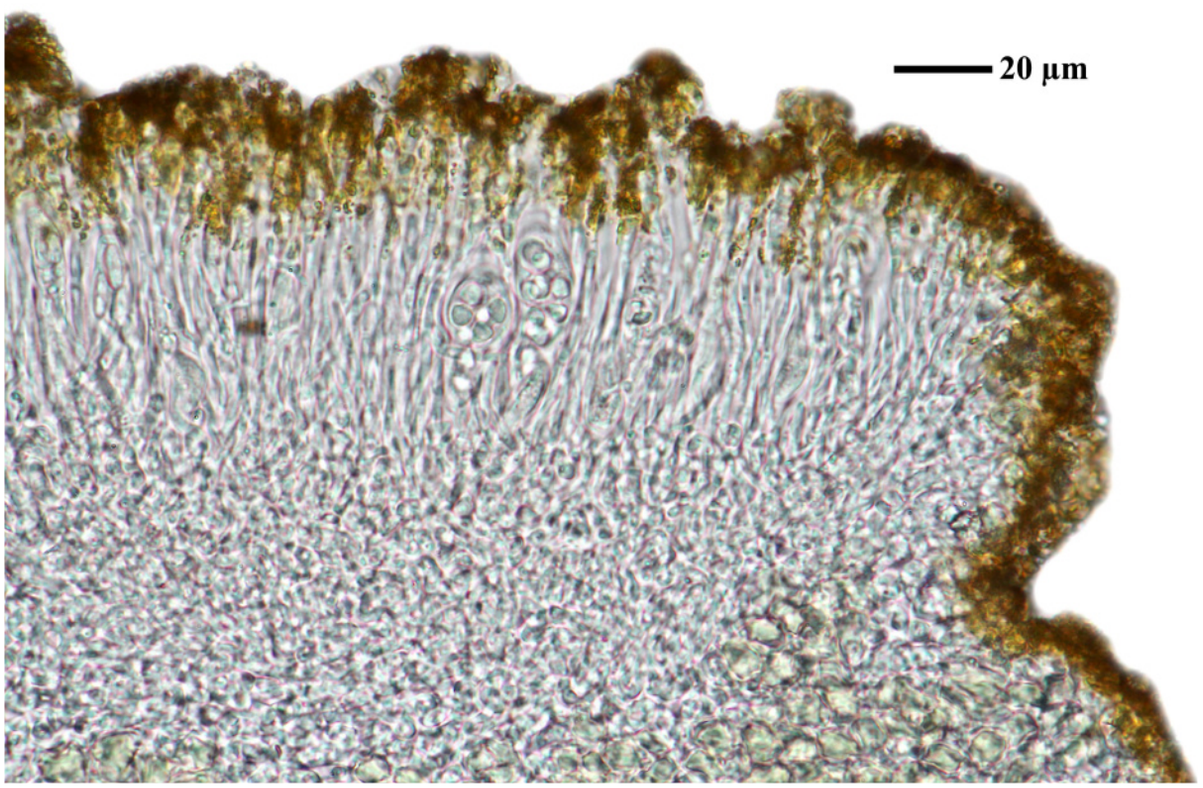


Caloplaca trachyphylla

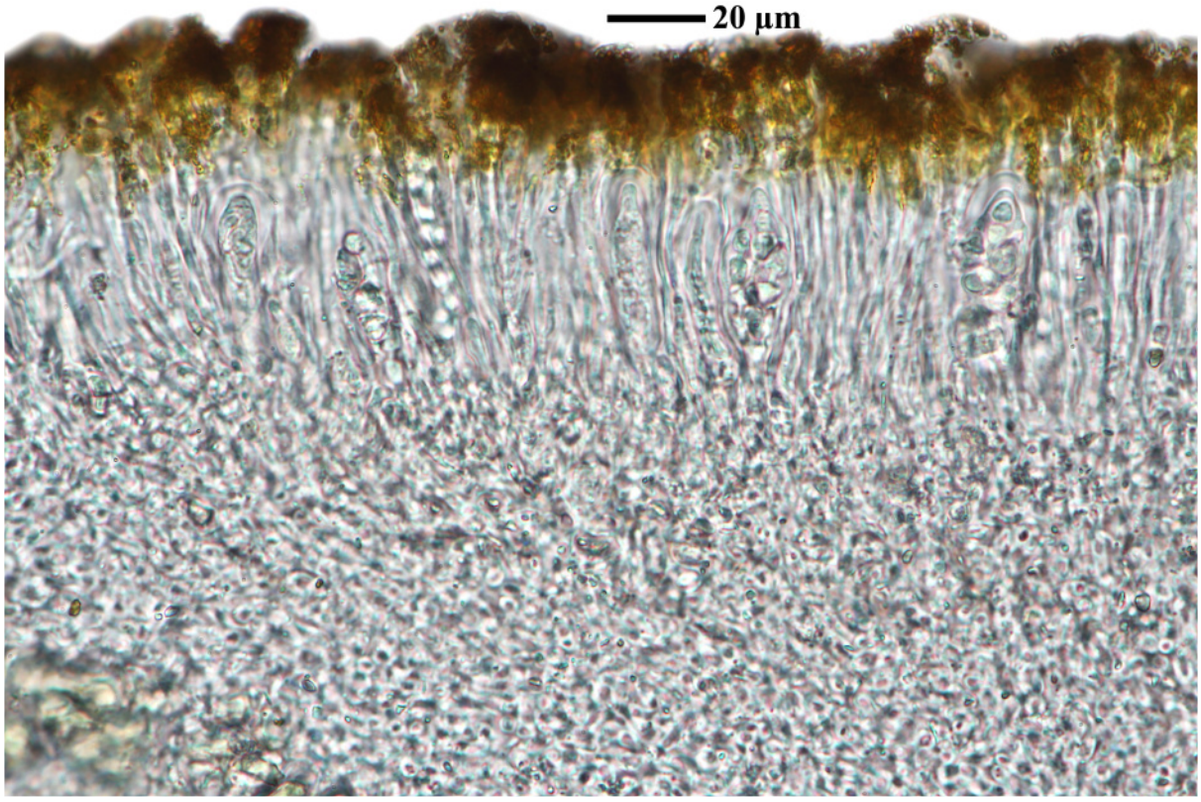


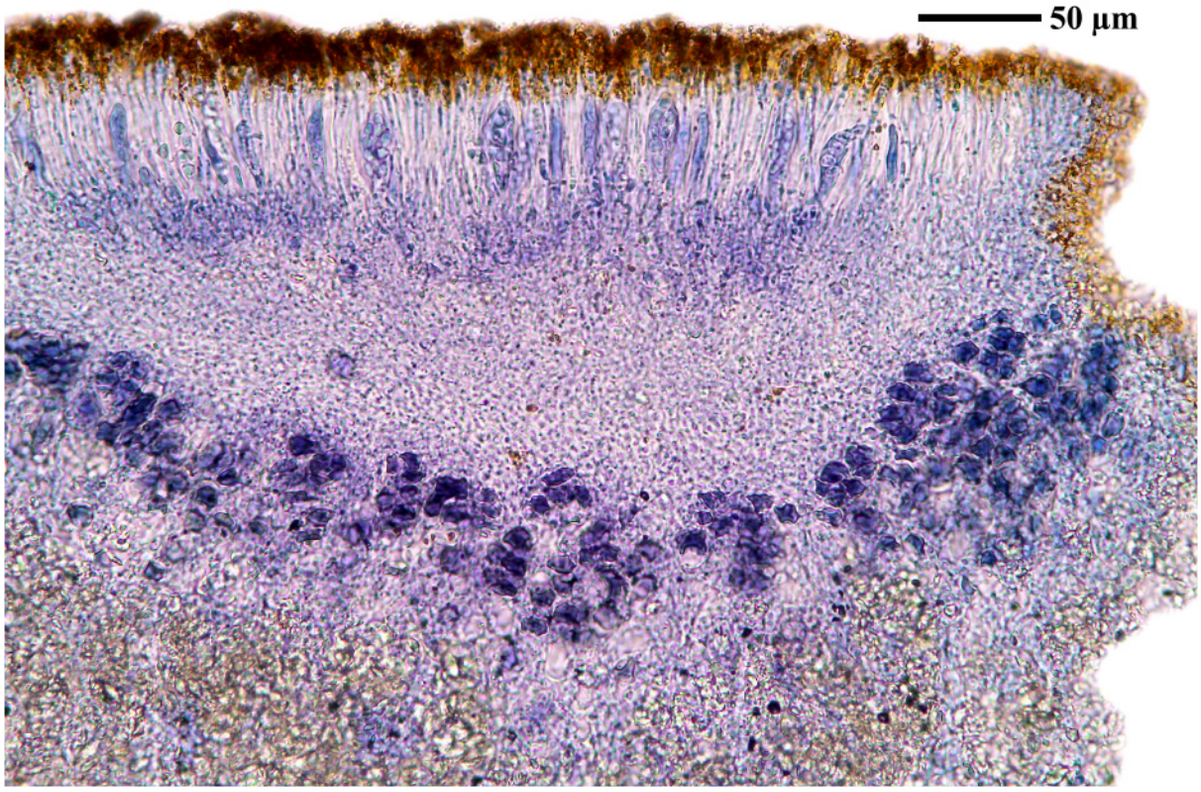
Caloplaca trachyphylla



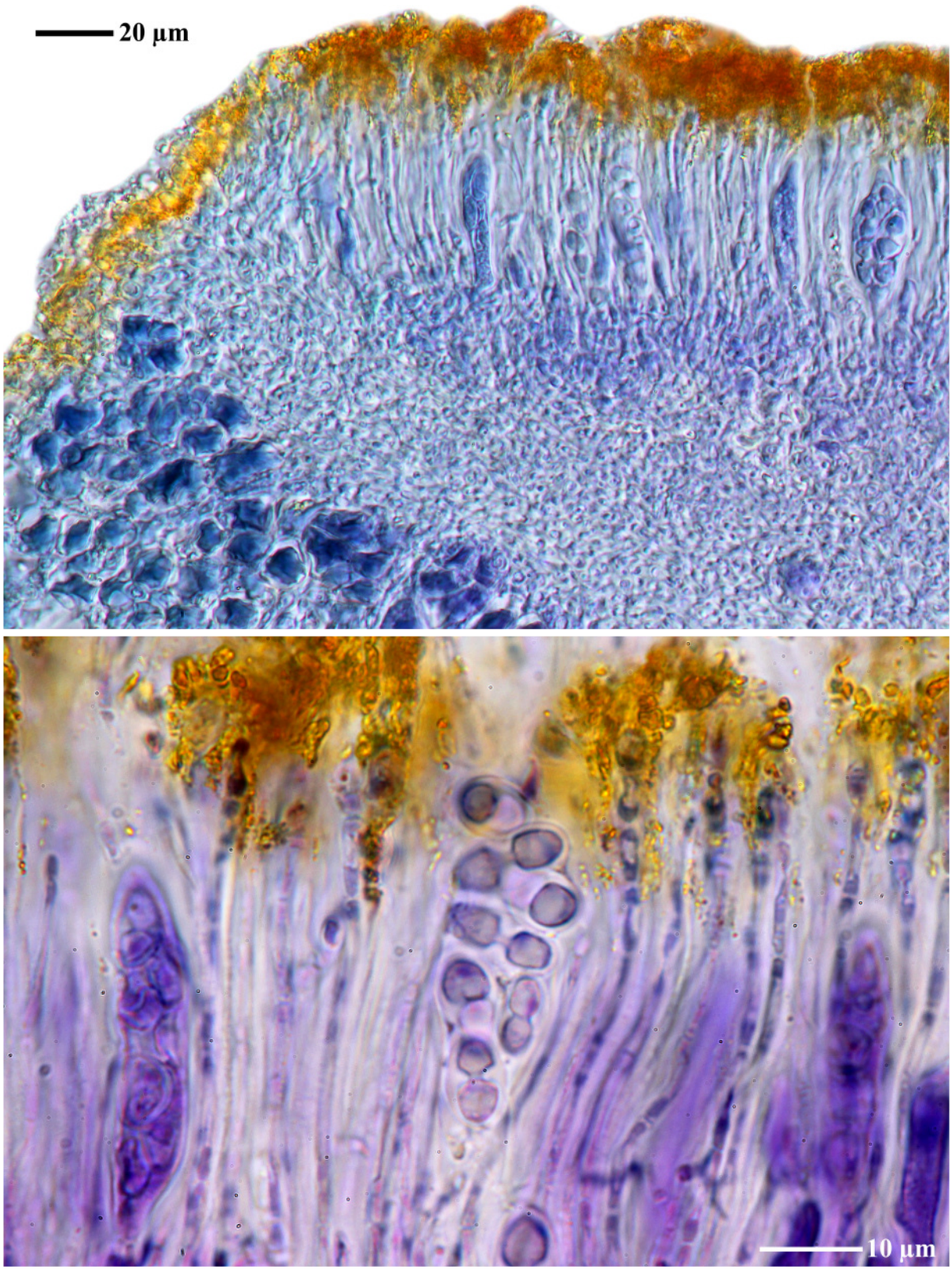


Caloplaca trachyphylla

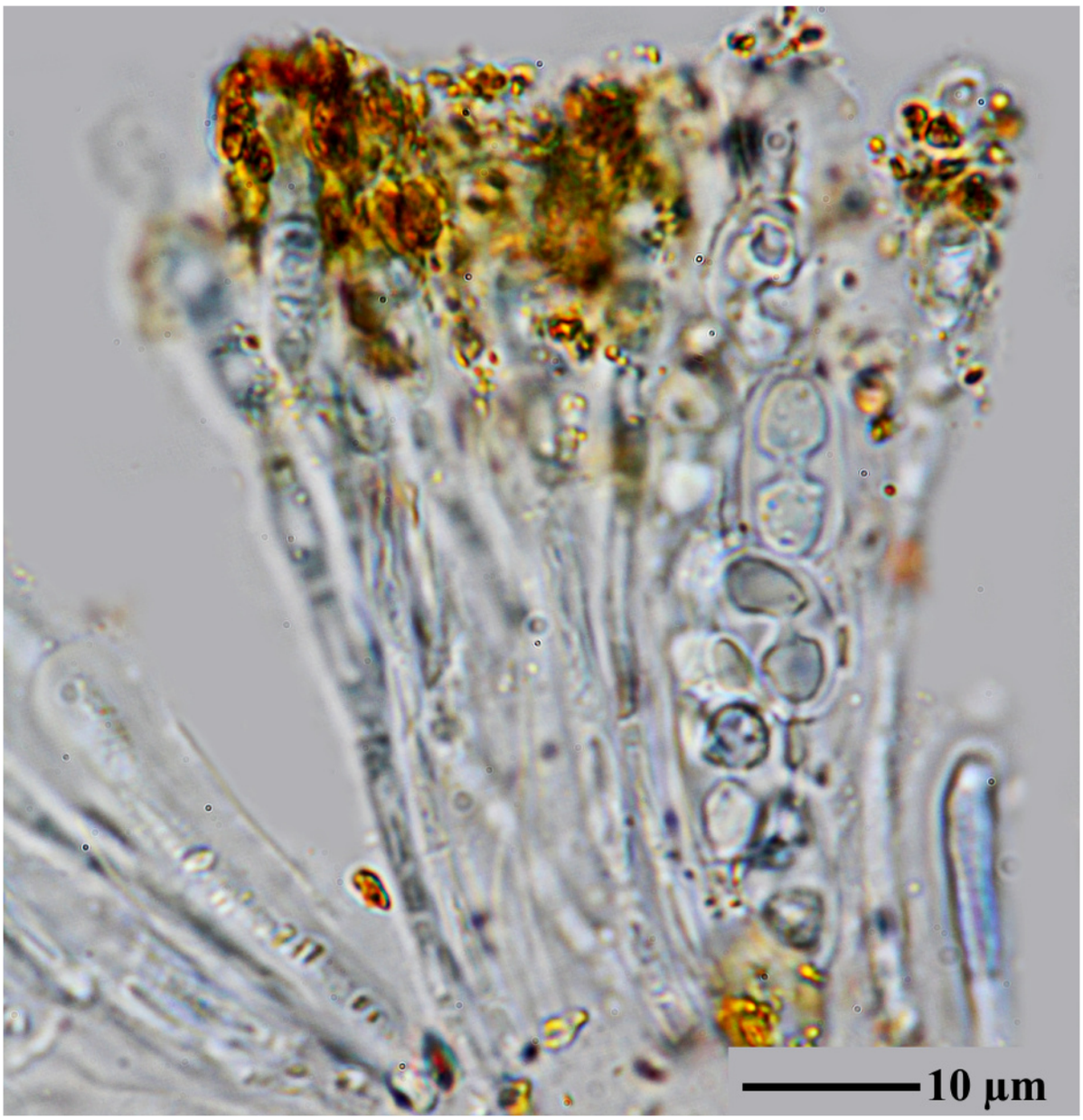


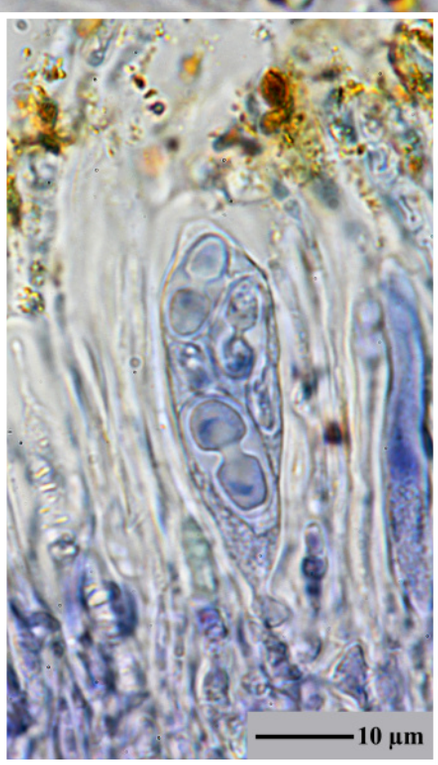


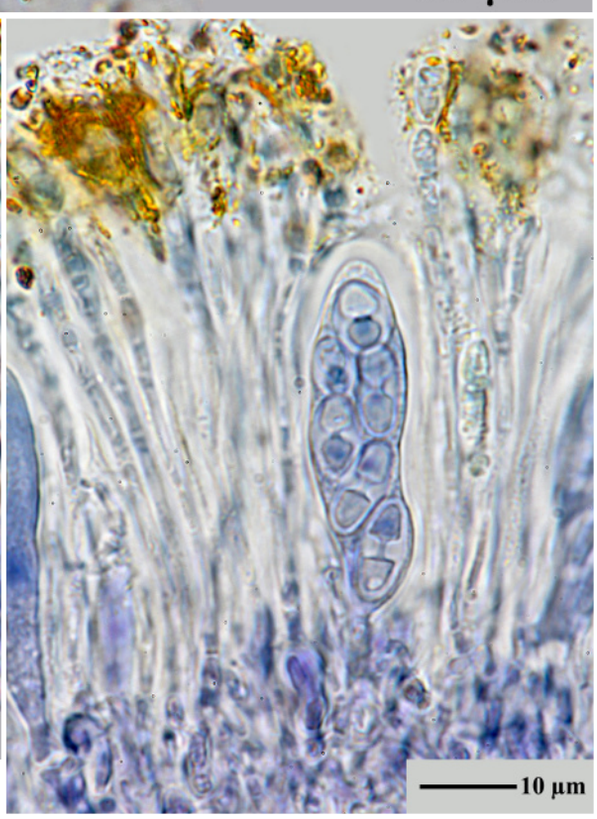
Caloplaca trachyphylla



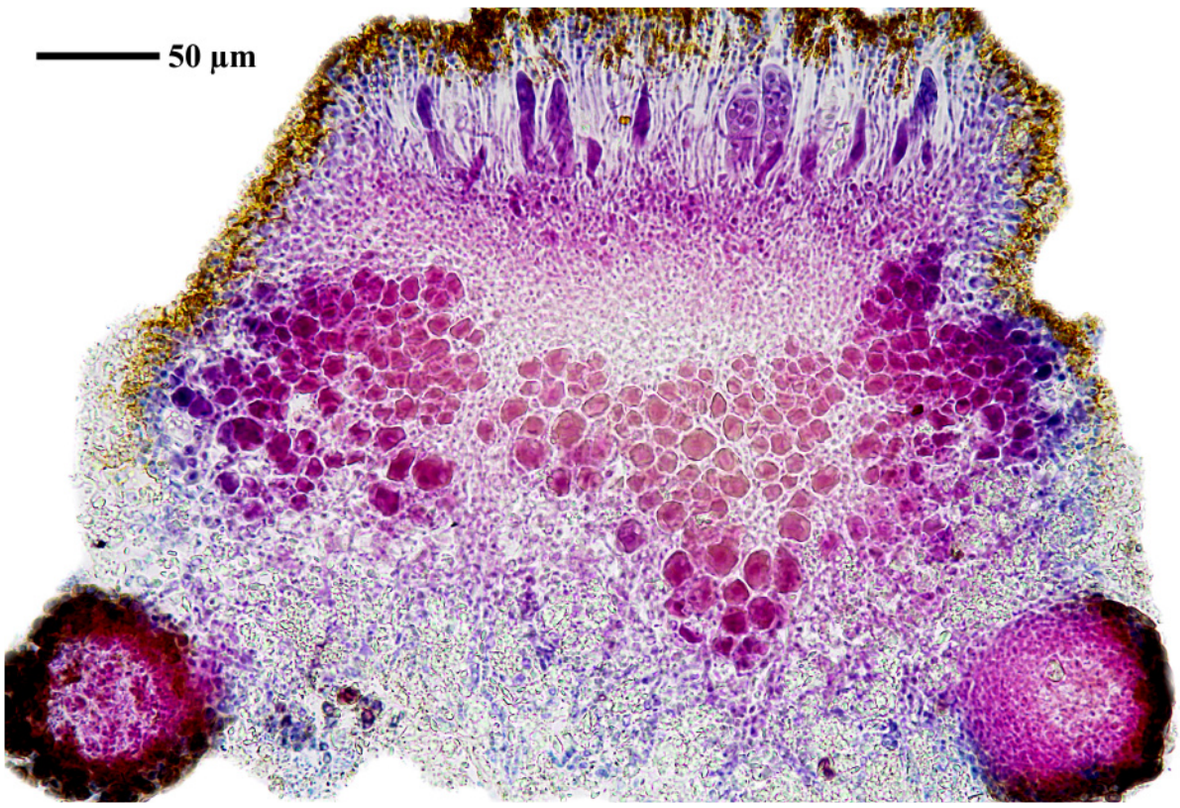
Caloplaca trachyphylla

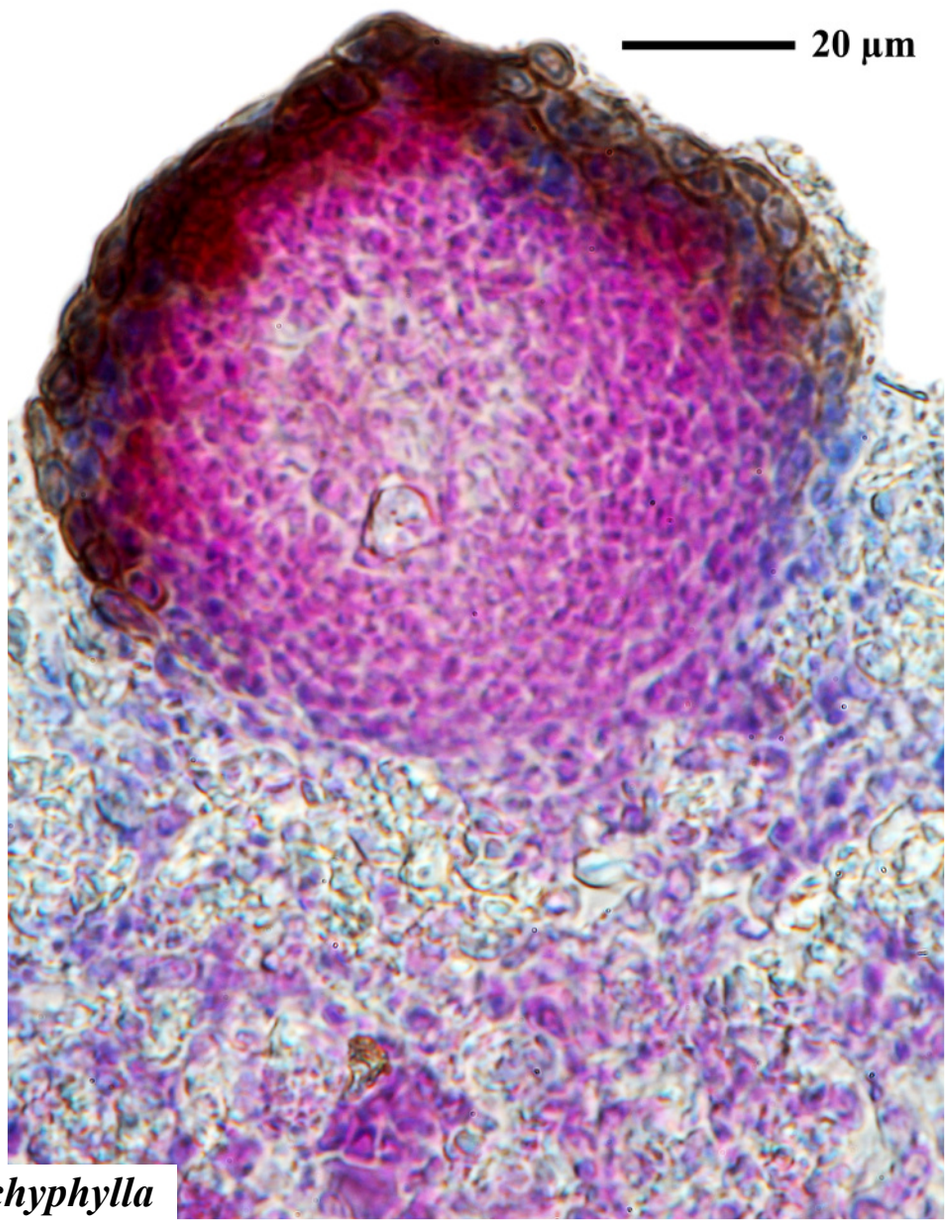






Caloplaca trachyphylla





Caloplaca trachyphylla

Caloplaca trachyphylla (Tuck.) Zahlbr., Cat. Lich. Univers. 7: 189 (1931)
[= *Caloplaca elegans* var. *trachyphylla* (Tuck.) Fink, Lich. Fl. U.S.: 362 (1935)]
[= *Caloplaca hedinii* H.Magn., Lichens Central Asia 1: 141 (1940)]
[= *Golubkovia trachyphylla* (Tuck.) S.Y.Kondr., Kärnefelt, Elix, A.Thell, Jung Kim, M.H.Jeong, N.N.Yu, A.S.Kondr. & Hur, in Kondratyuk, Kärnefelt, Thell, Elix, Kim, Jeong, Yu & Hur, Acta bot. hung. 56(1-2): 164 (2014)]

[LIAF_04], Afghanistan, Prov. Bamyan, Koh-i-Baba, Paßhöhe des Kotal-i-Devali. 69°58’ E, 34°38’ N, 3000 m. Teilweise befallen von *Acarospora stapfiana* (Müll.Arg.) Hue. Leg. A. Dieterle (Pod 44/4 u. 45/1), 18.07.1970. Lichenotheca Afghanica Nr.04.





Caloplaca trachyphylla

Caloplaca transcaspica (Nyl.) Zahlbr., Cat. Lich. Univers. 7: 189 (1931)
[? = *Caloplaca paulsenii* (Vain.) Zahlbr., Cat. Lich. Univers. 7: 162 (1931)]

[LIAF_40], Afghanistan, Prov. Samangan, 15 km W des Passes Kotal-i-Mirza Atbili (Kotal-i-Rabotak), ca.10 km östlich Aybak, 68°08' E, 36°13' N, 1170 m. An S-exponierten Steilflächen eines Felsrückens aus flachbankigem Kalk. Leg. M. Steiner (44/1b), 05.-06.06.1970. LICHENOTHECA AFGHANICA NR. 40.



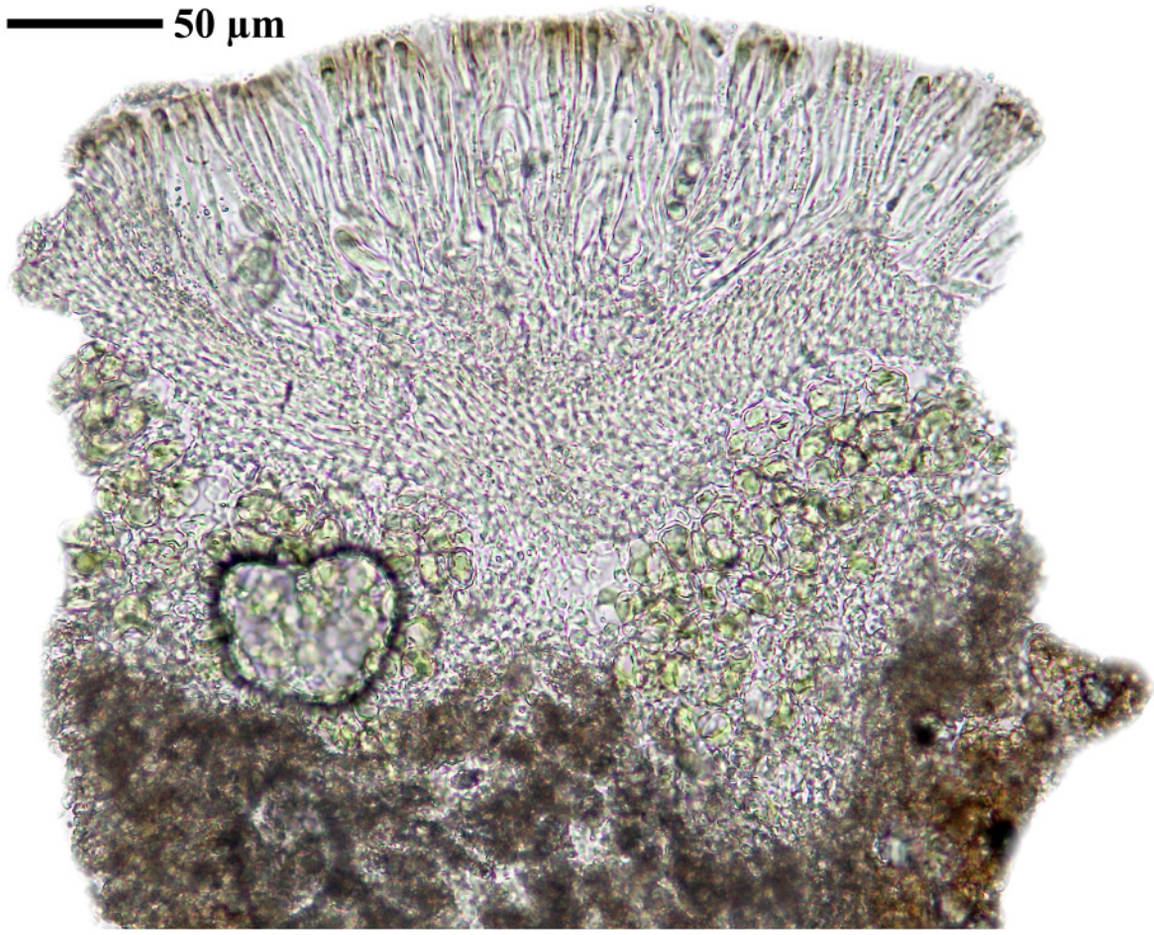


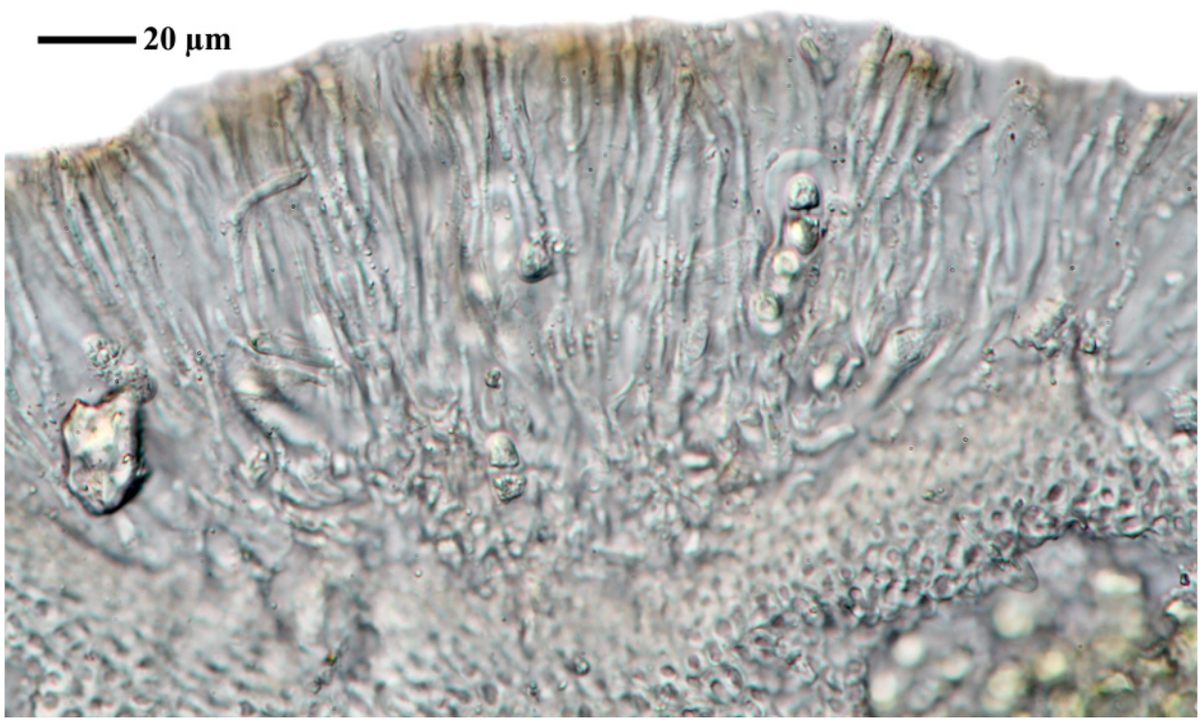


Caloplaca transcaspica

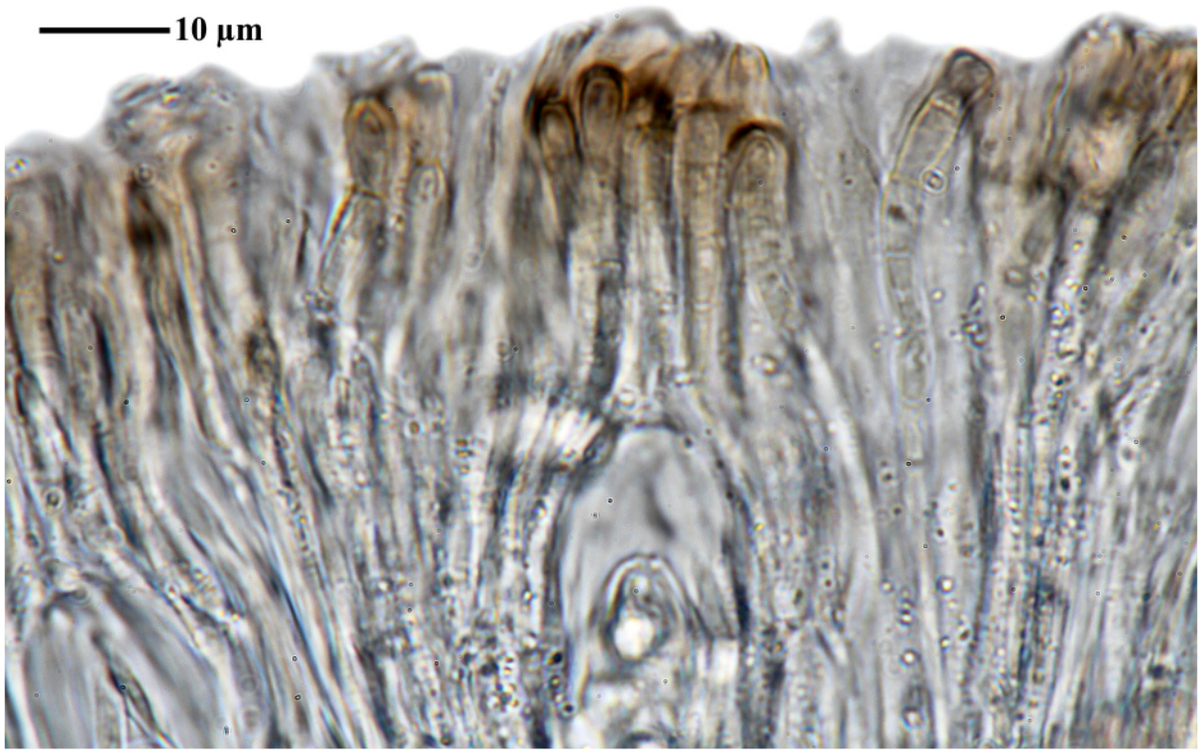


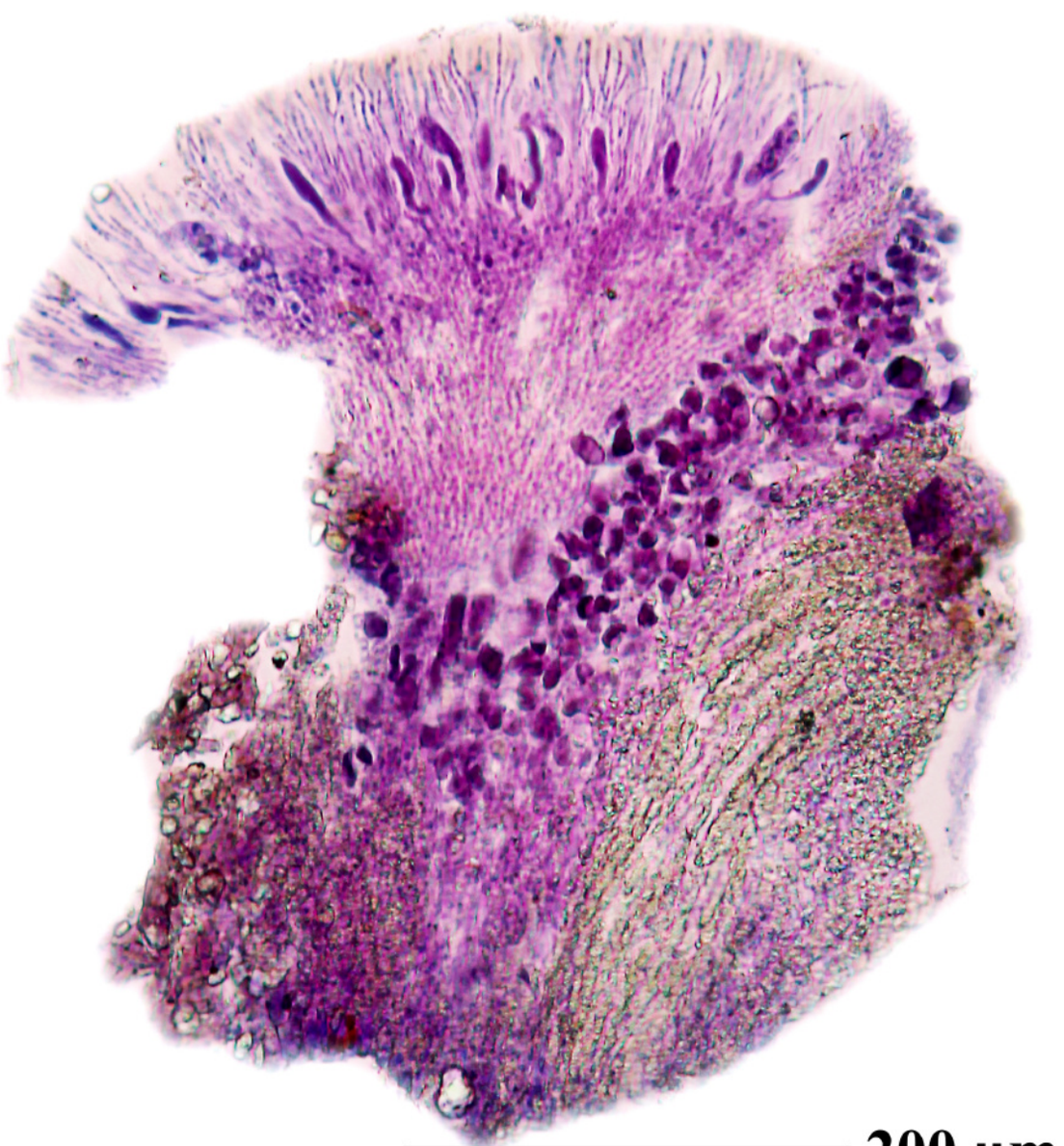
Caloplaca transcaspica





Caloplaca transcaspica





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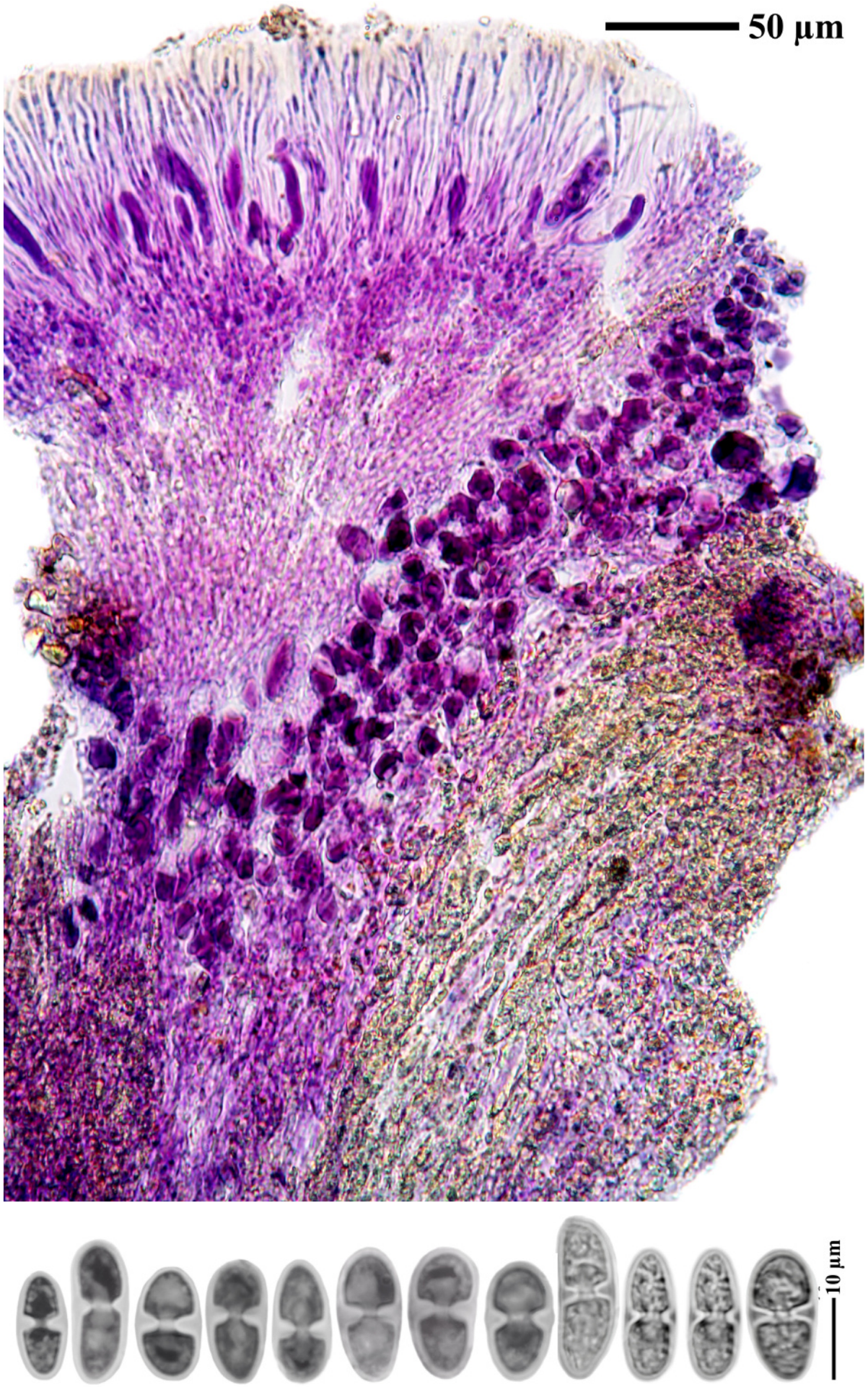

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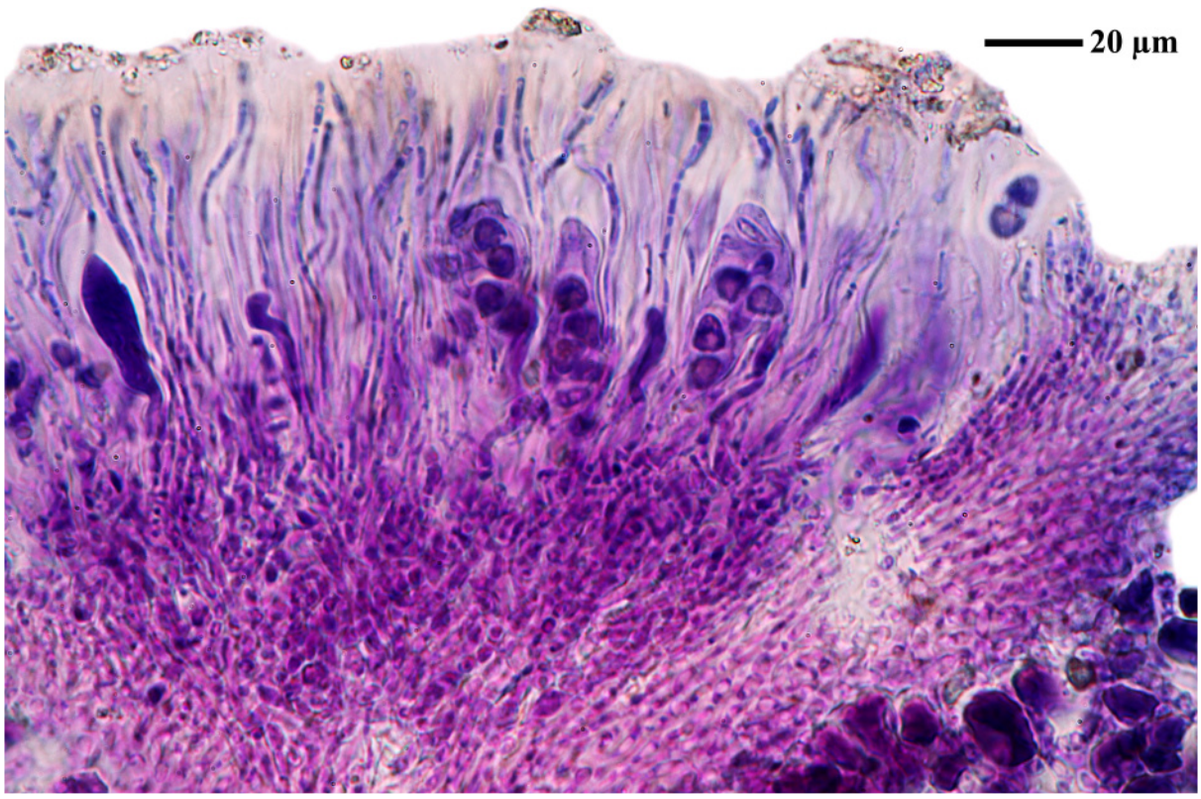

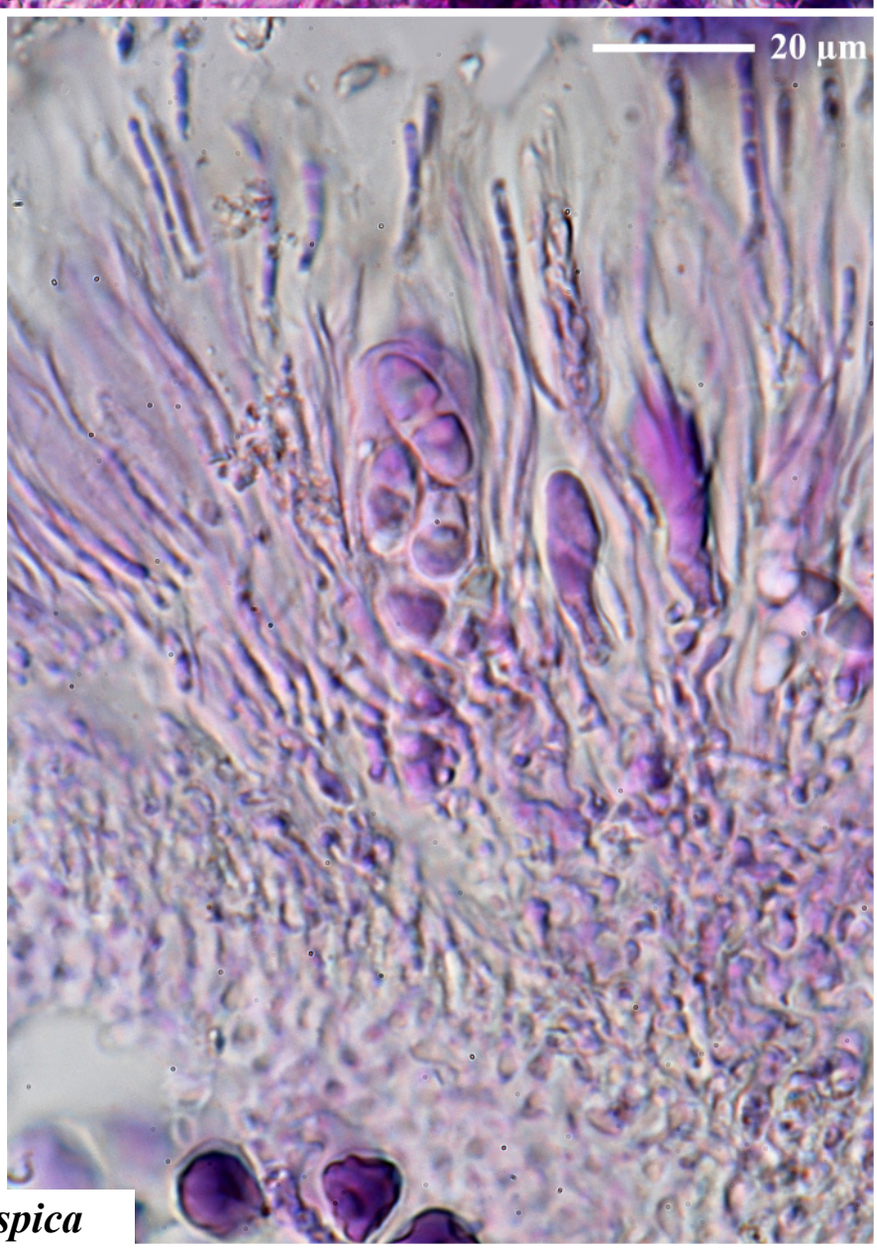

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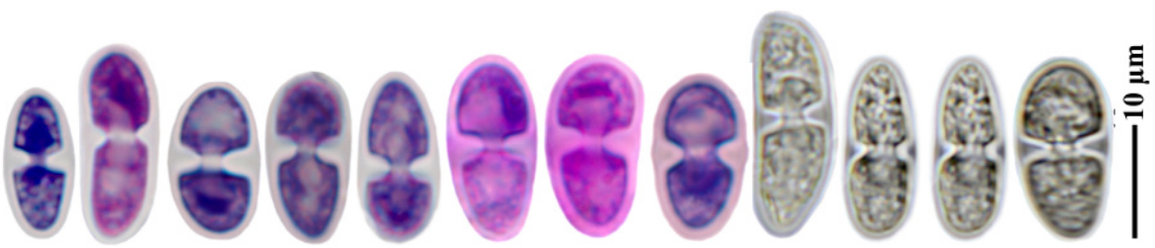


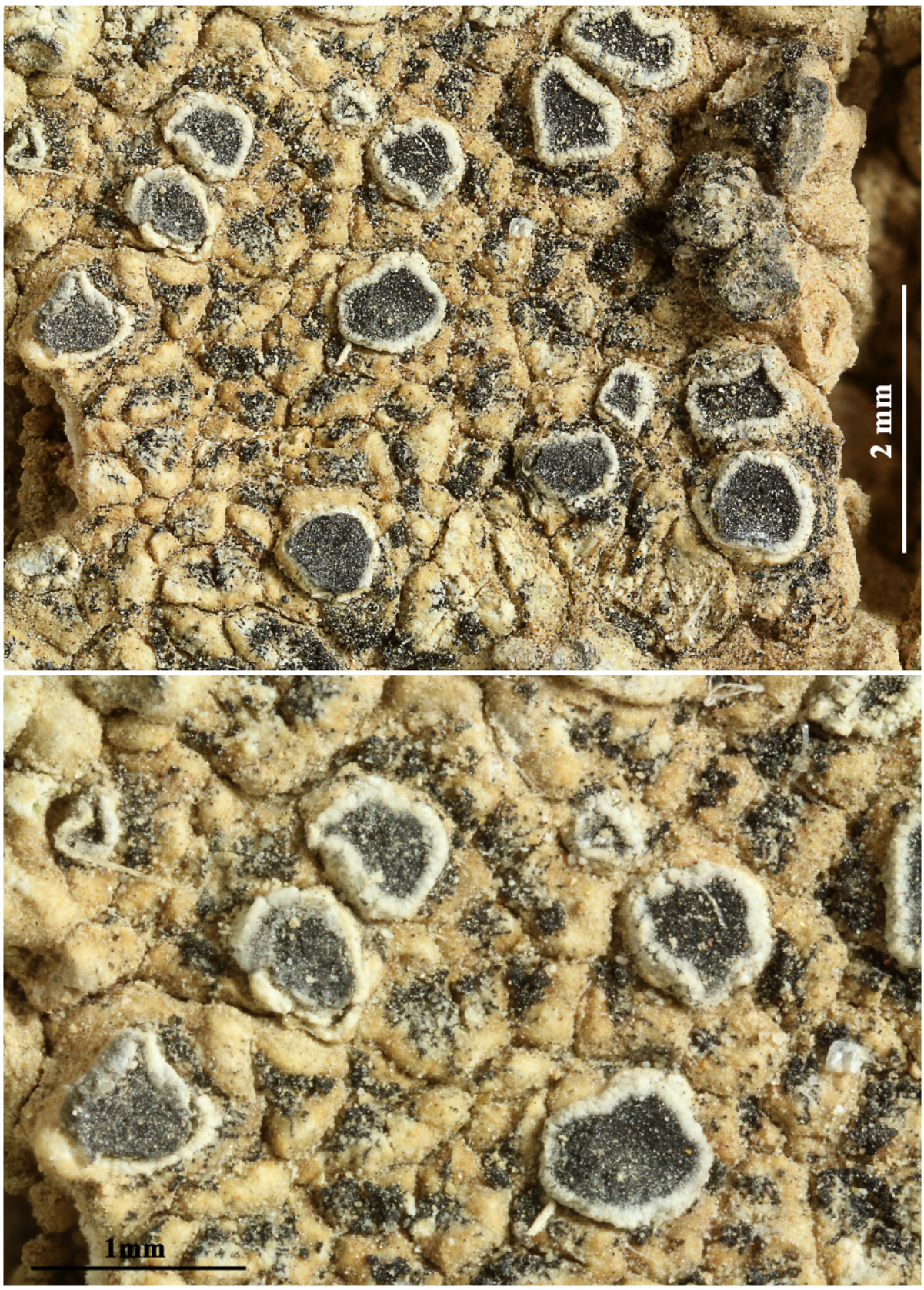
Caloplaca transcaspica

Caloplaca variabilis (Pers.) Müll.Arg.
[= *Pyrenodesmia variabilis* (Pers.) A.Massal.]

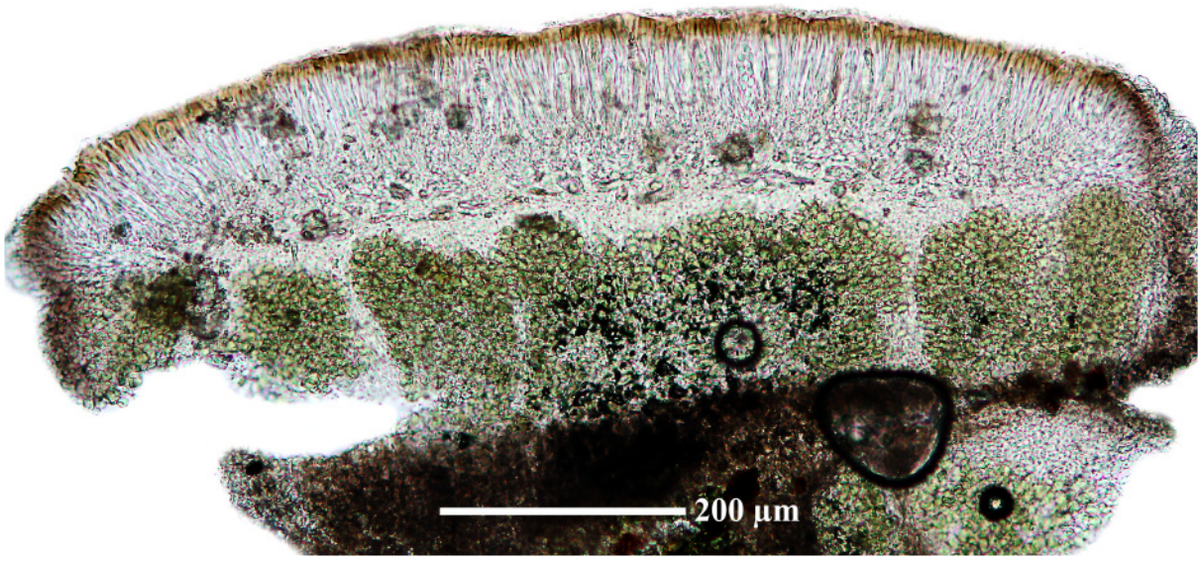
als Beimengung in der Tüte von *Acarospora cervina* (Ach.) A.Massal.

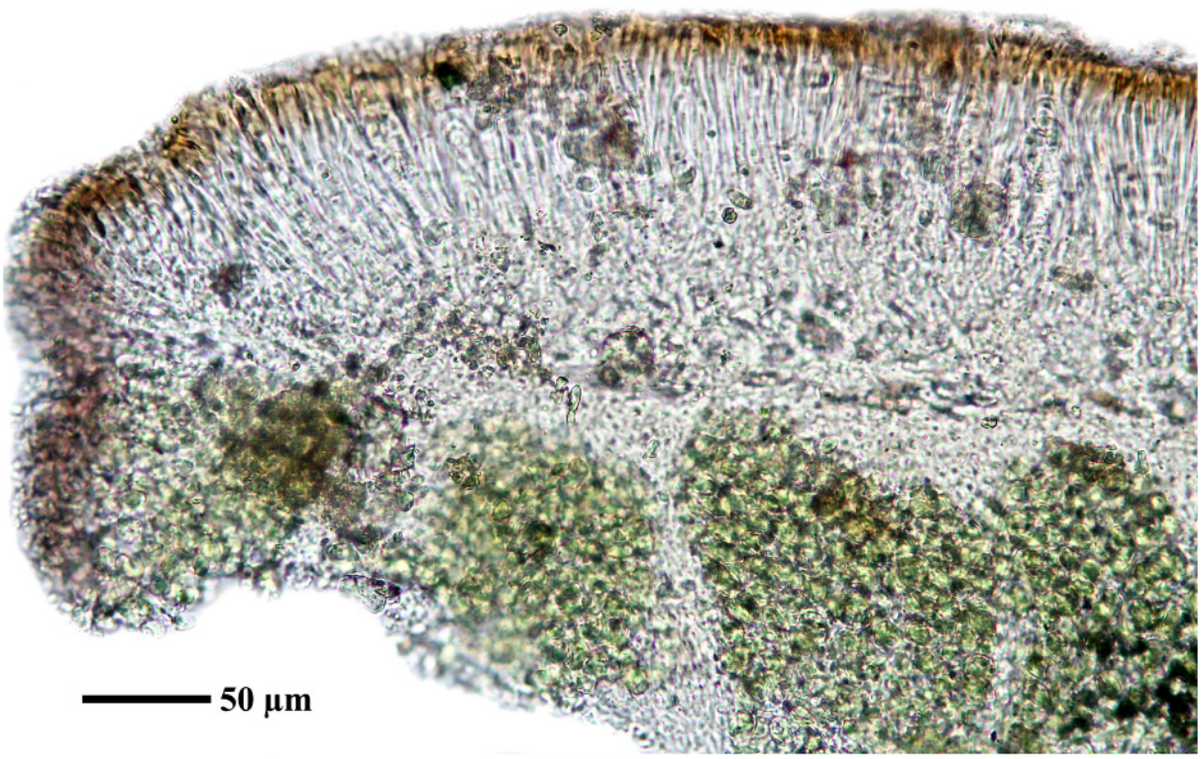
[GZU 5-83], Afghanistan, Prov. Samangan, ca. 15 km W des Passes Kotal-i-Mirza Atbili (Kotal-i-Rabotak), ca 10 km E Aybak. 68°08’ E, 36°13’ N, ca. 1170 m. Auf Zenitflächen flachbankiger Kalke. Leg. M. Steiner (Ste 44/3), 05.06.1970. Det F. Schumm 2018.

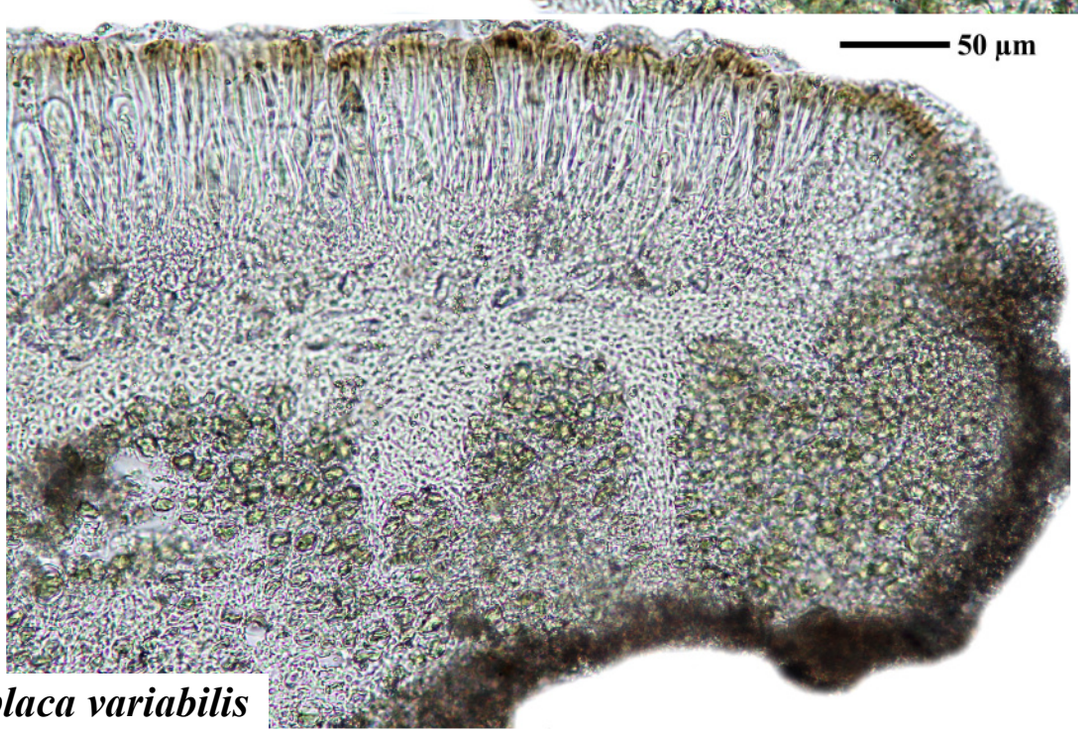




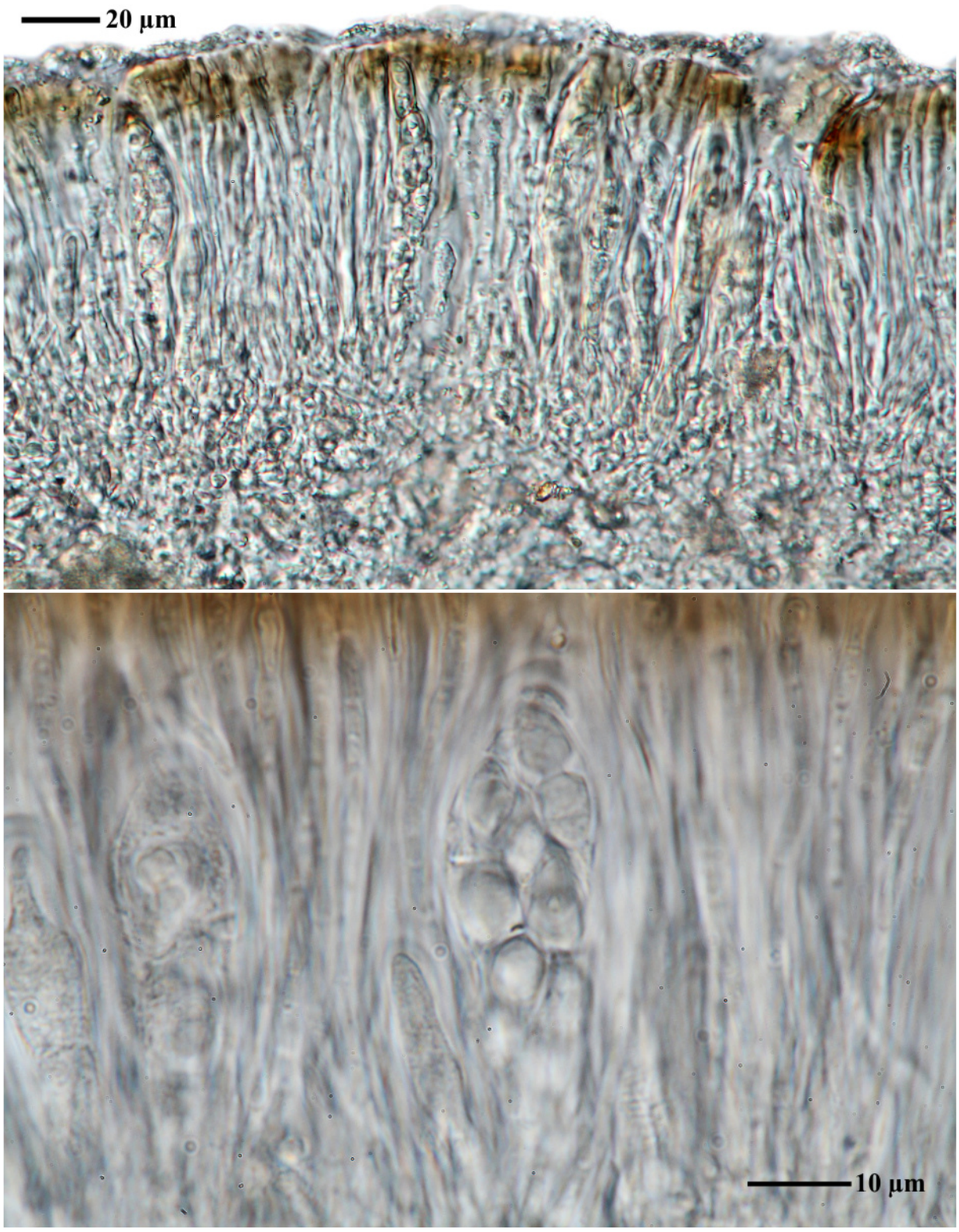
Caloplaca variabilis







Caloplaca variabilis



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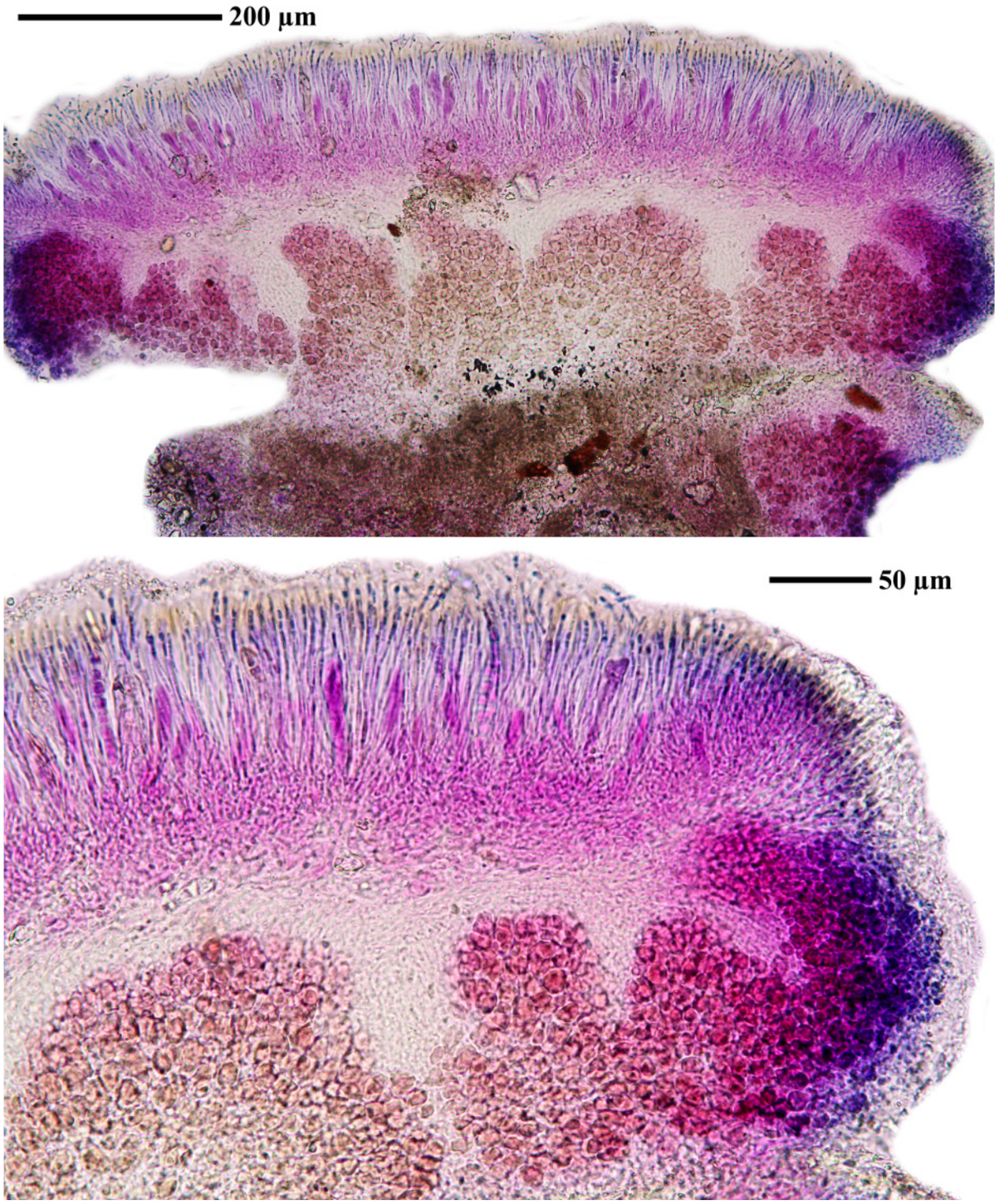

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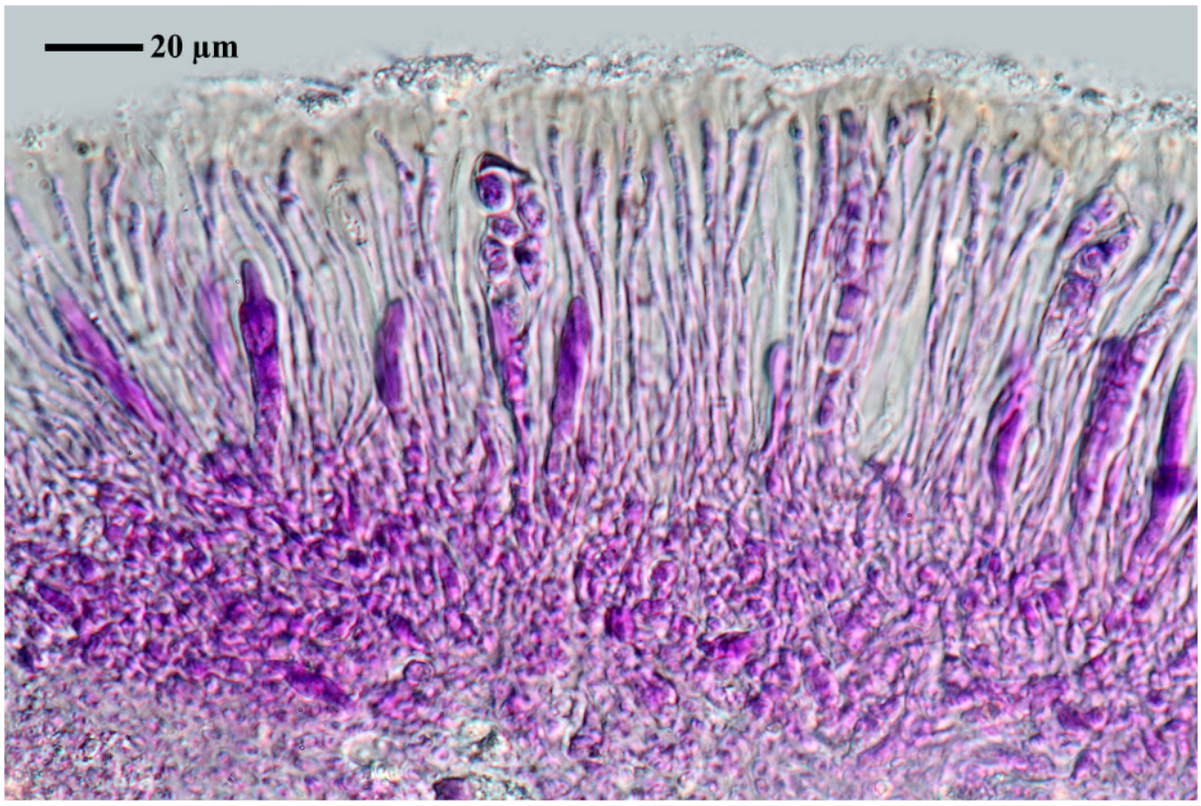
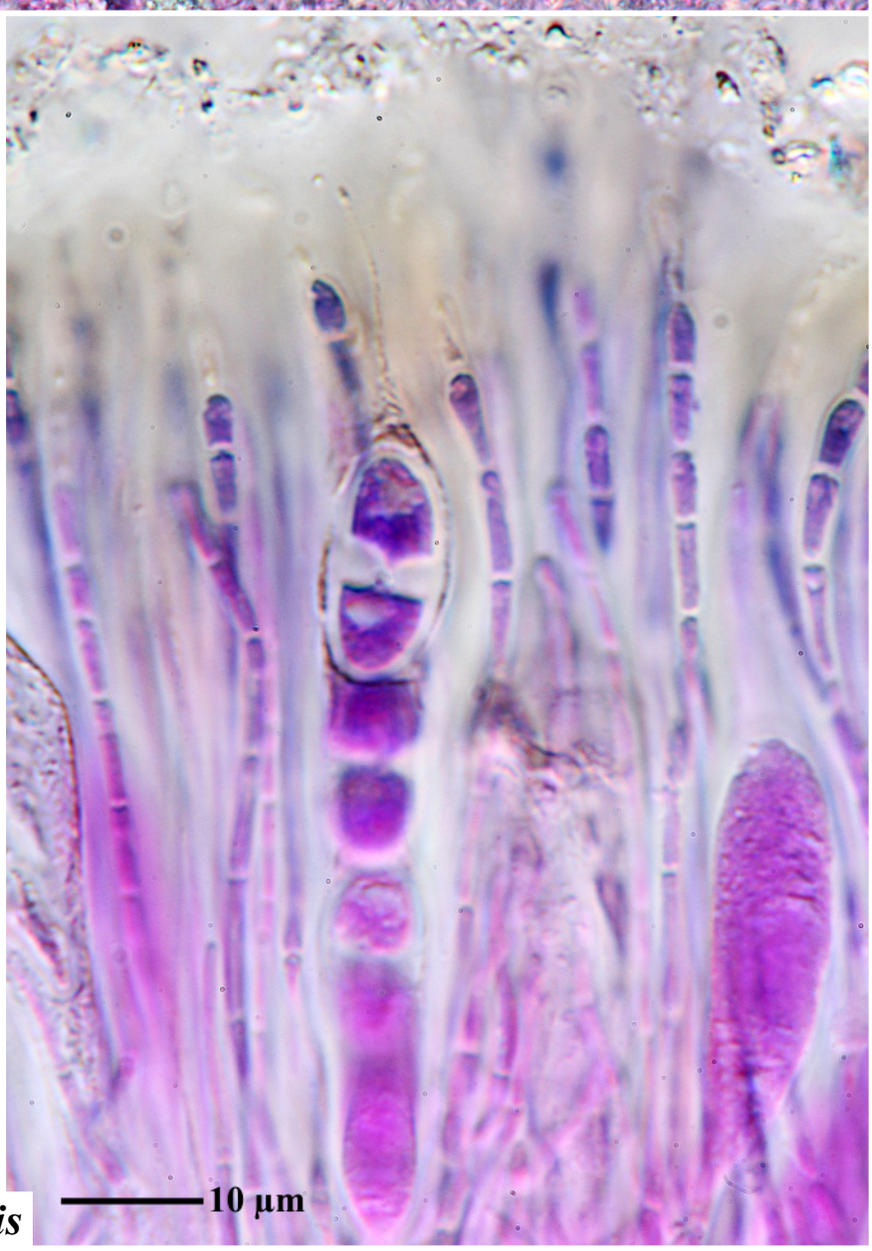
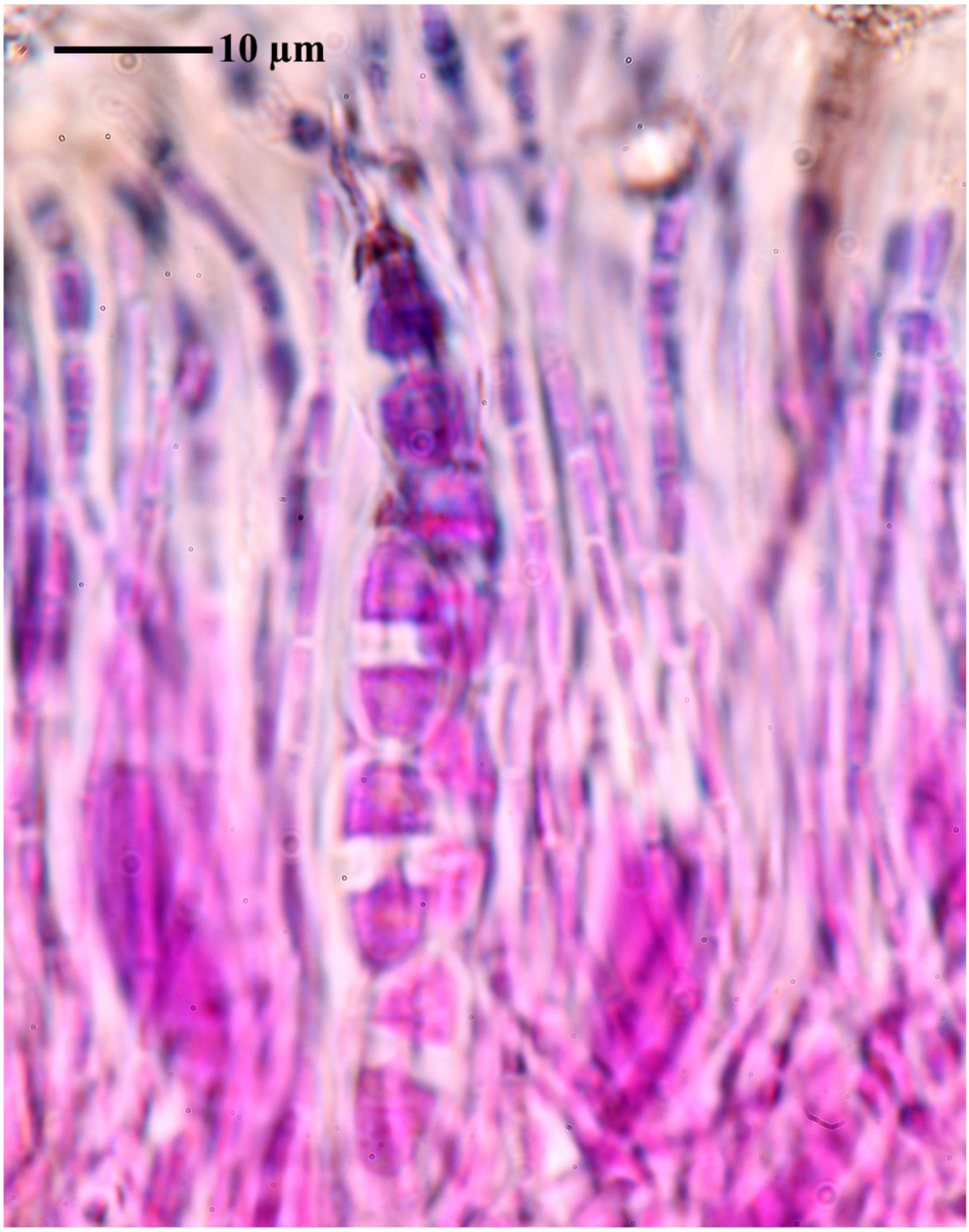




Caloplaca variabilis



Caloplaca variabilis

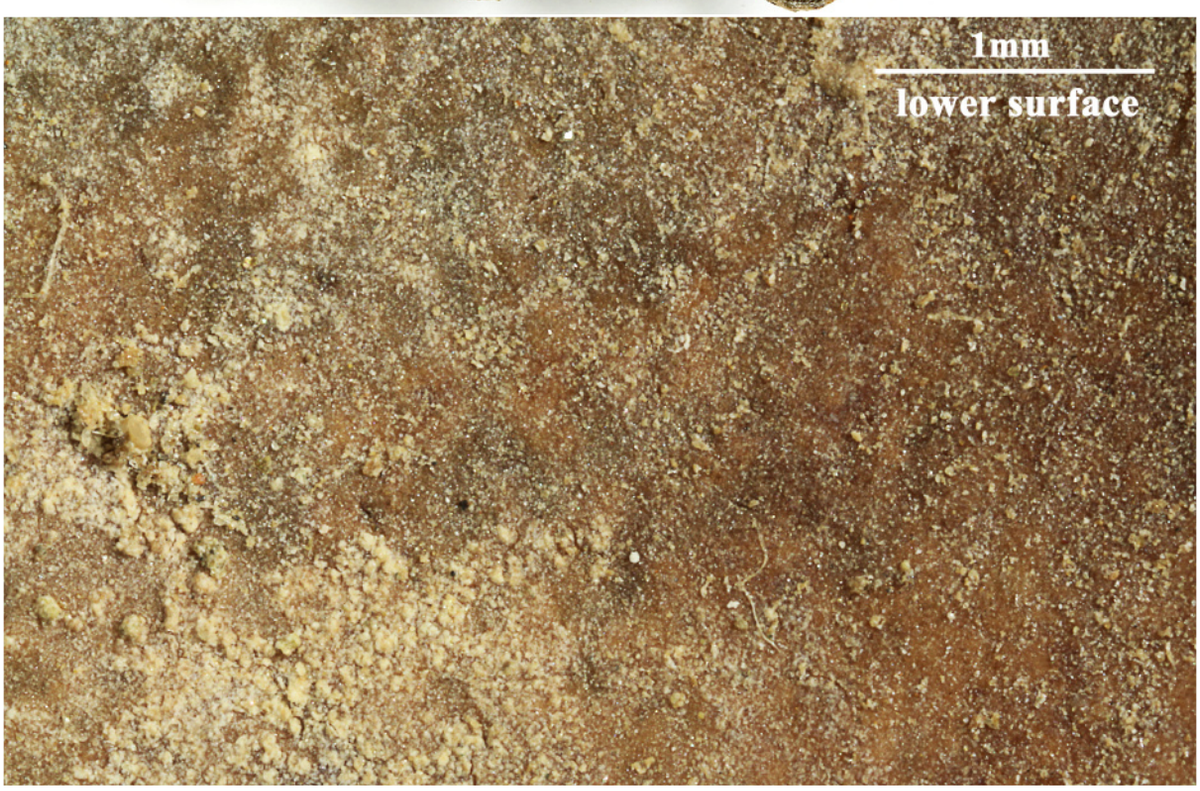
Dermatocarpon miniatum (L.) W. Mann, Lich. Bohem. Observ. Dispos.: 66 (1825)

[GZU 27-94], Afghanistan, Prov. Kabul, Darrah-i-Maydan (Kabul-Tal), bei Karez S. des Korogh-Koh, 69°01’ E, 34°23’ N, 1950 m. An Silikatfelsen. Z.T. mit parasitischer *Lecanora dispersa* f. *parasitica*. Leg. D. Podlech (59/1), 20.05.2077.

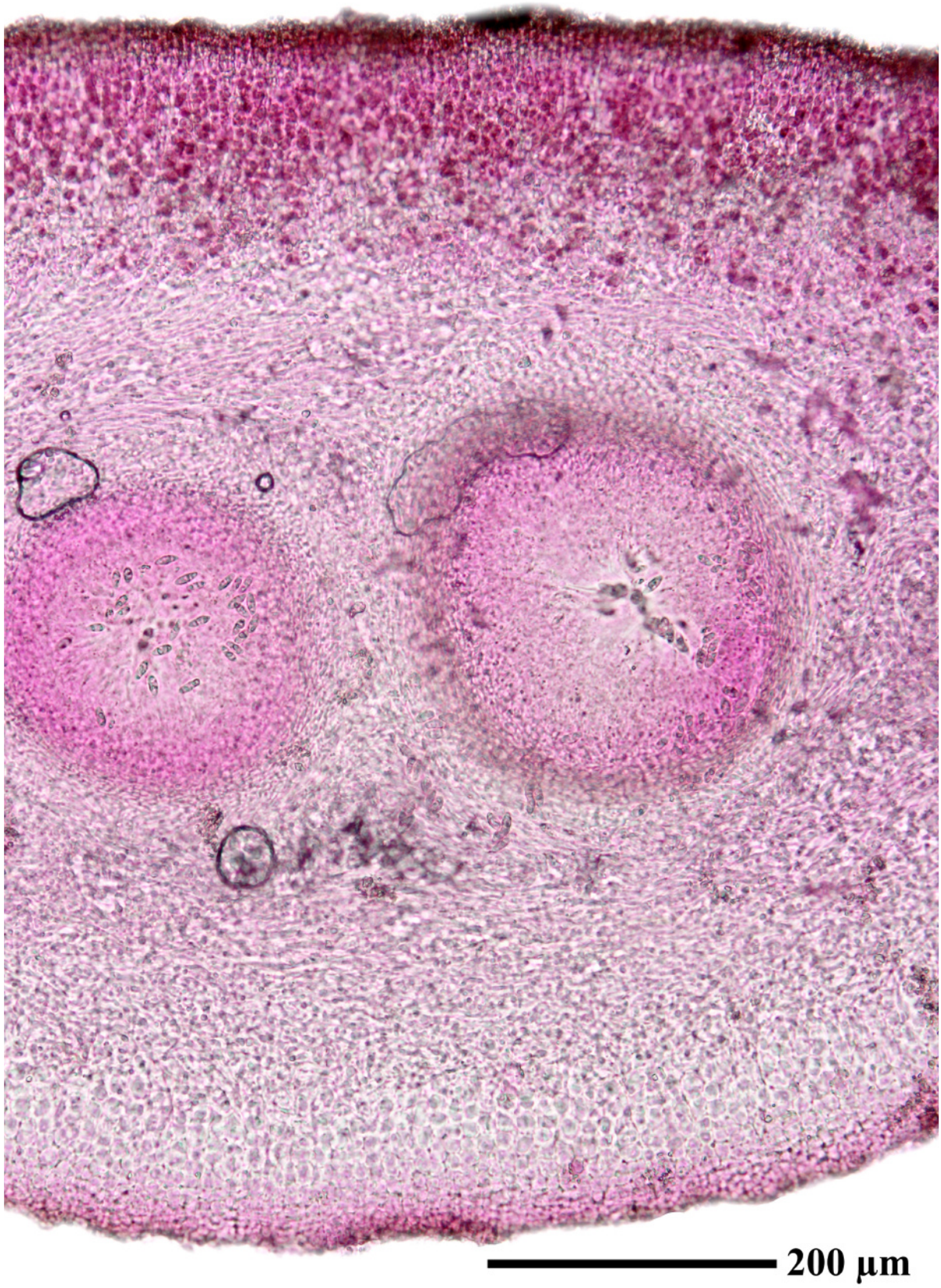




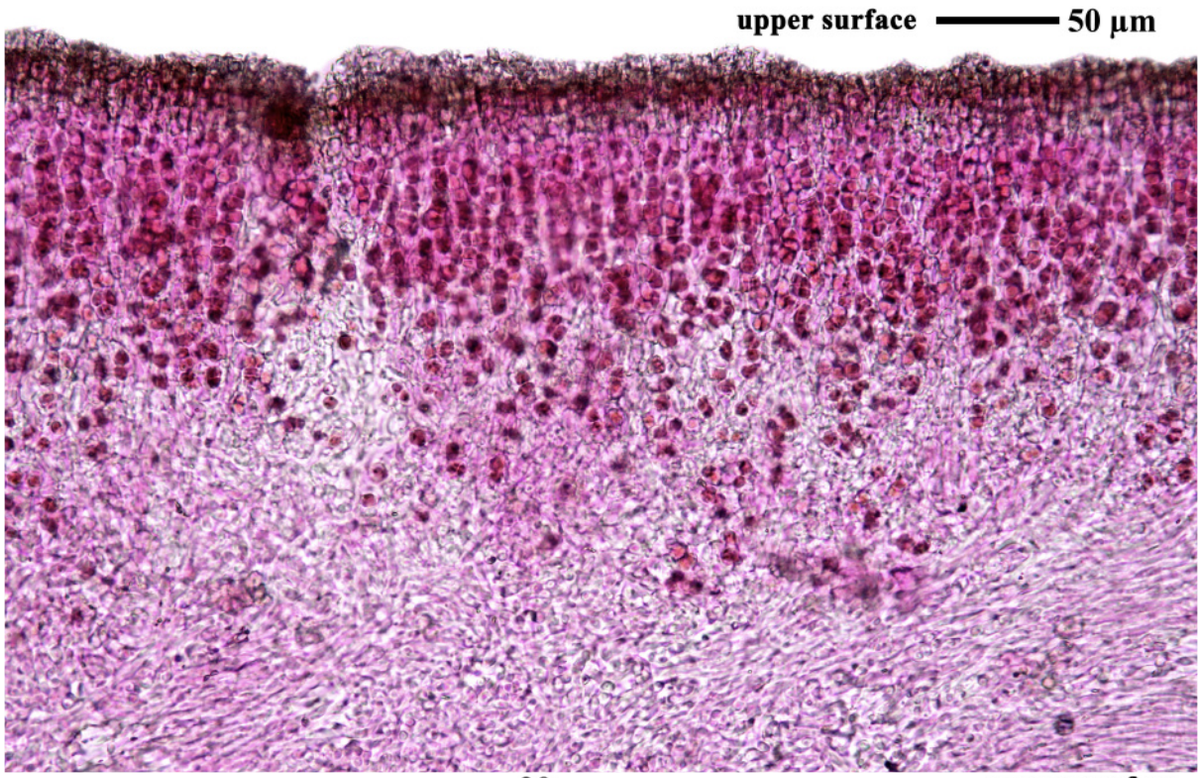


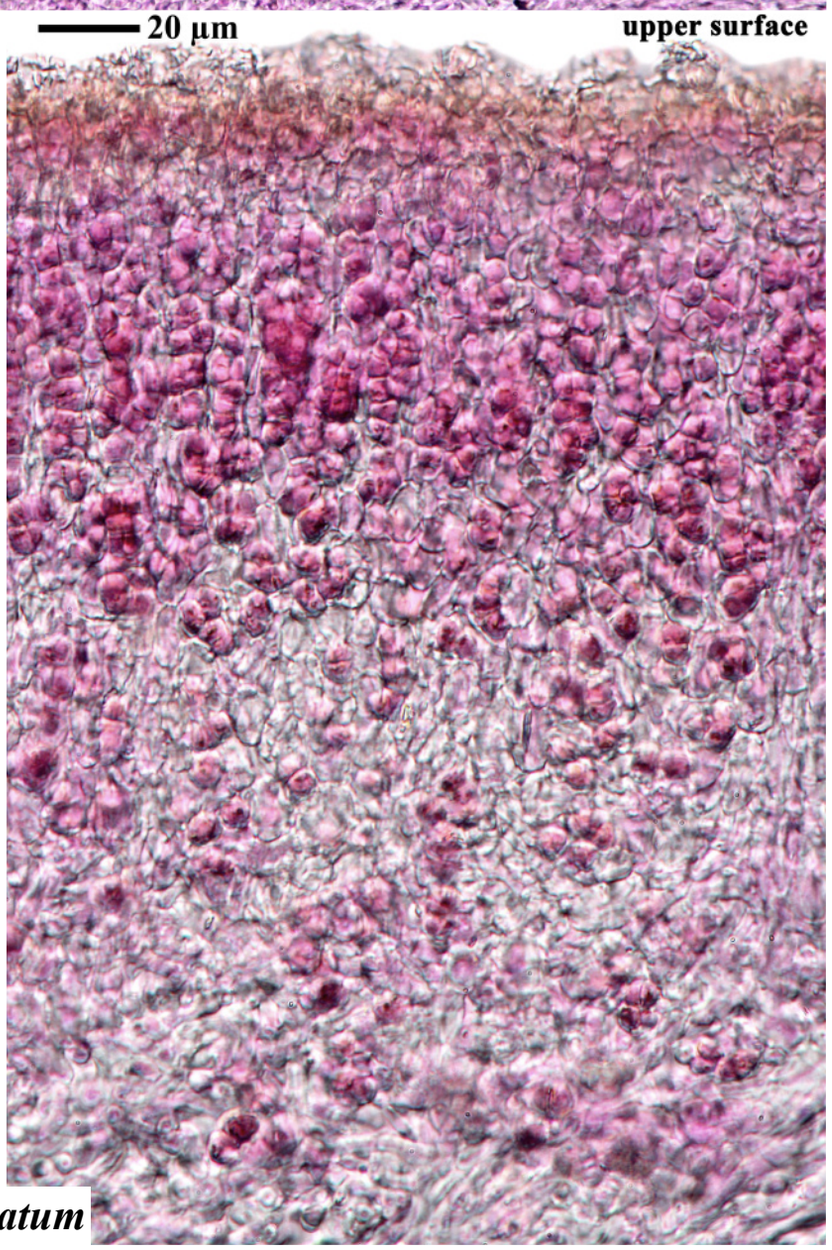


Dermatocarpon miniatum

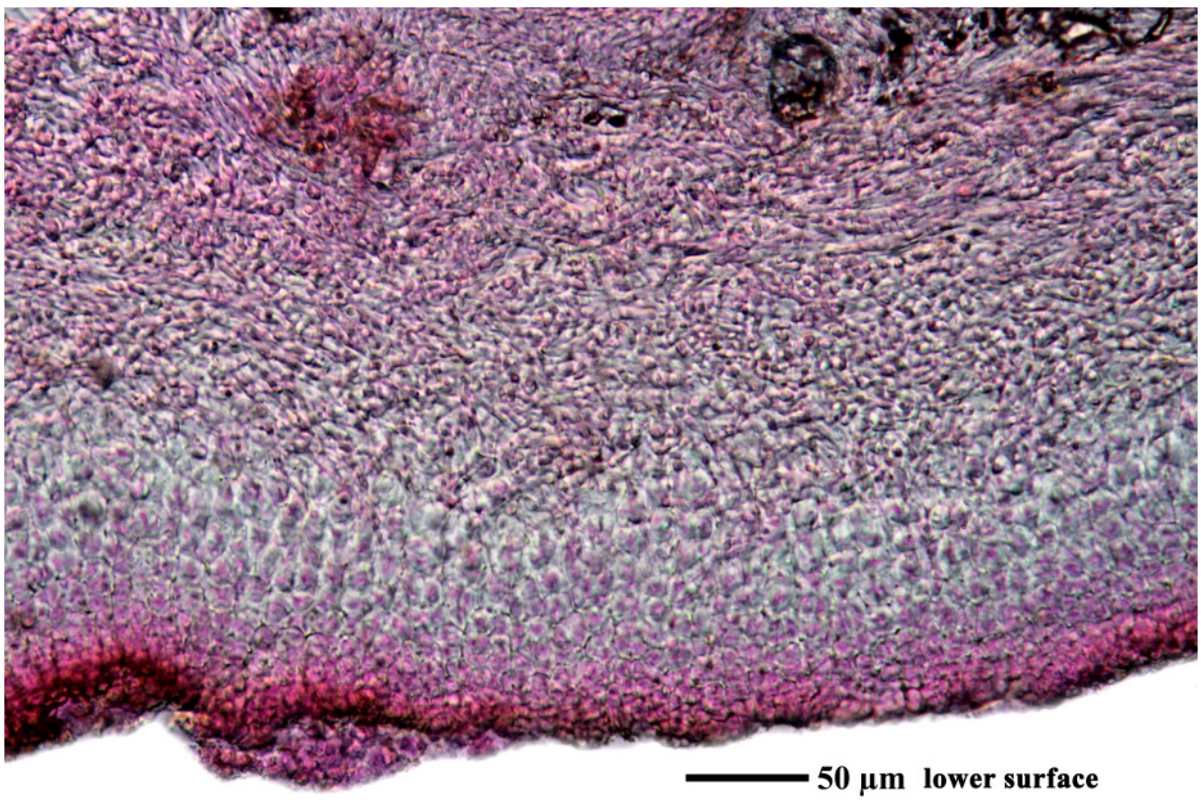


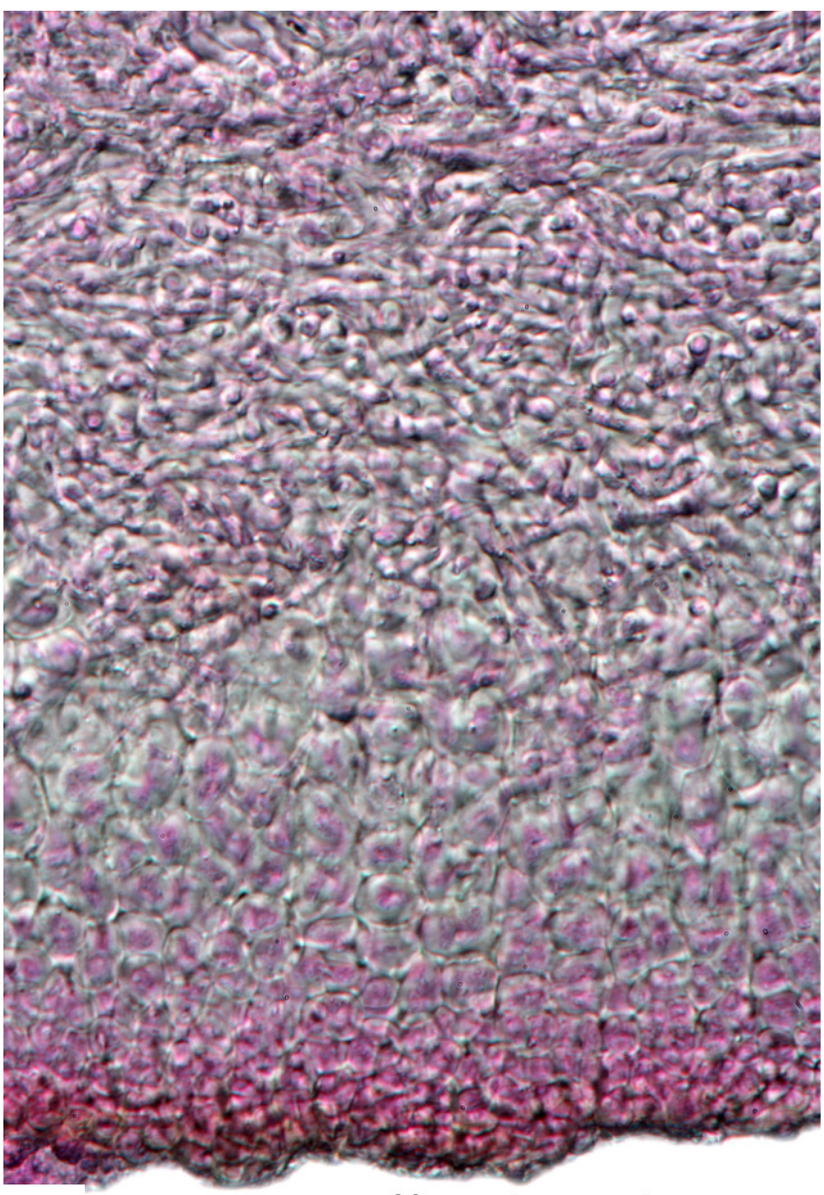
Dermatocarpon miniatum



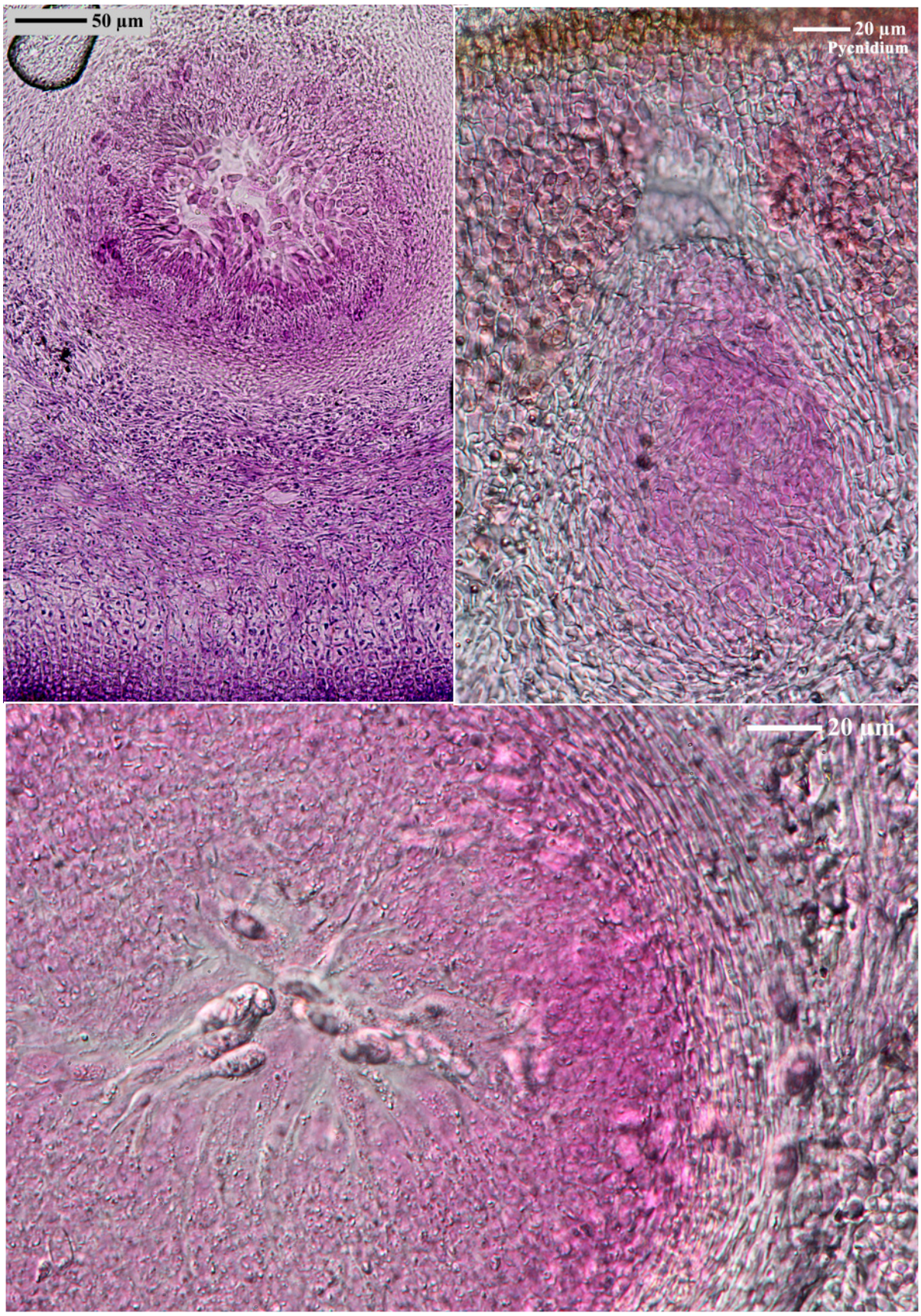


Dermatocarpon miniatum

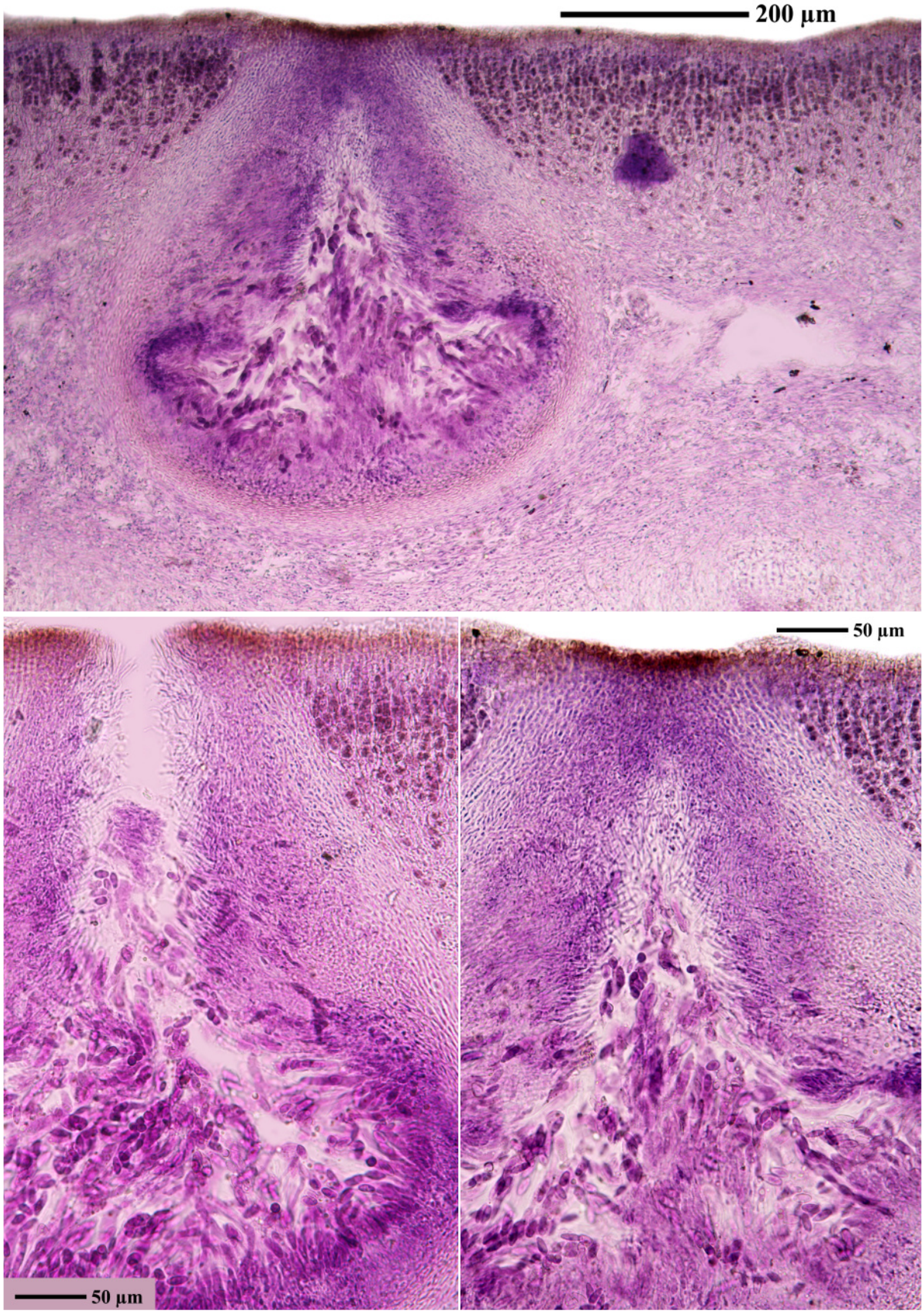




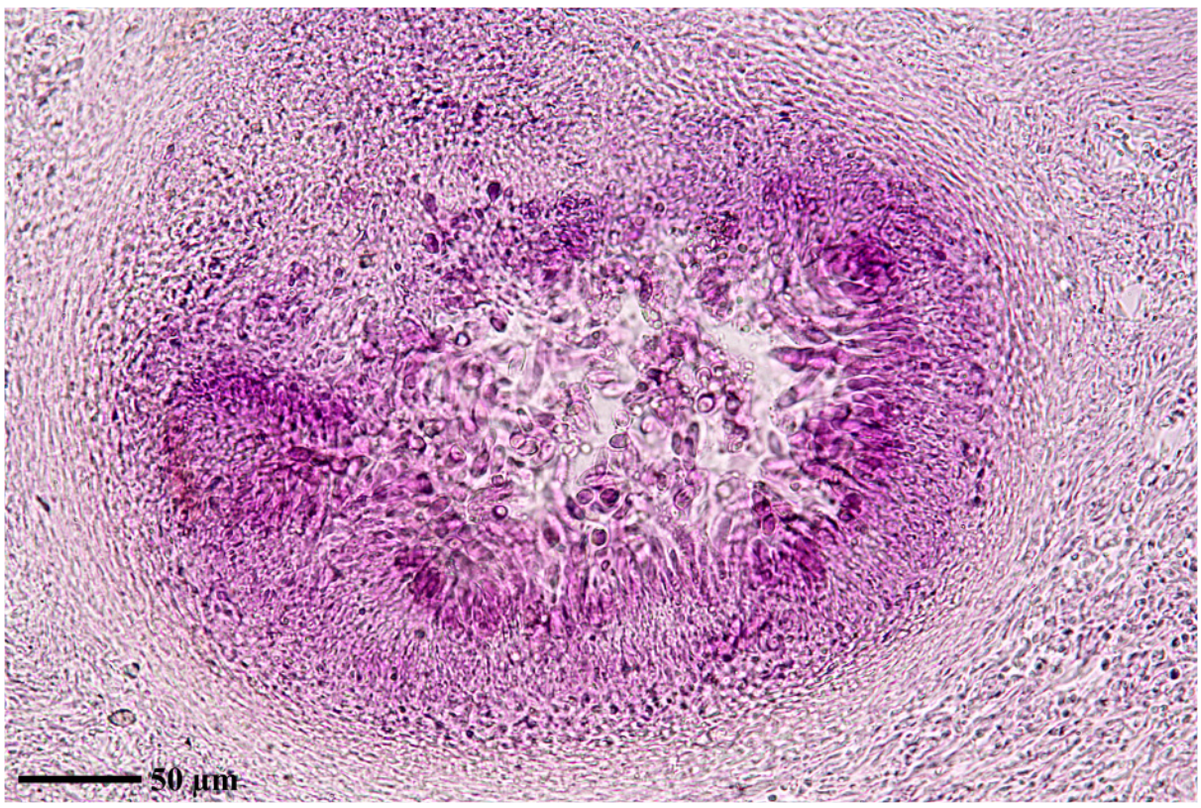
Dermatocarpon miniatum

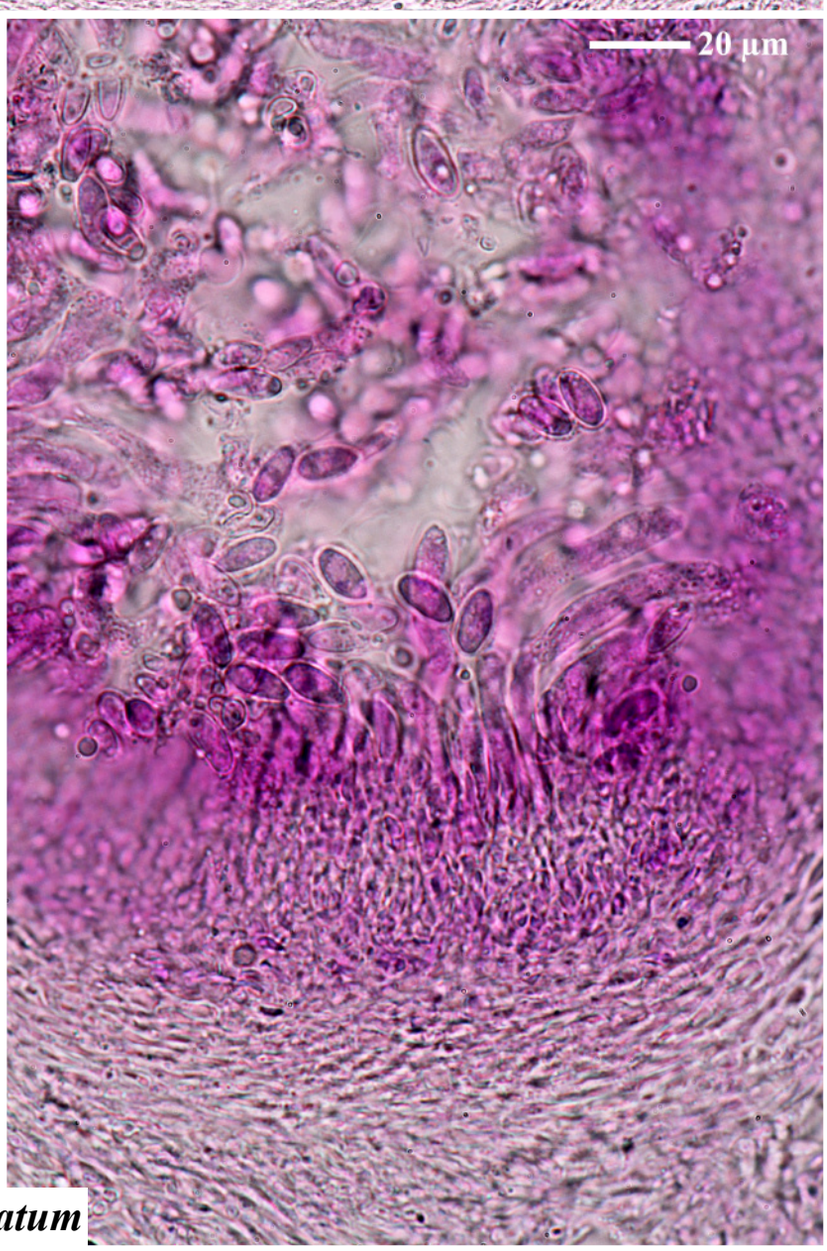


Dermatocarpon miniatum



Dermatocarpon miniatum







Dermatocarpon miniatum

Dermatocarpon miniatum (L.) W. Mann, Lich. Bohem. Observ. Dispos.: 66 (1825)

[LIAF_02], Afghanistan, Prov. Kabul, obere Tang-i-Guru, kleines Seitental S des Stausees, linke Talseite. 69°29’ E, 34°33’ N, ca. 1600 m. Offene Silikatfelsen, W-exponiert. Leg. M. Steiner (Ste 58/1), 14.16.1970. LICHENOTHECA AFGHANICA NR. 02.

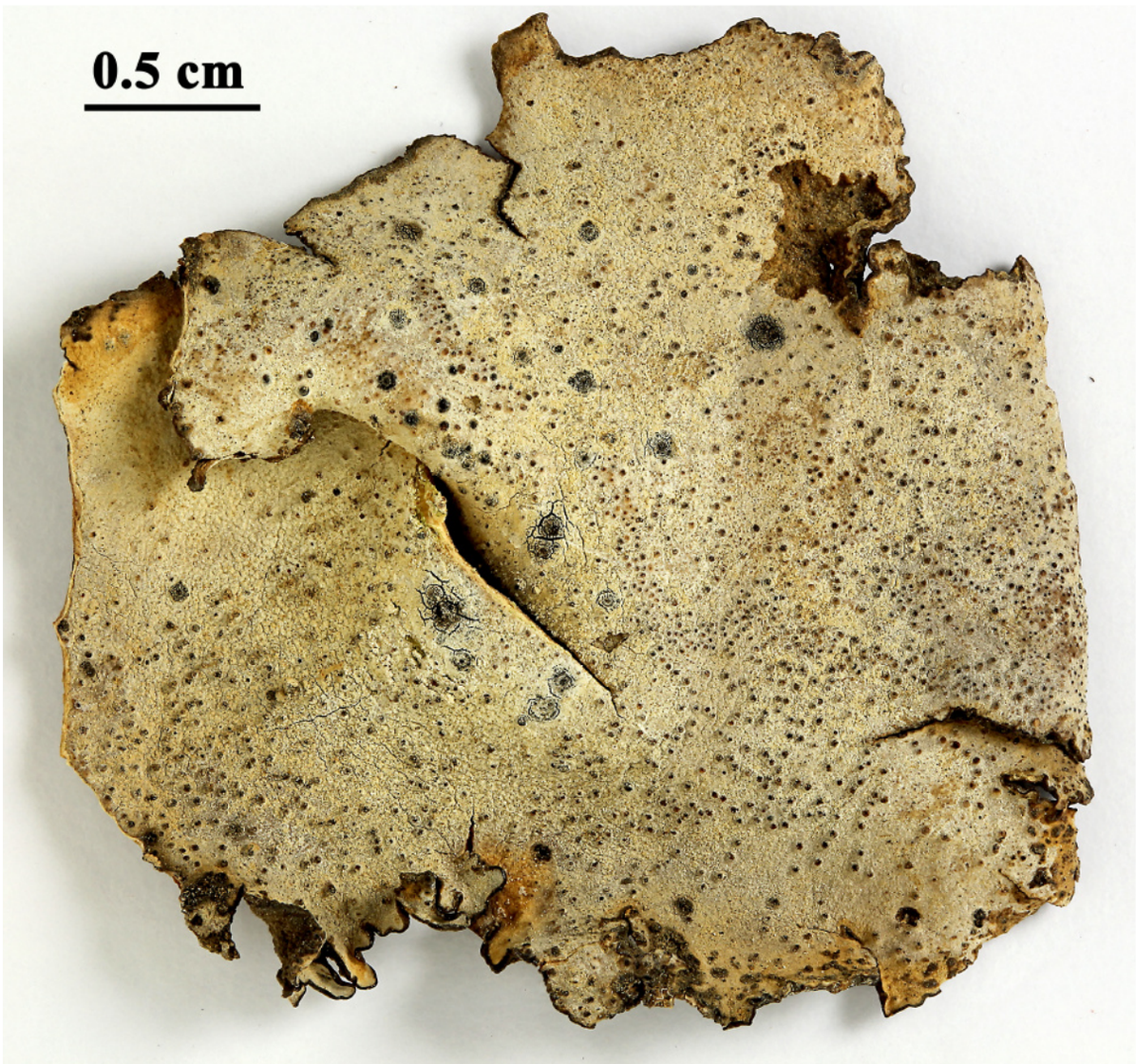




Dermatocarpon miniatum

Dermatocarpon miniatum (L.) W. Mann, Lich. Bohem. Observ. Dispos.: 66 (1825)

[LIAF_19], Afghanistan, Prov. Kabul, Paghman-Gebirge, oberhalb des Ortes Paghman, etwa 500 m unterhalb der Talgabelung Chap-Darrah und Rast-Darrah, 68°56’ E, 34°37’ N, ca. 2540 m. Silikatfelsen. Leg. D. Podlech (Pod 57/1), 10.04.1977. LICHENOTHECA AFGHANICA NR. 19.





Dermatocarpon miniatum

Dermatocarpon miniatum (L.) W. Mann, Lich. Bohem. Observ. Dispos.: 66 (1825)

[LIAF_57], Afghanistan, Prov. Kabul, Paghman-Gebirge, oberhalb des Ortes Paghman, an der Talgabelung Chap-Darrah und Rast-Darrah, 68°56’ E, 34°37’ N, ca. 2550 m. Silikatfelsen und erderfüllte Spalten. Leg. M. Steiner (Ste 36/1, 37/1, 59/4), 30.5. und 21.06.1970. LICHENOTHECA AFGHANICA NR. 57.





Dermatocarpon miniatum





Dermatocarpon miniatum

Dermatocarpon moulinsii (Mont.) Zahlbr., in Engler & Prantl, Nat. Pflanzenfam., Teil. I (Leipzig) 1(1*): 60 (1903)

[LIAF_23], Afghanistan, Prov. Kabul, Paghman-Gebirge, oberhalb des Ortes Paghman, ca. 500 m unterhalb der Talgabelung Chap-Darrah und Rast-Darrah, 68°56'E, 34°37' N, 2540 m. Leg. D. Podlech (Pod 57/2), 10.04.1977. LICHENOTHECA AFGHANICA NR. 23.





Dermatocarpon moulinsii

Dermatocarpon moulinsii (Mont.) Zahlbr., in Engler & Prantl, Nat. Pflanzenfam., Teil. I (Leipzig) 1(1*): 60 (1903)

[LIAF_24], Afghanistan, Prov. Kabul, Paghman-Gebirge, oberhalb des Ortes Paghman, an der Talgabelung Chap-Darrah und Rast-Darrah, 68°56'E, 34°37' N, 2550 m. Leg. M. Steiner (Ste 36/1, 37/1, 59/4), 21.06.1970. LICHENOTHECA AFGHANICA NR. 24.

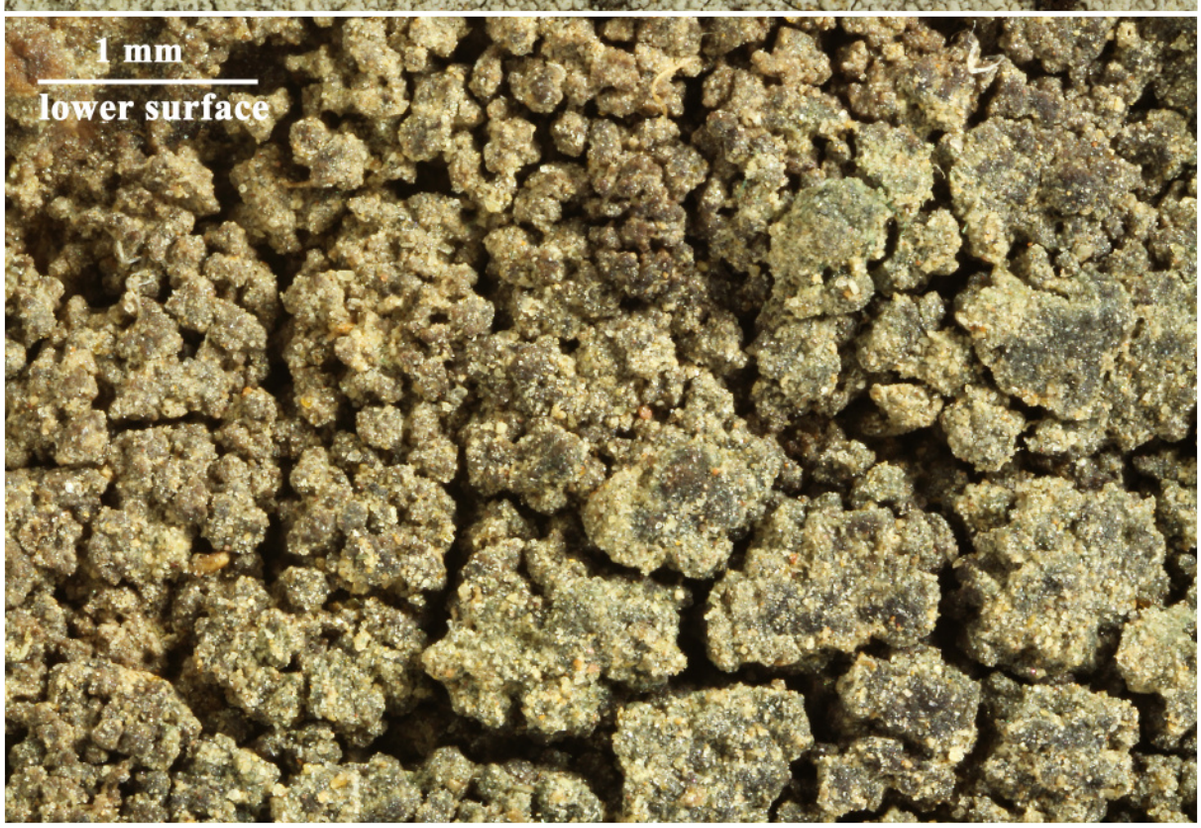






Dermatocarpon moulinsii



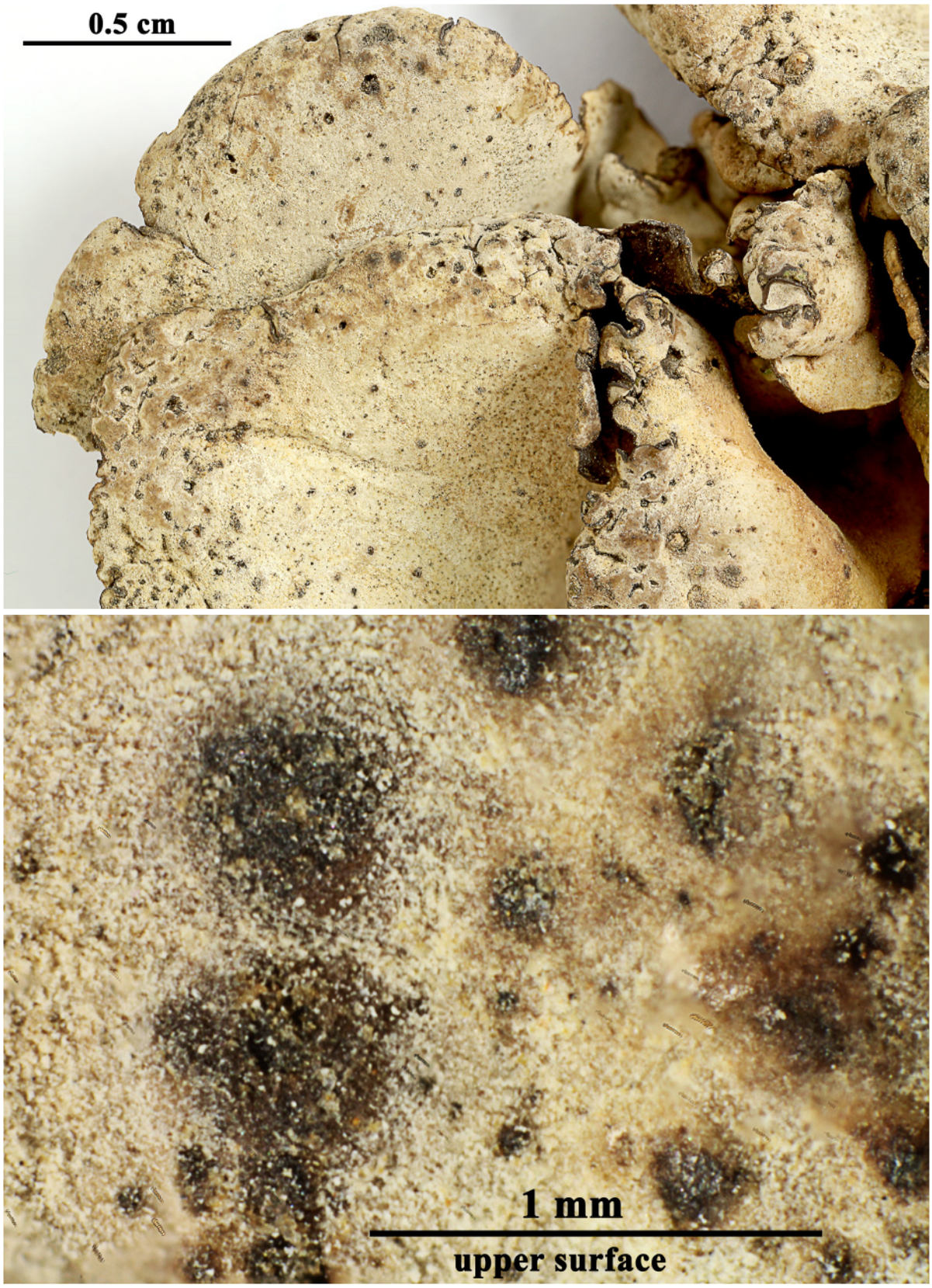


Dermatocarpon moulinsii

Dermatocarpon pellitum (Poelt & V. Wirth) Breuss, Öst. Z. Pilzk. 4: 140 (1995)
[= *Dermatocarpon moulinsii* var. *pellitum* Poelt & V. Wirth 1968]

[GZU PP-86], Afghanistan, Prov. Kabul, Paghman-Gebirge, oberhalb des Dorfes Paghman, ca. 500 m unterhalb der Talgabelung Chap-Darrah und Rast-Darrah, 68°56’ E, 34°37’ N, ca. 2540 m. Leg. D. Podlech (57/2), 10.04.1977. LICHENOTHECA AFRICANA NR. 23.



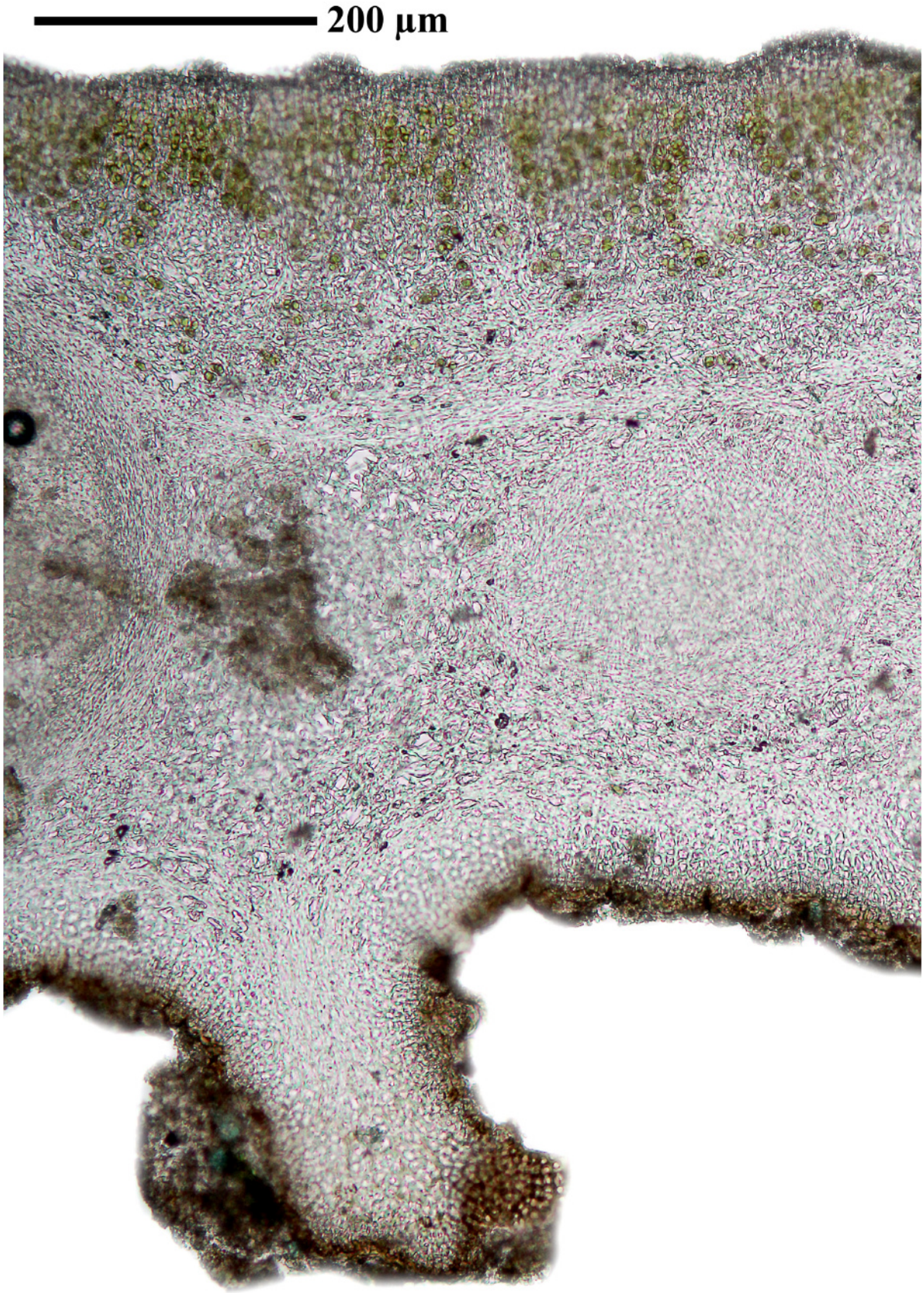


Dermatocarpon pellitum

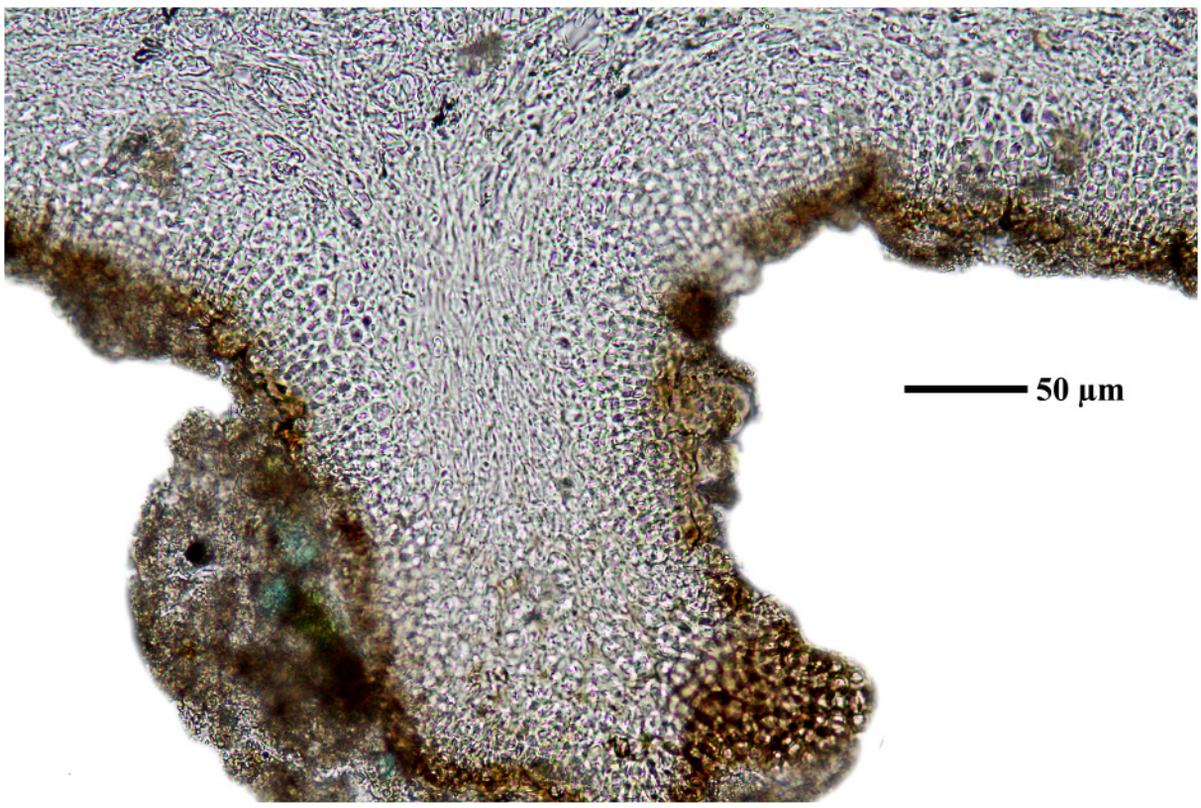


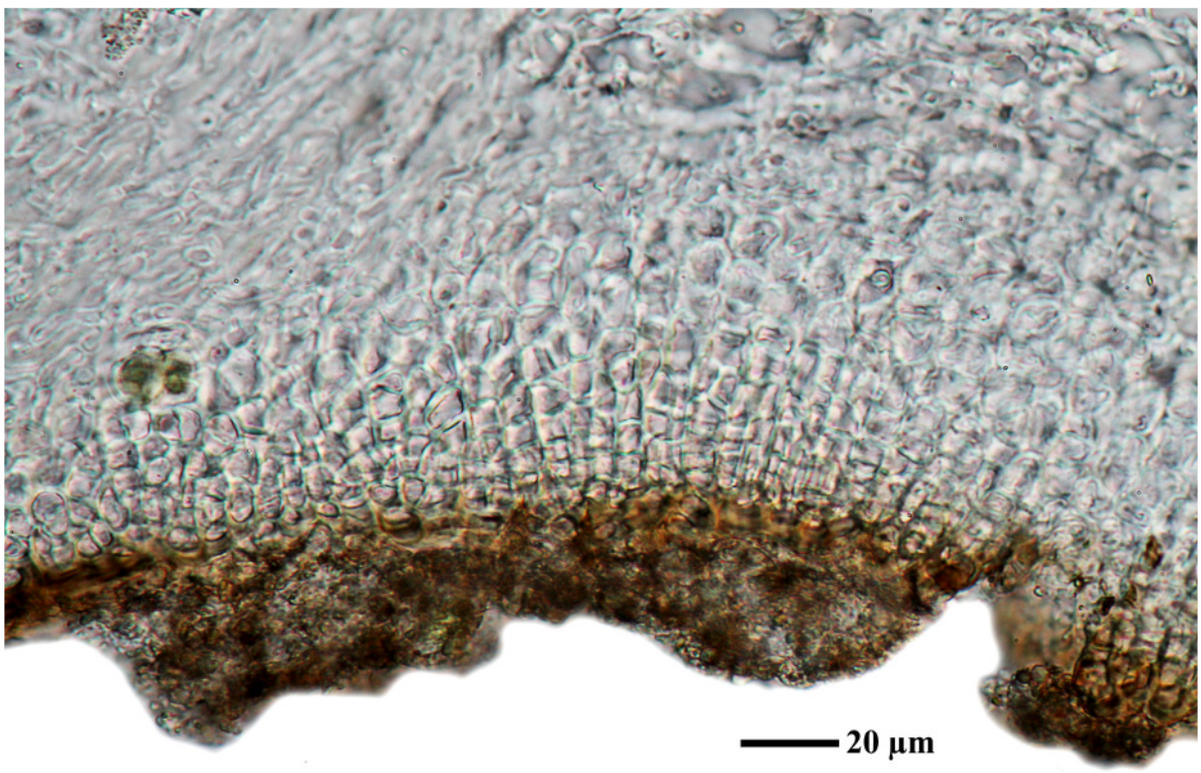


Dermatocarpon pellitum

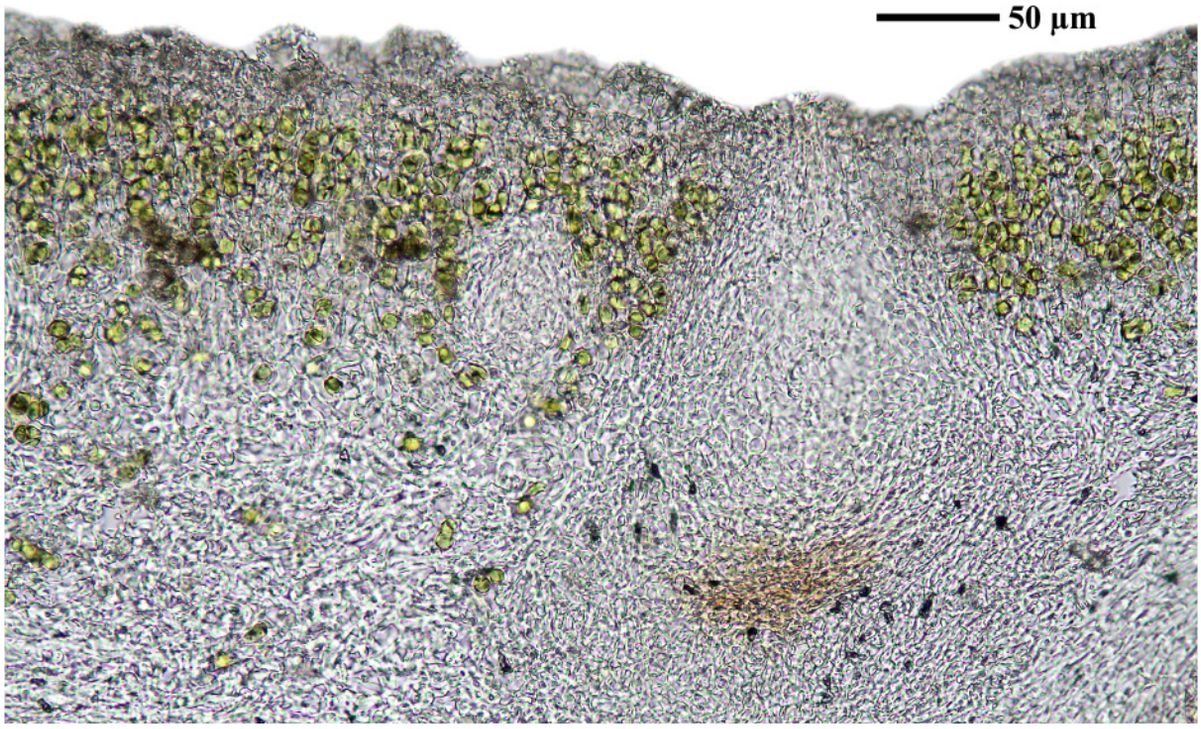


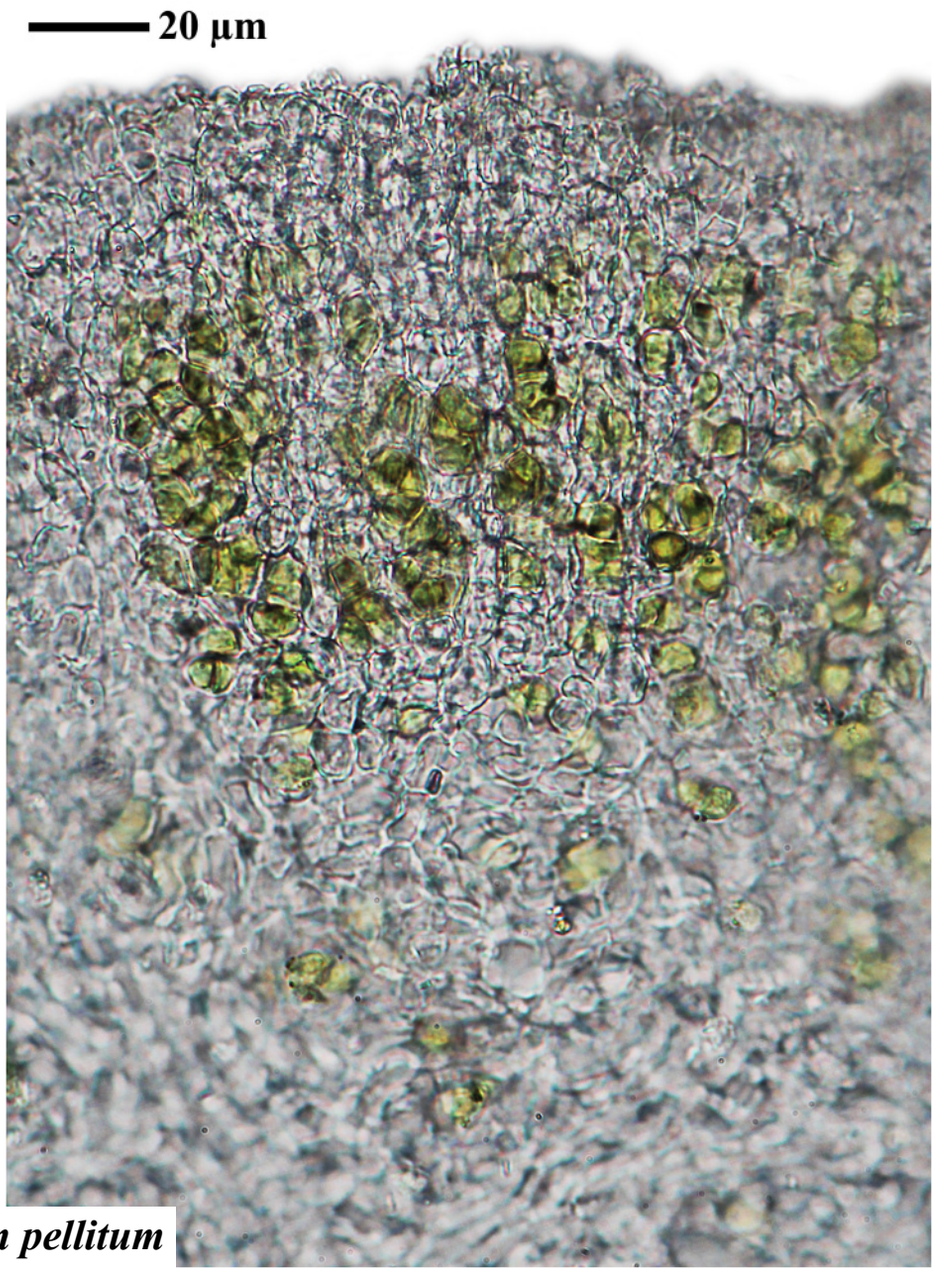
Dermatocarpon pellitum



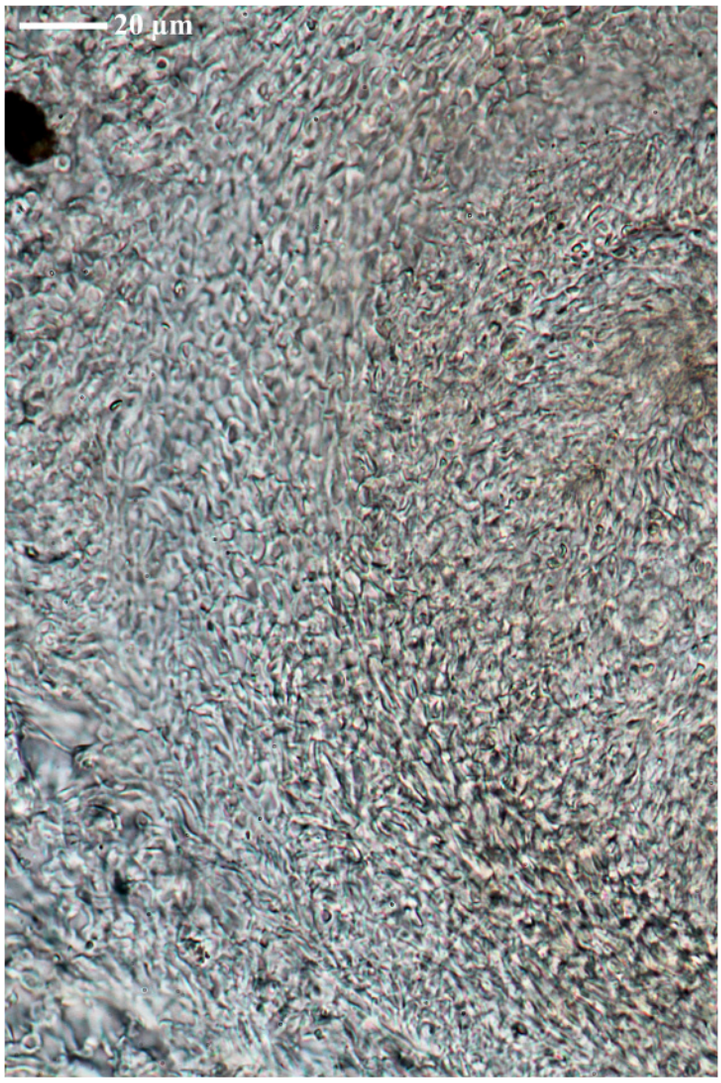


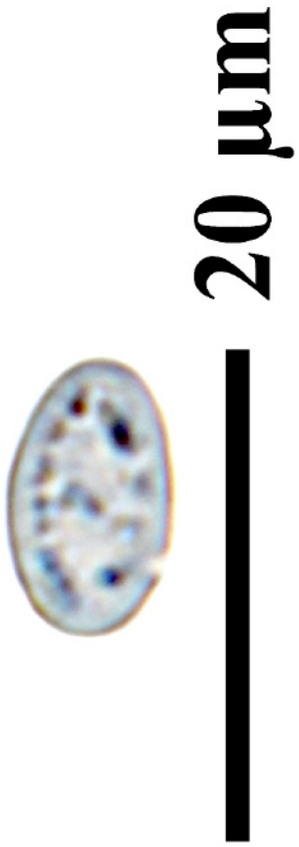
Dermatocarpon pellitum

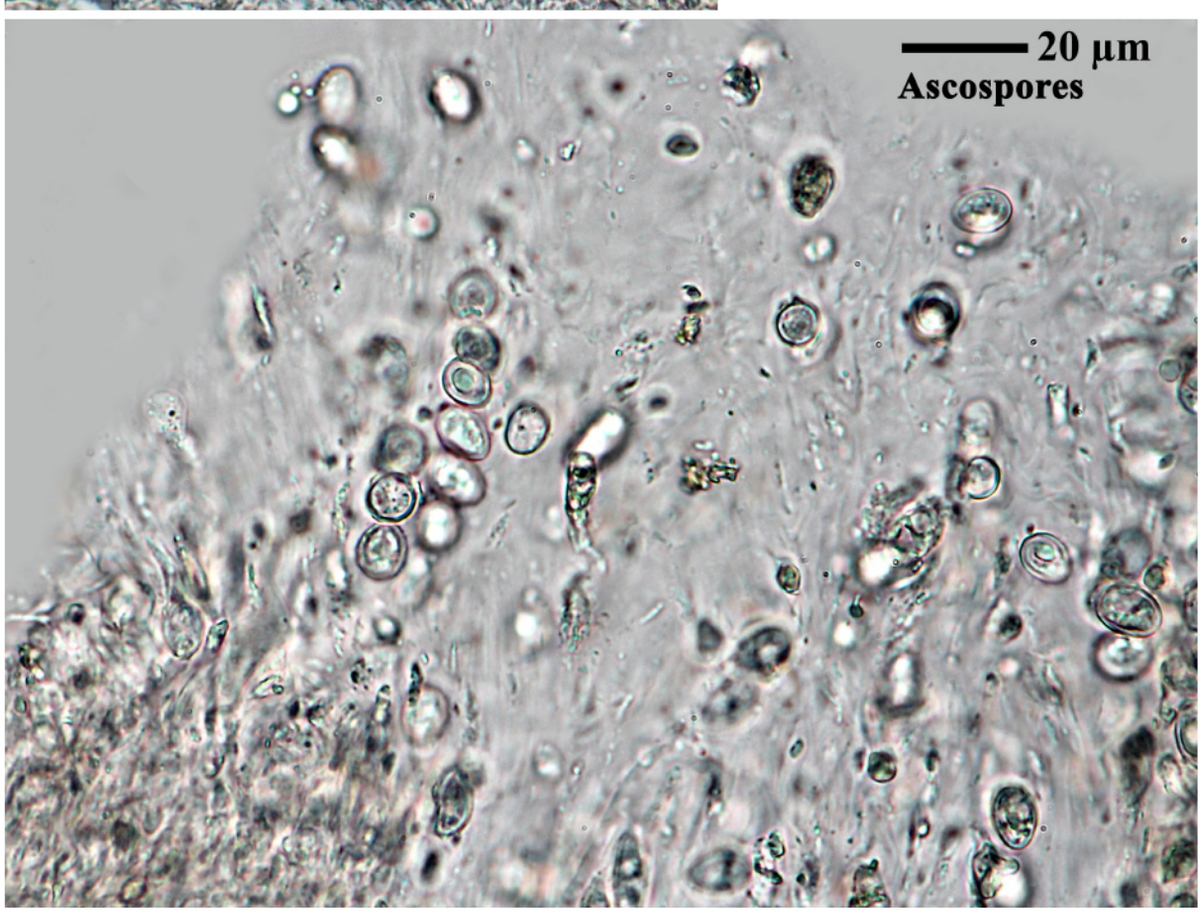




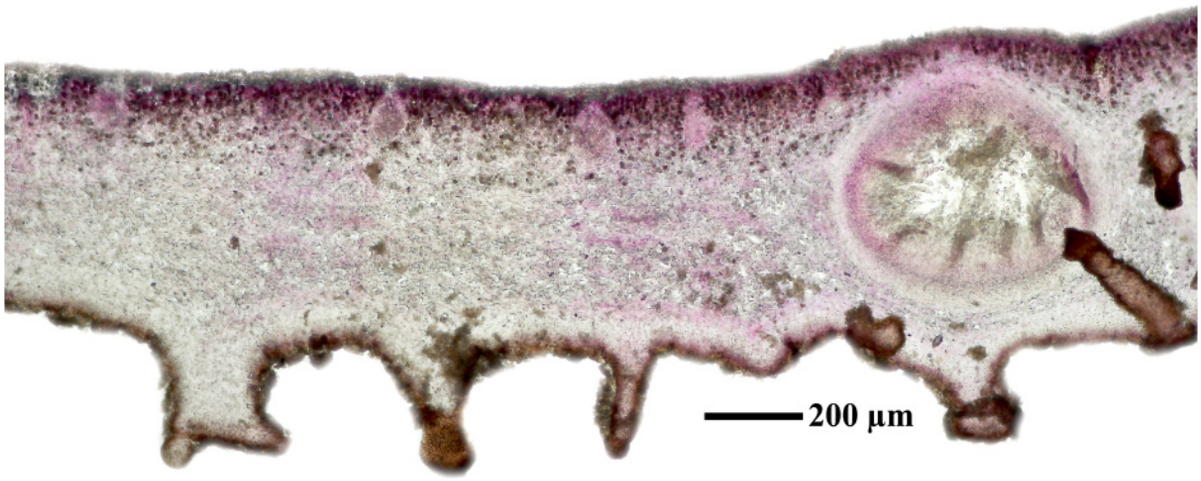
Dermatocarpon pellitum

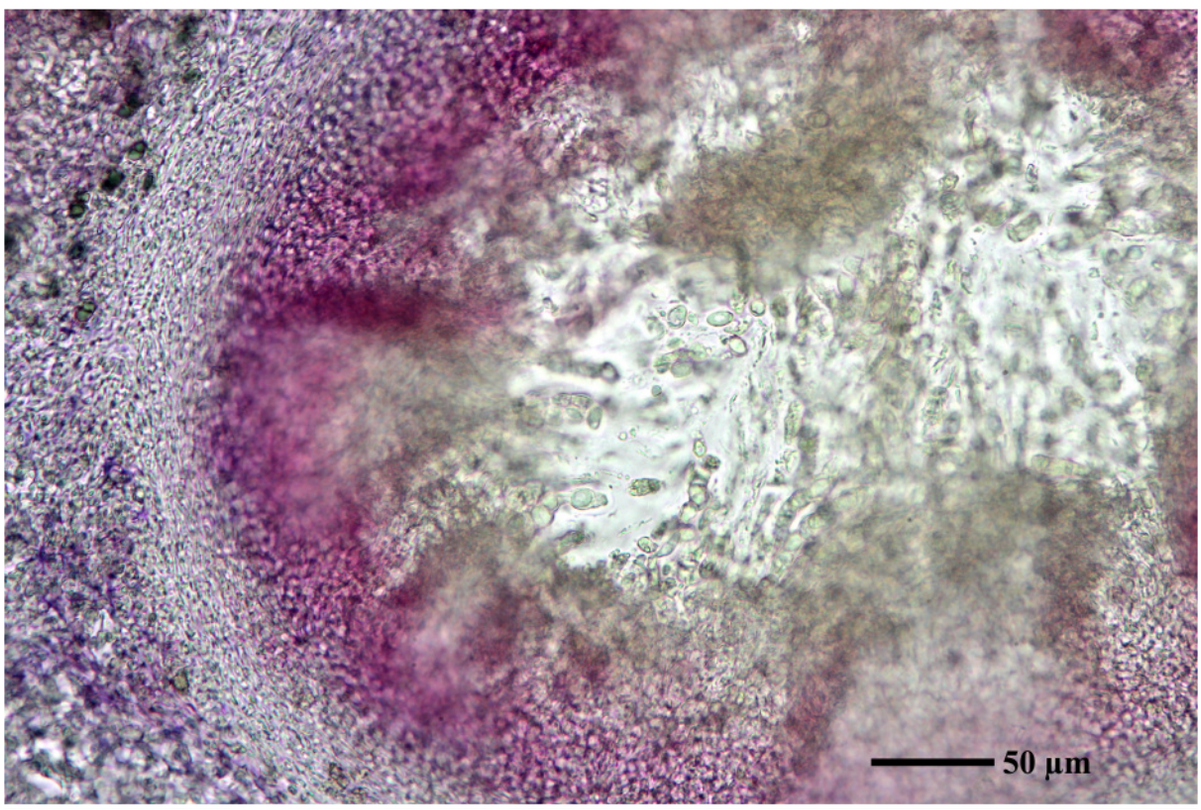


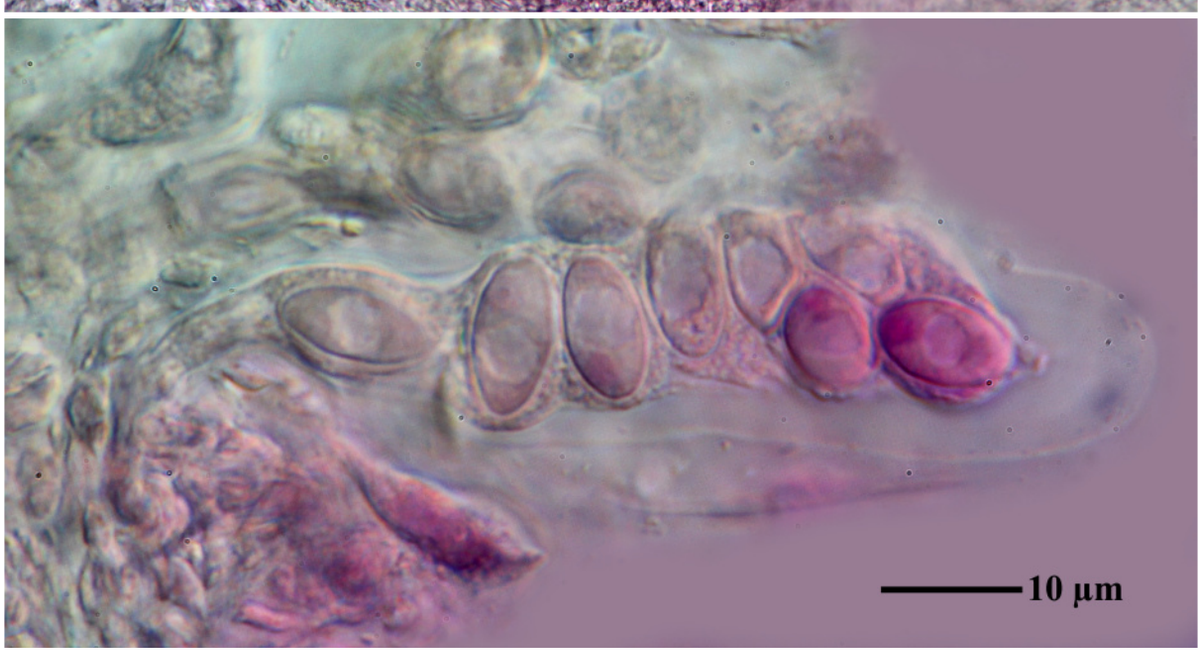




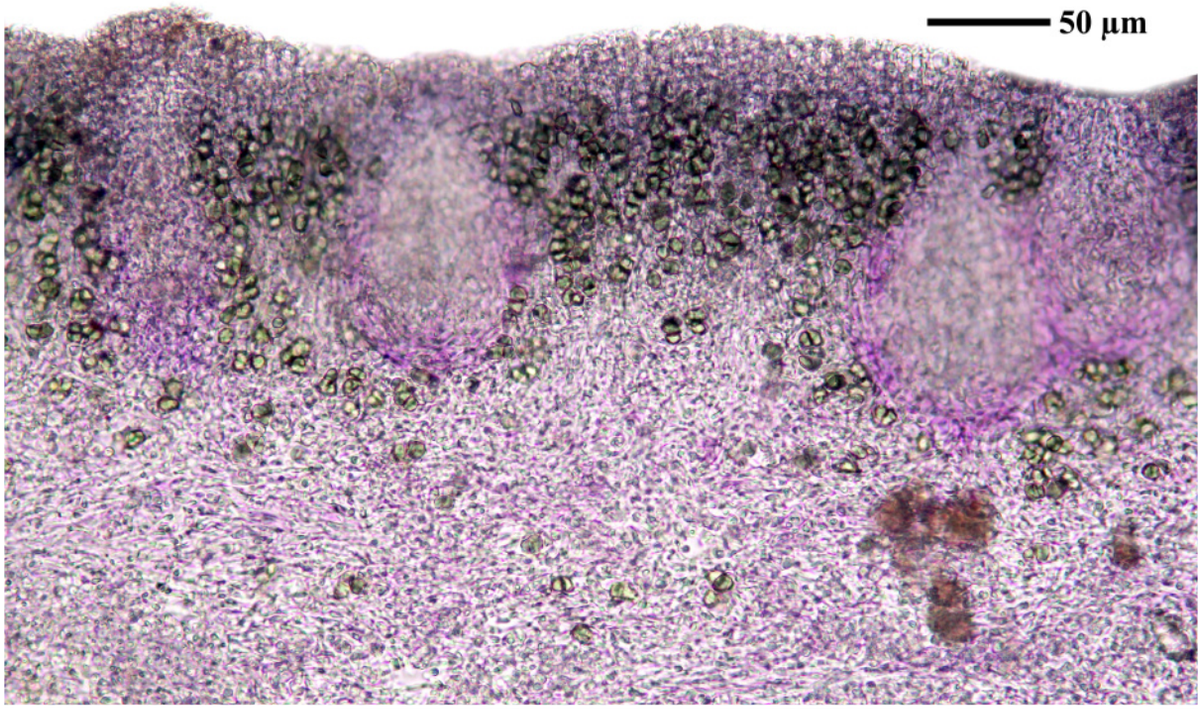
Dermatocarpon pellitum

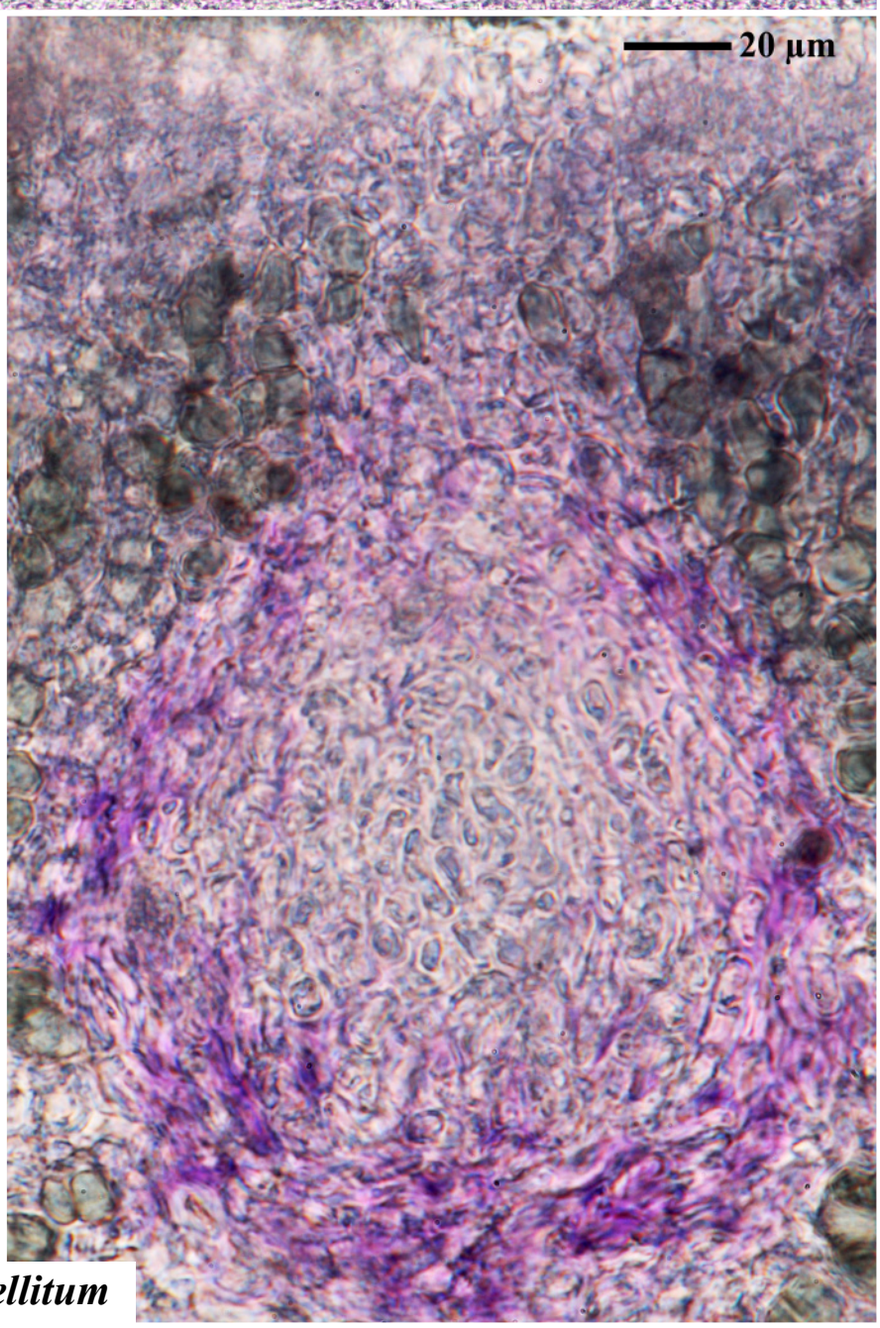




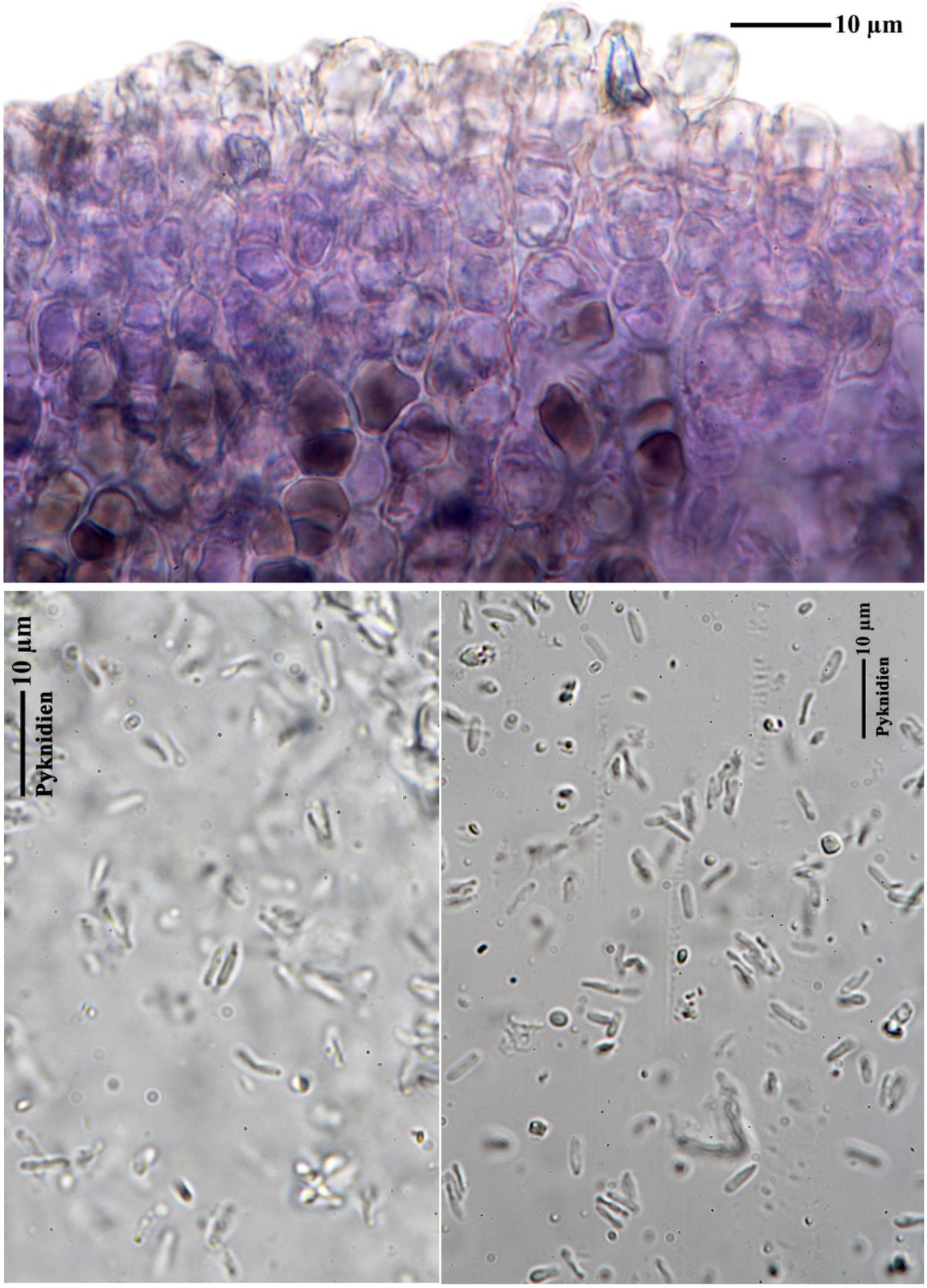


Dermatocarpon pellitum





Dermatocarpon pellitum

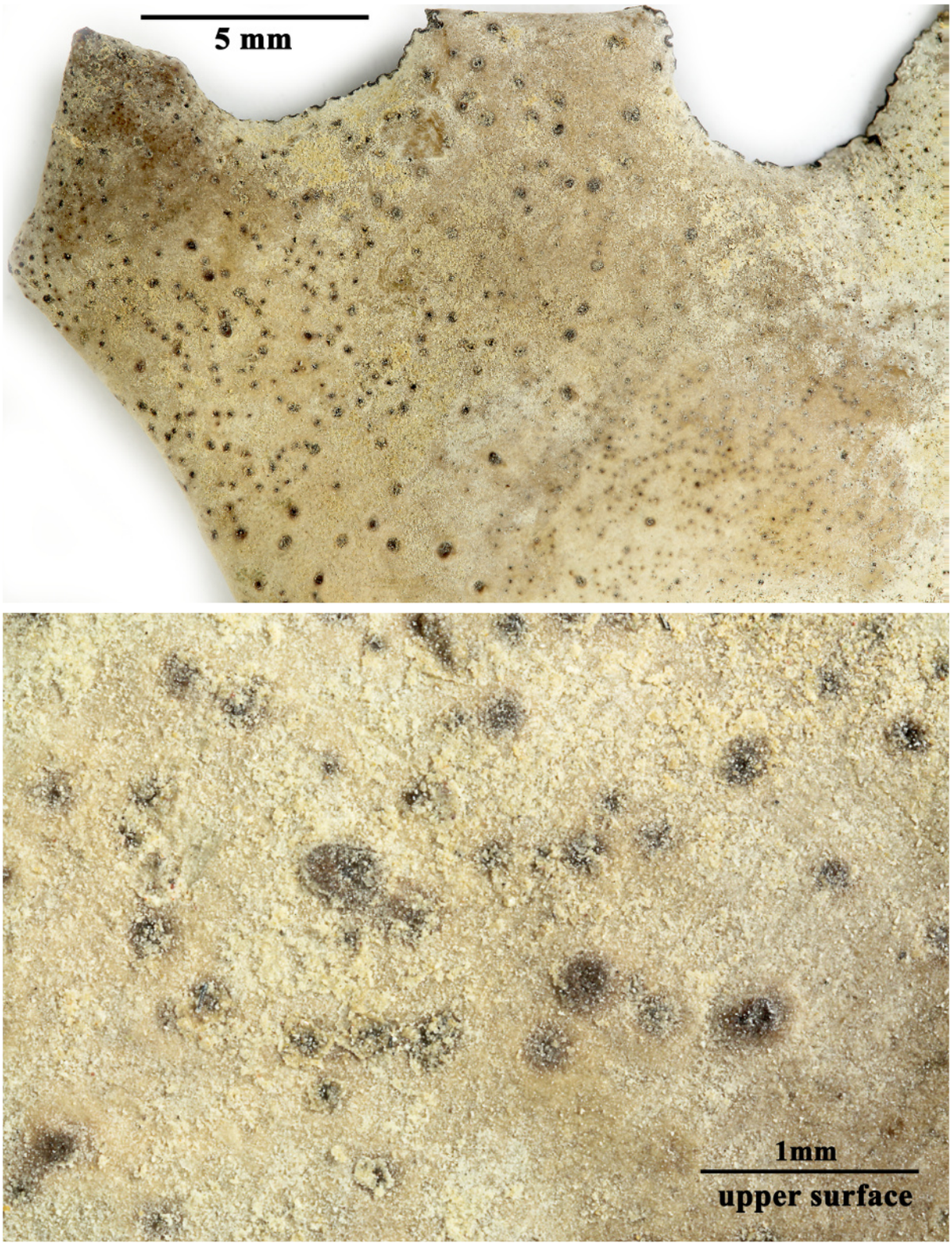


Dermatocarpon pellitum

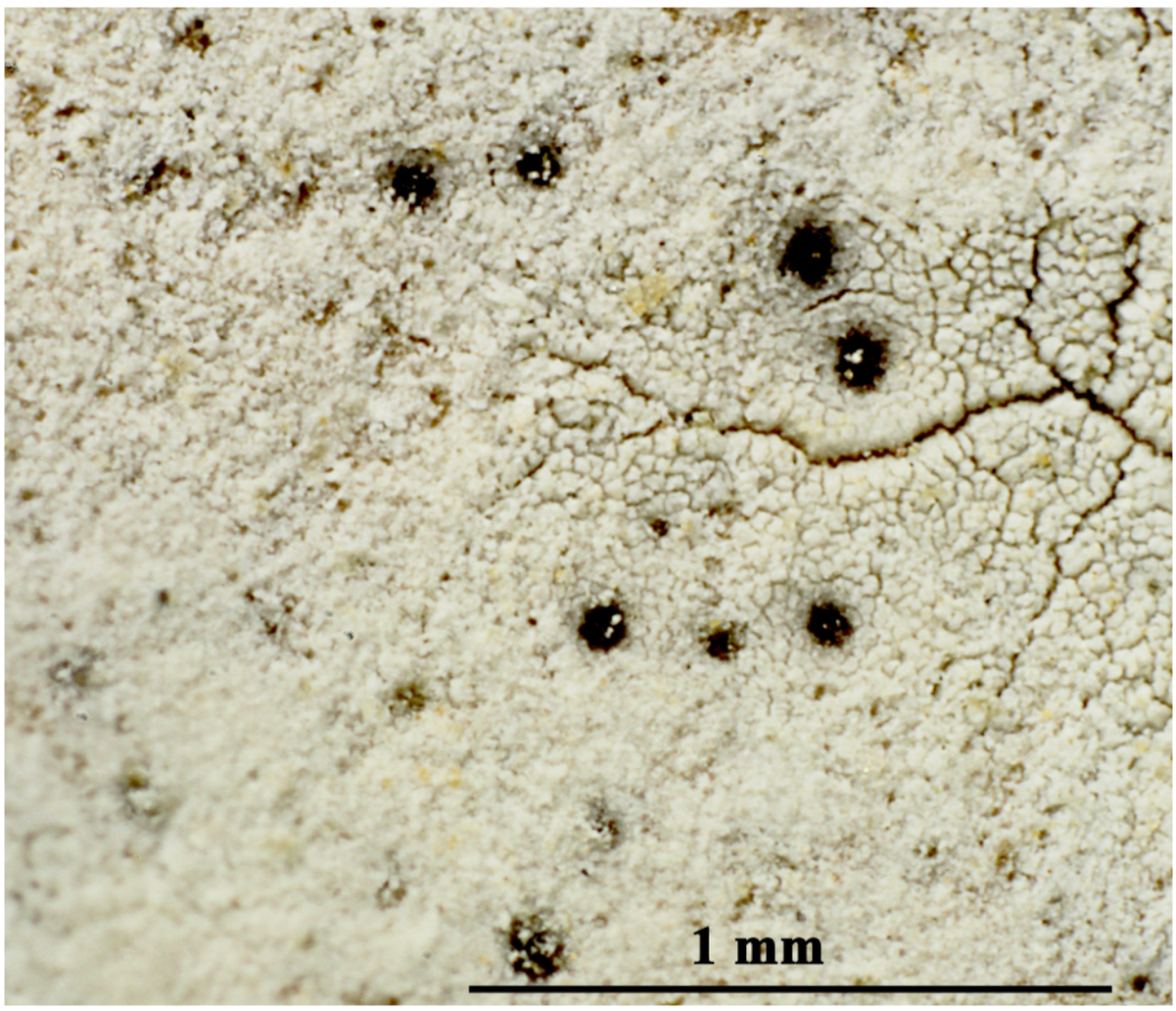
Dermatocarpon vellereum Zsch.

[GZU 4-92], Afghanistan, Prov. Paktia, Kotkai (69°51’ E, 33°50’30” N), Sarsarong, ca. 1700 m. Leg. O Volk (Nr. 17042), 1971, det. O. Breuß, 1995.



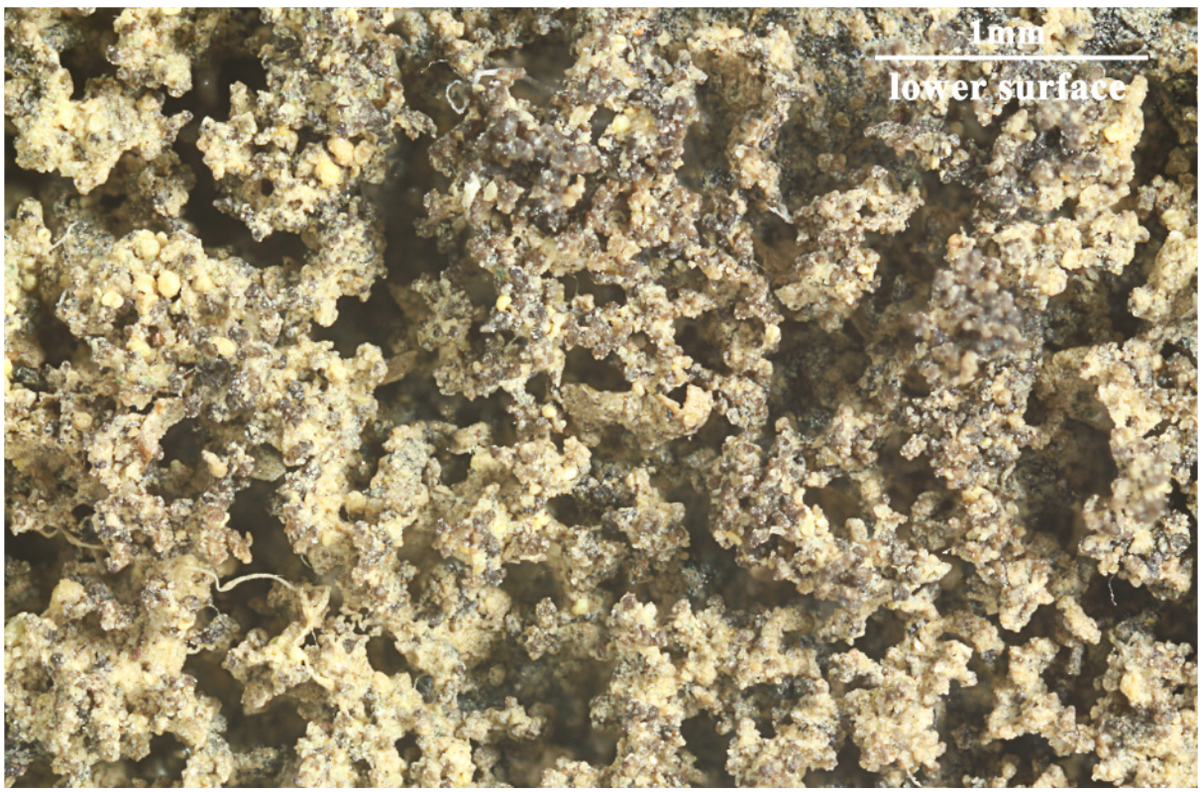


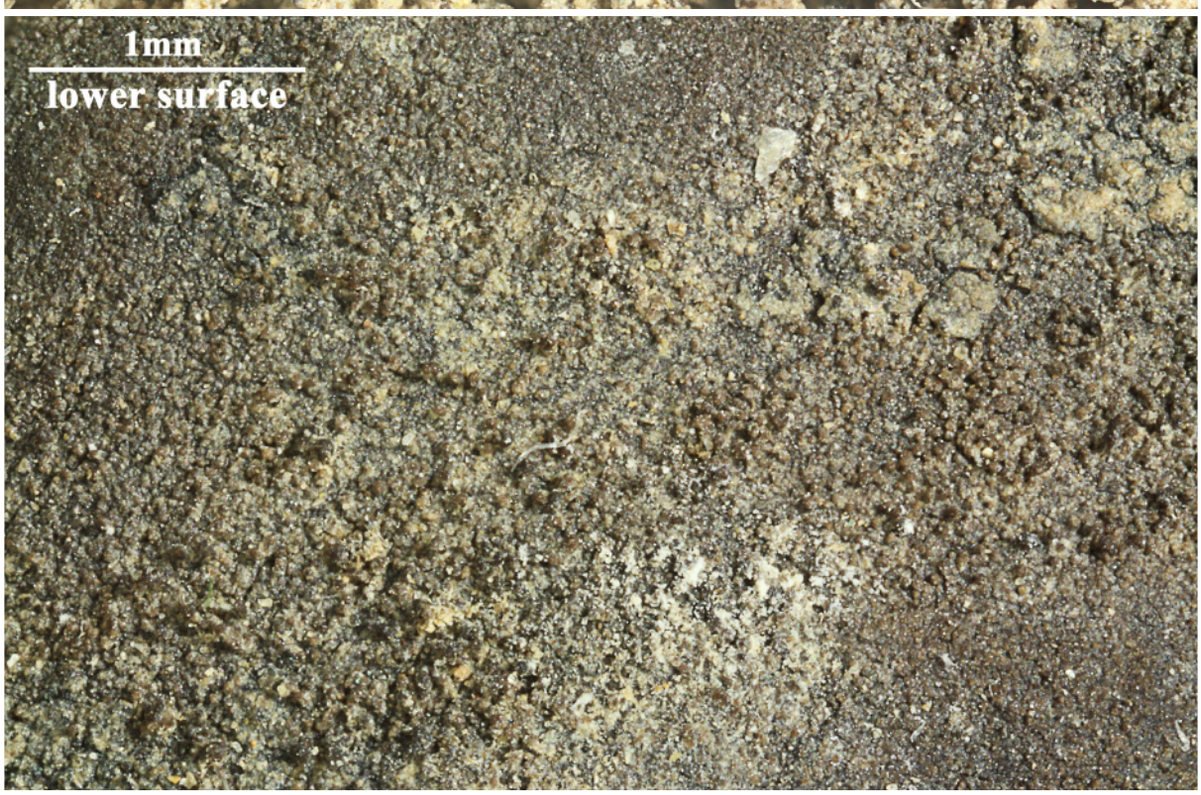
Dermatocarpon vellereum



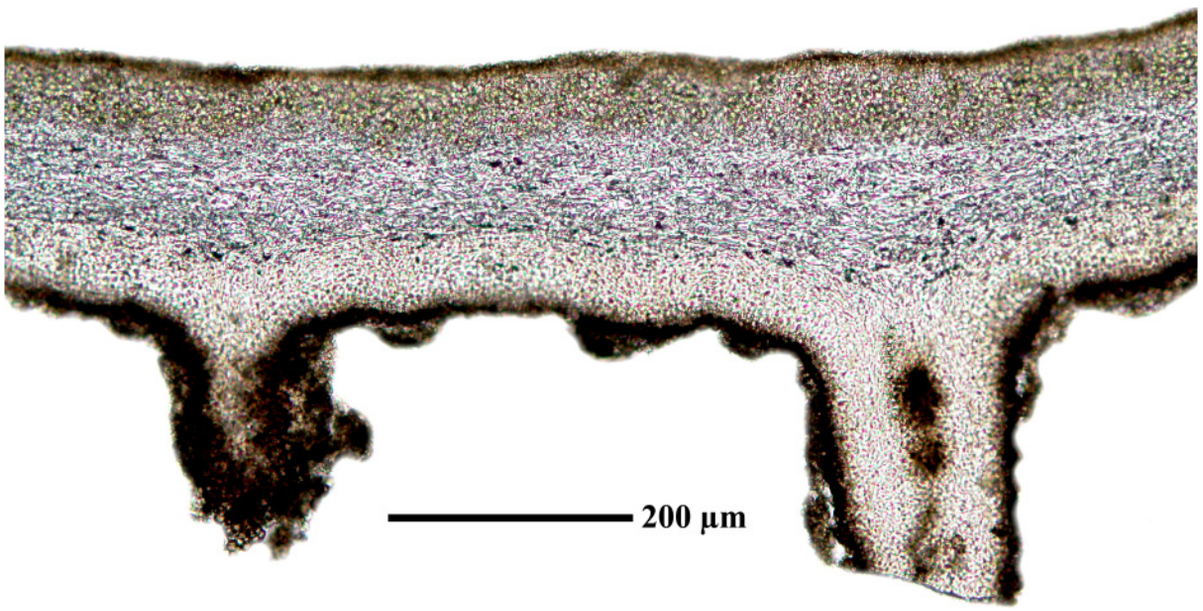


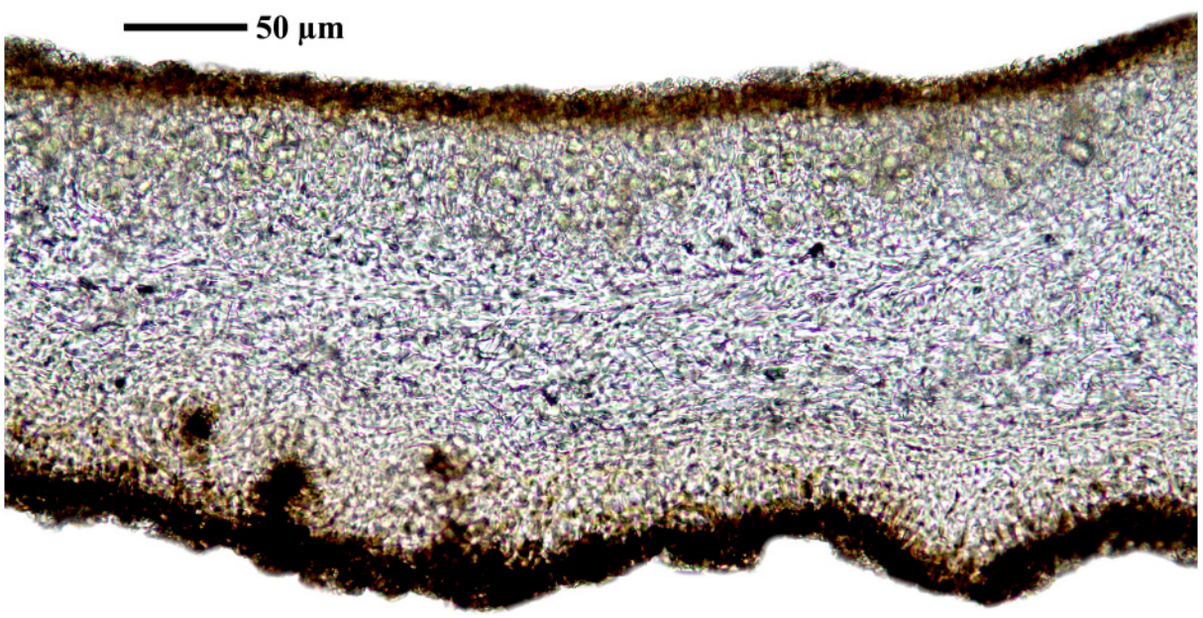
Dermatocarpon vellereum

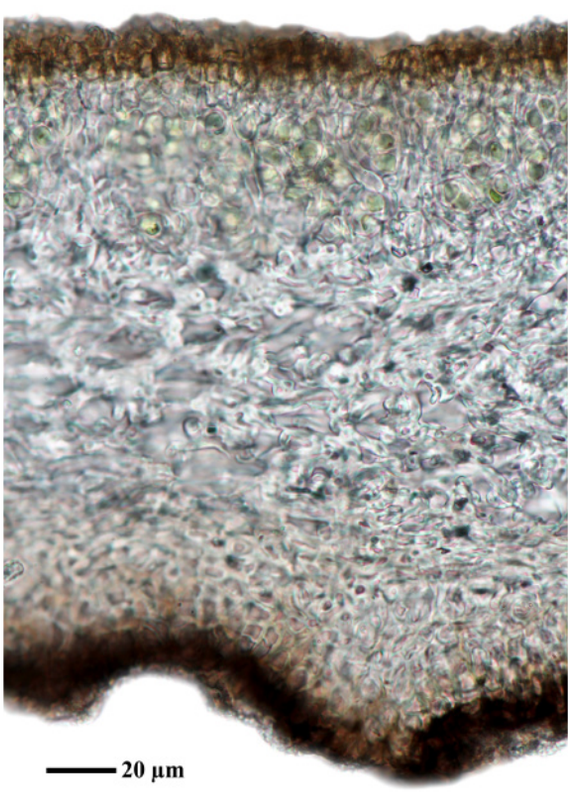




Dermatocarpon vellereum

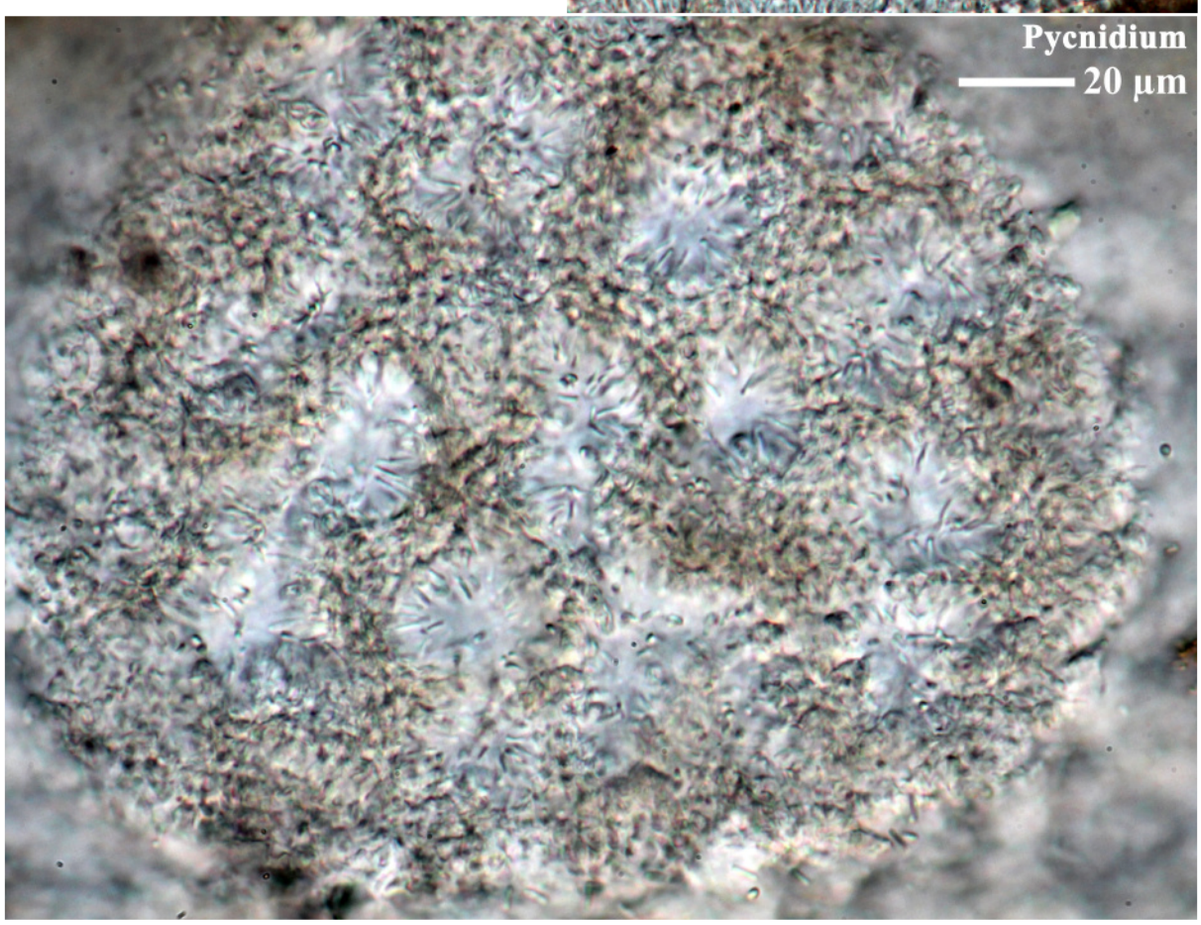




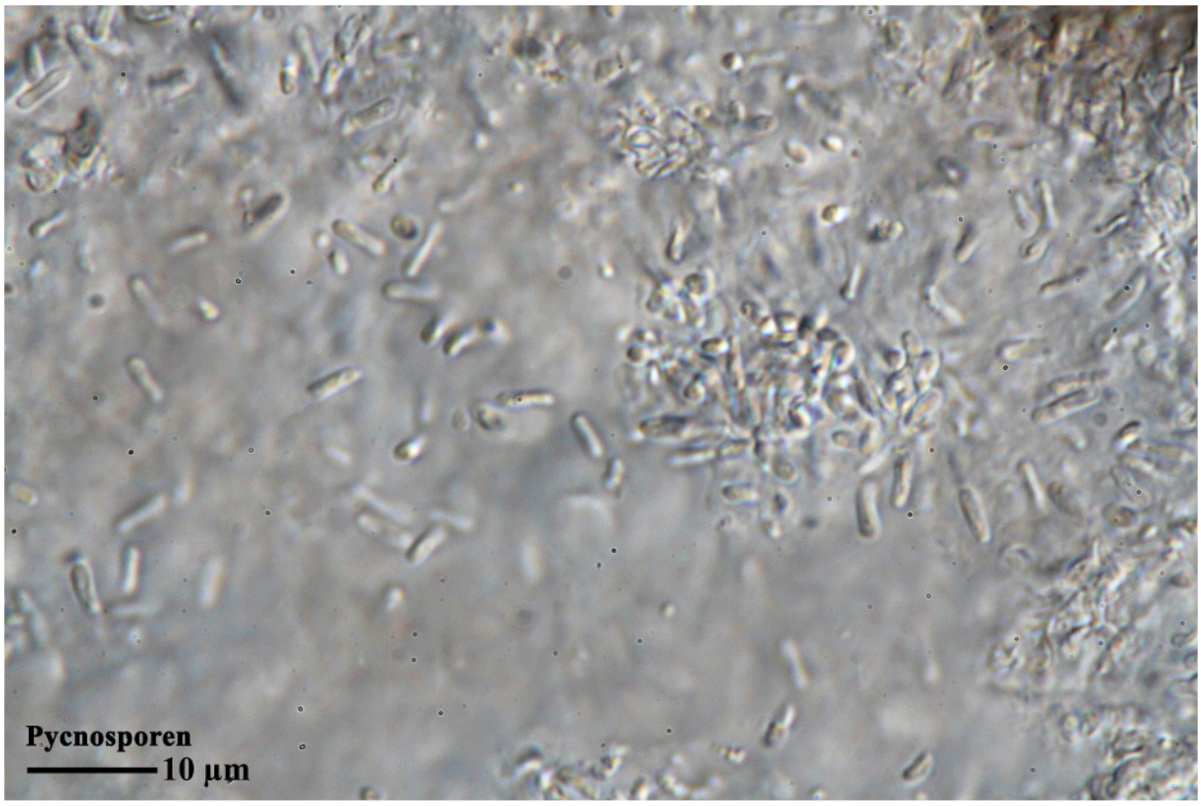


Dermatocarpon vellereum



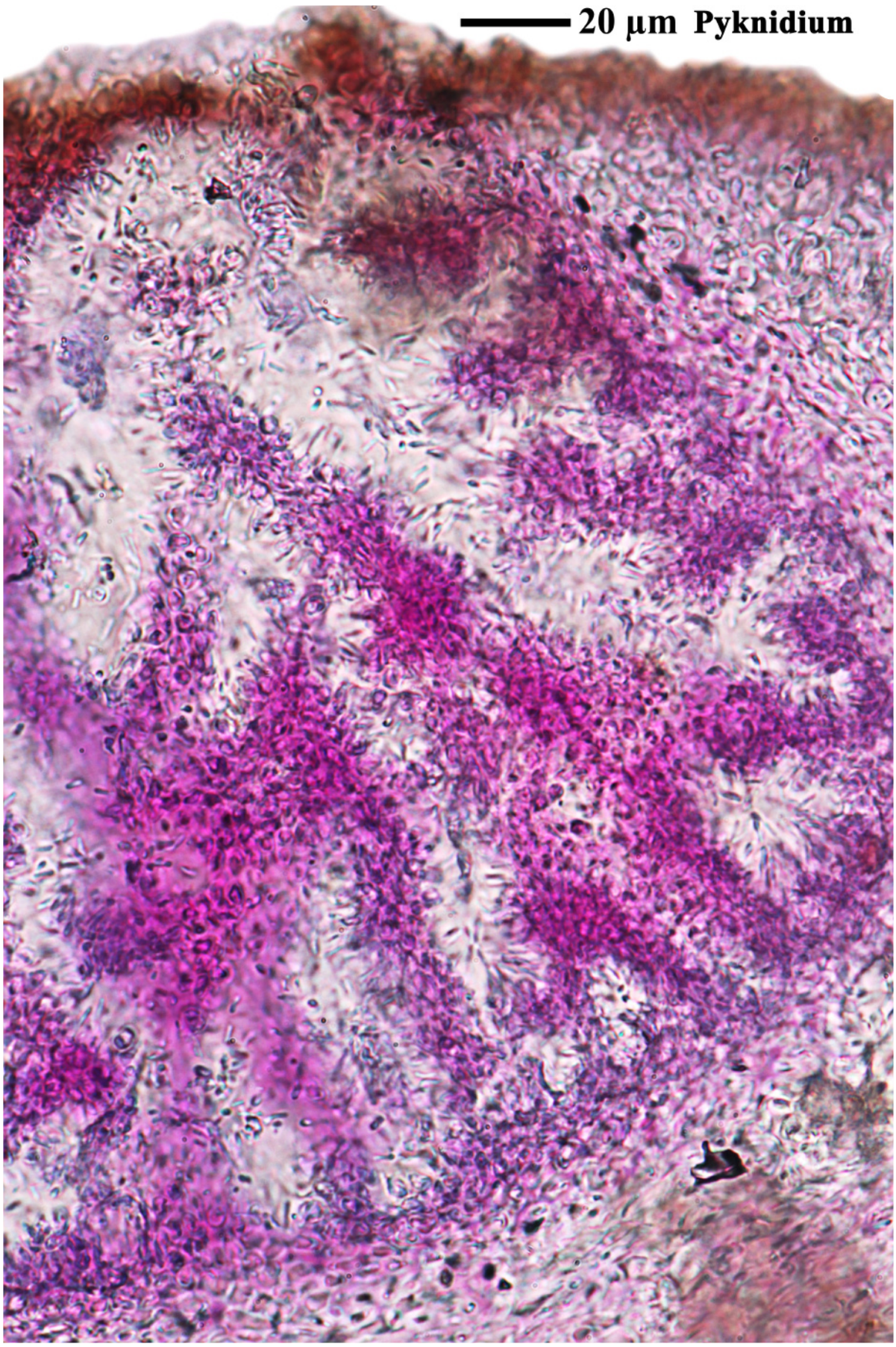


Dermatocarpon vellereum





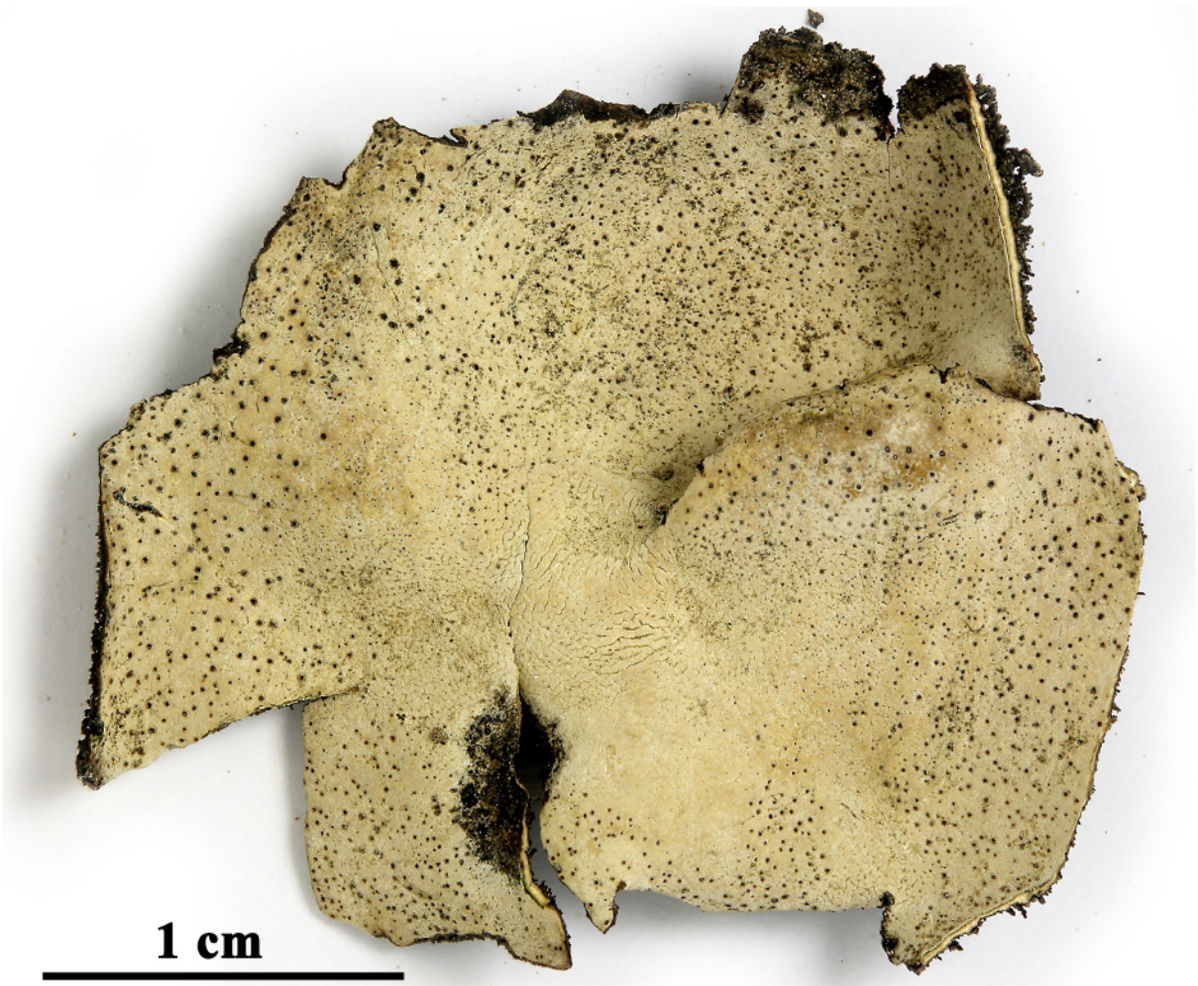
Dermatocarpon vellereum

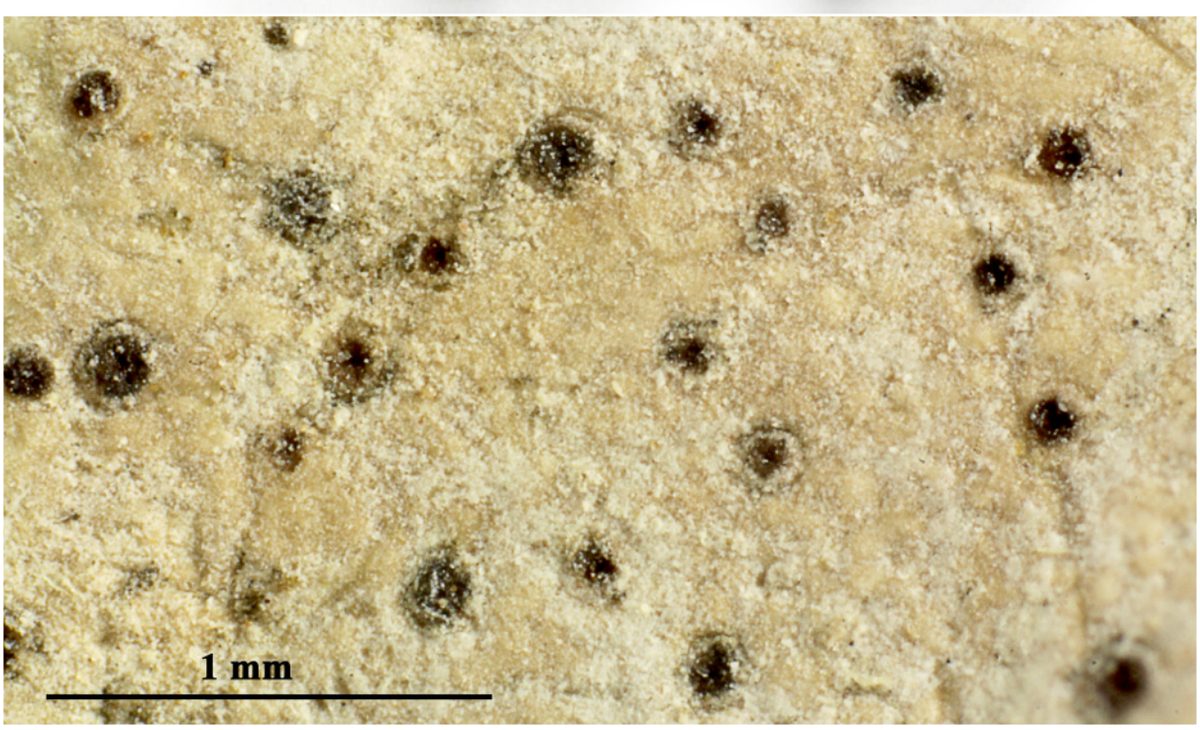


Dermatocarpon vellereum

Dermatocarpon vellereum Zschacke, Rabenh. Krypt.-Fl., Edn 2 (Leipzig) 9.1(1): 638 (1934)

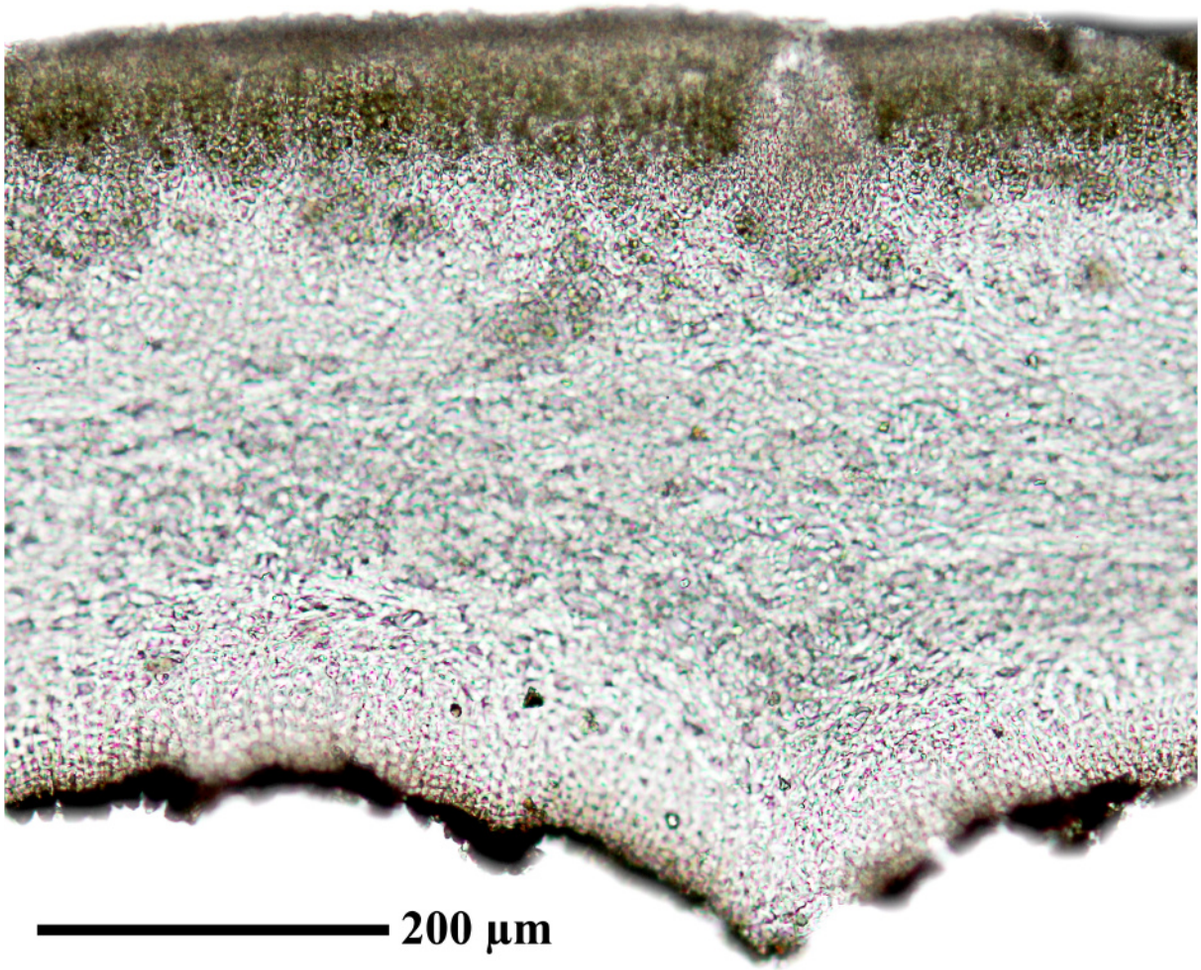
[GZU 27-94], Afghanistan, Prov. Balkh, bei Sadyano, S von Mazar-i-Sharif, oberhalb Sultan Baba Ali Sher., 67°6’ E., 36°34’ N, ca. 800 m. An N-exponierten Felswänden. Leg. H. Freitag, 17.3.1967.

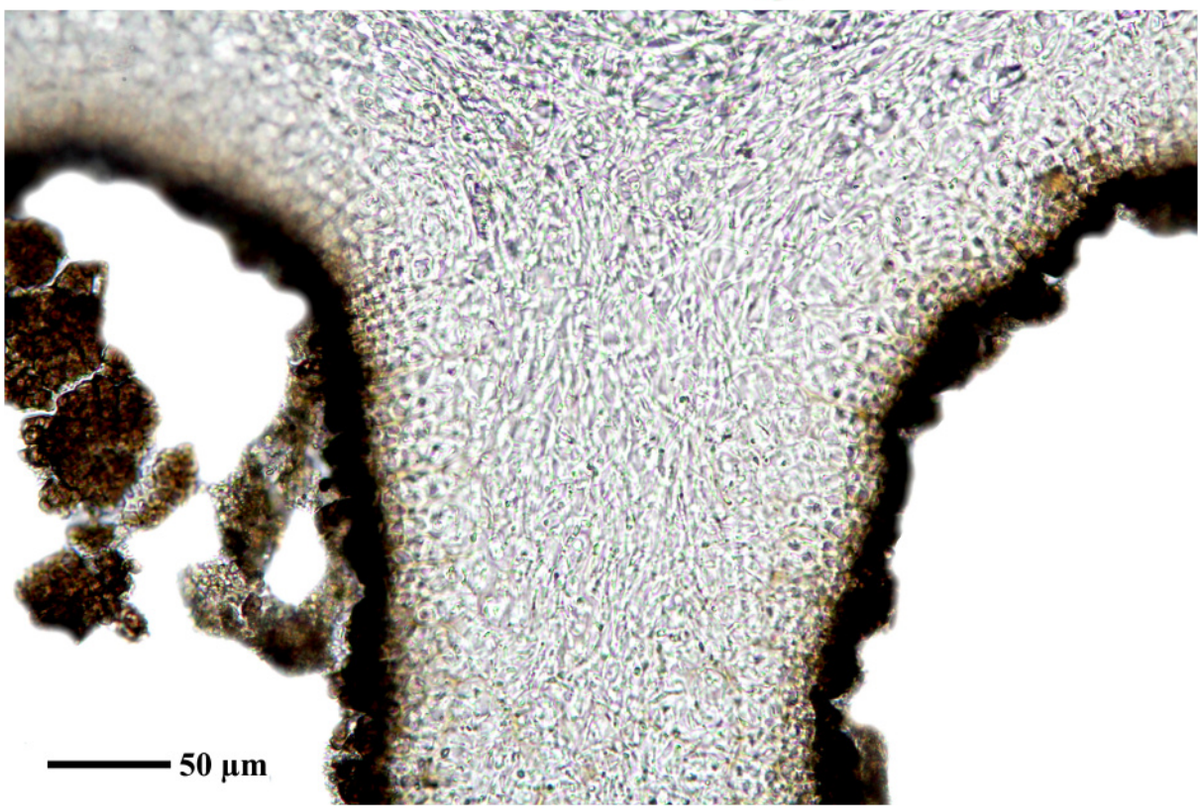




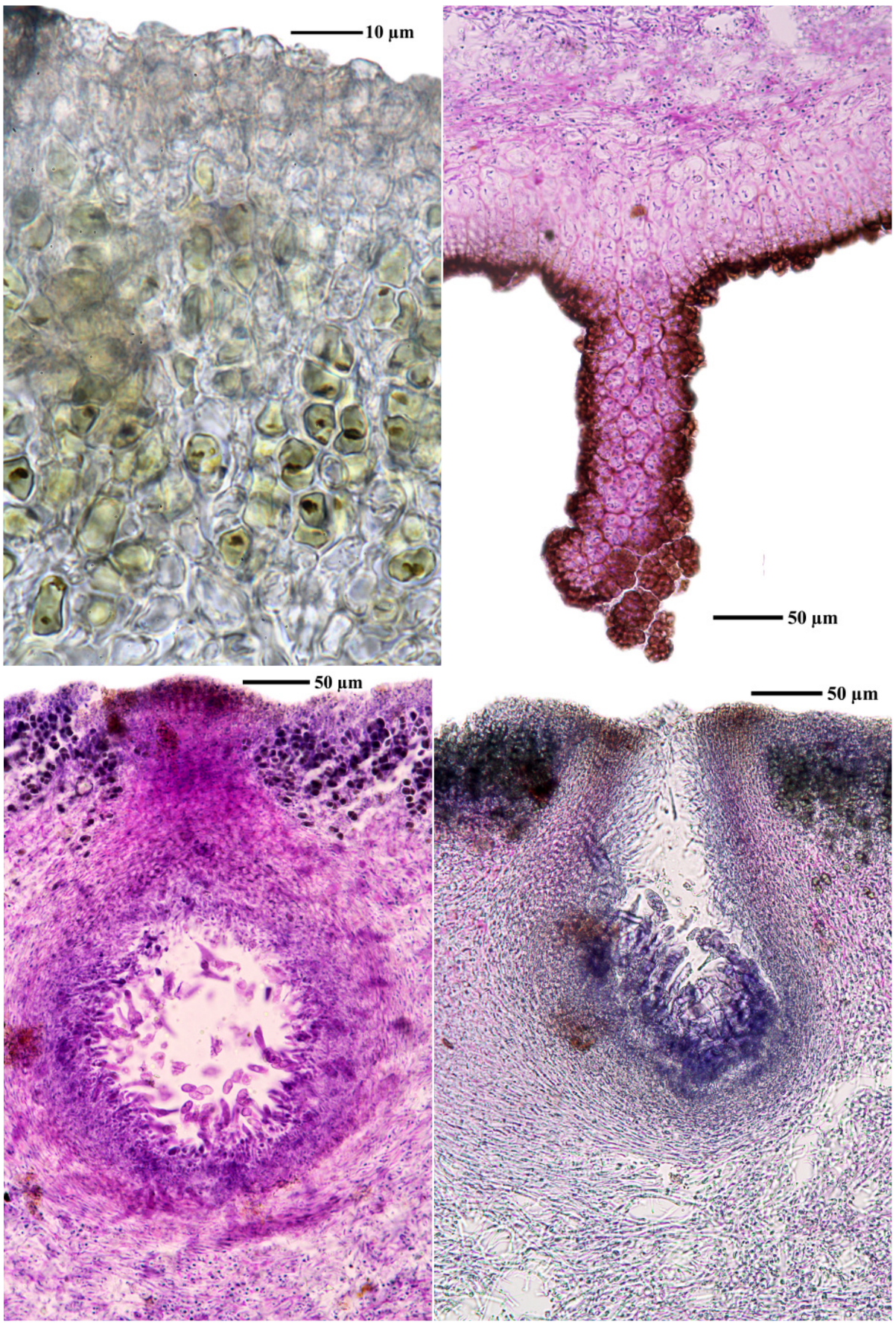


Dermatocarpon vellereum

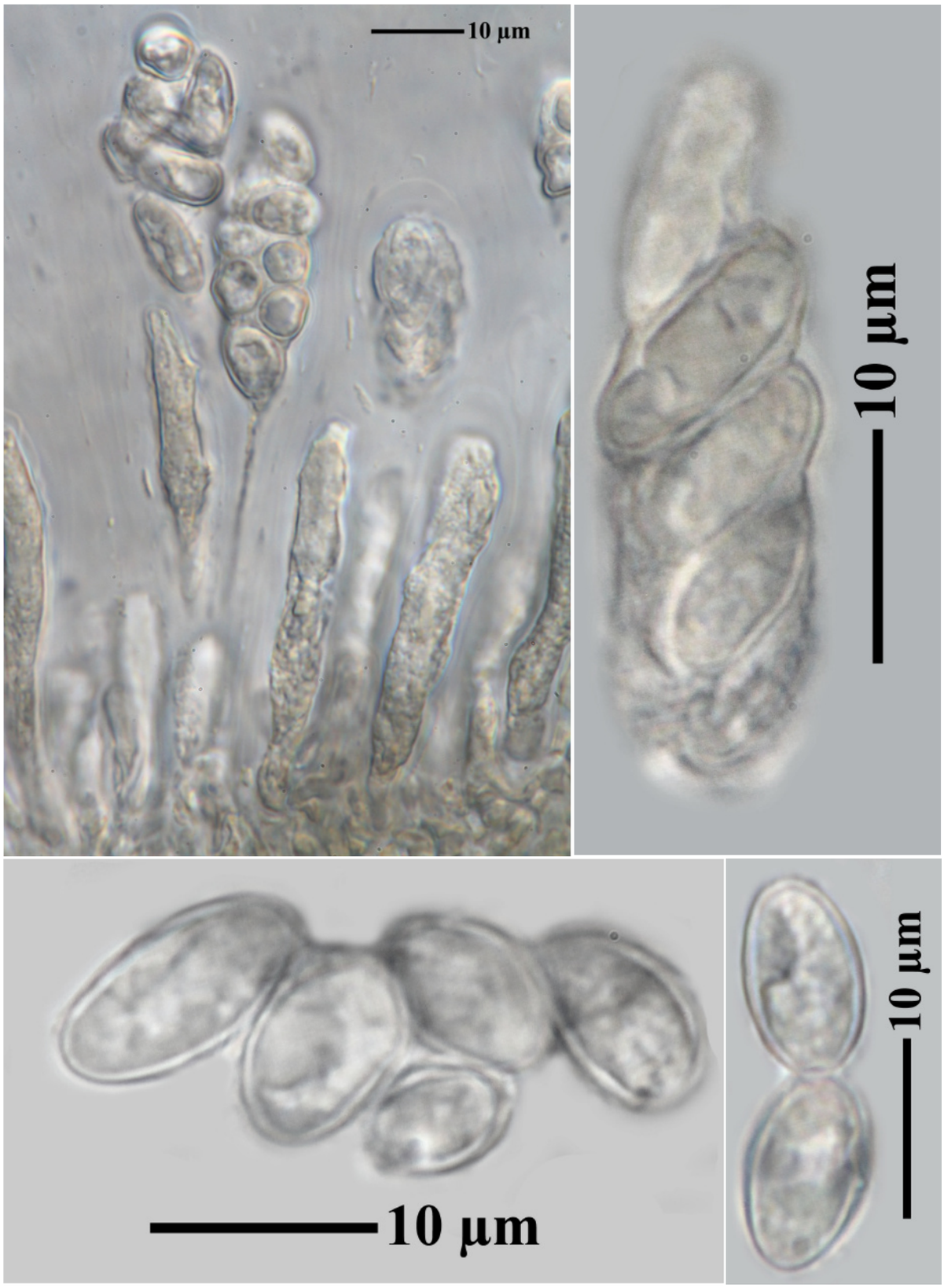




Dermatocarpon vellereum



Dermatocarpon vellereum



Dermatocarpon vellereum

Dermatocarpon vellereum Zschacke, Rabenh. Krypt.-Fl., Edn 2 (Leipzig) 9.1(1): 638 (1934)

[LIAF_14], Afghanistan, Prov. Paktia, Schlucht 4 km NW Zambar, an der Straße Khost-Chamkani, 69°52’ E, 33°35’ N, ca. 1500 m, schwach kalkhaltiger Tonschiefer, N-NE-exponierte Steilflächen. Leg. M. Steiner (Ste 71/6), 03.07.1970. LICHENOTHECA AFGHANICA NR. 14.





Dermatocarpon vellereum

Glypholecia scabra (Pers.) Müll.Arg., Hedwigia 31: 156 (1892)

Thallus 5.5-2.5 cm im Durchmesser, einblätterig. in der Mitte breit mit Nabel angewachsen, ohne Rhizinen, durch tiefe Risse scheinbar gefeldert. Unterseite hell. Obere Rinde flüchtig C+ rot. Apothecien eingesenkt, 0.7-2.5 mm im Durchm, aus zahlreichen Kleinhymenien zusammengesetzt. Sporen kugelig, farblos, 2.6-3.4 µm, 50-100/Ascus.

[LIAF_50], Afghanistan, Prov. Paktia, Sandrane Ebrahim Khel, an der Straße von Gardez nach Khost, 69°22’ S, 33°24’ N, 2200 m. Fast senkrechte Felswände wenig oberhalb der Straße, schieferiges Gestein, Sandstein mit karbonatischem Bindemittel (teste H. Kulke). Leg. M. Steiner (69/4), 06.07.1970. LICHENOTHECA AFGHANICA NR. 50.

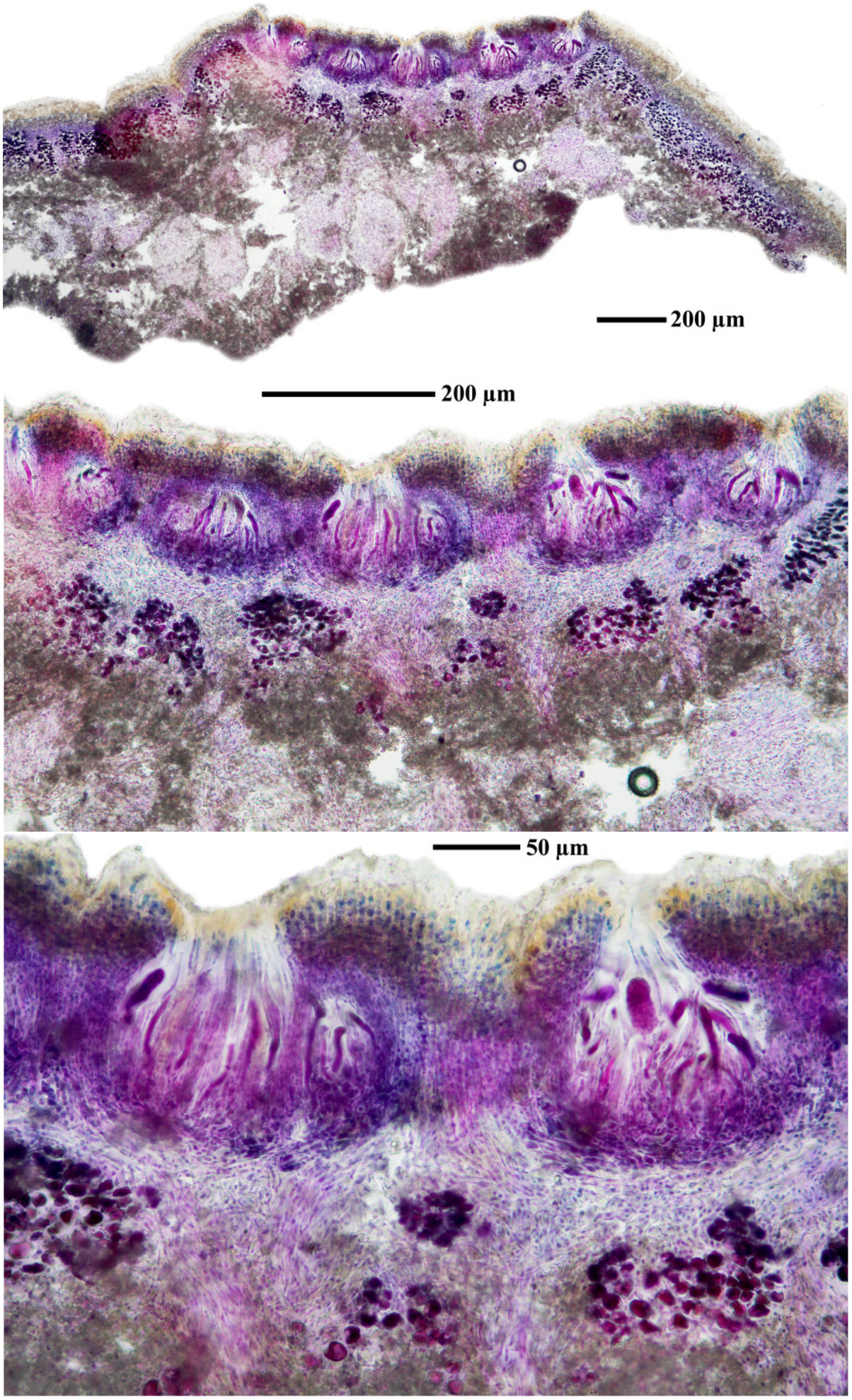




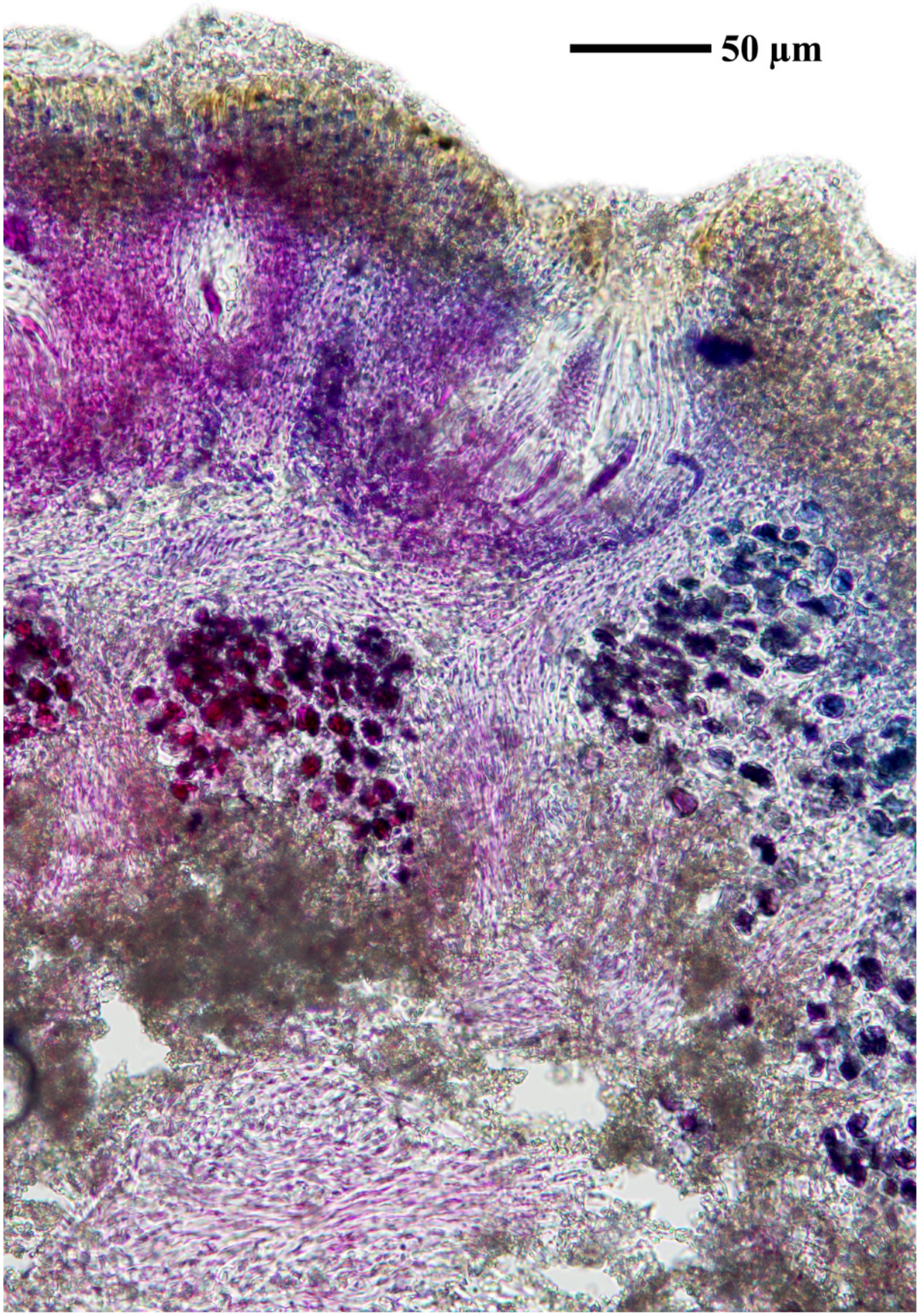
Glypholecia scabra



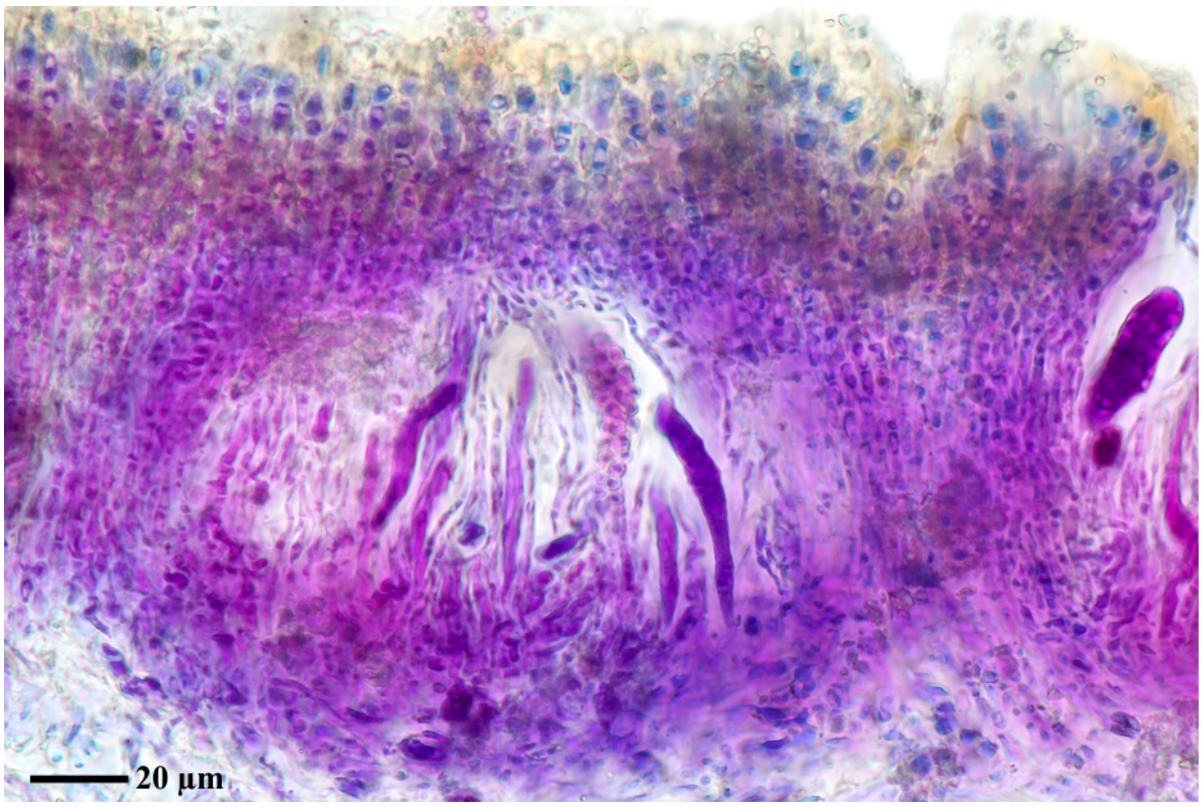
Glypholecia scabra



Glypholecia scabra

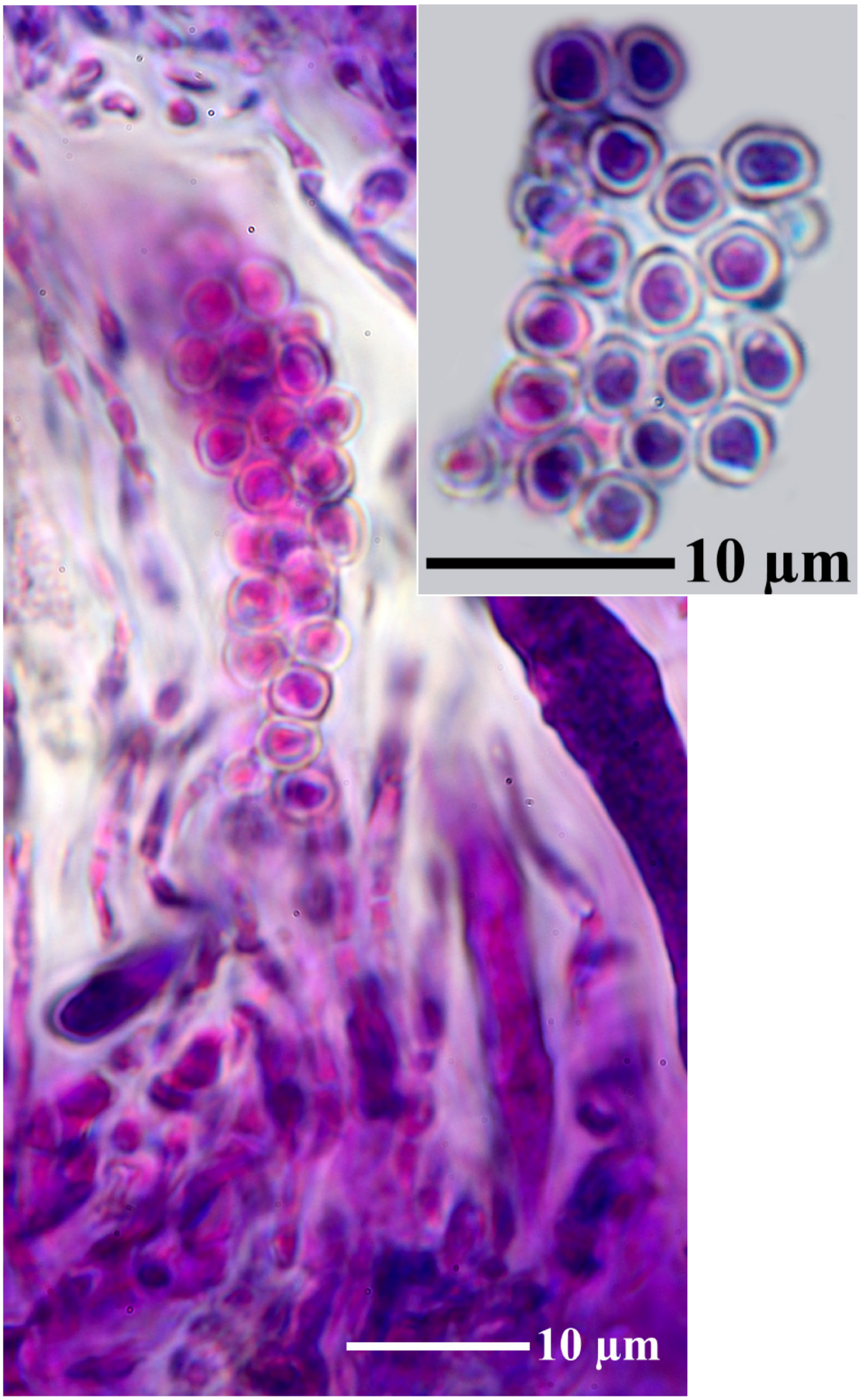


Glypholecia scabra

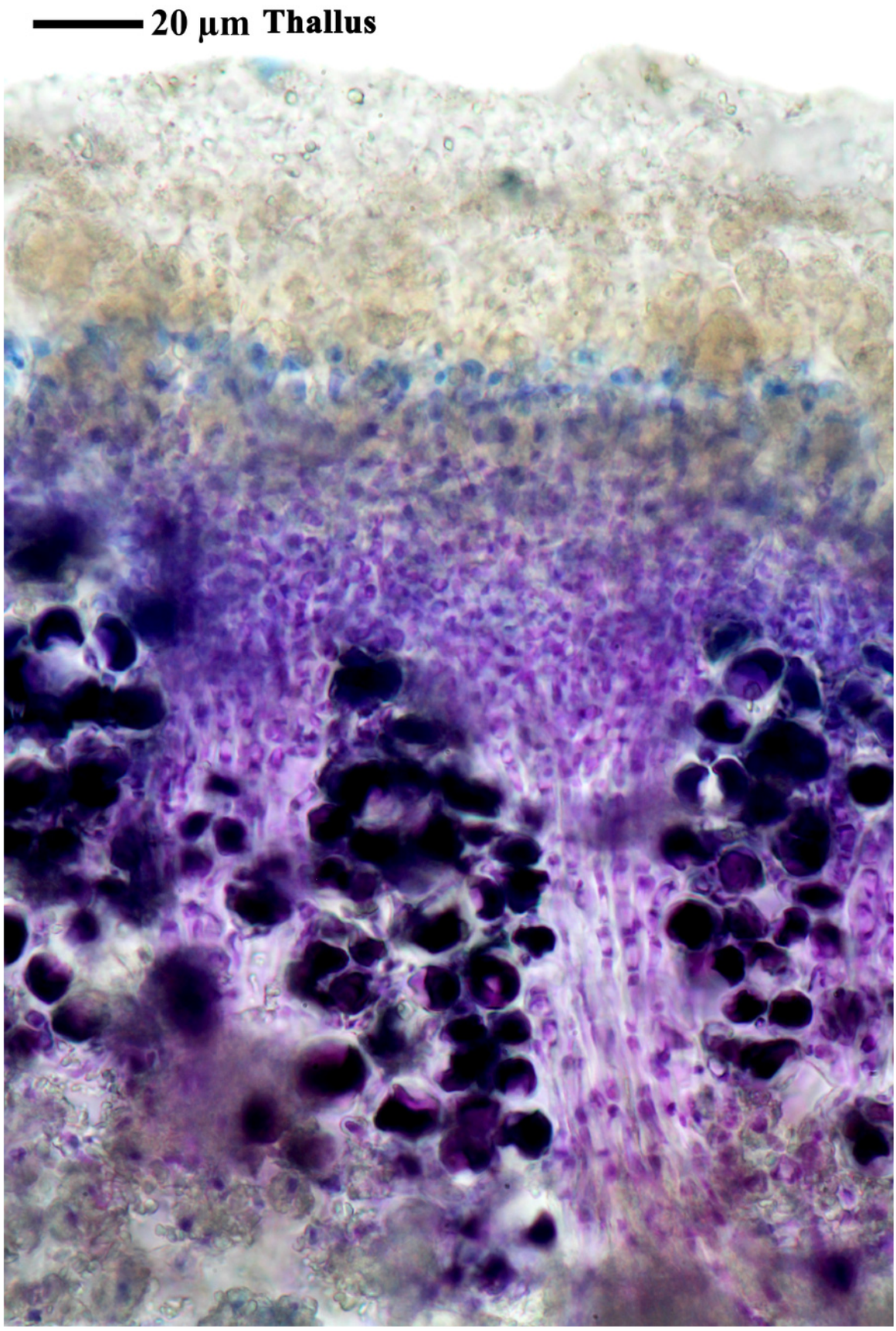




Glypholecia scabra



Glypholecia scabra



Glypholecia scabra

Heppia lutosa (Ach.) Nyl., Syn. meth. lich. (Parisiis) 2: 45 (1869)

[GZU 27-94], Afghanistan, Prov. Paktia, Khost, 69°55’ E, 33°29’ N, ca. 1170 m. Lössteppe in der Talaue mit *Tripogon purpurascens*. Leg. O. Volk (Nr. 71897), 19.9.1971, det C.M. Wetmore.







Heppia lutosa



Heppia lutosa

Heppia lutosa (Ach.) Nyl., Syn. meth. lich. (Parisiis) 2: 45 (1869)

[GZU 27-94b], Afghanistan, Prov. Paktia, 4 km N Rabat, ca. 10 km S Chamkanni, an der Straße nach Zambar. 69°47’30” E, 33°47’30” N, ca. 1800 m. Lichtung in Cedrus deodara Wald, Erdbuckeln (Löss) mit Grashorsten. Leg. M. Steiner (Ste 80), 4.7.1970, det C.M. Wetmore.

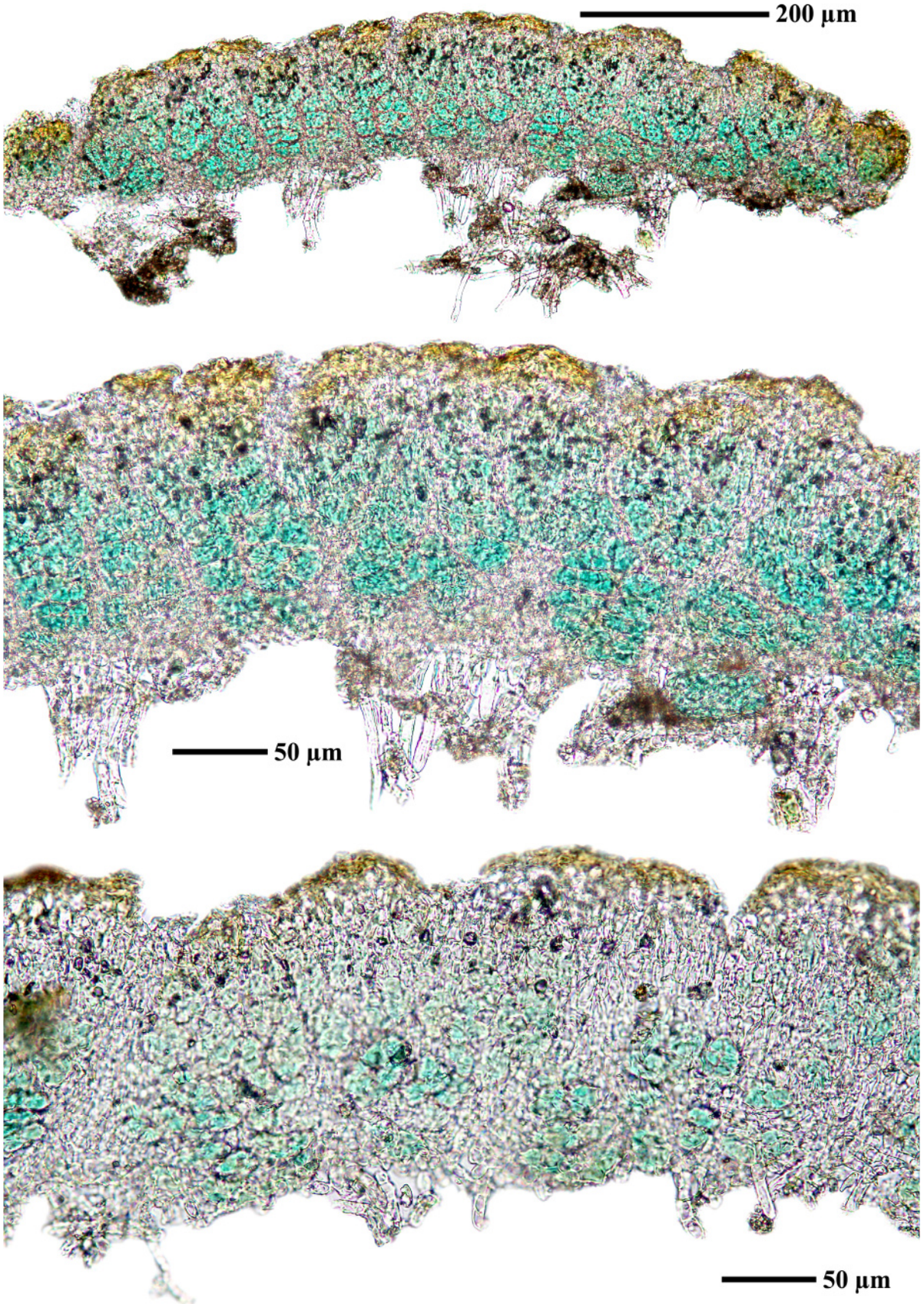




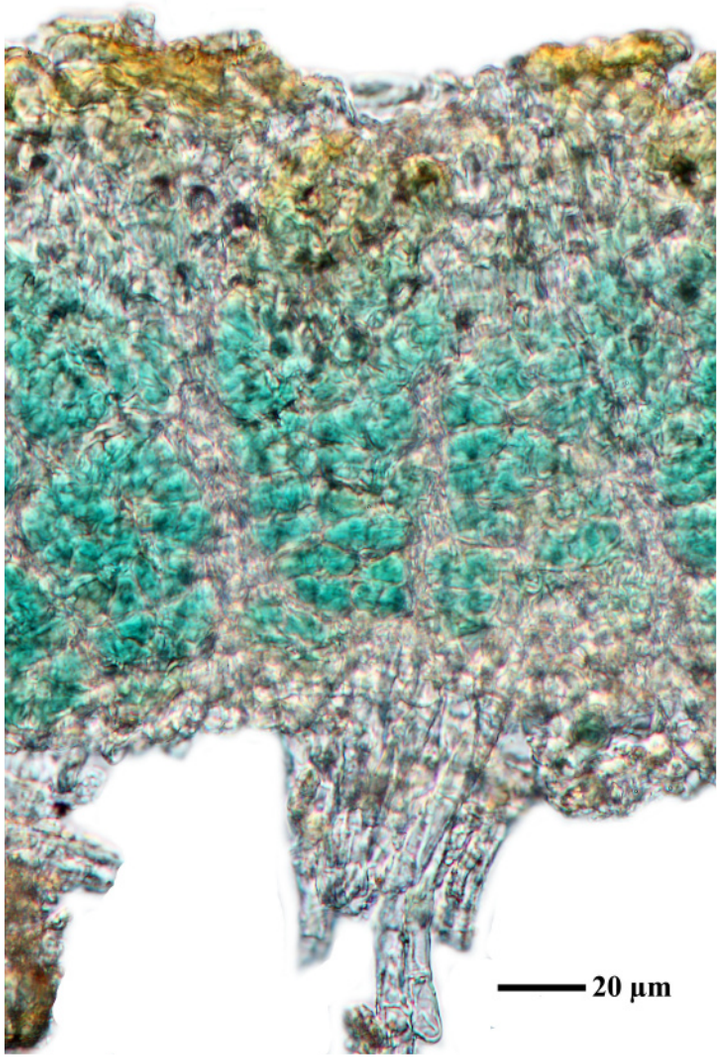
Heppia lutosa

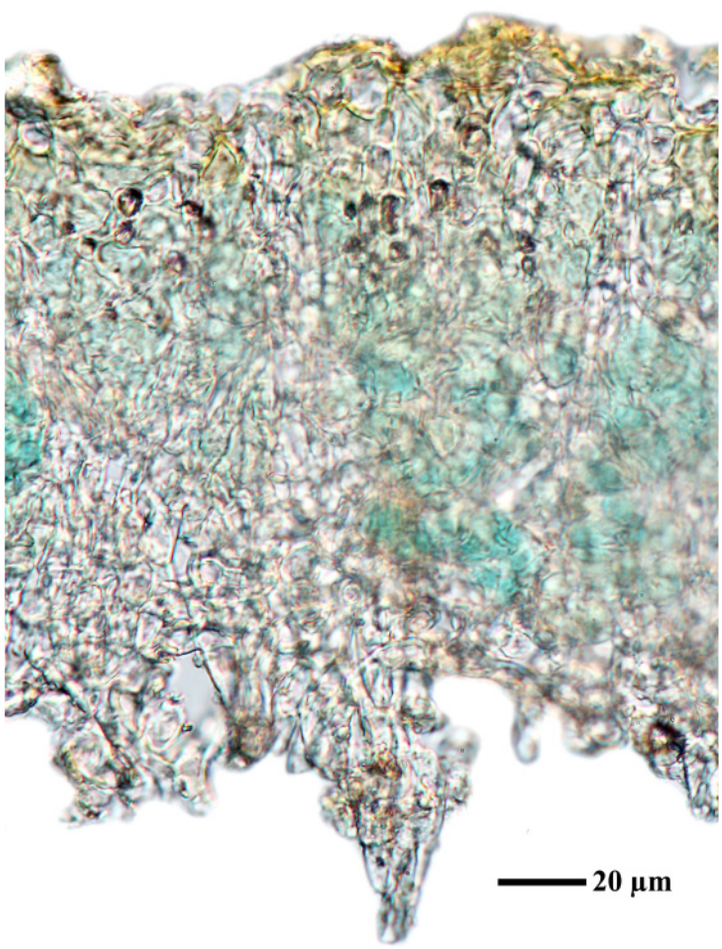


Heppia lutosa

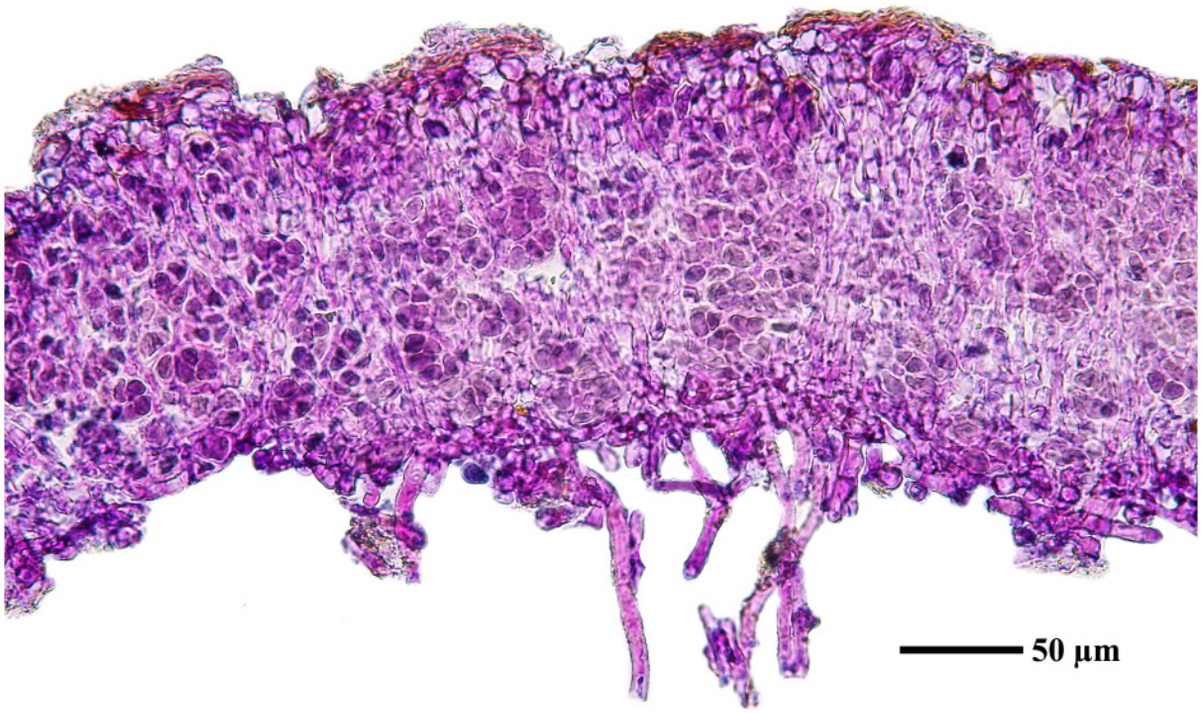


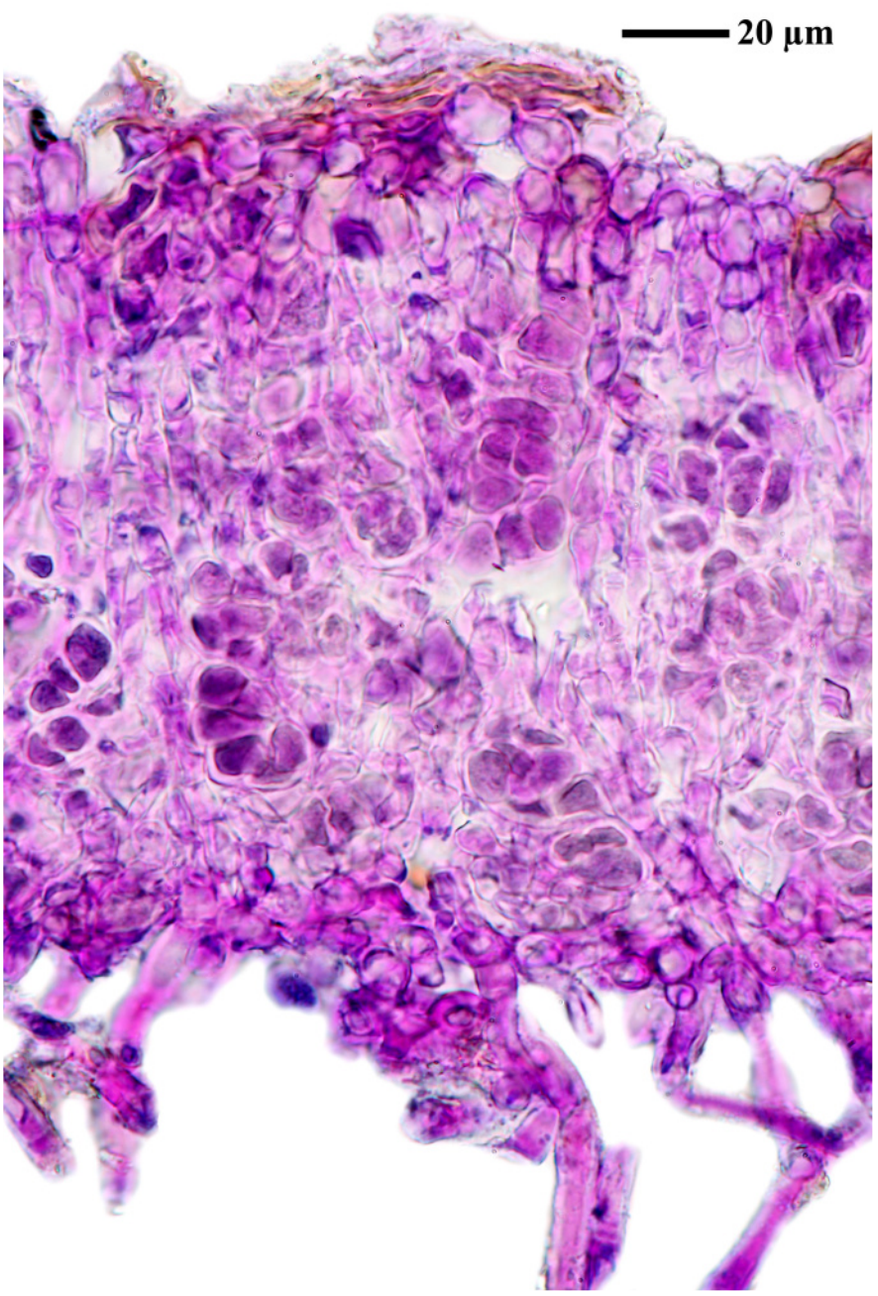
Heppia lutosa





Heppia lutosa





Heppia lutosa

Lecania diplococca M. Steiner & Poelt, Pl. Syst. Evol. 155(1-4): 137 (1987).

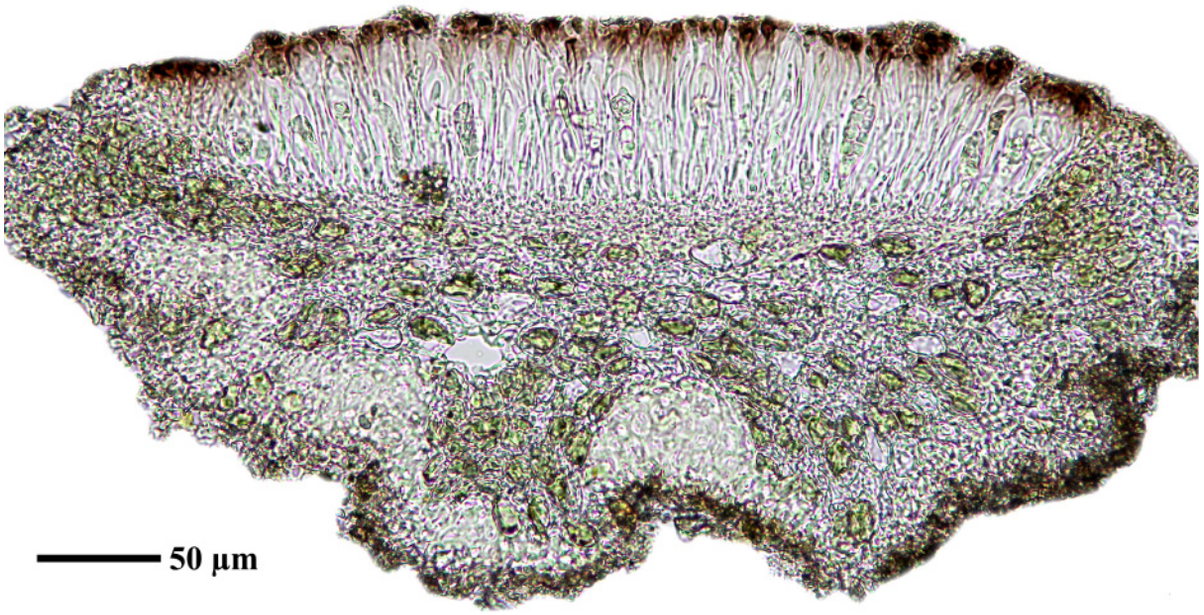
Kommt zusammen ***Lecania triseptata*** (Vain.) Zahlbr. parasitisch auf *Caloplaca polycarpoides* (J.Stein.) M.Steiner & Poelt vor. In der mir vorliegenden Tüte Nr. 51, die nach Aufschrift *Lecania triseptata* enthalten soll, habe ich aber nur *Lecania diplococca* gefunden und es handelt sich um dieselbe Flechte wie in Nr. 52.

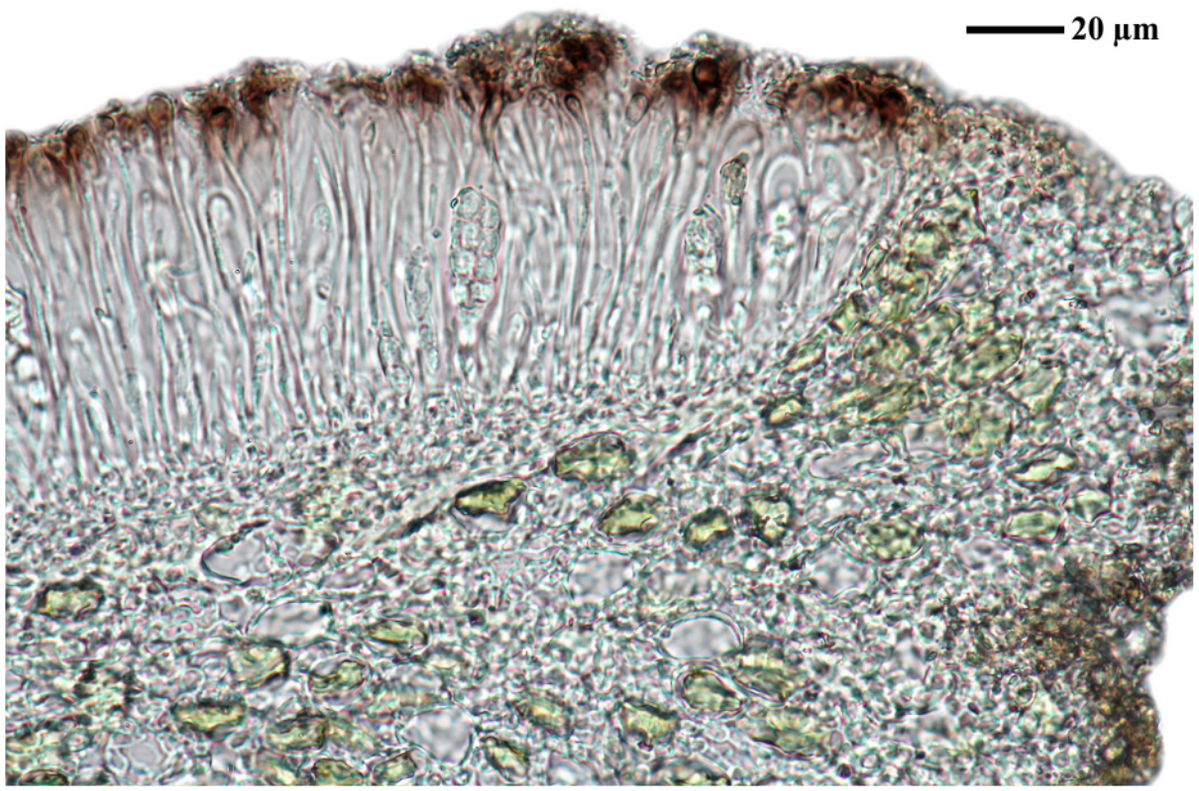
[LIAF_51], Afghanistan, Prov. Samangan, E und W der Paßhöhe des Kotal-i-Mirza Atbili (Kotal-i-Rabotak), 68°18’ E, 36°10.5’ N, ca. 1200 m. Lösshügel, auf Stämmen und Ästen von *Pistacia vera* L.. Leg. M. Steiner (43/3, 50/1), 5-6.06.1970. LICHENOTHECA AFGHANICA NR. 51



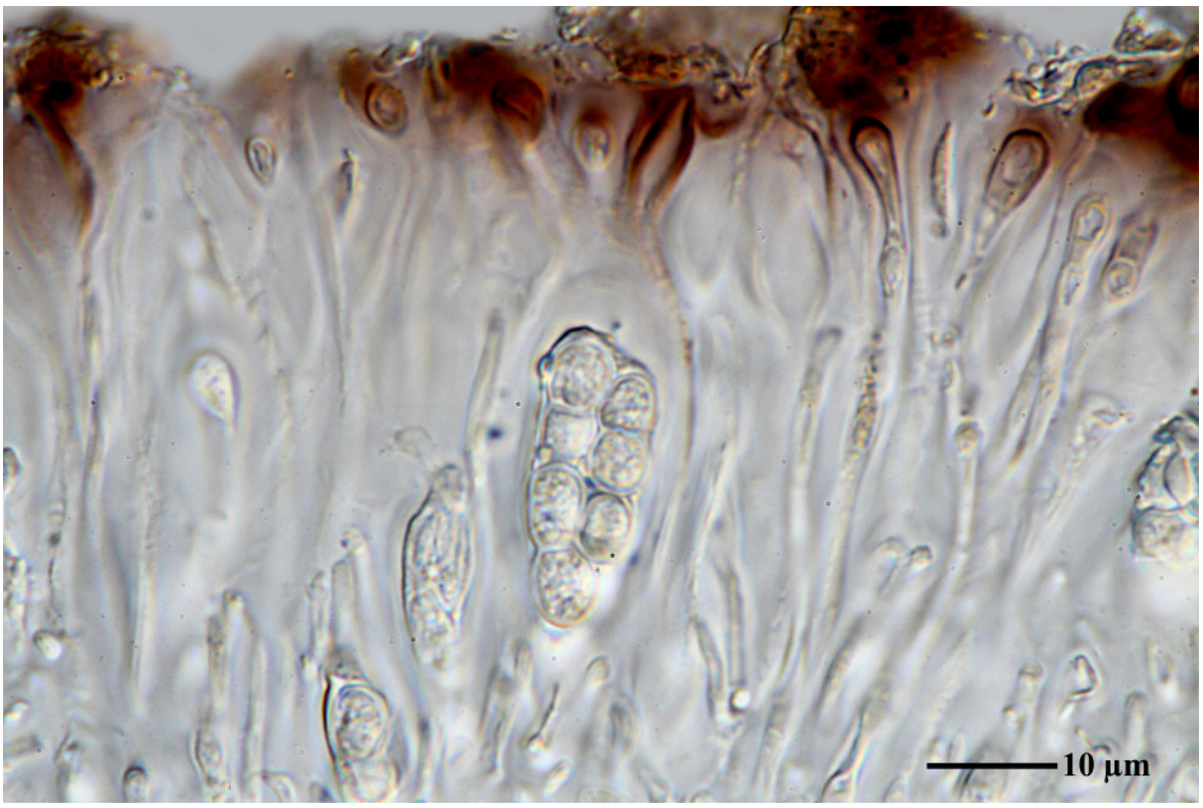


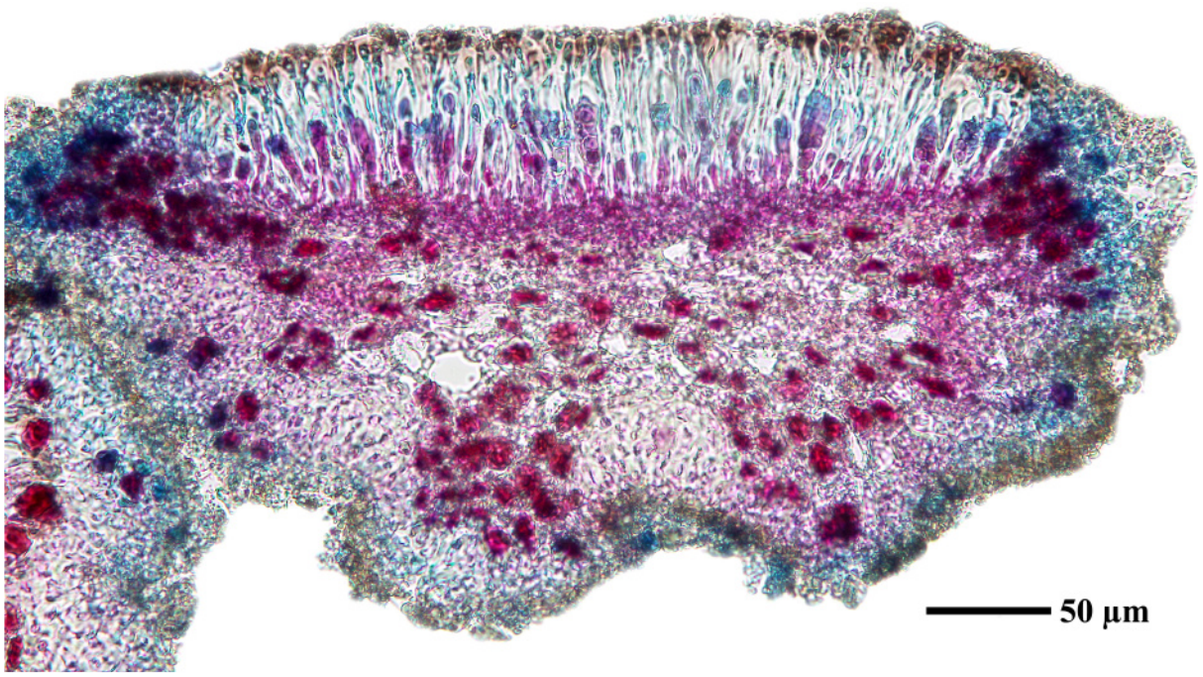
Lecania diplococca

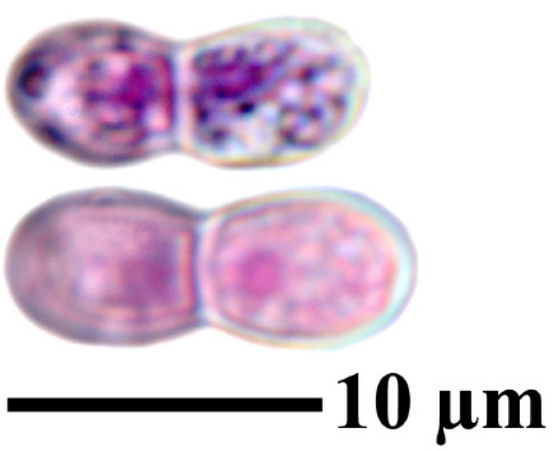




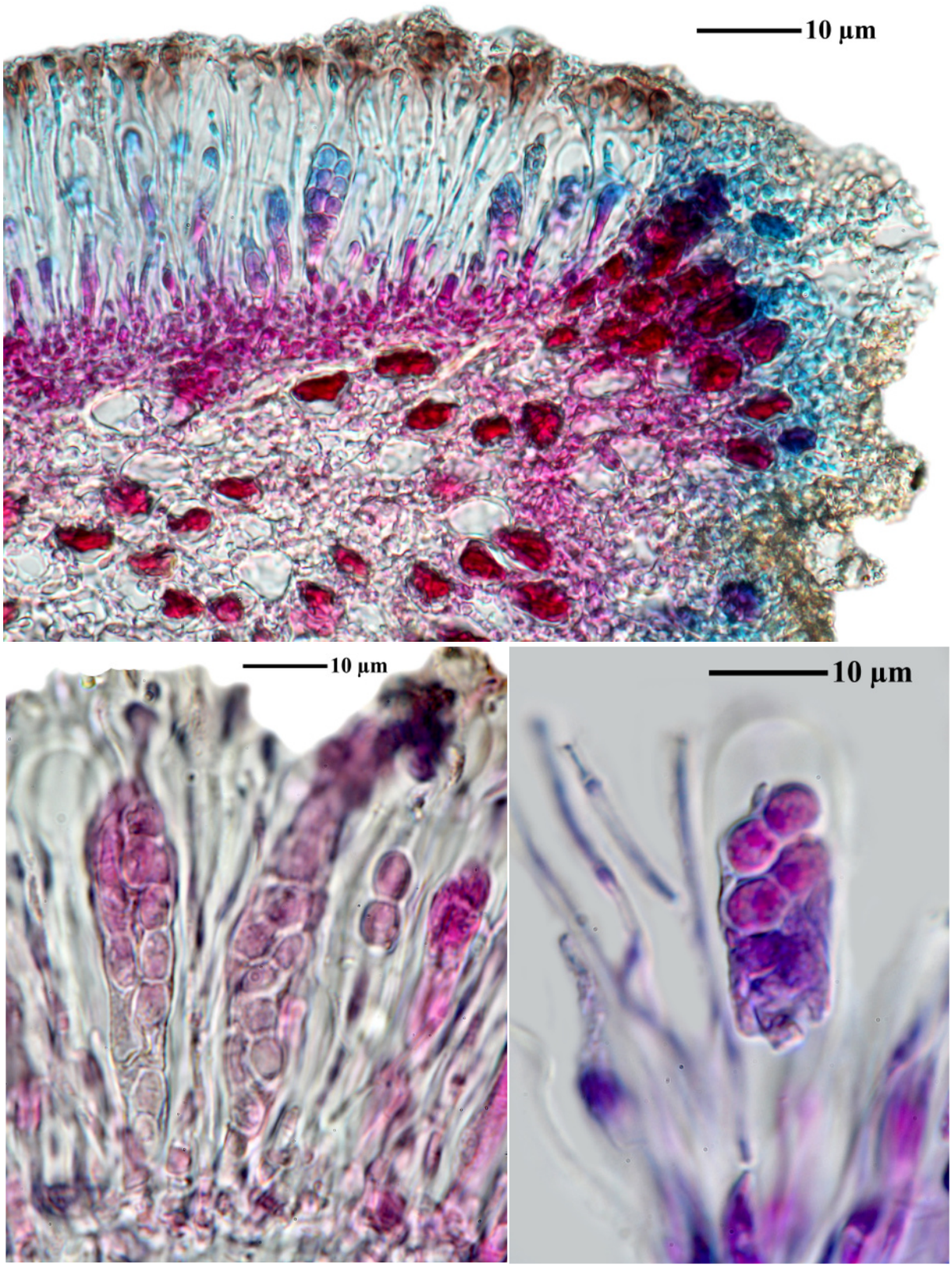
Lecania diplococca







Lecania diplococca



Lecania diplococca

Lecania diplococca M. Steiner & Poelt, Pl. Syst. Evol. 155(1-4): 137 (1987), **HOLOTYPUS**

Bem.: Zusammen mit *Lecania triseptata* (Vain.) Zahlbr. parasitisch auf *Caloplaca polycarpoides* (J.Stein.) M.Steiner & Poelt. In der Originalbeschreibung ist Lich. Afgh. Nr. 27 als Typus angegeben worden. Die Nummer mußte aus technischen Gründen geändert werden.

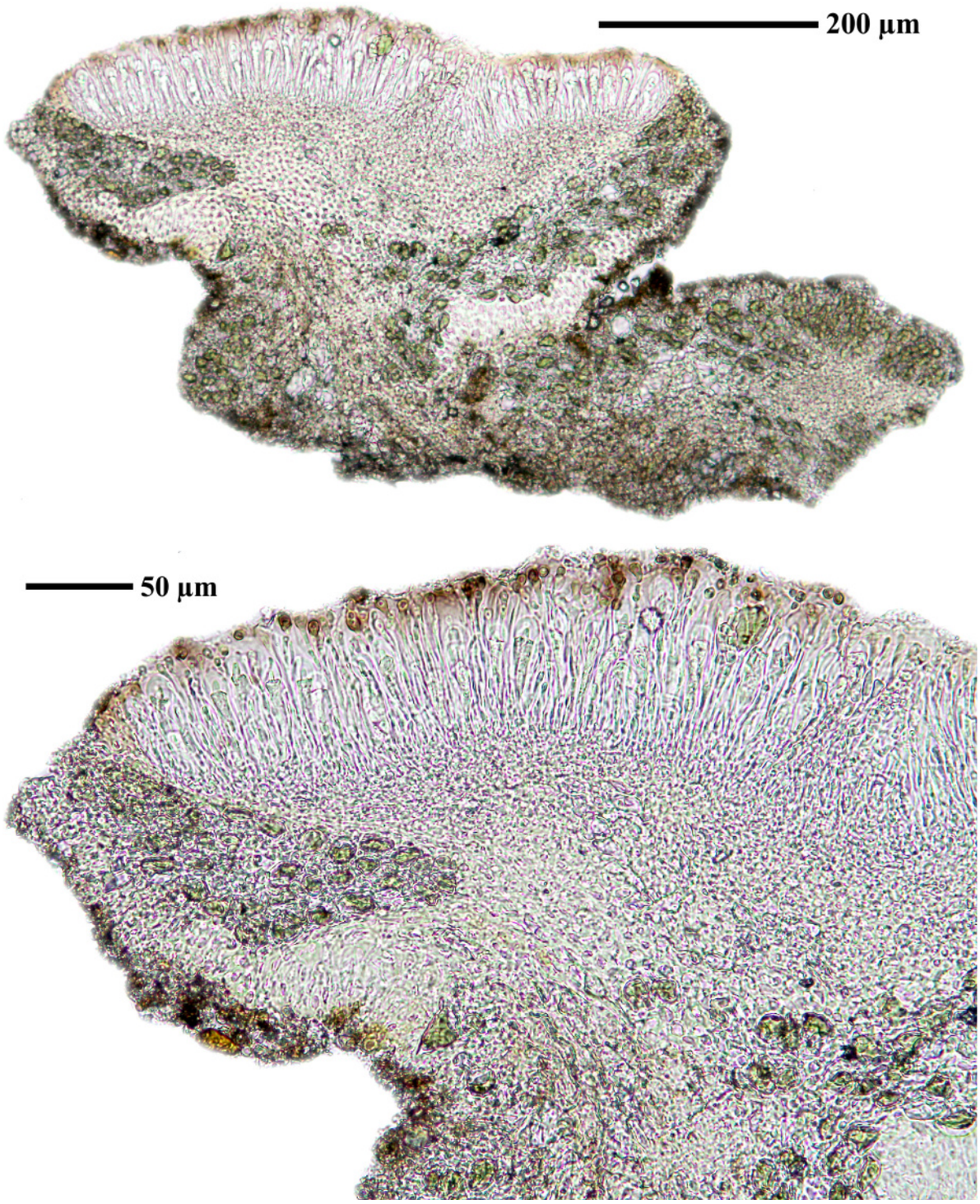
Sporen farblos, eingeschnürt 1-septiert, 8/Ascus, 9-9.3 x 4.2-5.6 µm, Einzellumen kugelig.

[LIAF_52], Afghanistan, Prov. Samangan, E und W der Paßhöhe des Kotal-i-Mirza Atbili (Kotal-i-Rabotak, 68°18' E, 36°10.5 N, ca. 1200 m. Lösshügel, auf Stämmen und Ästen von *Pistacia vera* L. Leg. M. Steiner (Ste 43/3), 05-06.06.1970. LICHENOTHECA AFGHANICA NR. 52.

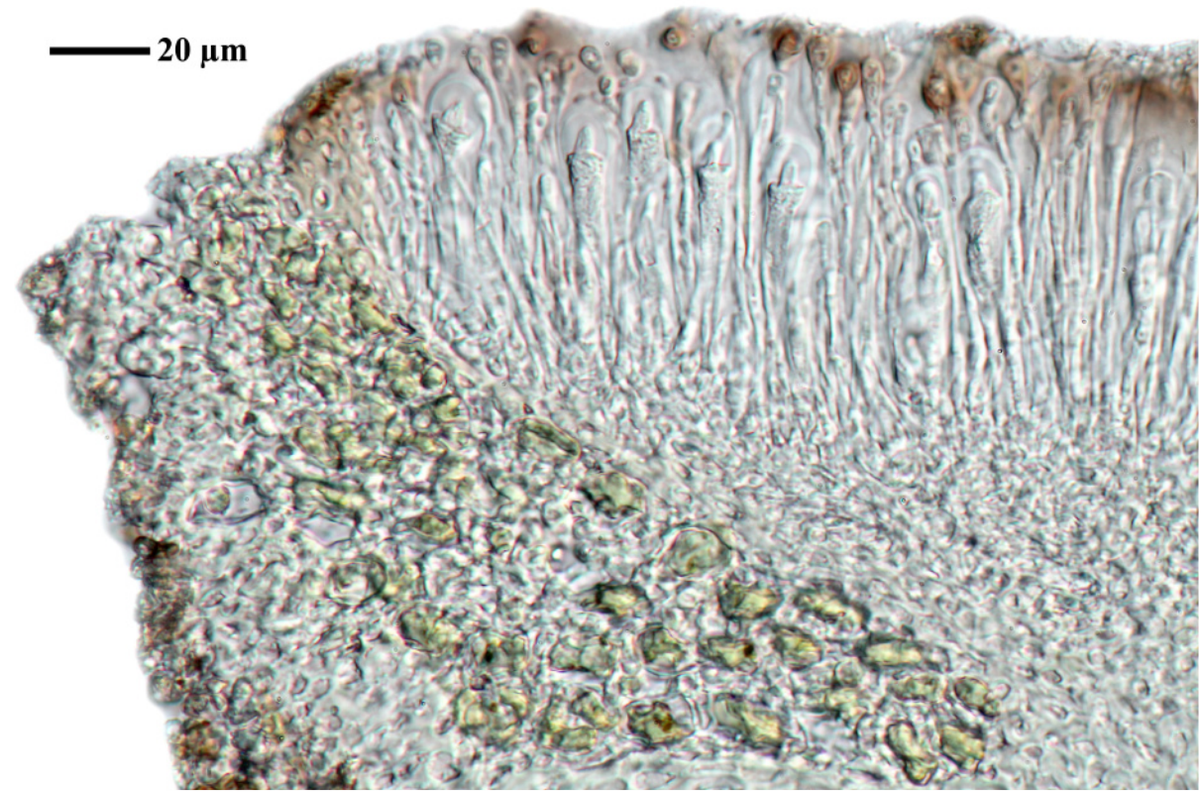


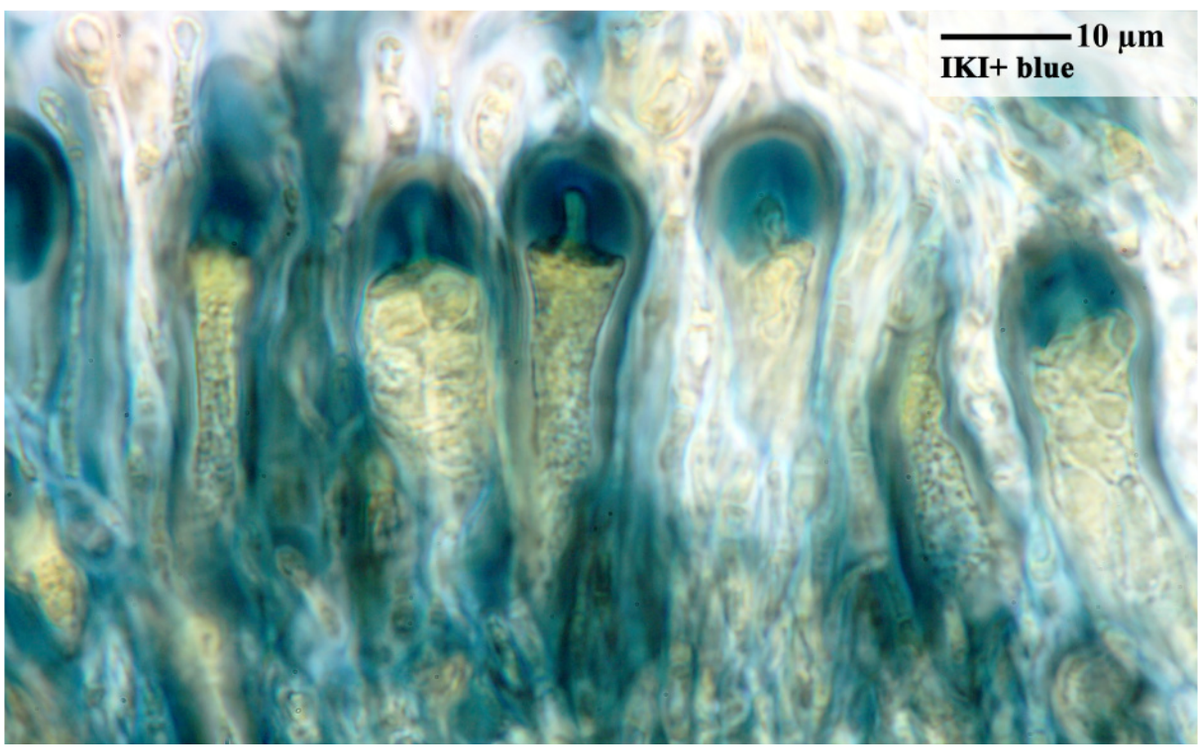


Lecania diplococca

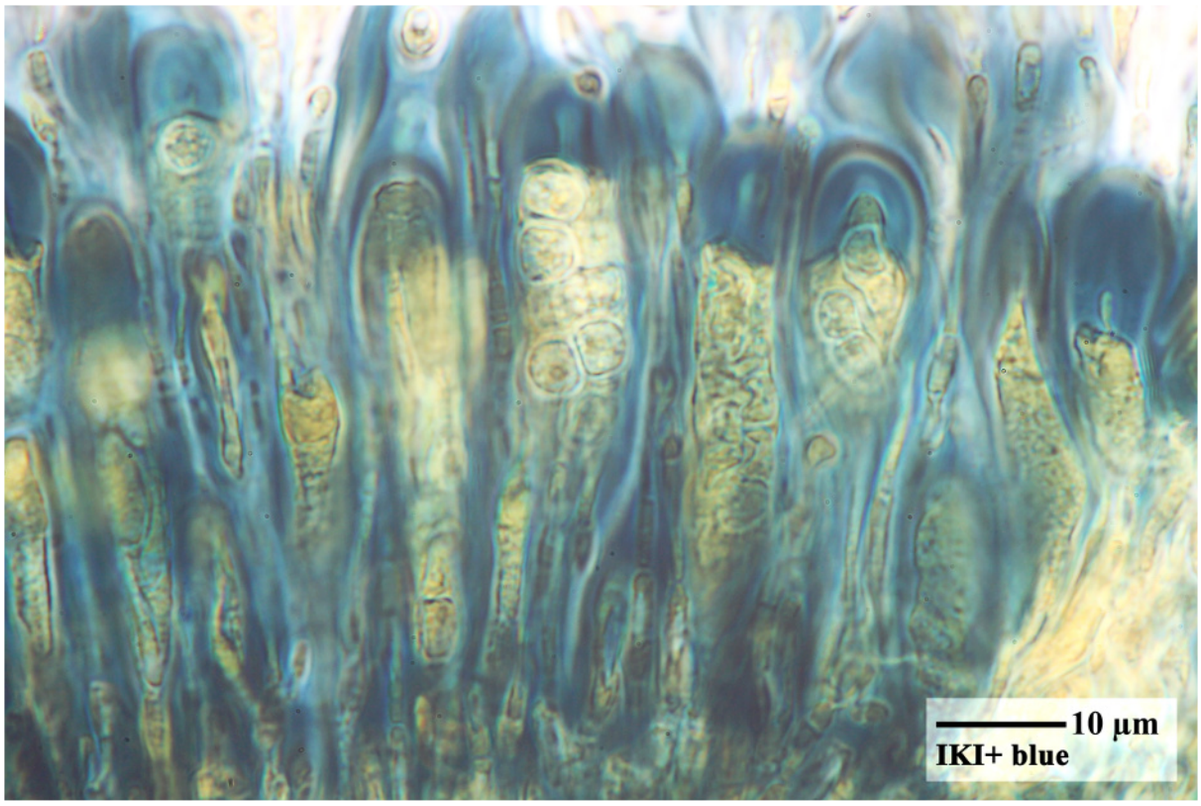


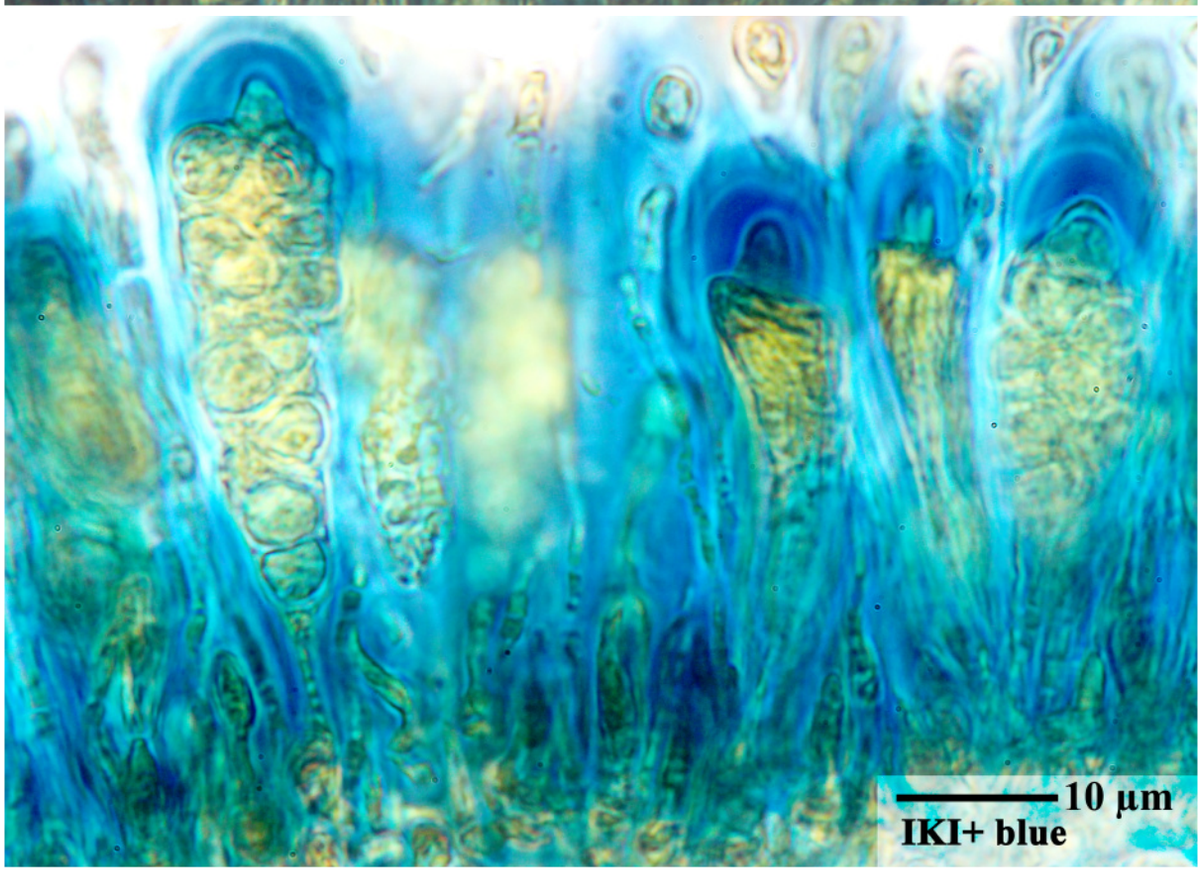
Lecania diplococca



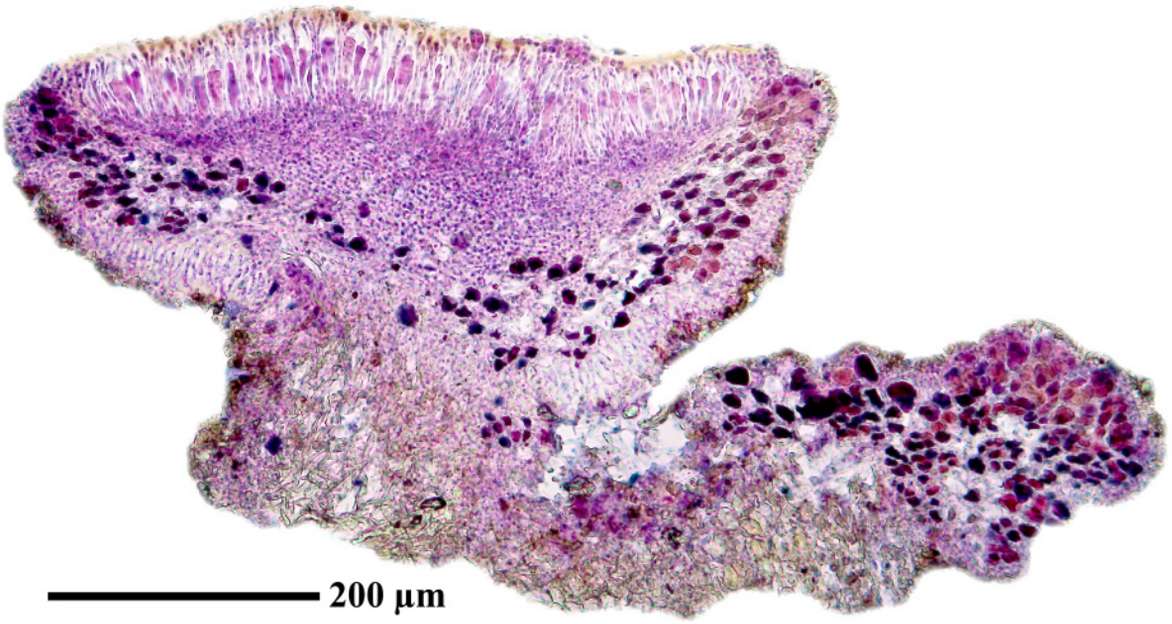


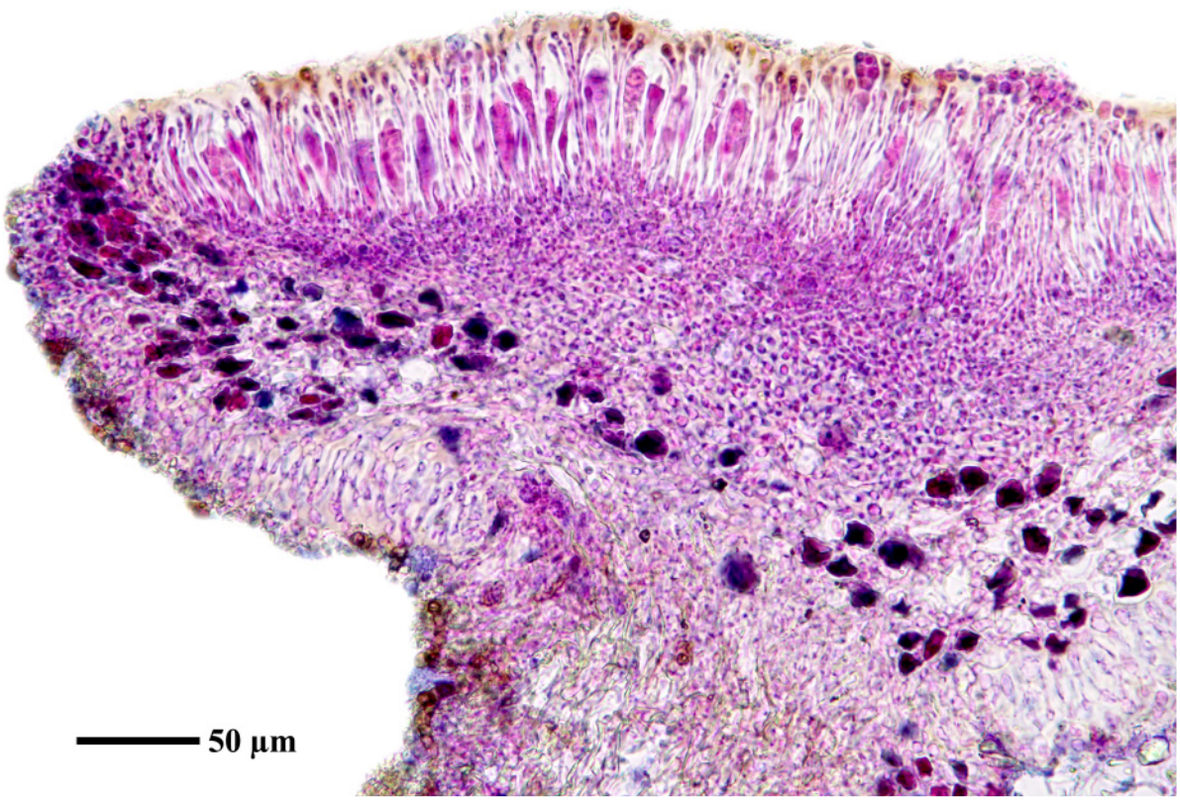
Lecania diplococca



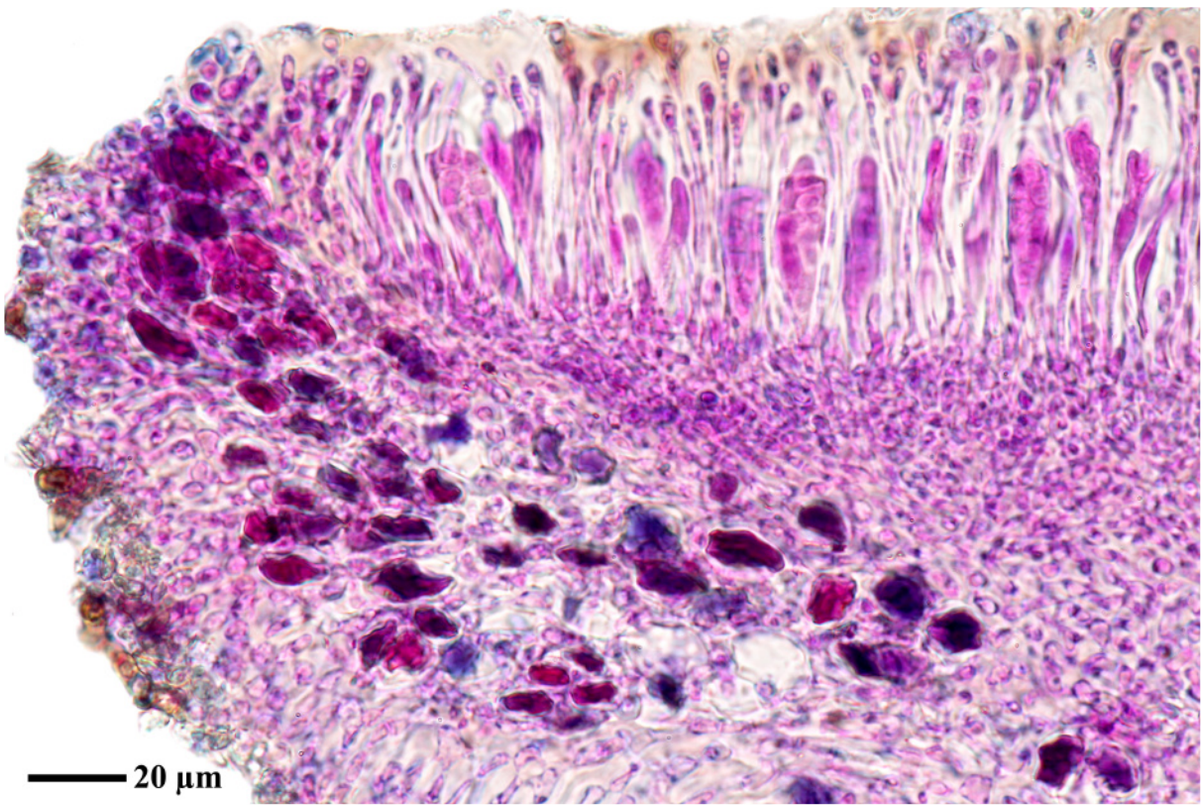


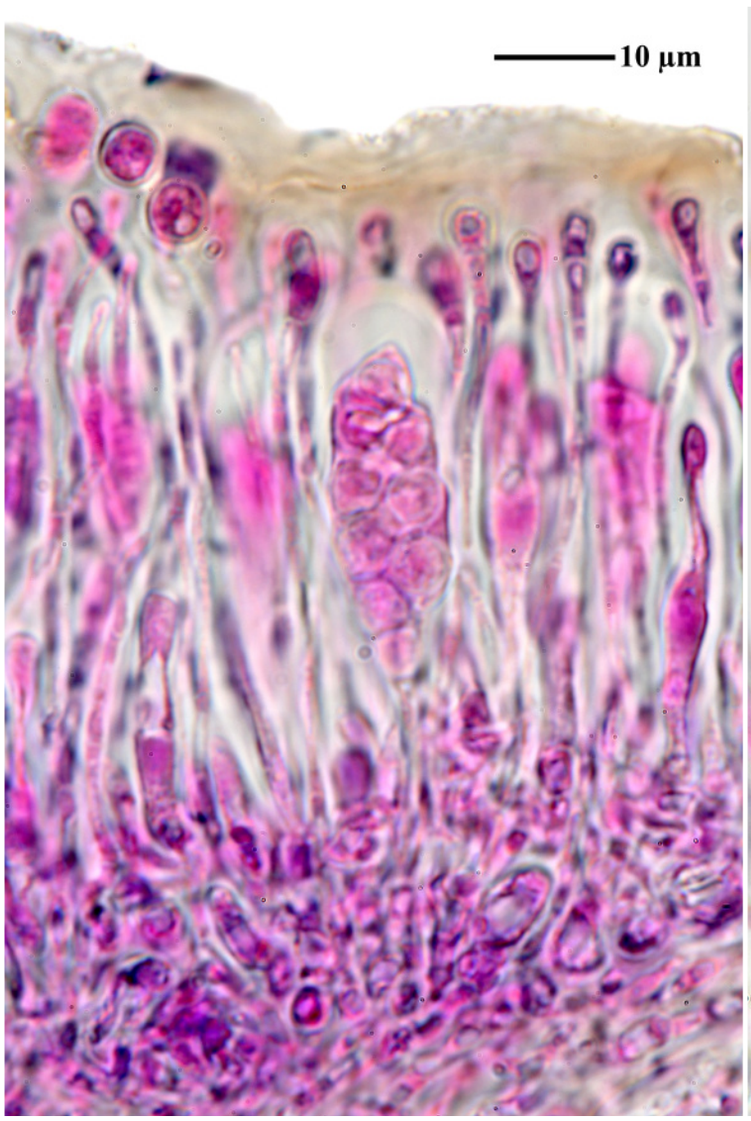
Lecania diplococca

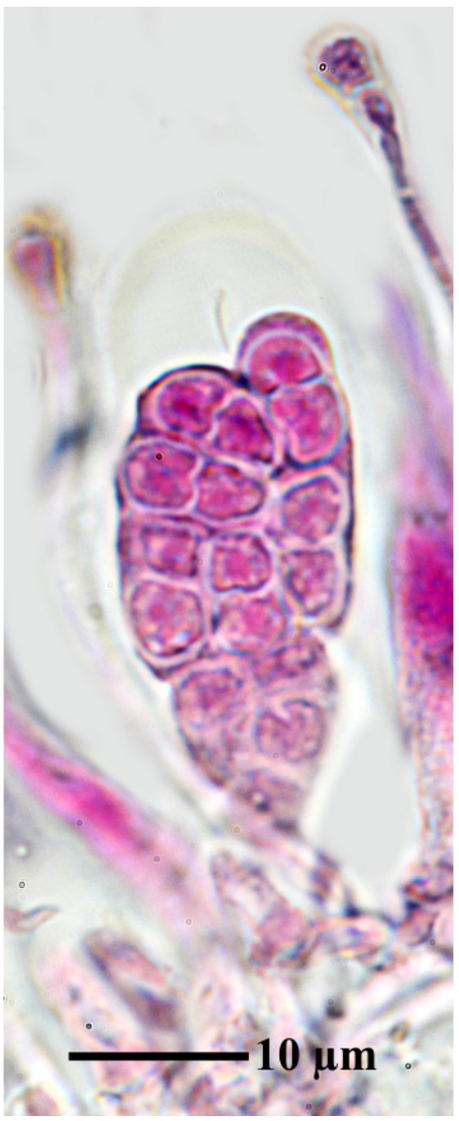




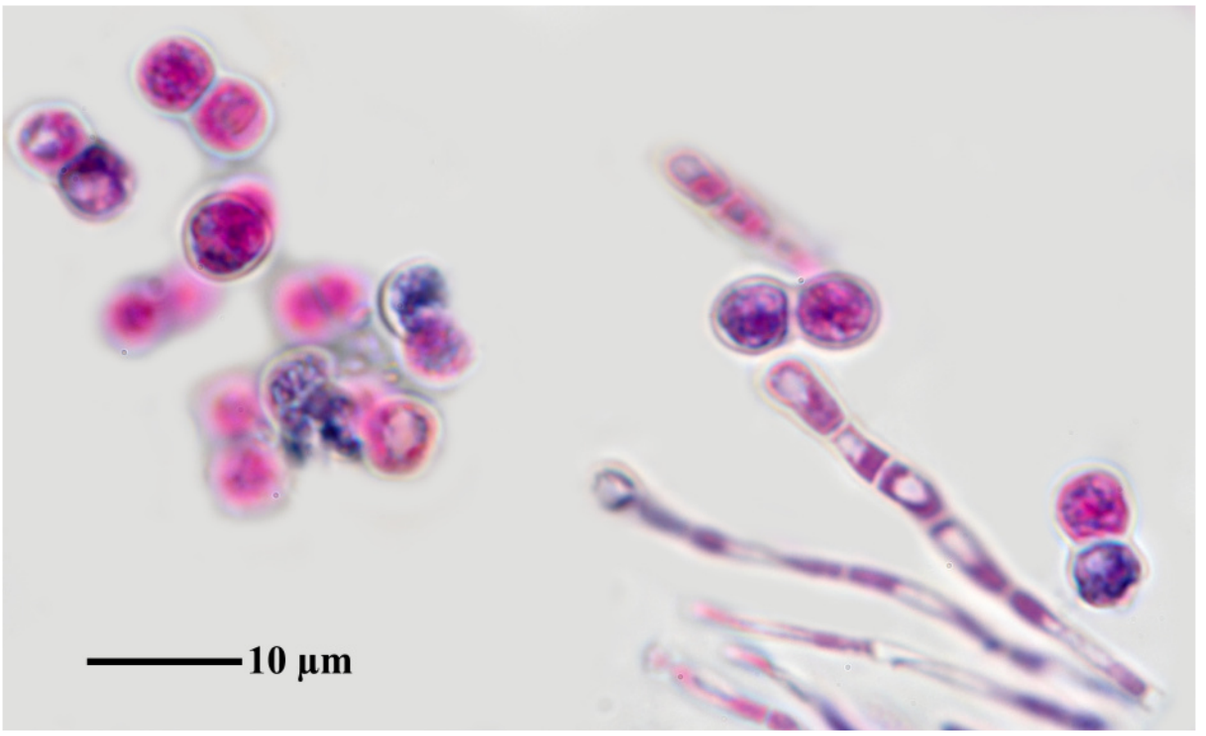
Lecania diplococca



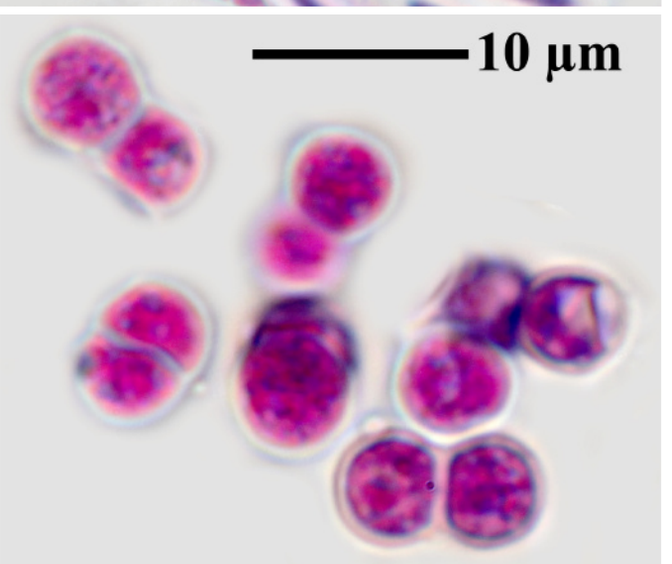


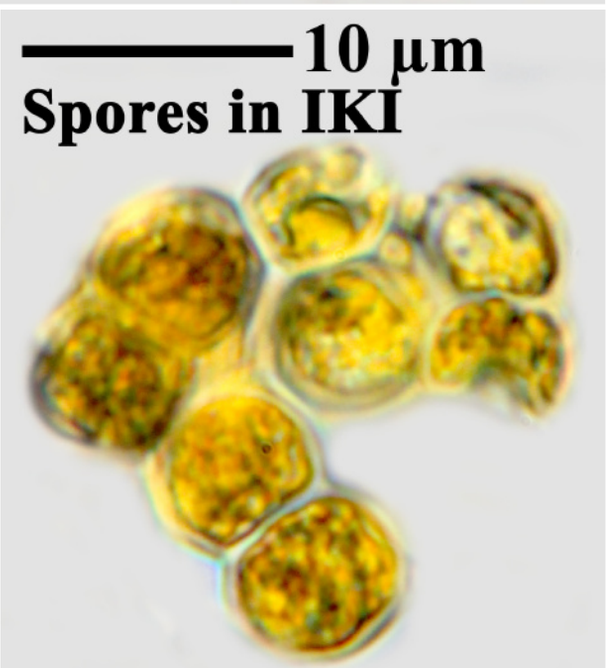


Lecania diplococca









Lecania diplococca

Lecania ochronigra J. Steiner, Annls mycol. 8: 236 (1910)

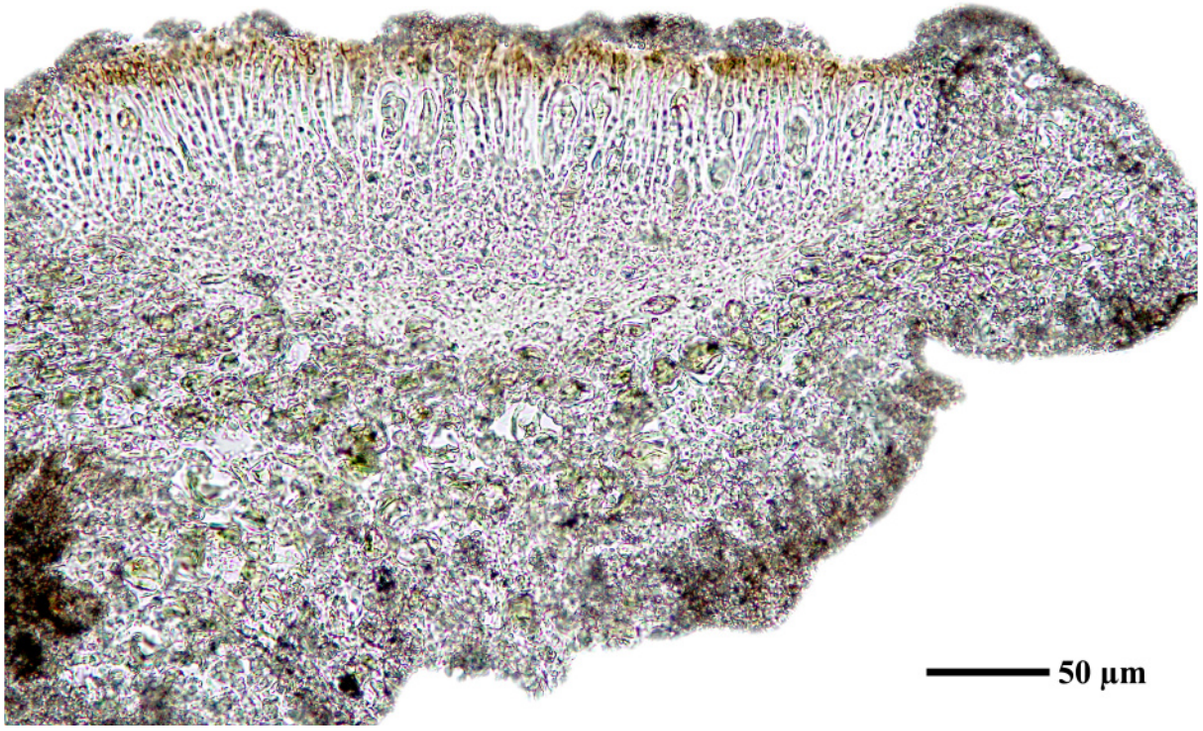
Auf eine Beipackzettel steht: Hym. 60-70 µm. Paraphysen ca. 2 µm dick am Ende auf 8 µm geschwollen. Sporen 8/Ascus, 1 septiert, 9-10.5 x 7.5-8 µm
Selbst habe ich nur 1-zellige Sporen (bestenfalls mit Plasmaseptum) gesehen, 8.9-11.7 x 6.1 µm (FS)

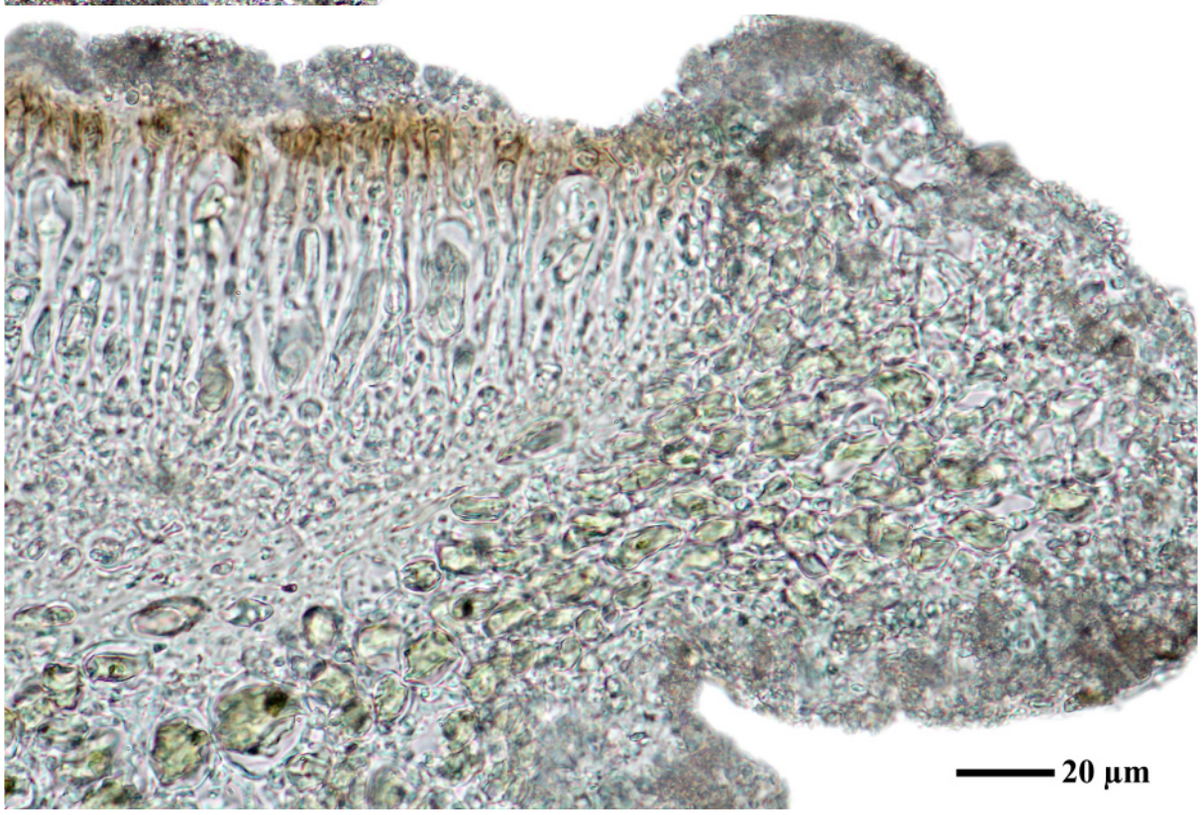
[GZU 27-94], Afghanistan, Prov. Zabul, Passhöhe 20 km NW Shenkay, an der Strasse von Qualat Ghizai nach Shenkay. 67°10’ E, 32°05’ N, 2170 m. An Felsen (mergeliger Kalk). Leg. D. Podlech (Pod 50), 25.03.1971.





Lecania ochronigra



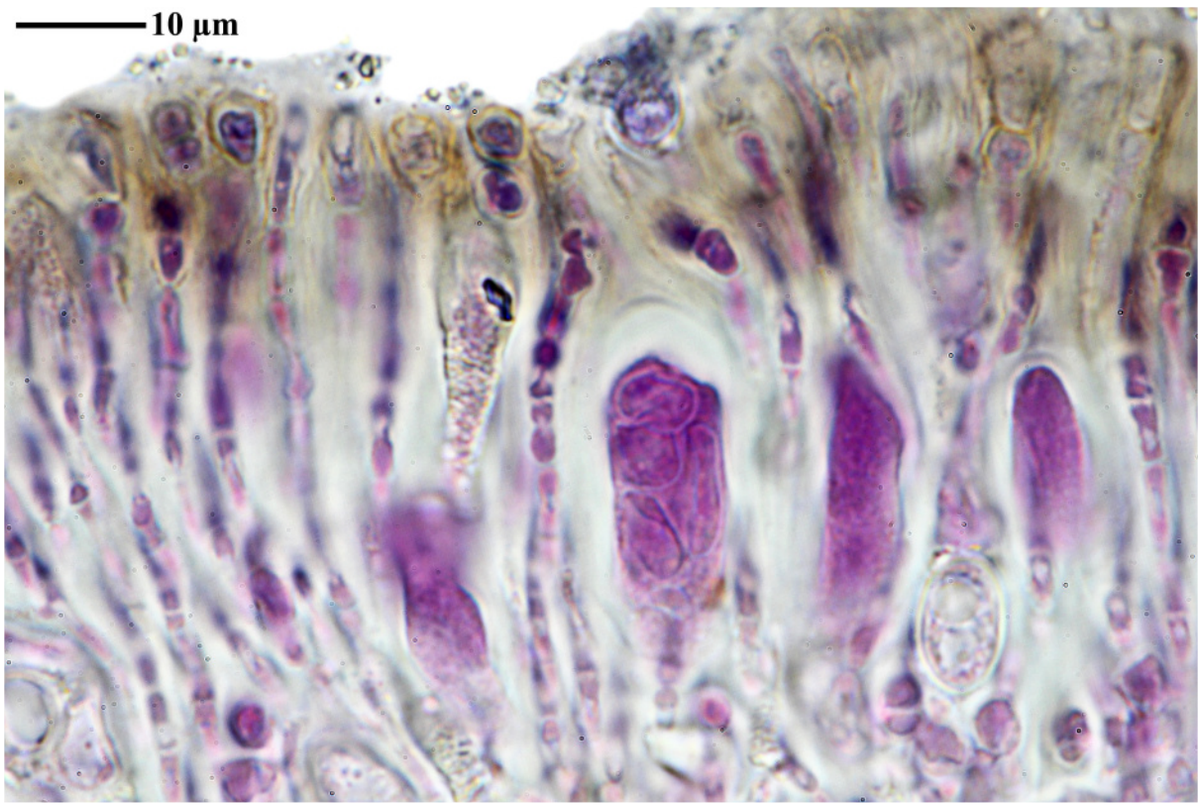


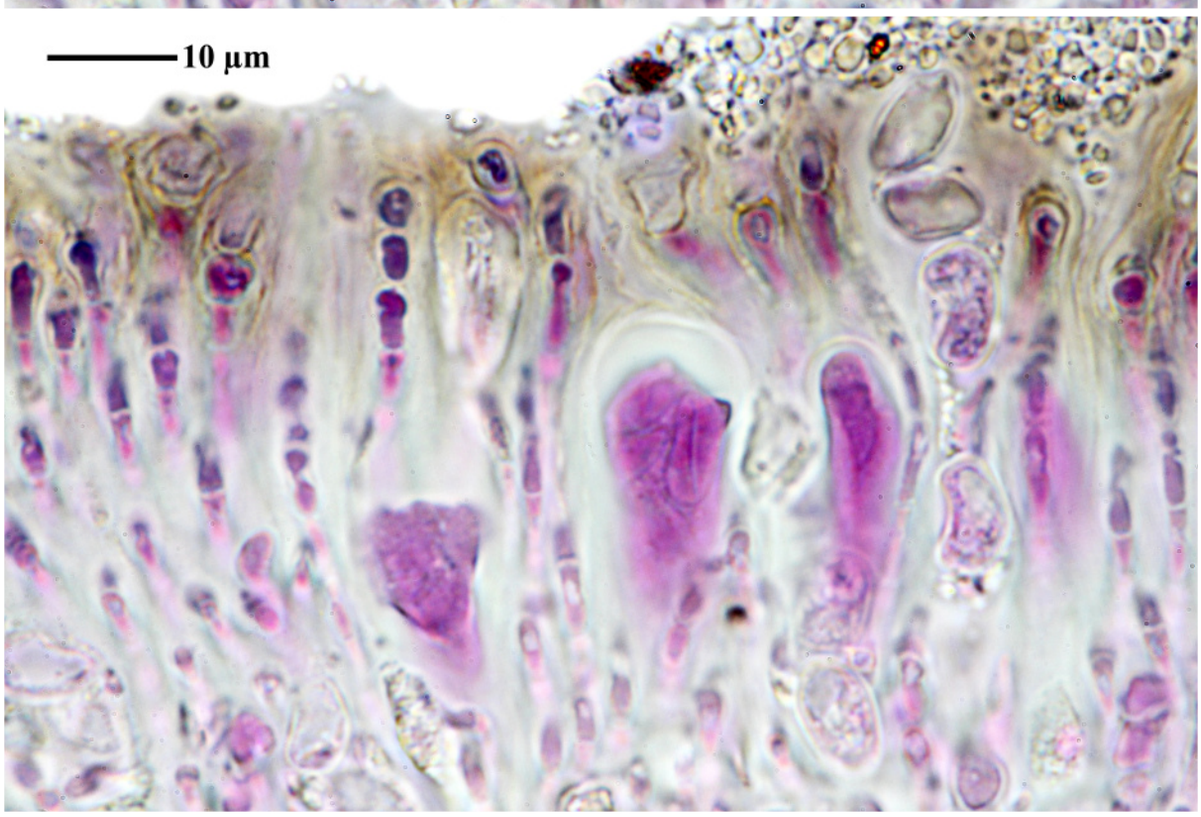
Lecania ochronigra

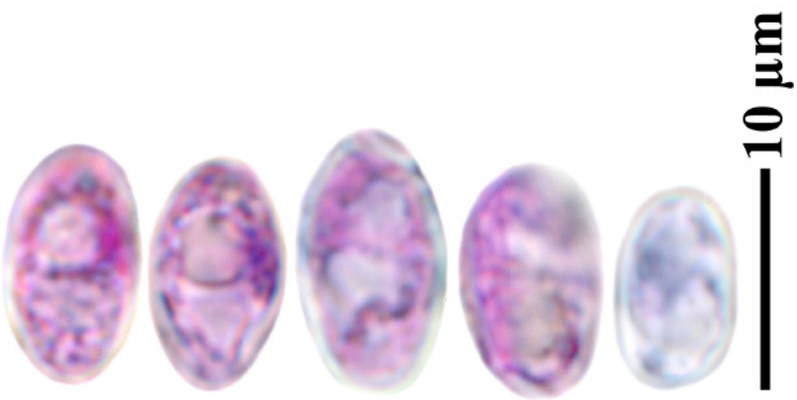




Lecania ochronigra







Lecania ochronigra

Lecania ochronigra J. Steiner, Annls mycol. 8: 236 (1910)

Epihymenium nach mehreren Stunden K+ rot (nach Wunder). Hymenium 50 µm. Paraphysen kopfig. Sporen 10-11 x 5 µm, 1 septate, 8/Ascus.

[GZU 27-94b], Afghanistan, Prov. Bamyan, W-Hänge des Kotal-i-Shebar, 1 km unterhalb Alakadari-Shebar, 68°05’ E, 34°53’ N, 2550 m.Ca. 2 m hohe Kalkfelsblöcke neben der Straße, Zenit- und Steilflächen. Leg. M. Steiner (15/2), det.?, vid. H. Wunder







Lecania ochronigra

Lecania ochronigra

Lecania turicensis (Hepp) Müll.Arg., Mém. Soc. Phys. Hist. nat. Genève 16(2): 386 (1862)

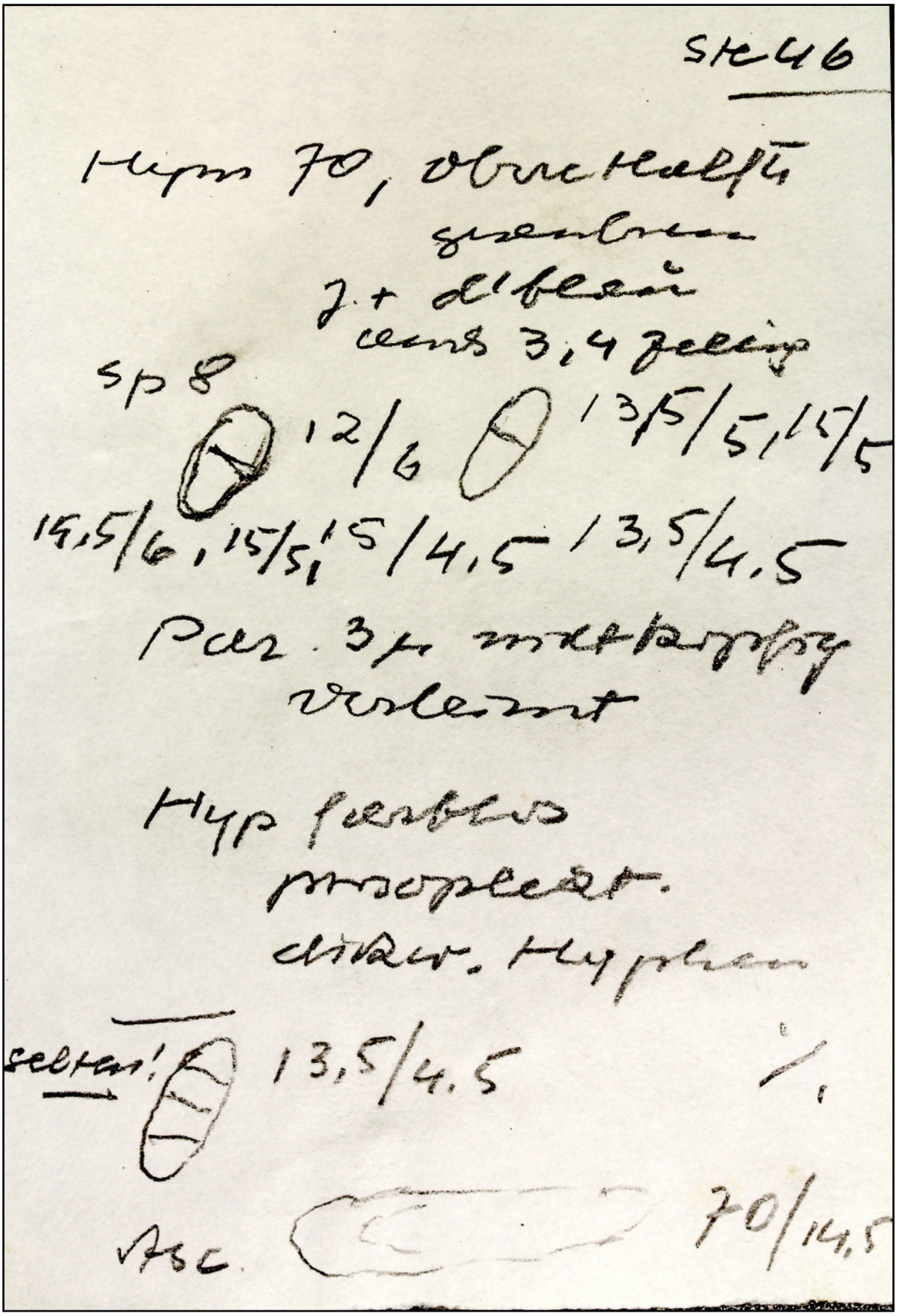
[GZU 27-94], Afghanistan, Prov. Samangan, Tang-i-Tashqurghan, ca. 5 km S Tashqurghan, 57°42’ E, 36°49’ N, ca. 420 m. Auf überrieseltem Kieselsinter. Leg. M. Steiner (Ste 46), 05.06.1970, det. H. Mayerhofer, 1984.







Lecania turicensis



Lecania turicensis

Lecanora argopholis (Ach.) Ach., Lich. univ.: 346 (1810)

Sporen hyalin, 8/Ascus, in der Größe sehr variabel, 8.5-14.8 x 5.2-7 µm

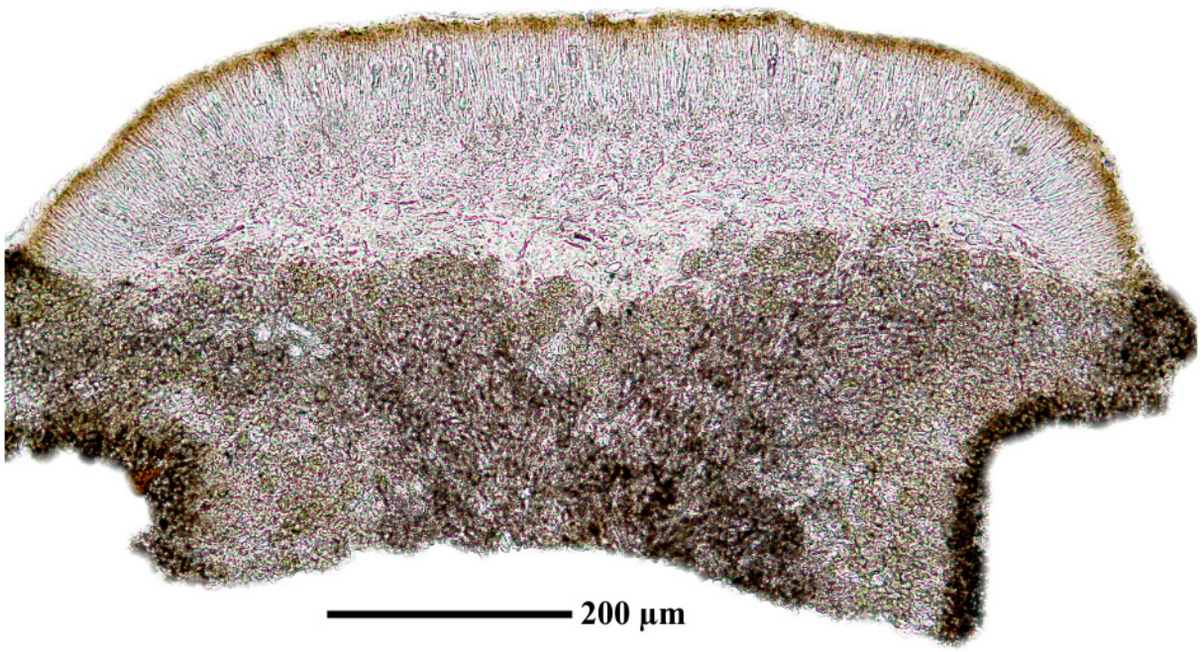
[LIAF_47], Afghanistan, Prov. Kabul, Tal des Paghman-Flusses, ca. 4 km oberhalb des Ortes Paghman, 68°55’ E, 34°37’ N, ca. 2459 m, Granitblöcke. Leg. M. Steiner (Ste 2), 24.04.1970. LICHENOTHECA AFGHANICA NR. 47

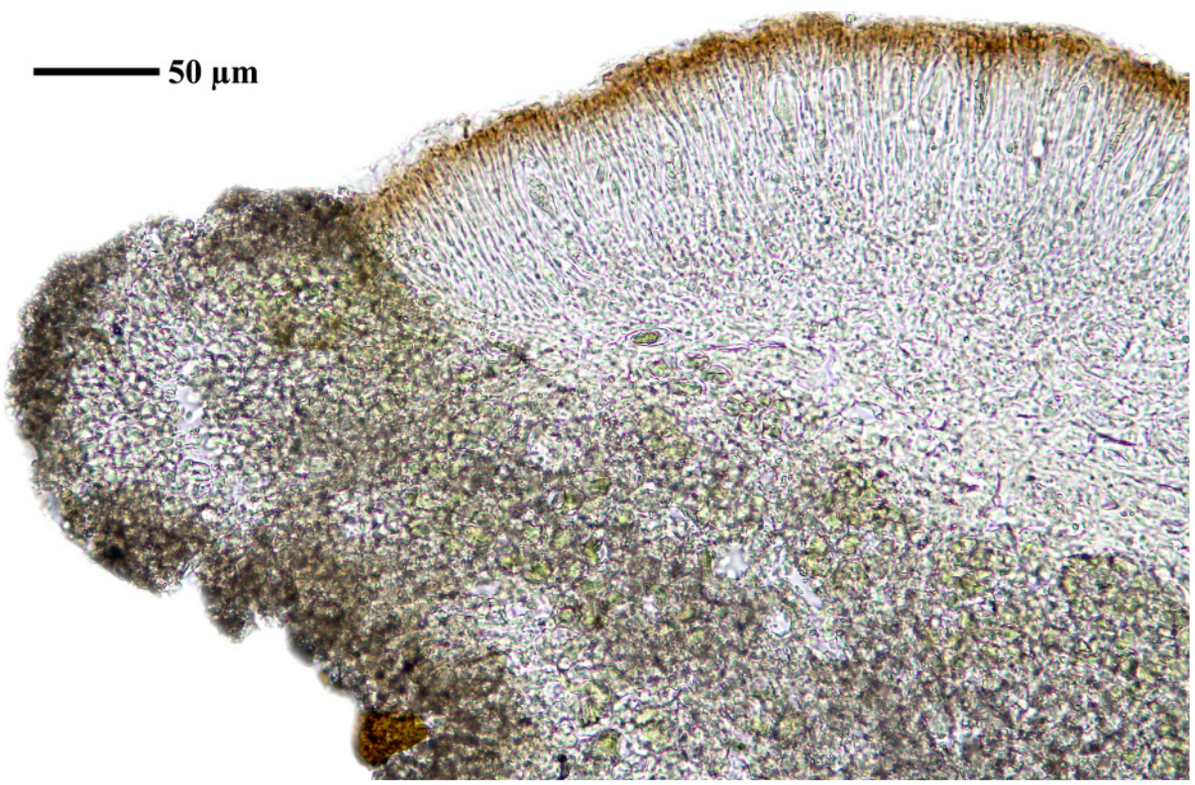




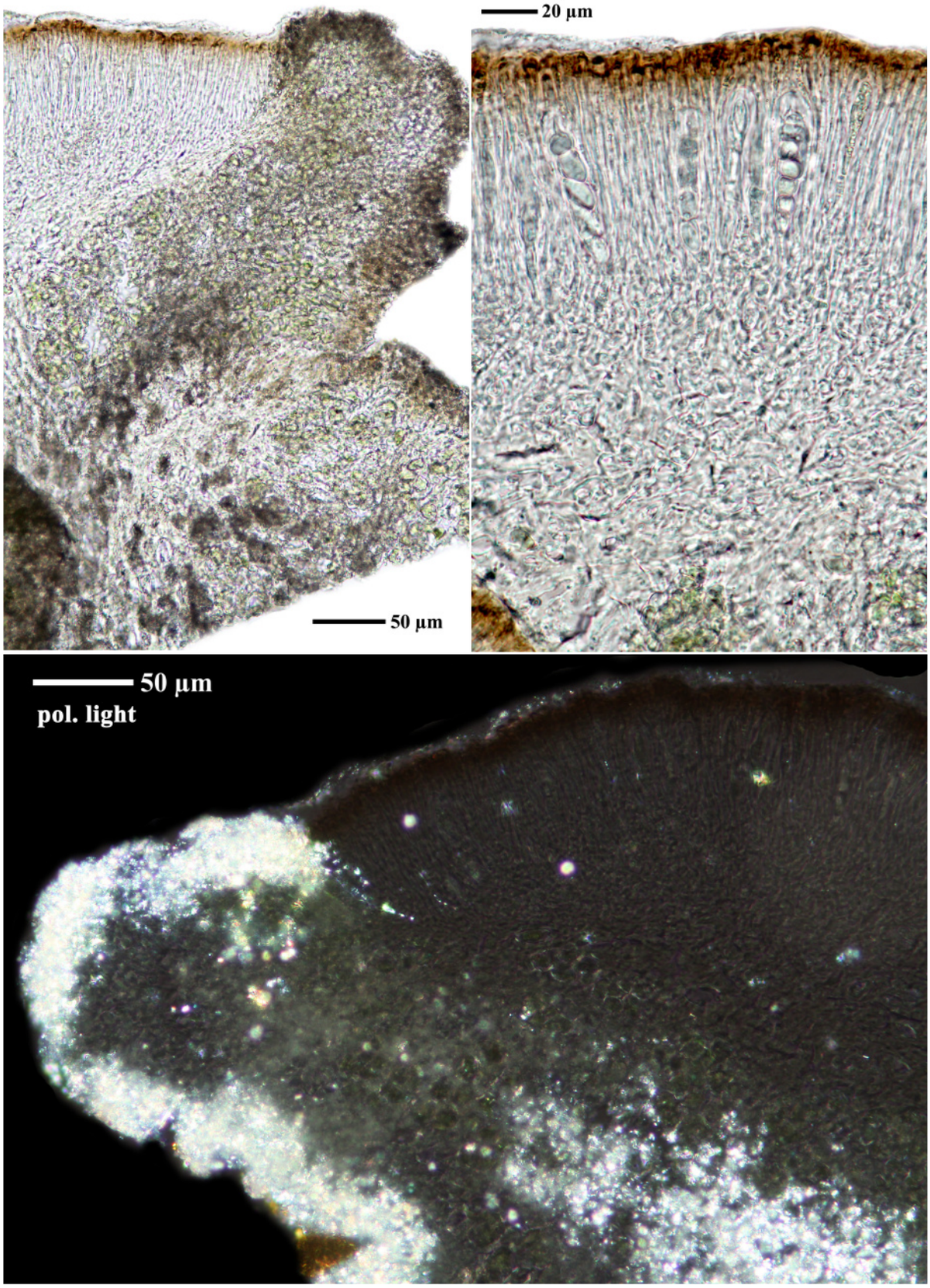


Lecanora argopholis

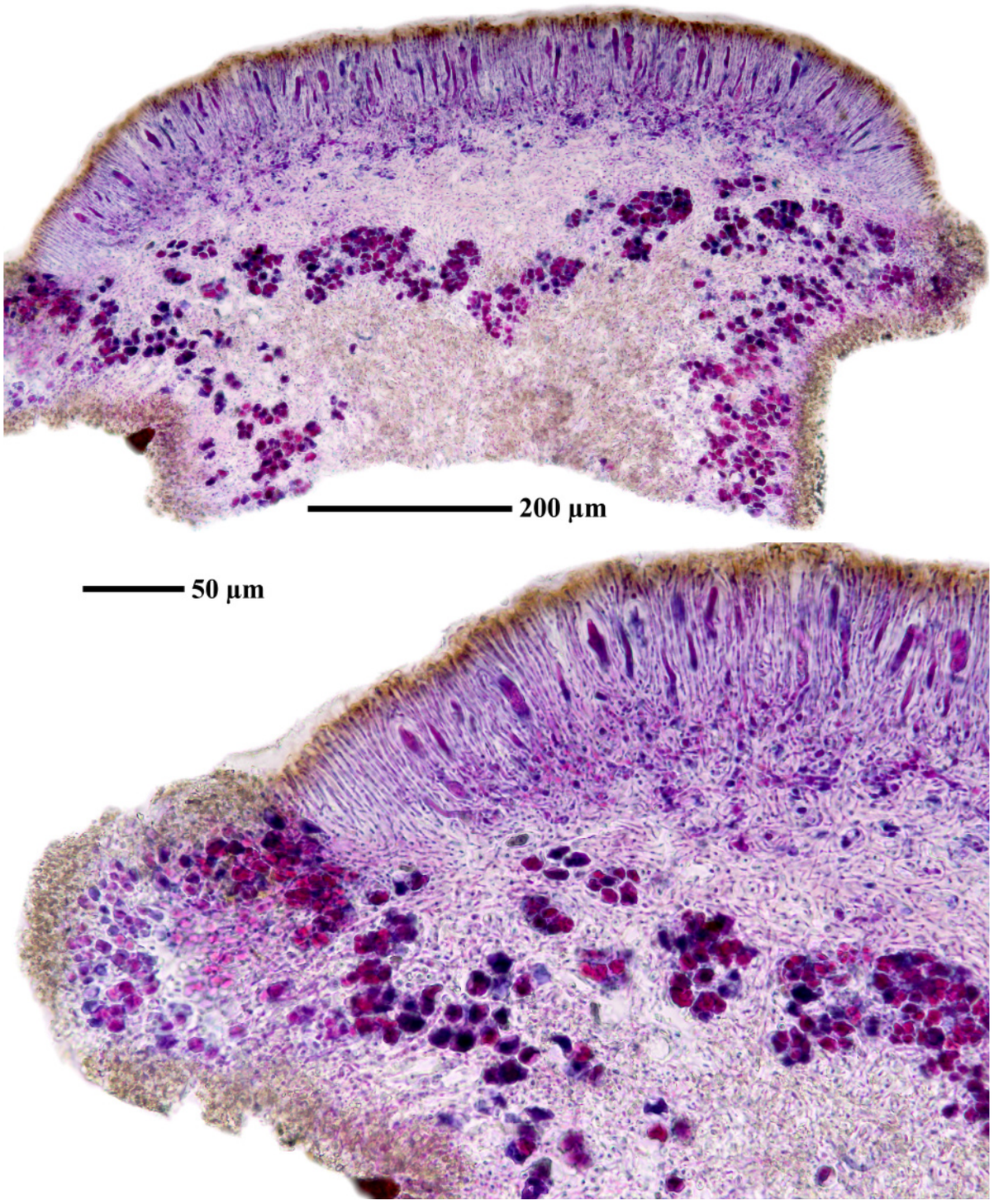




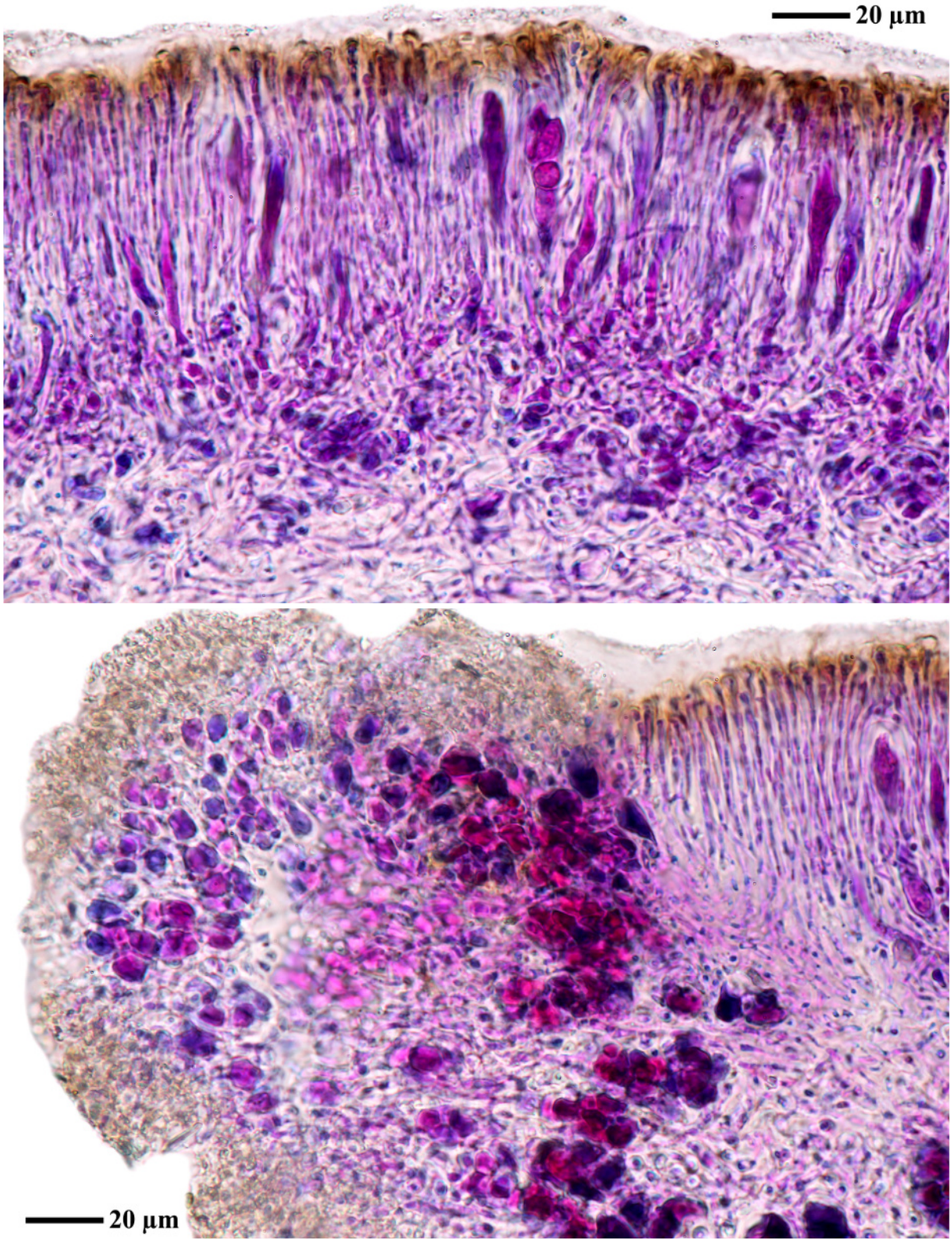
Lecanora argopholis



Lecanora argopholis



Lecanora argopholis



Lecanora argopholis





Lecanora argopholis

Lecanora argopholis (Ach.) Ach., Lich. univ.: 346 (1810)

[LIAF_48], Afghanistan, Prov. Paktia, 5 km S Tani, ca.18 km SW Khost, 69°49.5’ E, 33°12’ N, 1450 m. S- bis W-exponierte Felsstufen, Kalk, in lockerem Strauchbestand. Leg. M. Steiner (Ste 89/1), 06.07.1970. LICHENOTHECA AFGHANICA NR. 48





Lecanora argopholis

Lecanora baicalensis Zahlbr., (1909)

= ***Sedelnikovaea baicalensis*** (Zahlbr.) S.Y. Kondr., M.H. Jeong & Hur, in Kondratyuk, Jeong, Galanina, Yakovchenko, Yatsyna & Hur, Mycotaxon 129(2): 277 (2015)

= ***Placodium baicalense*** (Zahlbr.) Motyka, Porosty (Lichenes). 4, Rodzina Lecanoraceae. Placodium, Squamarina, Harpidium, Trapelina, Mosigia (Lublin): 79 (1996)

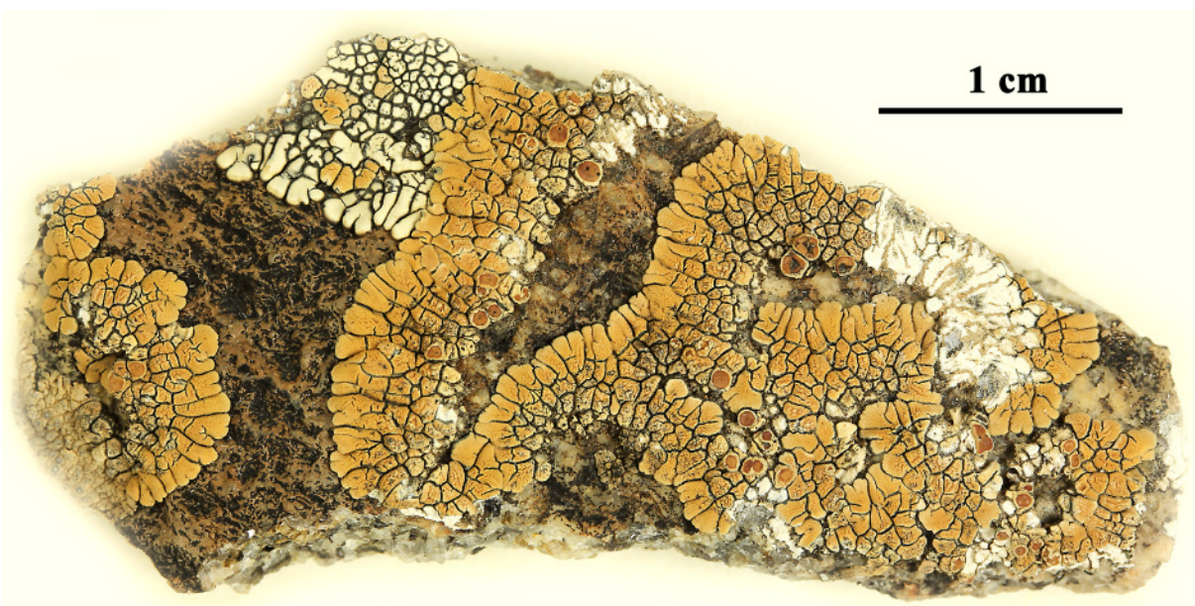
= ***Placolecanora baicalensis*** (Zahlbr.) Kopach., in Kopaczevskaja et al., Opredelitel' Lishaĭnikov SSSR Vypusk (Handbook ol the lichens of the U.S.S.R.) (Leningrad) 1 (1971)

= ***Placolecanora baicalensis*** (Zahlbr.) Kopach., Nov. sist. Niz. Rast. 9: 293 (1972)

= ***Protoparmeliopsis baicalensis*** (Zahlbr.) S.Y. Kondr., in Kondratyuk, Zarei-Darki & Khajeddin, Ukr. Bot. J. 69(6): 876 (2012)

Spores hyaline, 1-celled, 8/ascus, 11.5-14.6 x 5-6.3 µm.

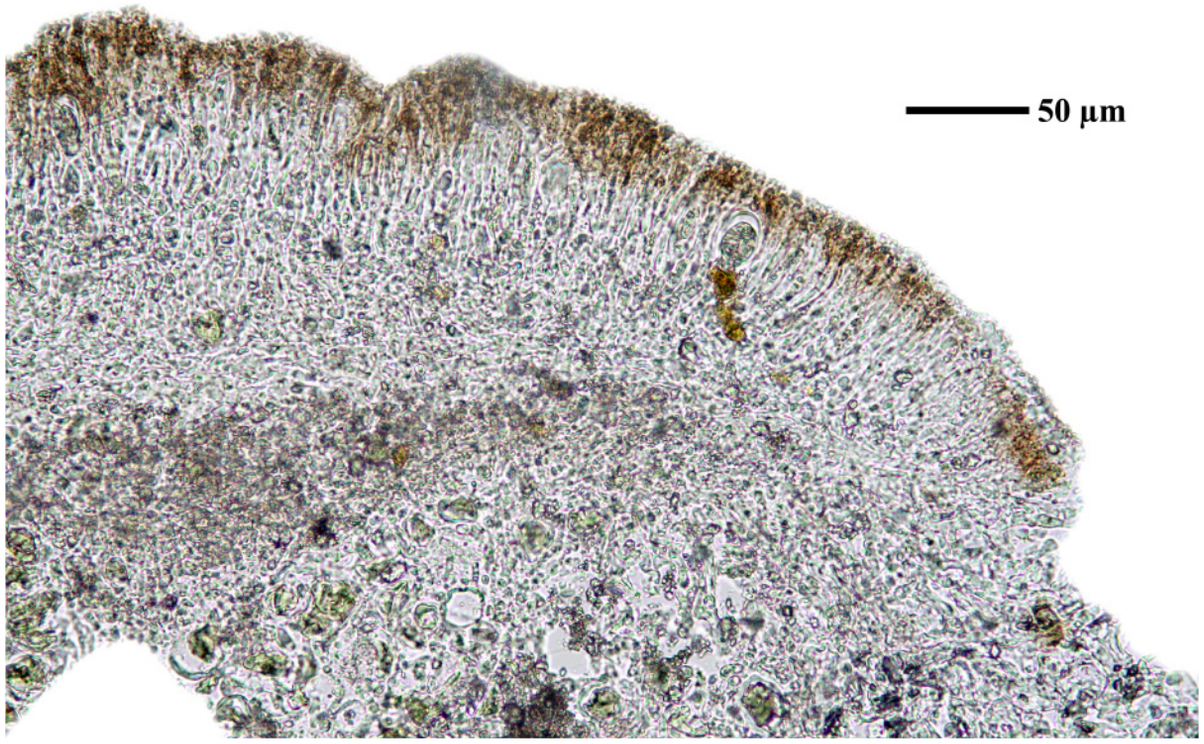
[GZU Poelt 5799], NE-Afghanistan, Wakhan, Quazi-dehntal, großer freistehender Block auf sehr alter Moräne, N-Seite, 3200 m. Leg. H. Roemer, 7.-8.1964, det. J. Poelt. Vergleichsherbar J. Poelt Nr. 5799

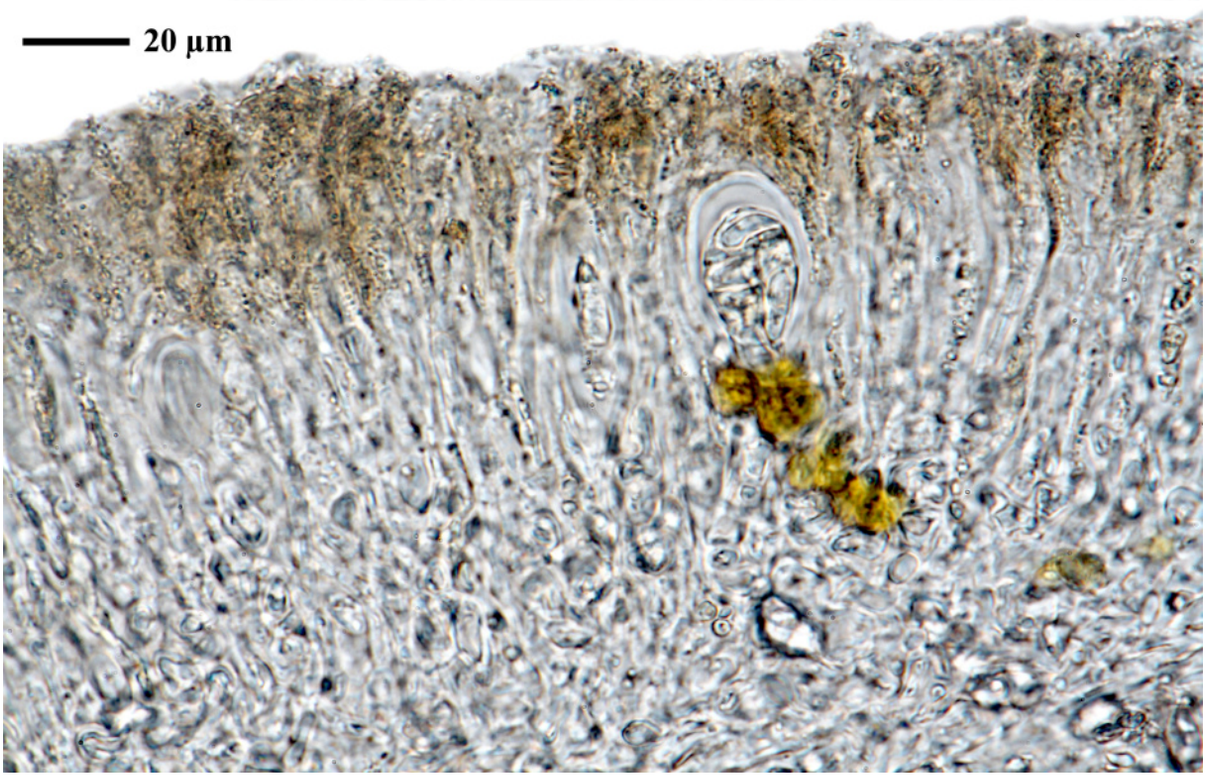




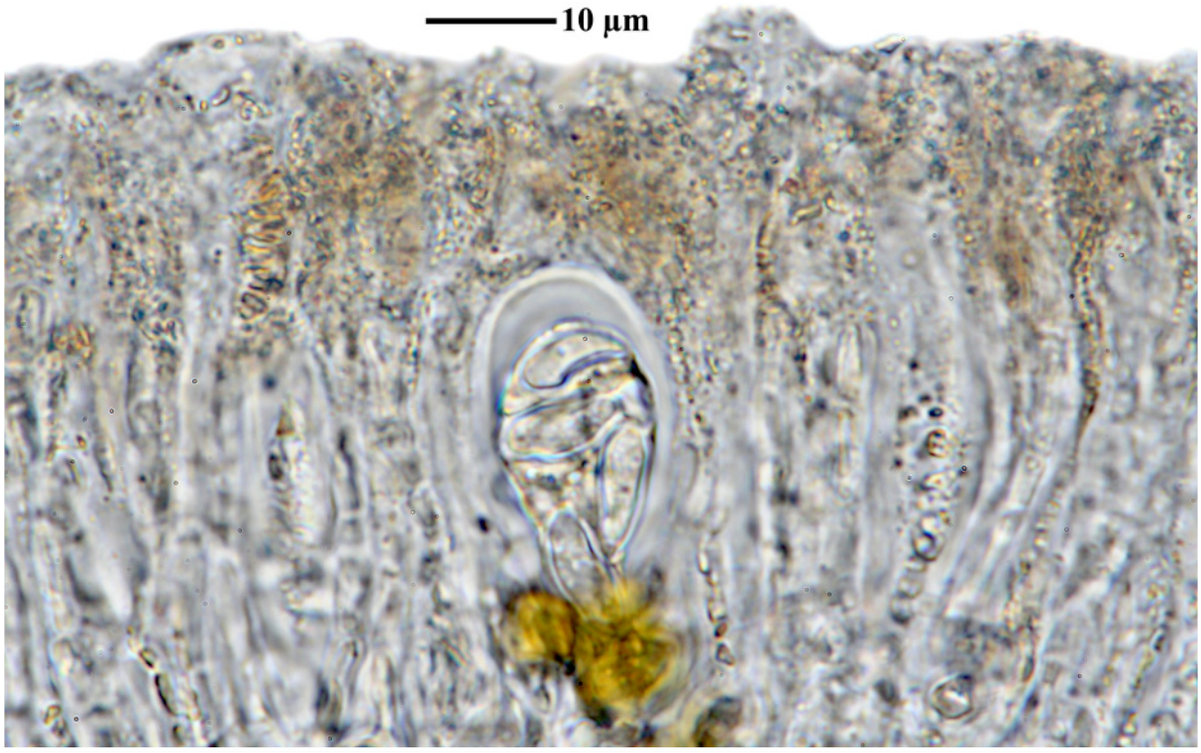


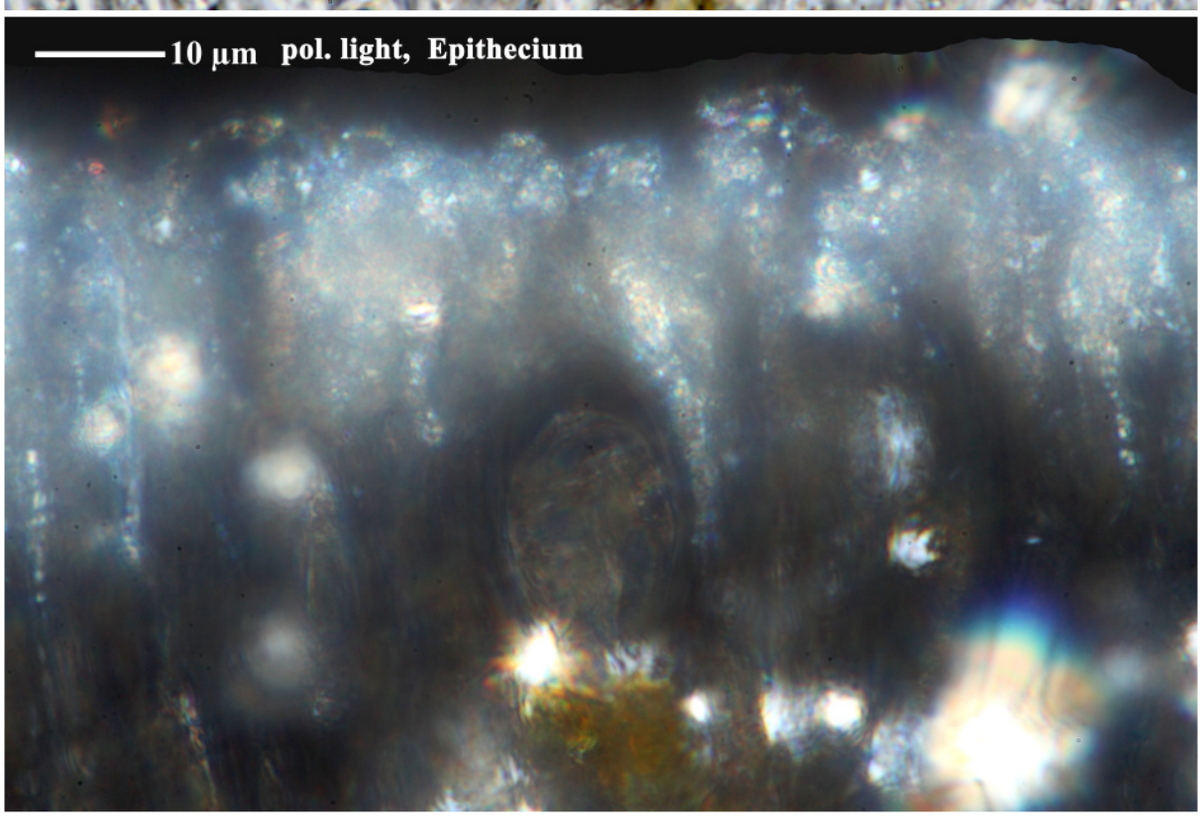
Lecanora baicalensis



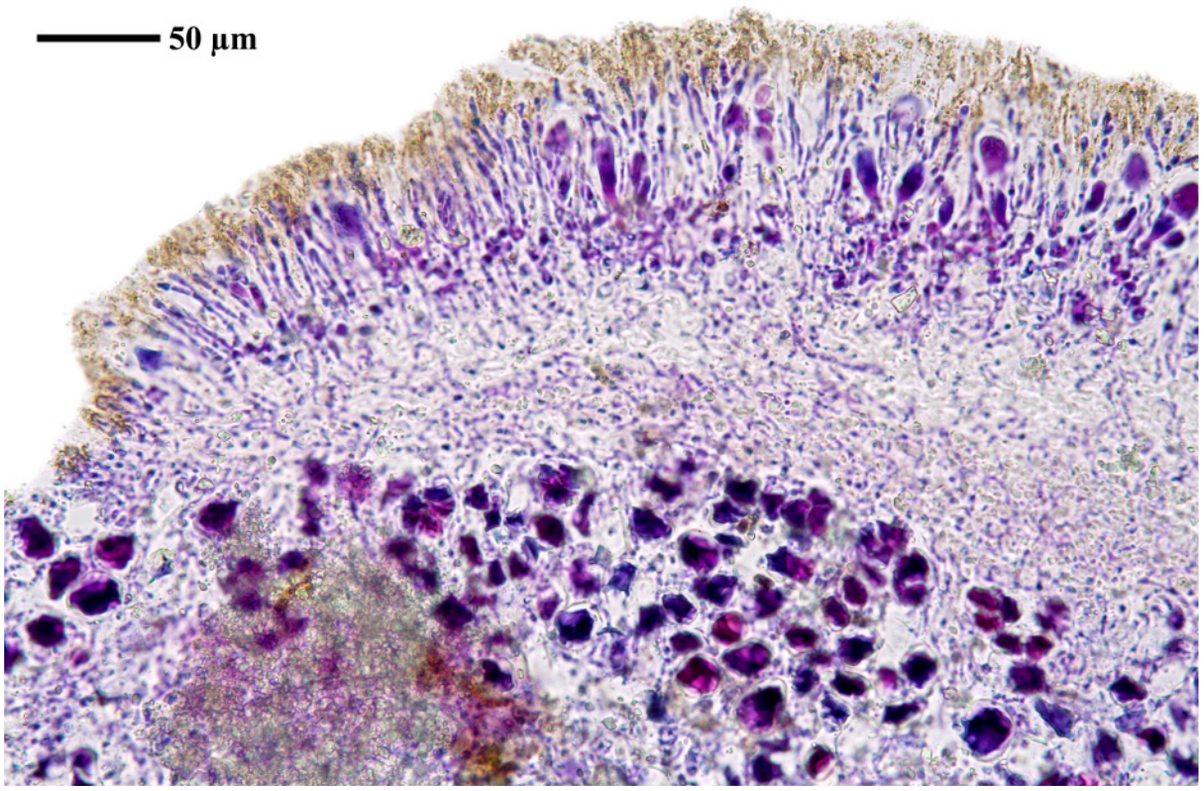


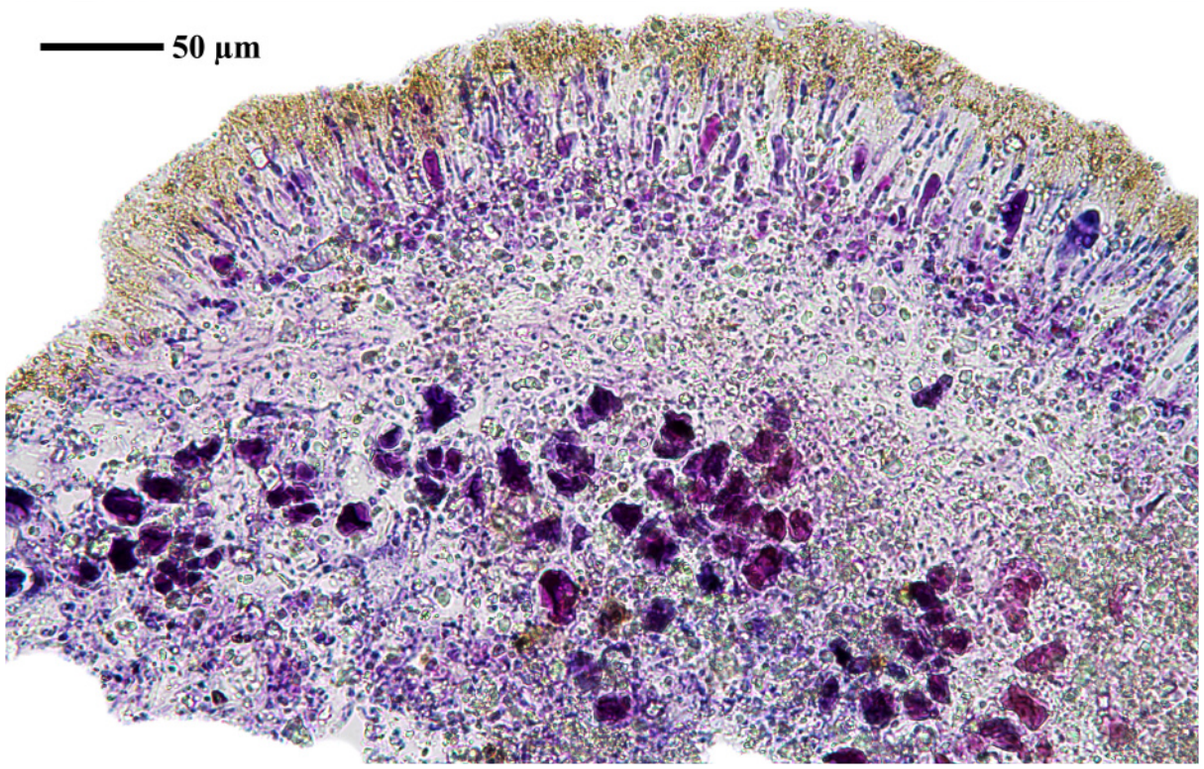
Lecanora baicalensis



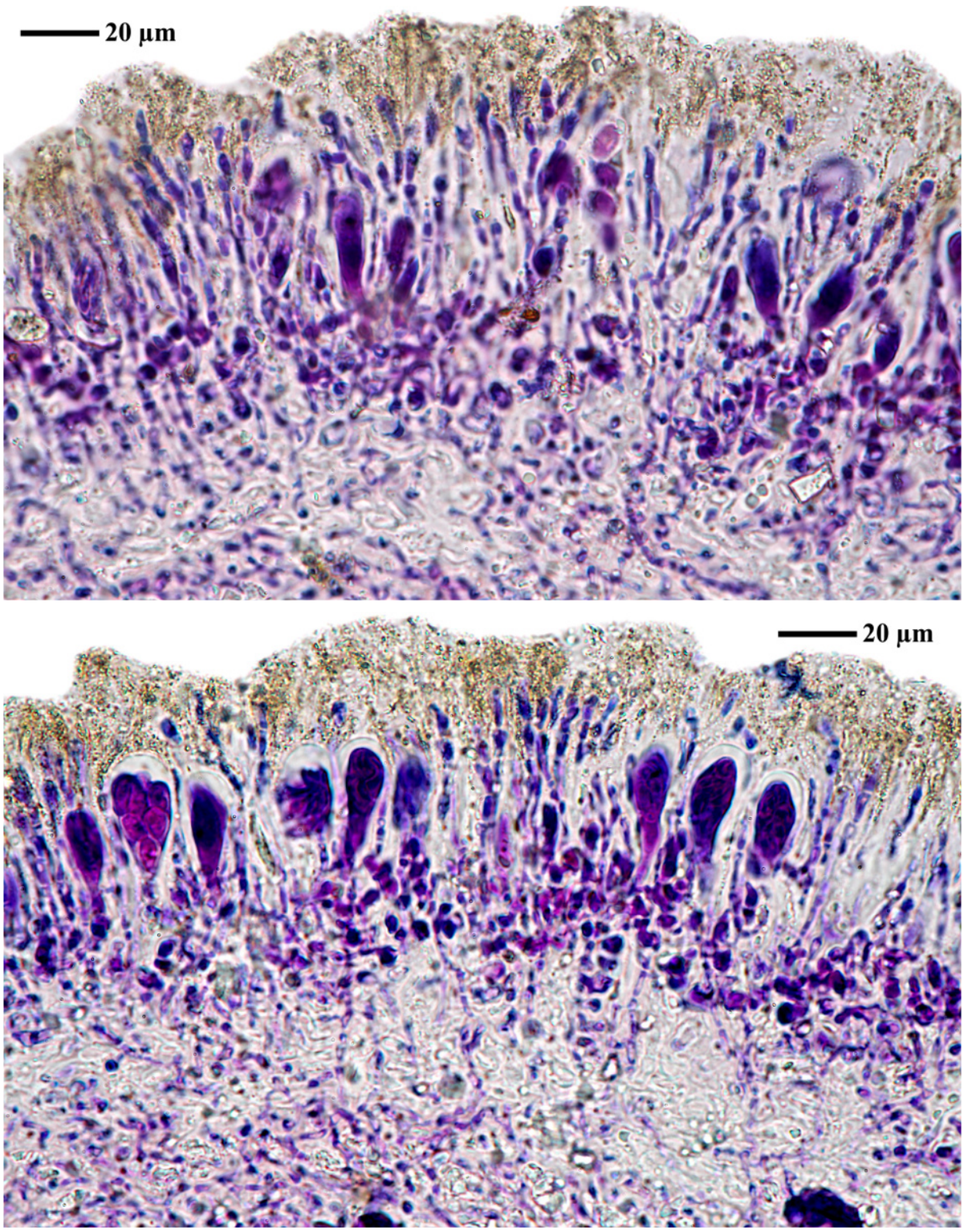


Lecanora baicalensis

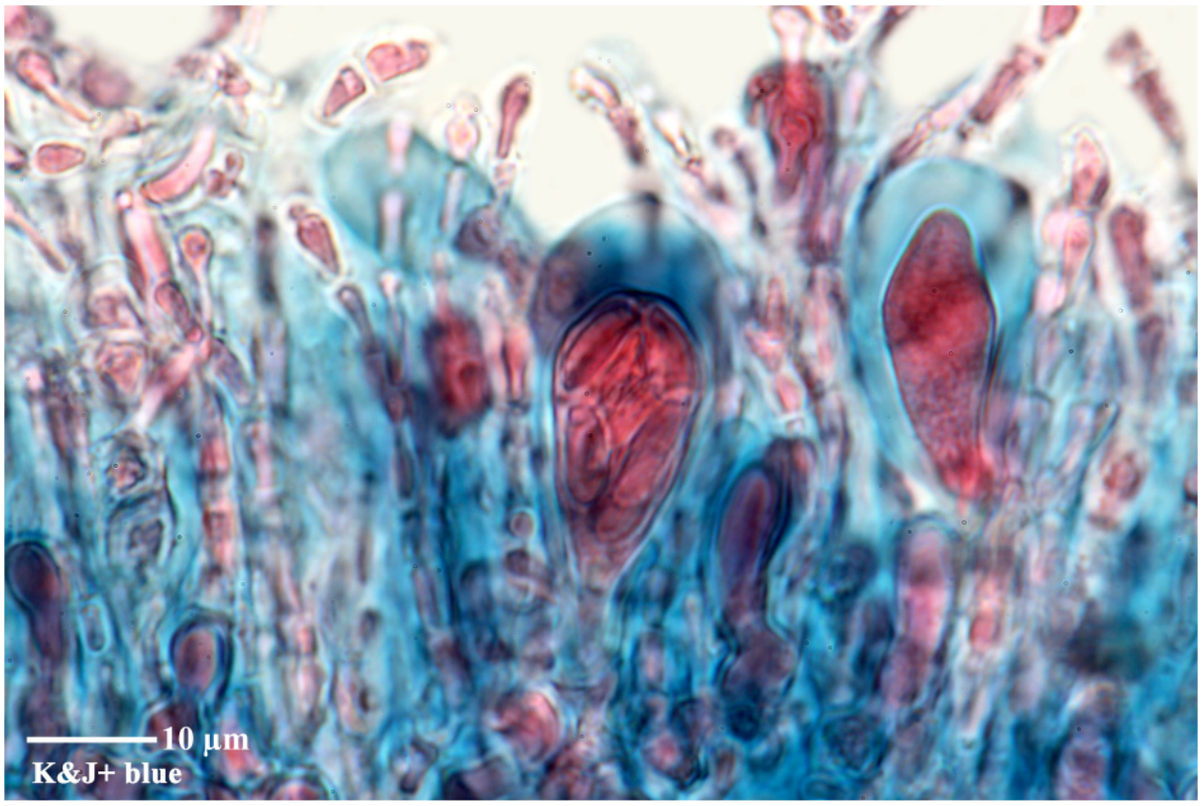


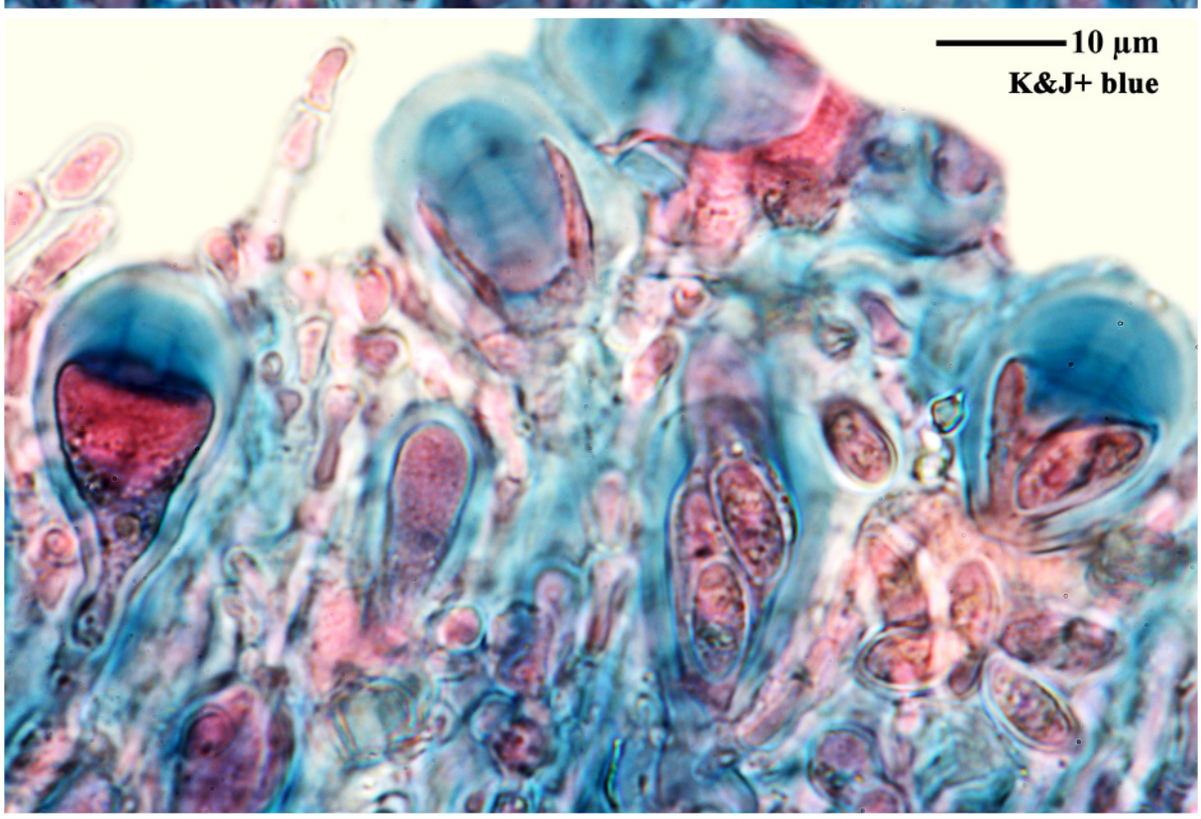


Lecanora baicalensis

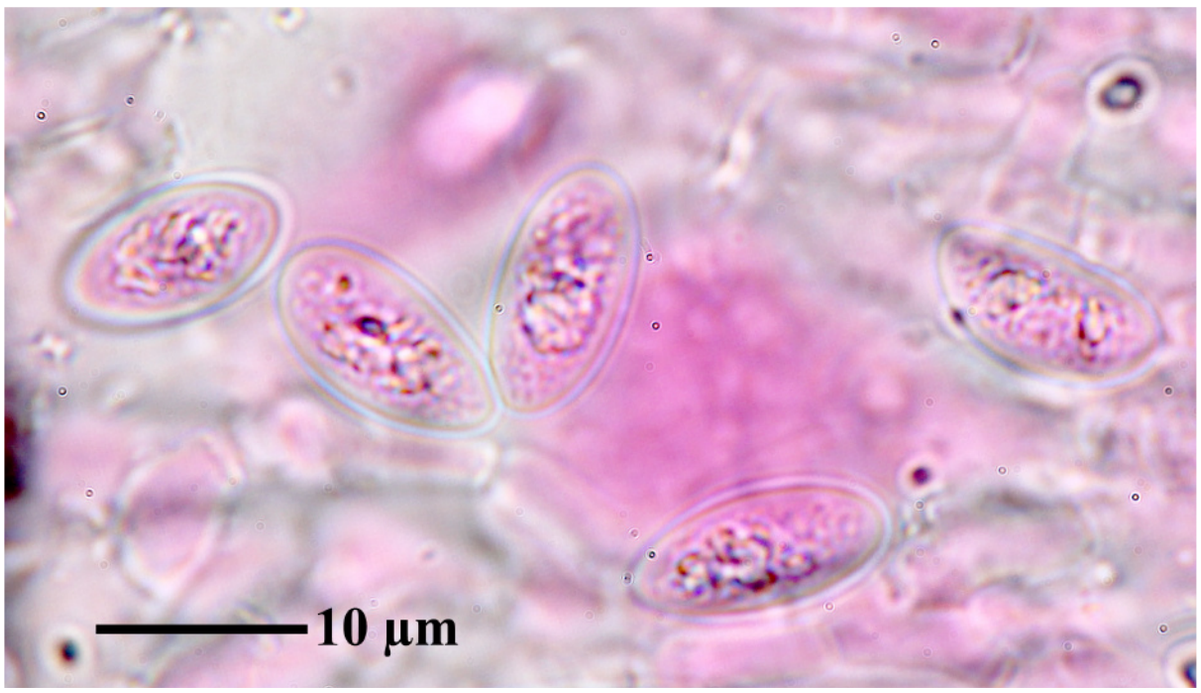


Lecanora baicalensis

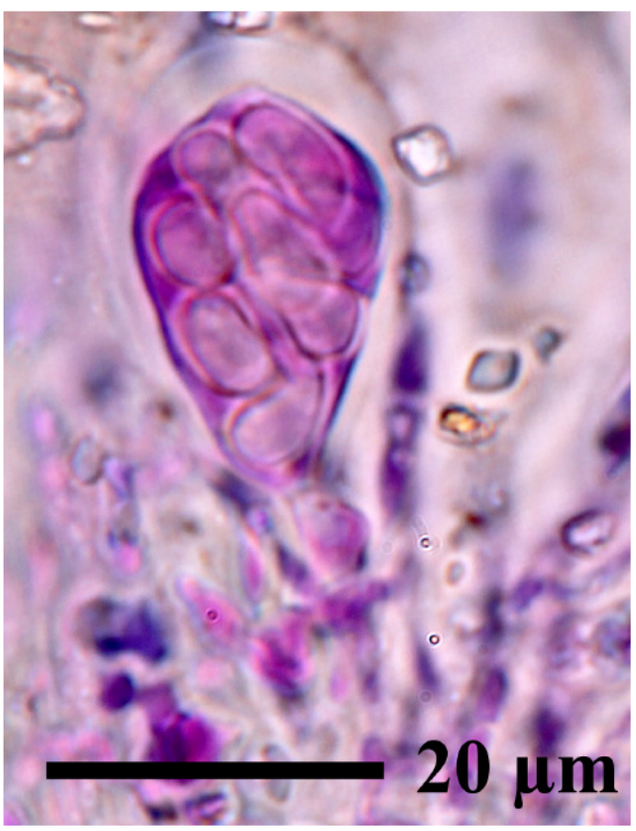




Lecanora baicalensis









Lecanora baicalensis

Lecanora dispersa (Pers.) Röhl., Deutschl. Fl. (Frankfurt) 3(2): 96 (1813) [= *Myriolecis dispersa* (Pers.) Śliwa, Zhao Xin & Lumbsch, in Zhao, Leavitt, Zhao, Zhang, Arup, Grube, Pérez-Ortega, Printzen, Śliwa, Kraichak, Divakar, Crespo & Lumbsch, Fungal Diversity 78(1): 300 (2015)]

auf *Dermatocarpon moulinsii* (Mont.) Zahlbr.

[LIAF_66], Afghanistan, Prov Kabul,Paghman-Gebirge, oberhalb des Ortes Paghman, ca. 500 m unterhalb der Talgabelung Chap-Darrah und Rast-Darrah, 68°56’ E, 34°37’ N. ca.2540 m.Silikatfelsen und erderfüllte Spalten. Leg. D. Podlech (Pod. 57/4), 10.04.1977. LICHENOTHECA AFGHANICA NR. 66.



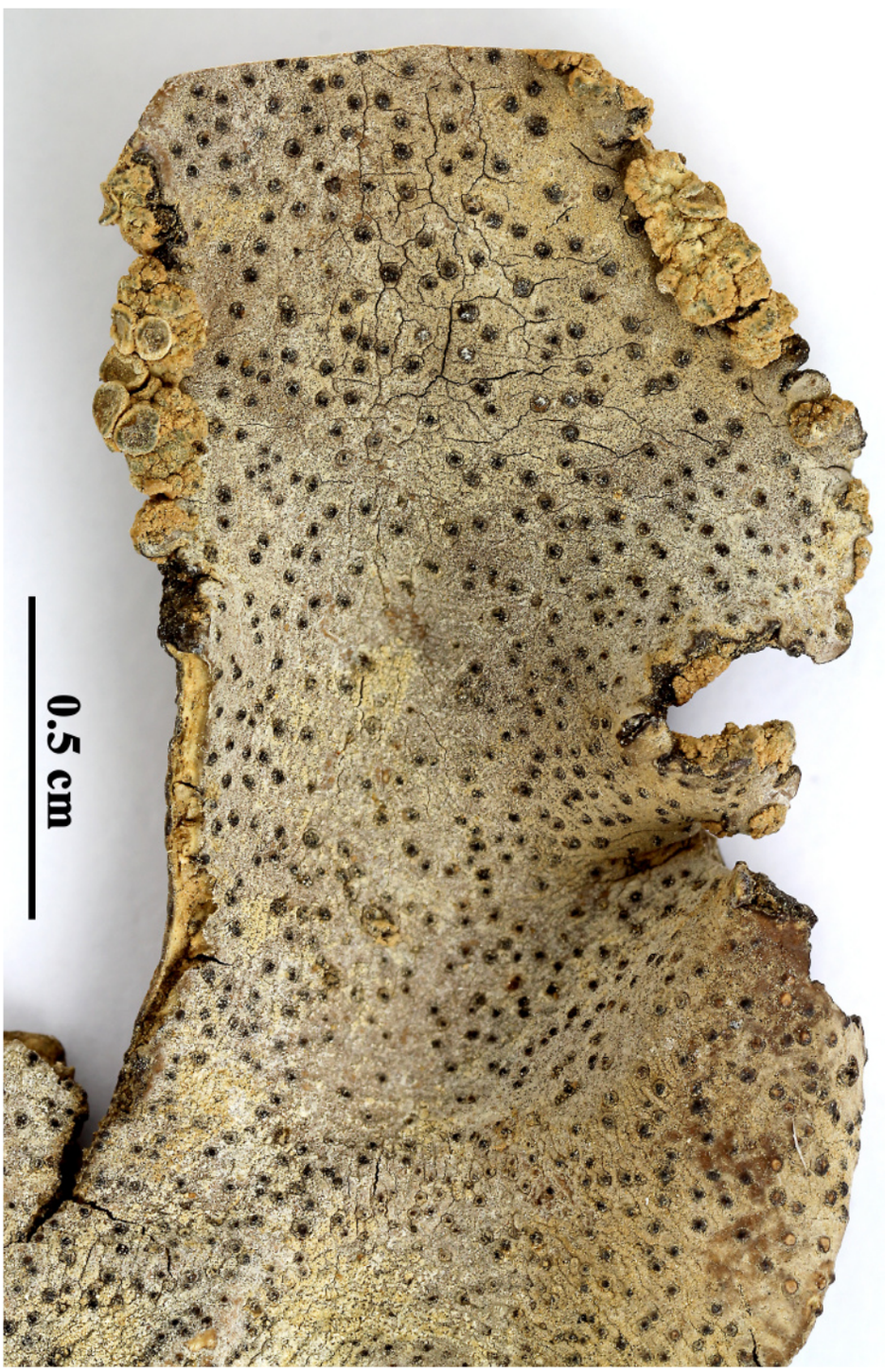


Lecanora dispersa

Lecanora dispersa (Pers.) Röhl., Deutschl. Fl. (Frankfurt) 3(2): 96 (1813) [= *Myriolecis dispersa* (Pers.) Śliwa, Zhao Xin & Lumbsch, in Zhao, Leavitt, Zhao, Zhang, Arup, Grube, Pérez-Ortega, Printzen, Śliwa, Kraichak, Divakar, Crespo & Lumbsch, Fungal Diversity 78(1): 300 (2015)]

auf *Dermatocarpon moulinsii* (Mont.) Zahlbr.

[LIAF_67], Afghanistan, Prov Kabul,Paghman-Gebirge, oberhalb des Ortes Paghman, ca. 500 m unterhalb der Talgabelung Chap-Darrah und Rast-Darrah, 68°56’ E, 34°37’ N. ca.2540 m.Silikatfelsen und erderfüllte Spalten. Leg. D. Podlech (Pod. 57/3), 10.04.1977. LICHENOTHECA AFGHANICA NR. 67.







Lecanora dispersa

Lecanora dispersa (Pers.) Röhl., Deutschl. Fl. (Frankfurt) 3(2): 96 (1813) [= *Myriolecis dispersa* (Pers.) Śliwa, Zhao Xin & Lumbsch, in Zhao, Leavitt, Zhao, Zhang, Arup, Grube, Pérez-Ortega, Printzen, Śliwa, Kraichak, Divakar, Crespo & Lumbsch, Fungal Diversity 78(1): 300 (2015)]

auf *Dermatocarpon moulinsii* (Mont.) Zahlbr.

[LIAF_68], Afghanistan, Prov Kabul, Paghman-Gebirge, oberhalb des Ortes Paghman, am der Talgabelung Chap-Darrah und Rast-Darrah, 68°56’ E, 34°37’ N. ca.2550 m. Silikatfelsen und erderfüllte Spalten. Leg. M Steiner (Ste 36/1, 37/1, 59/4), 30.05., 21.06.1979. LICHENOTHECA AFGHANICA NR. 68.





Lecanora dispersa (*Dermatocarpon moulinsii, lower surface)*





Lecanora dispersa

Lecanora muralis (Schreb.) Rabenh.var. *muralis*, Deutschl. Krypt.-Fl. (Leipzig) 2: 42 (1845)

[= *Protoparmeliopsis muralis* (Schreb.) M.Choisy, Contr. Lichénogr. 1: tab. 1 (1929)]

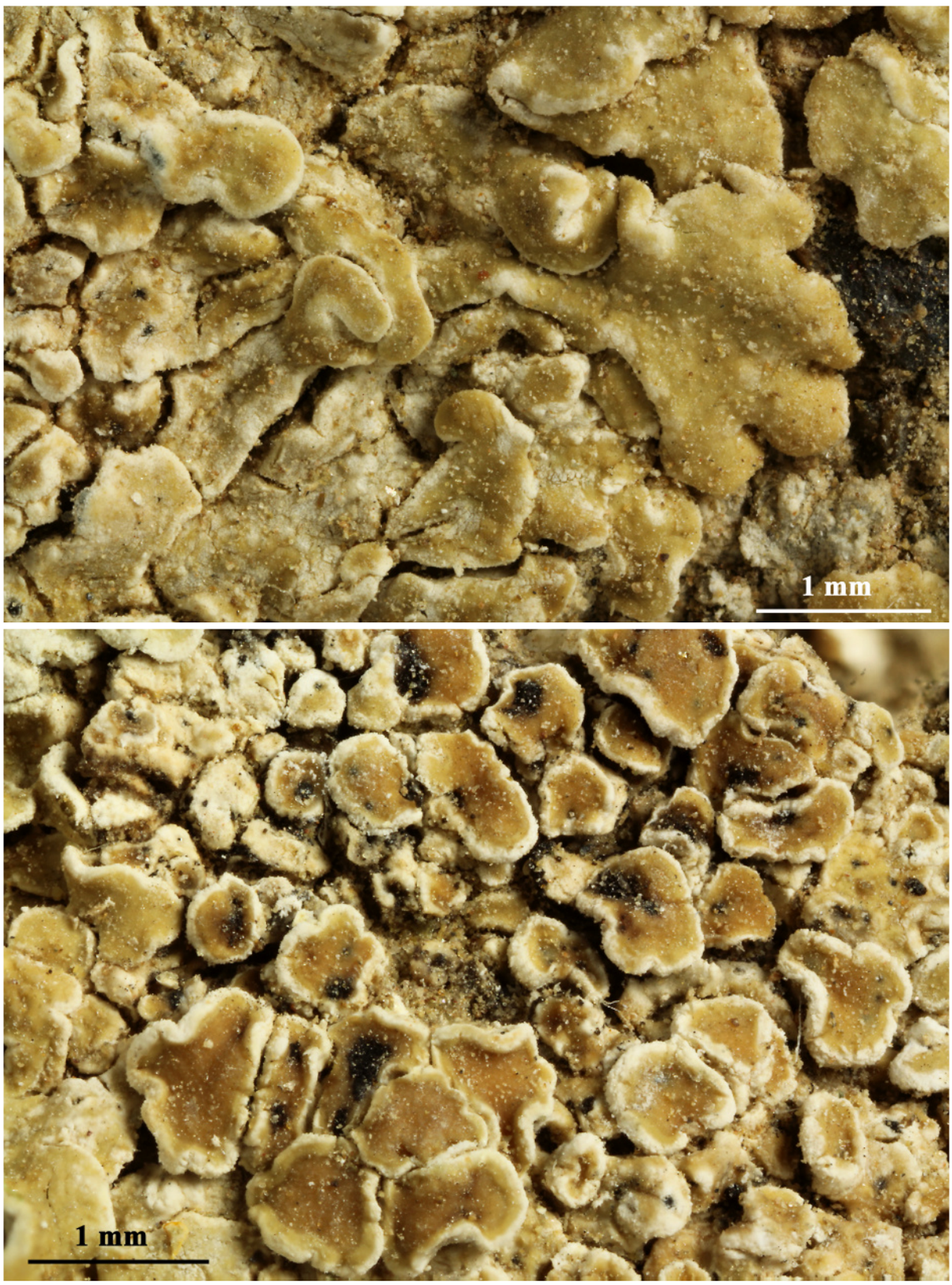
[= *Lecanora saxicola* (Pollich) Ach., Lich. univ.: 431 (1810)]

[= *Placodium murale* (Schreb.) Arnold, Flora, Regensburg 67: 312 (1884)]

[= *Placodium saxicola* (Pollich) Frege, Deutsch. Botan. Taschenb. 2: 176 (1812)]

[LIAF_75], Afghanistan, Prov.Paktia, 10 km NE Khost, an der Straße nach Yaqubi, 68°58’ E, 3323.5’ N, 1170 m. Auf der N-Flanke einer ca. 3 m hohen, E-W-überstreichenden Volkanit-Felsrippe in der Schotterebene. Leg. M. Steiner (Ste 70/1), 03.07.1970. LICHENOTHECA AFGHANICA 75.

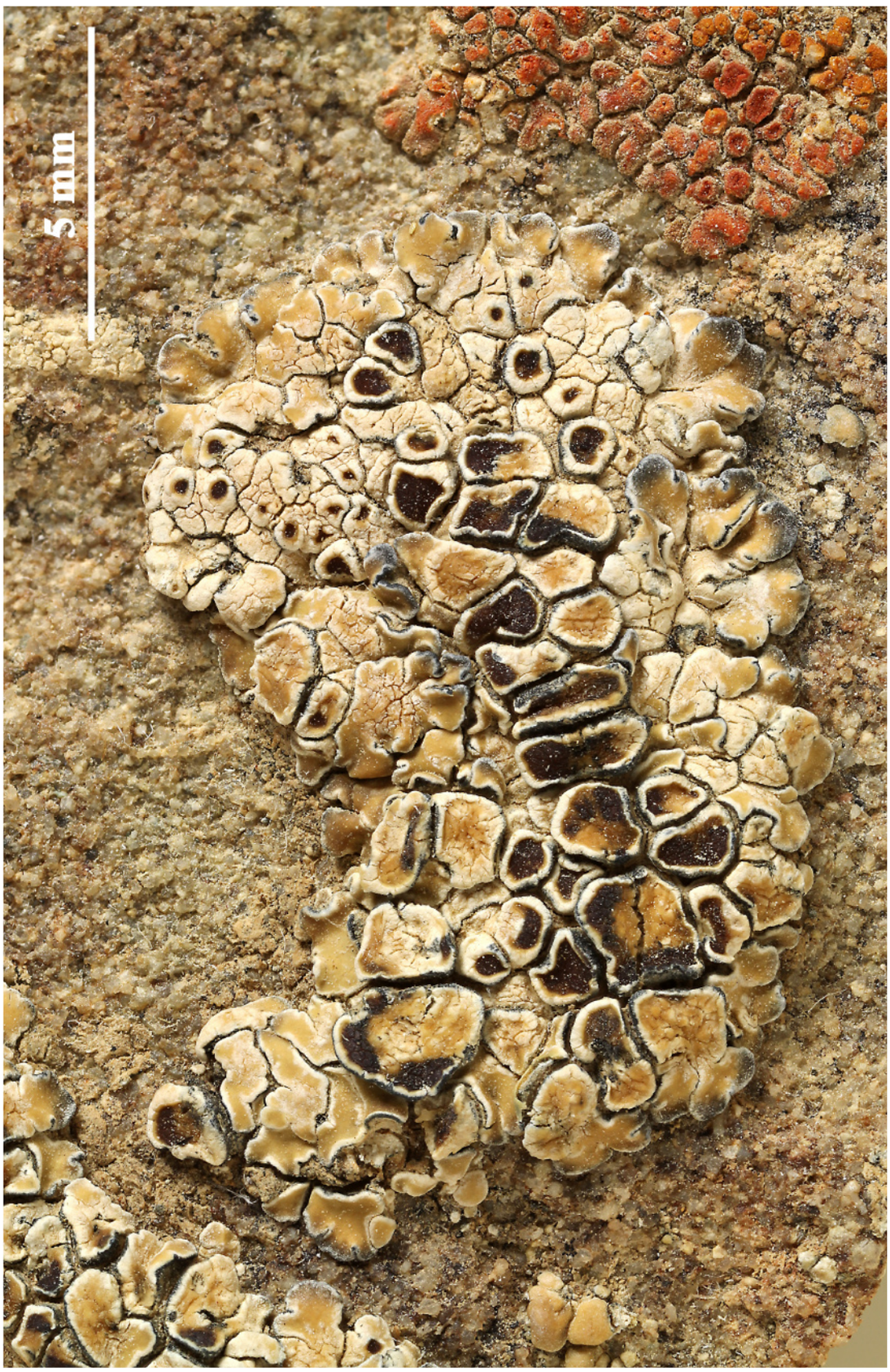




Lecanora muralis

Lecanora muralis var***. dubyi*** (Müll. Arg.) Poelt, Mitt. bot. StSamml., Münch. 19-20: 499 (1958)

[GZU 27-94], Afghanistan, Priv. Gardez, in jugo Sata Kandao, inter Gardez (69°09’ E, 33°37’ N) et Khost (/0°01’ E, 33°22’ N), auf Tonschiefer, 2900 m. Leg. K.H. Rechinger, 1965, det. J. Poelt 8.8.1970. Ex: K. H. Rechinger, Iter Orientale 1965.





Lecanora muralis var**. *dubyi***

Lecanora percrenata H.Magn., (1940)
[= *Myriolecis percrenata* (H.Magn.) Śliwa, Zhao Xin & Lumbsch, in Zhao, Leavitt, Zhao, Zhang, Arup, Grube, Pérez-Ortega, Printzen, Śliwa, Kraichak, Divakar, Crespo & Lumbsch, Fungal Diversity 78(1): 301 (2015)]

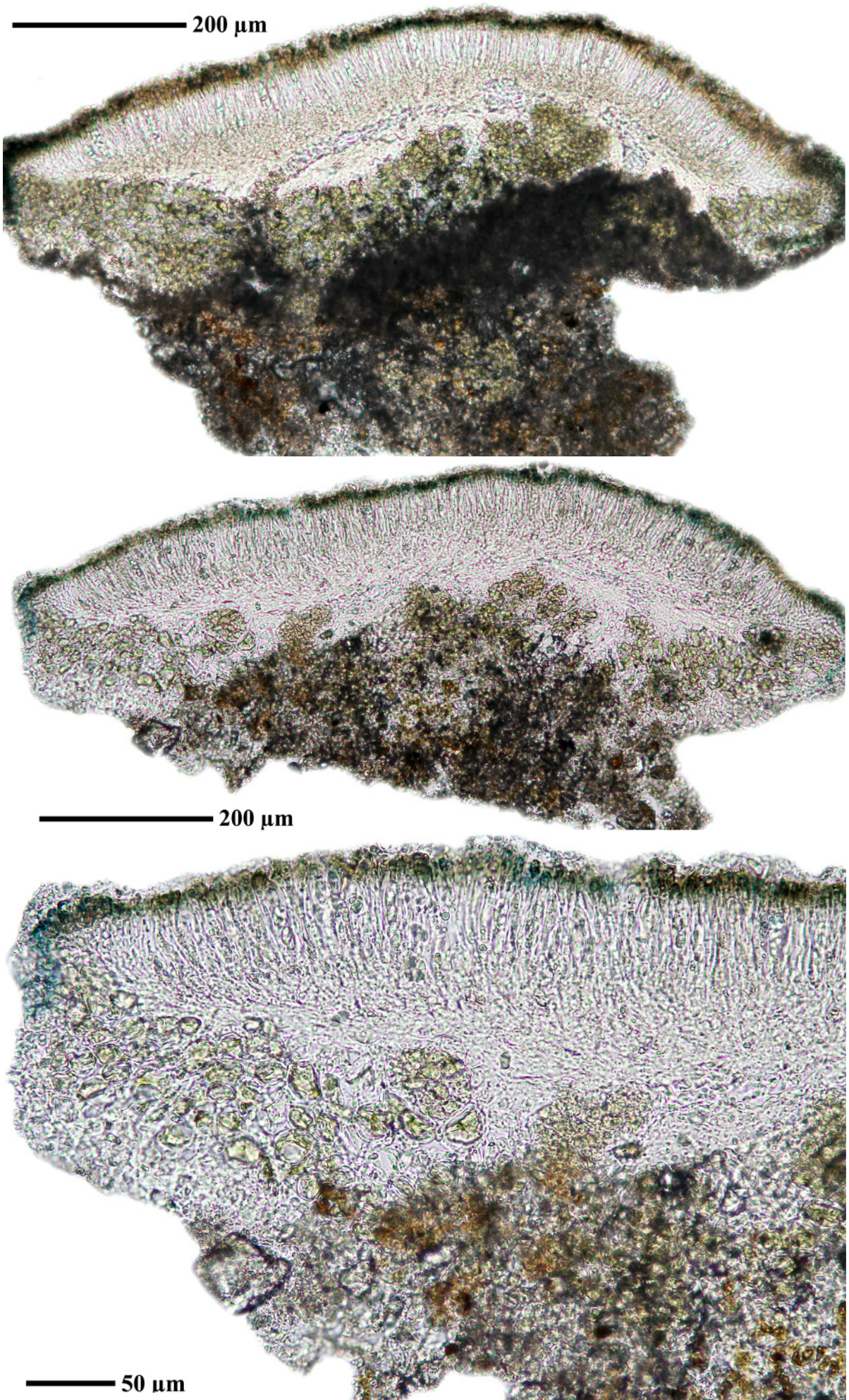
Epihymenium grün. Sporen farblos, einzellig, 8/Ascus, 10.3-11.4 x 4.9-5.4 µm

[LIAF_54], Afghanistan, Prov. Bamyan, Band-i-Amir, nördliches Seeufer, unmittelbar beim islamischen Heiligtum, 67°10.5' E, 34°49' N, ca. 2900 m. Weiche junge Kalktuffe unmittelbar am Seeufer, ca 0.5-1 m über dem Seespiegel. Leg A. Dieterle (Pod 36/2), 30.05.1970. LICHENOTHECA AFGHANICA NR. 54.

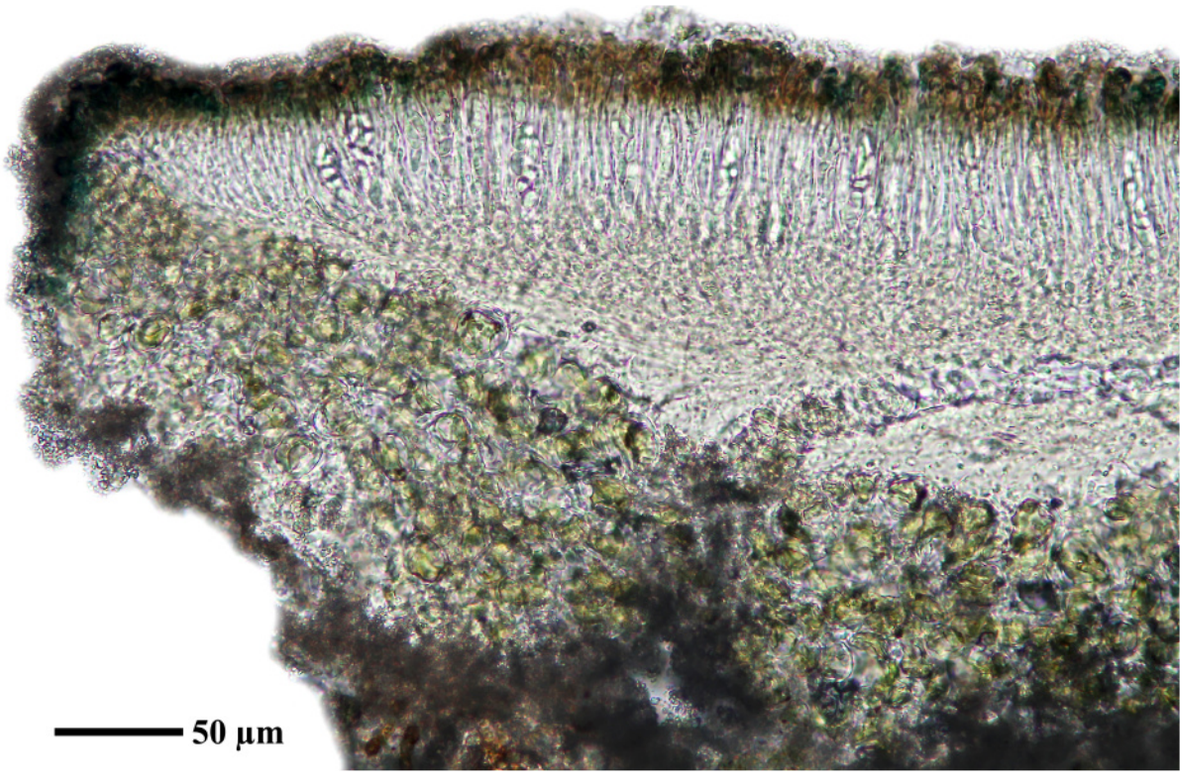


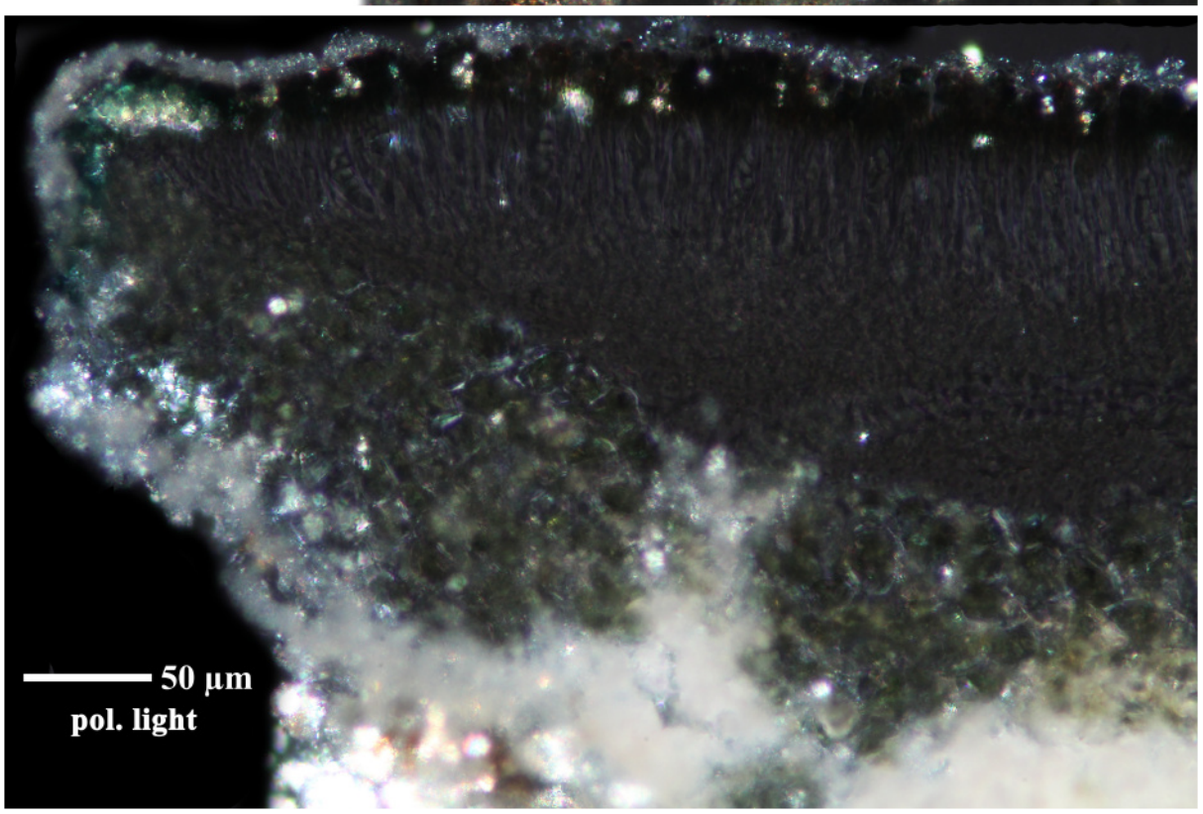


Lecanora percrenata

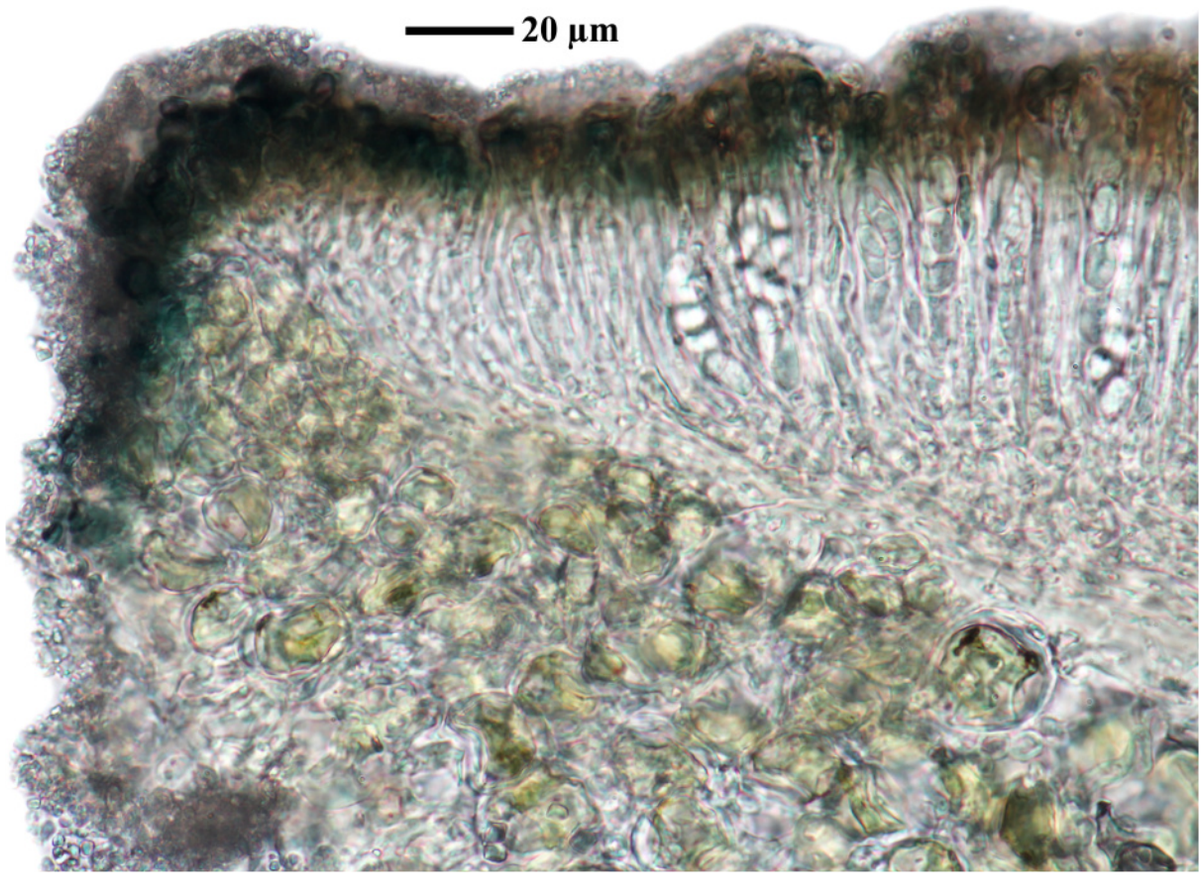


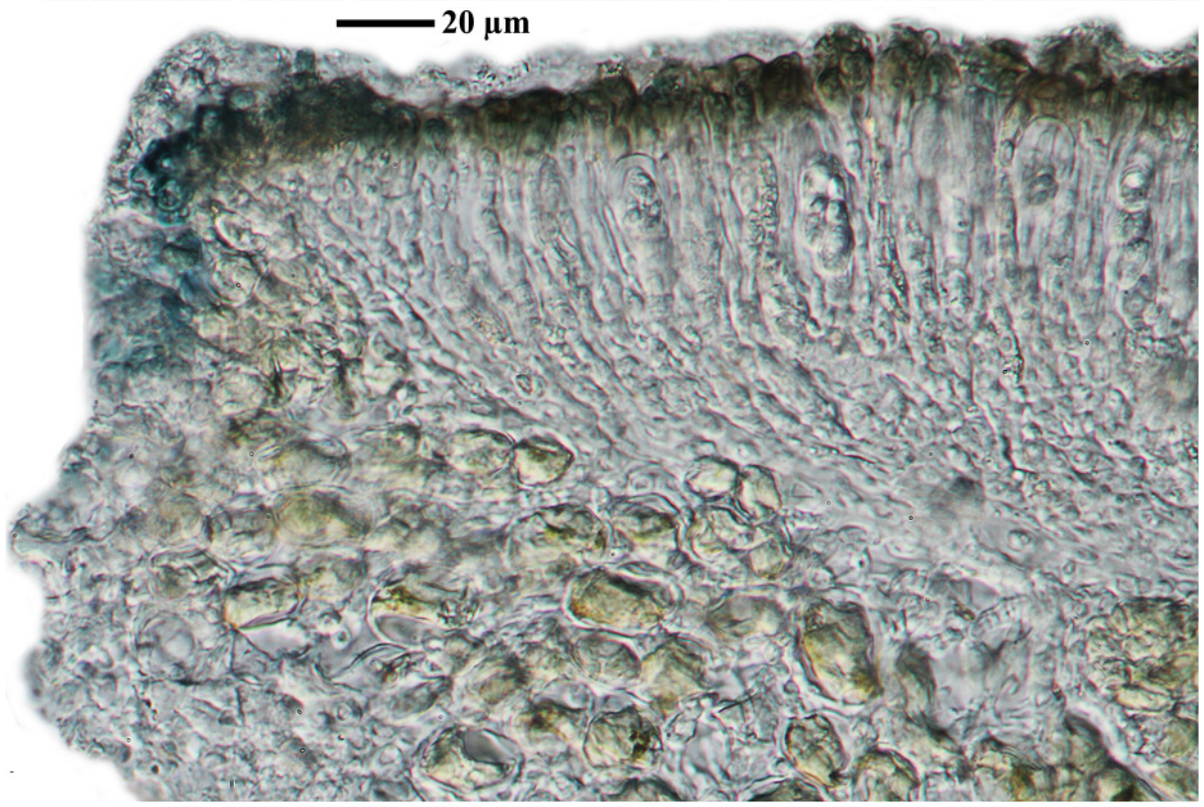
Lecanora percrenata



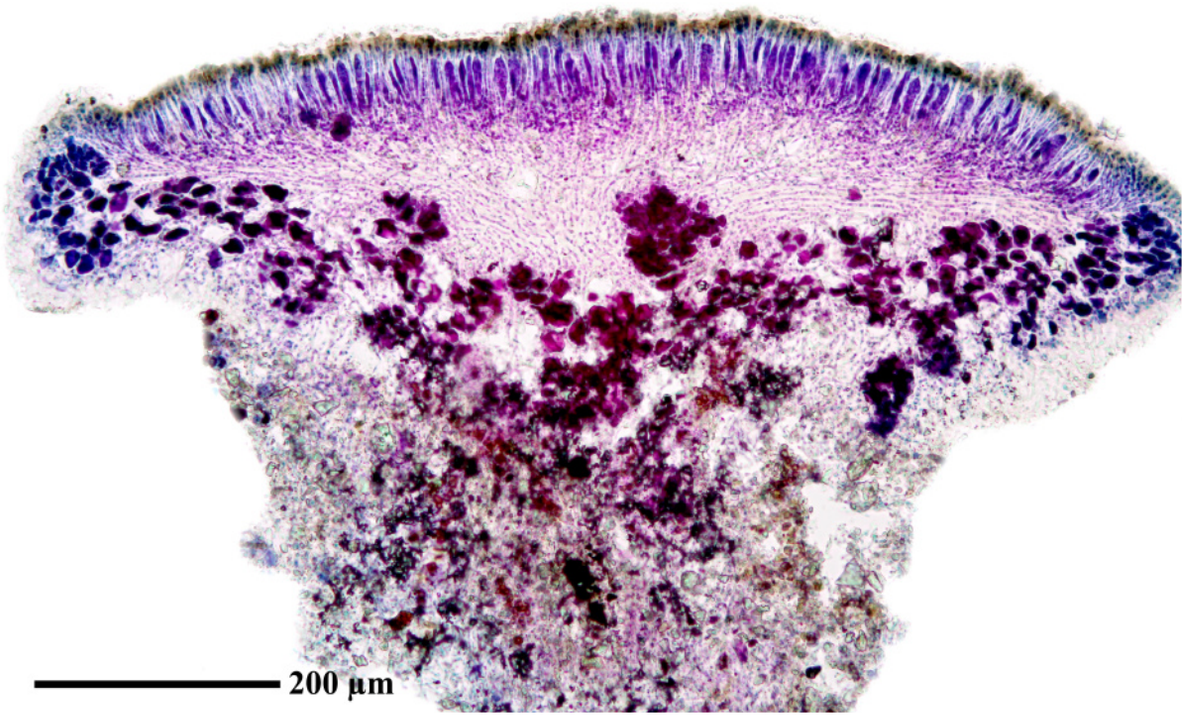


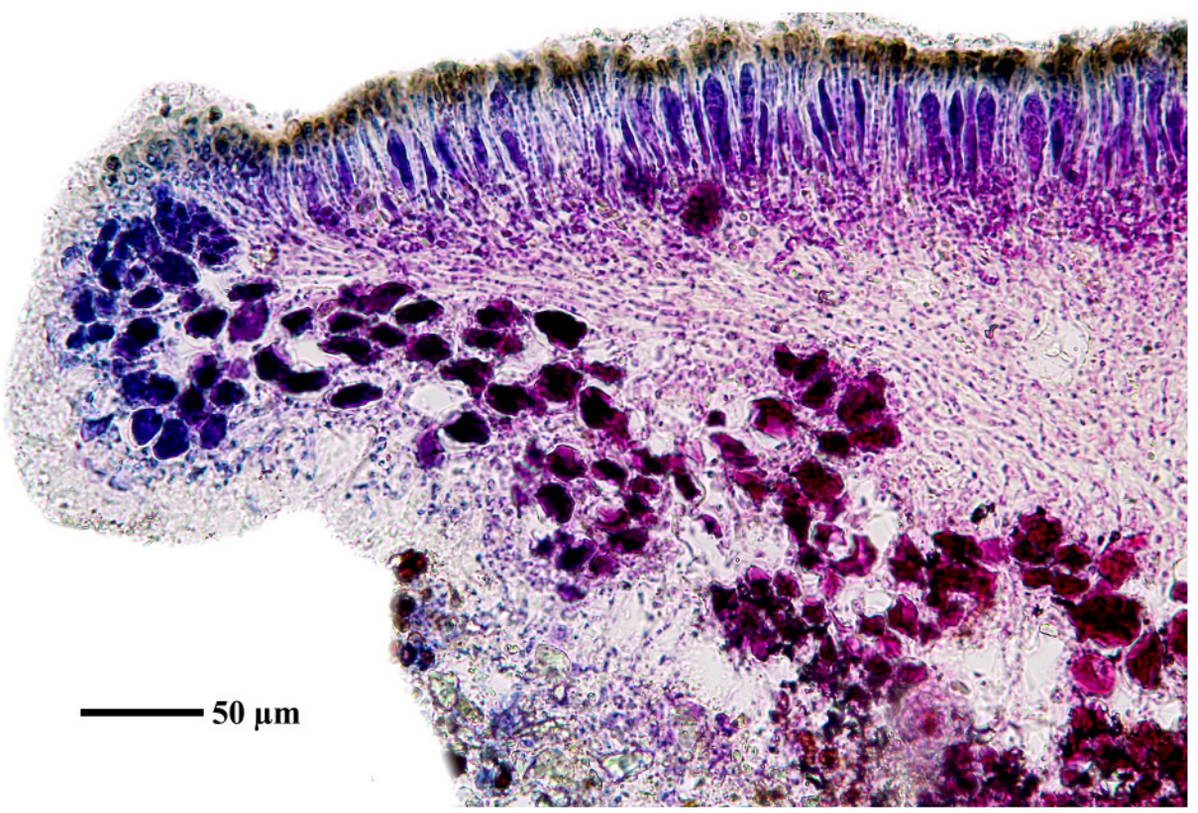
Lecanora percrenata

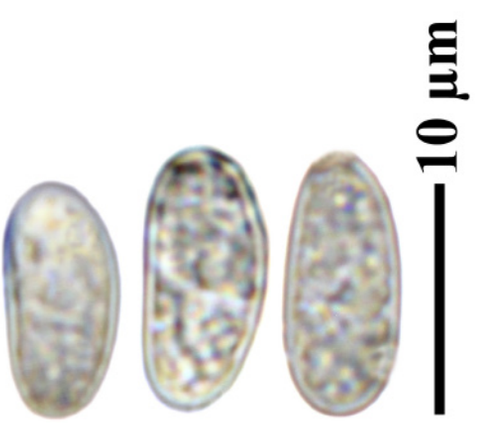




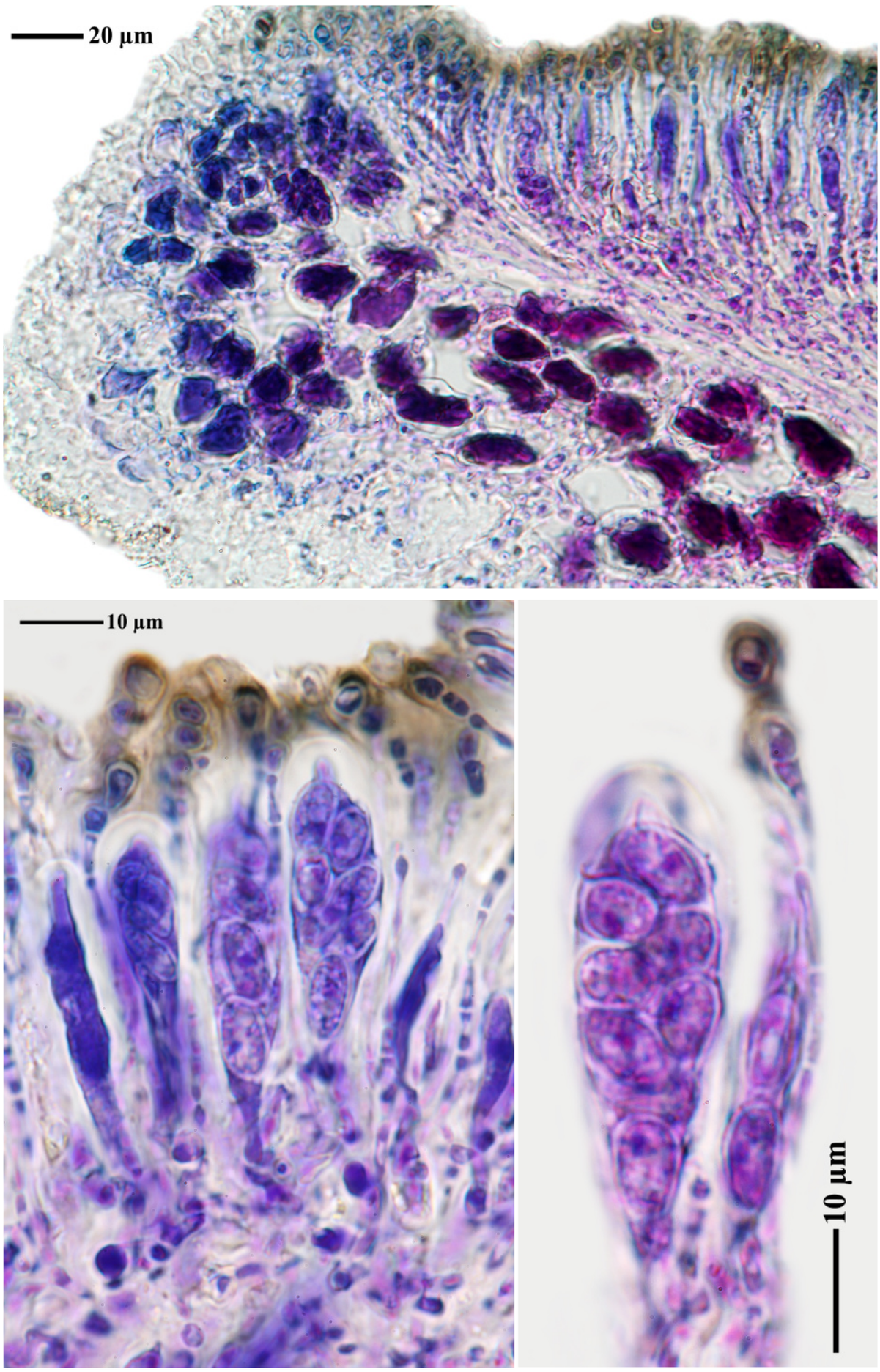
Lecanora percrenata







Lecanora percrenata



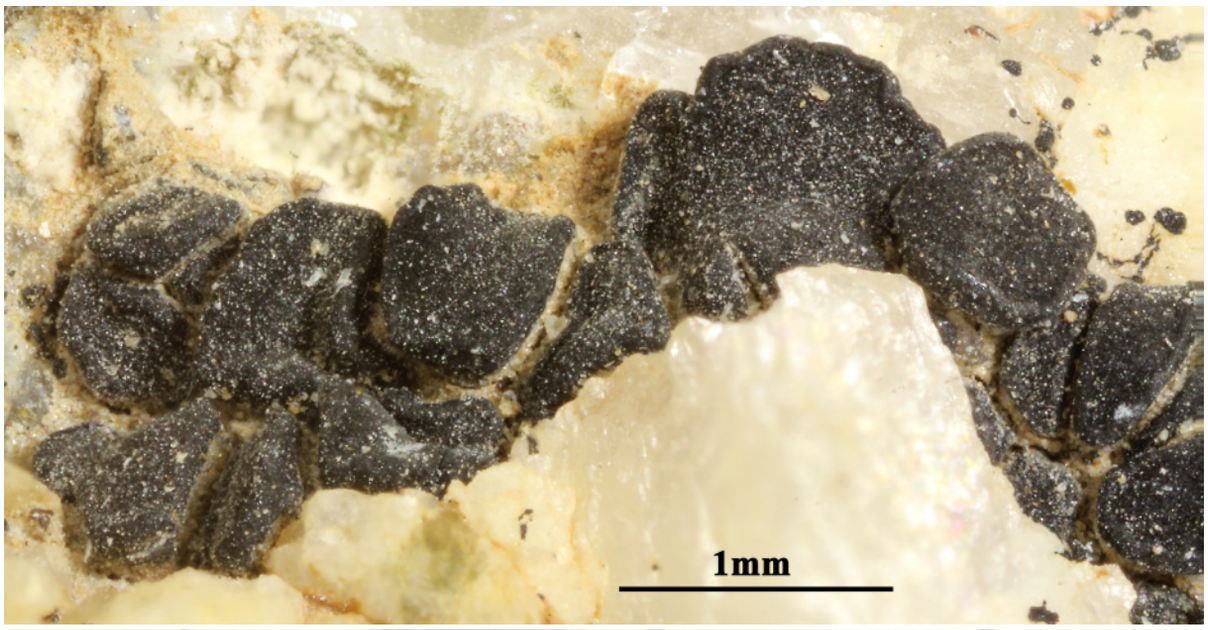
Lecanora percrenata

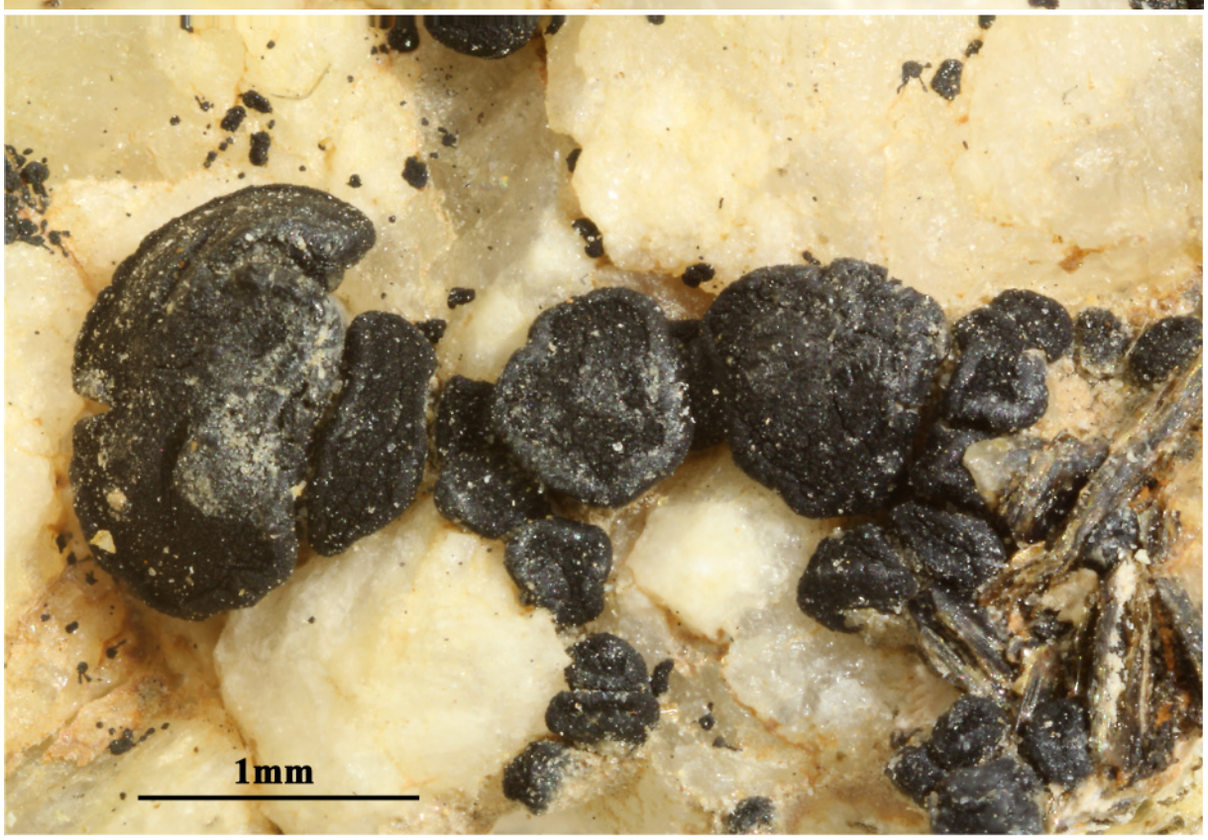
Lecidea leptoboloides Nyl., Flora, Regensburg 57: 314 (1874)

Sporen 8.5-10.3-12 x 2.5-2.9-35 µm. Neufund für Afghanistan

[GZU 27-94], Afghanistan, Prov. Parwan, Salangtal, ca. 5 km unterhalb Qalatak. 69°12’ E, 34°14’ N, 1820 m. An Granitfelsen. Leg. M. Steiner (Ste 23/4), 25.05.1970, det. H. Hertel, 1982.







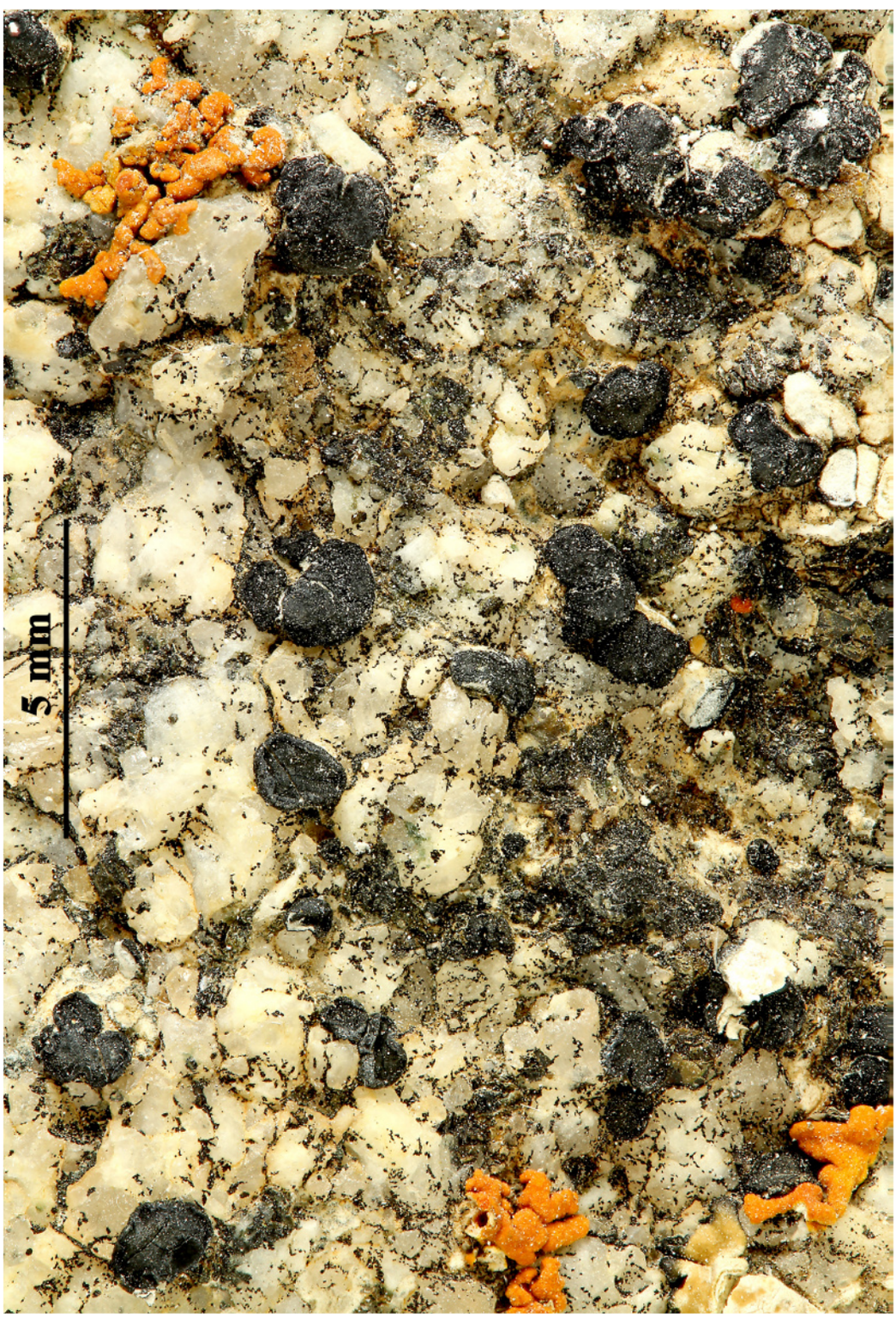
Lecidea leptoboloides

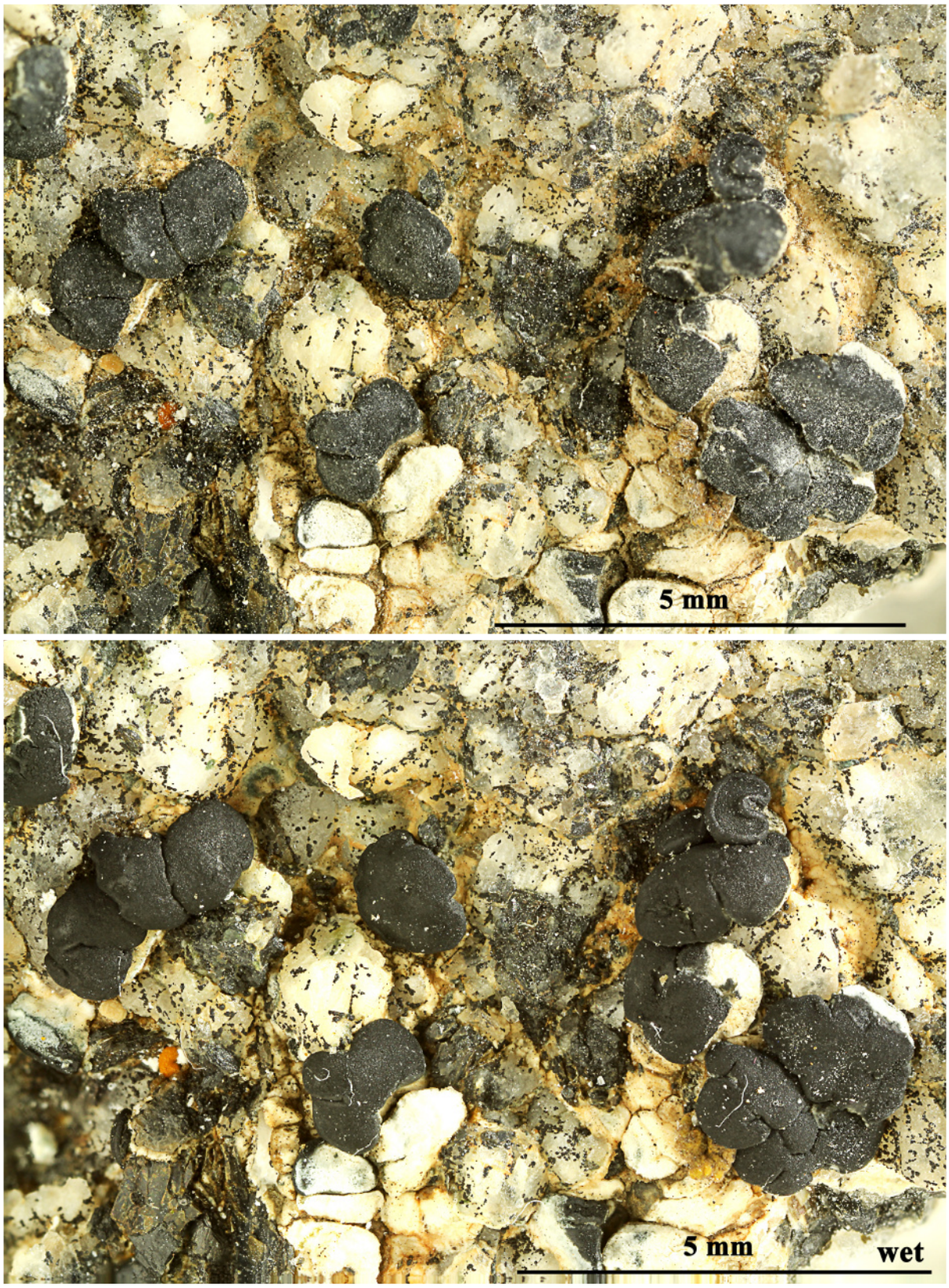
Lecidea leptoboloides

Lecidea paratropoides Müll.Arg., Flora, Regensburg 57: 348 (1874)

Epihymenium blaugrün, N+ rot, Hypothecium braun, 70 µm. Sporen farblos, einzellig, 8/Ascus, ca. 7.7 x 3.8 µm.

[LIAF_13], Afghanistan, Prov. Baghlan, oberes Khinjan-Tal, bei der Brücke über den Khinjan-Fluß. 69°00’ E, 35°25’ N, 2600 m. Granitblöcke am Fuße eines Steppenhanges mit *Juniperus subglobosa* Regel.. Leg. M. Steiner (Ste 40/2), 04.06.1970. LICHENOTHECA AFGHANICA NR. 13. Duplum det. H. Hertel.





Lecidea paratropoides

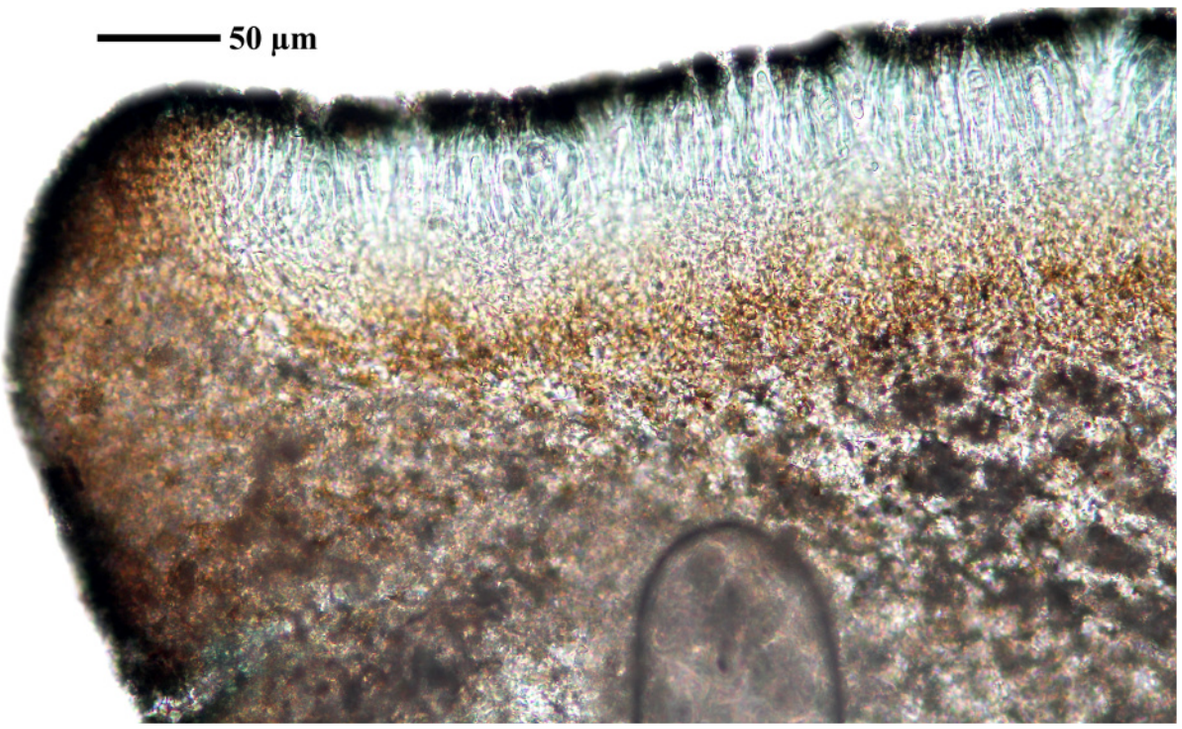


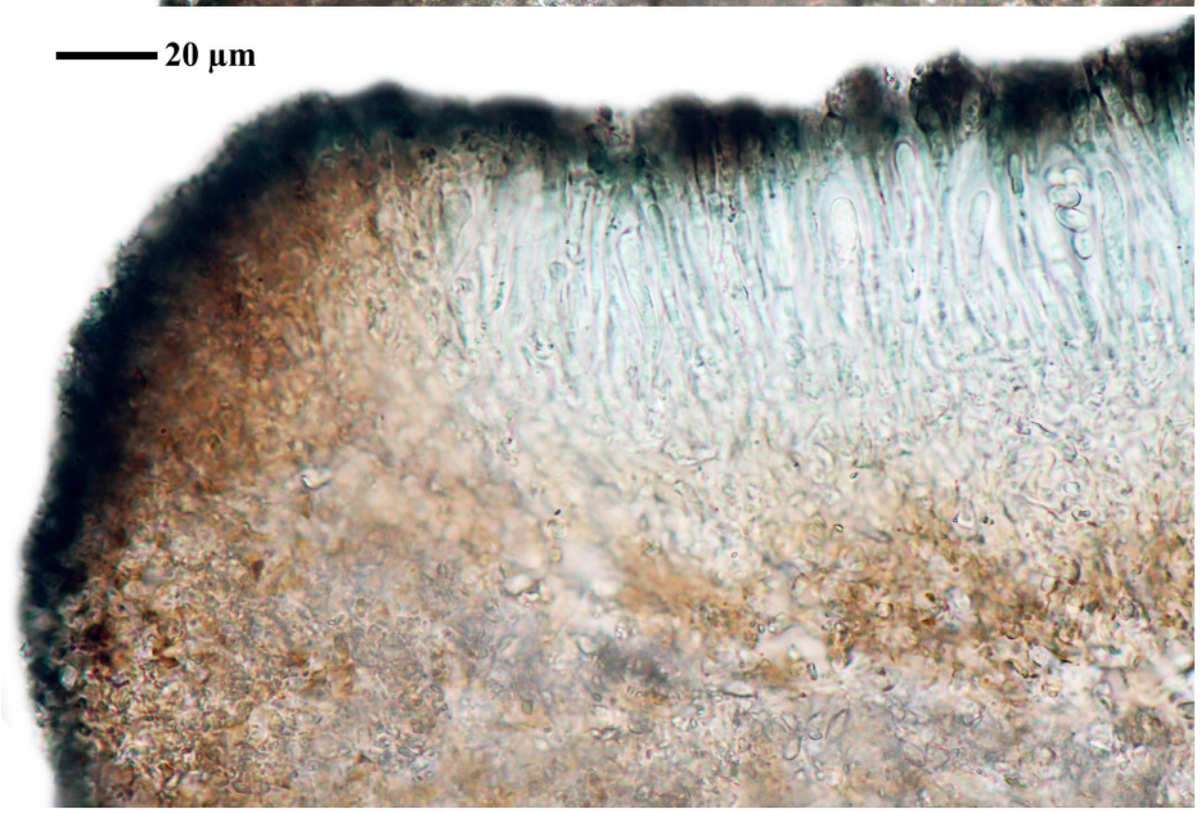
Lecidea paratropoides



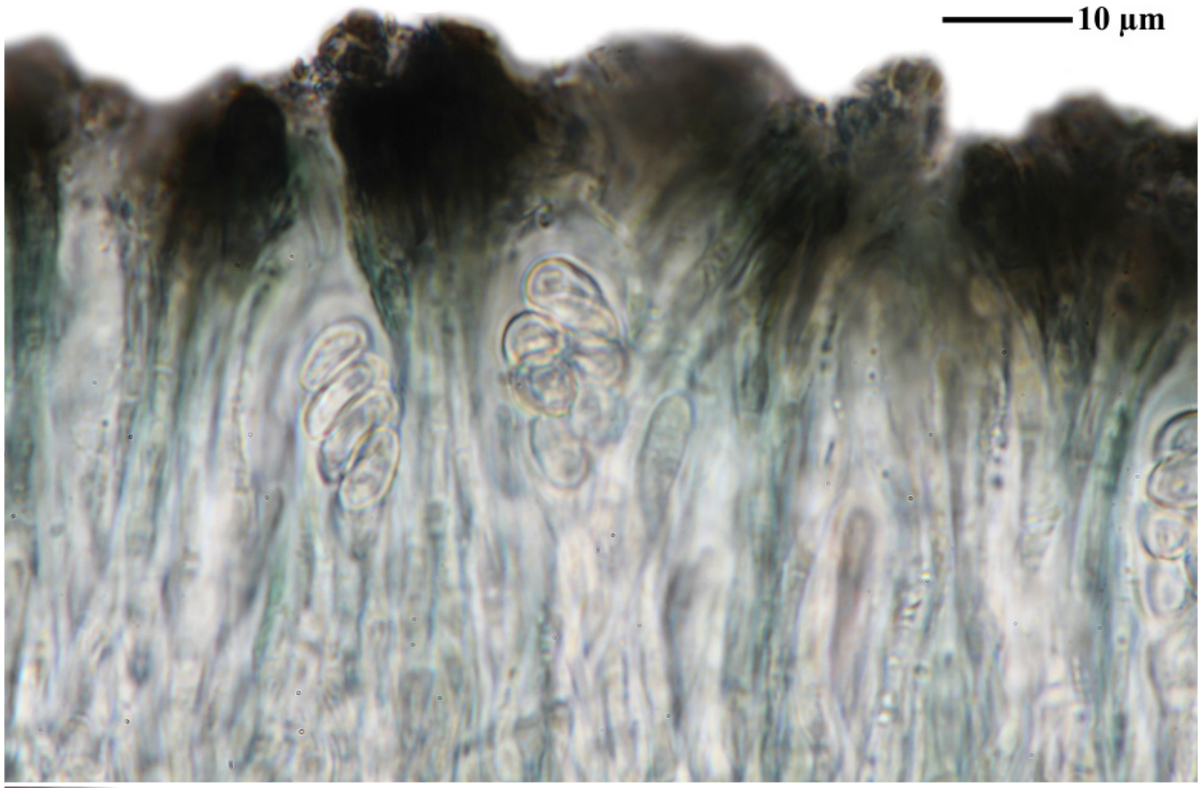


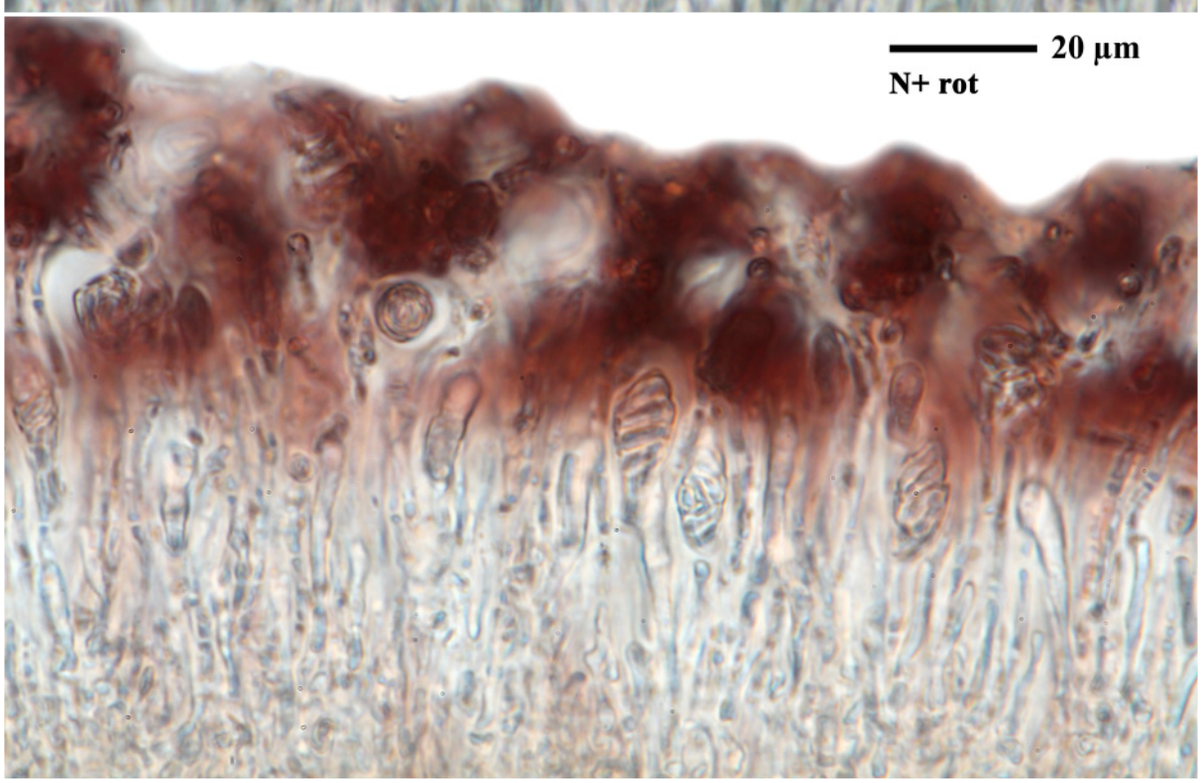
Lecidea paratropoides



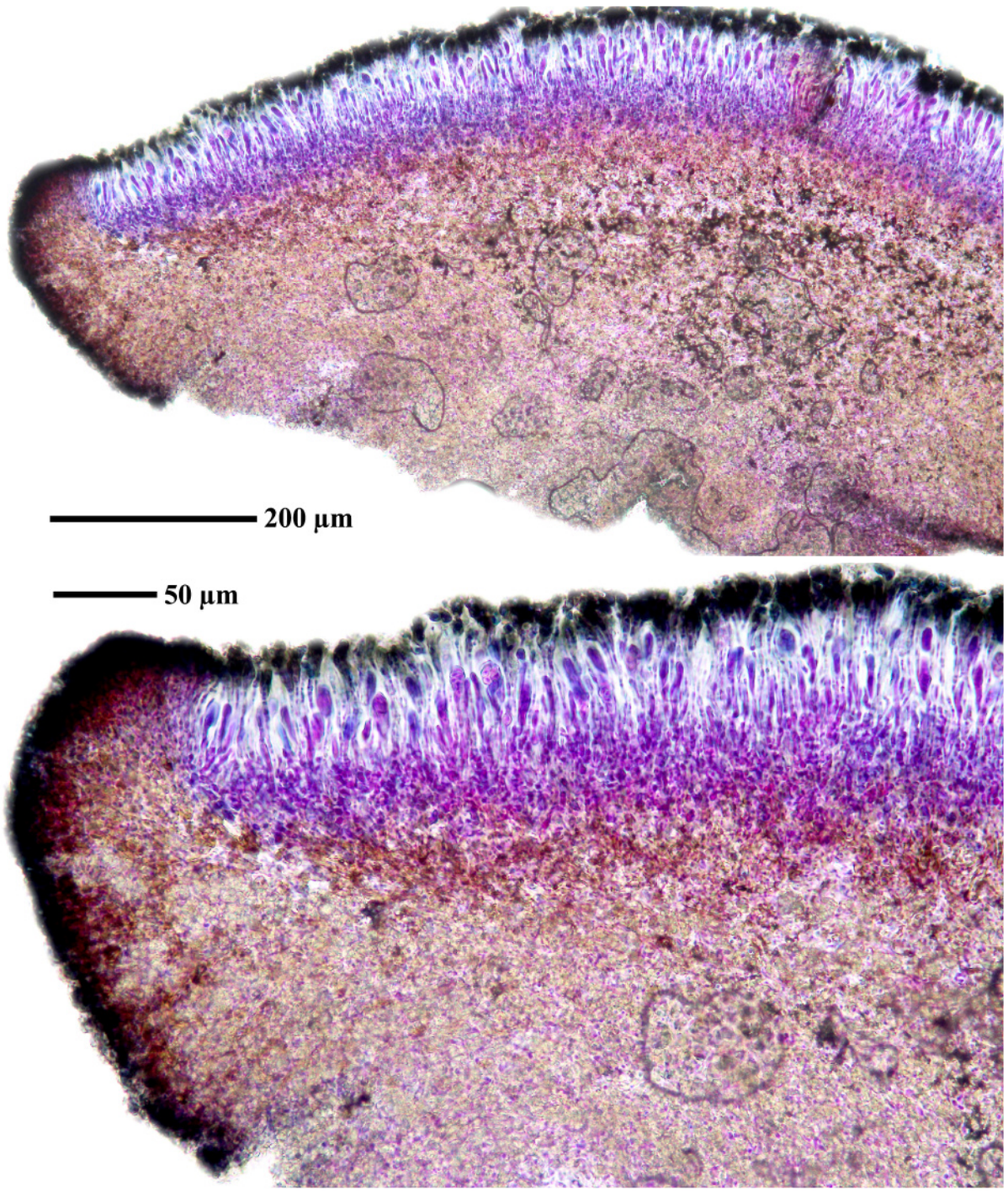


Lecidea paratropoides



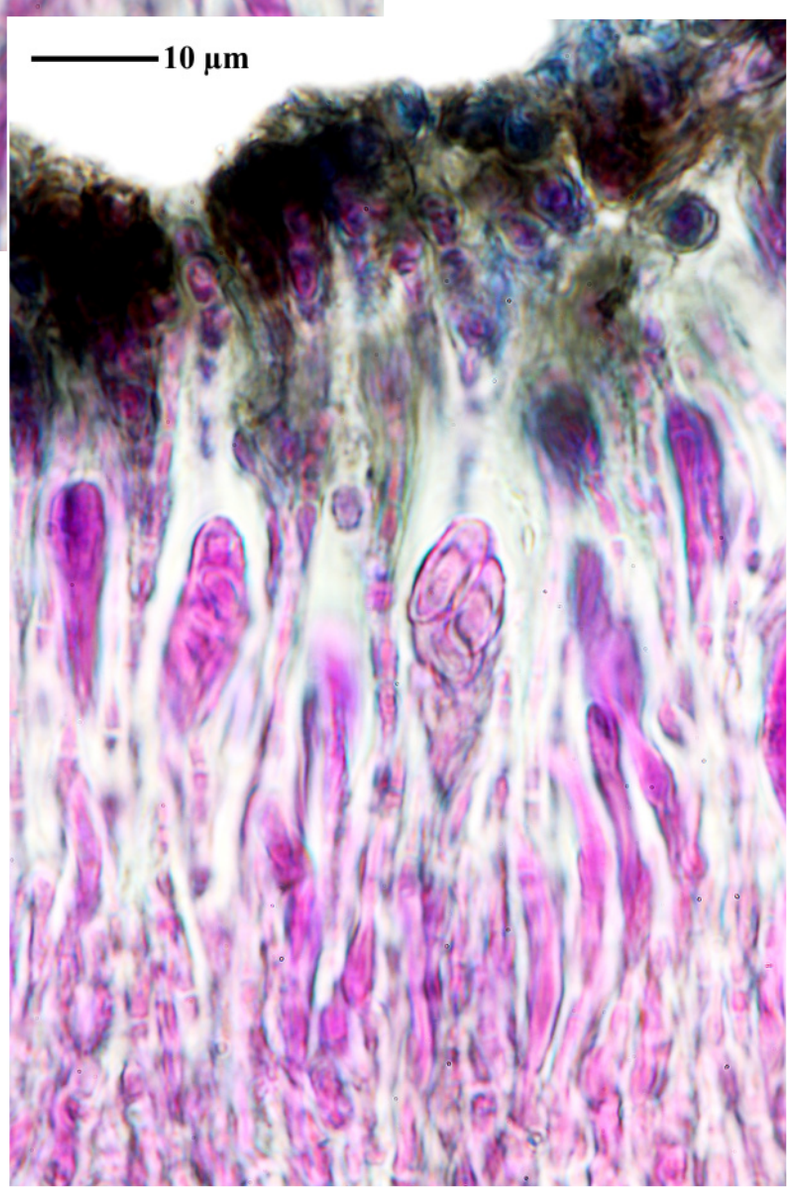


Lecidea paratropoides



Lecidea paratropoides





Lecidea paratropoides

Lecidella euphorea (Flörke) Hertel, in Hawksworth, James & Coppins, Lichenologist 12(1): 107 (1980)

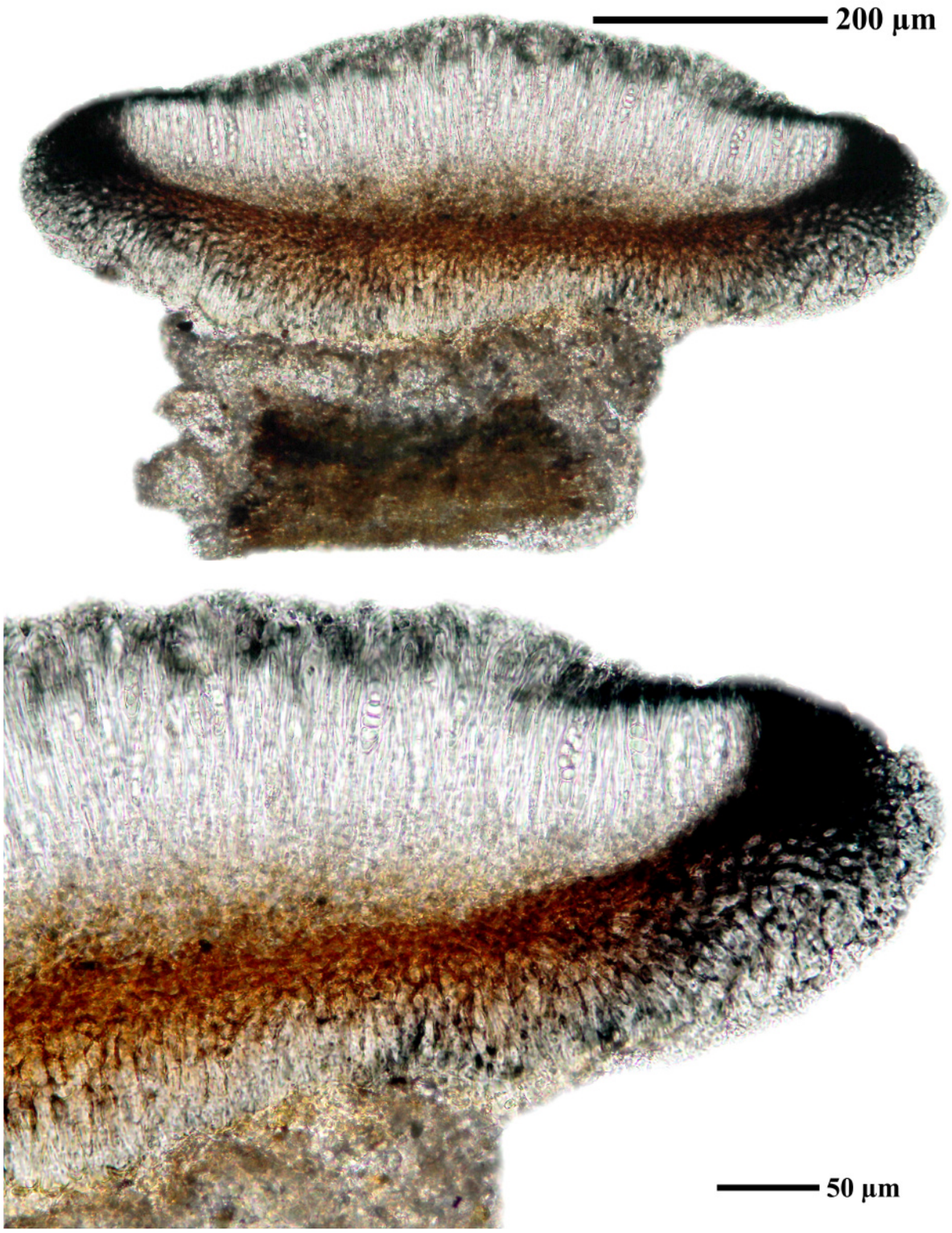
Epihymenium blau-grün, N+ rot. Sporen farblos, einzellig, 8/Ascus, 10-12 x 6.8 µm. Chemistry: C-.

[LIAF_30], Afghanistan, Prov. Paktia, 4 km N Rabat, ca. 10 km S Chamkani an der Straße nach Zambar. 60°47’ E, 33°42.5’ N, 1880 m, auf jungen Stämmen von *Sophora griffithii* Stocks. Leg M. Steiner (Ste 85), 04.07.1970. LICHENOTHECA AFGHANICA NR. 30.

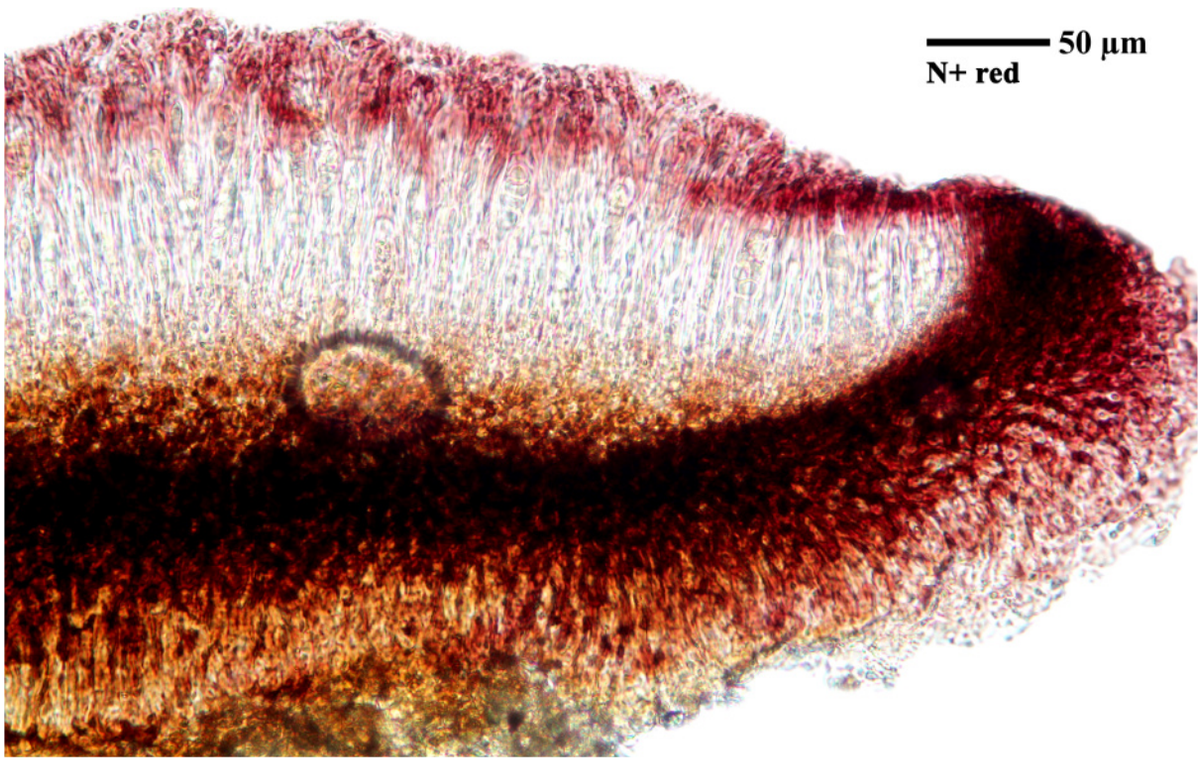


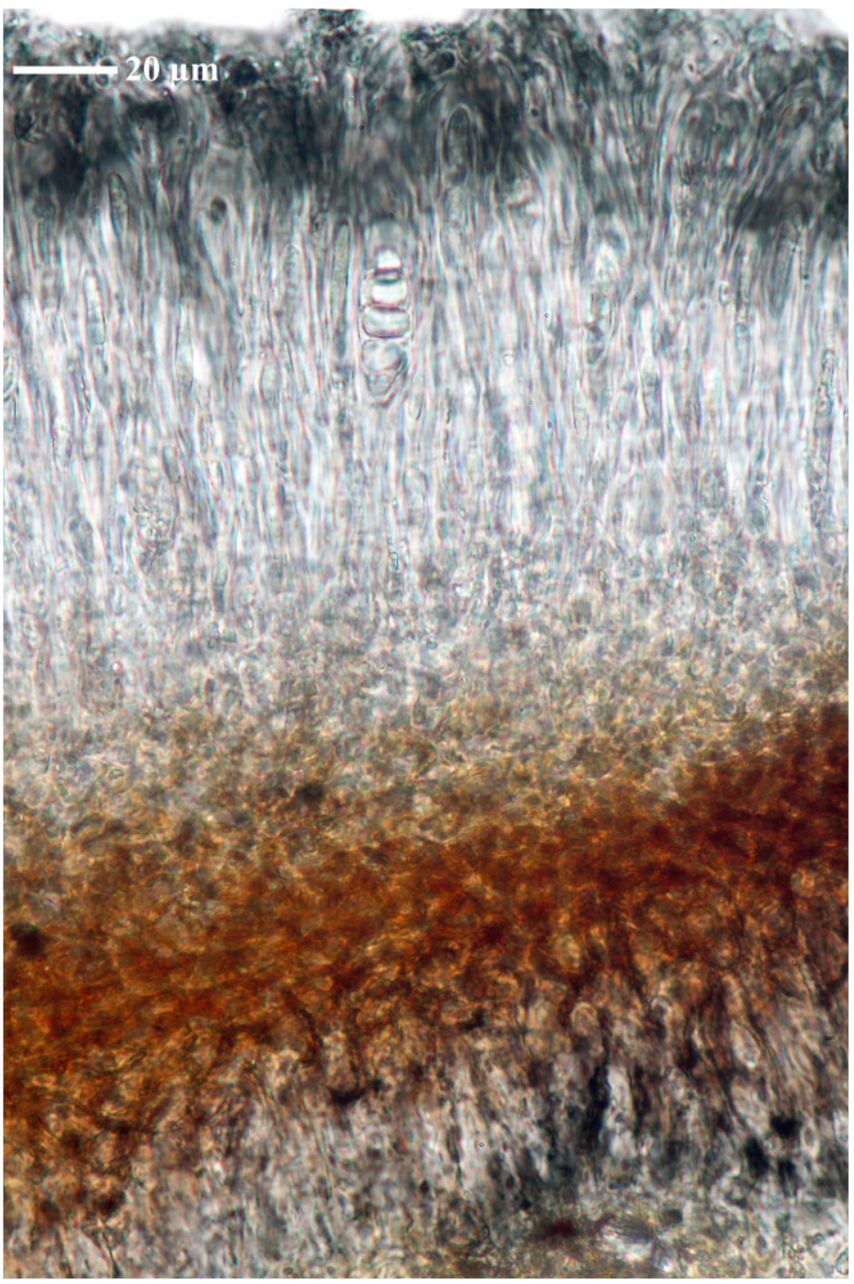


Lecidella euphorea



Lecidella euphorea

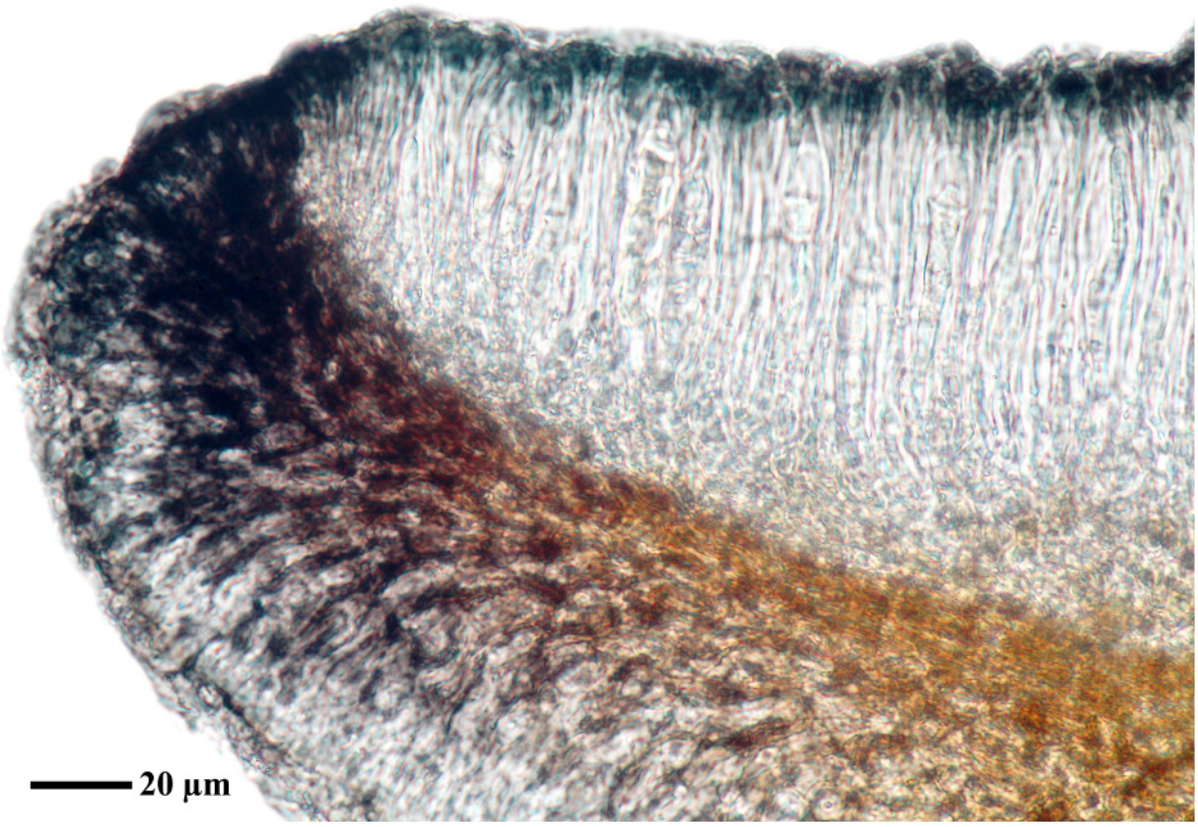


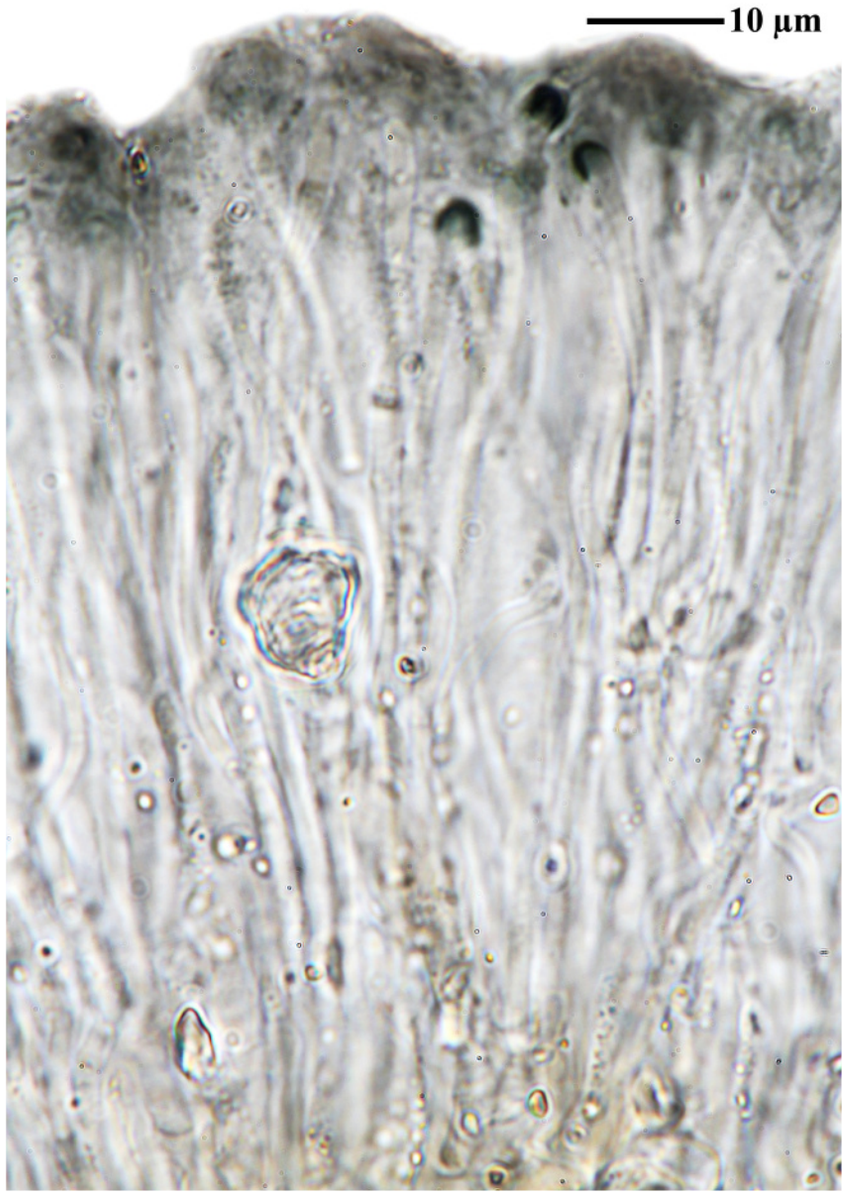


Lecidella euphorea



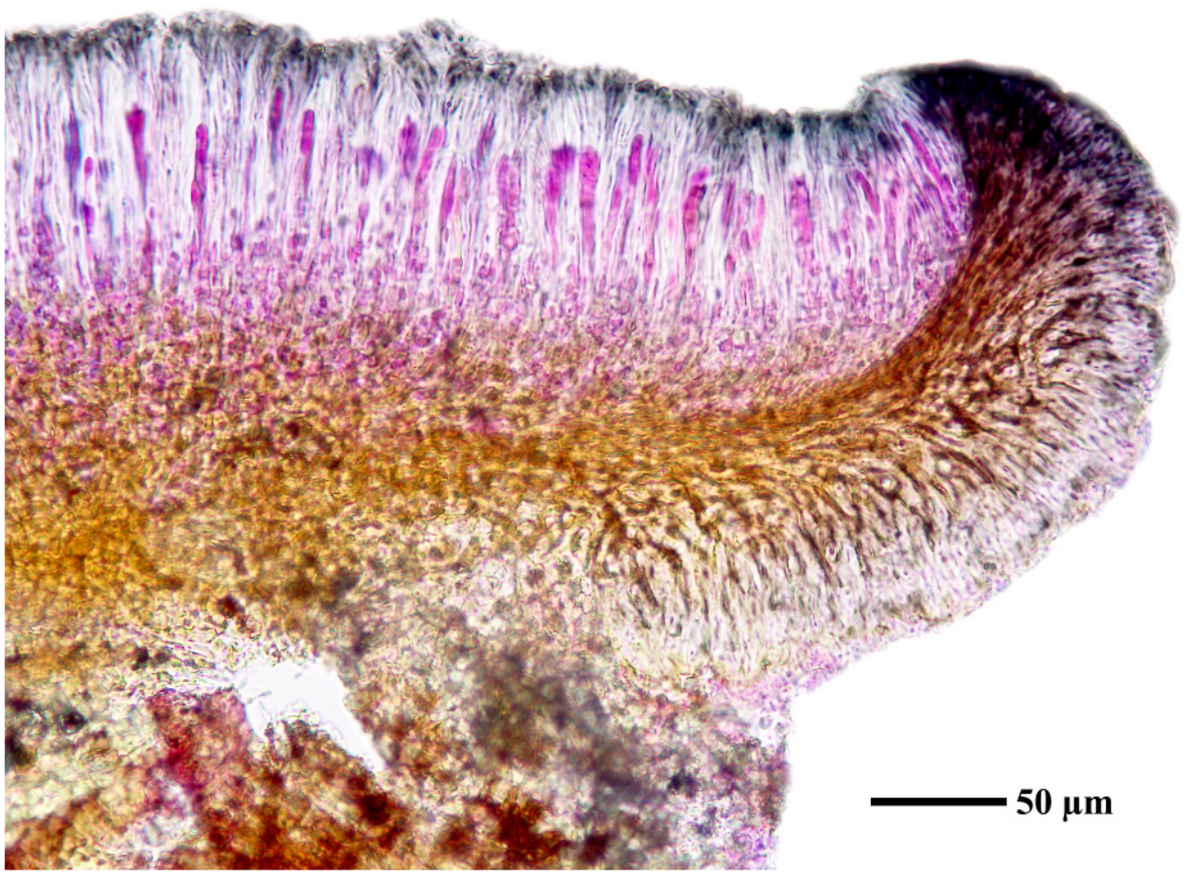
Lecidella euphorea

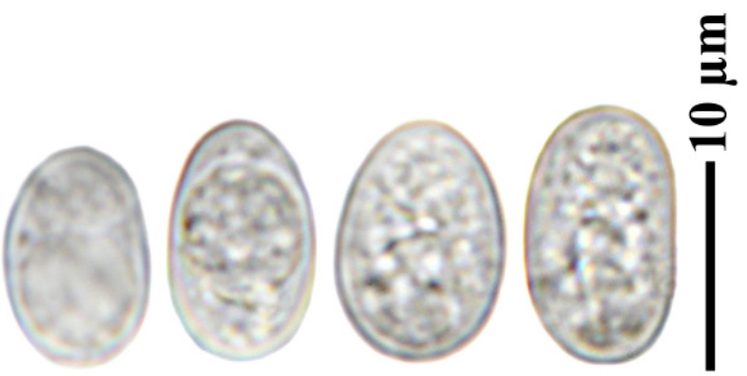




Lecidella euphorea

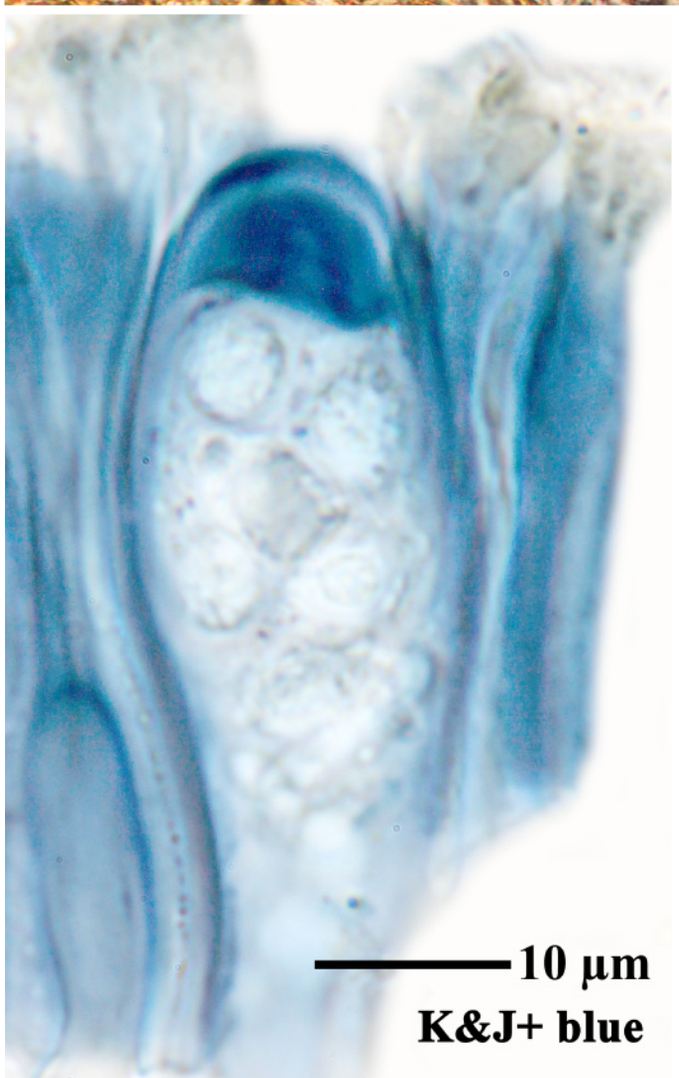






Lecidella euphorea







Lecidella euphorea

Peccania crispa ined.

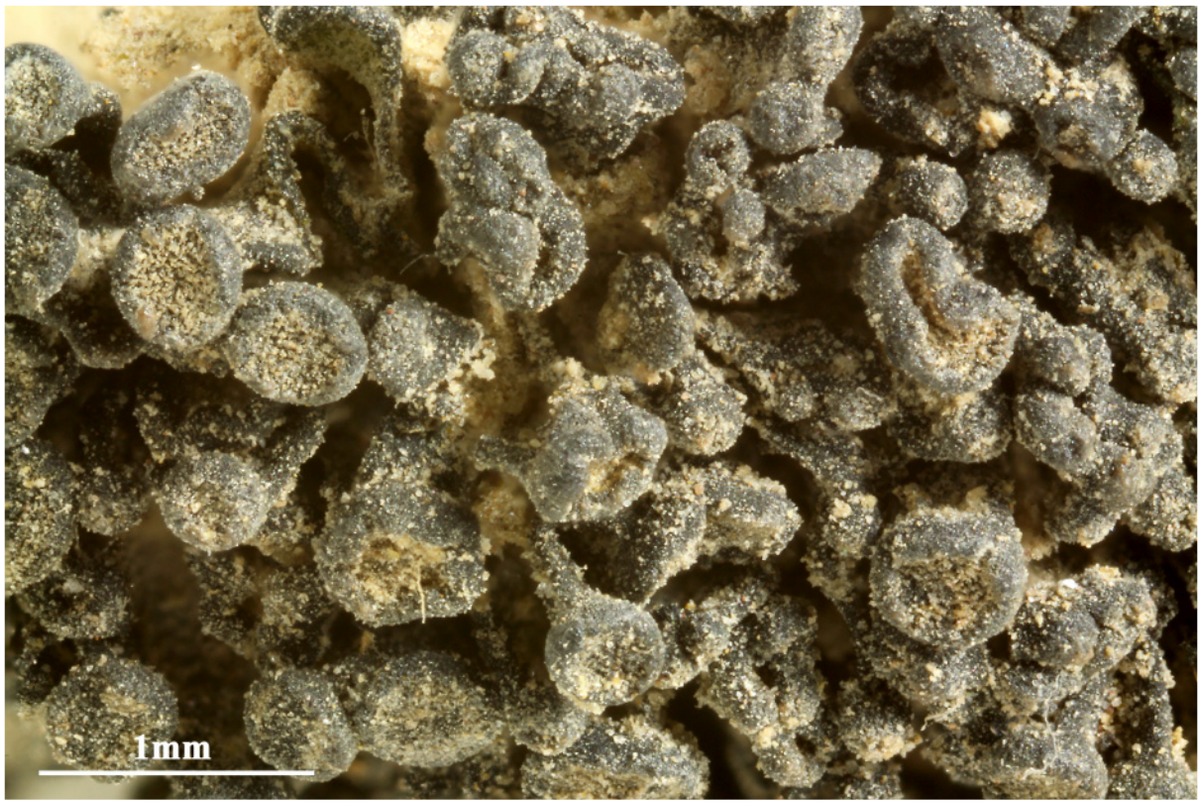
[LIAF_73b], Afghanistan, Prov. Bamyan, 8 km E von Bamyan, 67°57’ E, 34°50’ N, ca. 2400 m. Erdpolster auf Frontalflächen von Felsstufen neben der Straße, kalkhaltiges Gestein, mit *Peccania* cf. *terricola* H. Magn. Leg. M. Steiner (21/1), 13.05.1970. LICHENOTHECA AFGHANICA NR. 73B.







Peccania crispa



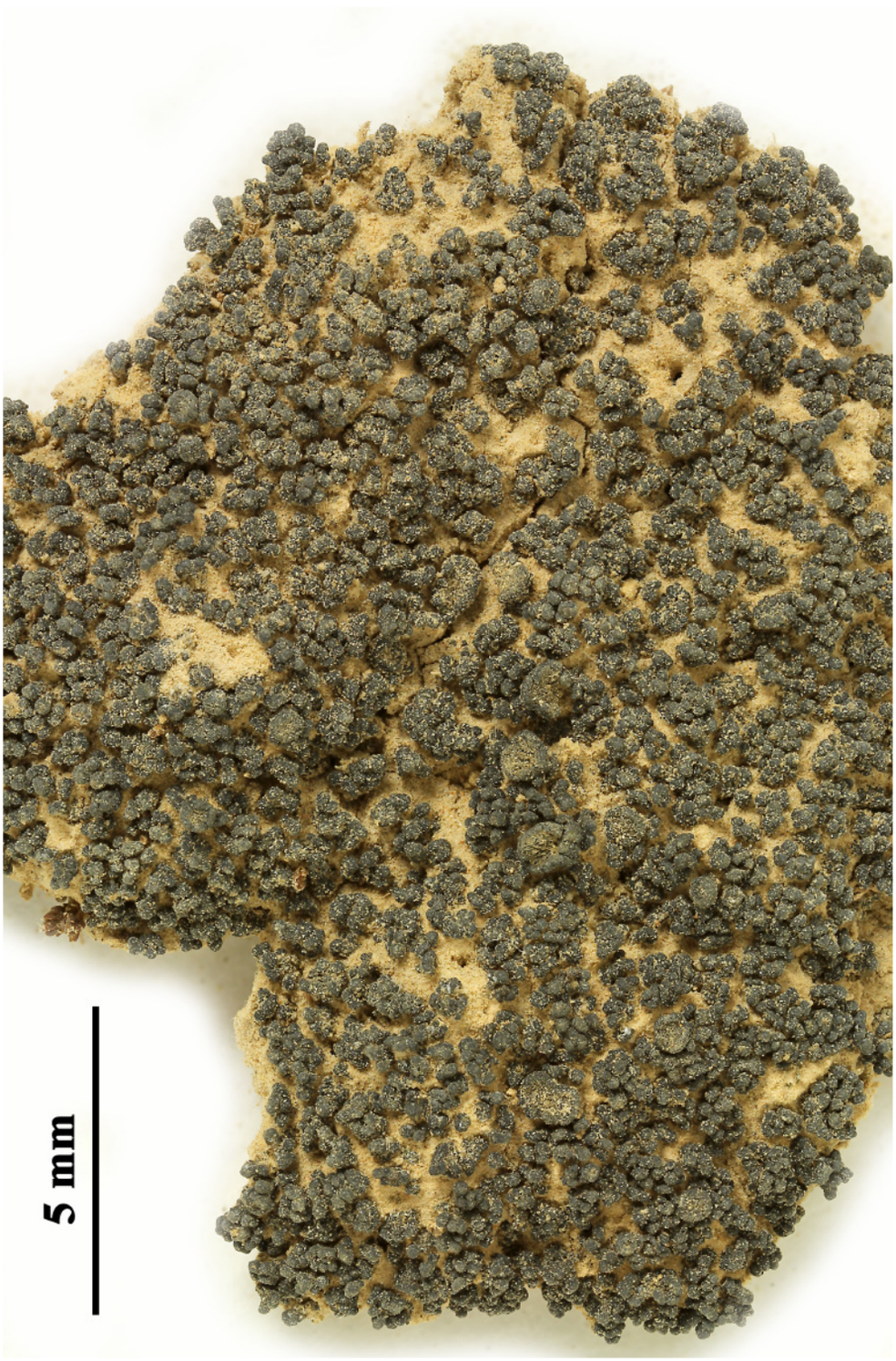


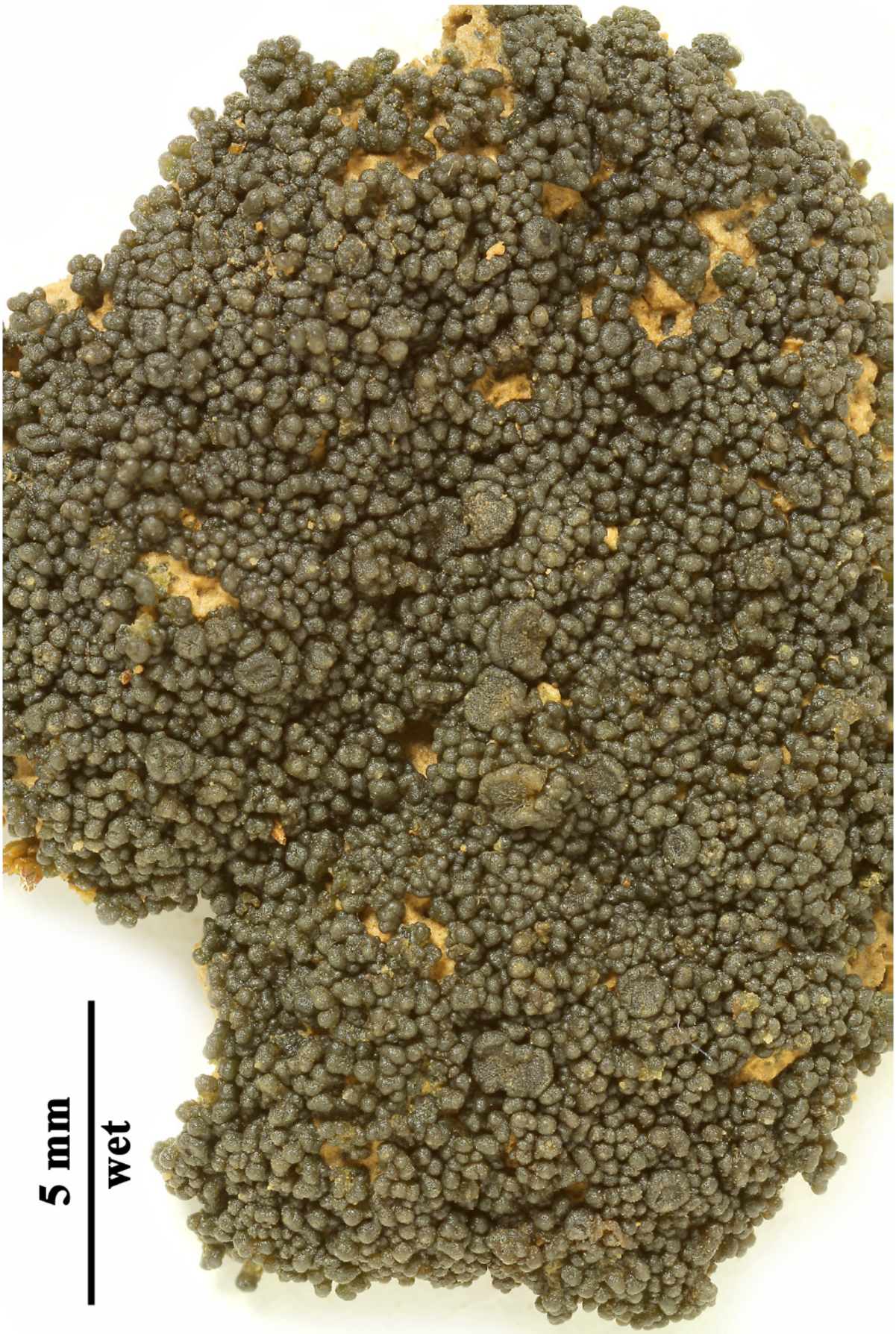
Peccania crispa

Peccania terricola H.Magn., (1940)

Thallus oliv-schwarz, aus 1-2 mm breiten, 0.7-1 mm hohen, dicht verzweigten Lobenhaufen, mit unebener Oberfläche. Sporen einzellig, farblos, 8/Ascus, 6-10.5 x 4-5 µm.

[LIAF_71], Afghanistan, Prov. Parwan, Oberes Gorband-Tal, ca. 5 km unterhalb Dahane-Gorbandak, bei Sulbinak, 68°18’ E, 34°53’ N, 2560 m. Bänke von Kalkgestein an der Grenze von bewässertem Talgrund und Steppenhang, mit *Peccania crispa* ined.. Leg. M. Steiner (Ste 55/1), 08.06.1970. LICHENOTHECA AFGANICA NR. 71.



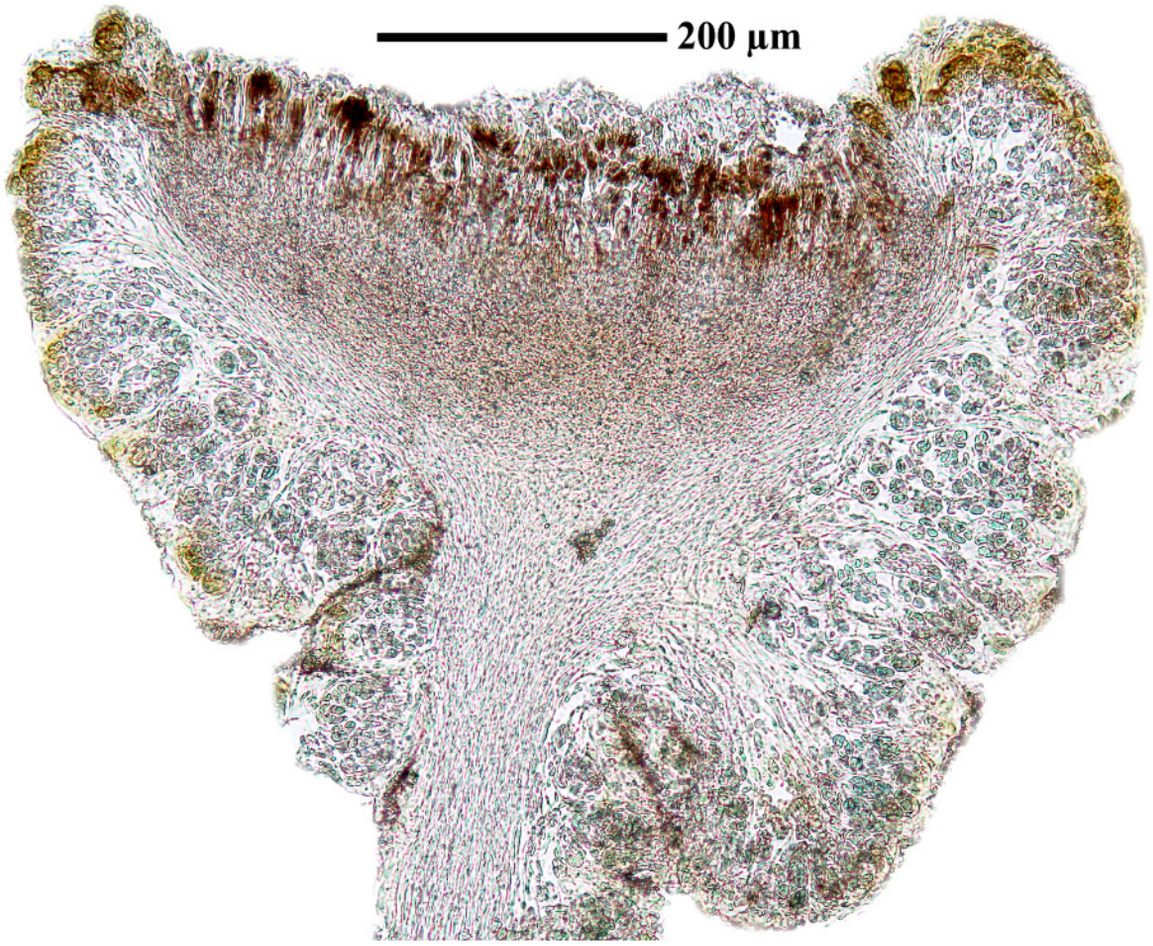


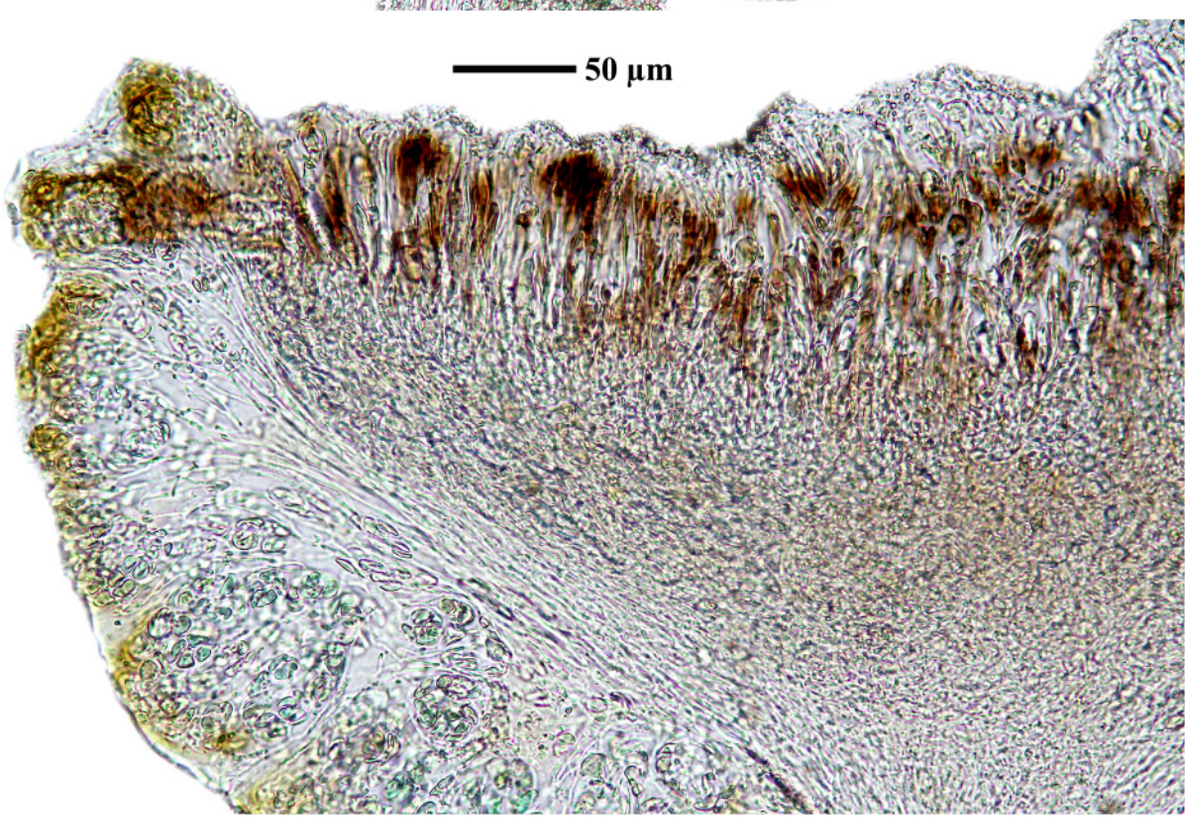
Peccania terricola



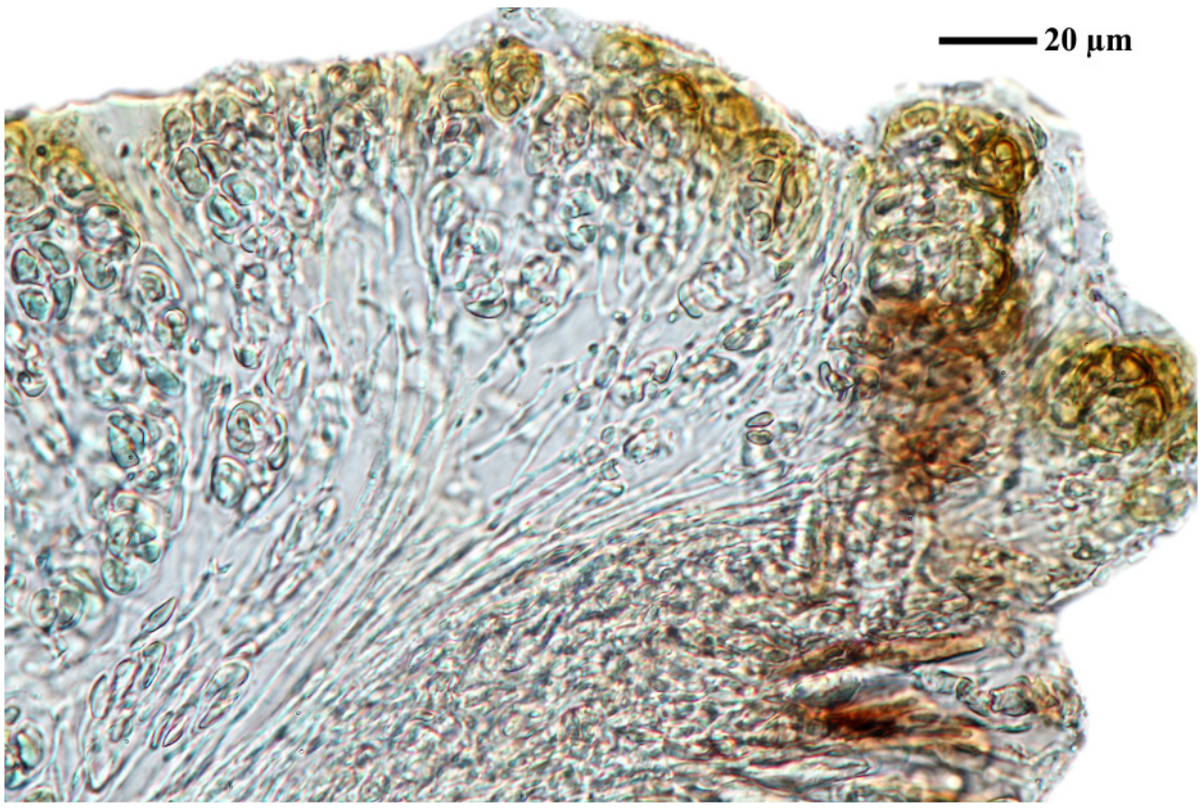


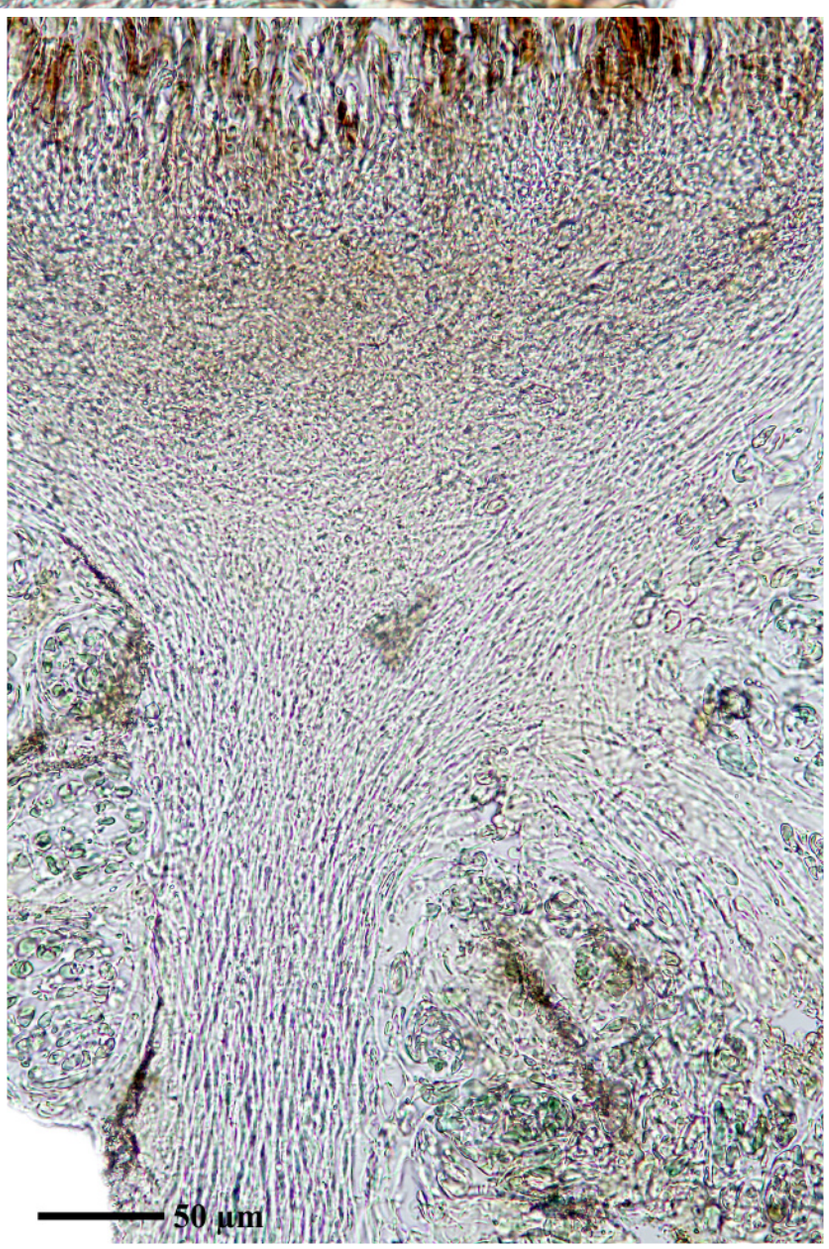
Peccania terricola



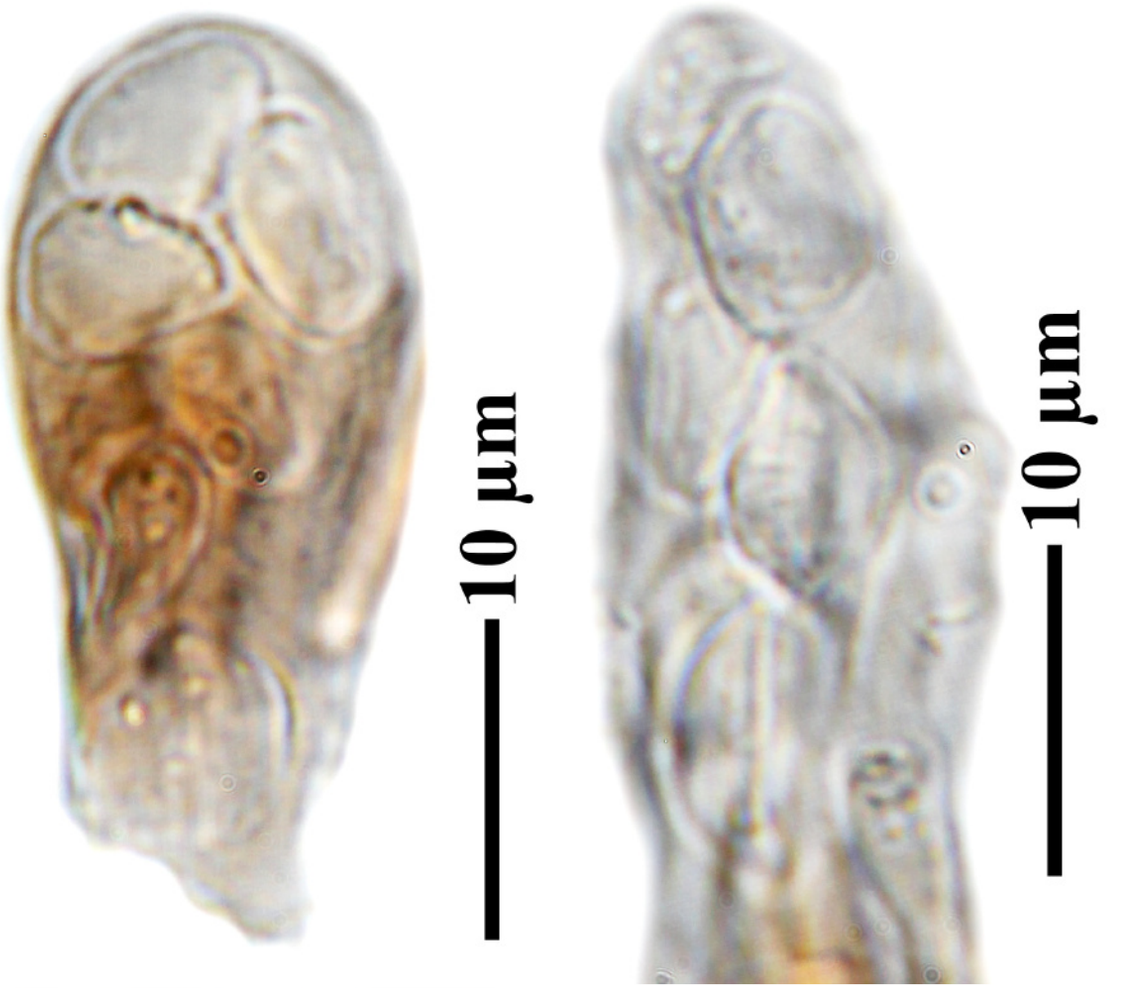


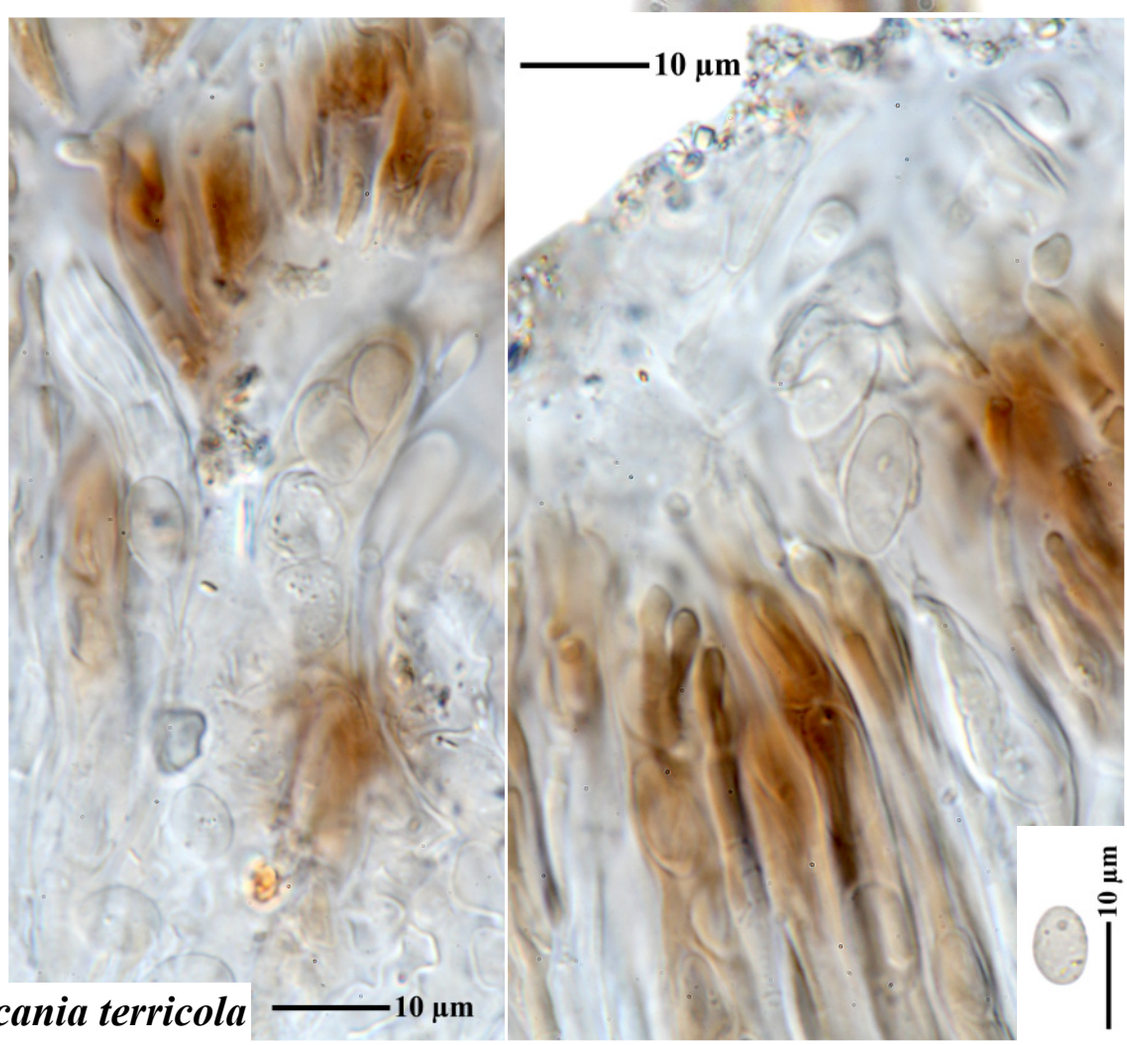
Peccania terricola



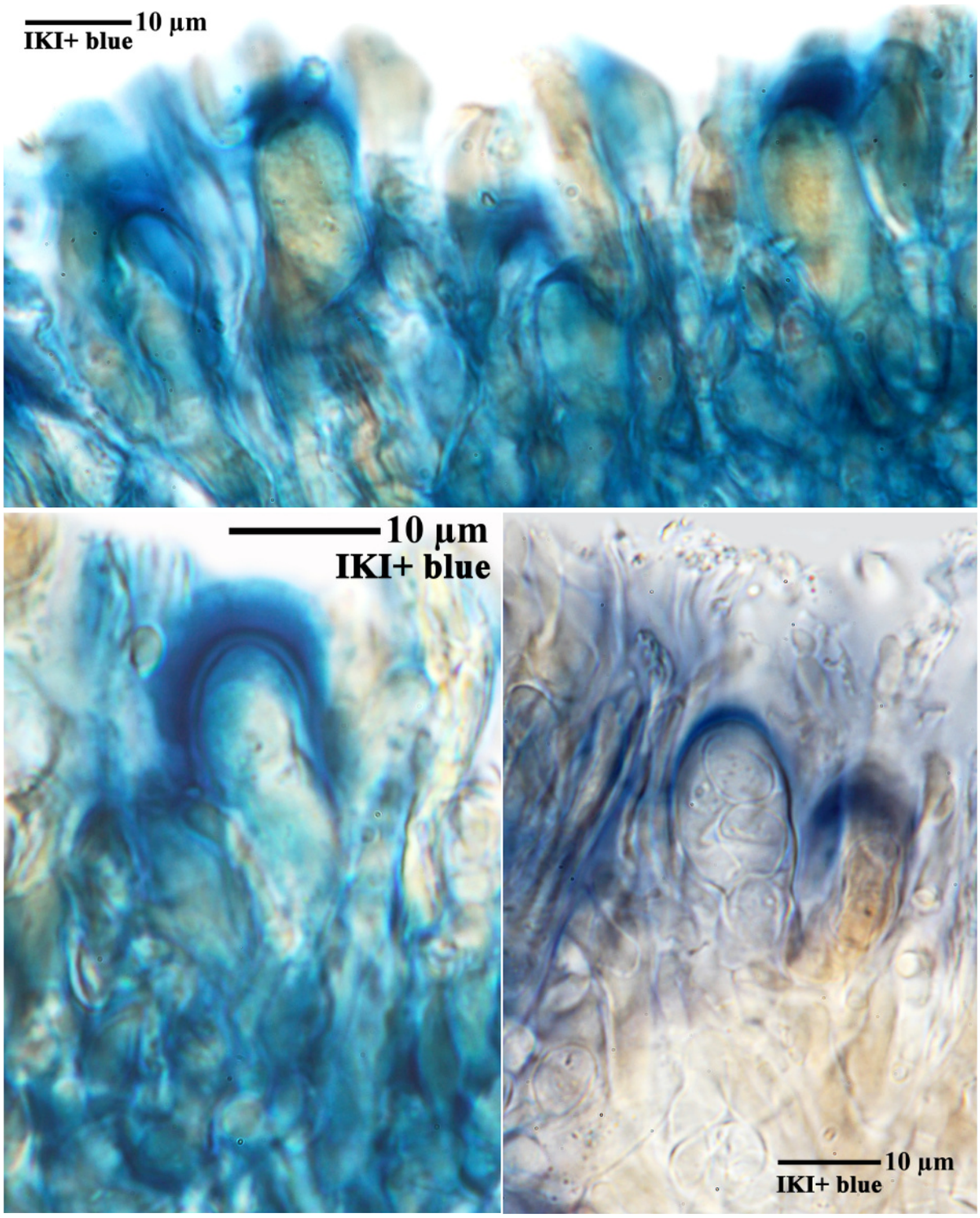


Peccania terricola

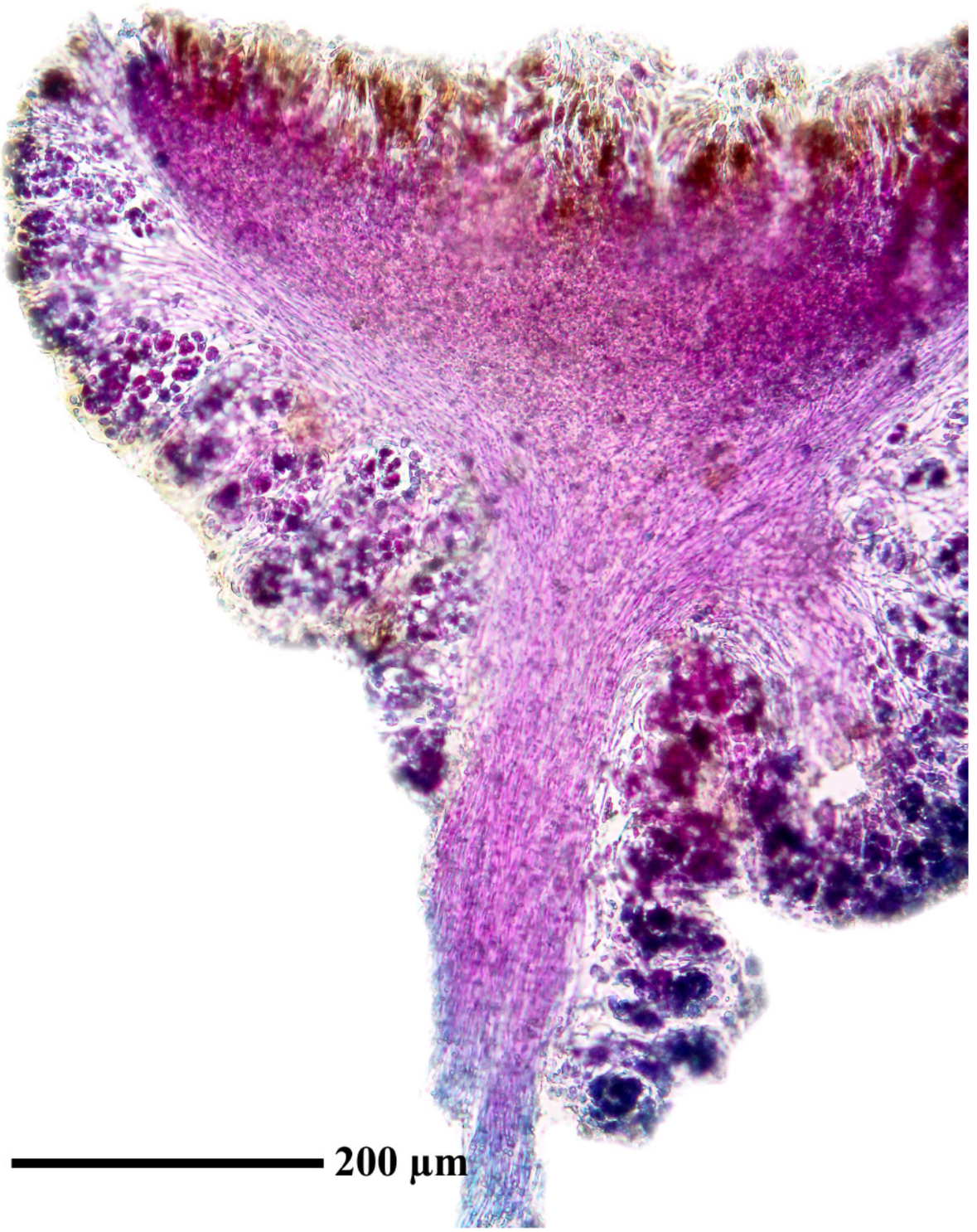




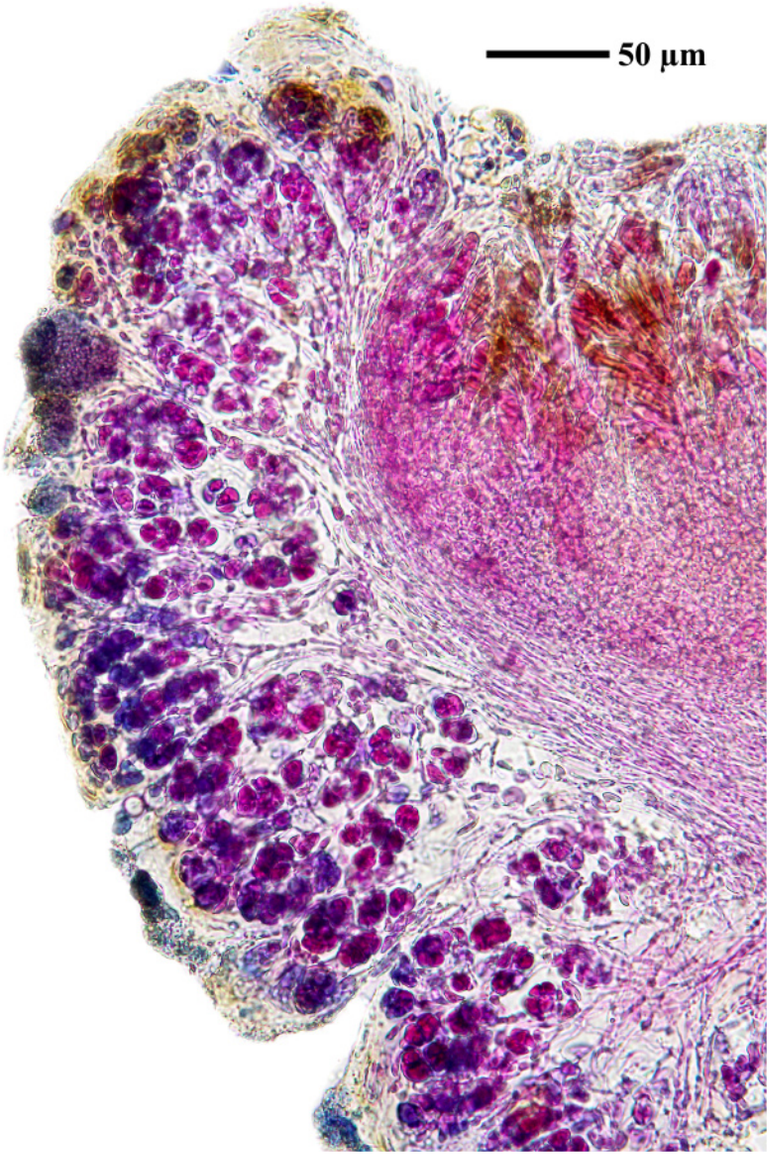
Peccania terricola

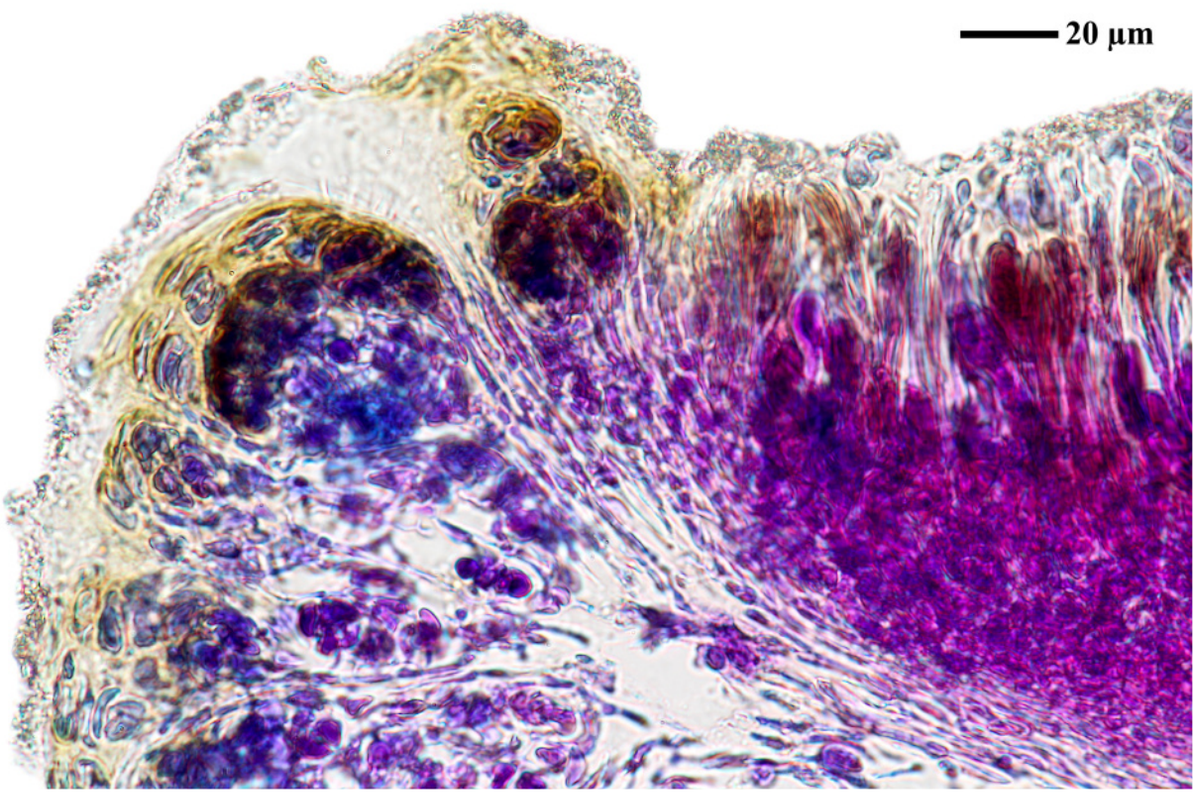


Peccania terricola

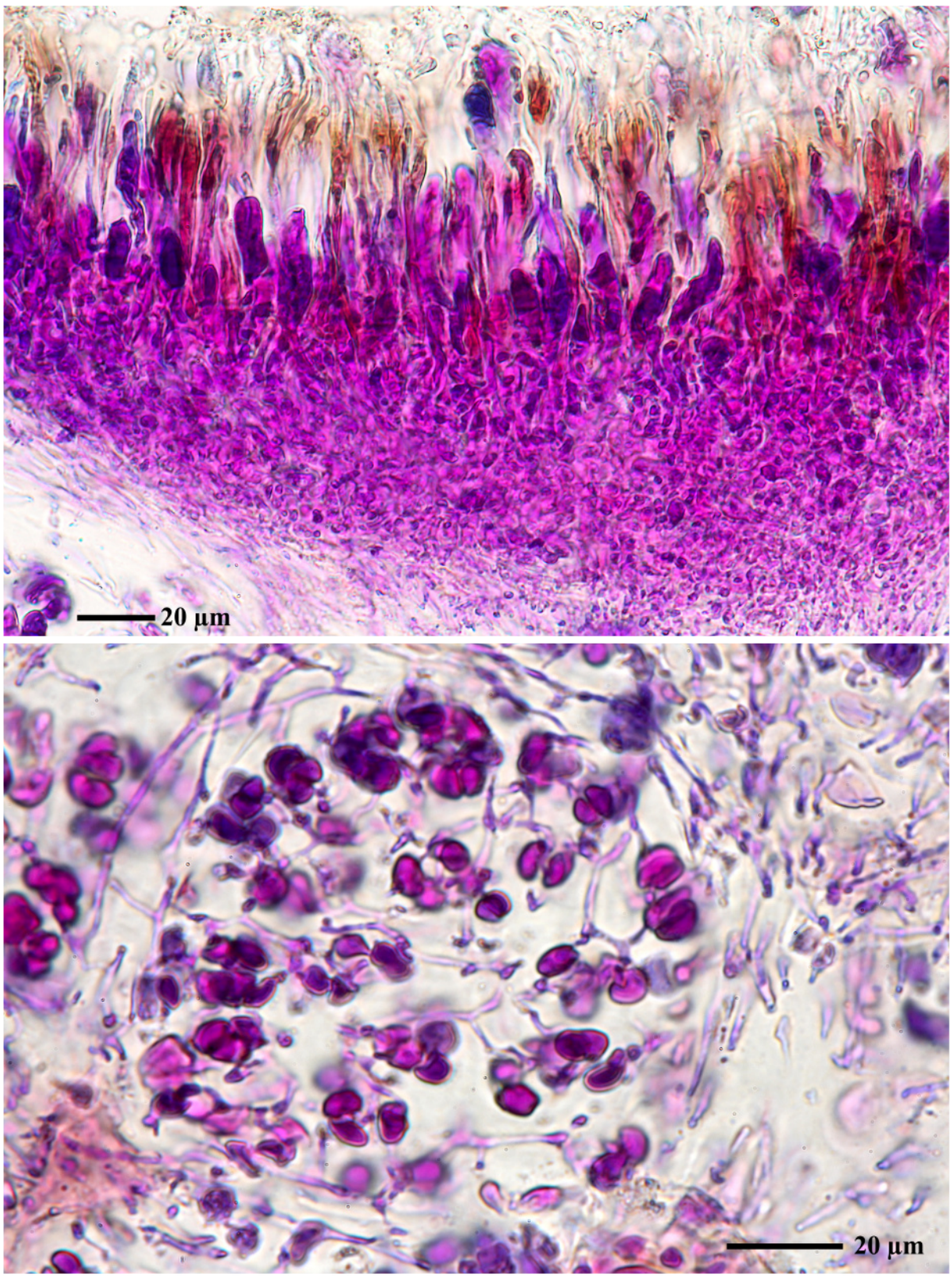


Peccania terricola





Peccania terricola



Peccania terricola

Peccania terricola H.Magn., (1940)

[LIAF_72], Afghanistan, Prov. Baghlan. Unteres Darrah-i-Kayan, Seitental des Darrah-i-Surkhab, 3 km oberhalb der Mündung, W Doshi, 68°33’ E, 35°37’ N, 1200 m. Steilwände dichter, harter Kalke in der Schlucht. Leg. M. Steiner (Ste 51/1), 07.06.1970. LICHENOTHECA AFGANICA NR. 72.





Peccania terricola

Phaeophyscia orbicularis (Neck.) Moberg, Symb. bot. upsal. 22(no. 1): 44 (1977)

[= *Physcia orbicularis* (Baumg.) Poetsch, in Poetsch & Schiedermayr, System. Aufzähl. samenlos. Pflanzen (Krypt.): 247 (1872)]

Mit laminalen Soralen. Unterseite und Rhizinen schwarz. Sporen braun, 1-septiert, 8/Ascus, 15.3-19.4 x 6.8-10 µm.

[LIAF_05], Afghanistan, Prov. Kabul, Siau, 27 km N Kabul, an der Straße nach Charikar. 69°06’ E, 34°42’ N, ca. 1750 m. Alte Nußbäume im bewässerten Park eines Landgutes. Leg. M. Steiner (Ste 30/4), 29.05.1970. LICHENOTHECA AFGHANICA NR.05. Verteilt als *Physcia orbicularis.*



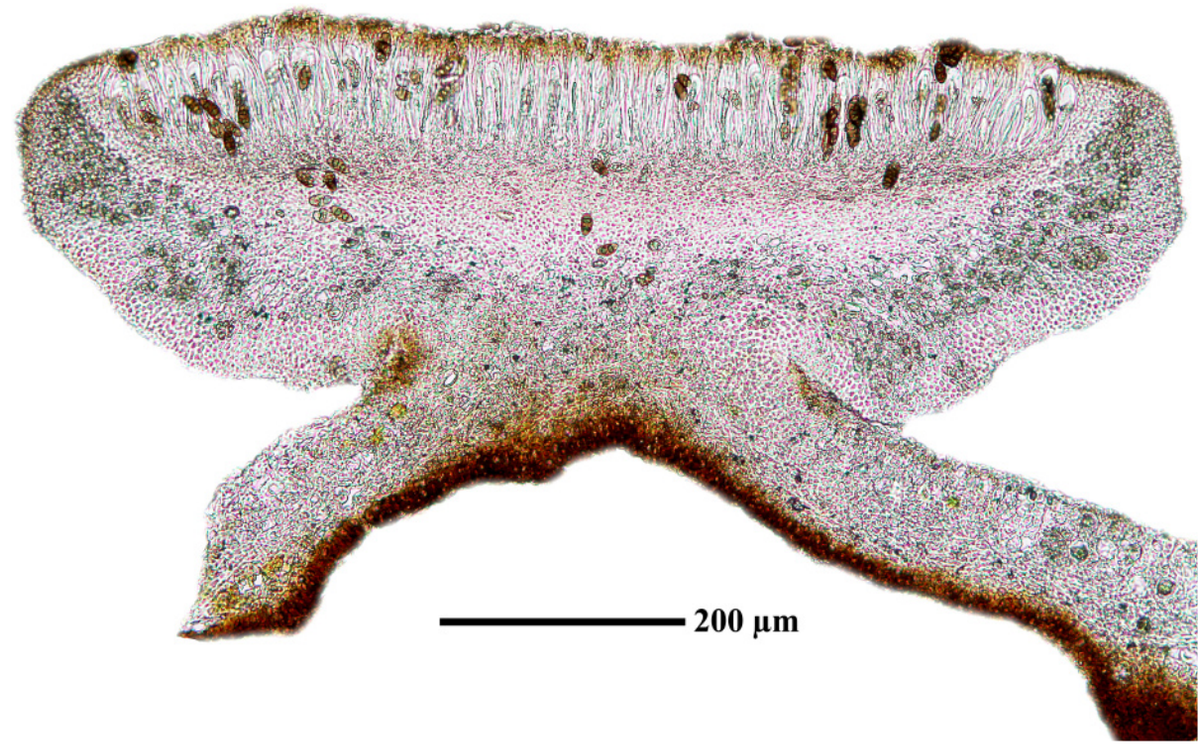


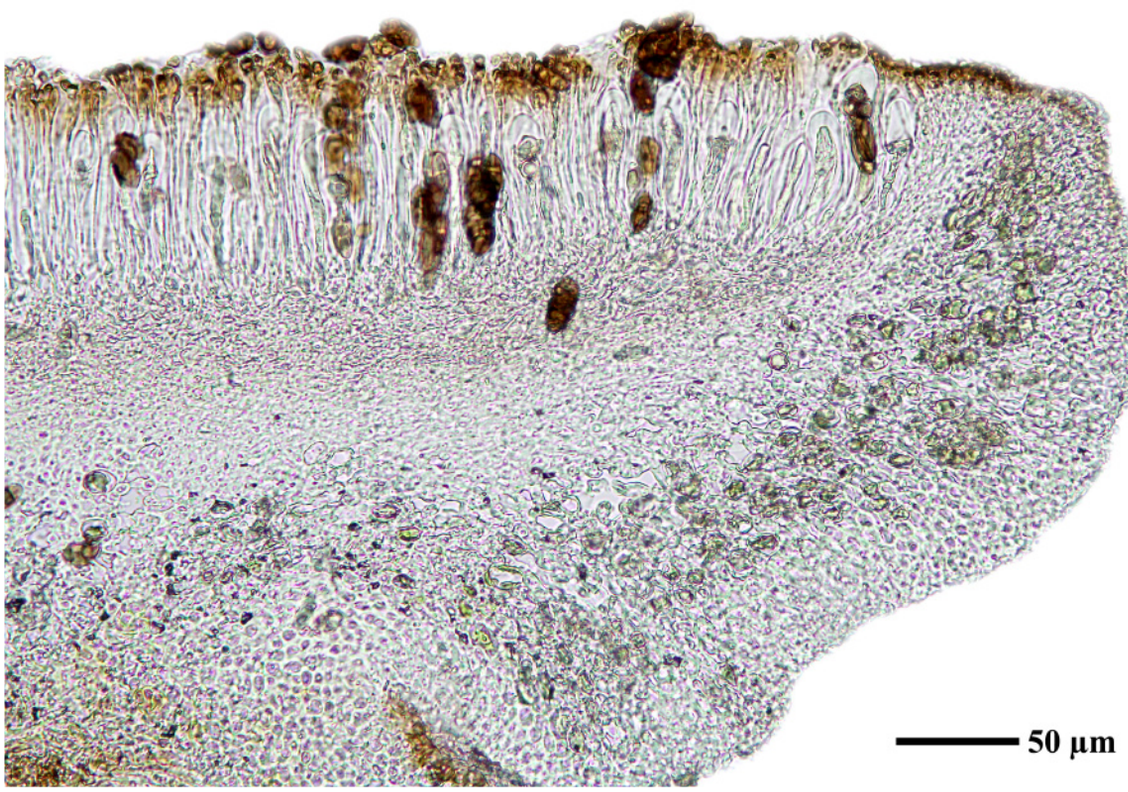


Phaeophyscia orbicularis

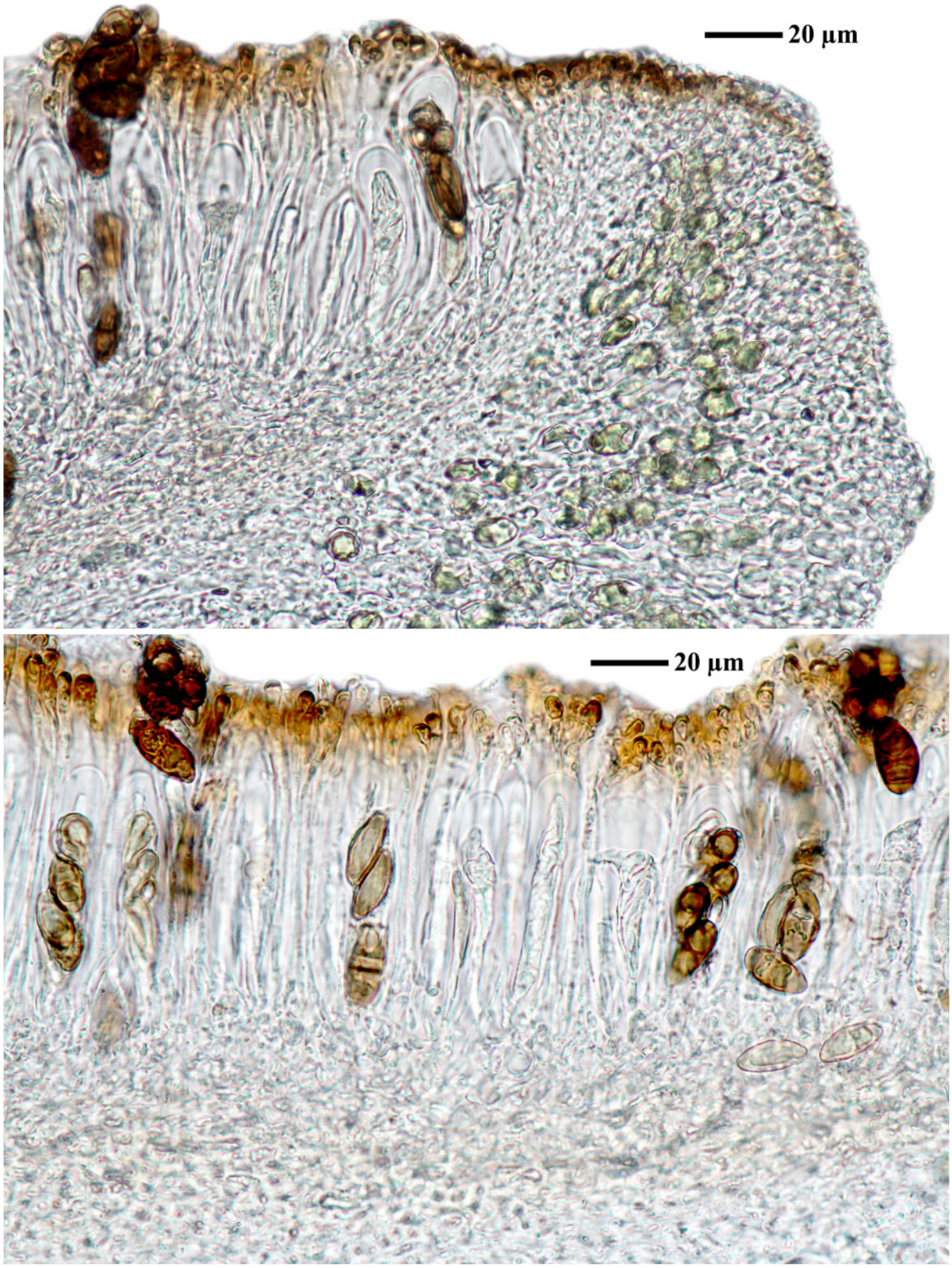


Phaeophyscia orbicularis

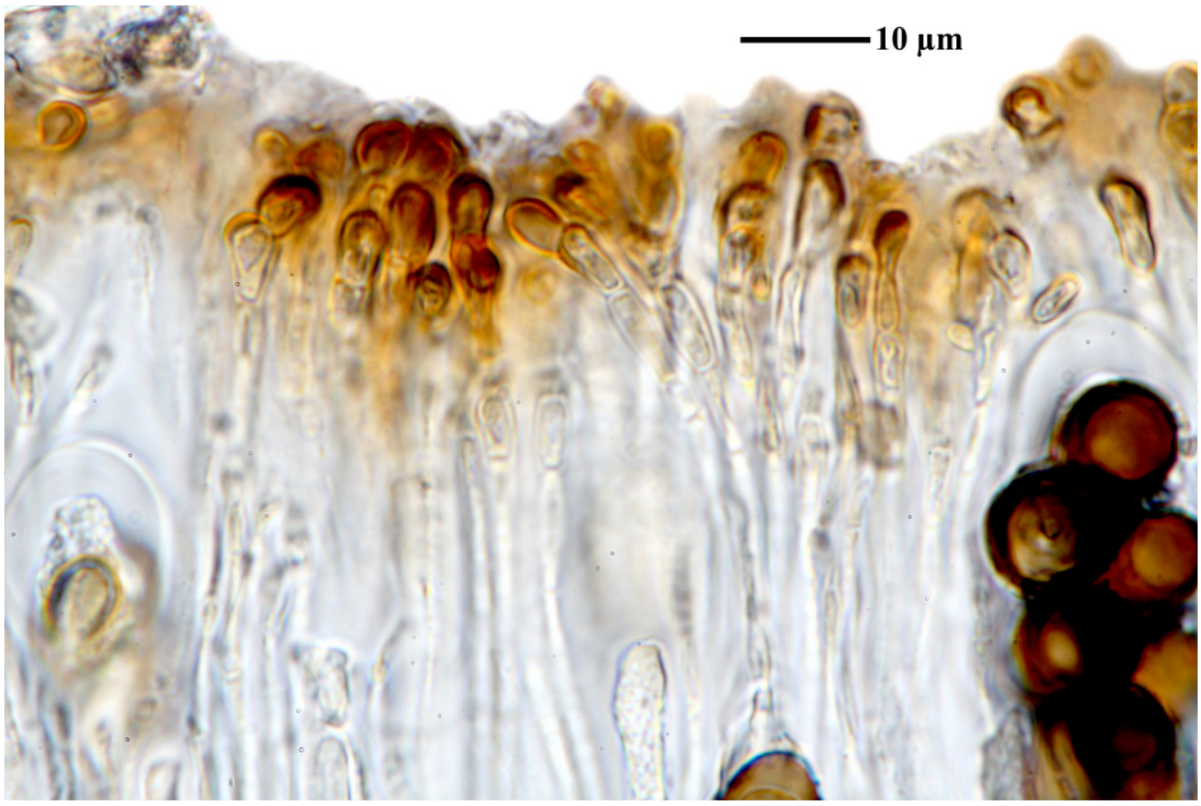


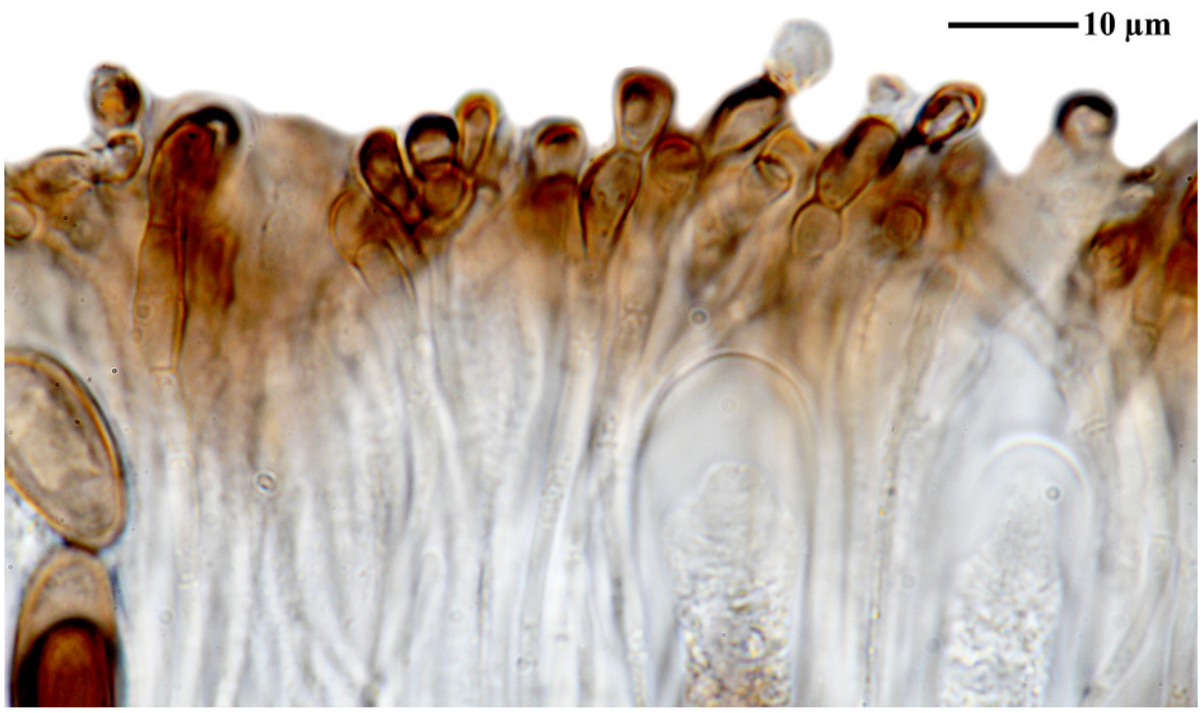


Phaeophyscia orbicularis



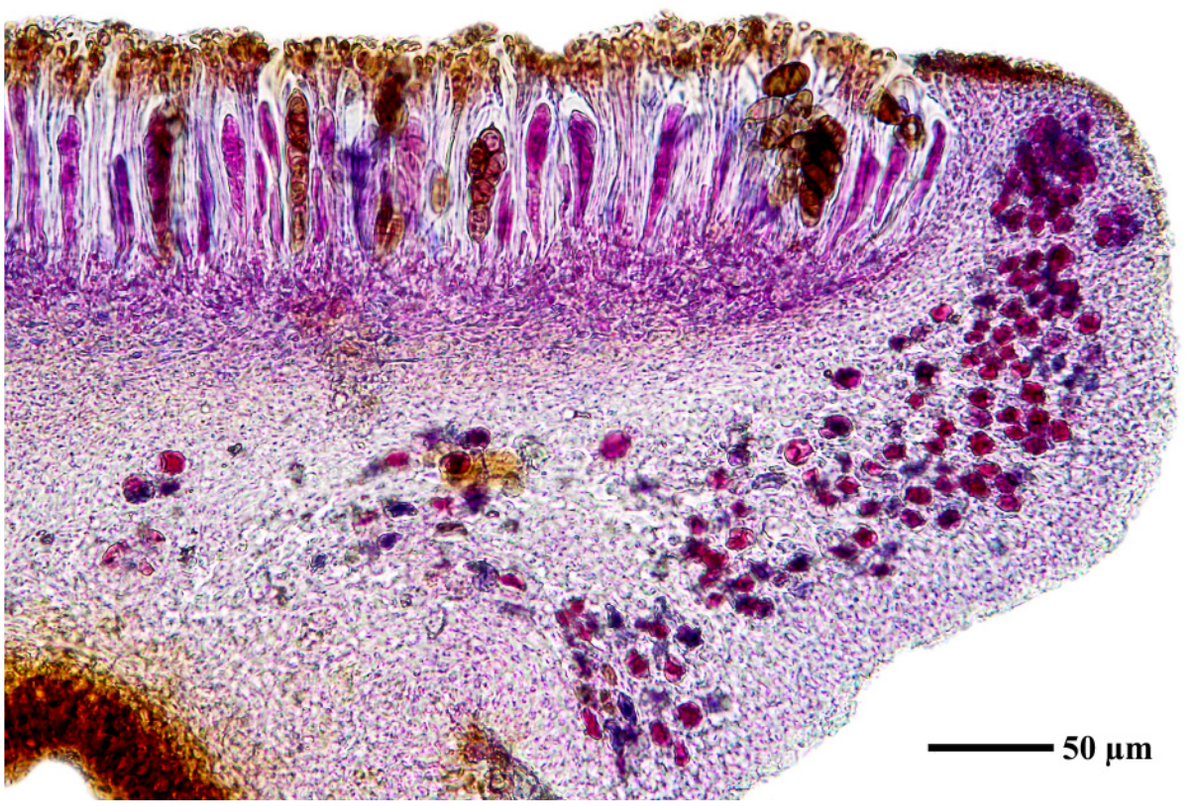
Phaeophyscia orbicularis





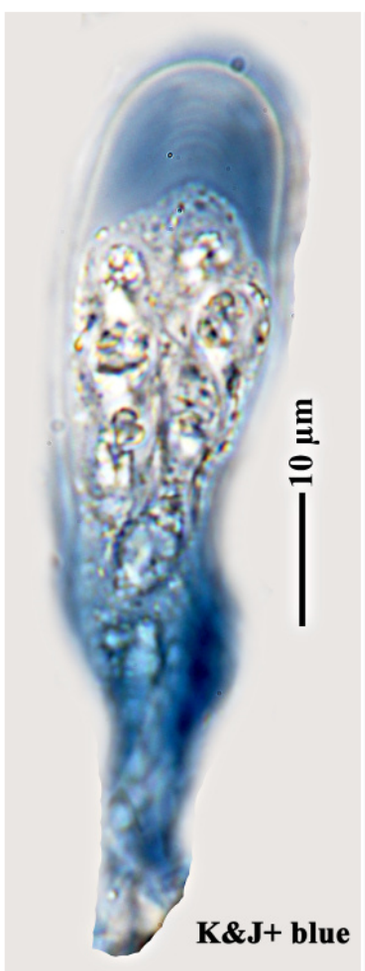
Phaeophyscia orbicularis

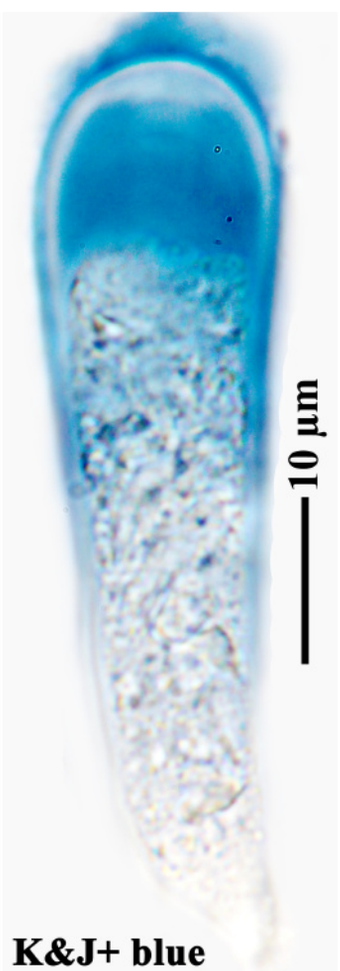




Phaeophyscia orbicularis

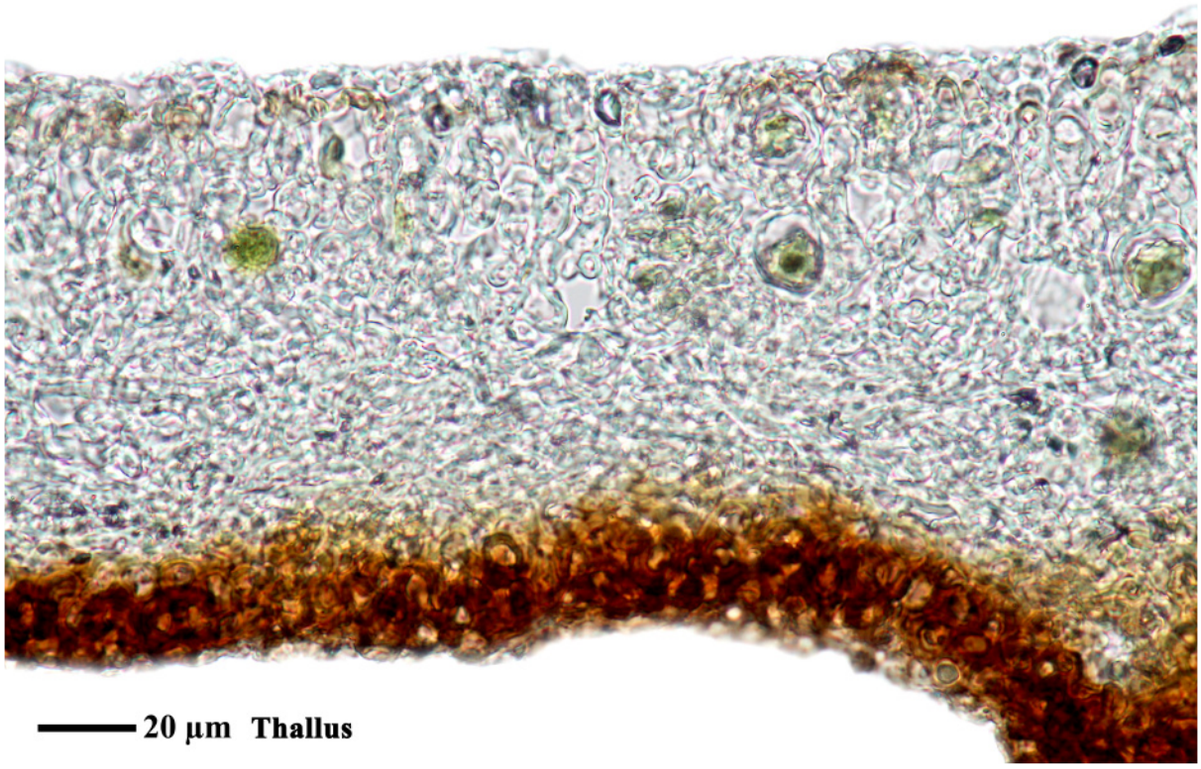








Phaeophyscia orbicularis





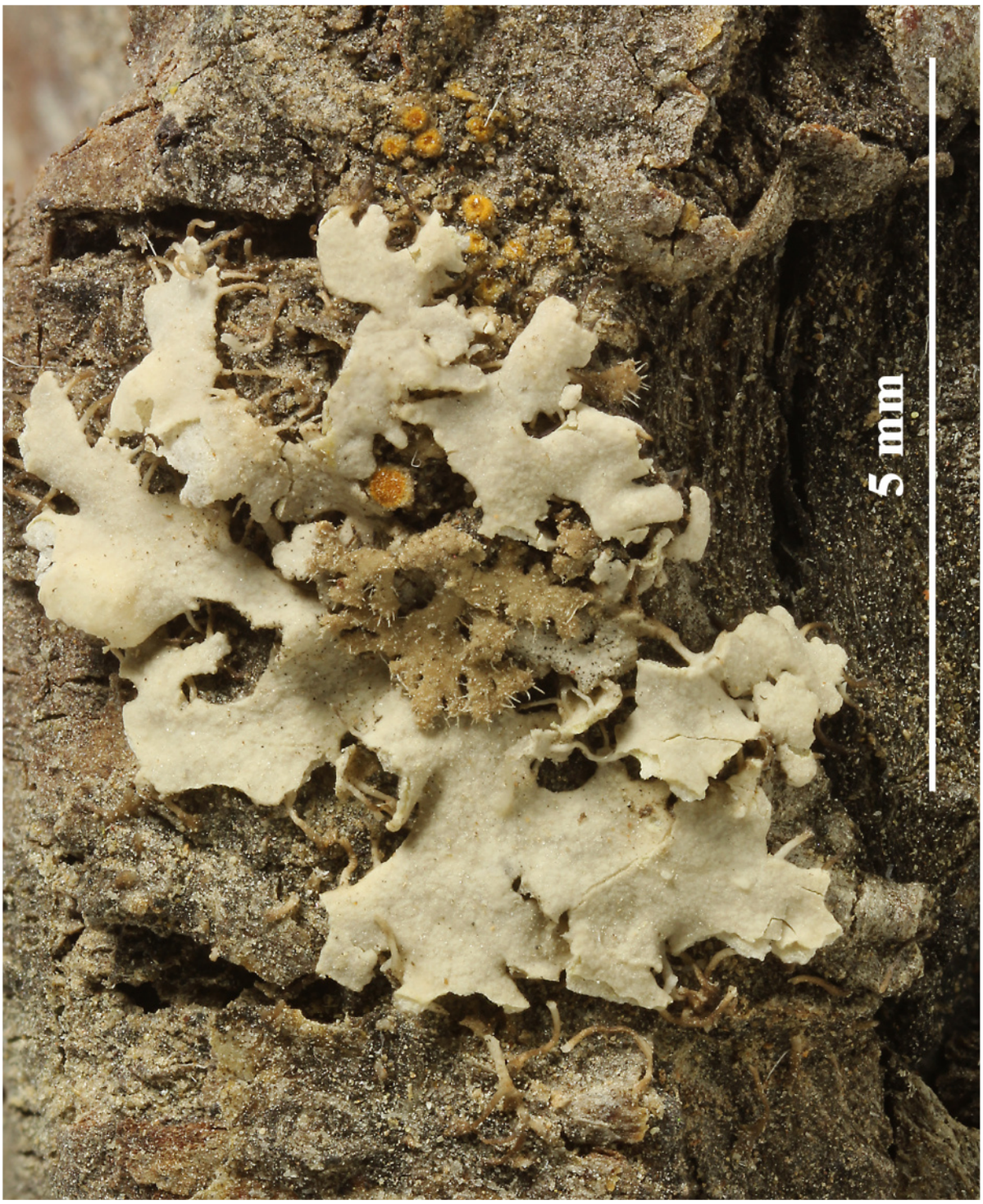
Phaeophyscia orbicularis

Physcia adscendens H.Olivier, Flore analytique et dichotomique des Lichens de l'Orne et départements circonvoisins: 79 (1882)

Bem.: Miserabel entwickelte Probe ohne die sonst typischen Helmsorale (FS)

[LIAF_32], Afghanistan, Prov. Paktia, 4 km N Rabat, 10 km S Chamkani, an der Straße nach Zambar, 69°47.5’ S, 33°42.5 N, 1880 m. Auf Sträuchern von *Cotoneaster* cf. *subuniflora* (Kitamura) Klott. Leg. M. Steiner (82/4), 04.07. 1970. LICHENOTHECA AFGHANICA NR. 32.





Physcia adscendens

Physcia aipolia (Ehrh. ex Humb.) Fürnr., Naturhist. Topogr. Regensburg 2: 249 (1839)

Medulla K+ gelb

[LIAF_08], Afghanistan, Prov. Paktia, Paßhöhe des Kotal-i-Taraki, an der Straße von Chamkani nach Zambar, 69°48’ E, 33°38’ N, 2220 m. Hochwaldfragment am islamischen Heiligtum, an Stämmen von *Fraxinus xanthoxyloides* (G.Don) DC., zusammen mit *Physcia hispidula* (Ach.) Frey ssp. *primnaria* Poelt, *Physconia pulerulenta* (Schreb.) Poelt und anderen Arten. Leg. M. Steiner (Ste 87a/2), 04.07.1970. LICHENOTHECA AFGHANICA NR. 08.





Physcia aipolia

Physcia aipolia (Ehrh. ex Humb.) Fürnr., Naturhist. Topogr. Regensburg 2: 249 (1839)

Thallus weißgrau, ohne Isidien, ohne Sorale, Rinde und Mark K+ gelb. Unterseite und Rhizinen hell. Sporen braun, 1-septiert, 8/Ascus, 15.4-19.5 x 9.6-10.4 µm.

[LIAF_64], Afghanistan, Prov. Paktia, 2 km S unterhalb des Passes Kotal-i-Taraki, an der Straße von Chamkani nach Zambar, 69°48.5' E, 33°37.5' N, 2200 m. Auf Stämmen von *Quercus baloot* Griff. Leg. M. Steiner (Ste 75/4), 03.07.1970. LICHENOTHECA AFGHANICA NR. 64.

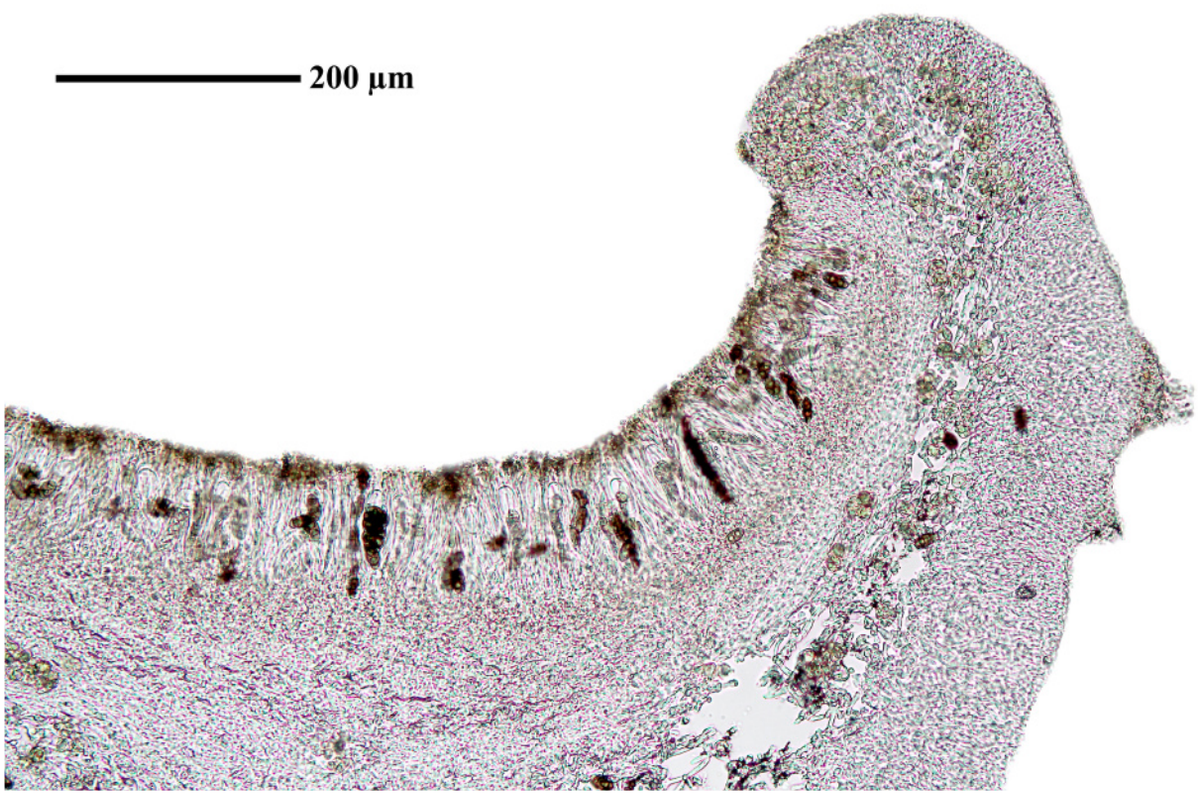




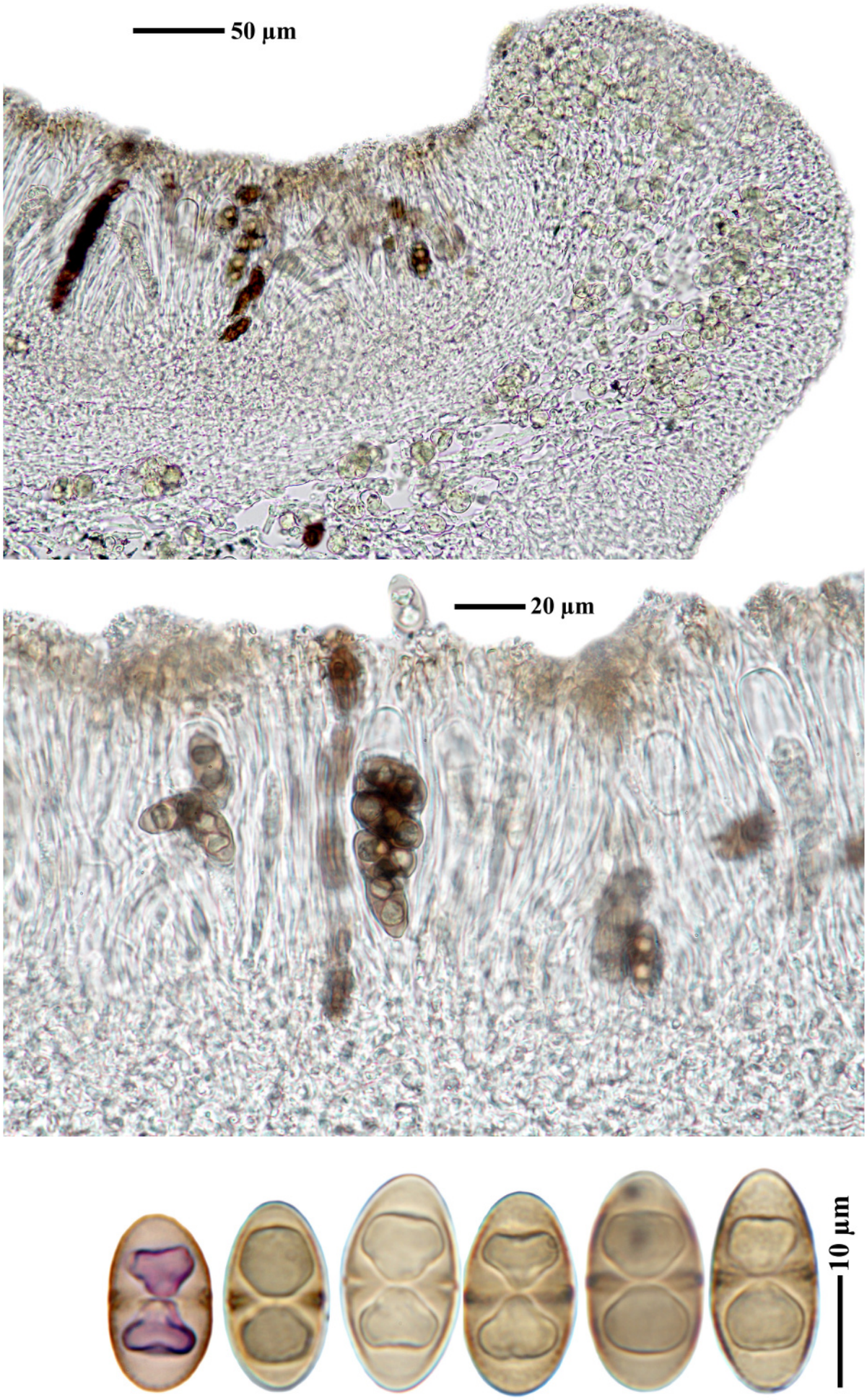


Physcia aipolia

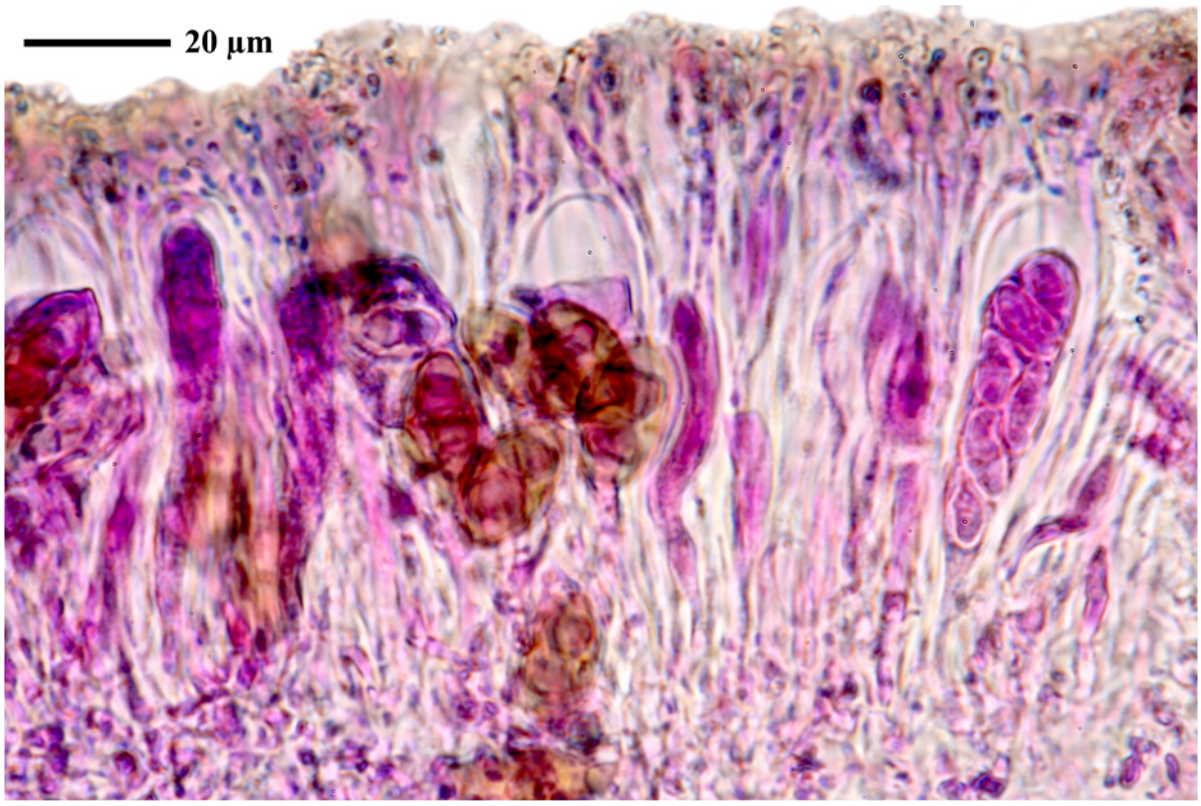


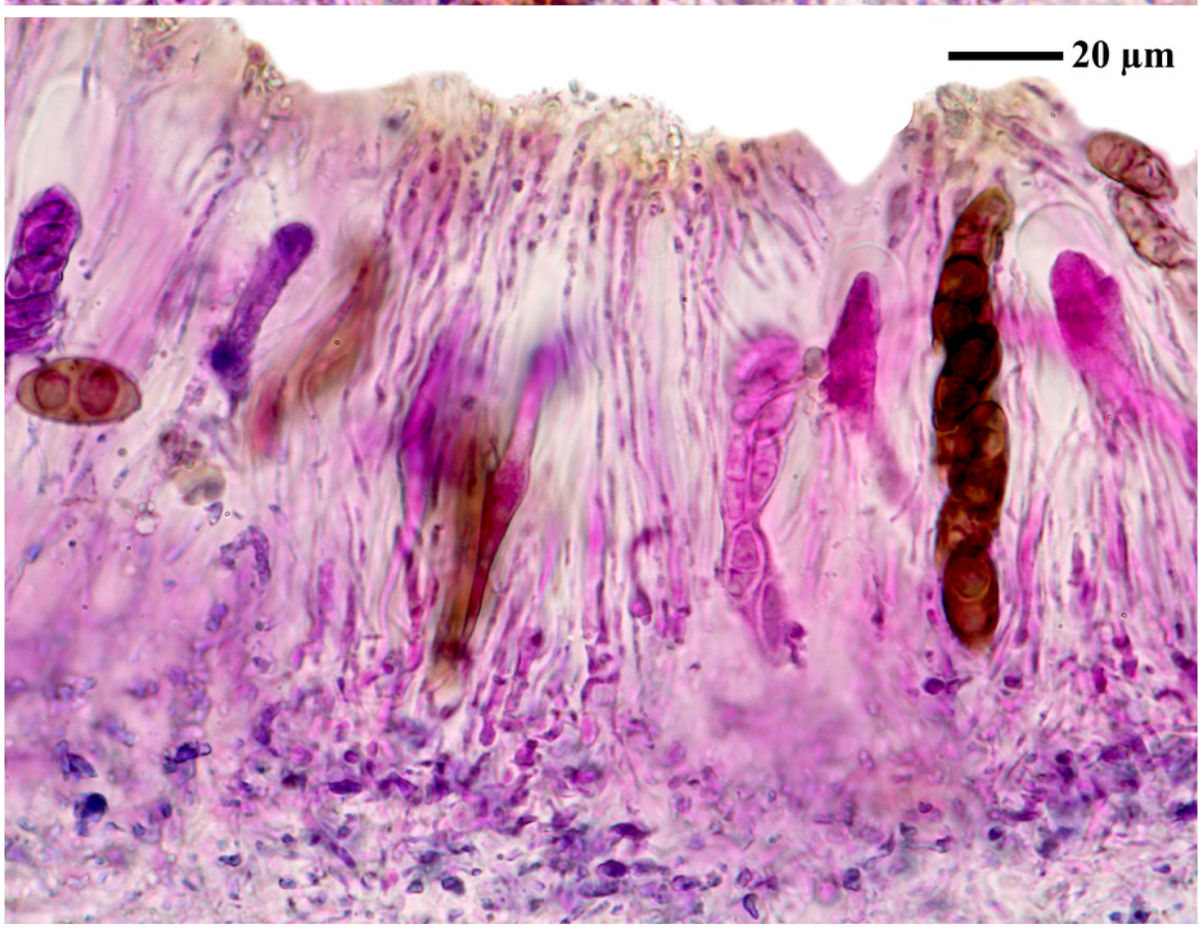


Physcia aipolia

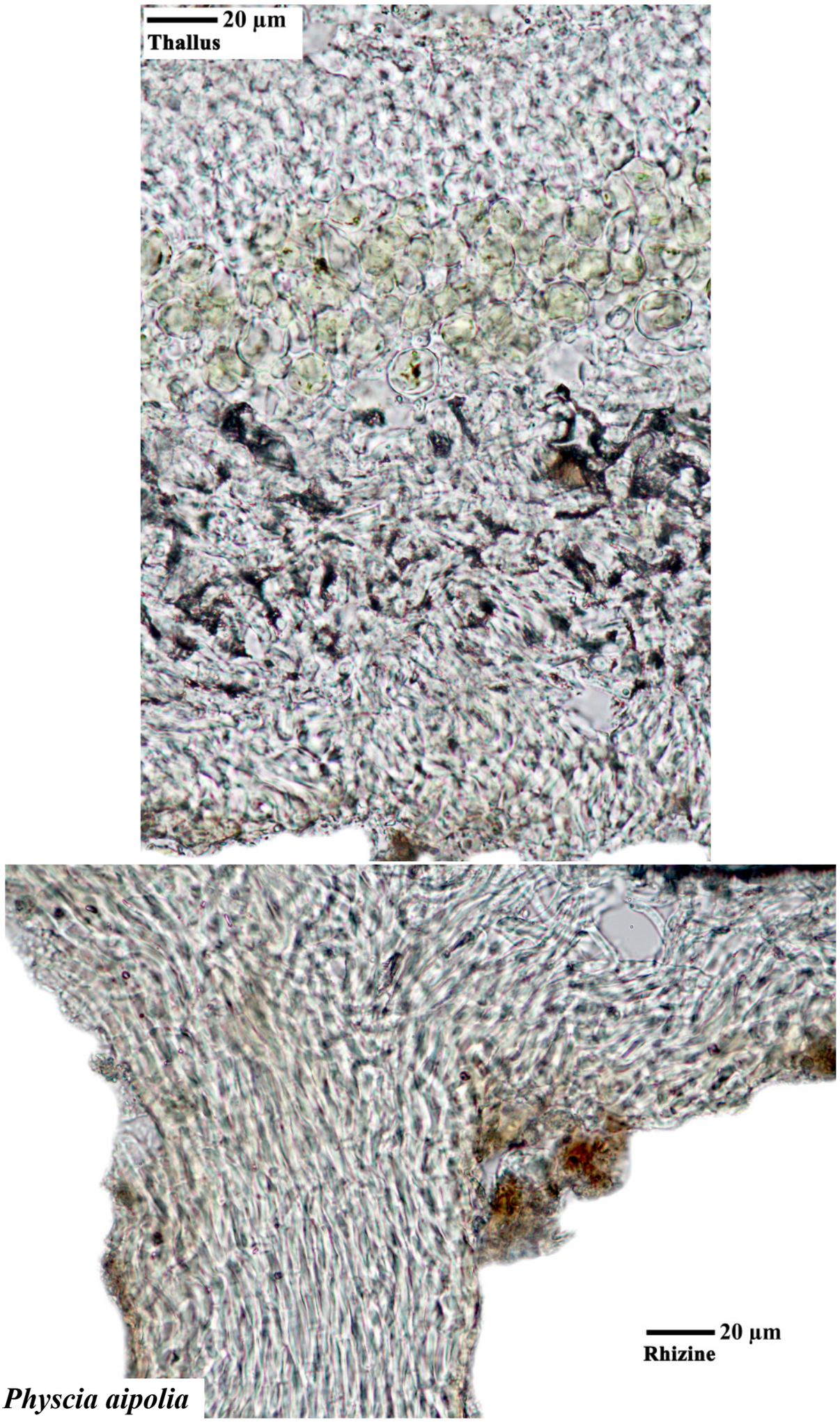


Physcia aipolia

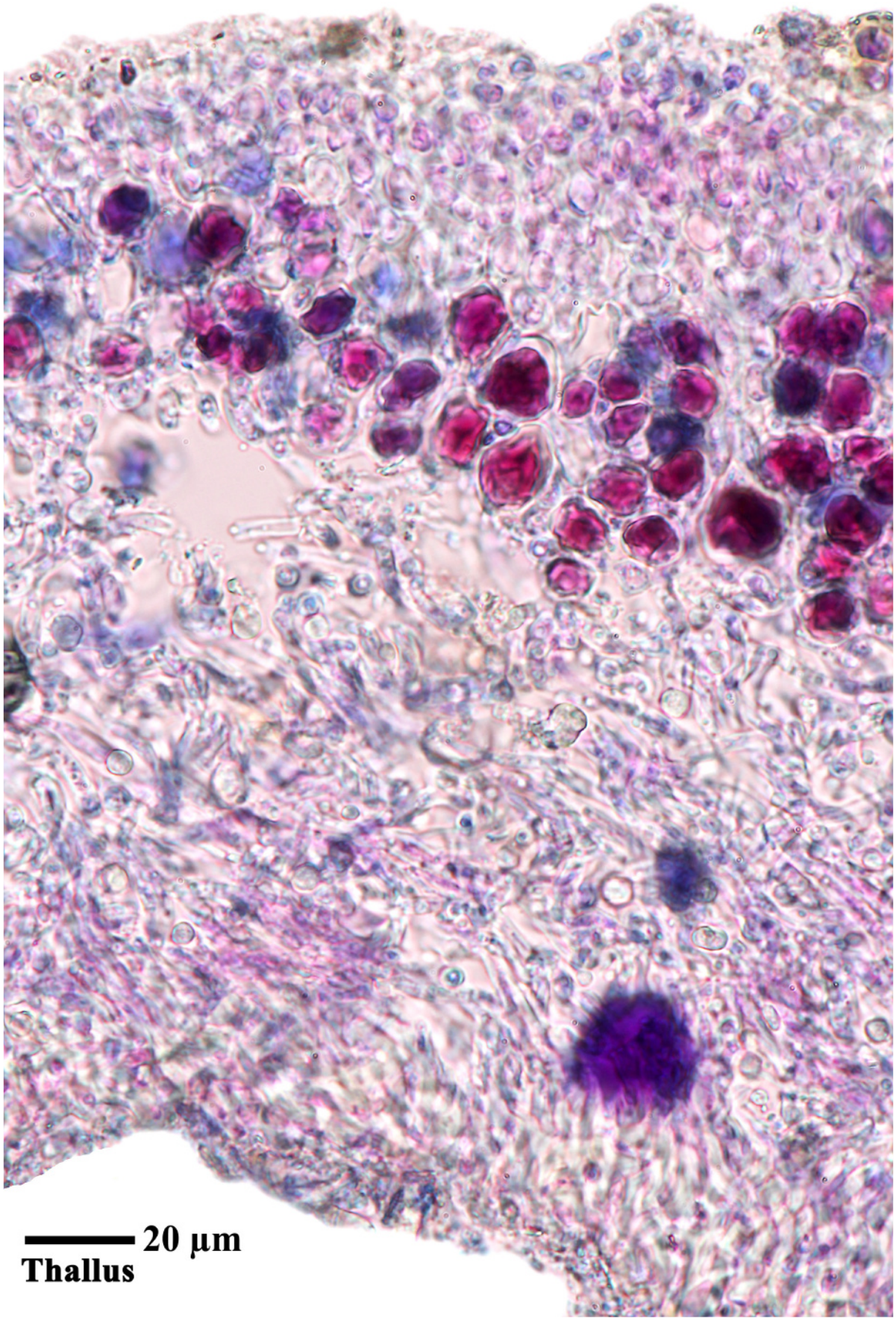




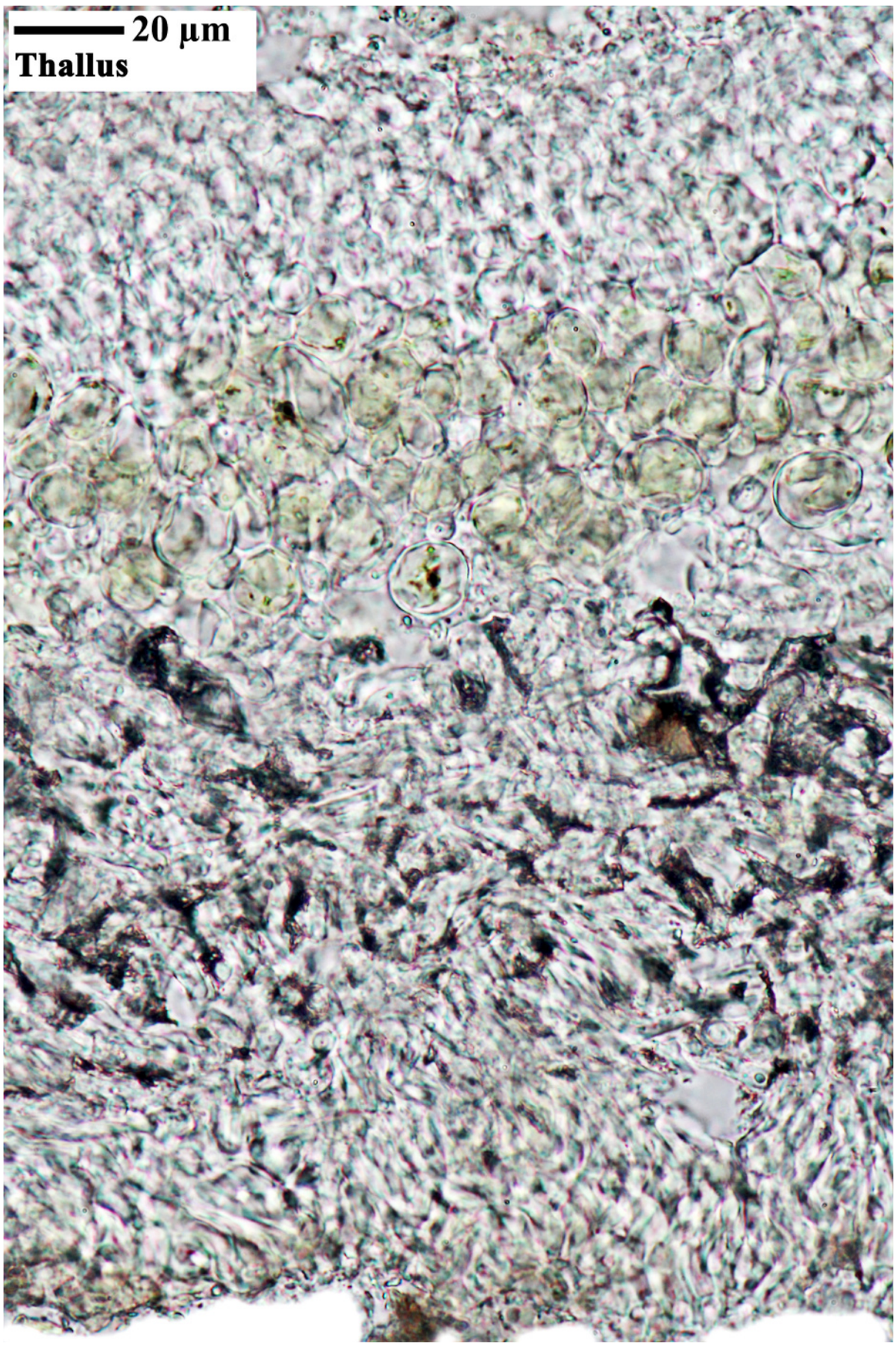
Physcia aipolia



Physcia aipolia



Physcia aipolia

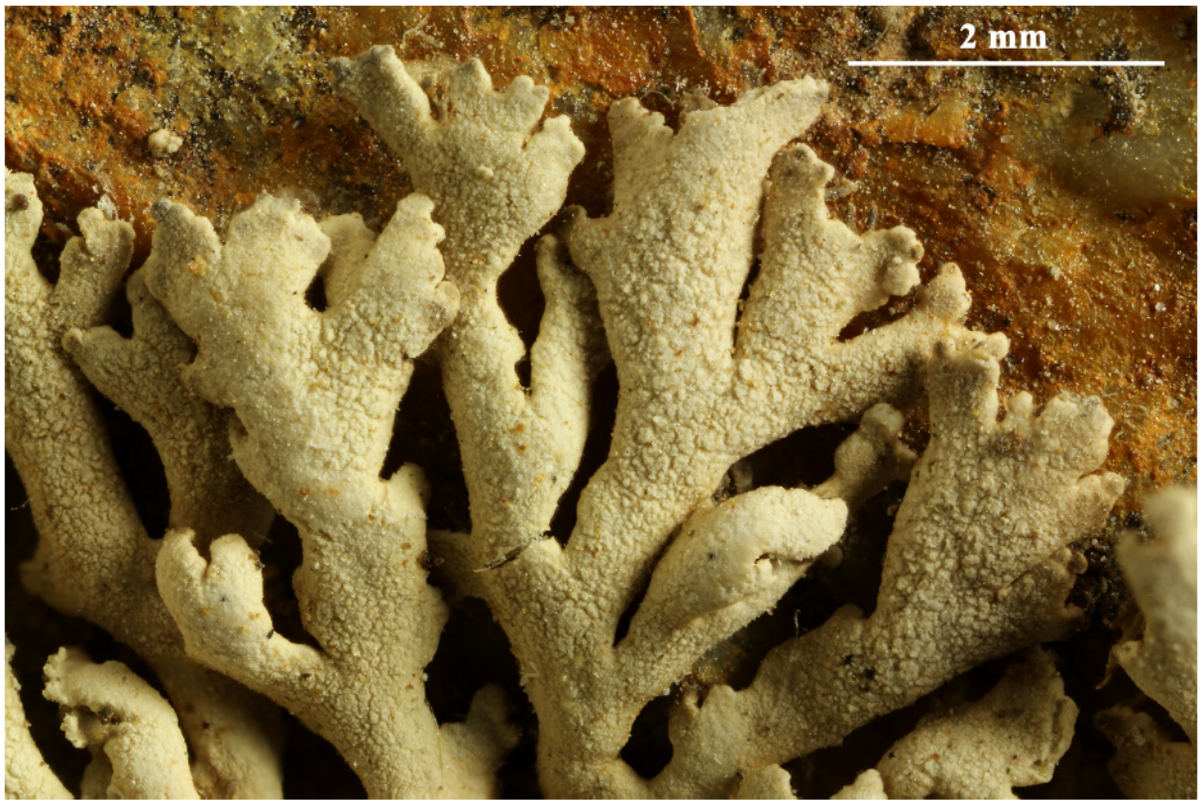


Physcia aipolia

Physcia dubia (Hoffm.) Lettau, Hedwigia 52: 254 (1912)

[LIAF_28], Afghanistan, Prov. Kabul, Paghman-Gebirge, W des Ortes Paghman, Chap-Darrah. 68°53’ E, 34°37’ N, 2720 m. An n-exponierten, schattigen Felswänden, zusammen mit Physcia caesia (Hoffm.) Hampe. Leg. D. Podlech (Pod 38/1b), 21.06.1970. LICHENOTHECA AFGHANICA NR. 28.







Physcia dubia

Physcia hispidula (Ach.) Frey subsp***. primaria*** Poelt, Khumbu Himal 6(2): 80 (1974)
[= *Phaeophyscia hispidula* (Ach.) Essl. subsp. *primaria* (Poelt) Schumm comb. nov. ined.]

[LIAF_09], Afghanistan, Prov. Paktia, Paßhöhe des Kotal-i-Taraki, an der Straße von Chamlani nach Zambar, 69°48 E, 33°38 N, 2220 m. Hochwaldfragment am islamischen Heiligtum, an Stämmen von Fraxinus xanthoxyloides (G.Don) DC. mit Physcia stellaris (L.) Nyl., Physconia pulverulenta (Schreb.) Poelt und anderen Arten. Leg. M. Steiner (Ste 87a/1), 04.07.1970. LICHENOTHECA AFGHANICA NR. 09.







Physcia hispidula subsp**. *primaria***

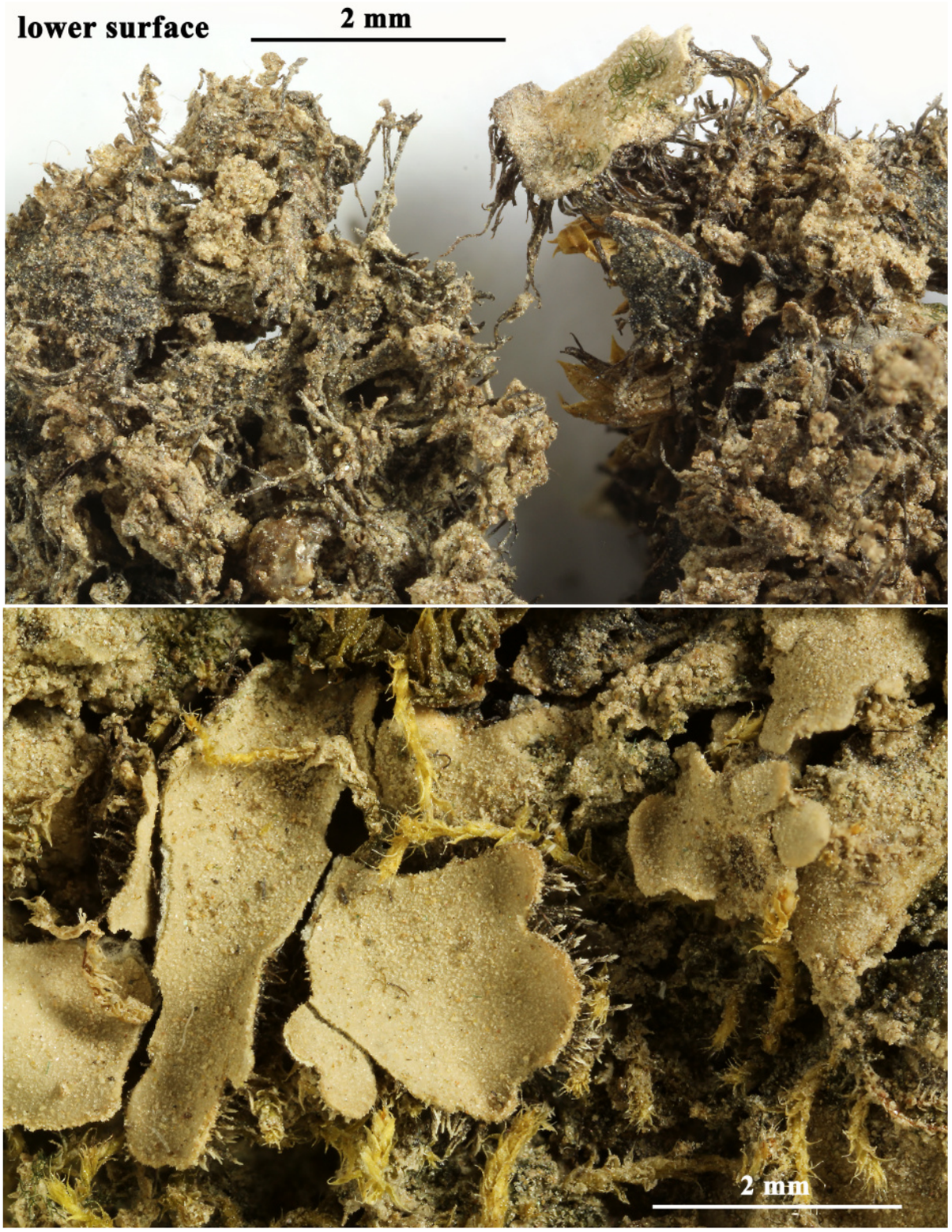


Physcia hispidula subsp***. primaria***

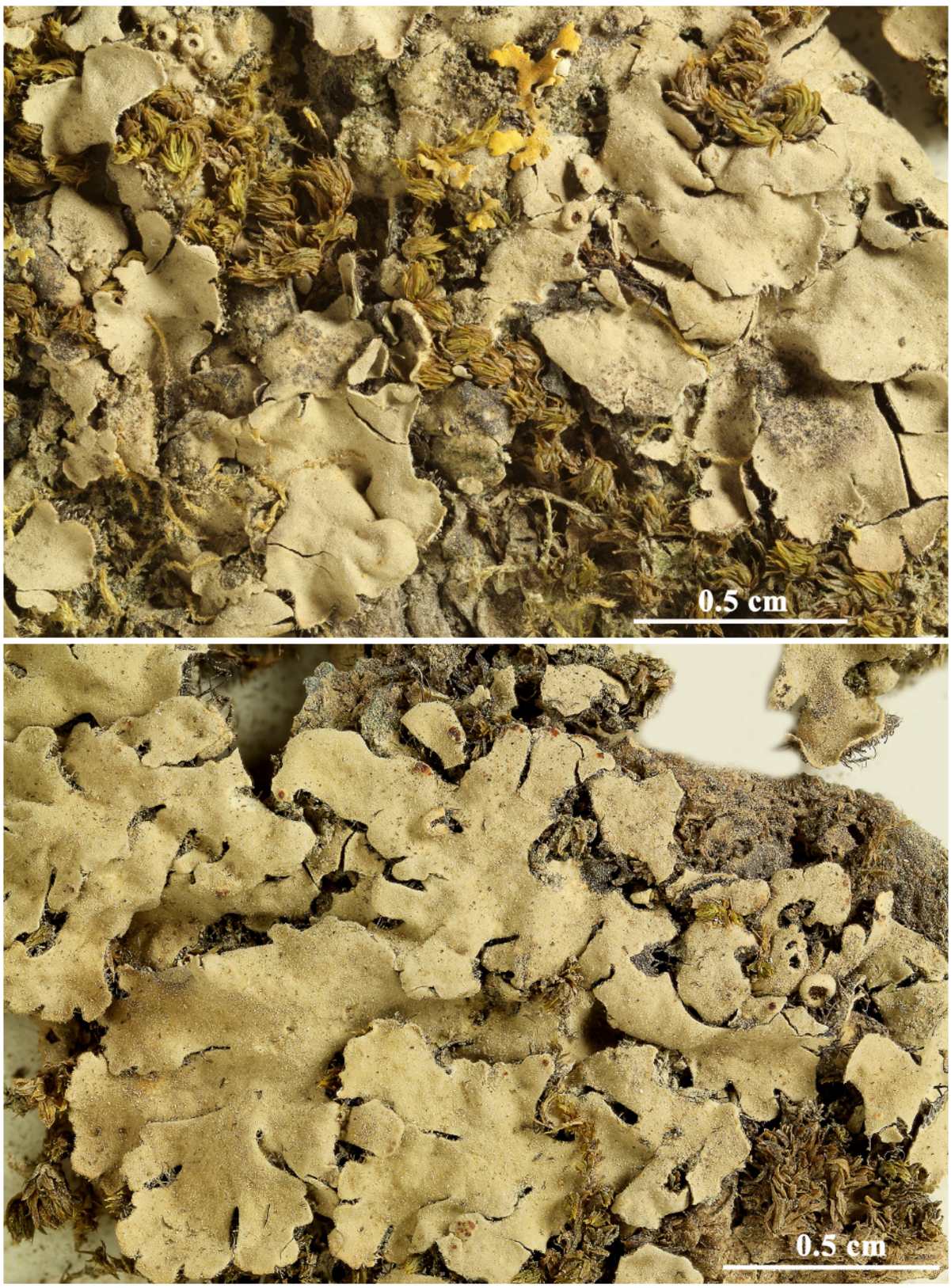
Physcia hispidula (Ach.) Frey subsp**. *primaria*** Poelt, Khumbu Himal 6(2): 80 (1974)
[= *Phaeophyscia hispidula* (Ach.) Essl. subsp. *primaria* (Poelt) Schumm comb. nov. ined.]

[LIAF_33], Afghanistan, Prov. Paktia, 2 km südlich unterhalb der Paßhöhe des Kotal-i-Taraki, an der Straße von Chamlani nach Zambar, 69°48.5 E, 33°37.5 N, 2220 m. Auf Stämmen von Quercus baloot Griff., in geschlossenem Bestand, in Polstern des Laubmooses Drummondia thomsonii Mitt. Leg. M. Steiner (Ste 75), 03.07.1970. LICHENOTHECA AFGHANICA NR. 22.





Physcia hispidula subsp. ***primaria***

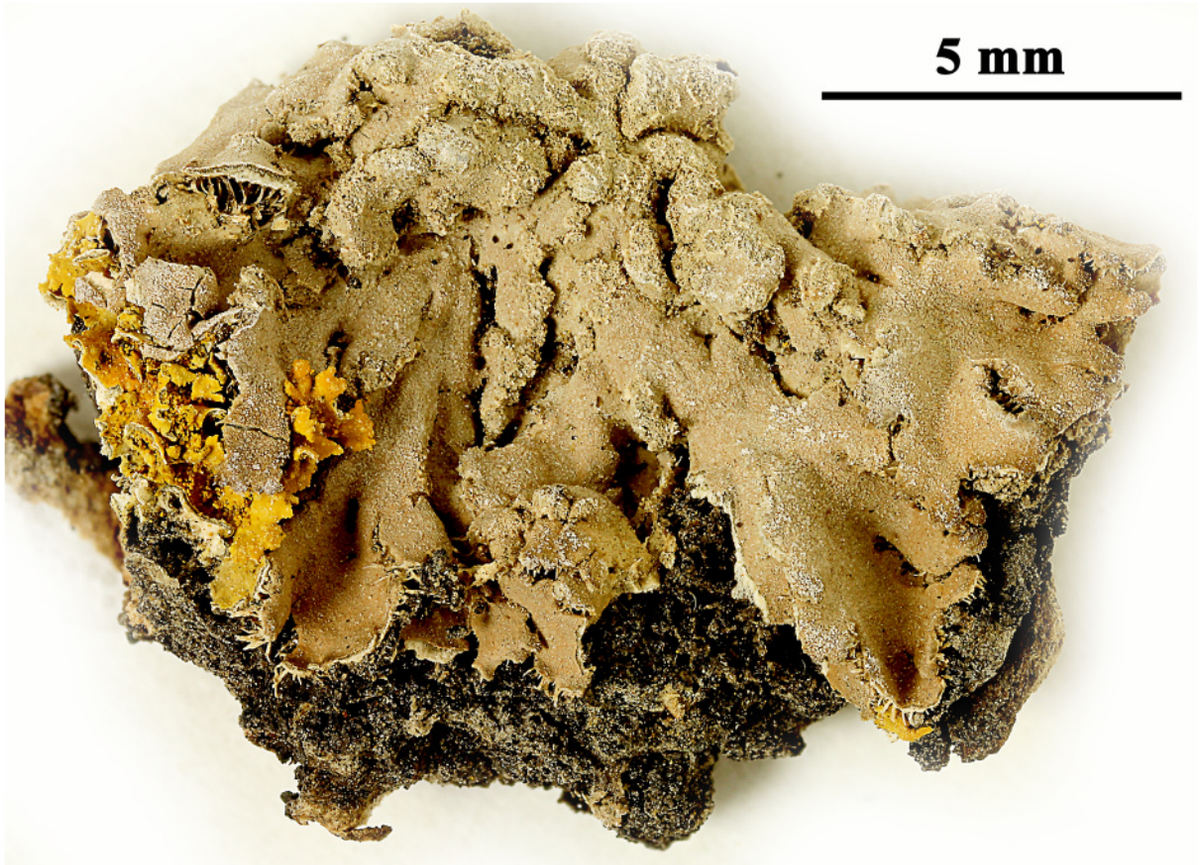


Physcia hispidula subsp***. primaria***

Physcia latifolia M.Steiner & Poelt, Nova Hedwigia 42(2-4): 229 (1986)
Nom. illegit., Art. 53.1

[LIAF_69], Afghanistan, Prov. Kabul, Karizemir, ca. 18 km N Kabul an der Straße nach Charikar, 69°03’ E, 34°38’ N, ca. 1850 m. An *Ulmus campestris* L. im bewässerten Park eines Landgutes, mit *Caloplaca persica* (J.Stein.) M.Steiner & Poelt, *Xanthoria fallax* (Hepp) Arnold u.a. Leg. M. Steiner (Ste 28/1), 27.05.1970. LICHENOTHECA AFGHANICA NR: 69.





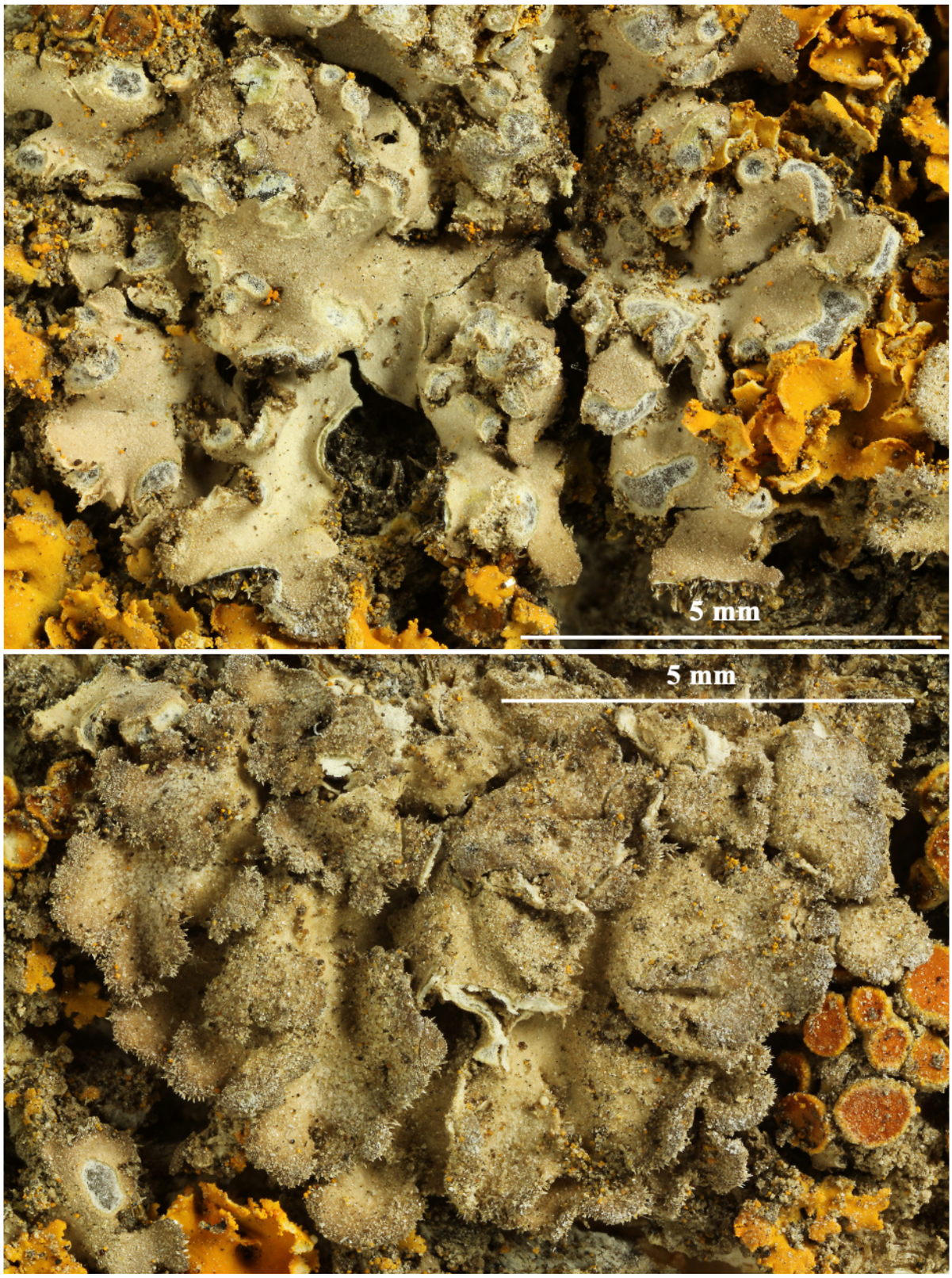


Physcia latifolia

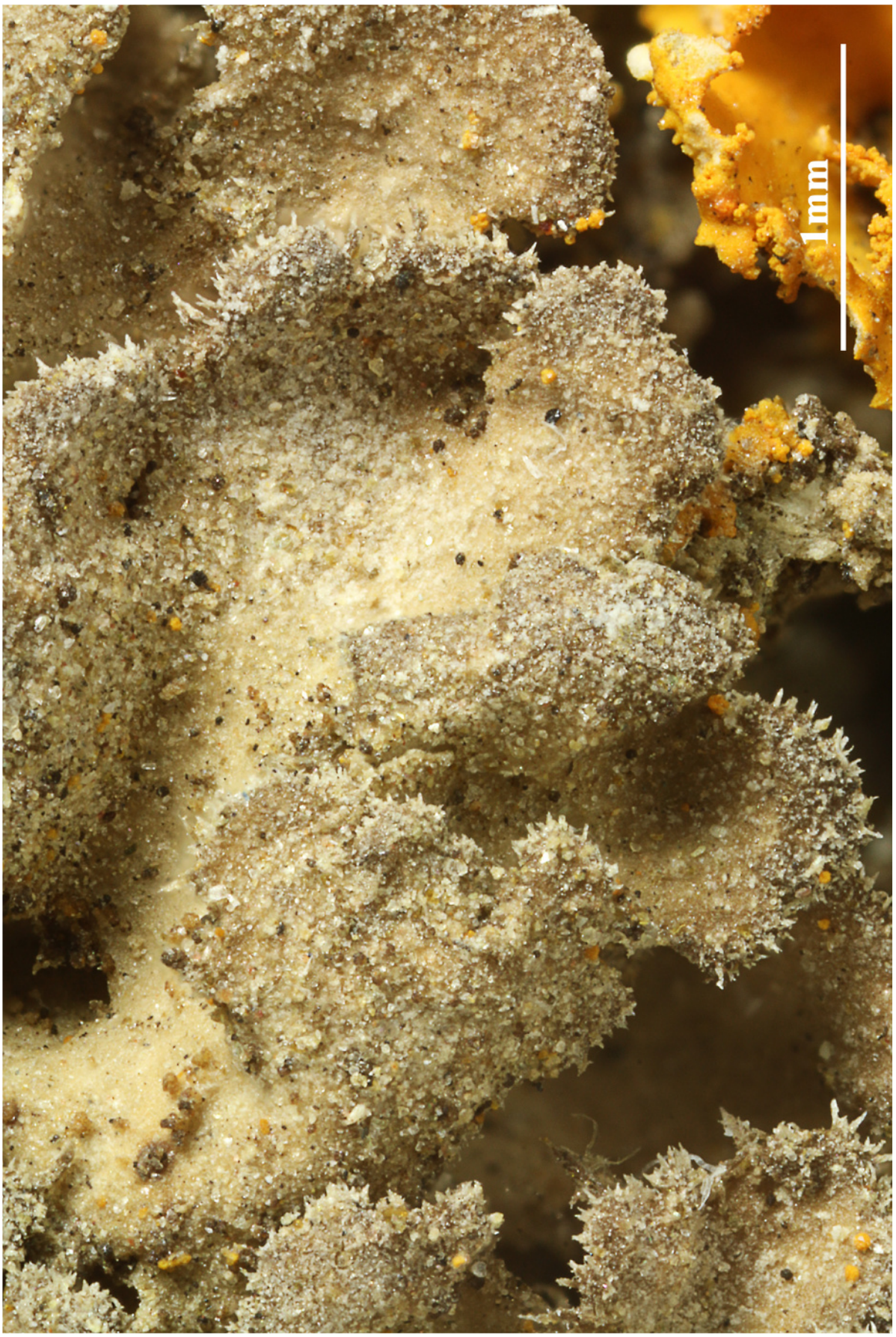
Physcia latifolia M.Steiner & Poelt, TYPUS, Nova Hedwigia 42(2-4): 229 (1986)
Nom. illegit., Art. 53.1

[LIAF_70], Afghanistan, Prov. Kabul, Sian, 27 km N Kabul, an der Straße nach Charikar, 69°06’ E, 34°42’ N, ca. 1750 m. Auf *Ailanthus altissima* (Mill.) Swingle, im bewässerten Park eines Landgutes, mit *Caloplaca persica* (J.Stein.) M.Steiner & Poelt, *Xanthoria fallax* (Hepp) Arnold, *Candelariella aurella* (Hoffm.) Zahlbr., *Anaptychia ulotricoides* (Vain.) Vain u.a.. Leg. M. Steiner (Ste 31/2), 29.05.1970. LICHENOTHECA AFGHANICA NR: 70.





Physcia latifolia



Physcia latifolia

Physcia stellaris (L.) Nyl., Act. Soc. linn. Bordeaux 21(4): 307 (1857) [1856]

[LIAF_27], Afghanistan, Prov. Paktia, 4 km N Rabat, ca.10 km S Chamkani, an der Straße von Chamkani nach Zambar, 69°47.5’ E, 33°42.5’ N, 1880 m. Auf Sträuchern (Rosa ?). Leg. M. Steiner (Ste 79), 04.07.1970. LICHENOTHECA AFGHANICA NR. 27.

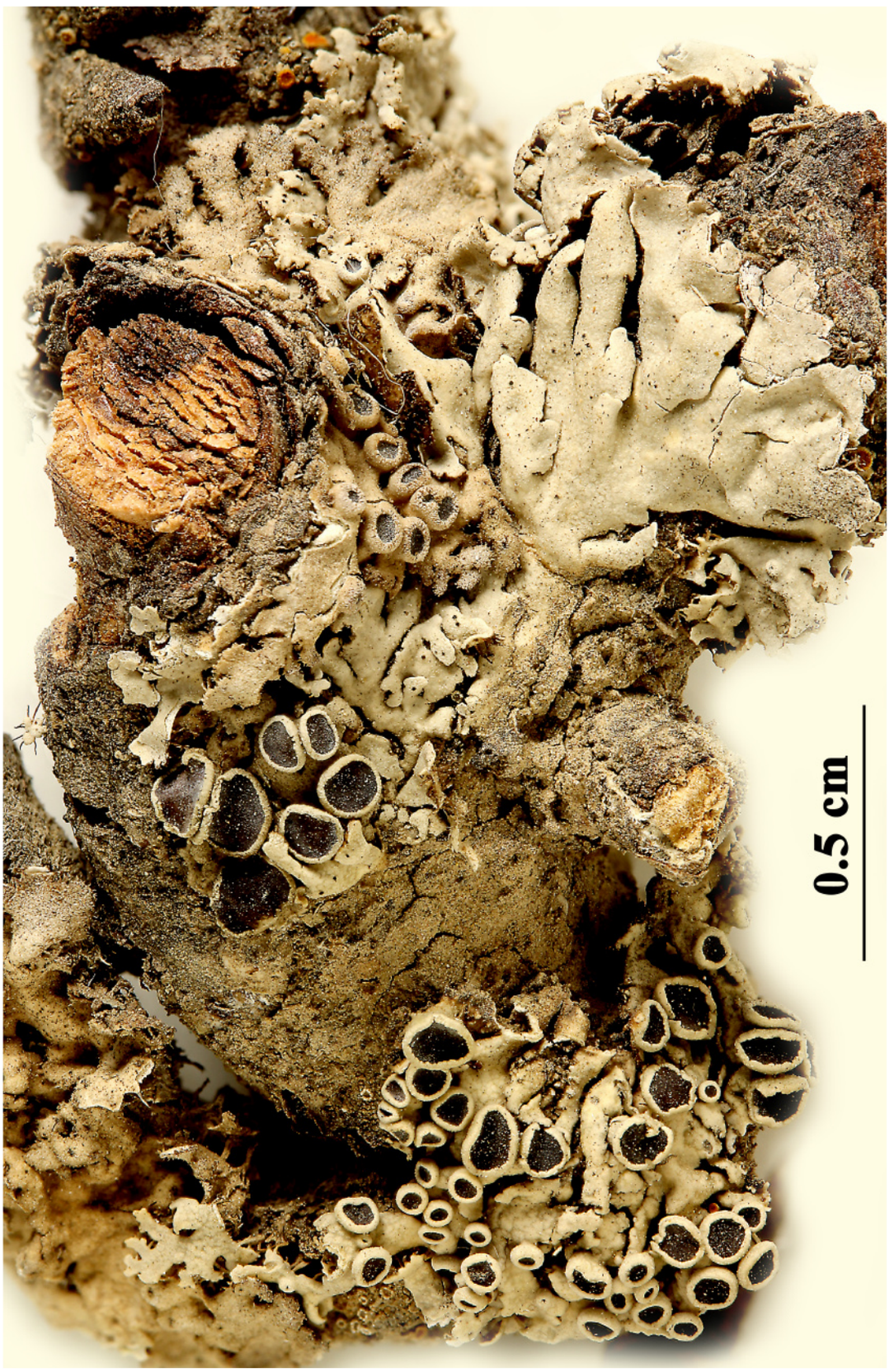




Physcia stellaris

Physcia stellaris (L.) Nyl., Act. Soc. linn. Bordeaux 21(4): 307 (1857) [1856]

[LIAF_35], Afghanistan, Prov. Paktia, 4 km N Rabat, ca.10 km S Chamkani, an der Straße von Chamkani nach Zambar, 69°47.5’ E, 33°42.5’ N, 1880 m. Auf Sträuchern von Cotoneaster cf. subuniflora (Kitamura) Klotz. LICHENOTHECA AFGHANICA NR. 35.

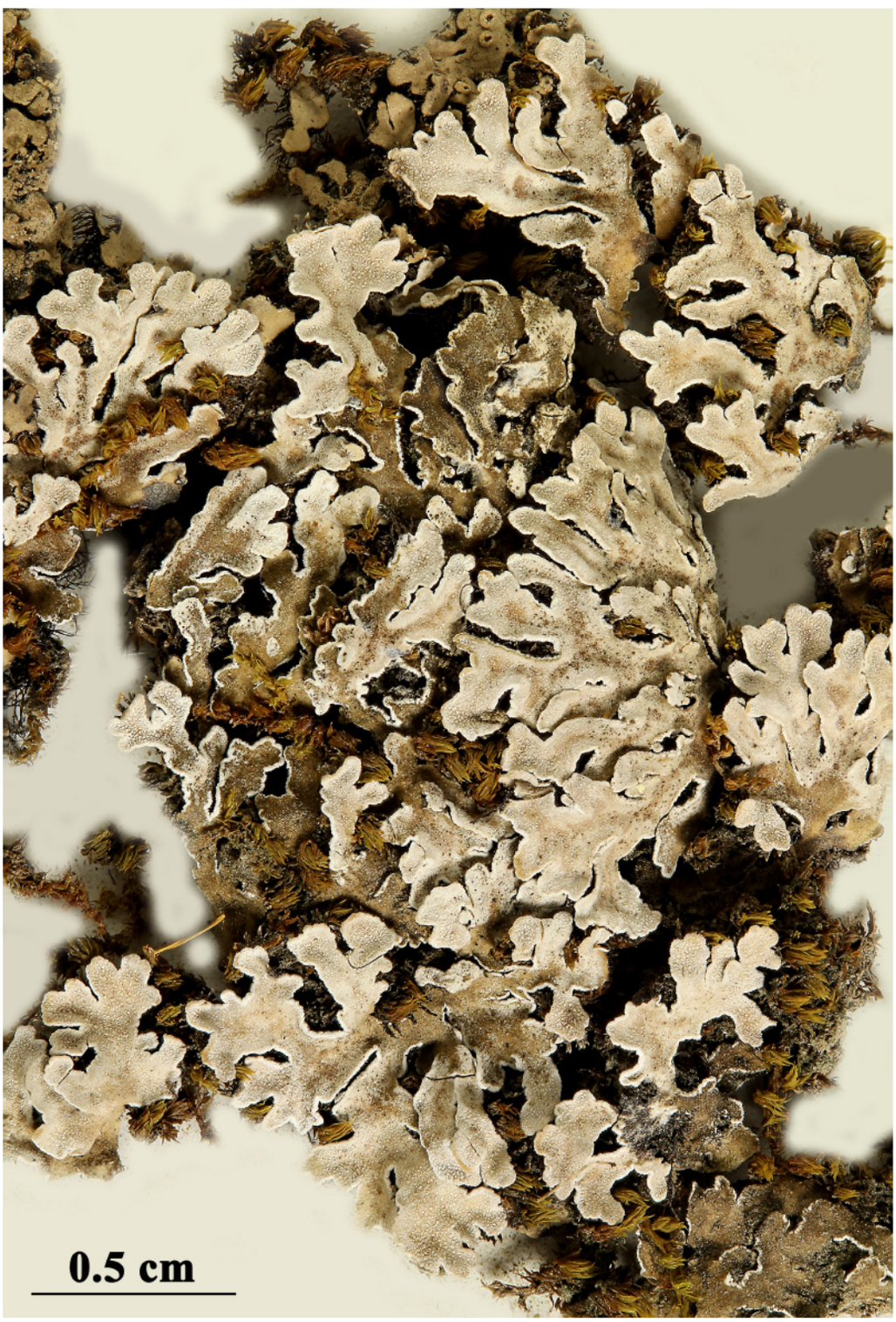




Physcia stellaris

Physconia distorta (With.) J.R.Laundon, Lichenologist 16(3): 218 (1984)
[= *Physconia pulverulenta* (Schreb.) Poelt]

[LIAF_34], Afghanistan, Prov. Paktia, 2 km S unterhalb der Paßhöhe des Kotal-i-Taraki, an der Straße von Chamkani nach Zambar, 69°48.5' E, 33°37.5' N, 2220 m. Auf Stämmen von *Quercus baloot* Griff, in geschlossenem Bestand, in Polstern des Laubmooses *Drummondia thomsonii* Mitt. Leg. M. Steiner (Ste 75/2), 03.07.1970. LICHENOTHECA AFGHANICA NR. 34.







Physconia distorta

Physconia distorta (With.) J.R.Laundon, Lichenologist 16(3): 218 (1984)
[= *Physconia pulverulenta* (Schreb.) Poelt]

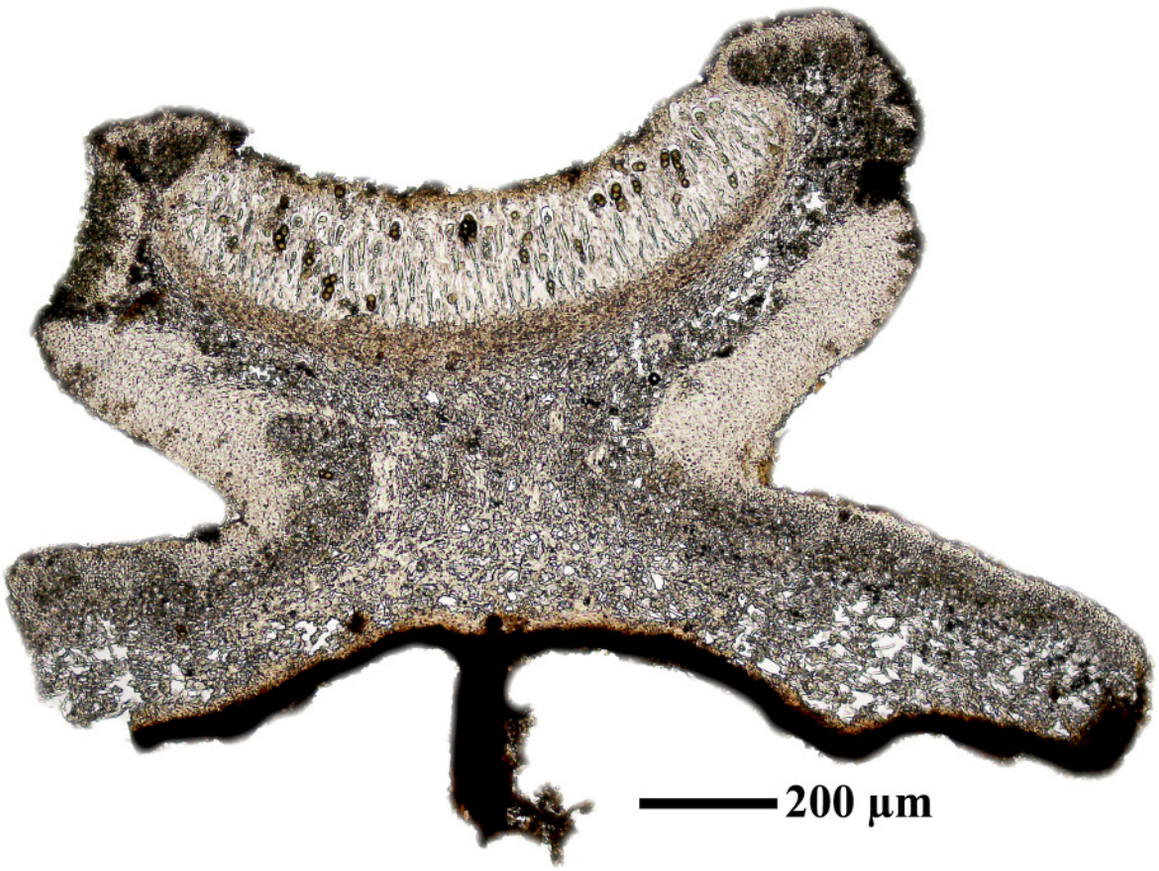
Ohne Isidien, ohne Sorale. Apothecien und Oberseite bereift, K-. Unterseite und Rhizinen schwarz. Sporen braun, 1-septiert, 8/Ascus, 21-25 x 11-14 µm.

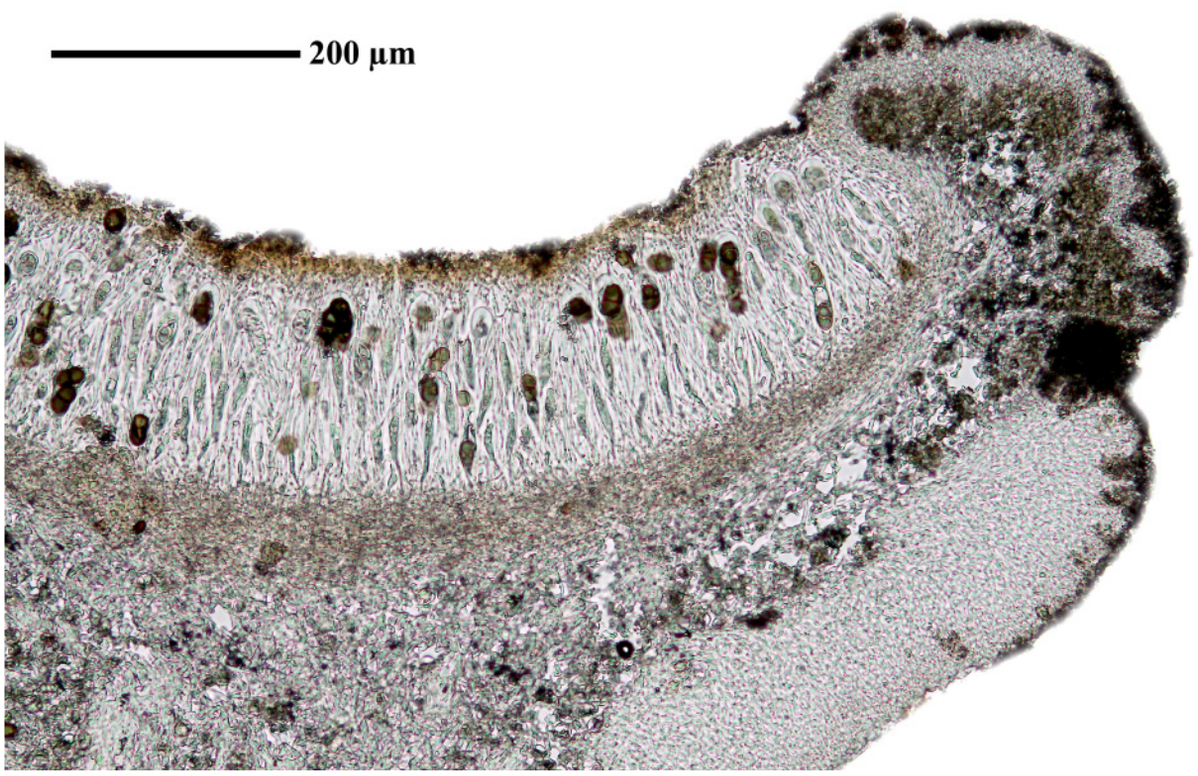
[LIAF_59], Afghanistan, Prov. Paktia, Paßhöhe des Kotal-i-Taraki, an der Straße von Chamkani nach Zambar, 69°48’ E, 33°38’ N, 2220 m. An Stämmen von *Fraxinus xanthoxyloides* (G.Don) DC., zusammen mit *Physcia hispidula* (Ach.) Frey subsp. *primaria* Poelt und *Physcia sp*.. Leg. M. Steiner (Ste 87a/3), 04.07.1970. LICHENOTHECA AFGHANICA NR. 59.



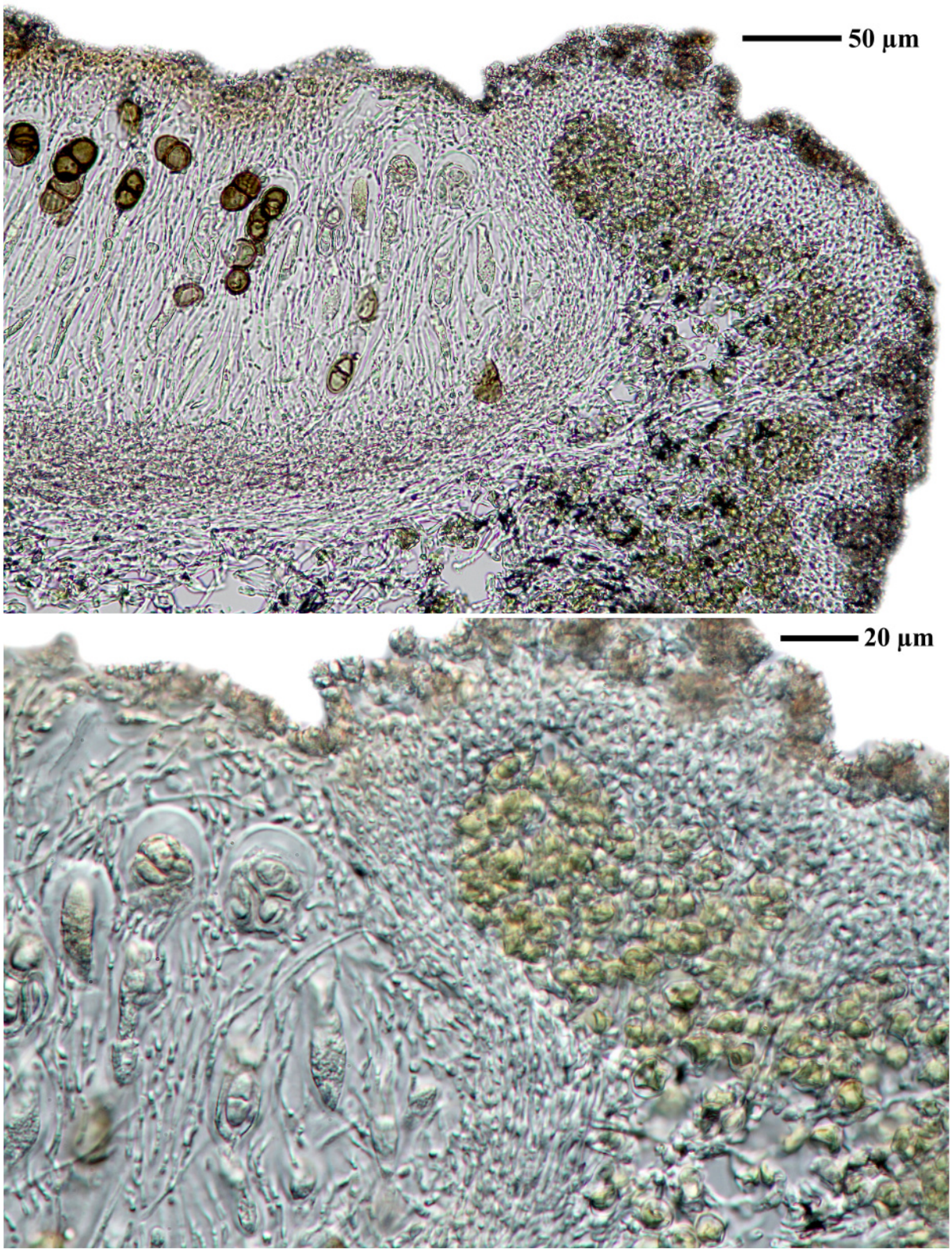


Physconia distorta

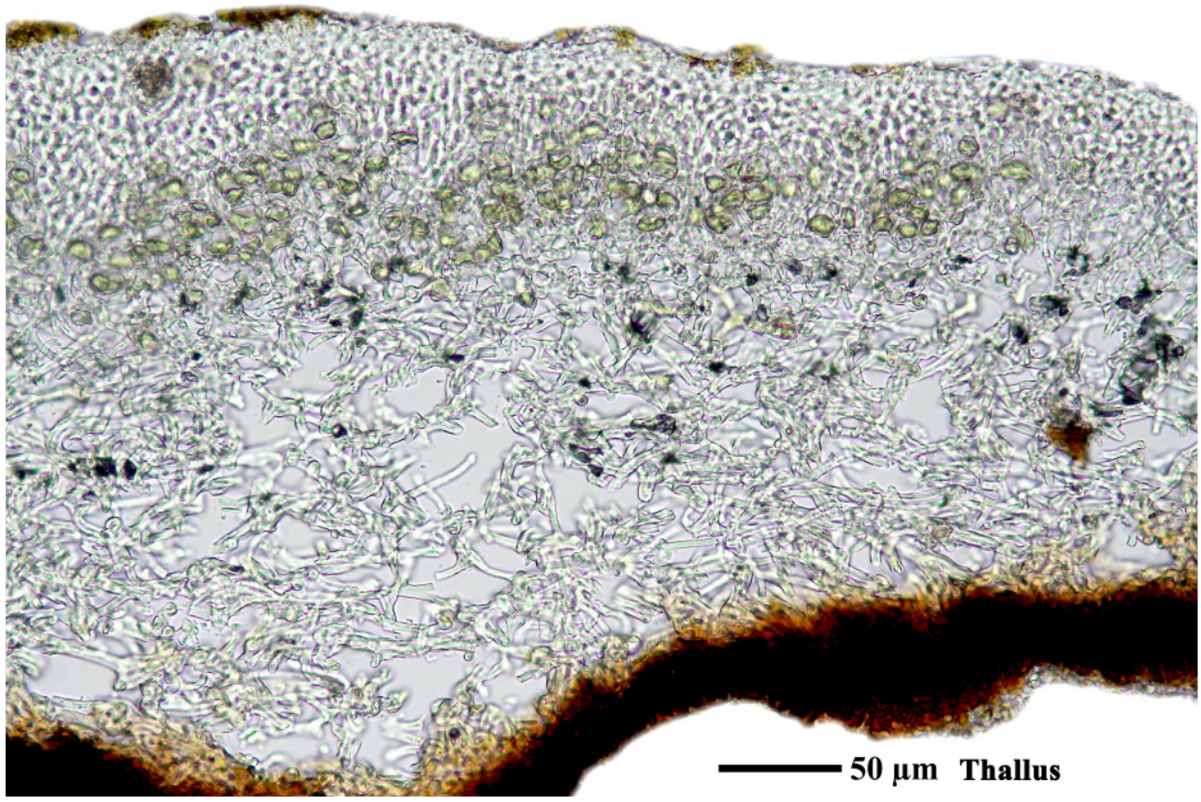


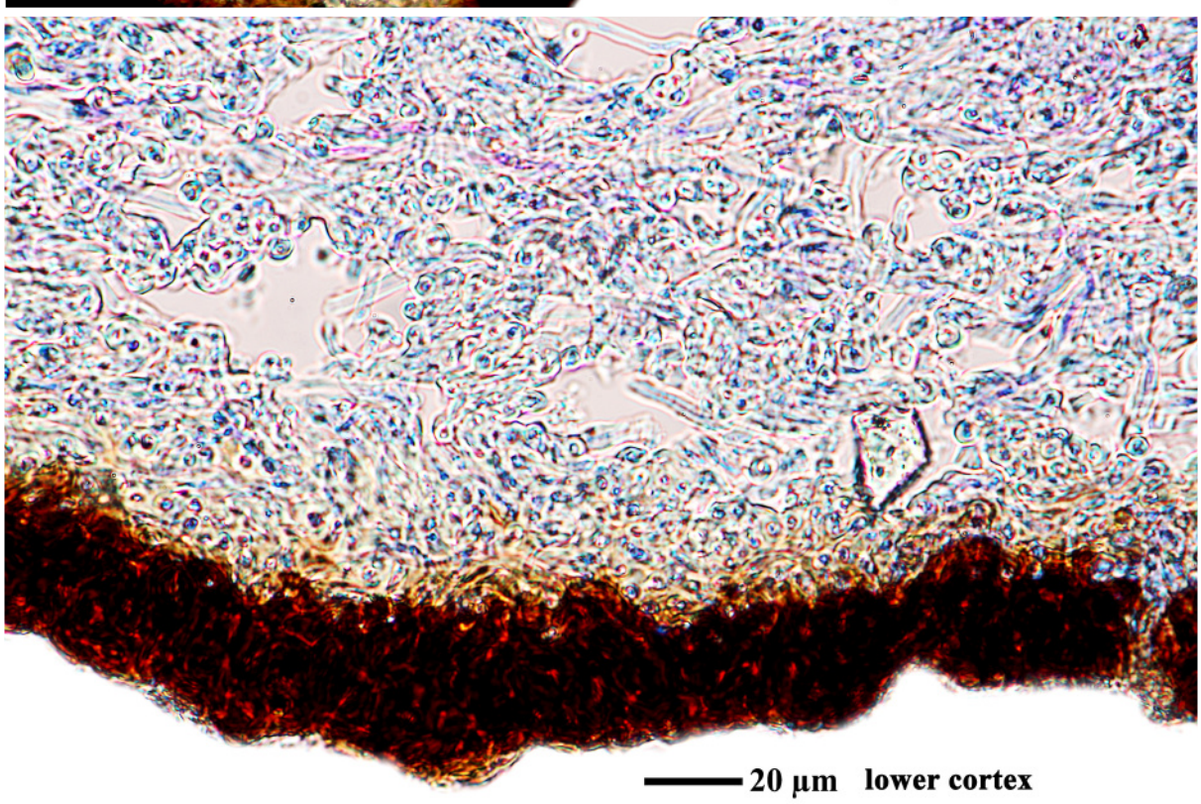


Physconia distorta

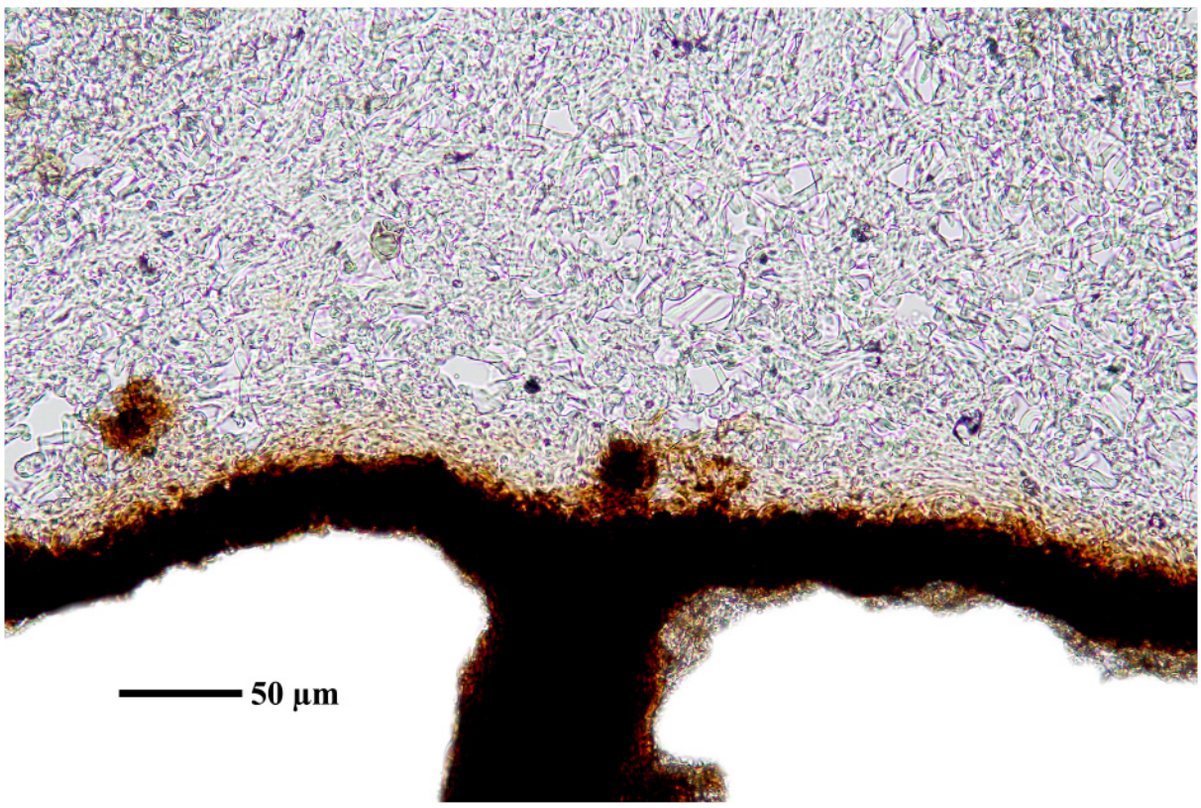


Physconia distorta



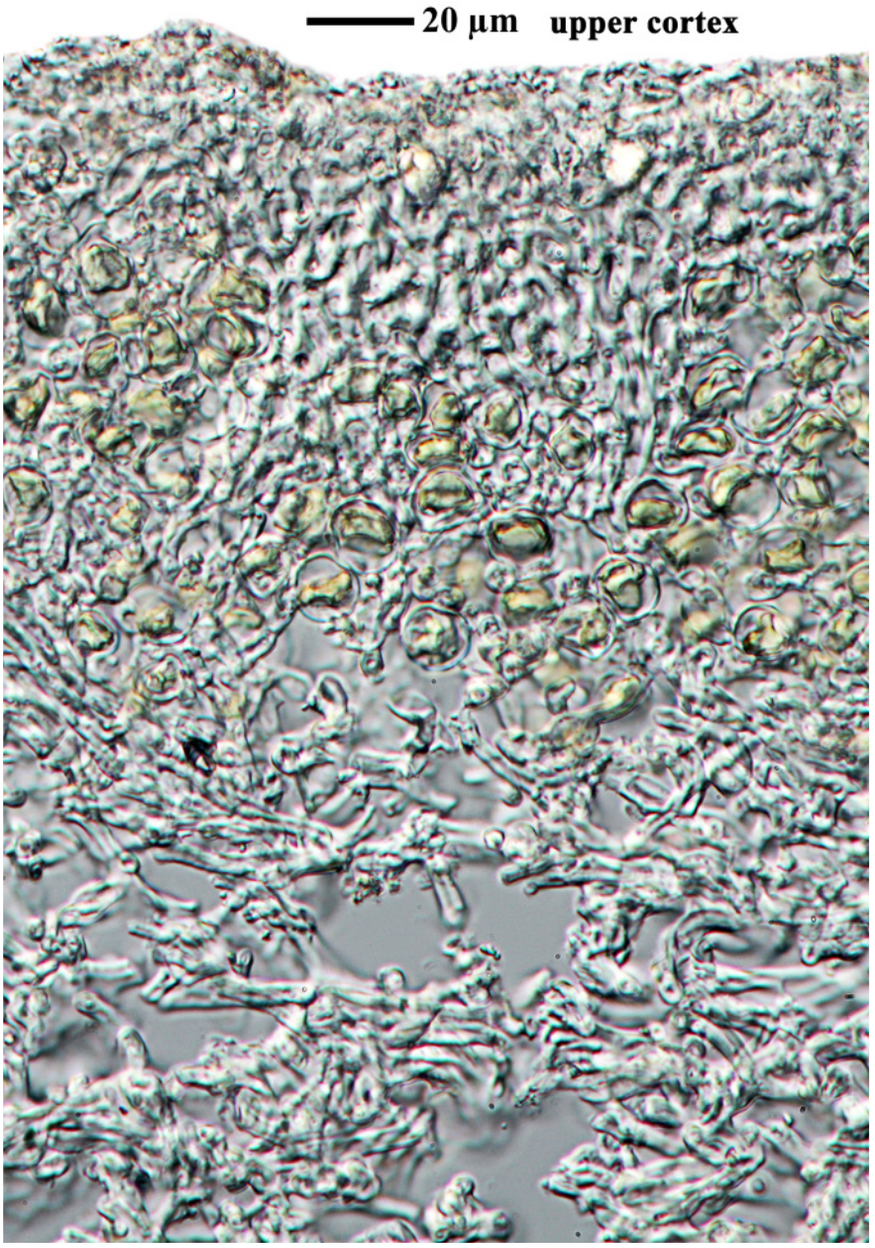


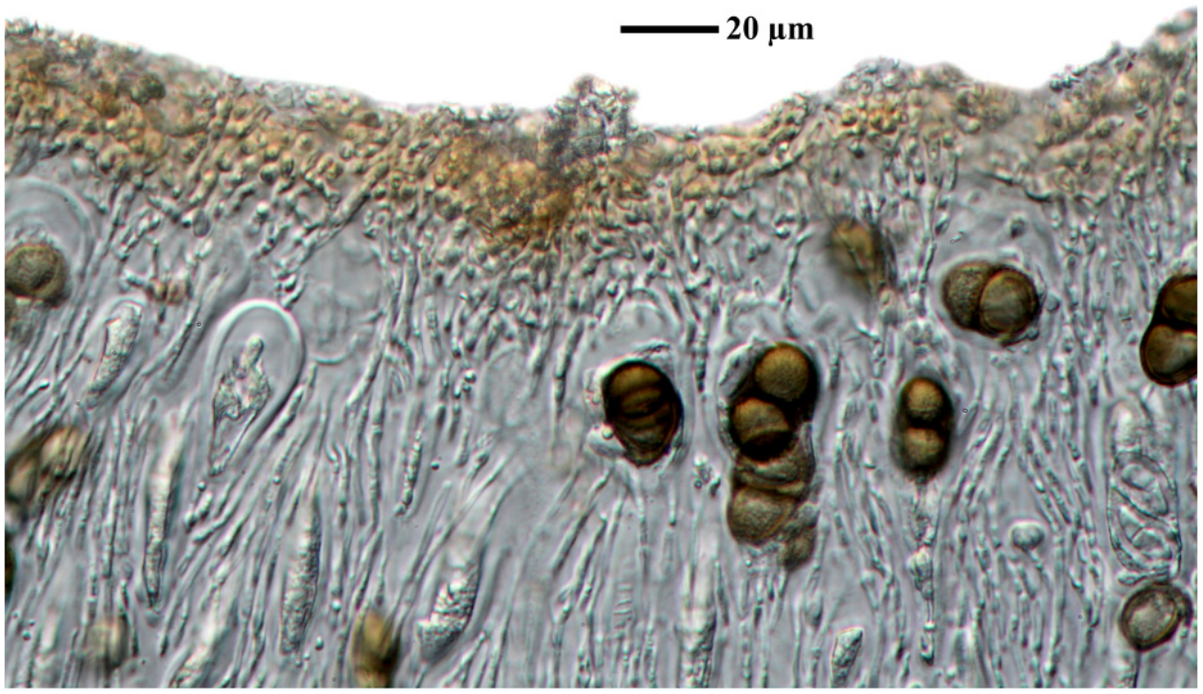
Physconia distorta



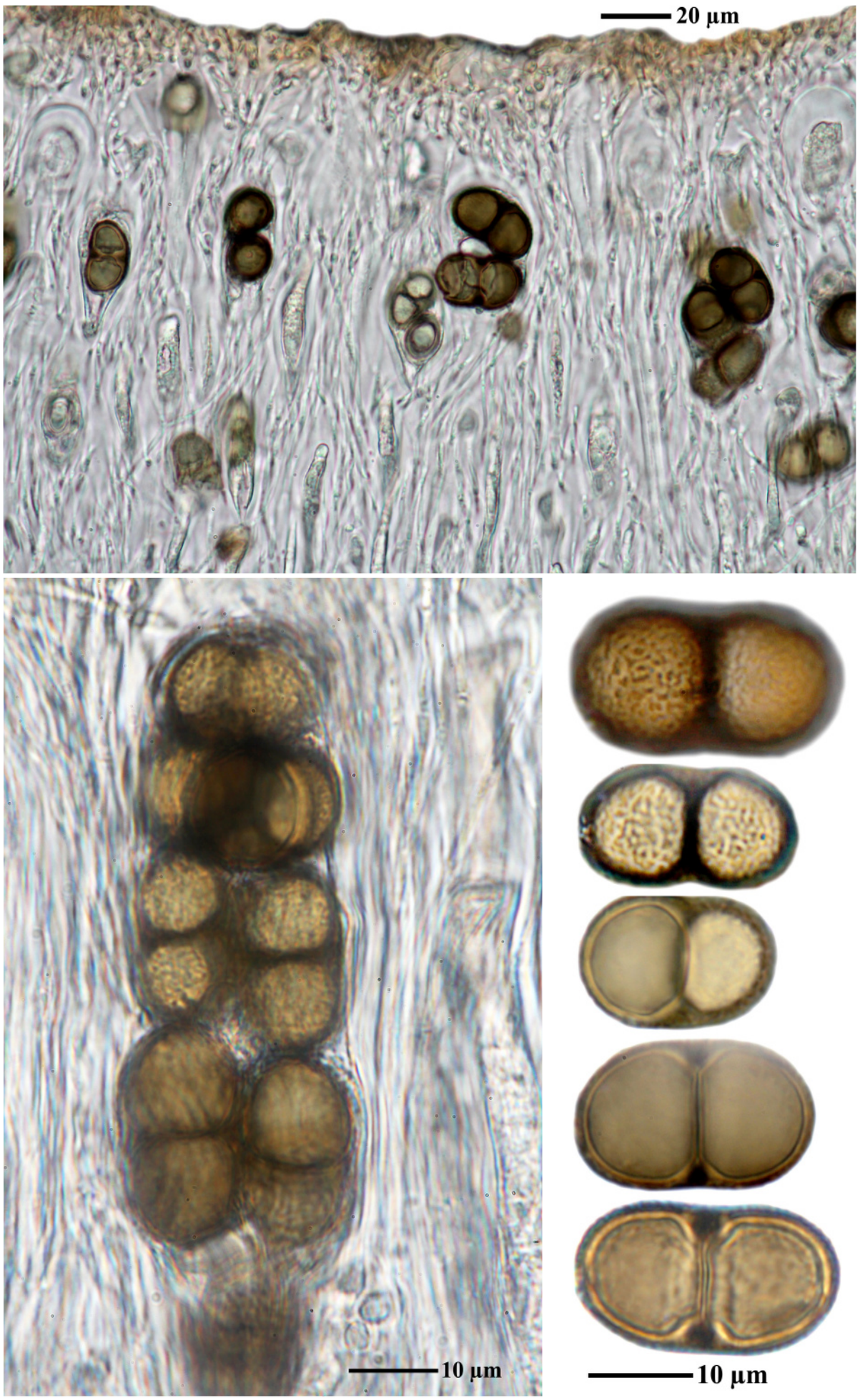


Physconia distorta



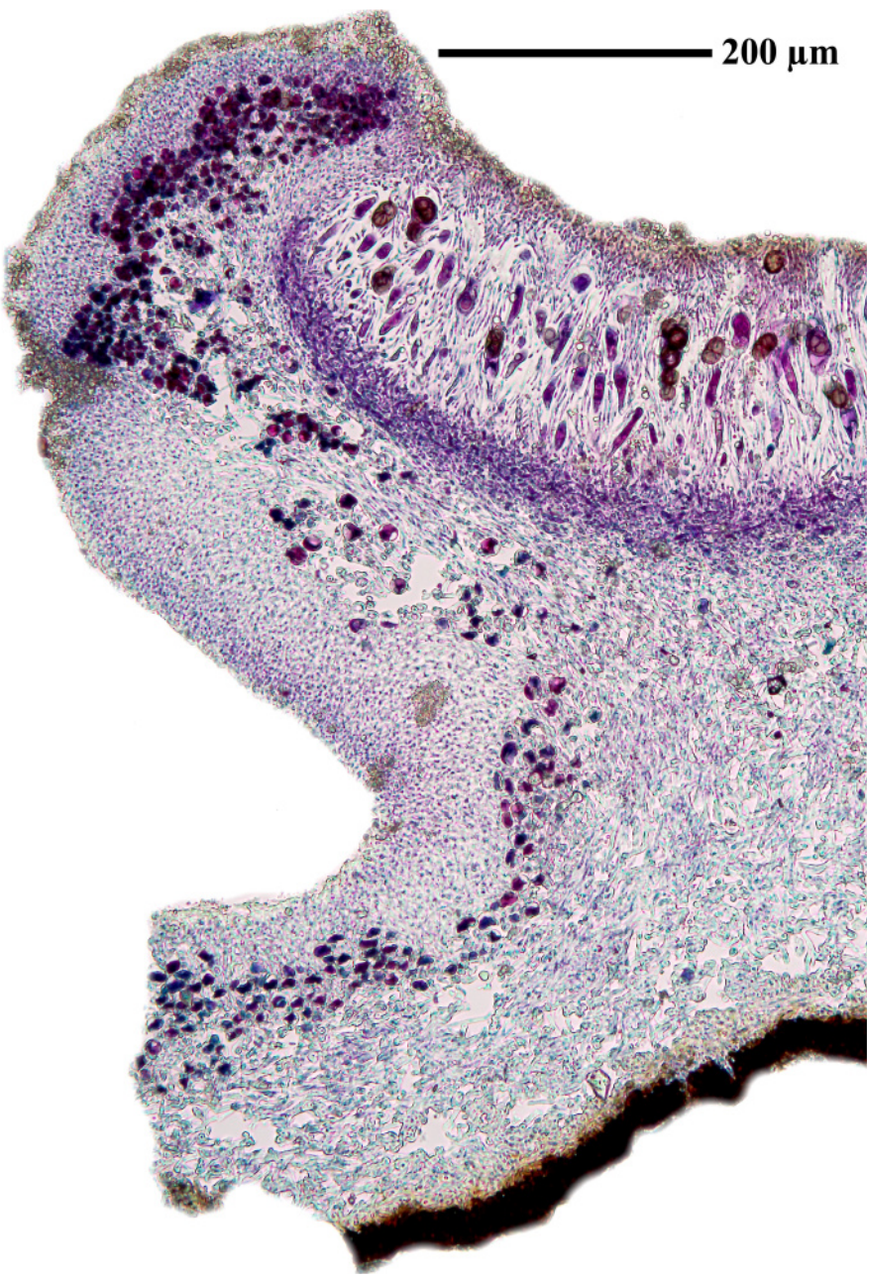


Physconia distorta

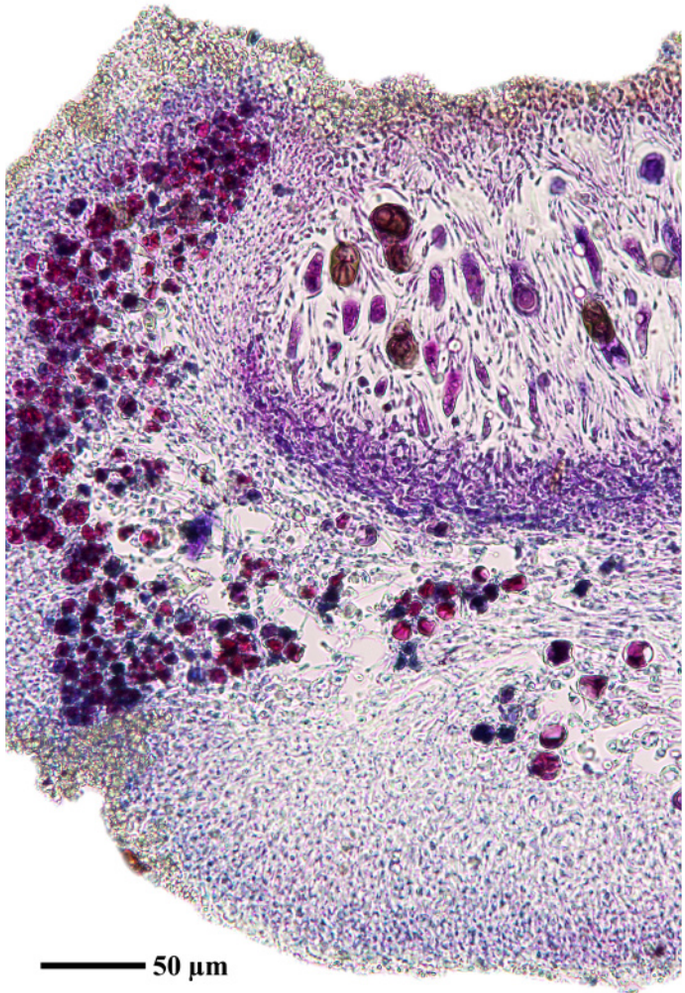


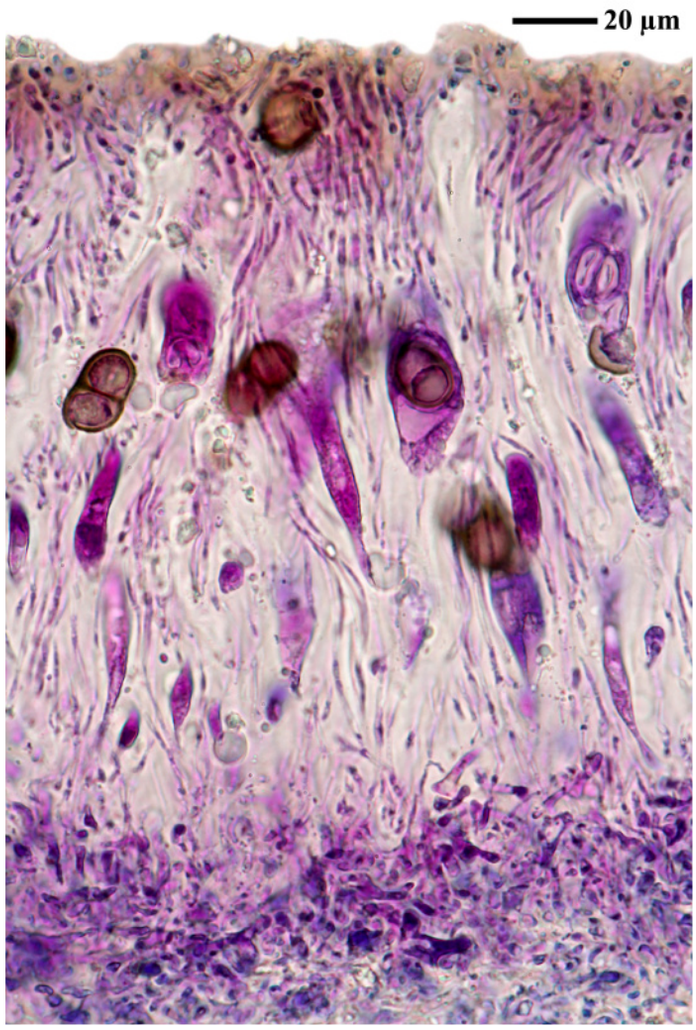
Physconia distorta





Physconia distorta





Physconia distorta

Psora rubiformis (Wahlenb. ex Ach.) Hook., in Smith, Engl. Fl. (London) 5: 197 (1844)
[= *Lecidea rubiformis* (Wahlenb. ex Ach.) Wahlenb., Fl. lapp.: 479 (1812)]

Sporen farblos, 1-zellig, 8/Ascus, 10 x 5.6 µm. Paraphysen unverzweigt, an den Enden mit orange-roten Pigmenten inkrustiert.

[LIAF_43], Afghanistan, Prov. Kabul, Paghman-Gebirge, oberhalb des Ortes Paghman, an der Talgabelung Chap-Darrah und Rast-Darrah, rechte Talseite, 68°56’ E, 34°37’N, 2550 m. In flachen Vertiefungen der N-exponierten Steilwände von Silikatfelsen. Leg. M. Steiner (59/2), 21.06.1970. LICHENOTHECA AFGHANICA NR. 43.



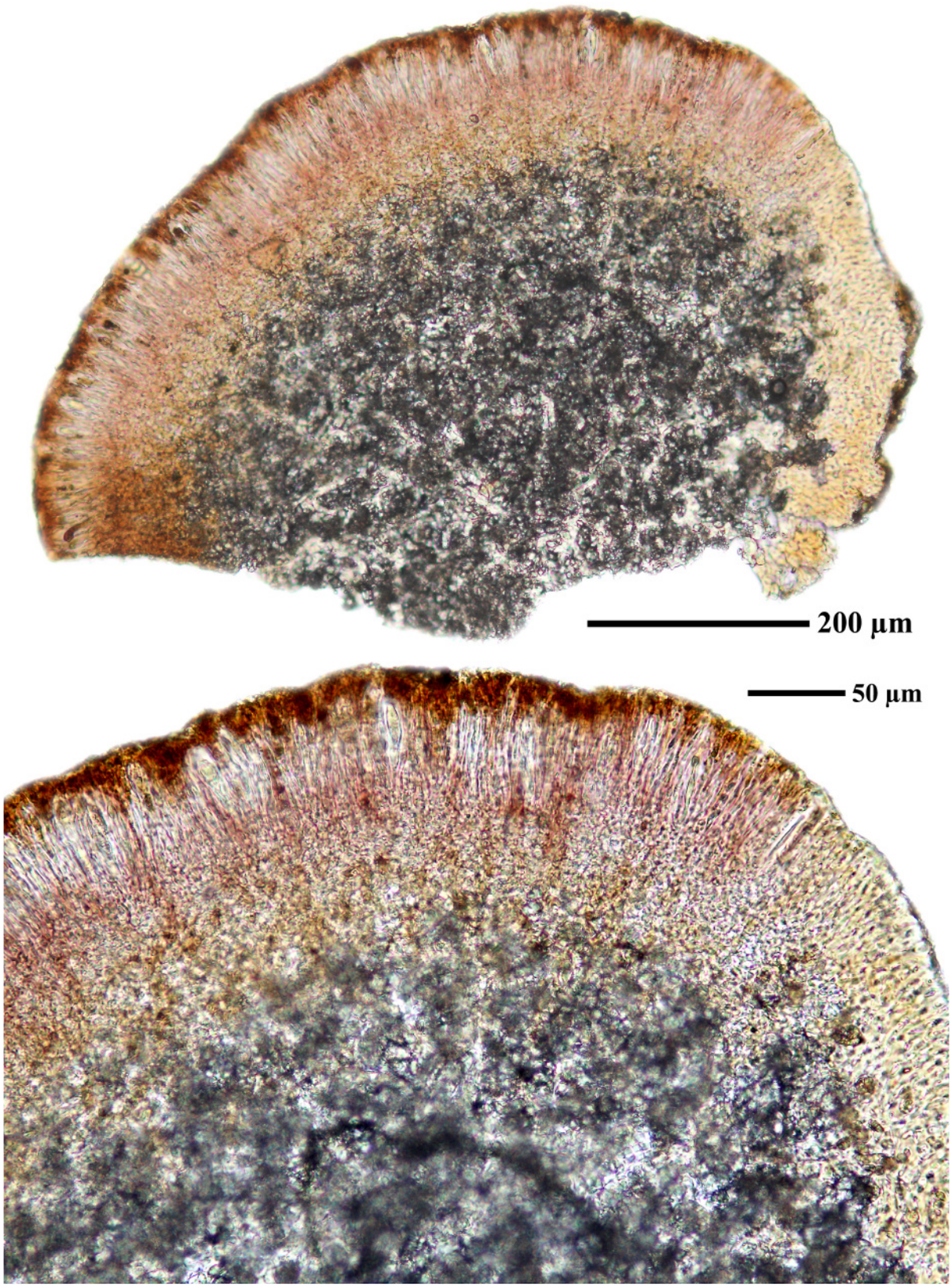




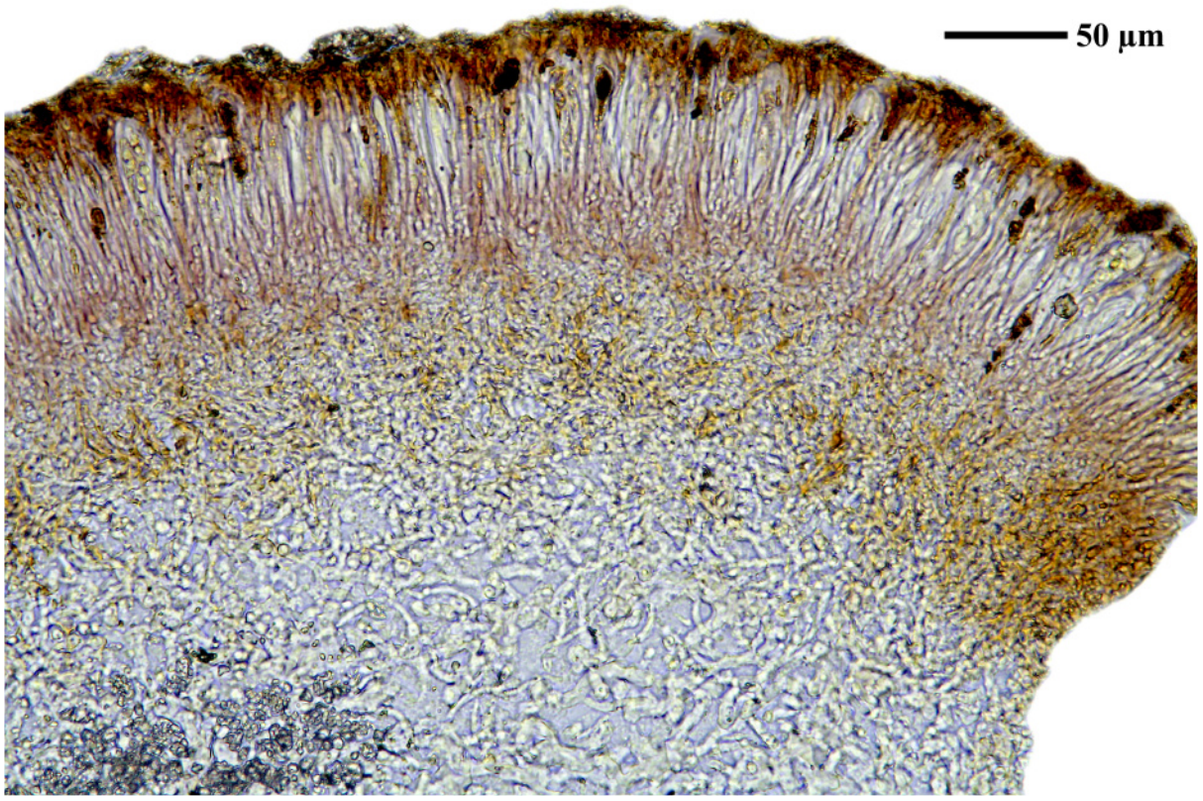
Psora rubiformis

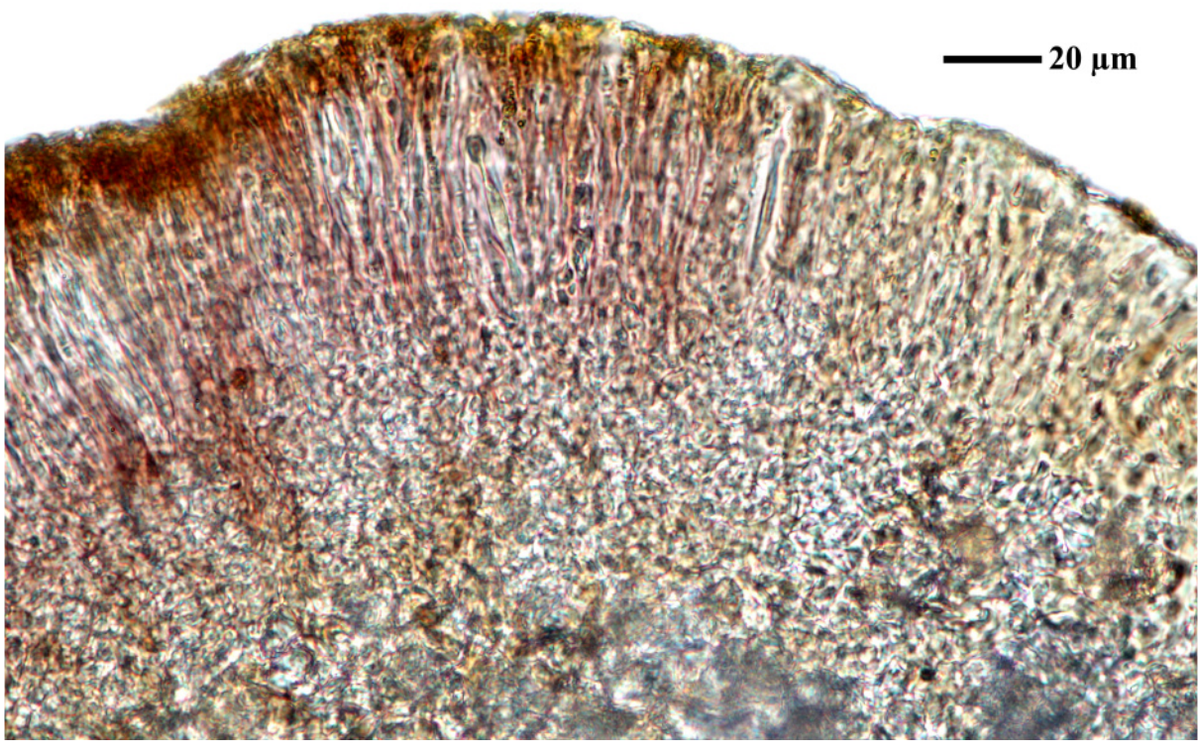


Psora rubiformis

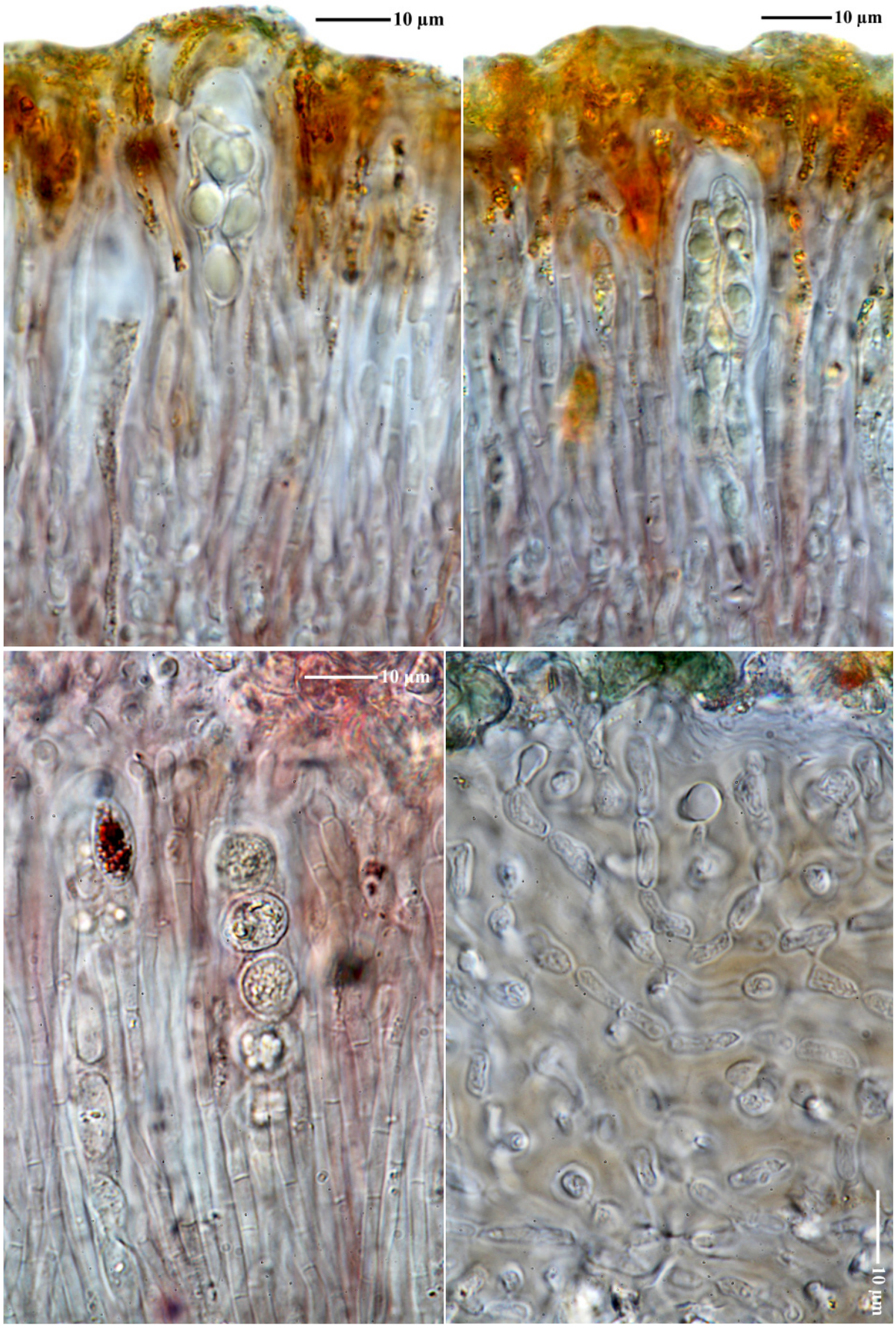


Psora rubiformis

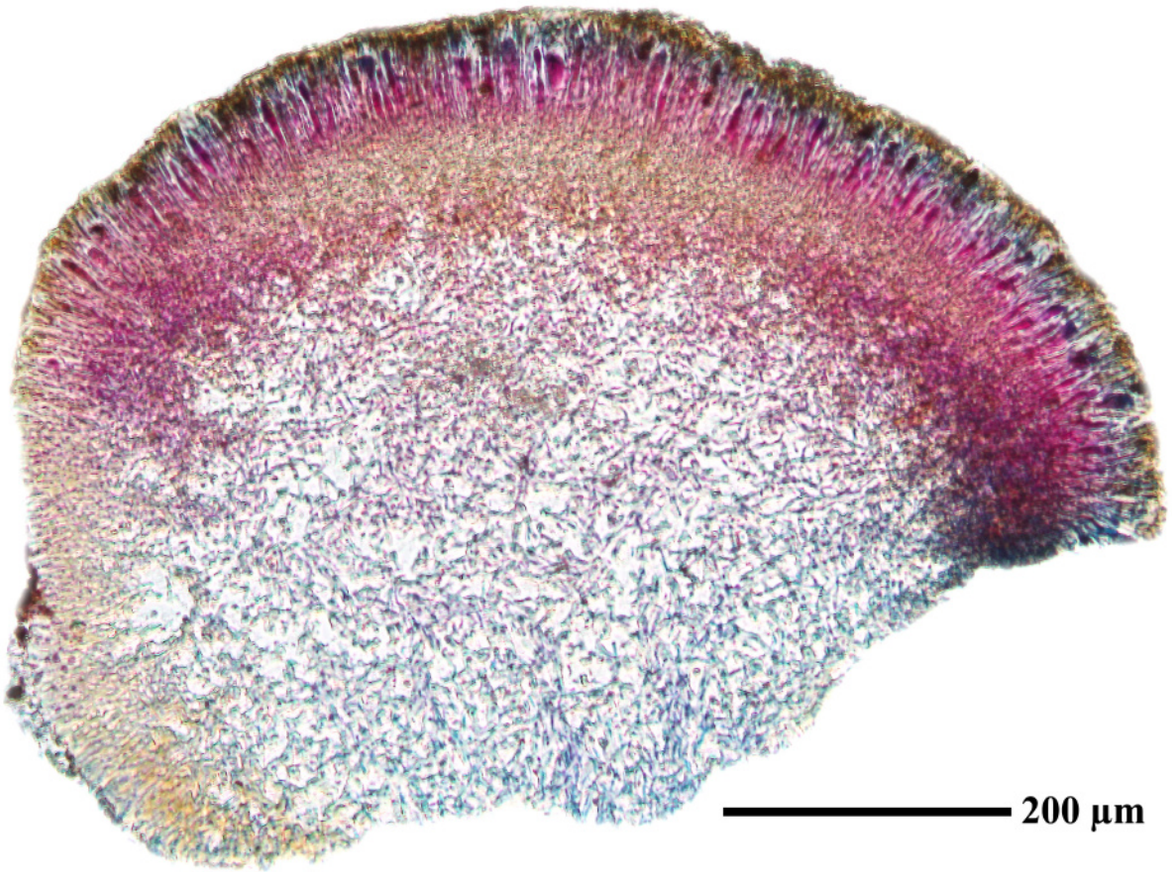




Psora rubiformis

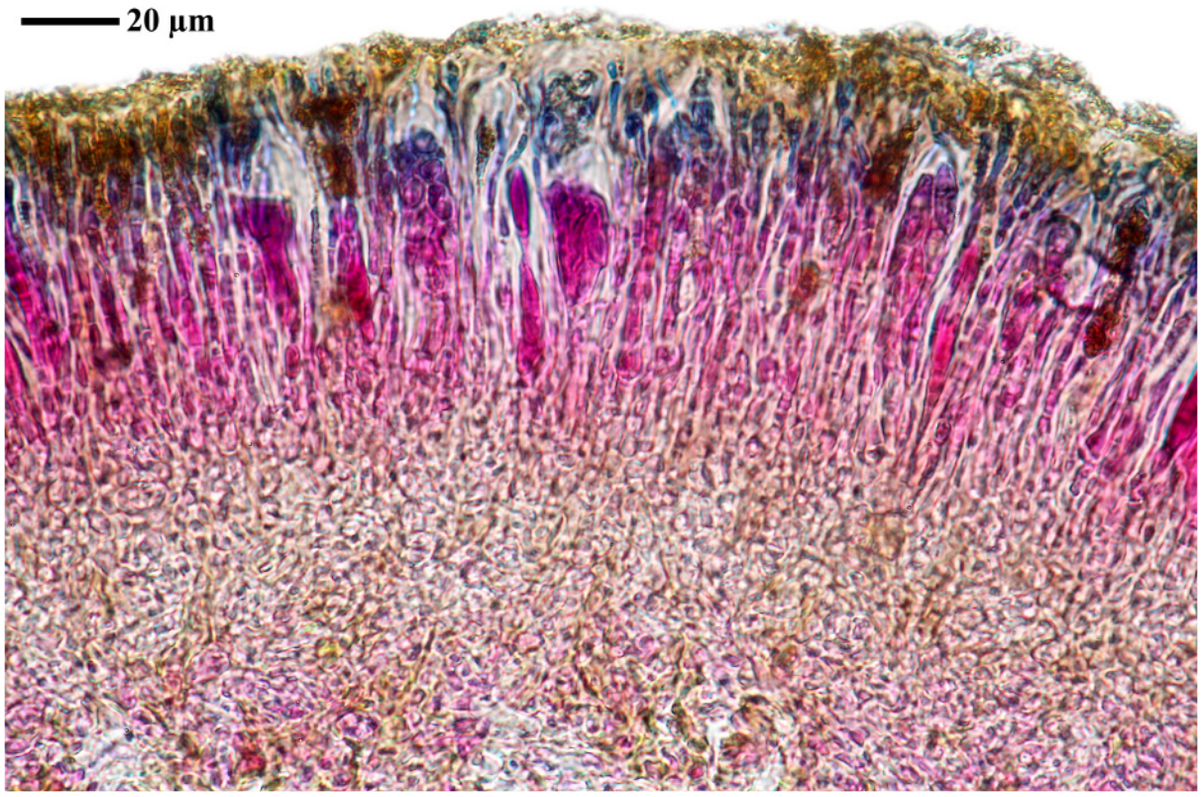


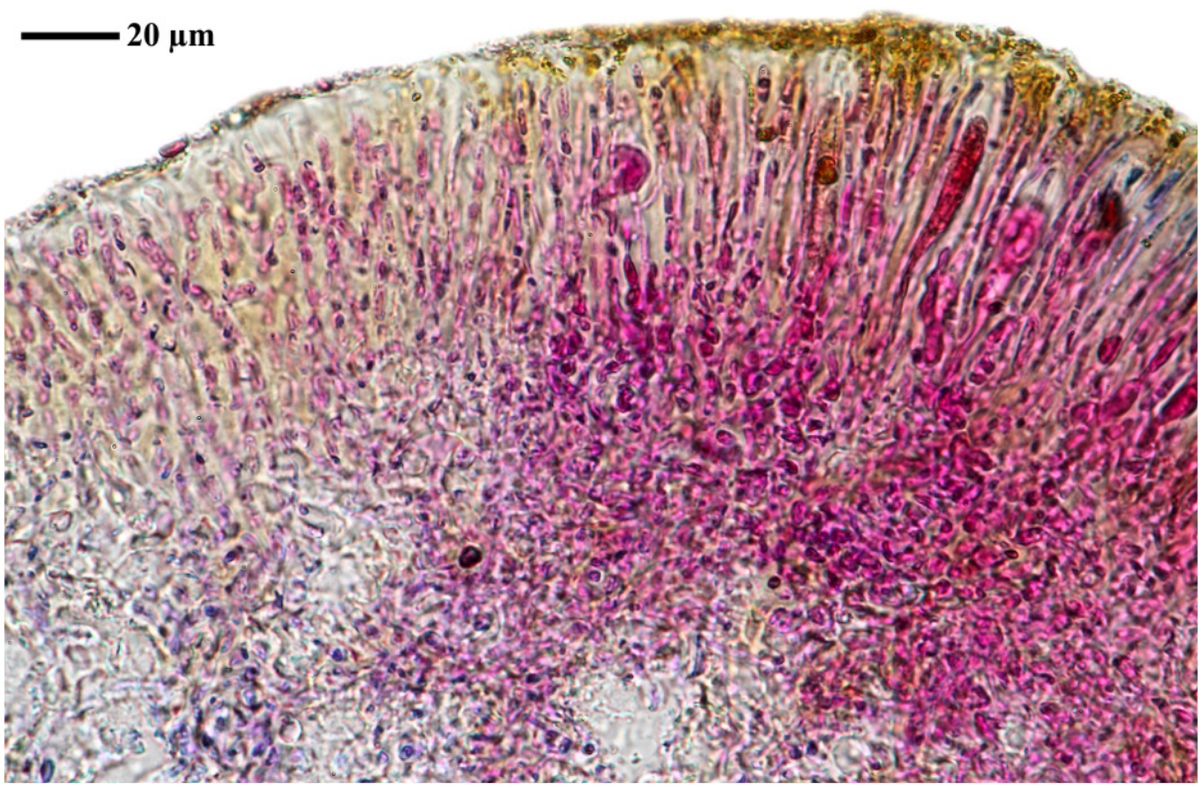
Psora rubiformis



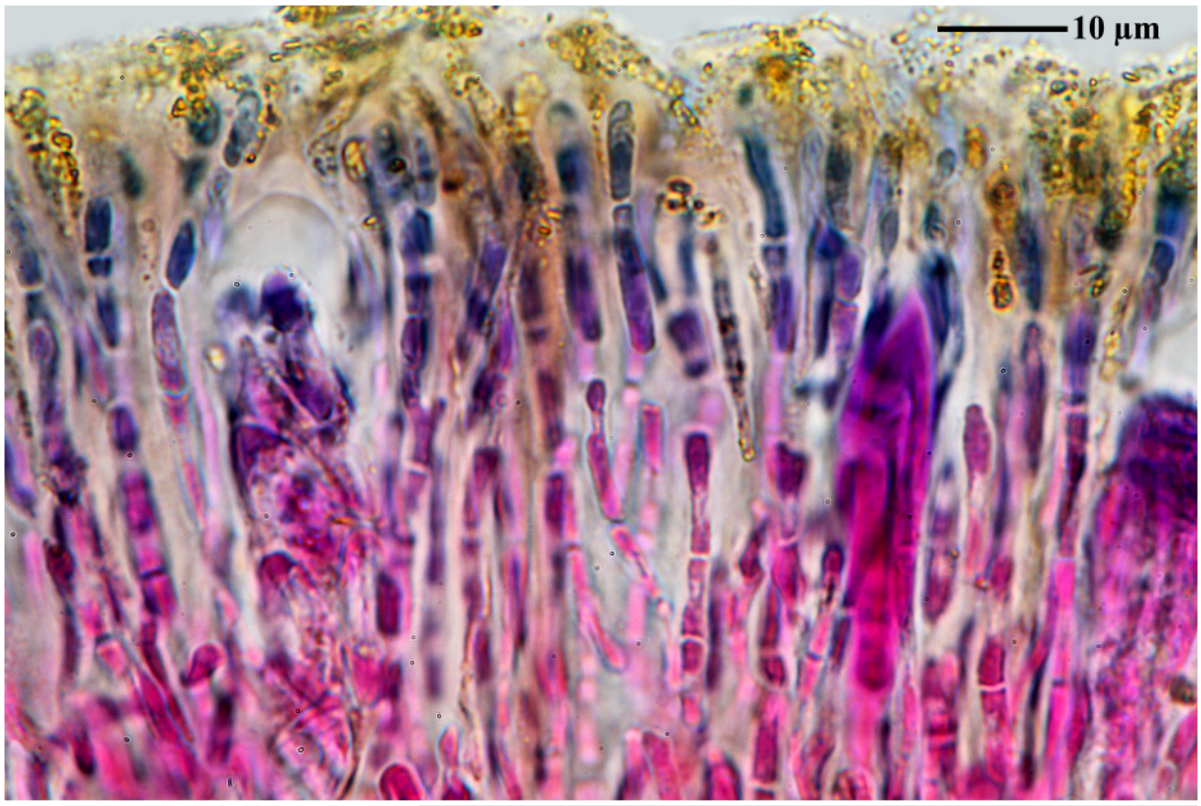


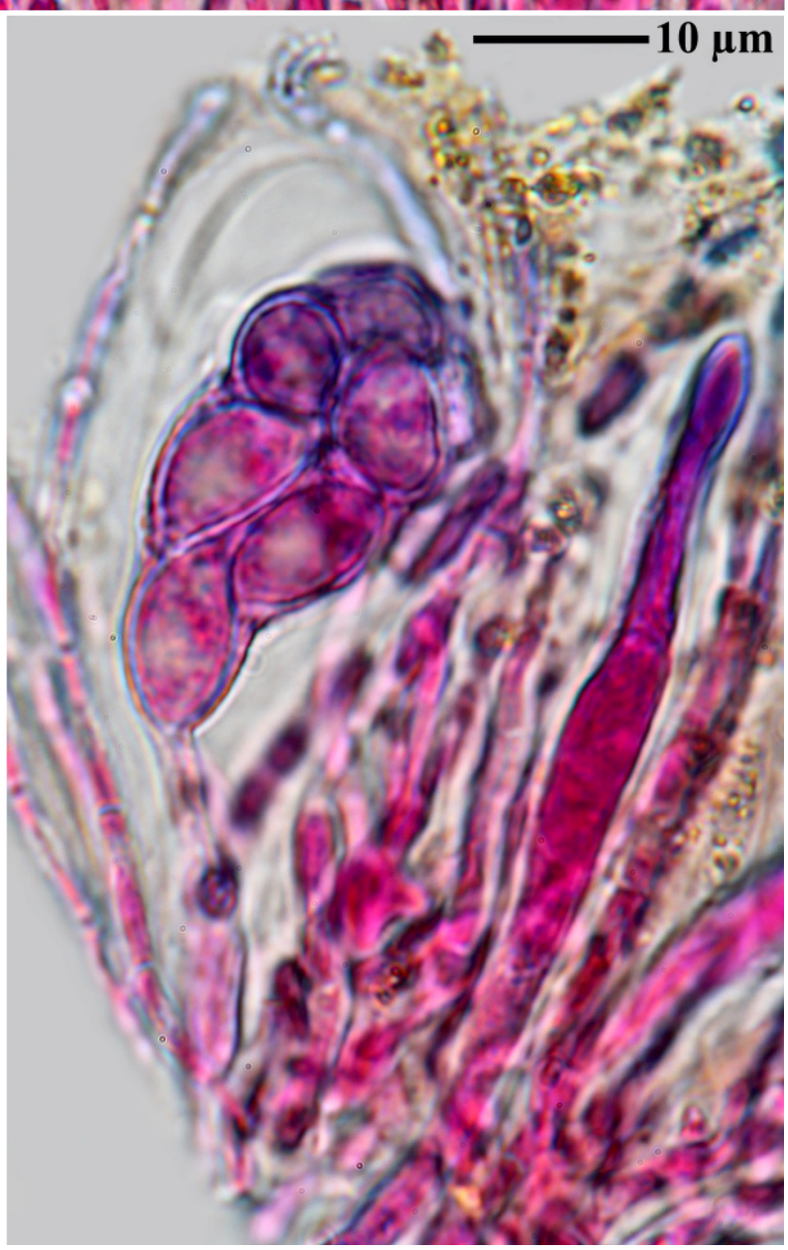
Psora rubiformis





Psora rubiformis





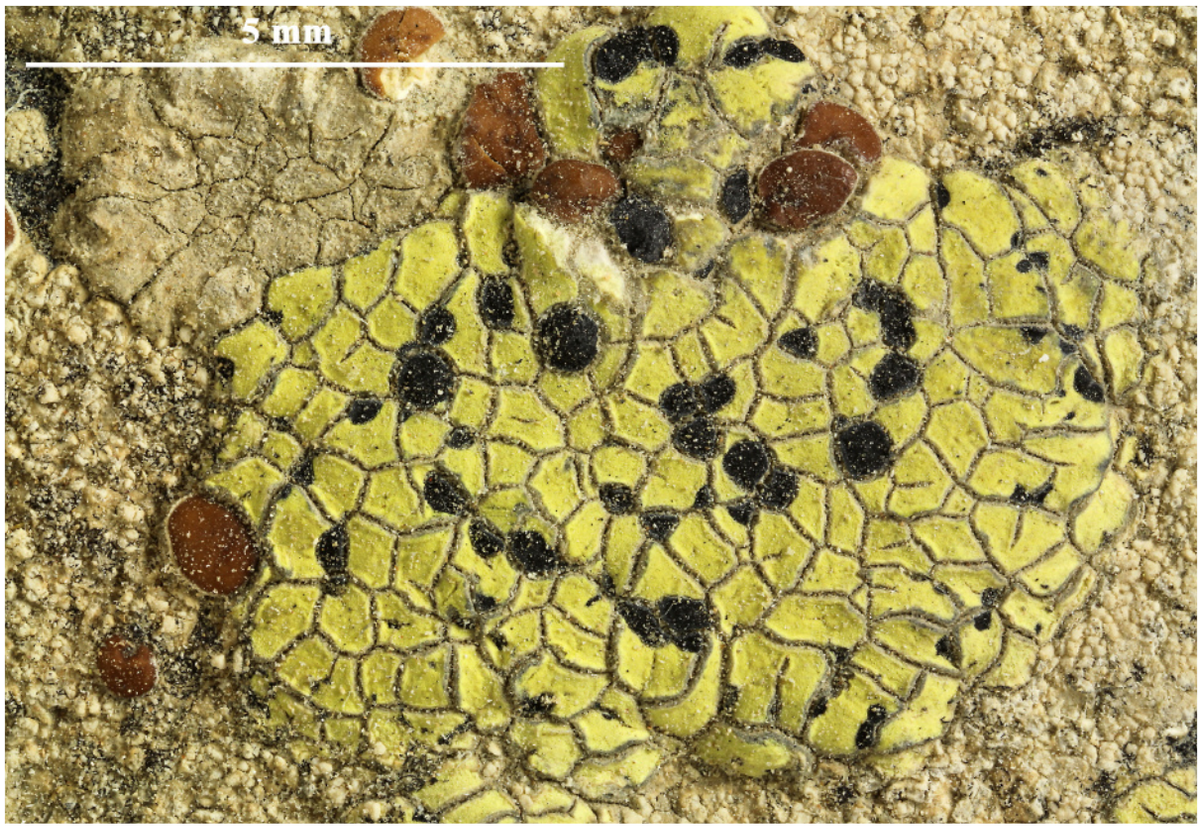
Psora rubiformis

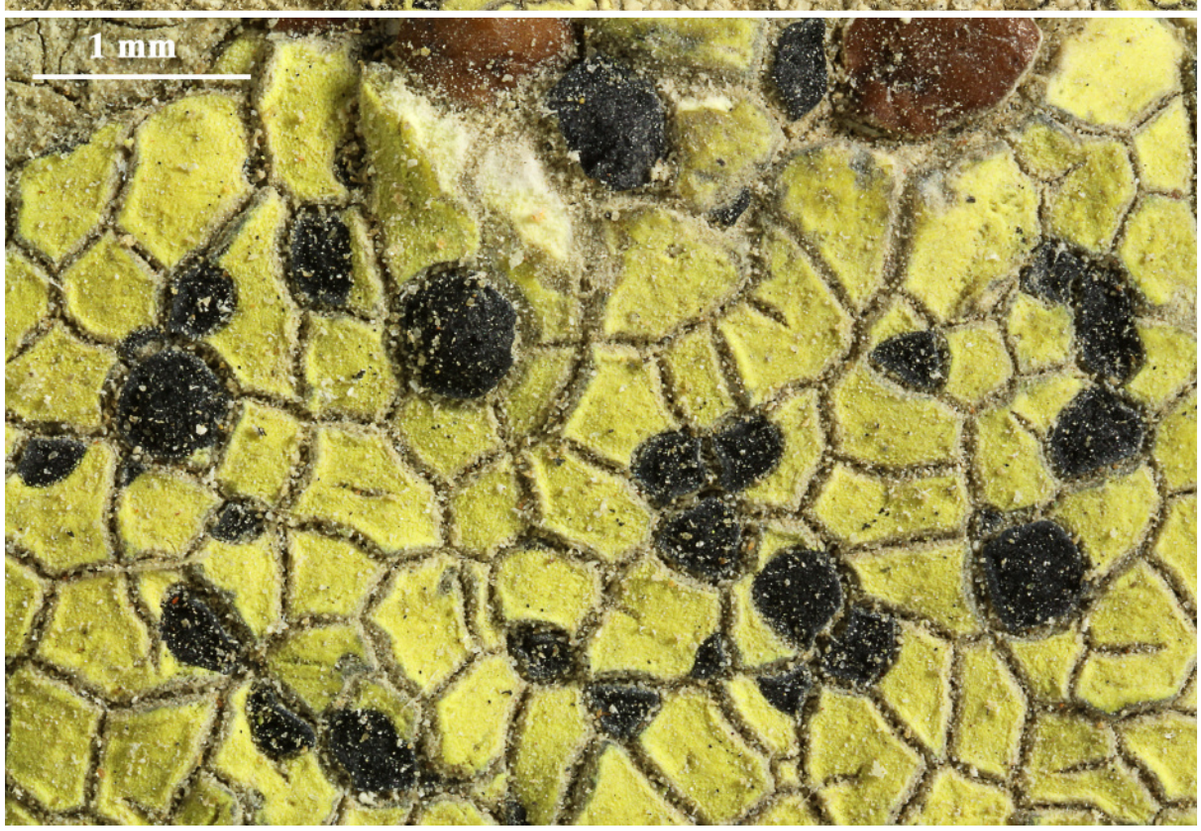
Rhizocarpon kansuense H.Magn., (1940)

Sporen schwarzbraun, submuriform, 8/Ascus, 9-17 x 9-11 µm.

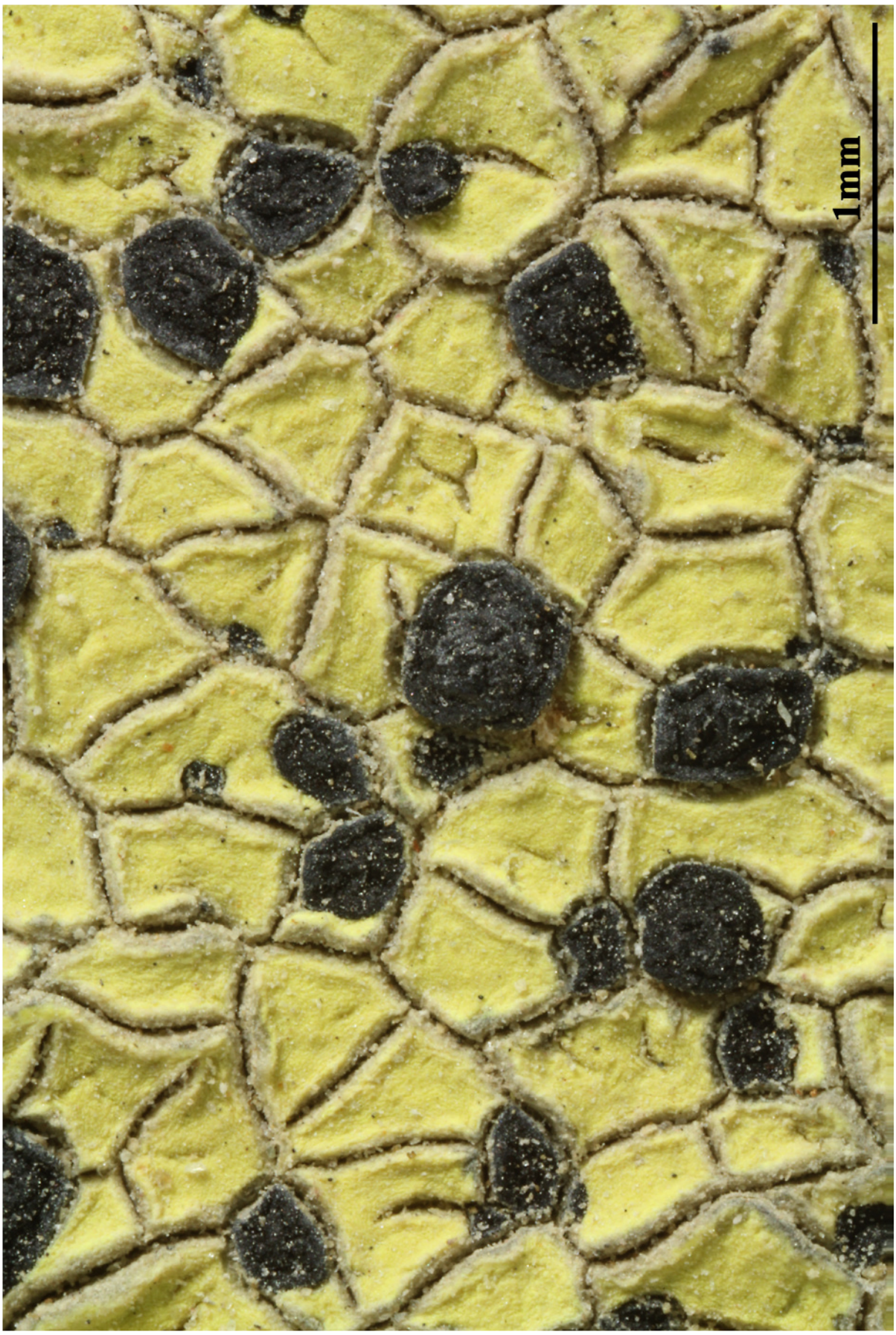
[LIAF_49], Afghanistan, Prov. Paktia, Sadrane Ebrahim Khel, an der Straße von Gardez nach Khost, 60°22.5’ E, 33°24’ N, 2200 m. Fast senkrechte Felswände wenig oberhalb der Straße, schieferiges Gestein, Sandstein mit karbonatischem Bindemittel (teste H. Kulke). Leg. M. Steiner (Ste 69/1), 06.07.1970. LICHENOTHECA AFGHANICA NR. 49.



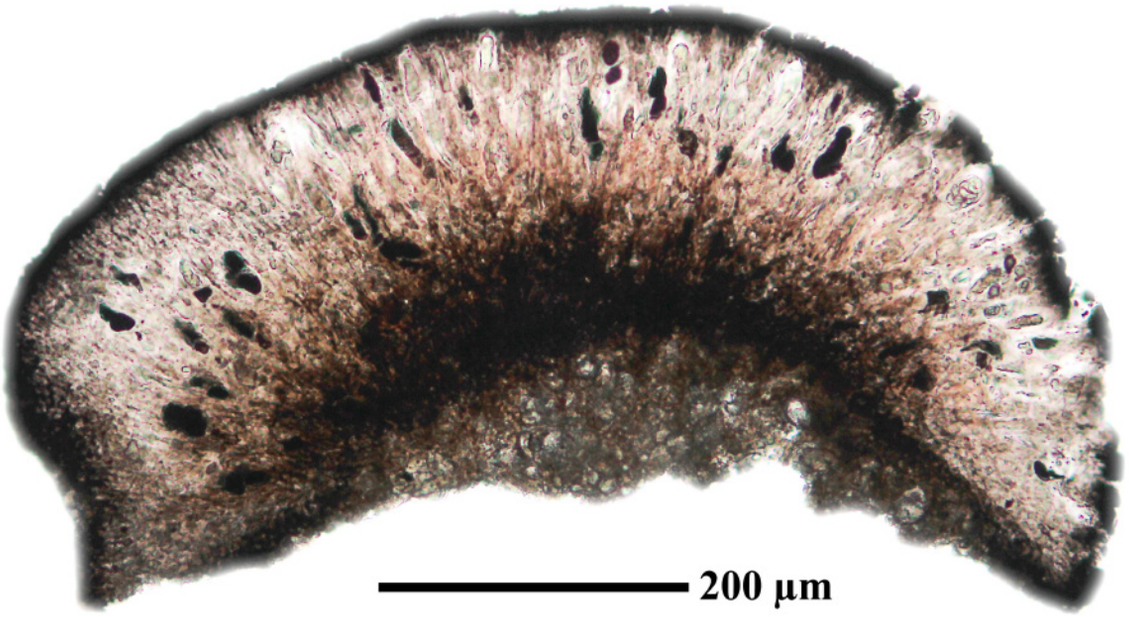




Rhizocarpon kansuense

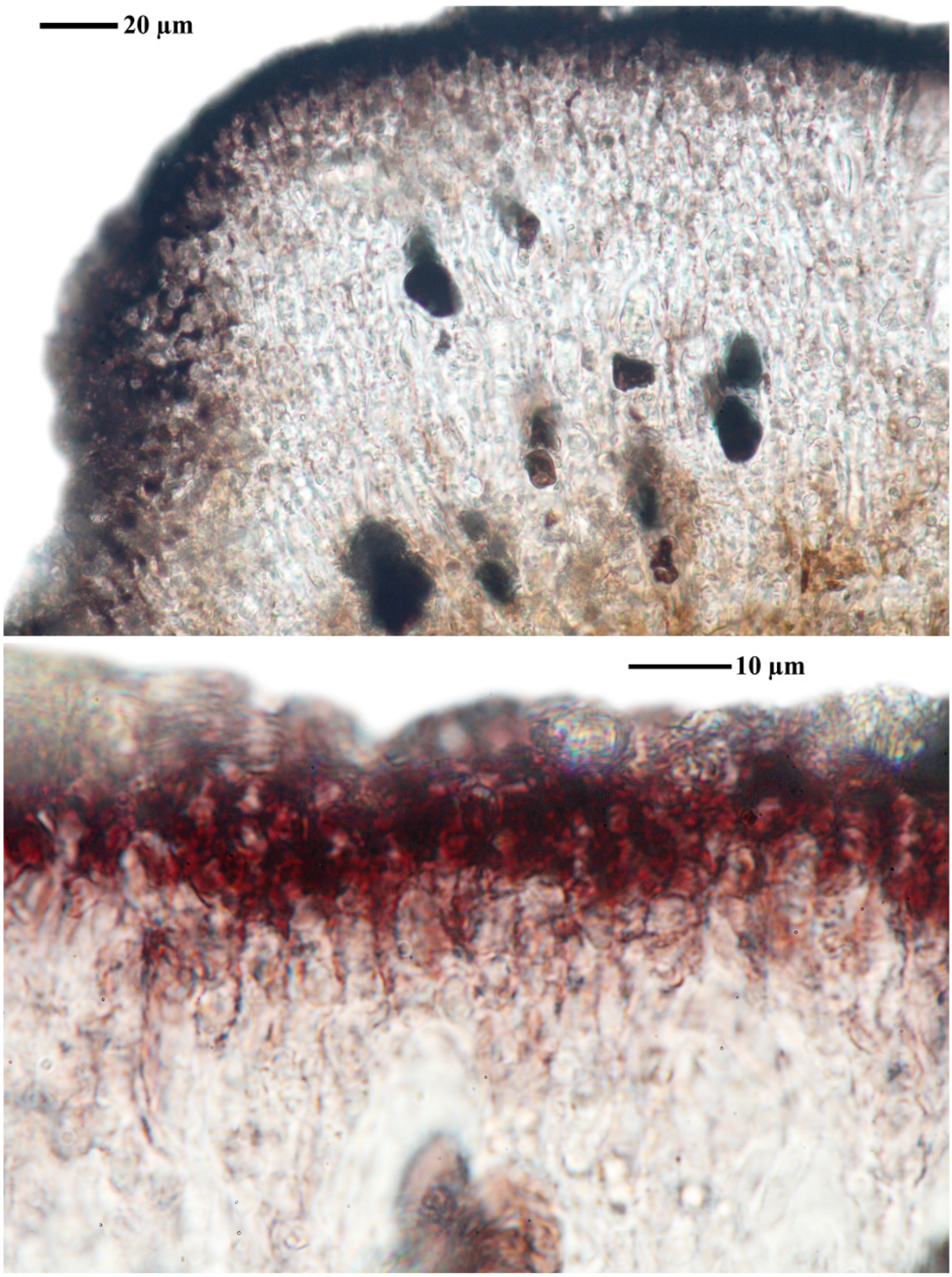


Rhizocarpon kansuense

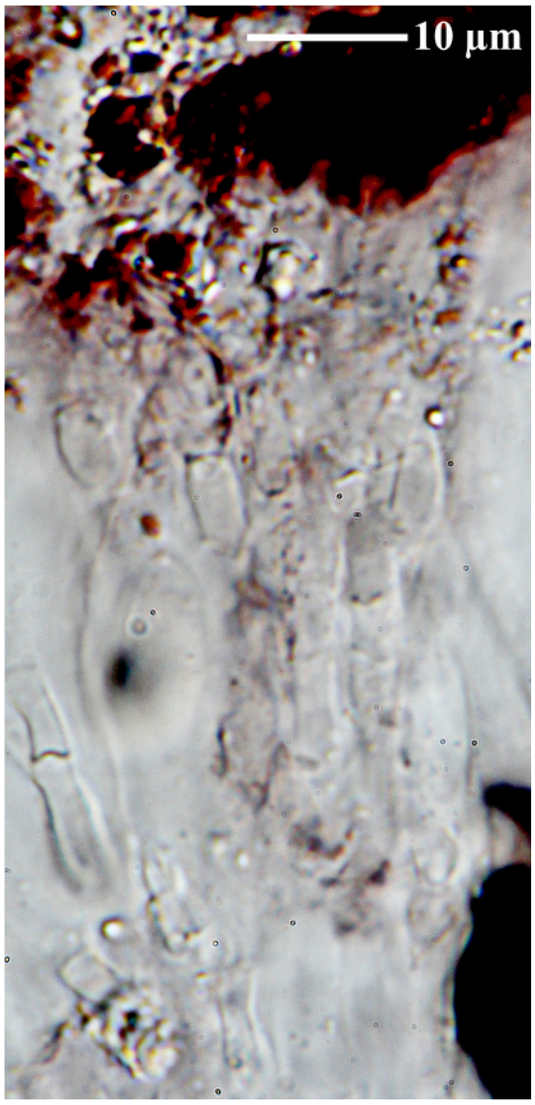




Rhizocarpon kansuense



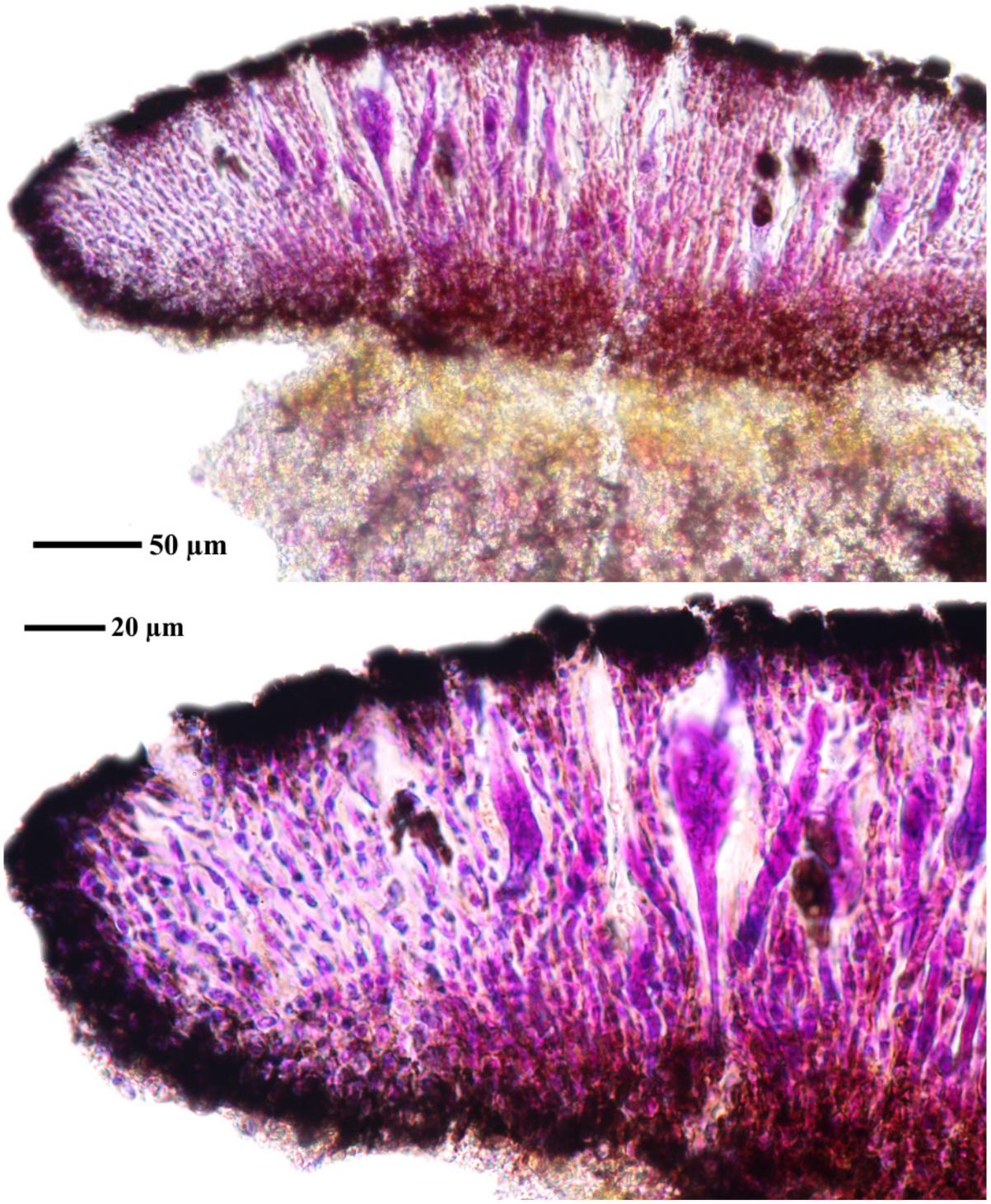
Rhizocarpon kansuense



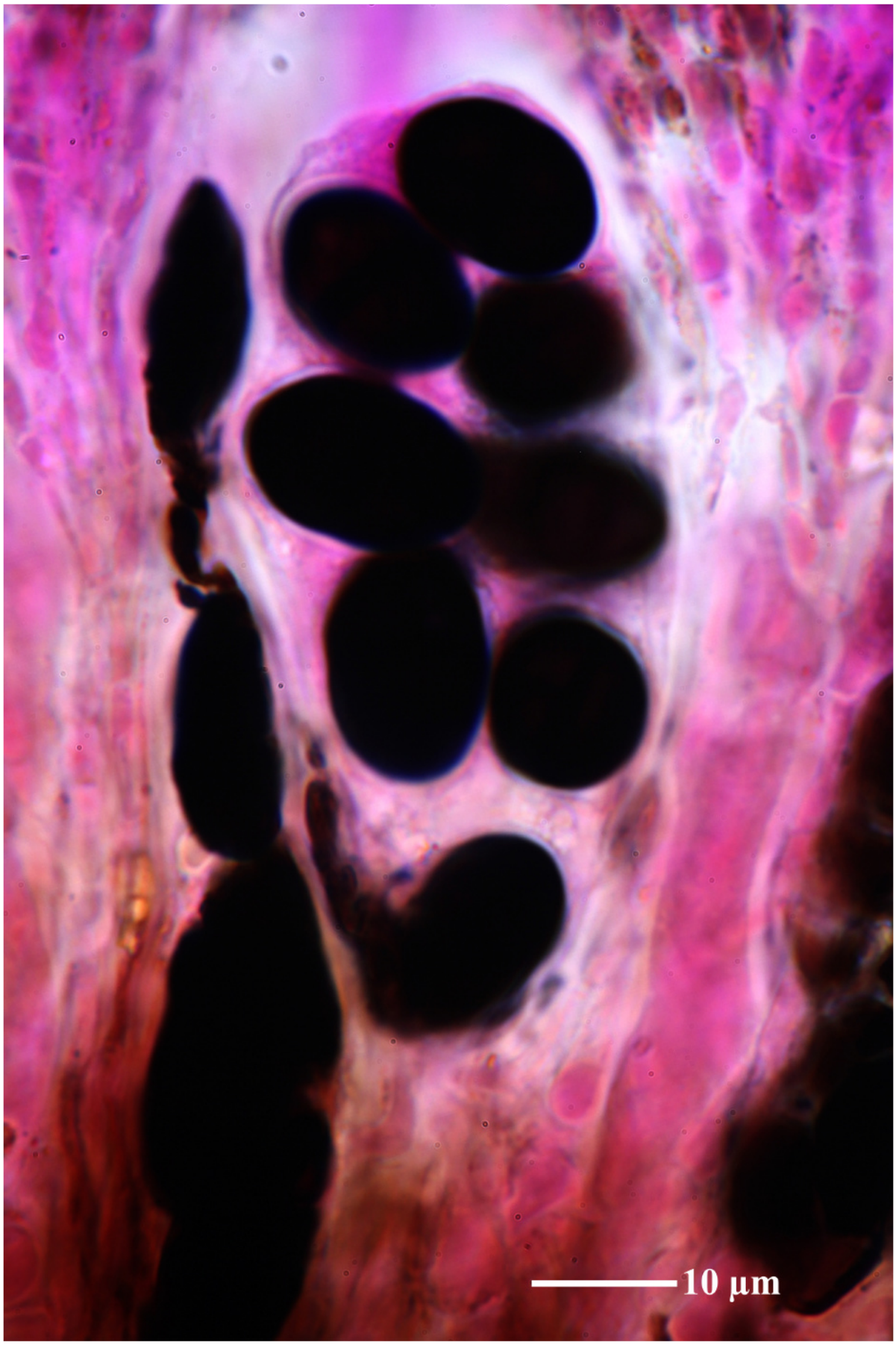




Rhizocarpon kansuense



Rhizocarpon kansuense



Rhizocarpon kansuense

Rhizoplaca melanophthalma (DC.) Leuckert, Nova Hedwigia 28: 72 (1977)

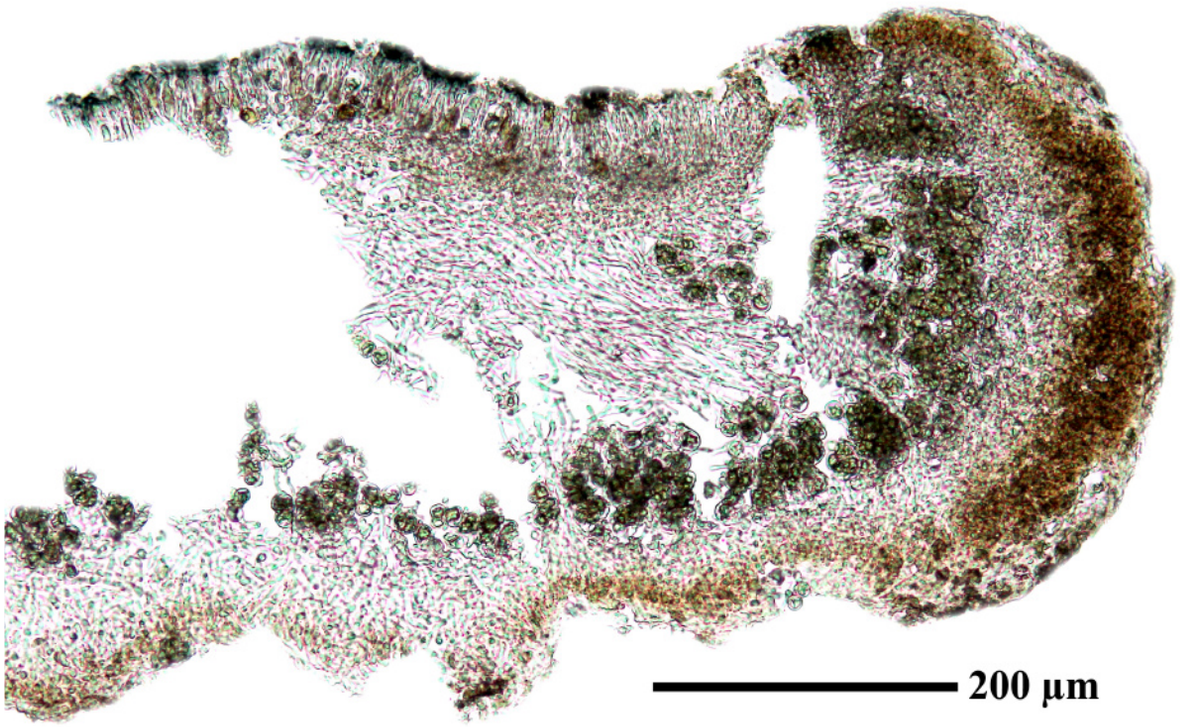
Epihymenium grün, N+ violett. Sporen farblos, einzellig, 8/Ascus, 11-12.6 x 5.5-6.7 µm.

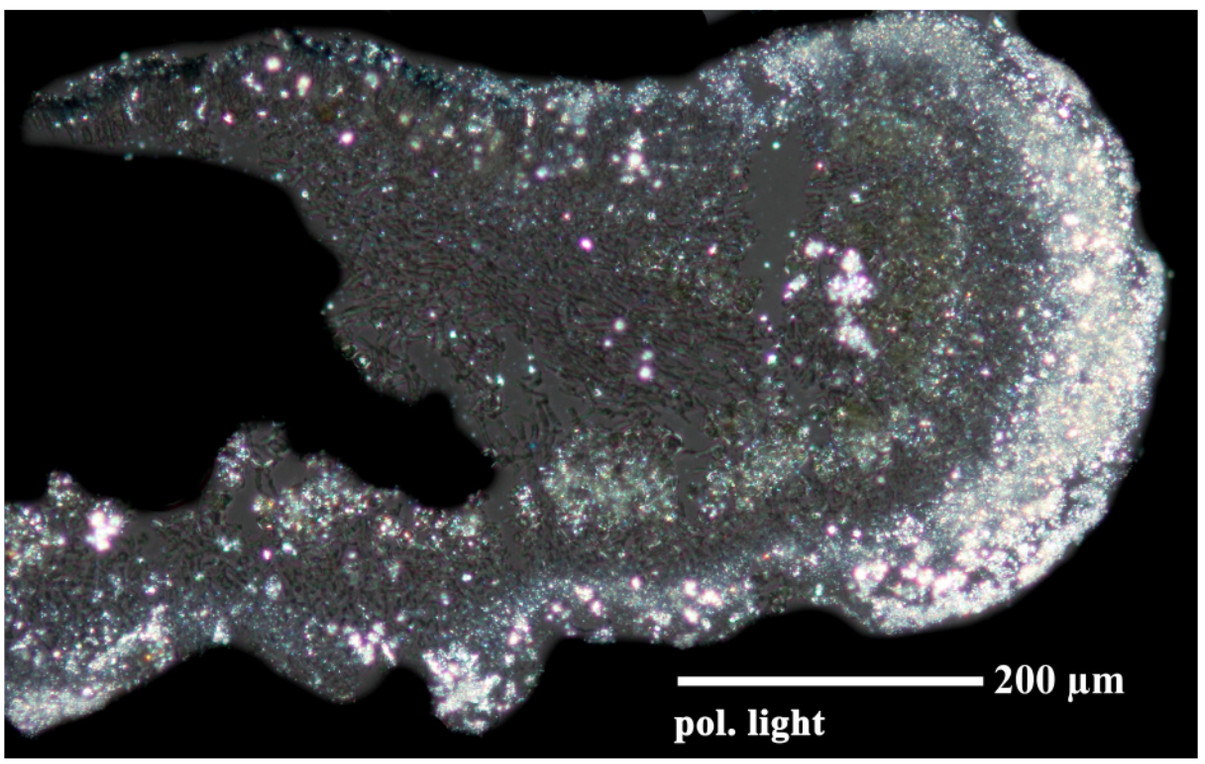
[LIAF_20], Afghanistan, Prov. Ghazni, Dascht-i-Navar. 67°42’ E, 33°31’ N, ca. 3120-3200 m. W-seitiger Hang, auf kalkhaltigem Vulkanit. Leg. S. W. Breckle (Bre 1976/3/1), 16.-17.08.1976. LICHENOTHECA AFGHANICA NR. 20.



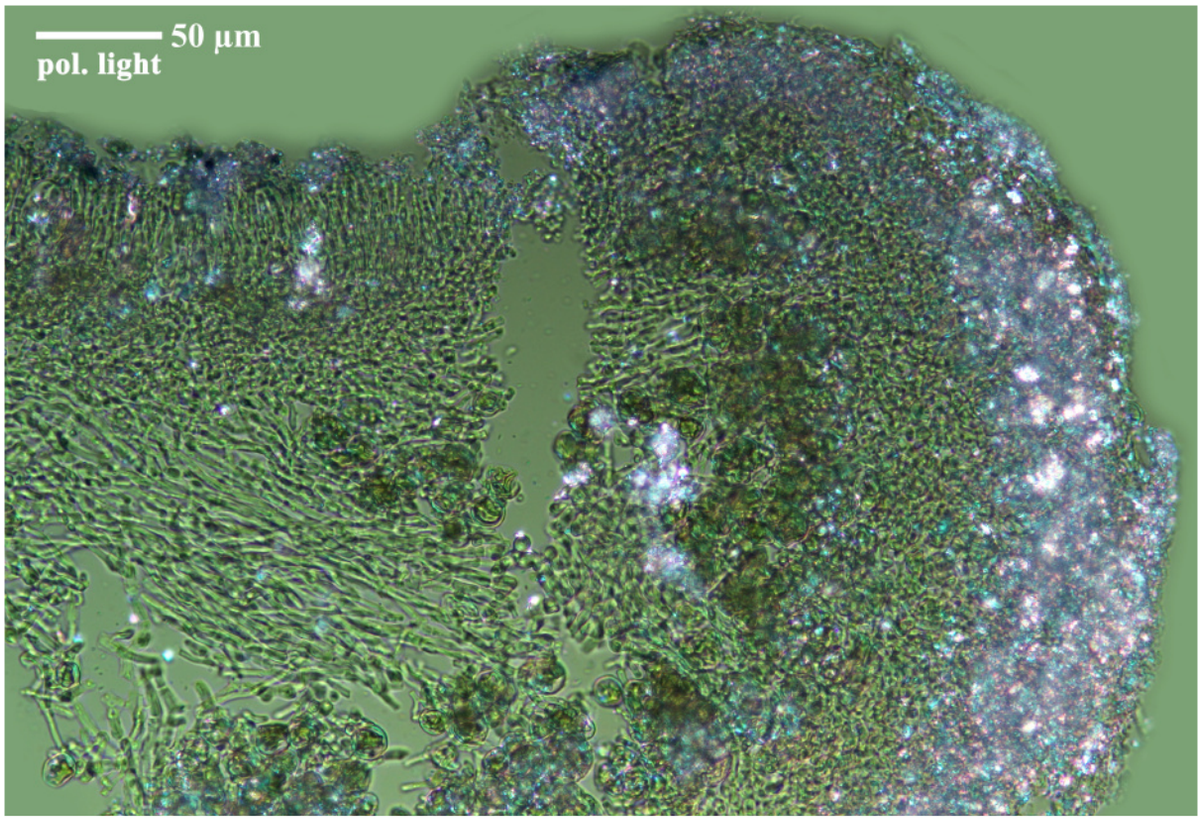


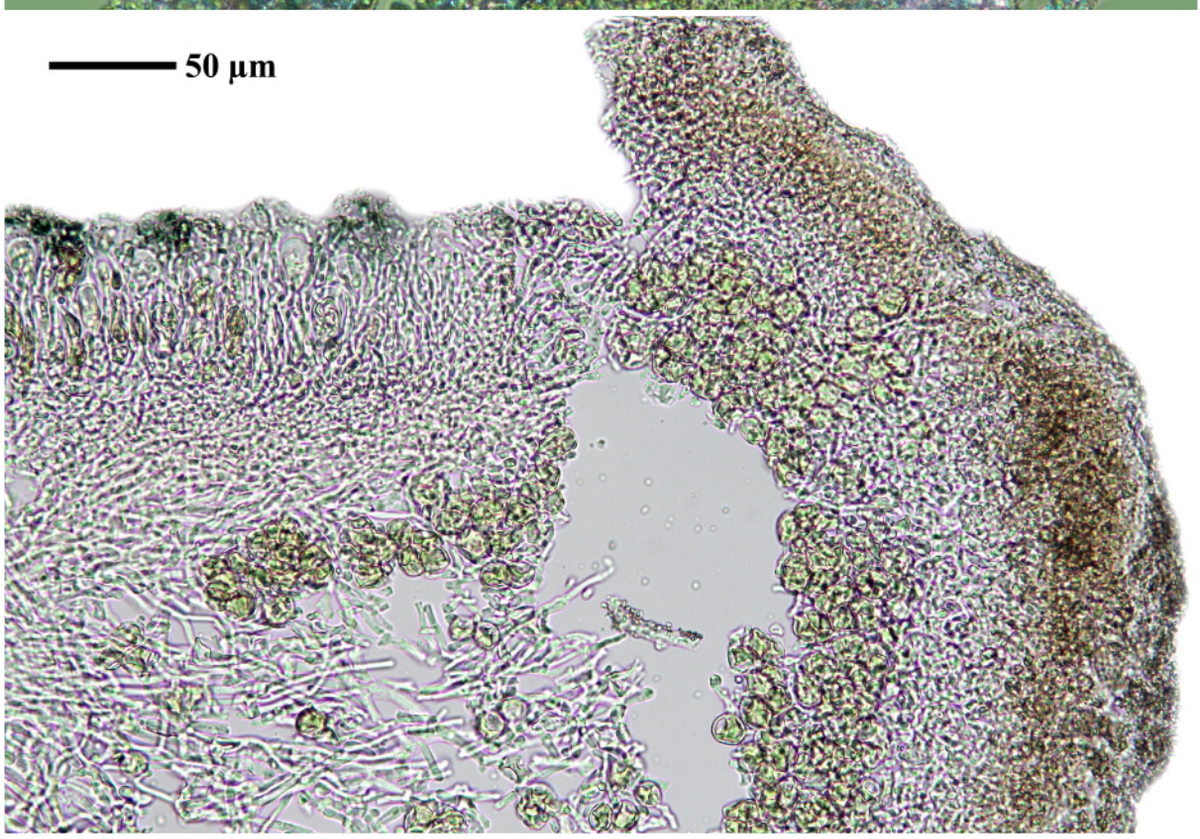
Rhizoplaca melanophthalma



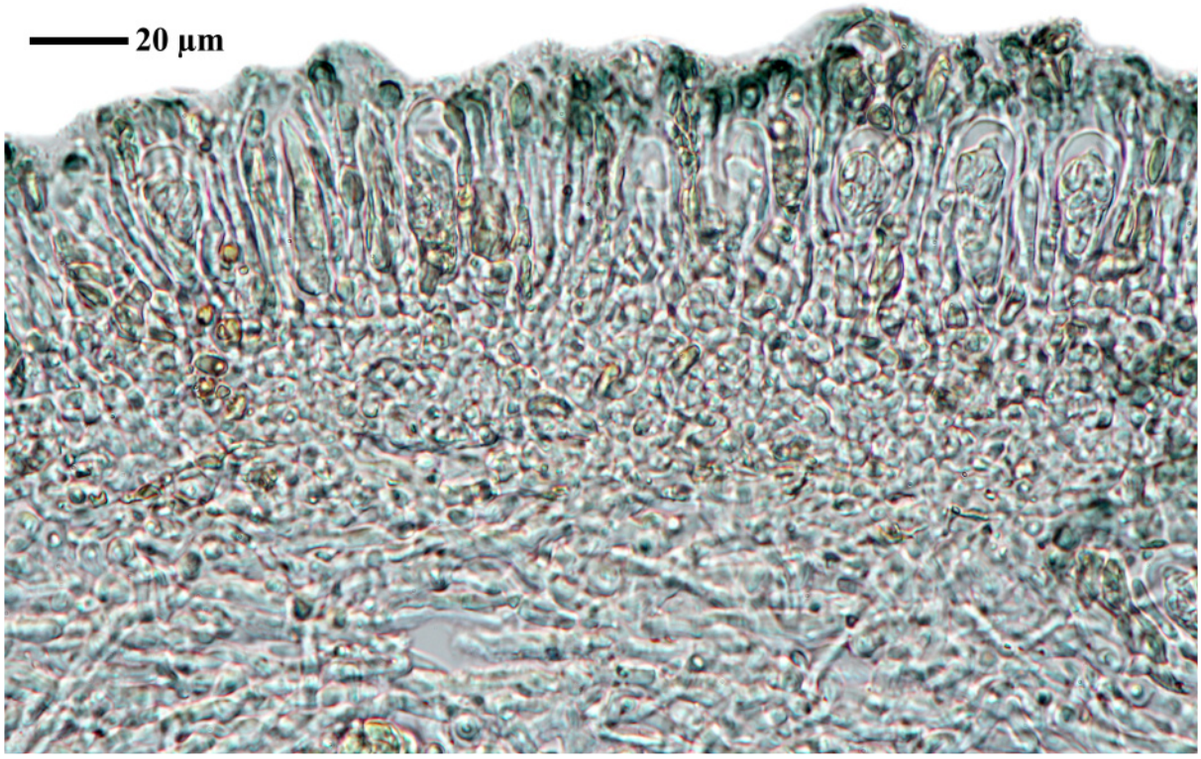


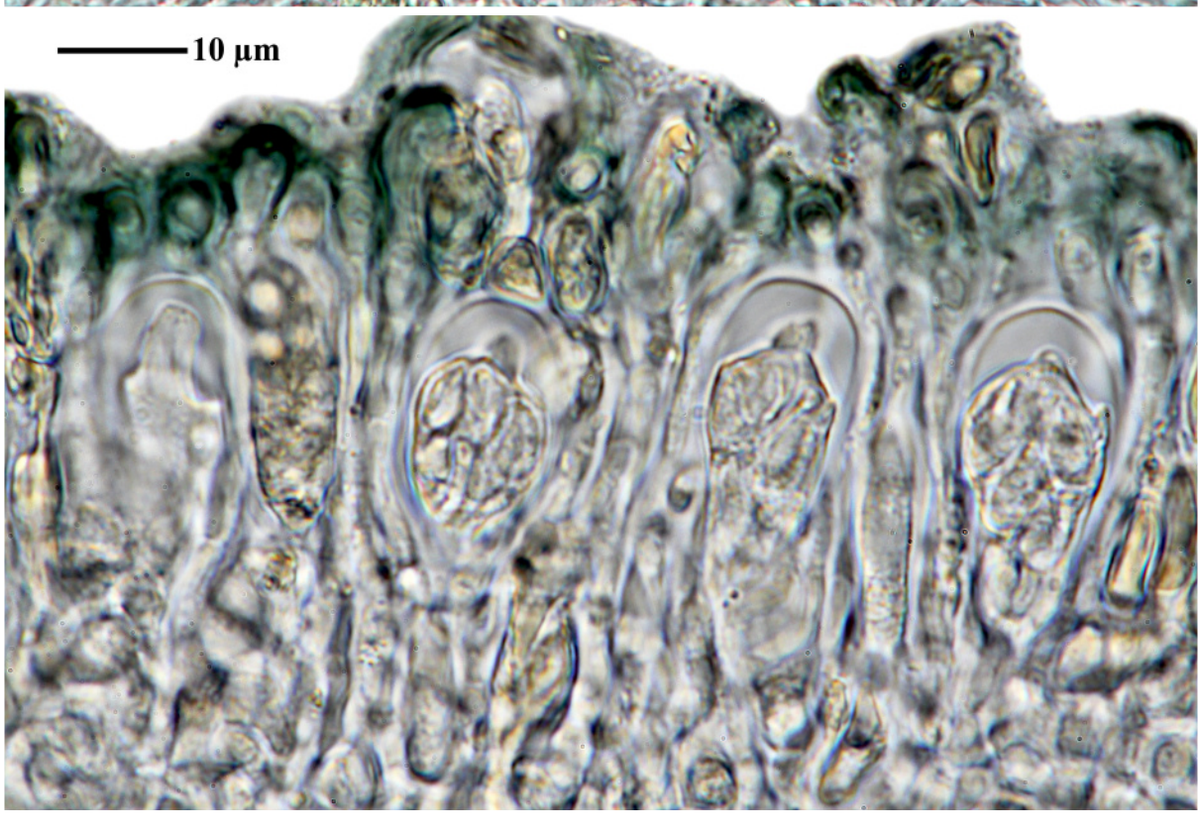
Rhizoplaca melanophthalma



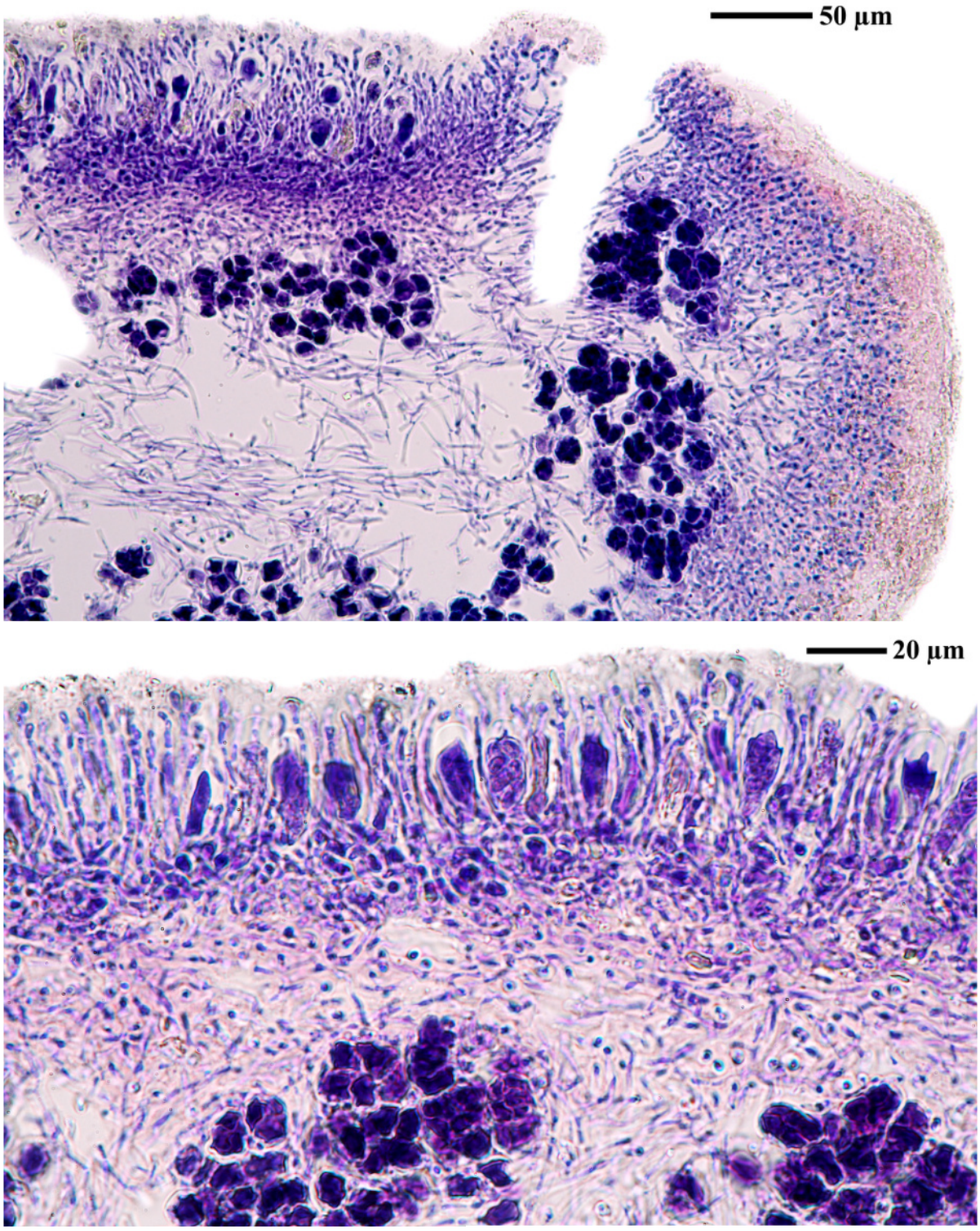


Rhizoplaca melanophthalma

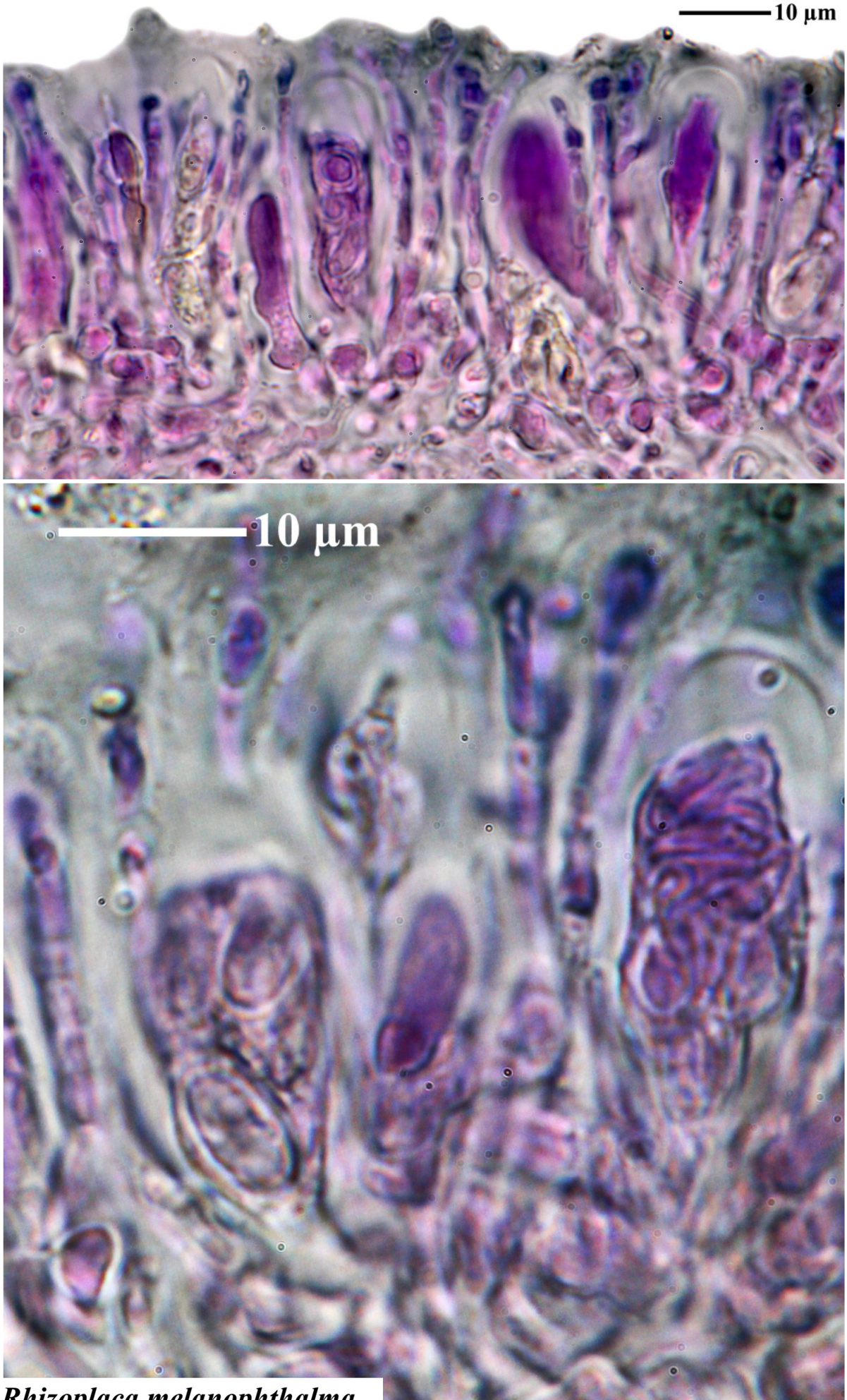




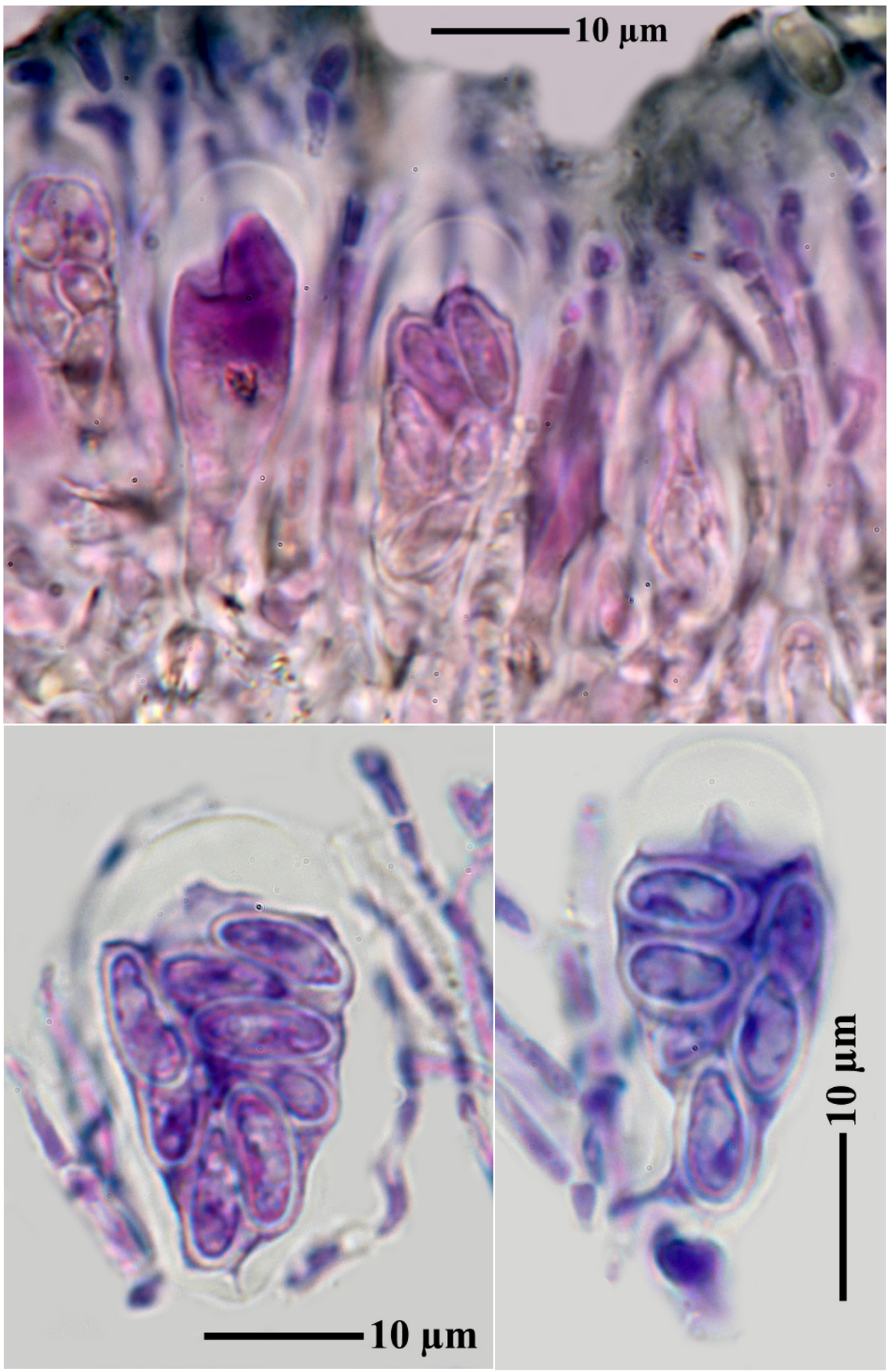
Rhizoplaca melanophthalma



Rhizoplaca melanophthalma



Rhizoplaca melanophthalma



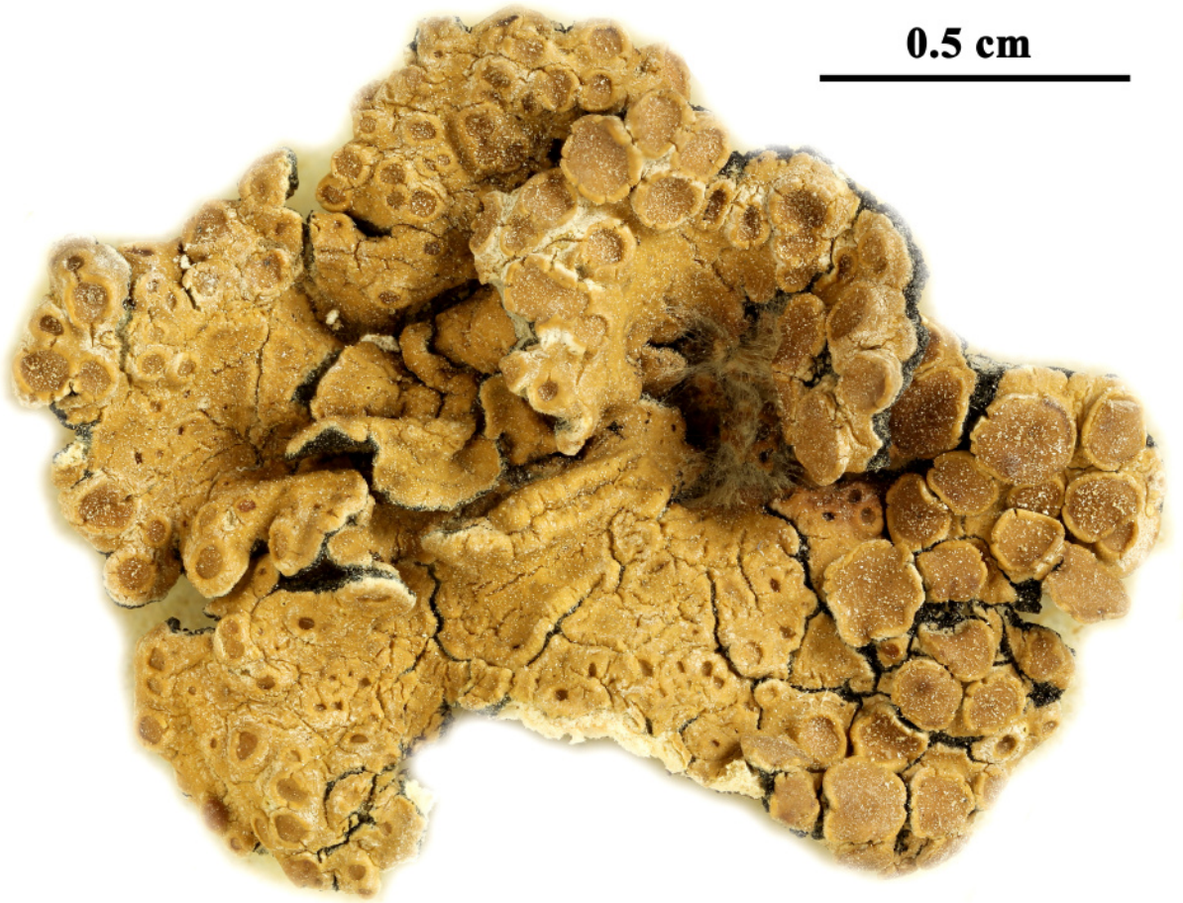
Rhizoplaca melanophthalma

Rhizoplaca peltata (Ramond) Leuckert & Poelt, Nova Hedwigia 28(1): 73 (1977)
[= *Protoparmeliopsis peltata* (Ramond) Arup, Zhao Xin & Lumbsch, in Zhao, Leavitt, Zhao, Zhang, Arup, Grube, Pérez-Ortega, Printzen, Śliwa, Kraichak, Divakar, Crespo & Lumbsch, Fungal Diversity 78(1): 301 (2015)

Chemistry: Usnic acid, pannarin, zeorin anal. by G. Hähnel & Chr. Leuckert in duplo, 06.1972.

[LIAF_21], Afghanistan, Prov. Kabul, Tal des Paghman-Flusses, etwa 4 km oberhalb des Ortes Paghman. 68°55’ E, 34°37’ N, ca. 2450 m. Zumeist N-W-exponierte Stirnflächen von Granitblöcken. Leg. M. Steiner (Ste 2/6 60/3), 24.04., 01.07.1970. LICHENOTHECA AFGHANICA NR. 21.







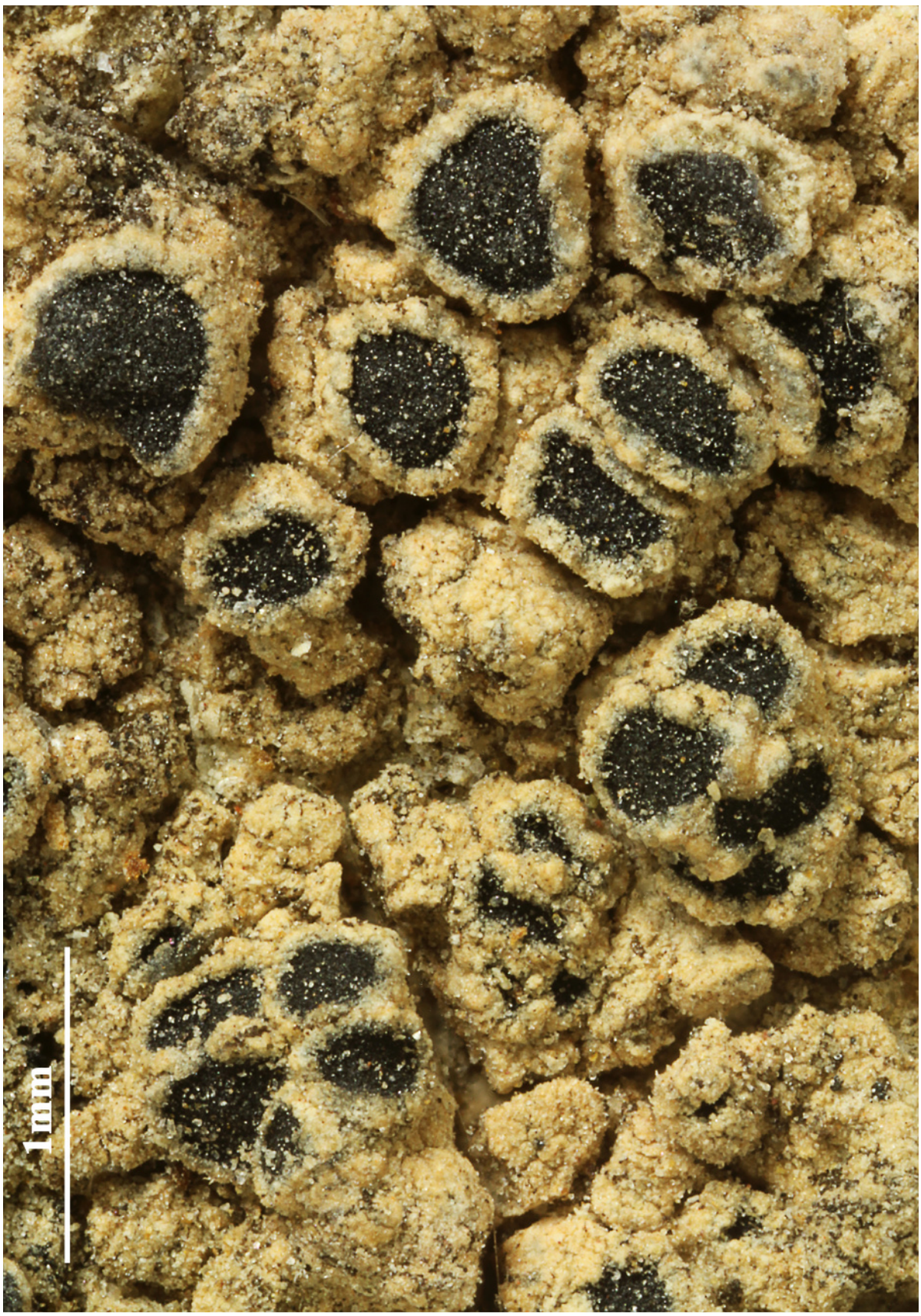
Rhizoplaca peltata

Rinodina afghanica M.Steiner & Poelt, Pl. Syst. Evol. 155(1-4): 139 (1987)

Sporen braun, 1-septiert, 8/Ascus, 18.3-21.7 x 9.3-10 µm. On *Caloplaca polycarpoides*

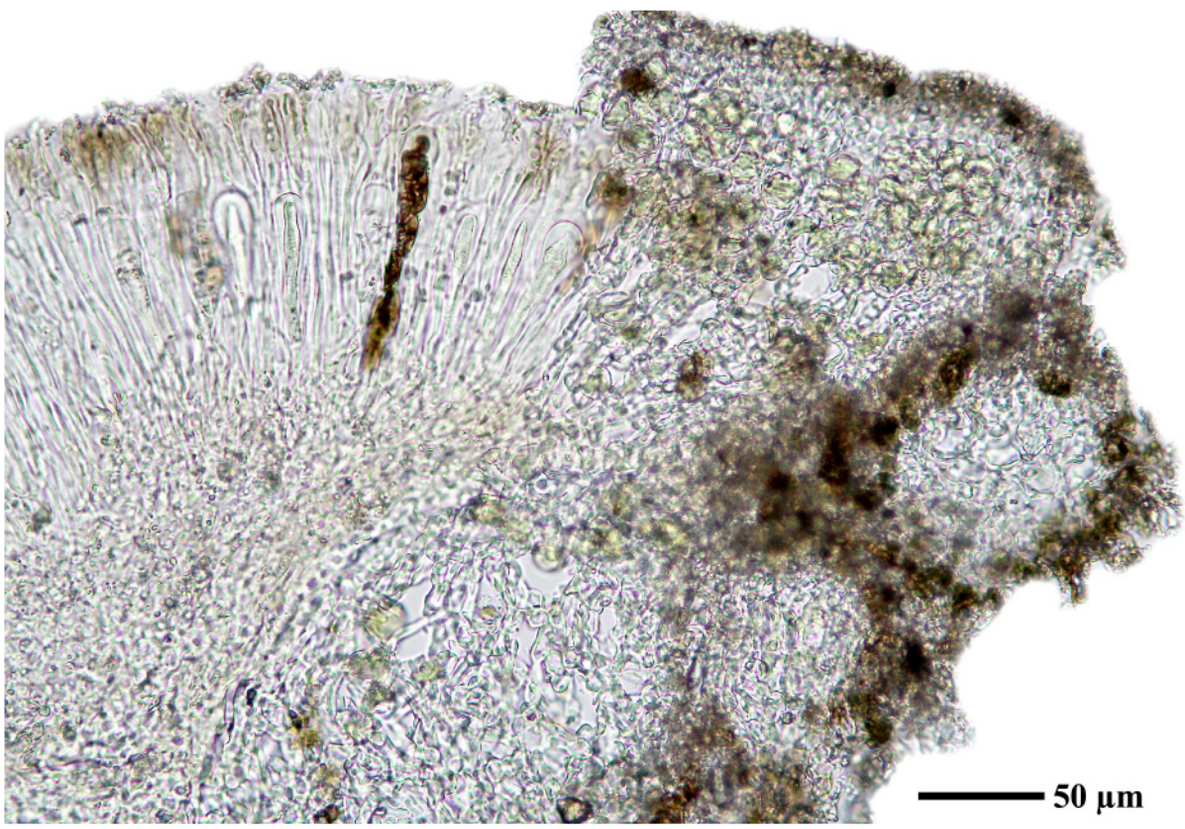
[LIAF_46], Afghanistan, Prov. Samangan, 1 km W des Passes Kotal-i-Mirza Atbili (Kotal-i-Rabotak), 68°18’ E, 36°10.5’ N, ca, 1200 m, auf Stamm von *Pistacia vera* L., in einem lockeren Bestand an N-exponiertem Hang. Leg. M. Steiner (Ste 50/3), 06.06.1970. LICHENOTHECA AFGHANICA NR. 46.



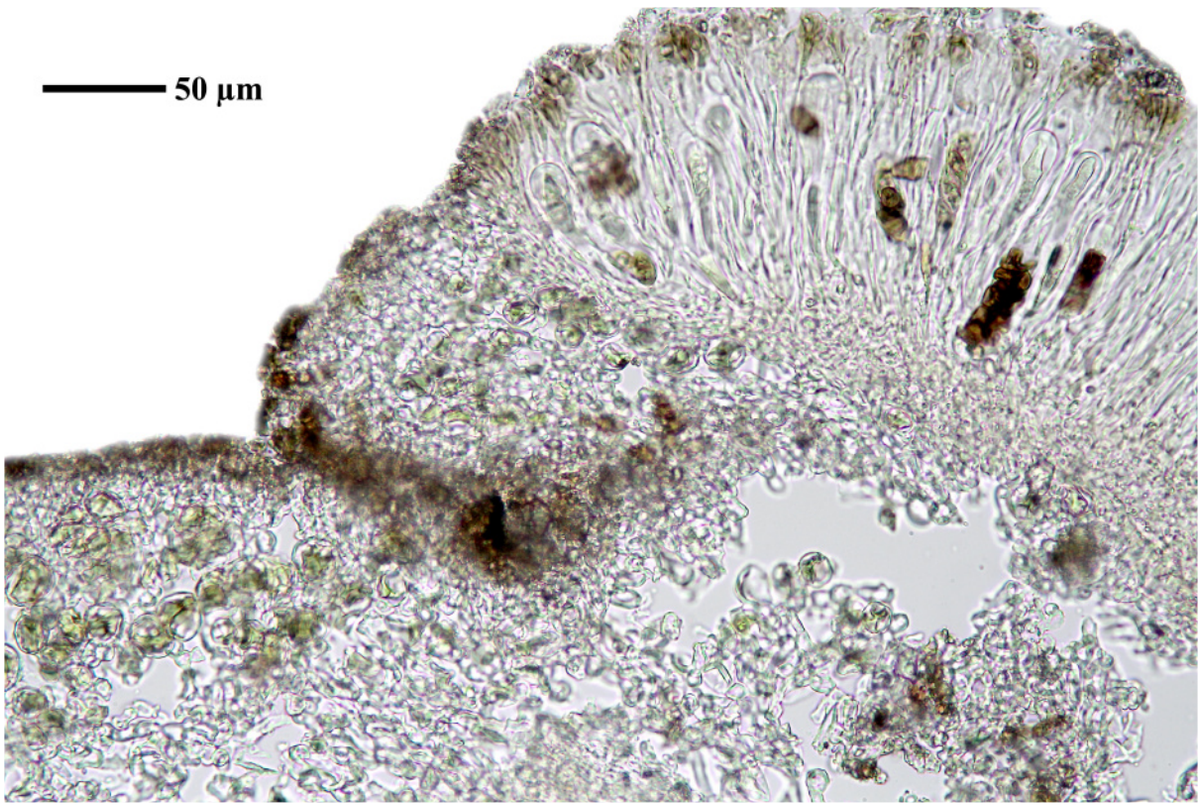


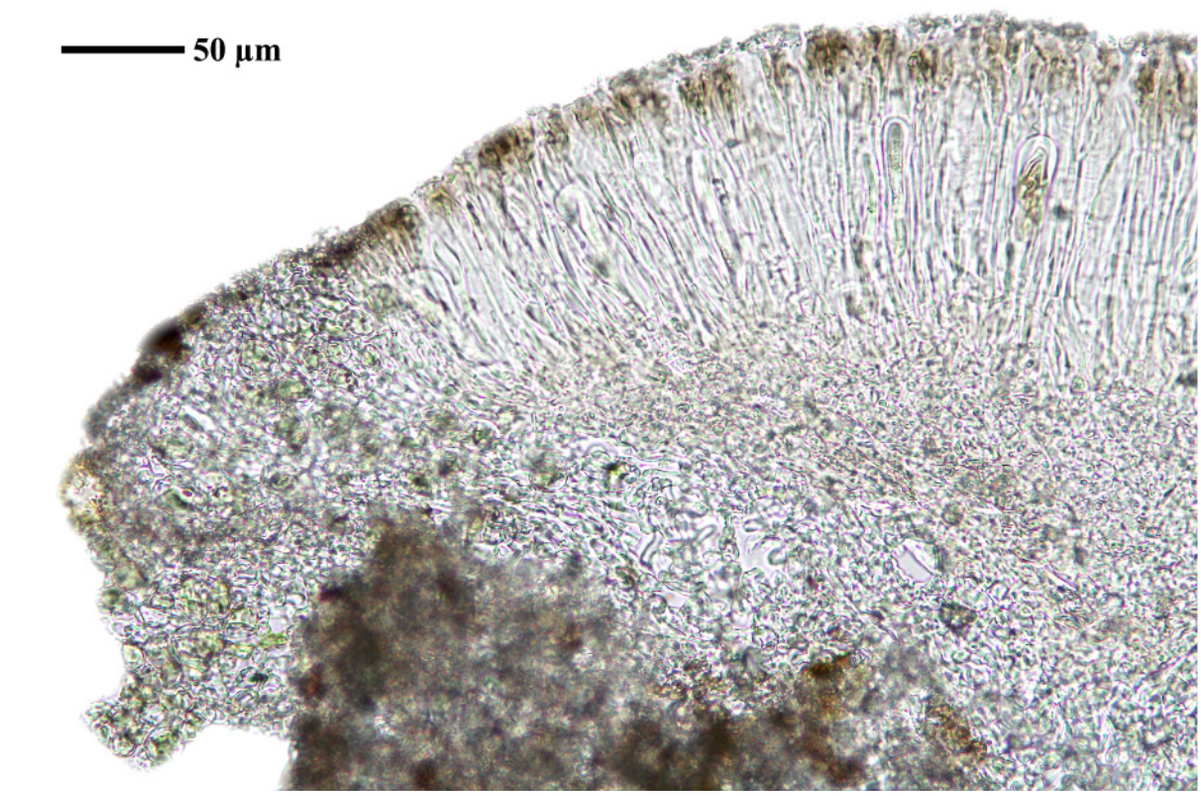
Rinodina afghanica



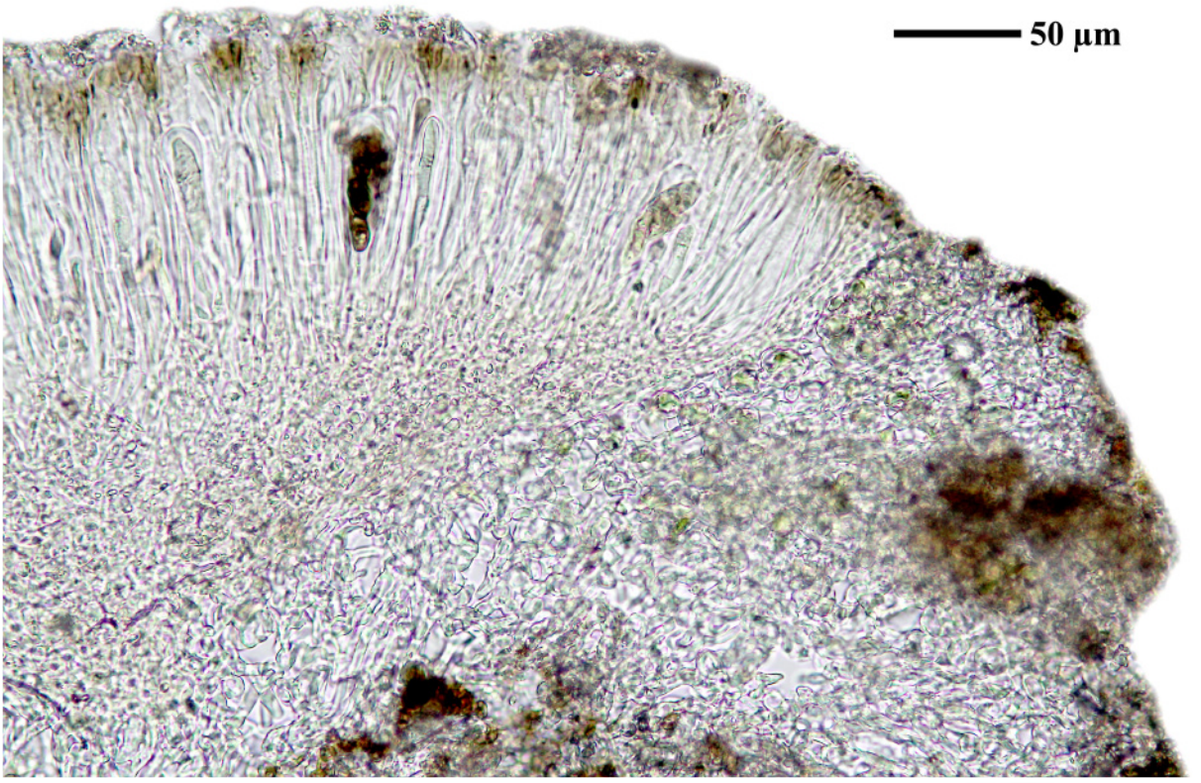


Rinodina afghanica



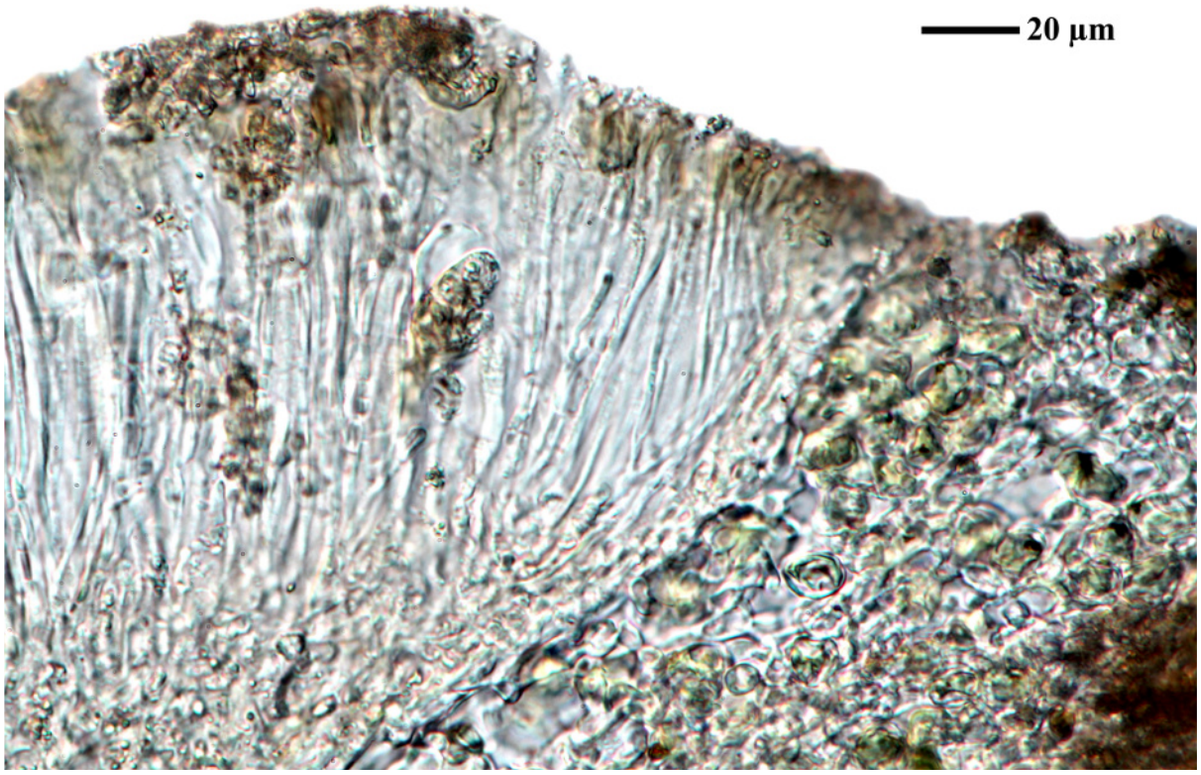


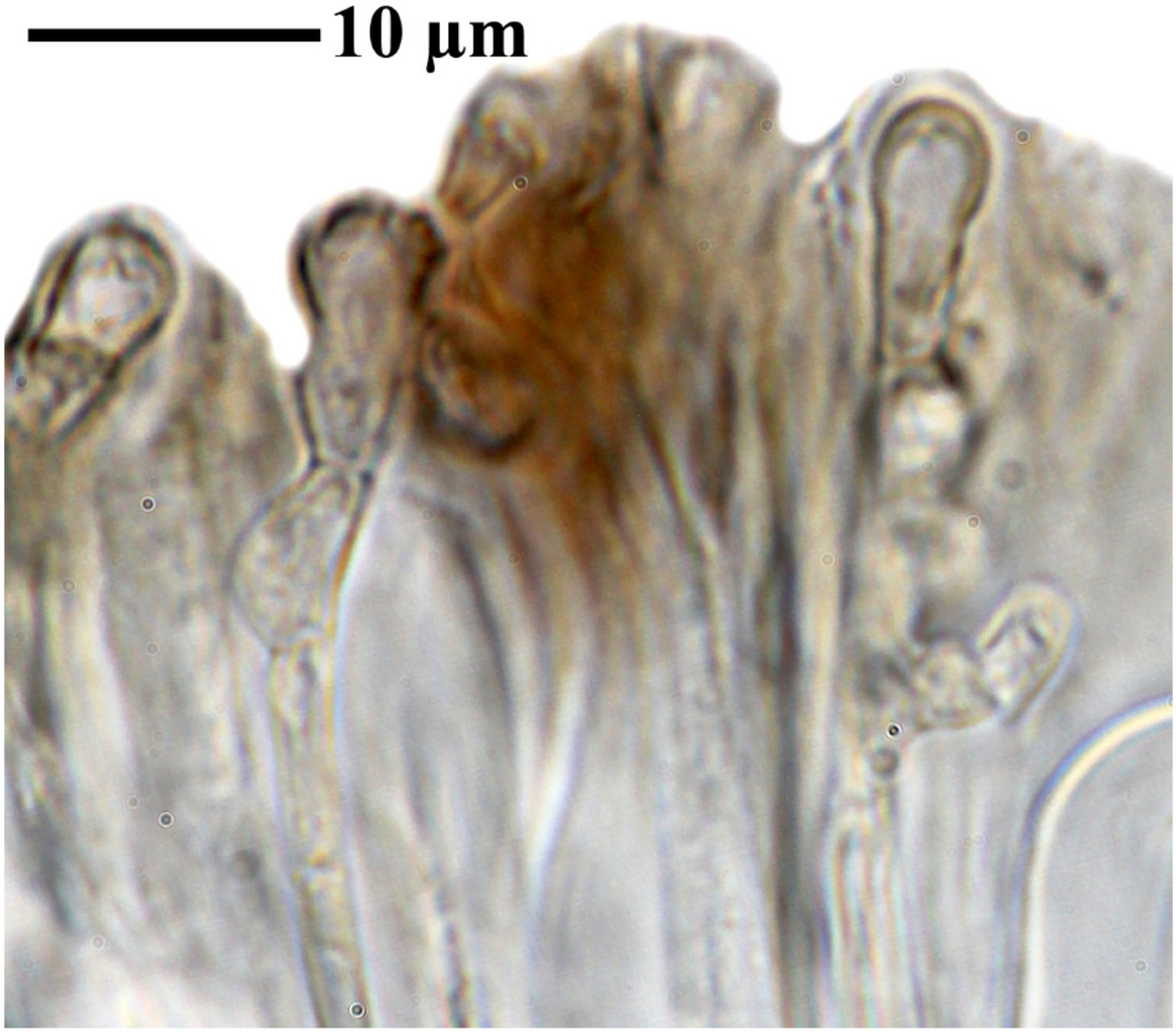
Rinodina afghanica



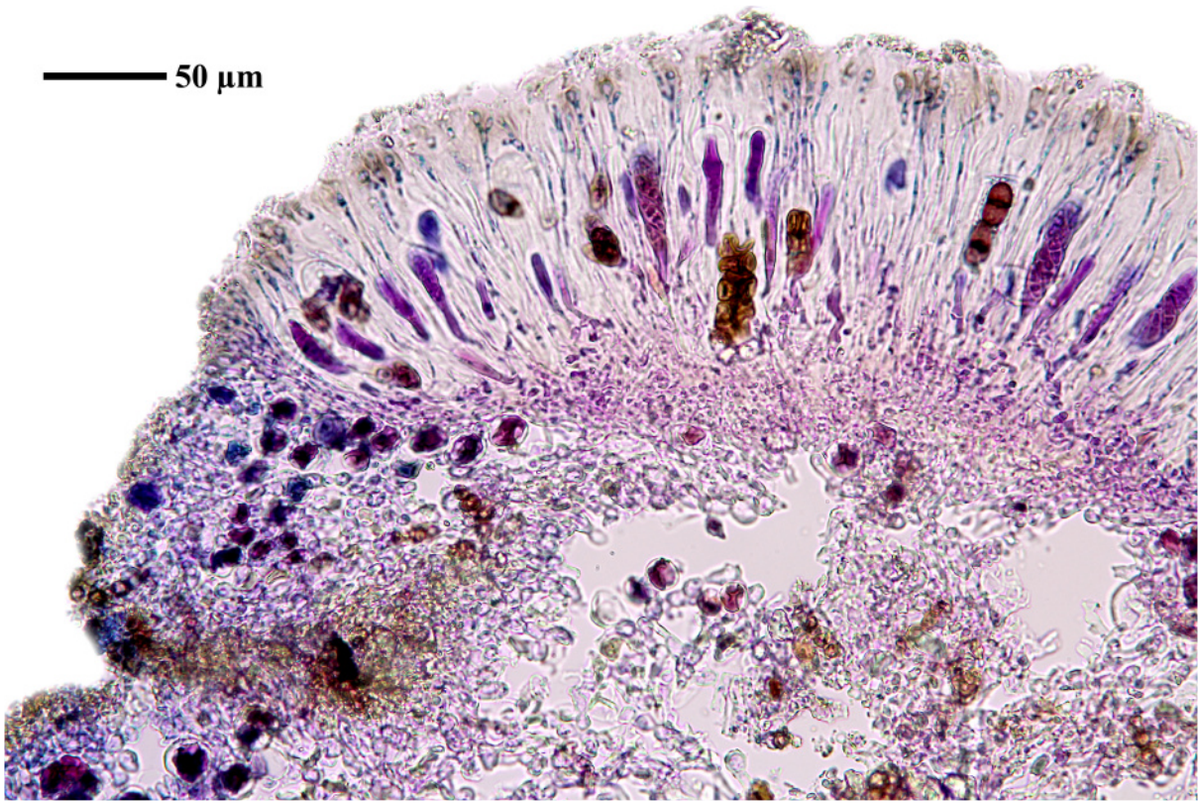


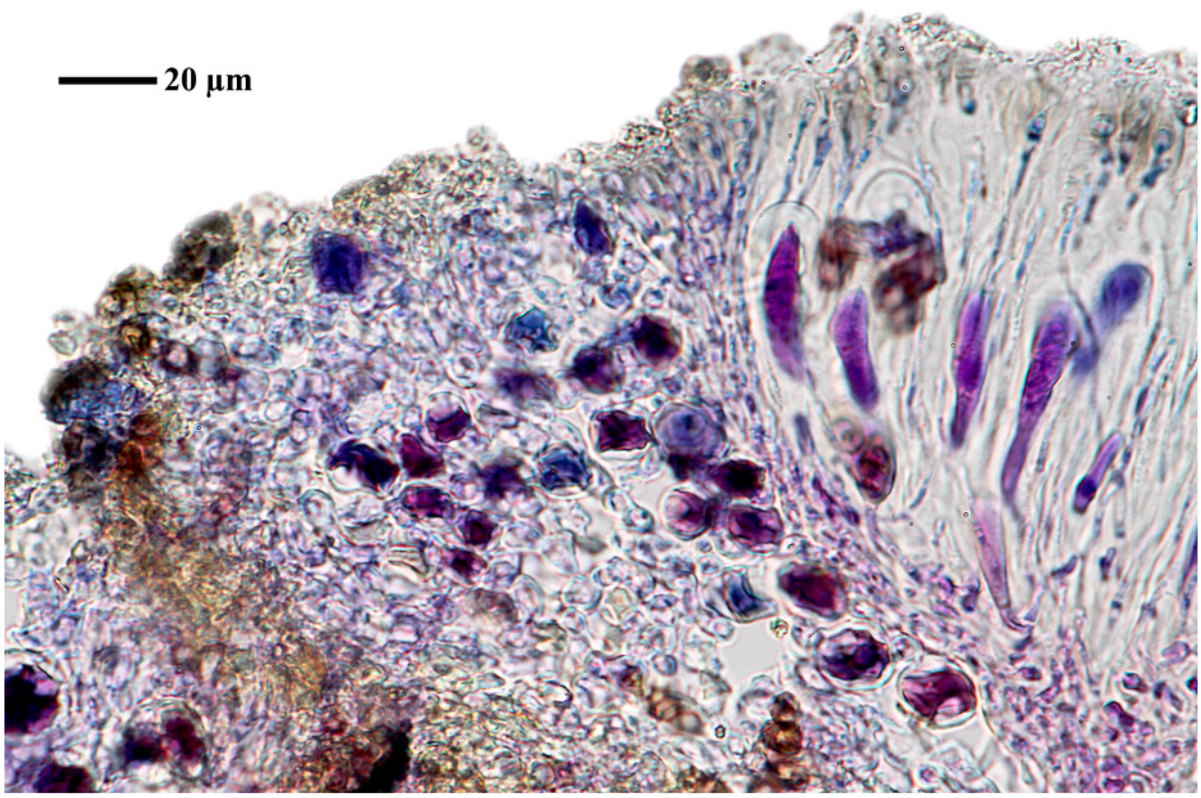
Rinodina afghanica



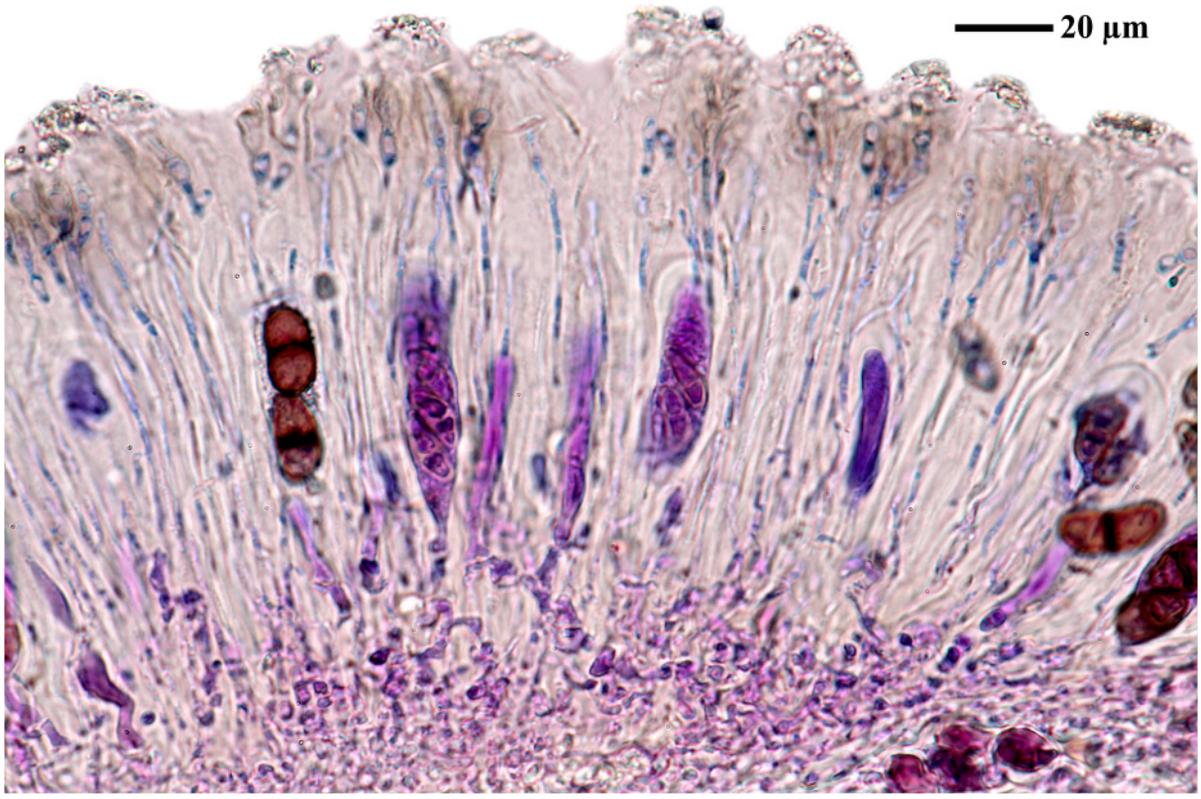


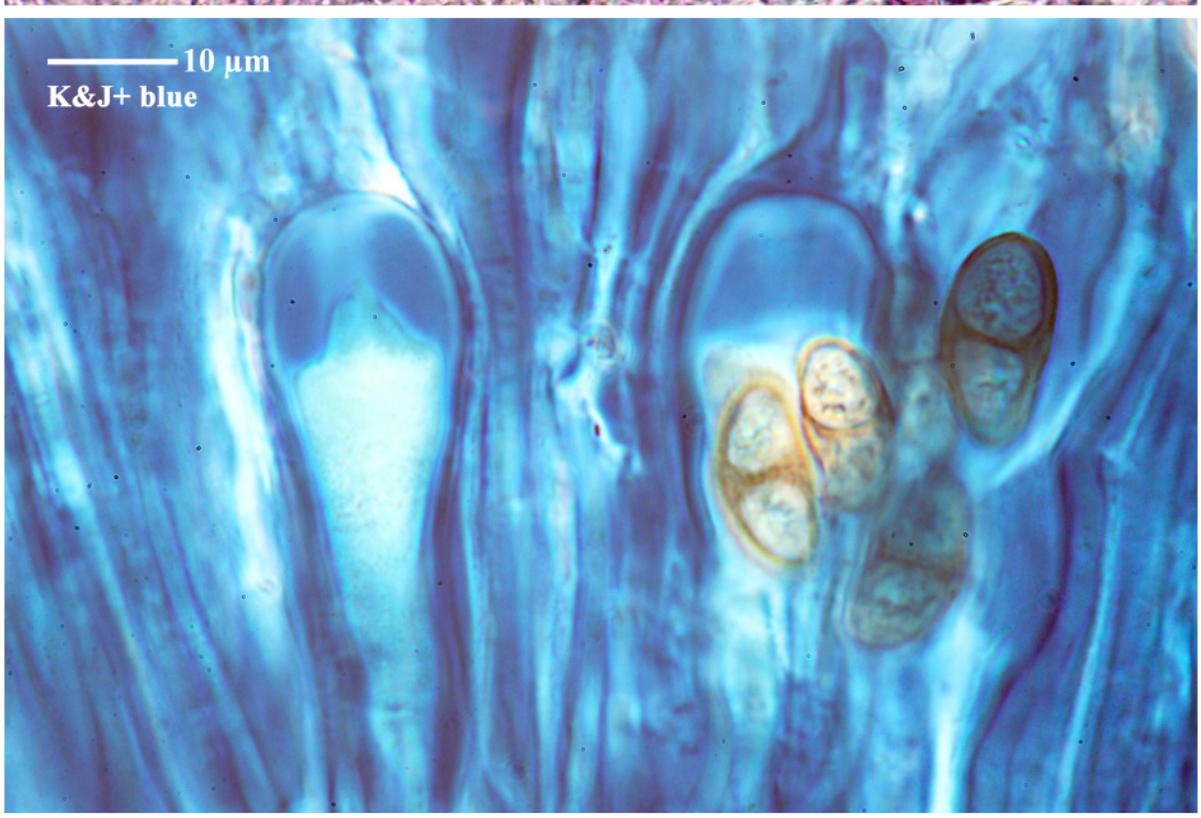
Rinodina afghanica





Rinodina afghanica







Rinodina afghanica



Rinodina afghanica

Rinodina bischoffii (Hepp) A.Massal., Framm. Lichenogr.: 26 (1855)

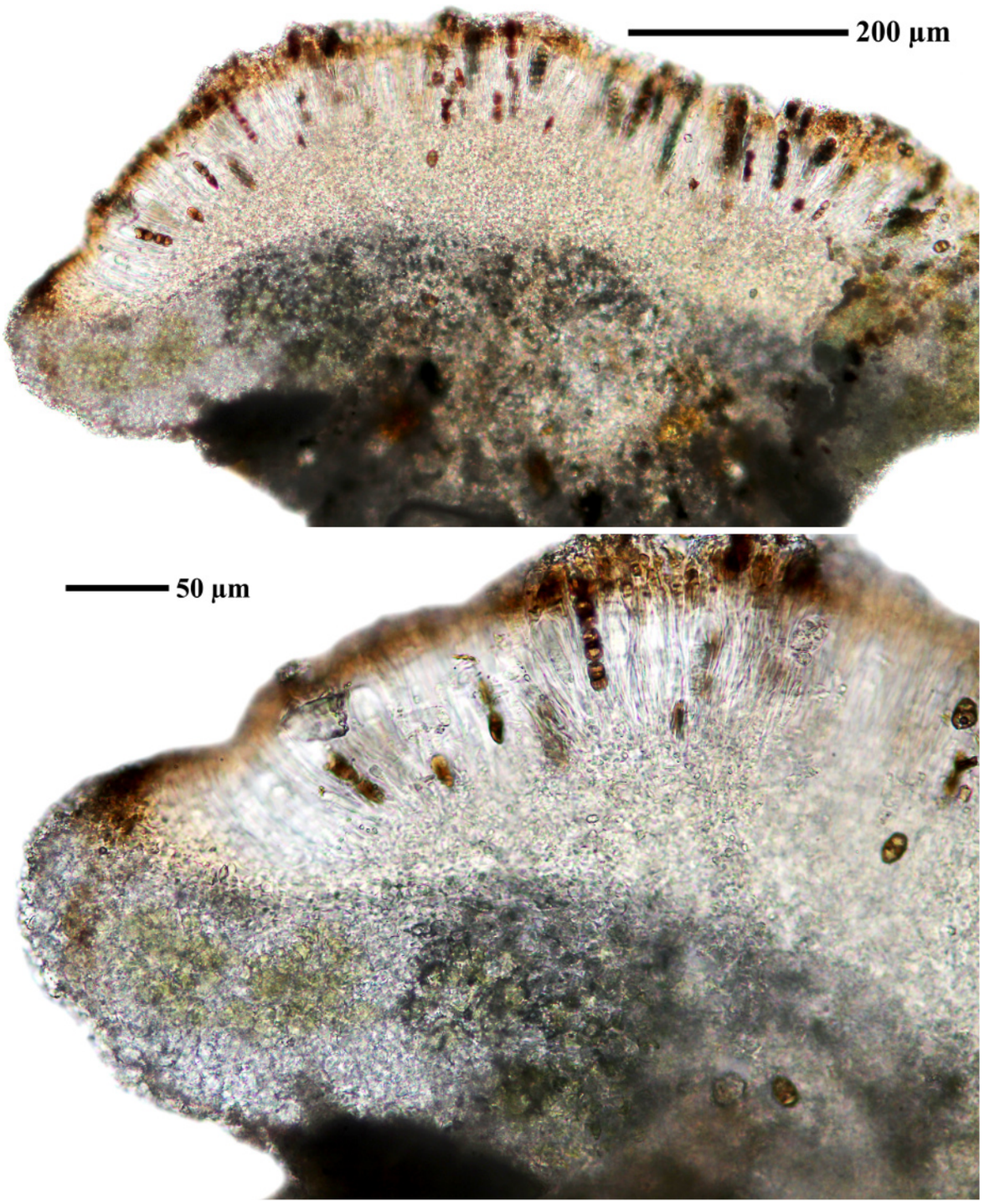
Ursprünglich von H. Mayrhofer 1980 als *Rinodina miocenensis* Flag. bestimmt

[GZU 27-94], Afghanistan, Prov. Parwan, Salangtal unterhalb Sameda. 69°09’ E, 35°14’ N, 2150 m. M-exponierte Steilflächen von Kalkfelsen. Leg. M. Steiner (Stei 24b/5), 25.05.1070, det. R. Ertl, 2000.

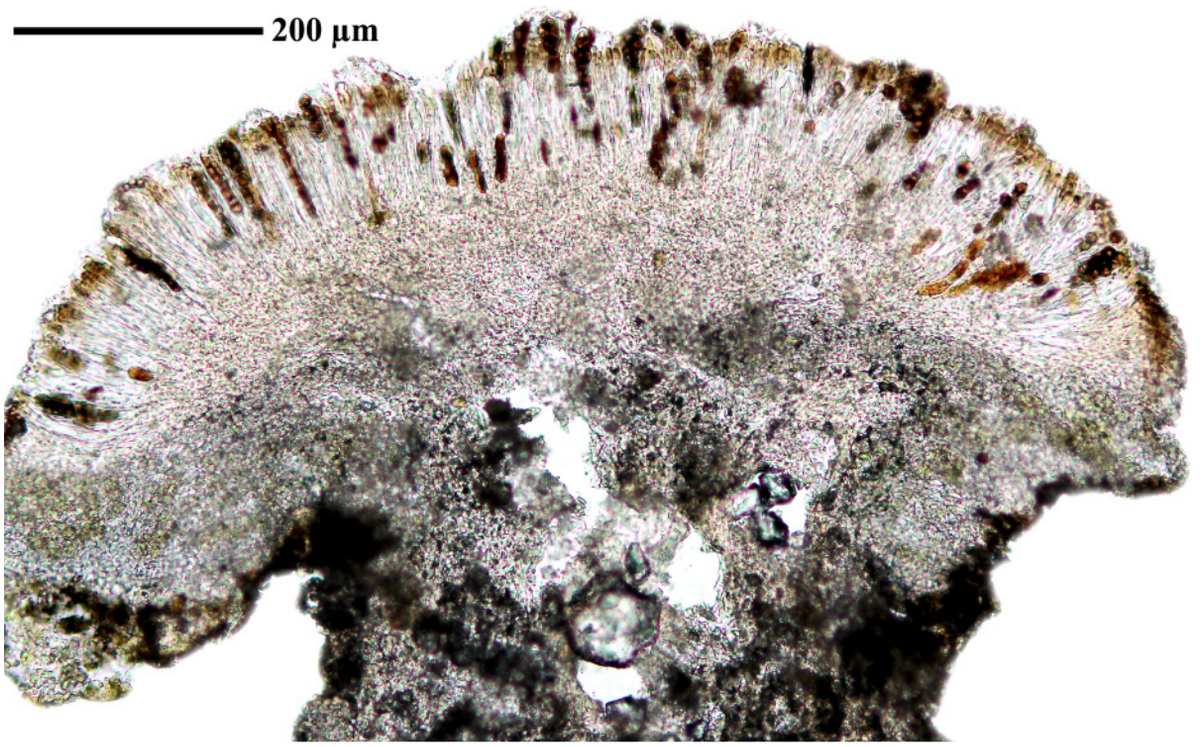


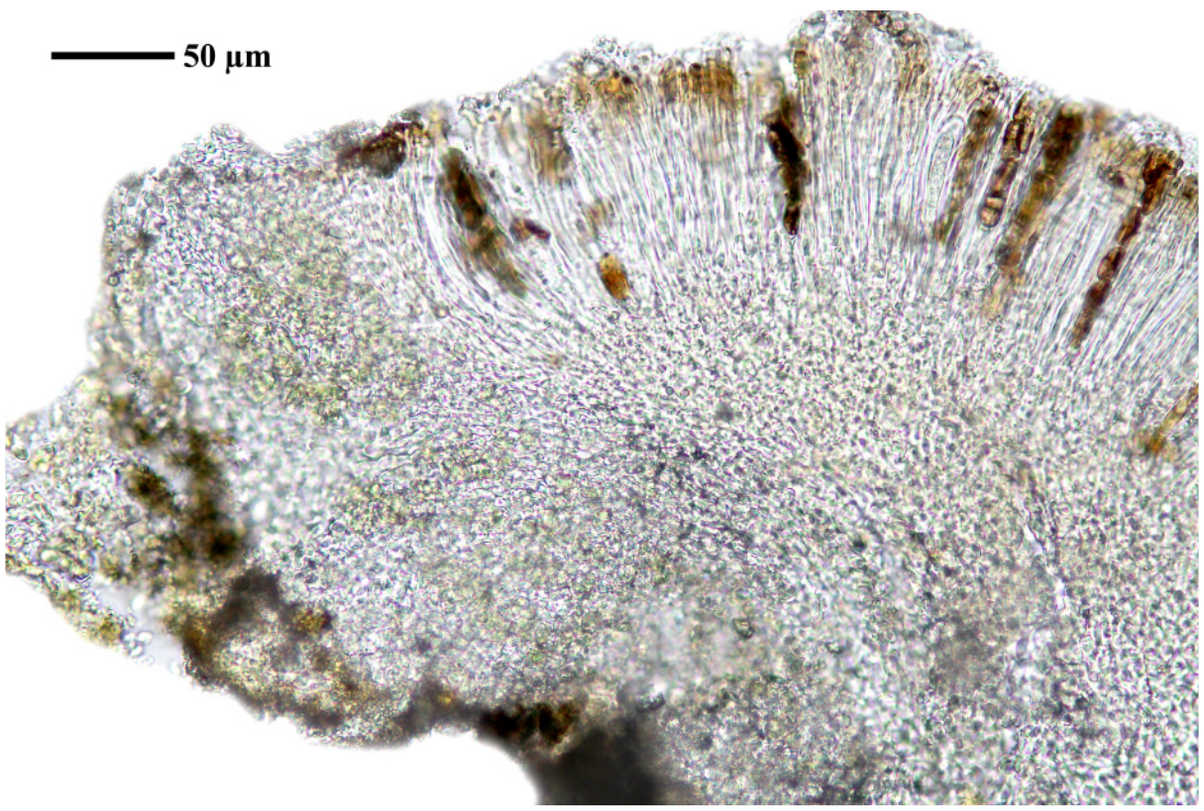


Rinodina bischoffii

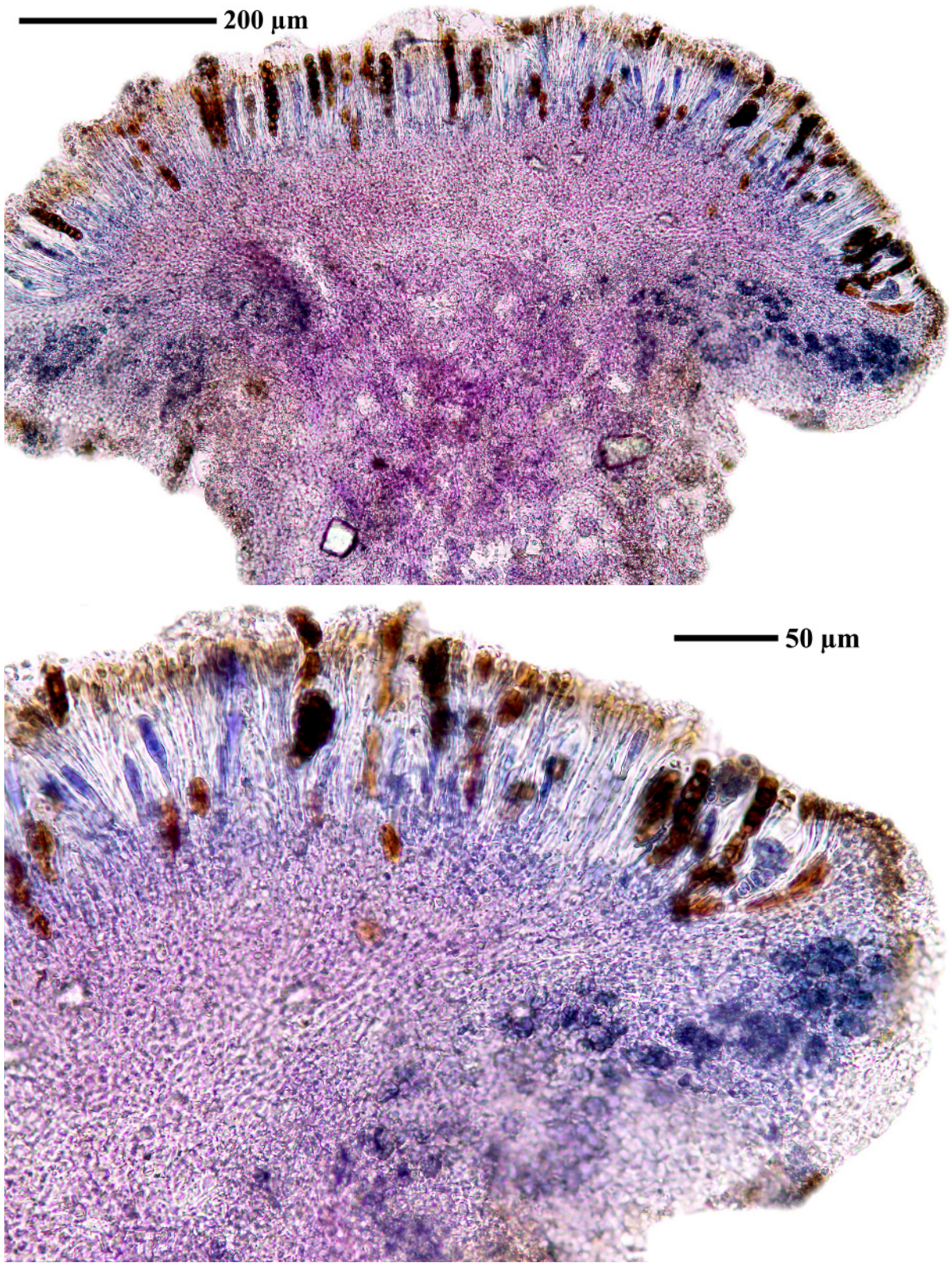


Rinodina bischoffii

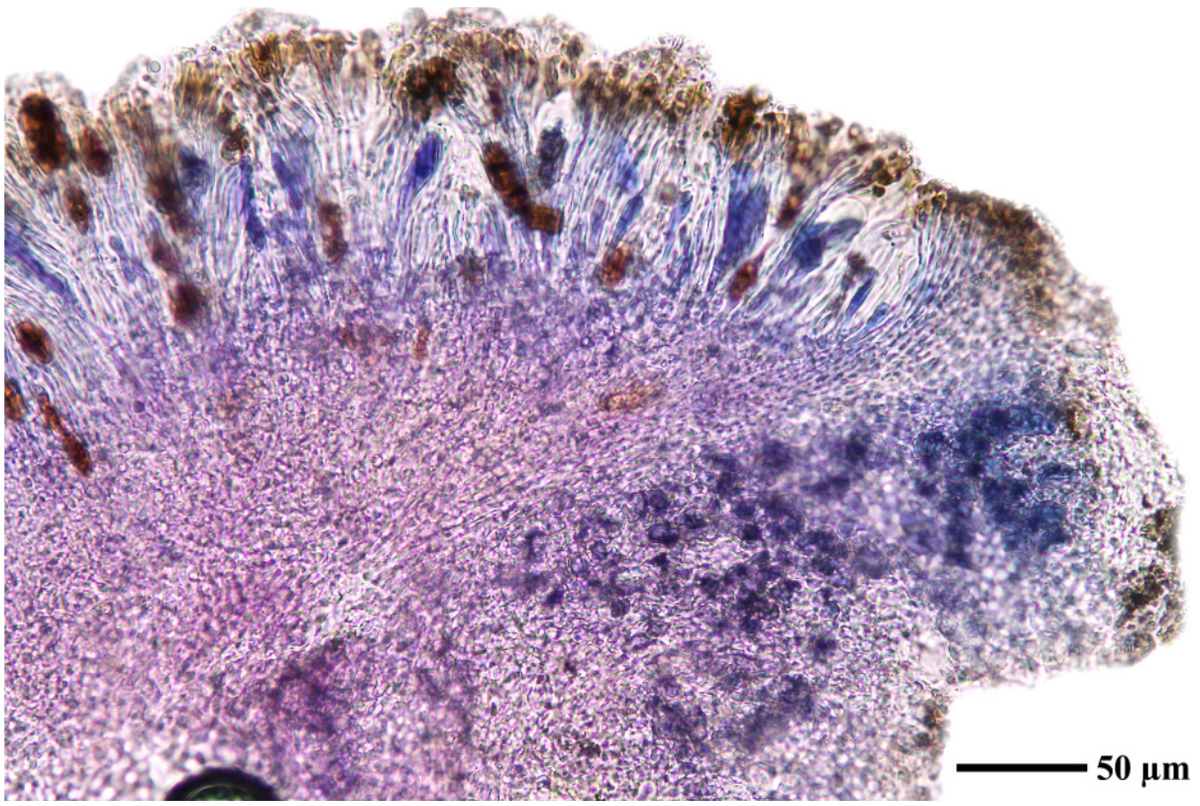


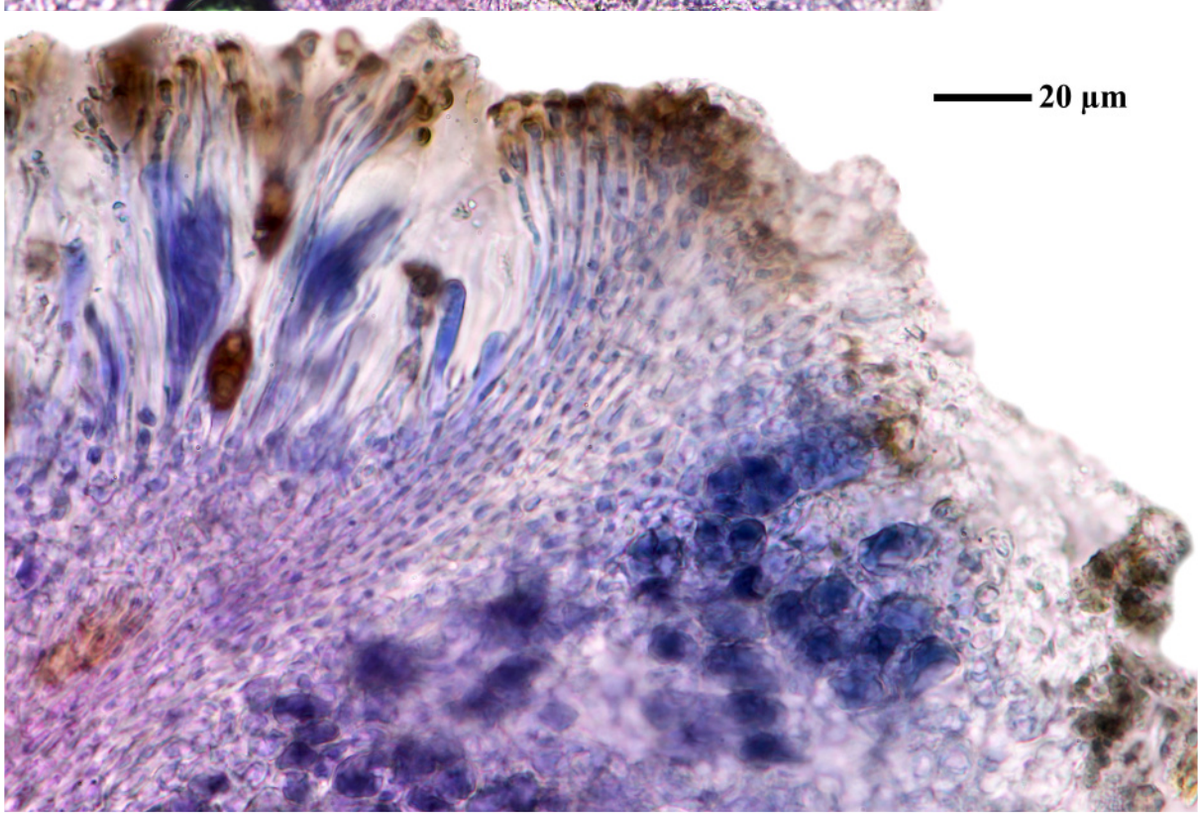


Rinodina bischoffii

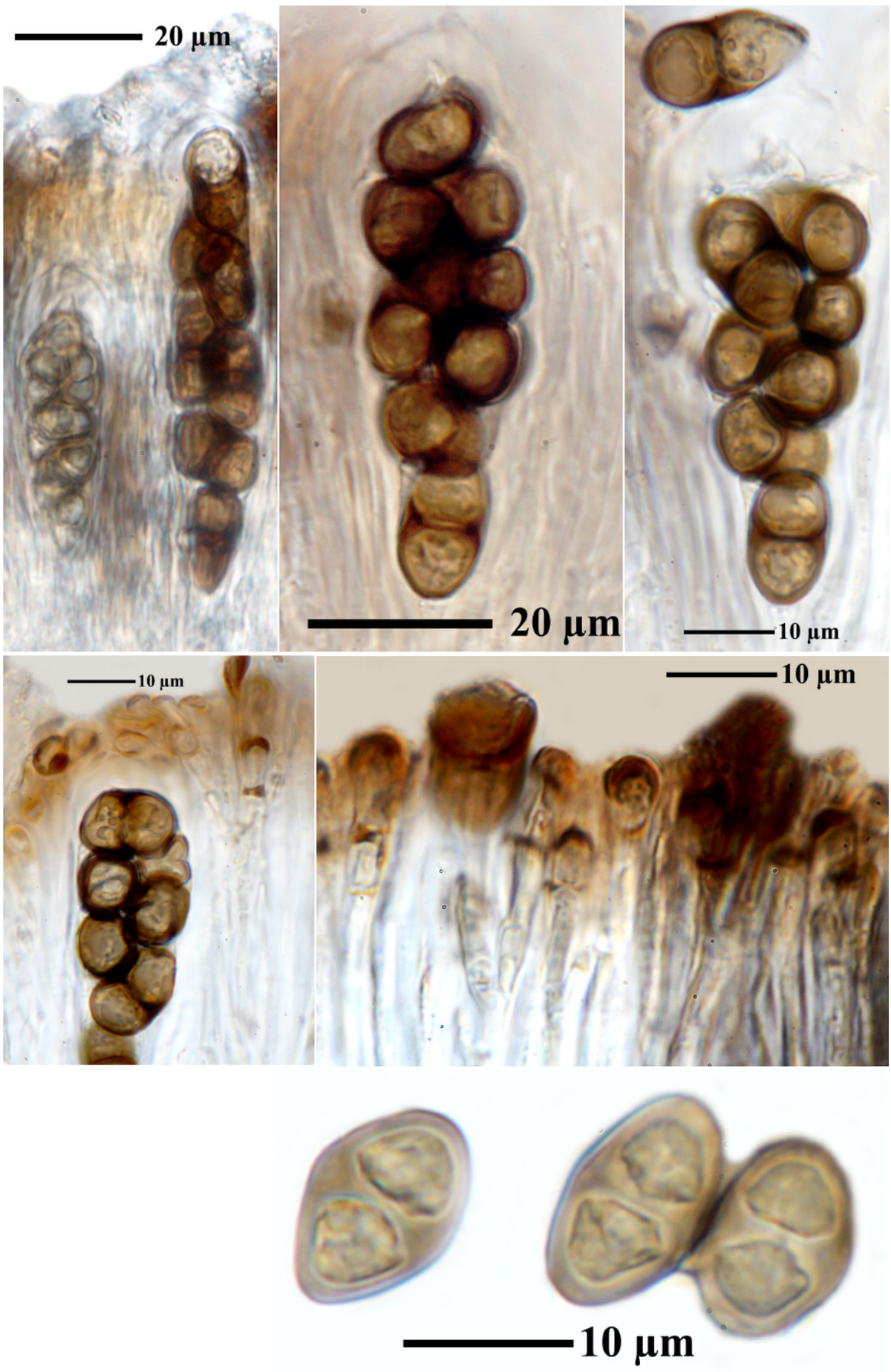


Rinodina bischoffii

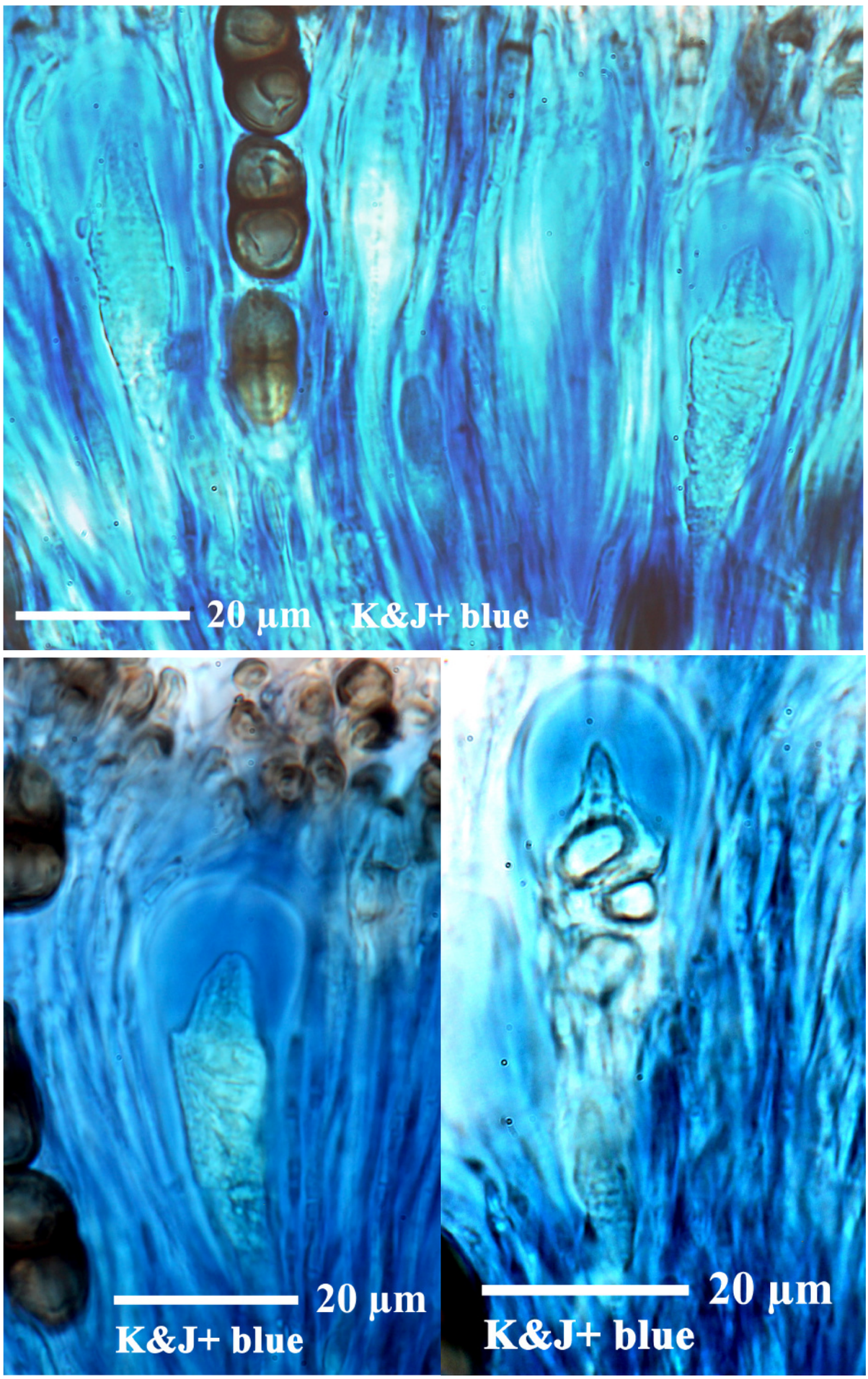




Rinodina bischoffii



Rinodina bischoffii



Rinodina bischoffii

Rinodina bischoffii (Hepp) A.Massal., Framm. Lichenogr.: 26 (1855)

[GZU 27-94b], Afghanistan, Prov. Bamyan, E-Hang des Koh-i-Rakhuya, NW von Band-i-Amir. 57°10’ E, 34°46’ N, ca. 3400 m, auf Kalk. Leg. A. Dieterle (Pod 40a/3),06.1970, det . Mayrhofer, conf R. Ertl 2000.





Rinodina bischoffii

Rinodina bischoffii

Rinodina guzzinii Jatta, Nuovo G. bot. ital. 23(3): 354 (1891)

ursprünglich von H. Mayrhofer als *R. miocenensis* Flag. bestimmt. Auf der Probe soll auch noch *R. straussii* Steiner vorhanden sein. Daher unbedingt noch Sporen der abgebildeten Stelle untersuchen, ob ich in dem Apothecienchaos das Richtige erwischt habe .

[GZU 27-94(1)], Afghanistan, Prov. Bamyan, Band-i-Amir, nördliches Seeufer, unmittelbar beim islamischen Heiligtum. 67°10.5’ E, 34°49’ N, ca. 2900 m, weiche junge Kalktuffe unmittelbar am Seeufer, ca. 0.5-1.0 m über dem Seespiegel. Leg. A Dieterle (Pod 36/5), 30.05.70, det. R. Ertl, 2000.





Rinodina guzzinii

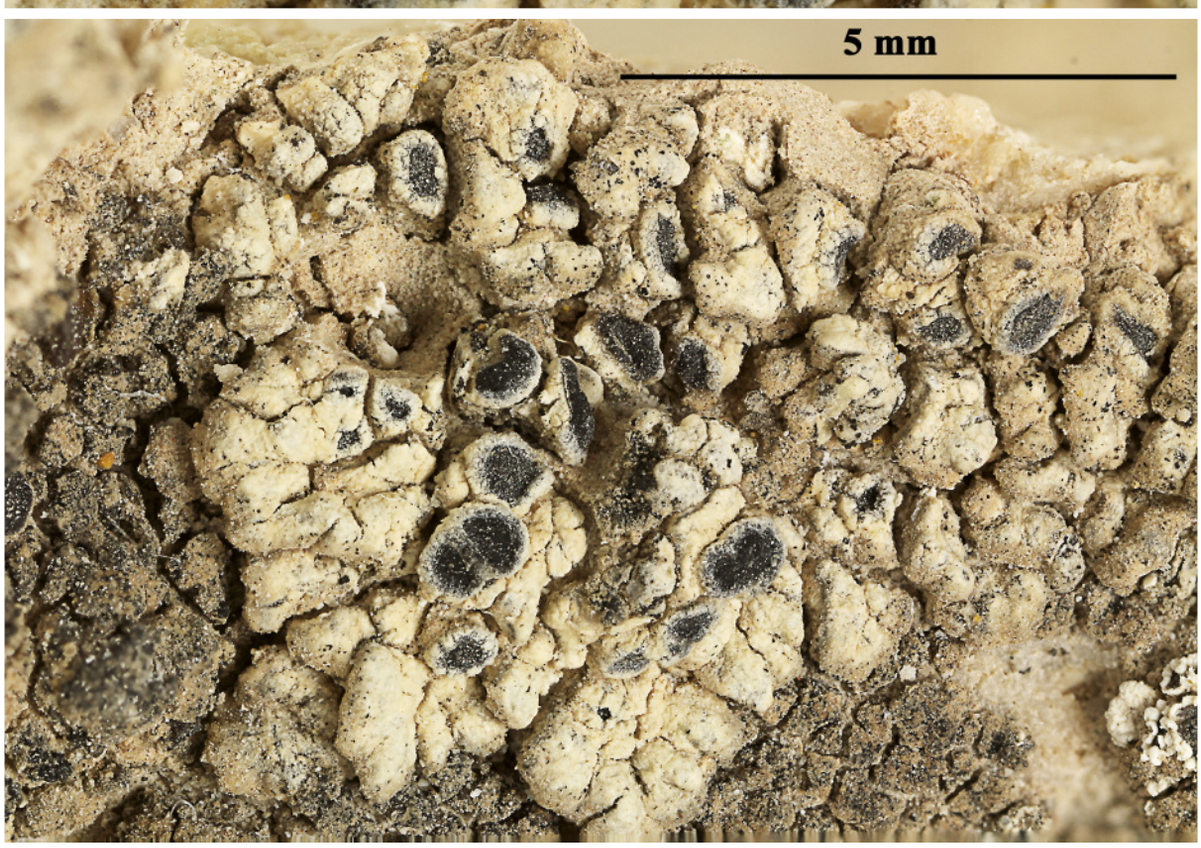
Rinodina guzzinii Jatta, Nuovo G. bot. ital. 23(3): 354 (1891)

ursprünglich von H. Mayrhofer 1980 als *R. miocenensis* Flag. bestimmt. Auf der Probe soll auch noch *R. straussii* Steiner vorhanden sein. Daher unbedingt noch Sporen der abgebildeten Stelle untersuchen, ob ich in dem Apothecienchaos das Richtige erwischt habe .

[GZU dubl 27-94(1)], Afghanistan, Prov. Bamyan, Band-i-Amir, nördliches Seeufer, unmittelbar beim islamischen Heiligtum. 67°10.5’ E, 34°49’ N, ca. 2900 m, weiche junge Kalktuffe unmittelbar am Seeufer, ca. 0.5-1.0 m über dem Seespiegel. Leg. A Dieterle (Pod 36/5), 30.05.70, det. R. Ertl, 2000.







Rinodina guzzinii

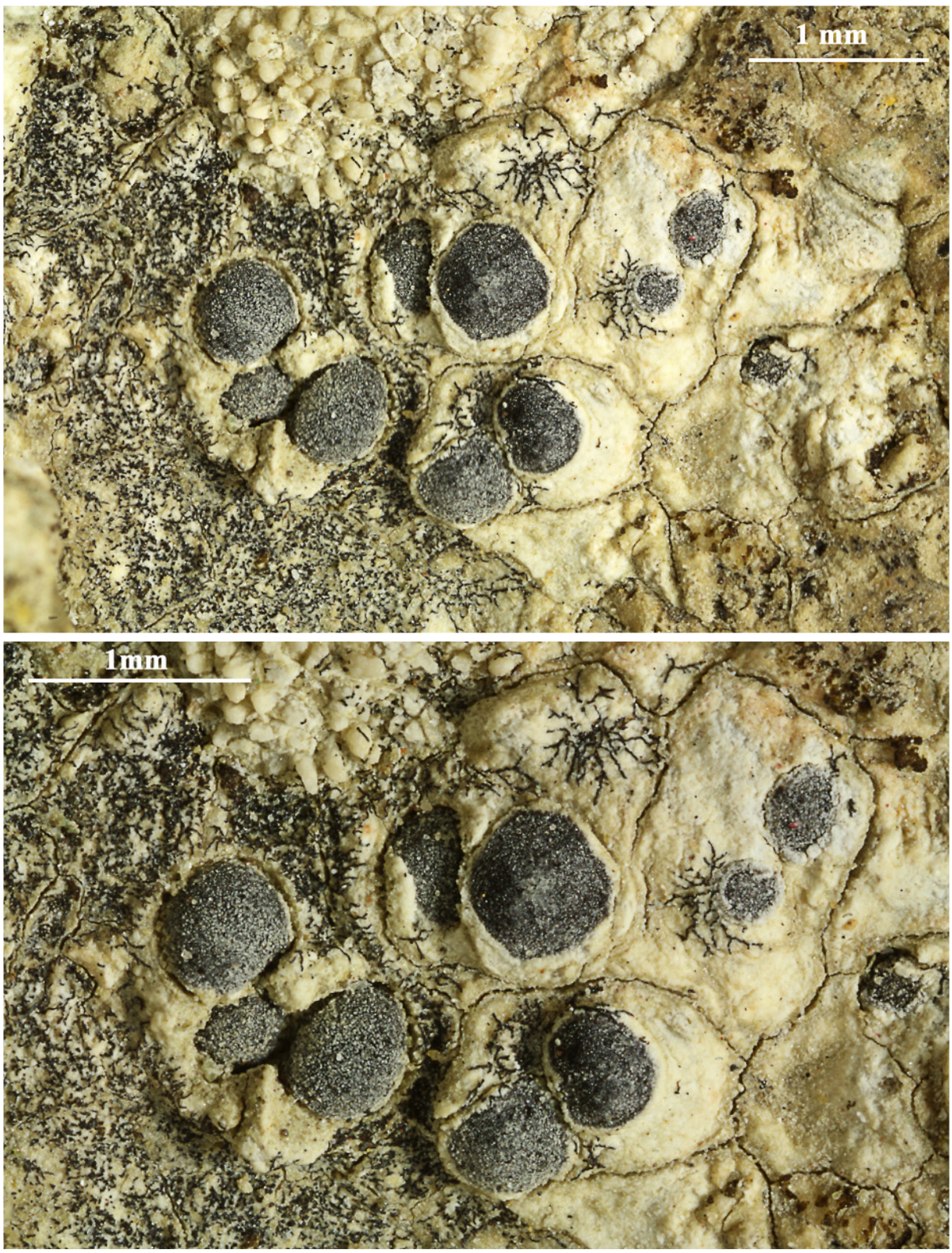


Rinodina guzzinii

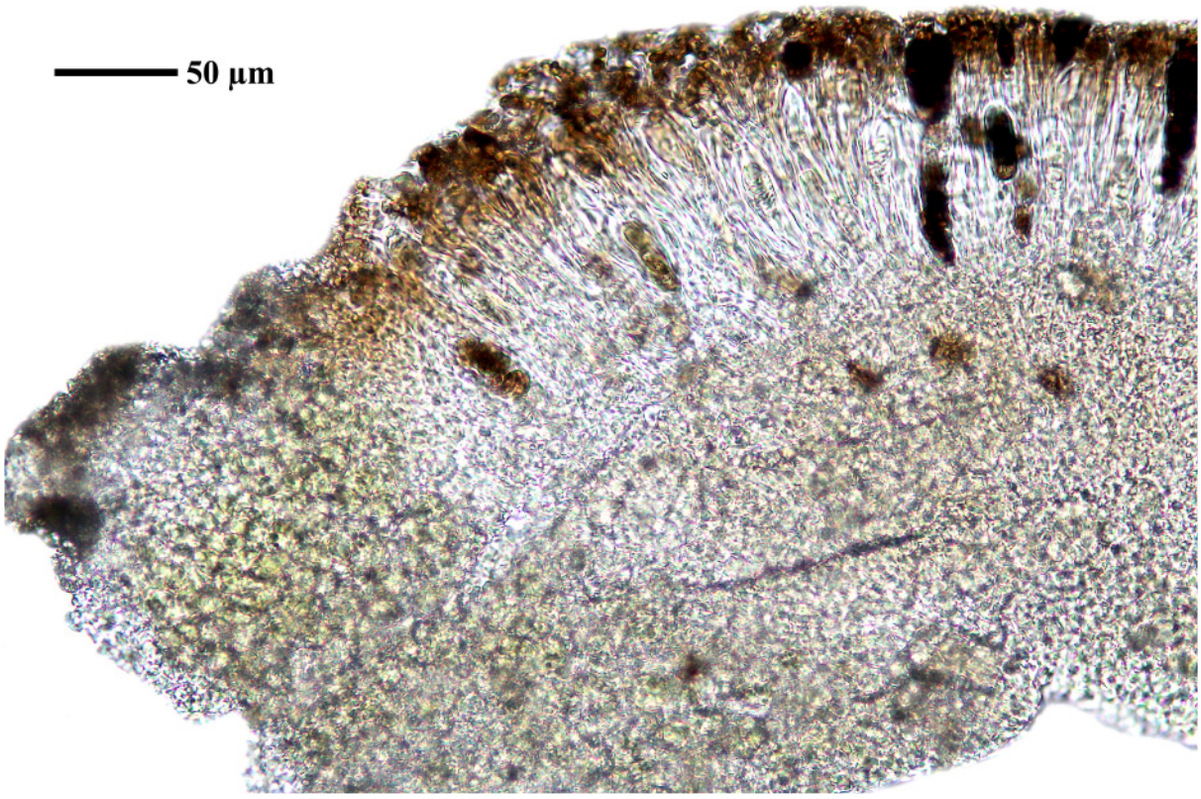
Rinodina pycnocarpa H. Magn., Lichens Central Asia 1: 152 (1940)

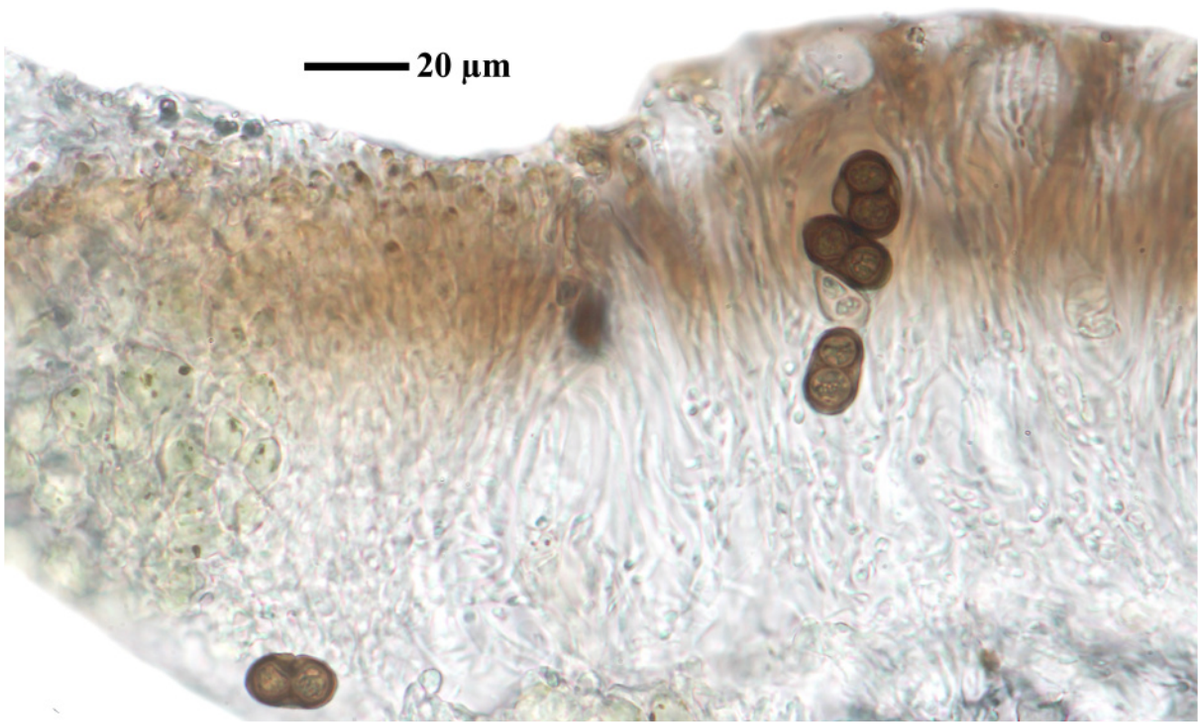
[GZU 27-94], Afghanistan, Prov. Paktia, Sadrane Ebrahim Khel (=Matun), an der Straße von Gardez nach Khost. 69°22.5’ E, 33°24’ N, 2200m. Fast senkrechte Felswände knapp oberhalb der Straße; schiefriger Sandstein mit karbonatischem Bindemittel. Leg. M. Steiner (ste 69/6), 02.07.1980, det H. Mayrhofer, 1980, conf. R. Ertl, 2000.



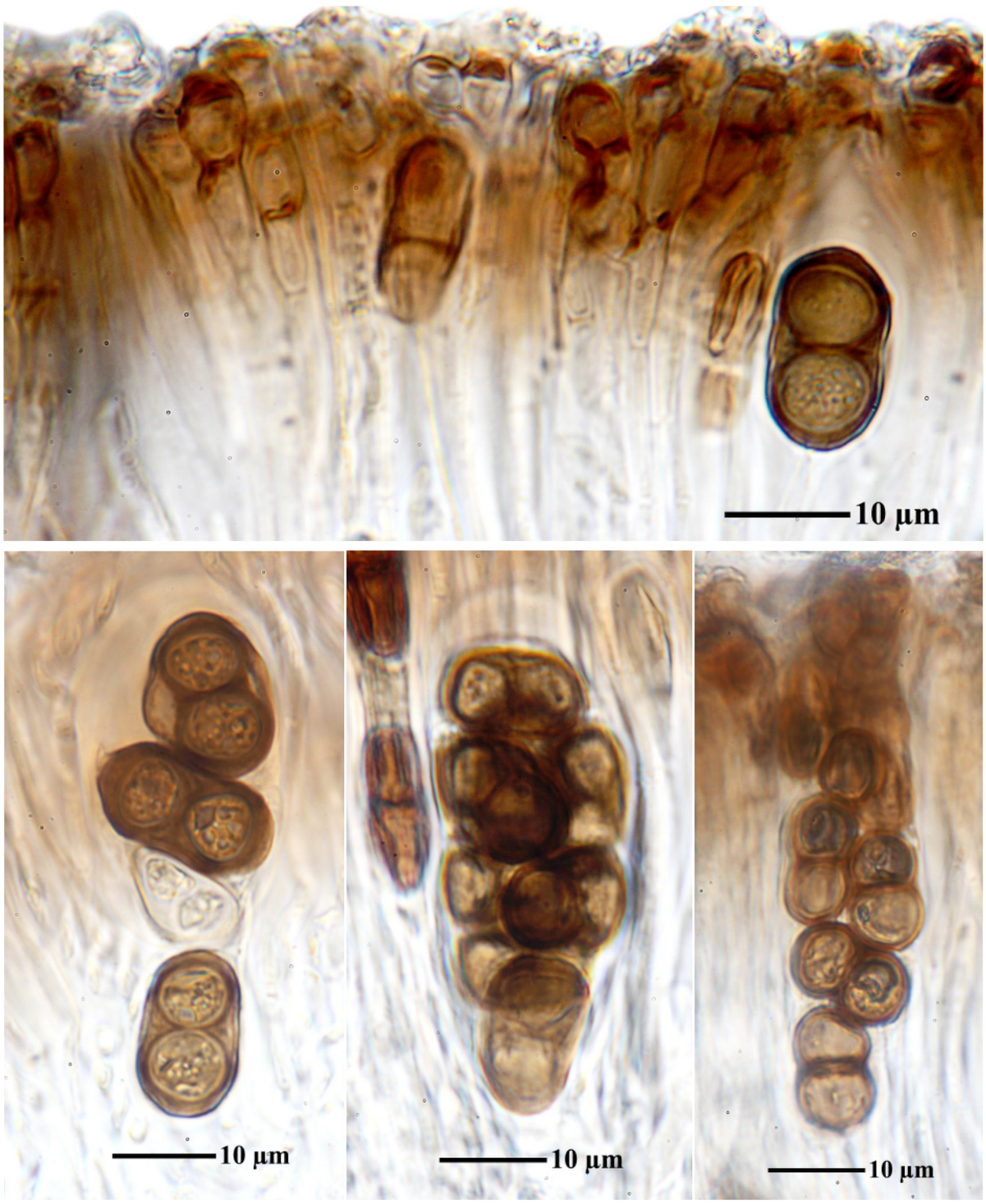


Rinodina pycnocarpa





Rinodina pycnocarpa



Rinodina pycnocarpa

Rinodina pyrina (Ach.) Arnold, Flora, Regensburg 64: 196 (1881)

Hymenium 60 µm. Paraphysen an der Spitze mit Pigmentkappen, ca. 7.5 µm breit. Sporen 12-13.5 -15 x 6-7.5, 1-septiert.

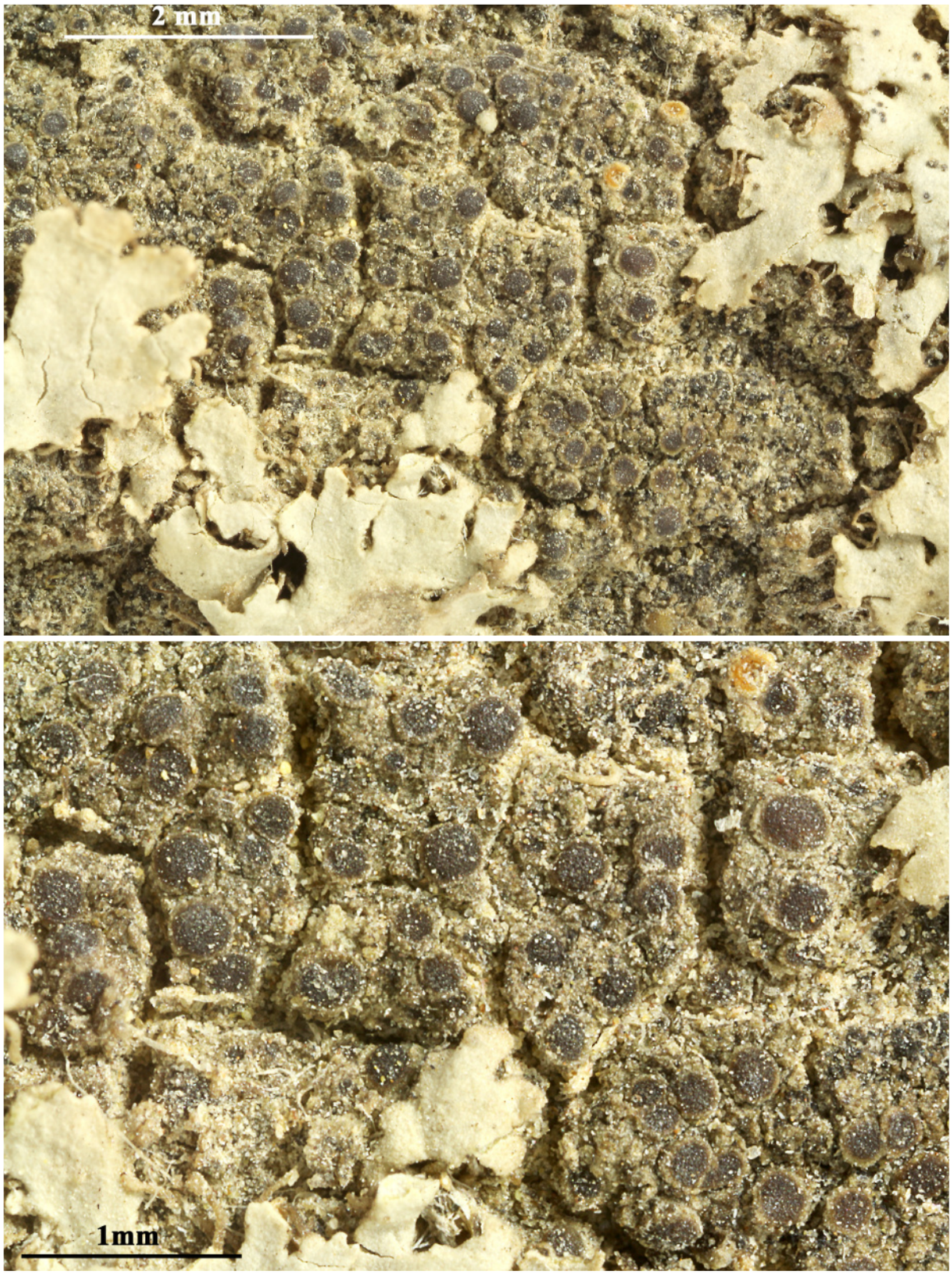
[GZU 27-94], Afghanistan, Prov. Paktia, 4 km N Rabat, ca. 10 km S Chamkani, an der Straße nach Zambar. 69°47.5' E, 33°42.5' N. 1080 m. Auf Sträuchern (Rosa?). Leg. M. Steiner (Ste 79), 4.7.1970. Det H. Mayrhofer & Sheard, 1984.



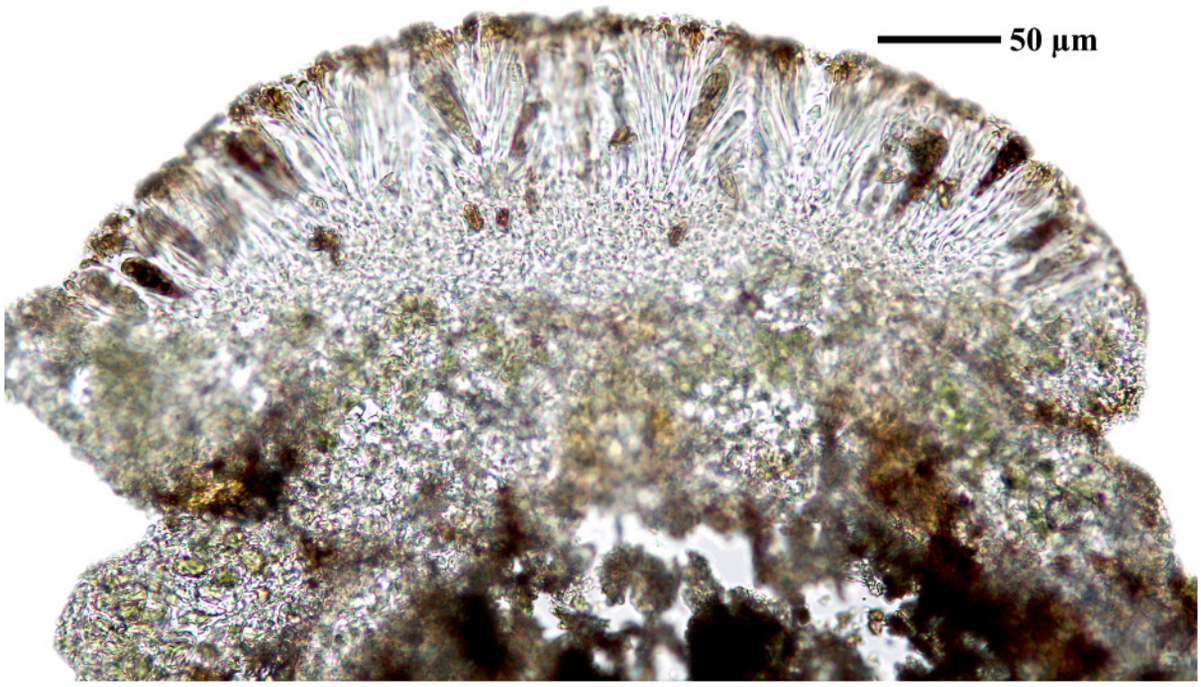


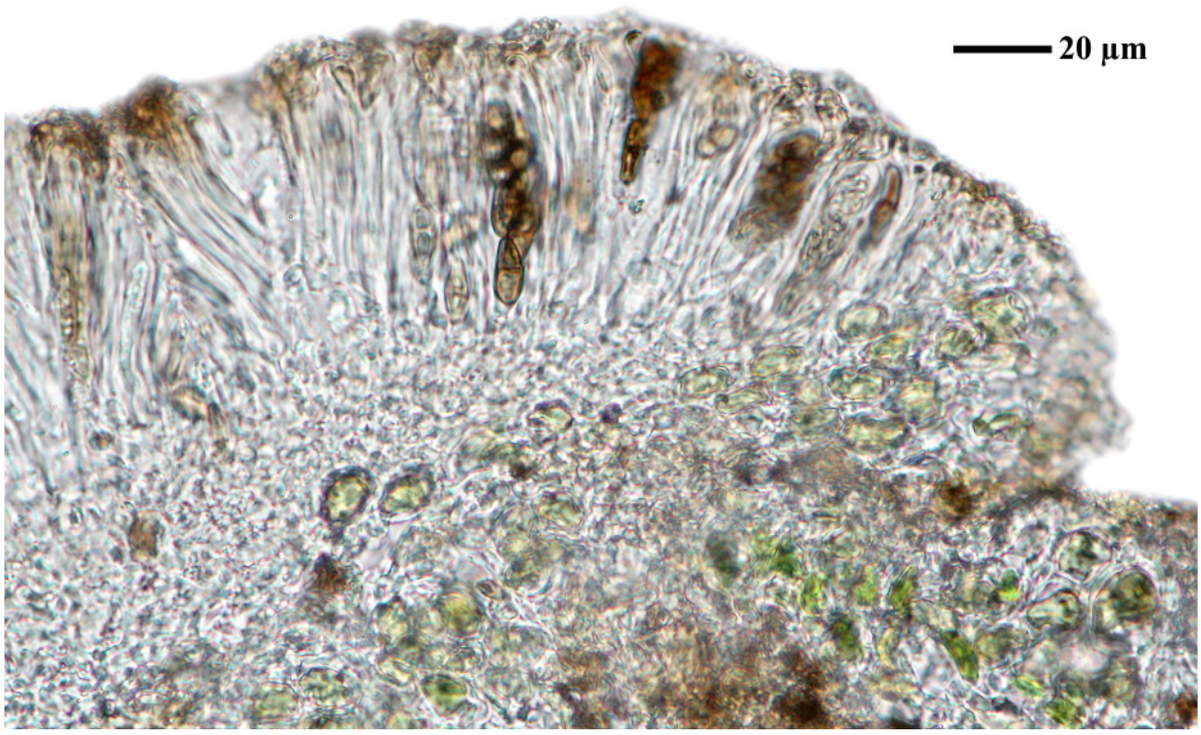


Rinodina pyrina

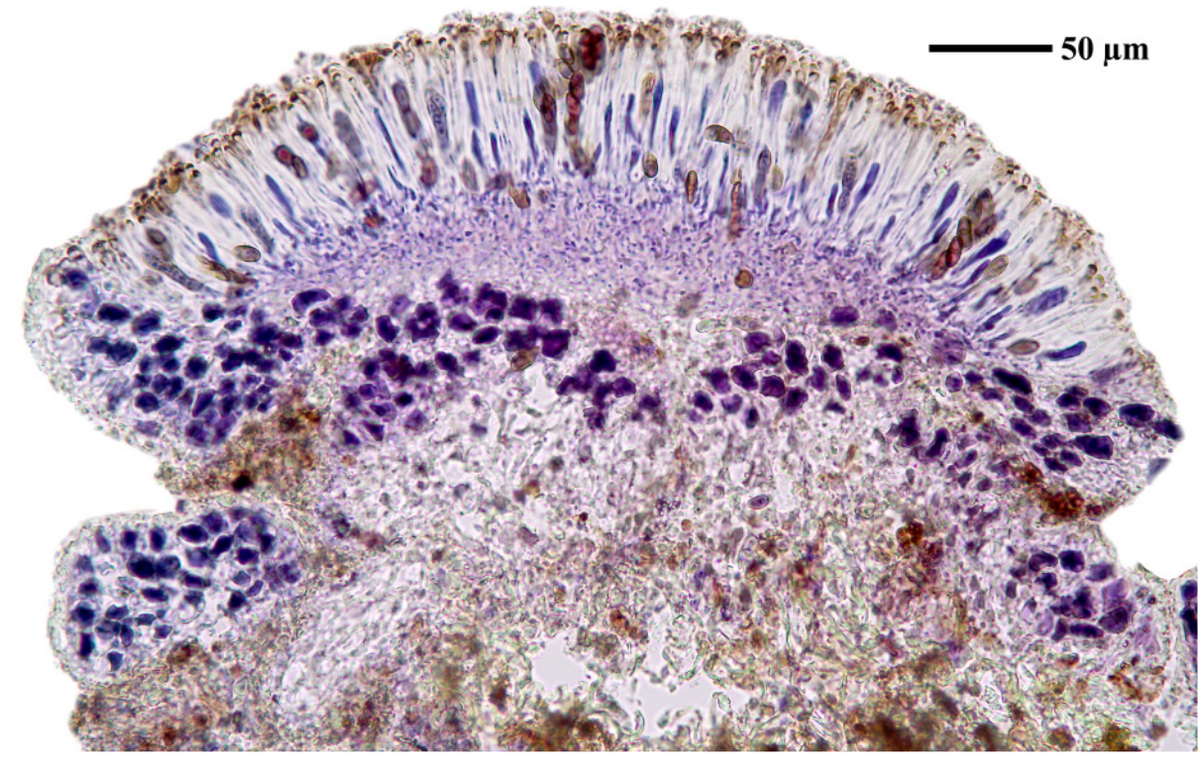


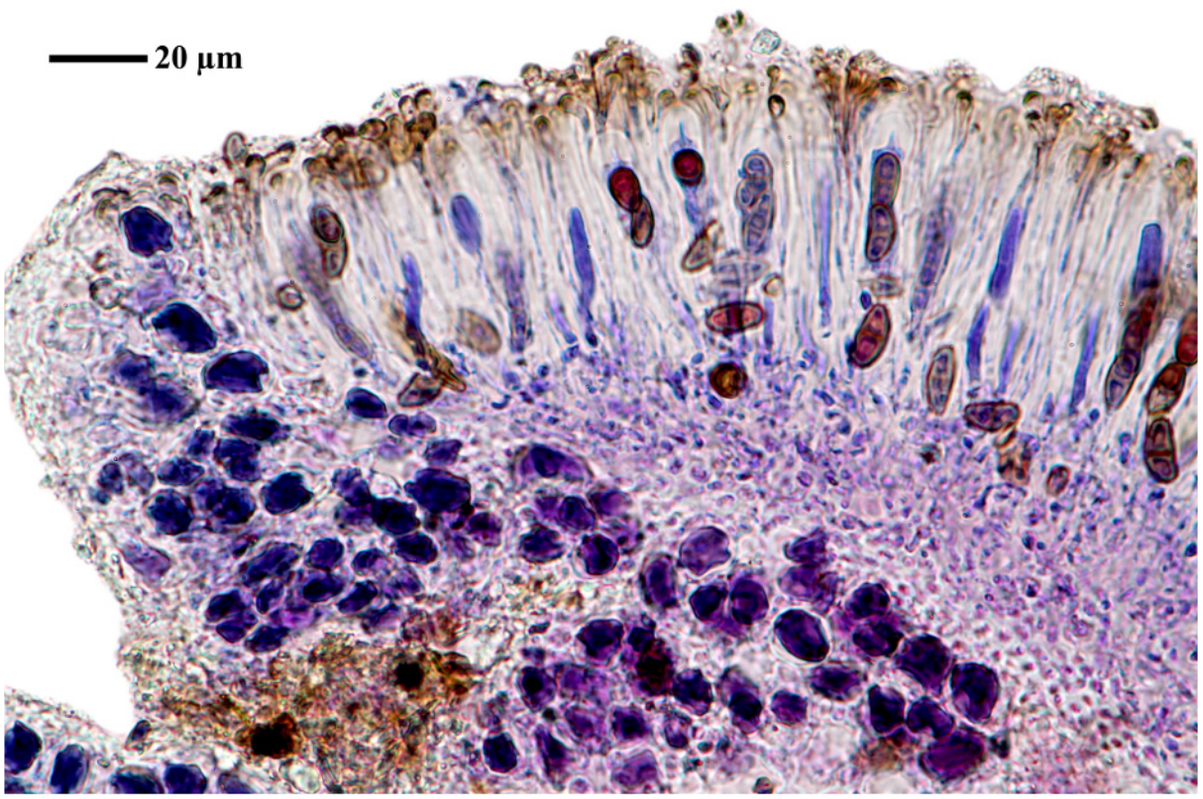
Rinodina pyrina



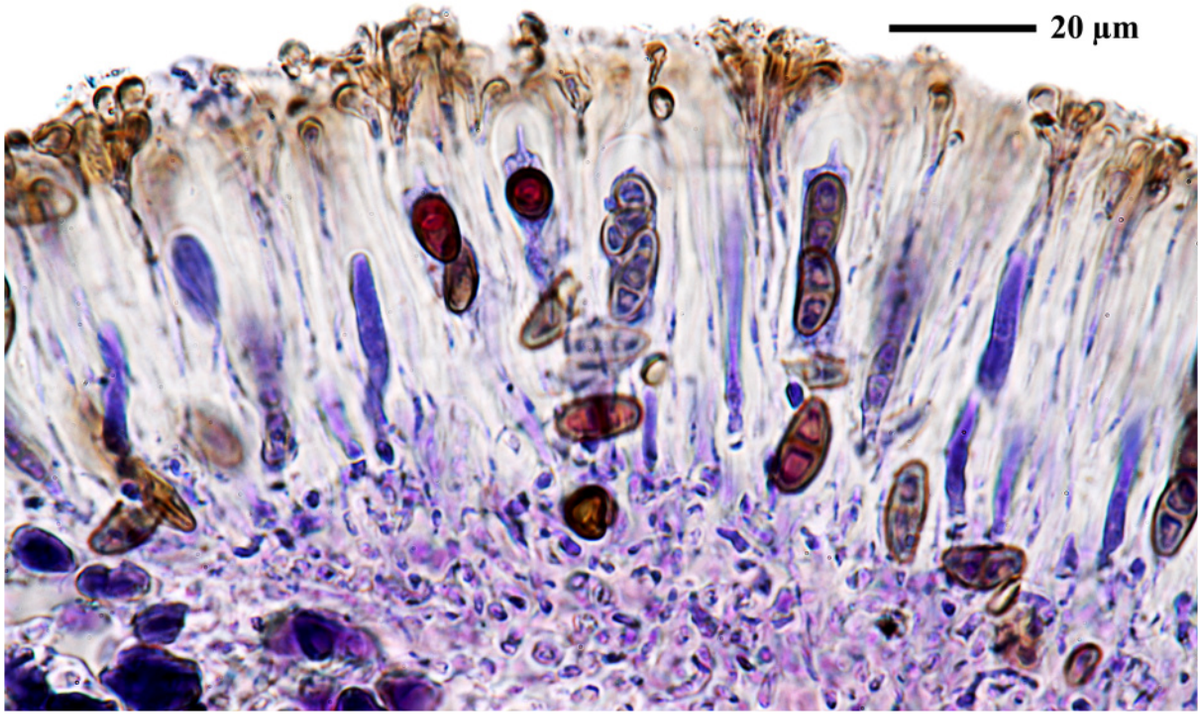


Rinodina pyrina



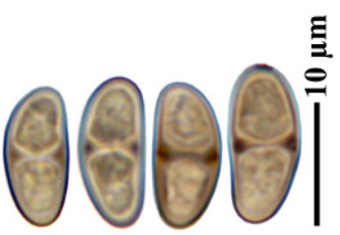


Rinodina pyrina

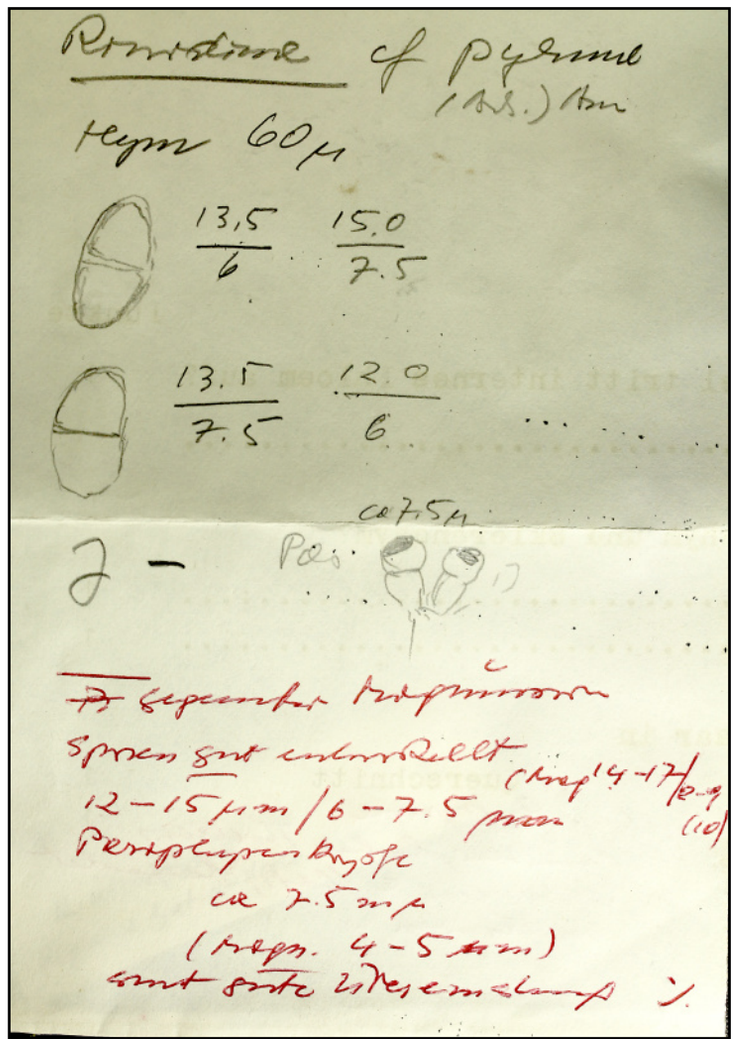








Rinodina pyrina



Rinodina pyrina (Ach.) Arn.

Hym 60 µ

13,5 / 6 · 15,0 / 7,5

13,5 / 7,5 · 12,0 / 6

ca 7,5 µ

2 – Pos:

Asci 8sporig, Ascosporen
Sporen gut entwickelt (Insp 14-17/8-9 (10))
12–15 µm / 6–7,5 µm
Perithecien Hyphe
ca 7,5 µm
(Insp. 4–5 µm)
somit gute Differenzierung ✓

Pass Paglia, 4 Km N Rabat,
ca 10 km S Ortschaft, an der
Straße nach Taounate,
69 / Sh 2 — 6°47,5'E 33°42,5'N
ca. 1800 m
SE Exposition (Rinodina sp)

04.02.70 Steen

Punkte

itt internes Phloem auf? 1

.....

ob nicht eher
R. nitrophila H. Magn. ?
R. pyrina sat anderen Thallus

in

Querschnitt 1

sep. R. pyrina 1
dunkler, derber Thallus
Apothecien & Asci, besonders
wie Rumex

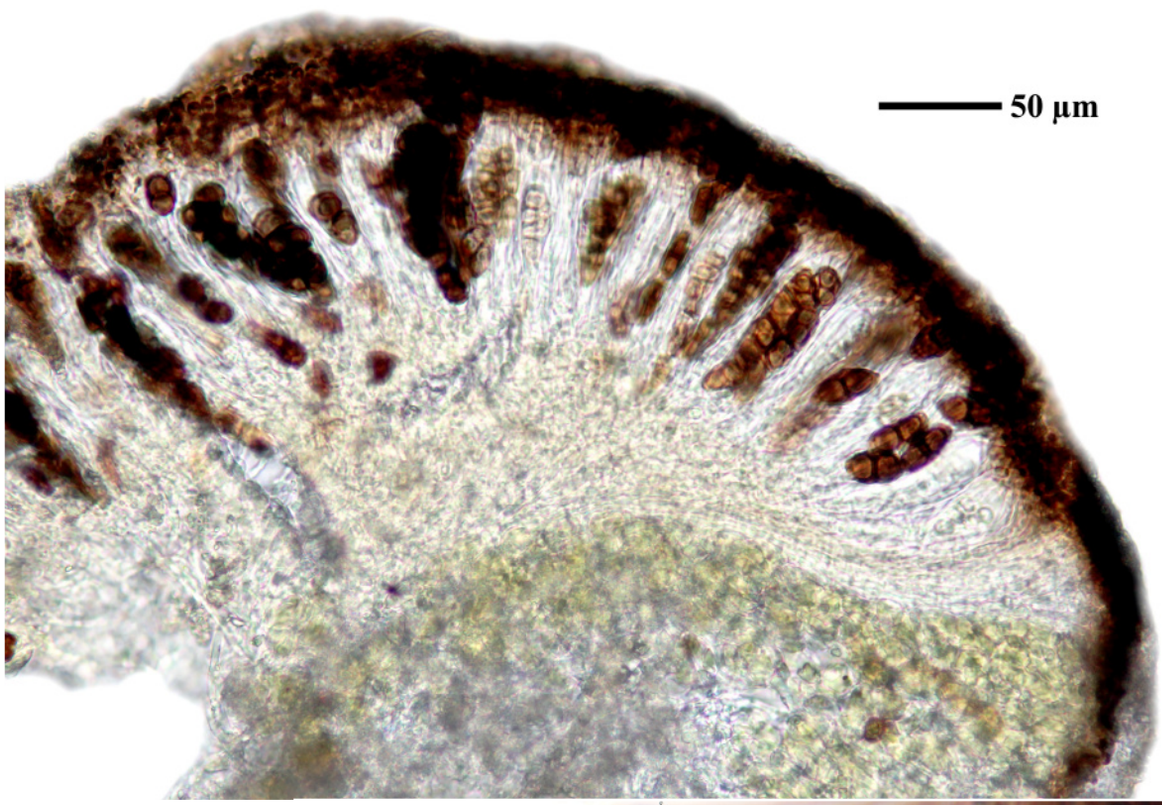
Rinodina pyrina

Rinodina straussii J.Steiner, Annls mycol. 8(2): 242 (1910)

[GZU 11P-83], Afghanistan, Prov. Bamyan, Band-i-Amir, nördliches Seeufer unmittelbar bei dem islamischen Heiligtum. Weiche, junge Kalktuffe am Seeufer, ca. 5-1 m über dem Seespiegel. 67°10.5’ E, 34°49’ N, ca. 2900 m. Leg. A. Dieterle (Pod 36/12), det. H. Mayrhofer, conf. R. Ertl, 2000.

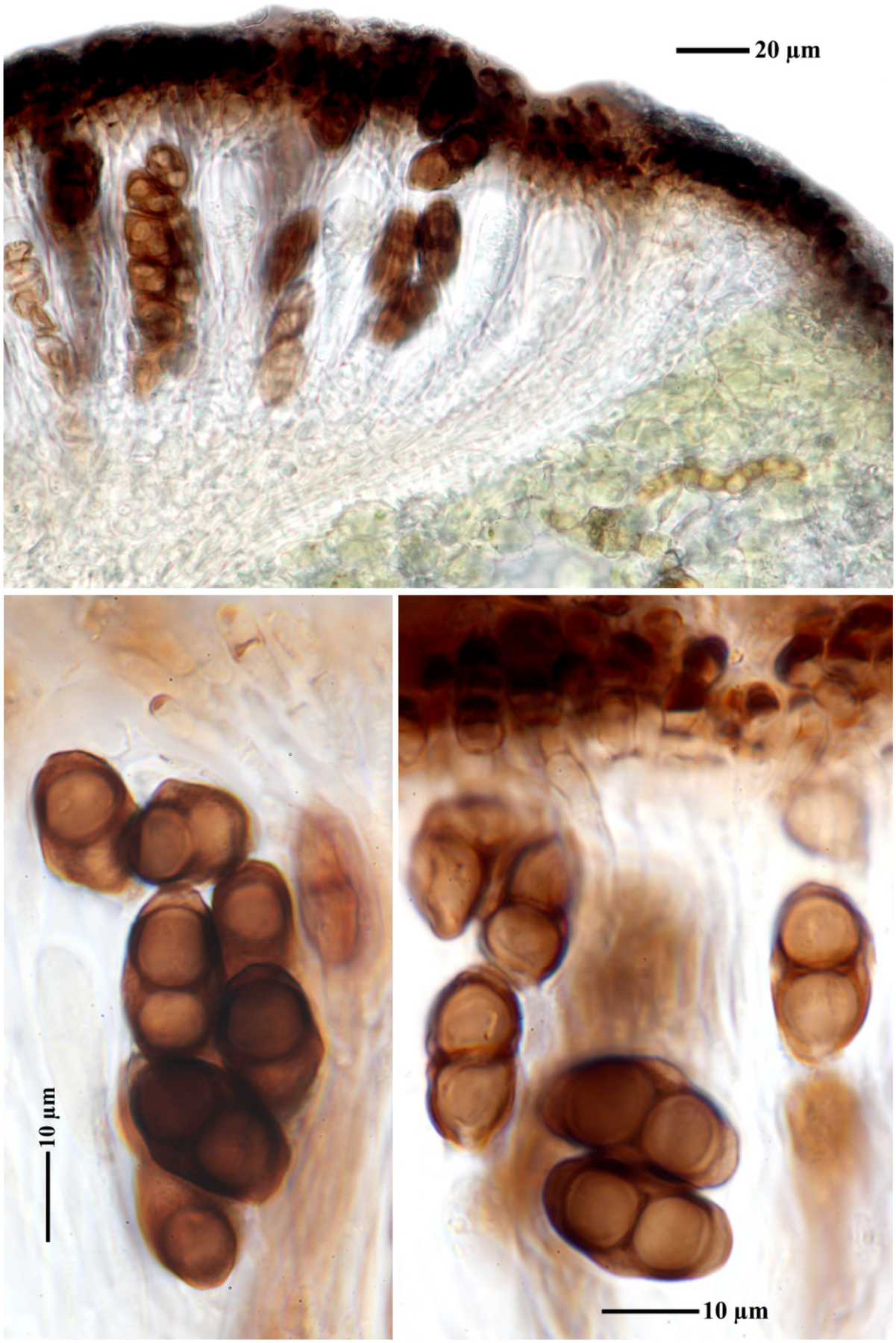








Rinodina straussii



Rinodina straussii

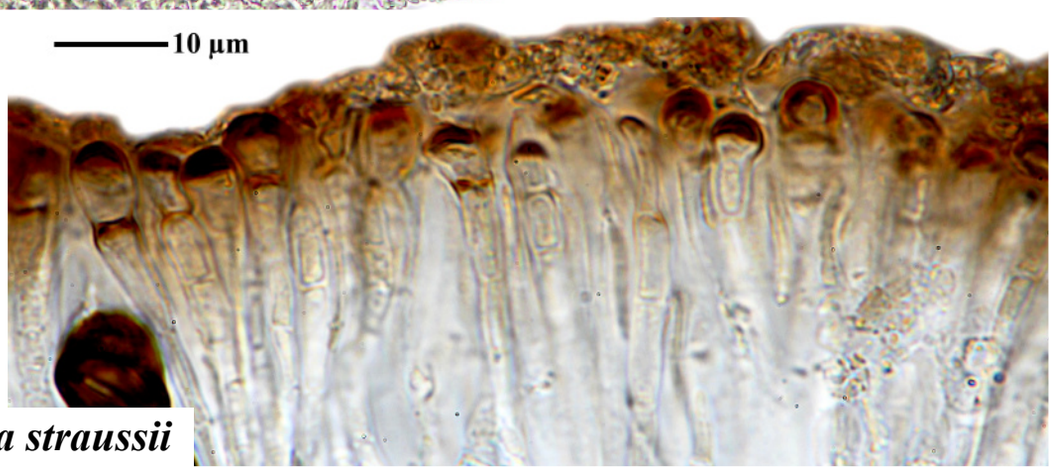
Rinodina straussii J.Steiner, Annls mycol. 8(2): 242 (1910)

[GZU 27-94], Afghanistan, Prov. Bamyan, an der Straße nach Band-i-Amir. 67°44’ E, 34°52’ N, ca. 2550 m. Auf Zenit- und Frontalflächen von Felsblöcken, Kalk. Leg. M. Steiner (Ste 16/6), 12.05.1070, det. H. Mayrhofer, 1980, conf. R.Ertl, 2000.

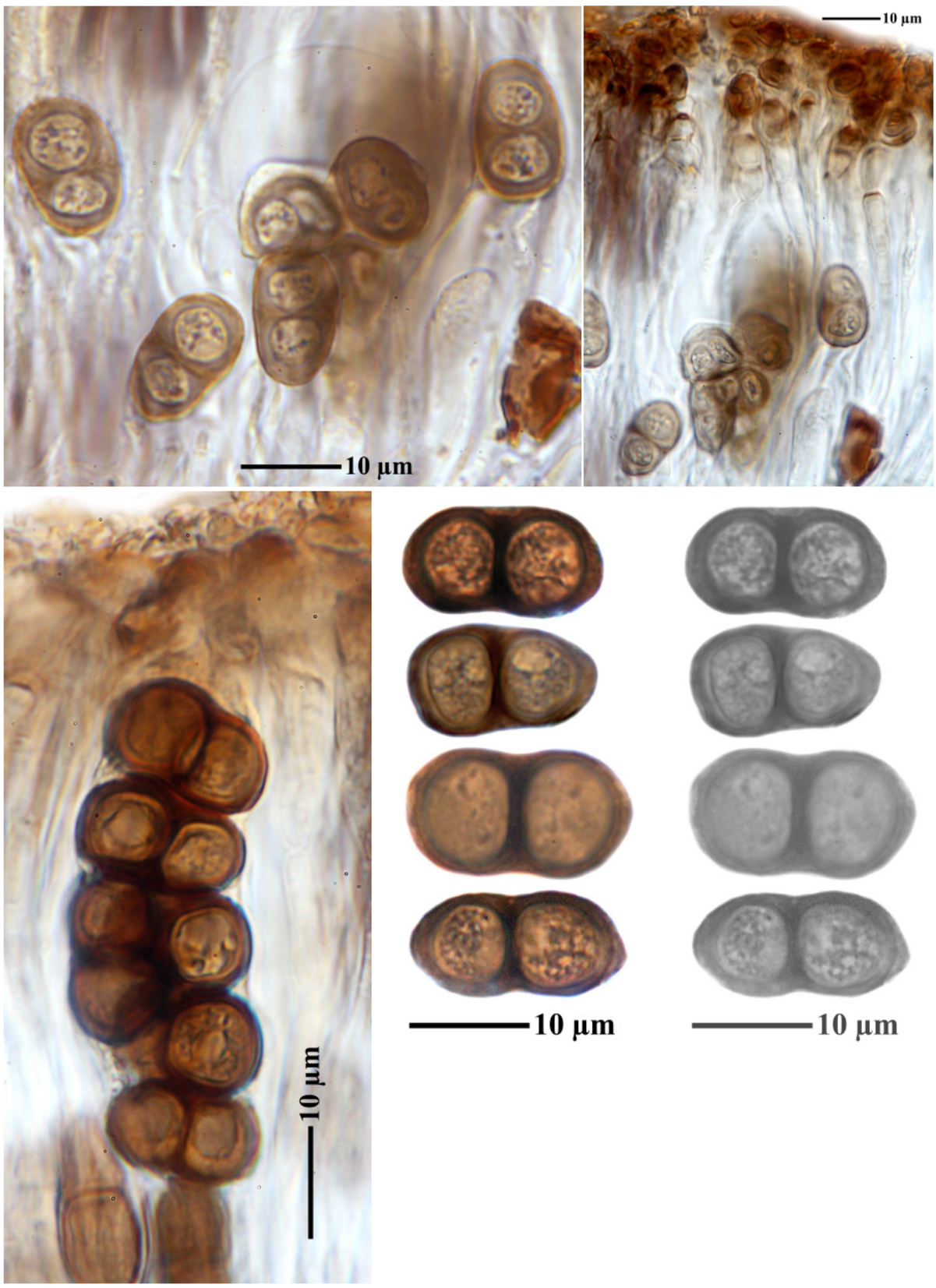








Rinodina straussii



Rinodina straussii

Rinodina subnigra H. Magn., (1940)

von R.Ertel (2000) revidiert als
Rinodina epiianthina Harm., Lich. Fr. 5: 919 (1913)

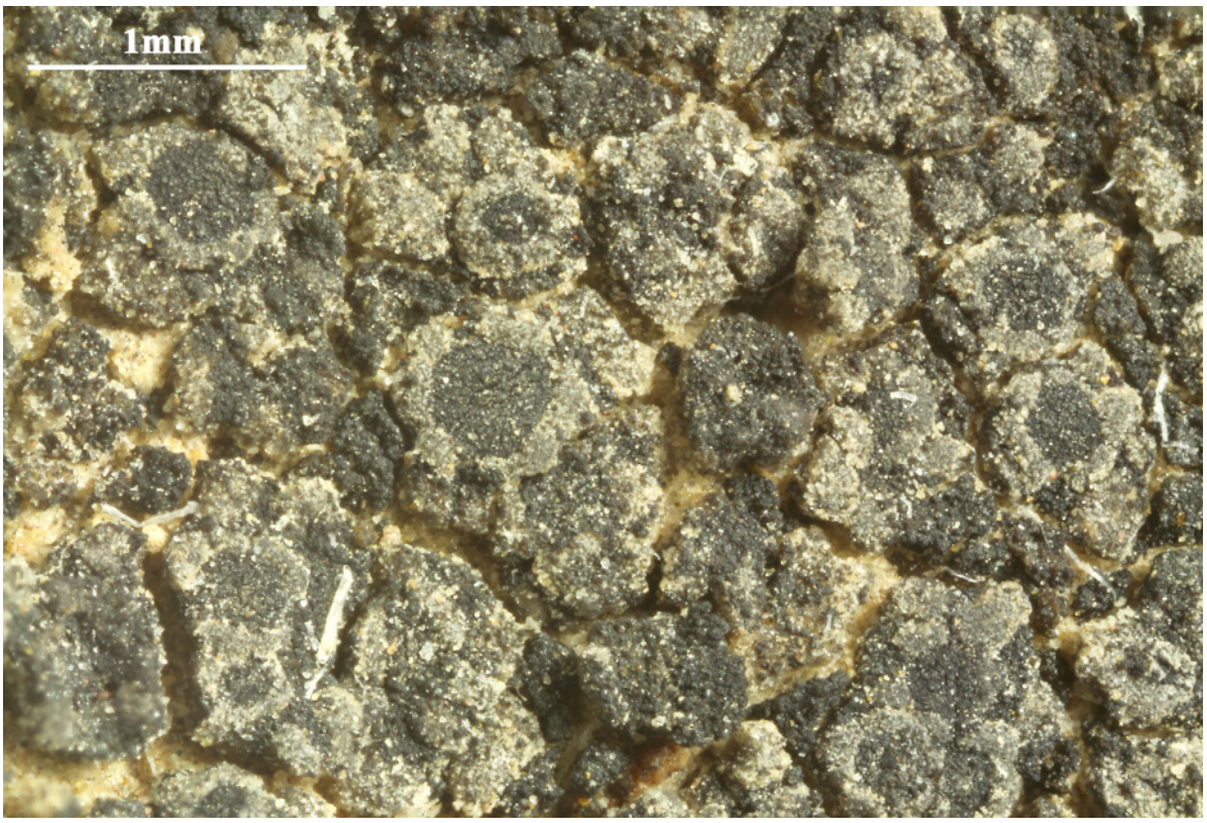
Thallus dark. Spores 19 x 11 µm (bzw.: 14.5-19 x 9-9.5 µm, Messung von FS) Chemistry: TLC: ohne Inhaltsstoffe

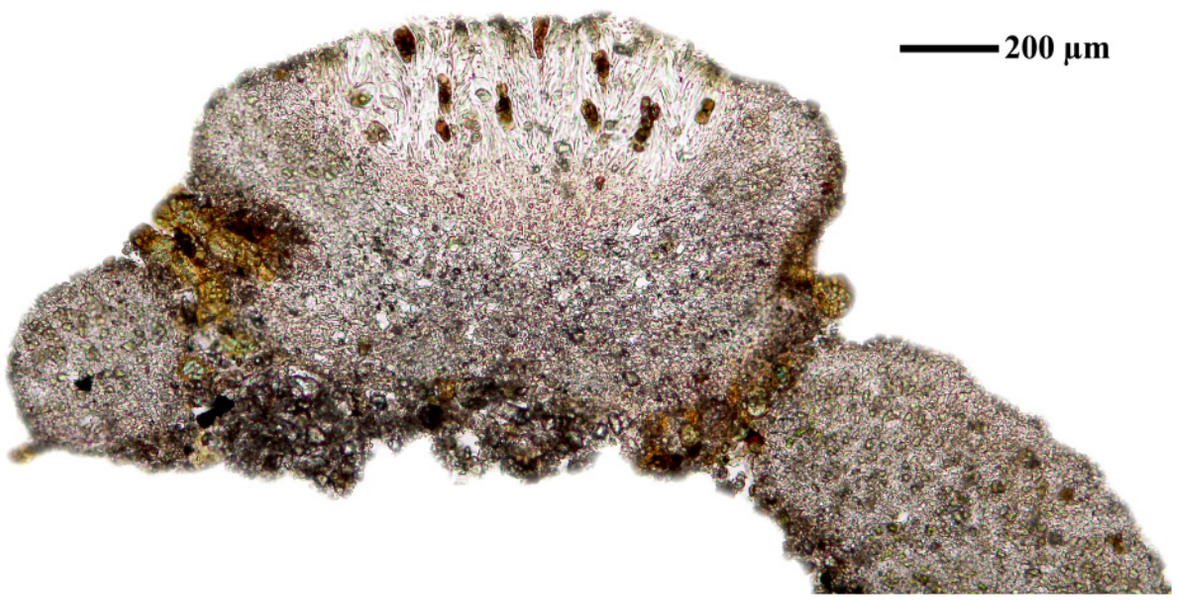
[GZU 27-94], Afghanistan, Prov. Samangan, Darrah-i-Khulm, bei Sar-i-Kunda Pam, ca. 15 km südlich Aybak. 68°48.5' E, 36°11.5 N, 1080 m. Leg. M. Steiner (Ste 48/3), 06.06.1970, det. H. Mayrhofer, 1983. Chemistry: without lichen substances with HPTLC.

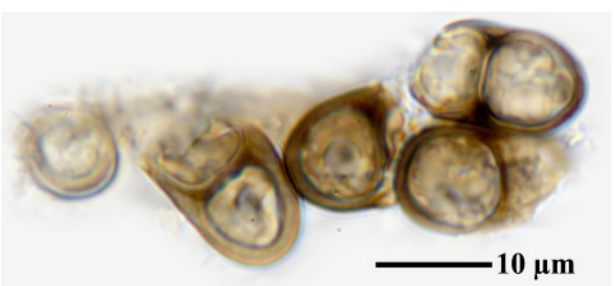


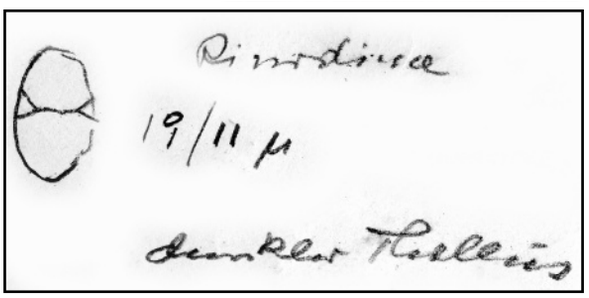


Rinodina subnigra

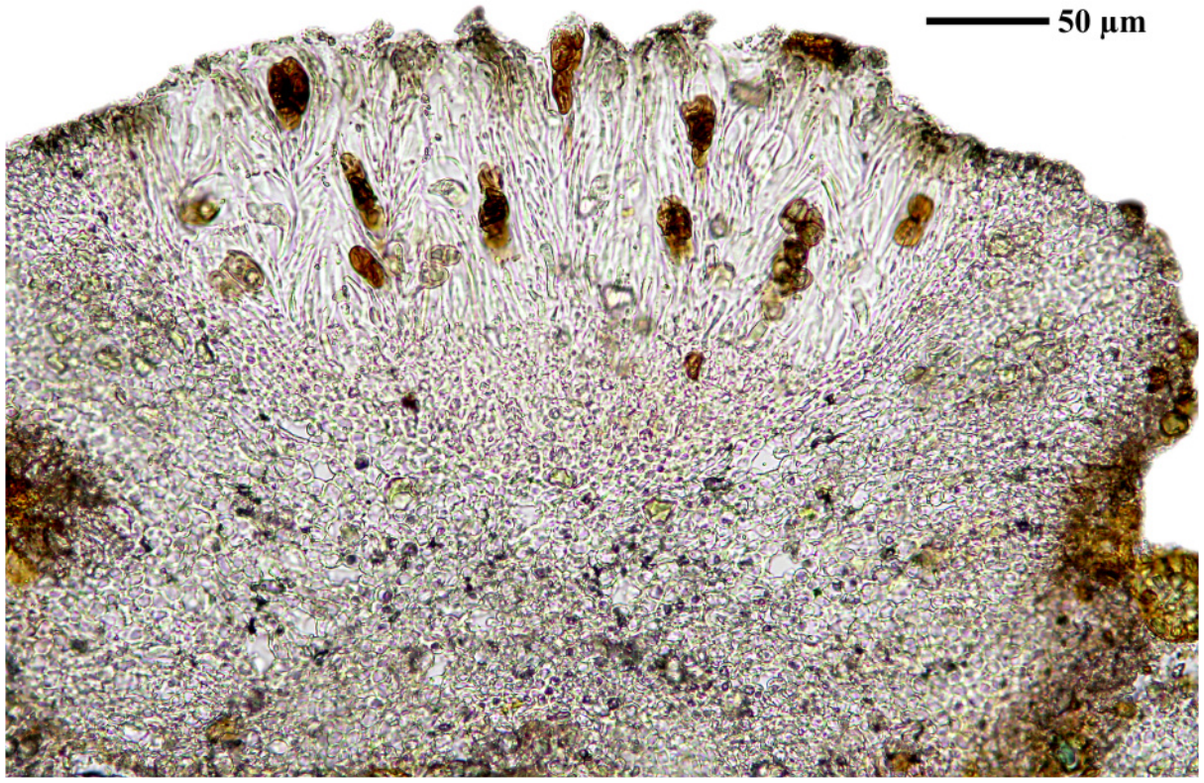


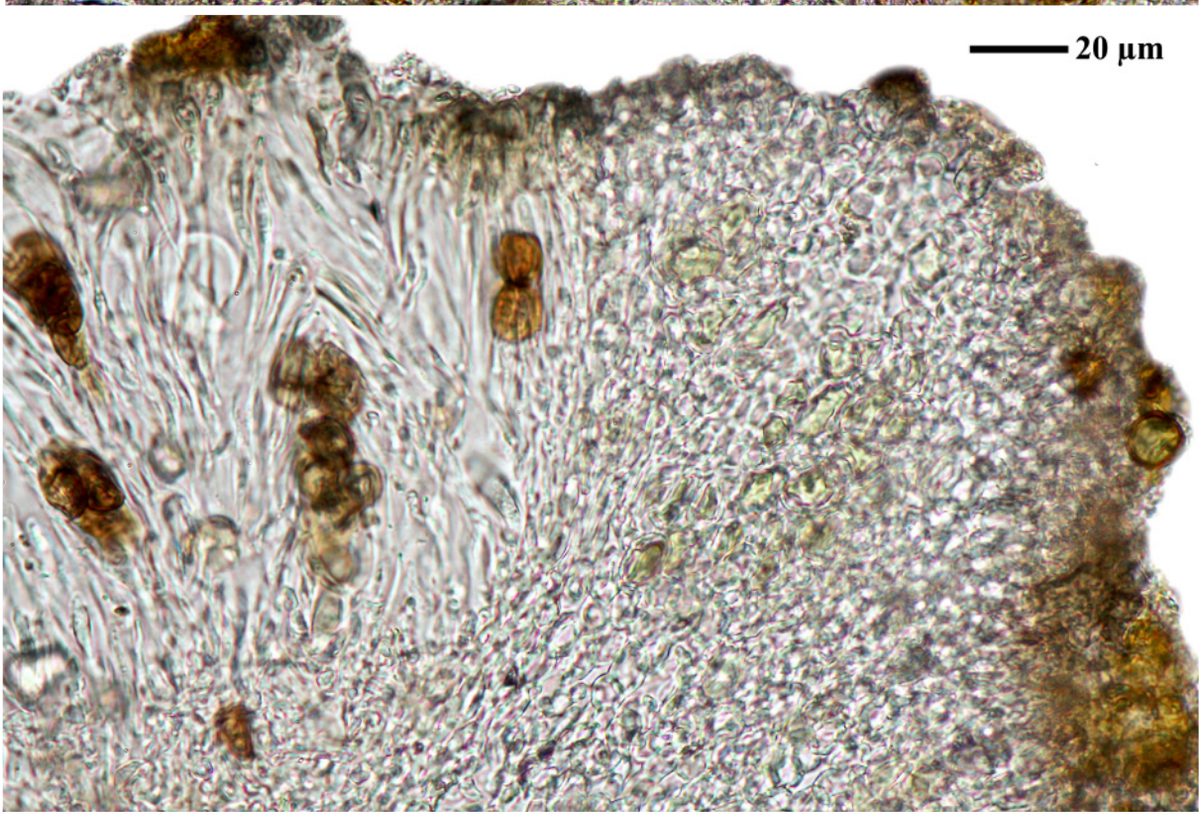




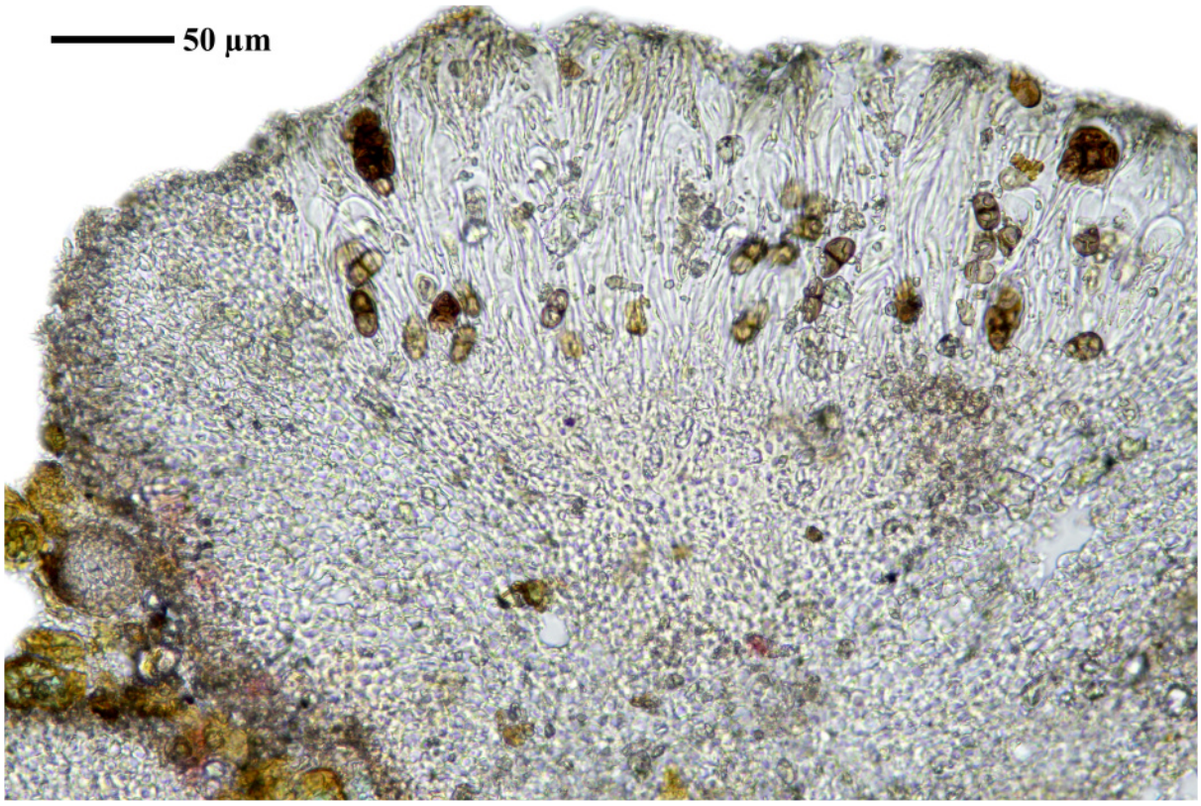


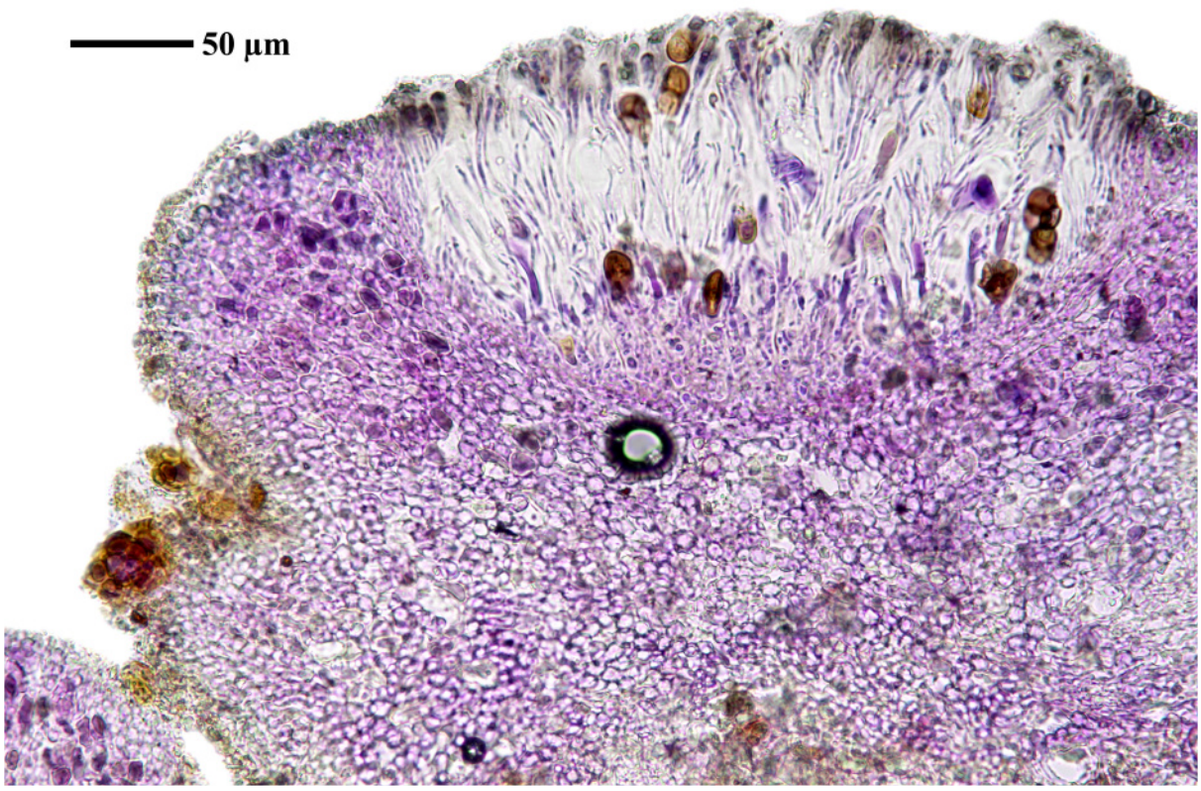
Rinodina subnigra





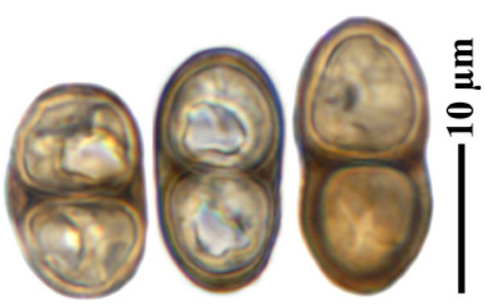
Rinodina subnigra





Rinodina subnigra



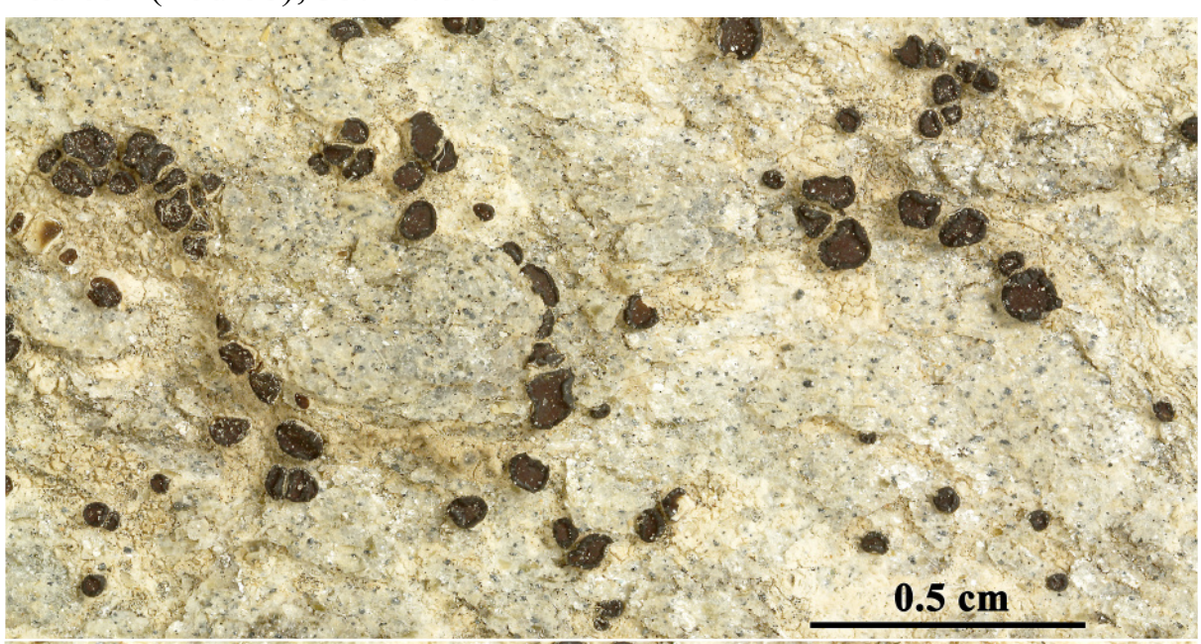


Rinodina subnigra

Sarcogyne praetermissa K.Knudsen & Kocourkova

Notes: Dieser Name ist nicht im Index Fungorum zu finden. Ursprünglich ist die Probe bestimmt worden als: ***Sarcogyne privigna*** (Ach.) A. Massal., Geneac. lich. (Verona): 10 (1854).
Bemerkungen von Knudsen soweit ich sie entziffern kann: Paraphysen 2-3 µm wide. Margins more thickly melanized and splitting than in specimens from lower elevations in Europe. Ascospores broader than type specimens, many 4 x 2 µm.

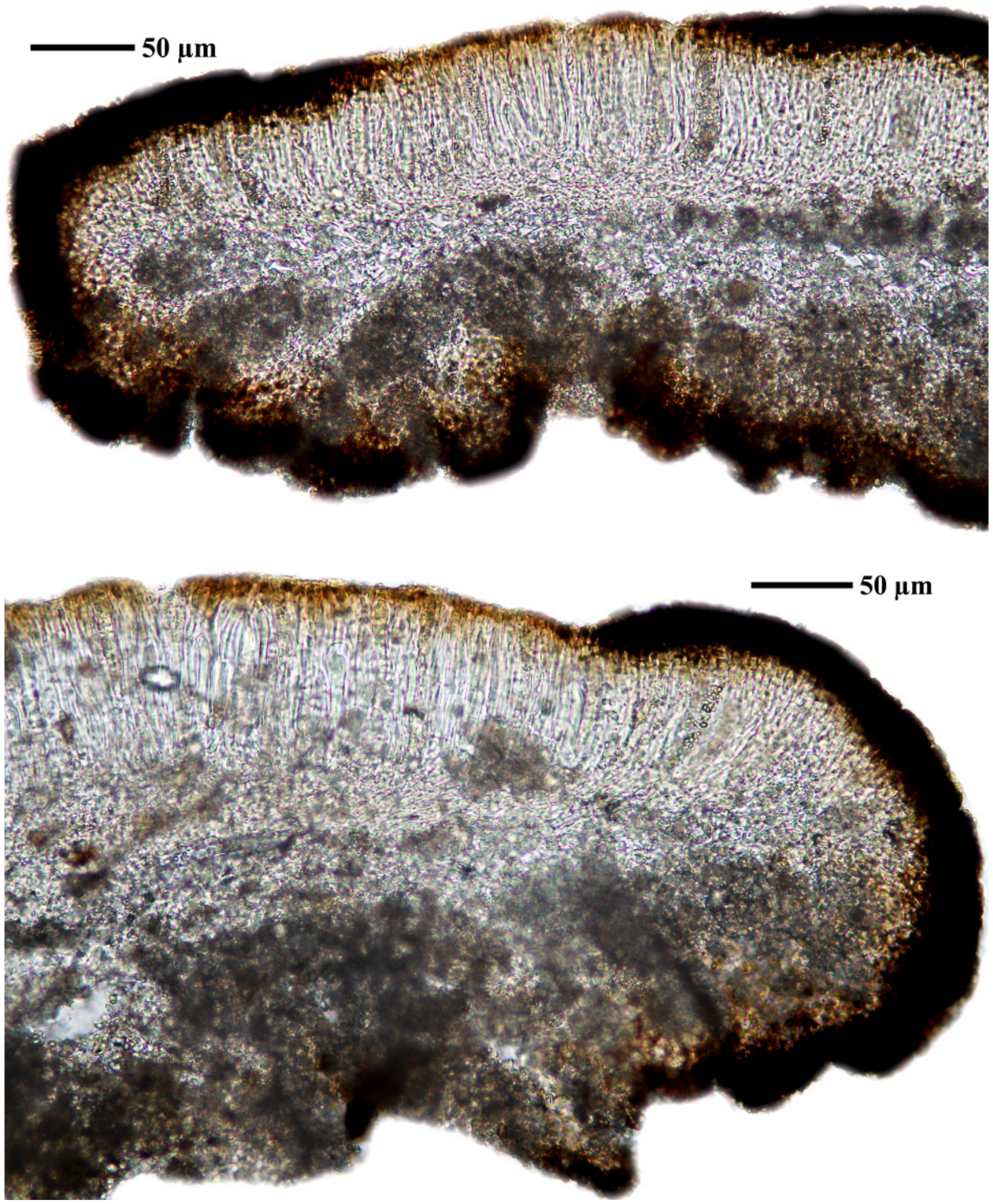
[GZU 24-P3], Afghanistan, Prov. Kabul, Logar-Tal, Stupa Guldara, S von Saydkhel. 69°16’ E, 34°23’ N, 2100 m, kalkfreie Felsen. Leg. D. Podlech (Pod 68), 35.11.2978



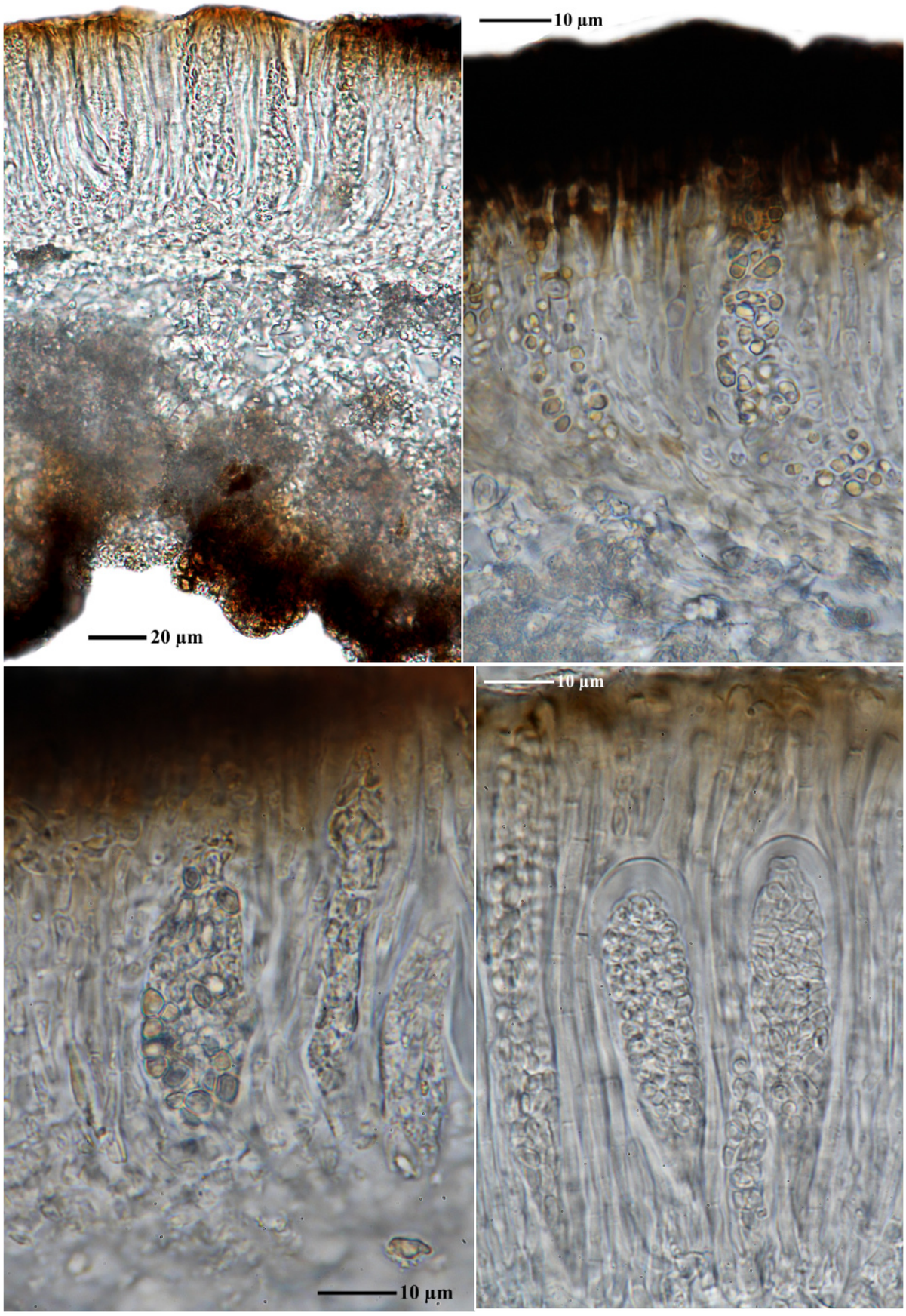




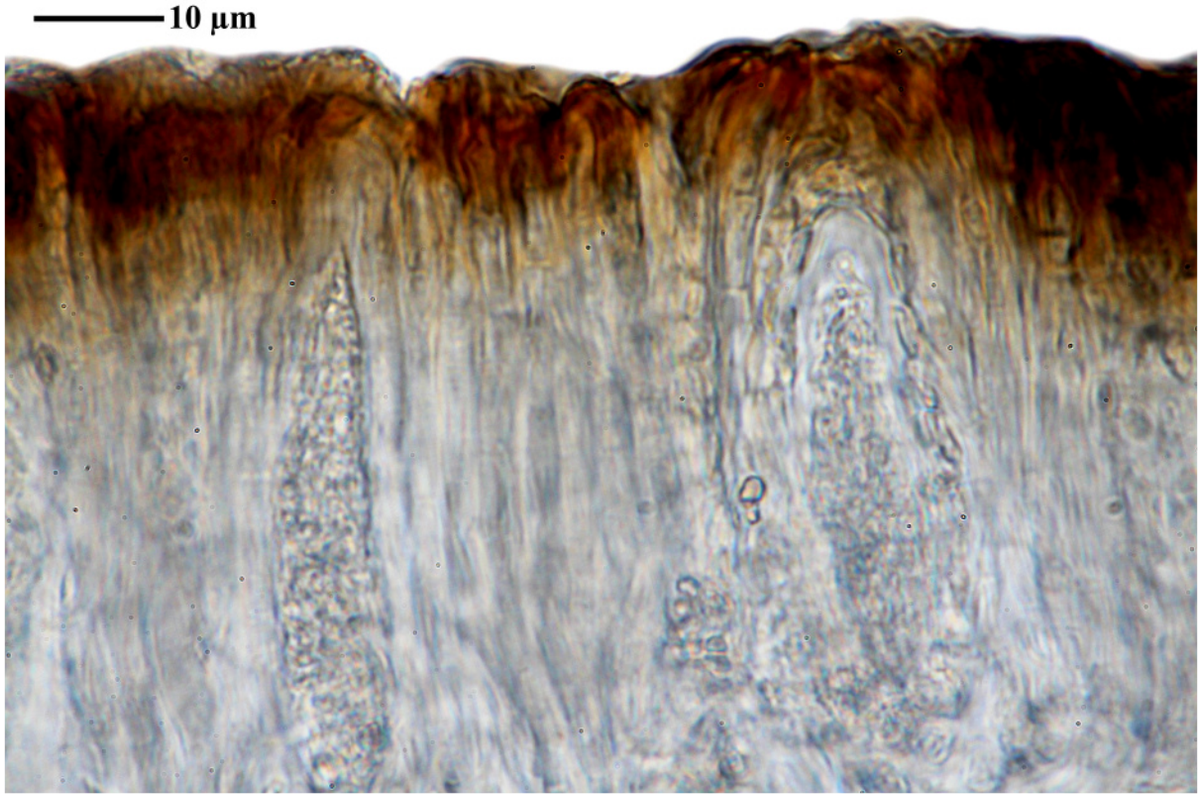
Sarcogyne praetermissa

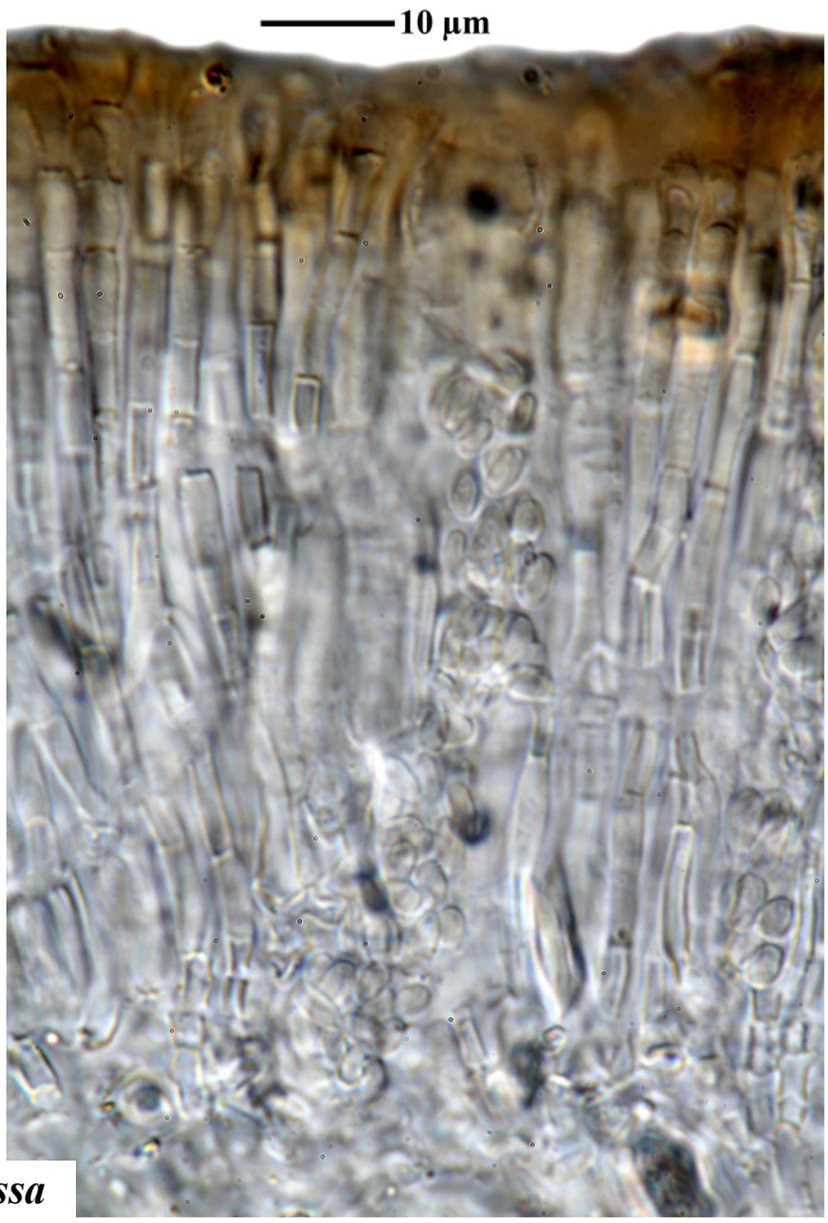


Sarcogyne praetermissa

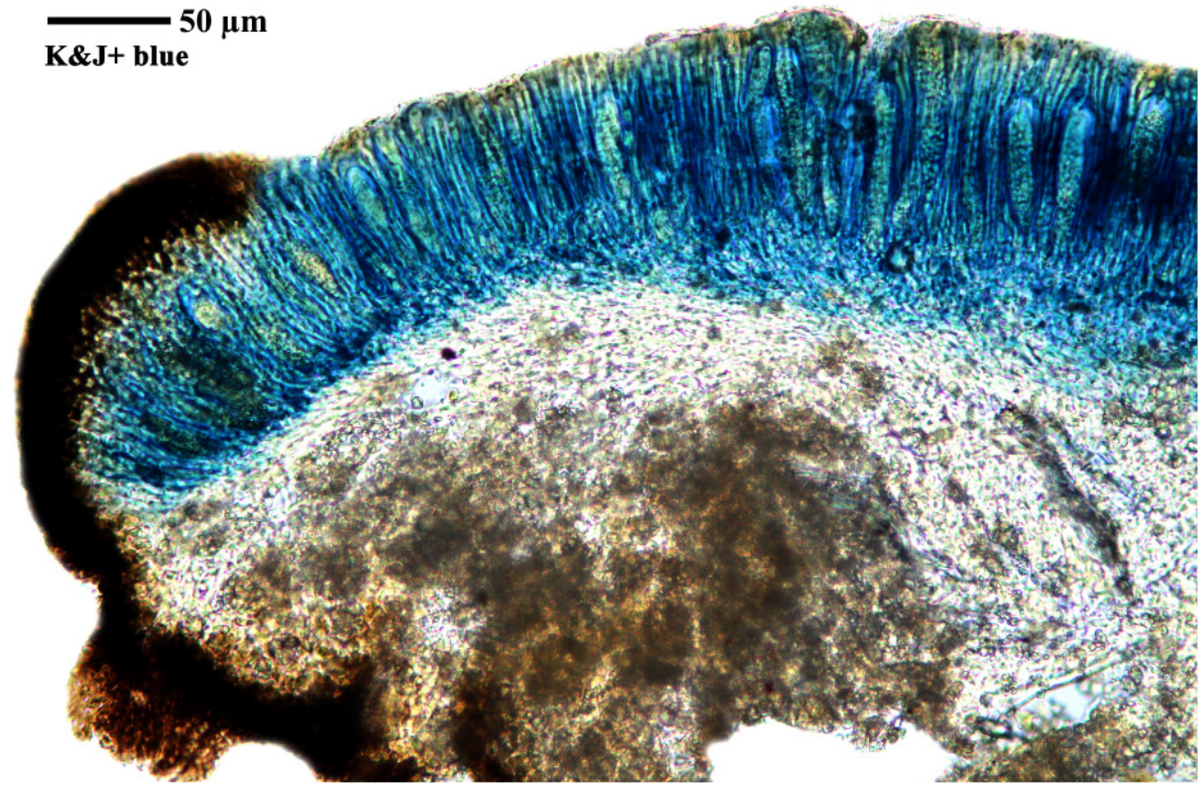


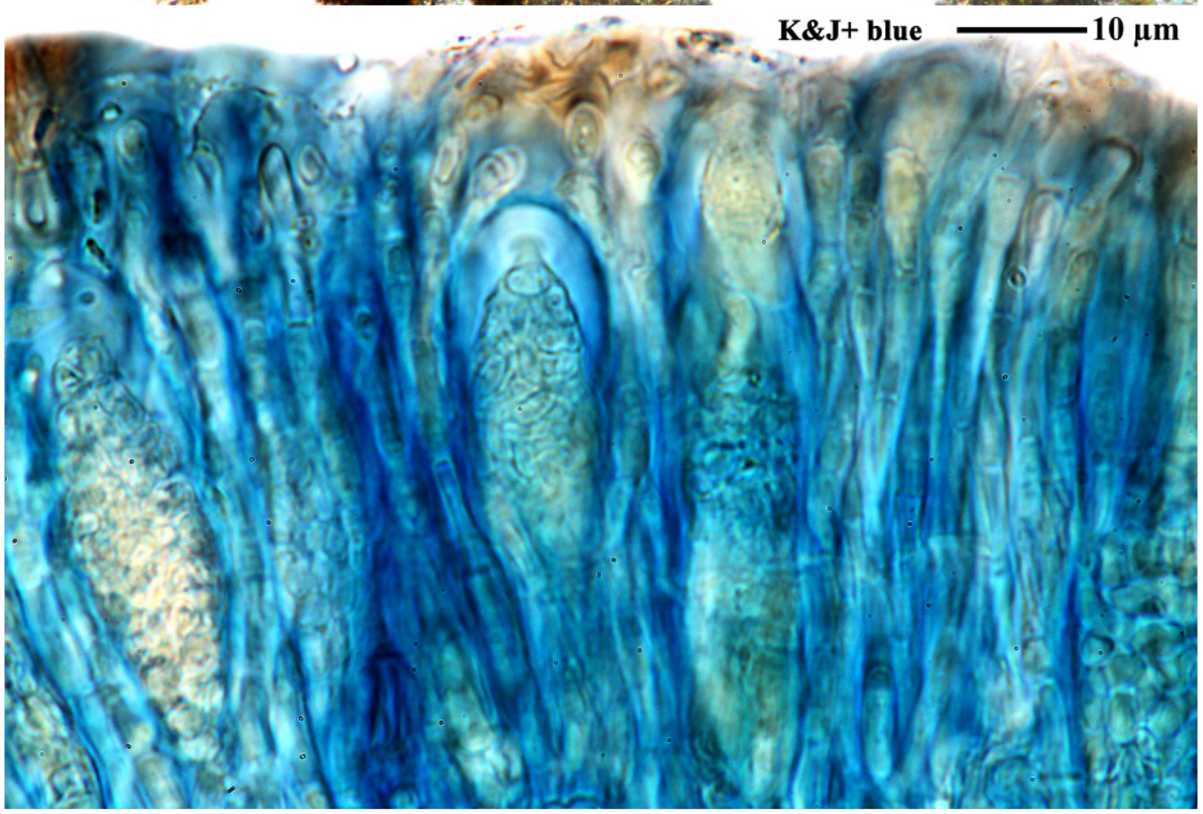
Sarcogyne praetermissa



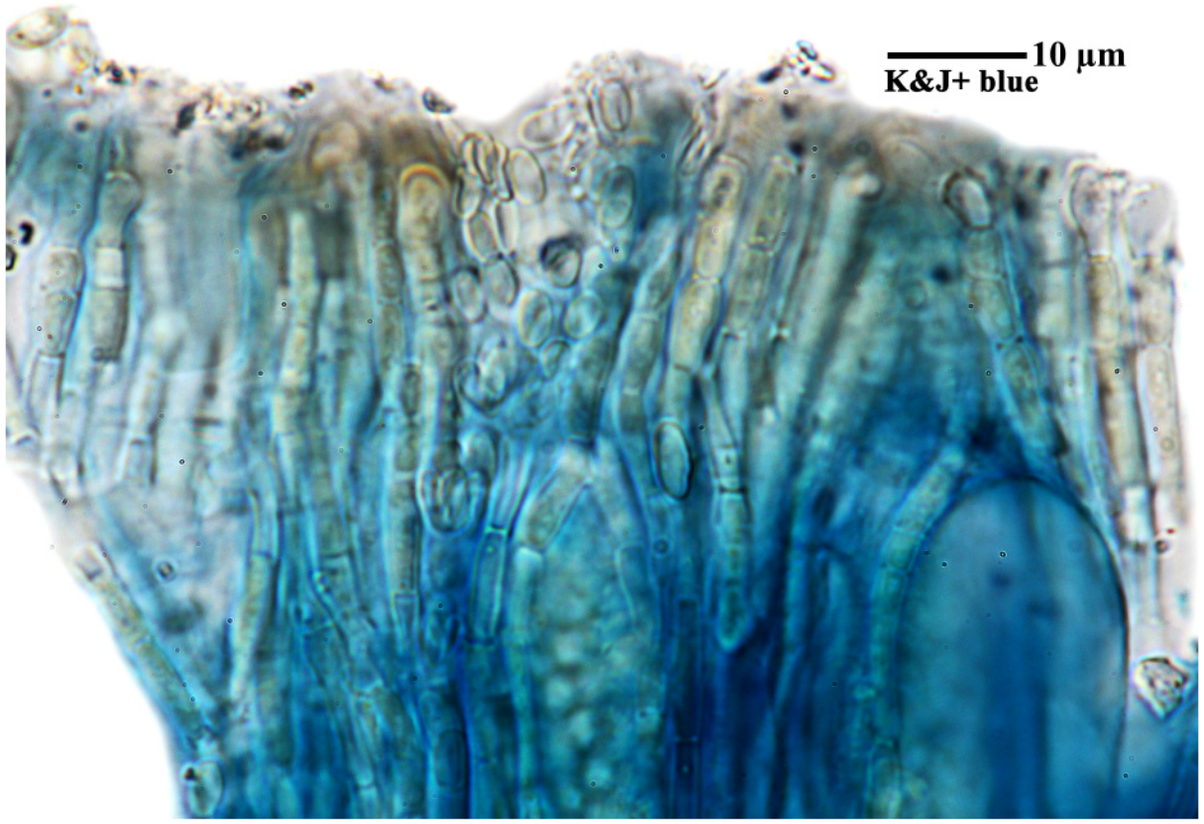


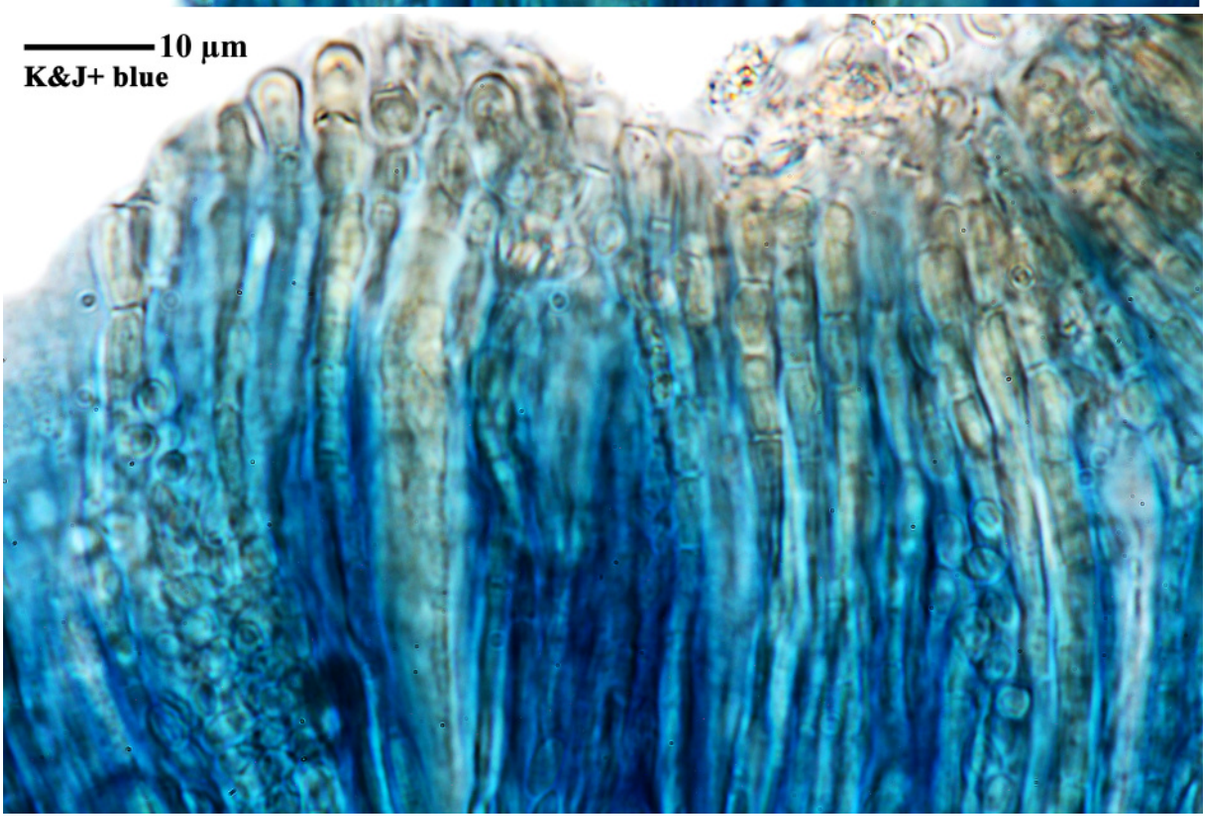
Sarcogyne praetermissa



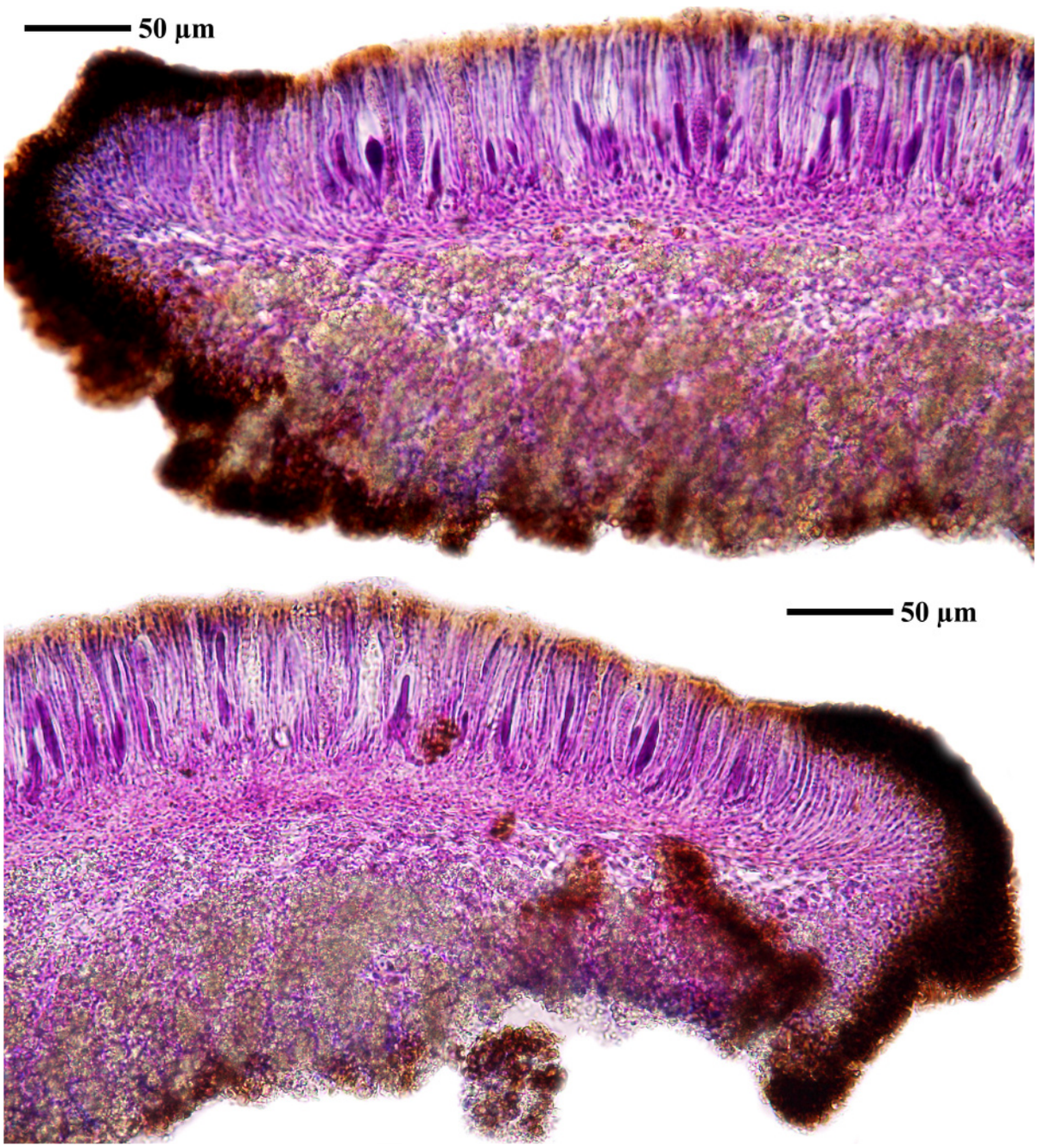


Sarcogyne praetermissa

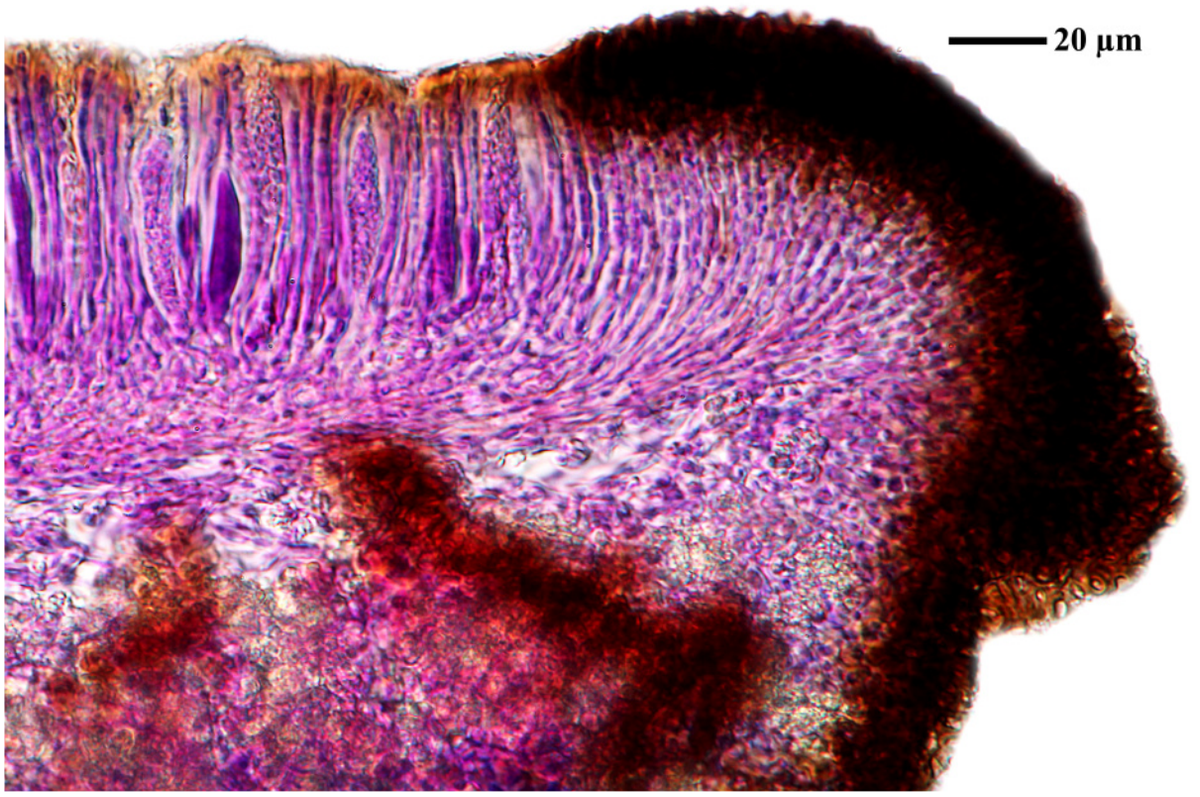


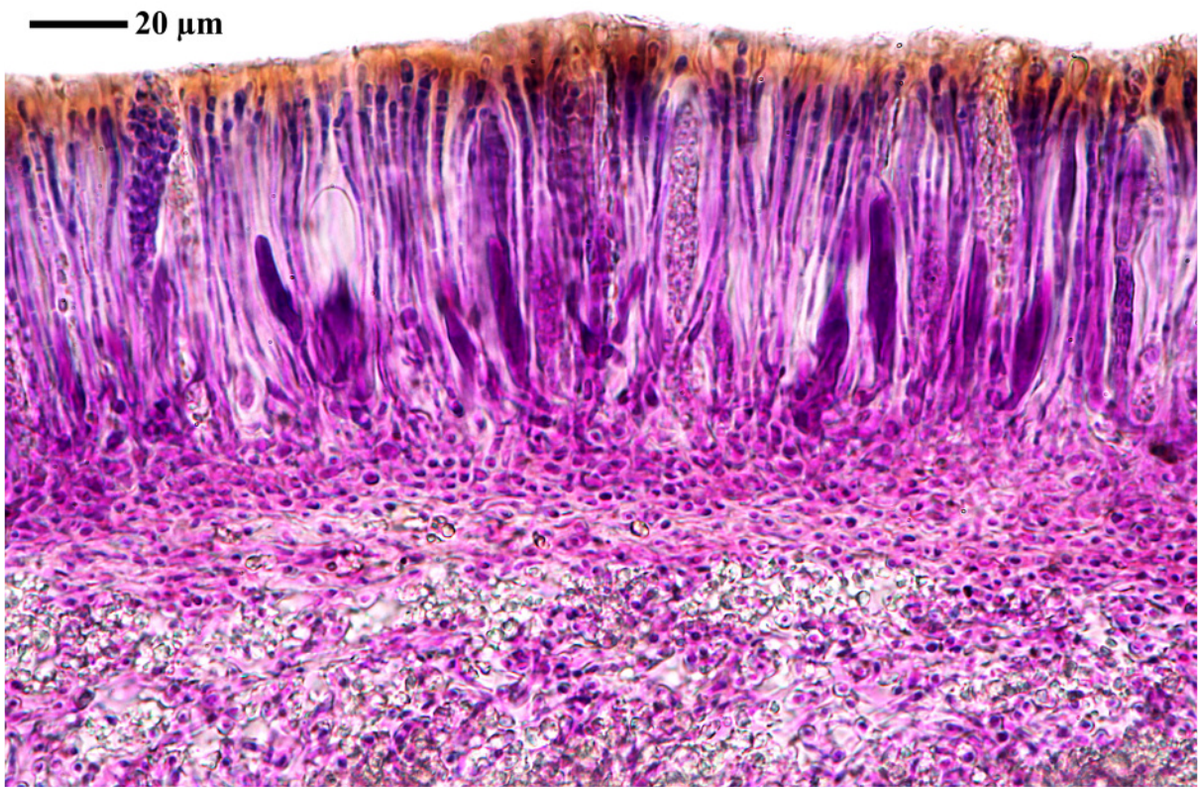


Sarcogyne praetermissa



Sarcogyne praetermissa





Sarcogyne praetermissa

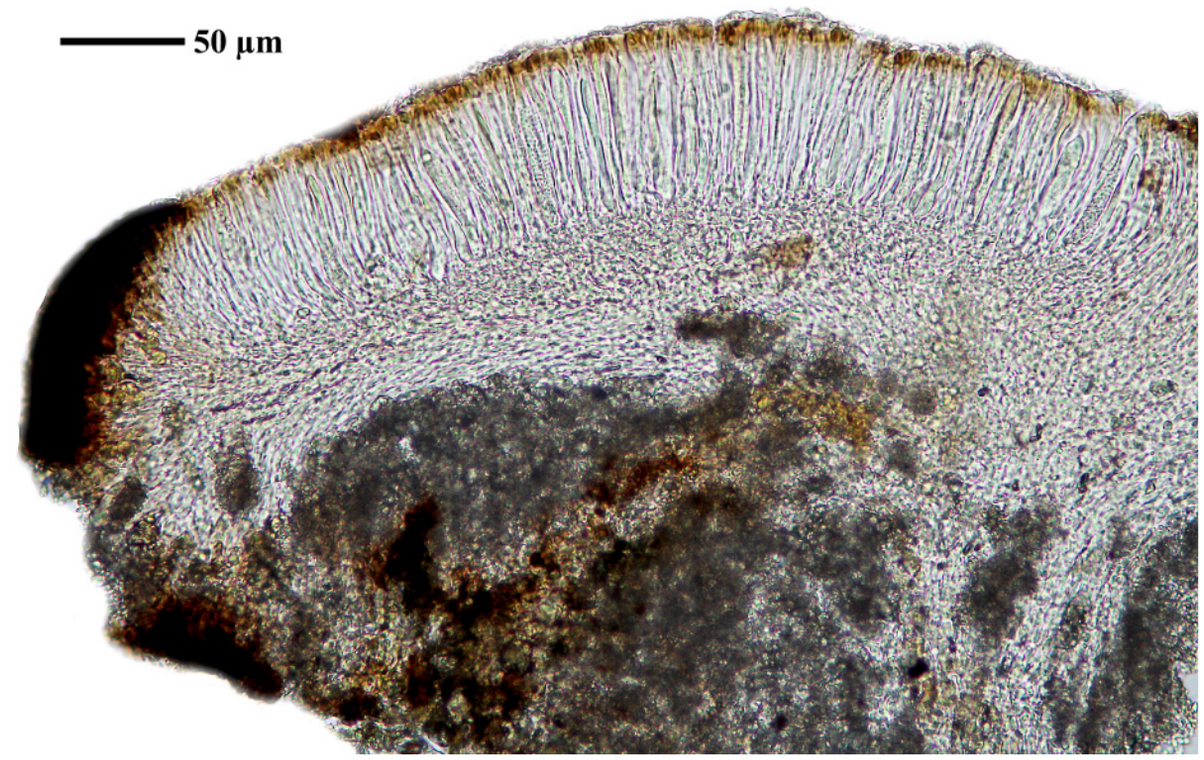
Sarcogyne privigna (Ach.) A.Massal., Geneac. lich. (Verona): 10 (1854) [= *Sarcogyne hypophaea* (Nyl.) Arnold, Flora, Regensburg 53: 475 (1870)]

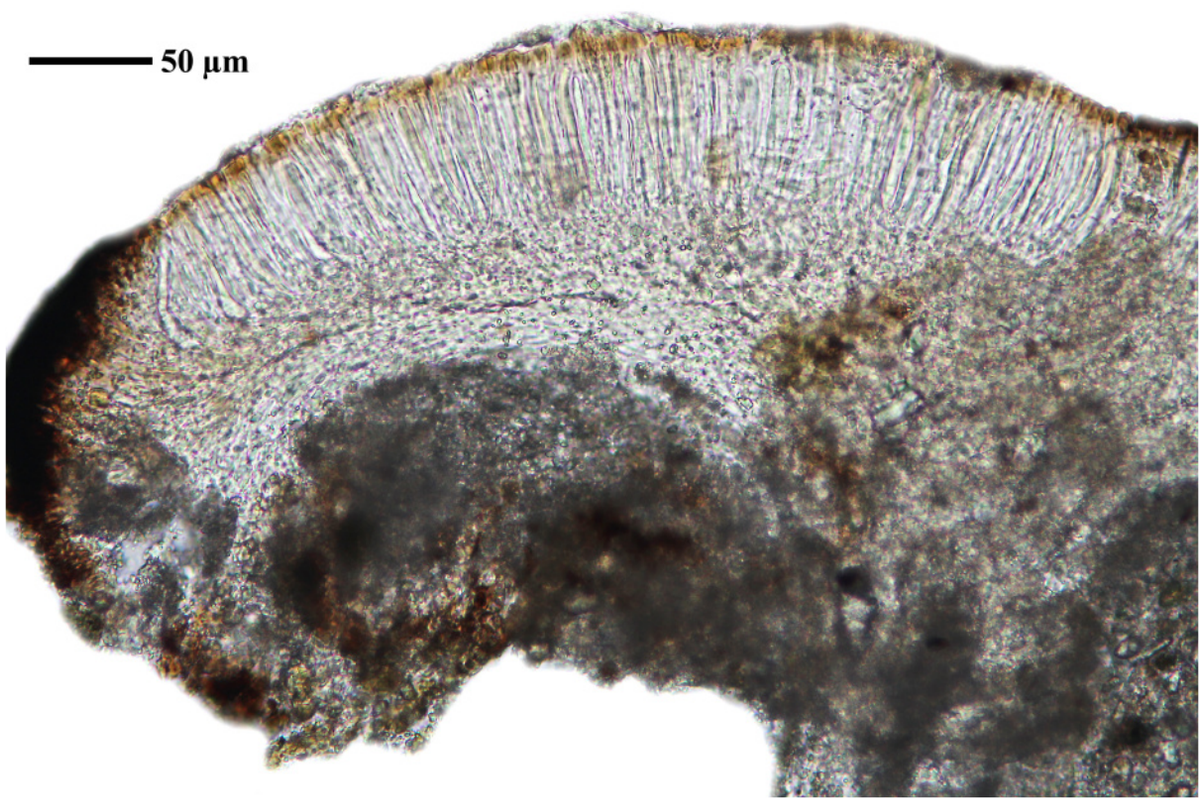
[GZU 24-P3], Afghanistan, Prov. Kabul, Kotal-i-Khair-Khana, 15 km NNW Kabul, an der Straße nach Tscharikar. 69°05’ E, 34°34’ M, ca. 2000 m. Niedrige Felsblöcke auf ± E-exponiertem, stark beweidetem Steppenhang. Leg. M. Steiner (Ste 29/2), 27.05.1970.



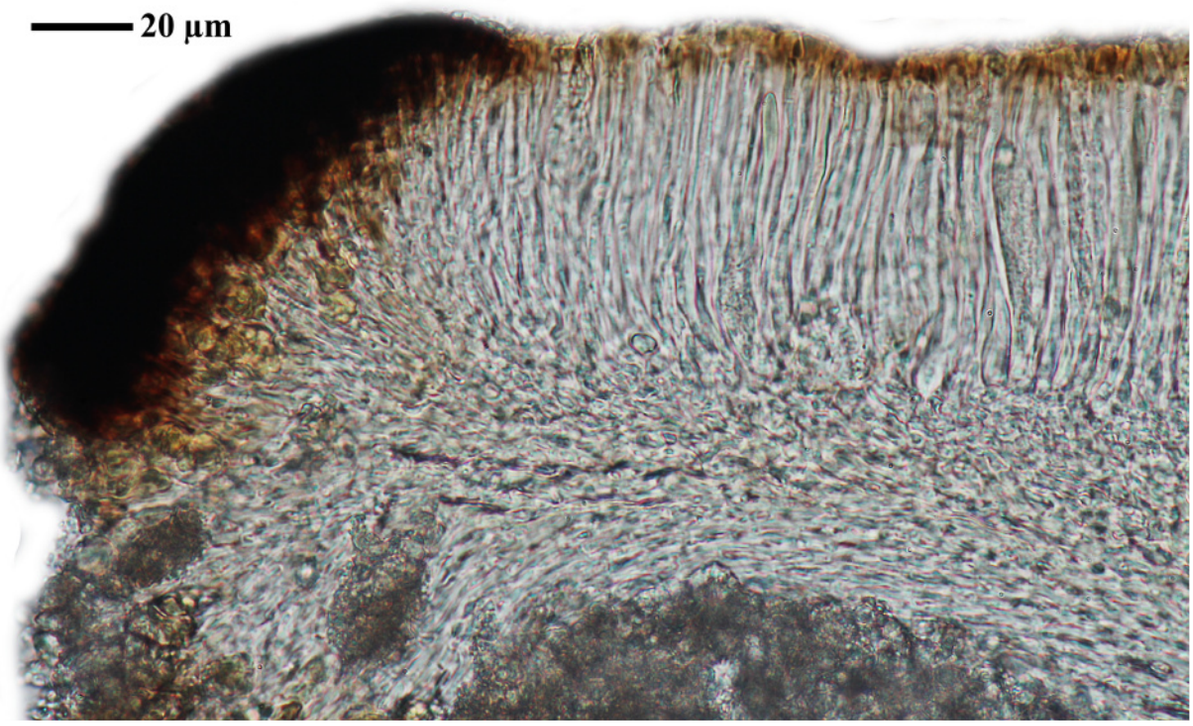


Sarcogyne privigna



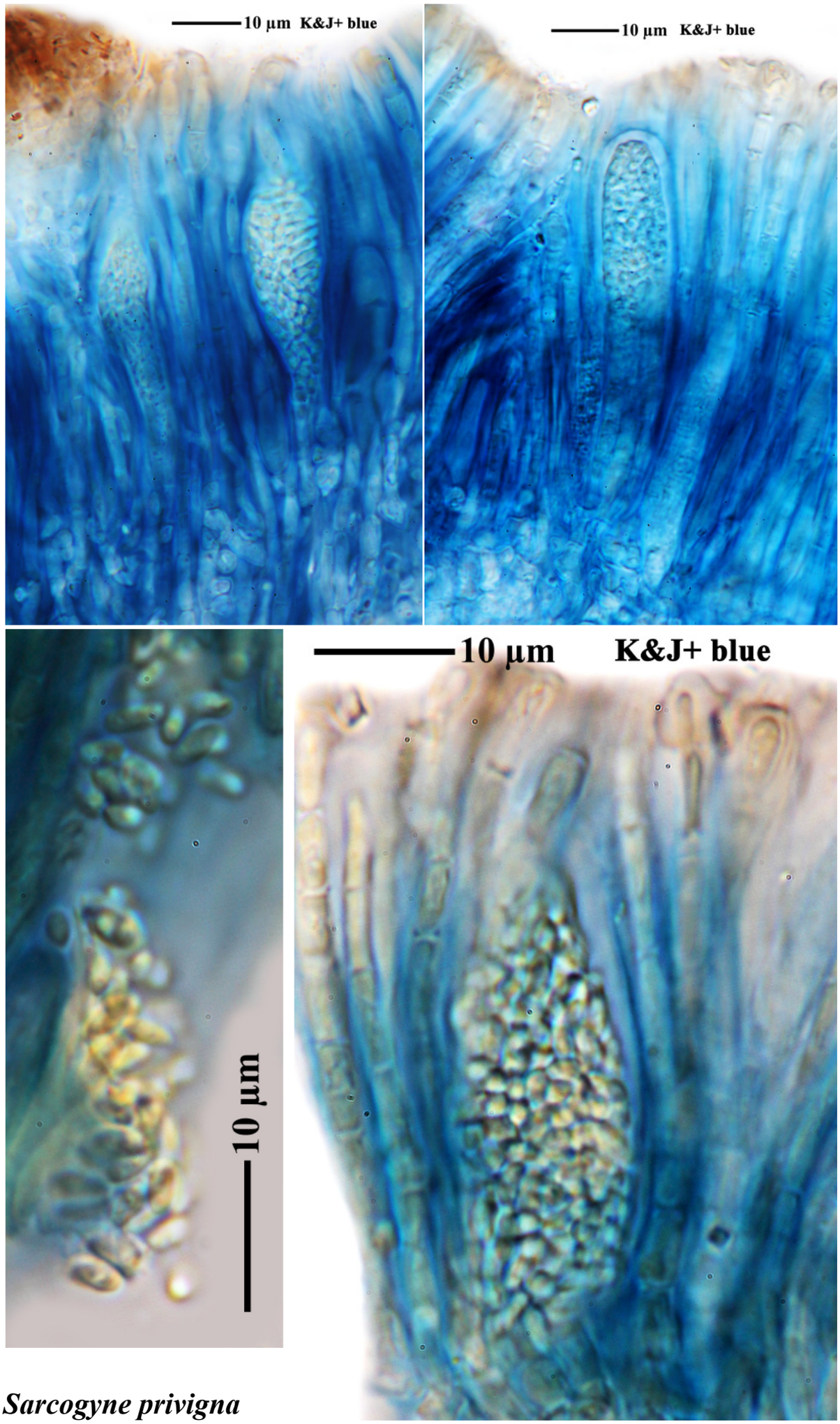


Sarcogyne privigna

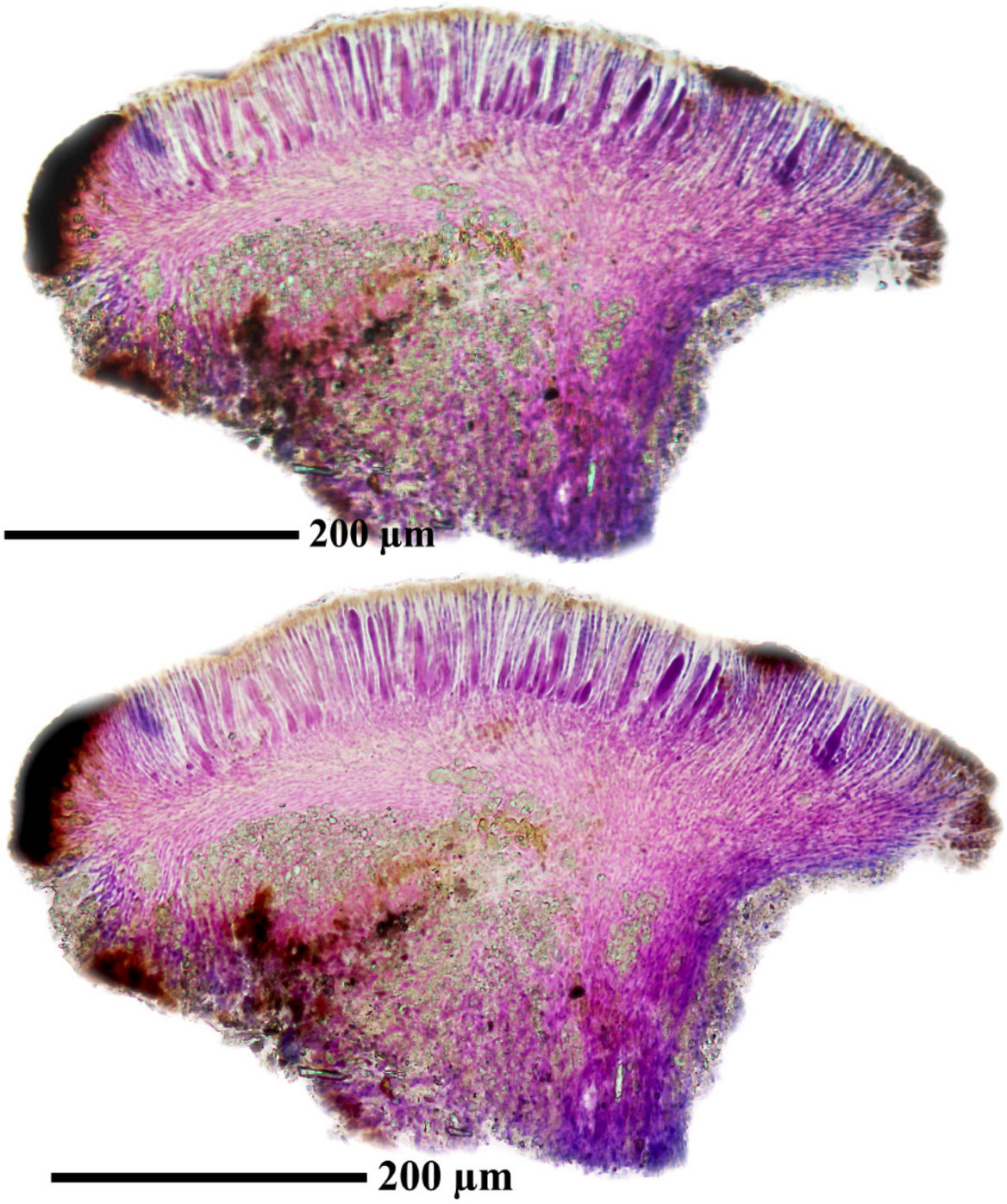




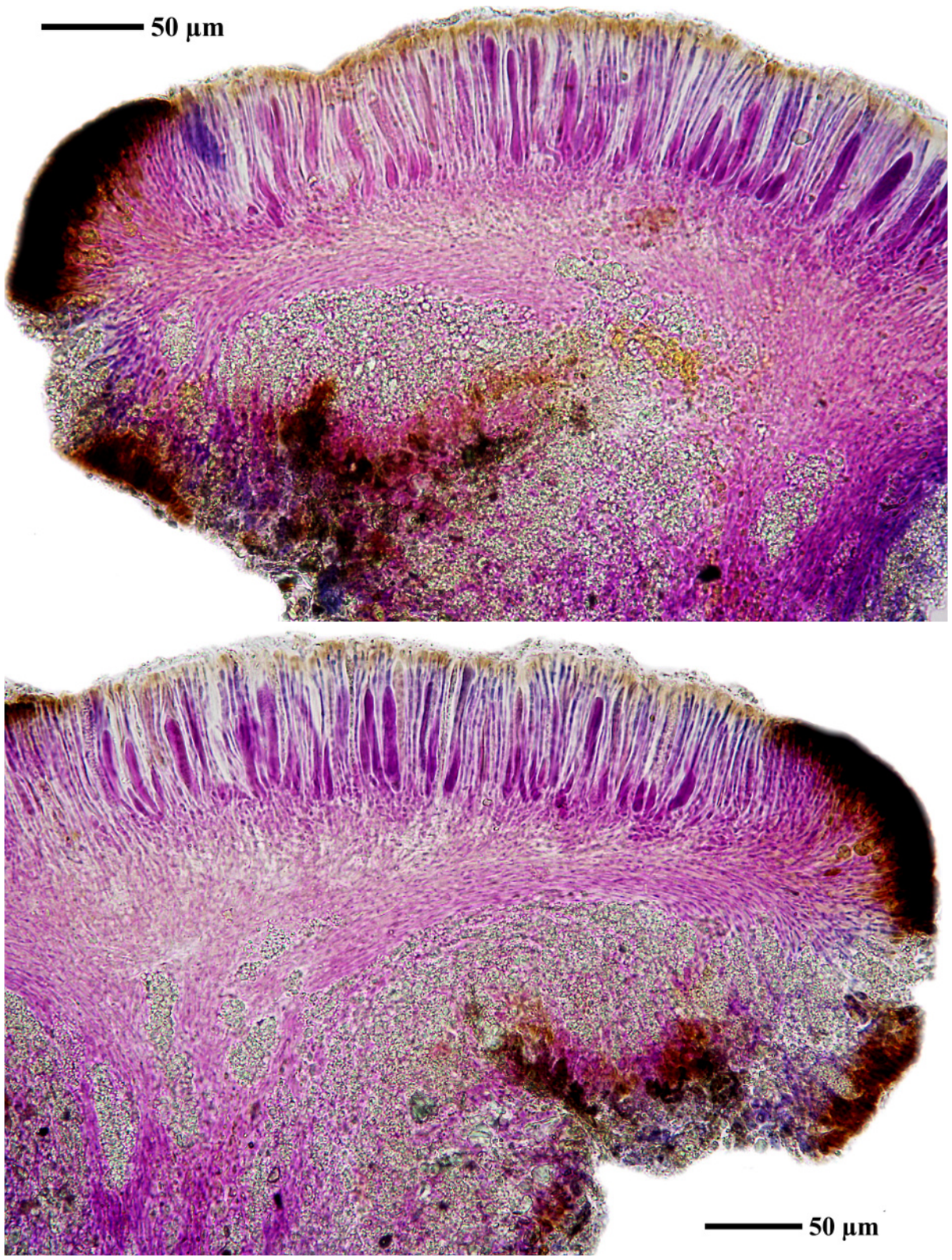
Sarcogyne privigna



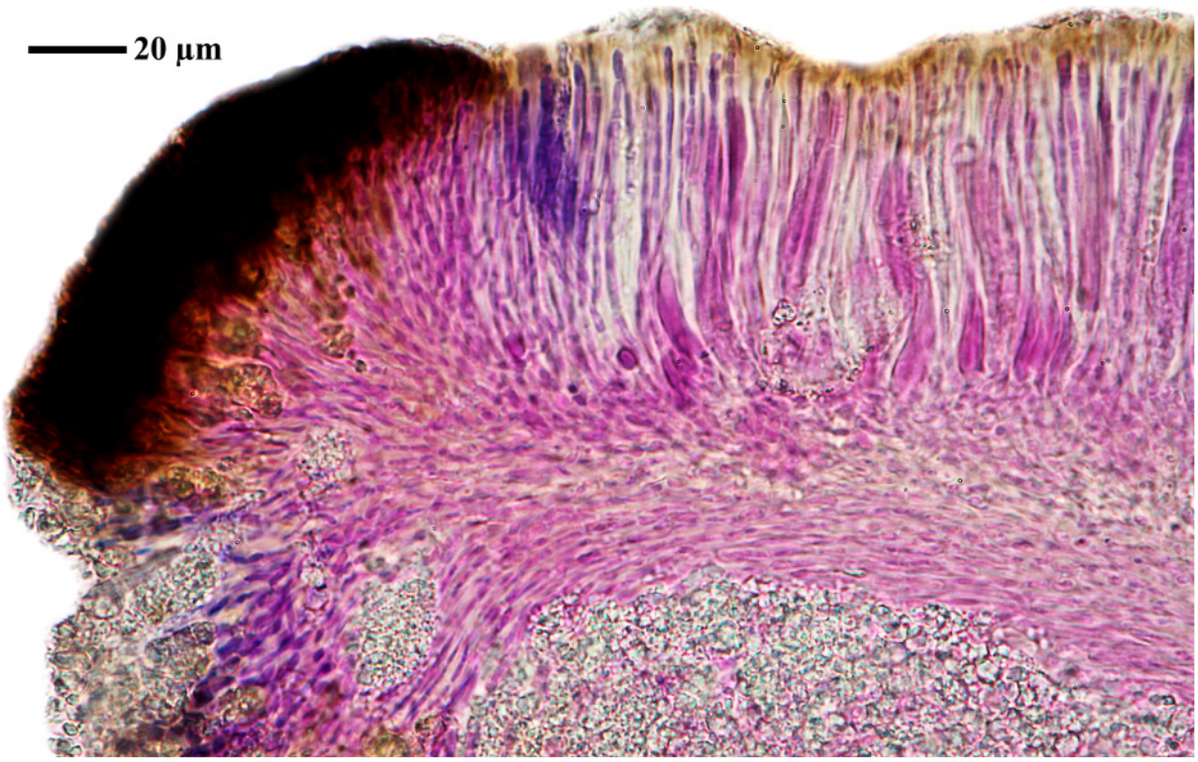
Sarcogyne privigna



Sarcogyne privigna



Sarcogyne privigna



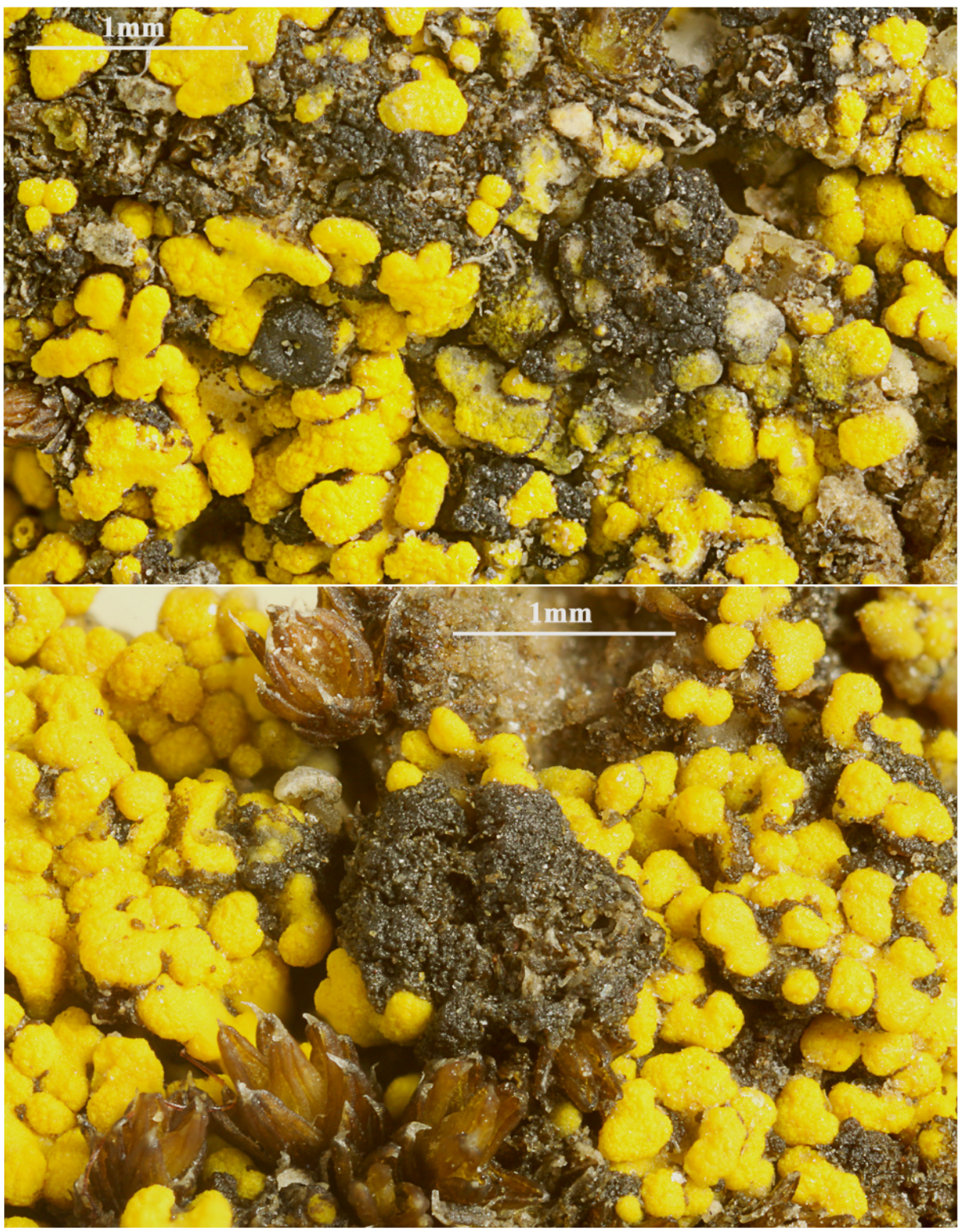


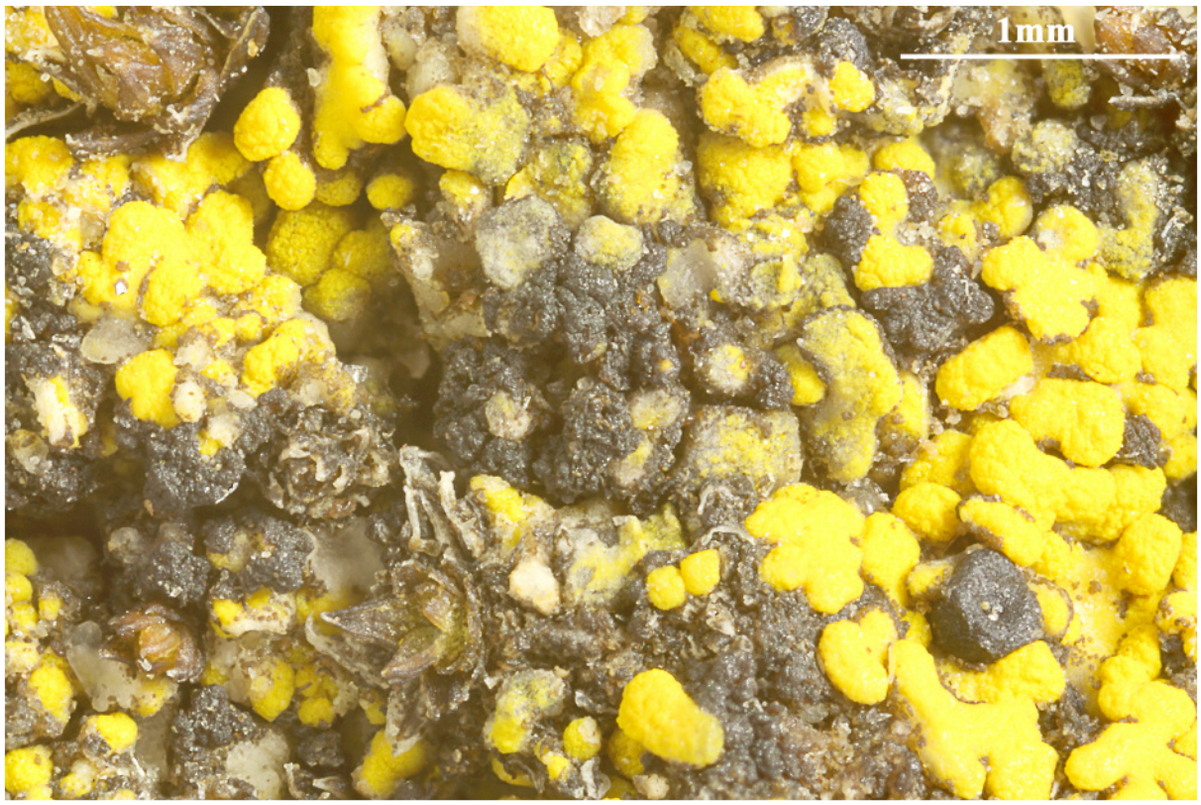
Sarcogyne privigna

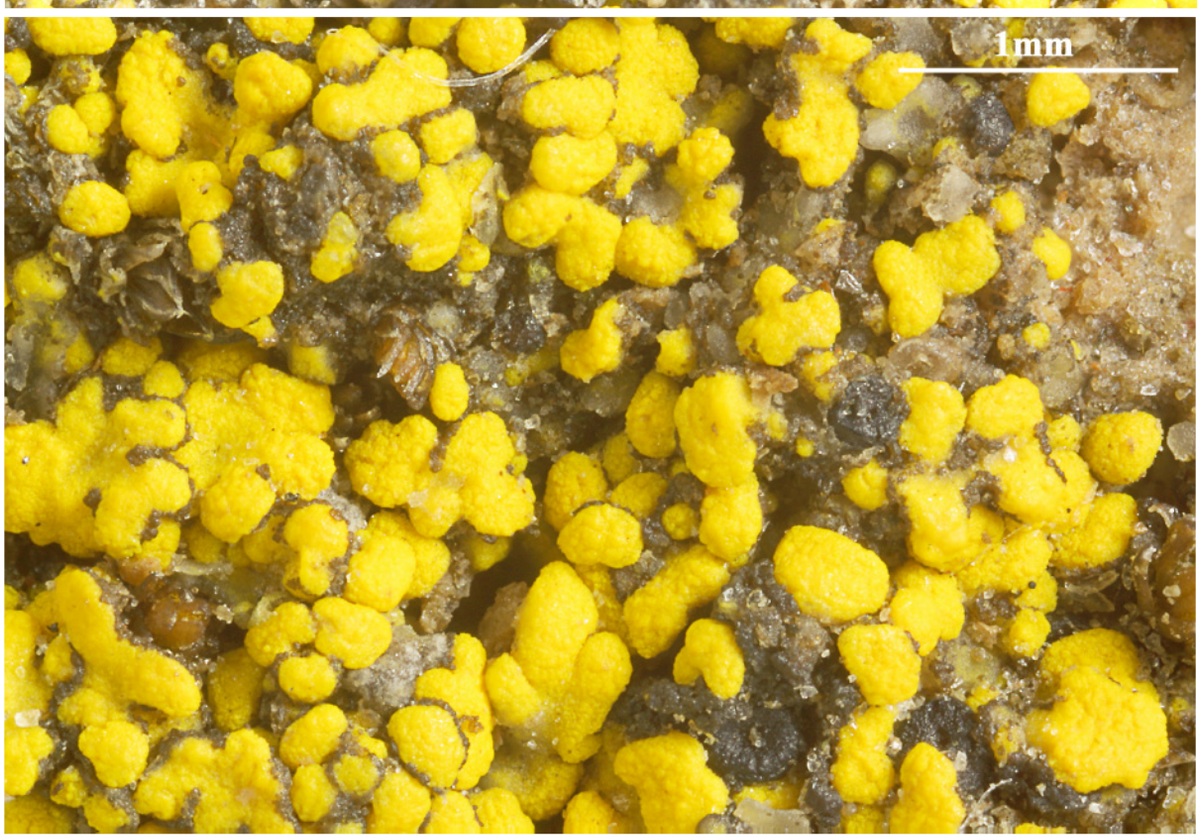
Sarcogyne sphaerospora J.Steiner, Öst. bot. Z. 49: 251 (1899)

Note: parasitisch auf *Candelariella* cfr. *kansuensis* H.Magn.
Ascocarpien wohl hoffnungslos überaltert und ohne Sporen. Die letzten Bilder halte ich für Bakterien. Bei der spärlichen Probe nur ein Apoth. für Schnitt geopfert.

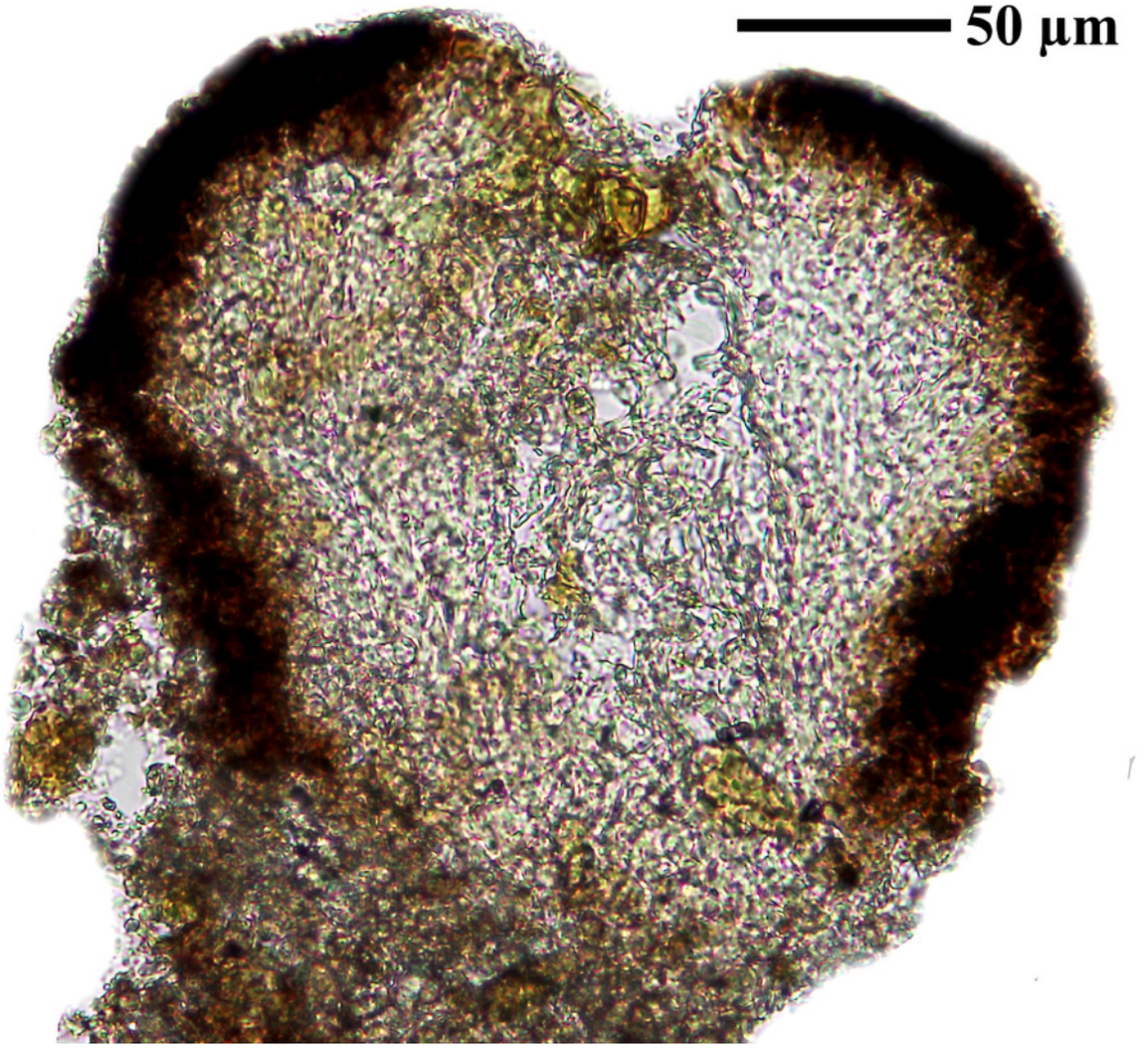
[GZU 24-P3], Afghanistan, Prov. Kunar (Nuristan), Bashgal-Quelltäler, Suengal-Tal. 71°12’ E, 35°55’ N, 3700 M. Über Moosen. Leg. D. Podlech, 2.9.1969, det. J. Poelt & M. Steiner.

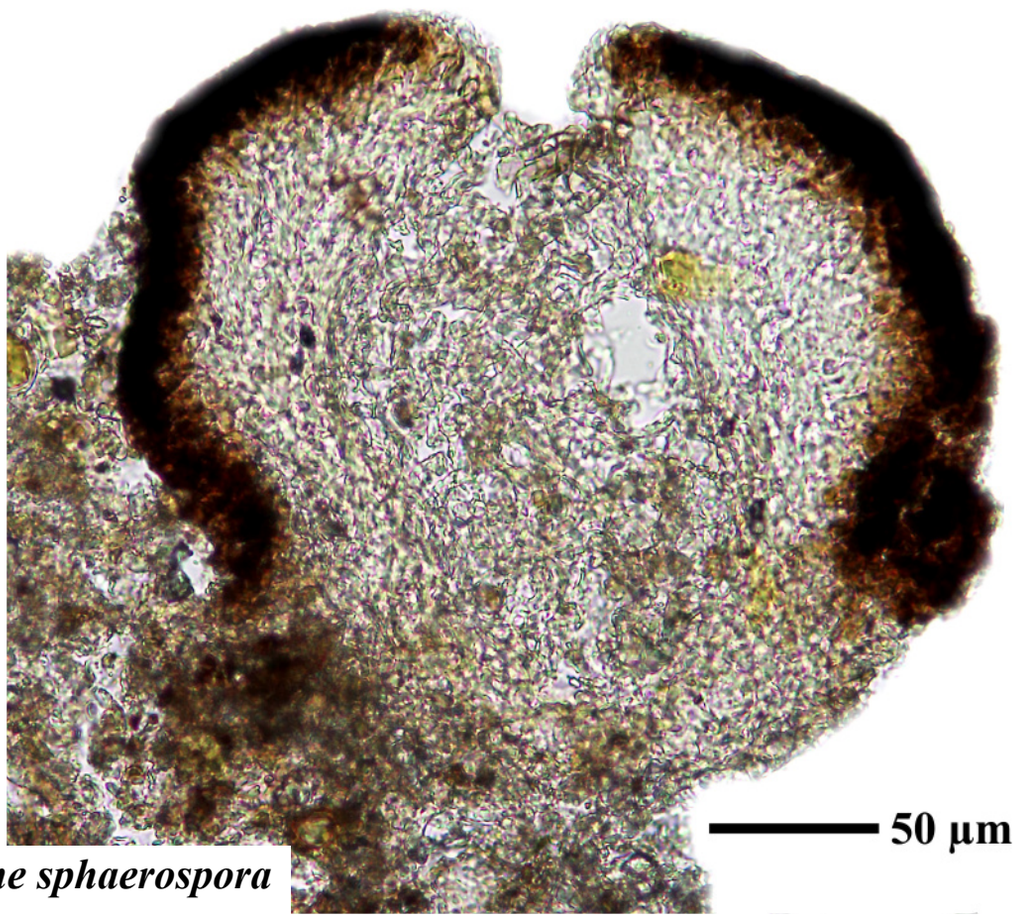




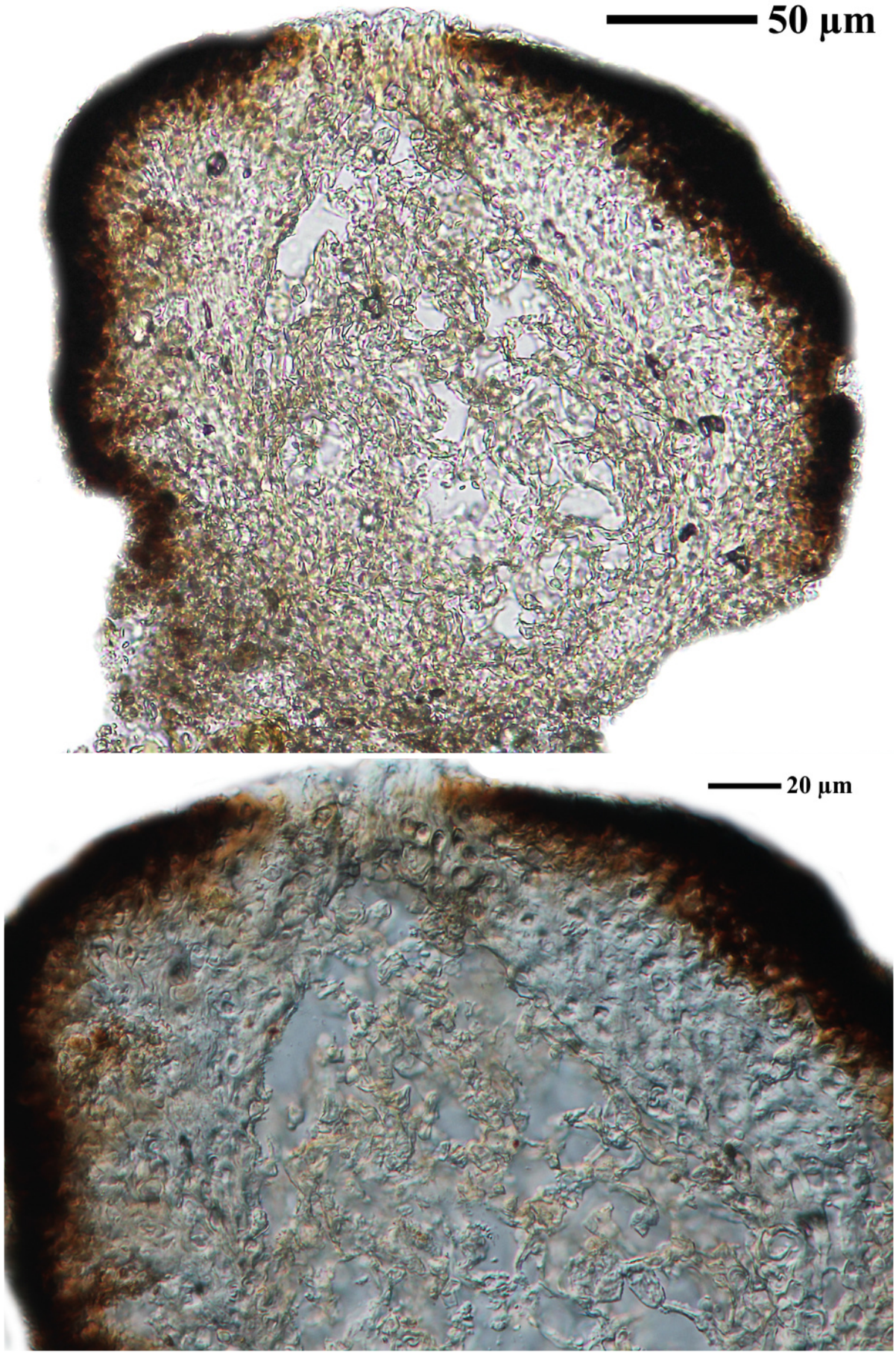


Sarcogyne sphaerospora

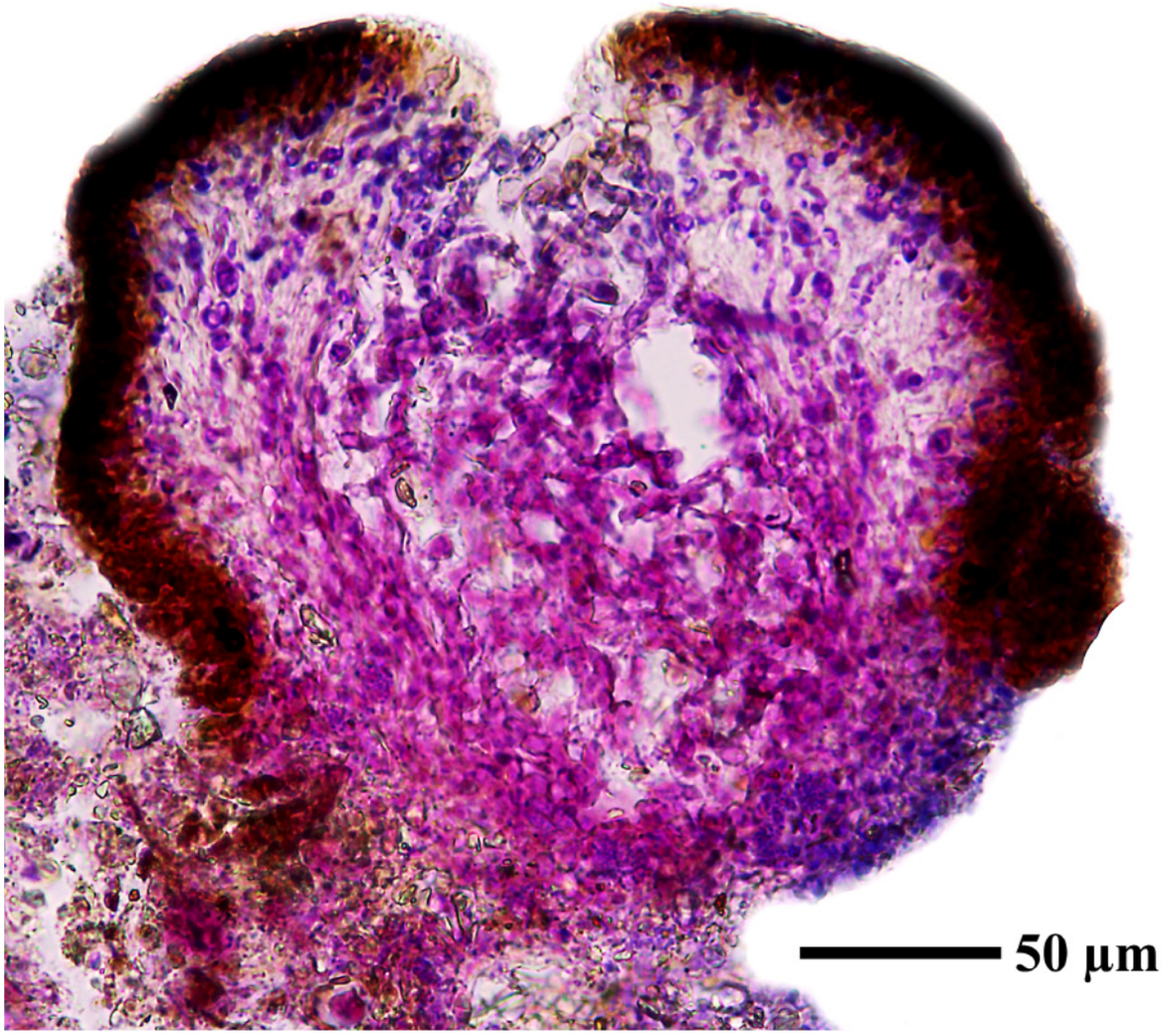


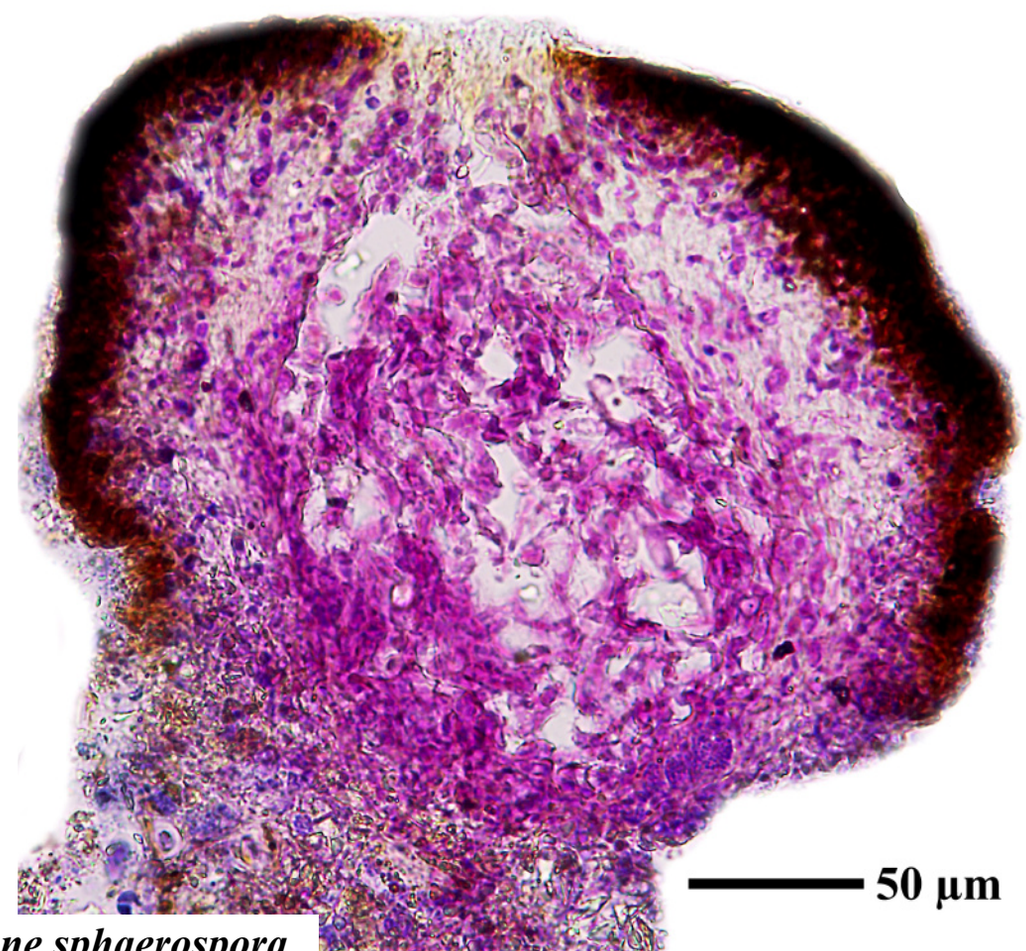


Sarcogyne sphaerospora

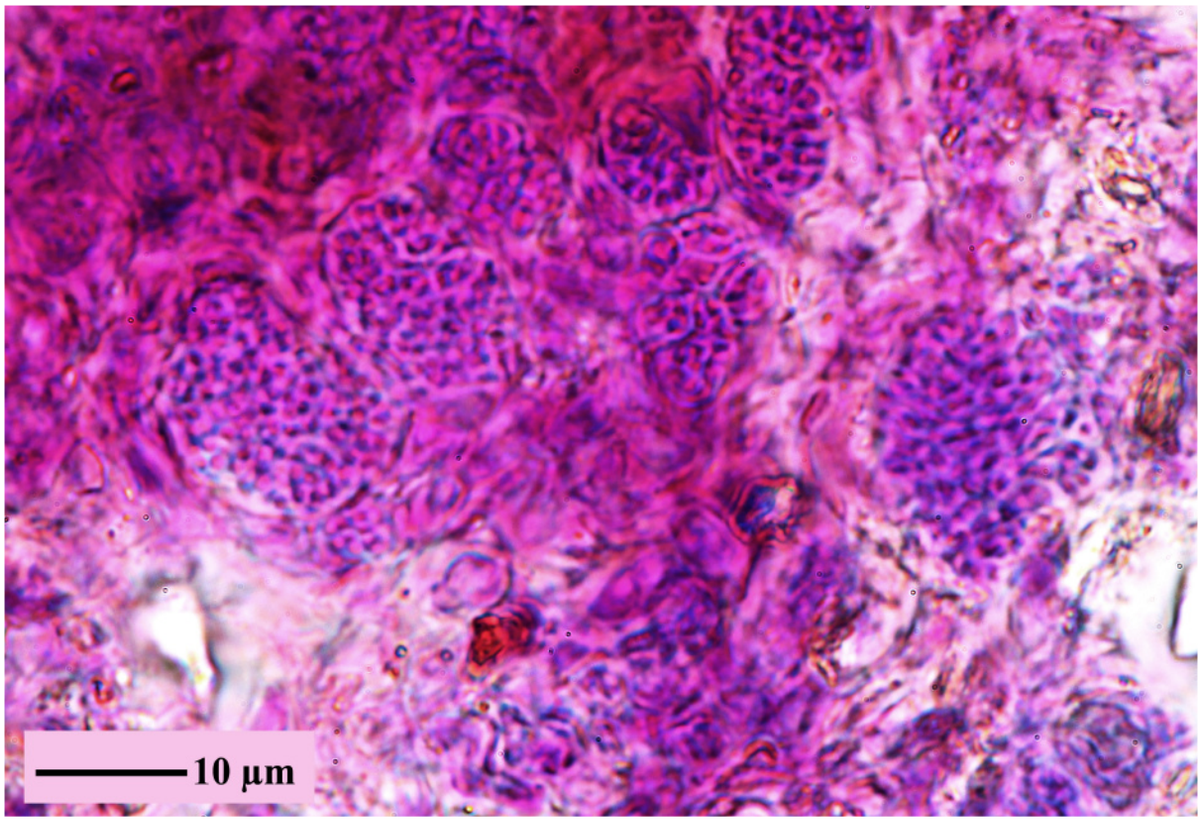


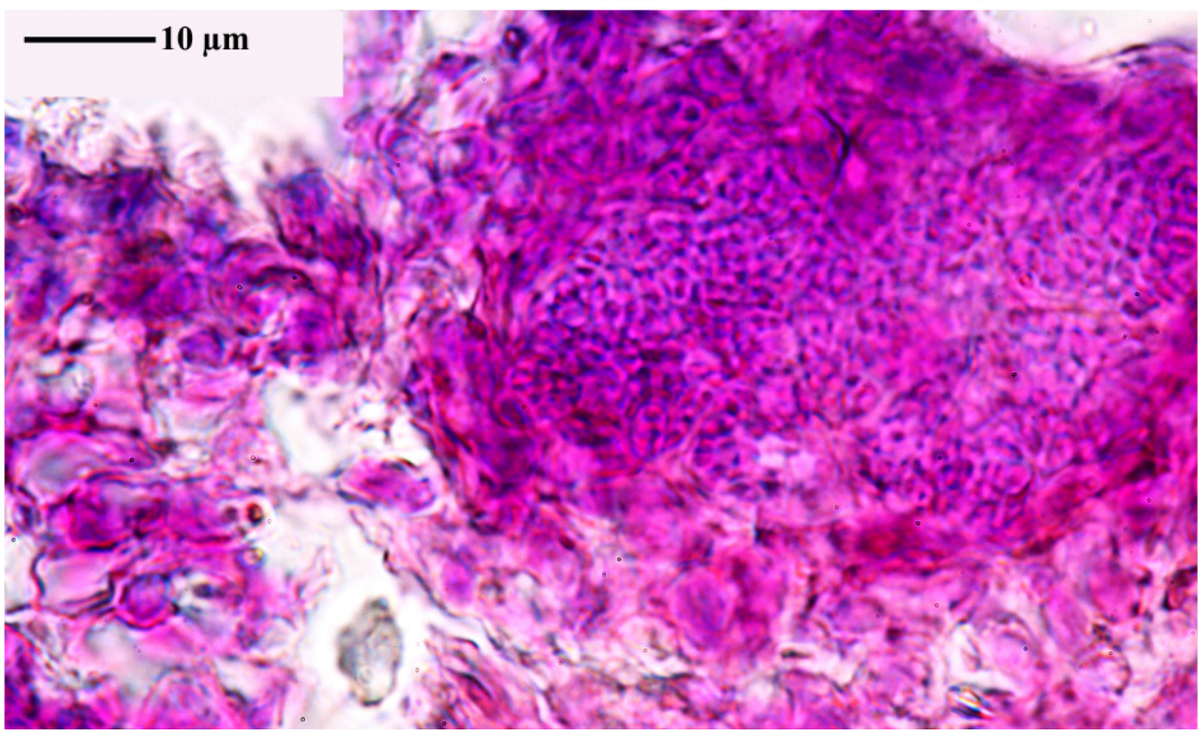
Sarcogyne sphaerospora





Sarcogyne sphaerospora





Sarcogyne sphaerospora

Staurothele levinae Oxner, (1939)

Sporen braun, muriform, 2/Ascus, ca. 56 x 25 µm.

[LIAF_07], Afghanistan, Prov. Bamyan, Koh-i-Baba, Paßhöhe des Kotal-i-Devali, 66°58’ E, 34°38’ N, ca. 3000 m. Mit *Caloplaca decipens* (Arnald) Jatta. Leg. A. Dieterle (Pod 45/4), 18.07.1970. LICHENOTHECA AFGHANICA NR. 07.







Staurothele levinae



Staurothele levinae



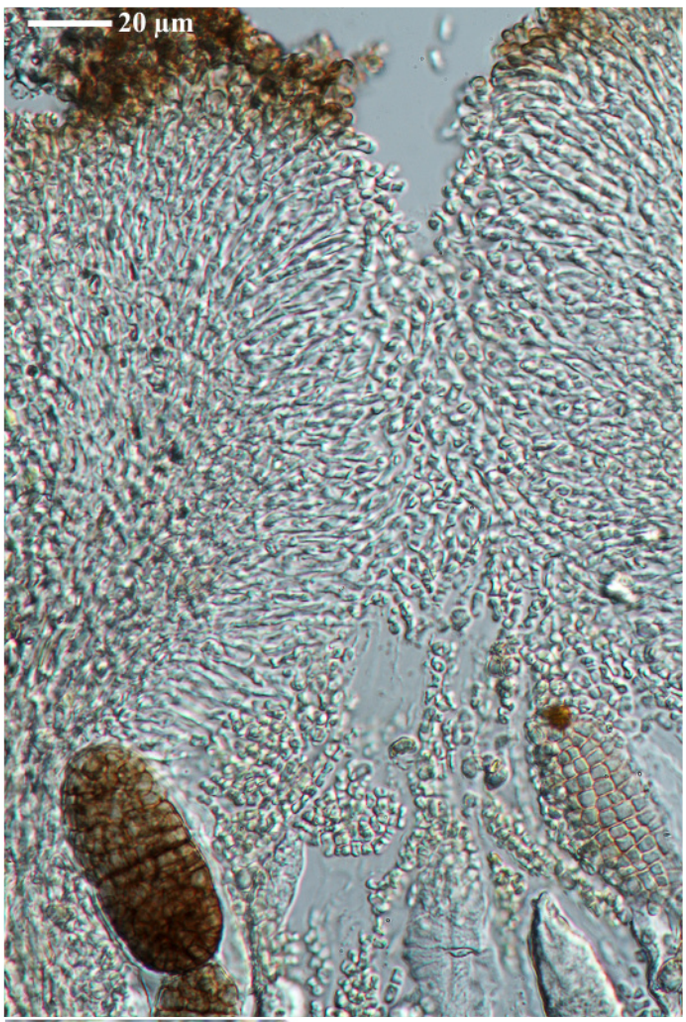


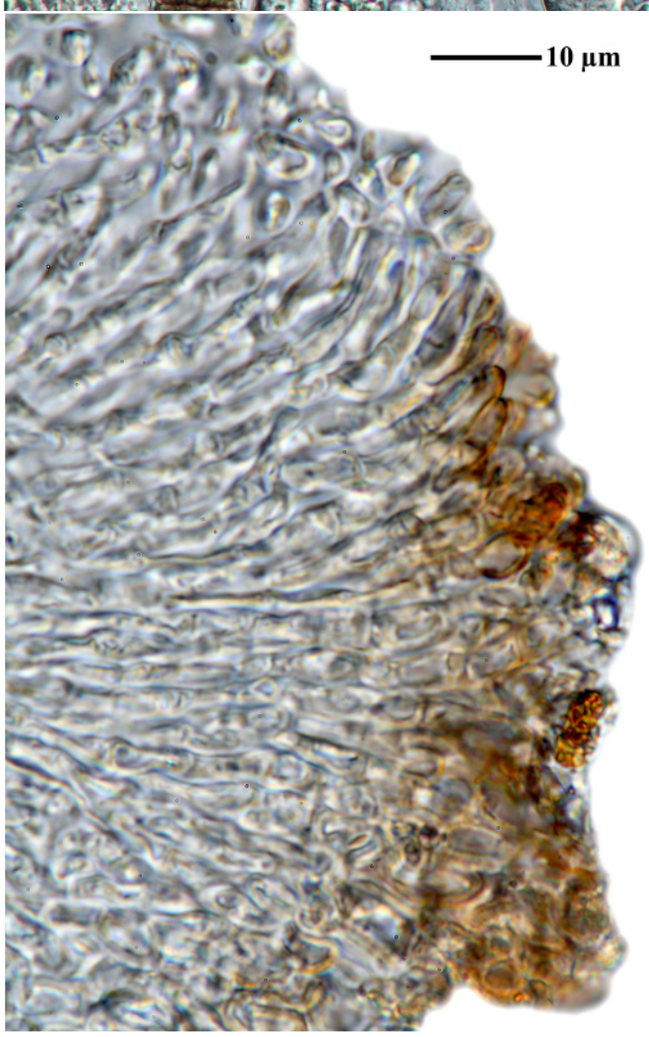
Staurothele levinae



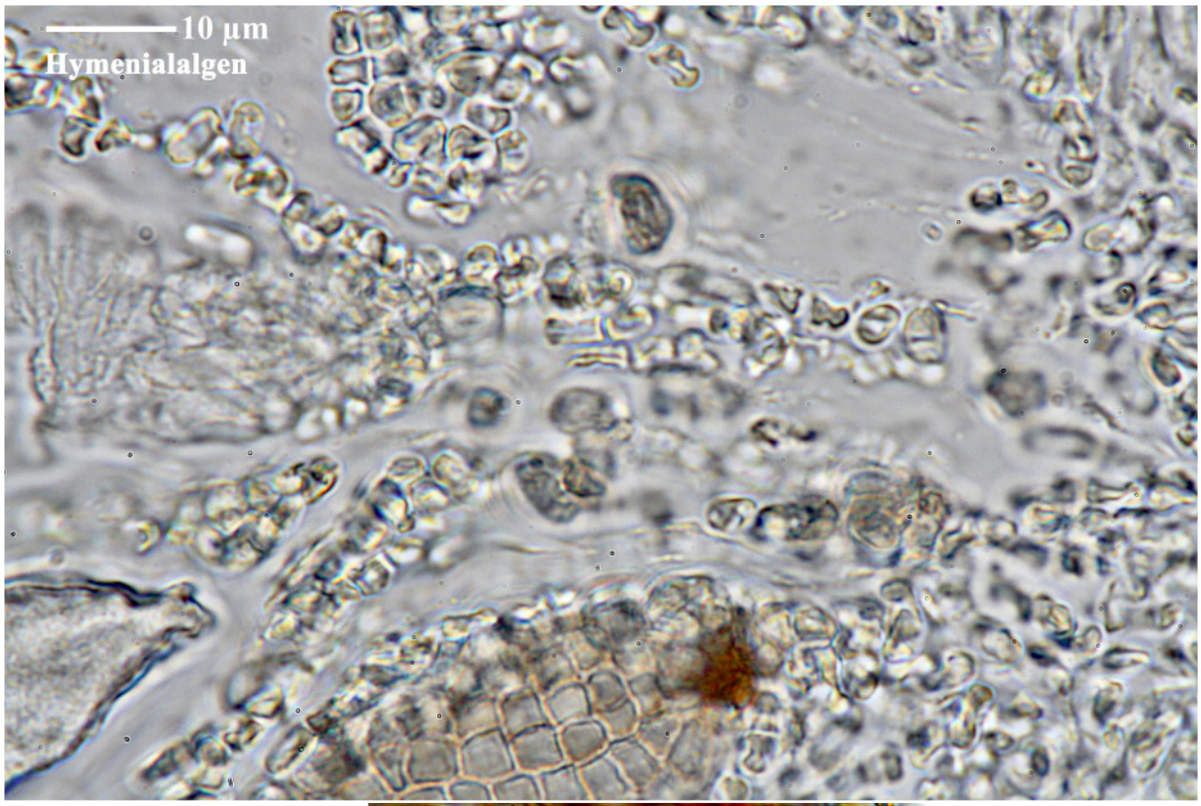


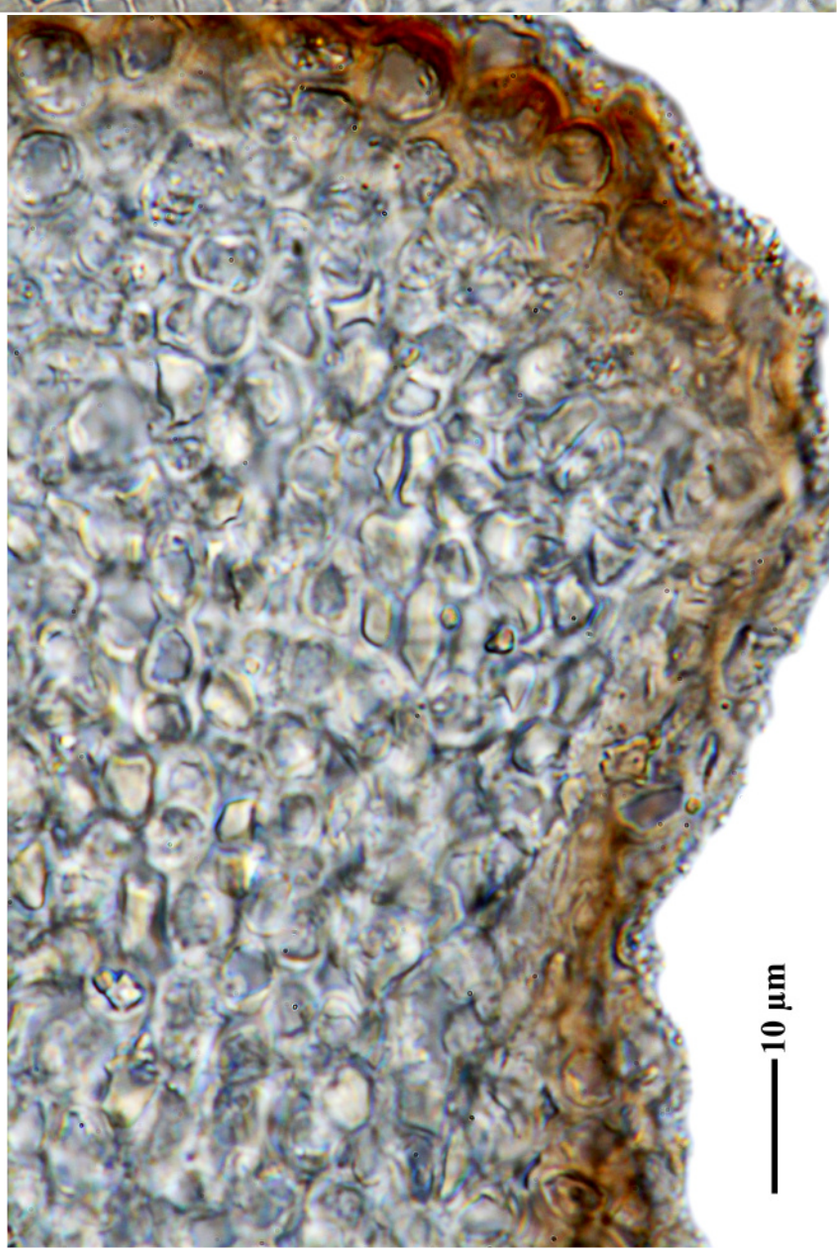
Staurothele levinae





Staurothele levinae

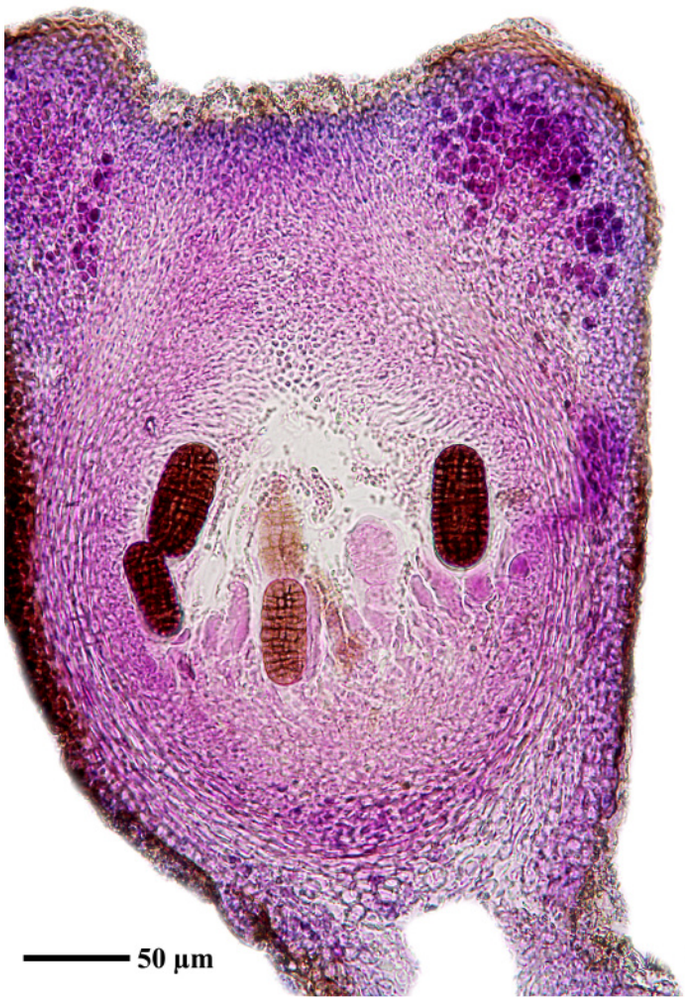




Staurothele levinae



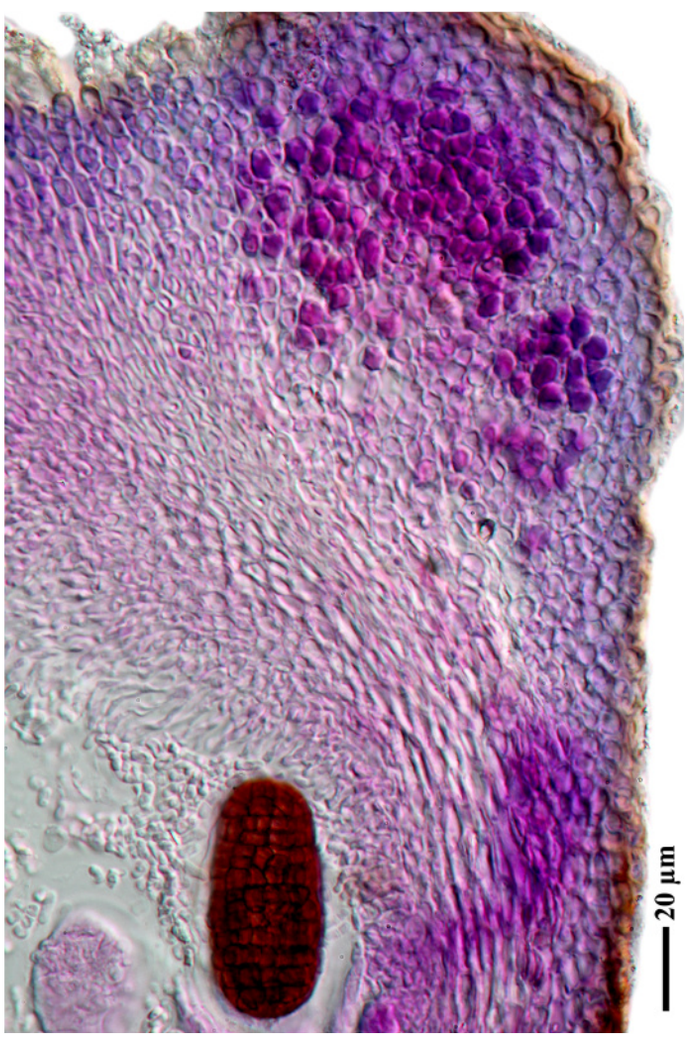
Staurothele levinae



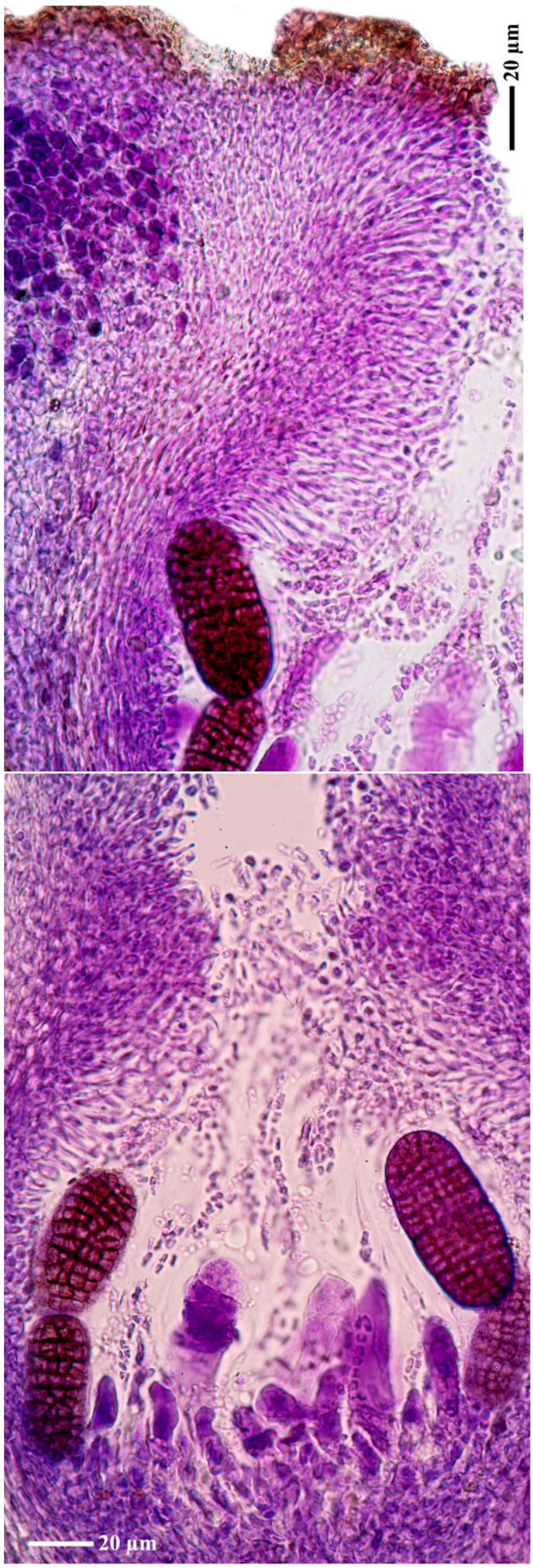


Staurothele levinae





Staurothele levinae

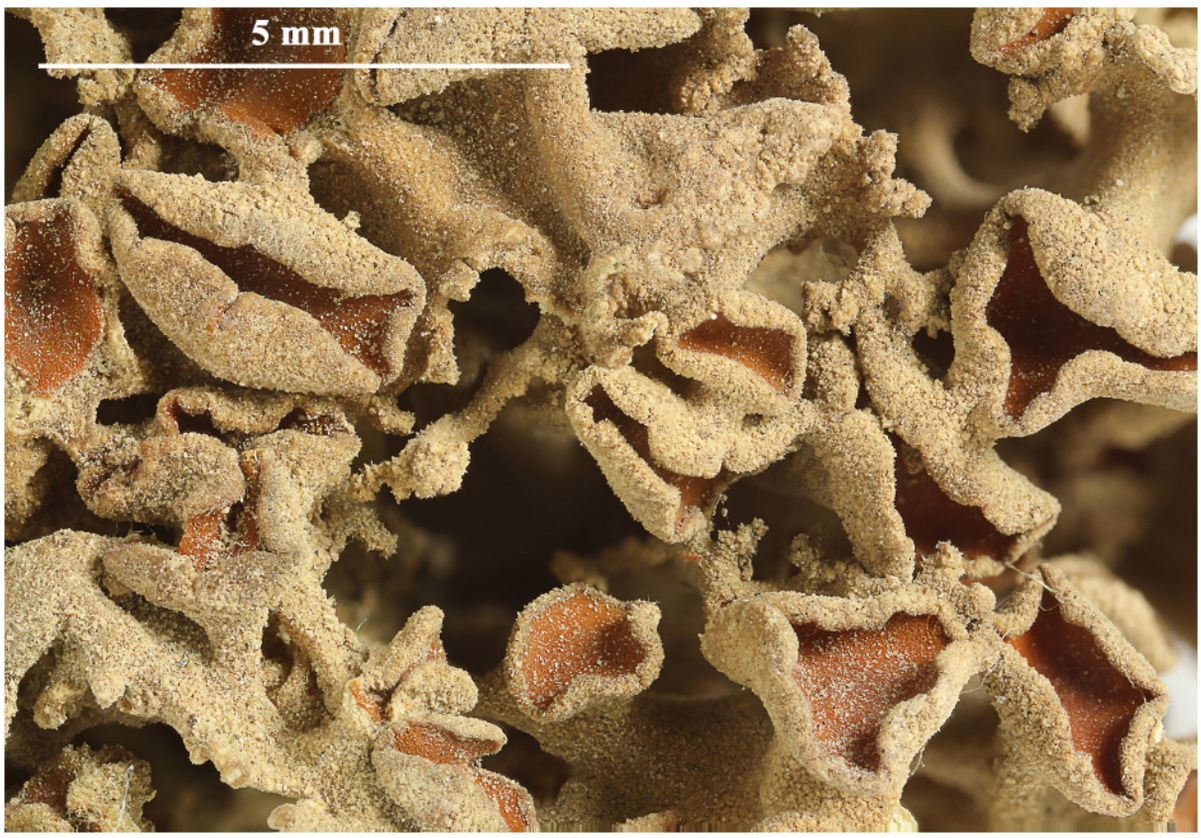


Staurothele levinae

Teloschistes brevior (Nyl.) Hillmann, Hedwigia 69: 320 (1931)

[LIAF_44], Afghanistan, Prov. Samangan, 1 km W des Passes Kotal-i-Mirza Atbili. (Kotal-i-Rabotak), 68°18’ E, 36°10.5’ N,ca. 1200 m. Auf *Pistacia vera* L., vor allem an der Stammbasis und den Astgabeln. Leg, M. Steiner (Ste 50/4), 06.06.1970. LICHENOTHECA AFGHANICA NR. 44.







Teloschistes brevior

Teloschistes brevior (Nyl.) Hillmann, Hedwigia 69: 320 (1931)

Sporen farblos, polar-2-zellig, 8/Ascus, 12(-18) x 6-6.9 µm, septum 1.8-2.3 µm

[LIAF_45], Afghanistan, Prov. Samangan, E-Hänge des Passes Kotal-i-Mirza Atbili. (Kotal-i-Rabotak), 68°18’ E, 36°10.5’ N, ca. 1200 m. Auf *Pistacia vera* L., vor allem an der Stammbasis und den Astgabeln, mit *Anaptychia ulothricoides* (Vain.) Vain., *Caloplaca polycarpoides* (J.Stein.) M.Steiner & Poelt u.a.. Leg, M. Steiner (Ste 43), 05.06.1970. LICHENOTHECA AFGHANICA NR. 45.



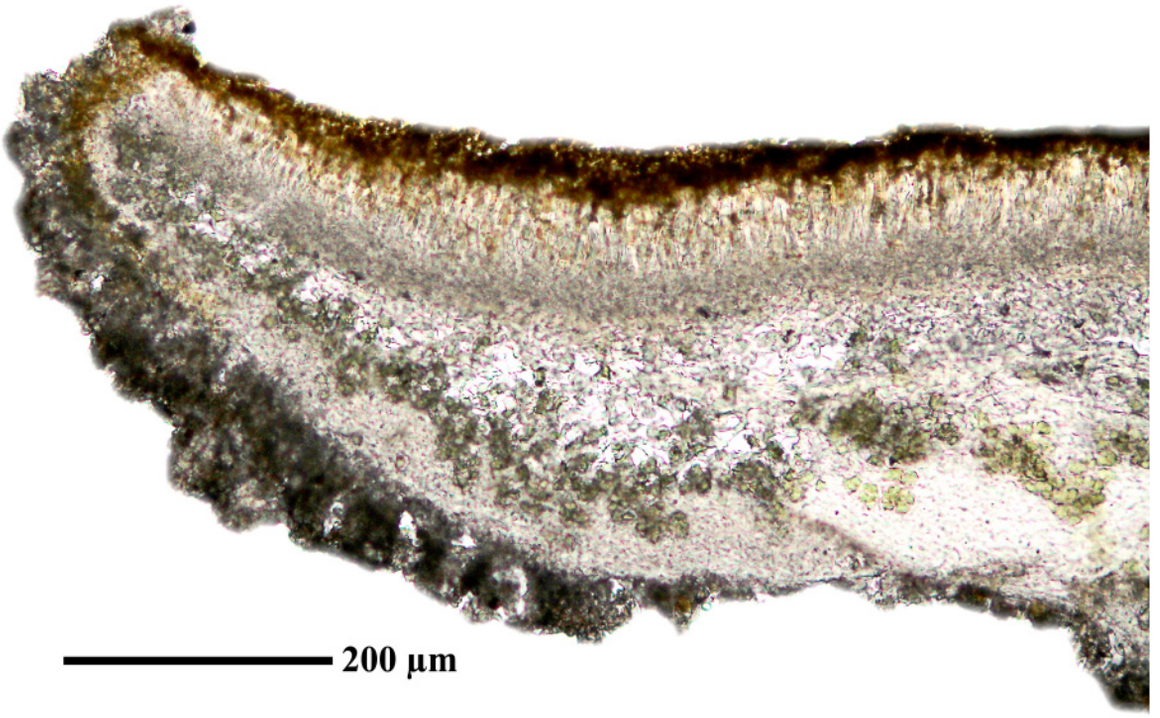


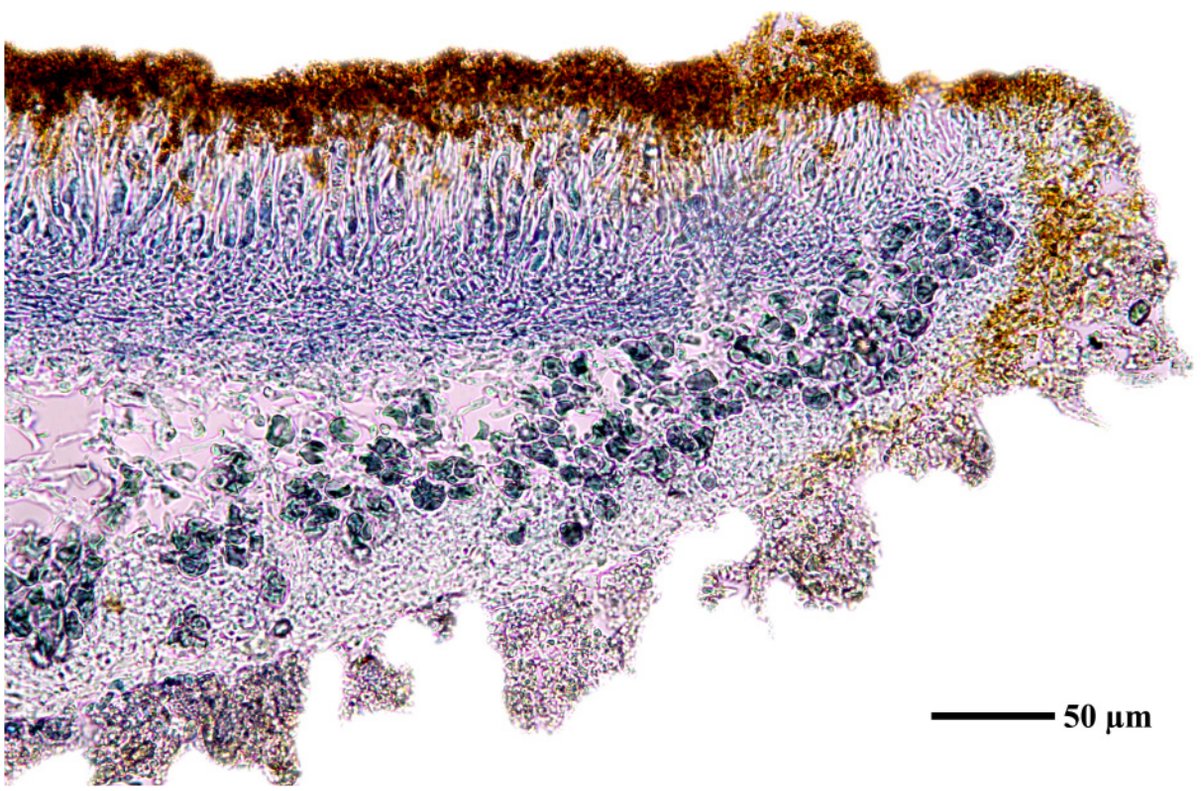


Teloschistes brevior

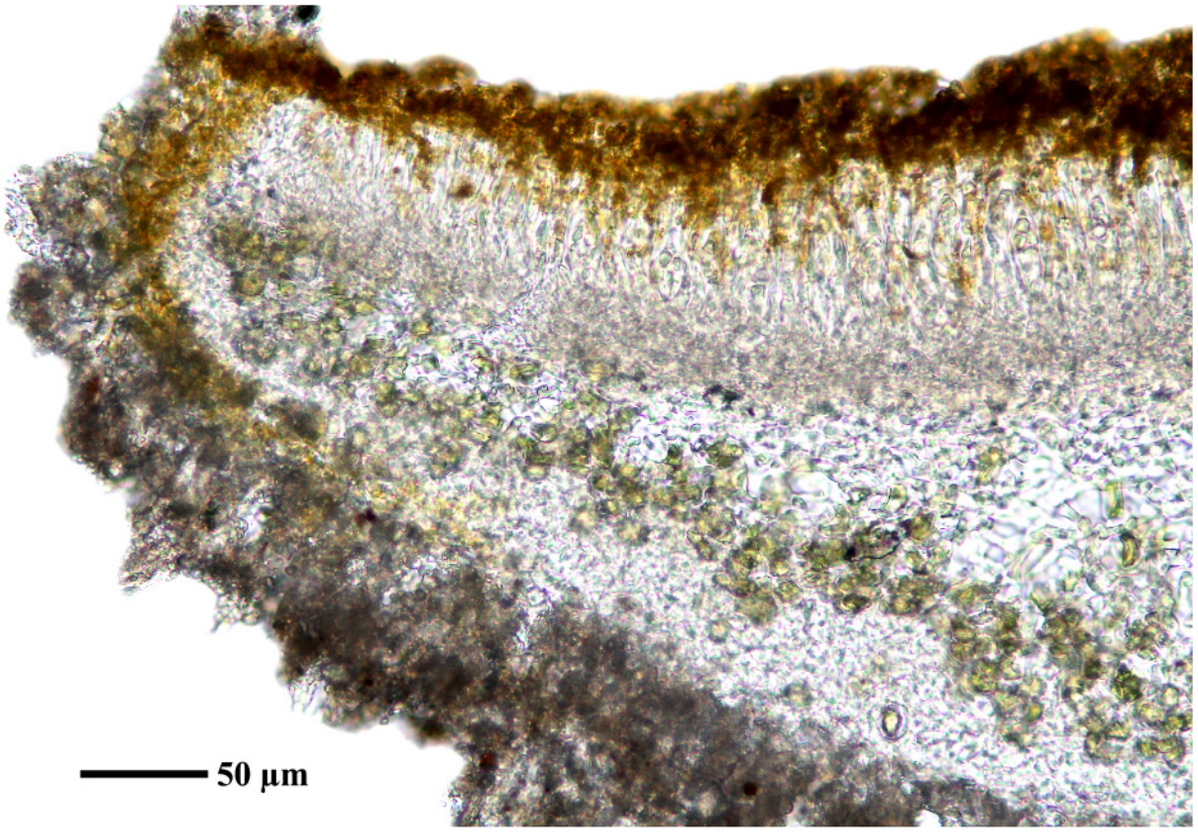


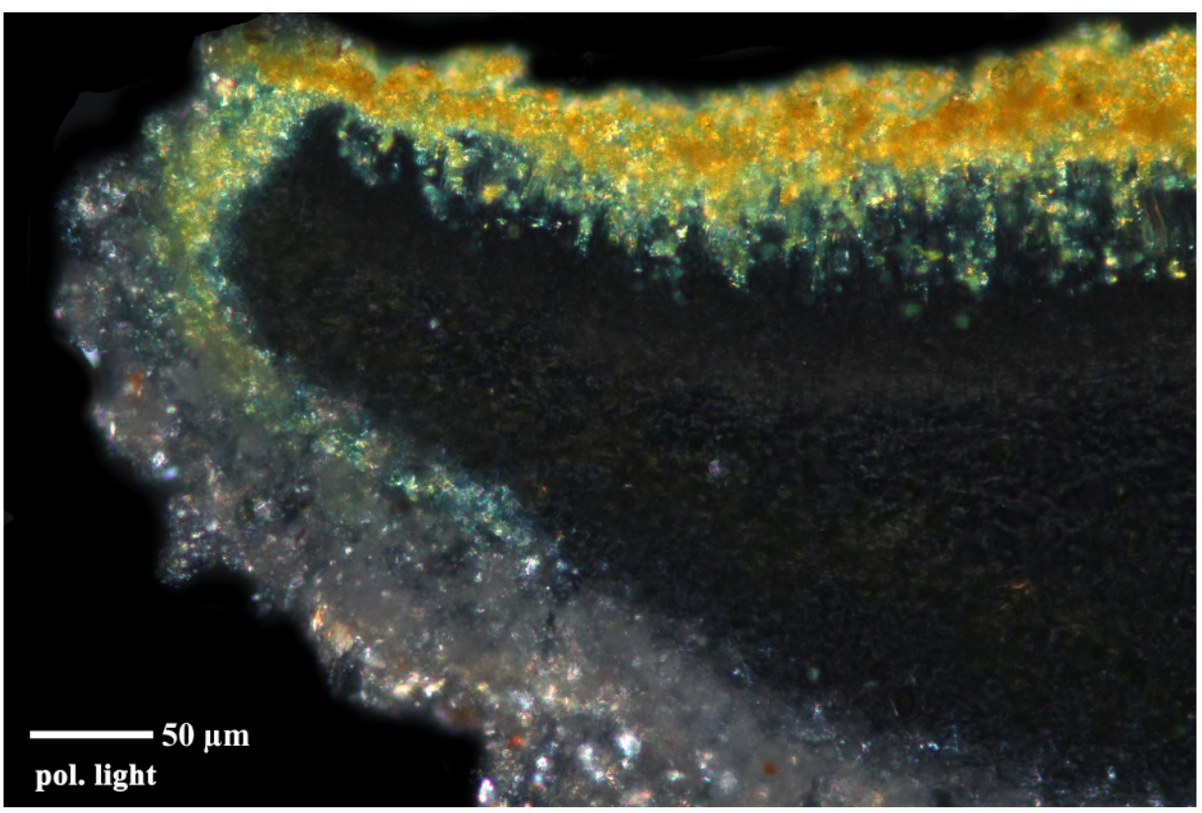
Teloschistes brevior





Teloschistes brevior

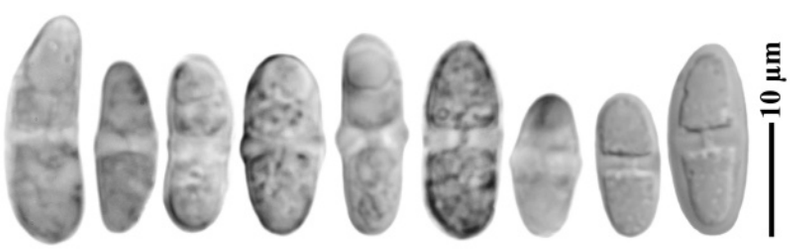




Teloschistes brevior









Teloschistes brevior

Umbilicaria aprina Nyl., Syn. meth. lich. (Parisiis) 2: 12 (1869)

[GZU 165-88], Afghanistan, Prov. Kunar (Nuristan), Bashgal-Quelltäler, Suengal-Tal. 71°12’ E, 35°55’ N, 3600 m. Auf Silikatfelsen. Medulla C+ rot. Leg. D. Podlech (15/7), 2.9.1969, det. E.A. Davydov, 10.2017. - (M. STEINER: ITER AFGHANICUM 1970)







Umbilicaria aprina



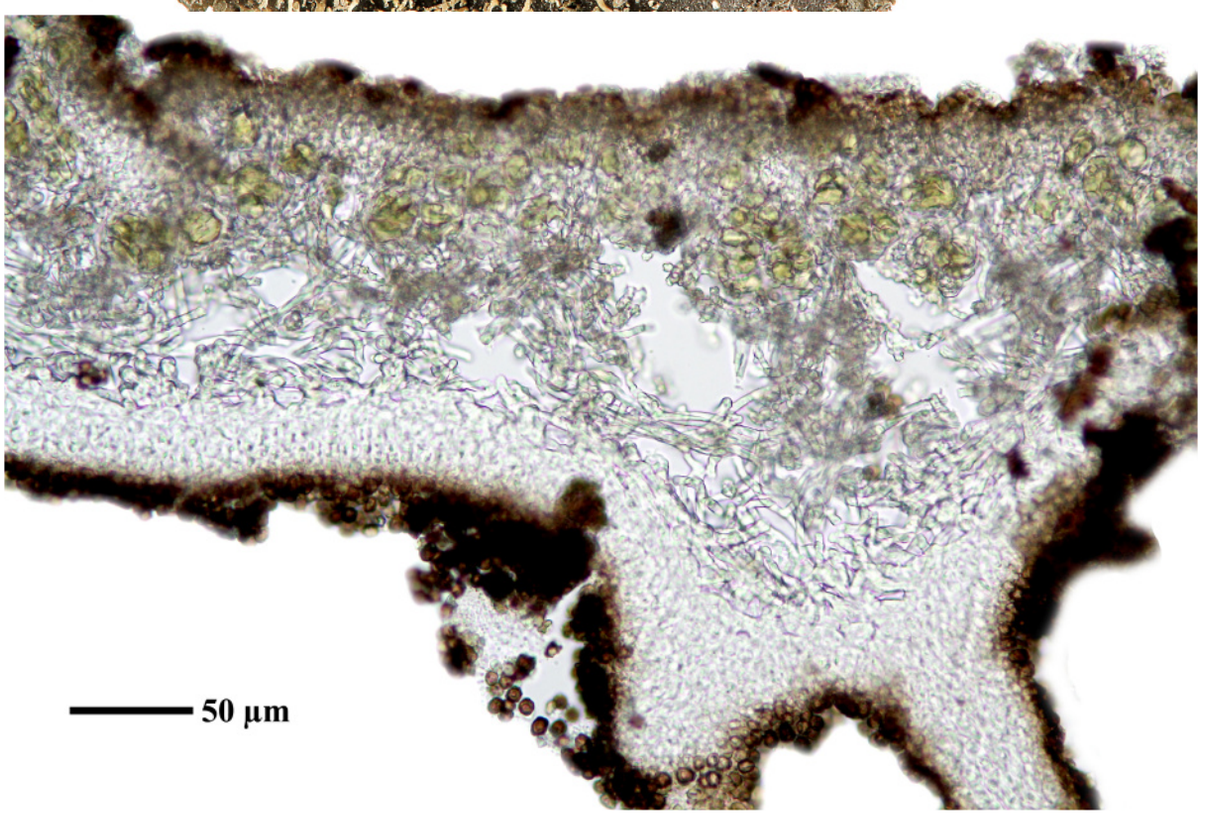
Umbilicaria aprina



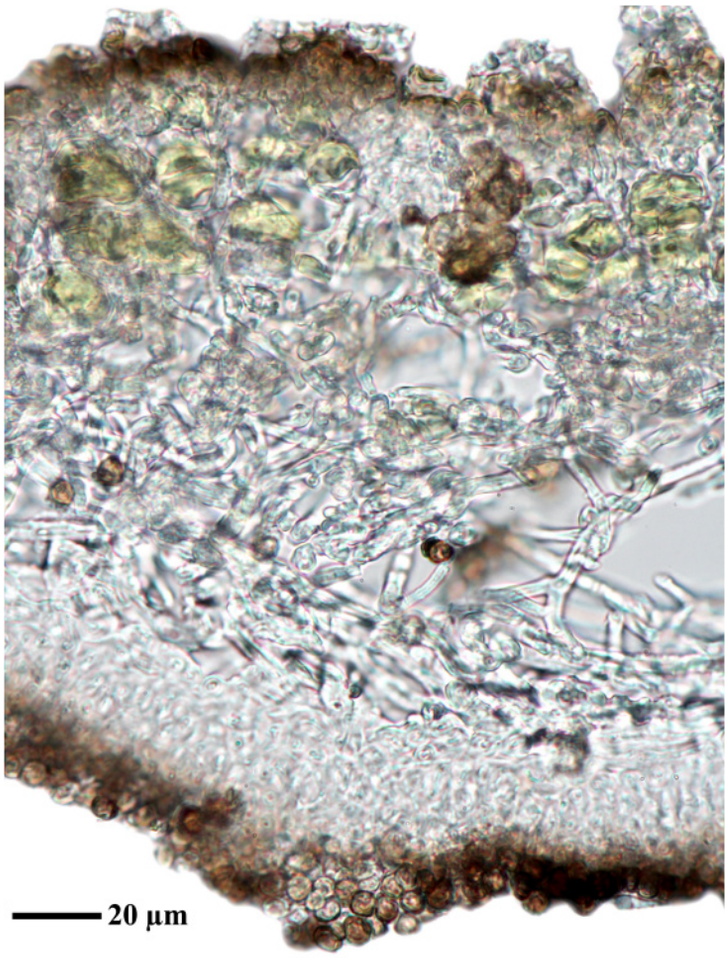


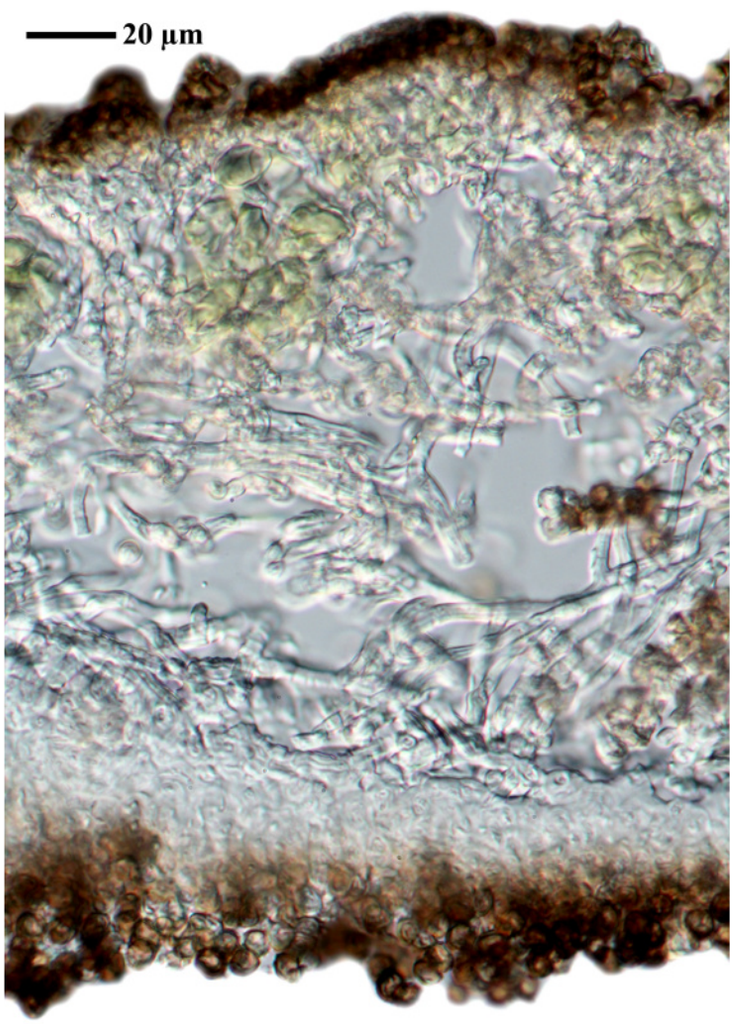
Umbilicaria aprina



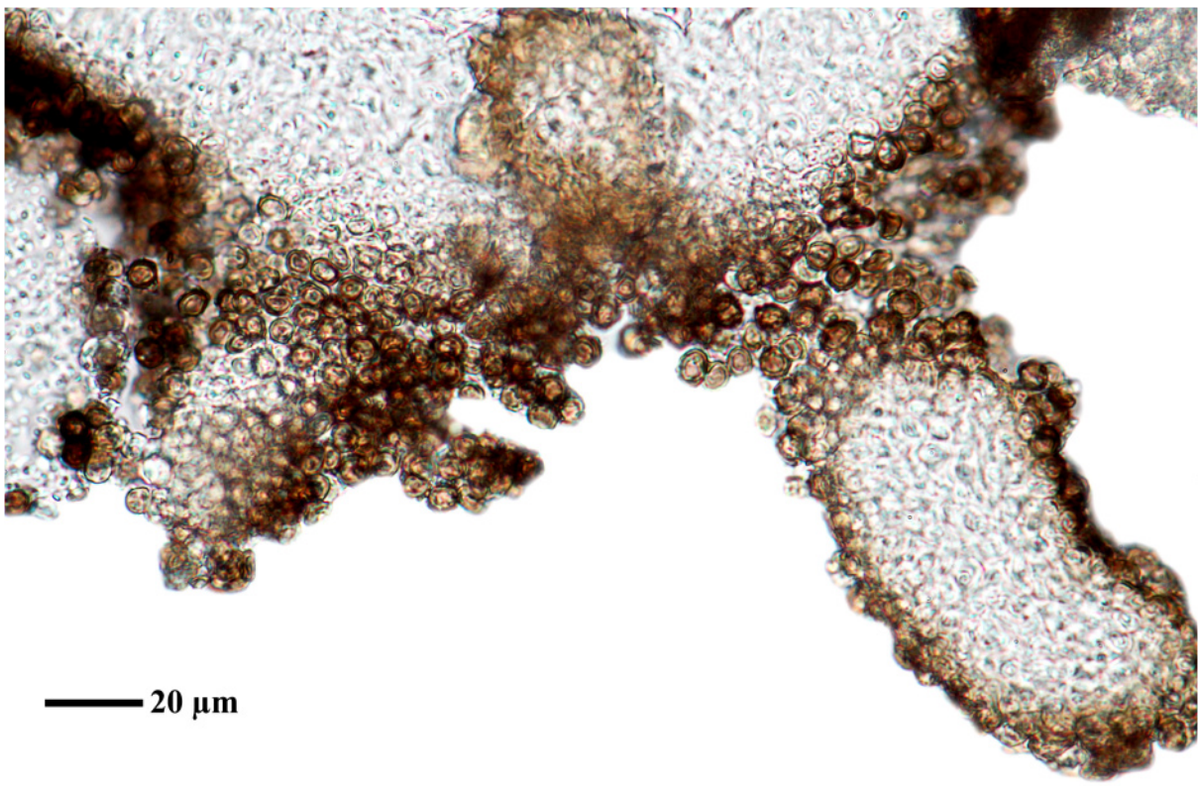


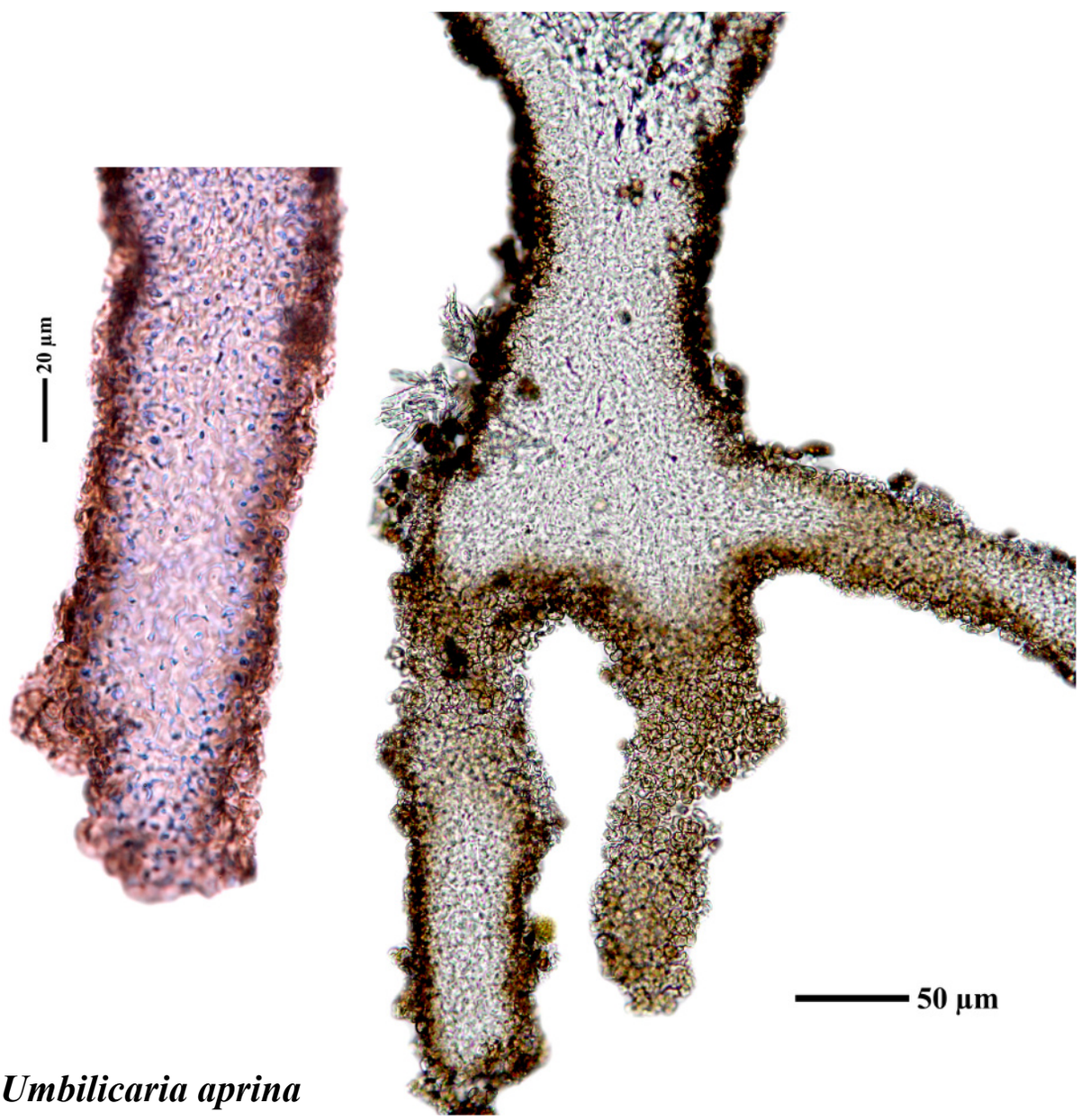
Umbilicaria aprina



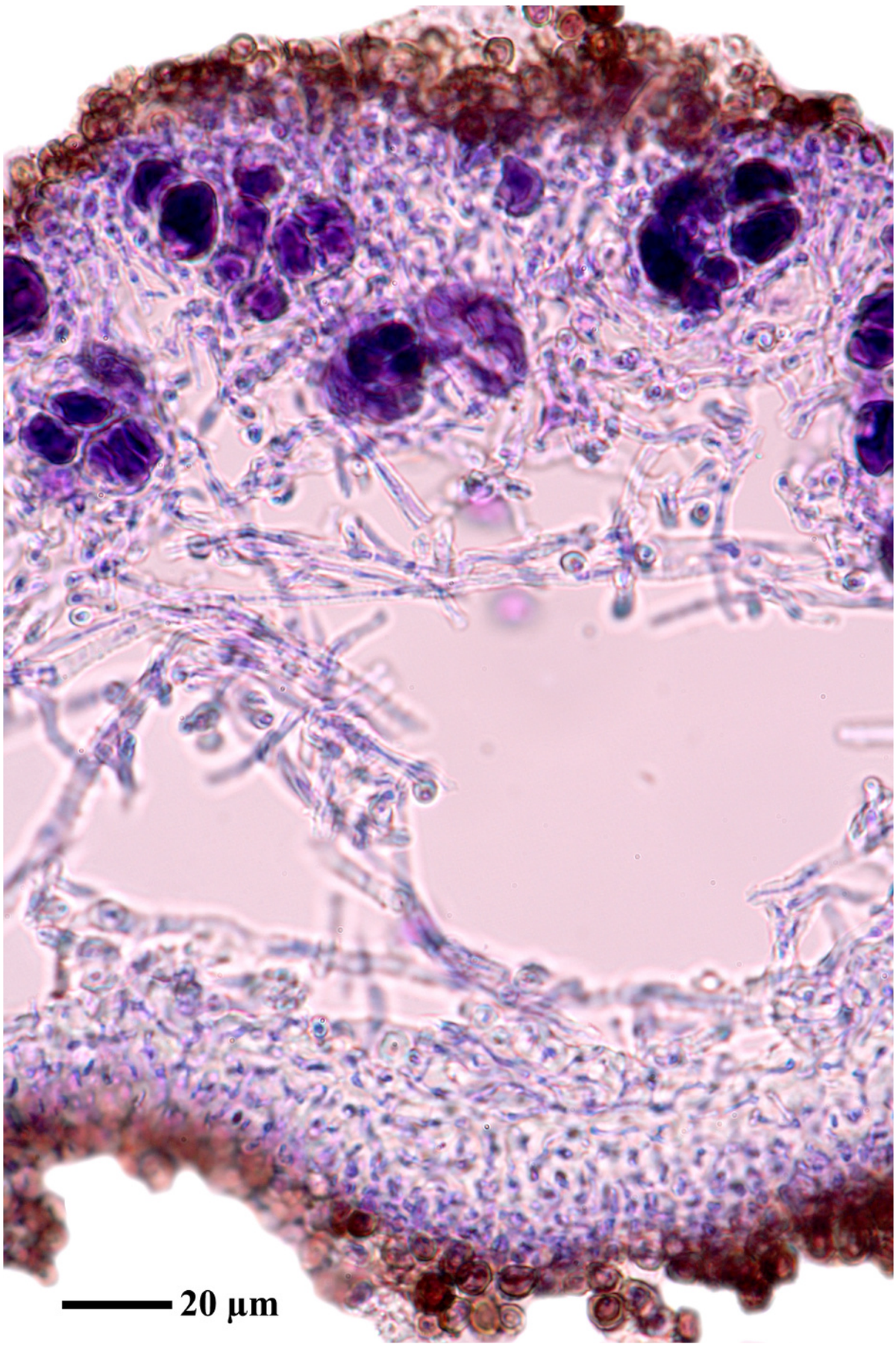


Umbilicaria aprina

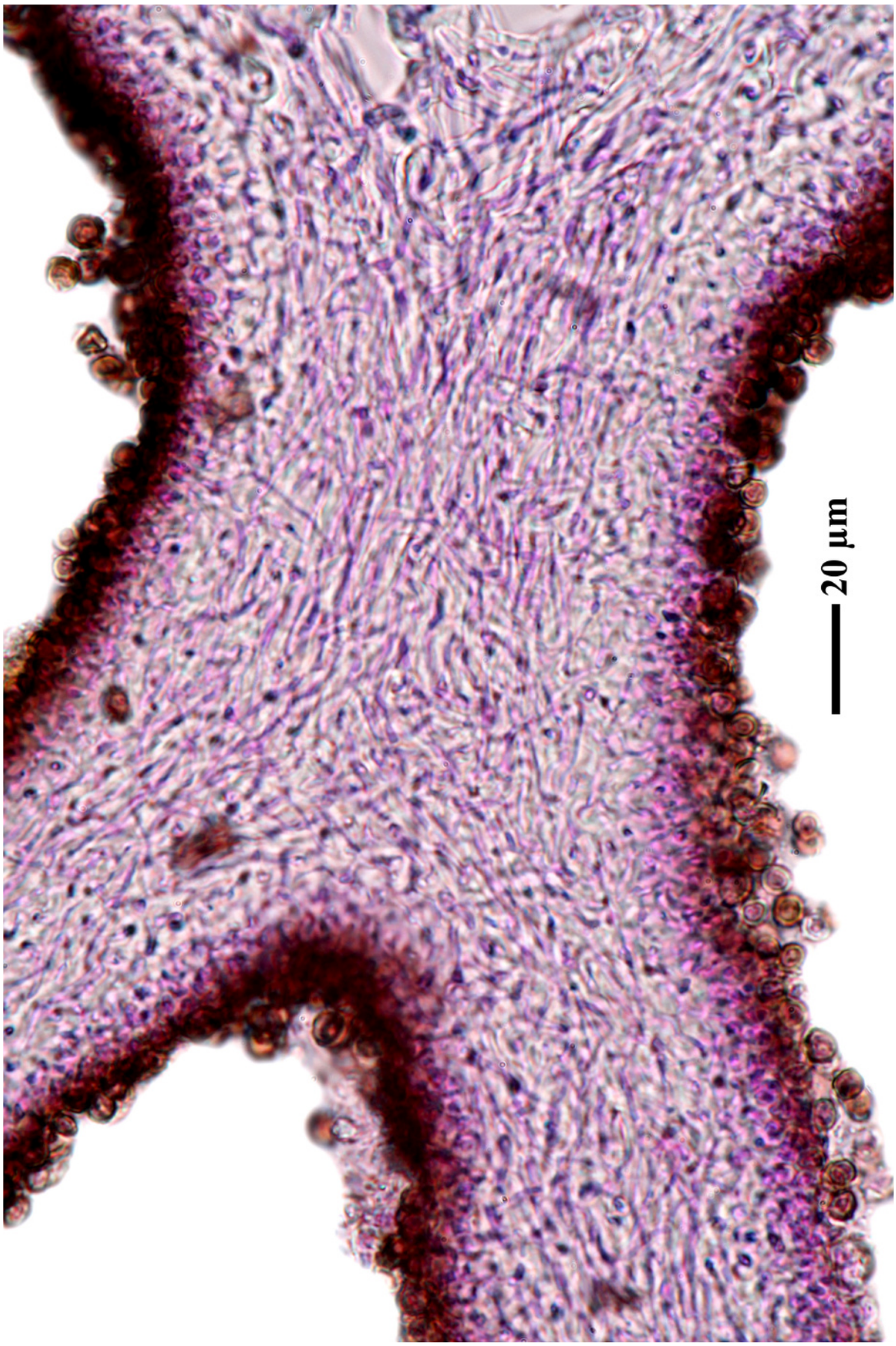




Umbilicaria aprina



Umbilicaria aprina



Umbilicaria aprina

Umbilicaria aprina Nyl., Syn. meth. lich. (Parisiis) 2: 12 (1869)

[LIAF_16]. Afghanistan, Prov. Kabul, Paghman-Gebirge, oberhalb des Ortes Paghman, an der Talgabelung Chap-Darrah und Rast-Darrah, 68°56'E, 34°37' N, 2550 m. Steile Silikatfelsen, N-NW-Exposition. Leg. D. Podlech (58/1), 17.05.1977. LICHENOTHECA AFGHANICA NR. 16.





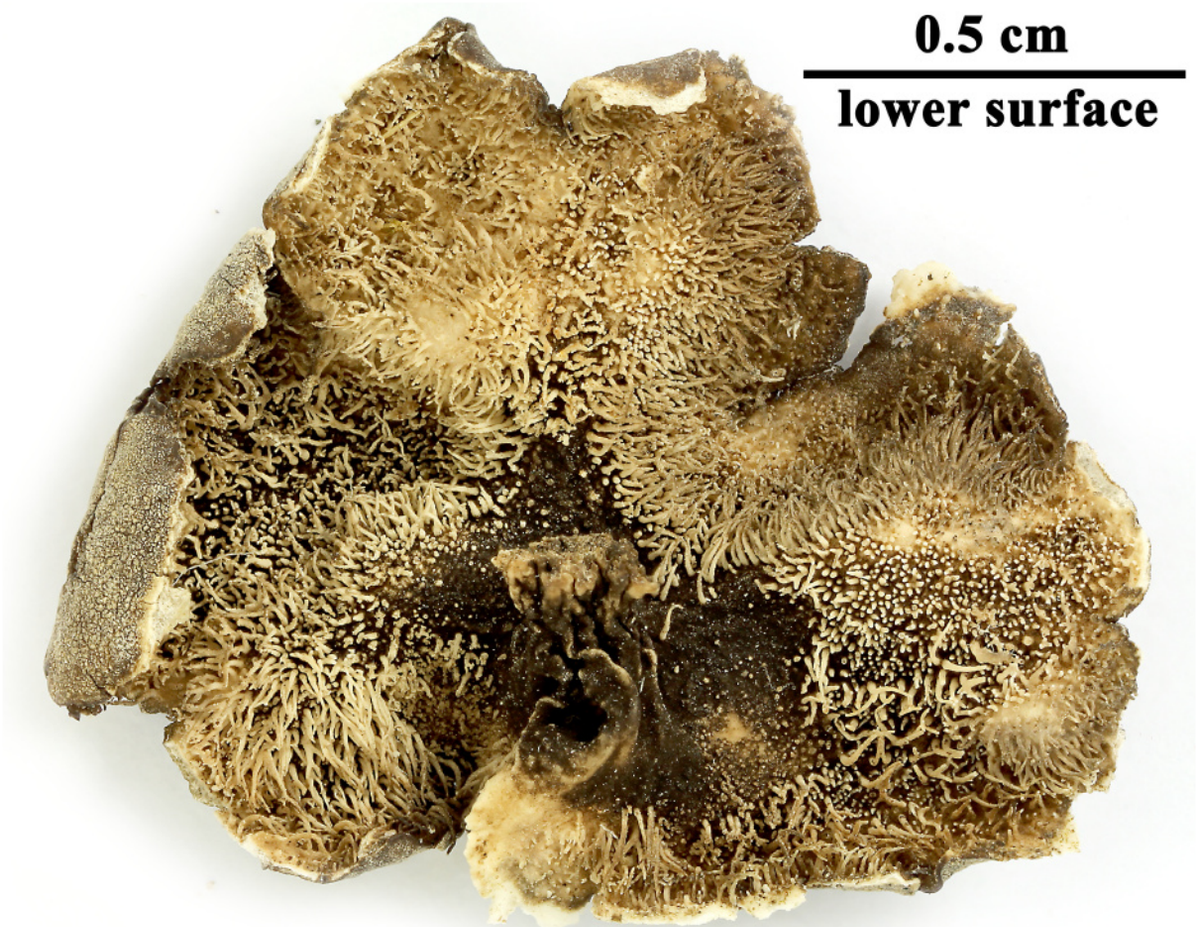
Umbilicaria aprina

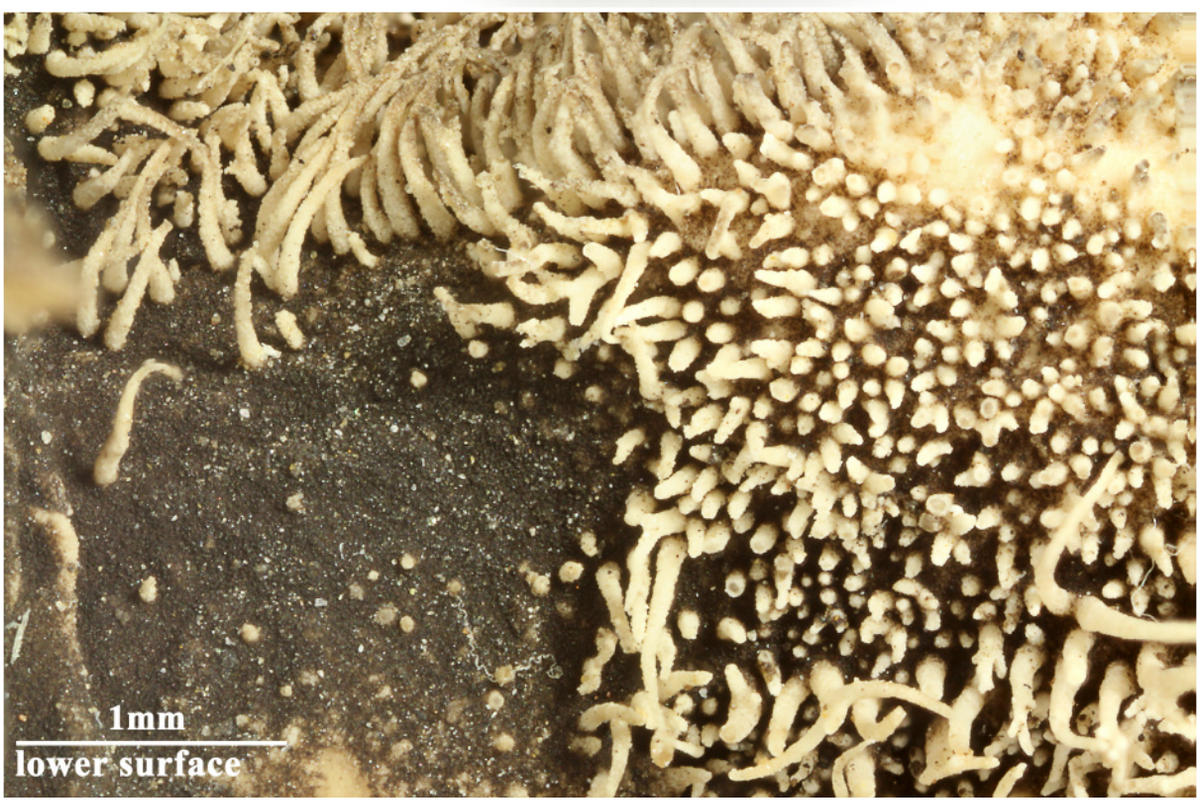
Umbilicaria aprina Nyl., Syn. meth. lich. (Parisiis) 2: 12 (1869)

[LIAF_25], Afghanistan, Prov. Kabul, Paghman-Gebirge, oberhalb des Ortes Paghman, ca. 500 m unterhalb an der Talgabelung Chap-Darrah und Rast-Darrah, 68°56'E, 34°37' N, 2540 m. Auf Silikatfelsen. Leg. D. Podlech (57/7), 10.04.1977. LICHENOTHECA AFGHANICA NR. 25.







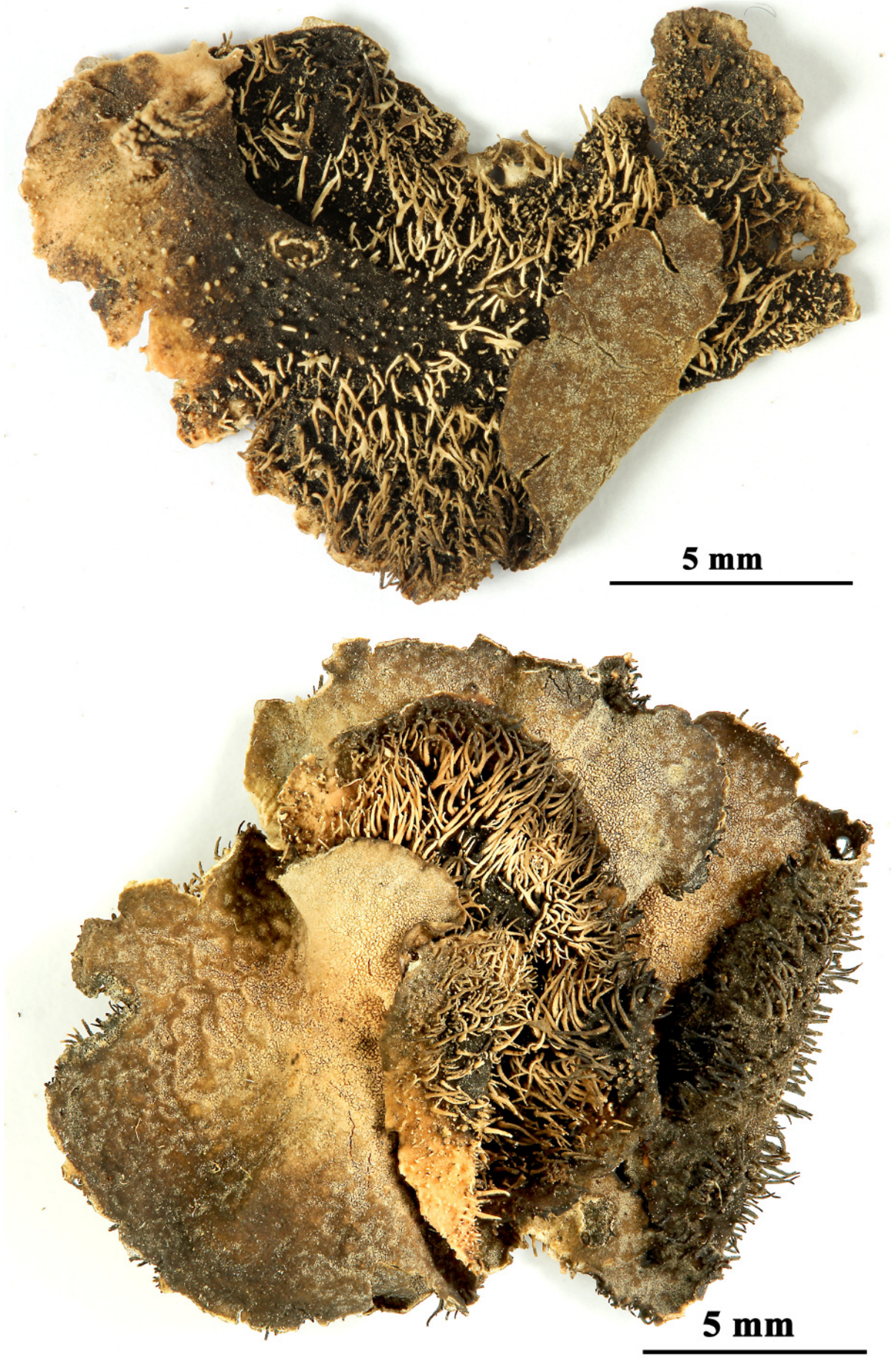


Umbilicaria aprina

Umbilicaria aprina Nyl., Syn. meth. lich. (Parisiis) 2: 12 (1869)

[LIAF_58], Afghanistan, Prov. Kabul, Paghman-Gebirge, oberhalb des Ortes Paghman, an der Talgabelung Chap-Darrah und Rast-Darrah, 68°56'E, 34°37' N, 2500 m. Steile Silikatfelsen, N-NW-exponiert. Leg. M. Steiner (36/2, 59/4), 30.05. und 21.06.1970. LICHENOTHECA AFGHANICA NR. 58.





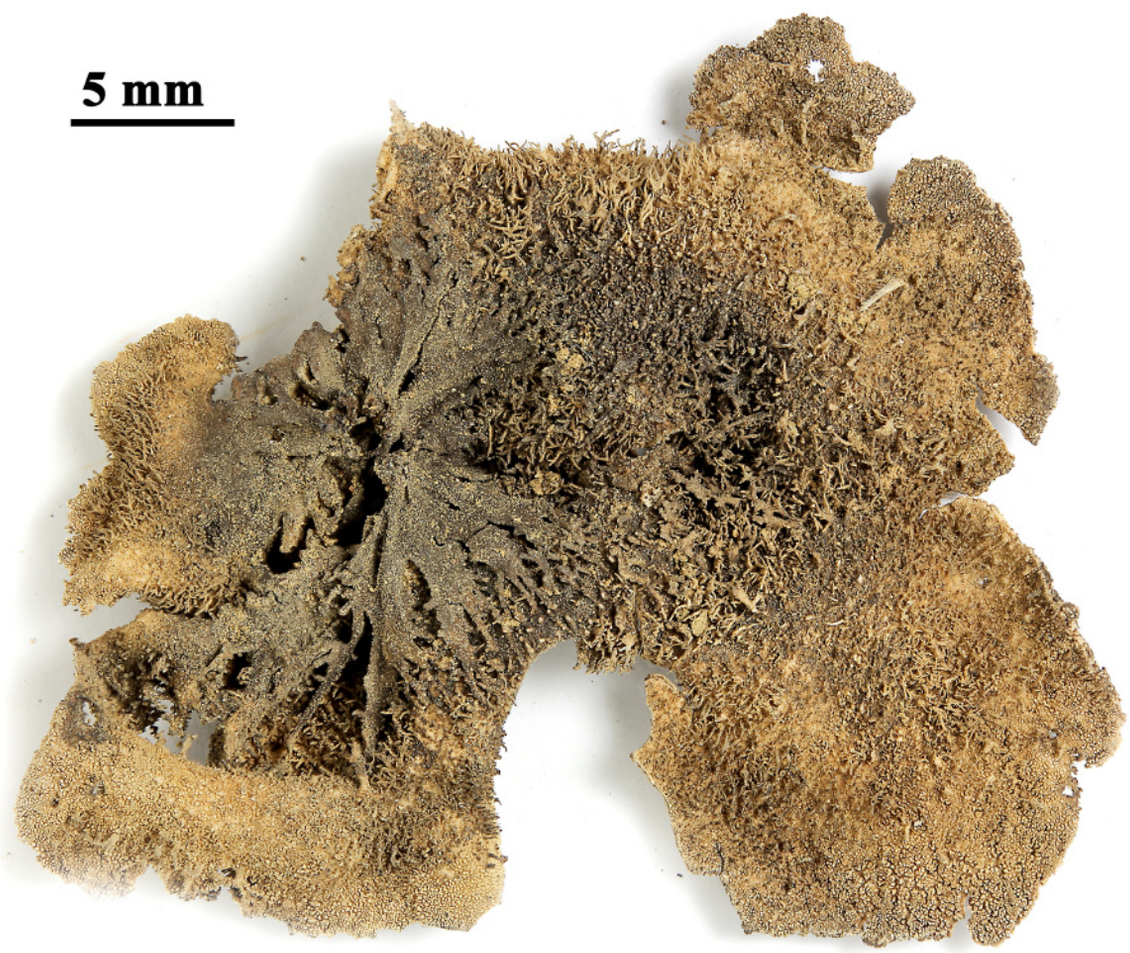
Umbilicaria aprina

Umbilicaria hirsuta (Sw. ex Westr.) Ach., K. Vetensk-Acad. Nya Handl. 15: 97 (1794)

[GZU 54-88], Afghanistan, Paghman-Gebirge, oberhalb des Ortes Paghman, etwa 500 m unterhalb der Talgabelung Chap-Darrah und Rast-Darrah, 68°56’ E, 34°37’ N, ca. 2540 m. an Silikatfelsen. Leg. D. Podlech (57/5), 10.04.1977. LICHENOTHECA AFRICANA NR. 56.



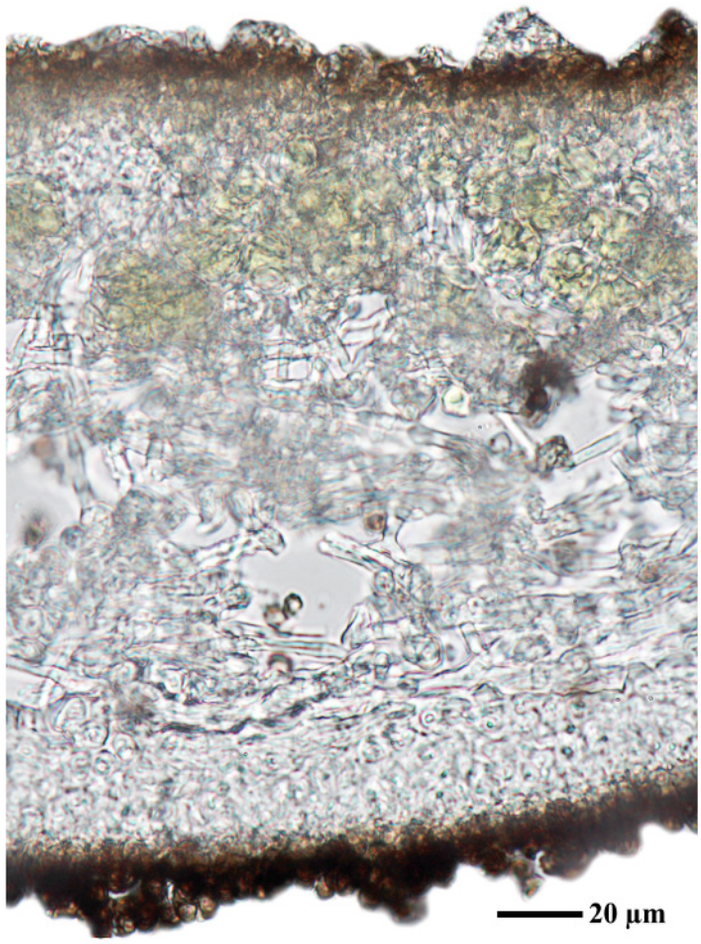


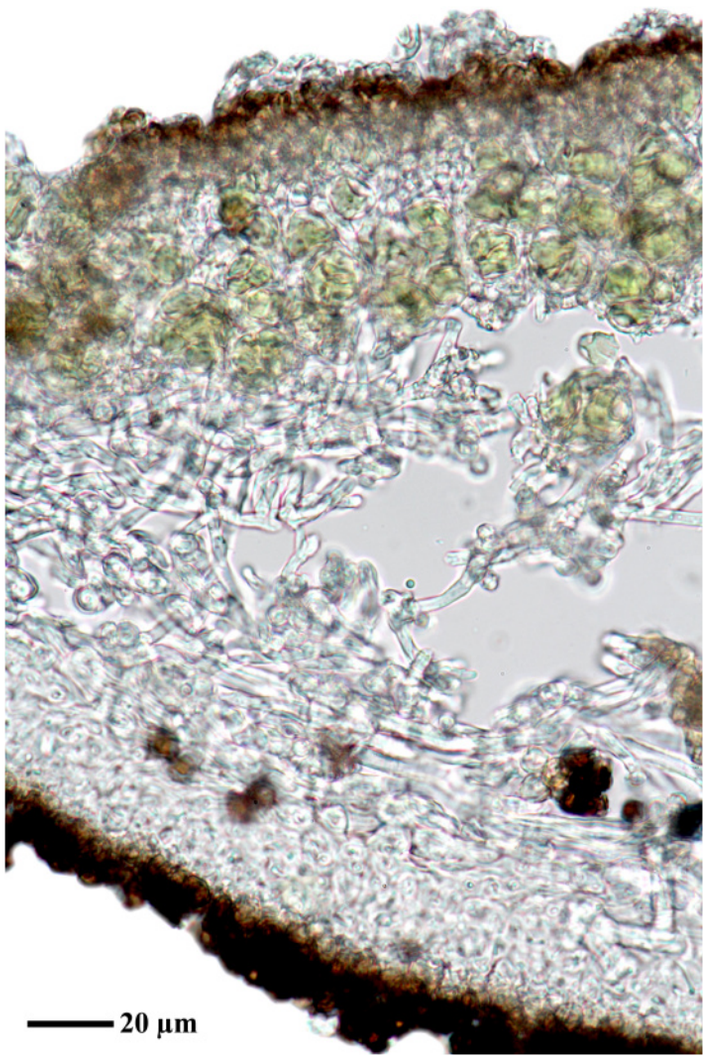


Umbilicaria hirsuta

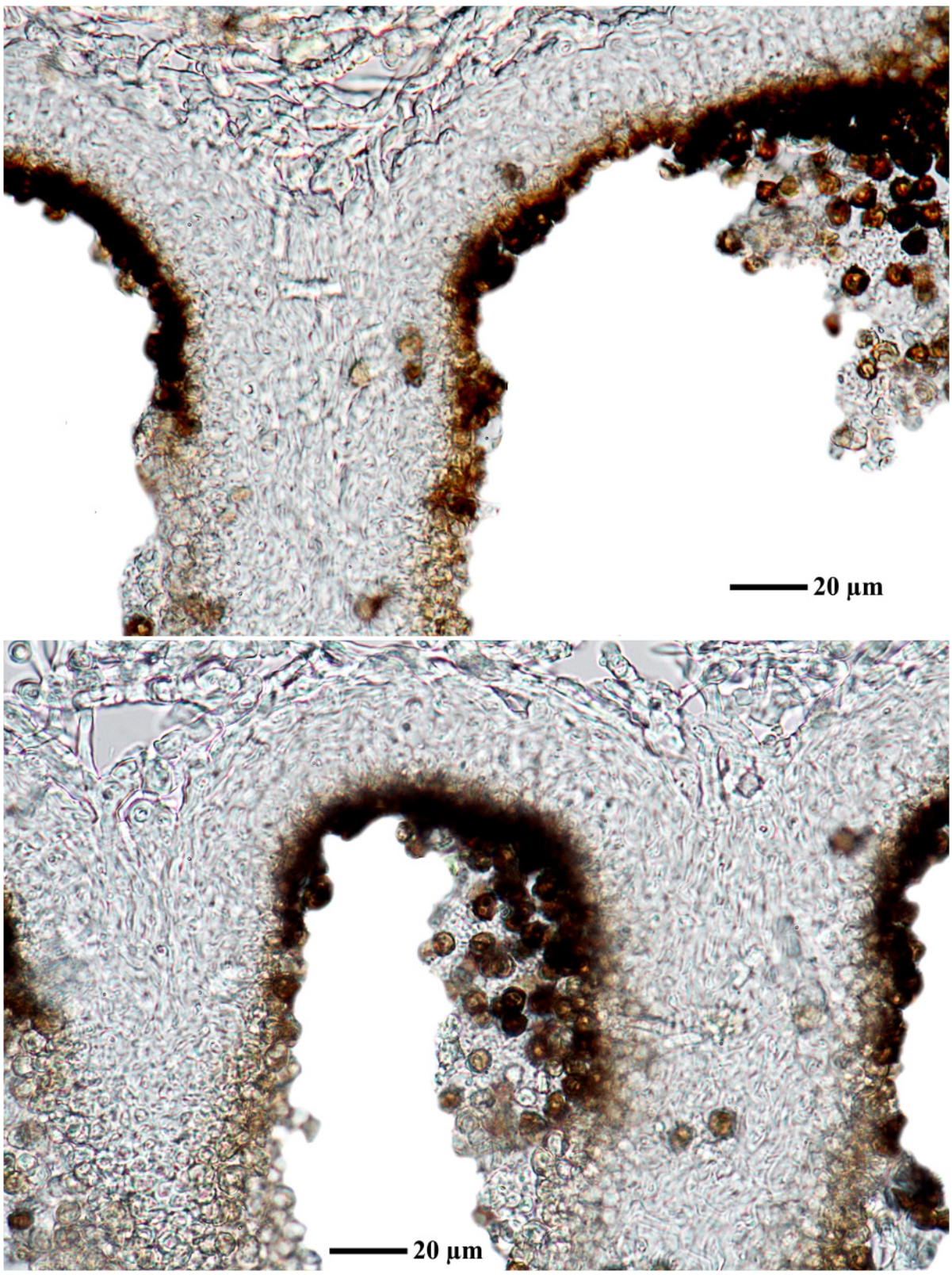


Umbilicaria hirsuta





Umbilicaria hirsuta



Umbilicaria hirsuta



Umbilicaria hirsuta

Umbilicaria hirsuta (Sw. ex Westr.) Ach., K. Vetensk-Acad. Nya Handl. 15: 97 (1794)

[LIAF_17], Afghanistan, Prov. Kabul, Paghman-Gebirge, oberhalb des Ortes Paghman, an der Talgabelung Chap-Darrah und Rast-Darrah, 68°56’ E, 34°37’ N, ca. 2550 m, steile Silikatfelsen, N-NW-exponiert. Leg. M. Steiner (37/2, 59/4), 30.05., 21.06.1970. LICHENOTHECA AFGHANICA NR. 17.

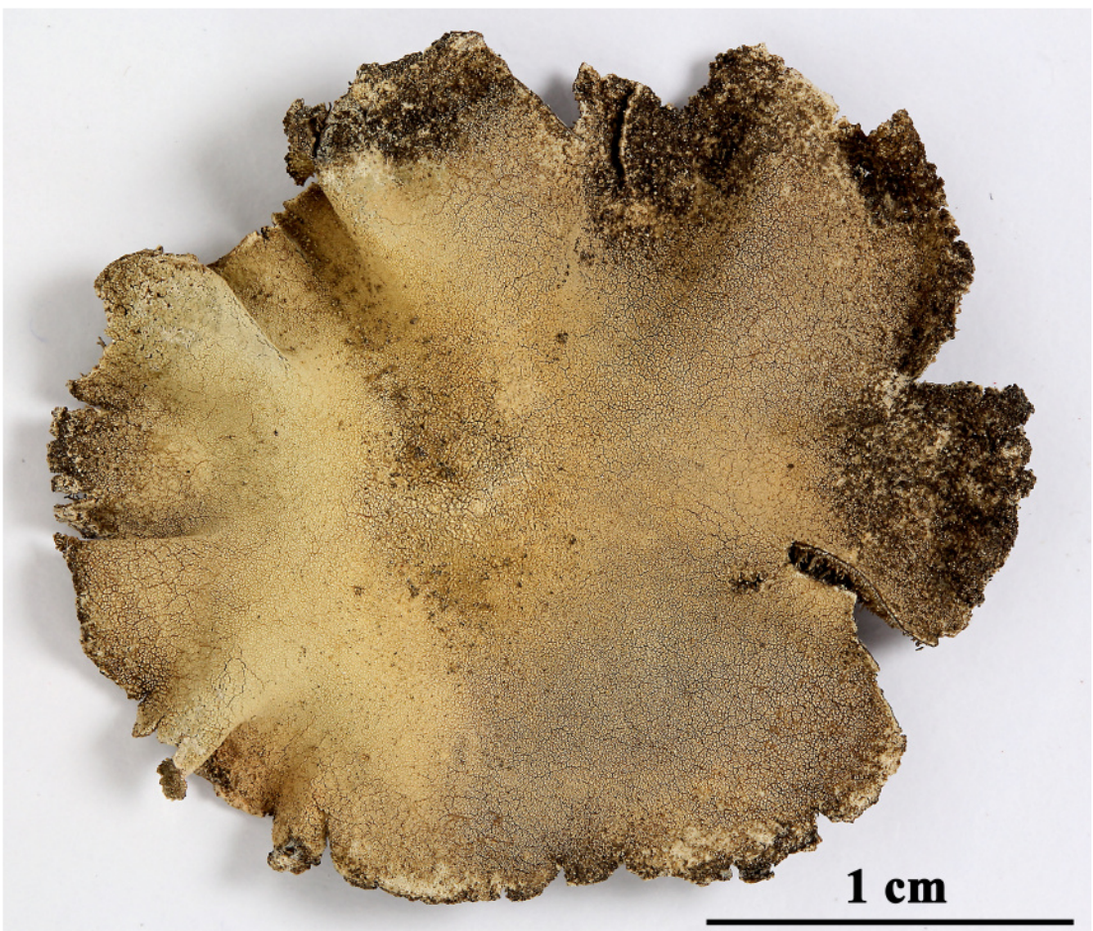




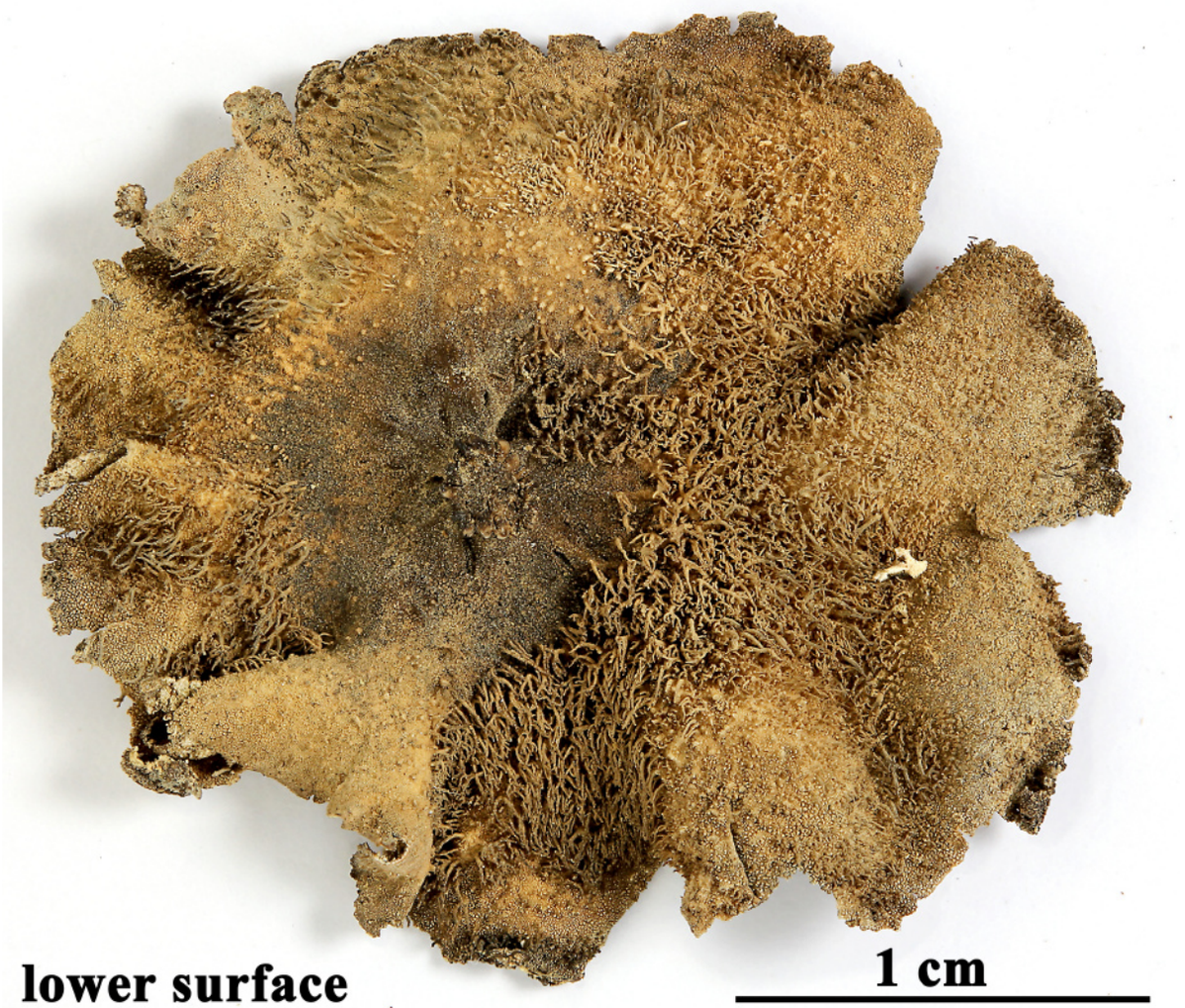
Umbilicaria hirsuta

Umbilicaria hirsuta (Sw. ex Westr.) Ach., K. Vetensk-Acad. Nya Handl. 15: 97 (1794)

[LIAF_56], Afghanistan, Prov. Kabul, Paghman-Gebirge, oberhalb des Ortes Paghman, etwa 500 m unterhalb der Talgabelung Chap-Darrah und Rast-Darrah, 68°56’ E, 34°37’ N, ca. 2540 m, Silikatfelsen. Leg. D. Podlech (Pod 57/5), 10.04.1977. LICHENOTHECA AFGHANICA NR. 56.









Umbilicaria hirsuta

Umbilicaria vellea (L.) Ach., K. Vetensk-Acad. Nya Handl. 15: 101 (1794)

[LIAF_15], Afghanistan, Prov. Kabul, Paghman-Gebirge, oberhalb des Ortes Paghman, an der Talgabelung Chap-Darrah und Rast-Darrah, 68°56’ E, 34°37’ N, ca. 2550 m, Silikatfelsen-Felswände, meist N-exponiert. Leg. D. Podlech (Pod 58/2), 17.05.1977. LICHENOTHECA AFGHANICA NR. 15.





Umbilicaria vellea

Umbilicaria vellea (L.) Ach., K. Vetensk-Acad. Nya Handl. 15: 101 (1794)

[LIAF_29], Afghanistan, Prov. Kabul, Paghman-Gebirge, oberhalb des Ortes Paghman, an der Talgabelung Chap-Darrah und Rast-Darrah, 68°56’ E, 34°37’ N, ca. 2550 m, steile Silikatfelsen, N-exponiert. Leg. M. Steiner (Ste 36/2, 37/2, 59/4), 30.05., 21.06.1970. LICHENOTHECA AFGHANICA NR. 29.





Umbilicaria vellea

Umbilicaria virginis Schaer., Lich. helv. spicil. 11: 564 (1842)

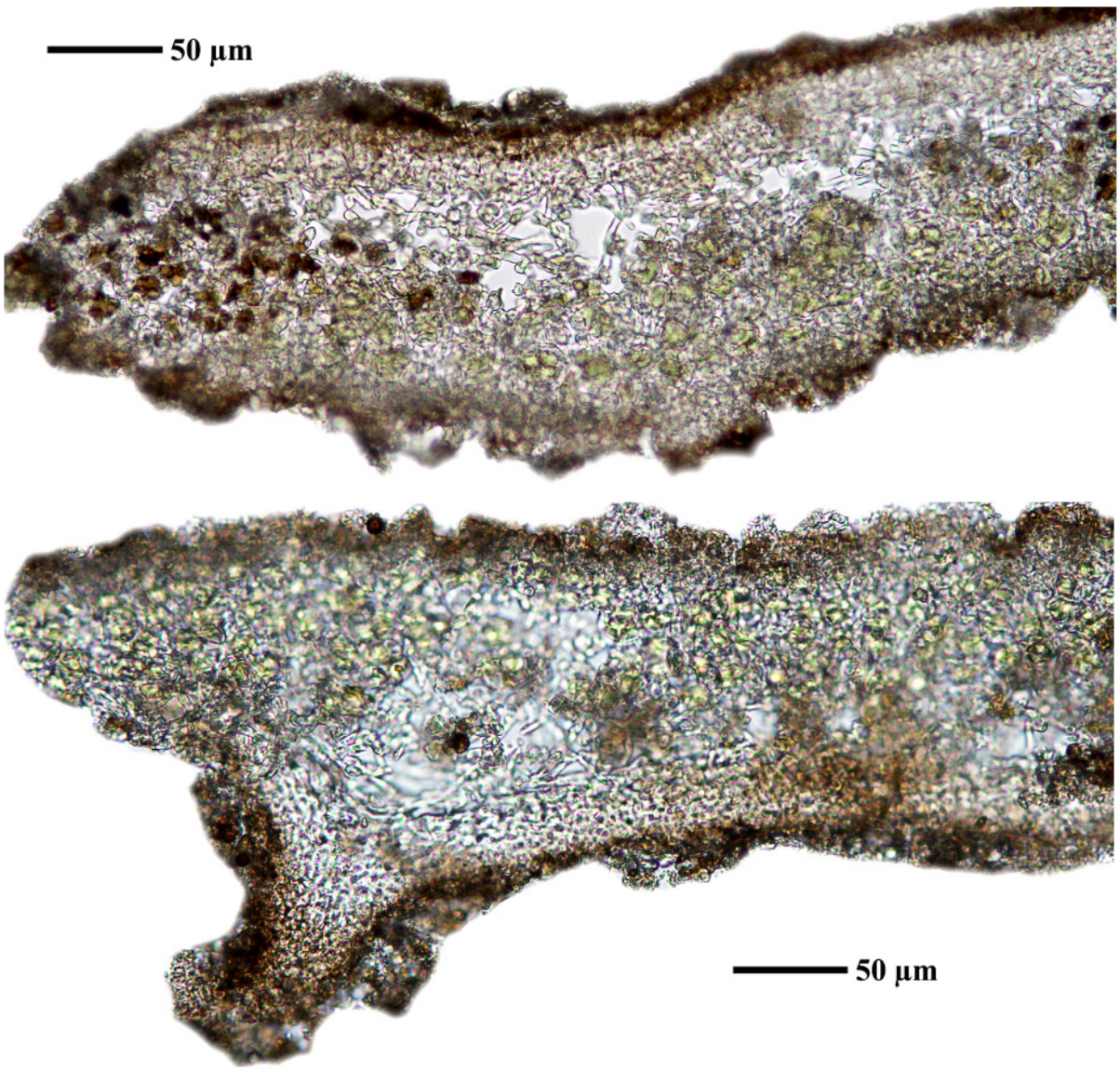
Notes: Ursprünglich von J. Poelt (?) als *cf. Umbilicaria aprina* Nyl. bestimmt

[GZU 165-88], Afghanistan, Prov. Kabul, Paghman Gebirge, oberhalb des Ortes Paghman, an der Talgabelung Cap-Darrah und Rast-Darrah, linke Talseite, 68°56’ E, 34°37’ N, 2550 m. An Silikatfelsen; gehemmte rasige Wuchsform. Leg. M. Steiner, 30.05.1970, det. E. A. Davydov, 10.2017.

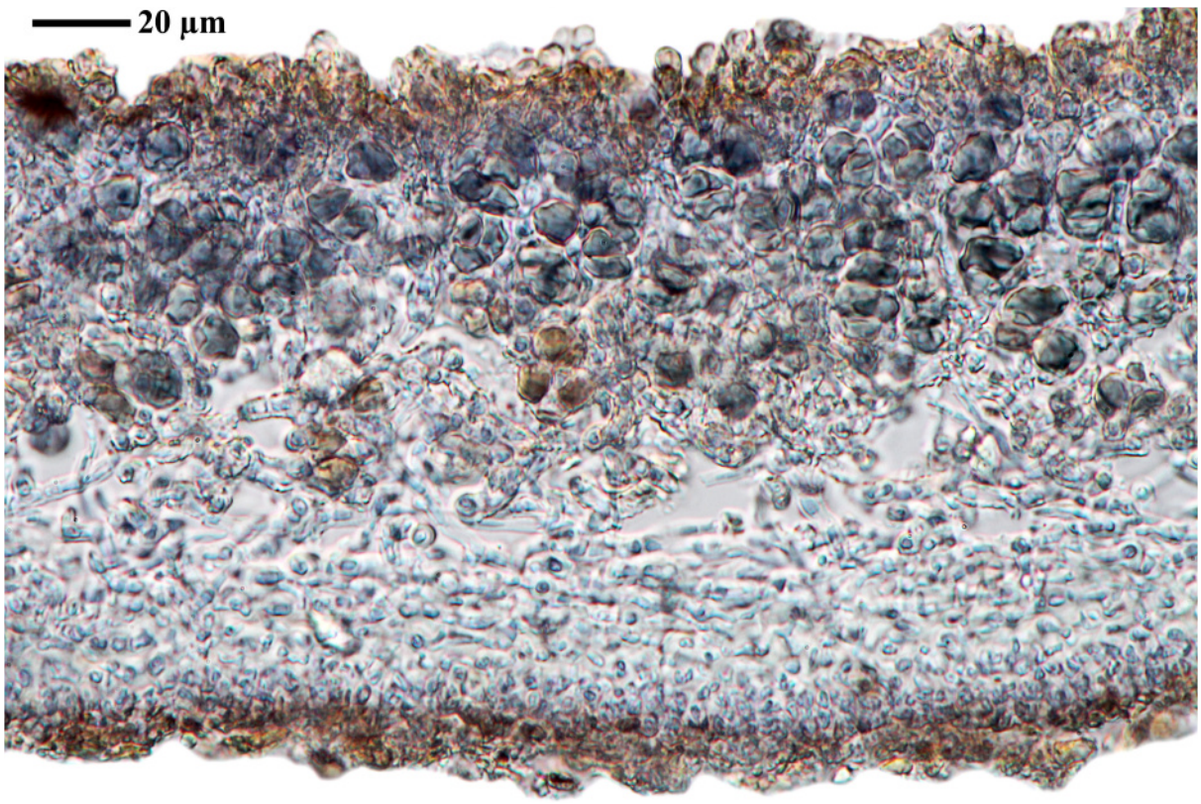


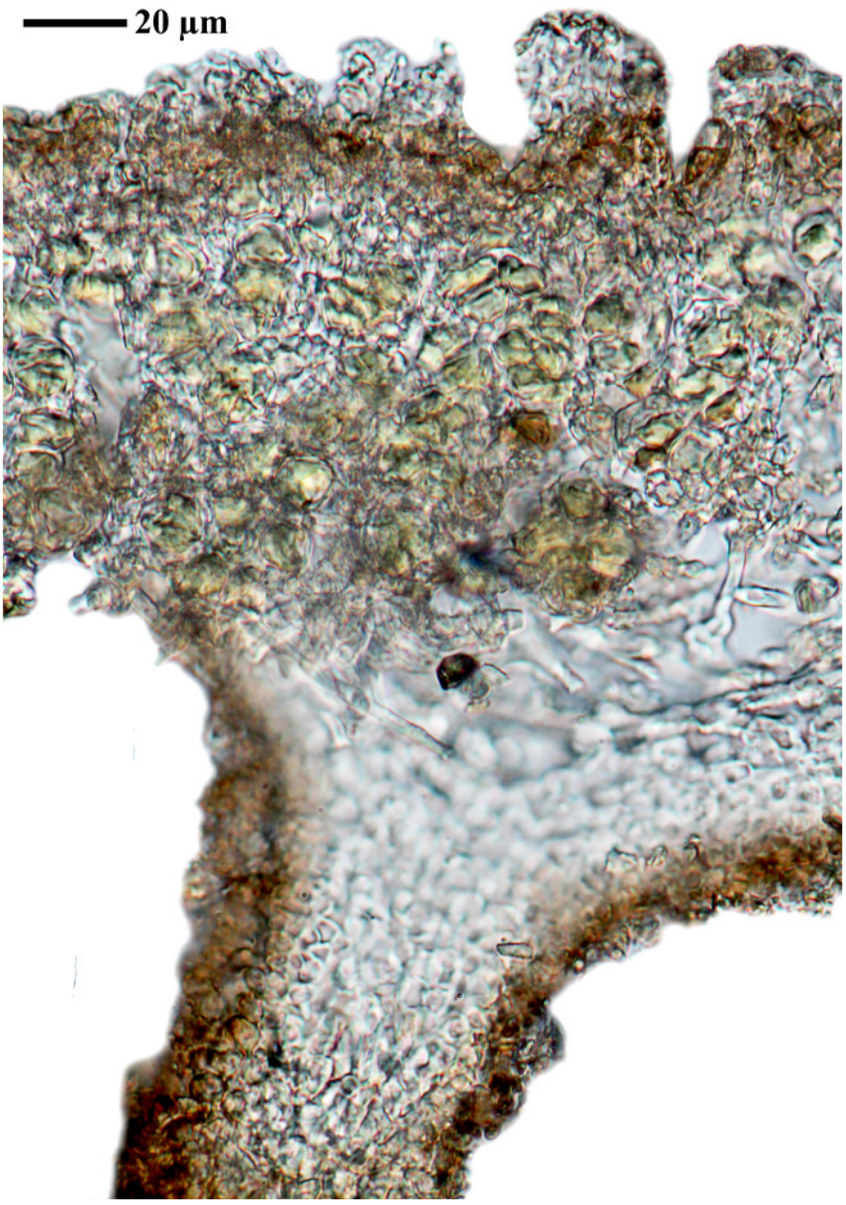


Umbilicaria virginis



Umbilicaria virginis





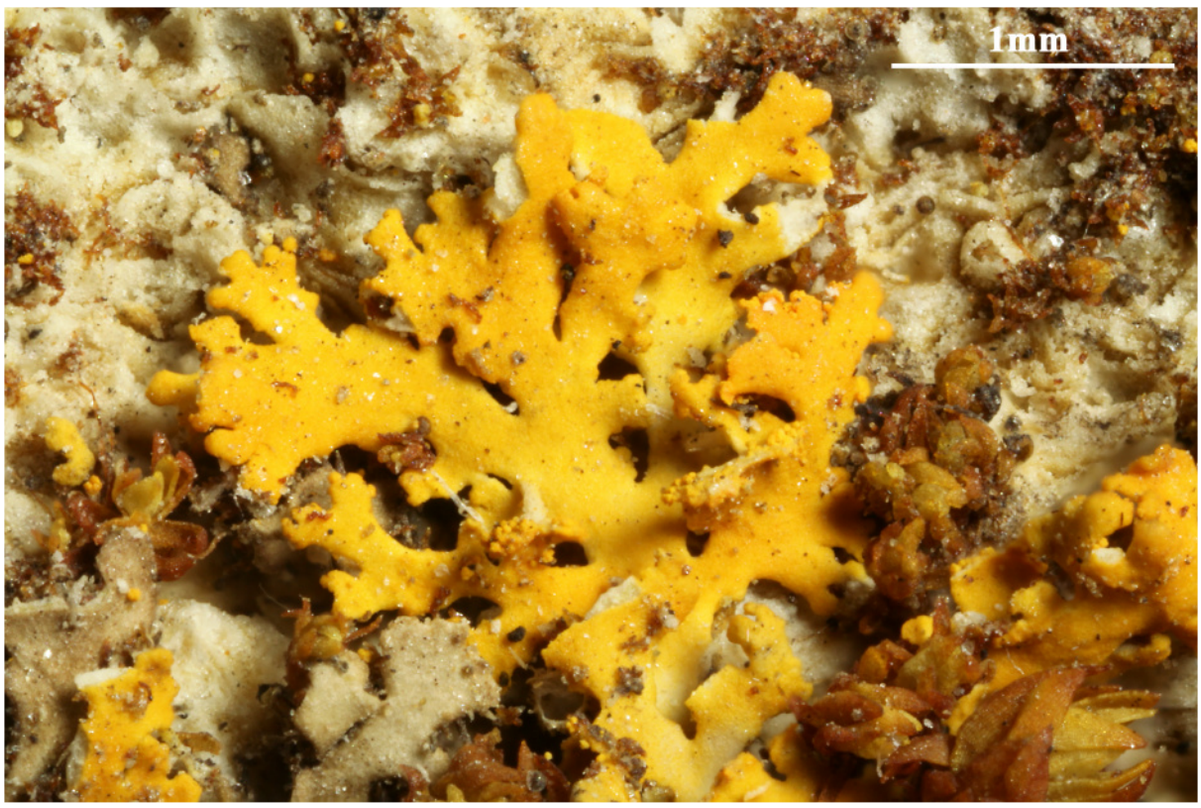
Umbilicaria virginis

Xanthoria candelaria (L.) Th.Fr. coll., Gen. Heterolich. Eur.: 61 (1861) [= *Polycauliona candelaria* (L.) Frödén, Arup & Søchting, Nordic Jl Bot. 31(1): 51 (2013)]

Originalkommentar: Die Flechte entspricht etwa der in Mitteleuropa als var. *fulva* (Zoega apud Schreb.) bezeichneten Sippe, deren Abgrenzung gegen *X. candelaria* s. str. und *X. fallax* (Hepp.) Arn. noch zu klärem bleibt.

[LIAF_37], Afghanistan, Prov. Kabul, Siau, 27 km N Kabul, an der Straße nach Charikar, 69°06’ E, 34°42’ N, ca. 1750 m. Alte Nußbäume im bewässerten Park eines Landgutes. Leg. M. Steiner (Ste 30/3), 29.05.1970. LICHENOTHECA AFGHANICA NR. 37.







Xanthoria candelaria

Xanthoria elegans (Link) Th. Fr., Lich. arct. (Uppsala) 3: 69 (1860)
[= *Caloplaca elegans* (Link) Th. Fr., Lich. Scand. (Upsaliae) 1(1): 168 (1871)]

[LIAF_55], Afghanistan, Prov. Bamyan, Paß Kotal-i-Hajigak, 68°05’ E, 34°48’ N, 3350 m. Leg. A. Dieterle (Pod 35/1), 31.05.1970. LICHENOTHECA AFGHANICA NR. 55.





Xanthoria elegans

Xanthoria fallax Arnold, Verh. zool.-bot. Ges. Wien 30: 121 (1881) [1880] [= *Oxneria fallax* (Arnold) S.Y.Kondr. & Kärnefelt, Ukr. bot. Zh. 60(4): 431 (2003)]

[LIAF_36], Afghanistan, Prov. Paktia, Paßhöhe des Kotal-i-Taraki, an der Straße von Chamkani nach Zambar, 69°48’ E, 33°38’ N, ca. 2220 m. Hochwaldfragment am islamischen Heiligtum, an Stämmen von *Fraxinus xanthoxyloides* (G.Don) DC., zusammen mit viel Physcia sp.. Leg. M. Steiner (87a/5), 04.07.1970. LICHENOTHECA AFGHANICA NR. 36.





Xanthoria fallax

Xanthoria fallax Arnold, Verh. zool.-bot. Ges. Wien 30: 121 (1881) [1880] [= *Oxneria fallax* (Arnold) S.Y.Kondr. & Kärnefelt, Ukr. bot. Zh. 60(4): 431 (2003)]

[LIAF_42], Afghanistan, Prov. Paktia, 2 km S unterhalb des Passes Kotal-i-Taraki, an der Straße von Chamkani nach Zambar, 69°48.5’ E, 33°37.5’ N, ca. 2200 m. Auf Stämmen von *Quercus baloot* Griff. über Moosen (*Drummondia thomsonii* Mitt. u.a.). Leg. M. Steiner (75/4), 03.07.1970. LICHENOTHECA AFGHANICA NR. 42.





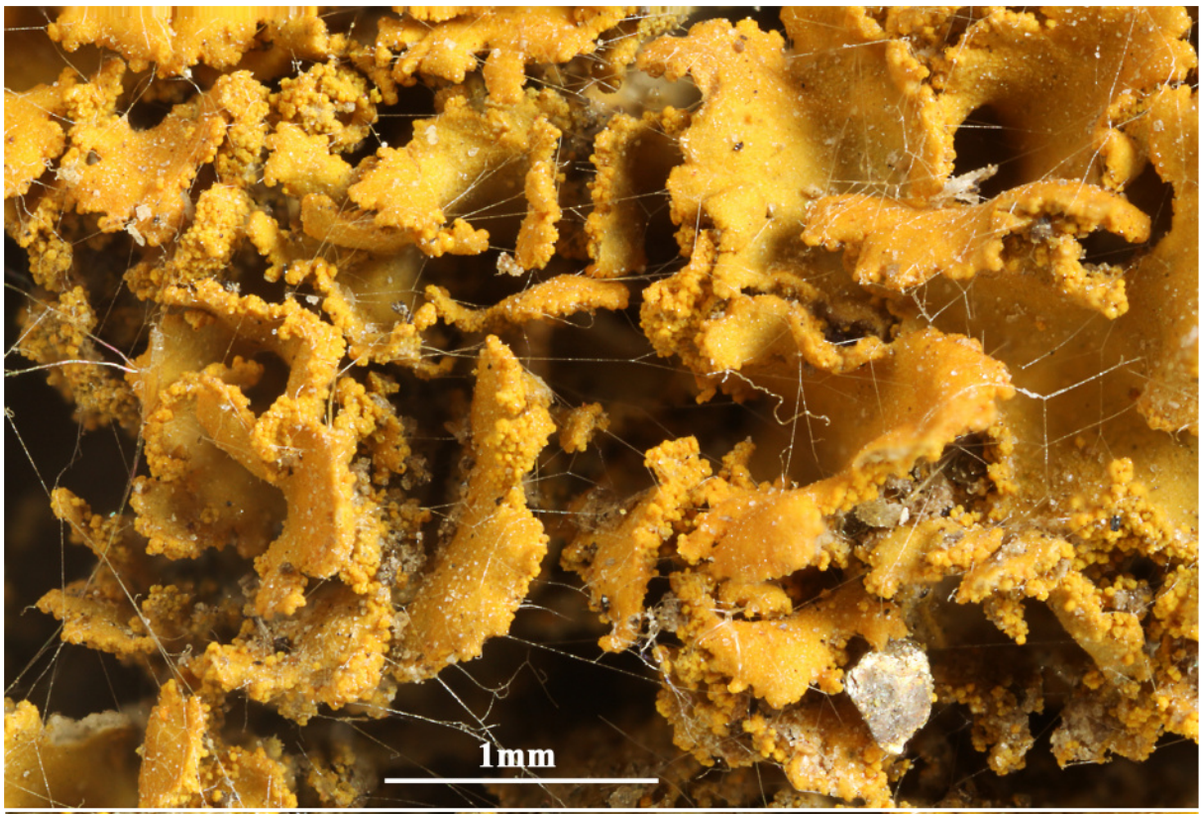


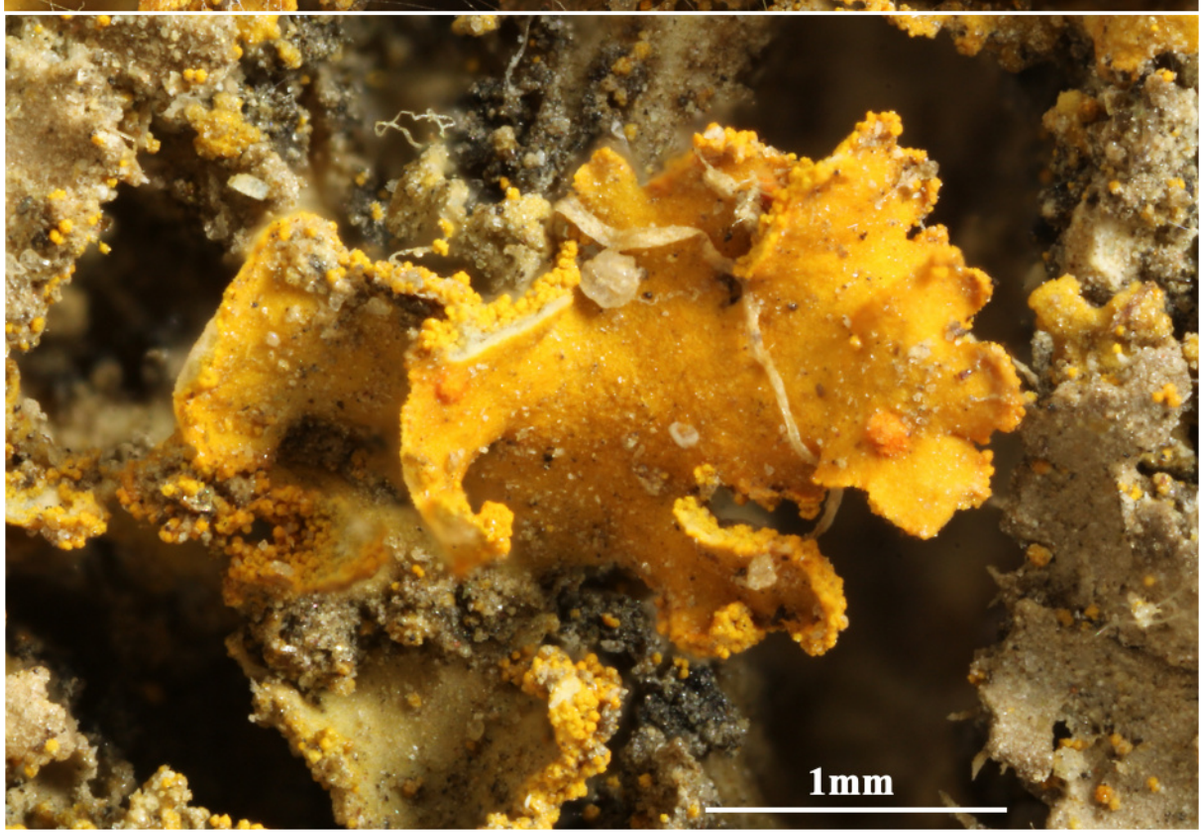
Xanthoria fallax

Xanthoria fallax Arnold cf. var. ***lychneoides*** (Mereschk.) Erichsen, (1942)
Xanthoria fallax Arnold, Verh. zool.-bot. Ges. Wien 30: 121 (1881) [1880] [= *Oxneria fallax* (Arnold) S.Y.Kondr. & Kärnefelt, Ukr. bot. Zh. 60(4): 431 (2003)]

[LIAF_61], Afghanistan, Prov. Kabul, Sian, 27 km N Kabul, an der Straße nach Charikar, 69°06’ E, 34°42’ N, ca. 1750 m. Auf *Ailanthus altissima* (Mill.) Swingle im bewässerten Park eines Landgutes, zusammen mit *Caloplaca persica* (J.Stein.) M.Steiner & Poelt, *Candelariella aurella* (Hoffm.) Zahlbr. und *Physcia latifolia* M.Steiner & Poelt. Leg. M. Steiner (57/3), 08.06.1970. LICHENOTHECA AFGHANICA NR. 61.







Xanthoria fallax cf. var. ***lychneoides***

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