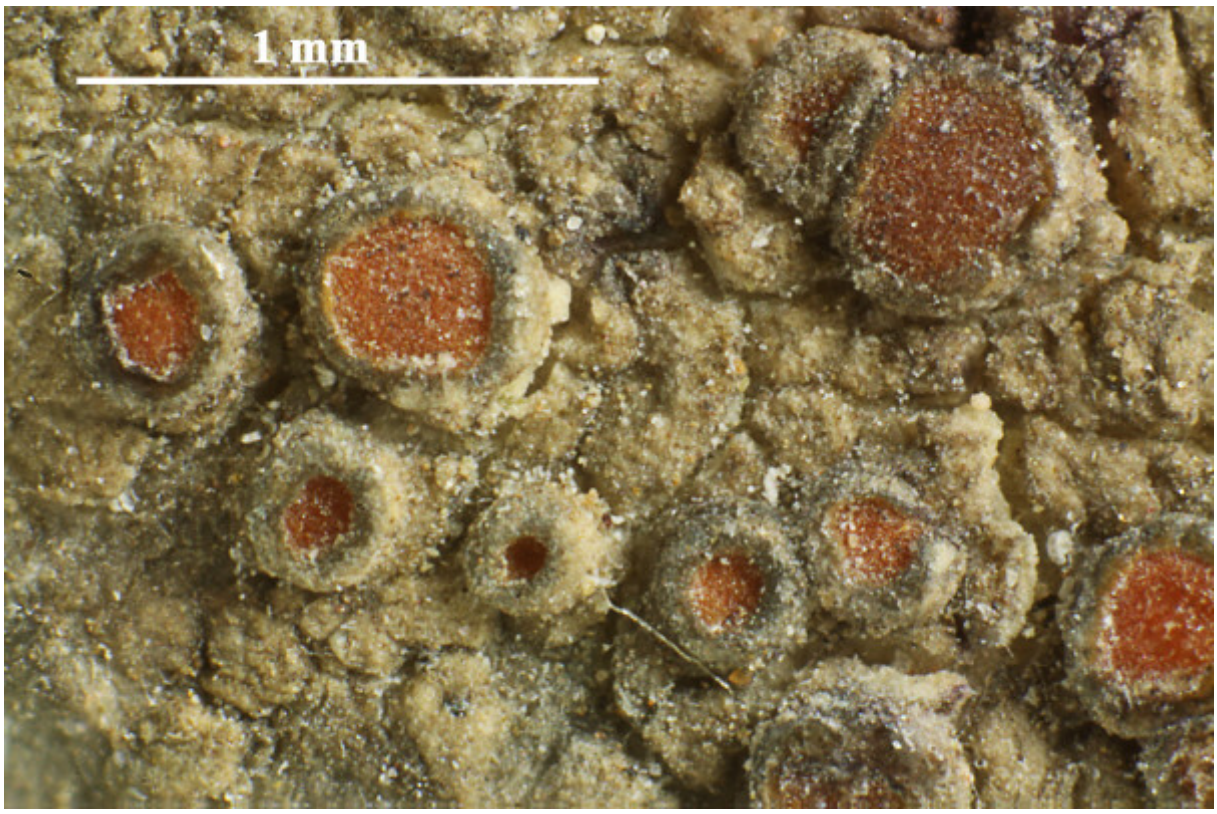
F. Schumm & A. Aptroot

Images of the Lichen Genus Caloplaca

Volume 3

Caloplaca holocarpa
|
Caloplaca pulicarioides



Felix Schumm & André Aptroot

Images of the Lichen Genus

Caloplaca

Volume 3
Caloplaca holocarpa
|
Caloplaca pulicarioides

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ISBN

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New species
Caloplaca austromaritima
Caloplaca blastidiomaritima

New combinations
Caloplaca brittonii
Caloplaca schwarzii

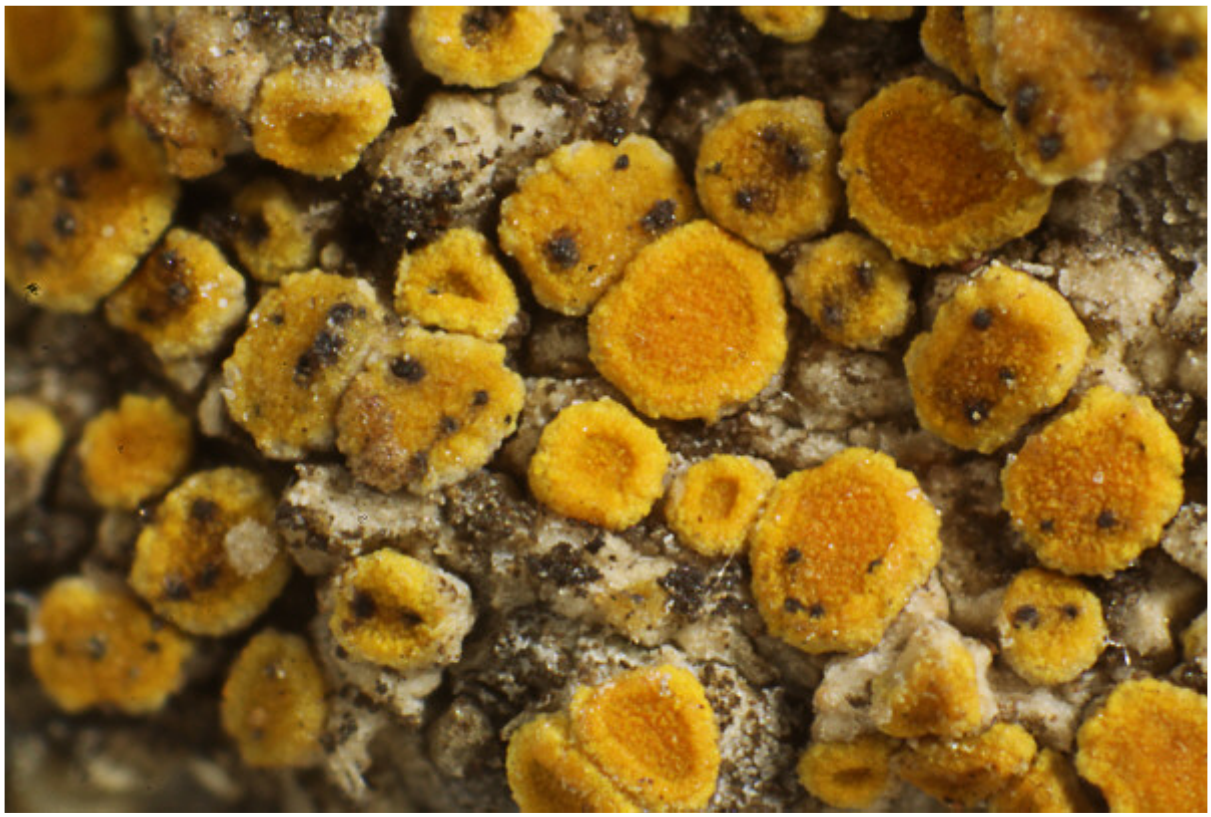
Caloplaca holocarpa (Hoffm.) A.E.Wade
[= ***Athallia holocarpa*** (Hoffm.) Arup, Frödén & Søchting]

Spores polarilocular, hyaline, 8/ascus, 13-18 x 6-9 µm, septum 7.5-11 µm. On bark.

[16347], Mallorca (Süd): Salines de Llvand westlich von Ses Salines; 39.35578° N, 3.01332° E, 4 m, auf *Phoenix*. Leg. F. Schumm, J.-P. Frahm & M. Lüth, 12.03.2010, det. A. Aptroot 2016.

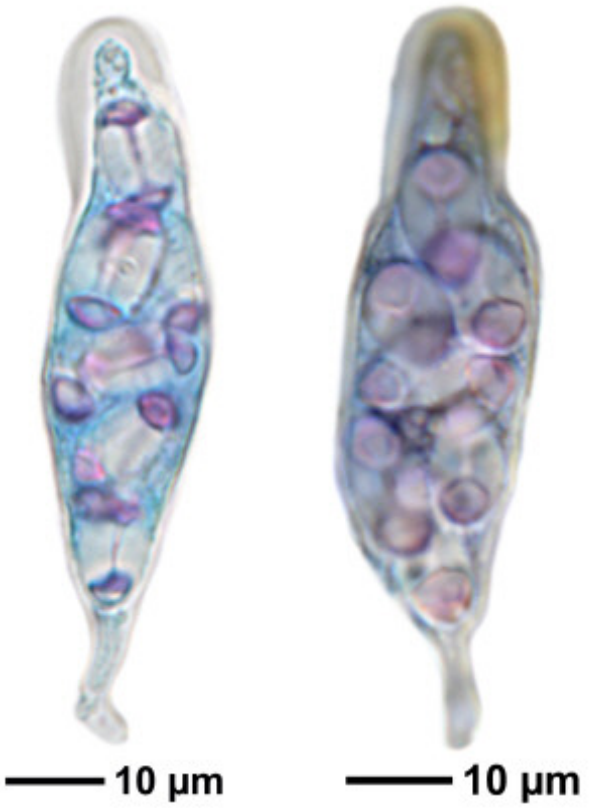


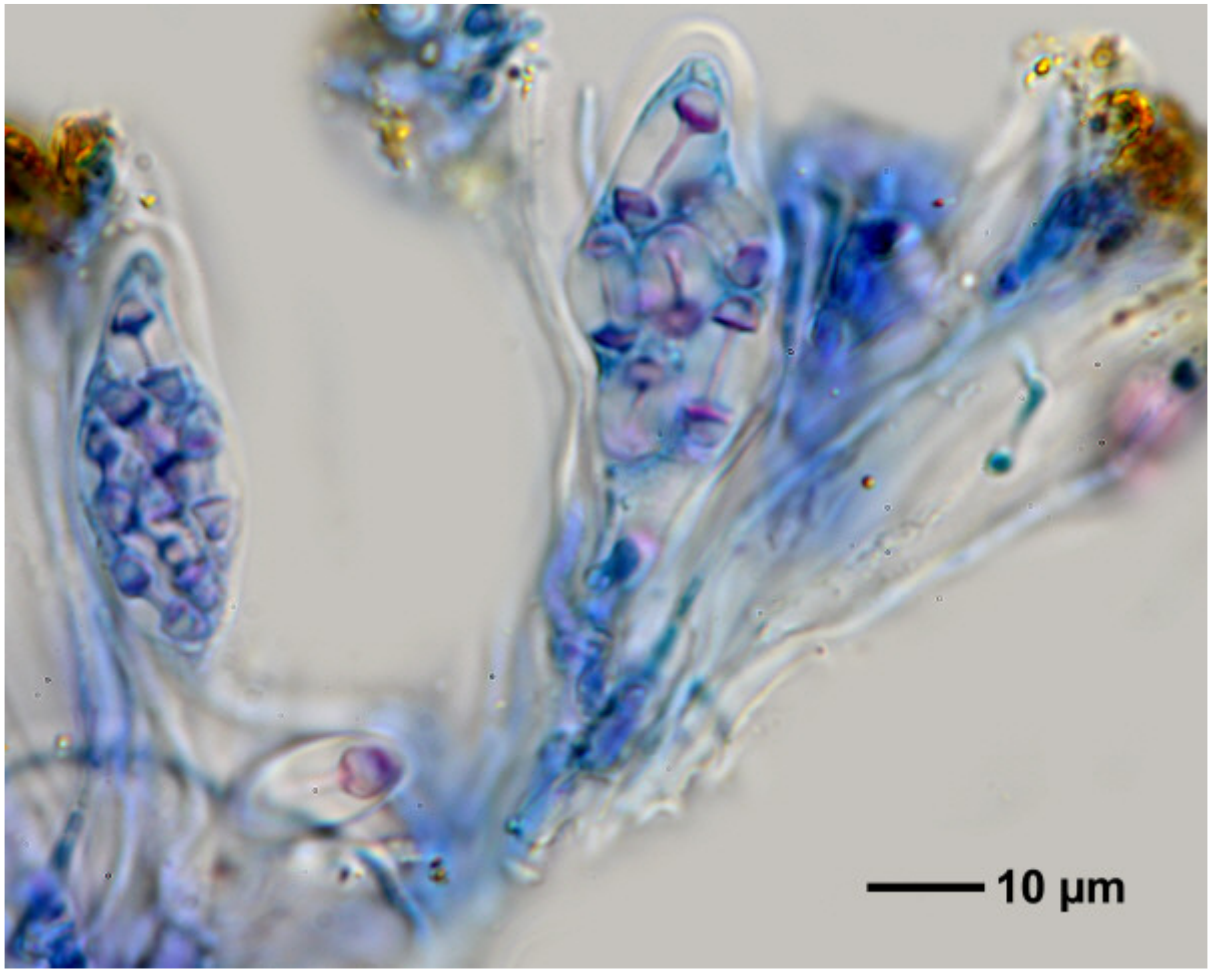




Caloplaca holocarpa









Caloplaca holocarpa

Caloplaca holocarpa (Hoffm.) A.E.Wade
[= ***Athallia holocarpa*** (Hoffm.) Arup, Frödén & Søchting]

Spores polarilocular, hyaline, 8/ascus, 15-17 x 7-9.5 µm, septum 7 µm. On bark.

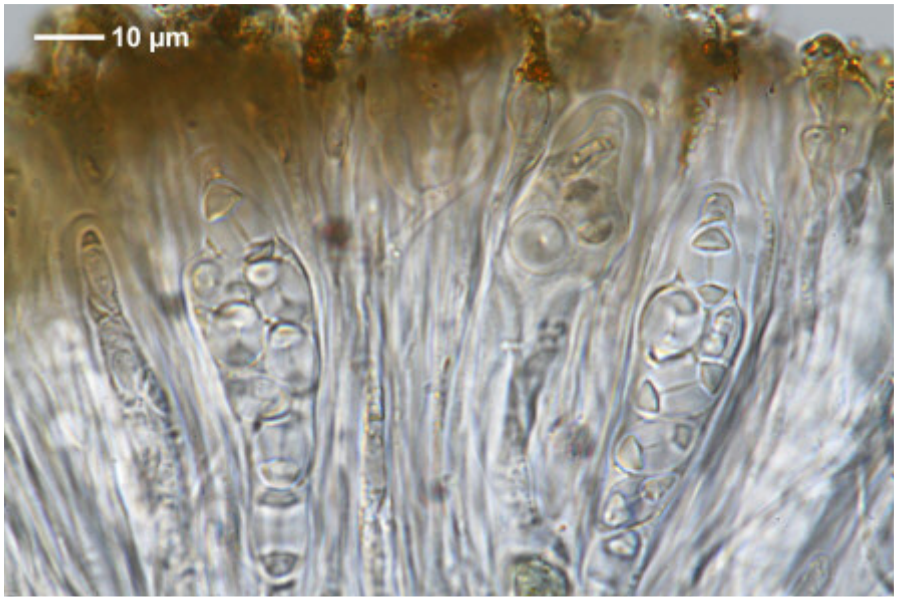
[16440], Mallorca (Nord): Embassament de Cuber, Stauseerand und Kiefernwald am Ende des Tales; 39.78390° N, 2.78415° E, 770-870 m. Leg. F. Schumm, J.-P. Frahm & M. Lüth, 15.03.2010, det. A. Aptroot 2016.

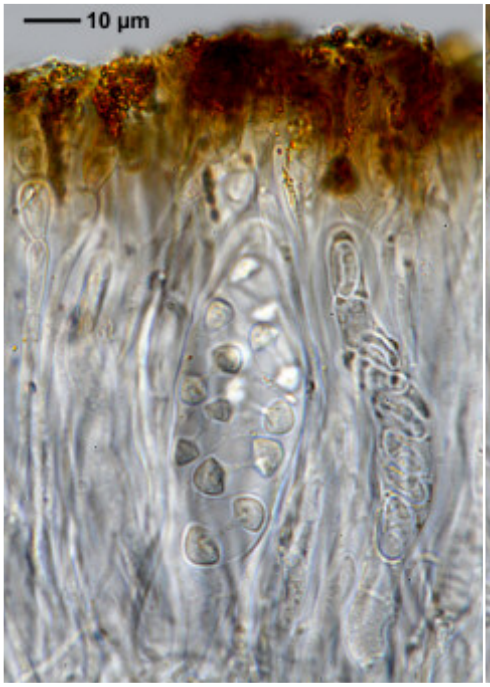




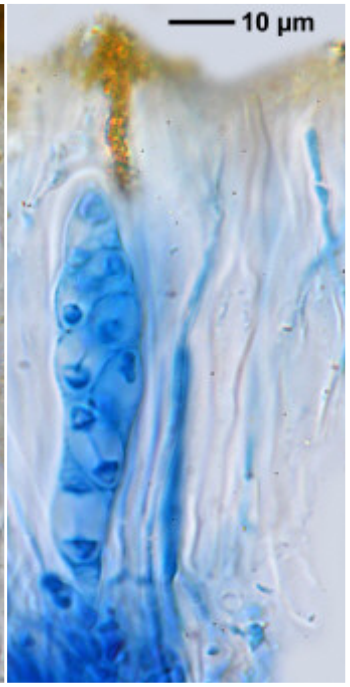
Caloplaca holocarpa

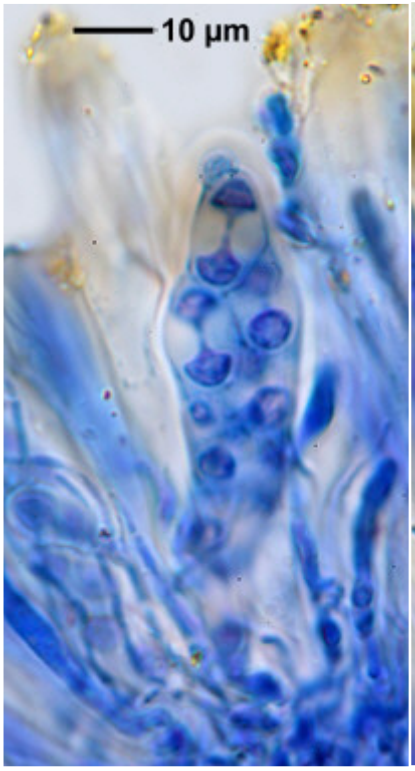


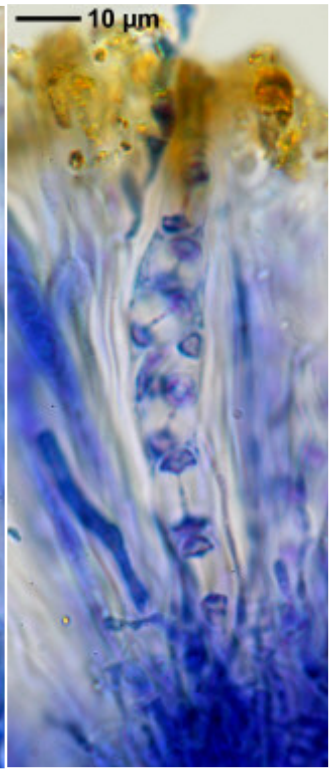












Caloplaca holocarpa

Caloplaca holocarpa (Hoffm.) A.E.Wade
[= *Athallia holocarpa* (Hoffm.) Arup, Frödén & Søchting]

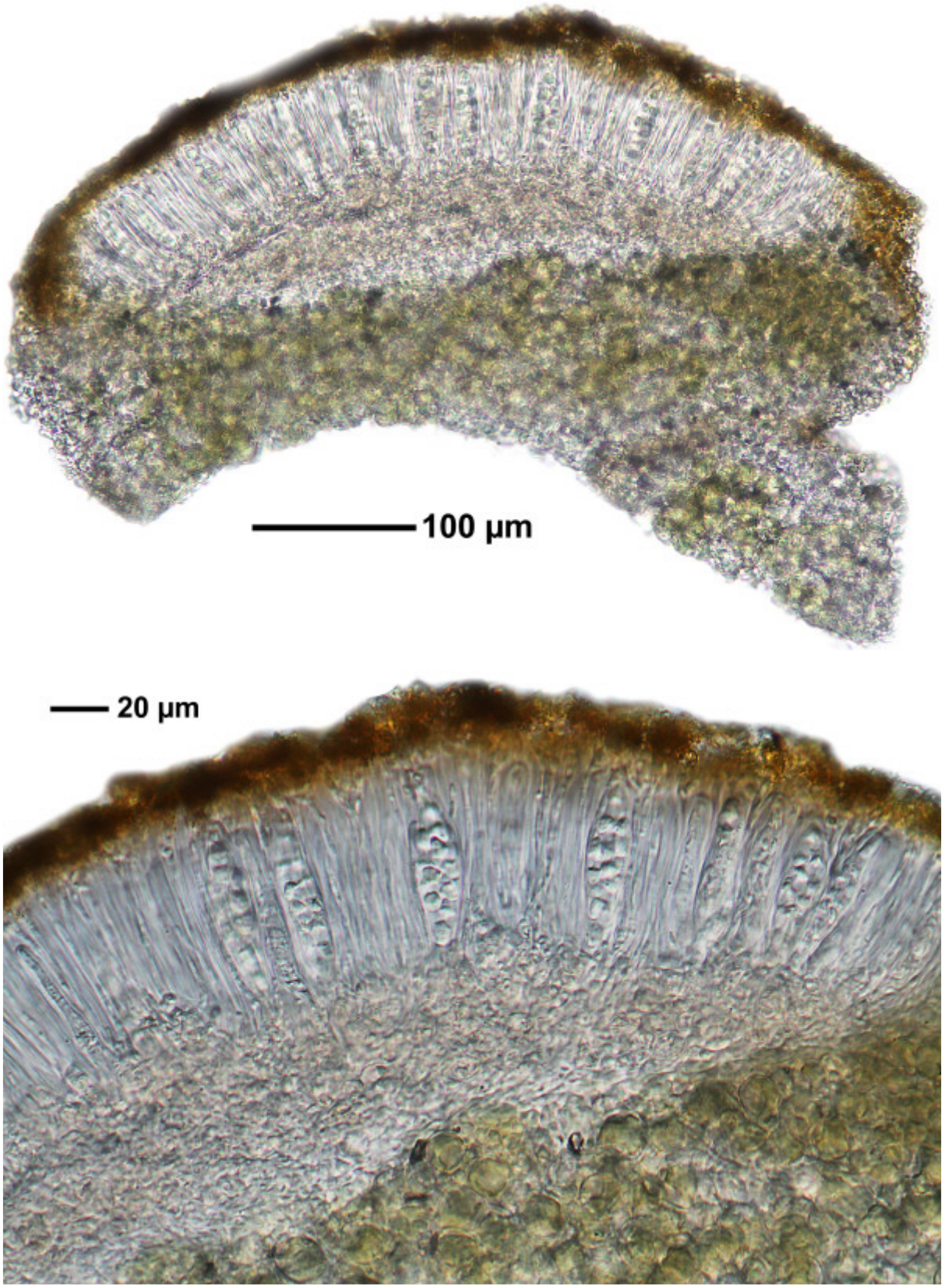
On bark. Ascospores hyaline, polardiblastisch, 8/ascus, 16.5-18 x 7-9 µm, septum 5.5-5 µm

[19393], Mexico, Baja California, El Socorrito, high coastal sand dunes, elev. 20 m, 30°19'05" N, 115°49'35" W. Leg. Clifford M. Wetmore (Nr. 79131), 29. Dec. 1997, det. A. Aptroot 2016. TELOSCHISTACEAE EXSICCATI NO. 101 distributed by C. Wetmore as *Caloplaca cerina* (Hedw.) Th.Fr.

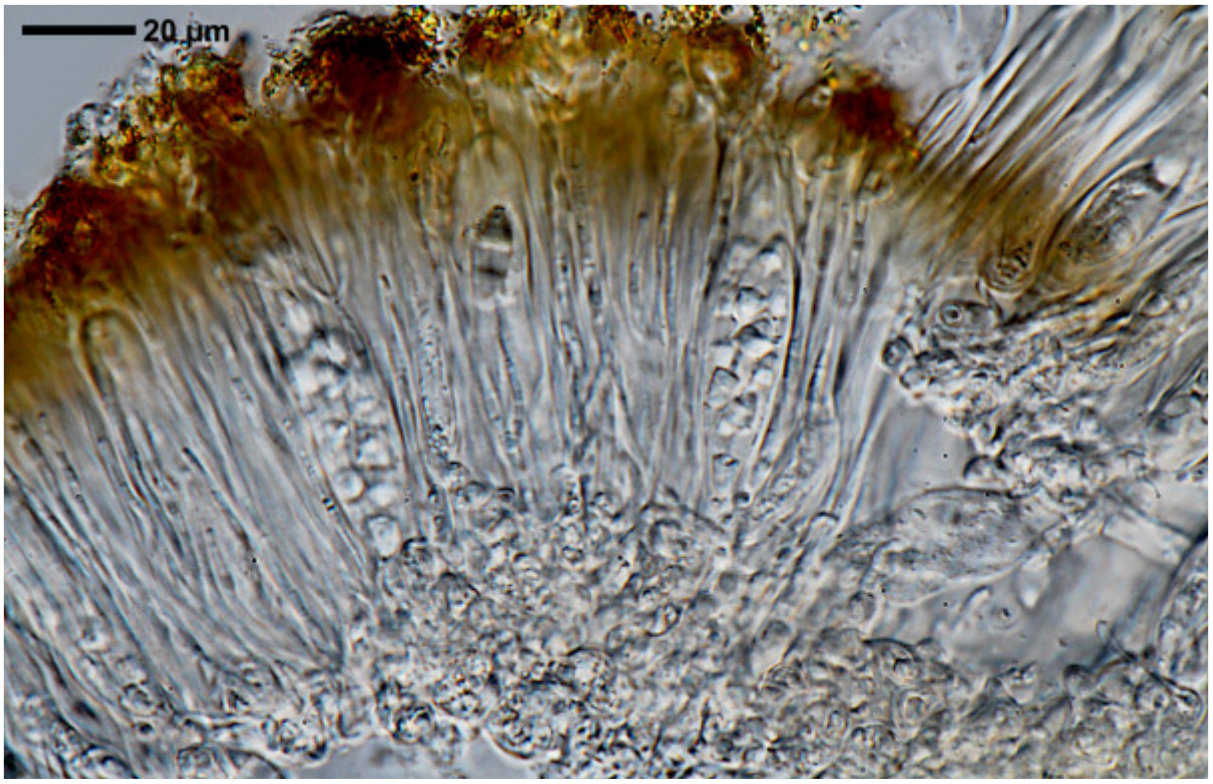


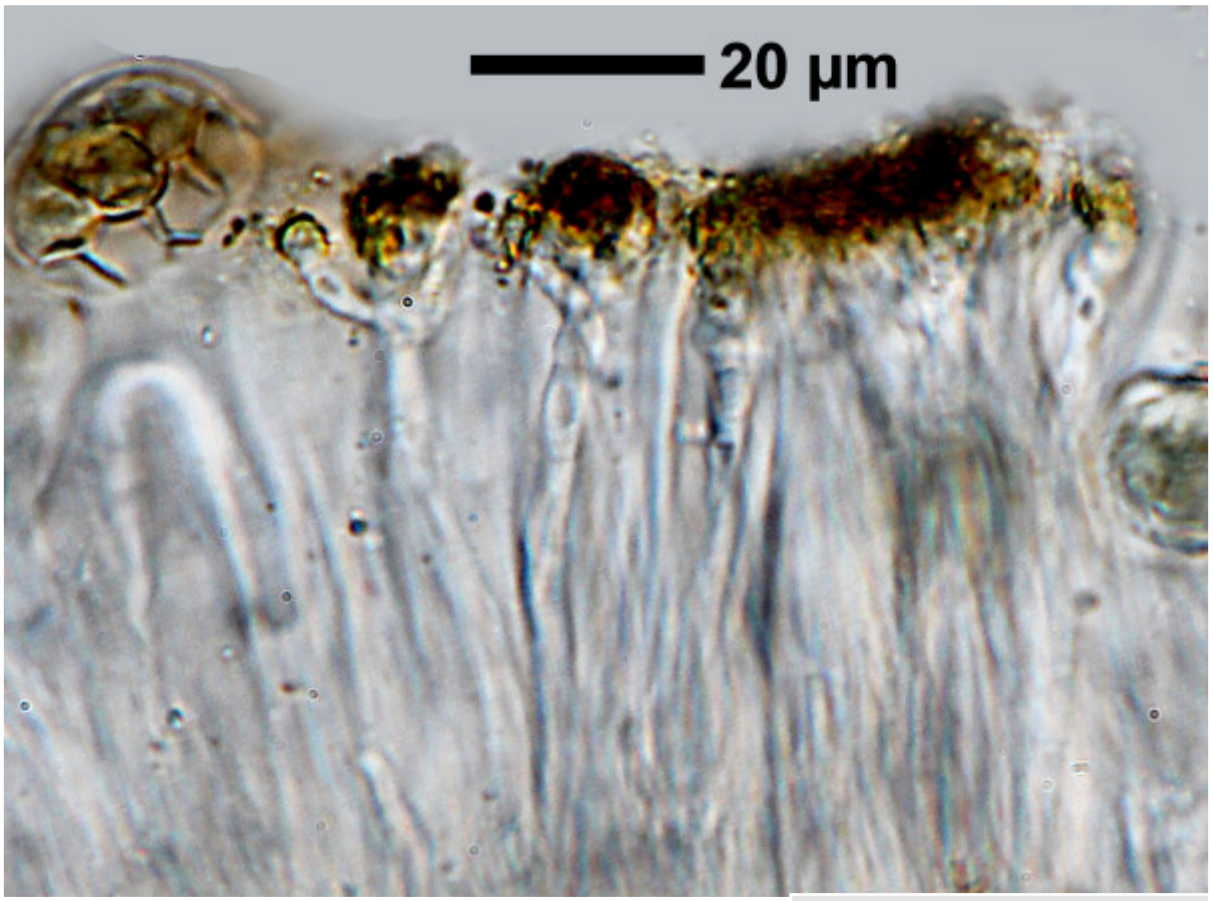


Caloplaca holocarpa



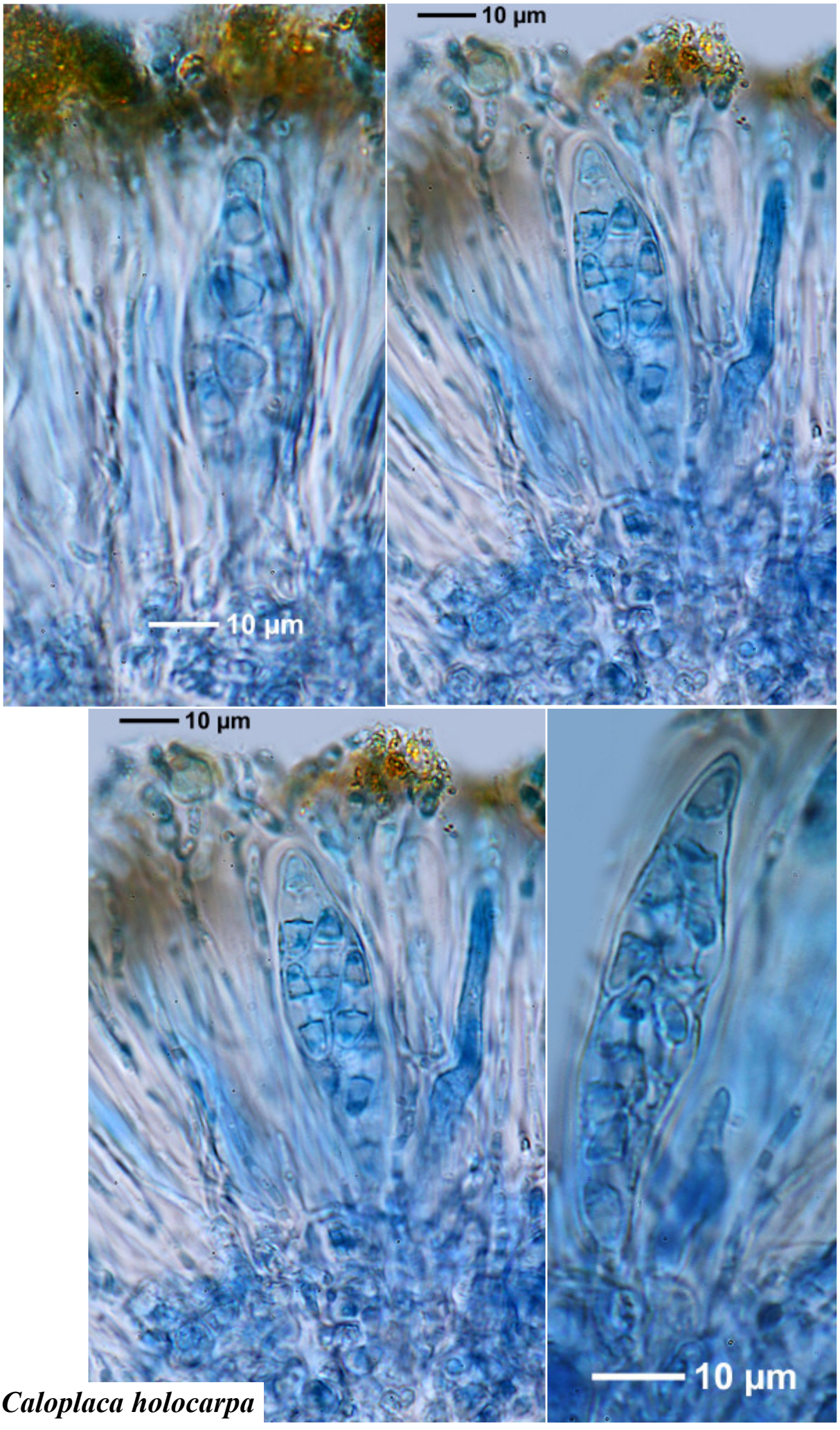
Caloplaca holocarpa







Caloplaca holocarpa

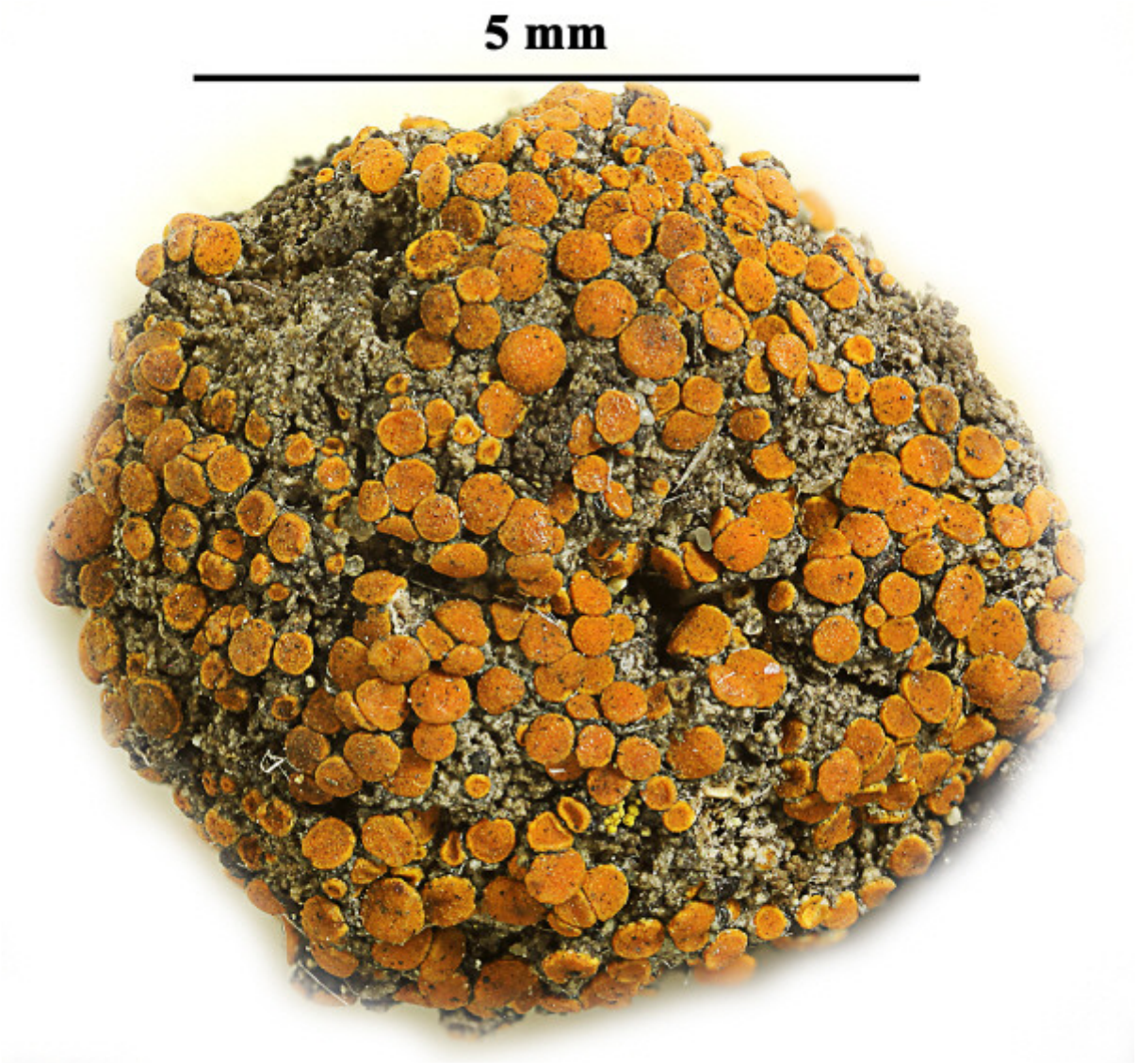


Caloplaca holocarpa

Caloplaca holocarpa (Hoffm.) A.E.Wade
[= *Athallia holocarpa* (Hoffm.) Arup, Frödén & Søchting]

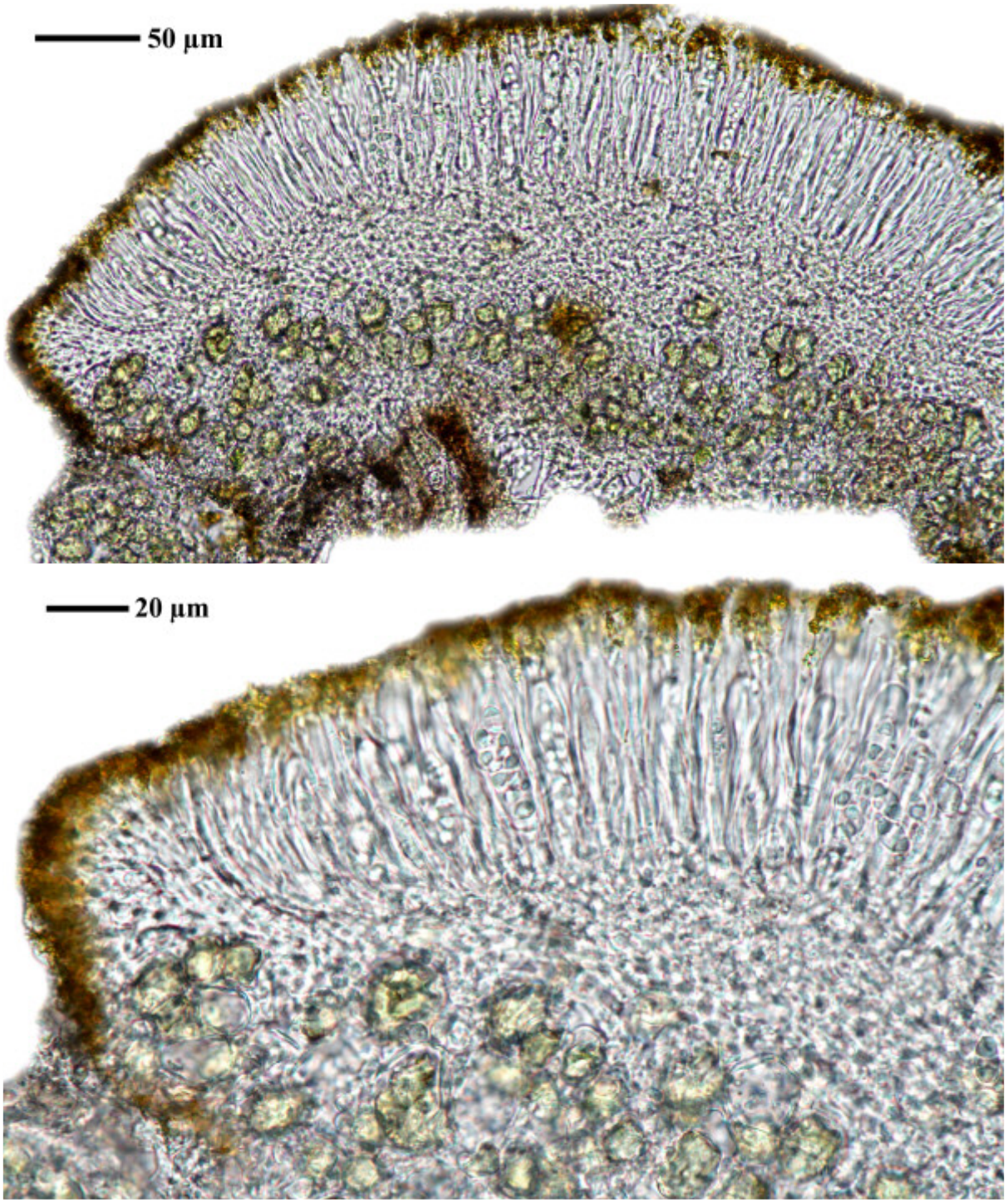
Spores 7.6-11.5 x 5.1-6.6 µm, septum 3.3-4.3 µm (FS). On stones. Lit. Wade in Lichenologist 3:11 (1965)

[19590], Hungaria, Bugac-puszta, reservatum naturale Kiskunságo, loco Osborokás, alt. 90 m, ad excrementa *Oryctolagi caniculi* sicca in cumulo arenae mobilis loco arido. Leg. A. Kiszely & A. Vězda, 5.04.1975. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1318.

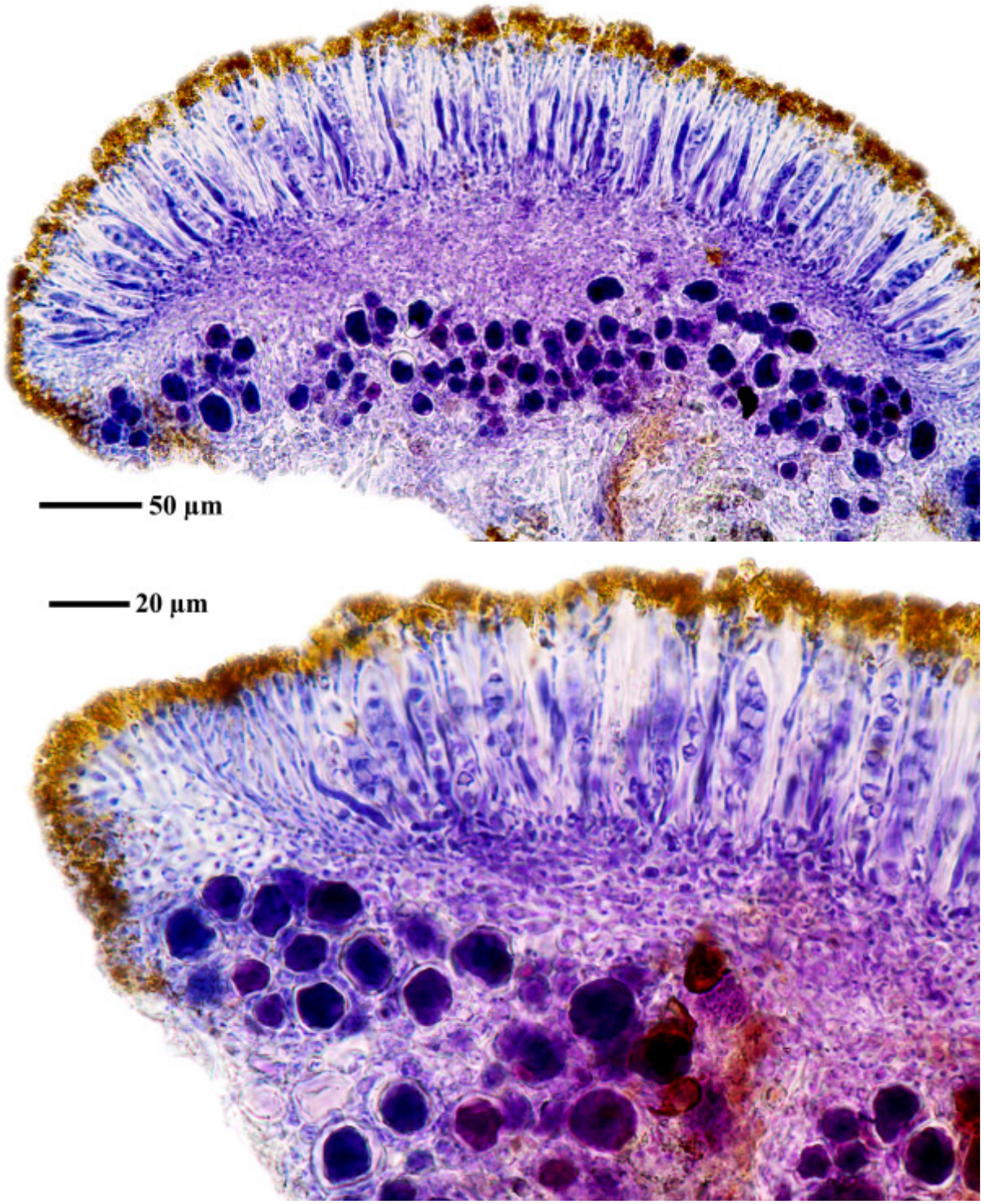




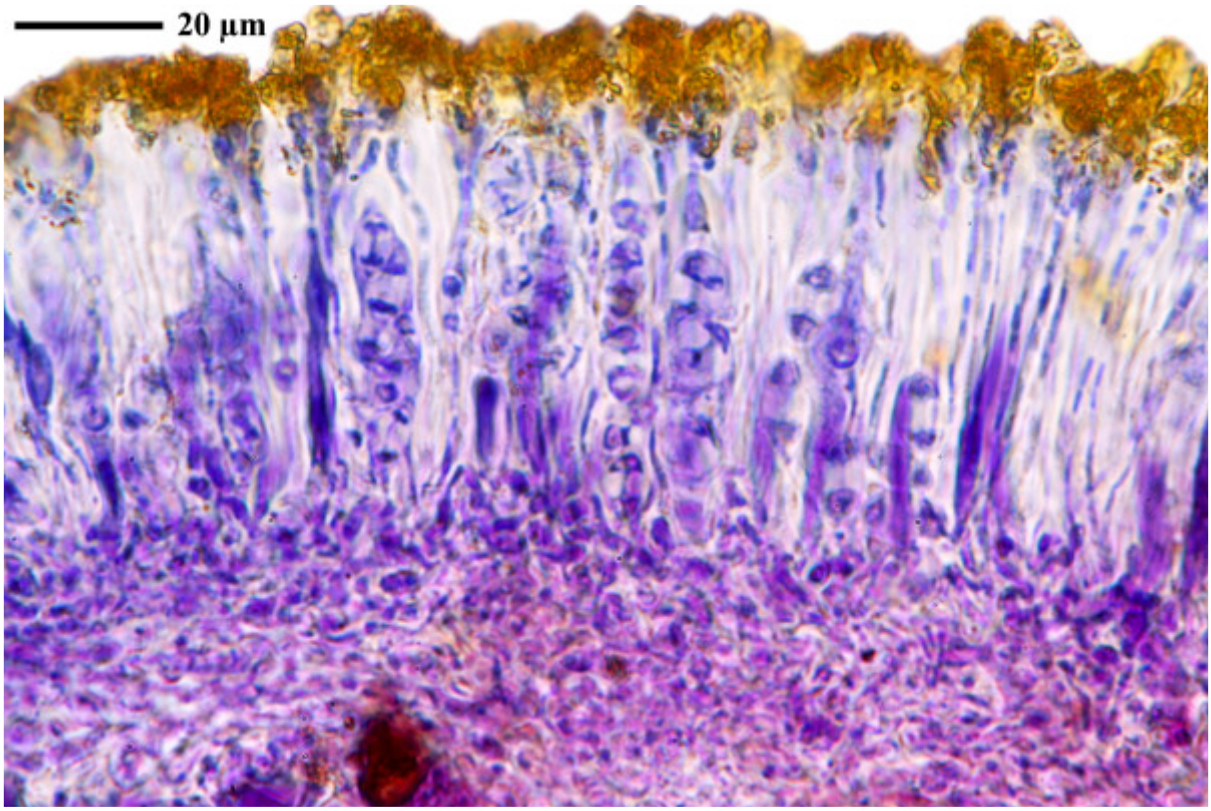
Caloplaca holocarpa

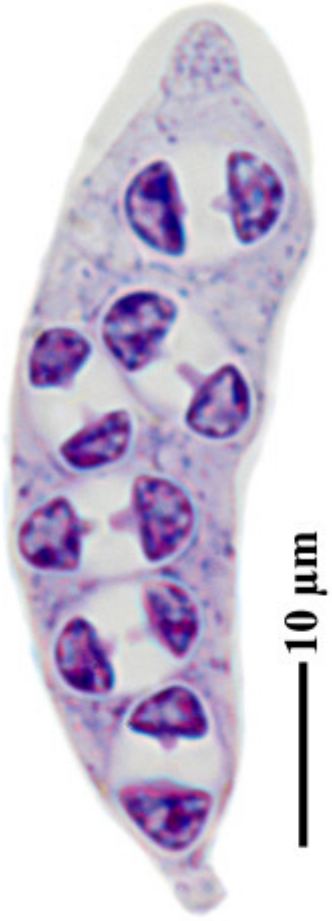


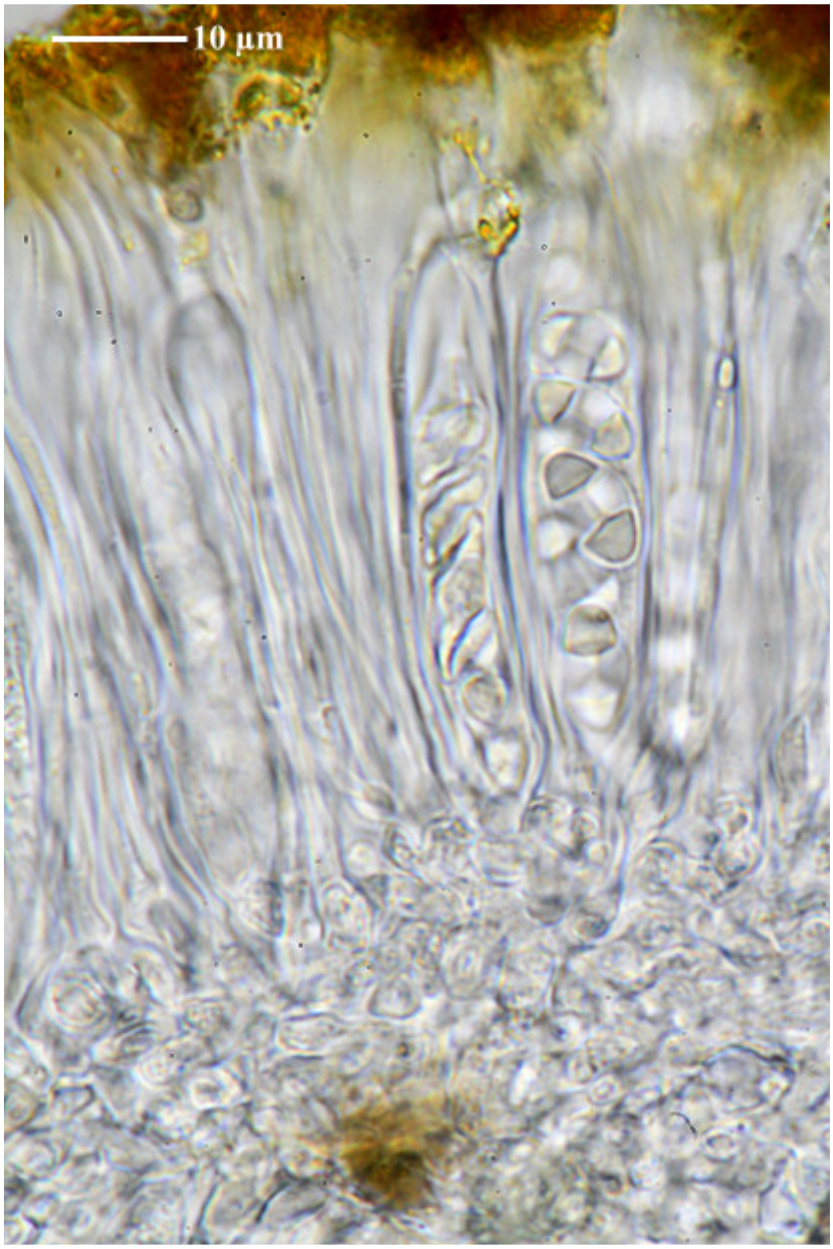
Caloplaca holocarpa



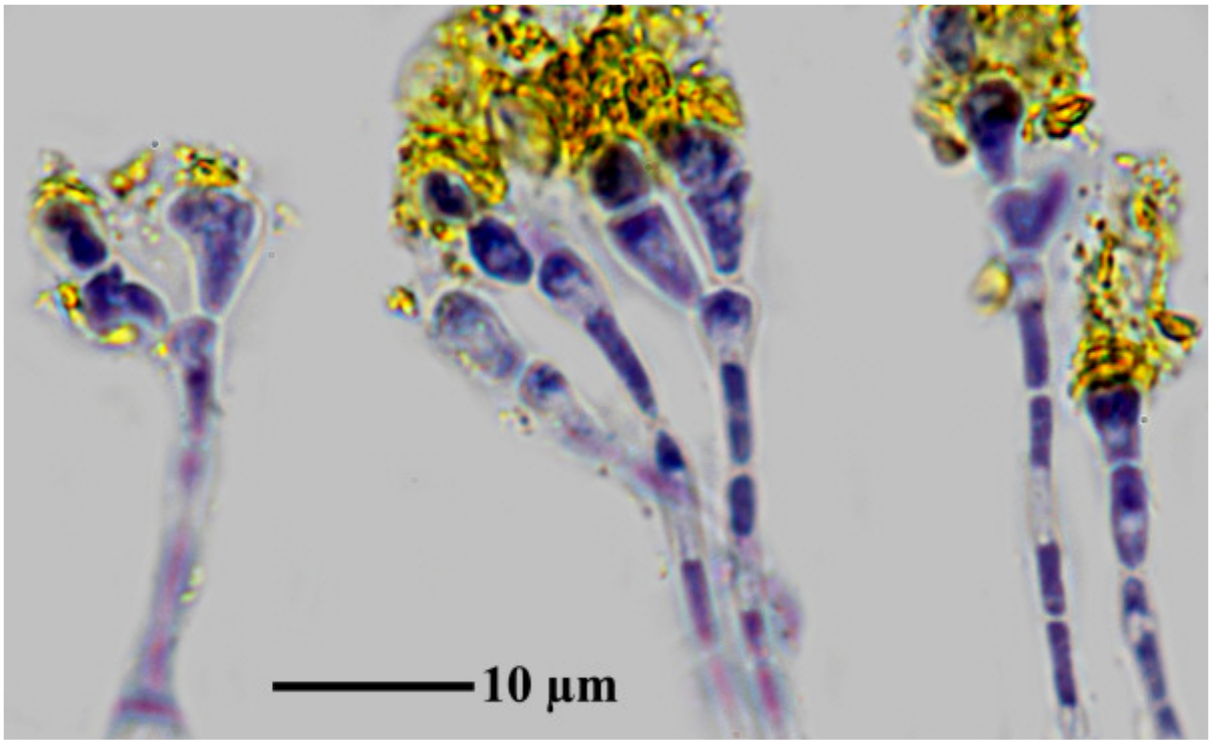
Caloplaca holocarpa

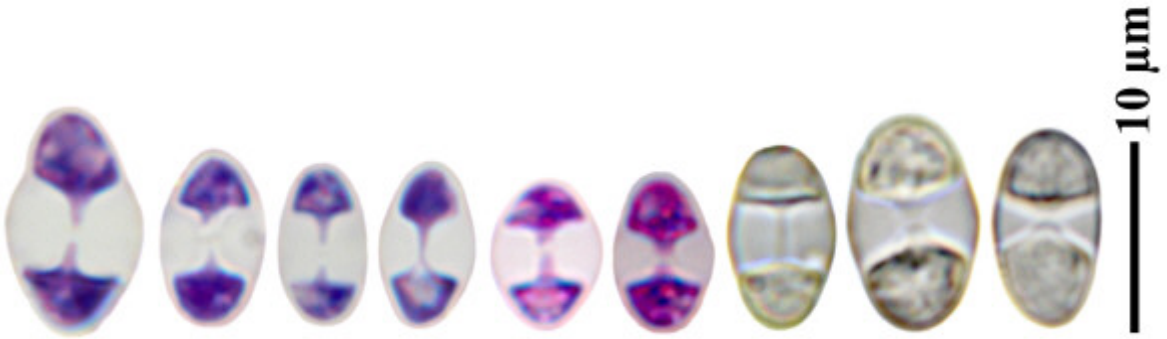






Caloplaca holocarpa





Caloplaca holocarpa

Caloplaca holocarpa agg. (Hoffm.) A.E.Wade
[= *Athallia holocarpa agg*. (Hoffm.) Arup, Frödén & Søchting]

On lava rocks.

[8084], Spanien, Kanarische Inseln, Gran Canaria, nord-exponierte, feucht-schattige Felswand an der Straße zwischen Ayacata und Tejeda westl. des Roque Nublo; 27°57.815' N, 15°37.746' W, 1293 m. Leg. F. Schumm, 28.12.2000, det. A. Aptroot 2016.







Caloplaca sp. [8084]

Caloplaca holocarpa agg. (Hoffm.) A.E.Wade
[= *Athallia holocarpa agg.* (Hoffm.) Arup, Frödén & Søchting]

On non-calcareous rocks.

[12302], Griechenland, N-Samos, bei Manolates südlich von Agios Konstandinos, 37°47.185' N, 26°49.533' E, 341 m, halbschattige bis besonnte Terrassenmauern, auf Glimmerschiefer. Leg. F. Schumm, 02.05.2006, det. Schumm 2006, conf. A. Aptroot 2016.





Caloplaca holocarpa agg.

Caloplaca holocarpa agg. (Hoffm.) A.E.Wade
[= *Athallia holocarpa agg.* (Hoffm.) Arup, Frödén & Søchting]

On rocks.

[13799], Malta/ Gozo, Fungus Rock (Pilzfelsen) südwestlich von San Lawrence, 36°02.902' N, 14°11.453' E, 17 m. Leg. F. Schumm & J.-P. Frahm, 16.03.2008, det. A. Aptroot 2016.





Caloplaca holocarpa agg.

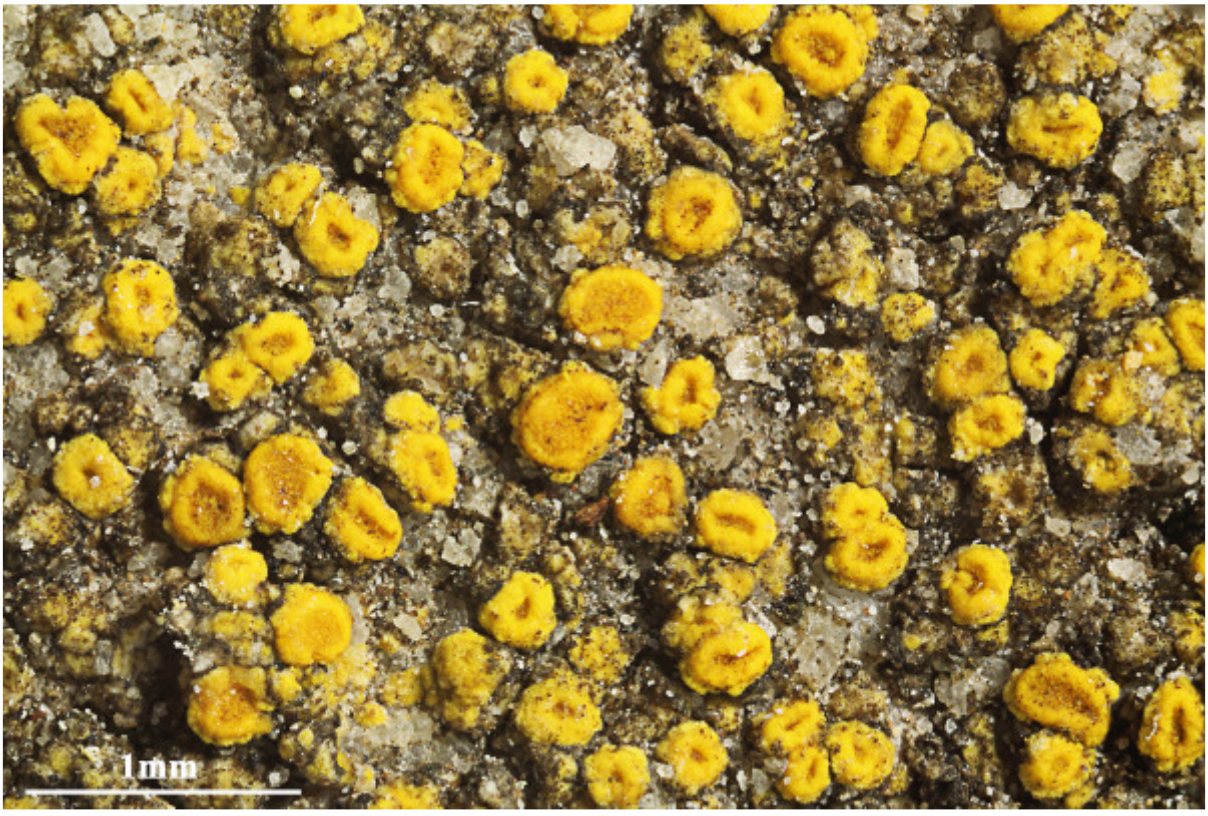
Caloplaca holocarpa agg. (Hoffm.) A.E.Wade
[= *Athallia holocarpa* agg. (Hoffm.) Arup, Frödén & Søchting]

On rocks.

[16378], Mallorca (Nord): Orient, von Son Perot durch das Tal "Torrent de Cave Negra" in Richtung Santa Maria; 39.73306° N, 2.74282° E, 460 m, vorwiegend an Steinmauern. Leg. F. Schumm, J.-P. Frahm & M. Lüth, 13.03.2010, det. A. Aptroot 2016.







Caloplaca holocarpa agg.

Caloplaca holocarpa agg. (Hoffm.) A.E.Wade
[= *Athallia holocarpa agg*. (Hoffm.) Arup, Frödén & Søchting]

On rocks.

[16432], Mallorca (Nord), an der Nordseite des Tunnels zum Embassament de Cuber; 39.79045° N, 2.77455° E, 830 m. Leg. F. Schumm, J.-P. Frahm & M. Lüth, 15.03.2010, det.A. Aptroot 2016.





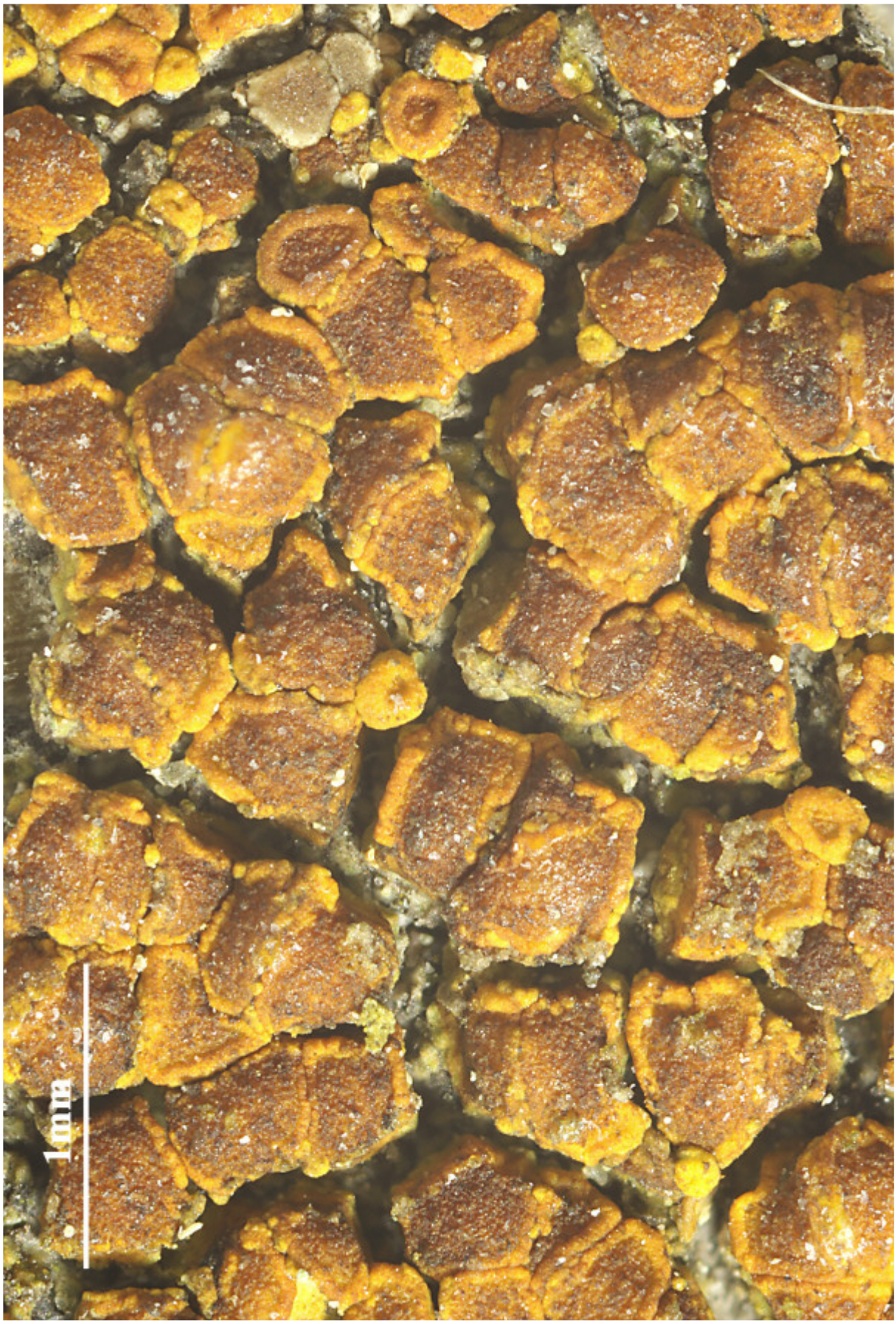
Caloplaca holocarpa agg.

Caloplaca holocarpa (Hoffm.) A.E.Wade s. l.
[= *Athallia holocarpa* (Hoffm.) Arup, Frödén & Søchting]

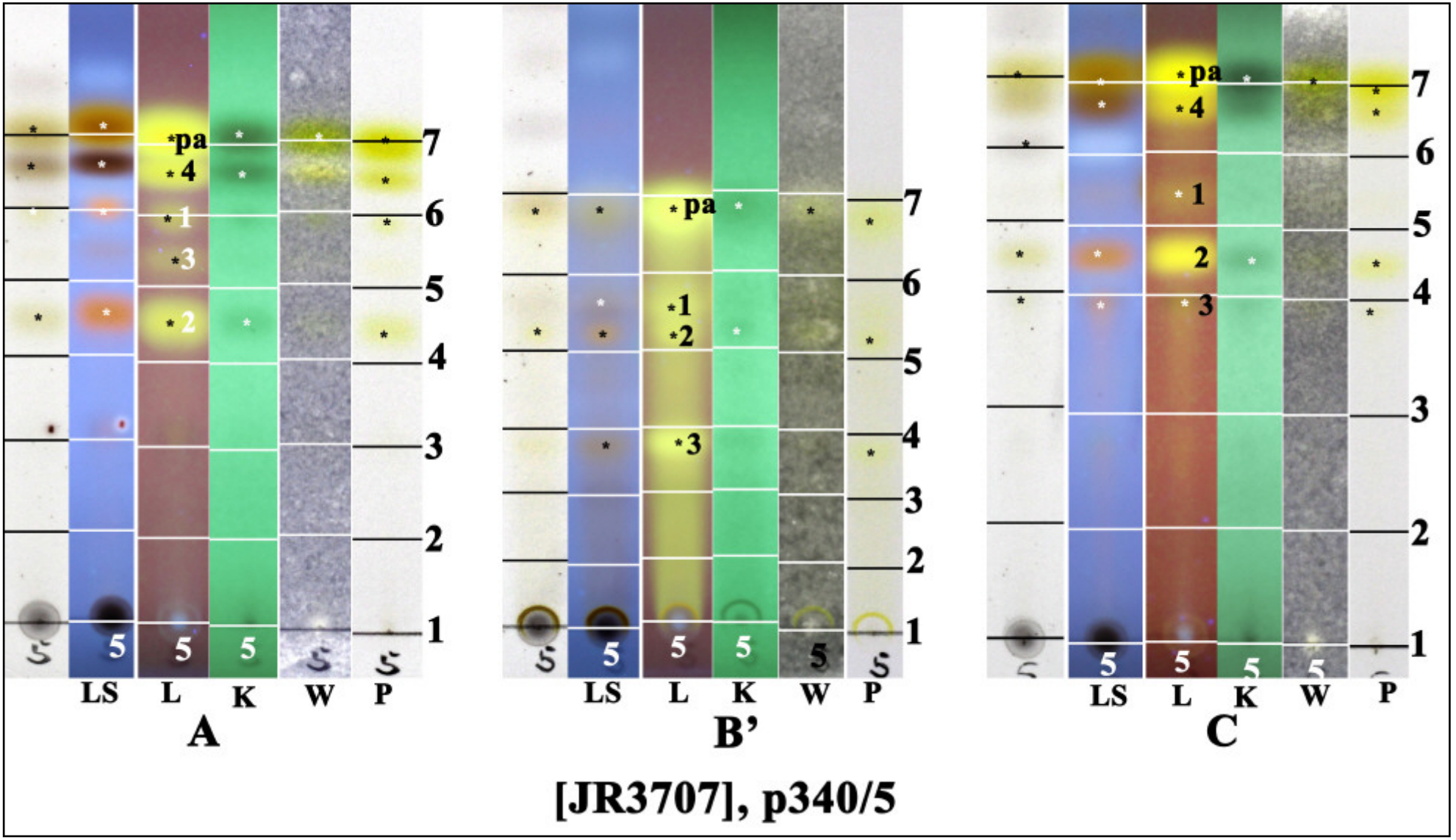
Thallus grau. Apothecien orange, Rand heller, gelb, dicht gedrängt. Chemistry: 340/5

[JR3707], Germany, Ostthüringen, Landkreis Greiz, Auma, TK 5237/344, 415 m, an Holzzaun. Leg. J. Rettig, 9.5.2014, det. Cezanne/Eichler.





Caloplaca holocarpa



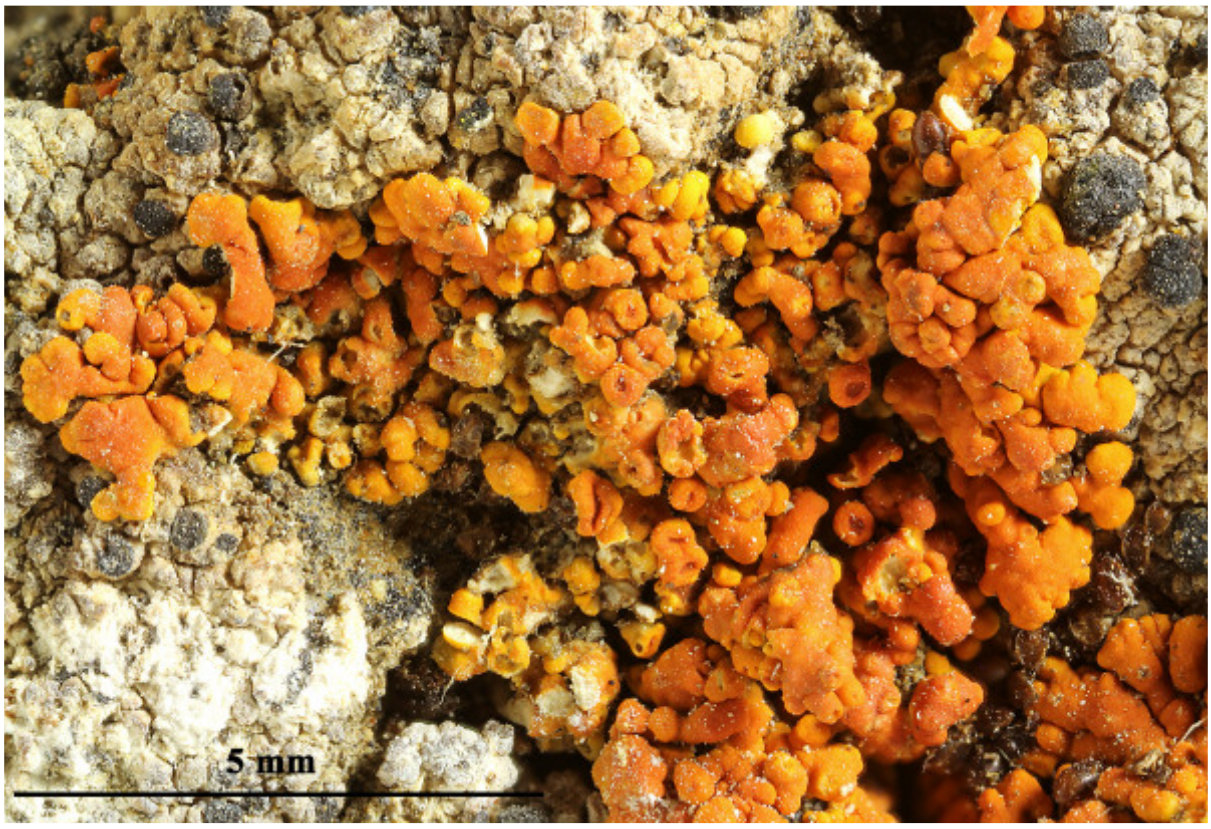
pa: parietin, 1: fallacinal, 2: parietinic acid, 3: teloschistin; 4: ??

Caloplaca hookeri (C.W. Dodge) Søchting, Øvstedal & Sancho
[= *Austroplaca hookeri* (C.W. Dodge) Søchting, Frödén & Arup]

[B 60 0180947], Chile, Antarctica, Islas Shetland del Sur, Isla Decepcíon, Bahía Balleneros, 63°00' S, 60°40' W. Leg. G. Follmann (11835), 1963, det. Reinaldo C. Vargas 2010.





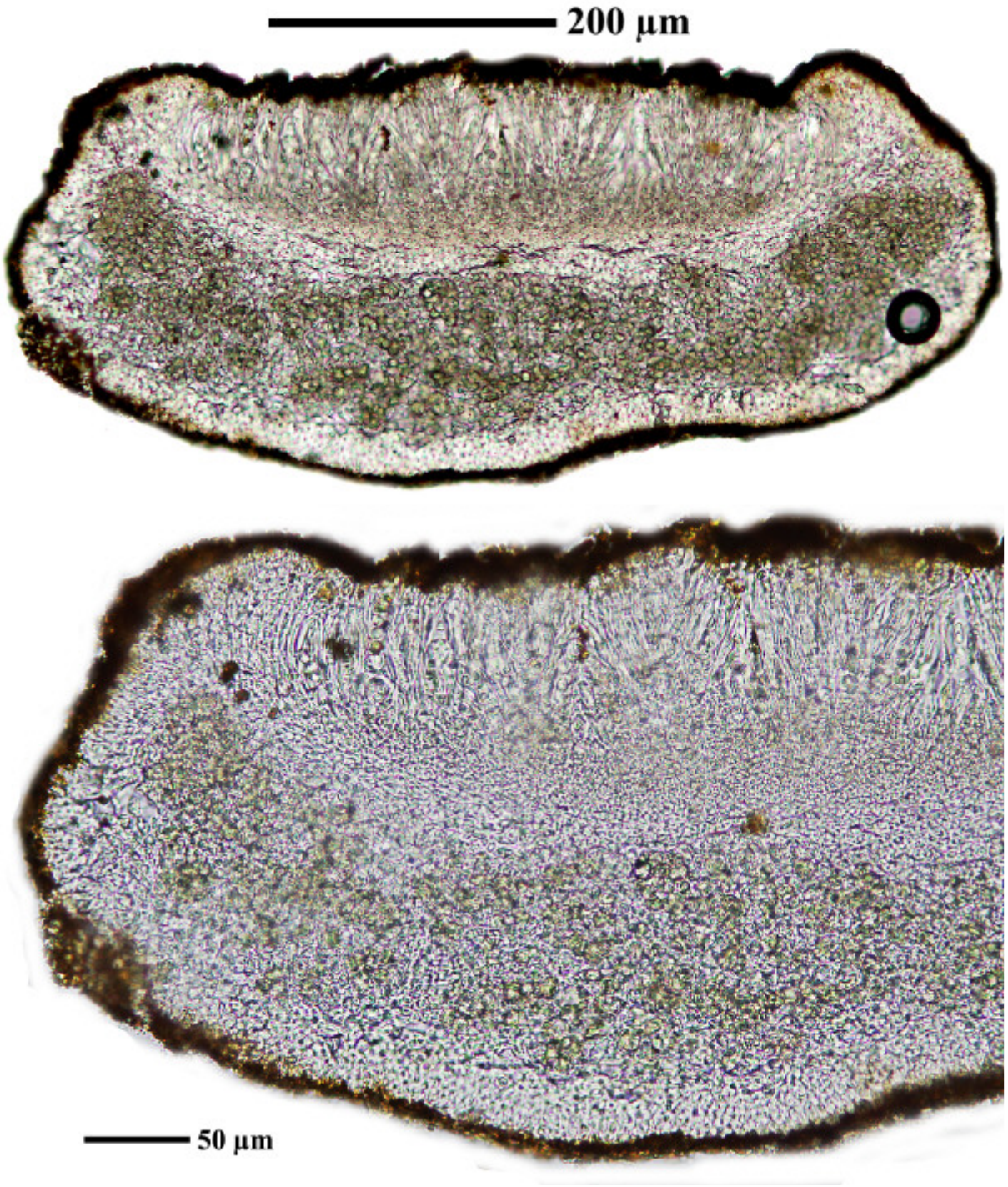


Caloplaca hookeri





Caloplaca hookeri



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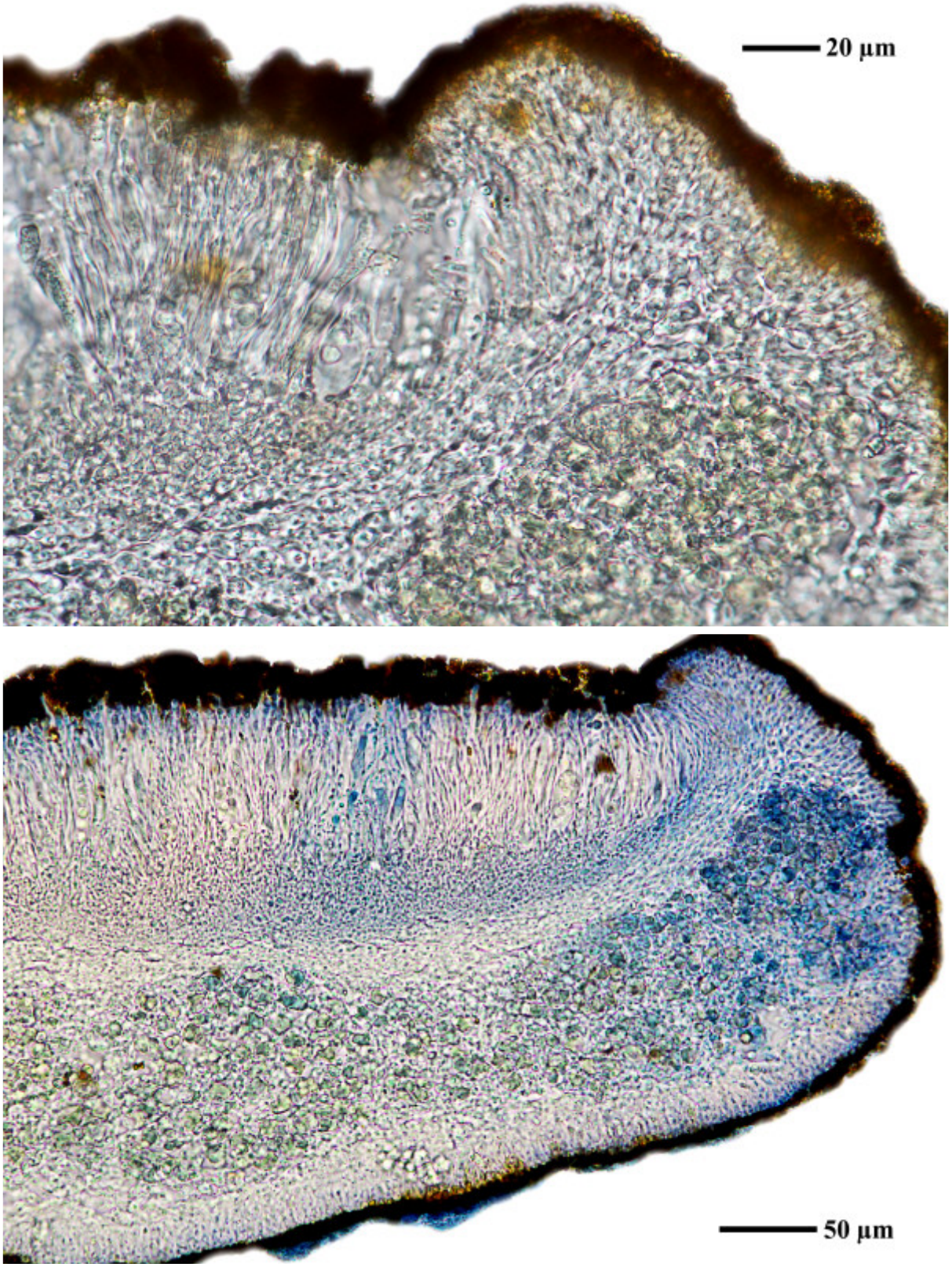

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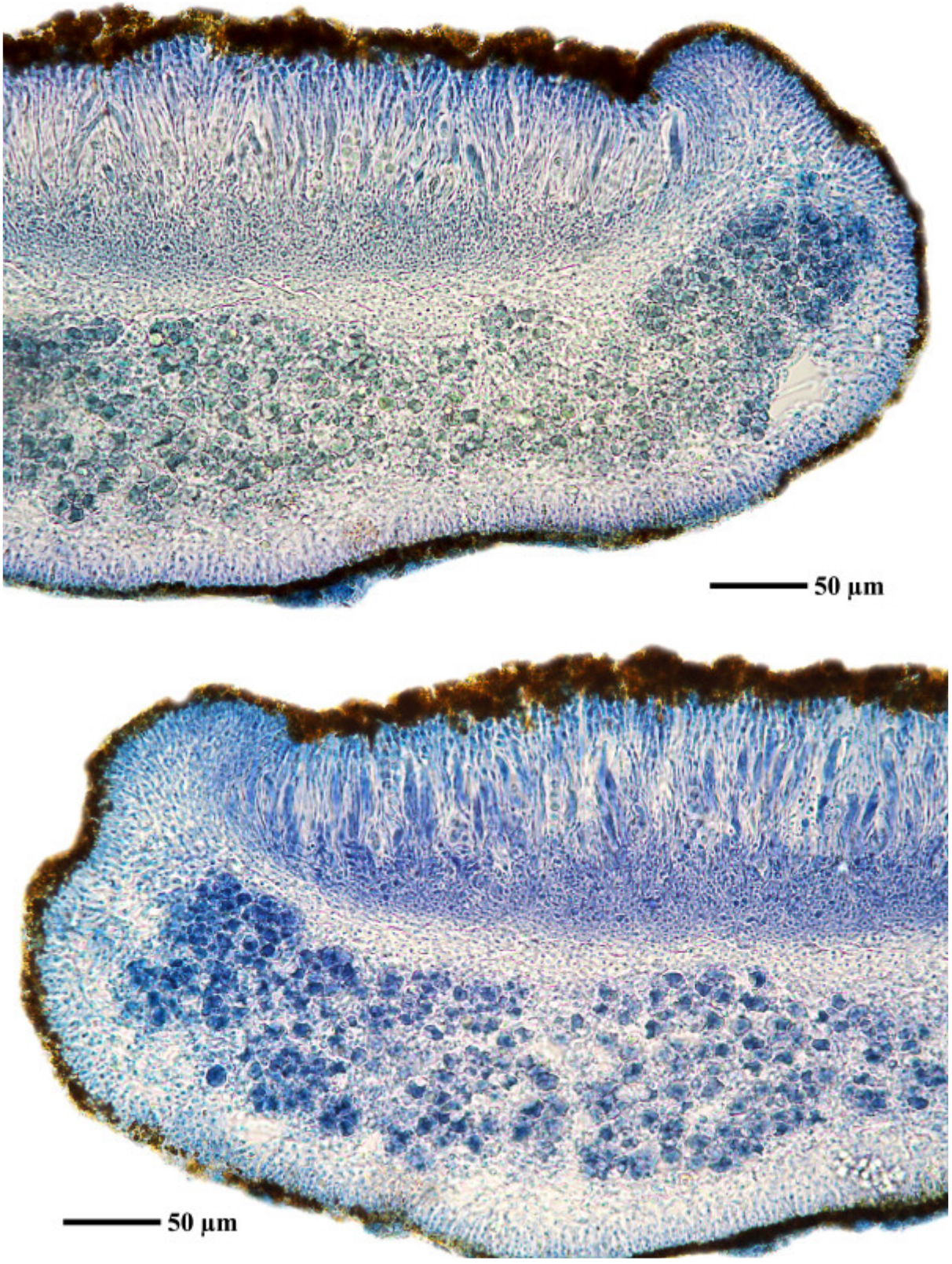

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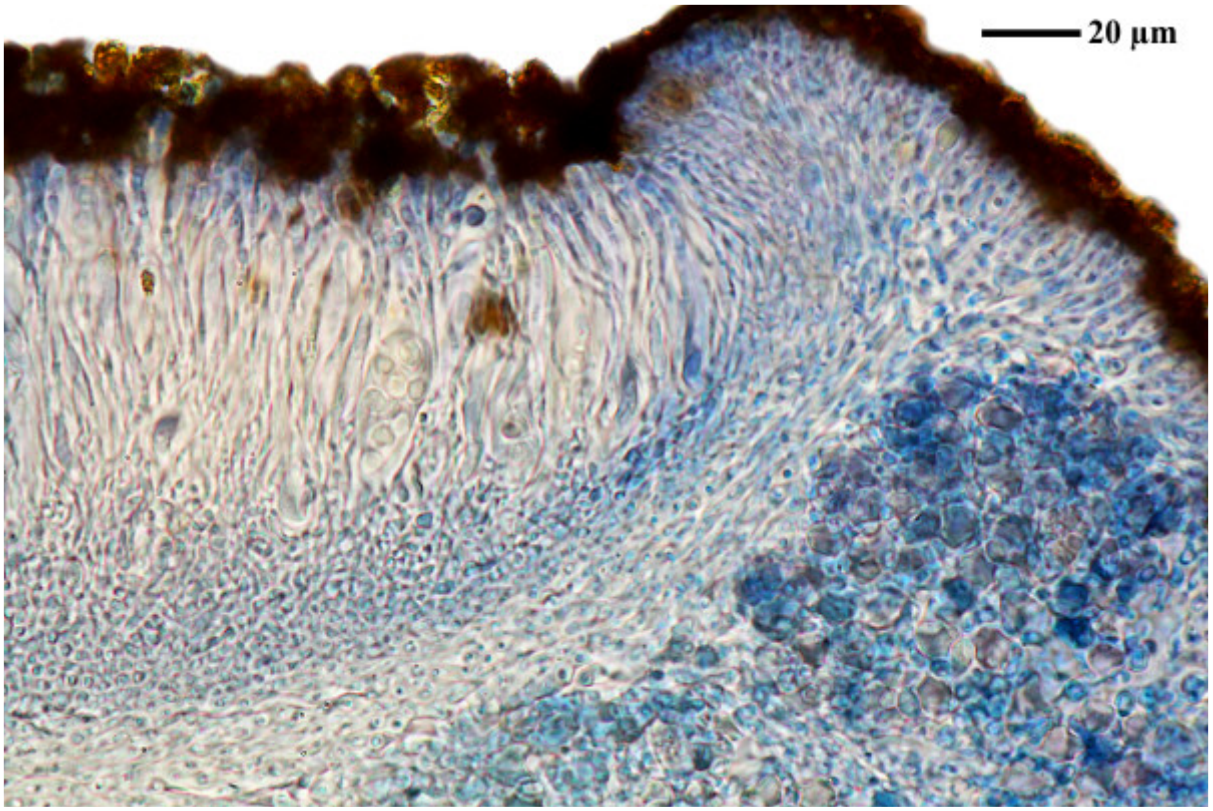

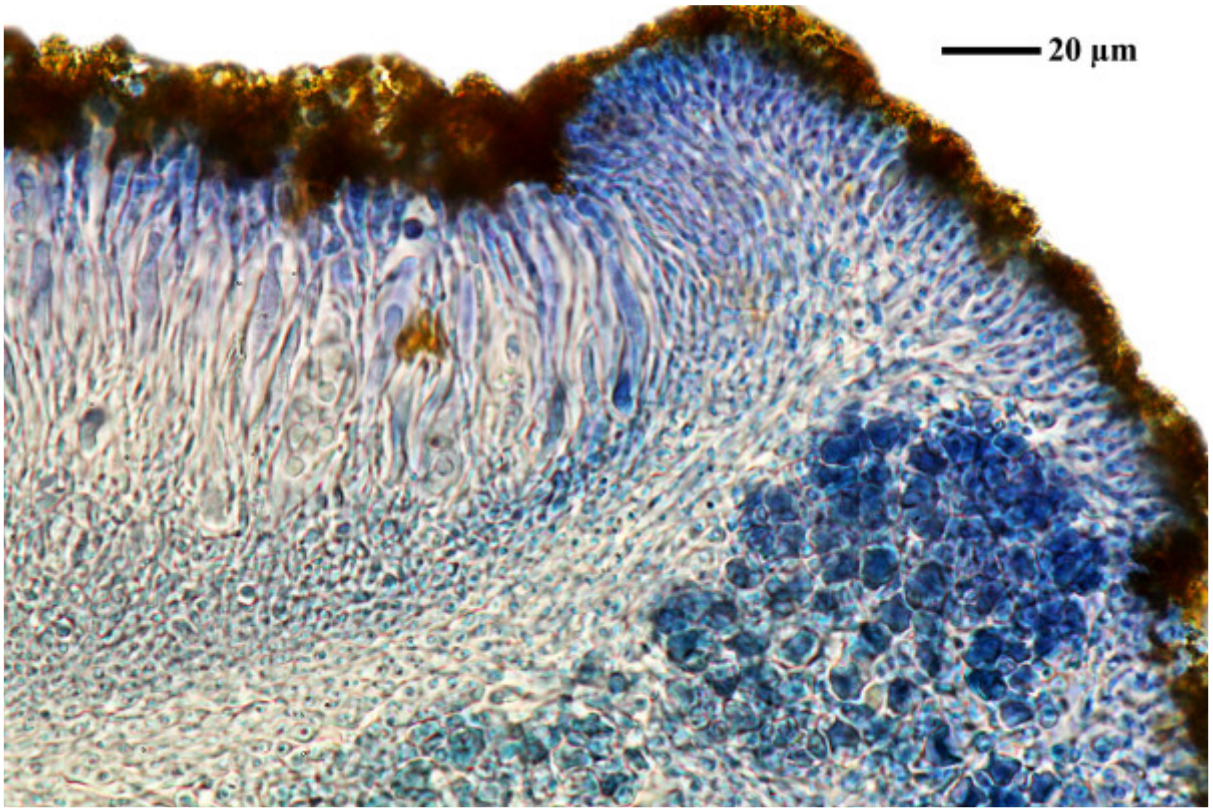



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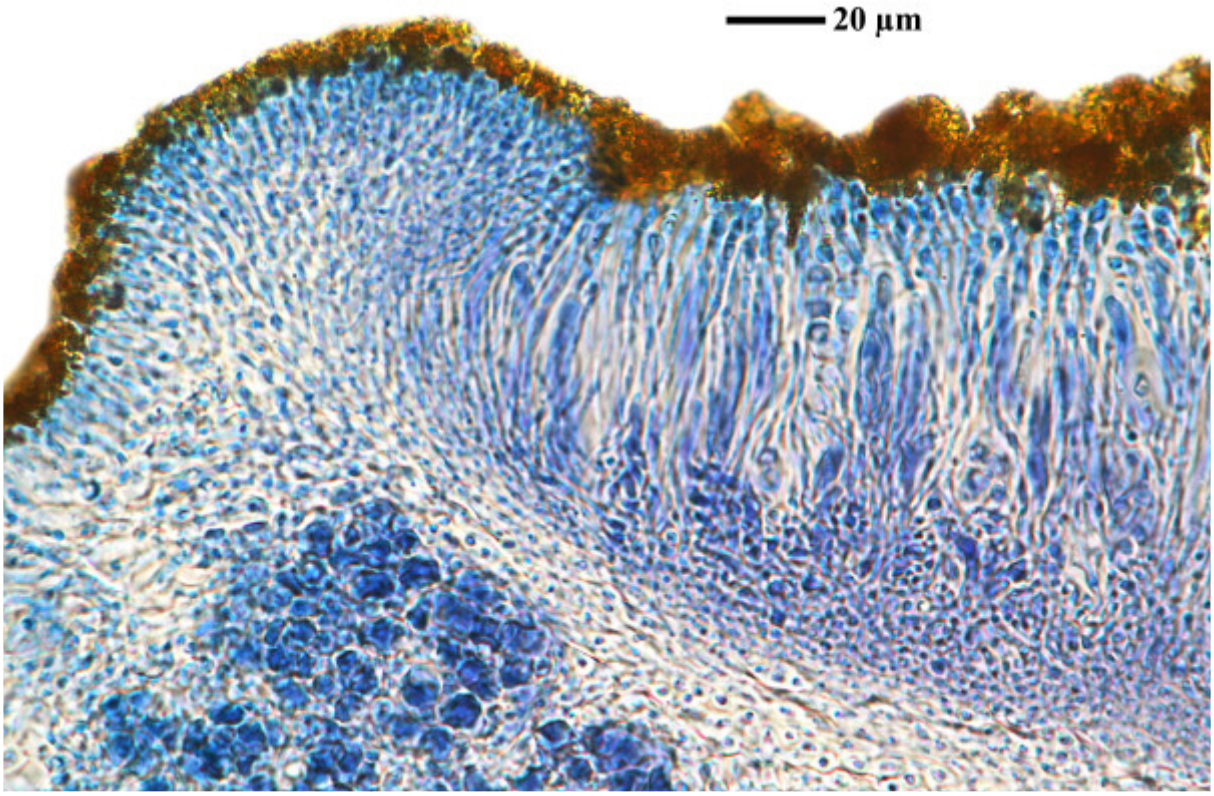

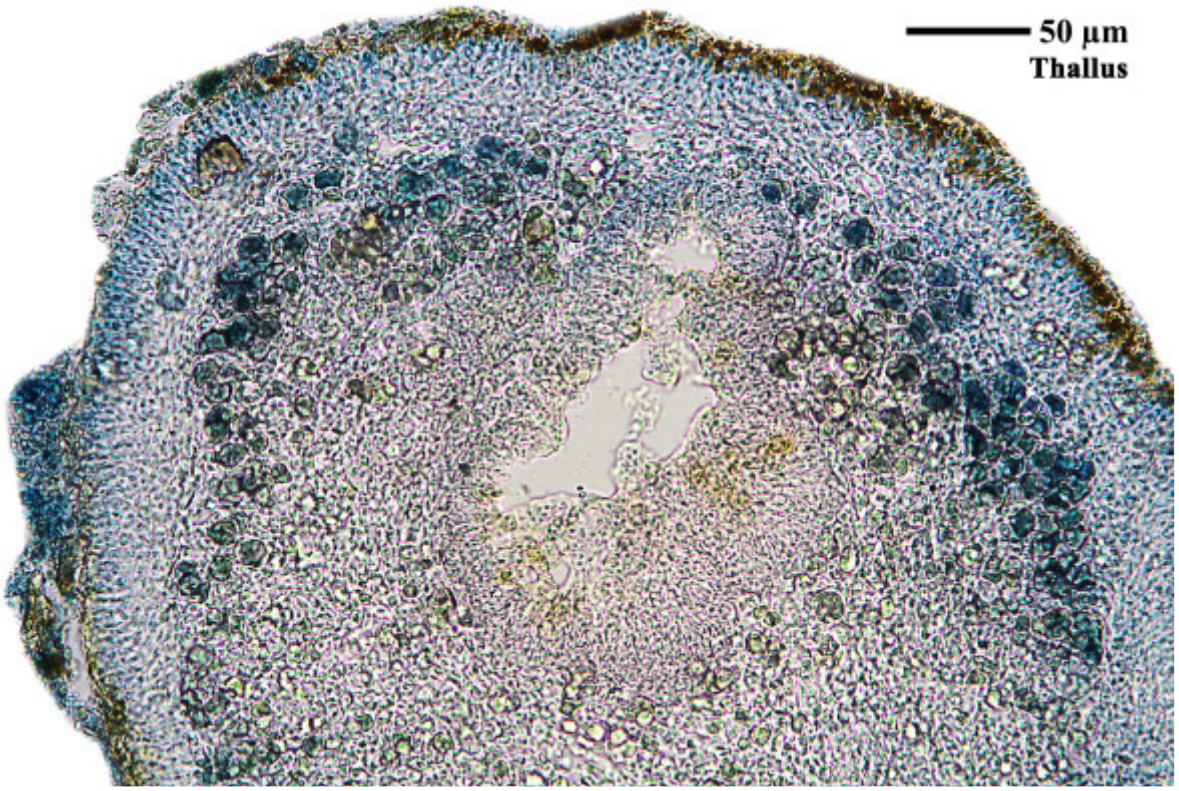

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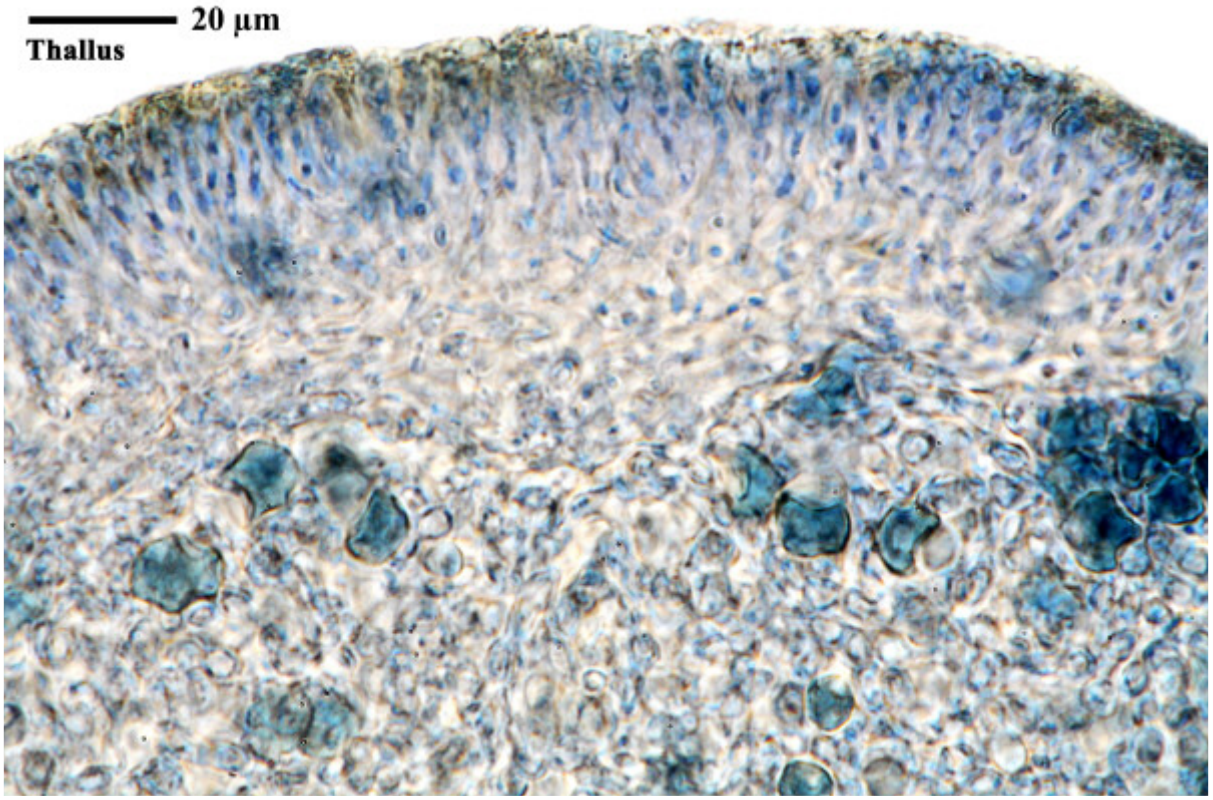
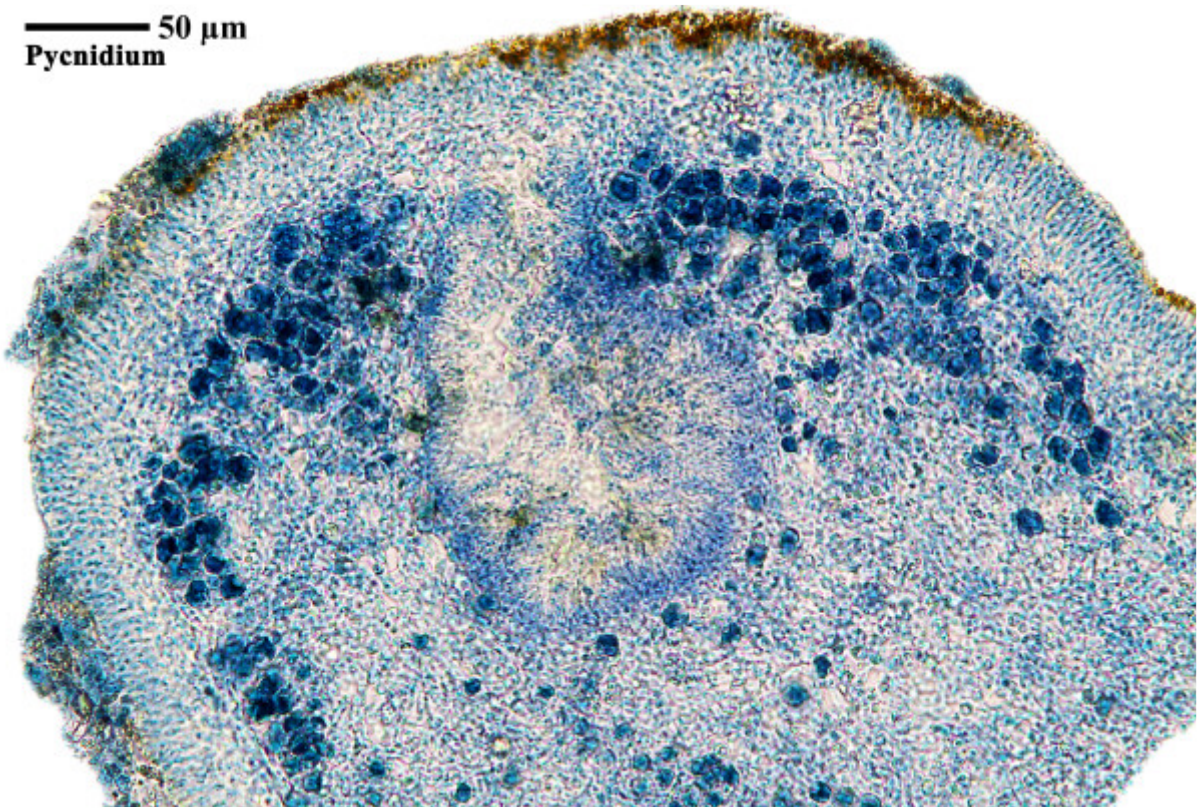
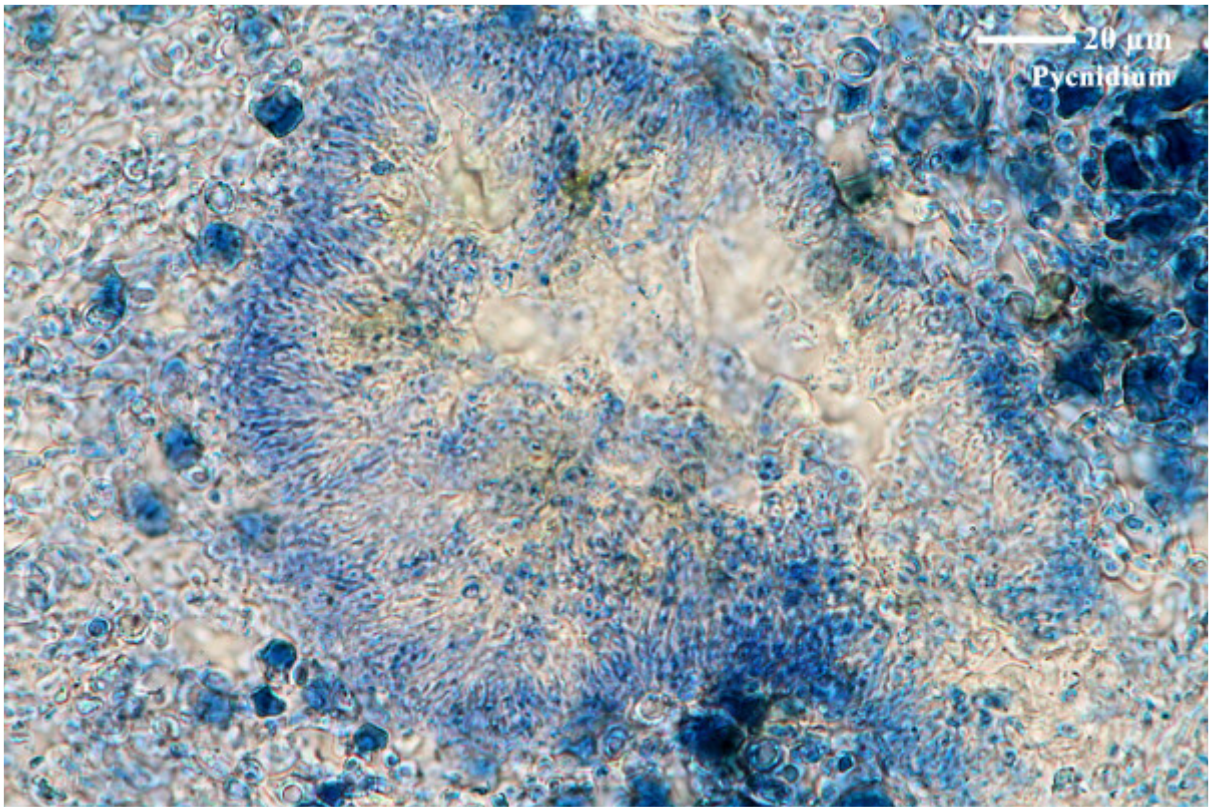
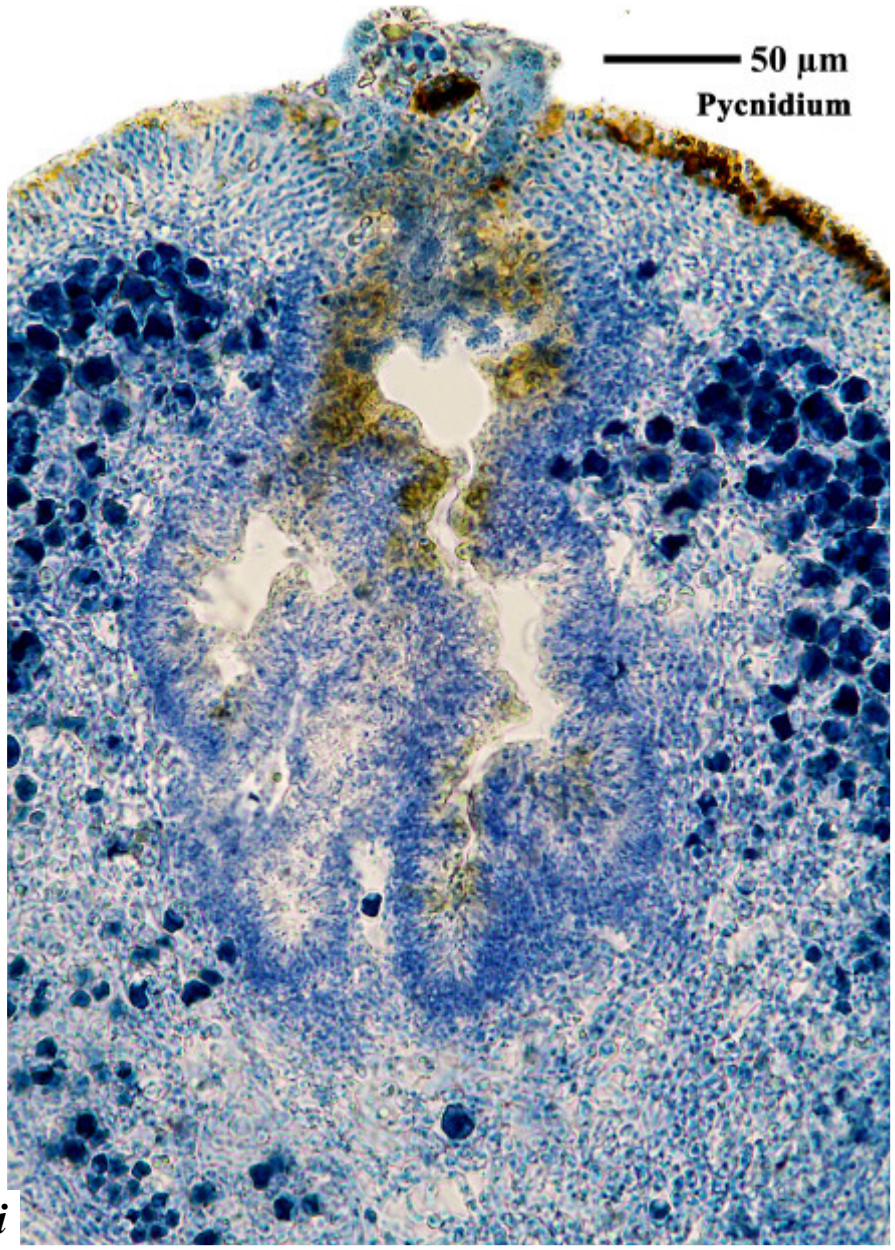


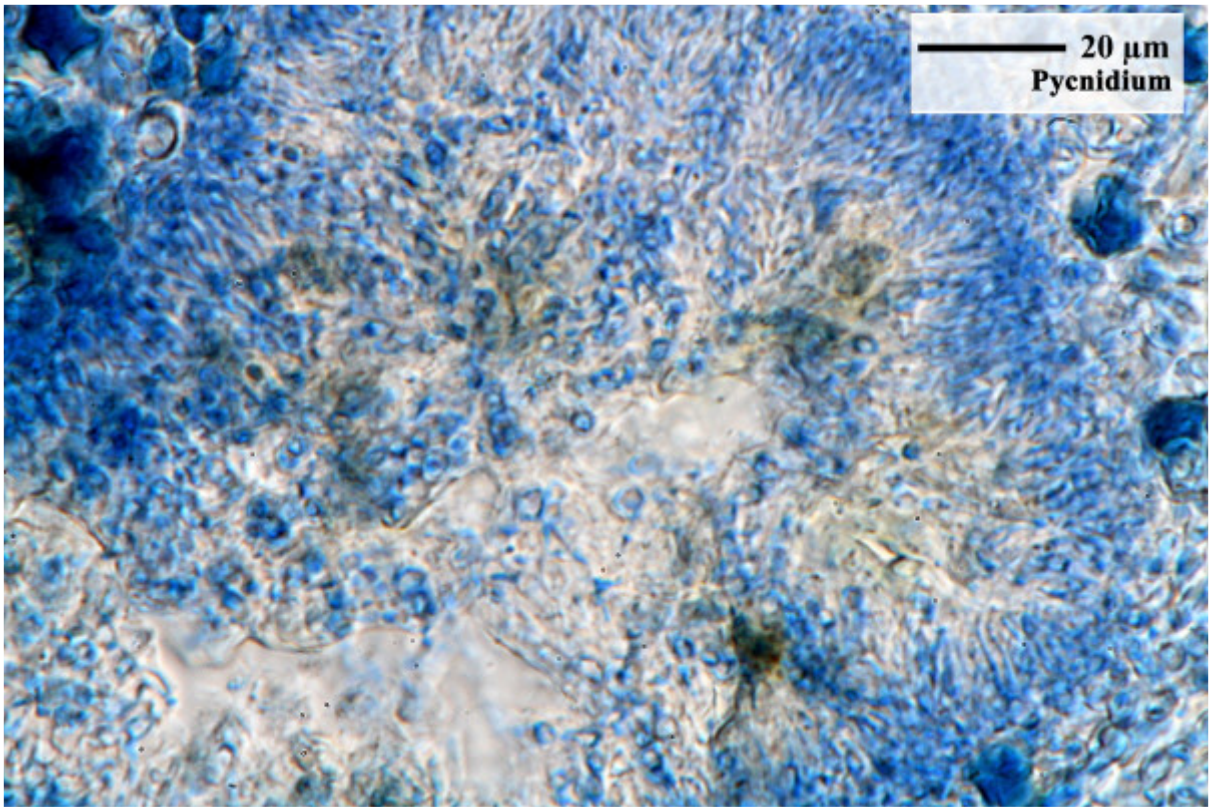


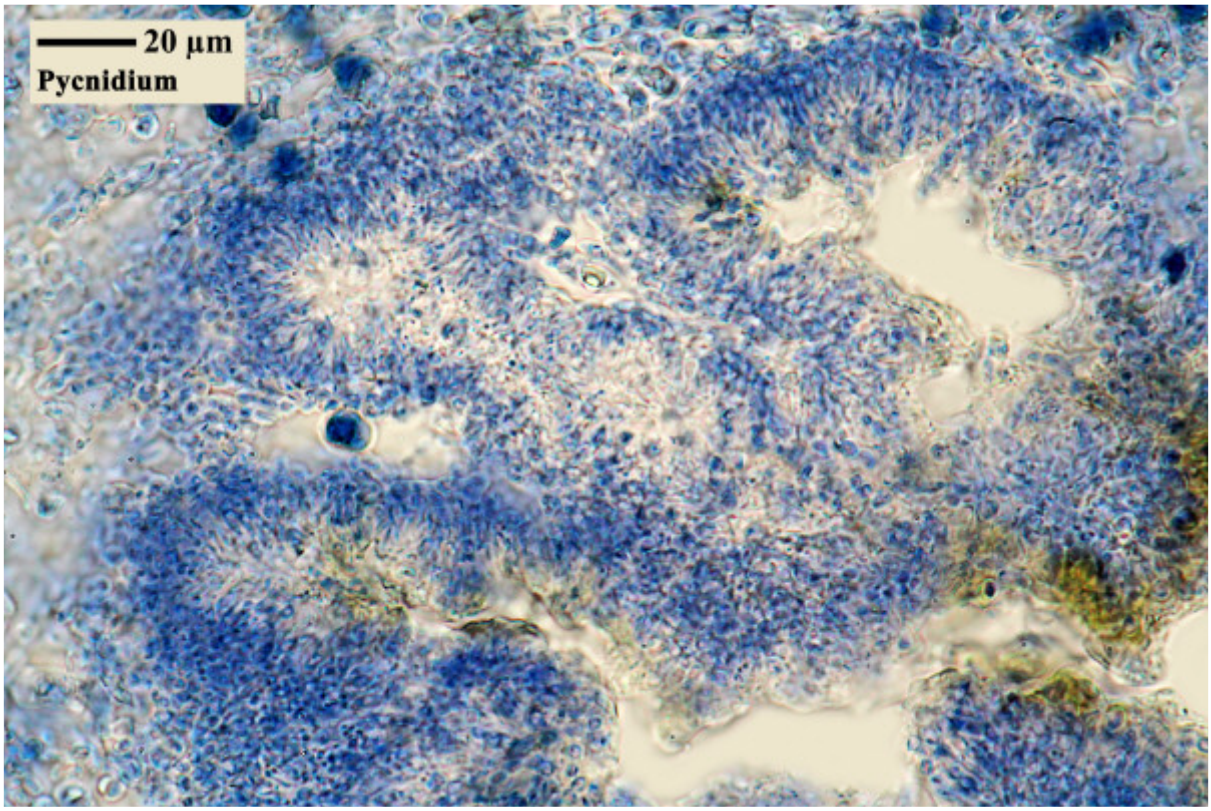
Caloplaca hookeri



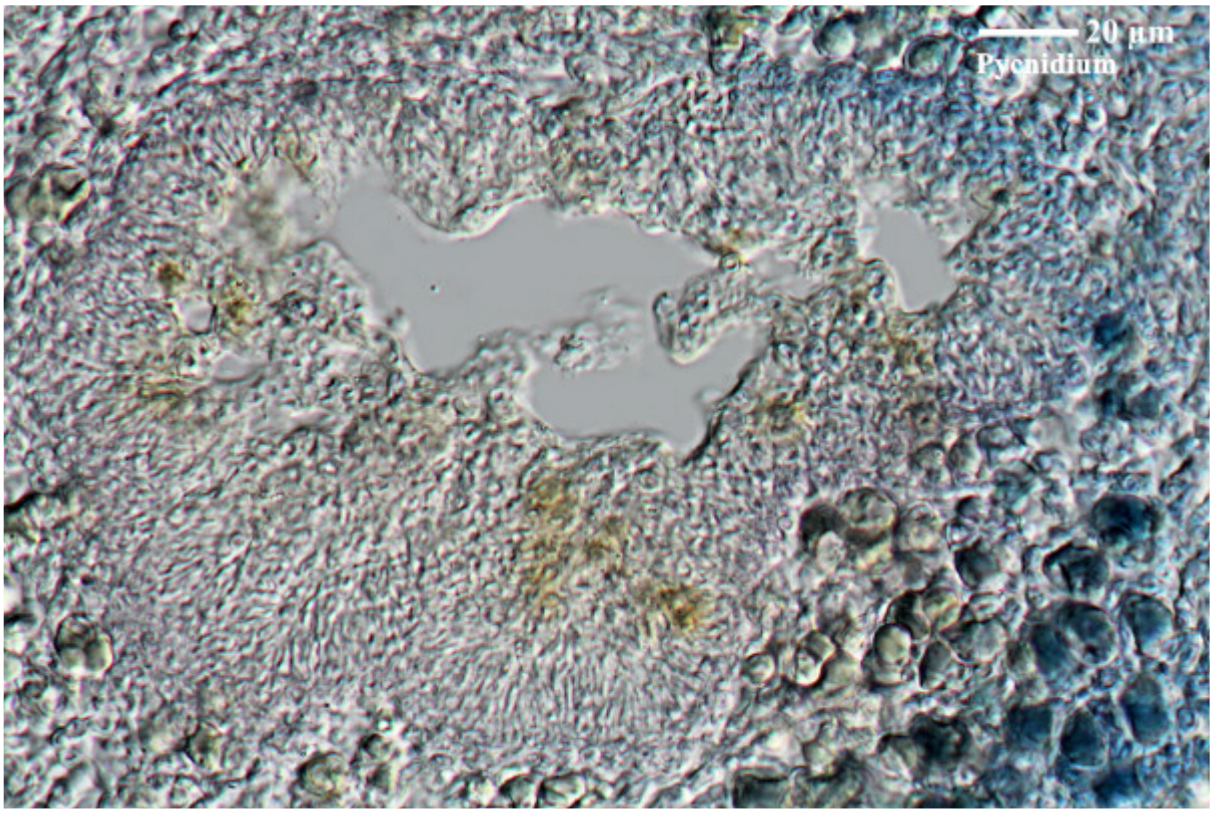


Caloplaca hookeri





Caloplaca hookeri



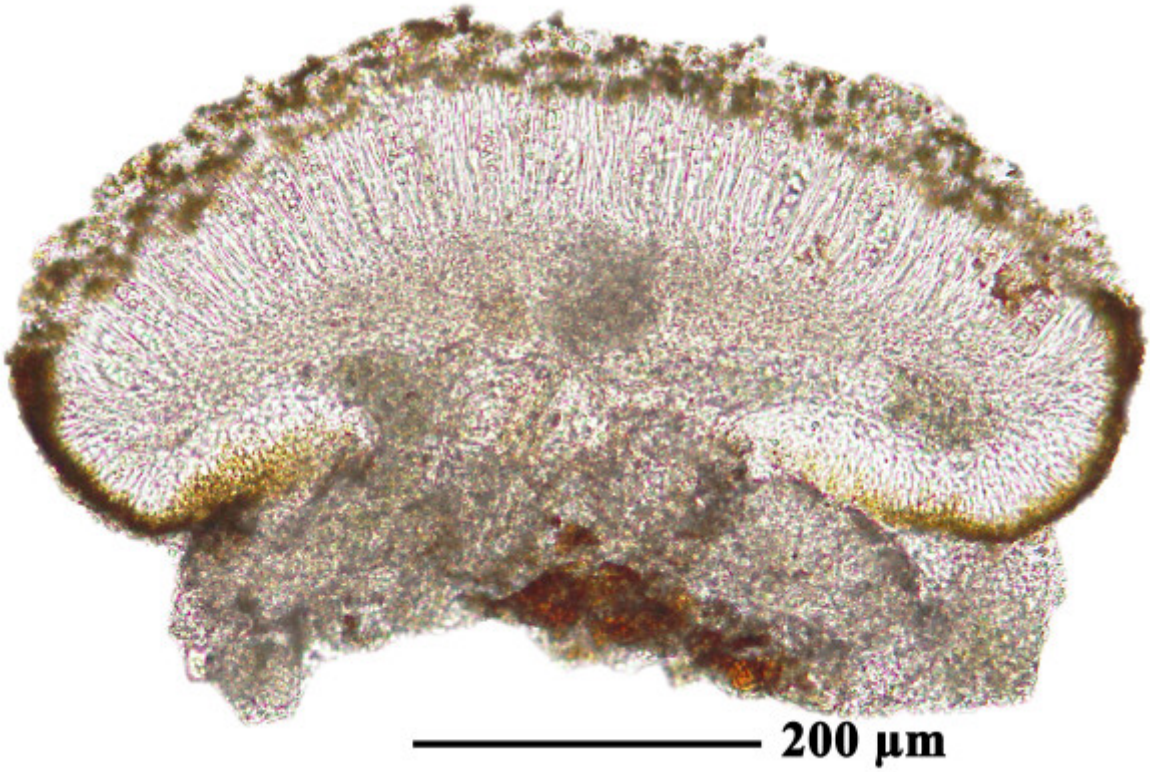
Caloplaca hookeri

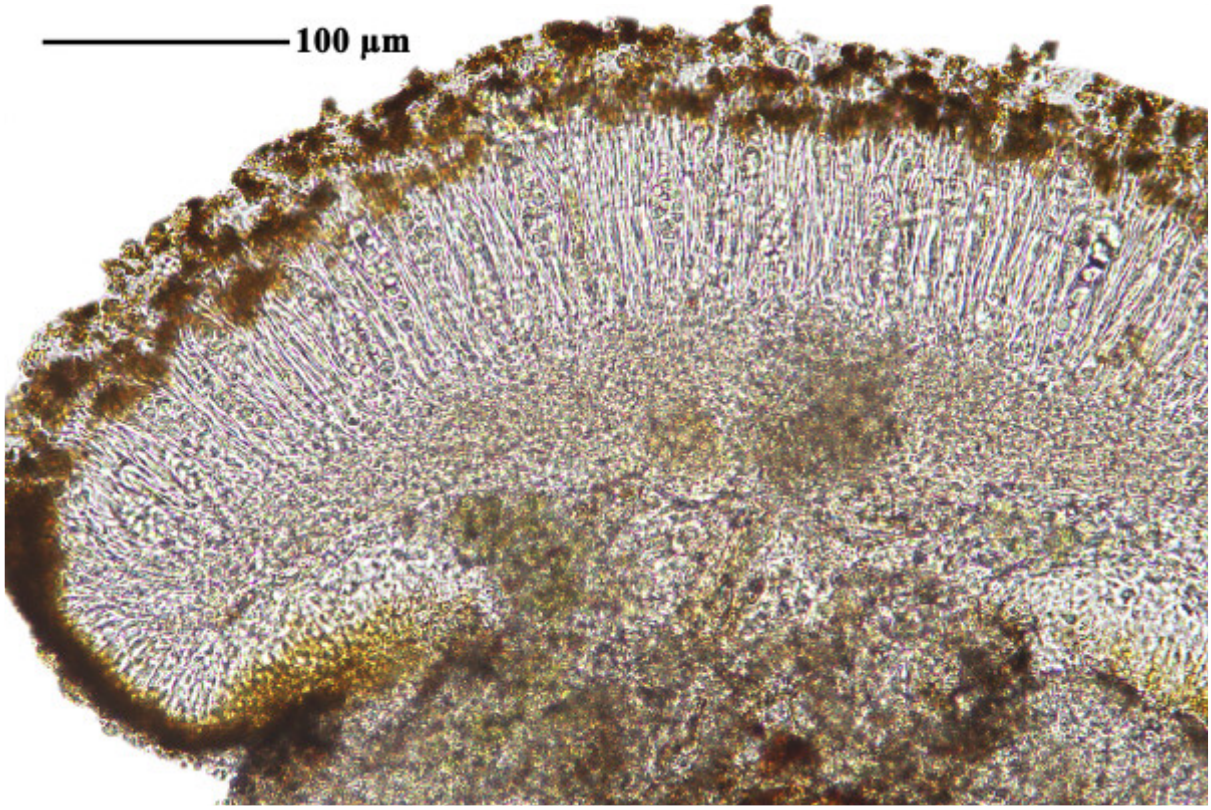
Caloplaca hungarica H. Magn.
[= *Blastenia hungarica* (H. Magn.) Arup, Søchting & Frödén]

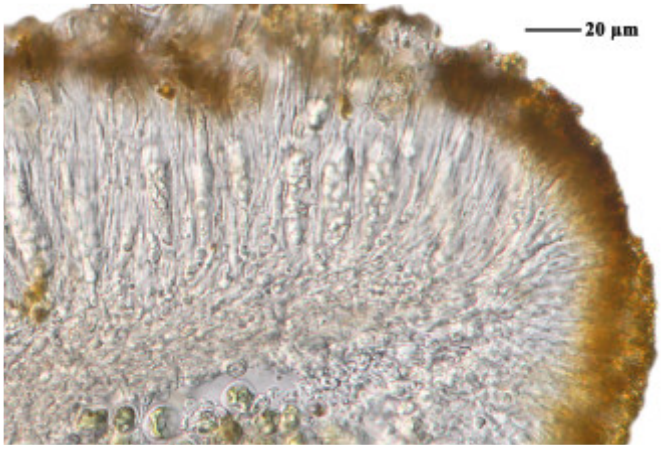
Thallus grau bis grünlichgrau. Apothecien orange, 0.3-0.5 mm, Rand etwas heller, 0.02-0.04 mm. Sporen 16 x 8 µm, polar-2-zellig. Chemistry (p340/1):

[157], Liechtenstein, Malbun, an Bergkiefer. Leg. F. Schumm 03.1967, det. J.Poelt

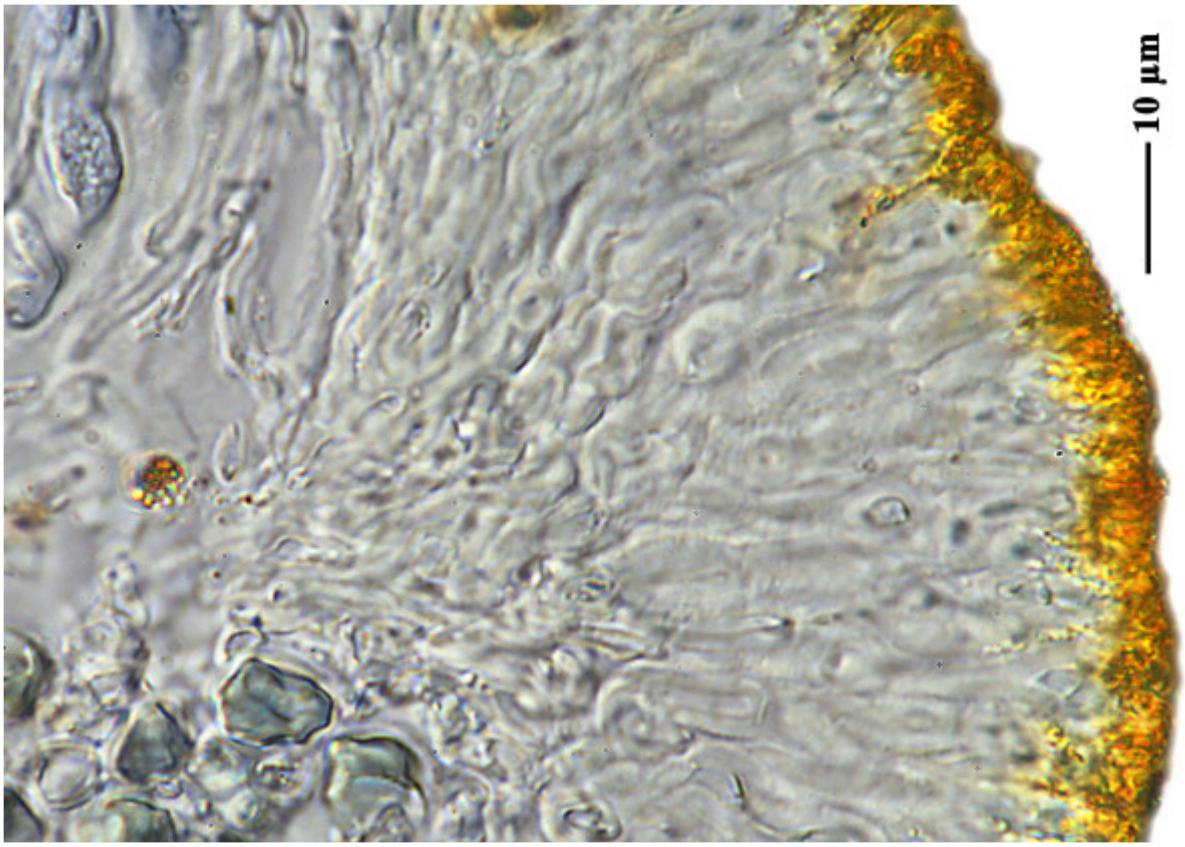


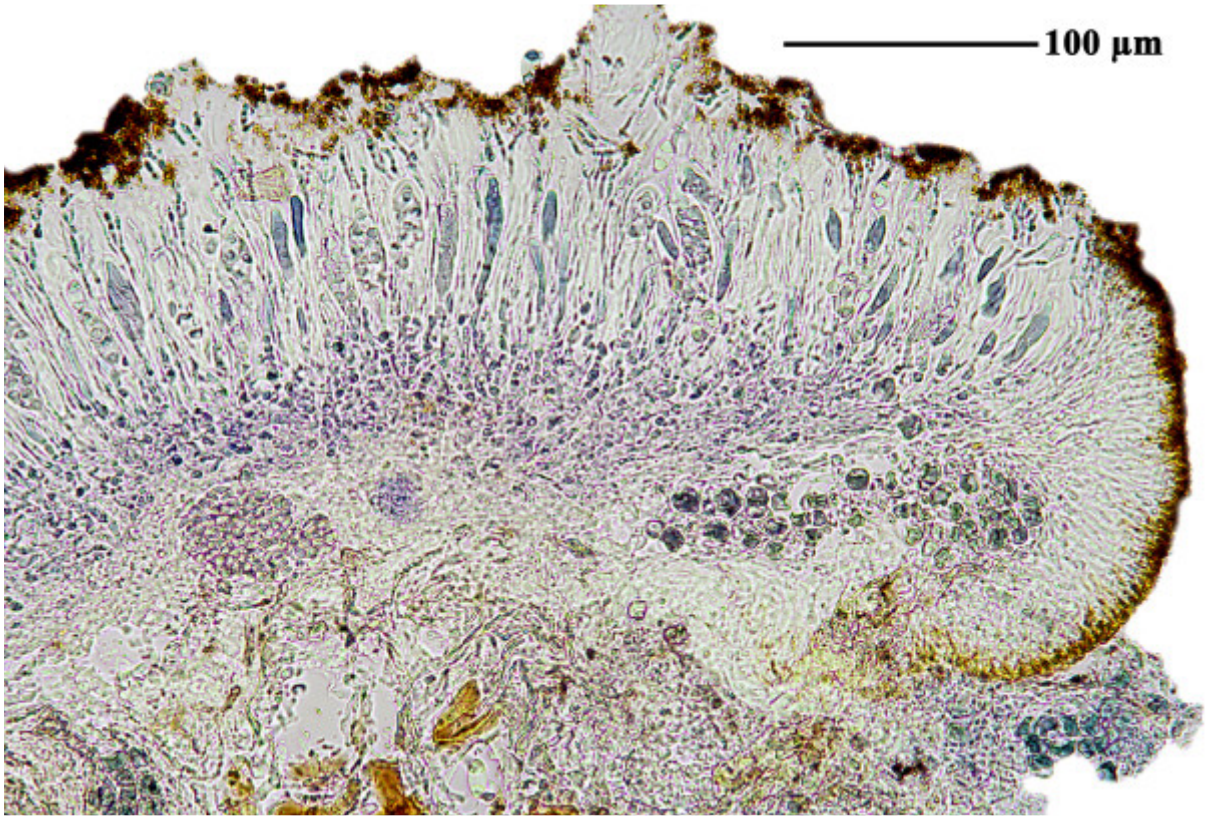






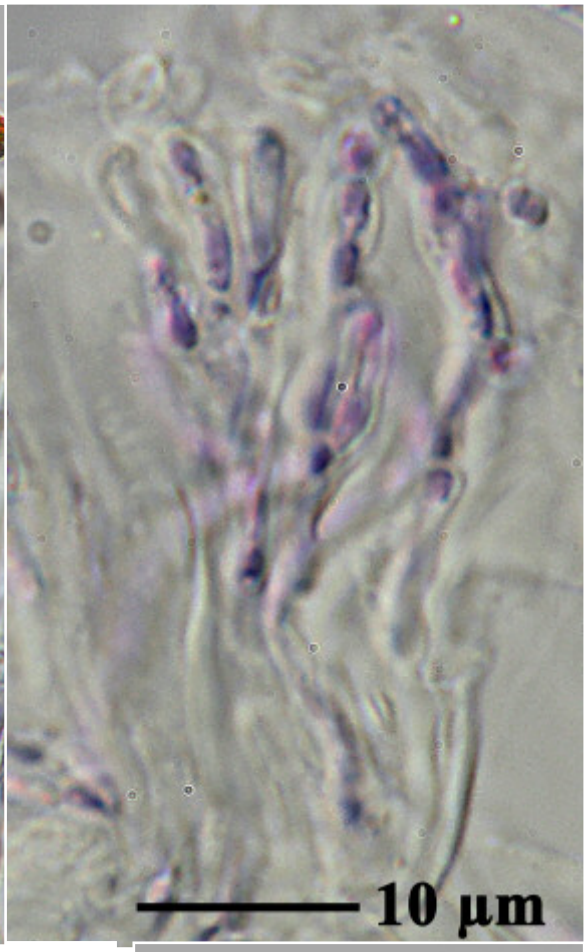
Caloplaca hungarica



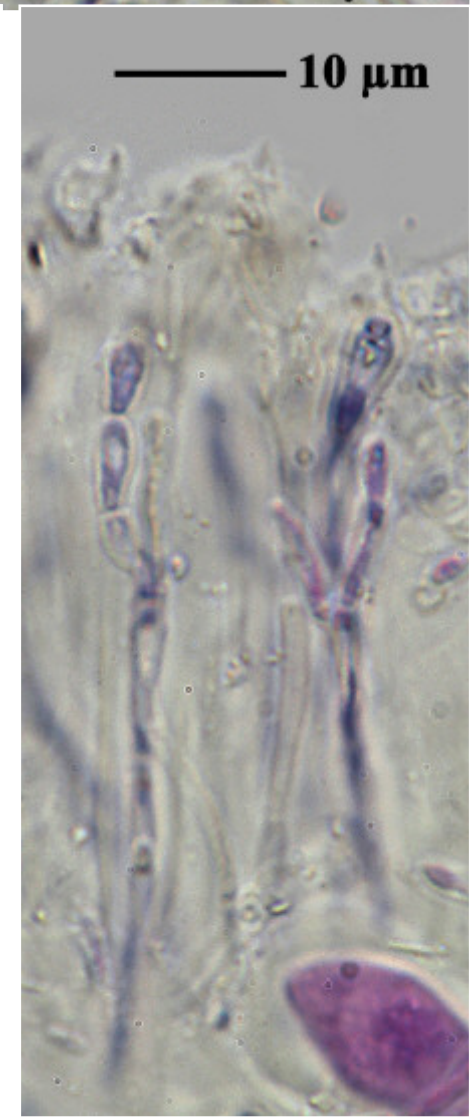


Caloplaca hungarica

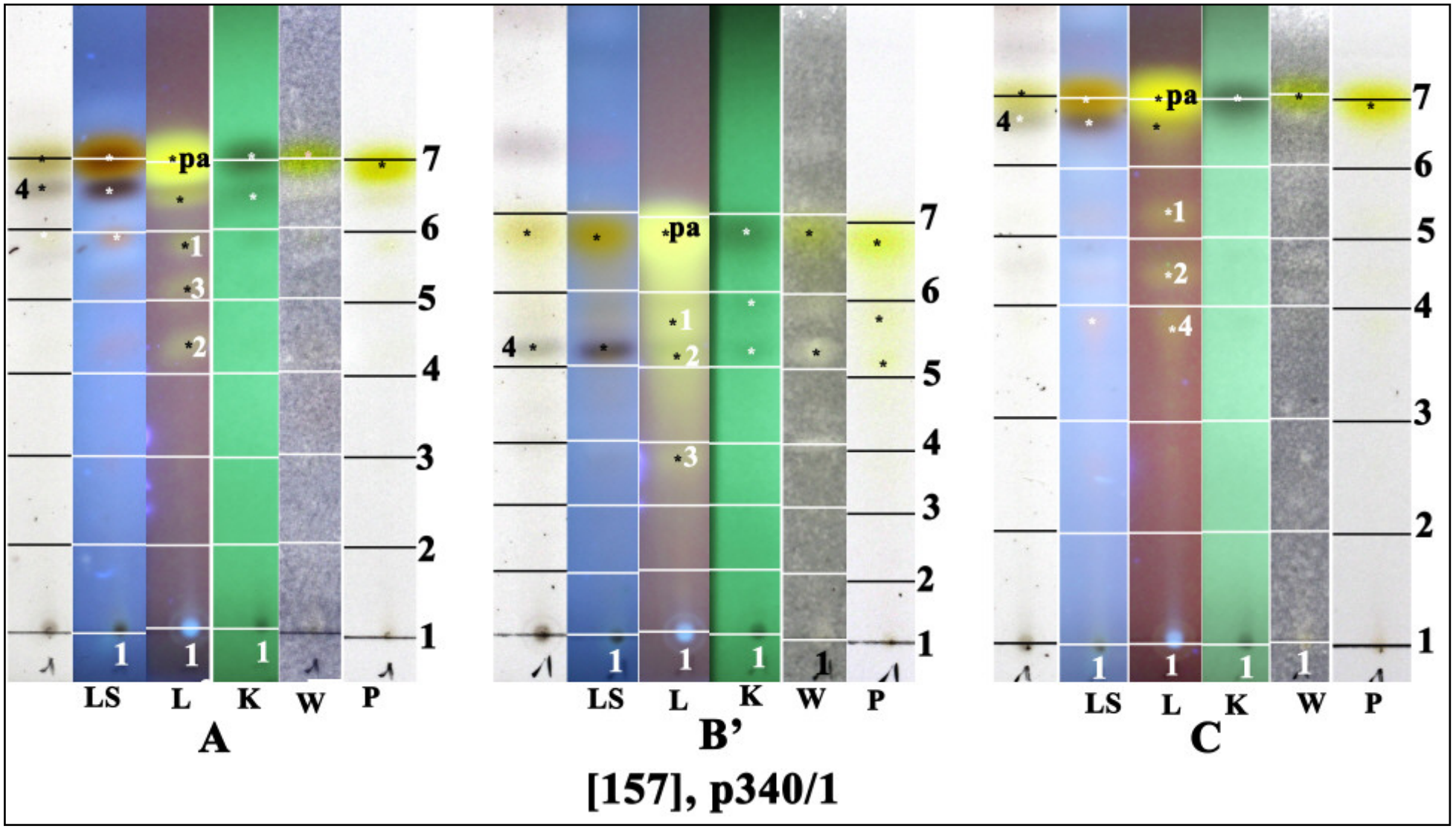








Caloplaca hungarica



pa: parietin, 1: fallacinal, 2: parietinic acid, 3: teloschistin, 4: ?

Caloplaca hungarica H. Magn.
[= *Blastenia hungarica* (H. Magn.) Arup, Søchting & Frödén]
[= *Caloplaca ferruginea* var. *hungarica* (H. Magn.) Clauzade & Cl. Roux]

Spores 8/ascus, hyaline, c. 12.2 x 6.2 µm, septum c. 4.4 µm. (FS)

[B 60 0183800], Greece, nom. Kavala, Thasos island, E of Theologos, abandoned, grazed fields, on *Pistacia terebinthus* shrub, accomp. *Caloplaca haematites, Calloplaca ferruginea, Candelariella xanthostigma, Rinodina capensis, Rinodina olea*. 40°39.9' N, 24°42.4', E 300 m. Leg. H. Sipman (58604) & T. Raus, 24. May 2010, det H. Sipman, 2011.





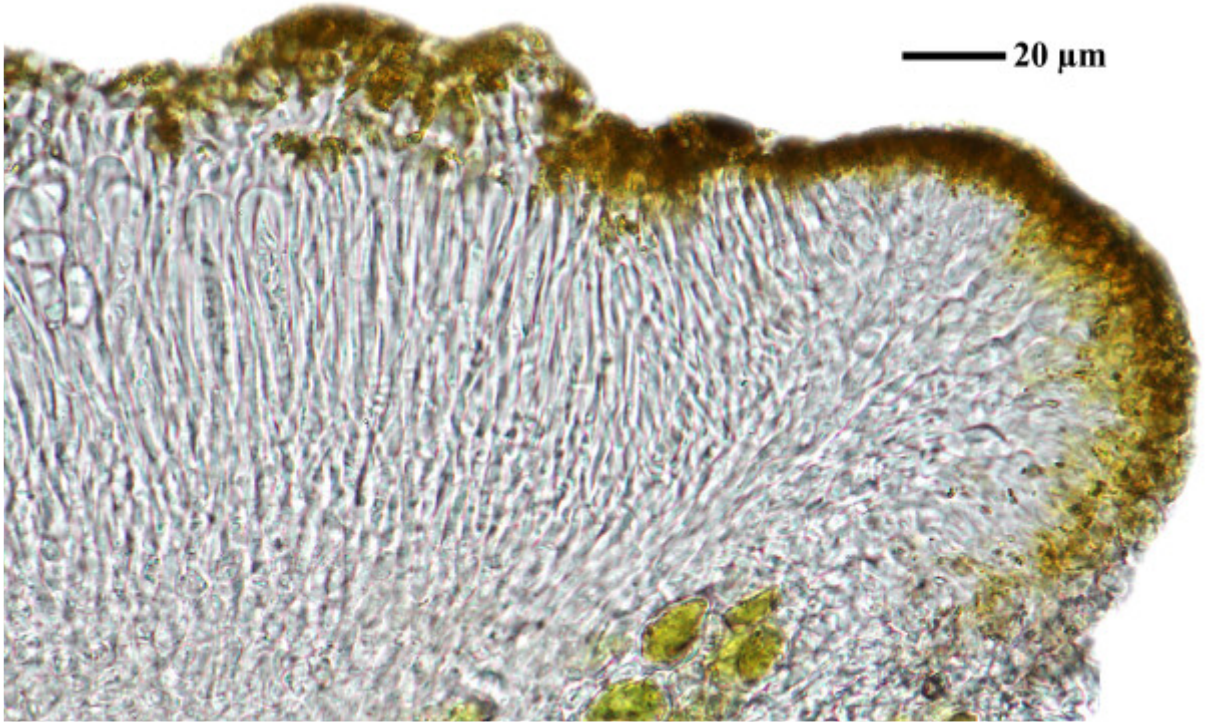


Caloplaca hungarica

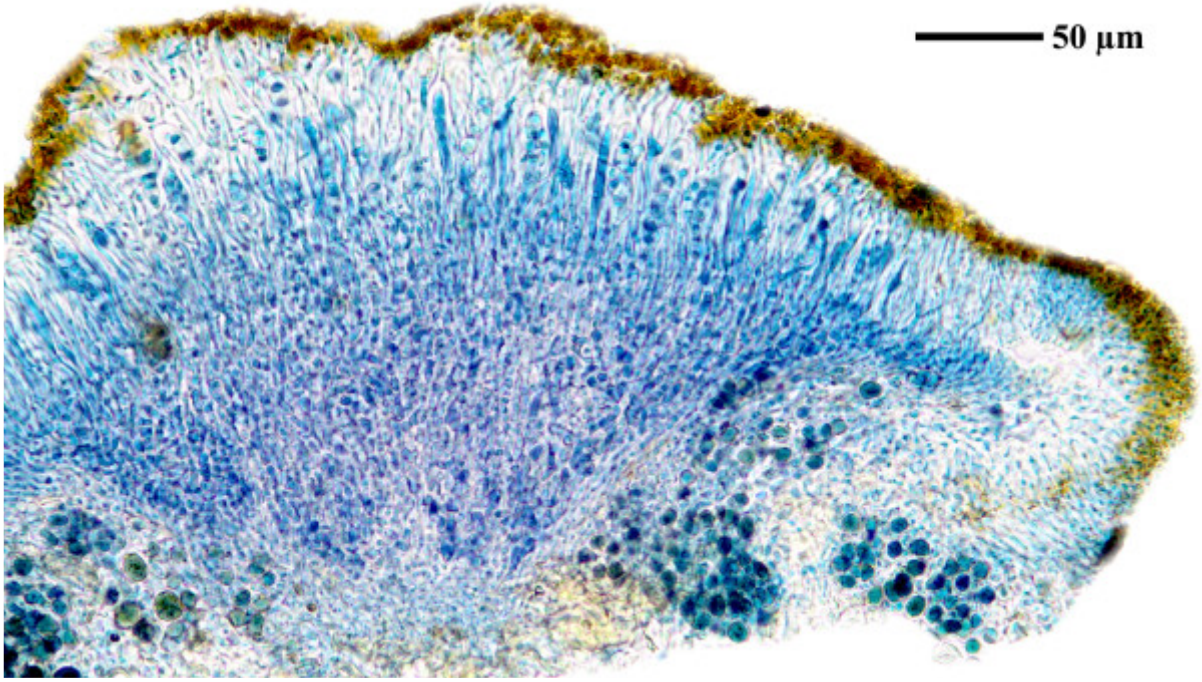


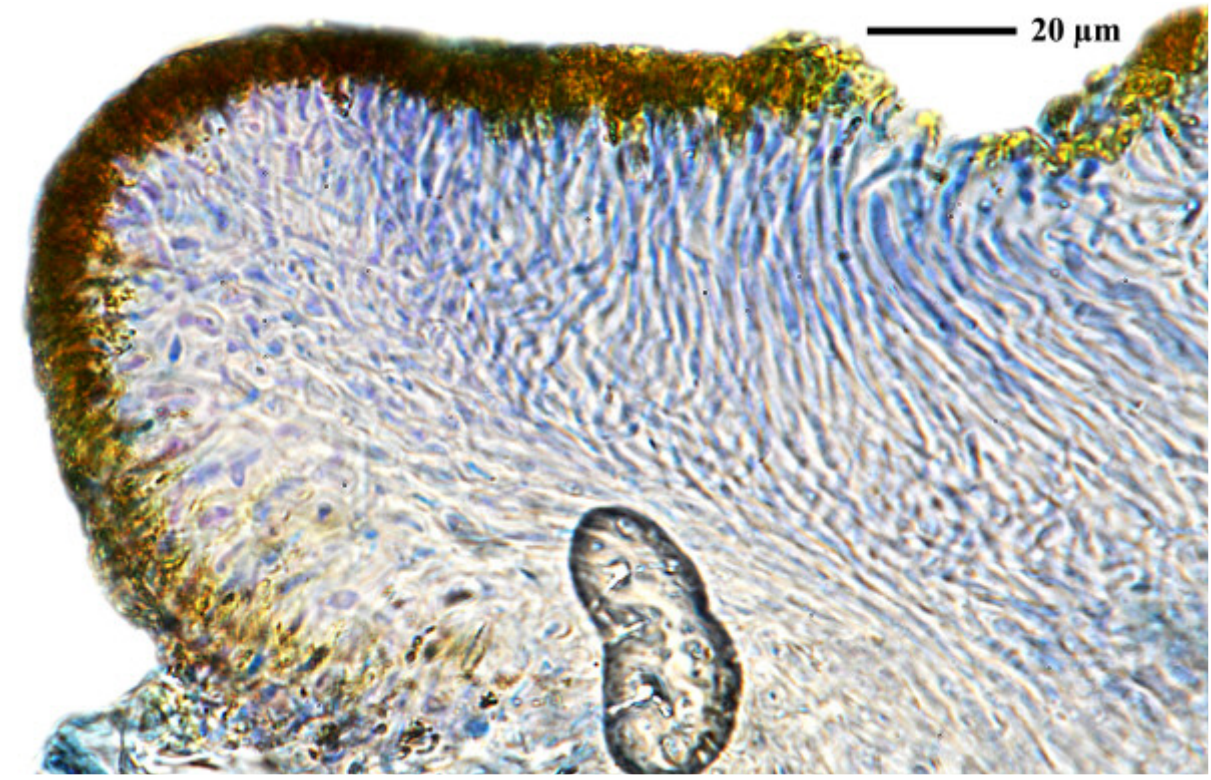
Caloplaca hungarica

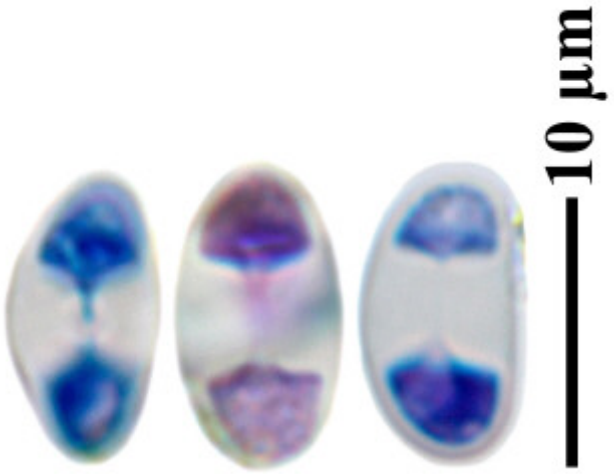




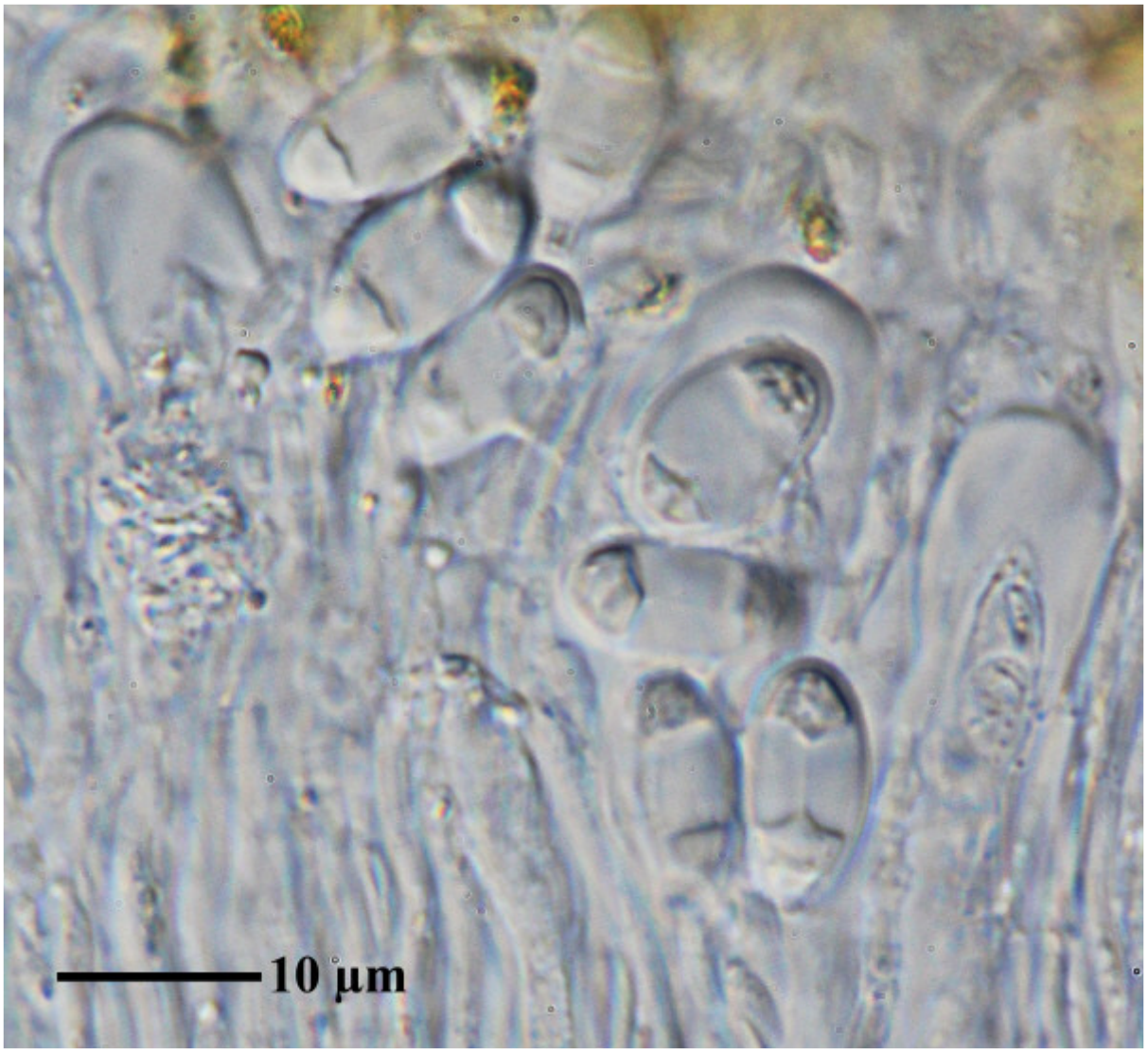
Caloplaca hungarica

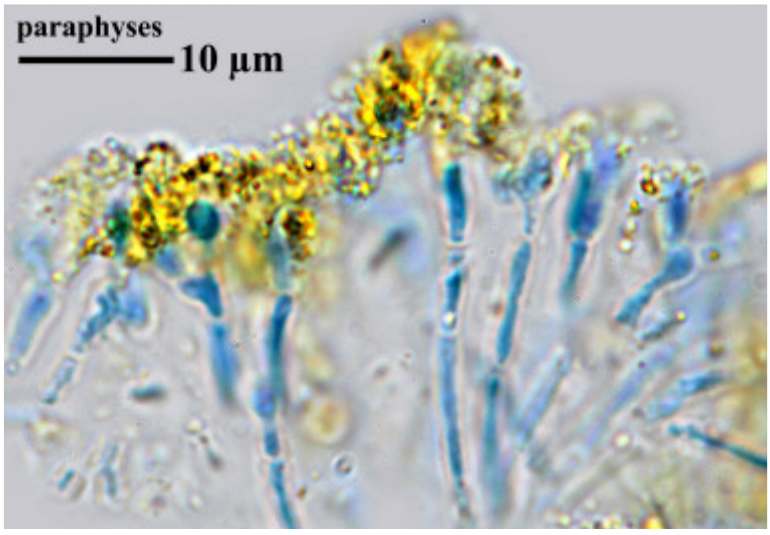


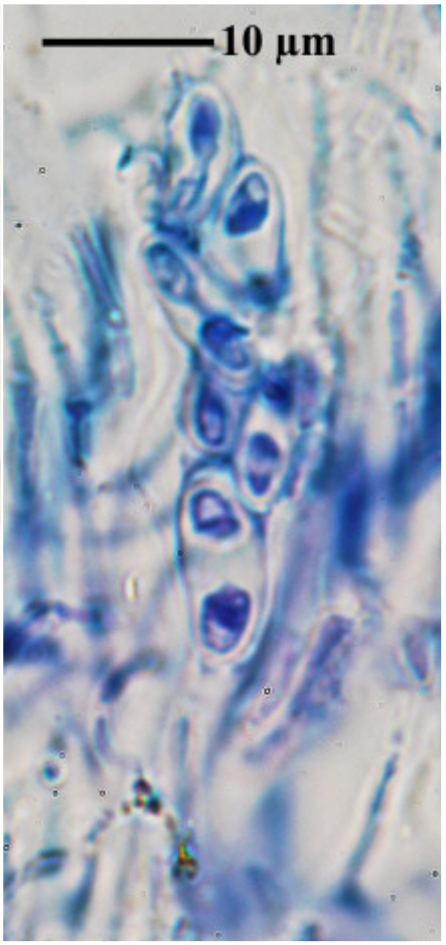




Caloplaca hungarica





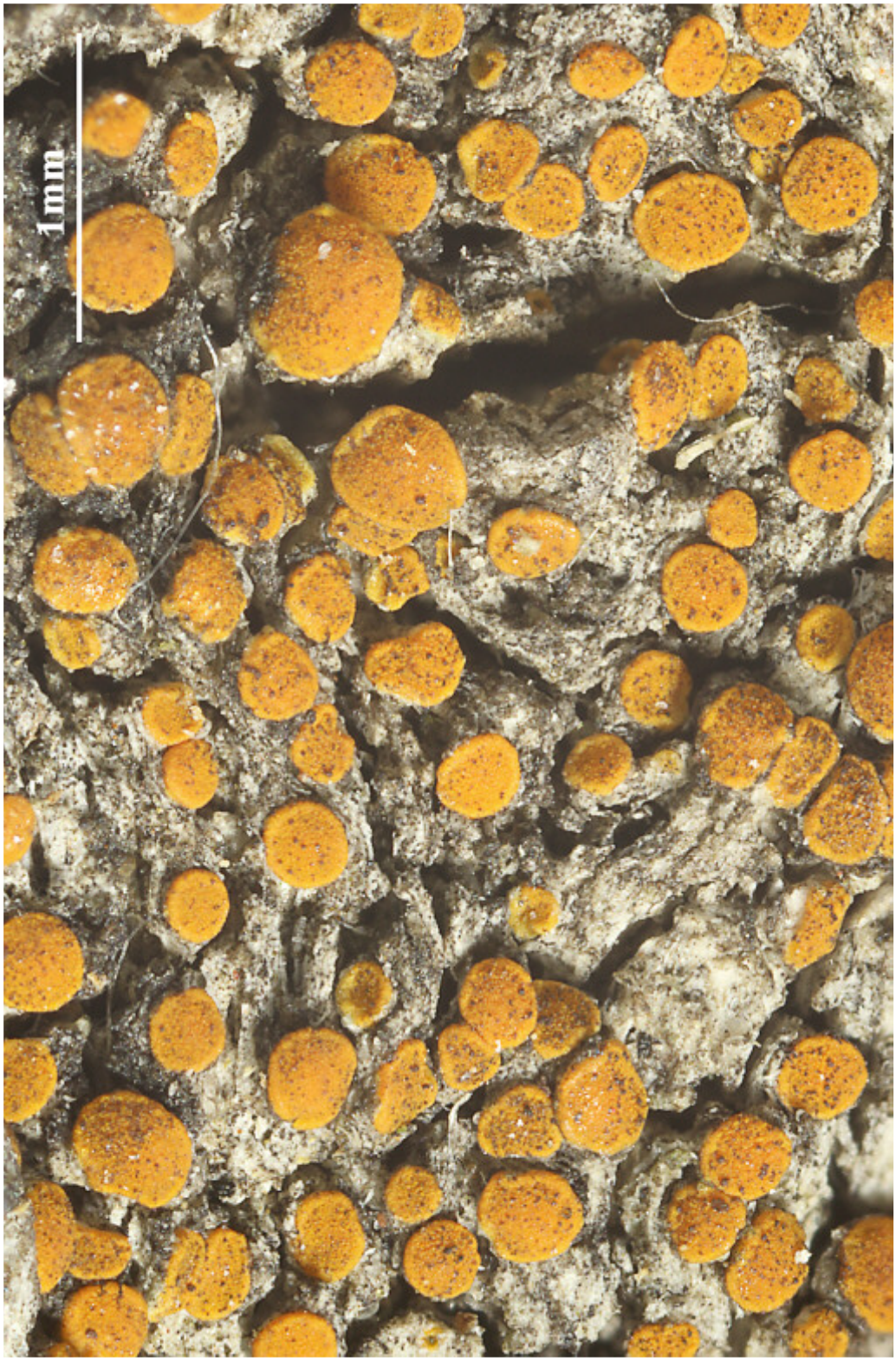


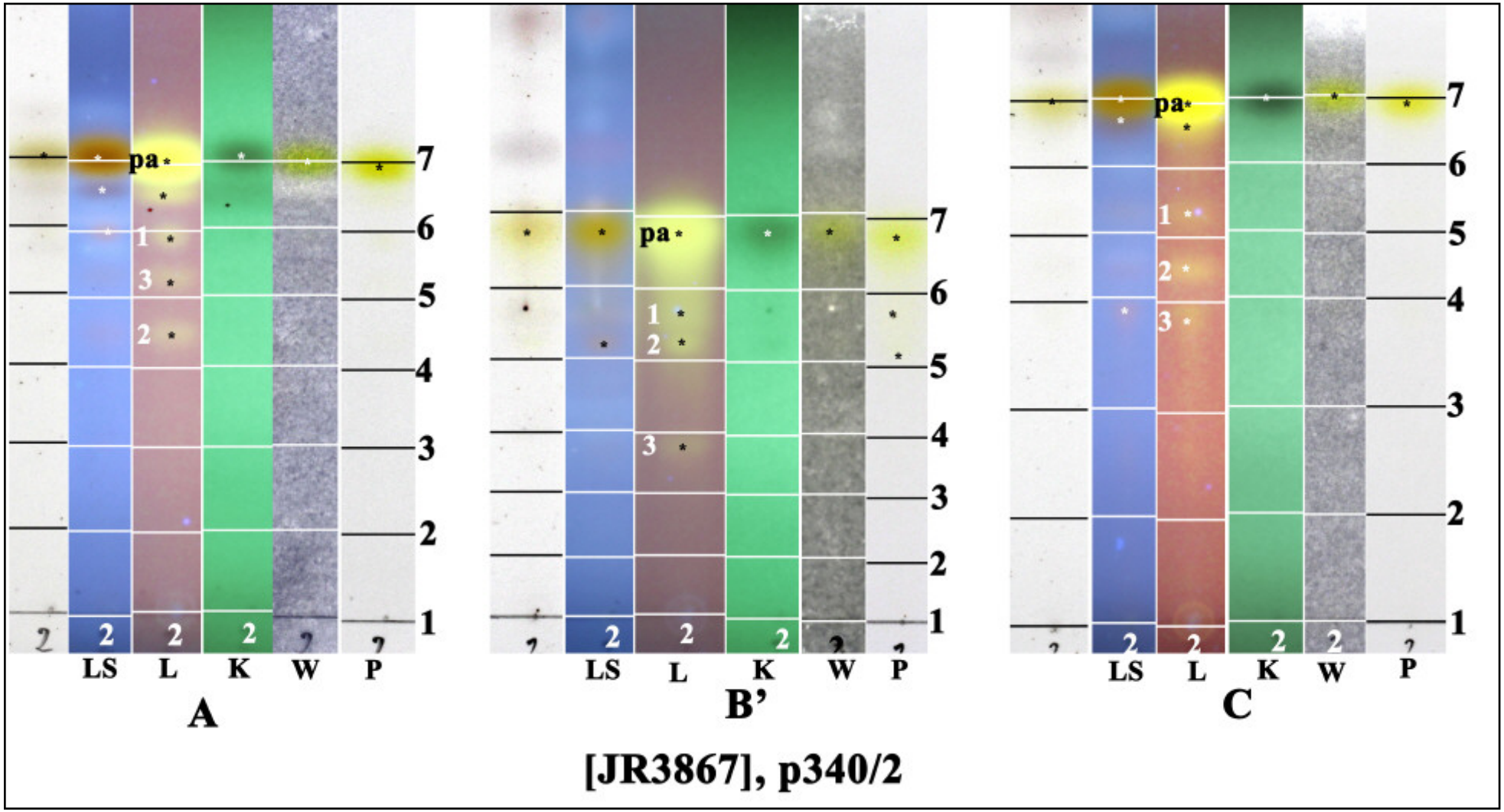
Caloplaca hungarica

Caloplaca hungarica H. Magn.
[= *Blastenia hungarica* (H. Magn.) Arup, Søchting & Frödén]

Thallus grau. Apothecien orange, 0.2-0.5 mm, Rand etwas heller, sehr dünn, ca. 0.025 mm. Chemistry: p340/2:

[JR3867], Germany, Thüringen, Saale-Orla-Kreis, Dohlenstein bei Kahla, TK 5135/434, 370 m, Wurzel eines Bergahorns. Leg. J. Rettig, 28.2.2015, det. L. Meinunger.





pa: parietin, 1: fallacinal, 2: parietinic acid, 3: teloschistin

Caloplaca ignea Arup
[= *Polycauliona ignea* (Arup) Arup, Frödén & Søchting]

Spores 9.5-11 x 4.3-6.5 µm, septum 2-2.7 µm (FS)

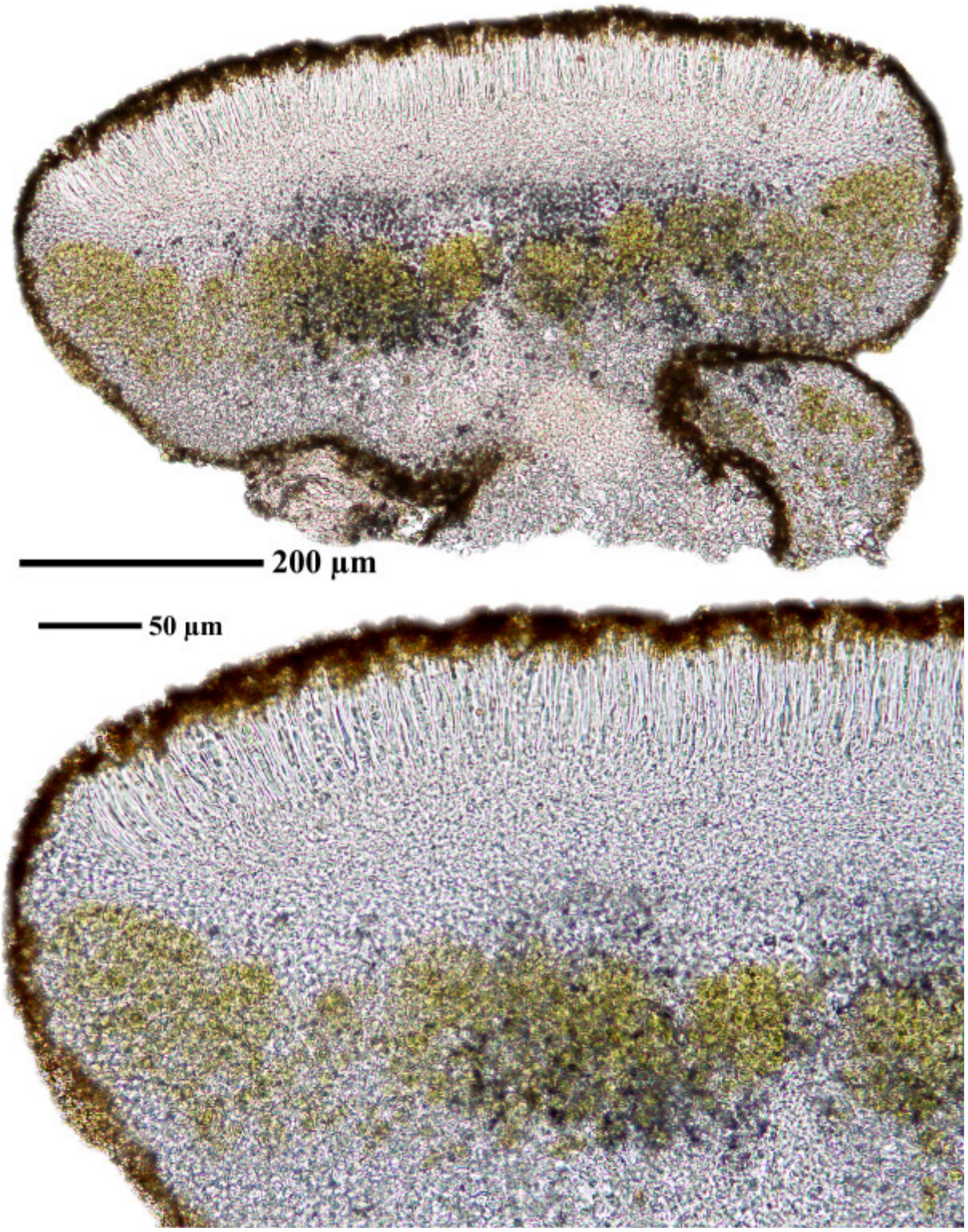
[B 60 0069210], Mexico, Baja California, Punta Santa Tomas, c. 30 km SW of Ensenada; on top of rocky hill at seashore with scattered desert scrub, coastal scrub community (*Agave shawii, Salvia, Simmondsia,* etc.) with pre-batholithic rock outcrops. 31°33' N, 116°42' W, 80 m. Leg. H. Sipman (nr. 24743), 2.01.1989, det. C. Wetmore 1997.



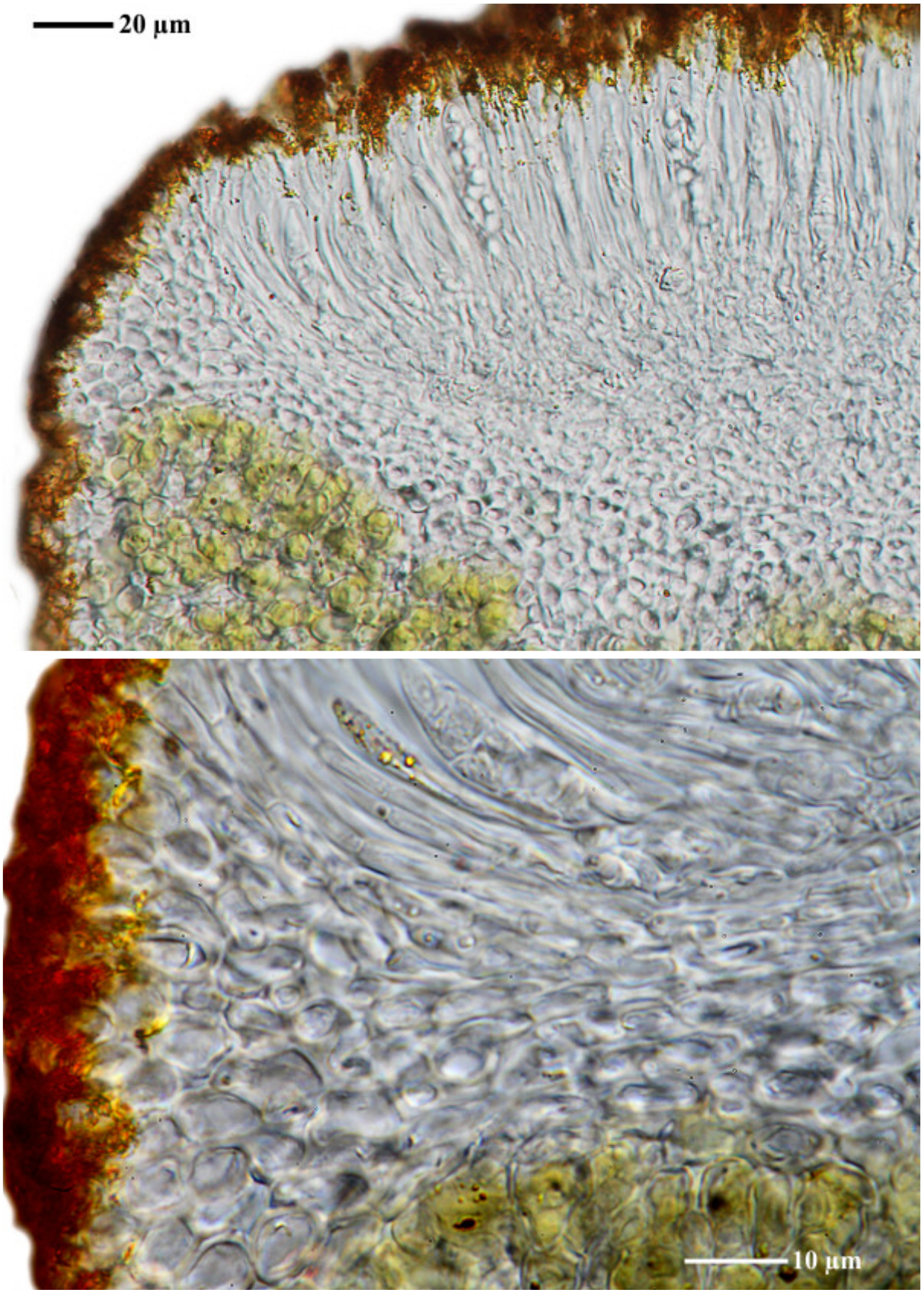




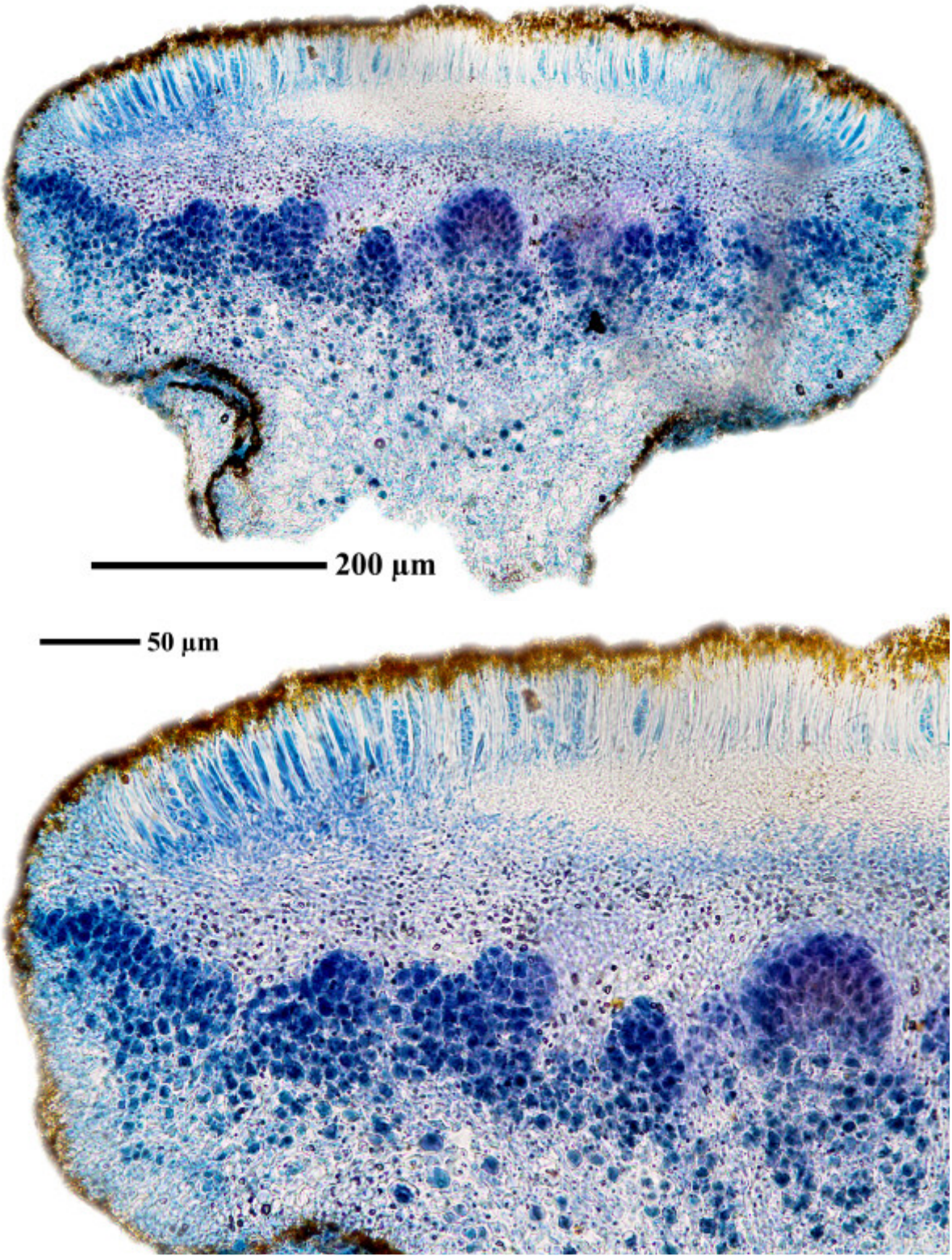
Caloplaca ignea



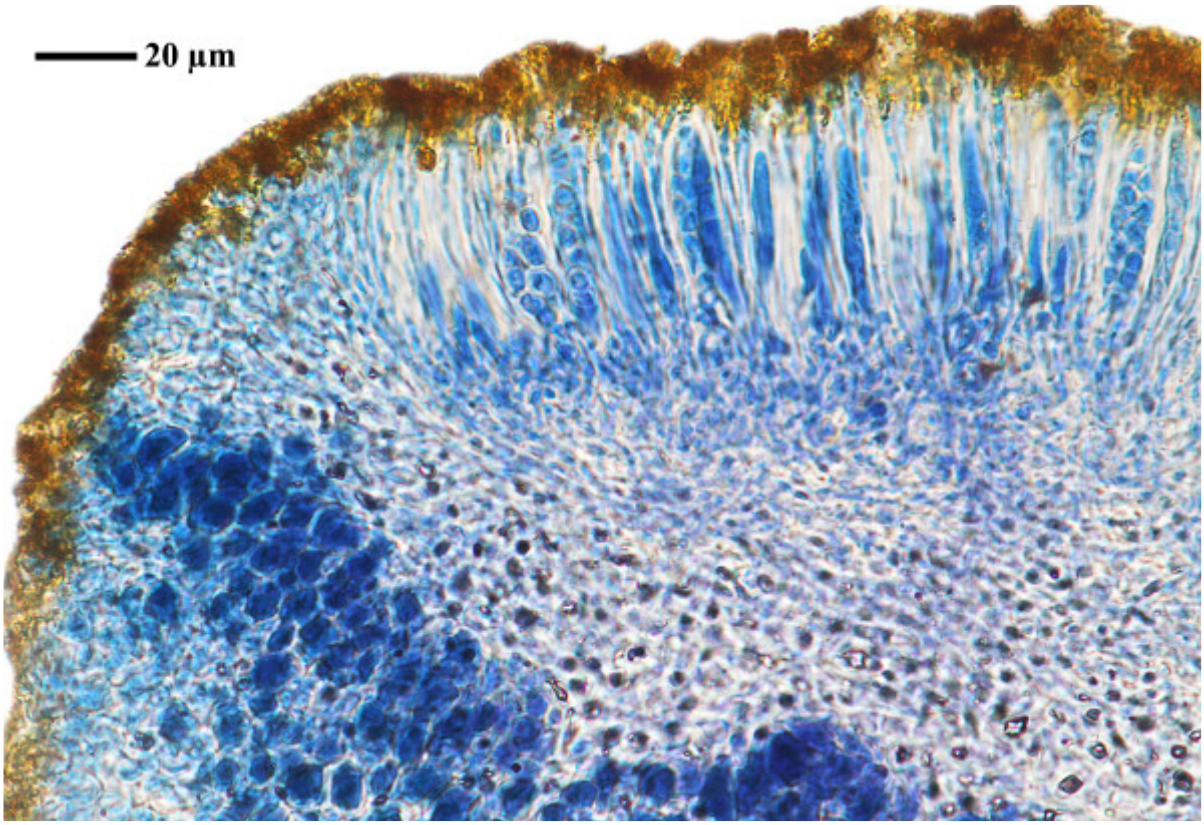
Caloplaca ignea

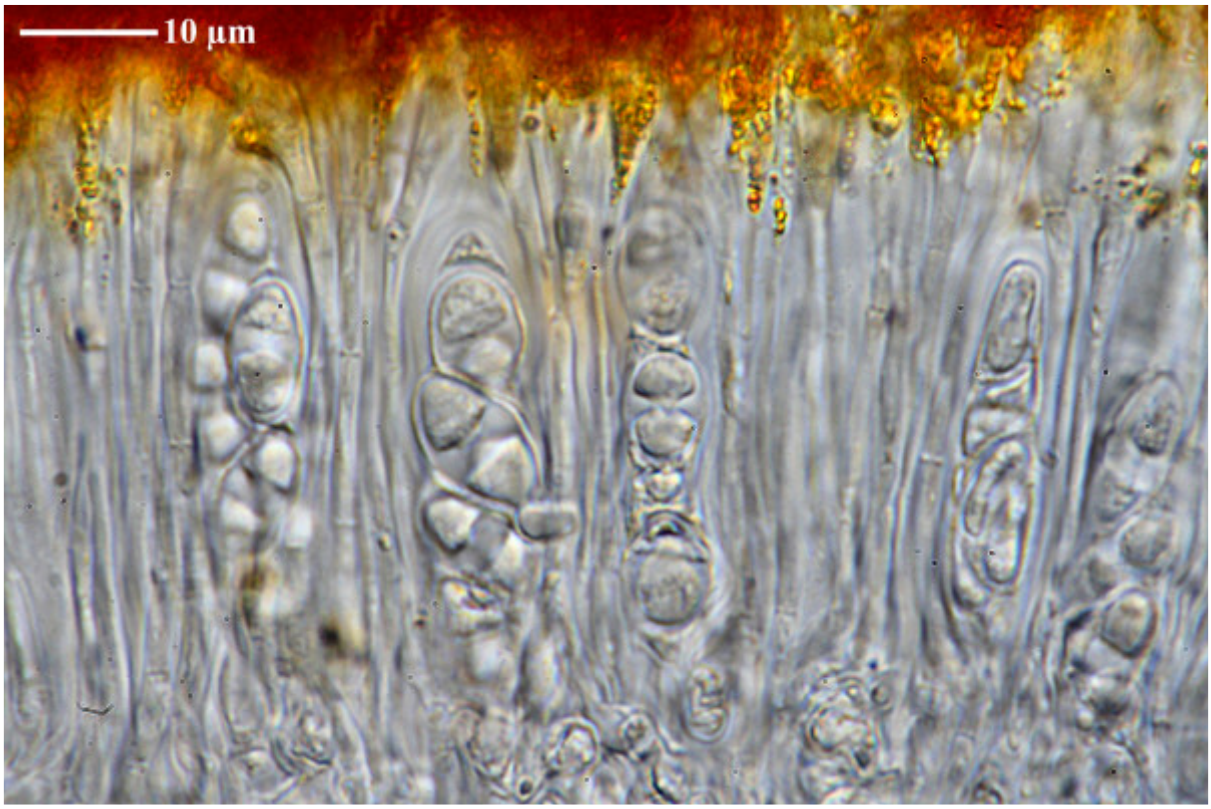


Caloplaca ignea

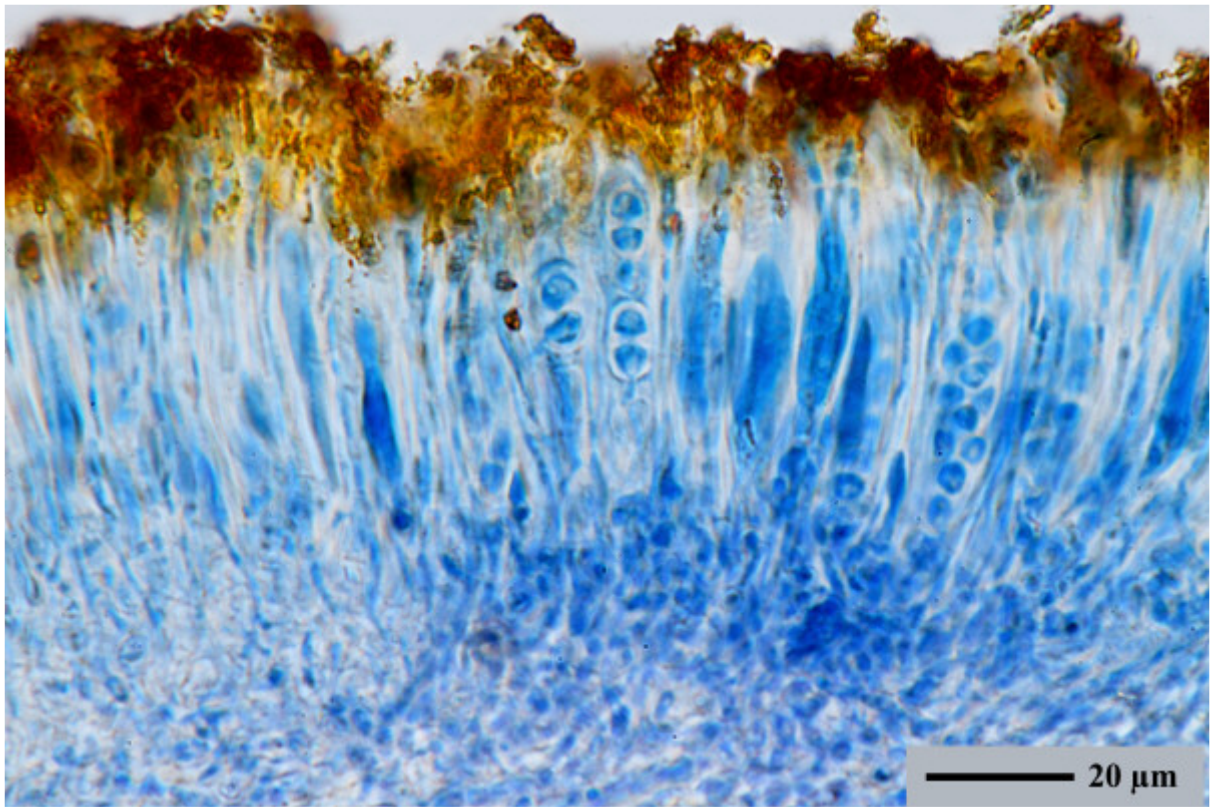


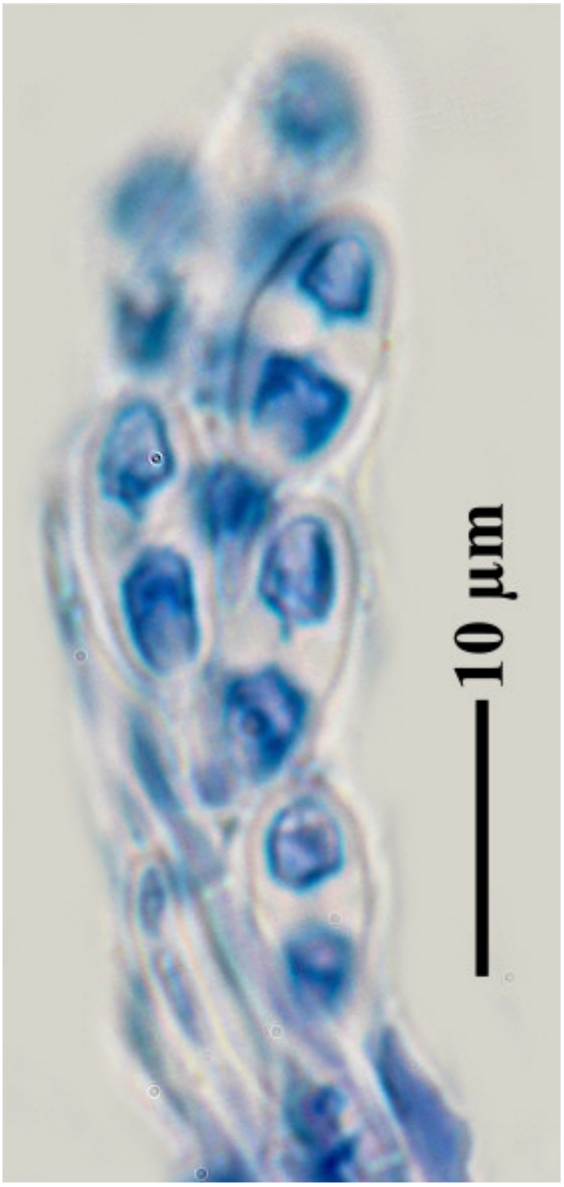
Caloplaca ignea

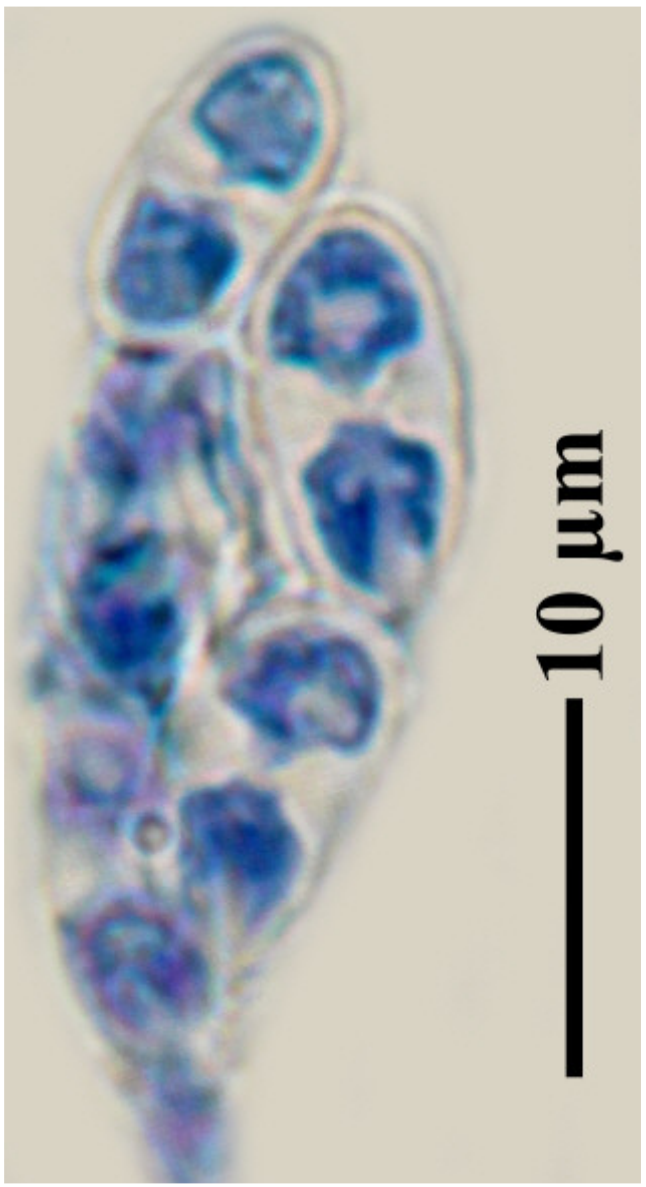




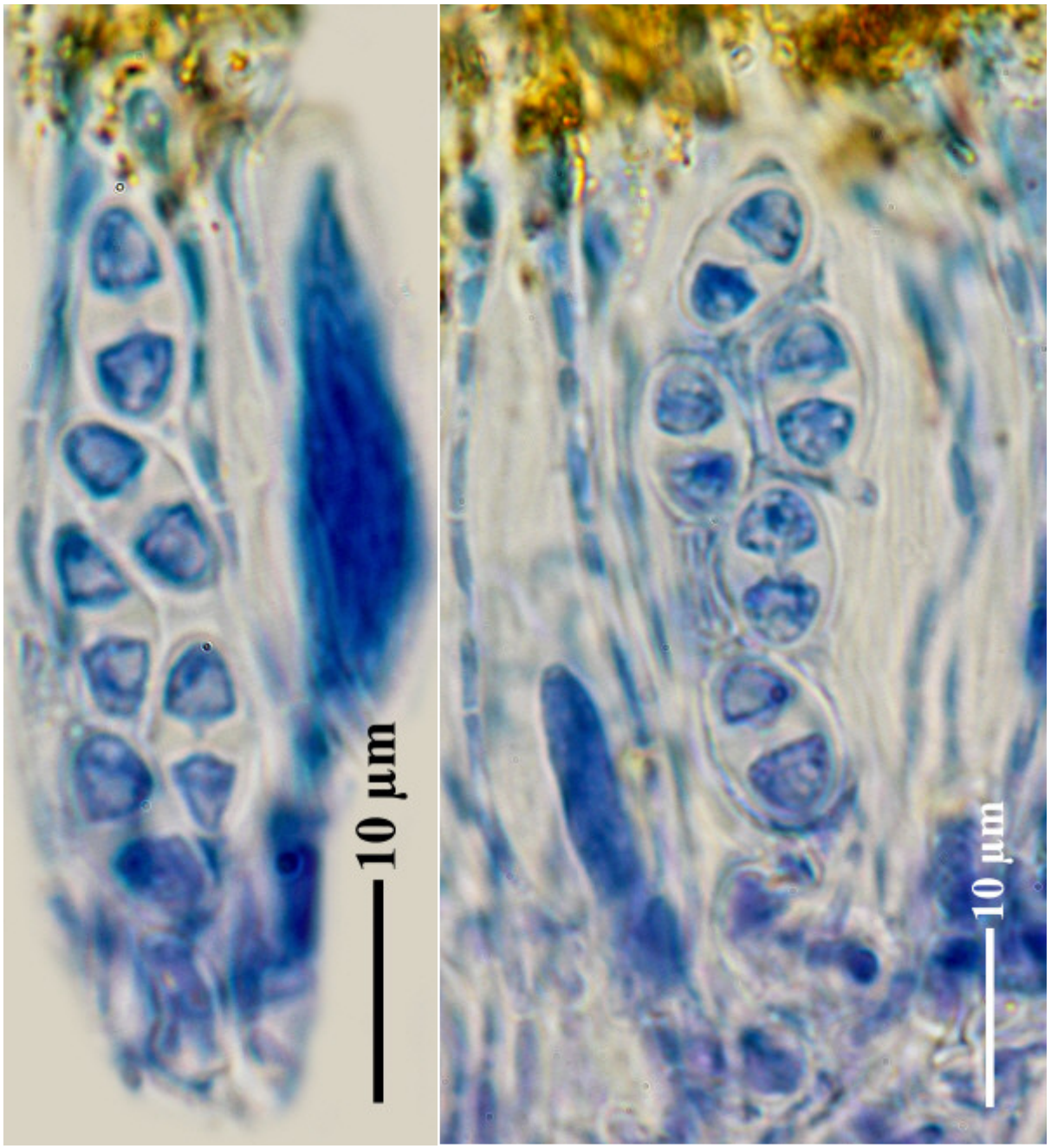
Caloplaca ignea







Caloplaca ignea



Caloplaca ignea

Caloplaca inconnexa (Nyl.) Zahlbr.

On rocks.

[6699], Spanien, Kanarische Inseln, Gran Canaria; trockener, nordwest-exponierter Geröllhang an der Straße zwischen Mogan und San Nicolas; Echium-Euphorbia-Kleinia Gesellschaft; 27°55.665’ N, 15°44.864’ W, Höhe 700 m. Leg, F. Schumm & U. Schwarz 30.12.1999, det. A. Aptroot 2016.







Caloplaca inconnexa

Caloplaca inconnexa (Nyl.) Zahlbr.

On rocks on *Aspicilia*

[13420], Griechenland, S-Kreta, Gebirgszug zwischen Pombia und Pigedakia, westl. des Gipfels Vigla, 34°59.880' N, 24°52.150' E, 420 m. Leg. F. Schumm & R. Düll, 16.10.2007, det.A. Aptroot 2016.







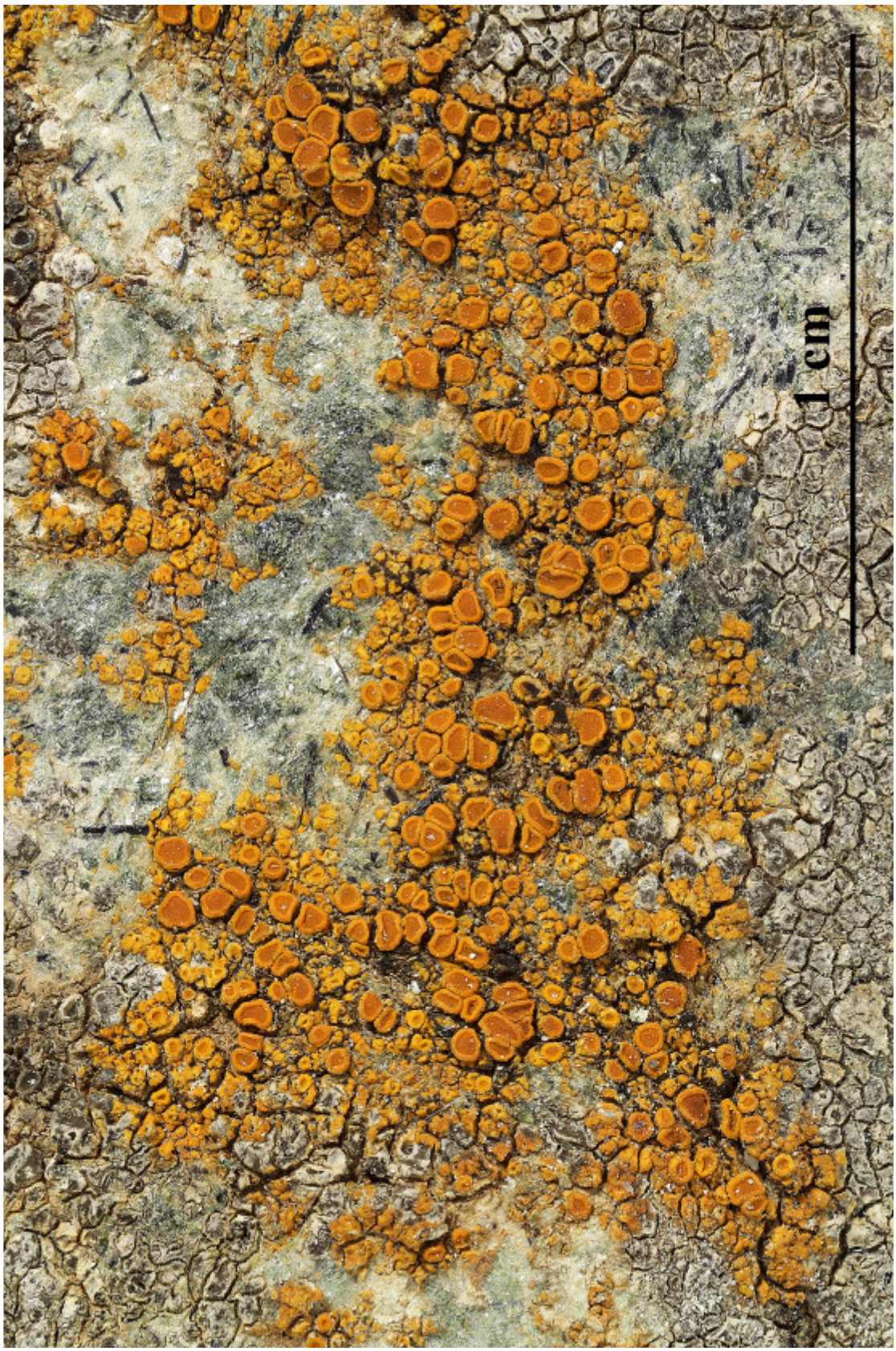


Caloplaca inconnexa

Caloplaca inconnexa (Nyl.) Zahlbr.

On rocks.

[13955], Griechenland, N-Samos: nördlich des Mt. Lazarou oberhalb Monasterio Vronda, 37°46.251' N, 26°51.332' E, 500-580 m. Leg. F. Schumm, 19.05.2008, det. Aptroot 2016.





Caloplaca inconnexa

Caloplaca inconnexa (Nyl.) Zahlbr.

On rock.

[ABL 75009], Schweden, Öland, Bårbykällan Alvar near Möckelmossen, UTM 593-6265,, 593-6264, on Alvar on limestone. Leg. A. Aptroot 12.06.2016, det. A. Aptroot 2016.





Caloplaca inconnexa





Caloplaca inconnexa

Caloplaca inconstans Zahlbr.

Spores 9.3-10 x 5.5-6.2 µm, septum 3.8-4 µm (FS). On non-calcareous rocks. Lit. Zahlbruckner in H. Magnusson et Zahlbruckner in Arkiv f. Bot. 32A(2): 40 (1945)

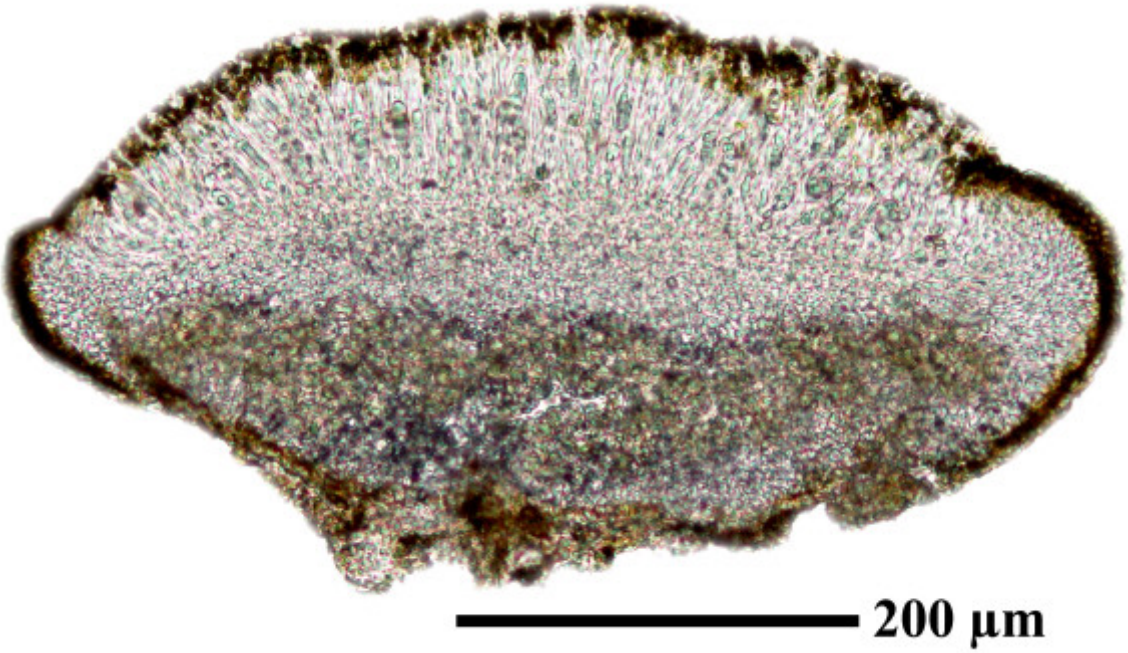
[19592], Hawaii Insulae, Hawaii, South Point, Pahala, alt. 30 m, ad lavam nudam loco ventoso. Leg. O. et I. Degener (34186), 28.07.1976, det. K. Kalb. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1493.

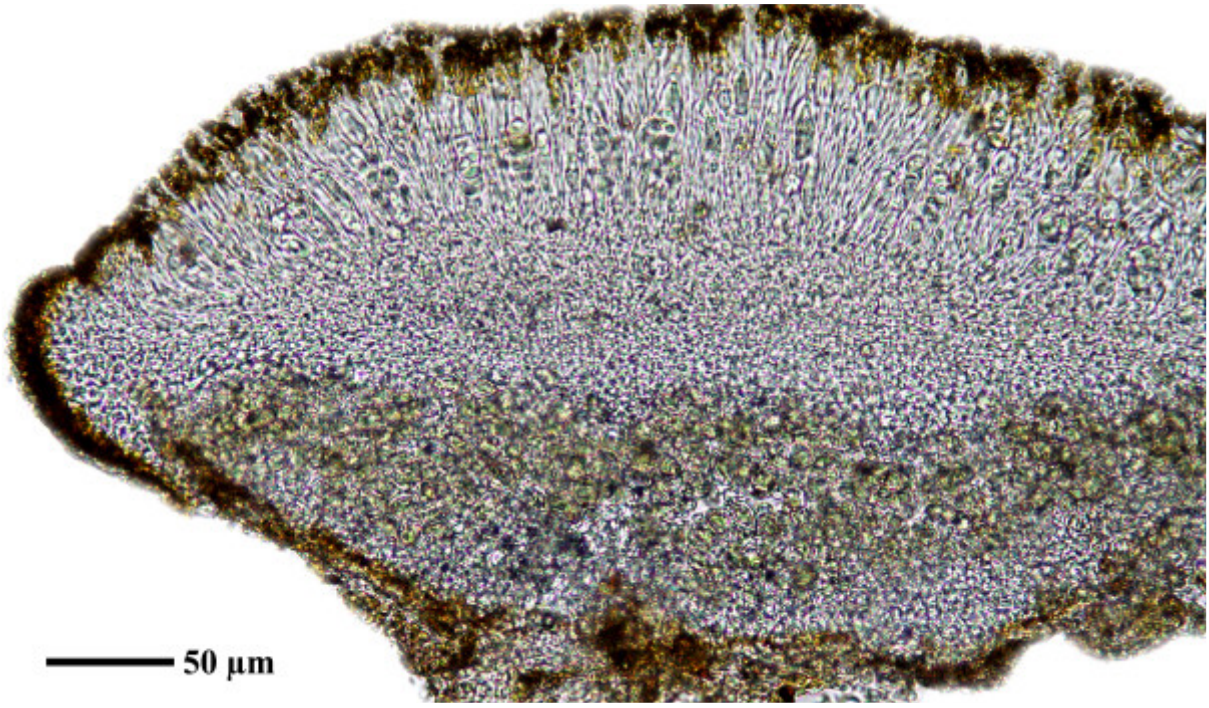




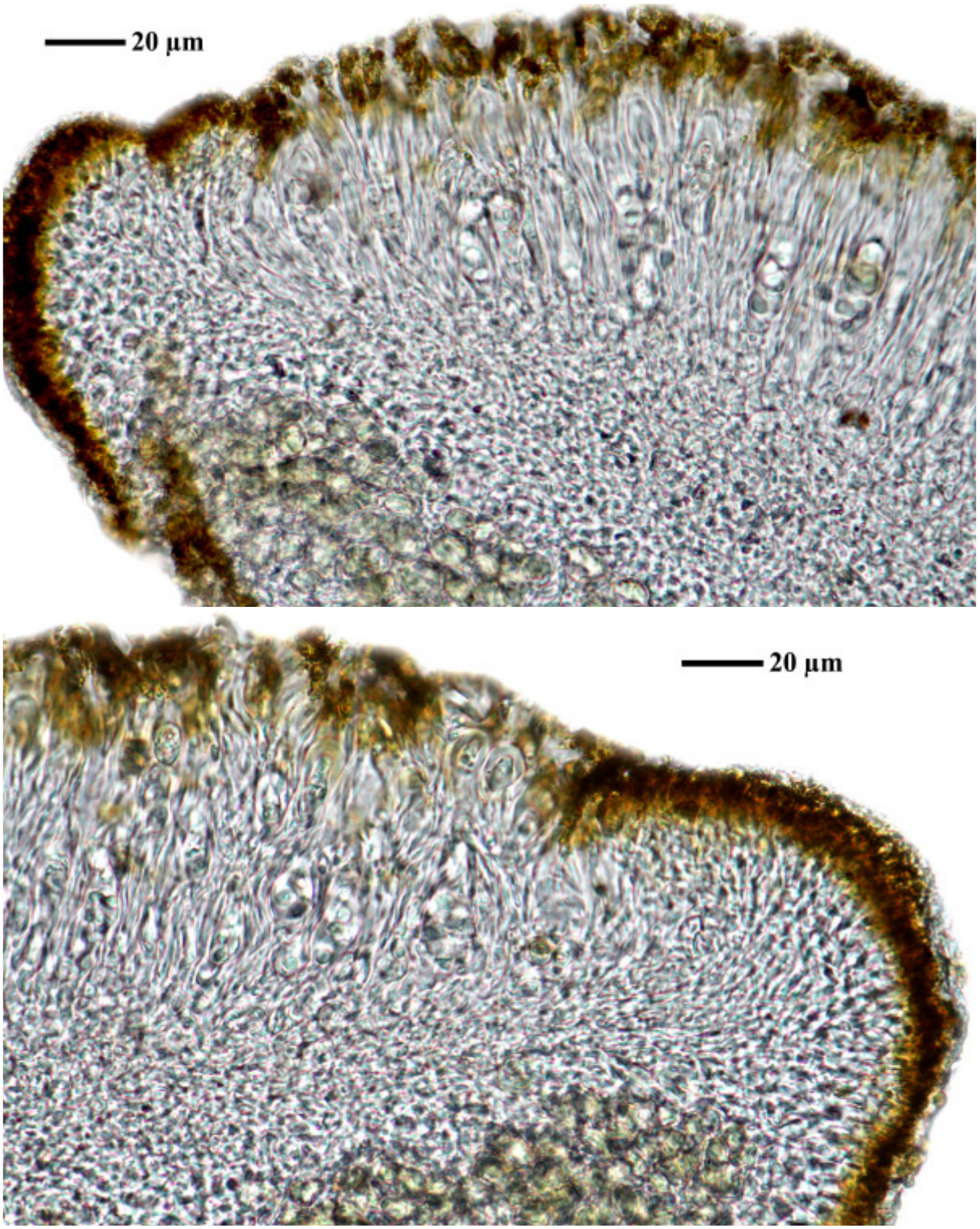


Caloplaca inconstans

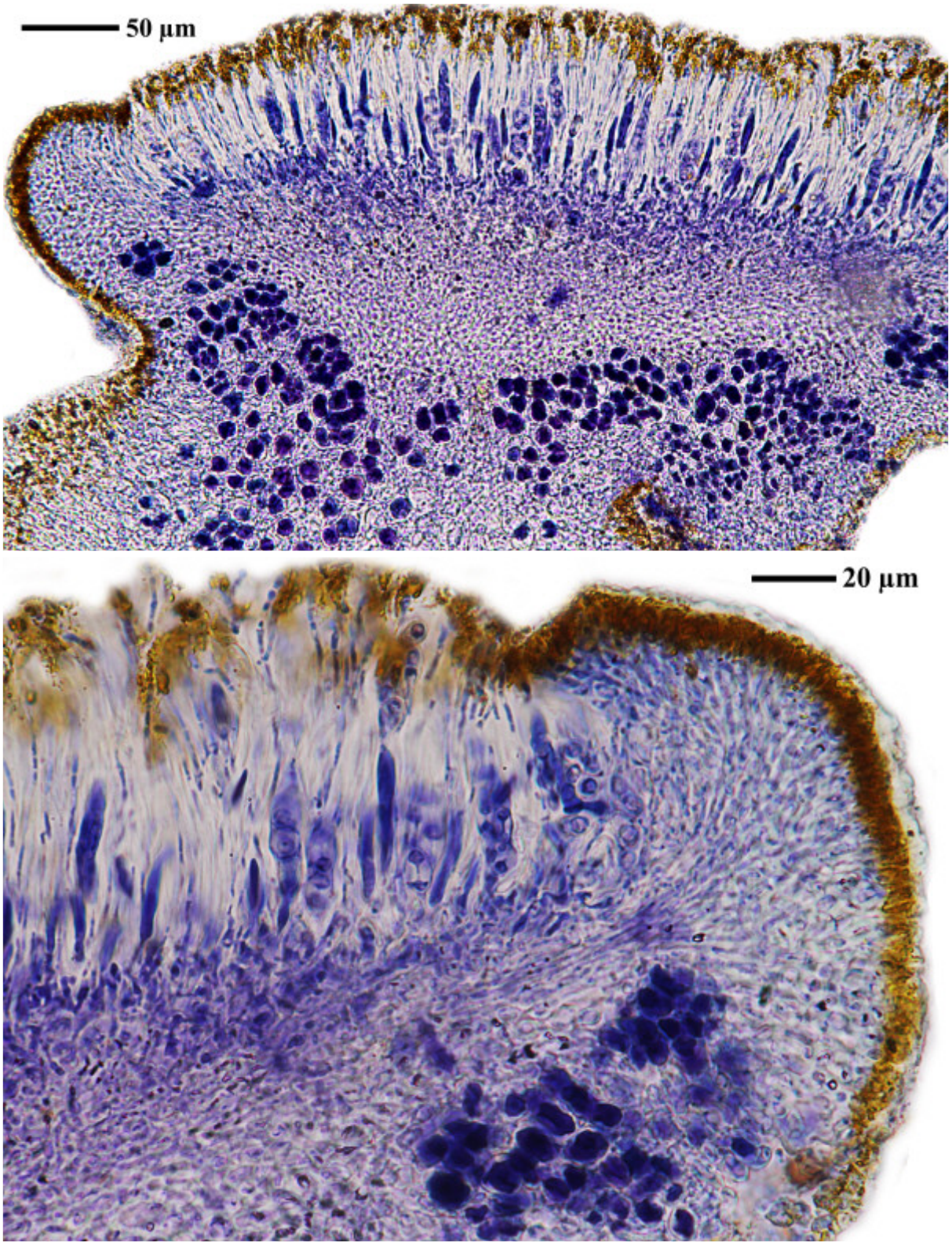




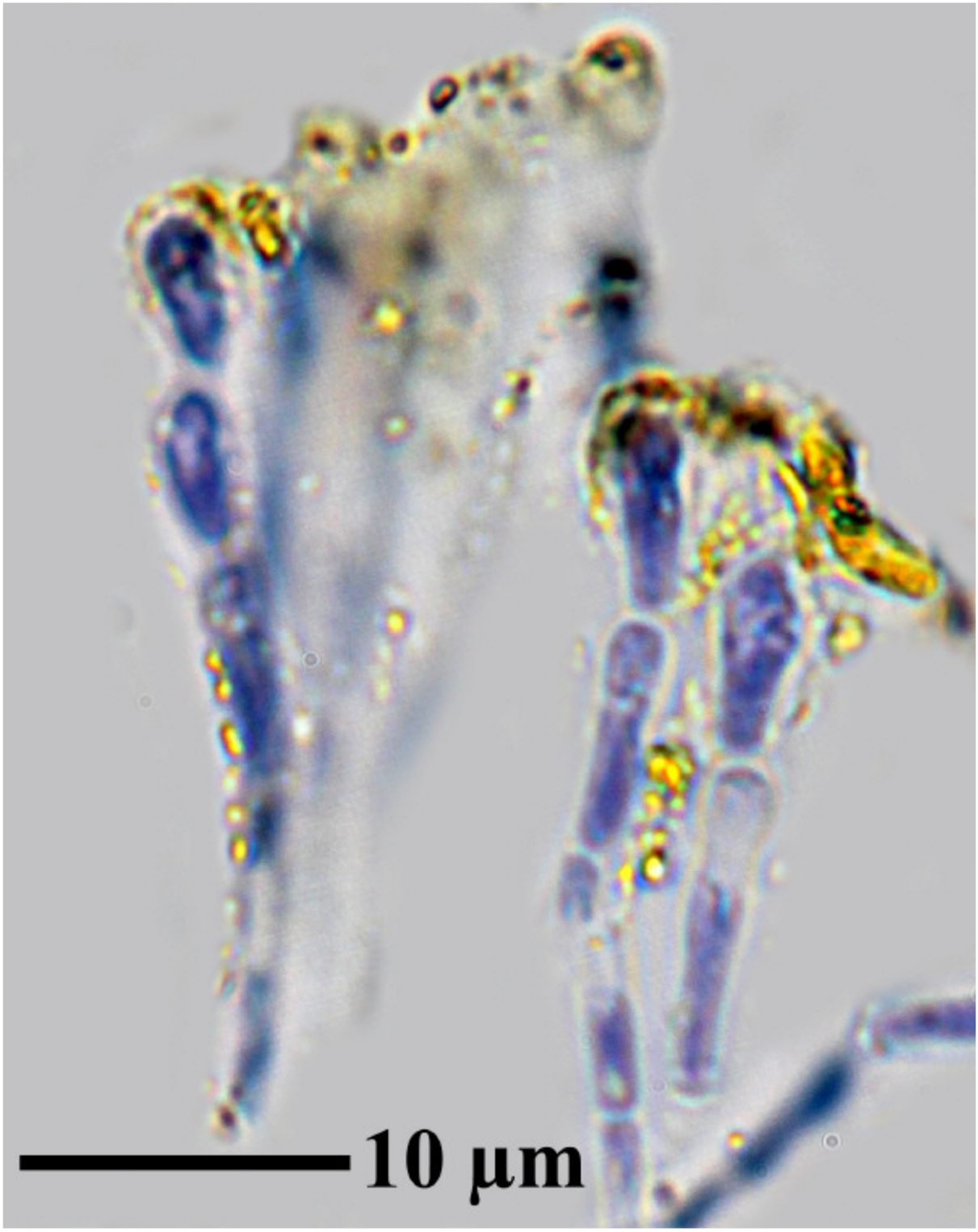
Caloplaca inconstans



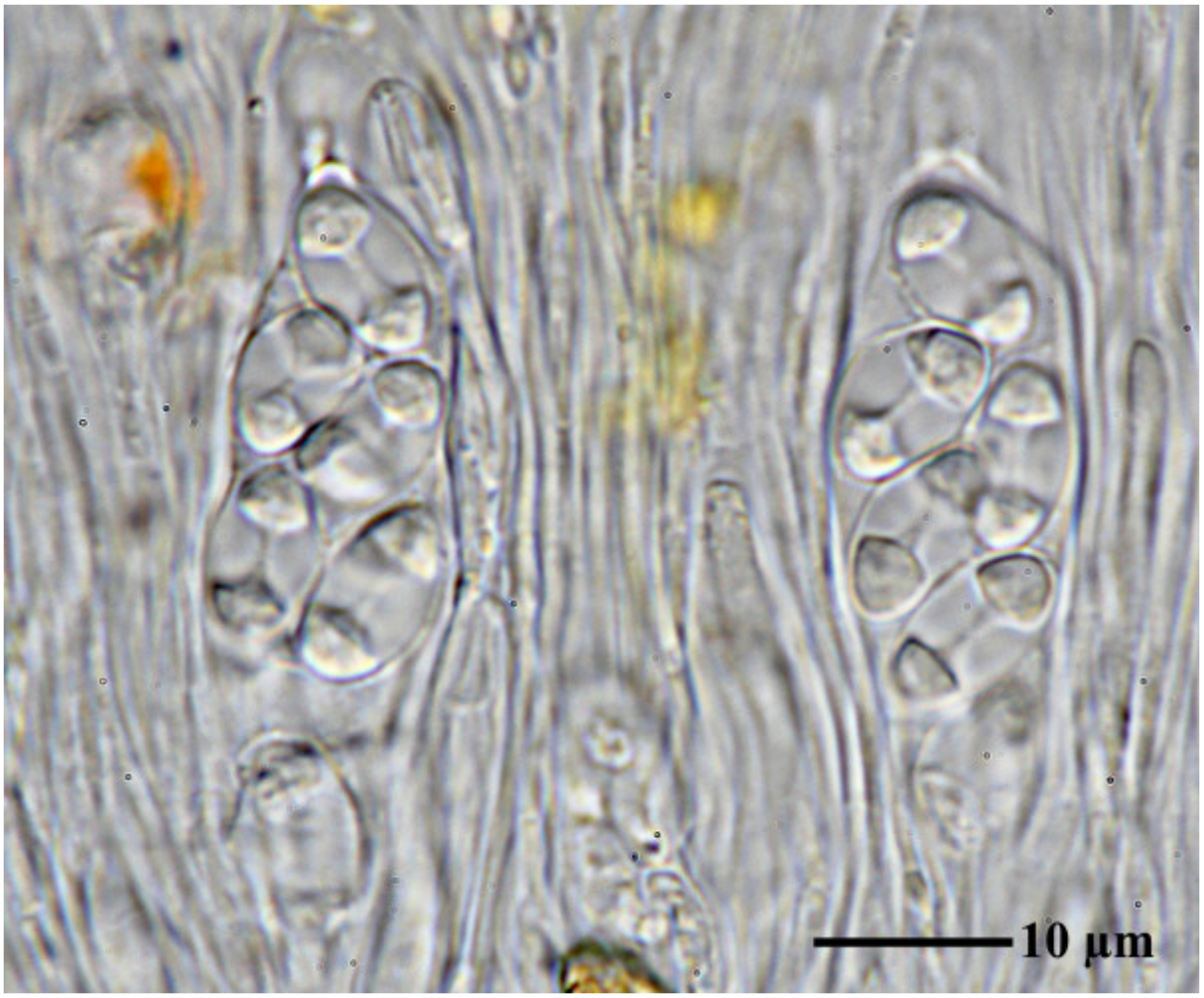
Caloplaca inconstans



Caloplaca inconstans



Caloplaca inconstans





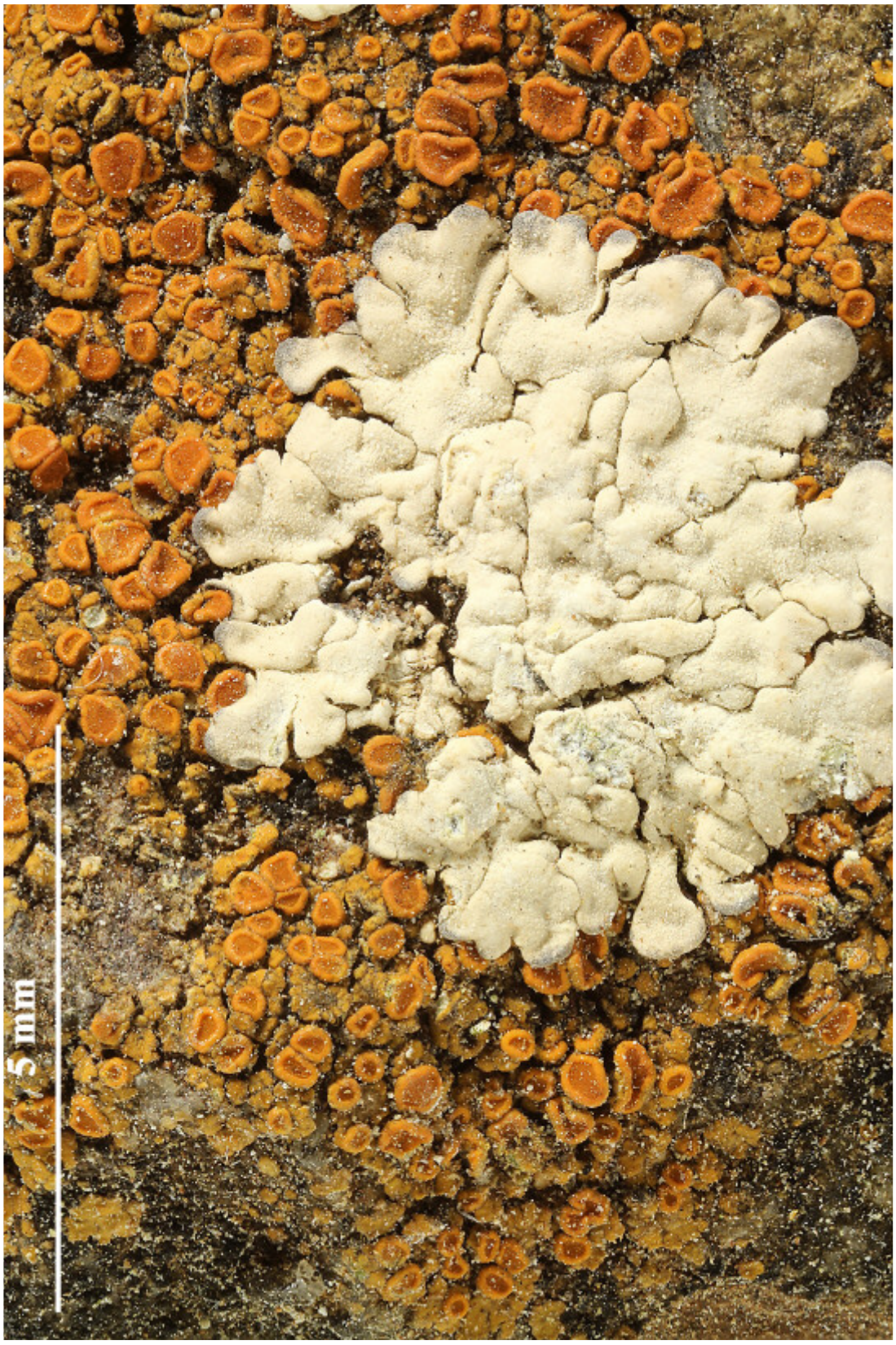


Caloplaca inconstans

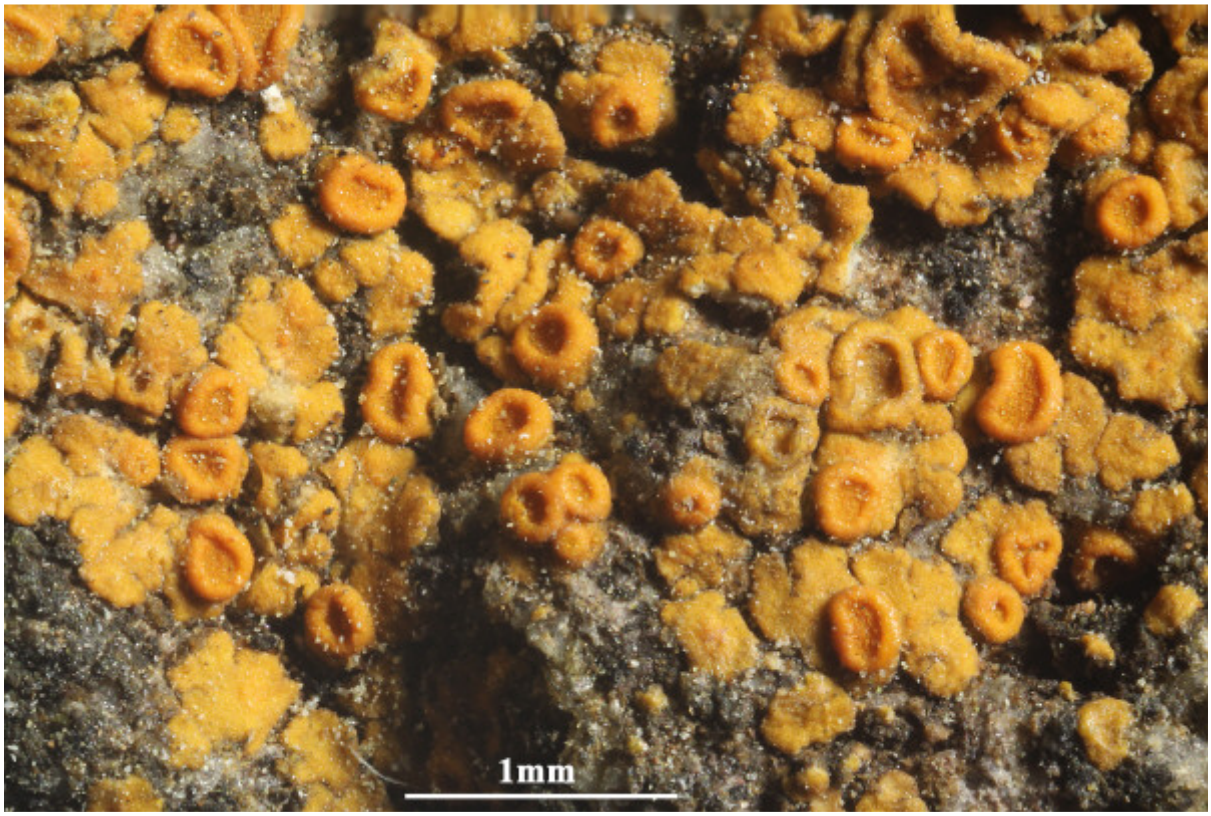
Caloplaca inconstans Zahlbr.

Spores 10-12 x 5-6 µm, septum long (AA).
9.5-11 x 3.5-5 µm, septum 3.5-5 µm (FS)

[BR5030036142585], USA, Hawaii, Oahu Island,Kailua, Kailua beach park, on volcanic rock. 21°25' N, 157°45' W, 2 m. Leg. A. & M. Aptroot (26326), 8-13. june 1989, det. A. Aptroot 1989.







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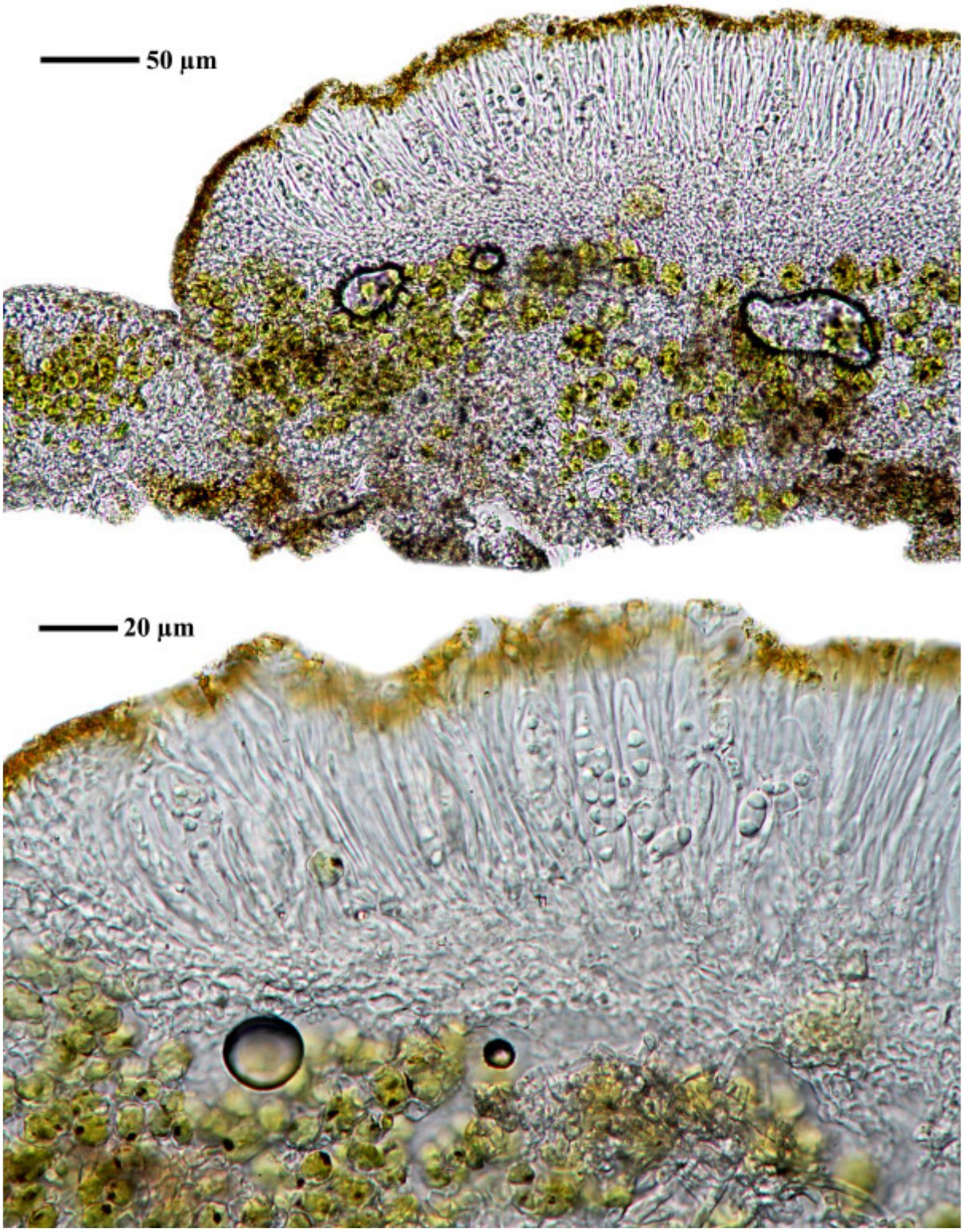

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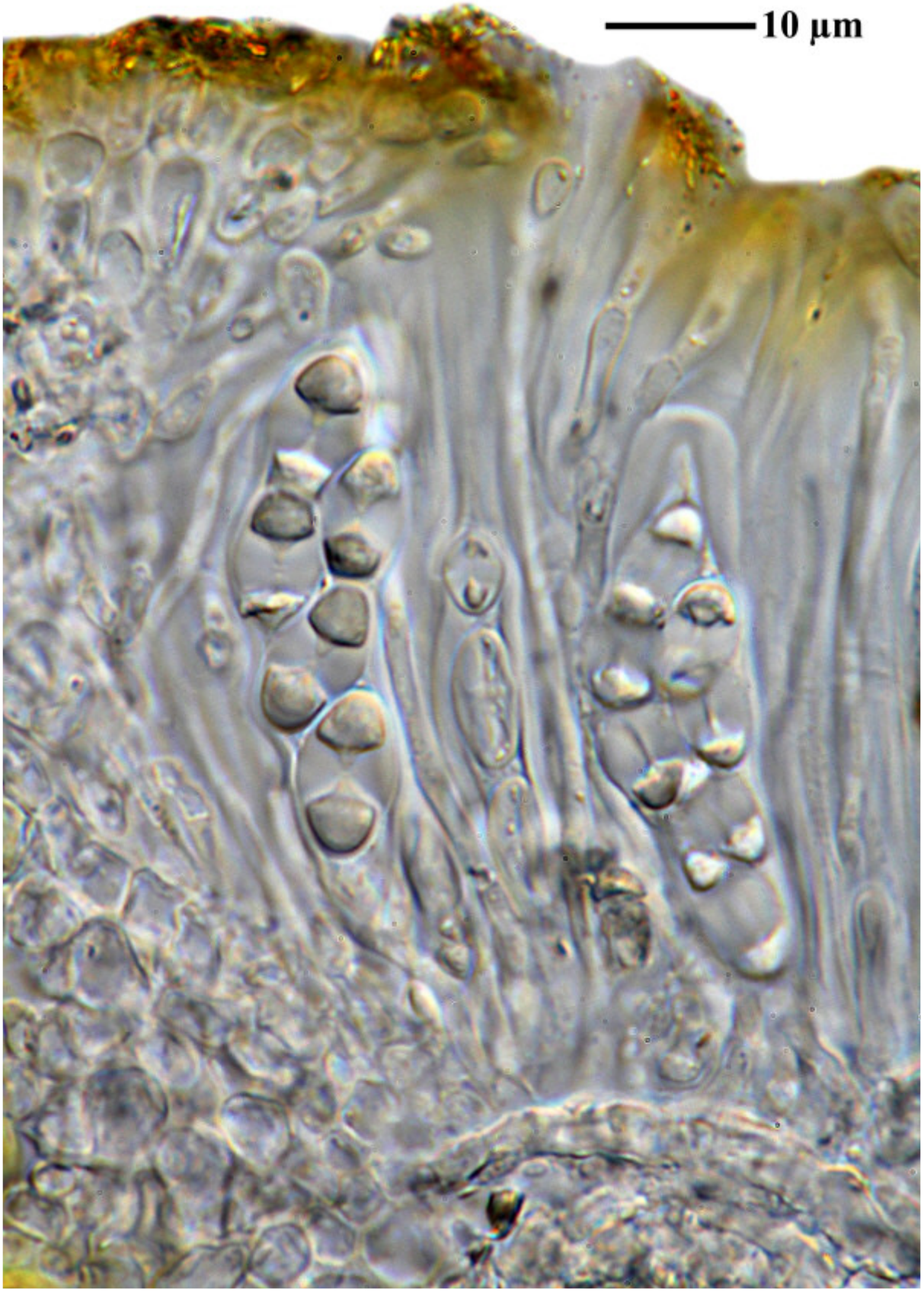
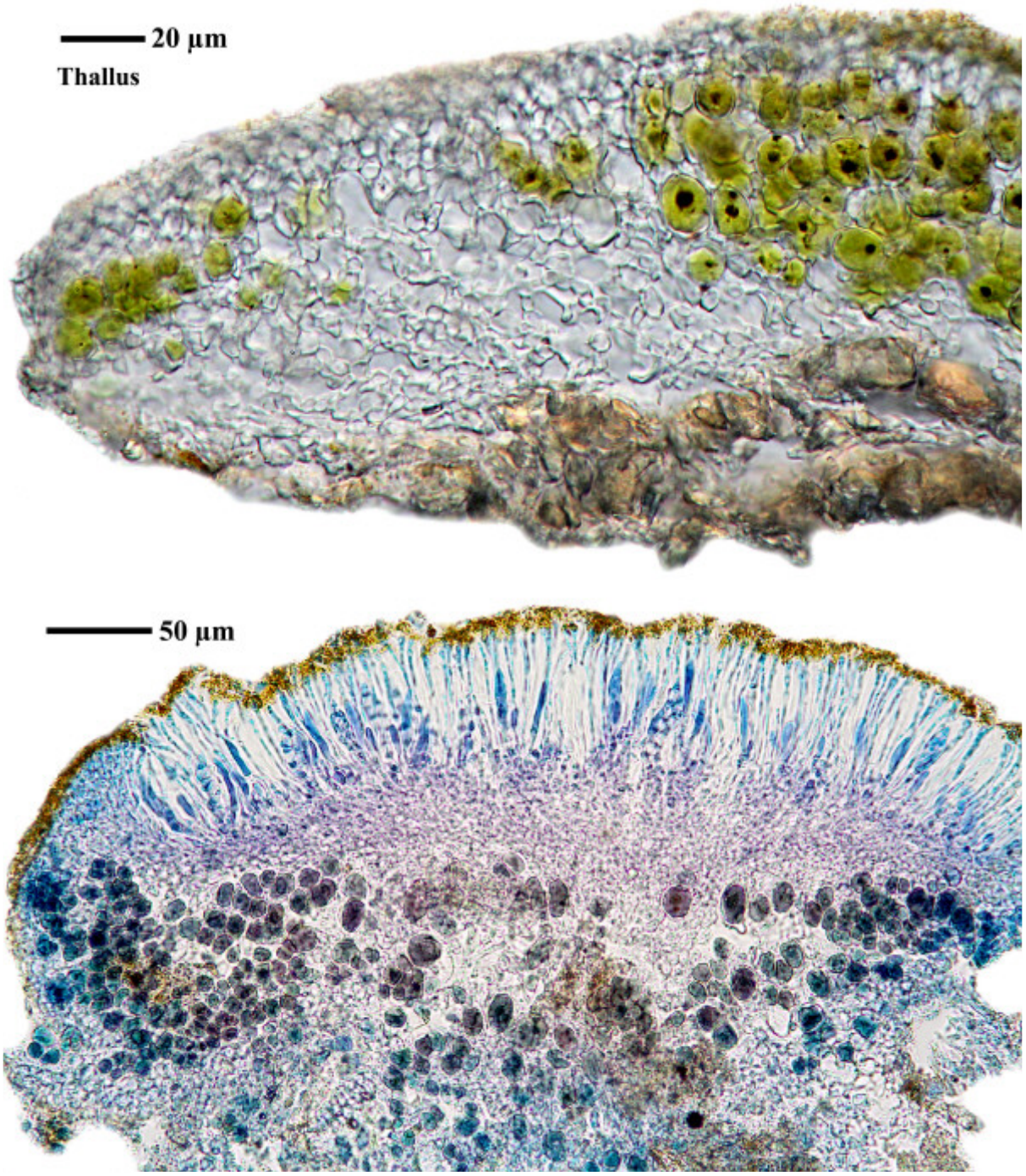


Caloplaca inconstans



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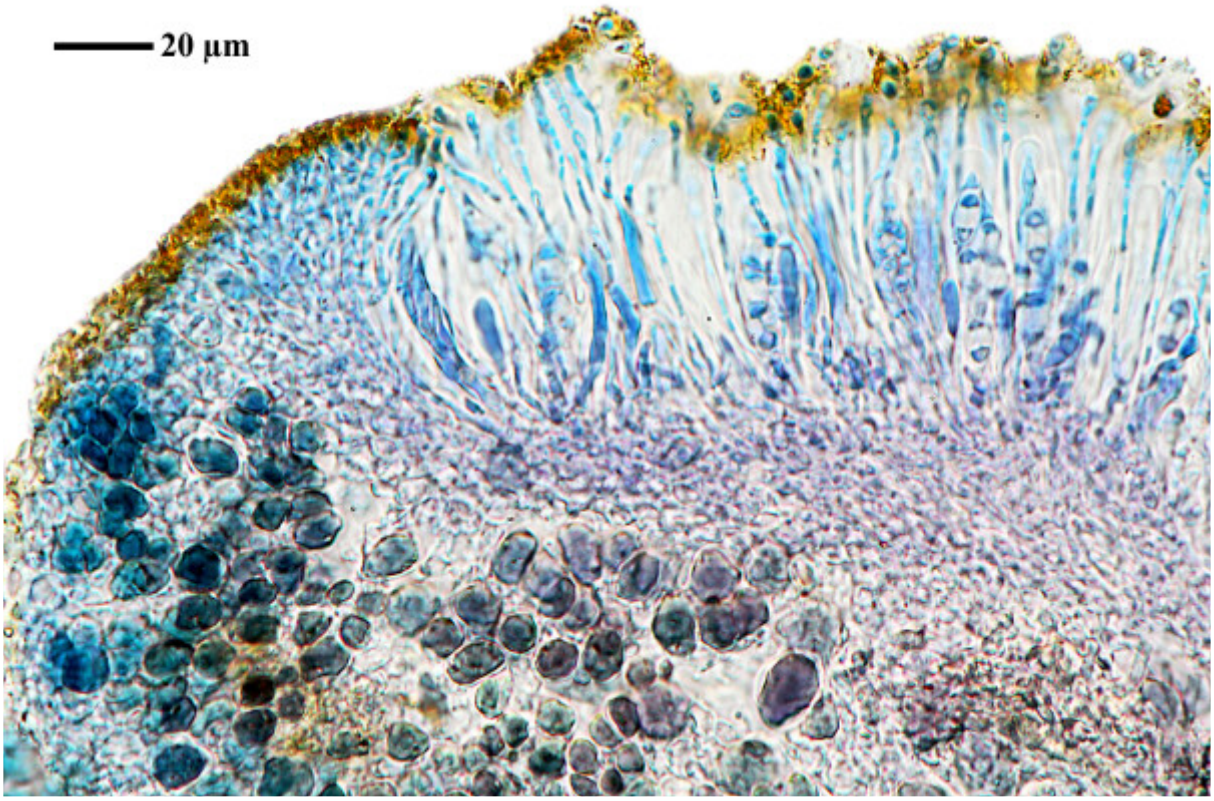
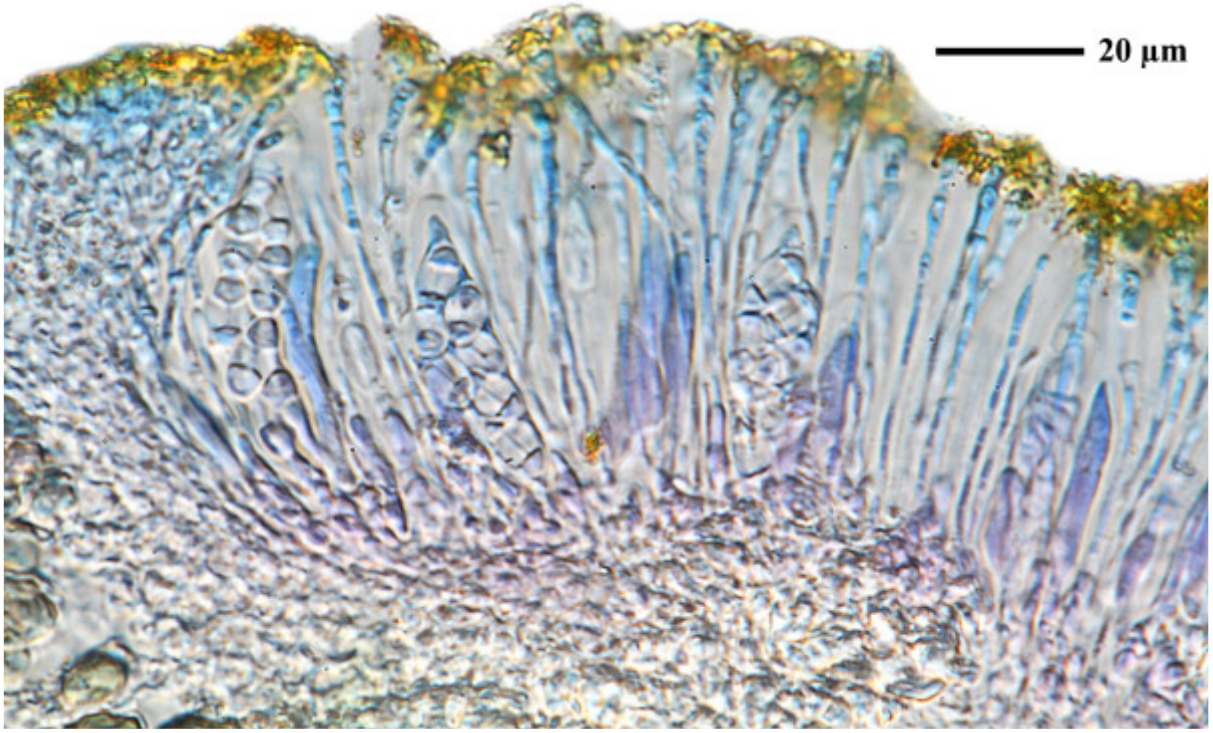
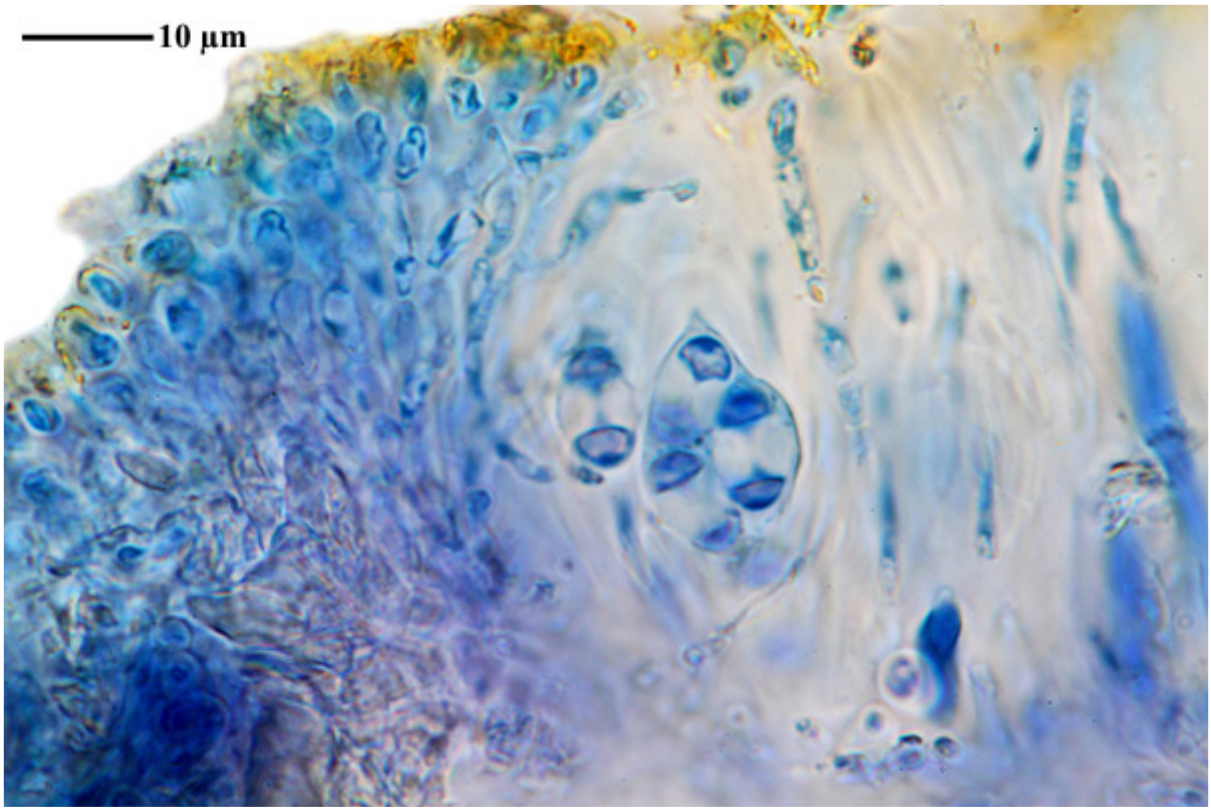
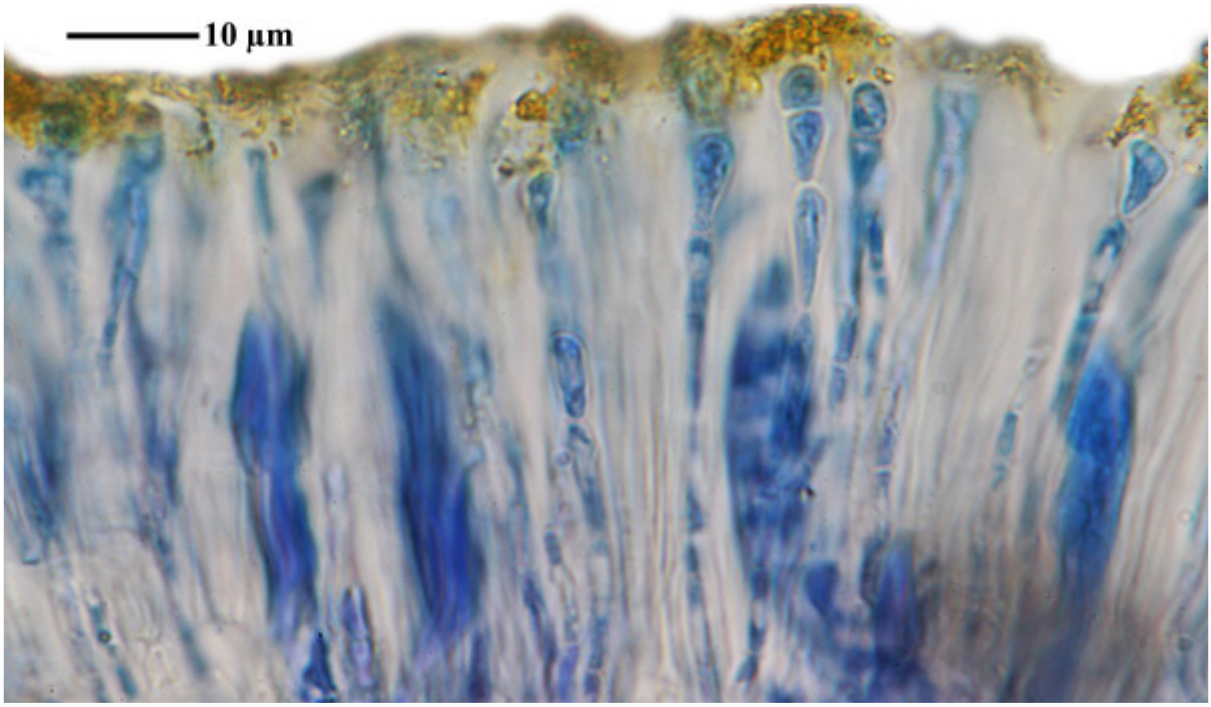




Caloplaca inconstans





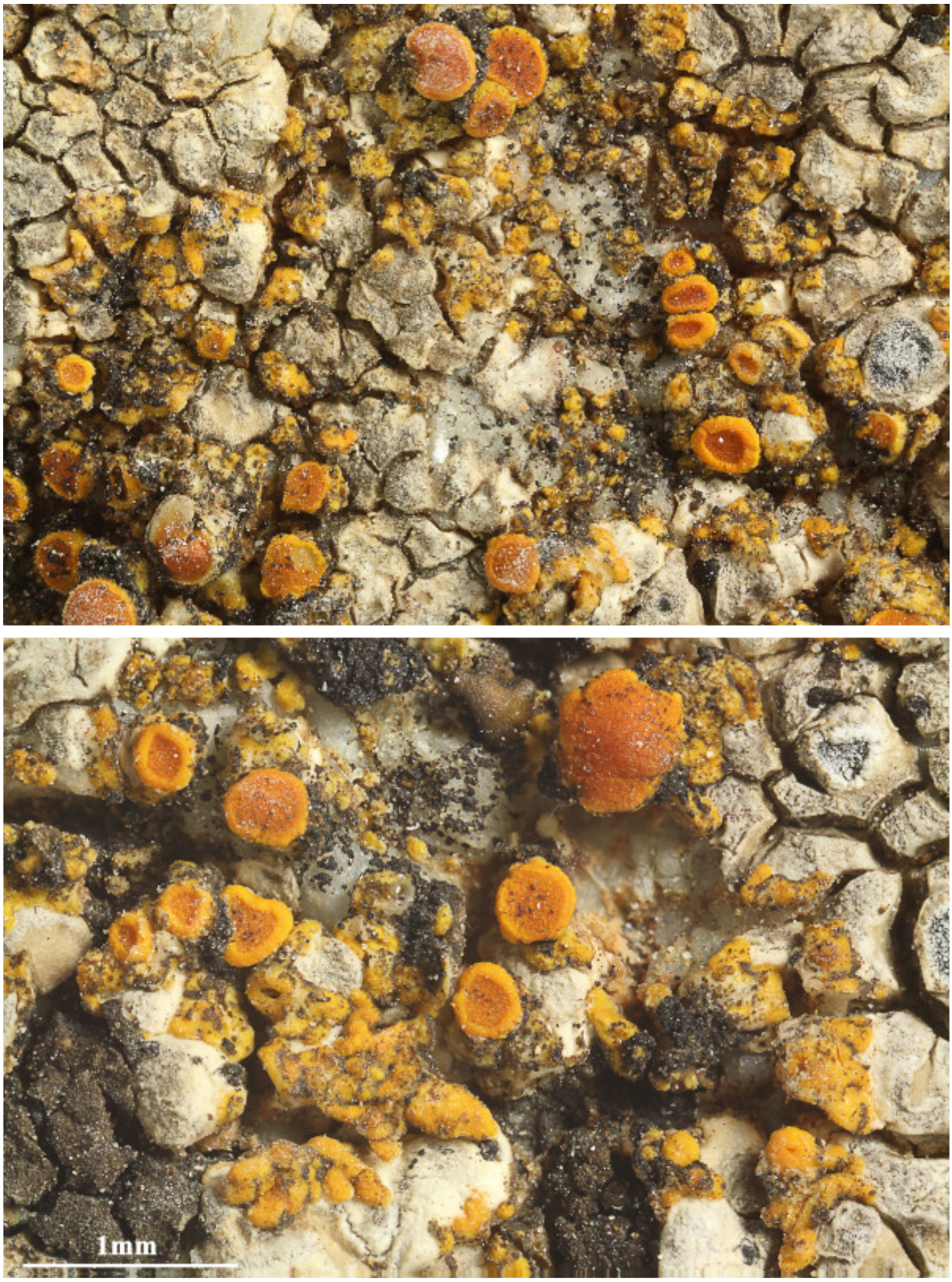
Caloplaca inconstans

Caloplaca insularis Poelt

On stone in *Aspicilia* sp.

[13574], Griechenland, S-Kreta, westl. des Psilorites Gebirges, zwischen Vizari und Fourfouras, 35°11.722' N, 24°43.610' E, 570 m. Leg. F. Schumm & R. Düll, 26.10.2007, det. F. Schumm 2007.



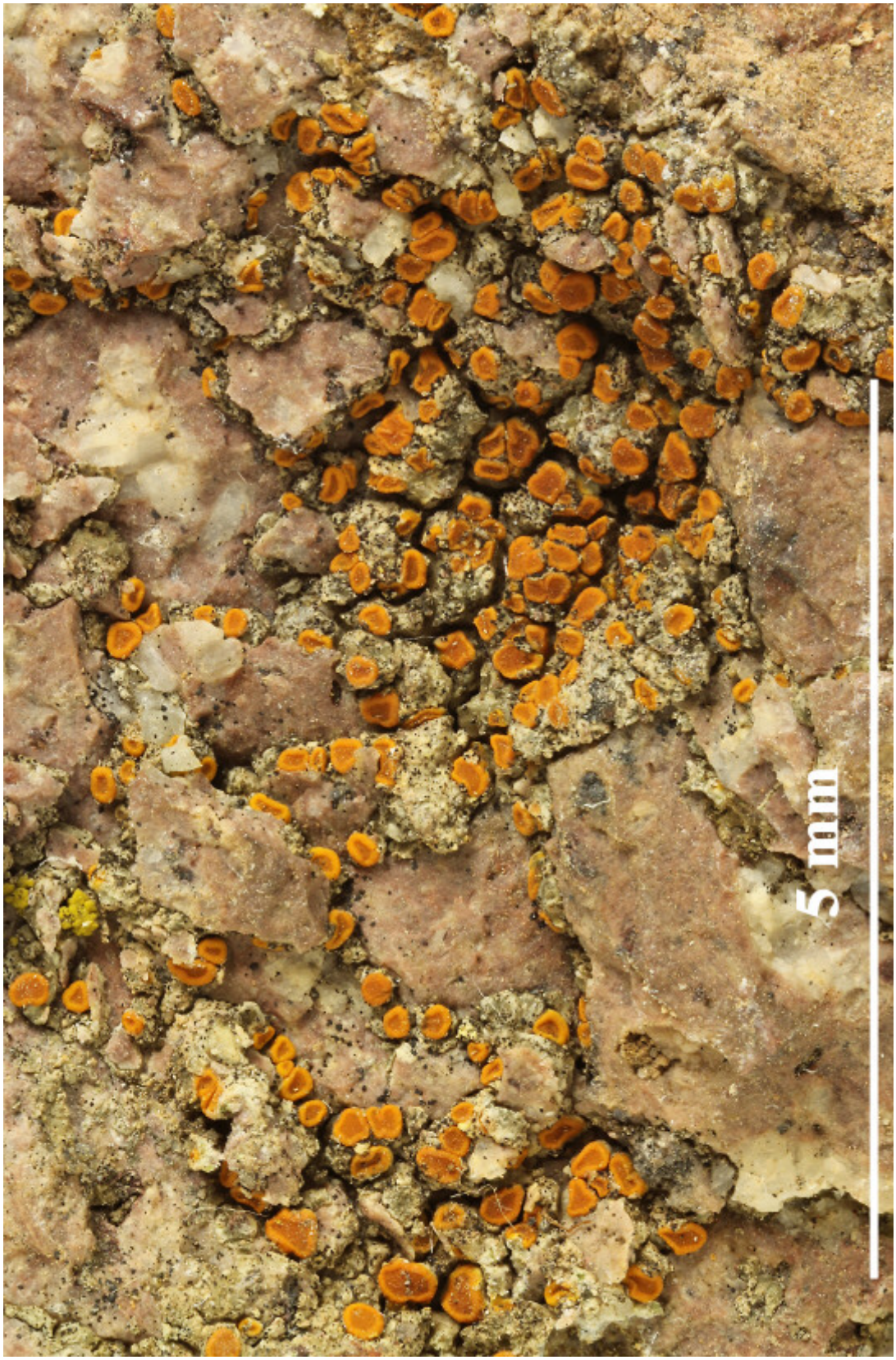


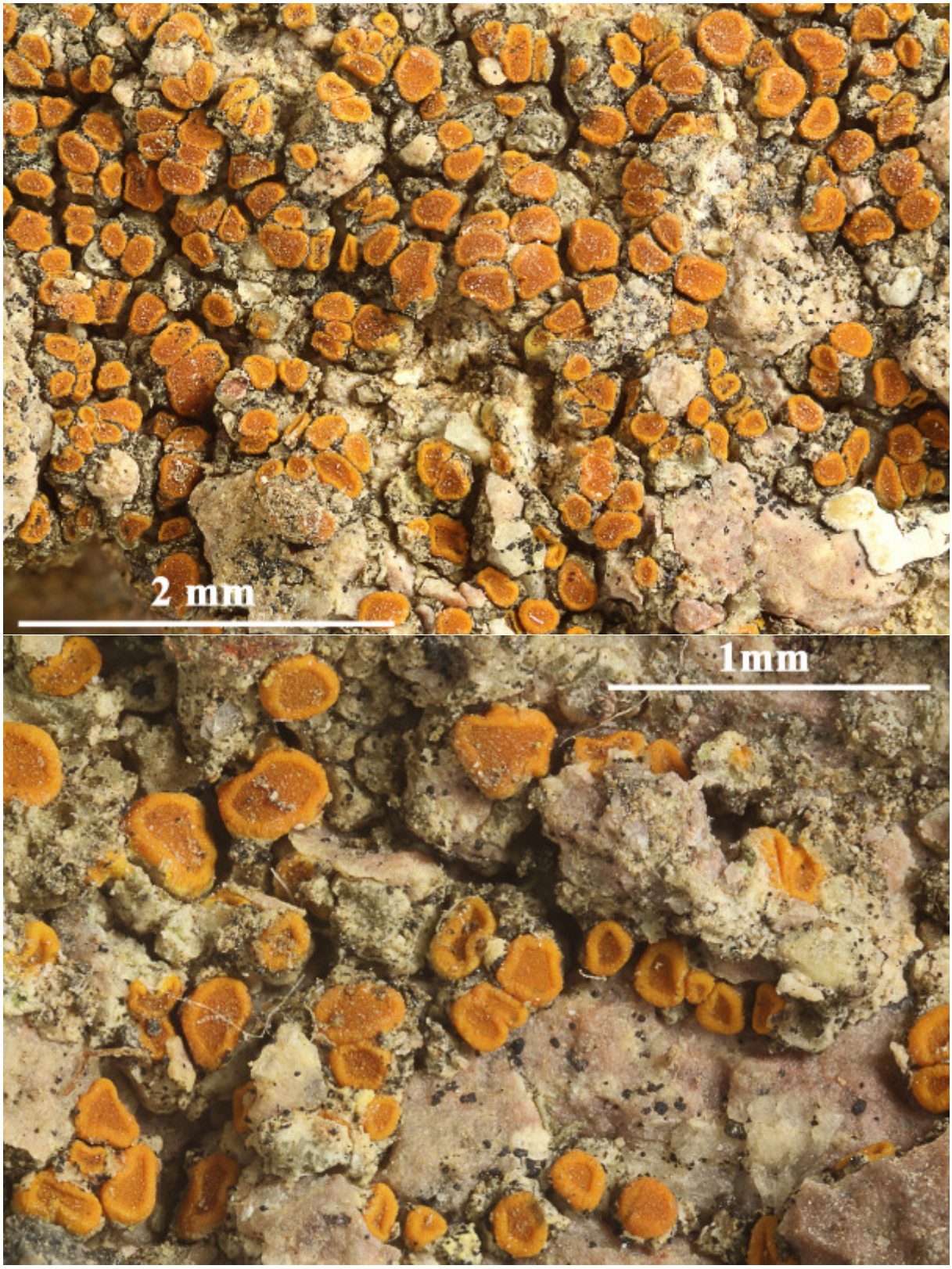
Caloplaca insularis

Caloplaca interna Poelt & Nimis, in Nimis & Poelt, Stud. Geobot. 7(suppl. 1): 67 (1987)

Spores 1-14 x 4-5 µm, septum c. 3 µm.

[TSB_13141], Italy, Sardinia, Prov. Nuoro, above Bortigali (Macomer) on trachytic rocks, parasite on *Aspicilia* sp. Leg. P.L. Nimis, Cl.Roux, M. Tretiach & A. Vězda, 05.09.1989





Caloplaca interna



Caloplaca interna

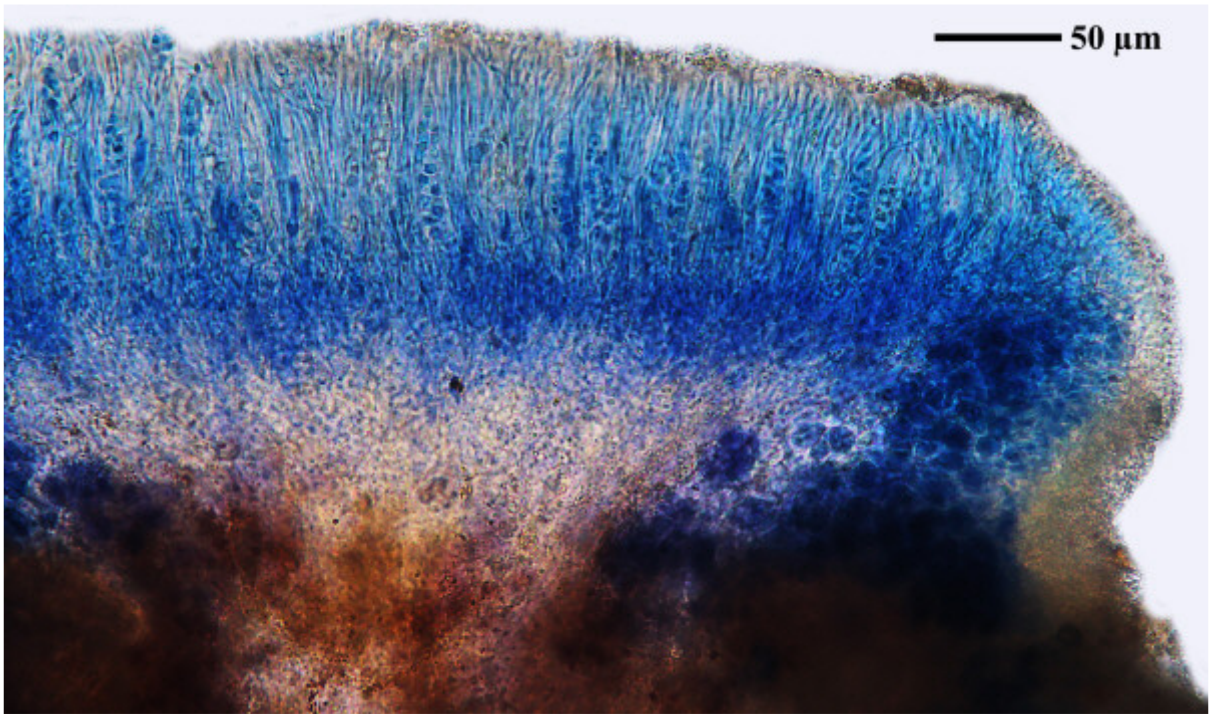
Caloplaca interveniens Müll. Arg.

Spores 11 x 6 µm (AA). Disc black, margin partly orange, K+ red. Hymenium 98µm; Spores 9-10 x 5-6 µm, septum 2.5-4 µm (FS)

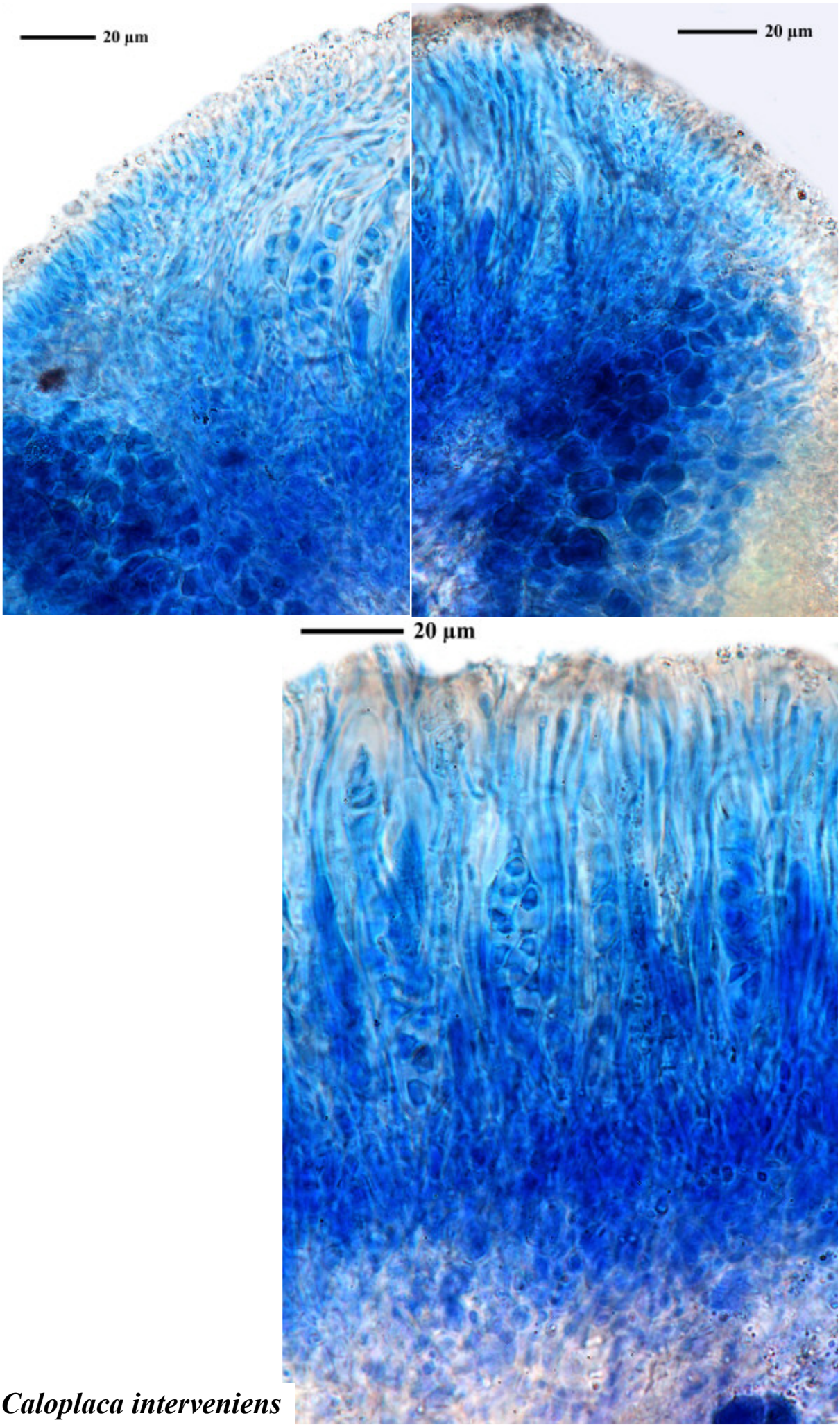
[BR5030036143599], Israel, Mizpé Ramon in the central Negev, on limestone along wadi, 30°38’ n, 34°56’ S, 500 m. Leg. C.M. van Herk, 5.2.1996, det. A. Aptroot 1996.



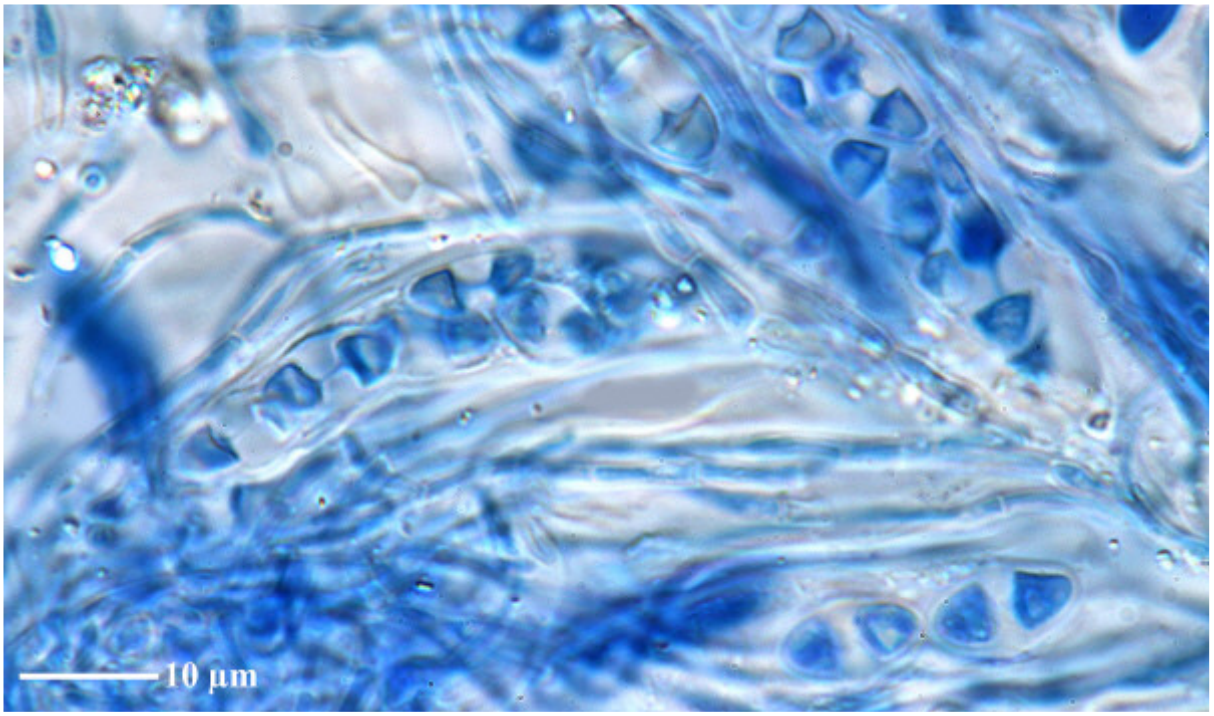


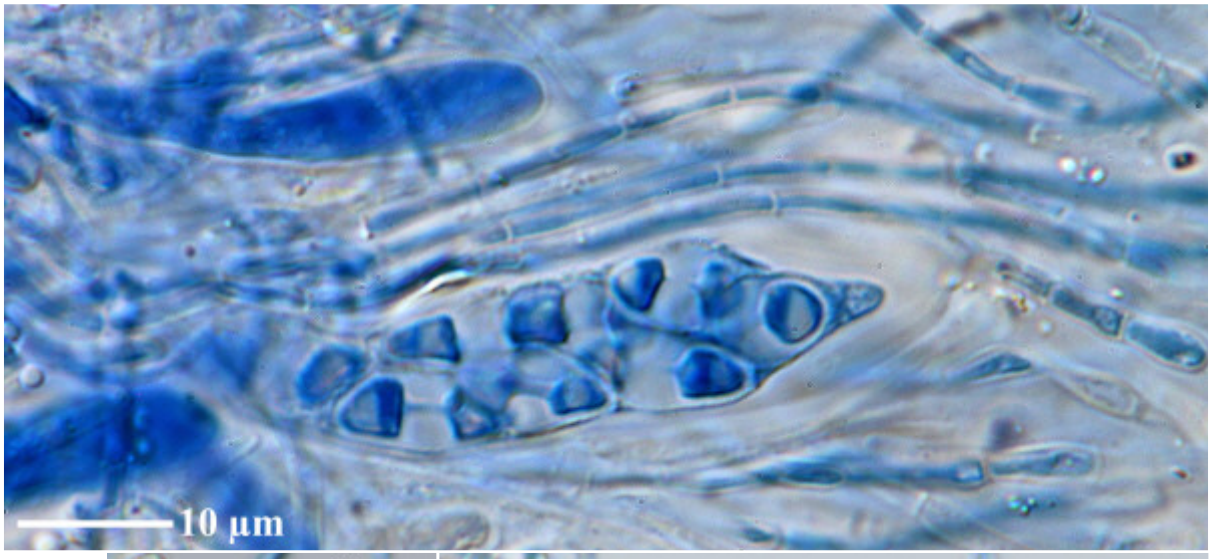


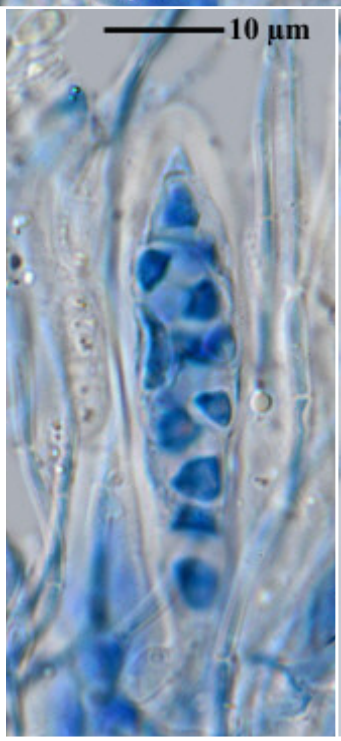
Caloplaca interveniens



Caloplaca interveniens

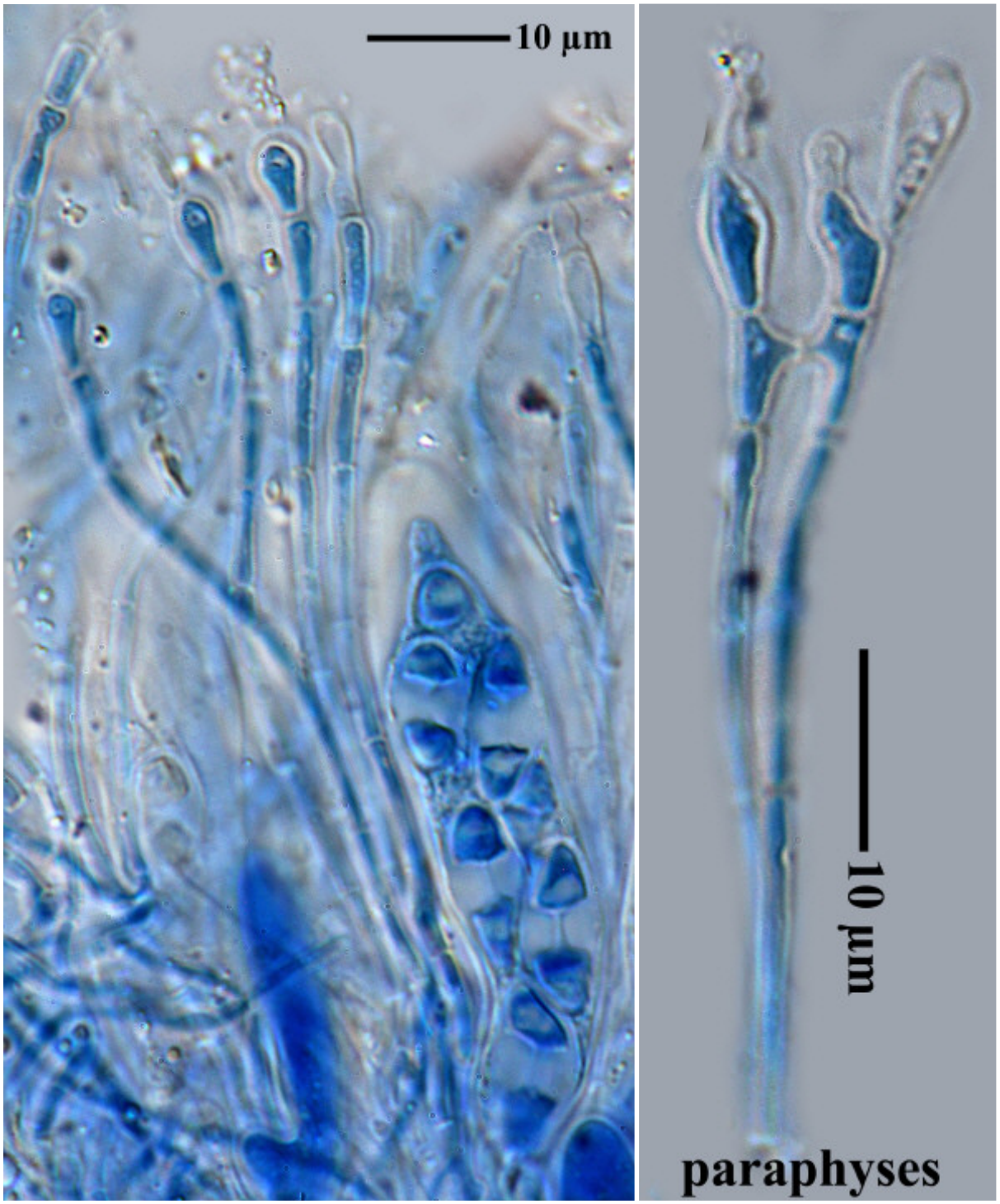


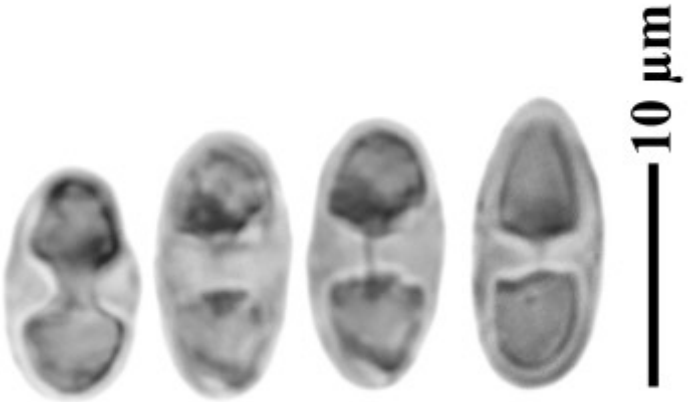




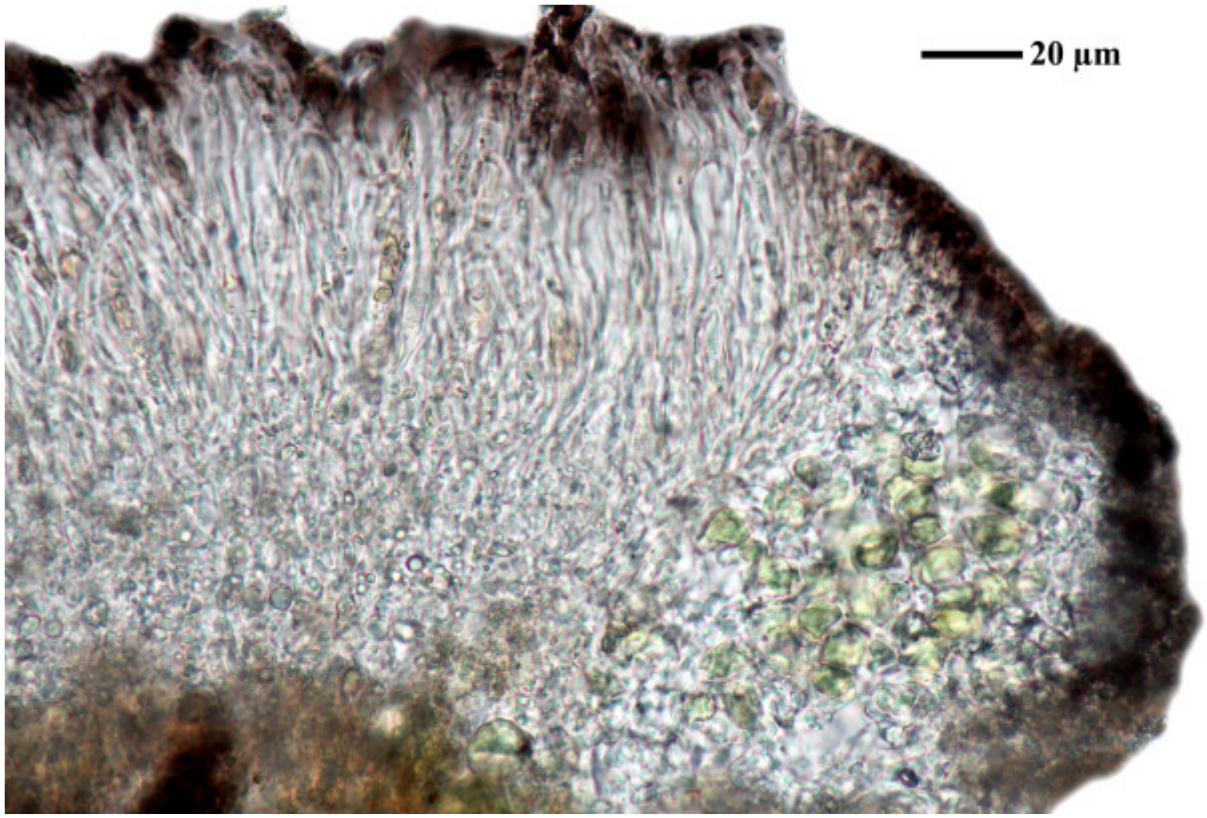


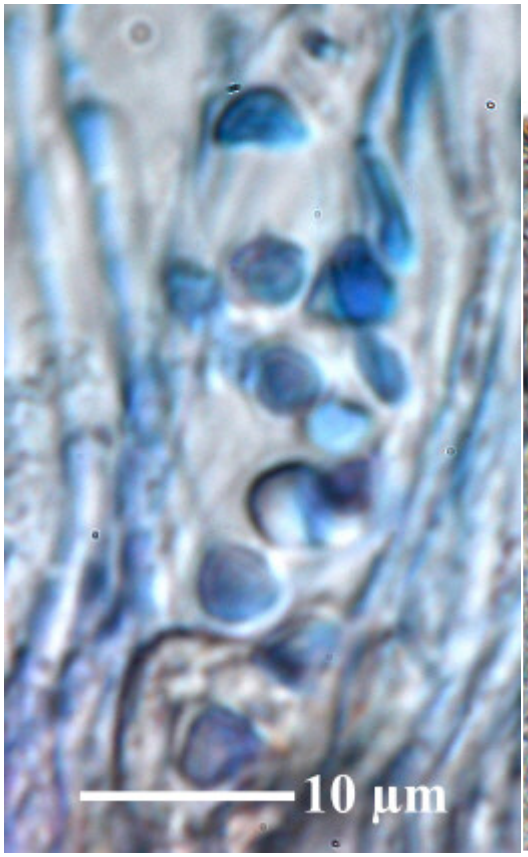
Caloplaca interveniens

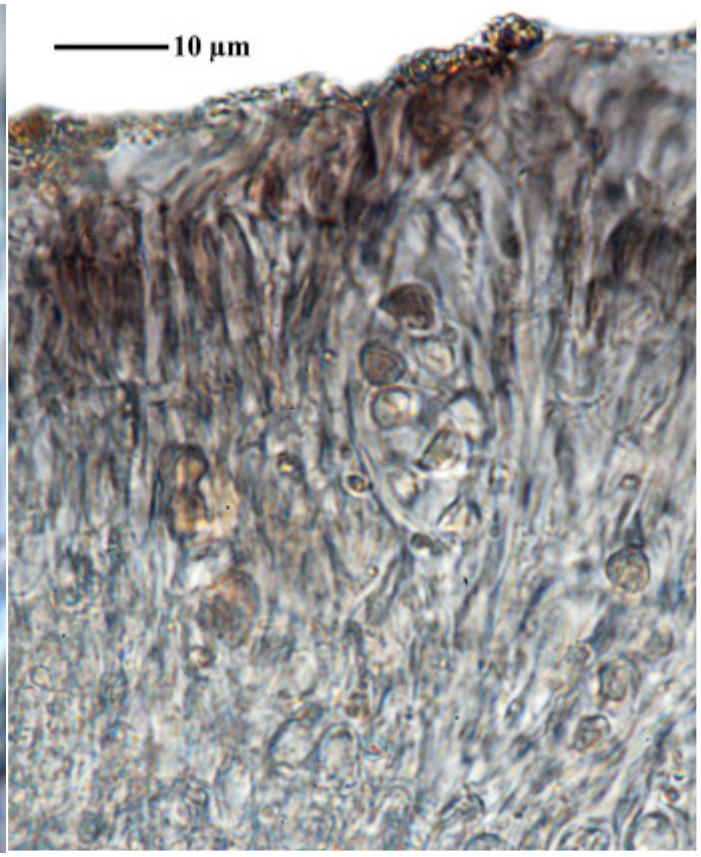




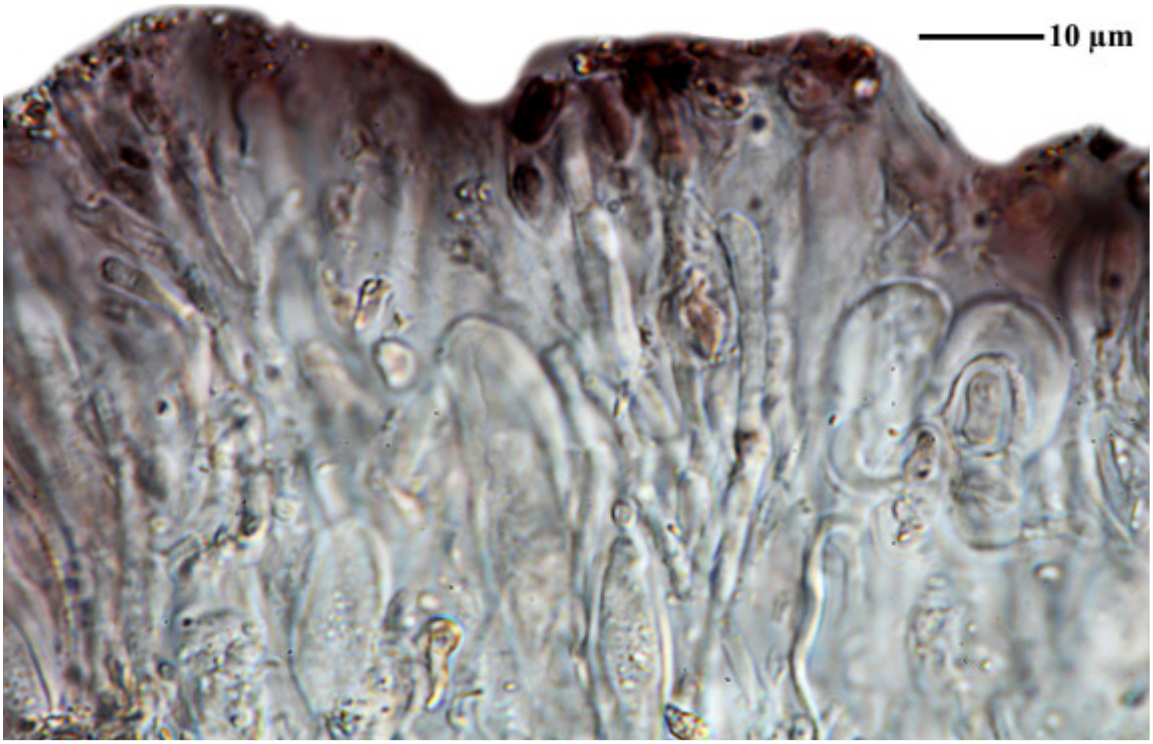
Caloplaca interveniens

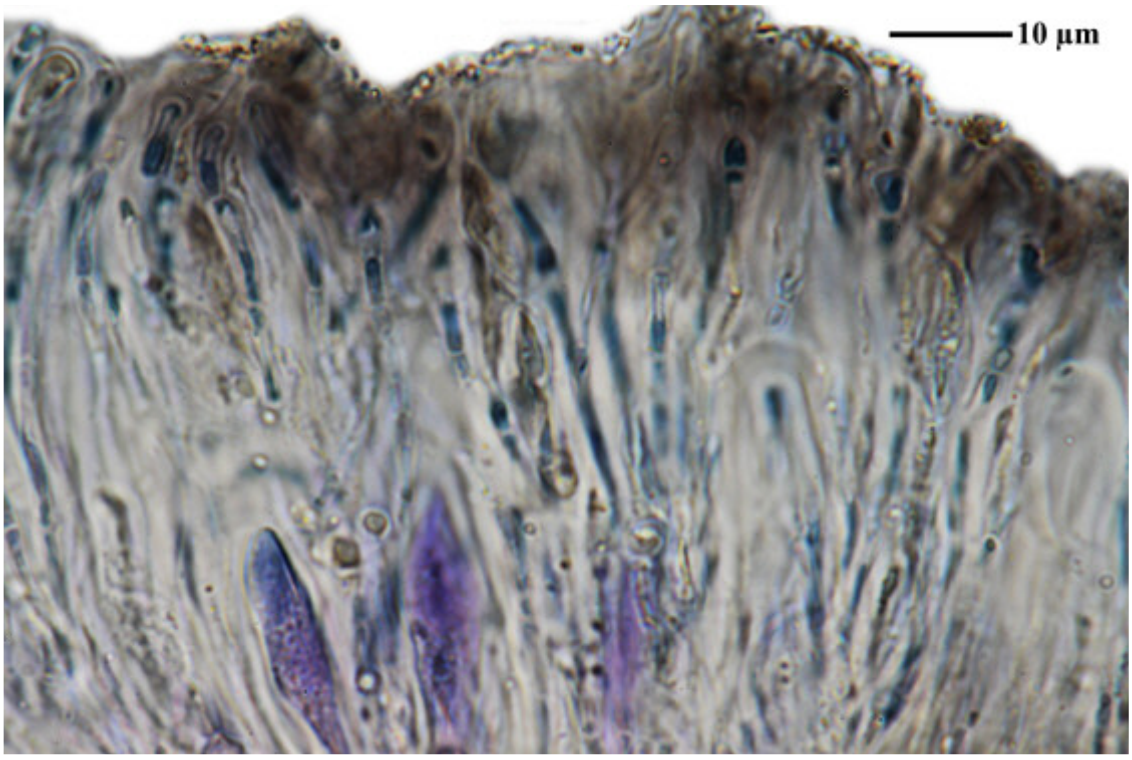






Caloplaca interveniens





Caloplaca interveniens

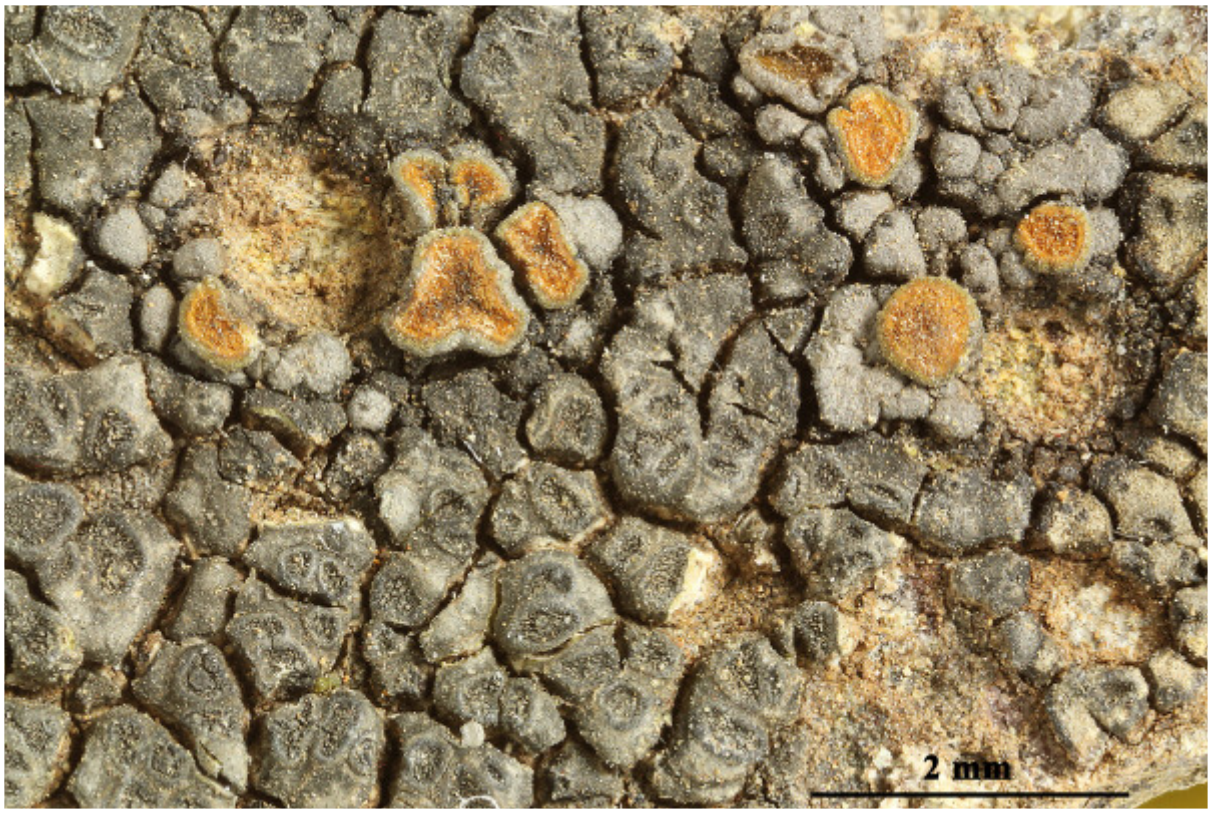
Caloplaca isabellina Poelt & Hinter.

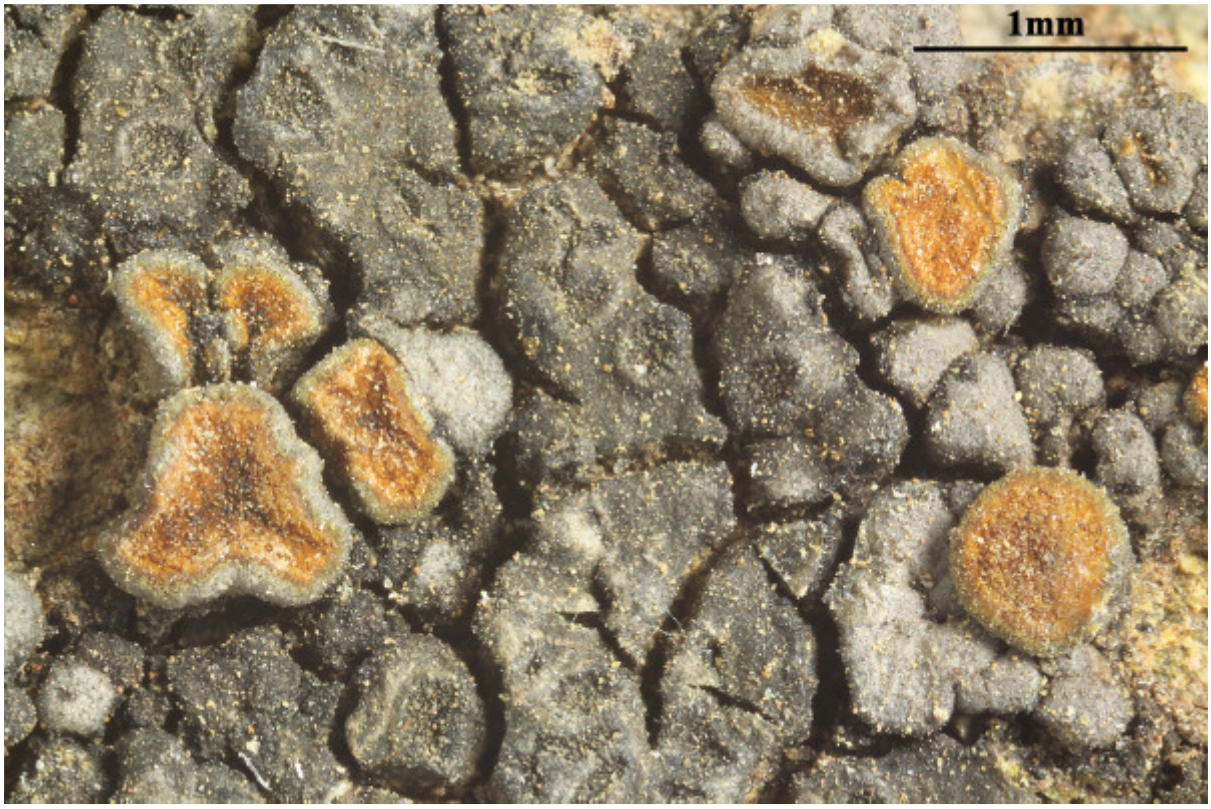
Spores c. 9-10.5 x 6.5-8 µm, septum 4.5-5.5 µm; lichenicolous on *Aspicilia*

[BR5030067315583], China, Yunnan Prov., Hequin Co., Song Guei village, sclerophyll shrub with widely scattered Keteleeria trees on deeply guilled slope above highway between Lijiang and Dali. 26°12'54" N, 100°09'39" E, 2400 m, on shale. Leg. A. Aptroot (56204), 21. October 2002, det. A. Aptroot 2003.

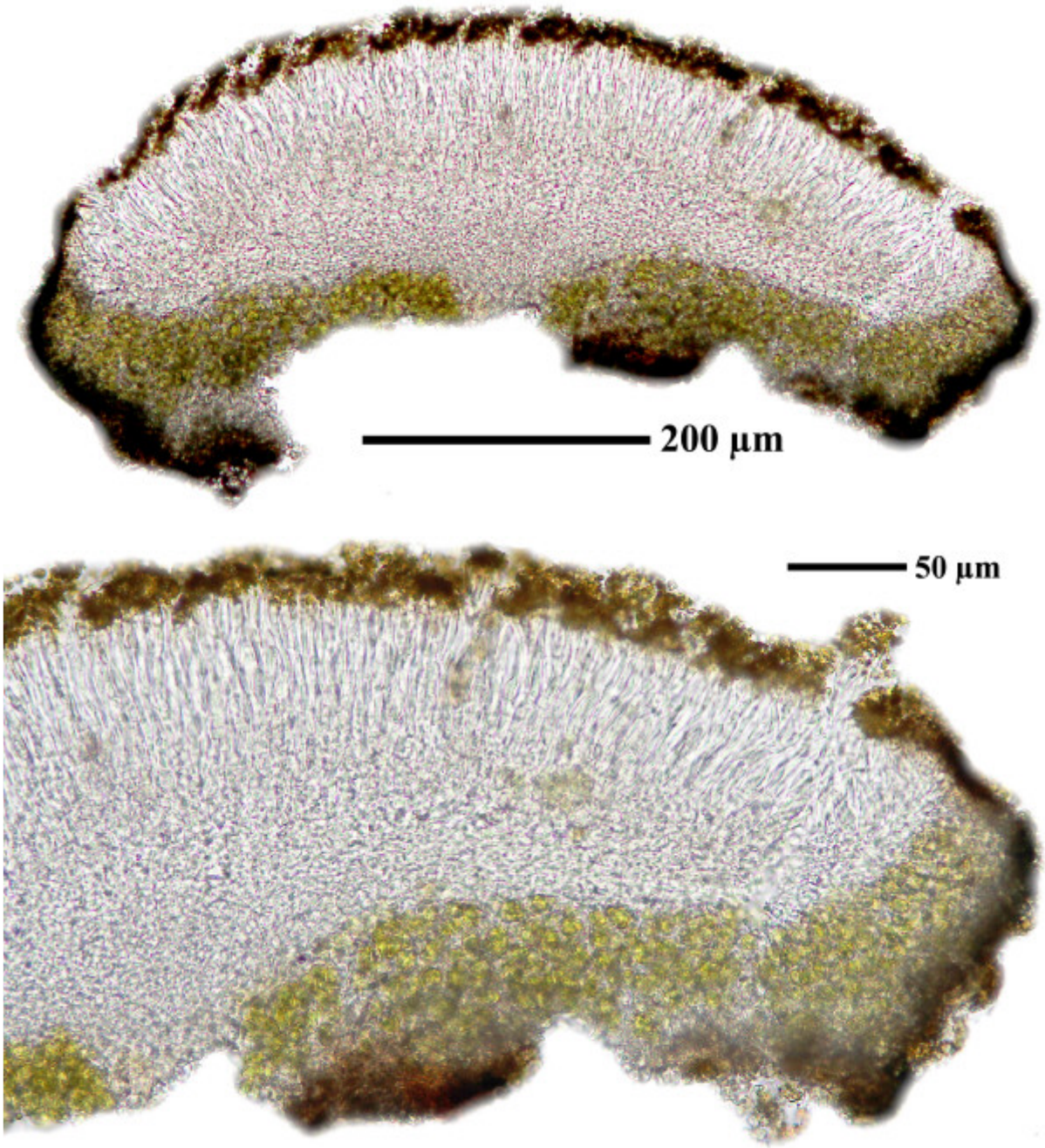




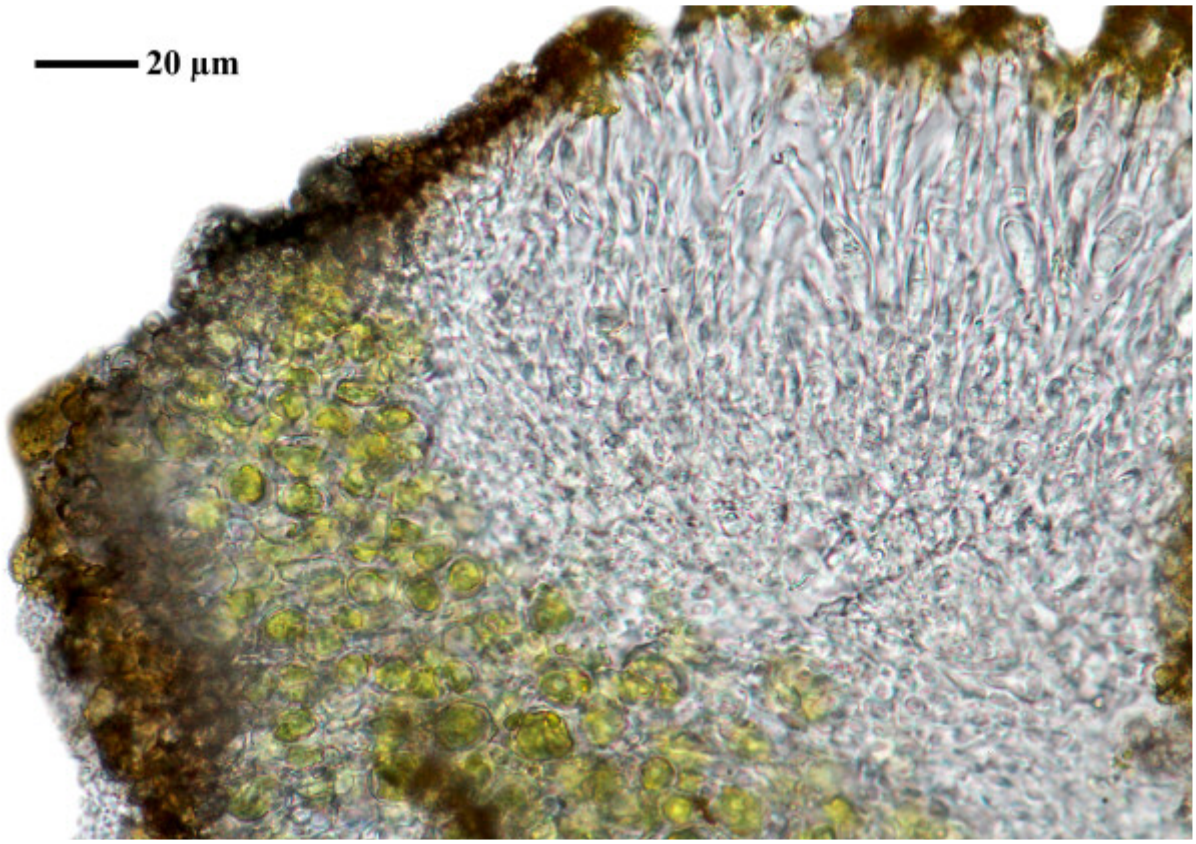


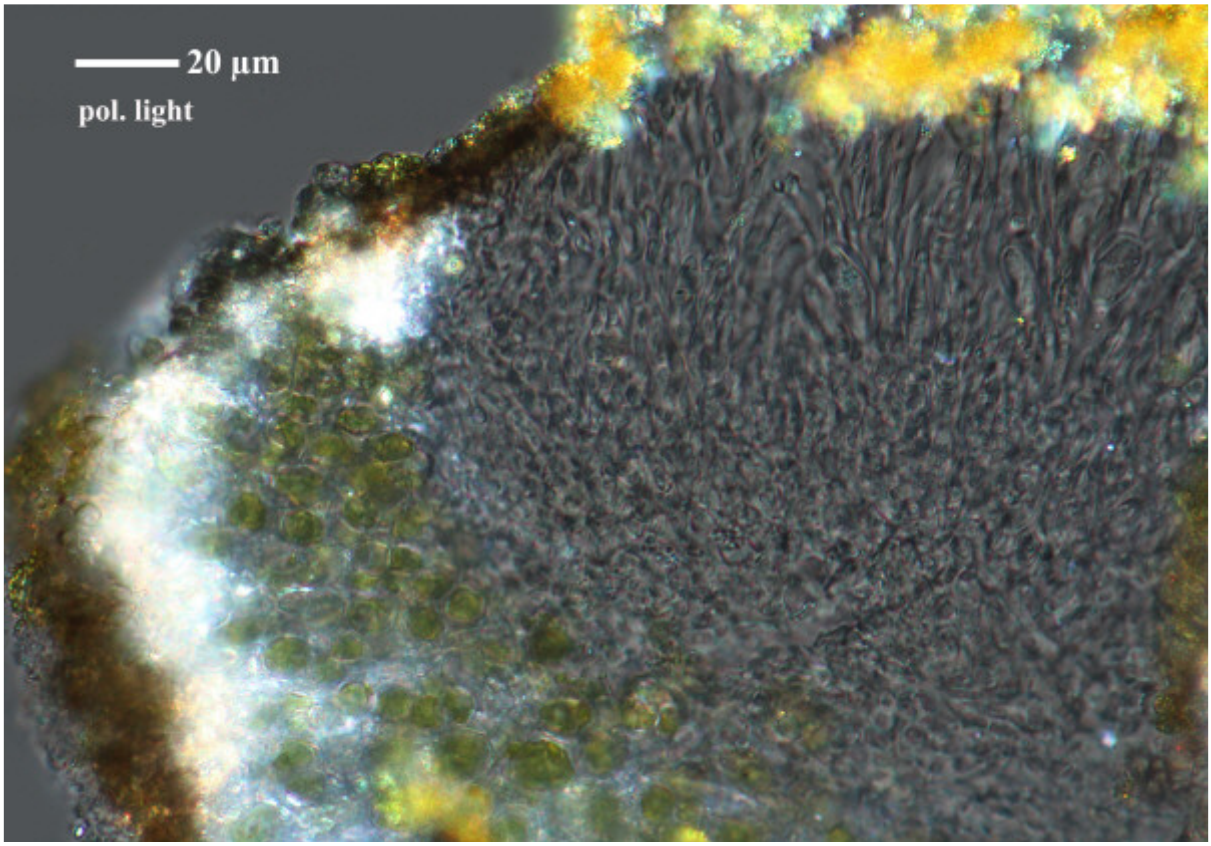


Caloplaca isabellina

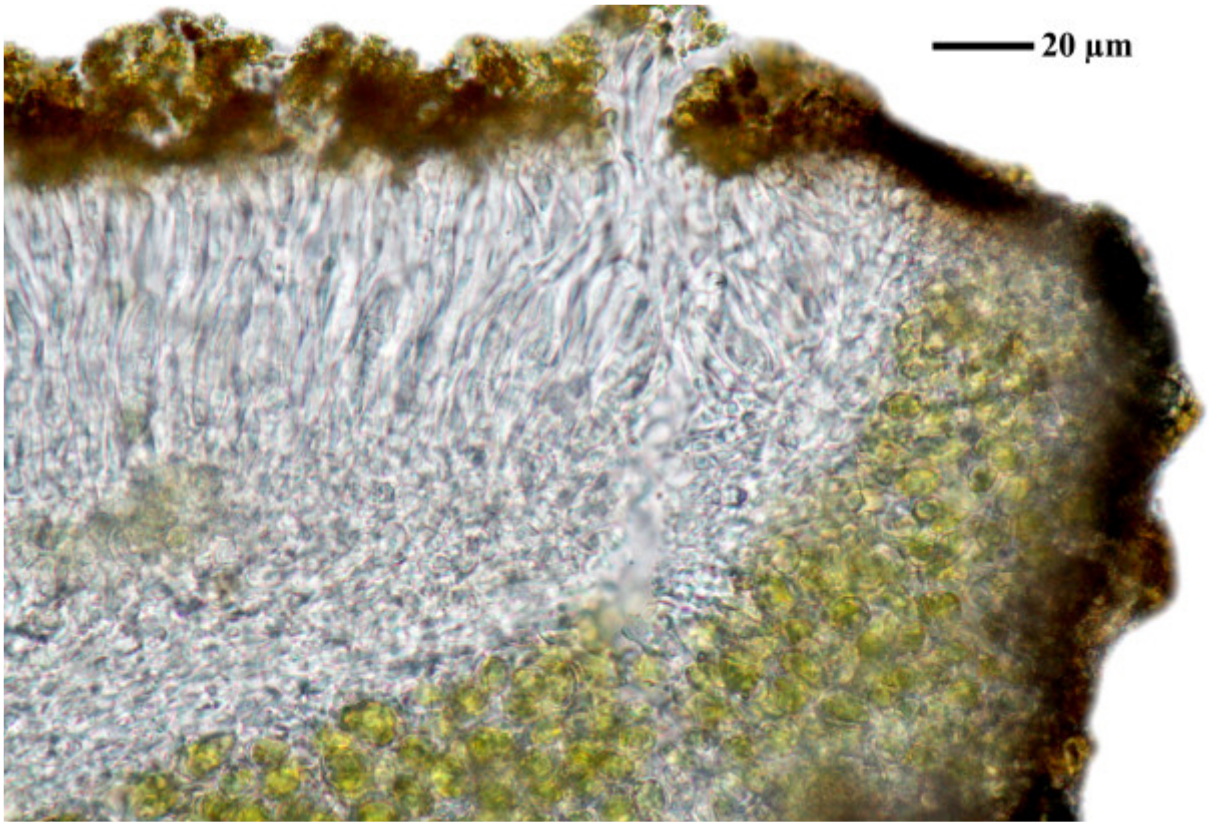


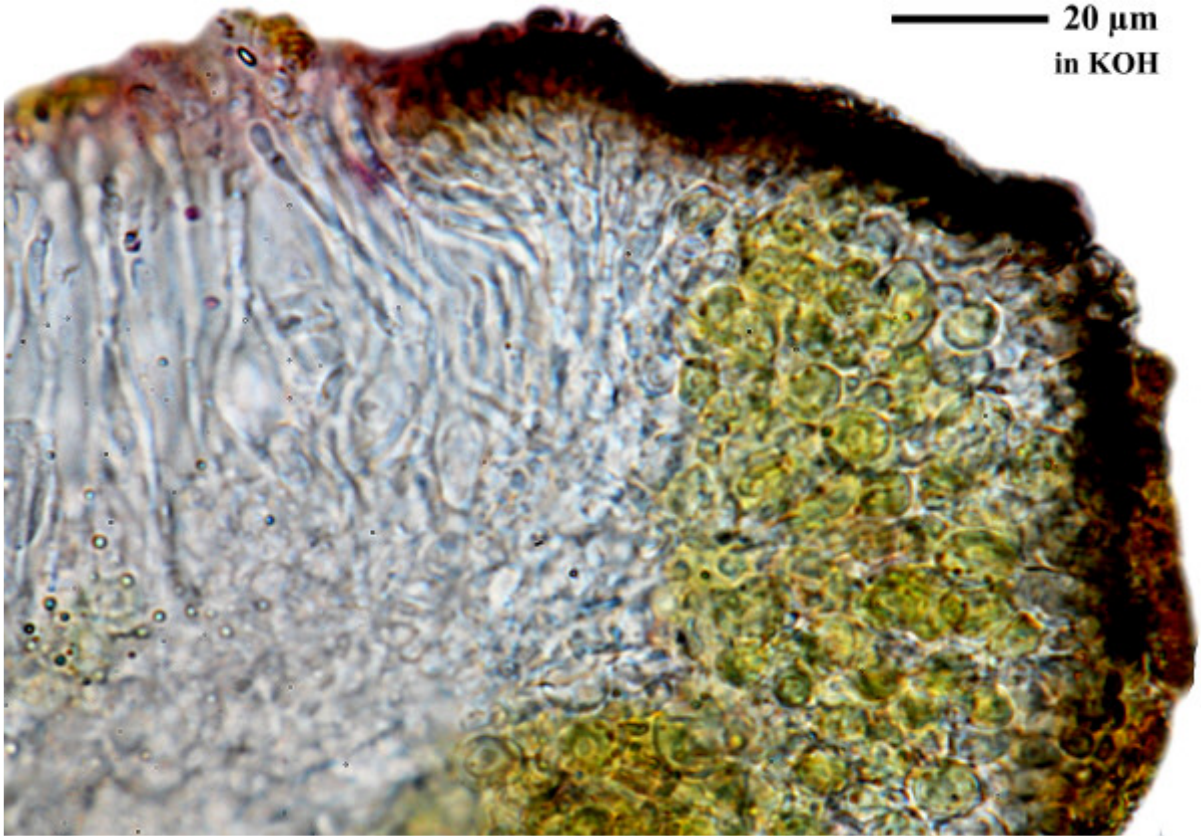
Caloplaca isabellina



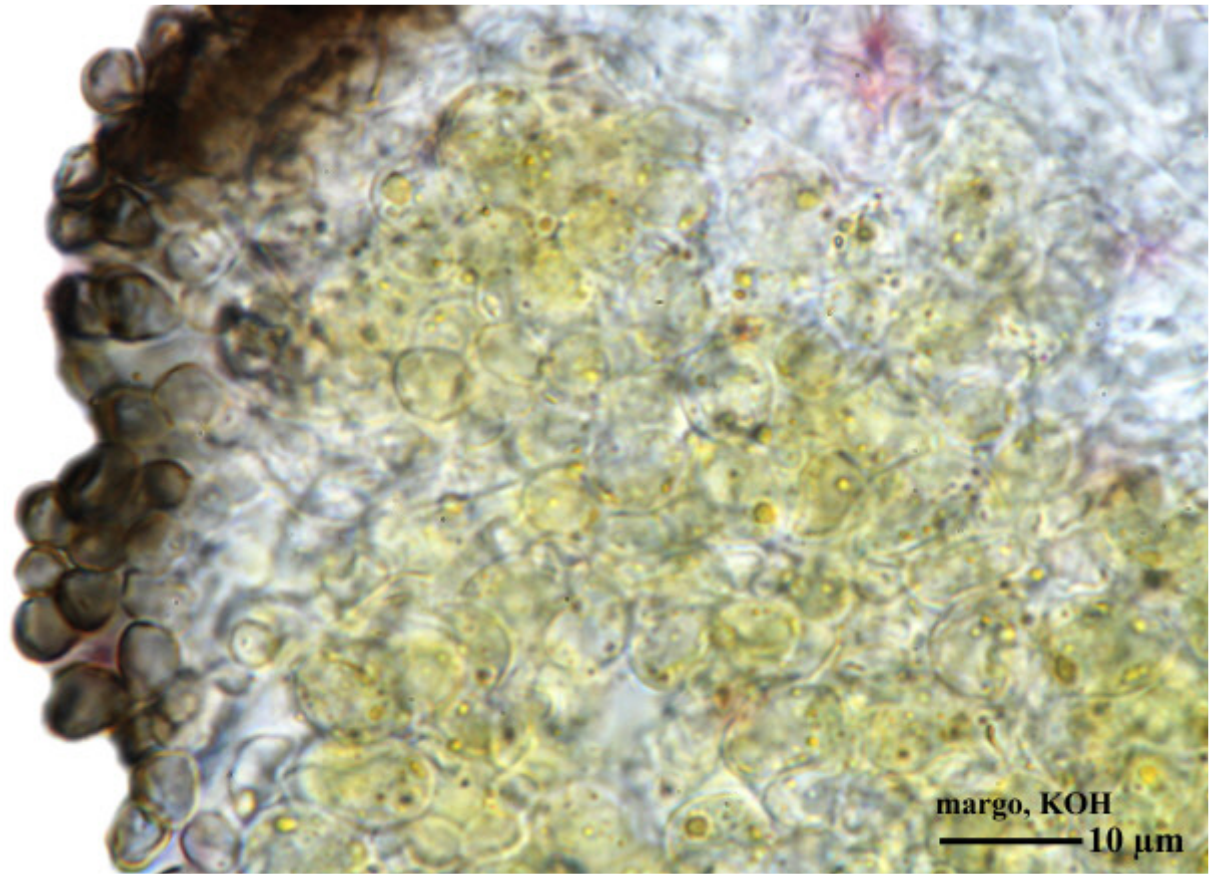


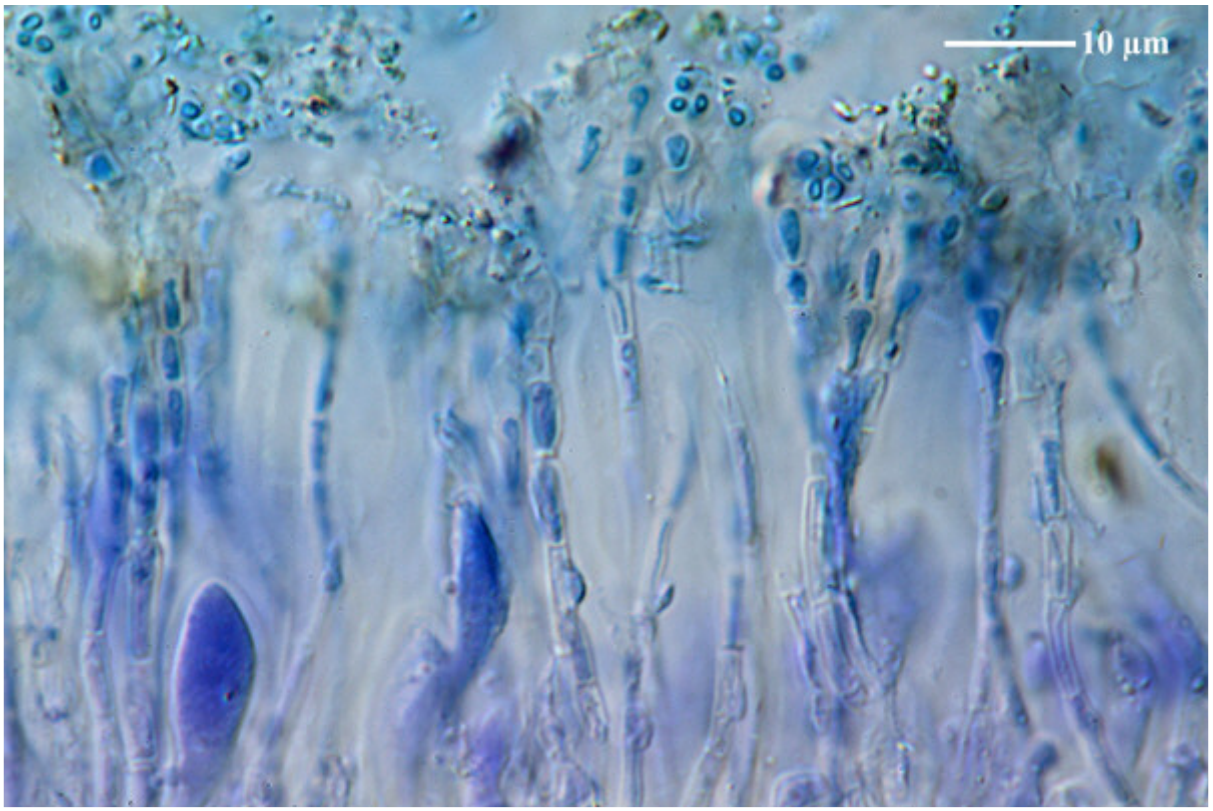
Caloplaca isabellina





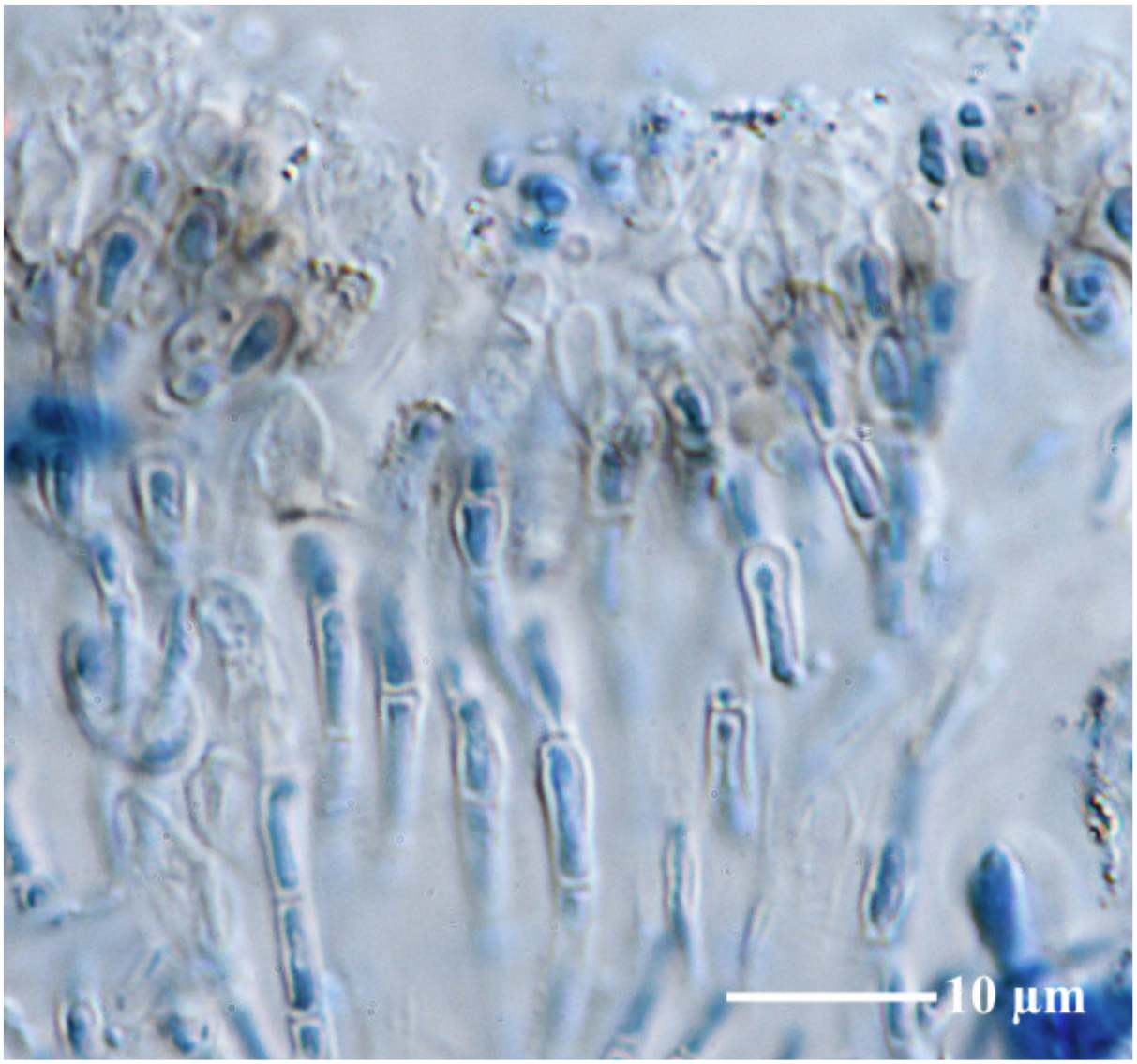
Caloplaca isabellina



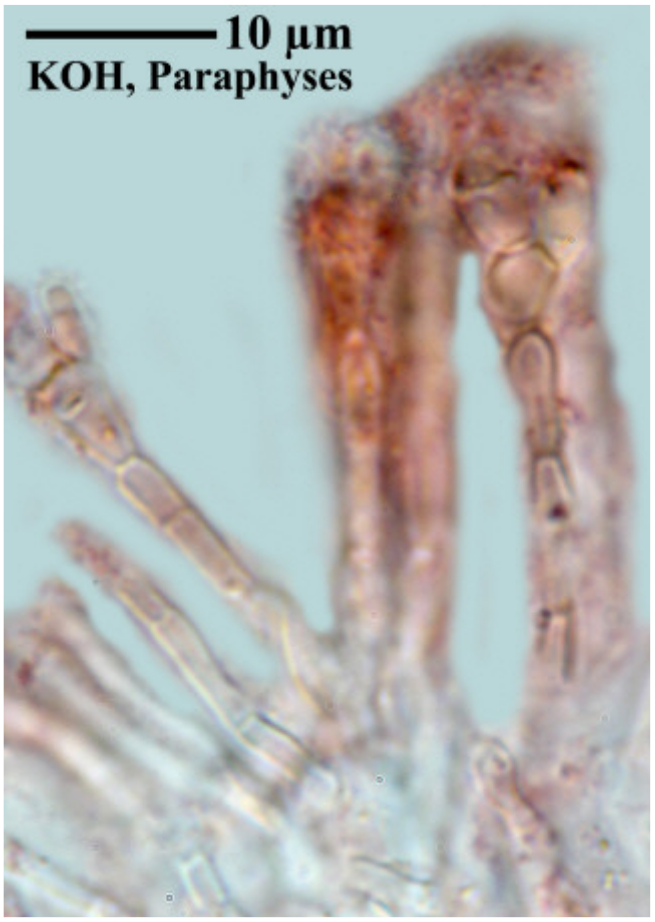




Caloplaca isabellina







Caloplaca isabellina

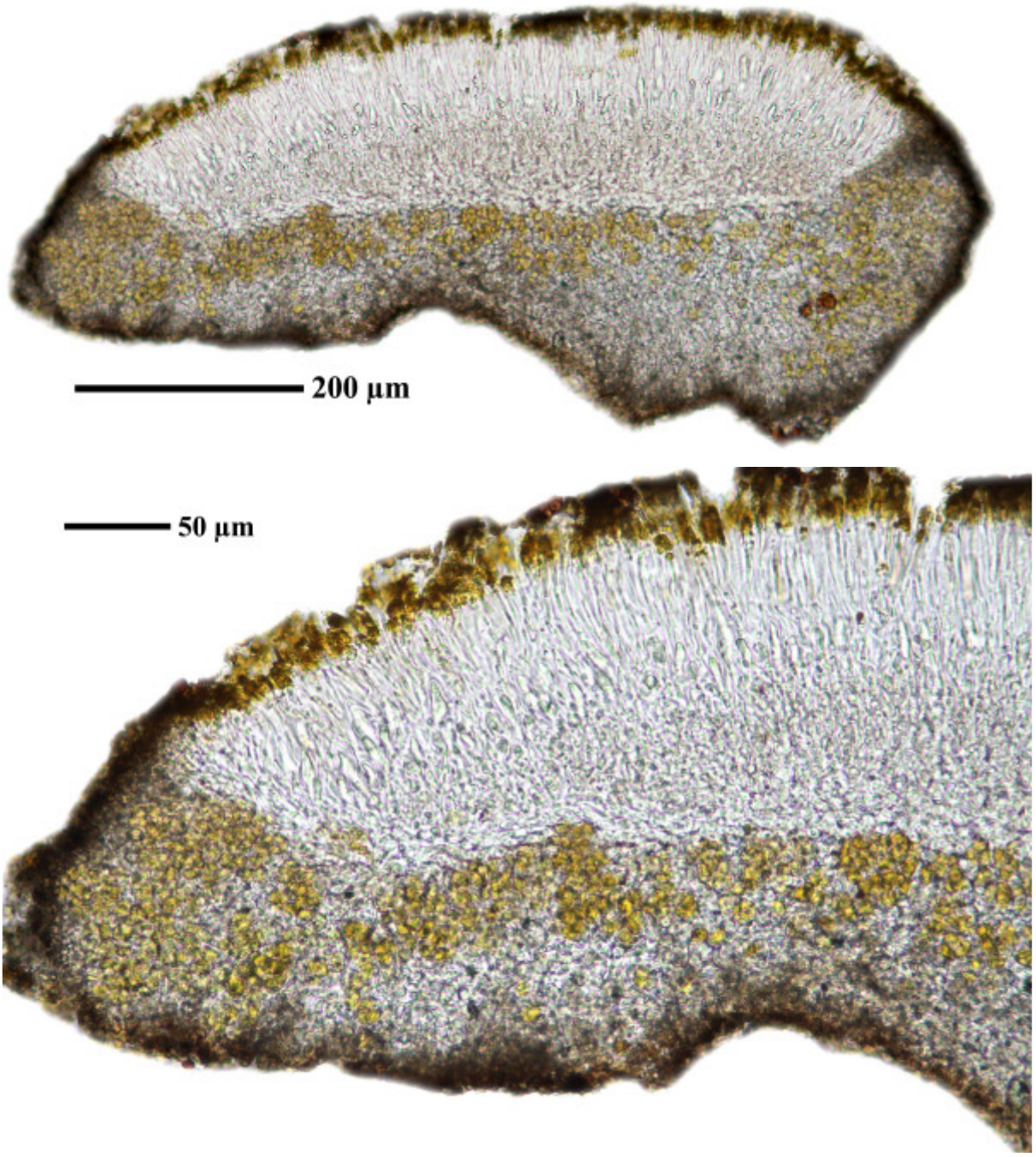
Caloplaca isabellina Poelt & Hinter., Biblthca Lichenol. 50: 148 (1993)

Spores 12 x 6 µm (AA)

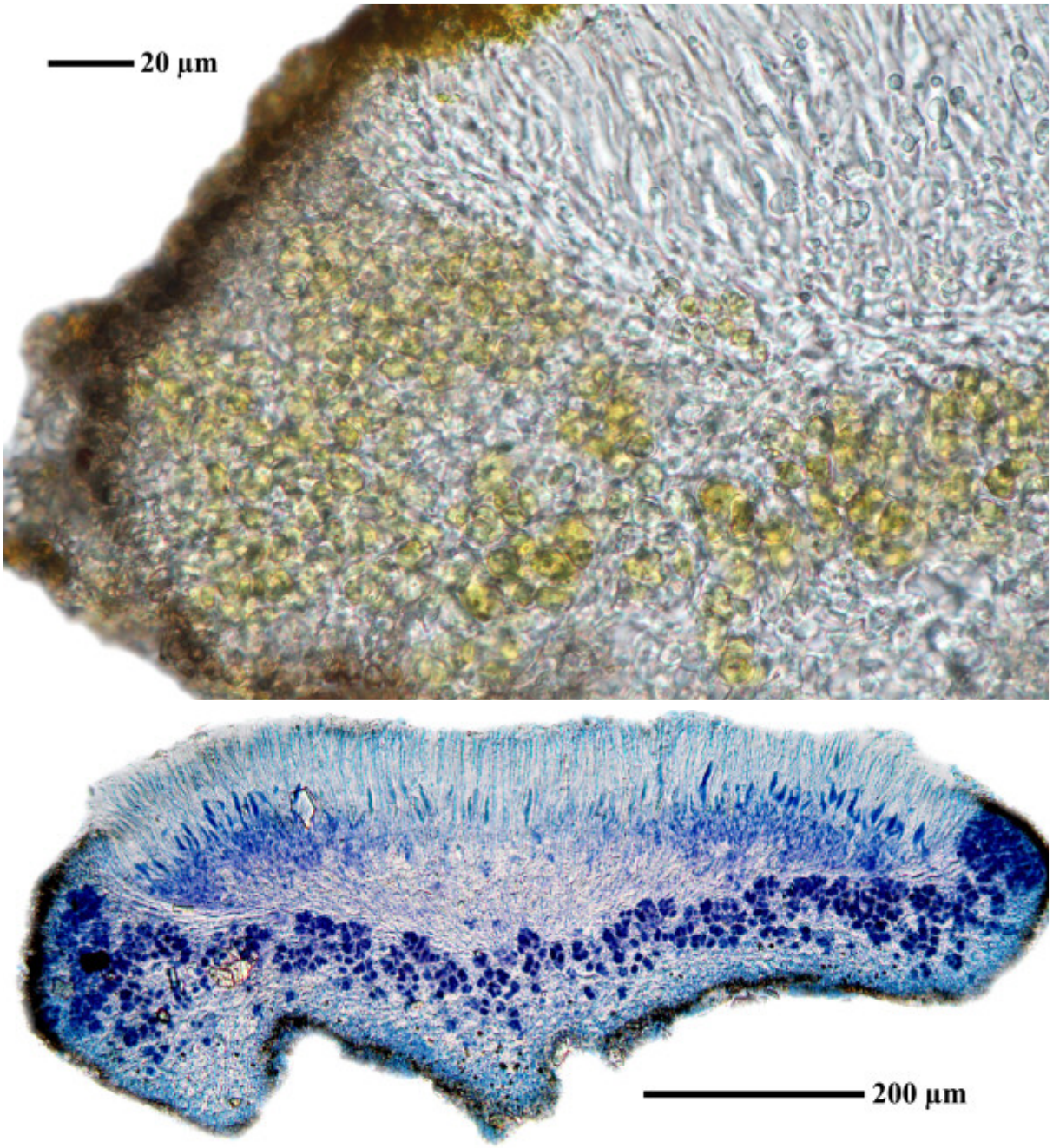
[BR5030067316610], China, Yunnan Prov., Dali Co., near trailhead to Mt. Cangshan, sclerophyll shrub on steep mountain slopes, 25°41'06" N, 100°06'07" E, 3150-3500 m, on stone. Leg. A. Aptroot (56851), 22. October 2002, det. A. Aptroot, 2003.



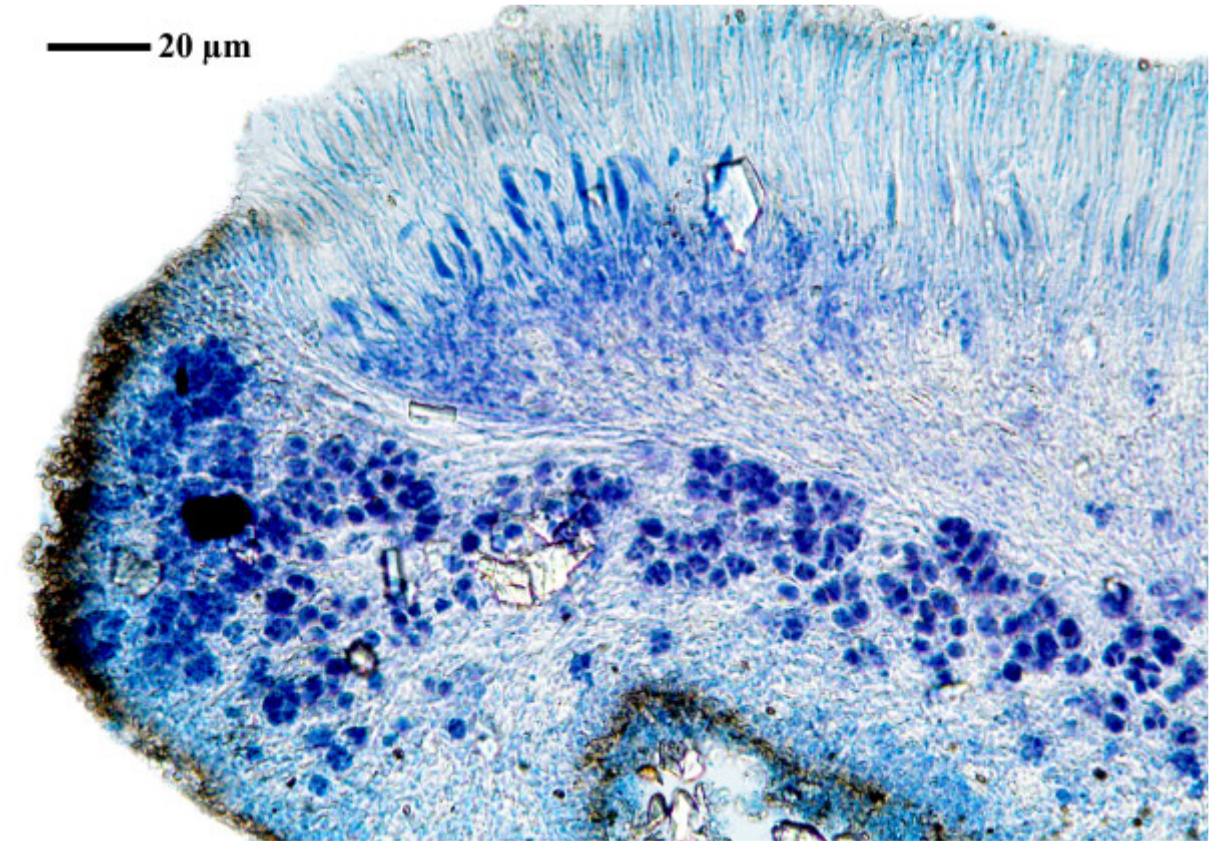


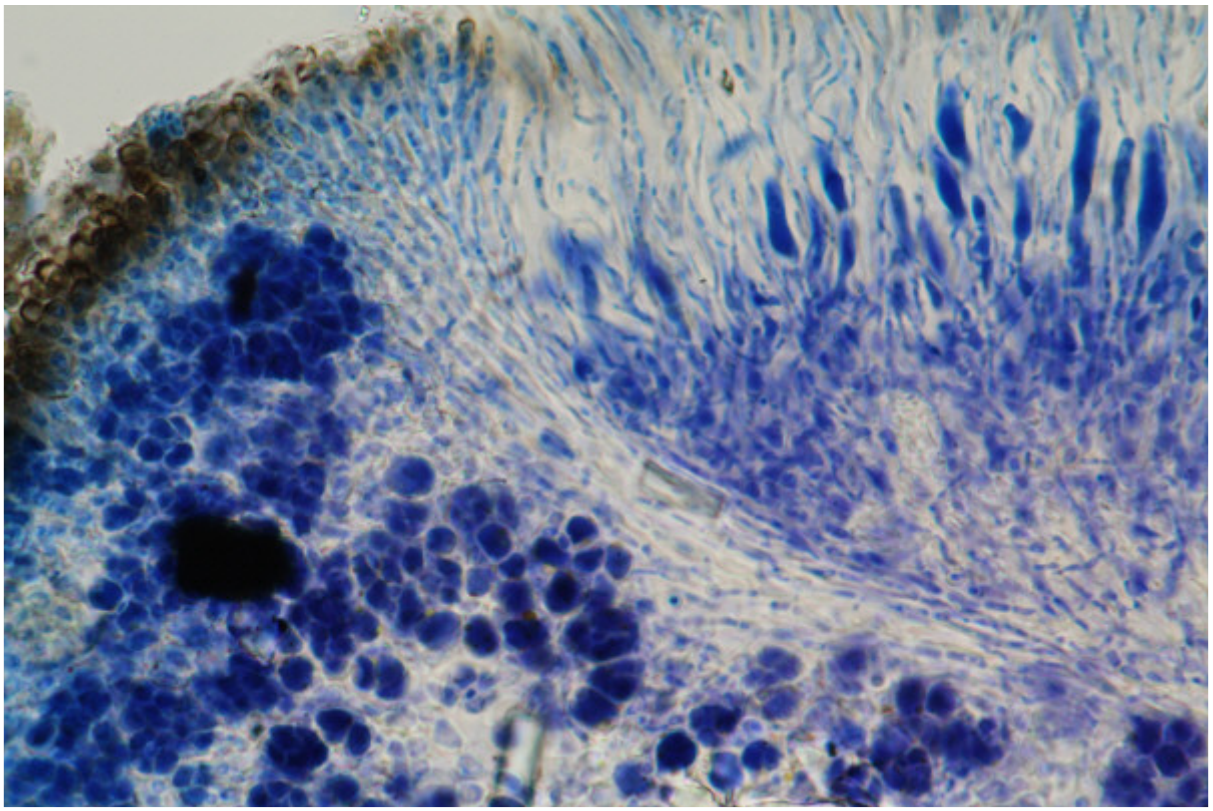


Caloplaca isabellina



Caloplaca isabellina





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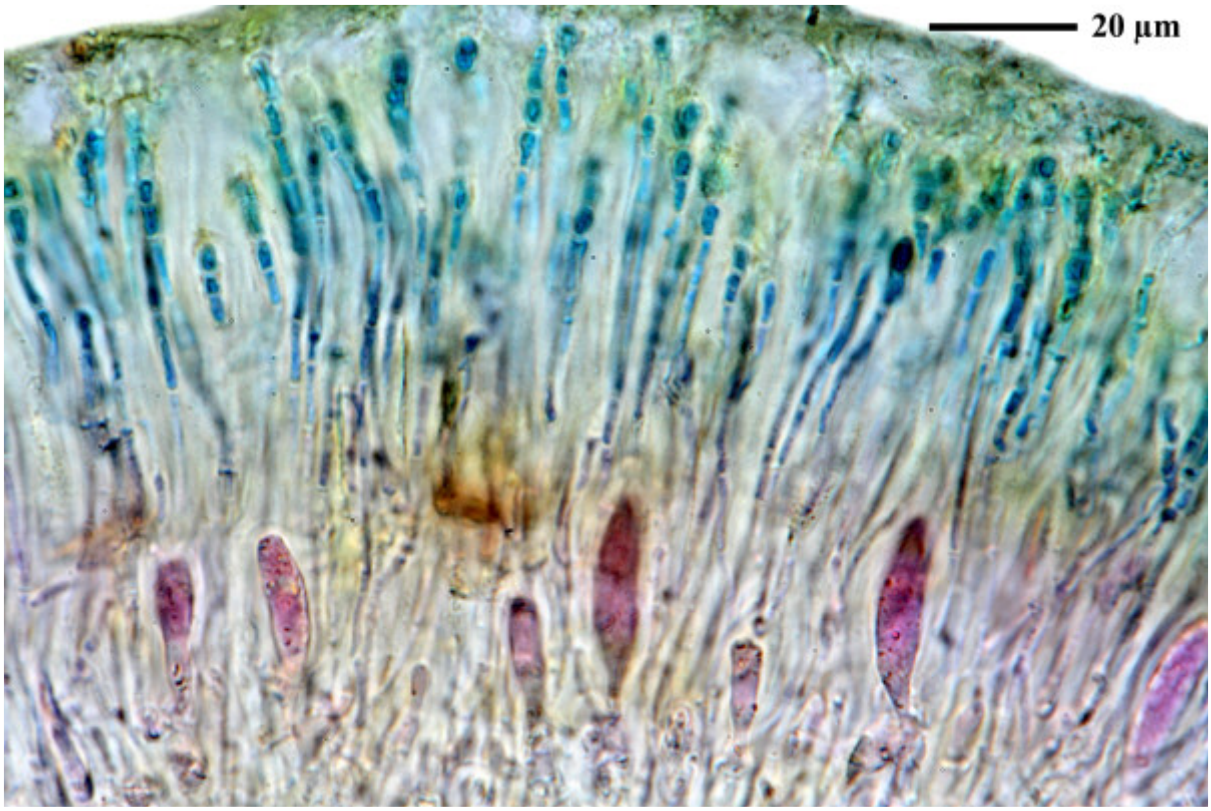
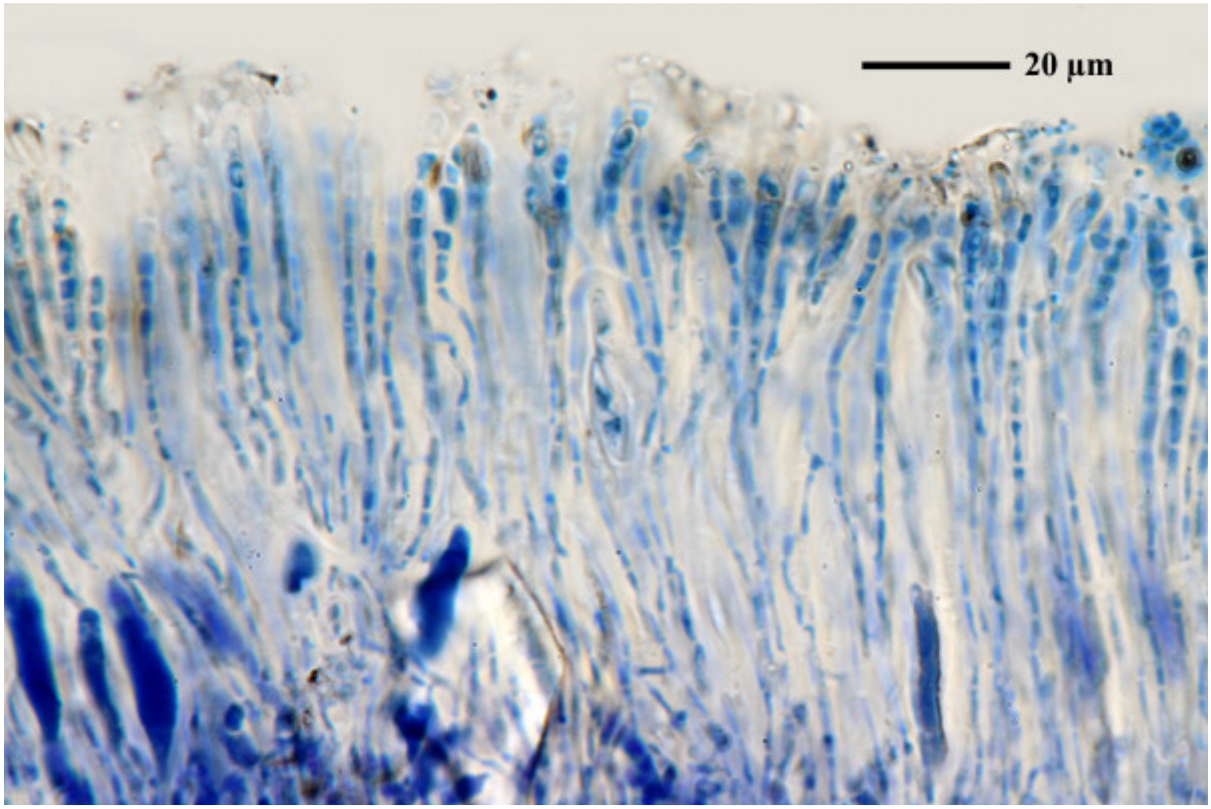




Caloplaca isabellina

Caloplaca isidiigera Vězda ISOTYPUS

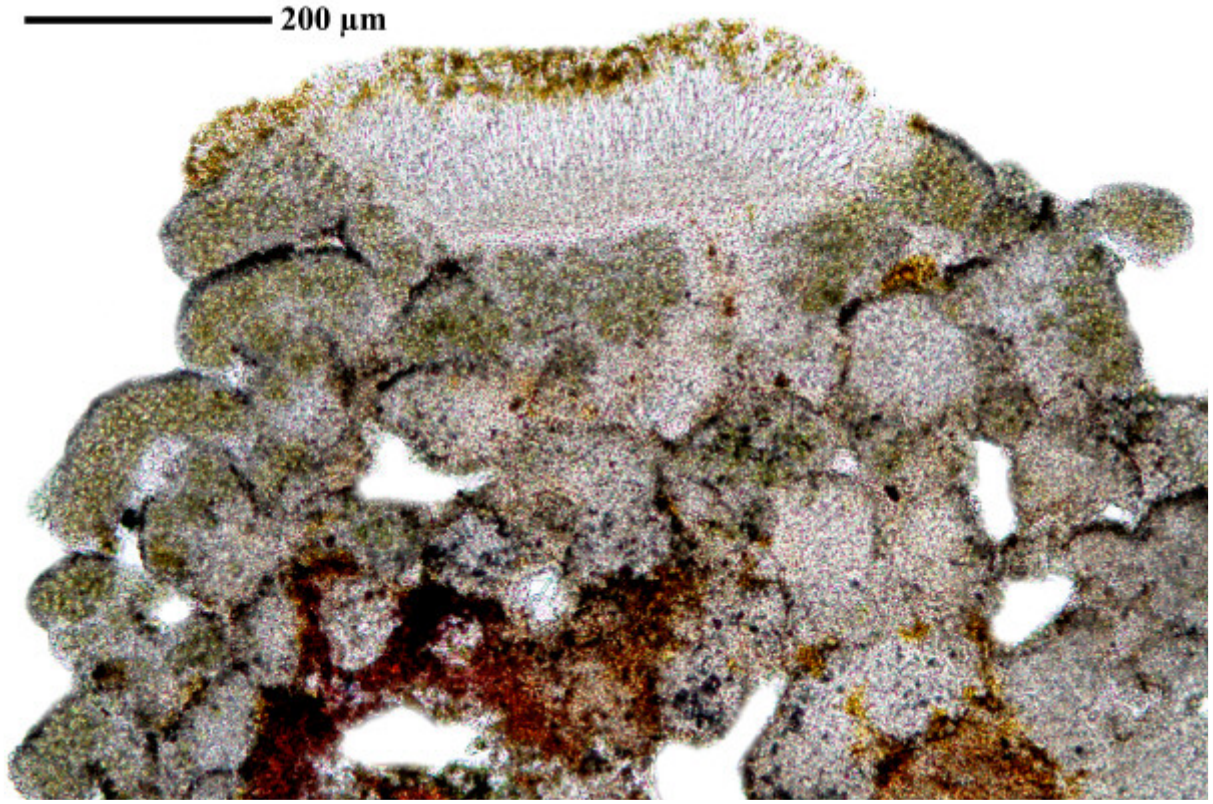
Spores 10-12 x 5-6 µm. septum 3.2-4.4 µm (FS). On calcareous rocks. Lit. Vezda in Folia Geobot. Phytotax., Praha (1978)

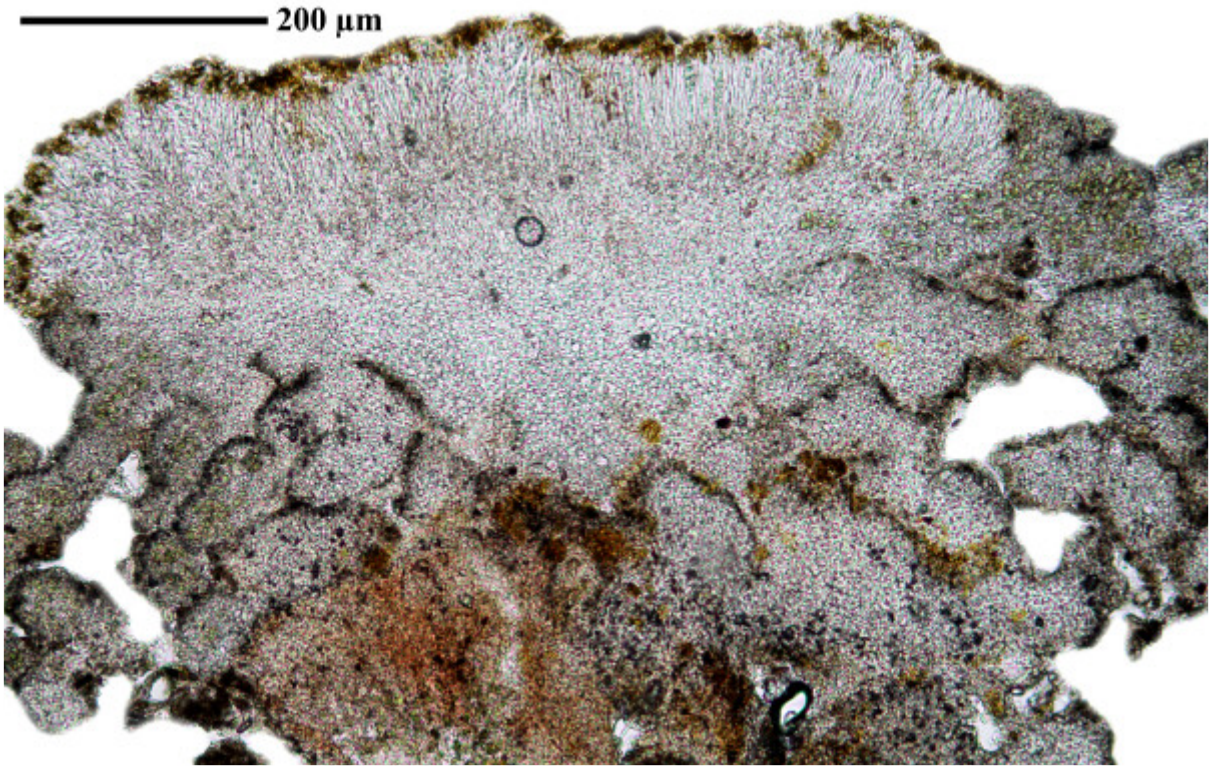
[19593], Bohemoslovacia, Slovacia, montes Carpatorum, Tatra Minor, in monte Velký bok., alt. 1550 m, ad saxa calcarea. Leg. A. Vězda, 9.1974. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1494.



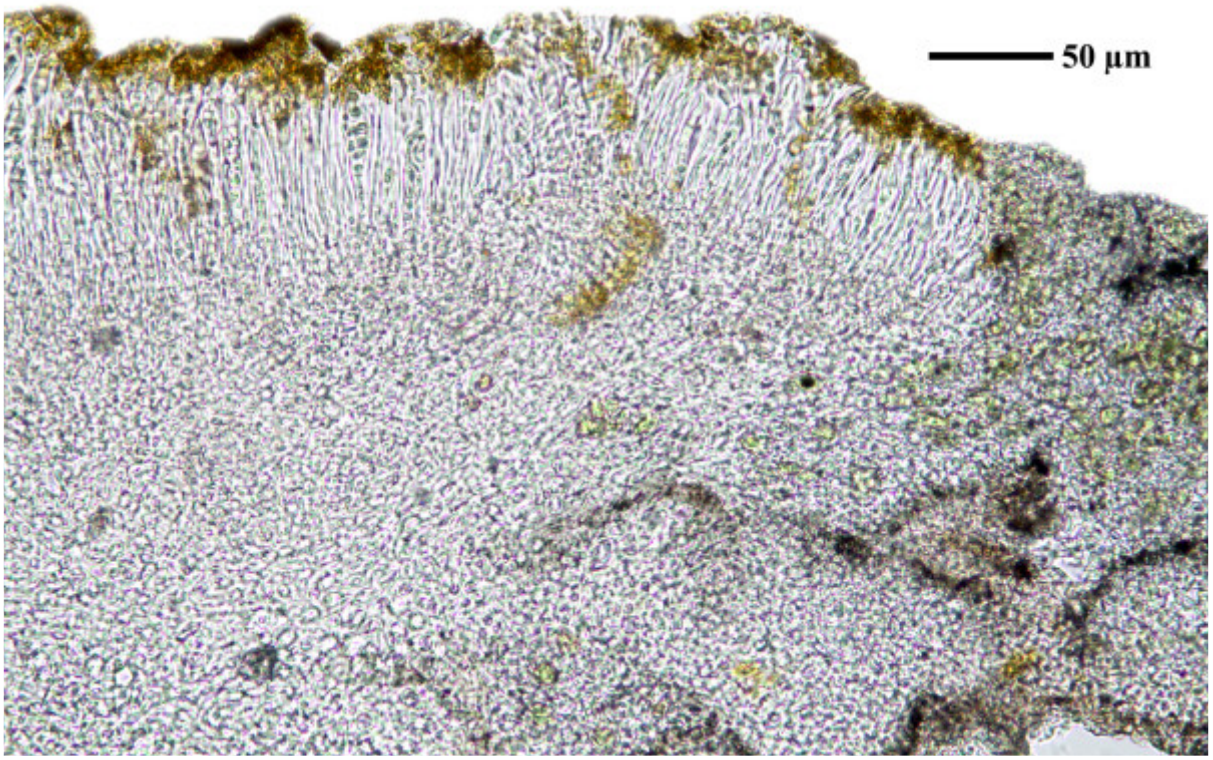


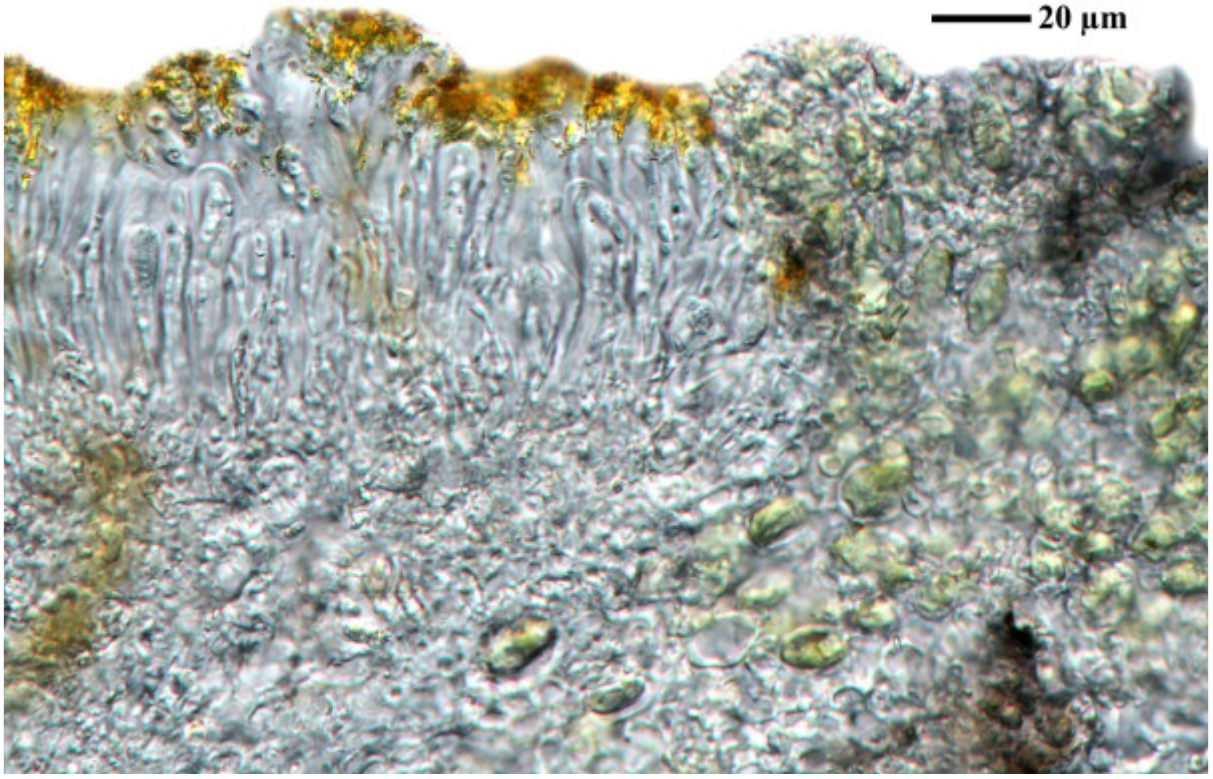
Caloplaca isidiigera



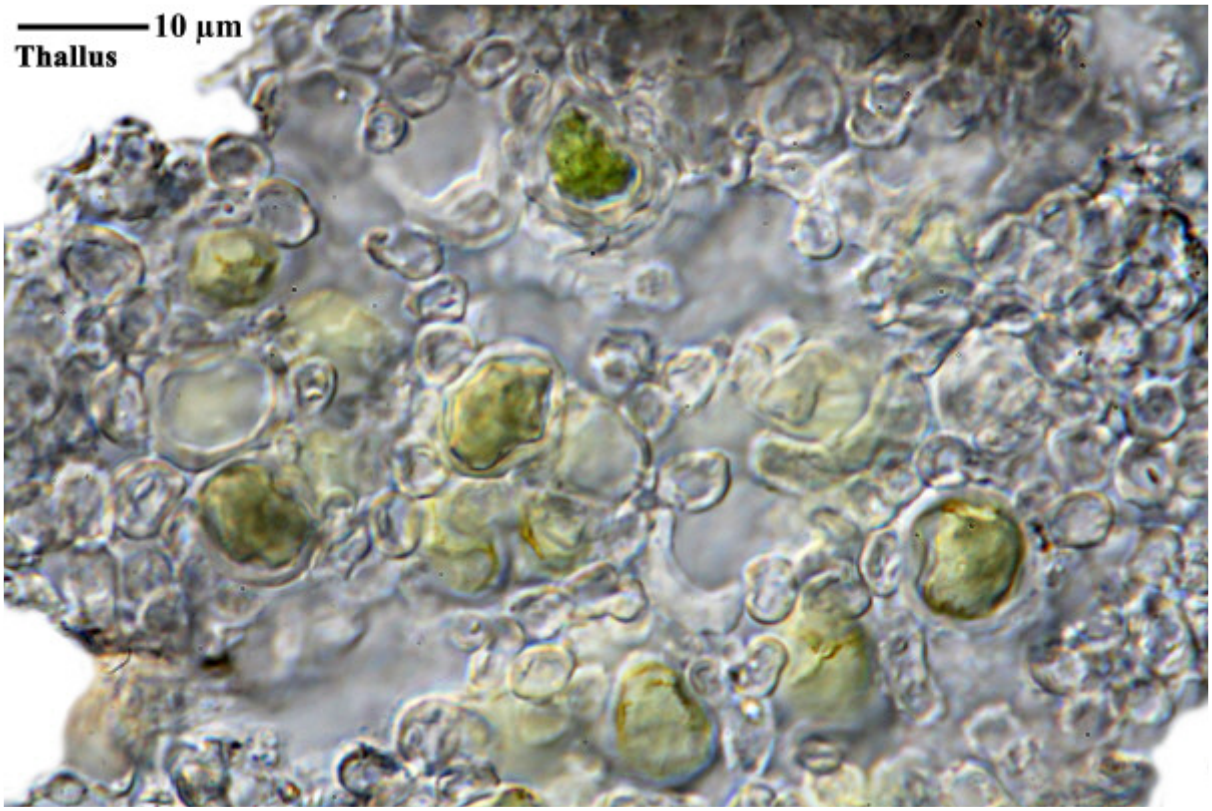


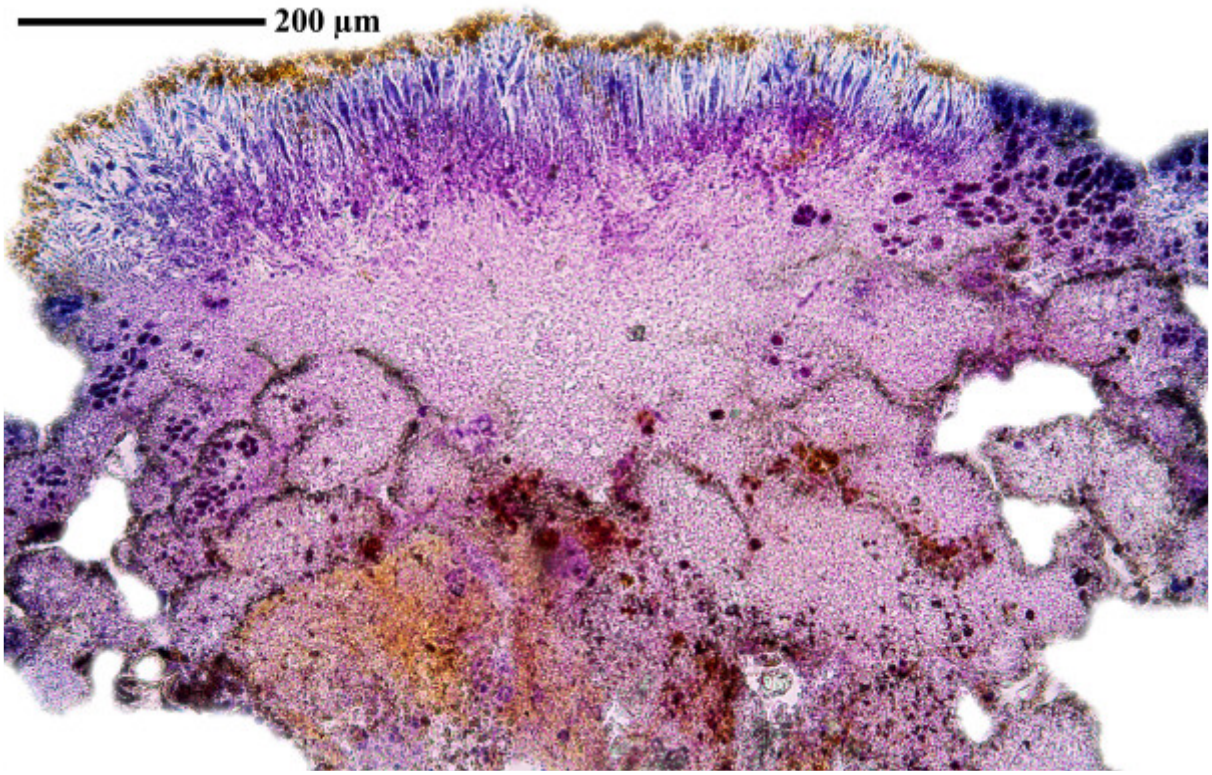
Caloplaca isidiigera





Caloplaca isidiigera





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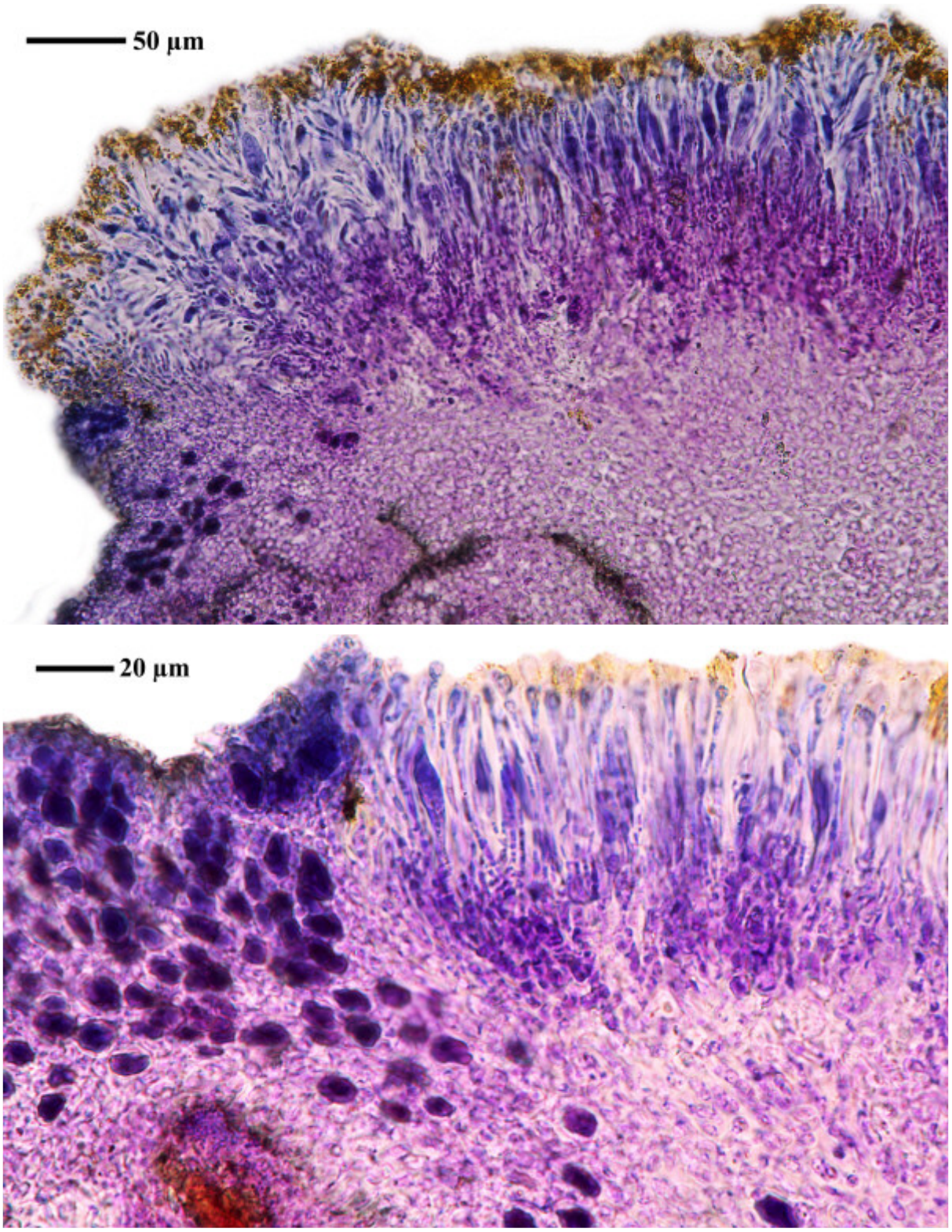

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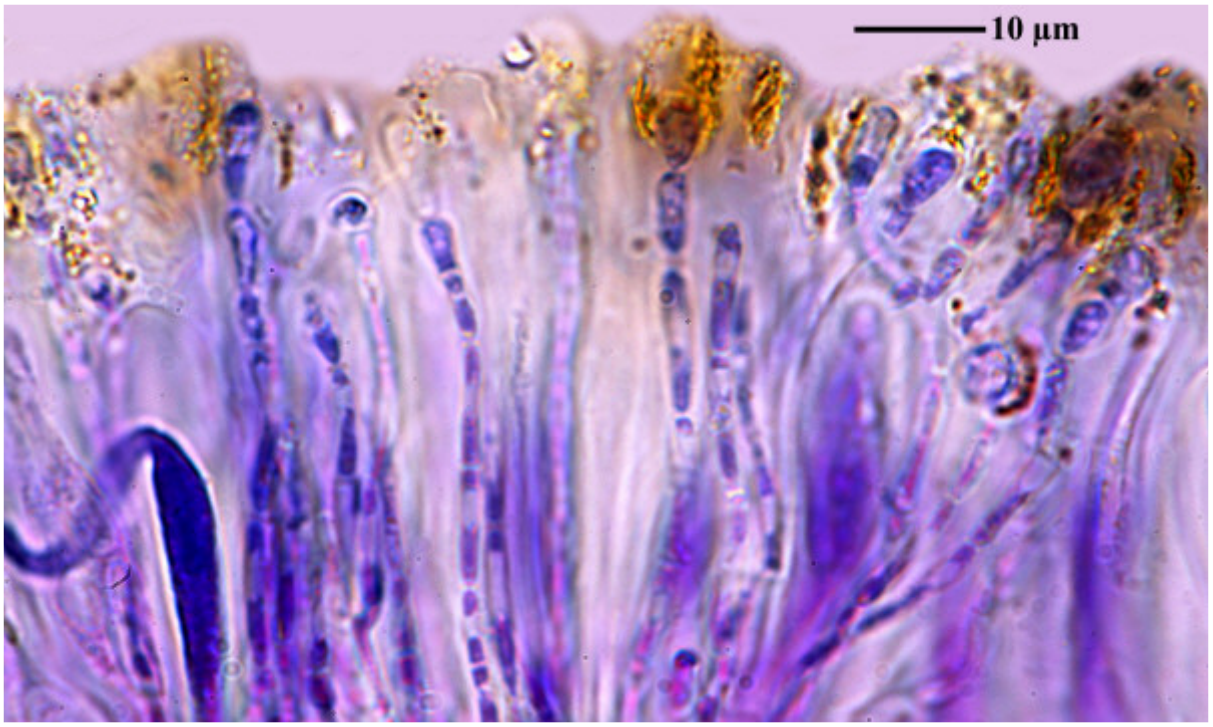
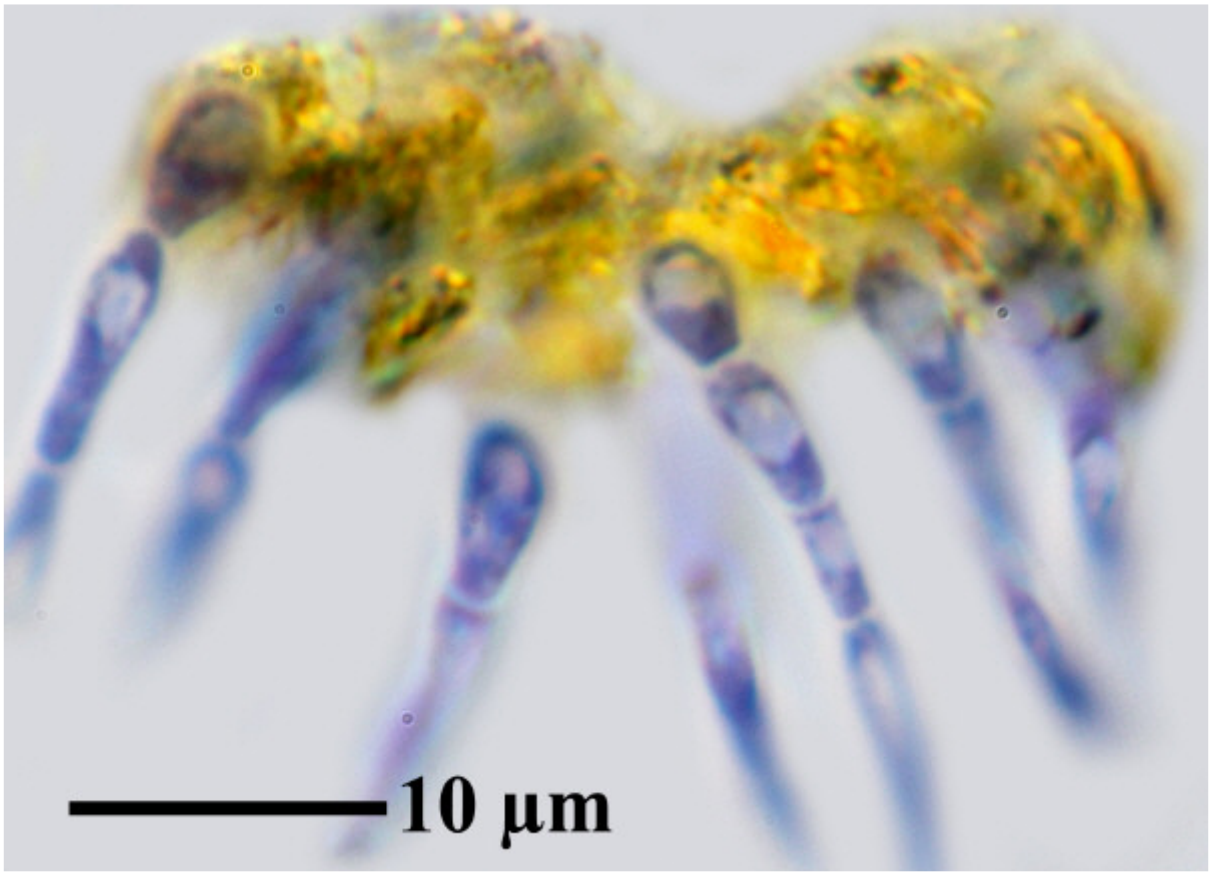






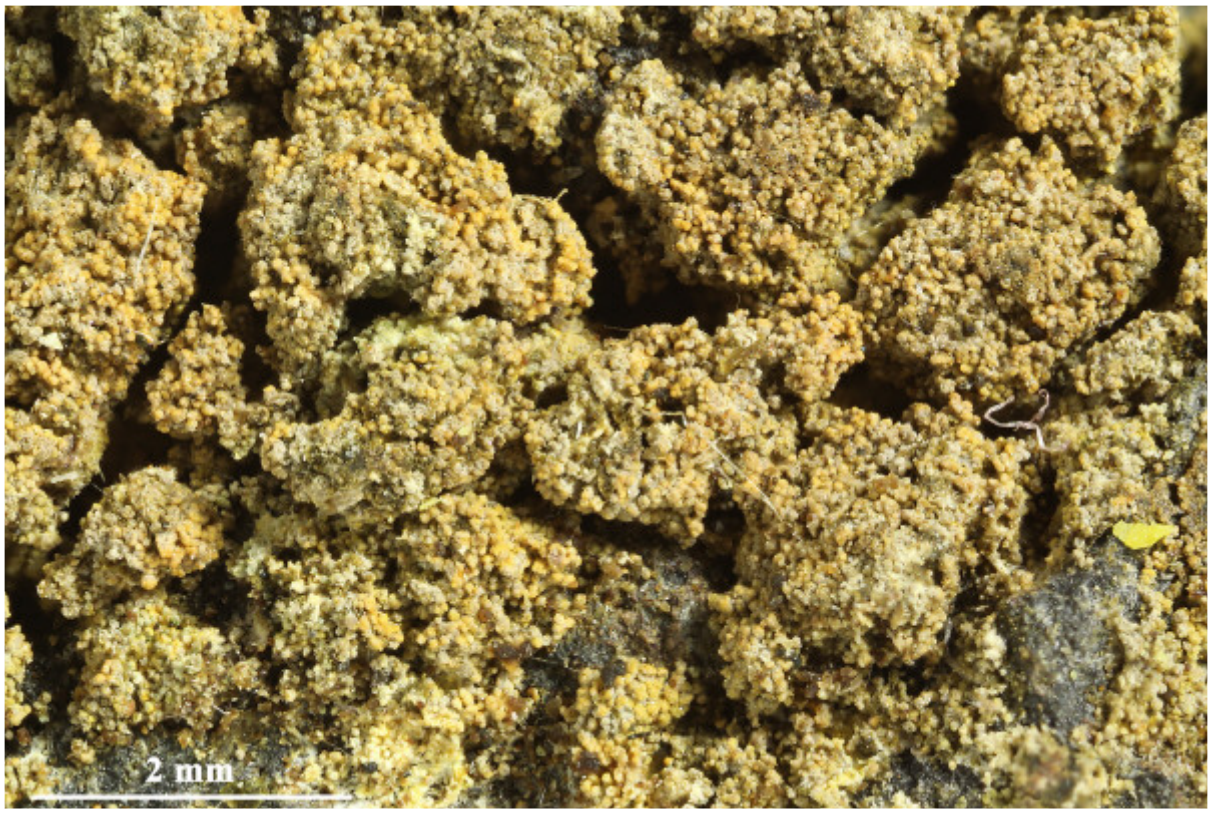
Caloplaca isidiigera

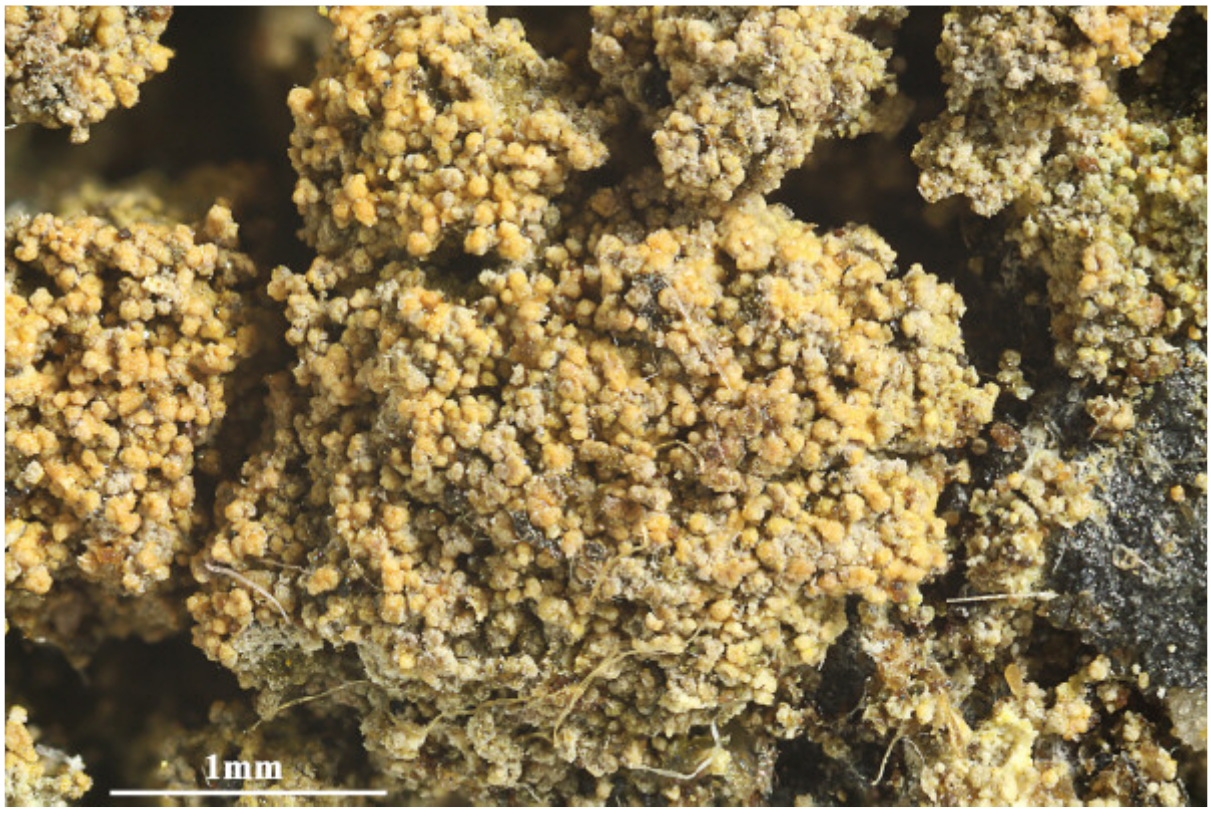
Caloplaca isidioclada Zahlbr.
[= *Villophora isidioclada* (Zahlbr.) Søchting, Frödén & Arup]

On rock.

[ABL M2013-285], NJM Gremmen - Marion Island Relief Expedition 2013. Prince Edward Islands, Marion Island, Trypot Beach, 46°53'04.5'' S, 37°52'06.9'' E, 6 m, growing on rock, in crevice in rock in biotic area, small dense colonies. Leg. NJM Gremmen (M2013-285), 6.05.2014, det. D. O. Øvstedal.







Caloplaca isidioclada



Caloplaca isidioclada

Caloplaca isidiosa (Vain.) Zahlbr.

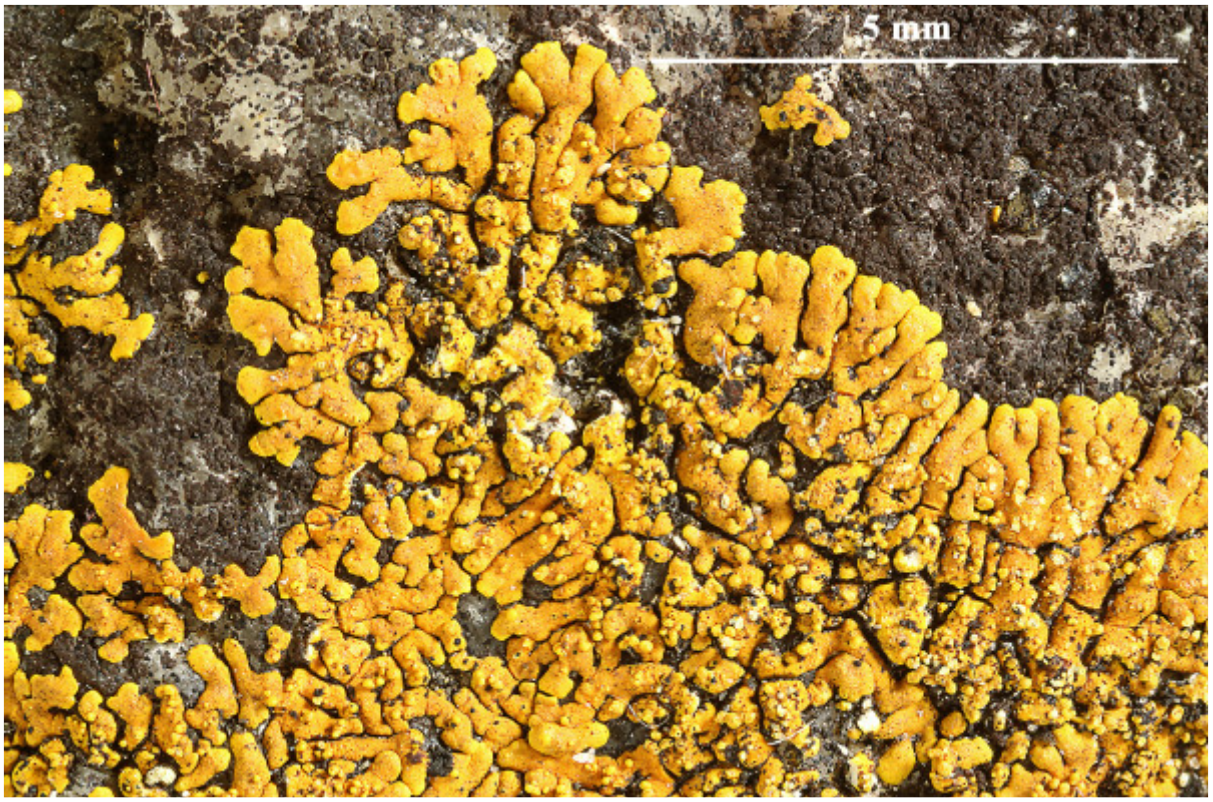
on non-calcareous rocks.

[18152], Brasilien, Bahia, zwischen Feira de Santana und Milagres, etwa 10 km vor Milagres, an bodennahen Granitblöcken in einer Caatinga, 200 m, 12°50' S, 39°50' W. Leg. K. Kalb 21.07.1980.
K. KALB: LICHENES NEOTROPICI NO 207.



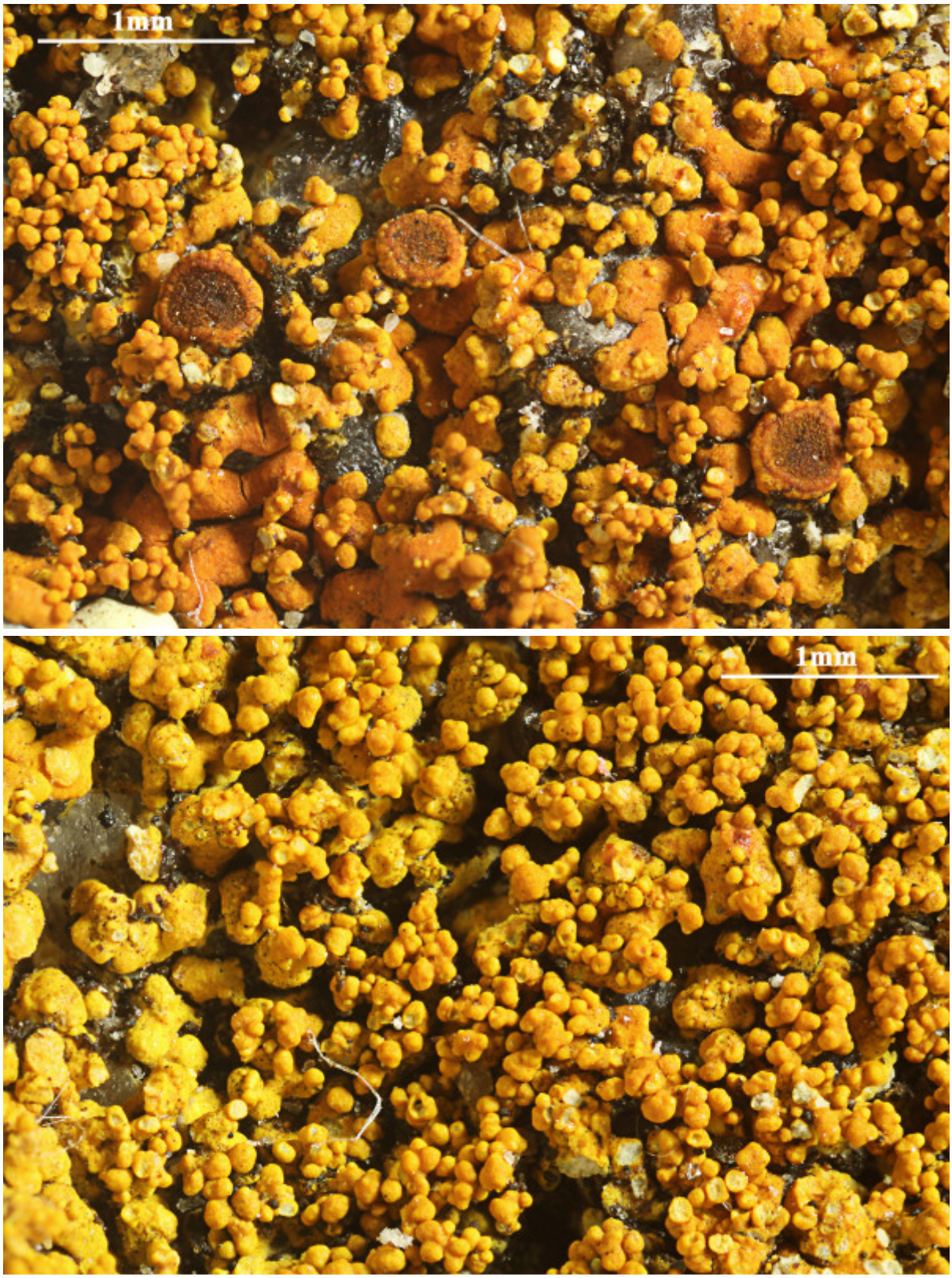


Caloplaca isidiosa





Caloplaca isidiosa

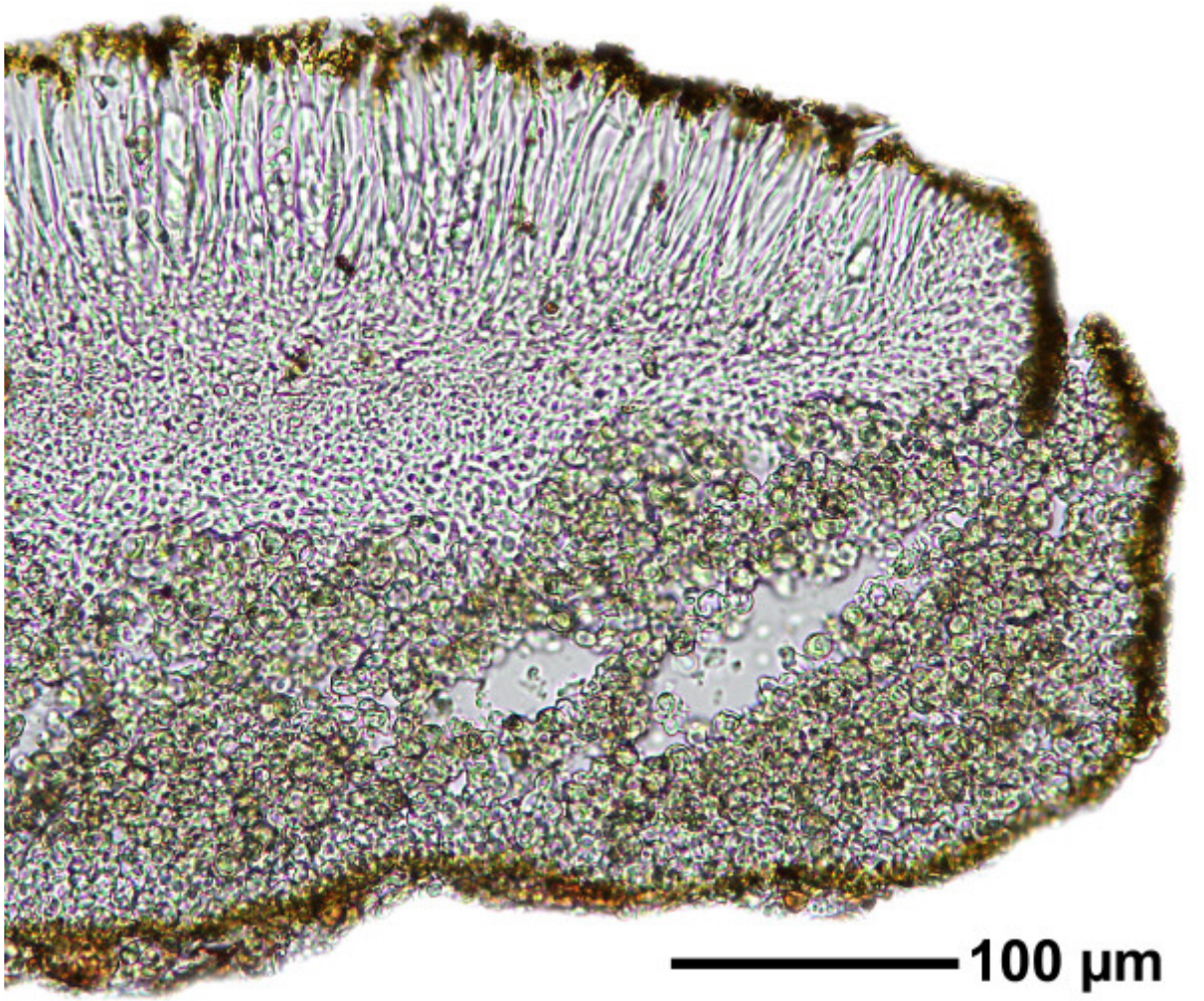


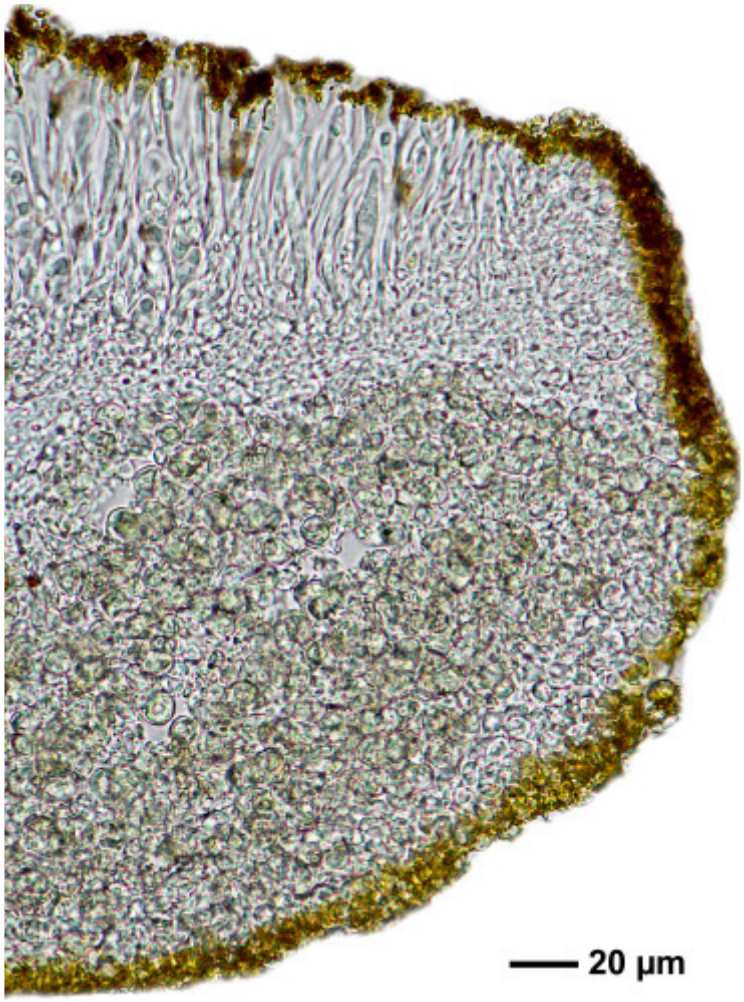
Caloplaca isidiosa



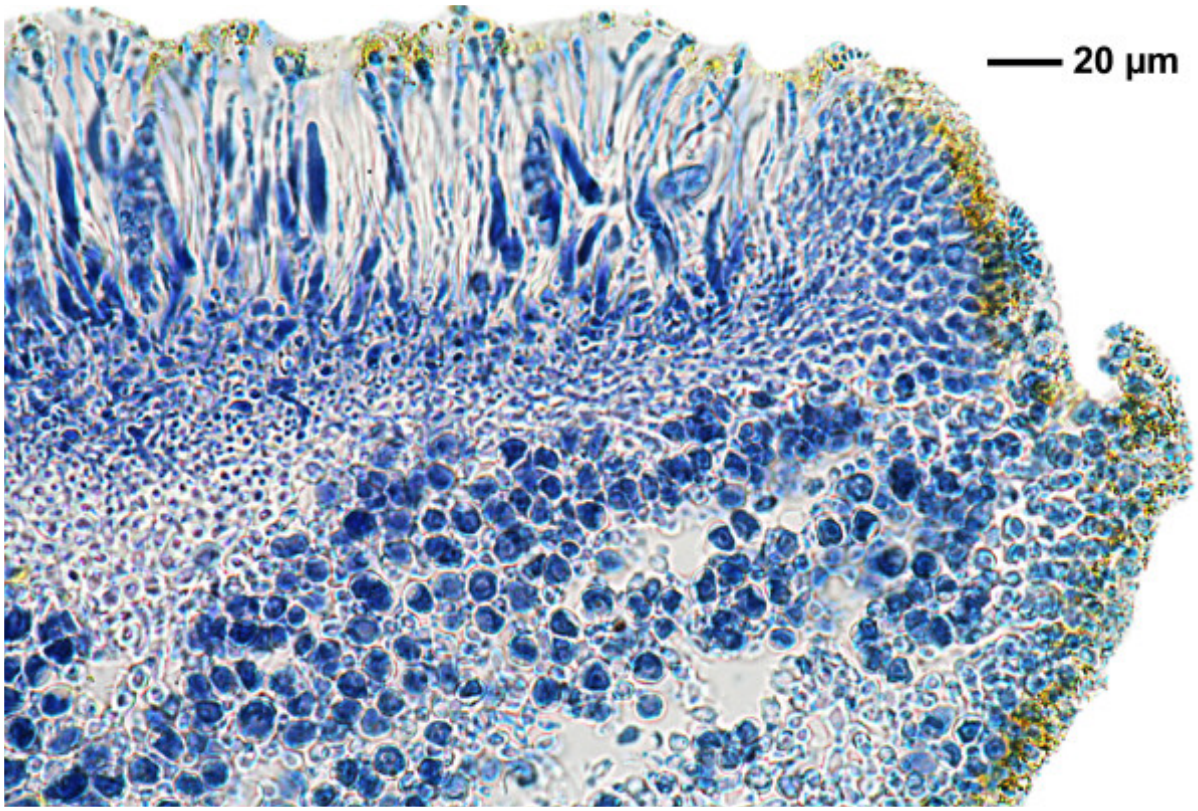


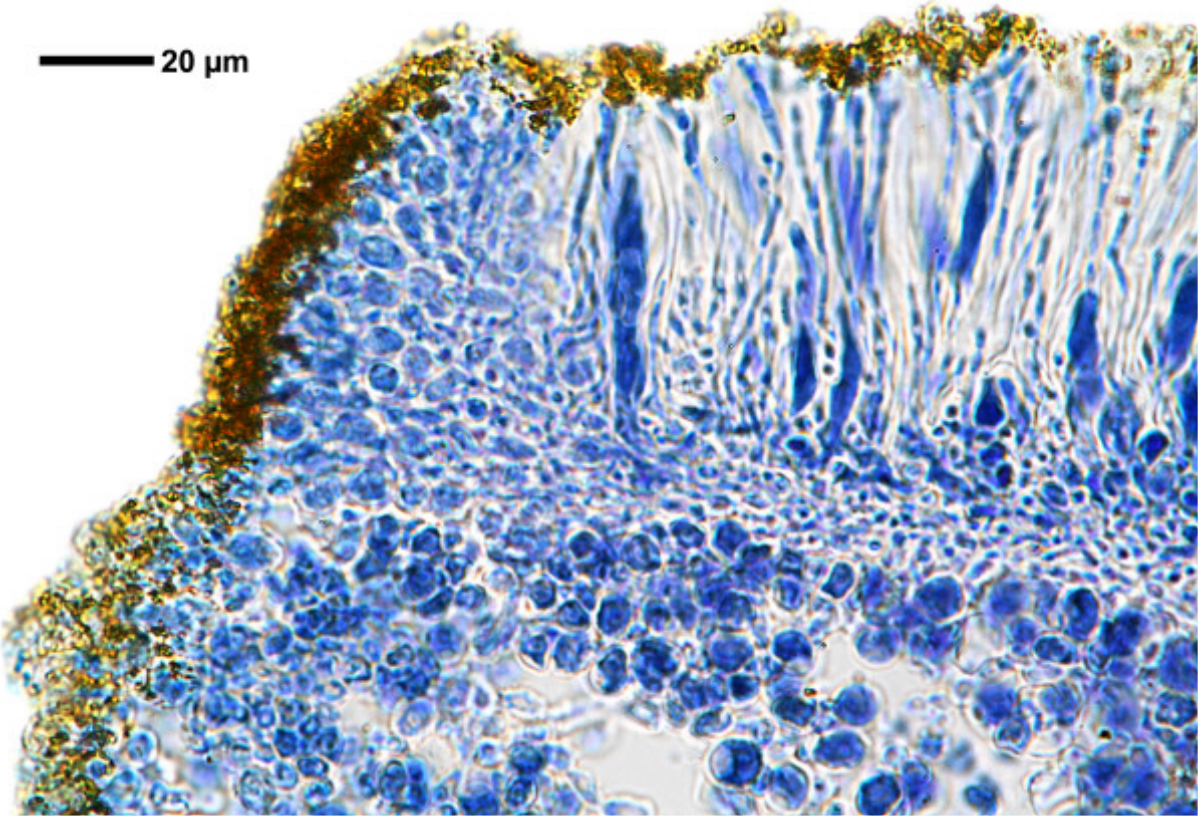
Caloplaca isidiosa

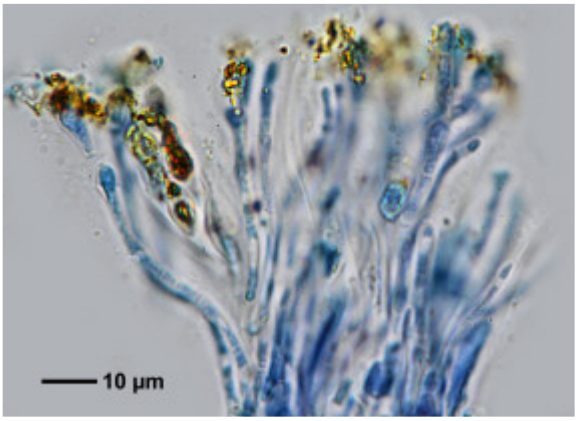




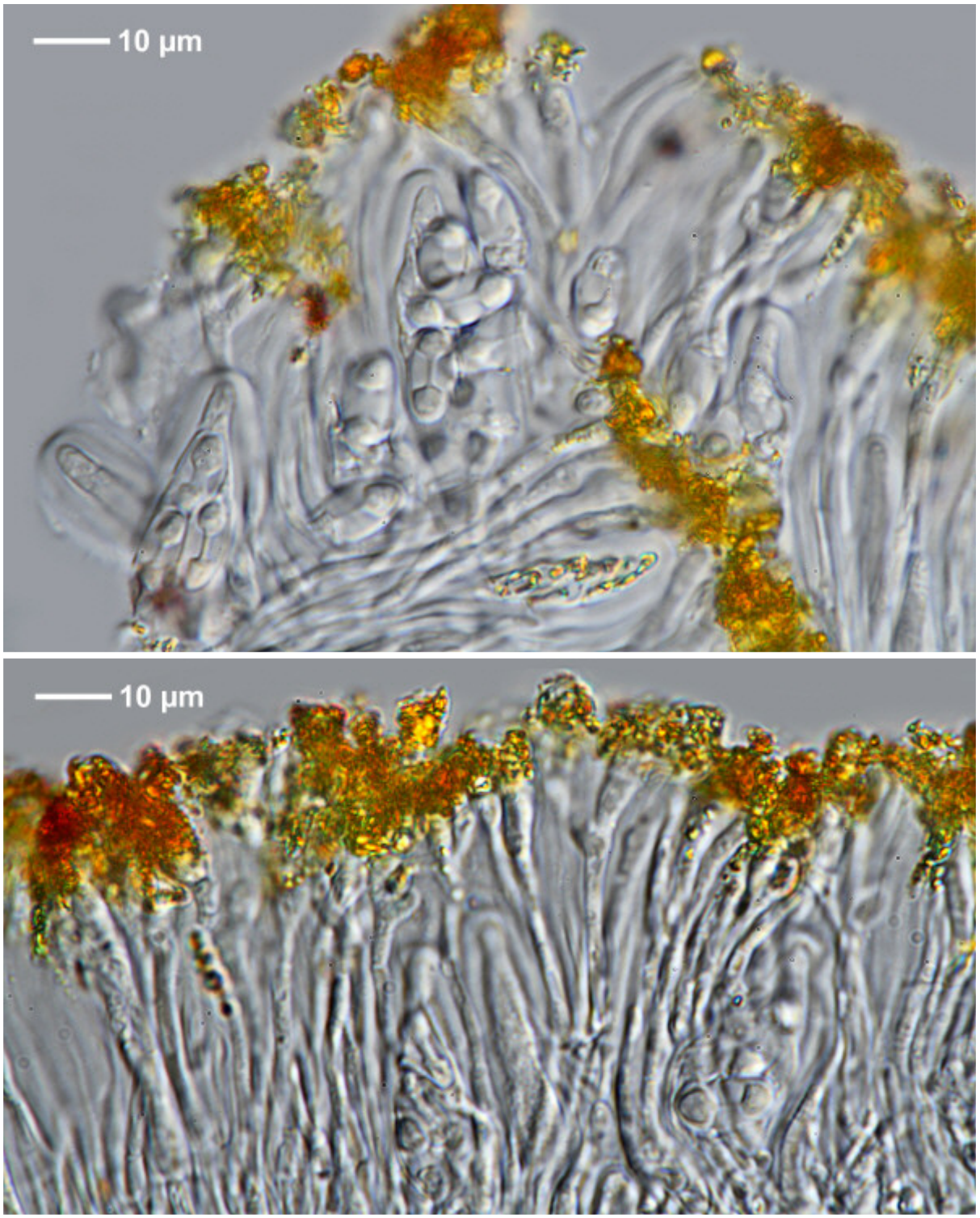
Caloplaca isidiosa







Caloplaca isidiosa





Caloplaca isidiosa

Caloplaca isidiosa (Vain.) Zahlbr.

on non-calcareous rocks.

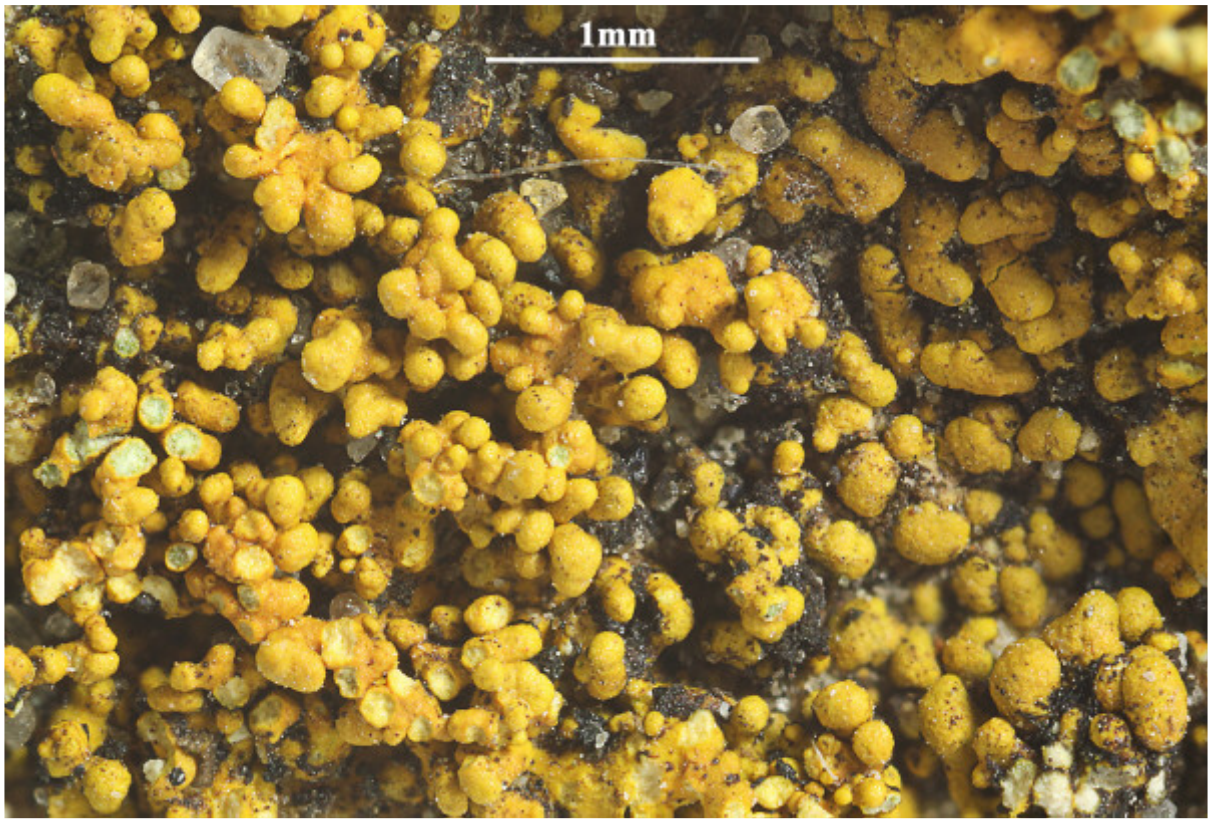
[ABL ISE27916], Brazil, Santa Catarina, São Franzisco do Sul, S of Prainha, 26°14’06” S, 48°30’05” W, c. 10 m, on coastal granite. Leg. M.E.S. Cáceres & A.Aptroot, 8.10.2015, det. A. Aptroot 2015.





Caloplaca isidiosa





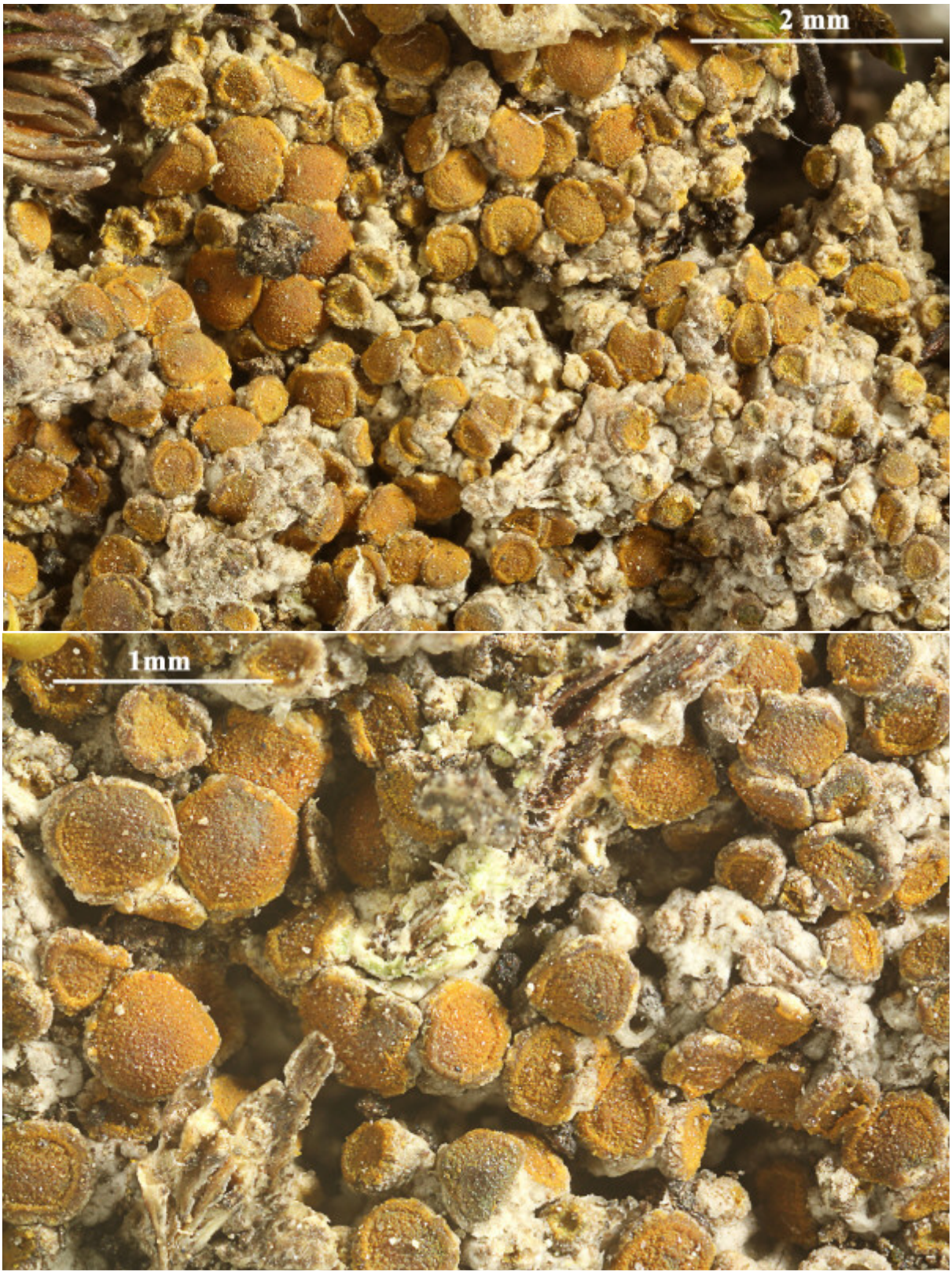
Caloplaca isidiosa

Caloplaca jungermanniae (Vahl) Th.Fr.
[= *Bryoplaca jungermanniae* (Vahl) Søchting, Frödén & Arup]

On bryophytes. Lit. Th. Fries, Nova Acta Reg. Sci. Upsal., ser. 3,3: 221 (1861)

[19550], Georgia, Distr. Dzhava, Caucasus, montes "Rechinski khrebet", in monte "Tagverula" prope vicum Tschordi, alt. 2300-2600 m, supra muscos emortuos in rupibus. Leg. V. Valsak, 20.07.1989, det. A. Vězda. VĚZDA: LICHENES RARIORES EXSICCATI NR. 24.





Caloplaca jungermanniae

Caloplaca jungermanniae (Vahl) Th.Fr.
[= *Bryoplaca jungermanniae* (Vahl) Søchting, Frödén & Arup]

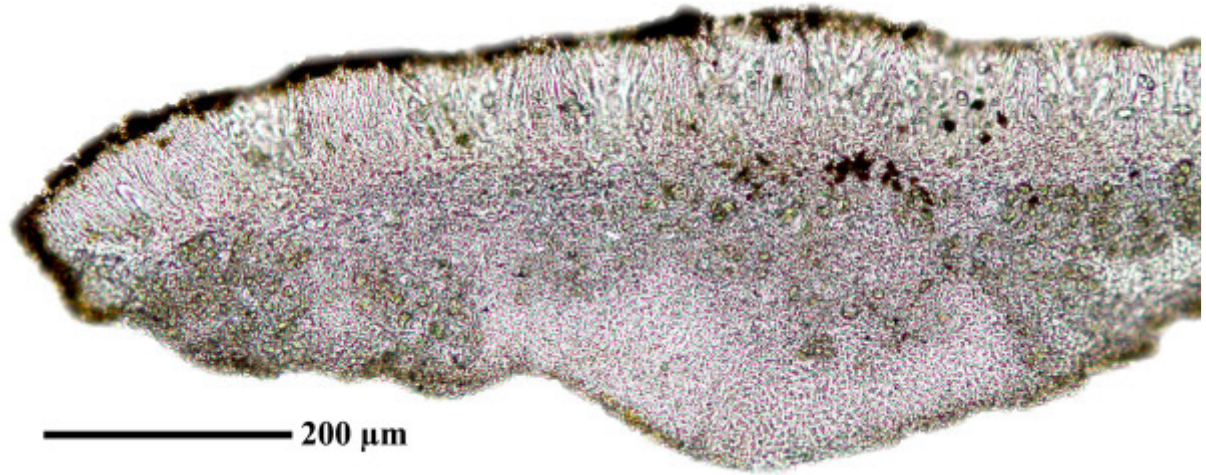
Spores 14.5-20 x 7.8-9.2 µm, septum 2.6-3.9 µm (FS). On bryophytes and rotten plants. Lit. Th. Fries in Nova Acta Reg. Sci. Upsal, ser. 3, 3: 221 (1861)

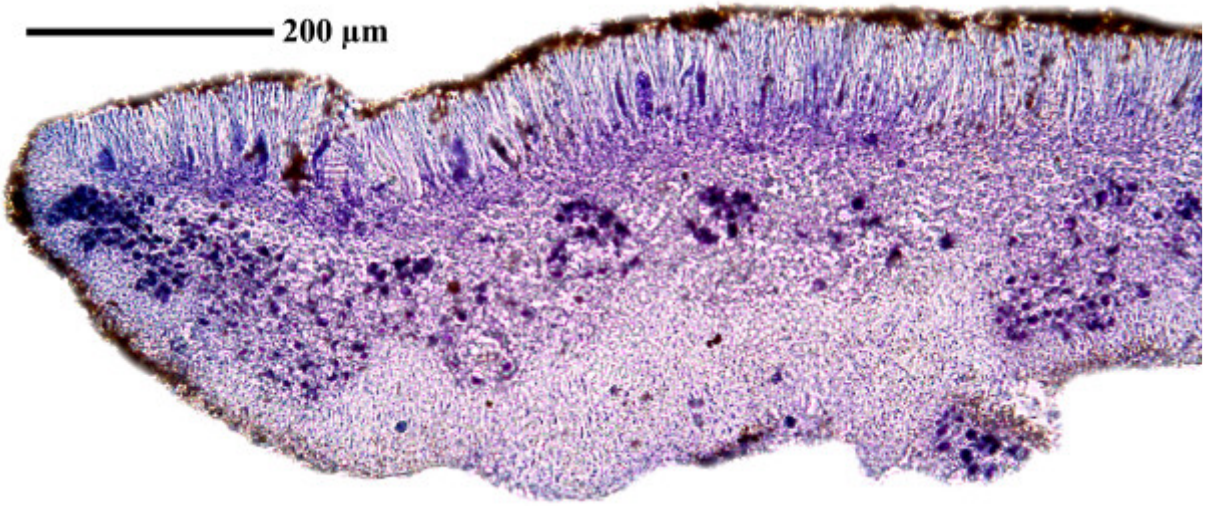
[19595], Suecia, Härjedalen, Tännäs Paroecia, in ascensu montis Ramundberget, 1 km ad occidentem a Kvarnbäckstjärn, alt. 900 m, in silva subalpina, ad plantas destructas in rupe. Leg. R. Santesson (29725), 2.07.1980. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1773.

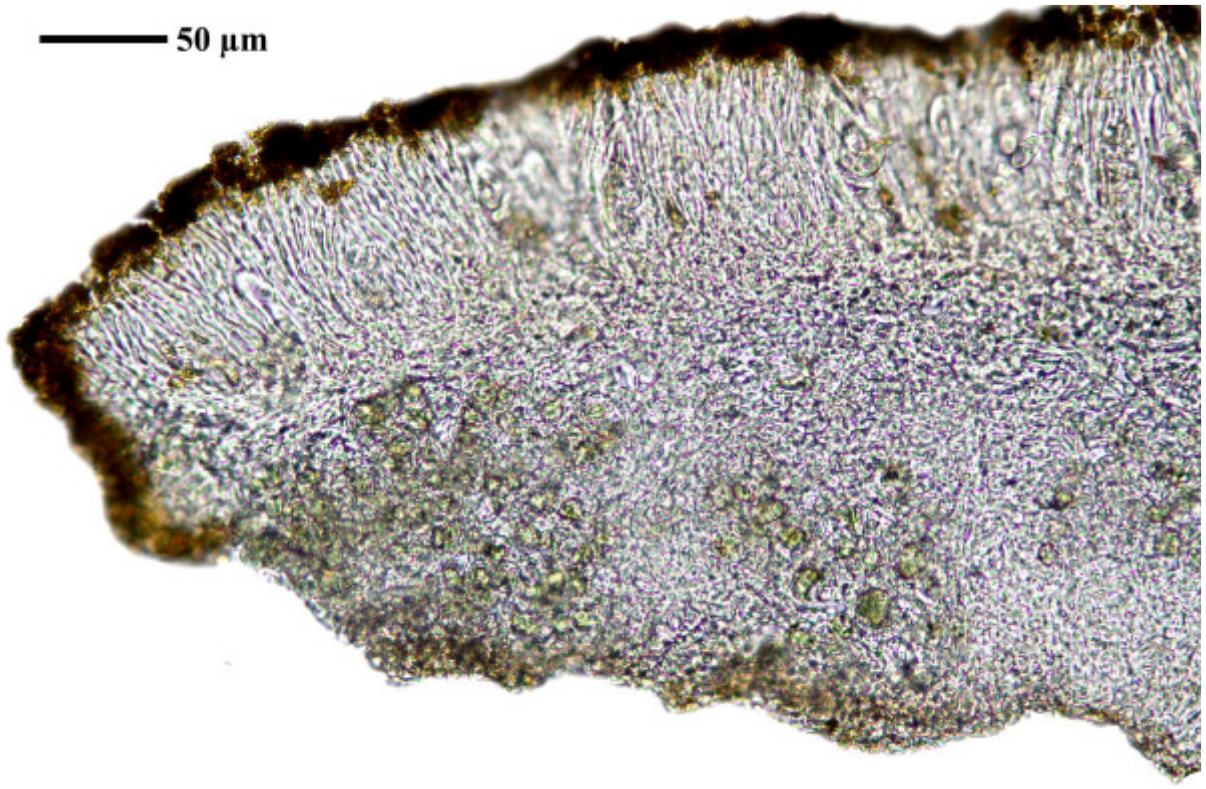




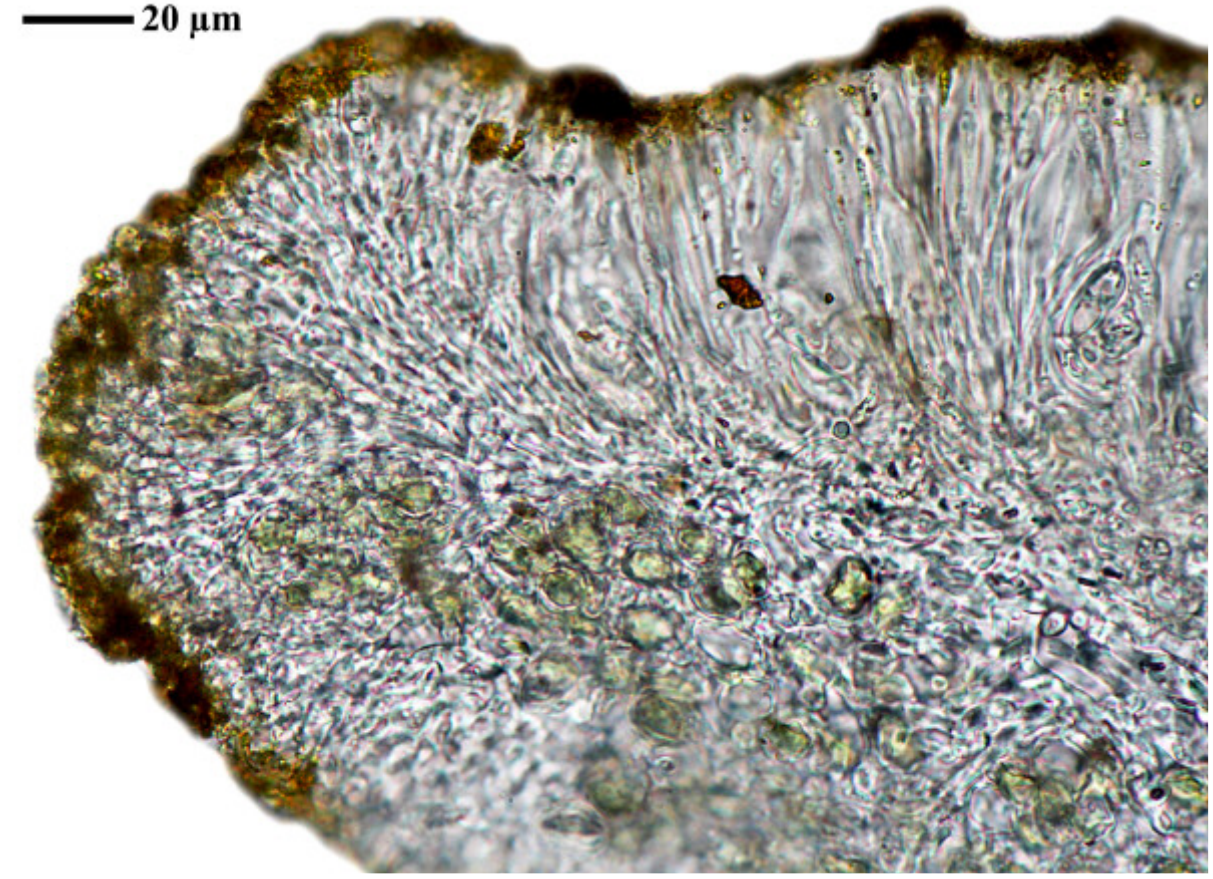
Caloplaca jungermanniae

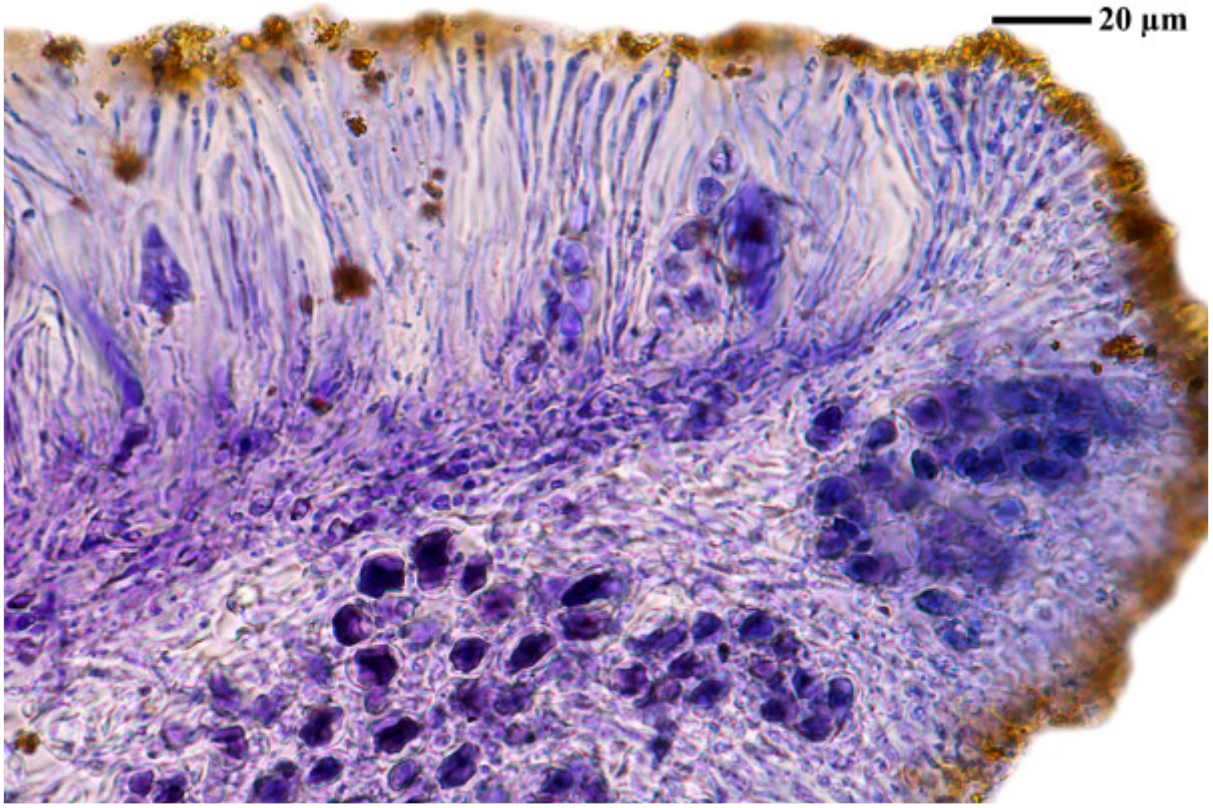




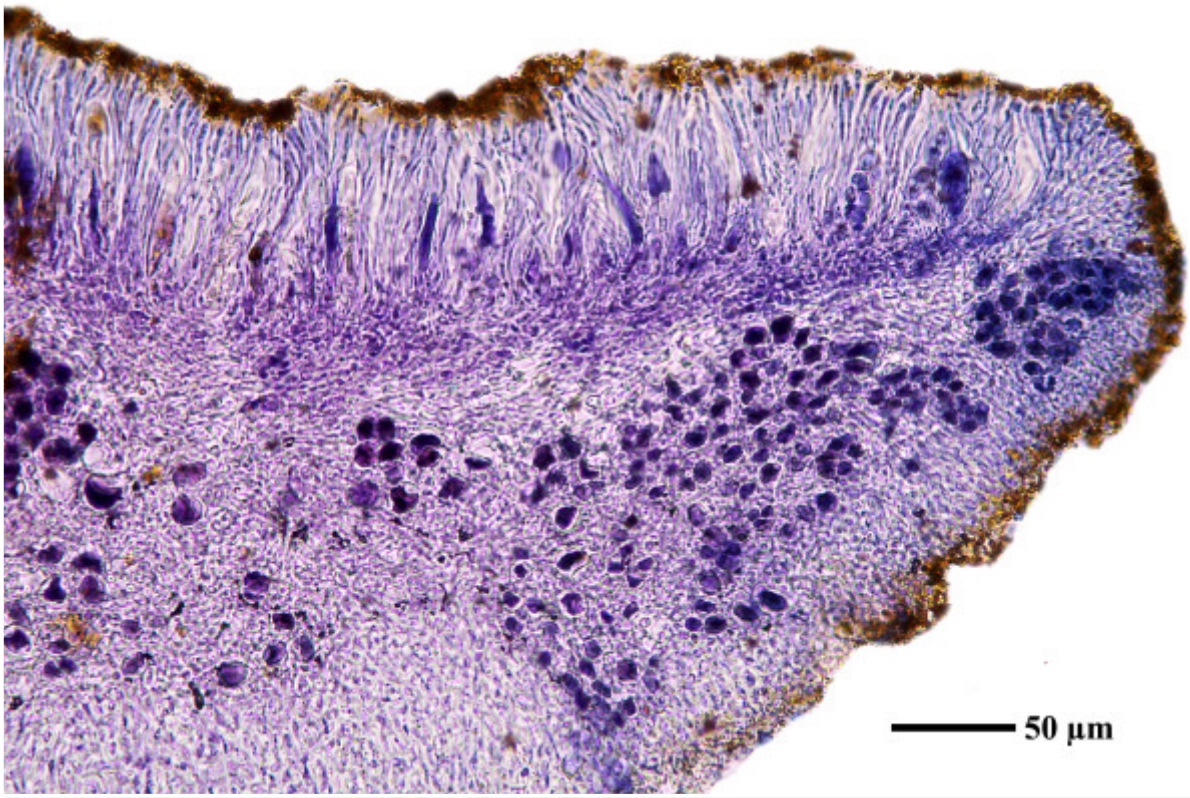


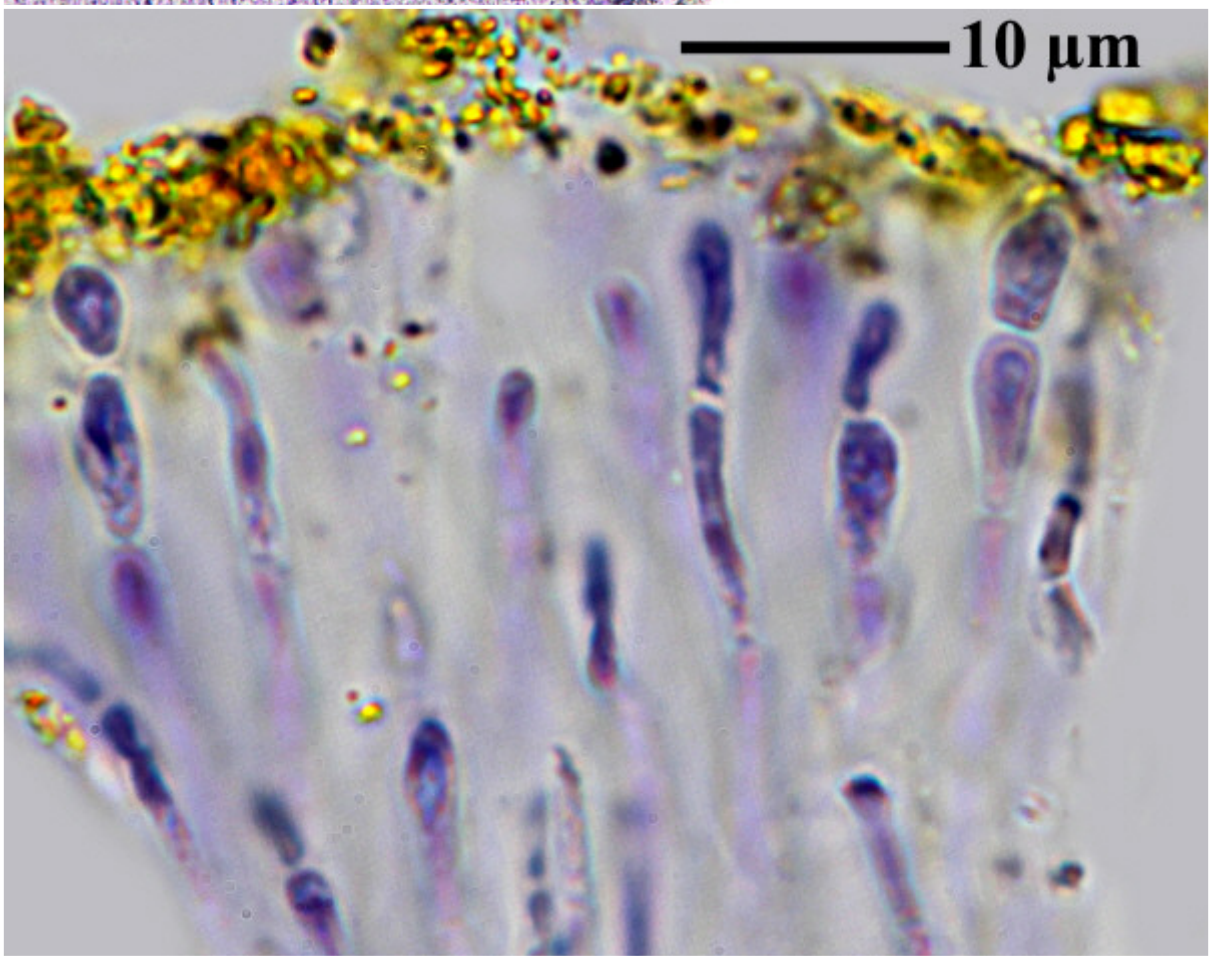
Caloplaca jungermanniae



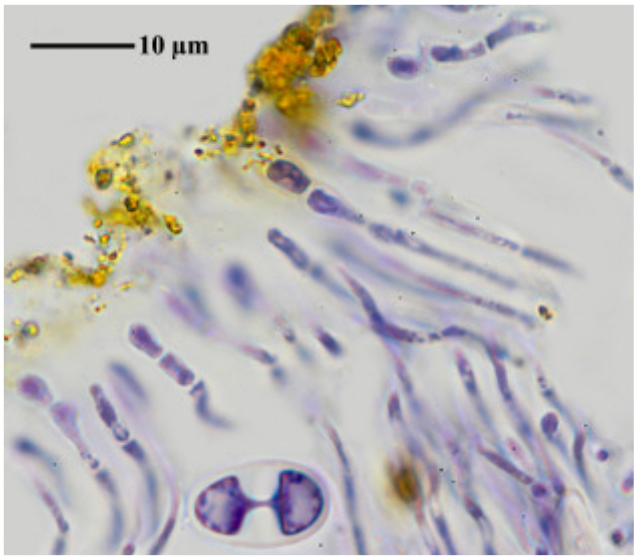


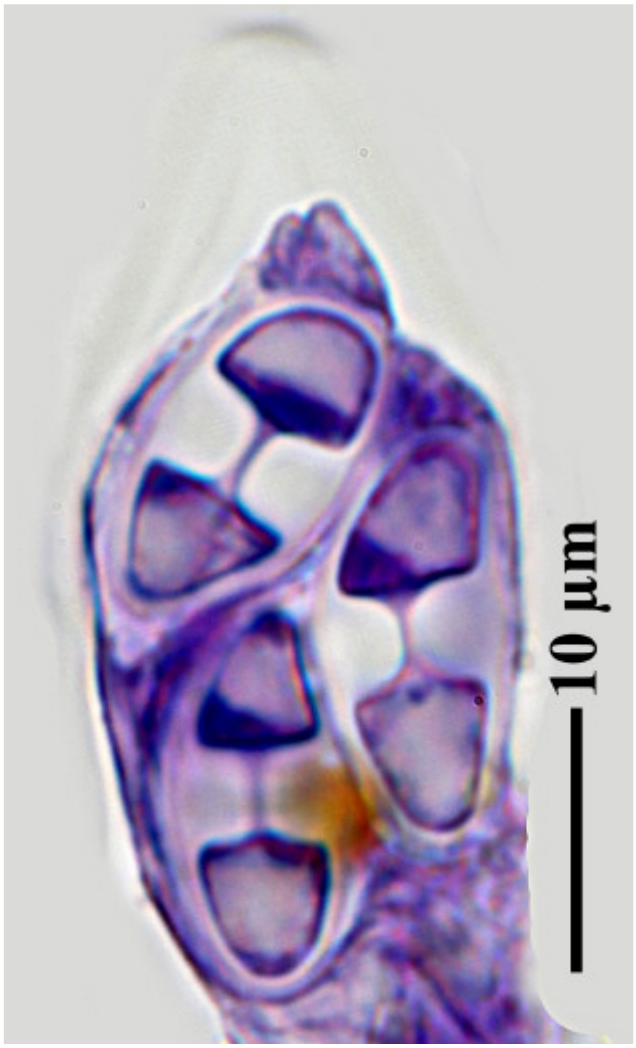
Caloplaca jungermanniae





Caloplaca jungermanniae







Caloplaca jungermanniae

Caloplaca jungermanniae (Vahl) Th.Fr.
[= *Bryoplaca jungermanniae* (Vahl) Søchting, Frödén & Arup]

On mosses. Ascospores 15 x 7 µm, septum thin.

[ABL 75188], Schweden, Öland, SW of Möckelmossen, UTM 594-6265, on Alvar om soil. Leg. A. Aptroot 16.06.2016, det. A. Aptroot 2016.





Caloplaca jungermanniae

Caloplaca juniperina Tomin
[= *Gyalolechia juniperina* (Tomin) Søchting, Frödén & Arup]

Spores 11-13.5 x 6-7 µm, septum 1.8-2.5 µm (FS)

[B 60 0142711], Tajikistan, in einem Seitental der Warsob-Schlucht, in der Nähe der botanischen Station Kwak,auf abgestorbenem Juniperus, ca. 1700 m. Leg. S. Huneck (T-32), 13 July 1975, det J. Poelt, 1975.



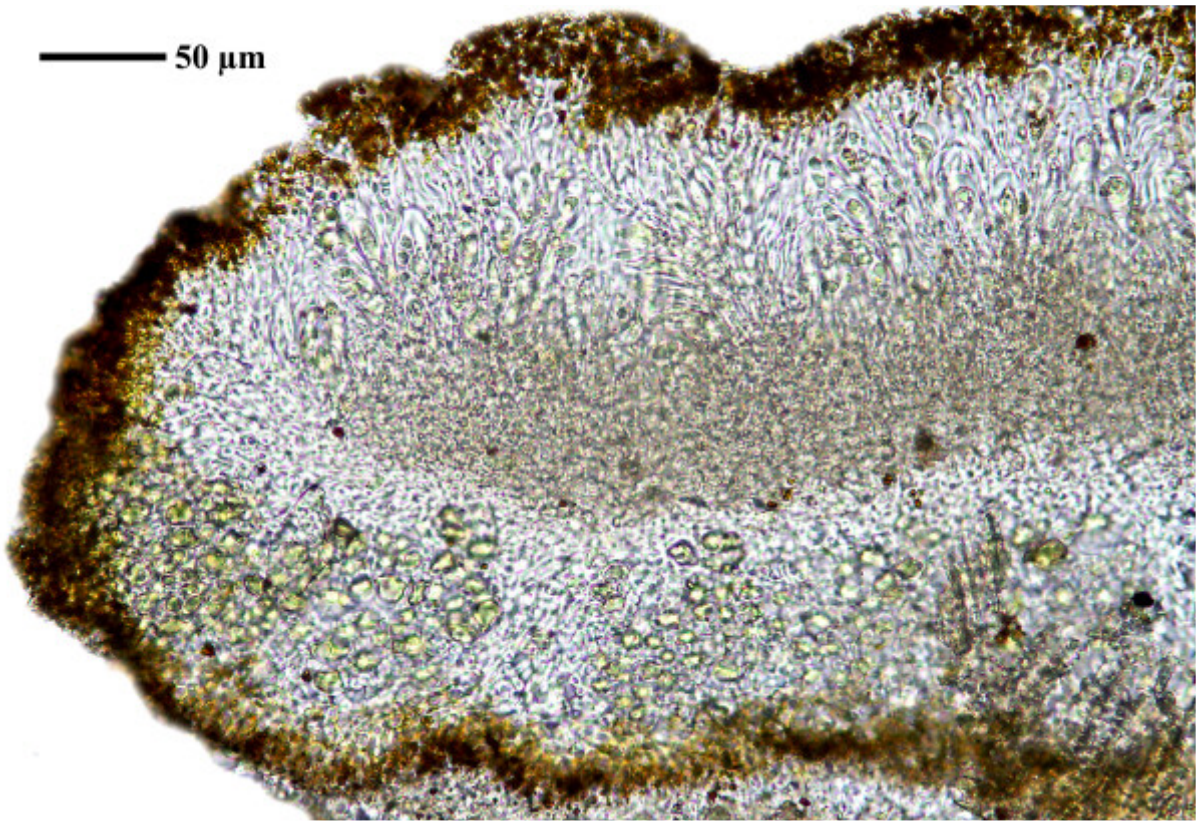


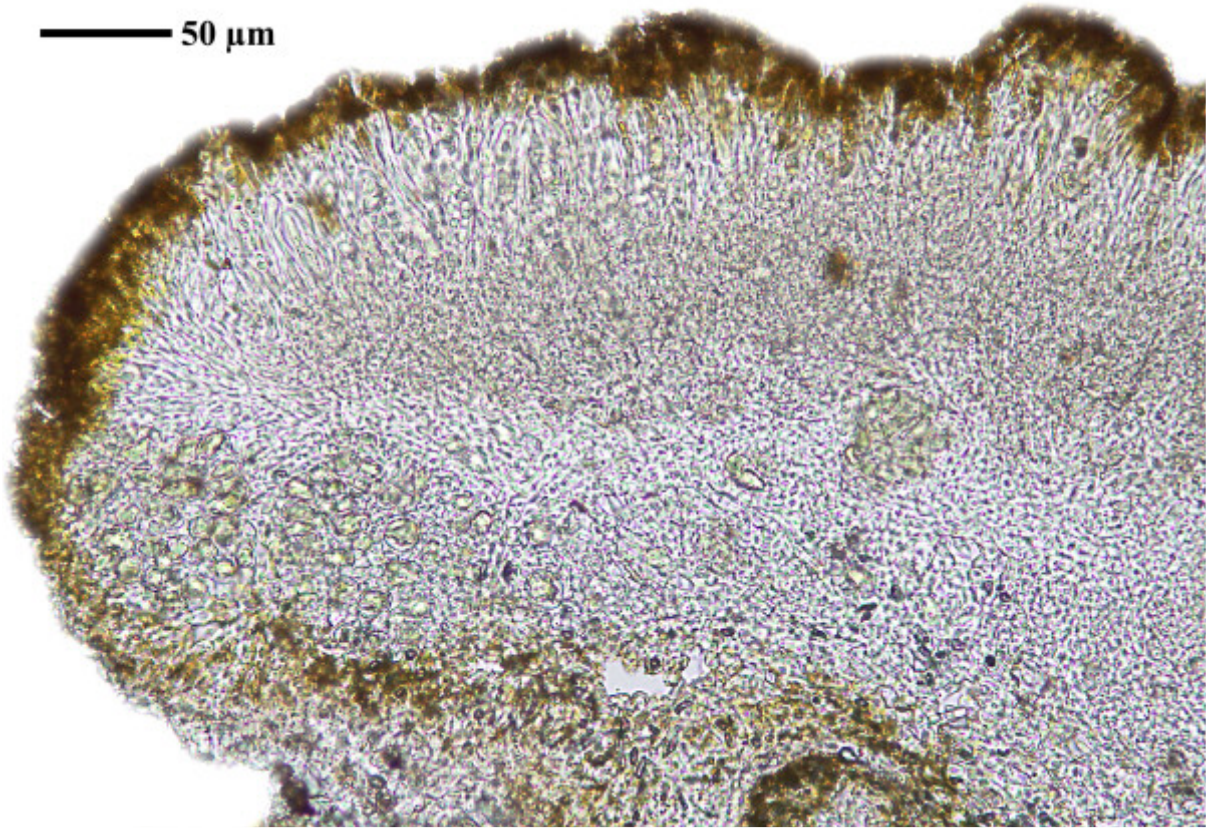


Caloplaca juniperina

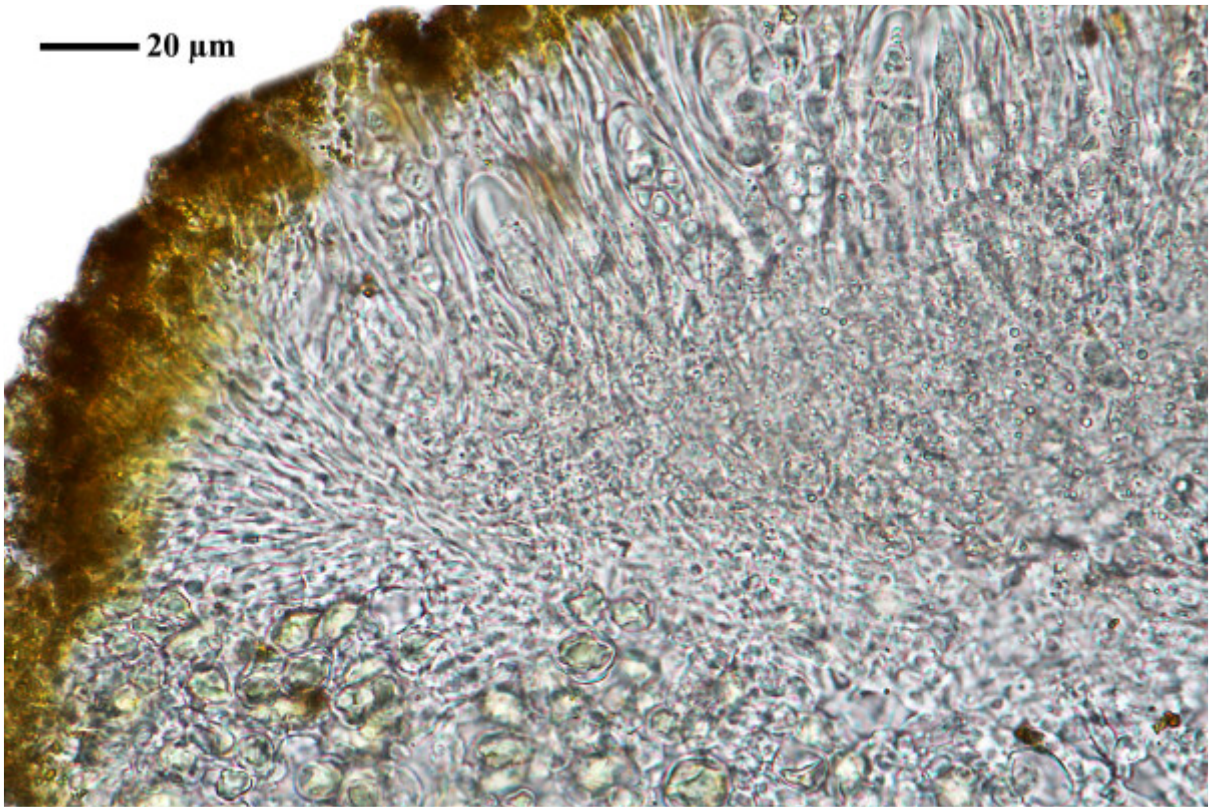


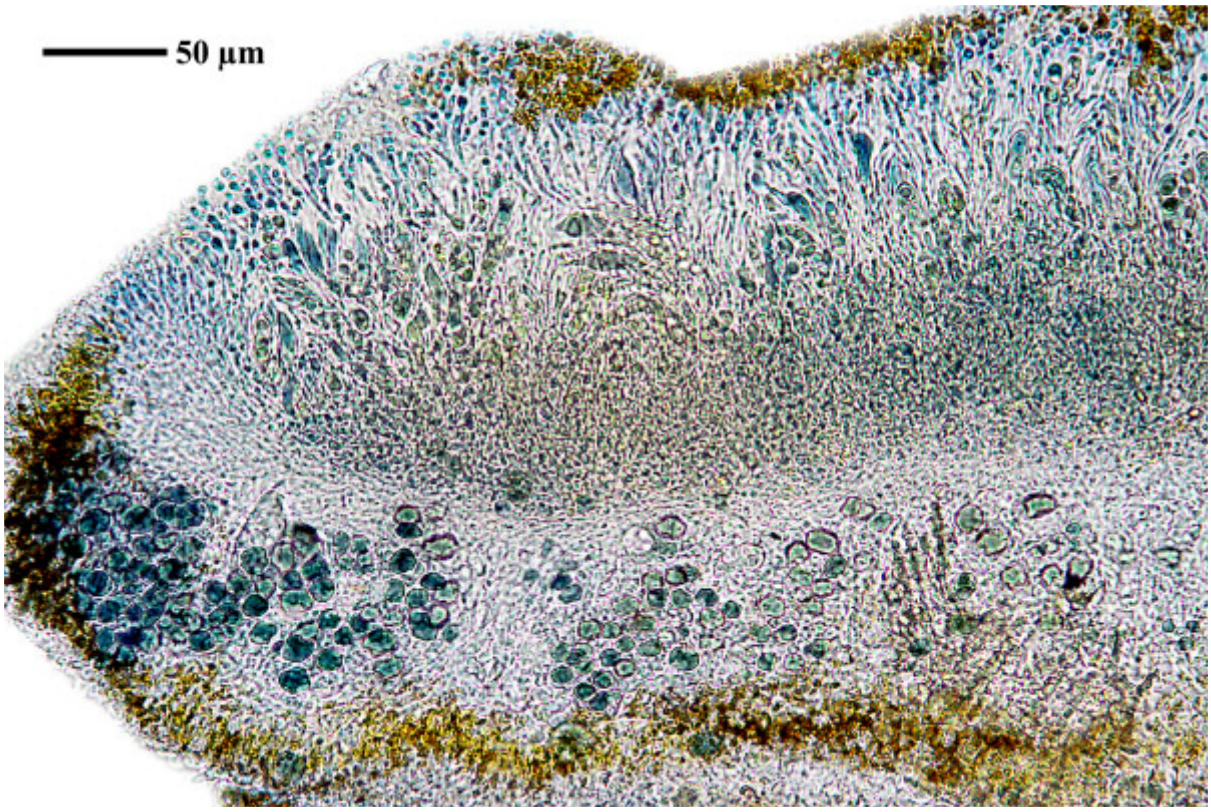
Caloplaca juniperina



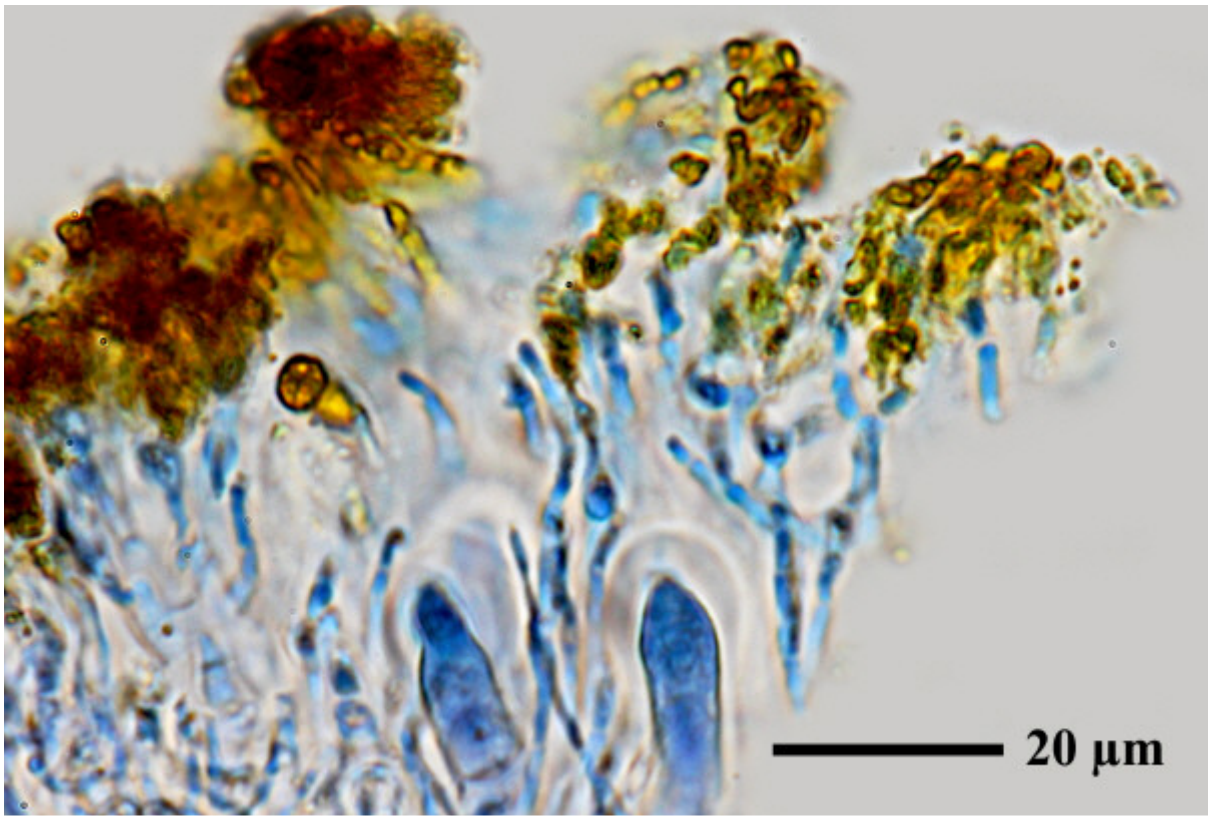


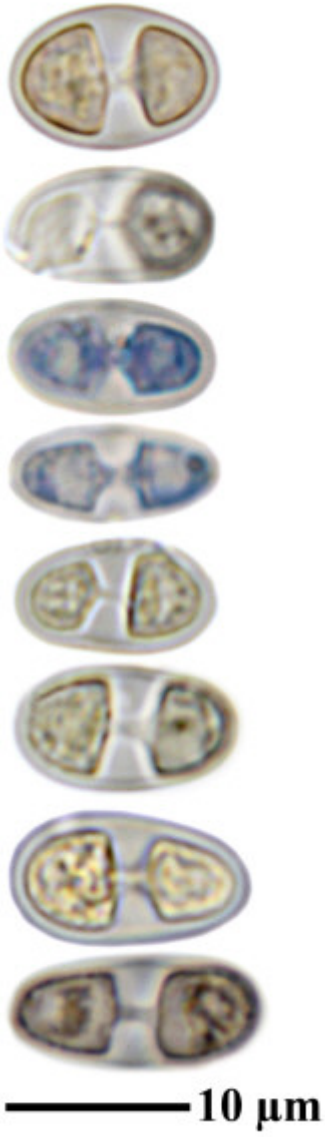
Caloplaca juniperina

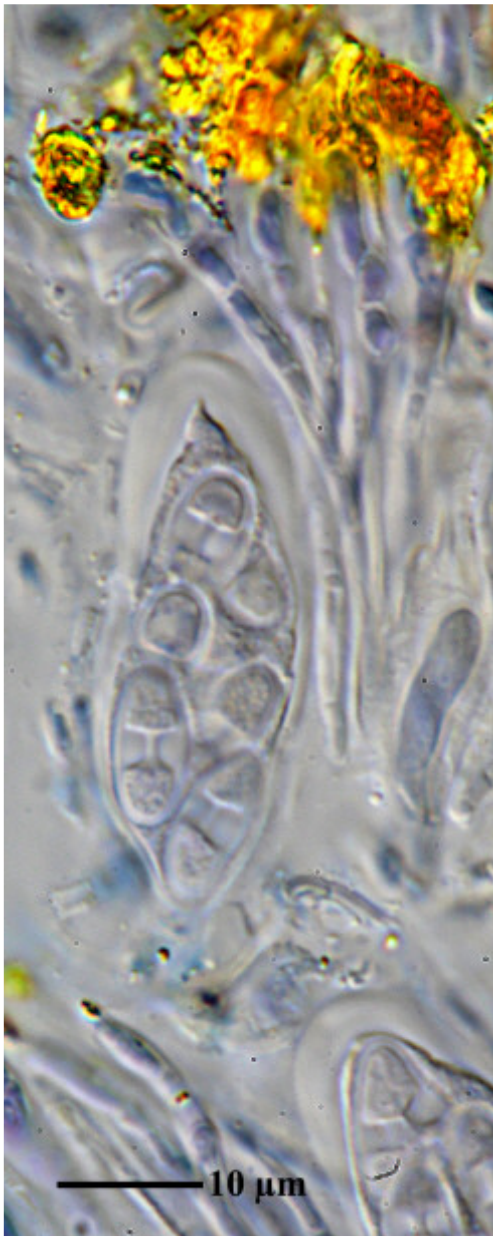




Caloplaca juniperina





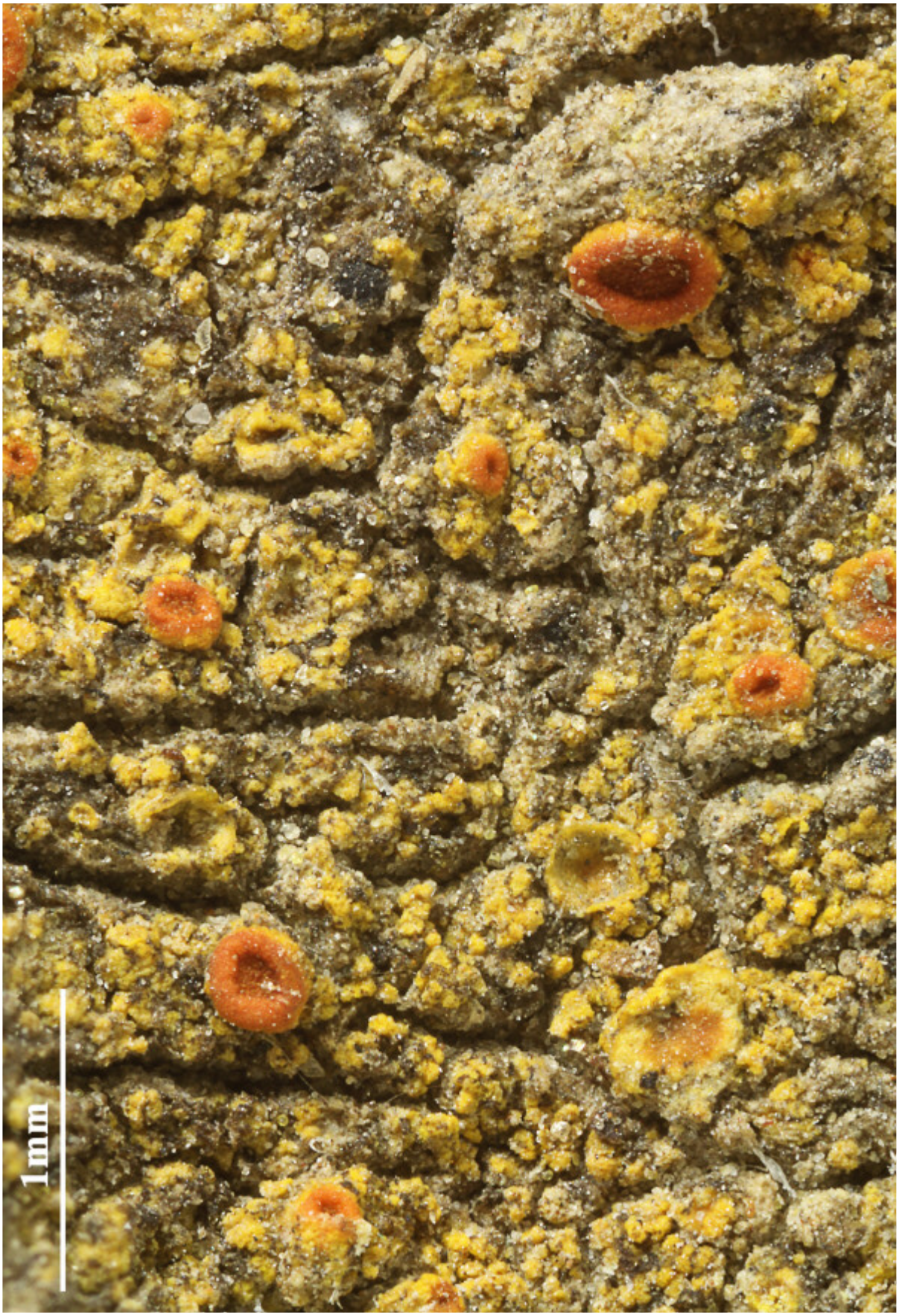


Caloplaca juniperina

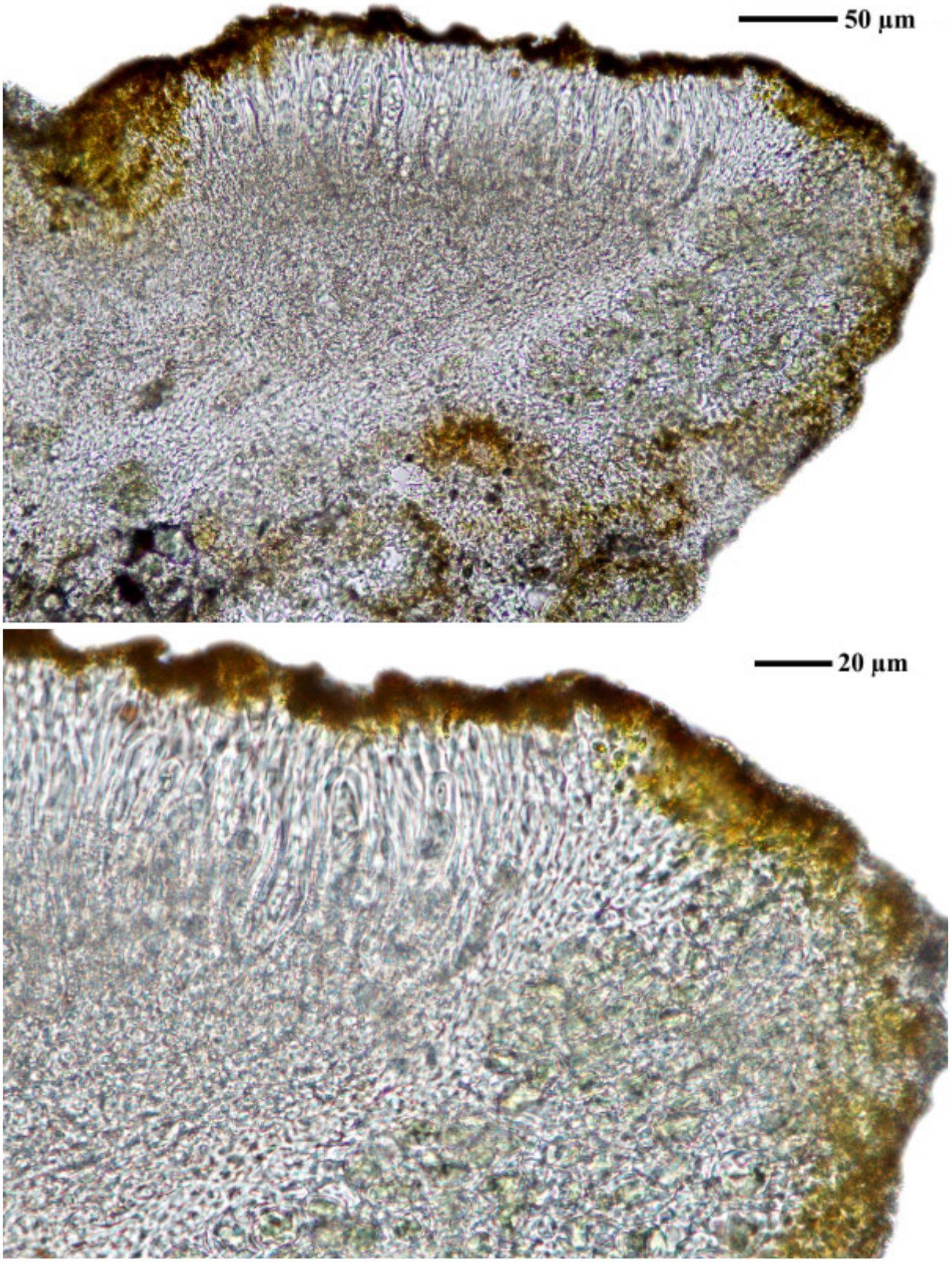
Caloplaca juniperina Tomin, (1953)
[= *Gyalolechia juniperina* (Tomin) Søchting, Frödén & Arup, Nordic Jl Bot. 31(1): 71 (2013)]

[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.

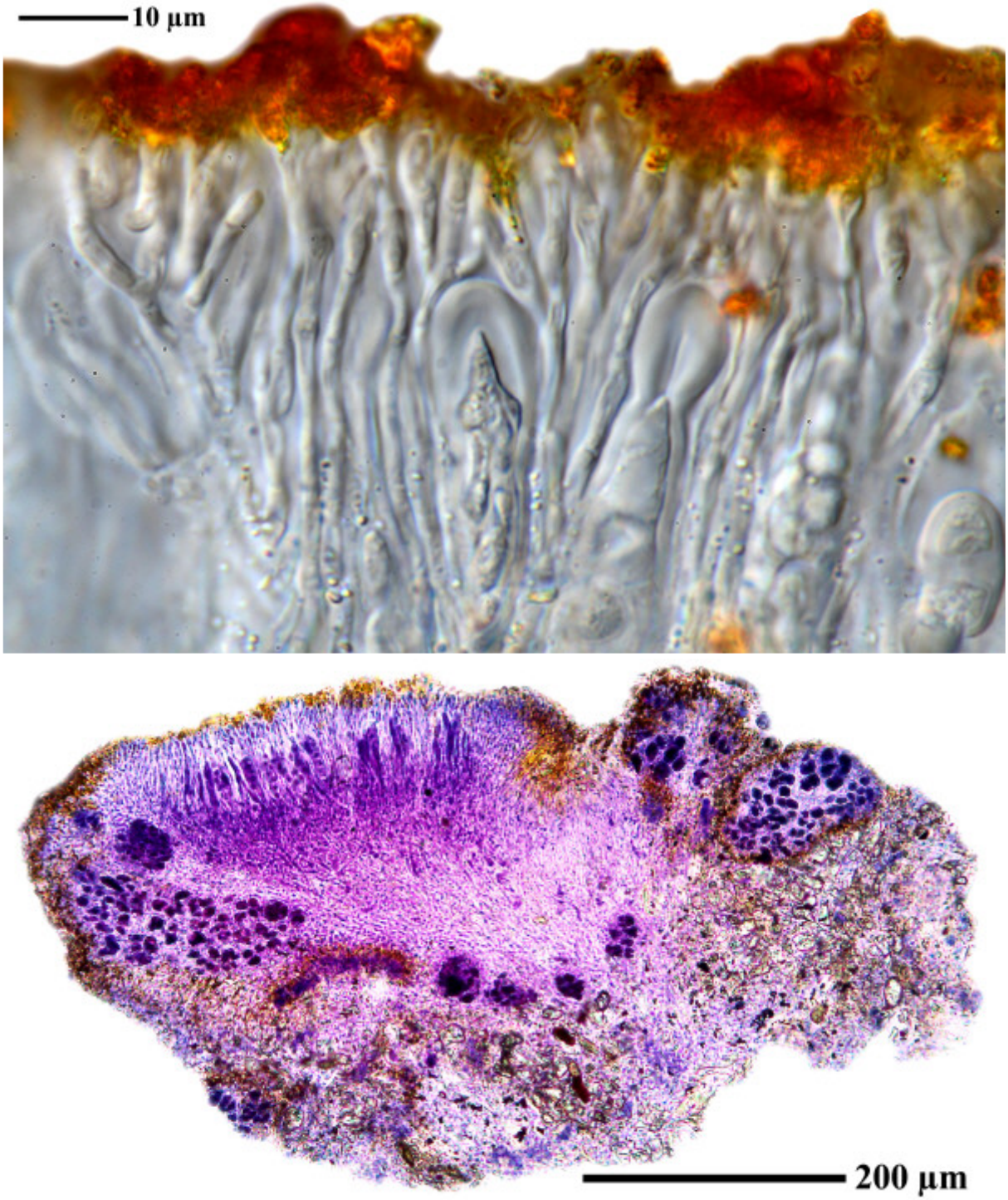




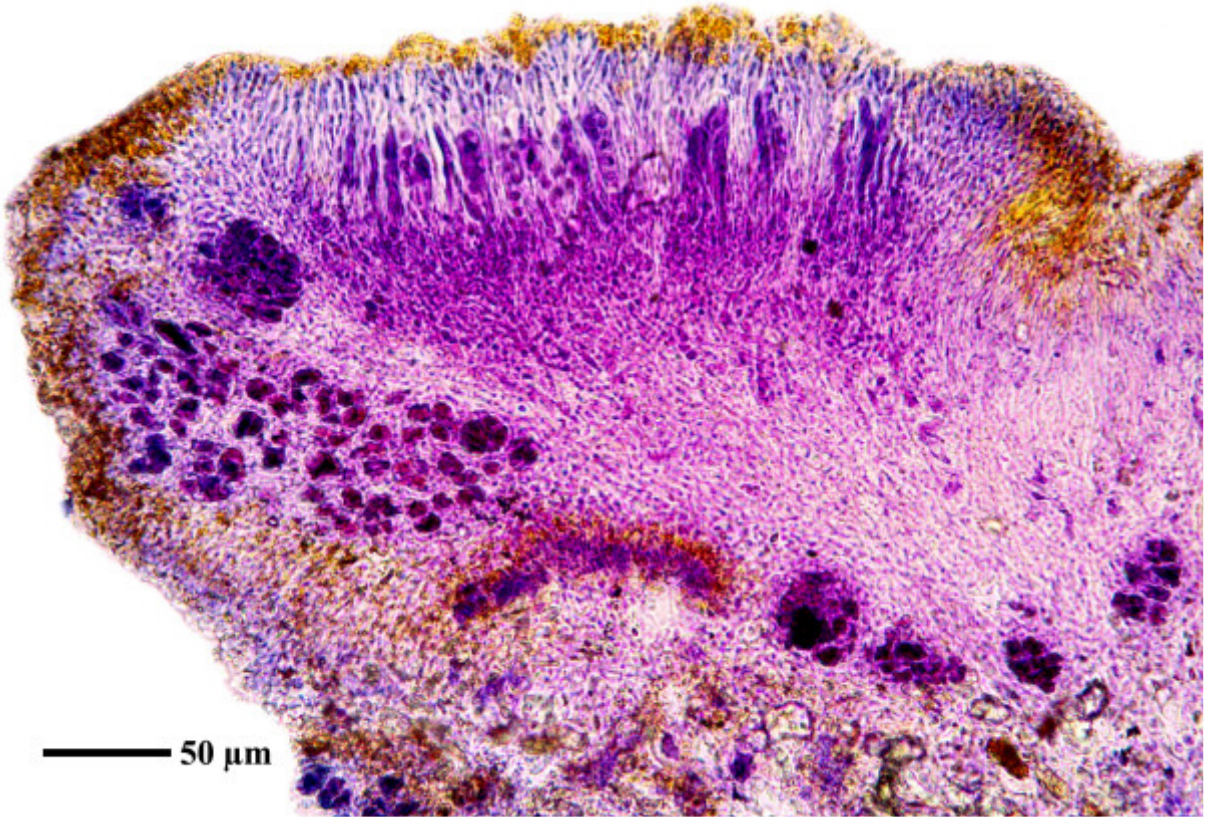
Caloplaca juniperina

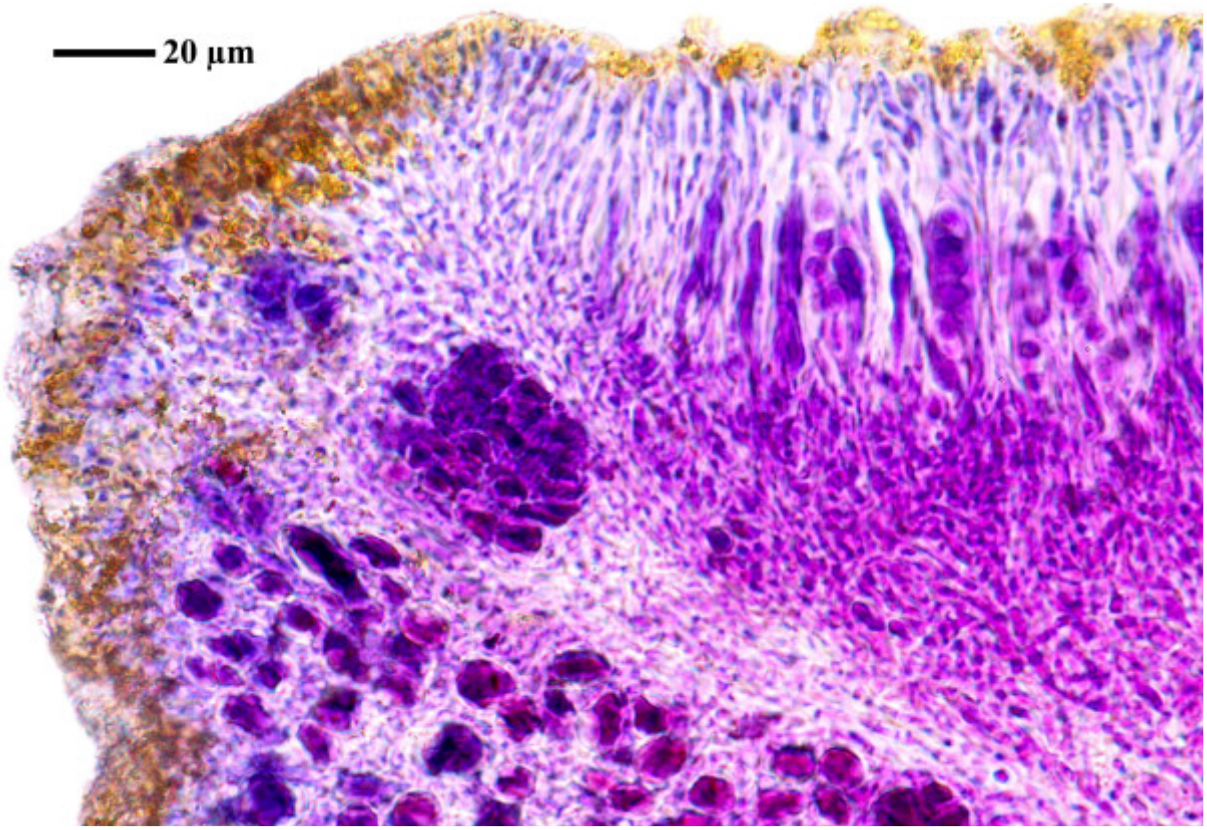


Caloplaca juniperina

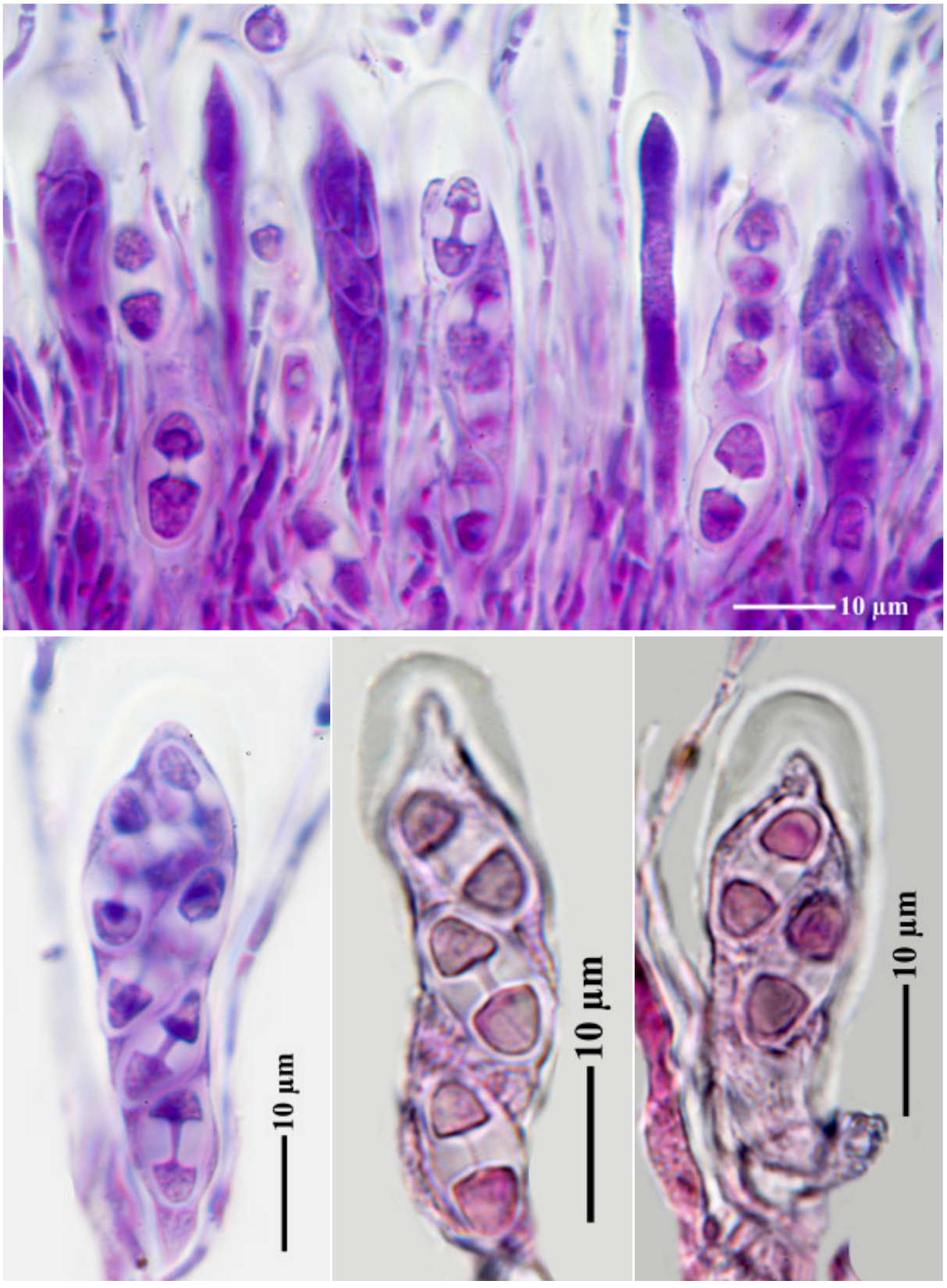


Caloplaca juniperina

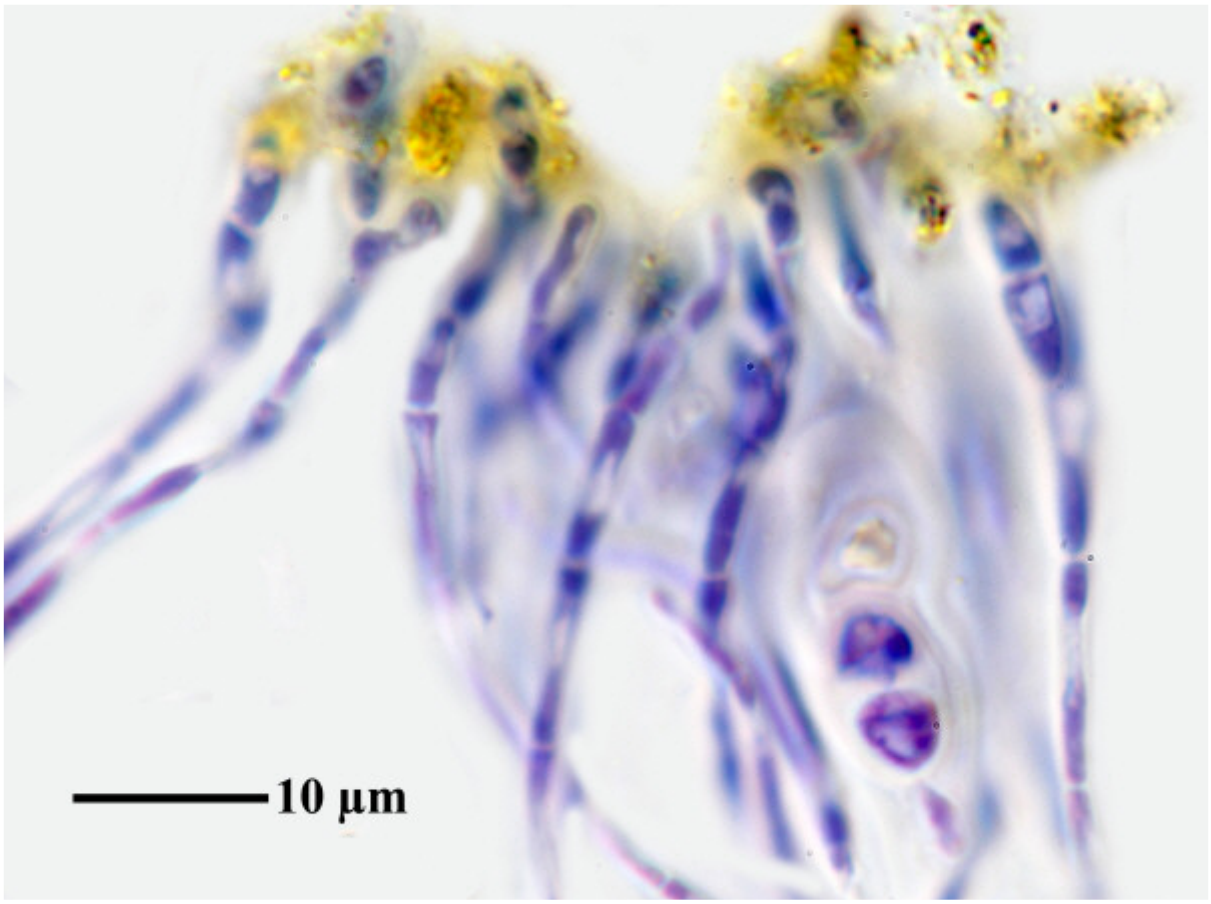




Caloplaca juniperina



Caloplaca juniperina





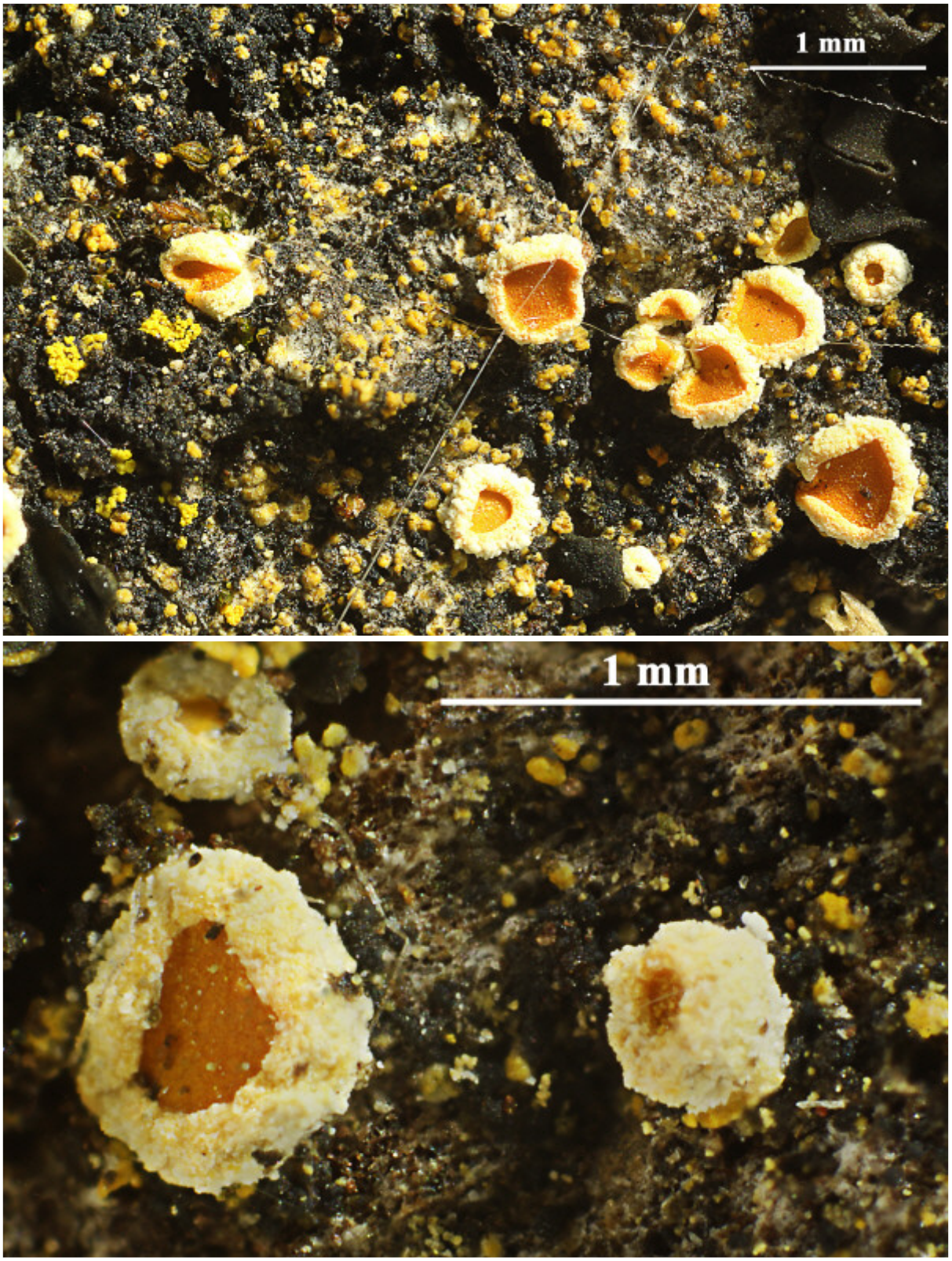
Caloplaca juniperina

Caloplaca kaernefeltii S.Y. Kondr., Elix & A. Thell
[= *Kaernefia kaernefeltii* (S.Y. Kondr., Elix & A. Thell) S.Y. Kondr., A. Thell, Elix, J. Kim, A.S. Kondr. & J.-S. Hur]

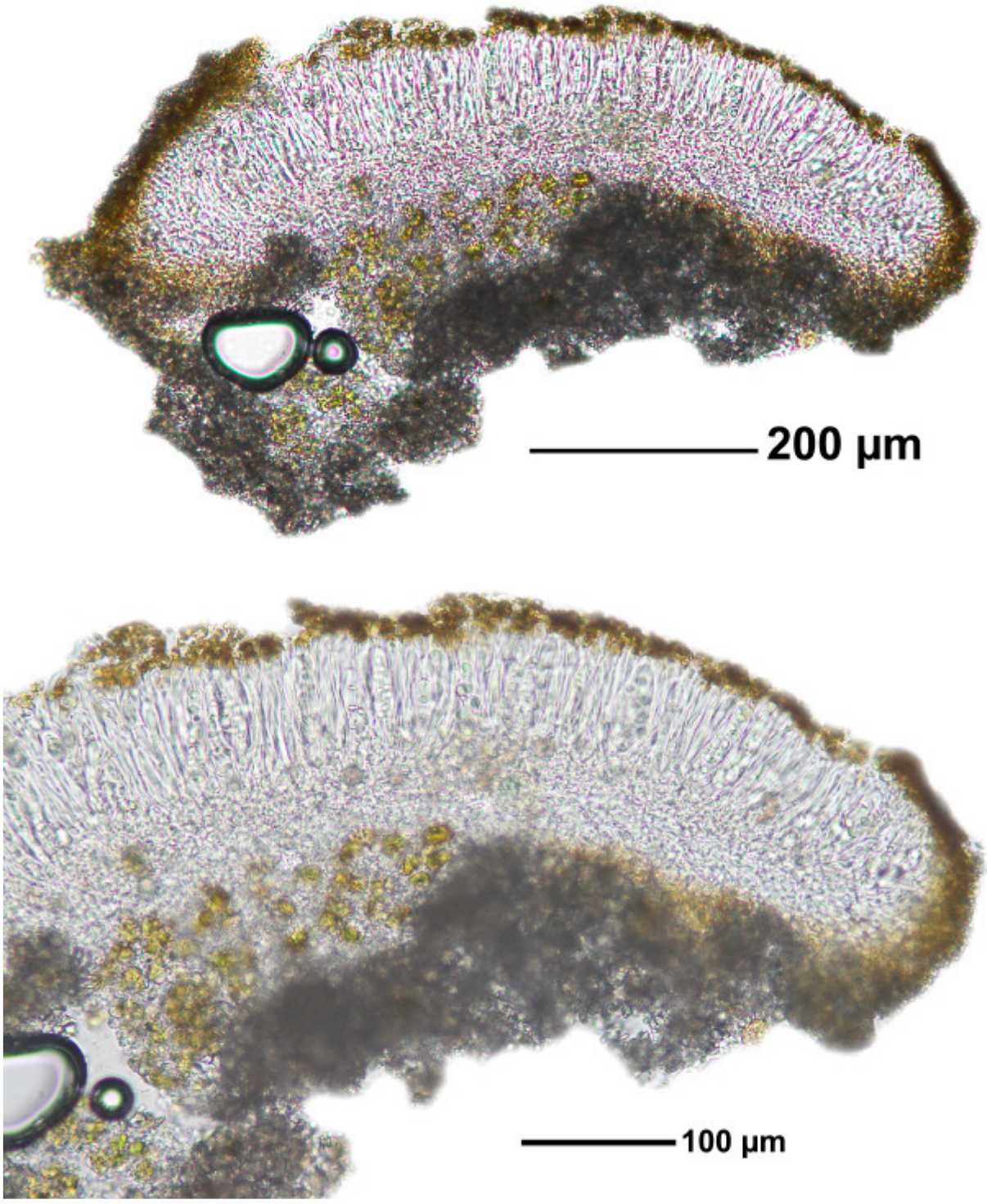
Thallus corticolous, unvisible black or yellow granules. Apothecia sessile, disc yellow (orange), margin dry white somewhat byssoid and wet yellowish, without algae but with hyaline crystals.

[15749], Australia, Western Australia, between Manjimup and Mt. Baker, Lake Muir, 34.44142° S, 116.64809° E, 186 m, on bark. Leg. F. Schumm & E. Stocker-Wörgötter, 23.10.2009, det. S. Y. Kondratyuk 03.2016.

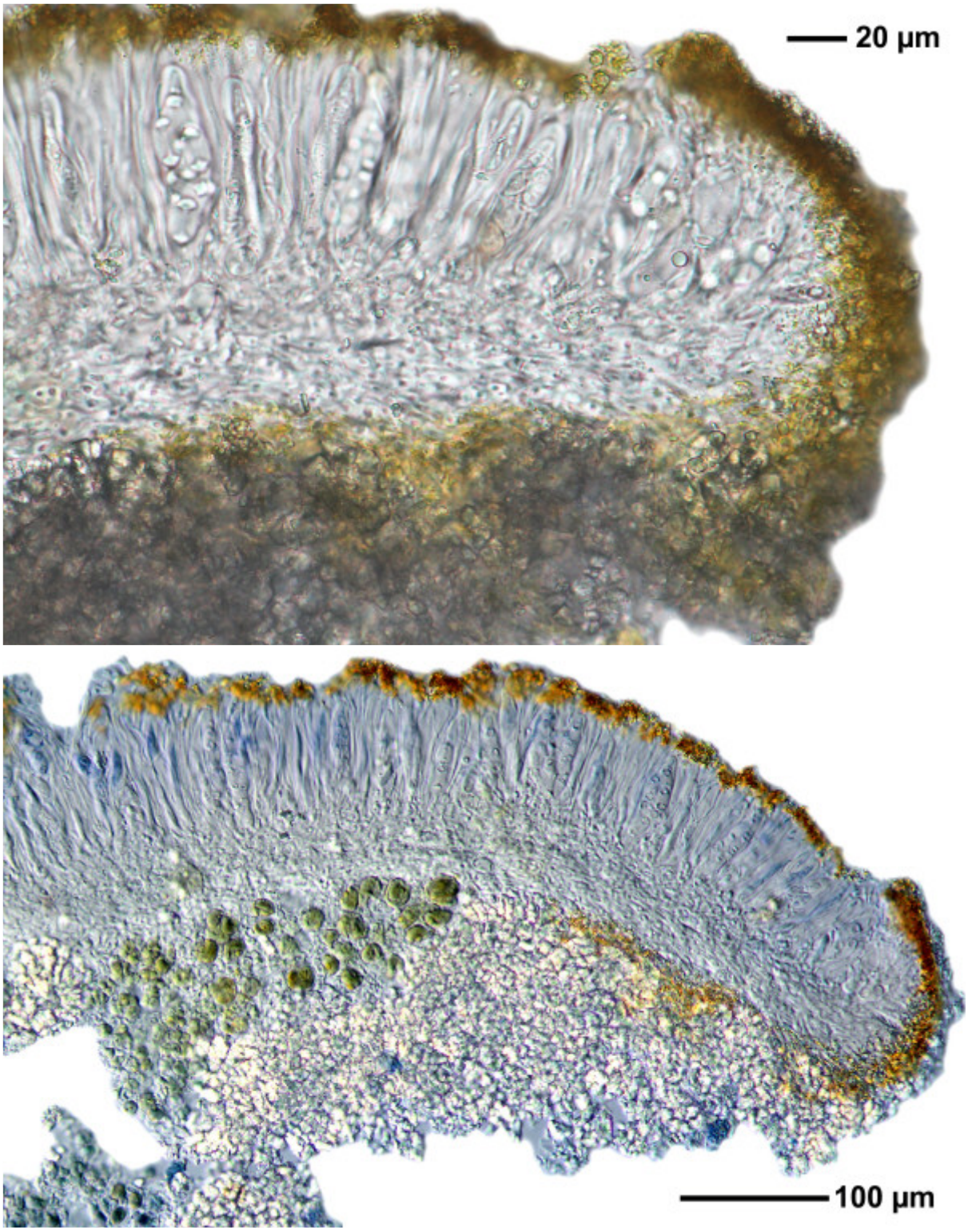




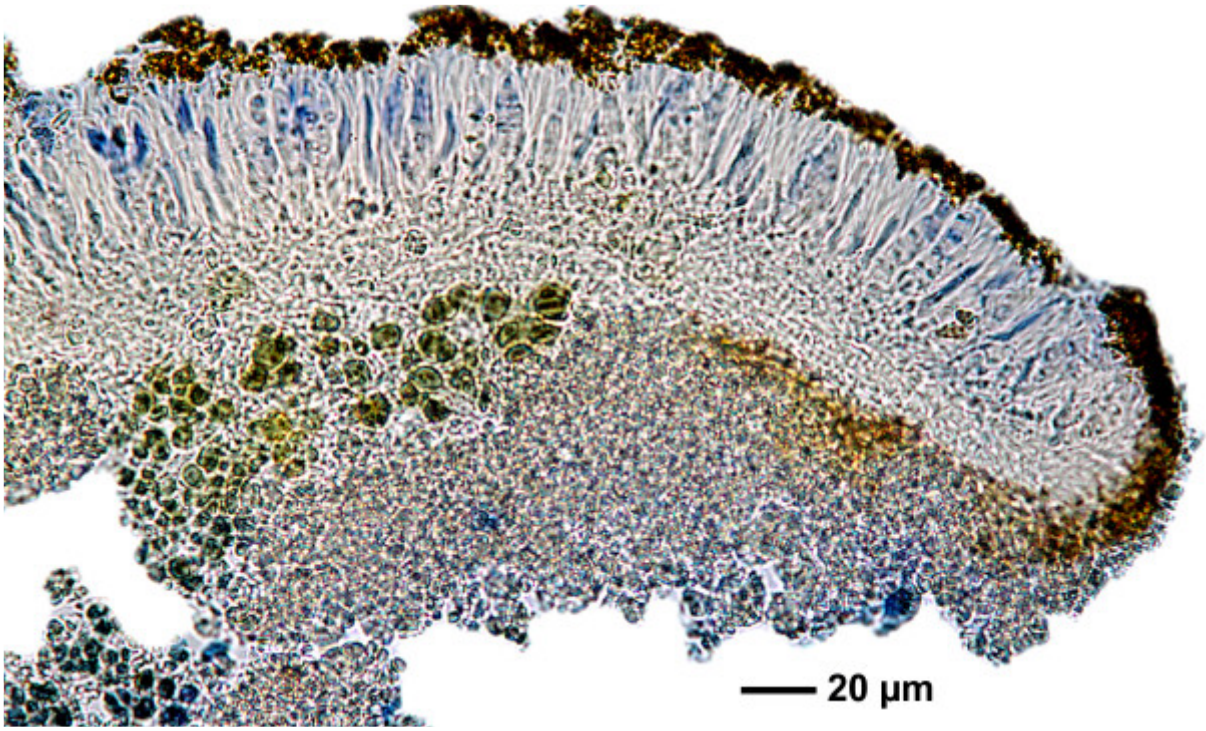
Caloplaca kaernefeltii

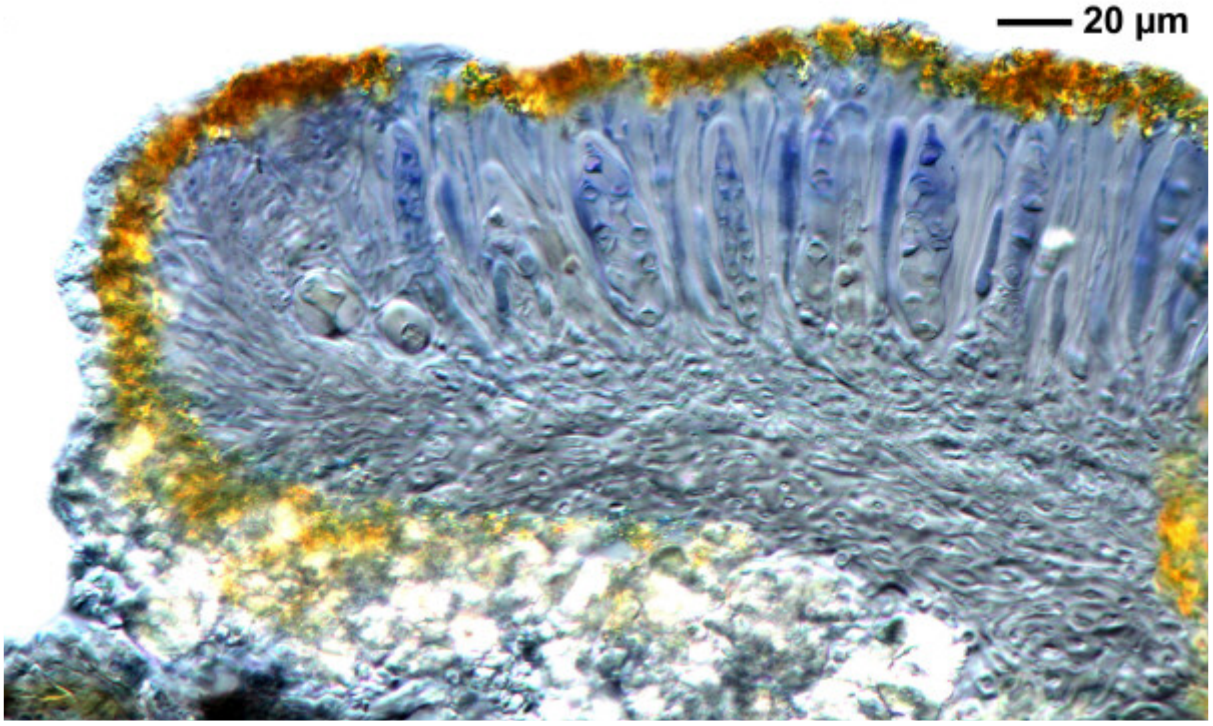


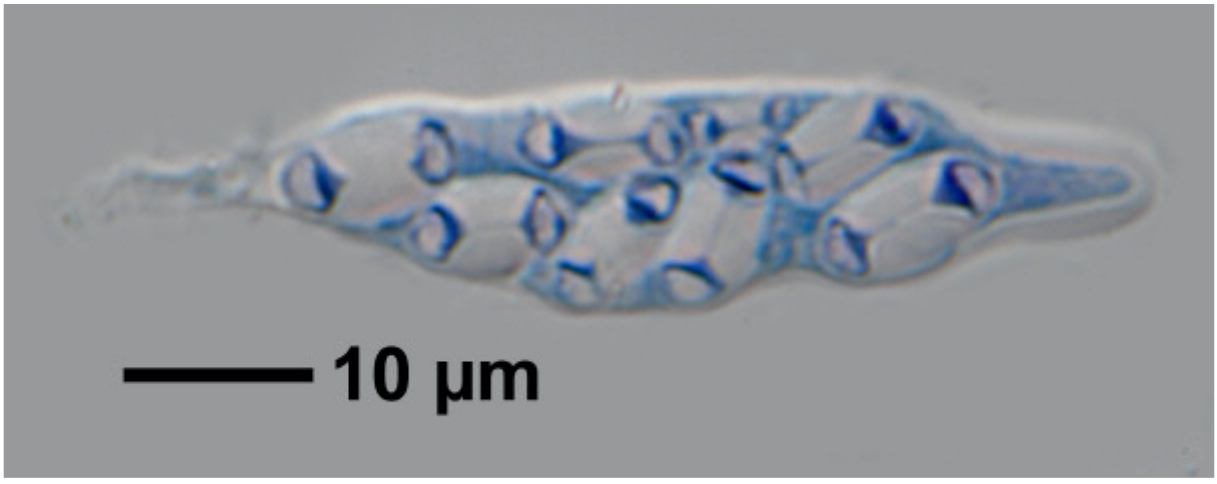
Caloplaca kaernefeltii



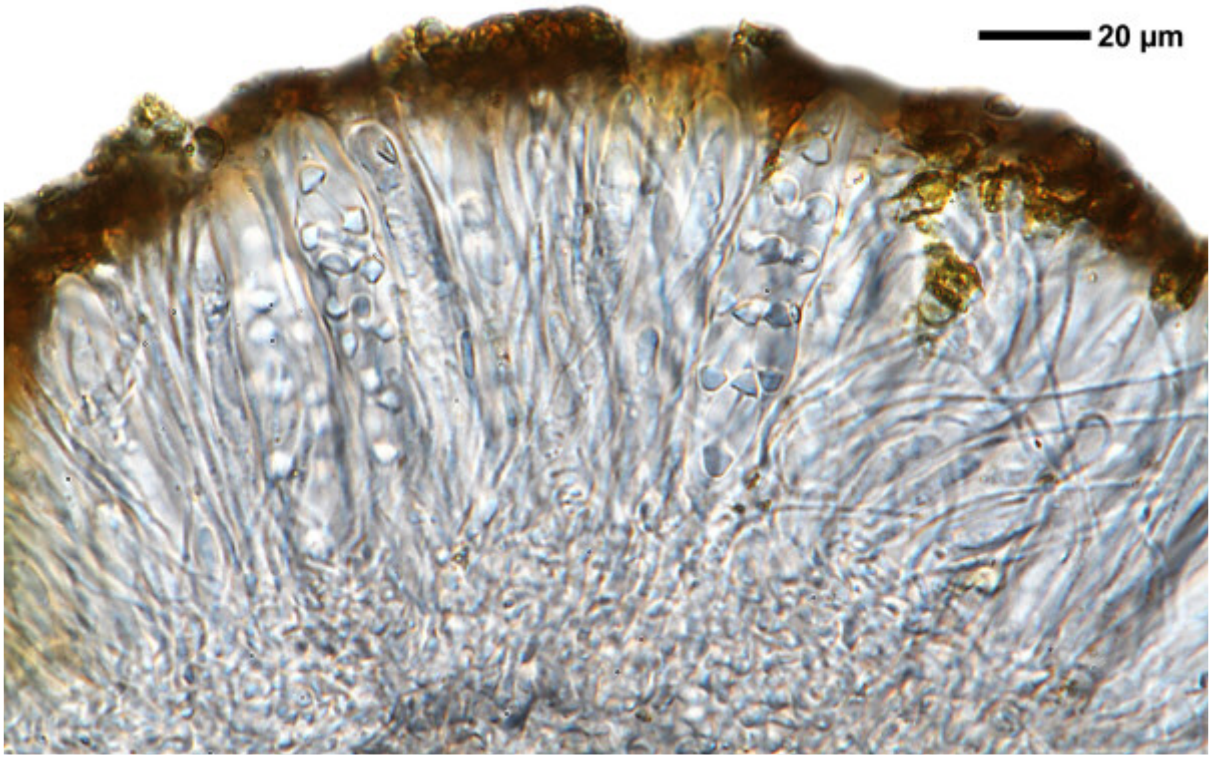
Caloplaca kaernefeltii



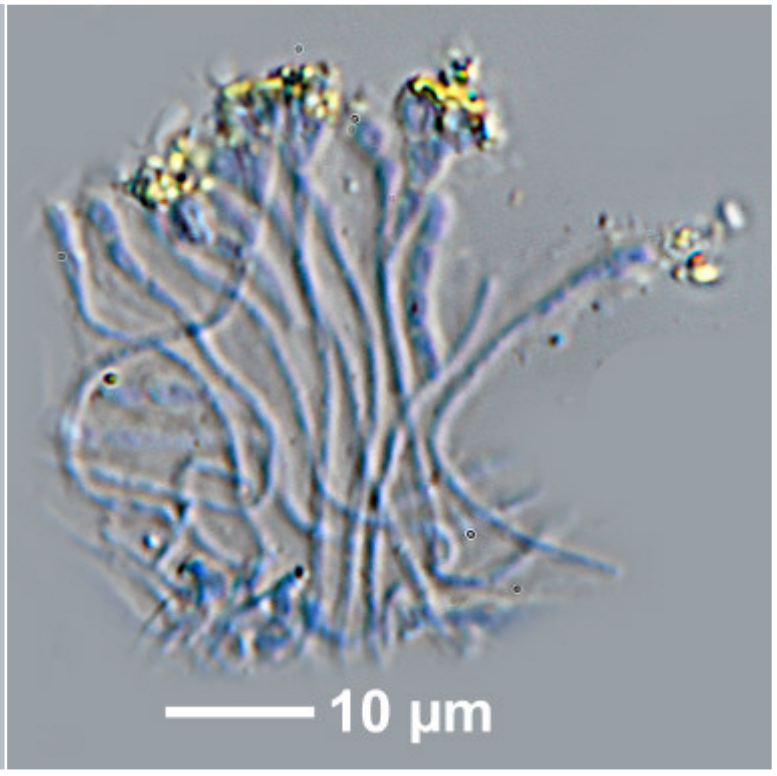




Caloplaca kaernefeltii









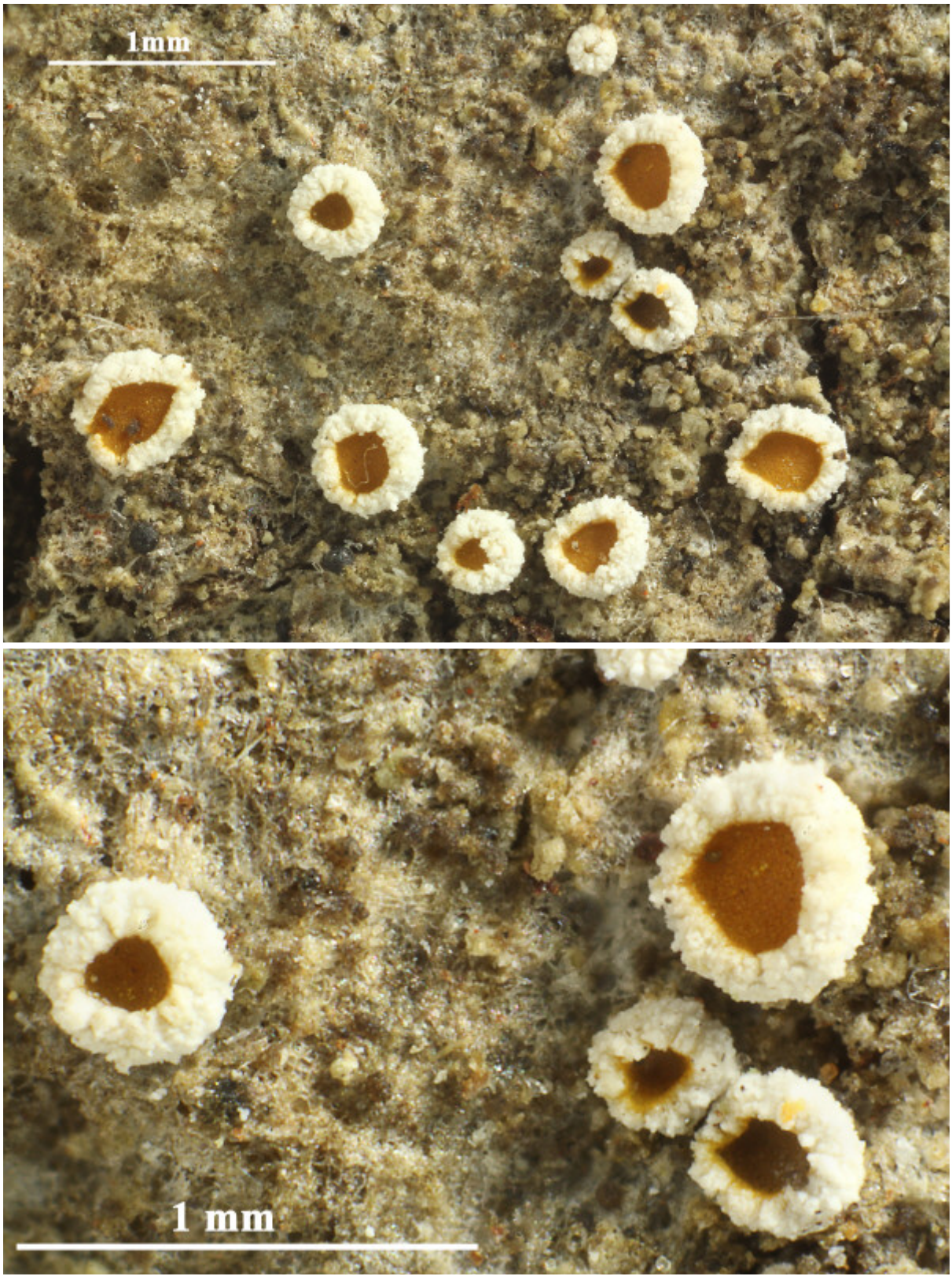
Caloplaca kaernefeltii

Caloplaca kaernefeltii S.Y. Kondr., Elix & A. Thell
[= *Kaernefia kaernefeltii* (S.Y. Kondr., Elix & A. Thell) S.Y. Kondr., A. Thell, Elix, J. Kim, A.S. Kondr. & J.-S. Hur

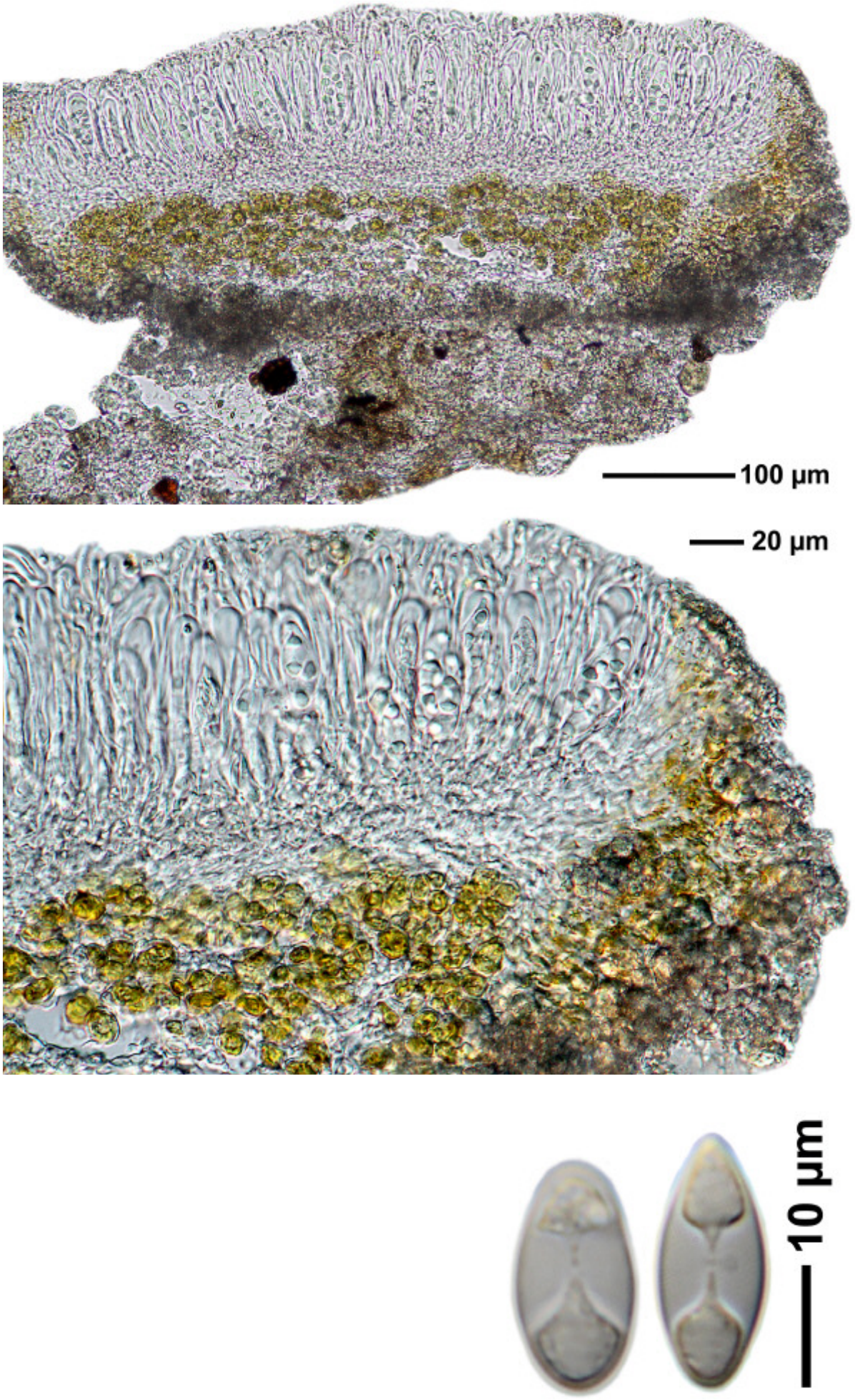
Thallus corticolous, indistinct, partly invisible and poorly developed, composed of tiny granules, greenish-orange. Apothecia sessile, 0.4-0.5 mm, disc orange, margin white, thick, raised, crenulate, somewhat byssoid eroded, 0.1-0.2 mm. True exciple scleropectenchymateous, thalline exciple filled with crystals. Ascospores hyaline, 19-21 x 8.5-9 µm, septum 6-7 µm. Chemistry (p367/5): parietin. Lit. Kondratyuk et al. (2009), Bibl. Lichenolog. 100: 254.

[15941], Australia, Western Australia, Yalgorup National Park, Lake Clifton (Thrombolithen), 32.74528° S, 115.65580° E, 15 m. Leg. F. Schumm & E. Stocker-Wörgötter, 28.10.2009, det. F. Schumm, conf. S. Kondratyuk 03.2016.

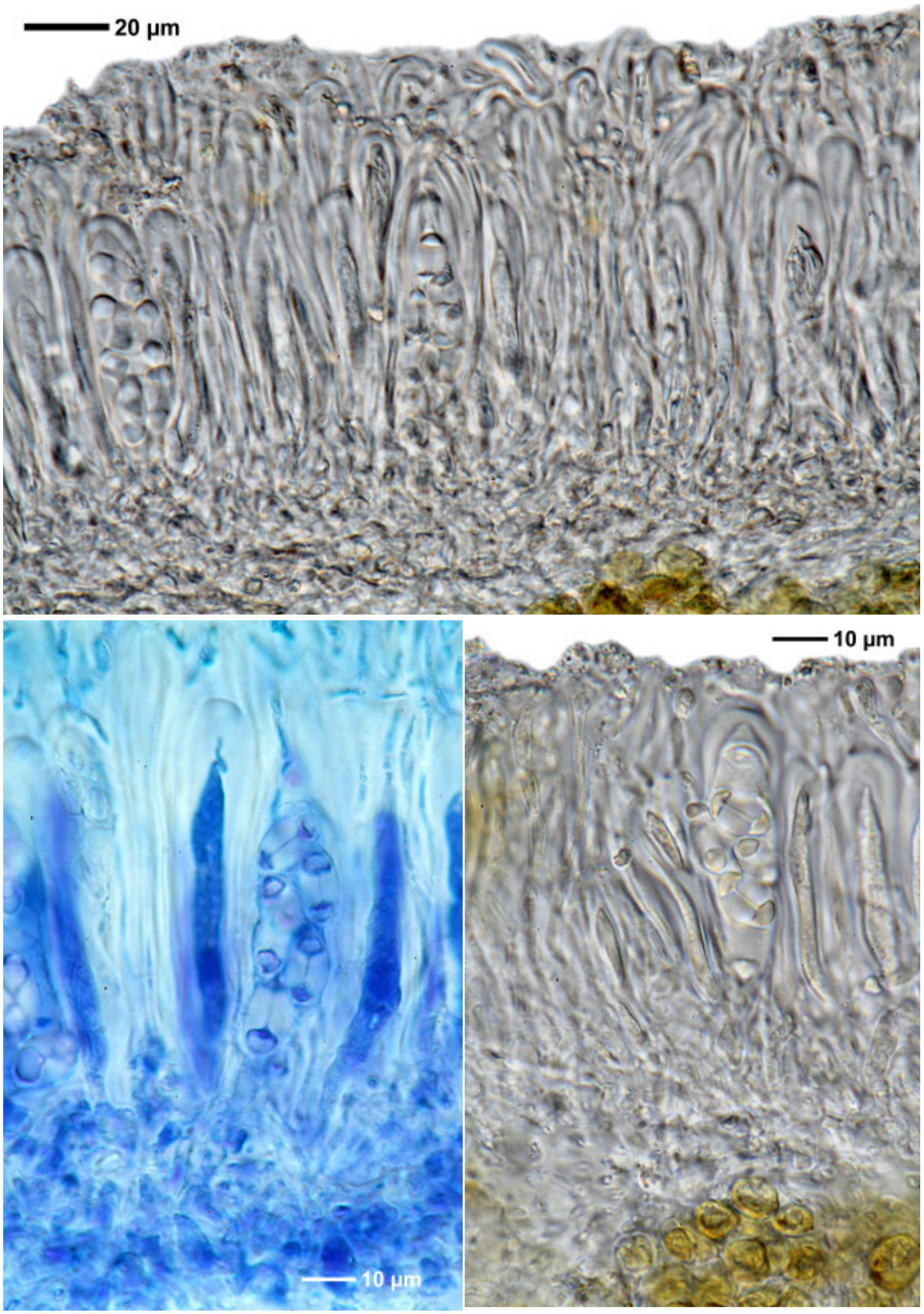




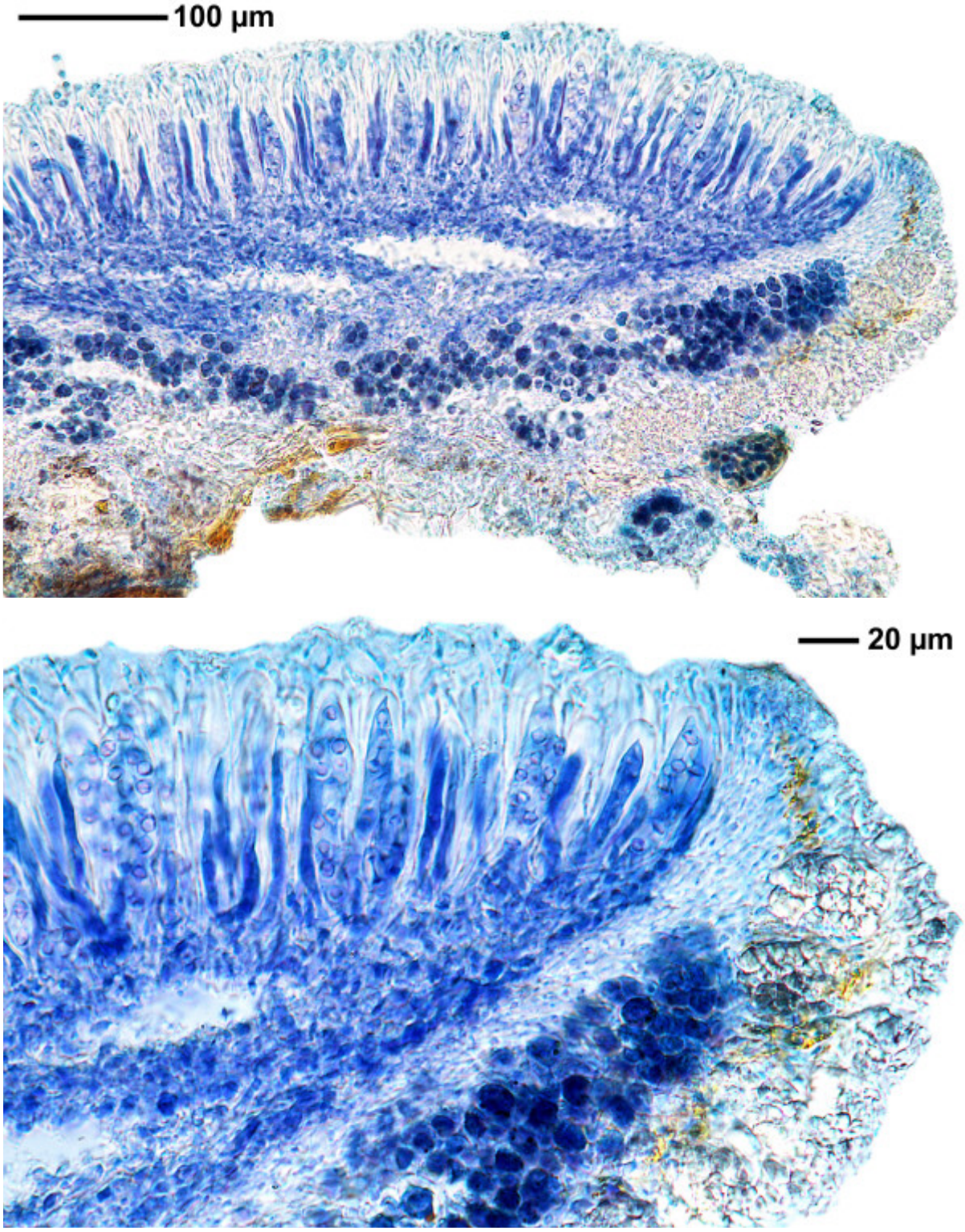
Caloplaca kaernefeltii



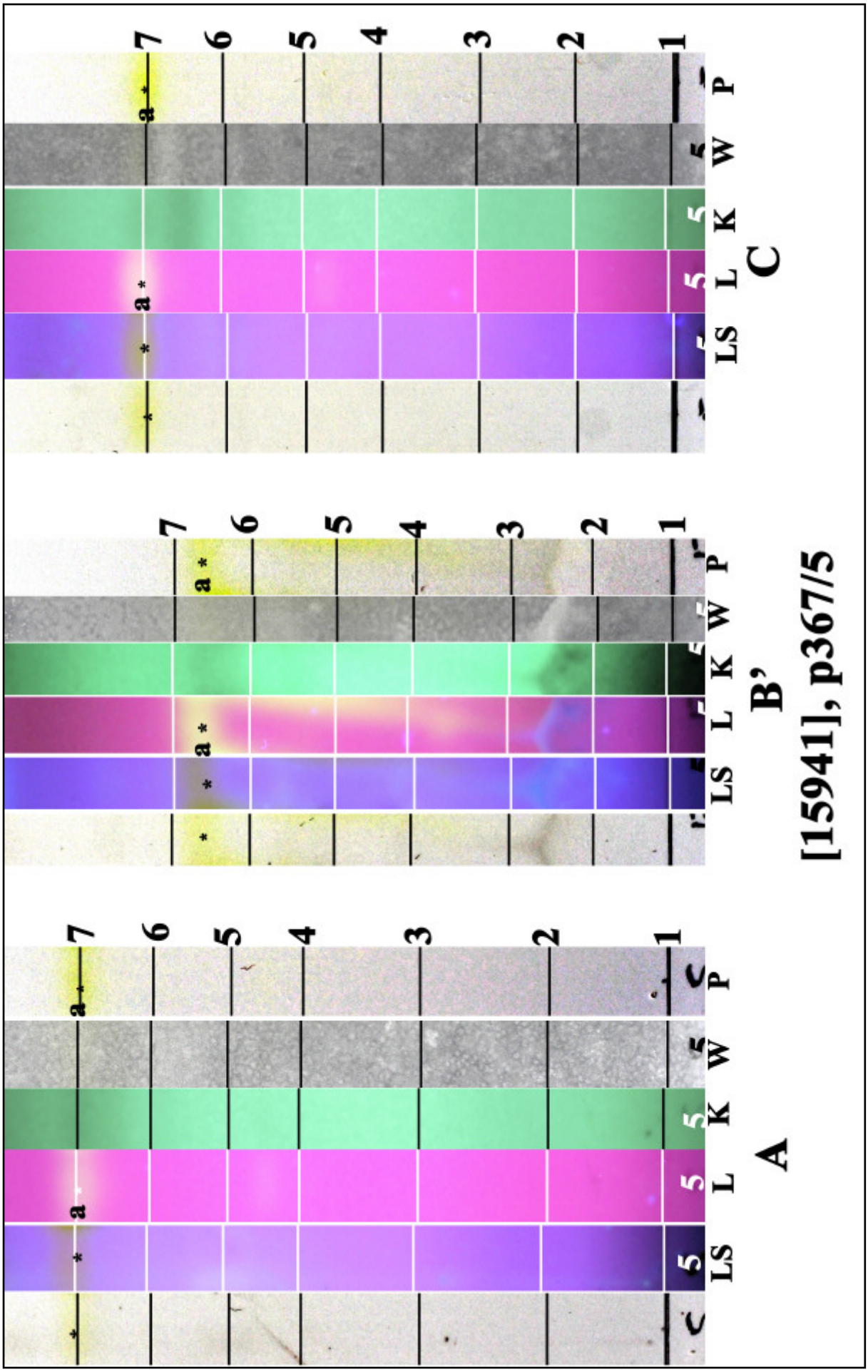
Caloplaca kaernefeltii



Caloplaca kaernefeltii



Caloplaca kaernefeltii



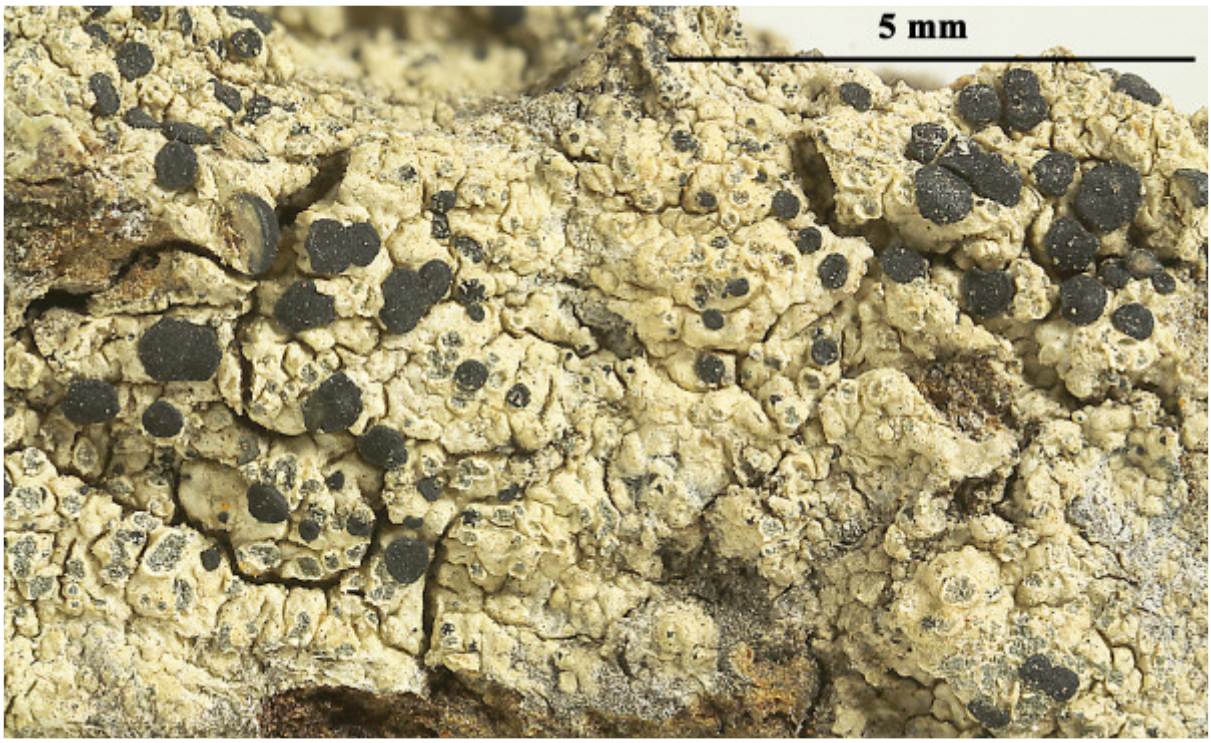
a: parietin

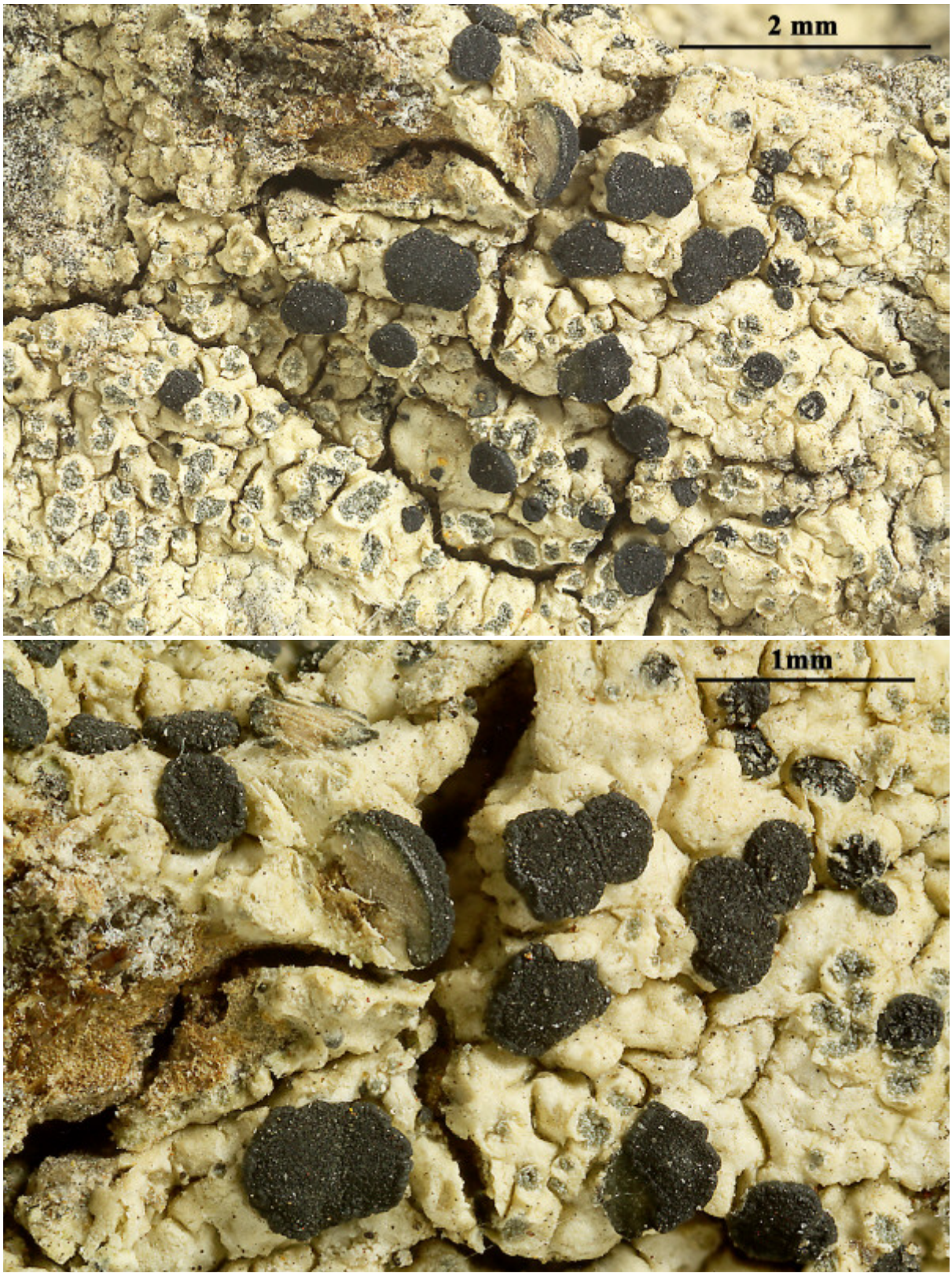
Caloplaca kaernefeltii

Caloplaca kalbiorum S.Y. Kondr. & Kärnefelt

Thallus corticolous, whitish to whitish-grey, continuous, with soralia. Soralia 0.2-0.3(-0.5) mm diam., irregularly rounded or elongated, sorediate mass bluish-grey. Apothecia black, 0.2-0.6 mm diam., biatorine. Hymenium to 60 µm high; epihymenium 15-20 µm thick, greenish- to buish-black, K-, N+ red. Paraphyses 3-5 µm in diam, only slightly broader (to 5 µm) at the tips. Ascospores 8/ascus, 10-12(-15) x 5-7 µm, septum 4-5(-7) µm. Chemistry: lichexanthone (major). Similar is *Caloplaca obscurella* (J.Lahm) Th.Fr. which has large, brown capitate paraphyses. Lit.: Kondratyuk, Kärnefelt, Elix & Thell (2007), Bibliotheca Lichenol. 96: 158.

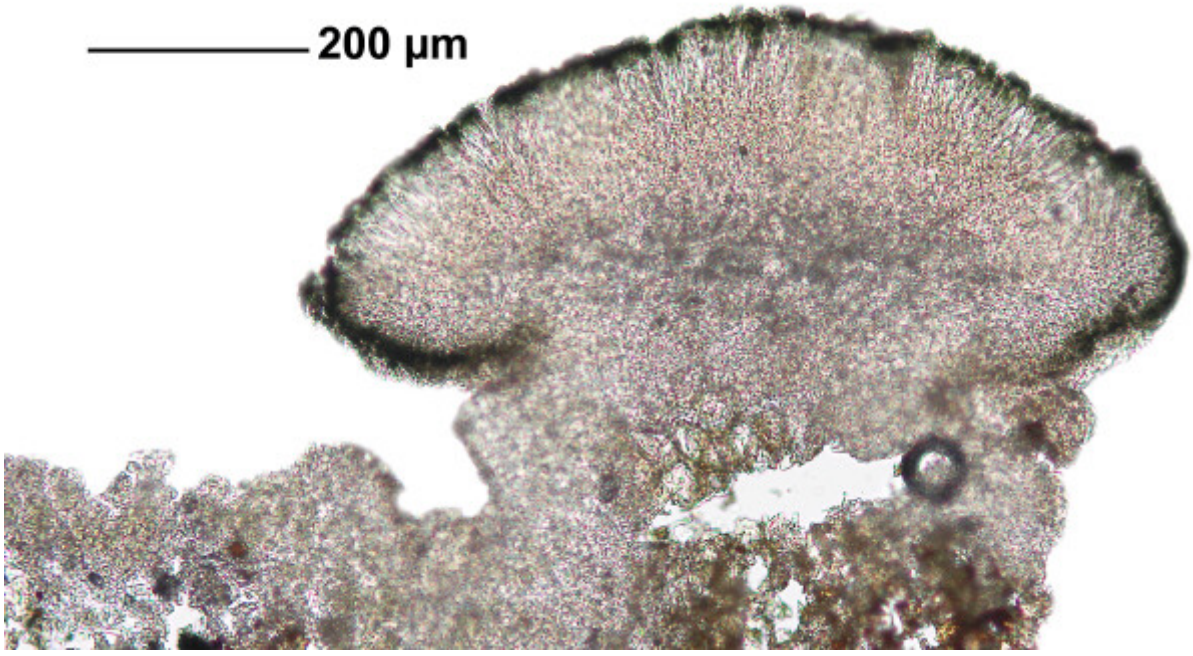
[KK33828], Australia, Western Australia, c. 5 km south-east of Katanning, on bark of allee-trees (Casuarina spec.), 250 m, 33°40’ S, 117°38’ E, leg. K. & A. Kalb, 16.08.1995, det. S. Kondratyuk. Holotype.



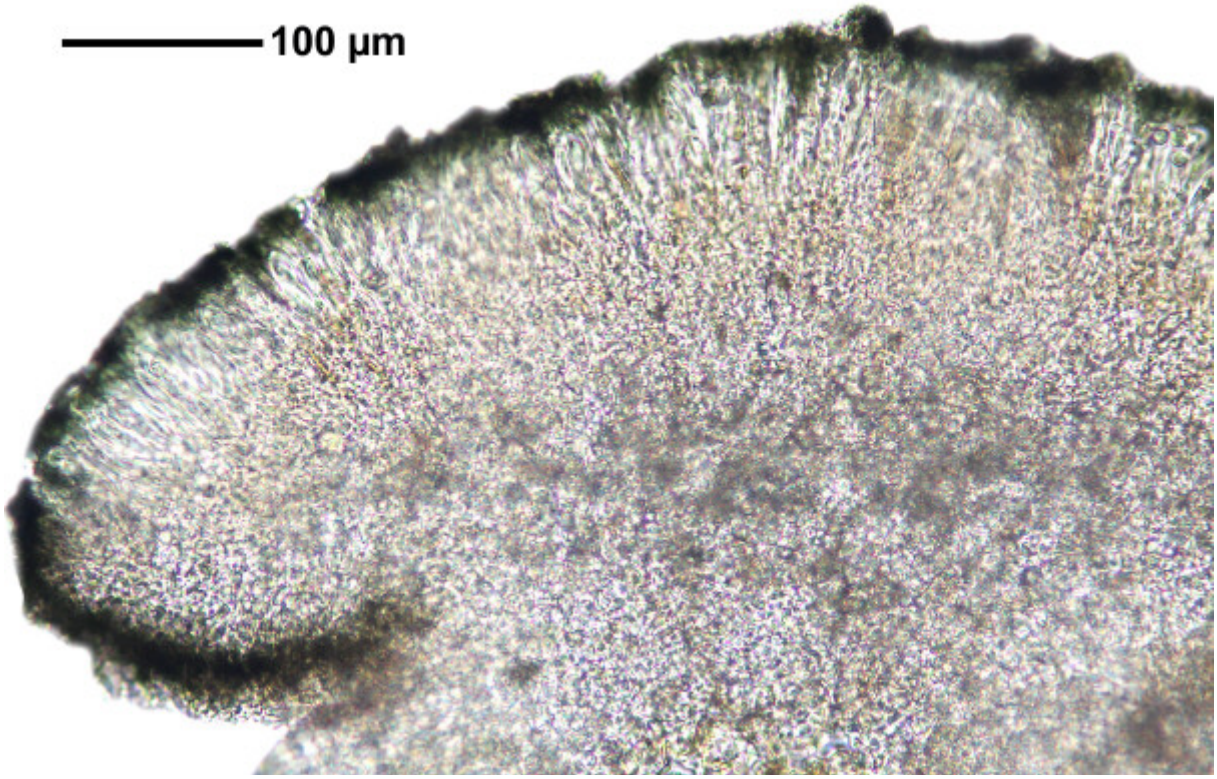


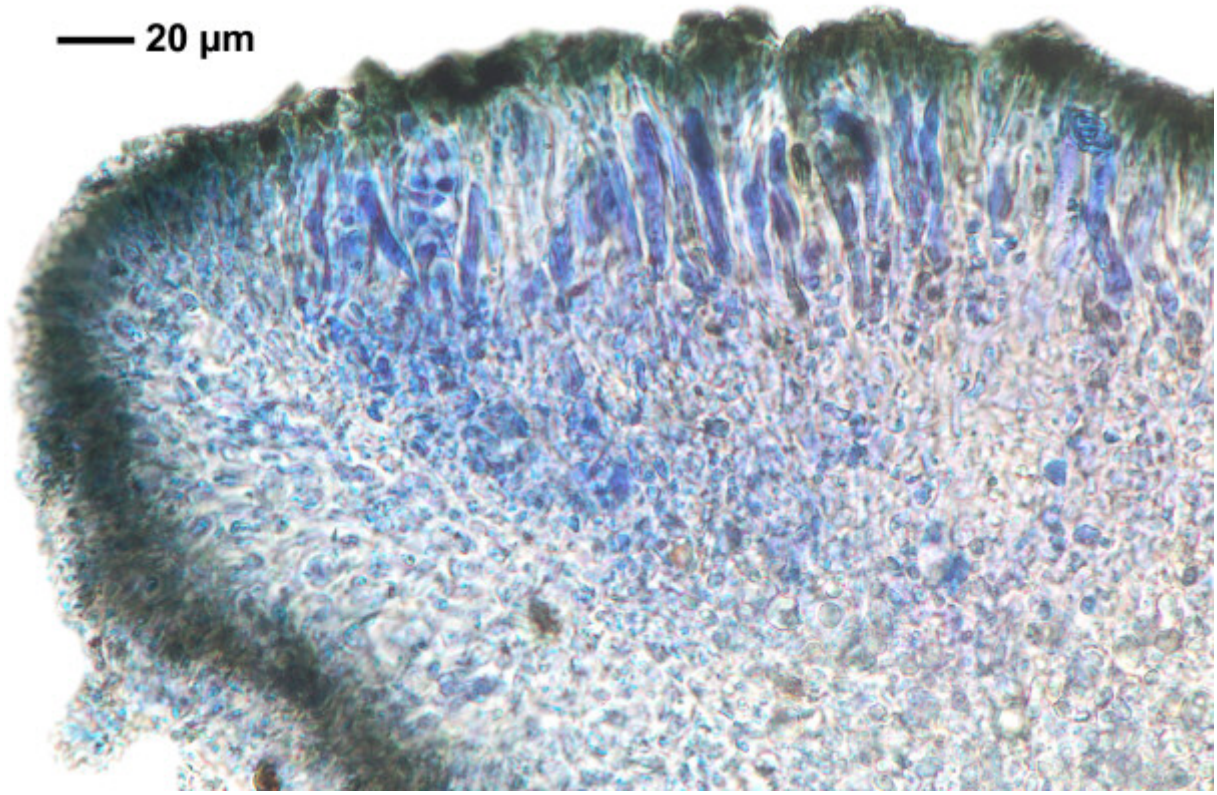
Caloplaca kalbiorum



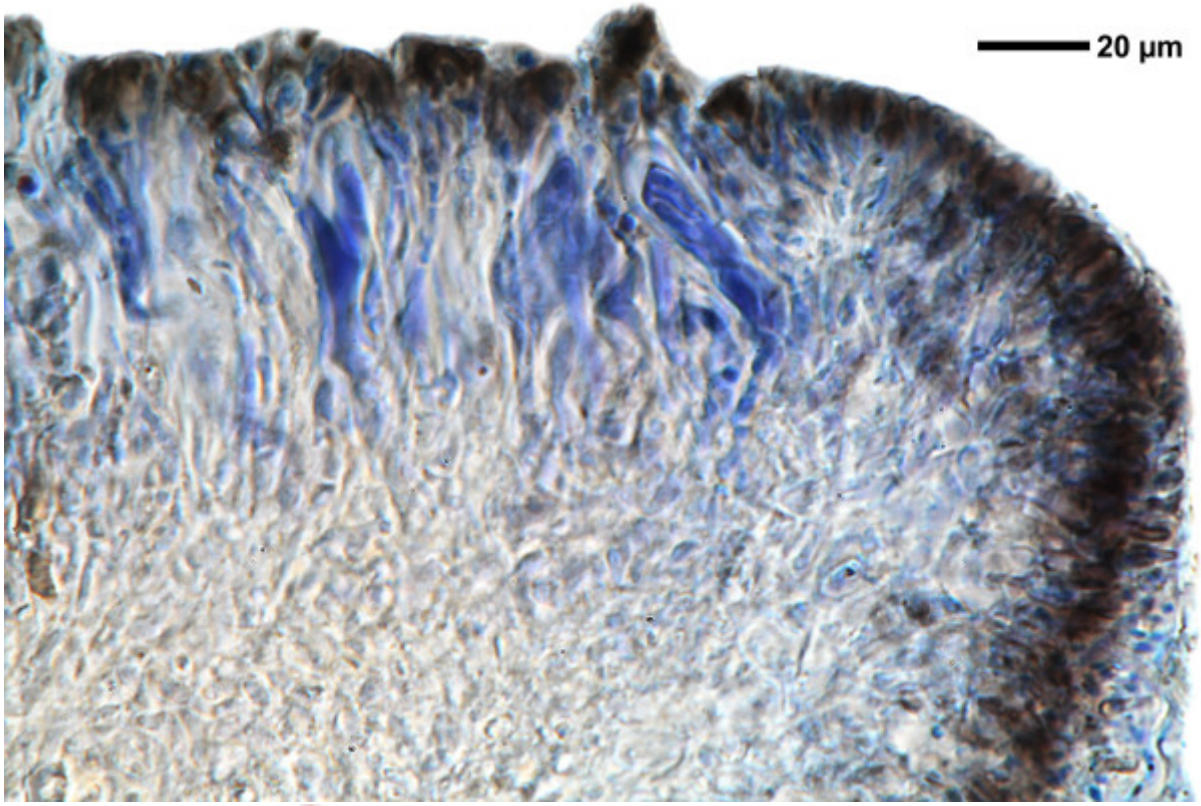


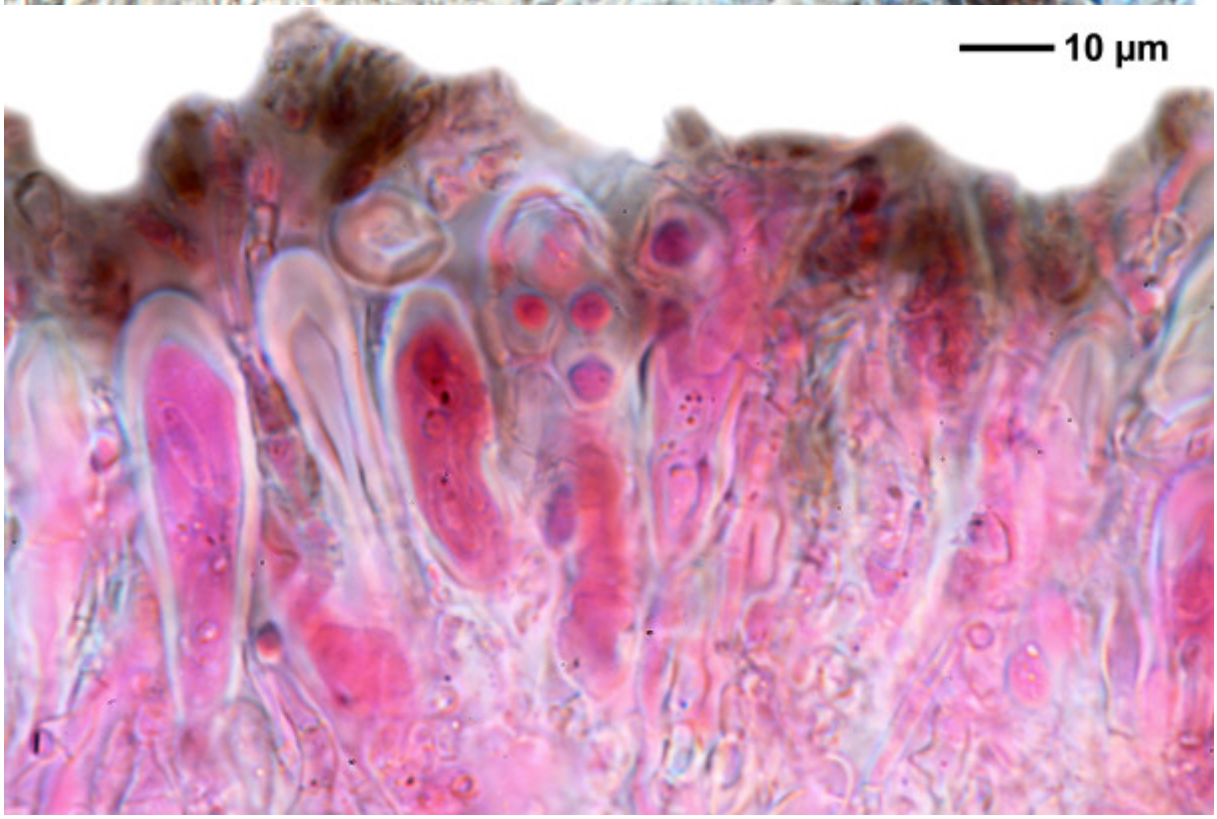
Caloplaca kalbiorum



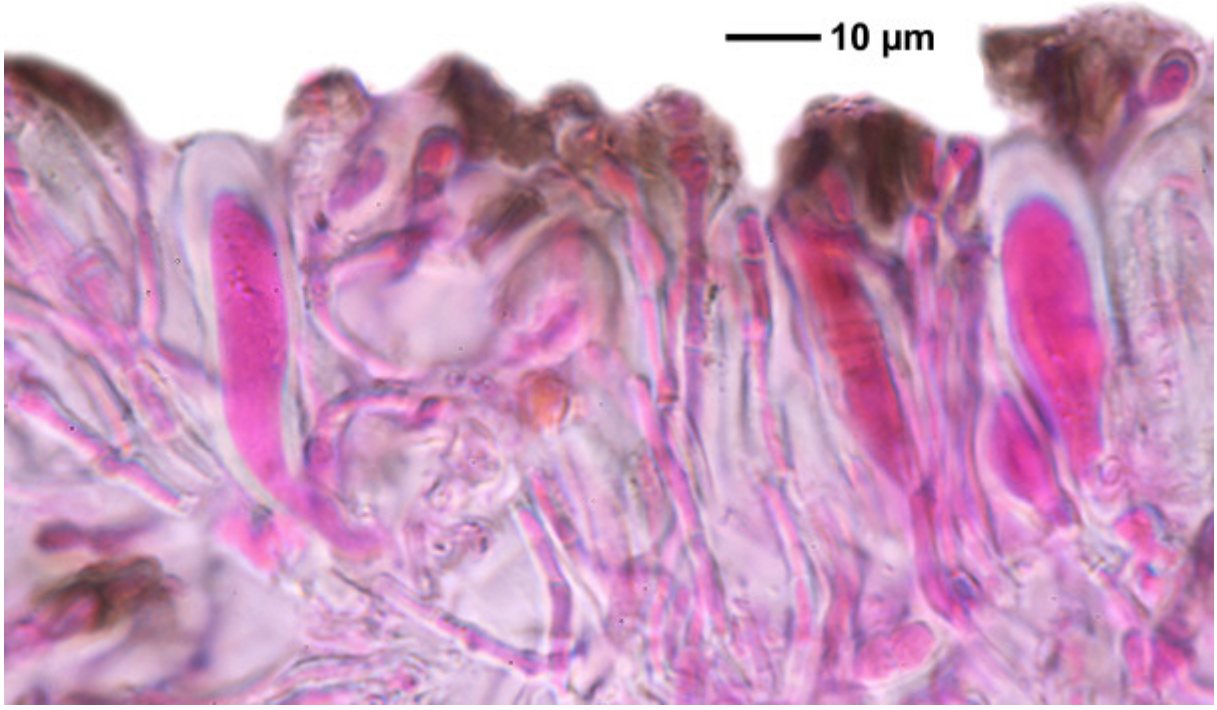


Caloplaca kalbiorum





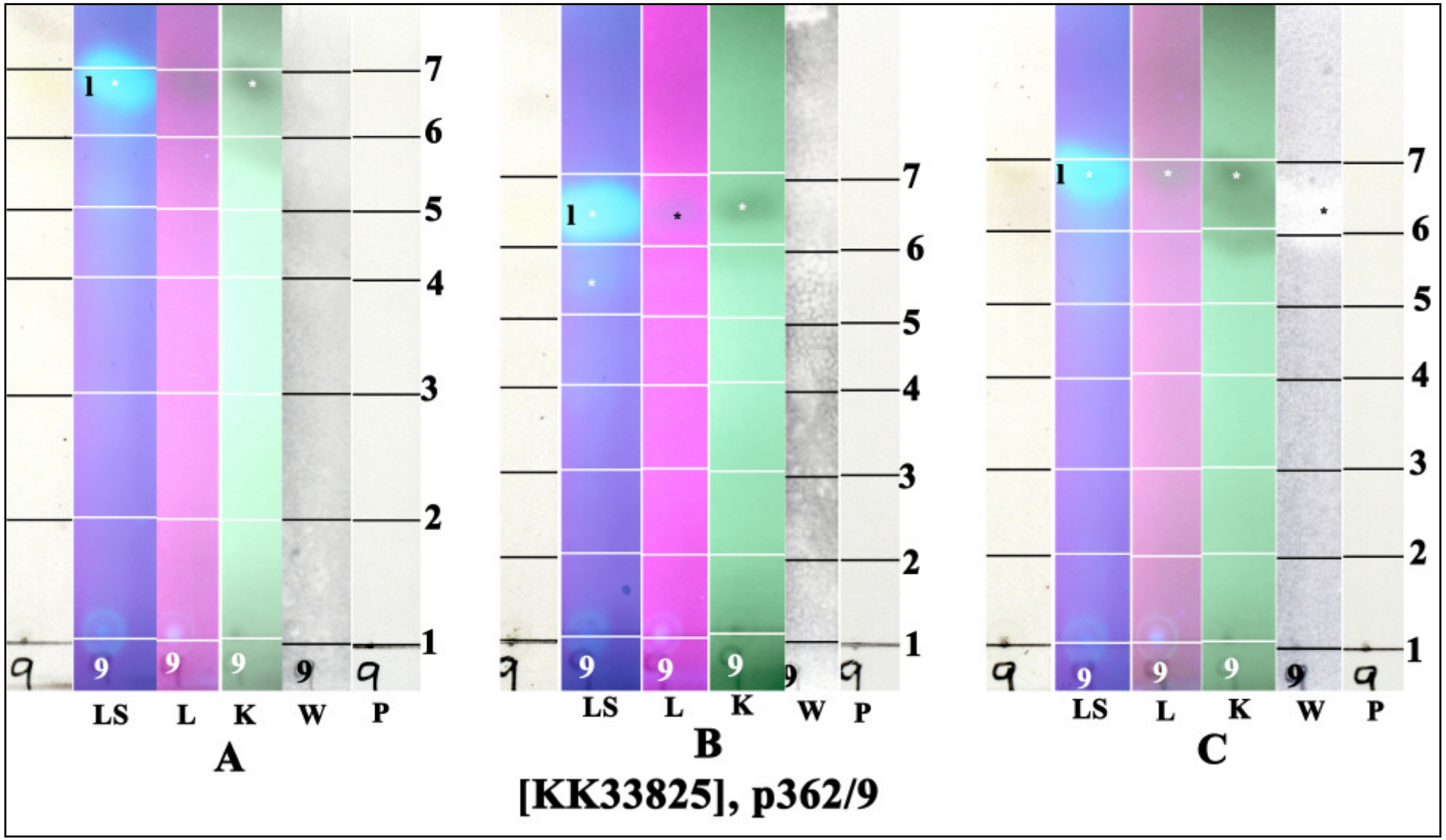
Caloplaca kalbiorum







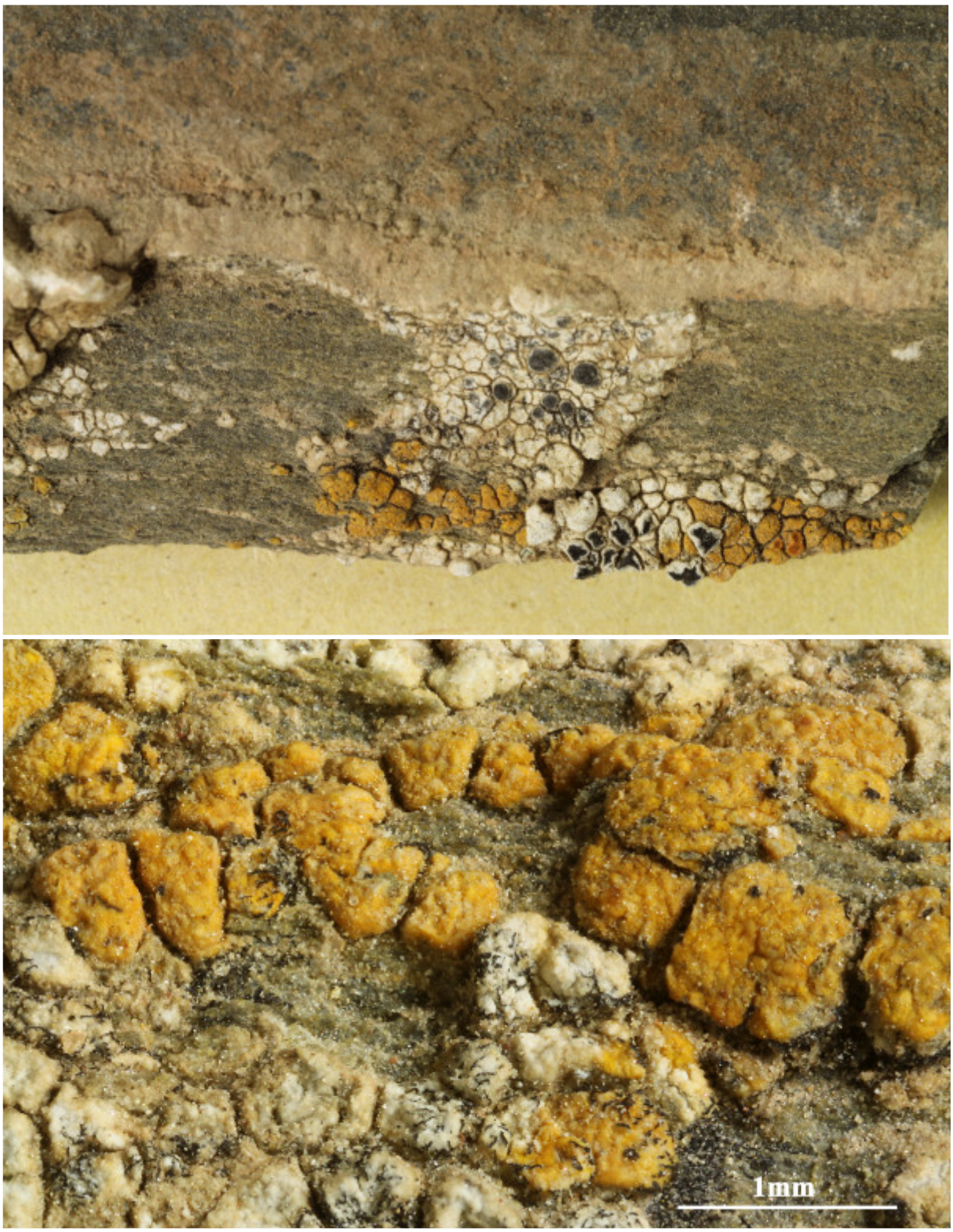
Caloplaca kalbiorum

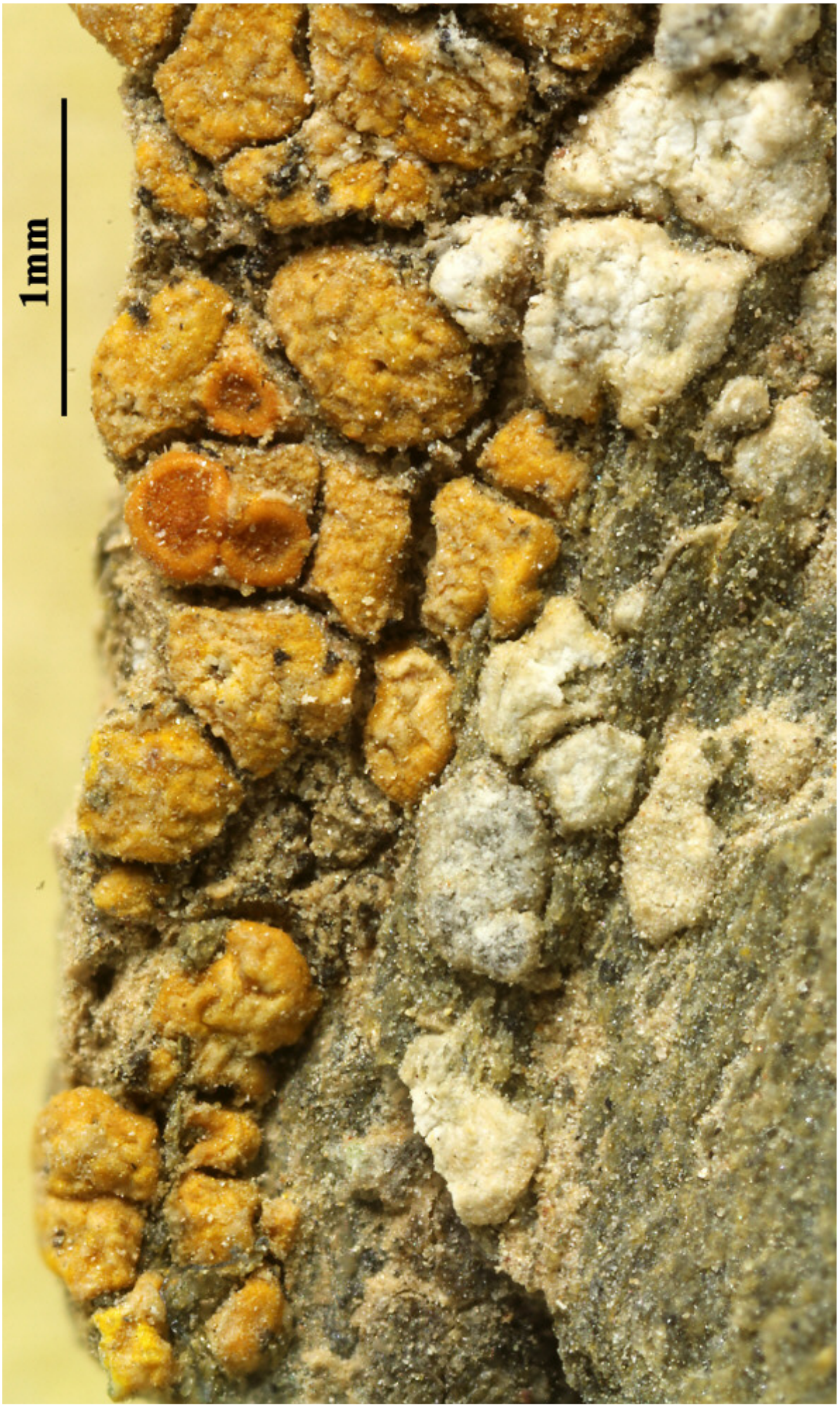


l: lichexanthone; conf. J.A. Elix

Caloplaca kudratovii S.Y. Kondr., Zarei-Darki & Hur

[B 60 0197563], Iran, Razavi Khorasan province, Torghabeh, Azghad village. 36°16' N, 59°24' E, 1100 m. Leg. M. Hji Moniri (Nr. 2), 2.03.2013.





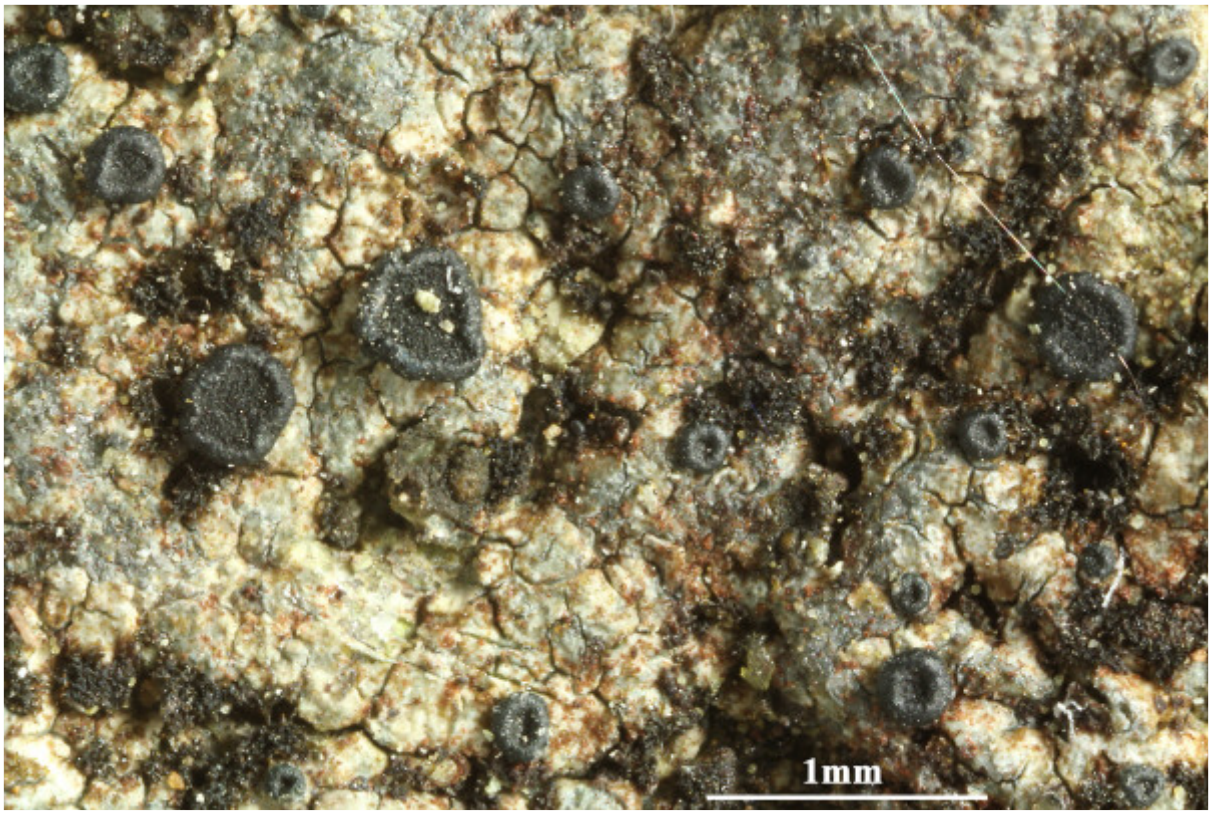
Caloplaca kudratovii

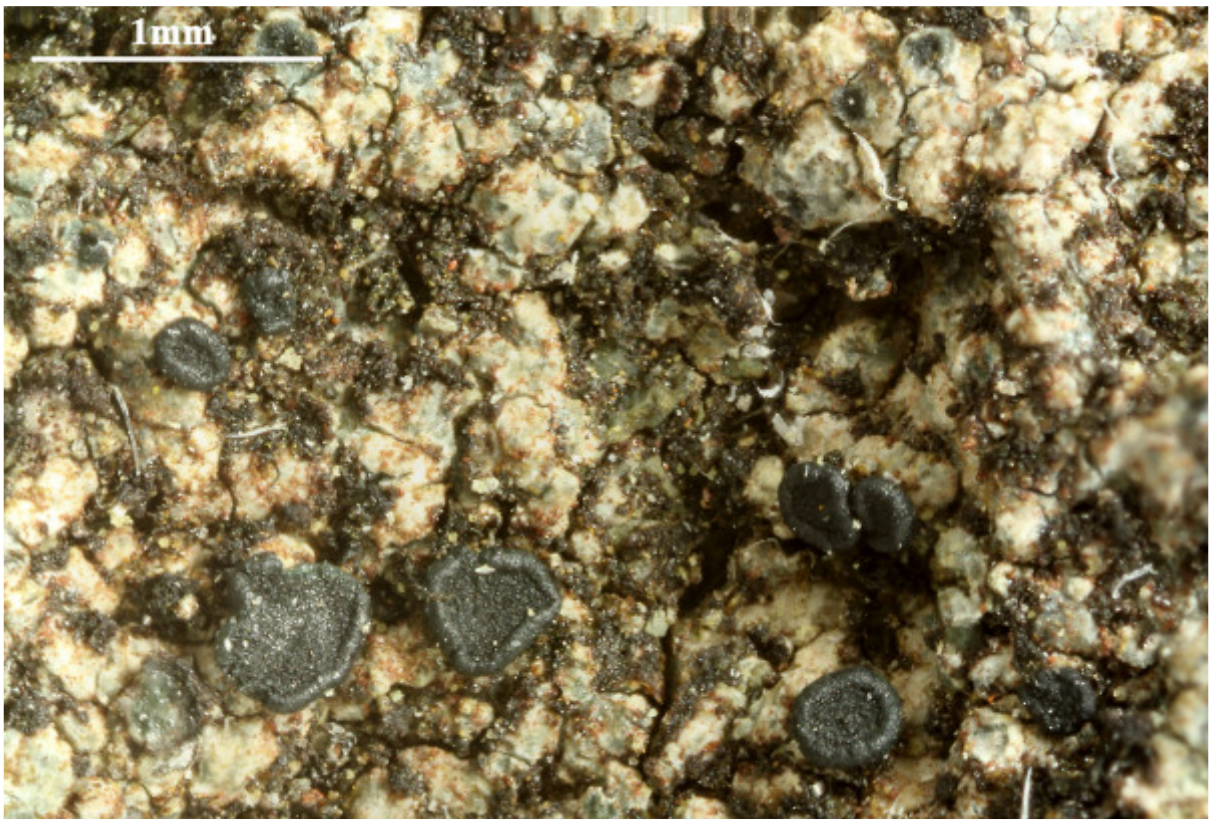
Caloplaca kurzii (Kremp.) Zahlbr., Cat. Lich. Univers. 7: 149 (1930)
[= *Pyrenodesmia kurzii* Kremp. NOT *Pulvinodecton kurzii* (Kremp.) Henssen & G.Thor nor Chiodecton kurzii nor Erythrodecton kurzii]

Thallus grey-white. Apothecia disc and margin black. Epithecium blue-green. Hymenium not insperse, 94 µm high. Spores 8/ascus, hyaline, 14-15.9 x 7-7.6 µm, septum 3 µm.

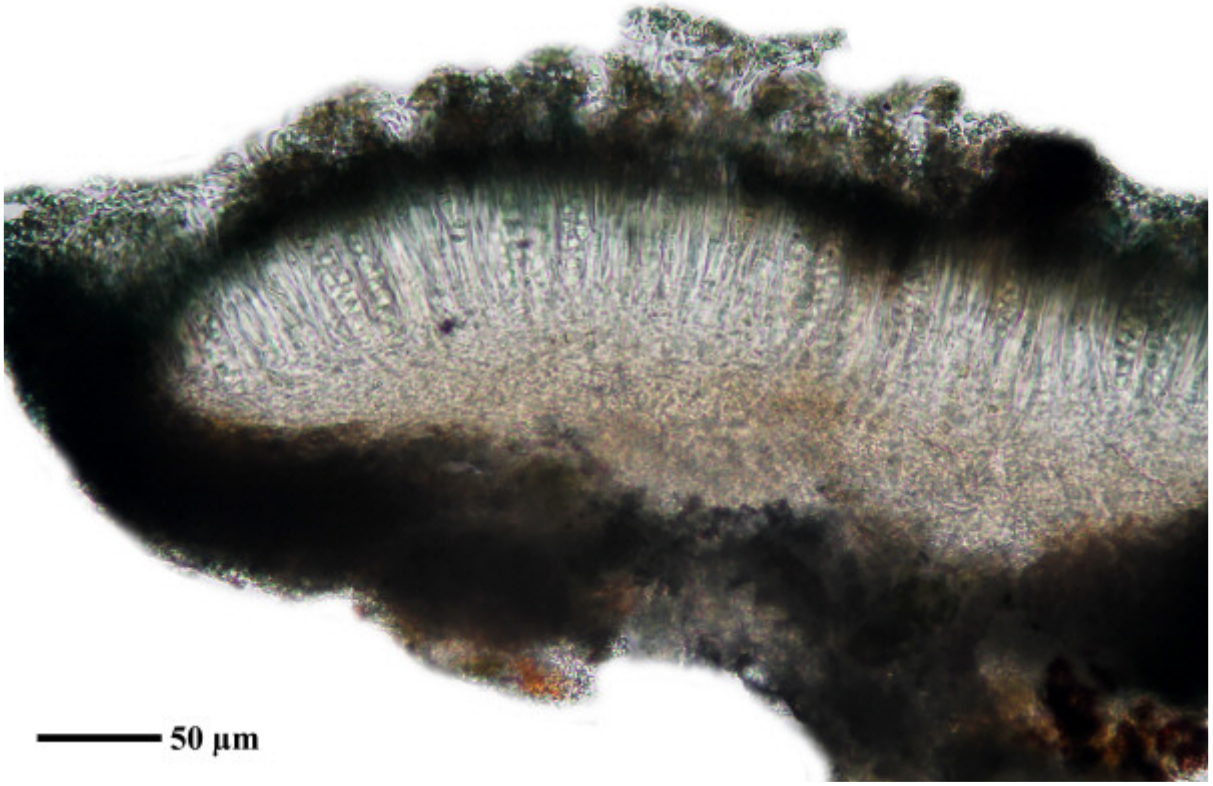
[20309], Maskarenen, La Réunion, Cirque de Cilaos, Aufstieg von Thermales (N von Cilaos) Richtung Col du Taibit. Sekundärer Niederwald, auf Felsen. 1300 m, 21°07' S, 55°28' E. Leg. K. & A. Kalb (25203) 22.8.1991; det. H. Sipman.

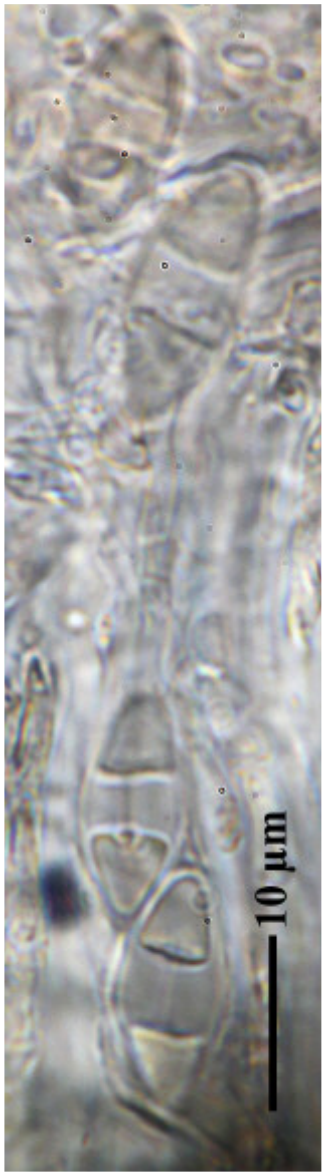


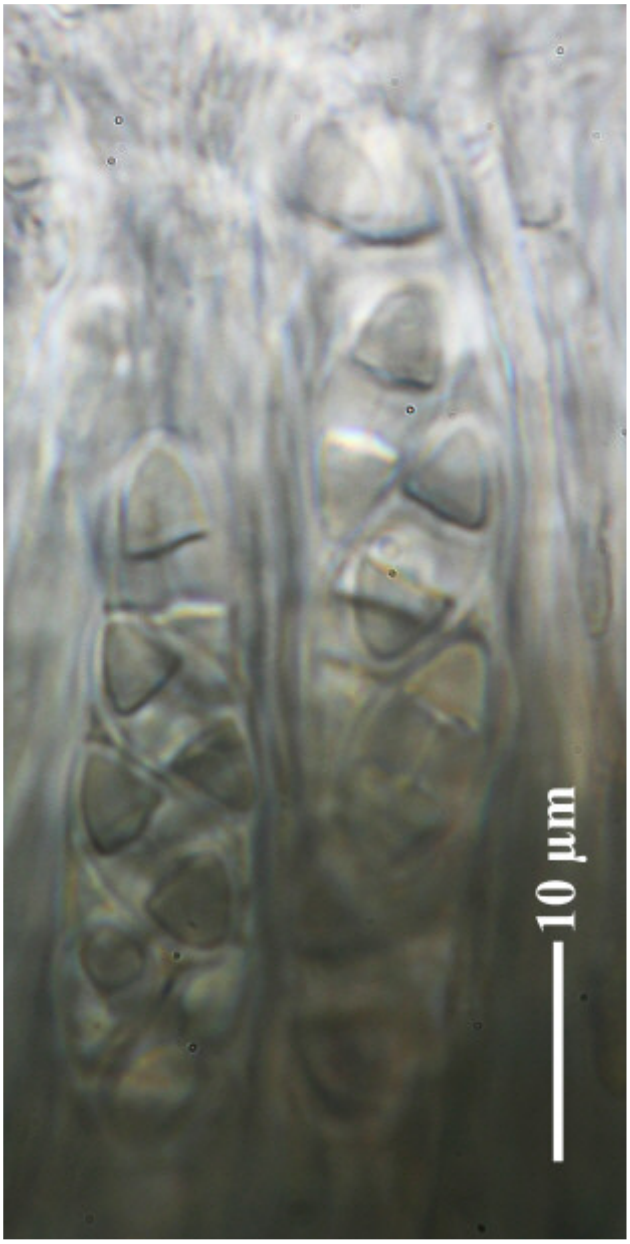




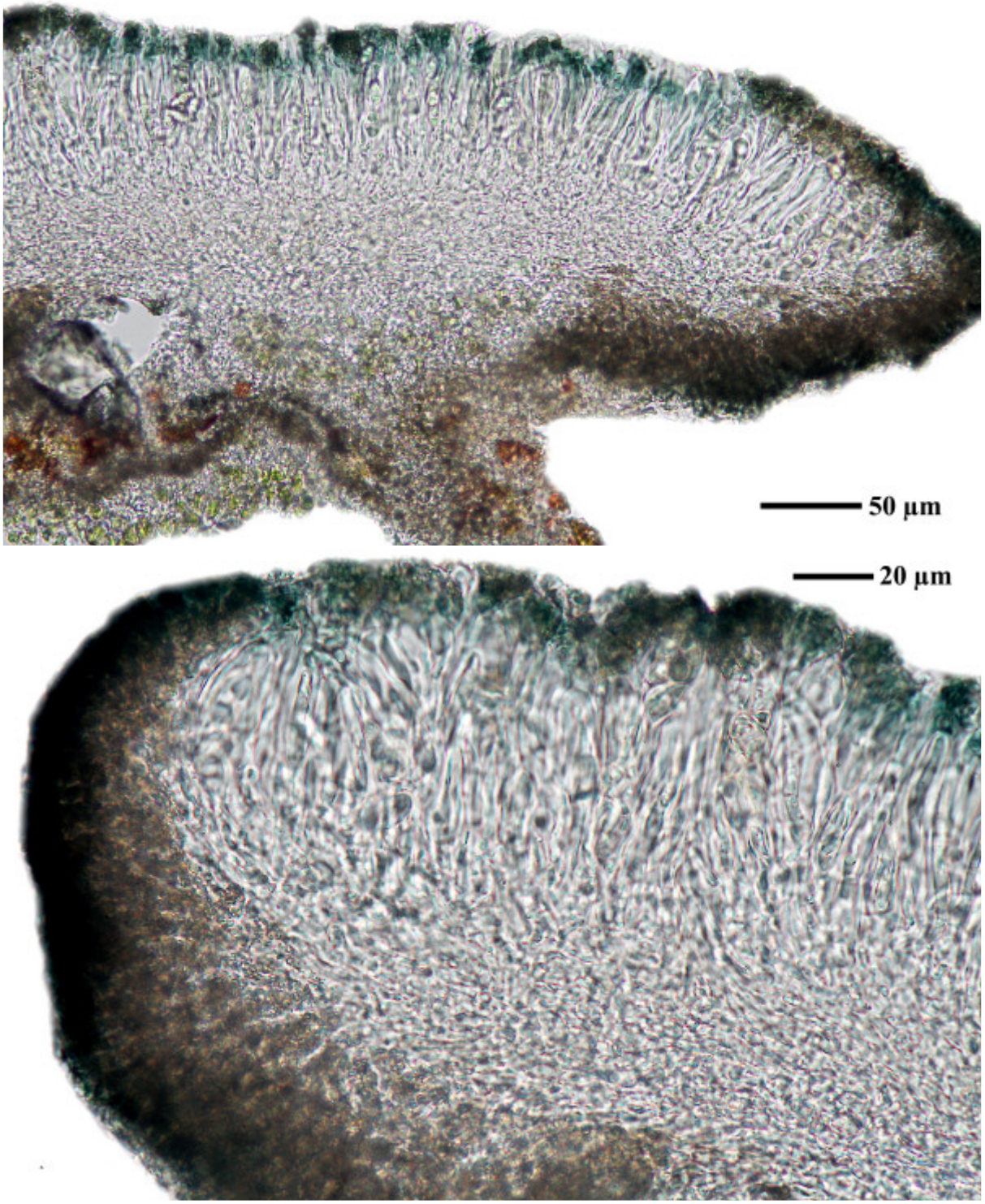
Caloplaca kurzii



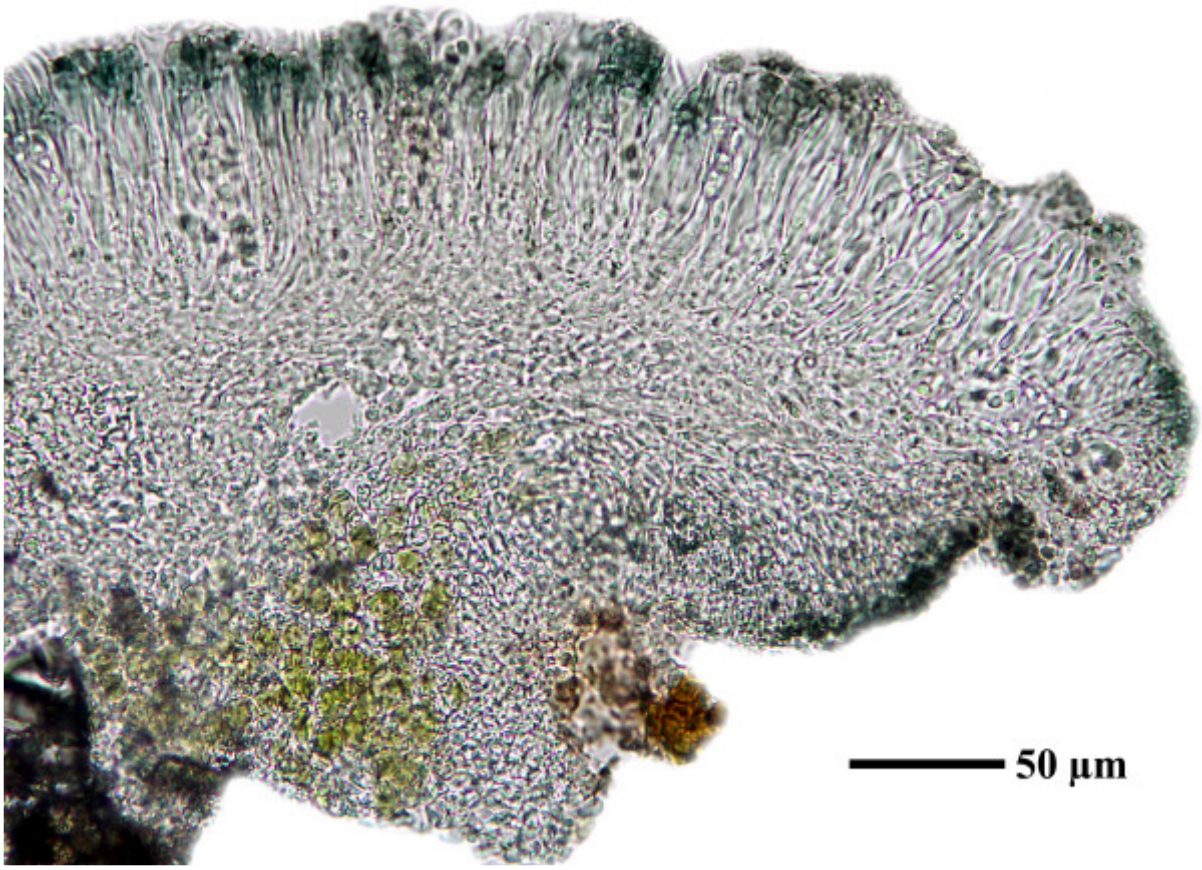


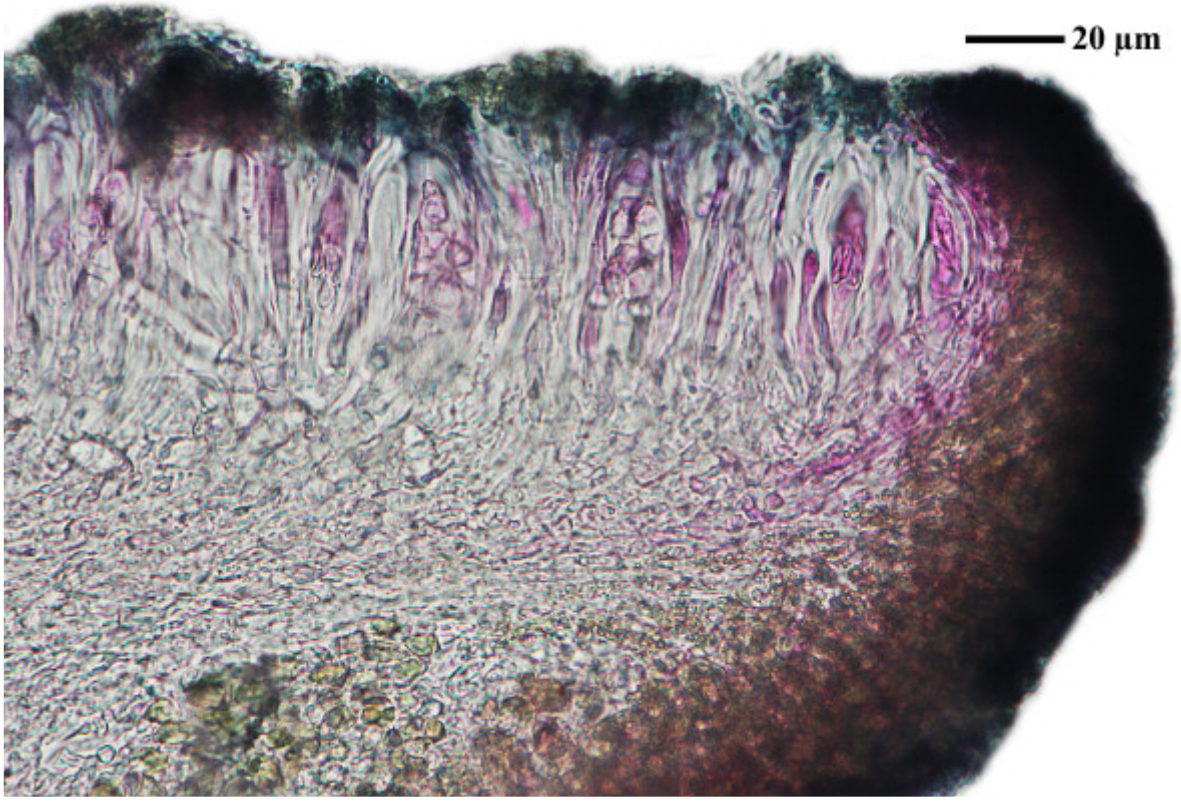


Caloplaca kurzii

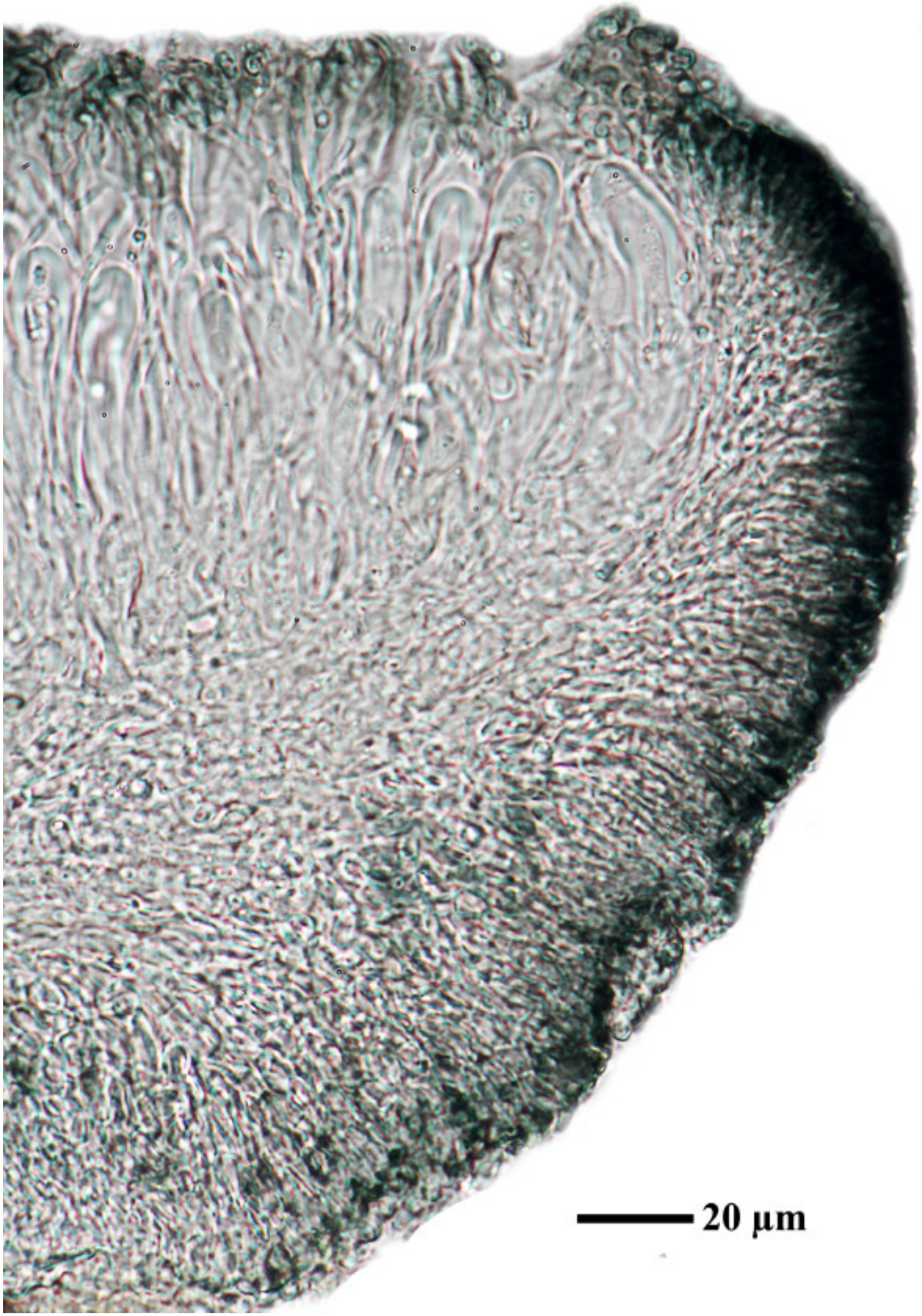


Caloplaca kurzii

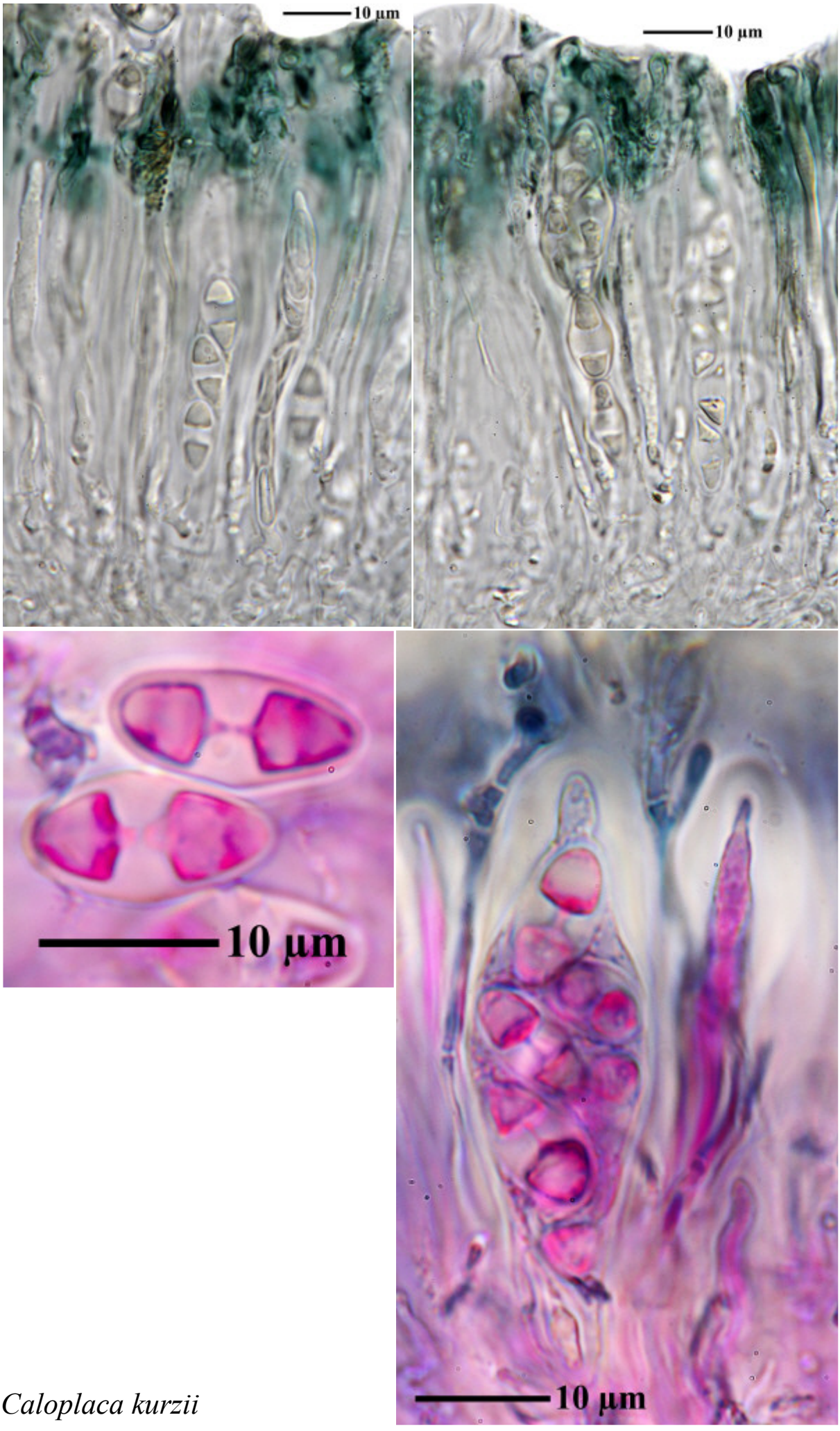




Caloplaca kurzii



Caloplaca kurzii



Caloplaca kurzii

Caloplaca lactea (A. Massal.) Zahlbr., Öst. bot. Z. 51: 347 (1901)

On calcareous rocks.

[13793], Malta/Gozo, Fungus Rock (Pilzfelsen) südwestlich von San Lawrence, 36°02.902' N, 14°11.453' E, 17 m. Leg. F. Schumm & J.-P. Frahm, 16.03.2008, det. A. Aptroot 2019.







Caloplaca lactea

Caloplaca lactea (A. Massal.) Zahlbr.

On rocks.

[12472], Griechenland, N-Samos, westlich von Avlakia bei der Kirche von Kambos, 37°48.160' N, 26°50.957' E, 75 m. Leg. F. Schumm & R. Düll, 09.05.2006, det. A. Aptroot 2016.





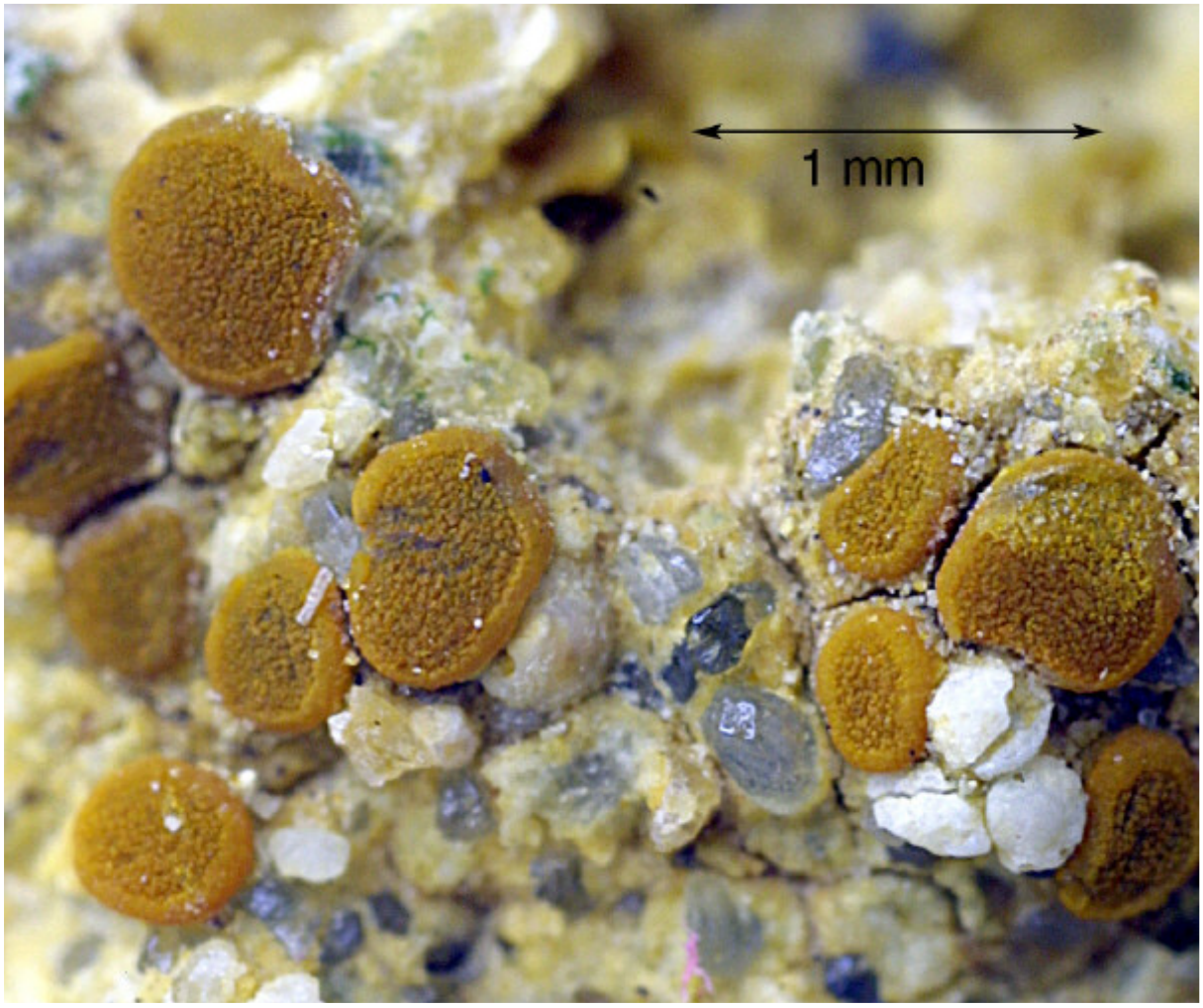


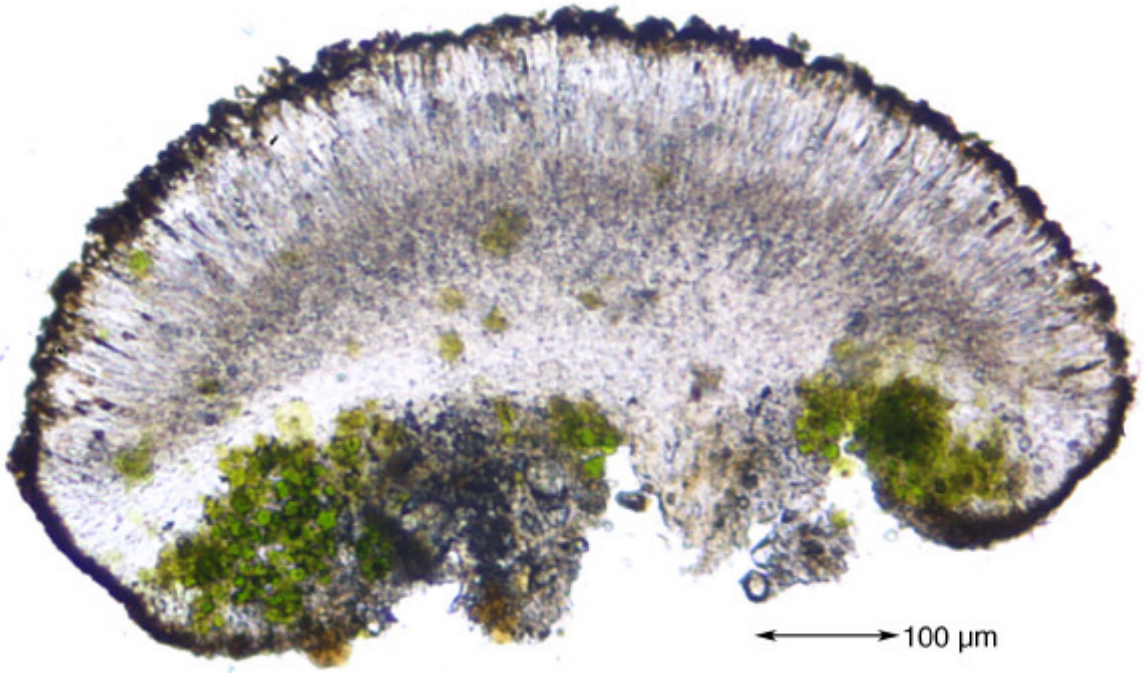
Caloplaca lactea

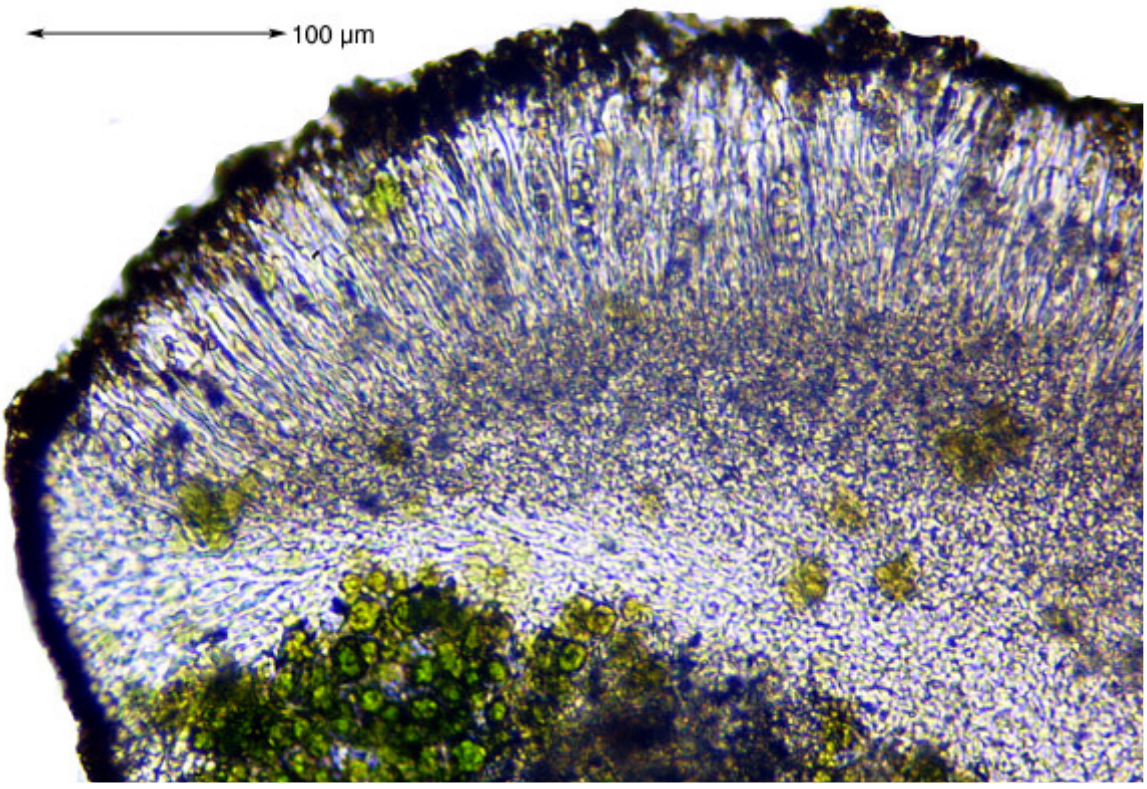
Caloplaca lactea (A. Massal.) Zahlbr.

Thallus undeutlich, dünn fehlend, oder cremweiß zwischen den Sandkörnchen. Isidien fehlen, Sorale fehlen. Apothecien 0,57-0,71 mm, Scheibe gelb bis gelborange, rauh, K+ rot; Rand fast gleichfarbig wie die Scheibe, dünn, kaum erhaben, 0,06 mm; Hymenium 90 µm; Hypothecium hyalin, 65 µm, teils mit Öltröpfchen inspers; Photobiont 8,7 µm, auch unter dem Hypothecium. Sporen zu 8 im Ascus, polardiblastisch, 16,4-19,6 x 6,5-7,1 µm, Septum schmal, nicht vorstehend, 1-2 µm. Auf Sandstein mit stark kalkhaltigem Bindemittel, xerotherm, photophil.

[13387], Spanien, Prov. Cádiz, Antlantikküste bei Conil de la Frontera, Steilküste aus Sandstein, trocken, 36°17.670’ N, 6°06.983’ W, 7 m, F. Schumm, T. Neppert & W. Hanold, 23.09.2007.







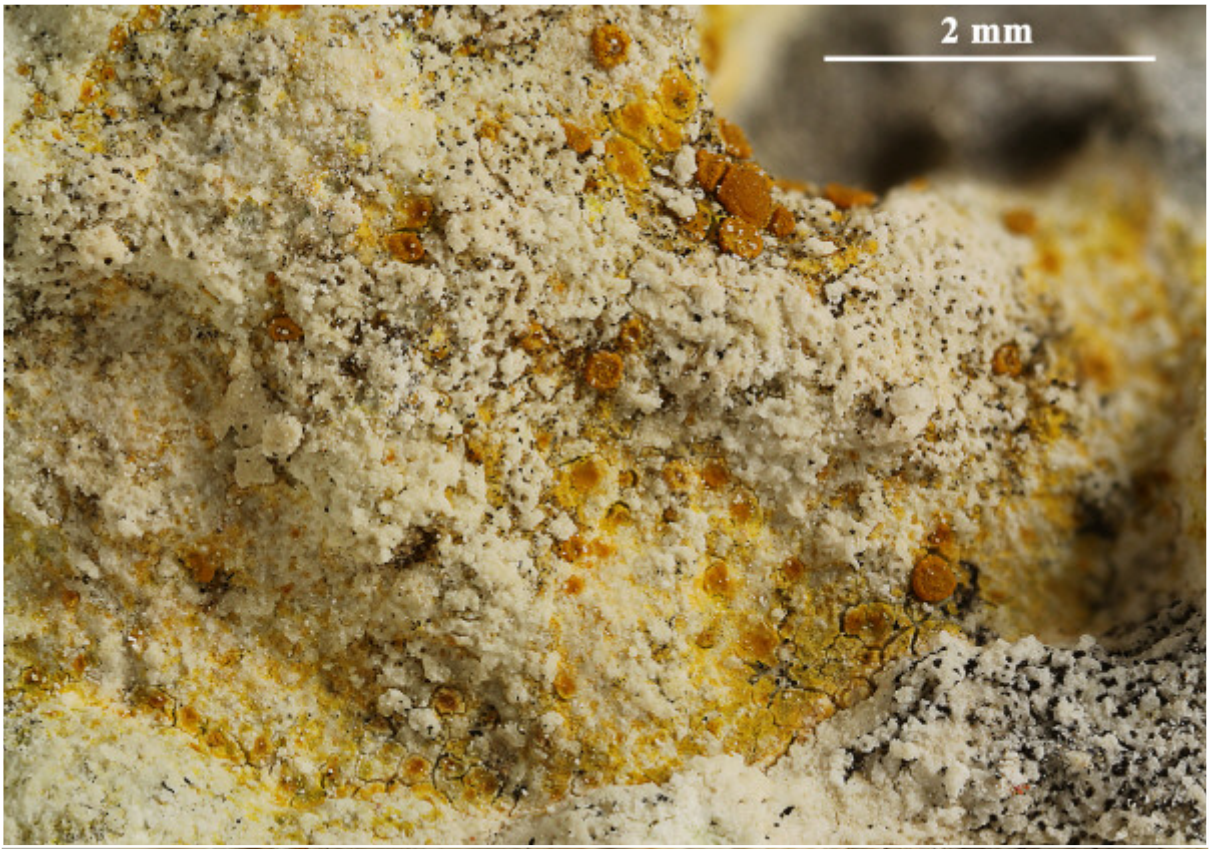


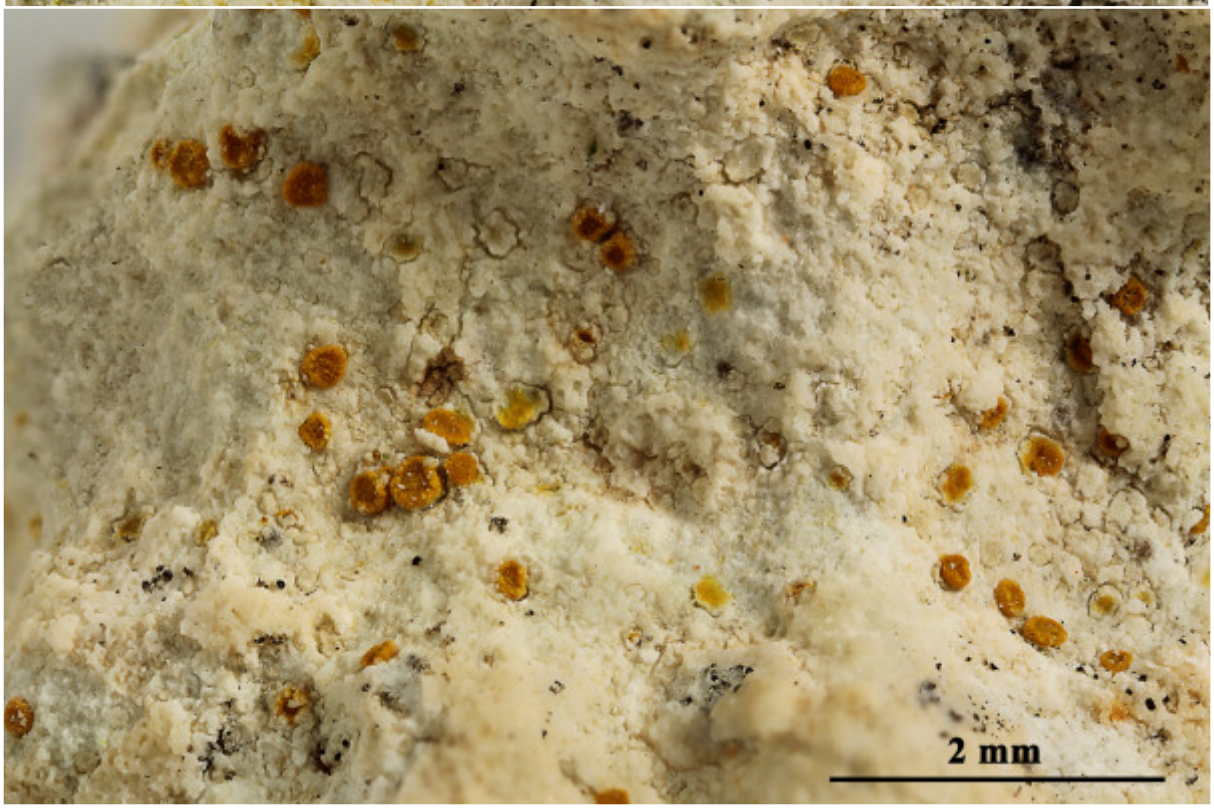
Caloplaca lactea

Caloplaca lactea (A. Massal.) Zahlbr.

On calcareous rocks. Spores polarilocular, hyaline, 8/ascus, 13-14 x 7-8 µm, septum 5-5.5 µm.

[13649], Malta, westl. Mellieha in der Oasam Barrani Schlucht, 35°57.485' N, 14°21.088' E, 80 m. Leg. F. Schumm & J.-P. Frahm, 11.03.2008, det. A. Aptroot 2016.

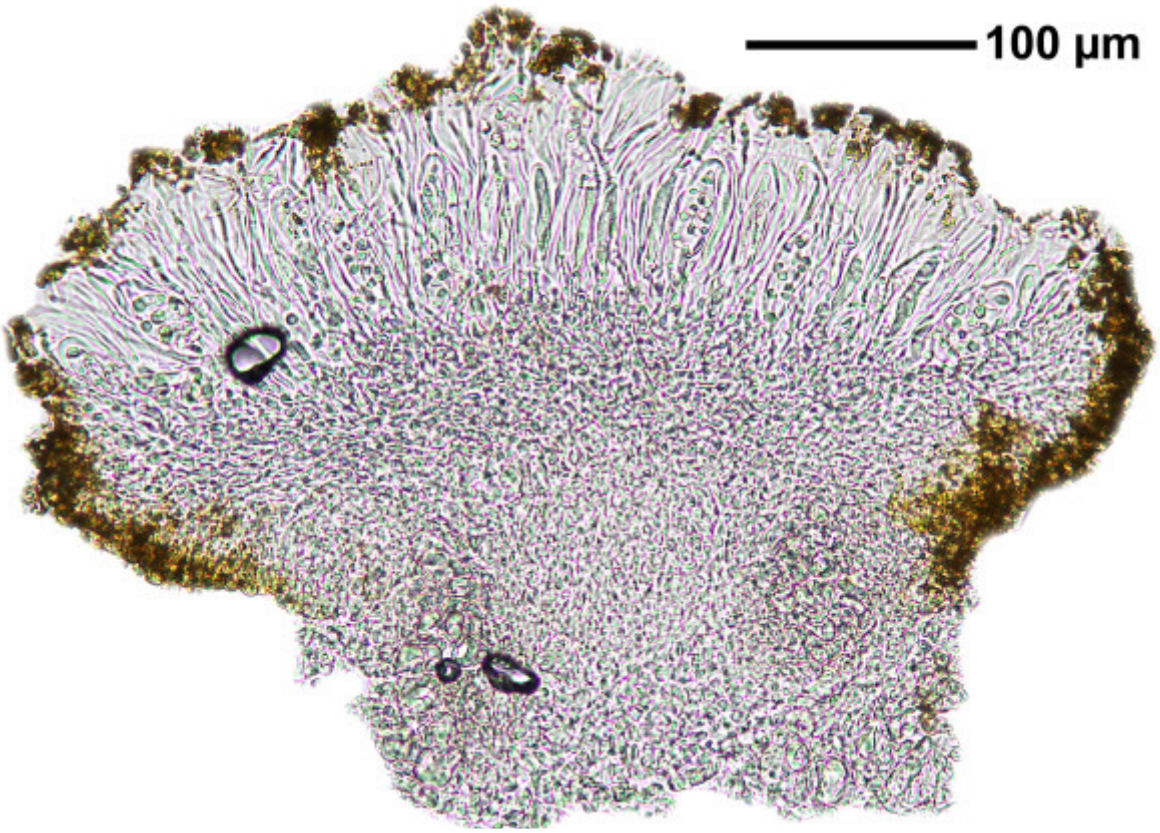


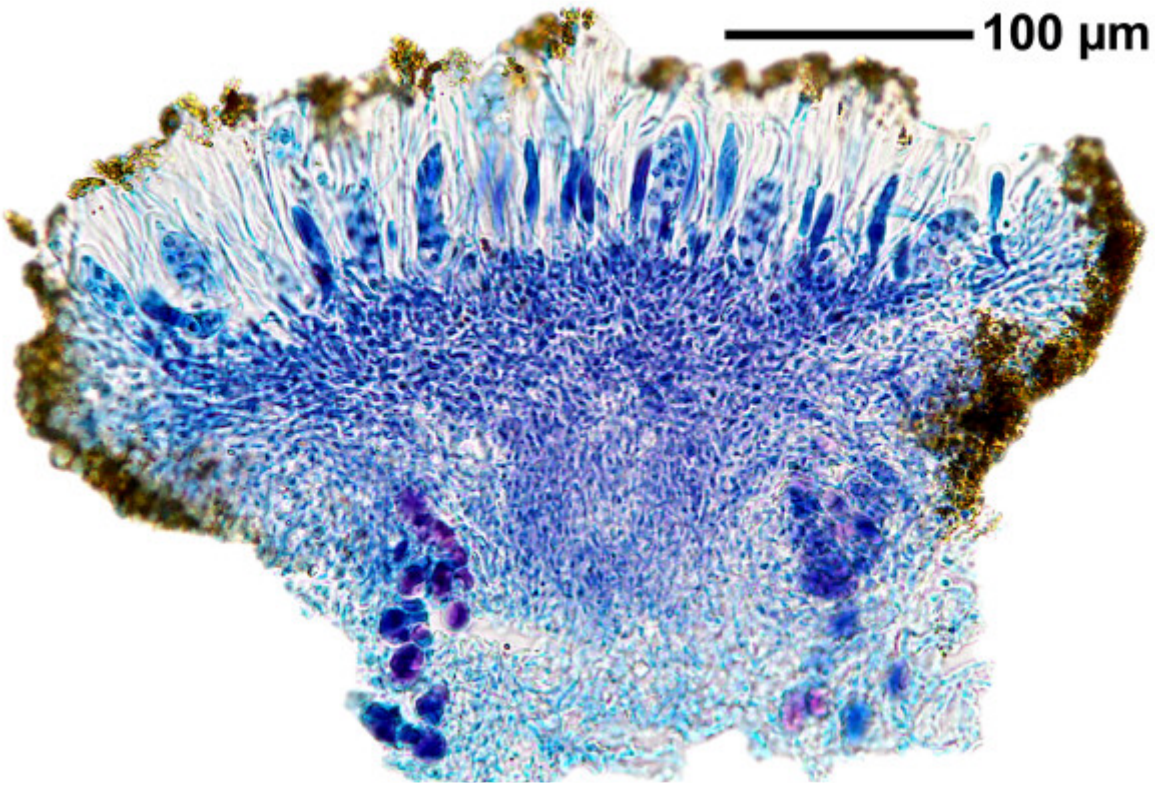


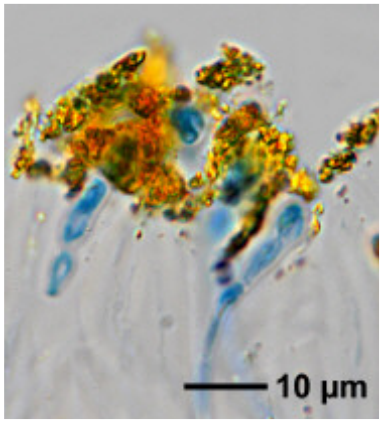




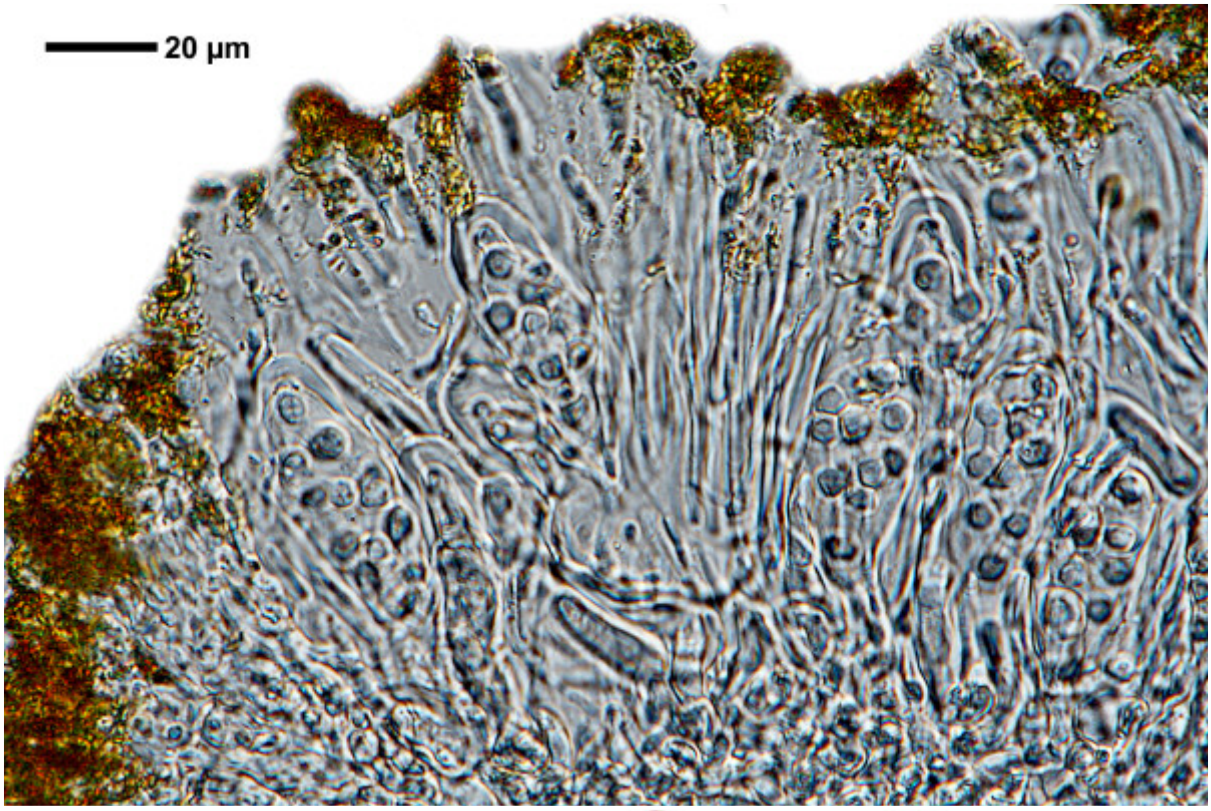
Caloplaca lactea

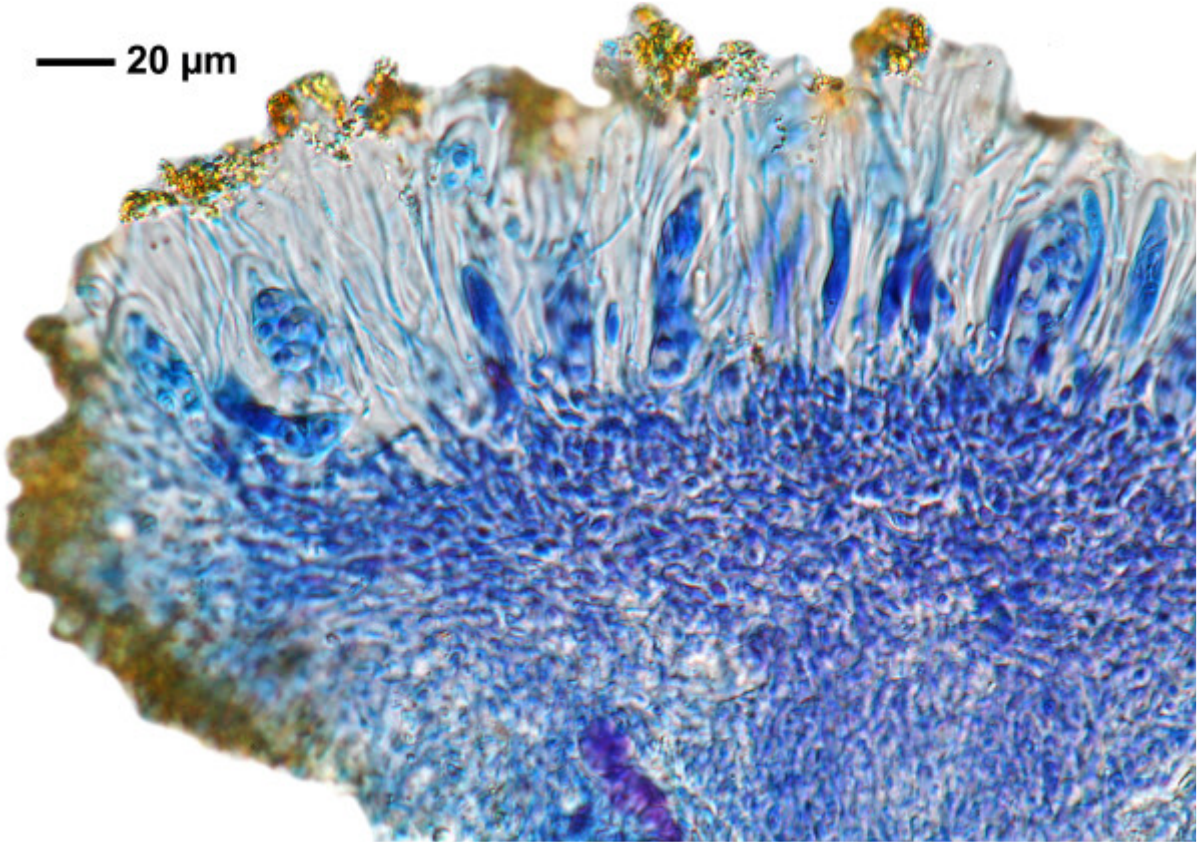




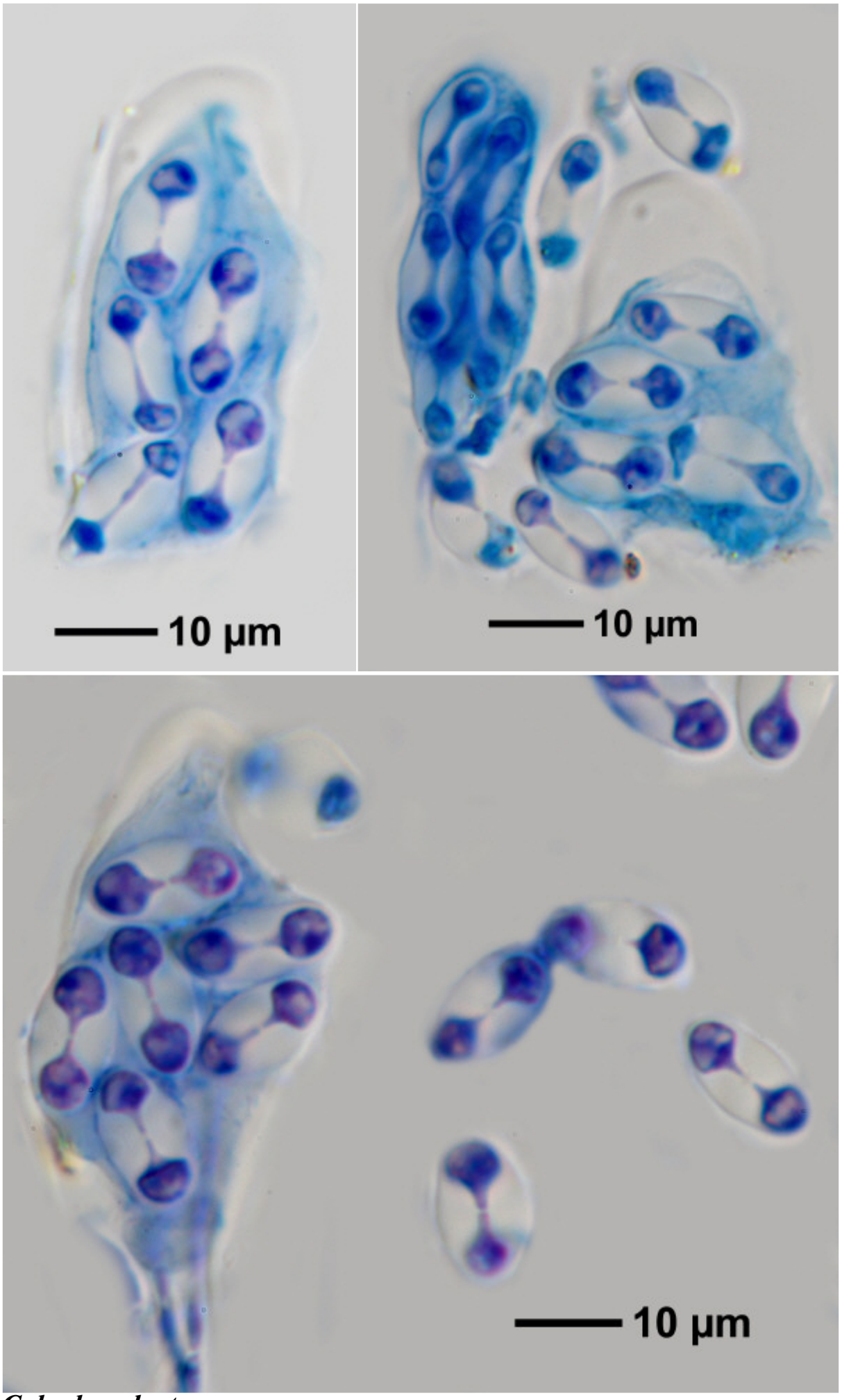


Caloplaca lactea





Caloplaca lactea

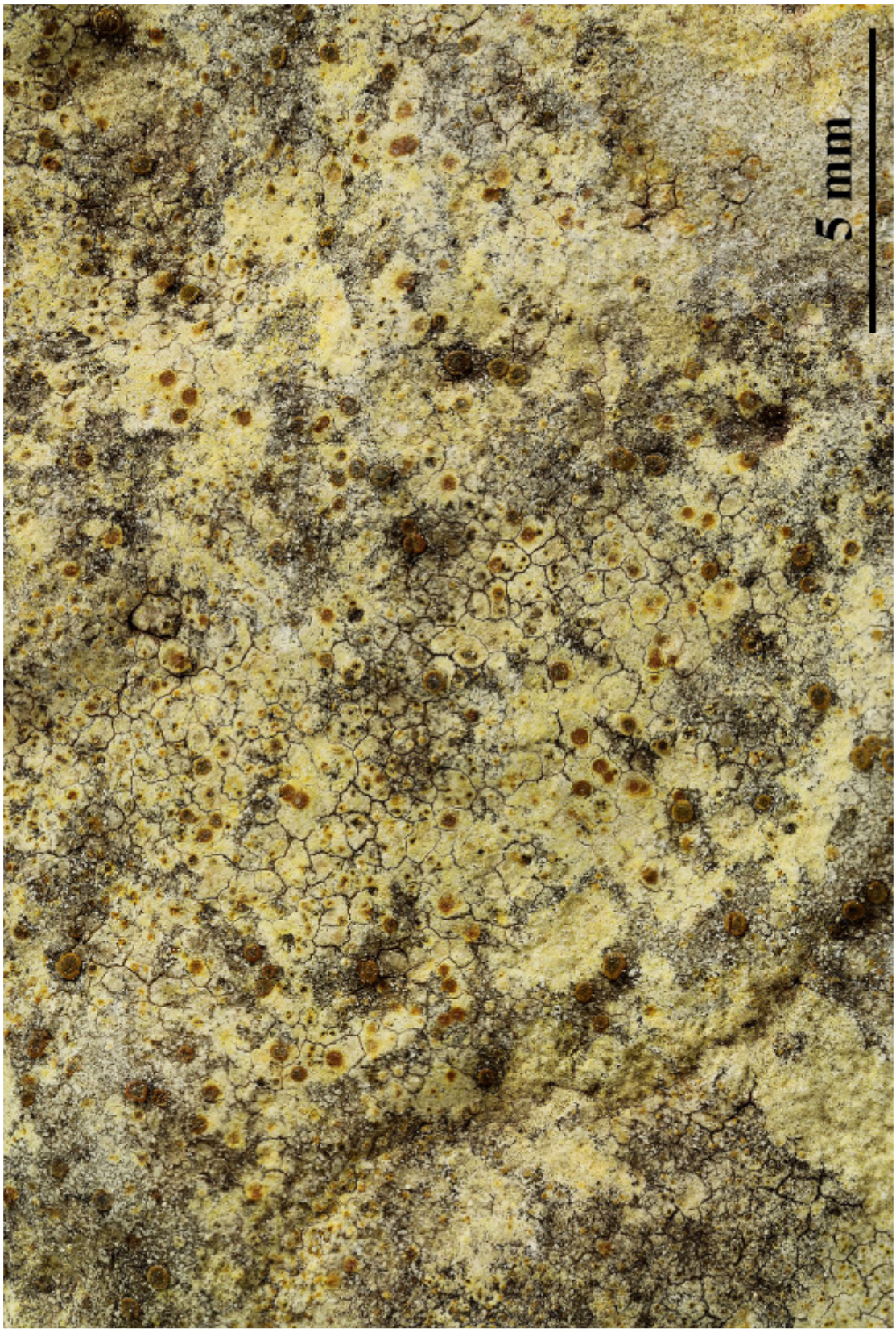


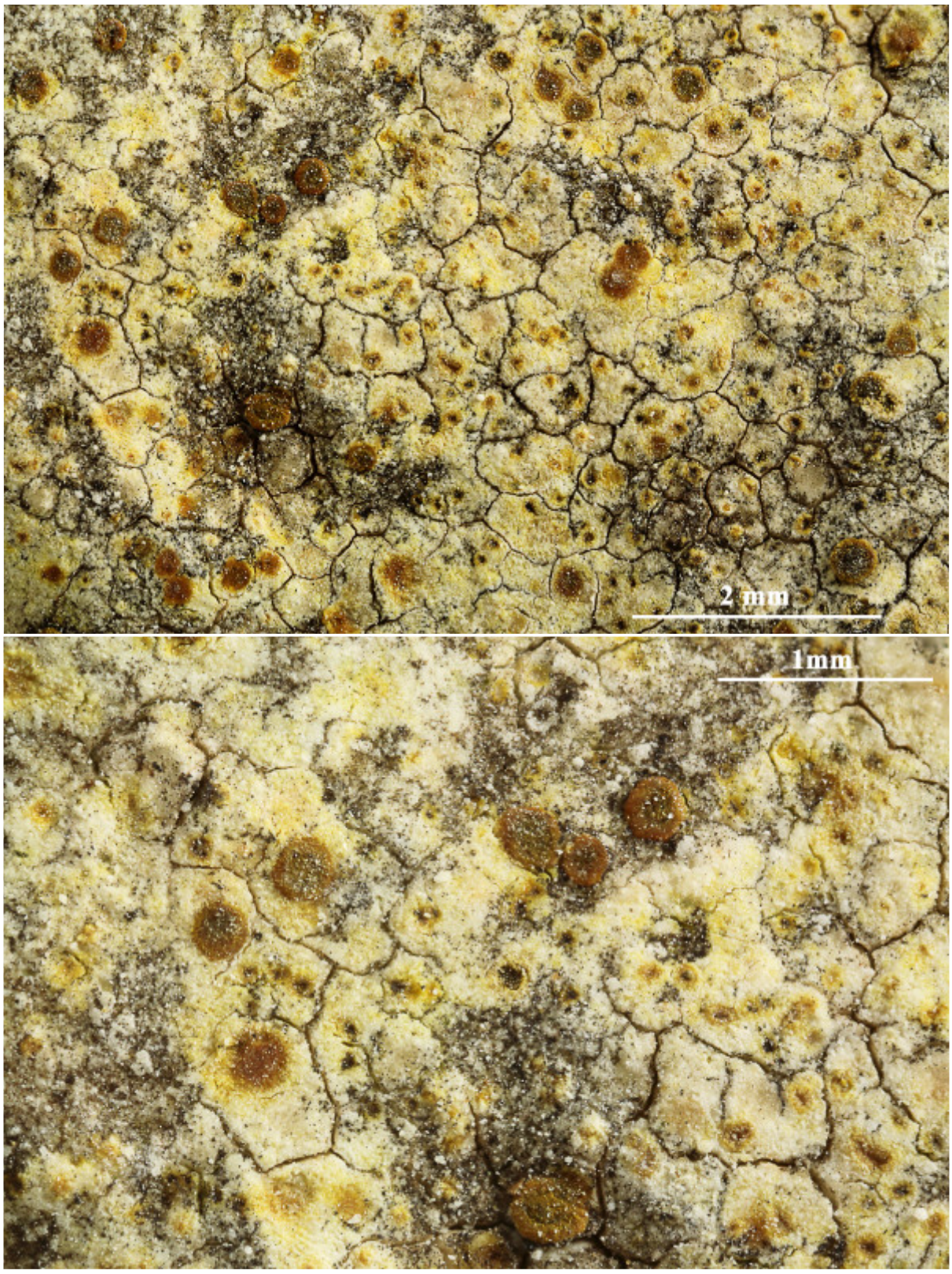
Caloplaca lactea

Caloplaca lactea (A. Massal.) Zahlbr.

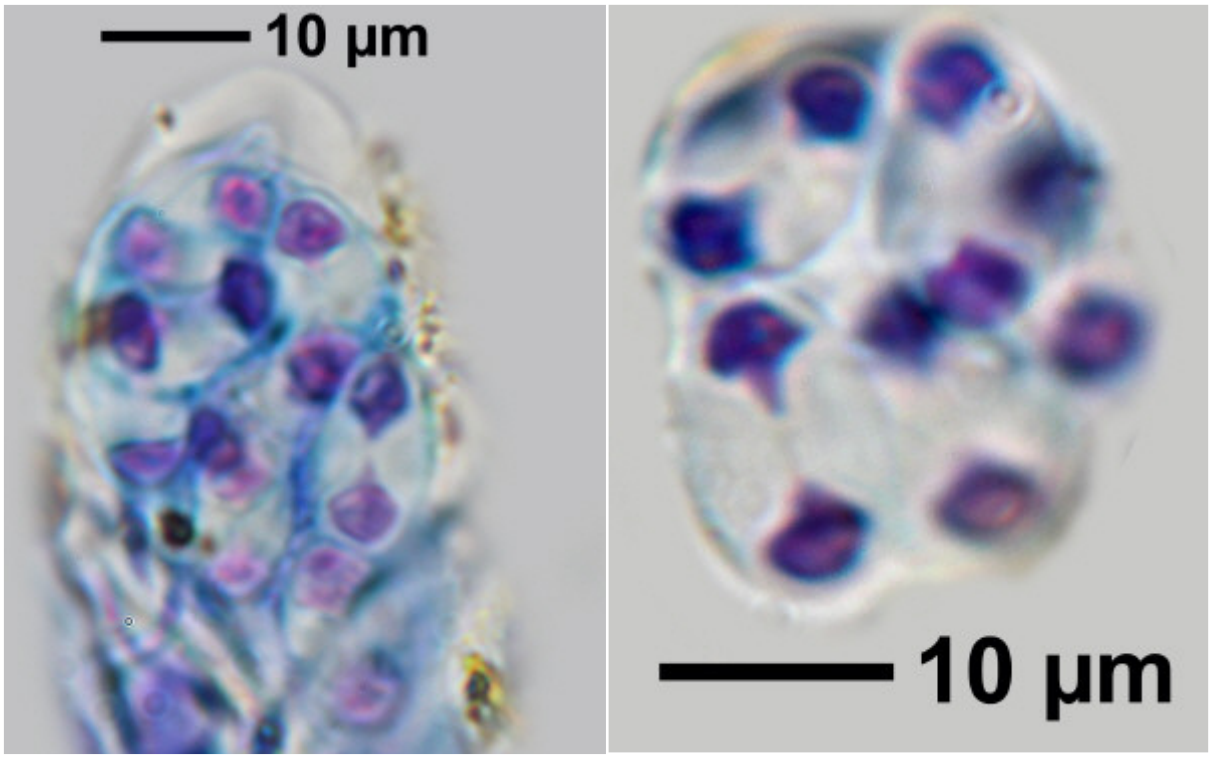
On calcareous rocks. Thallus white with yellowish parts. Spores polari-locular, hyaline, 8/ascus, 11.5-15 x 7.5-4 µm, 5.5-7 µm.

[13655], Malta, westl. Mellieha in der Oasam Barrani Schlucht, 35°57.485' N, 14°21.088' E, 80 m. Leg. F. Schumm & J.-P. Frahm, 11.03.2008, det. A. Aptroot 2016.





Caloplaca lactea

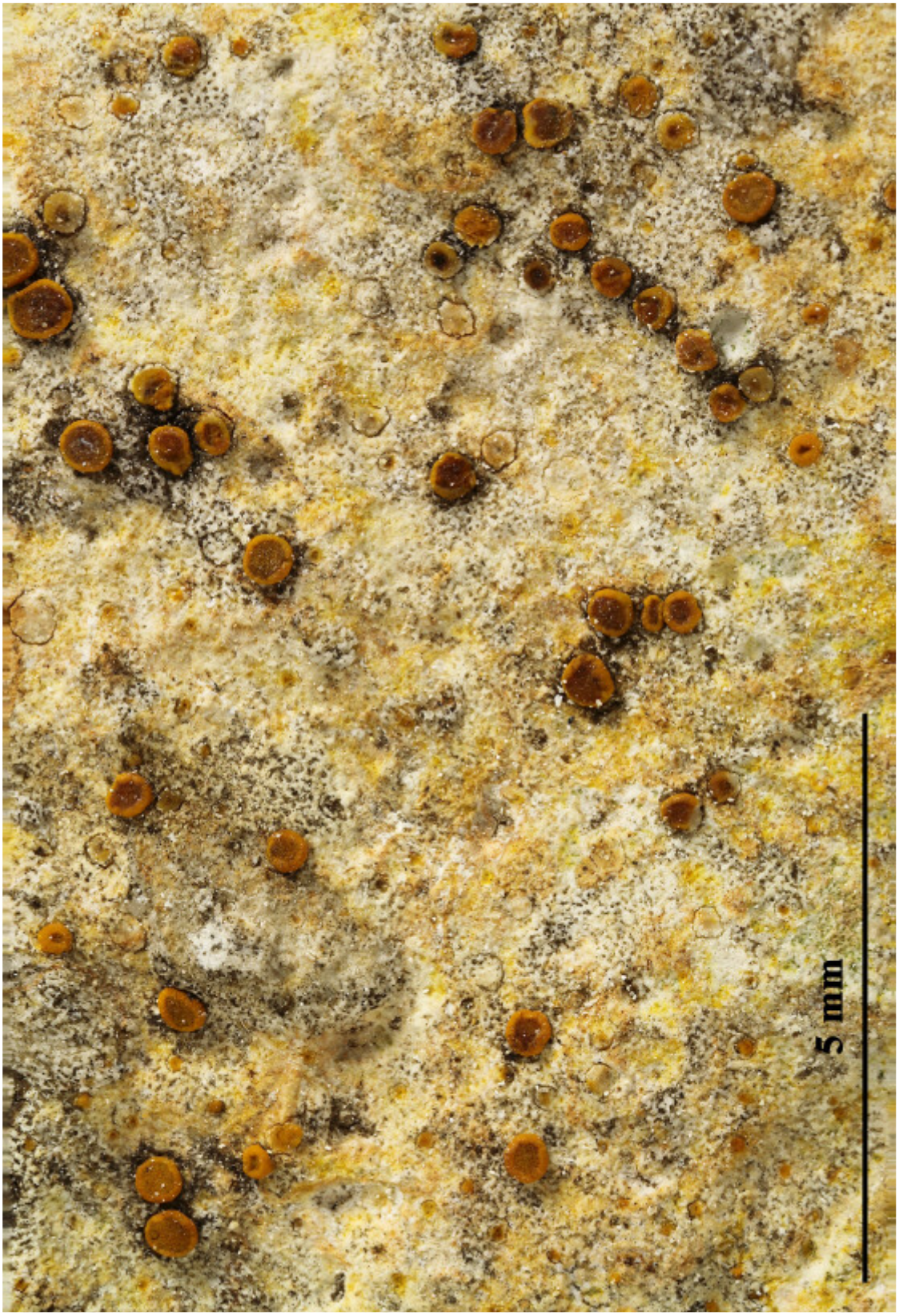


Caloplaca lactea

Caloplaca lactea (A. Massal.) Zahlbr.

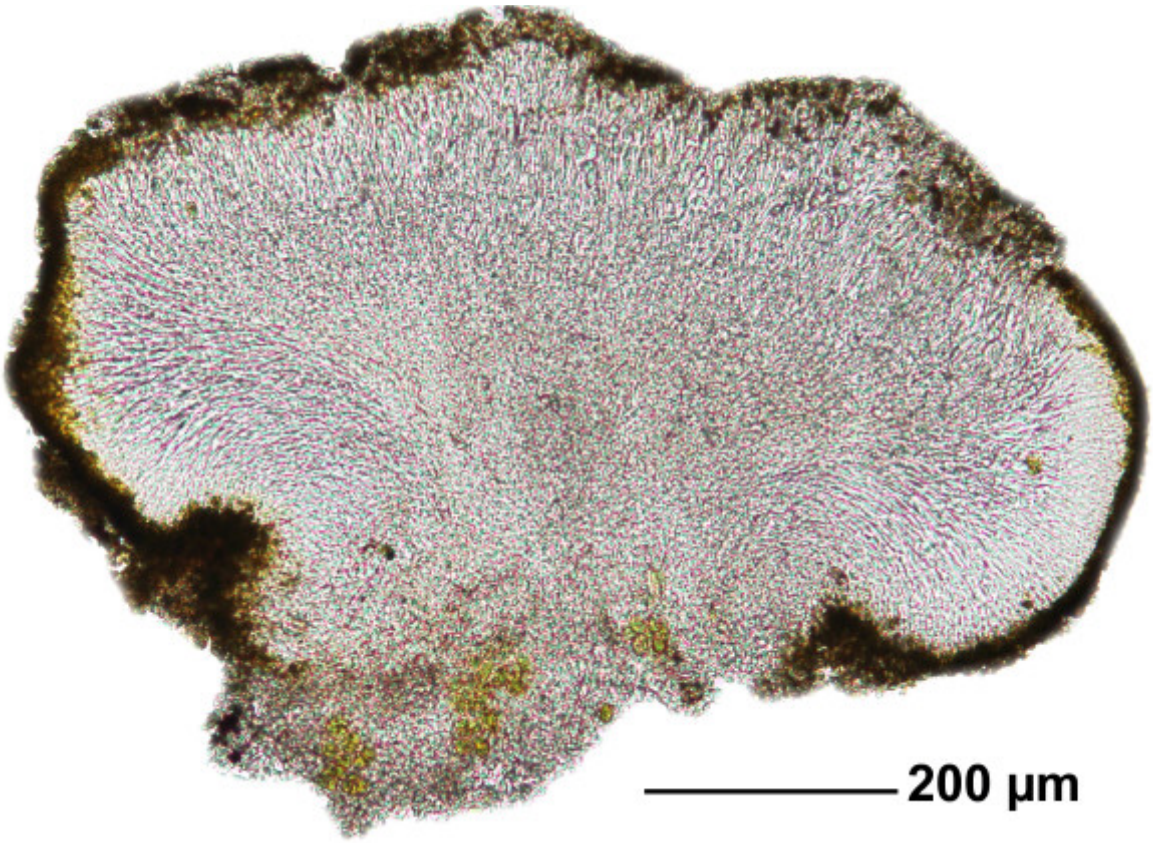
On calcareous rocks. Spores polarilocular, hyaline, 8/ascus, 12-15.5 x 8.5-9.7 µm, septum in the middle 0.7 µm.

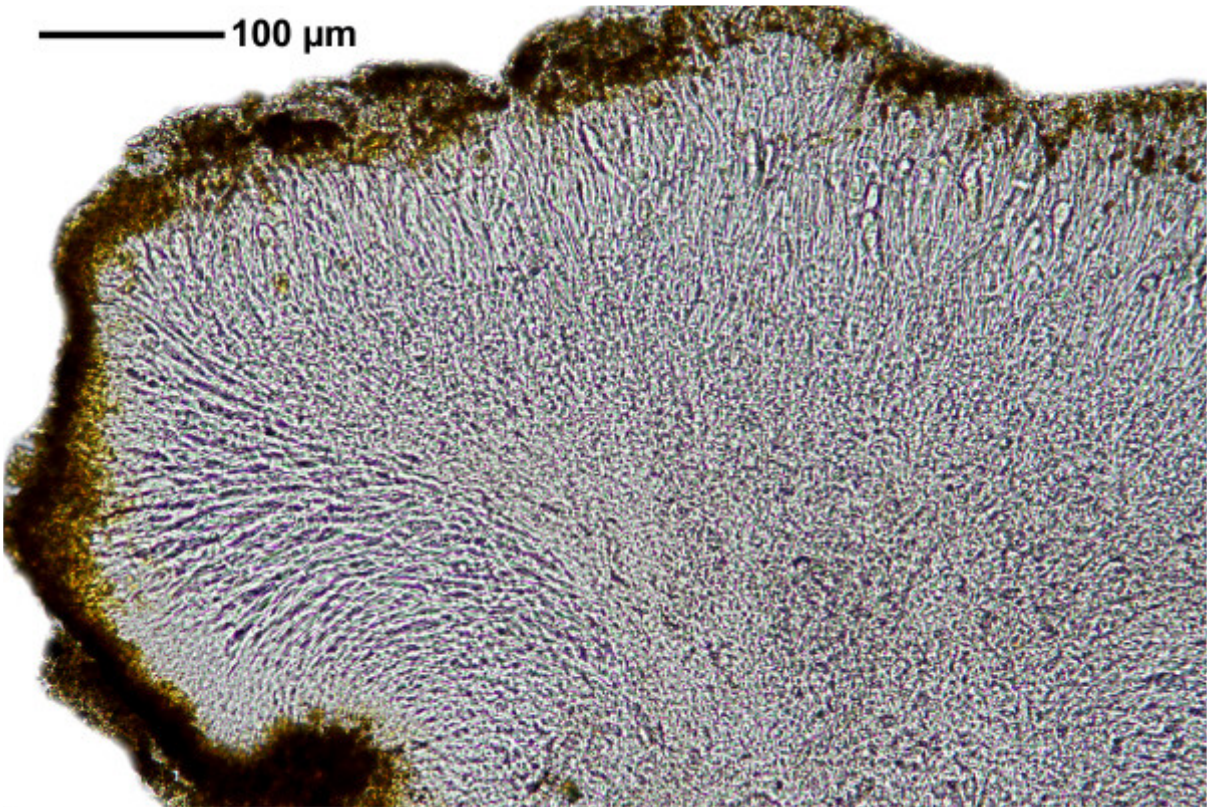
[13787], Malta, Wied Qirda südwestlich von Zebbug, 35°52.094'N, 14°30.27.297'E, 54 m. Leg. F. Schumm & J.-P. Frahm, 15.03.2008, det. A. Aptroot 2016.



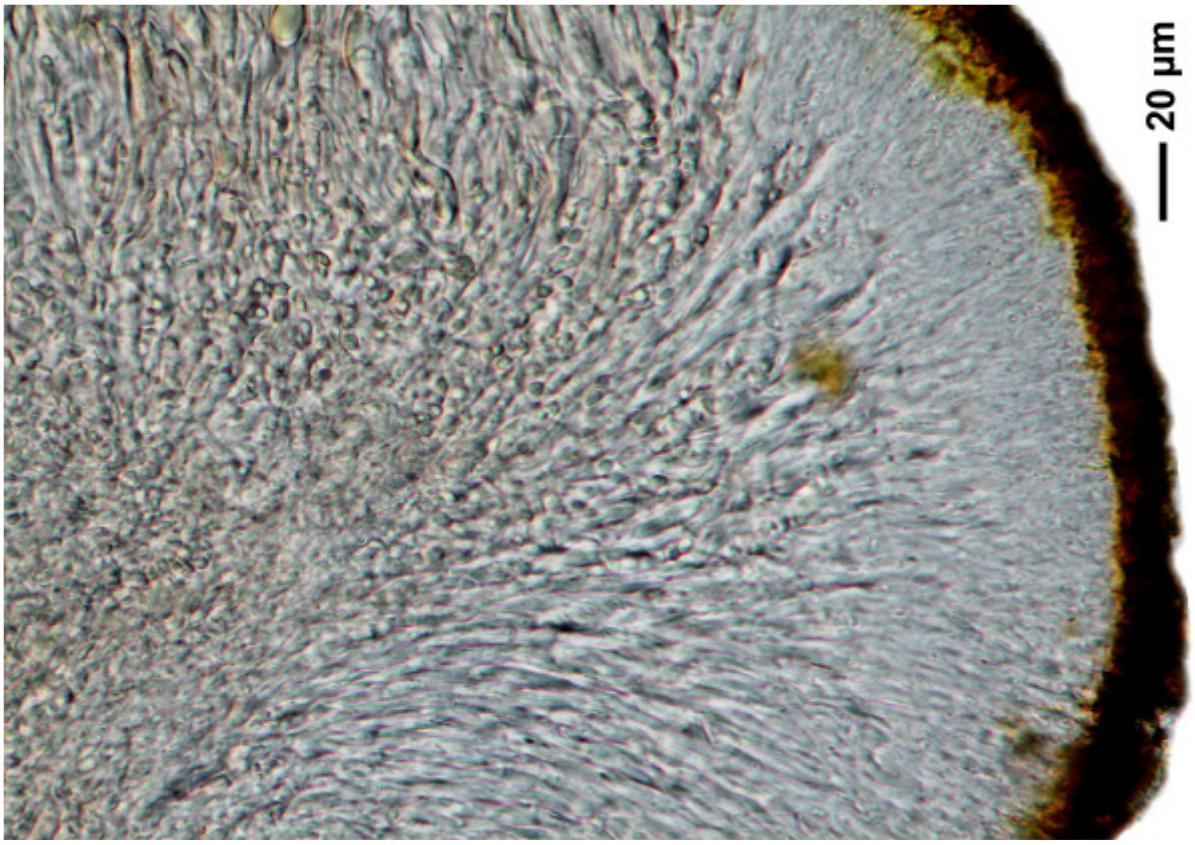


Caloplaca lactea





Caloplaca lactea





Caloplaca lactea

Caloplaca lacteoides Nav.-Ros. & Hladún

Hymenium 80 µm, base fine insperse. Spores 8/asus, ca. 16 x 7 µm, septum thin (Sipm.); spores 13.1-14.1 x 5.8-6.2 µm, septum 1.7-2.4 µm (FS)

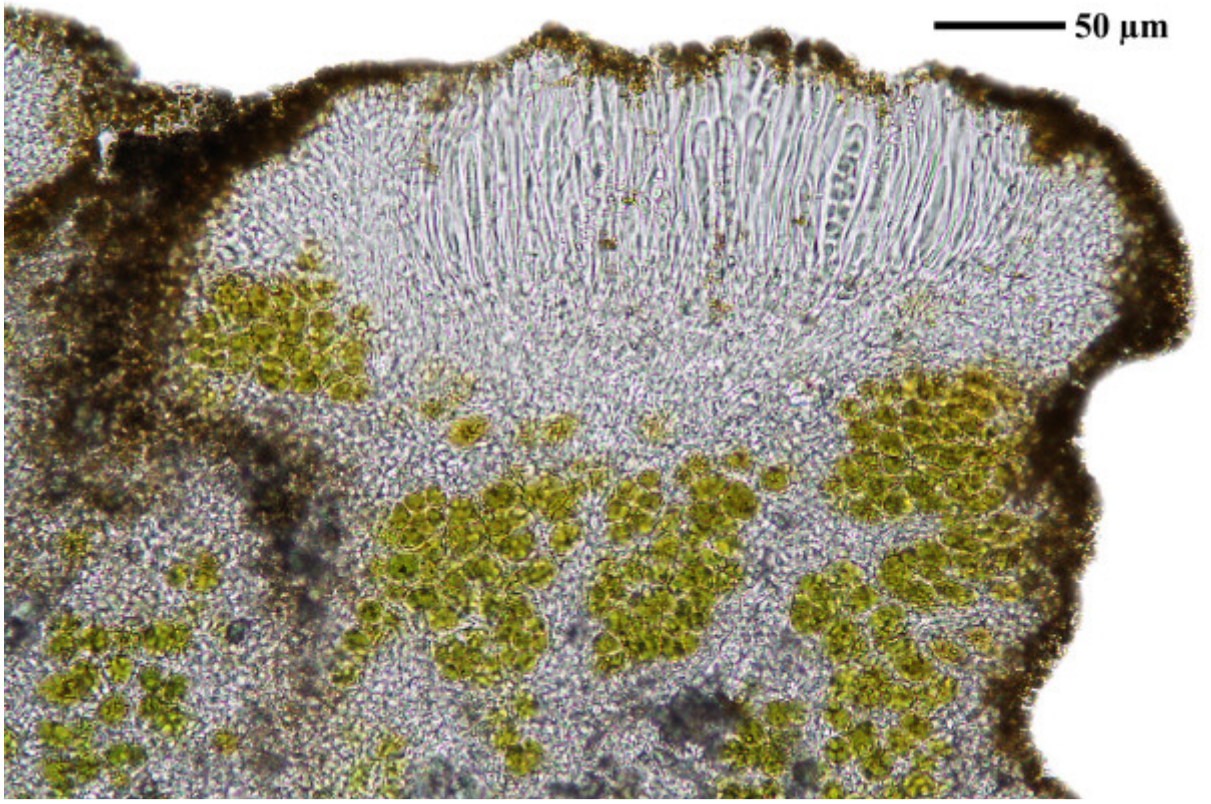
[B 60 0133188], Iran, Prov. Kohgiluyeh, c. 35 km from Semirom to Yassuj, on conglomerate stones in *Quercus* woodland. 30°41' N, 51°21' E, 1600 m. Leg. A. A. Maassoumi & S. R. Safavi, S.R. (2678), 5. November 2003, det. H. Sipman, 2006.

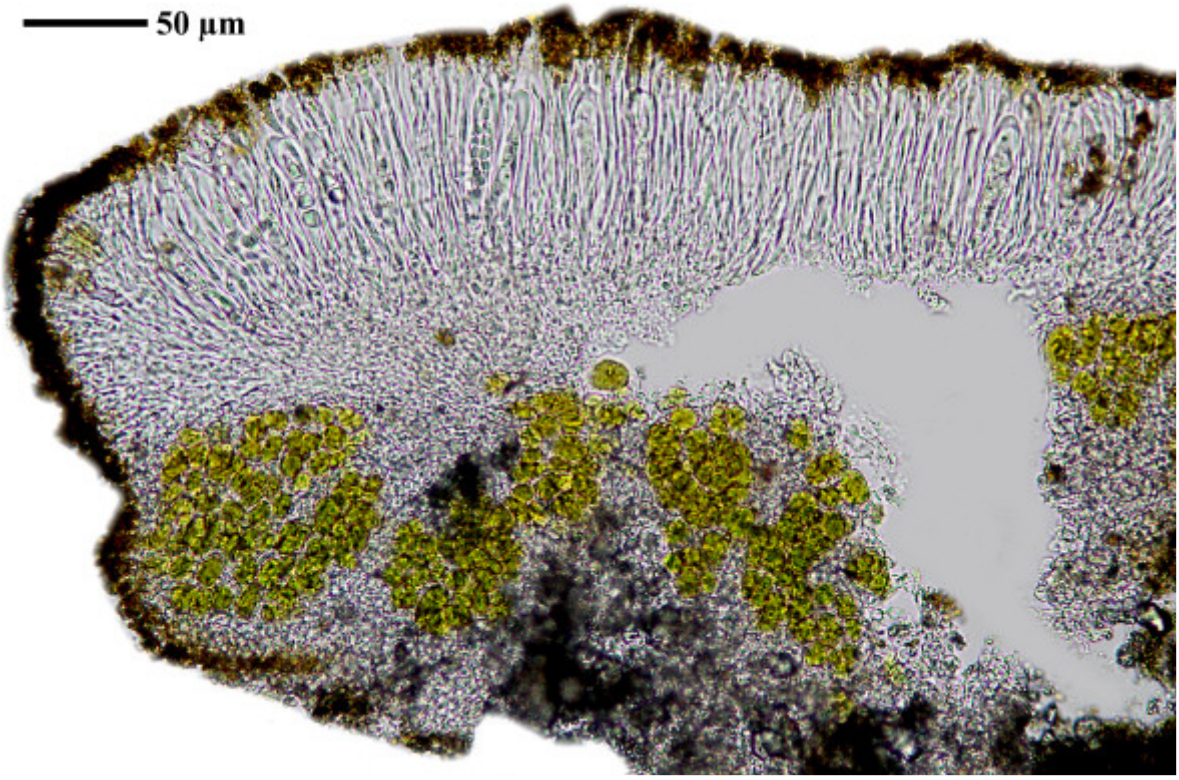






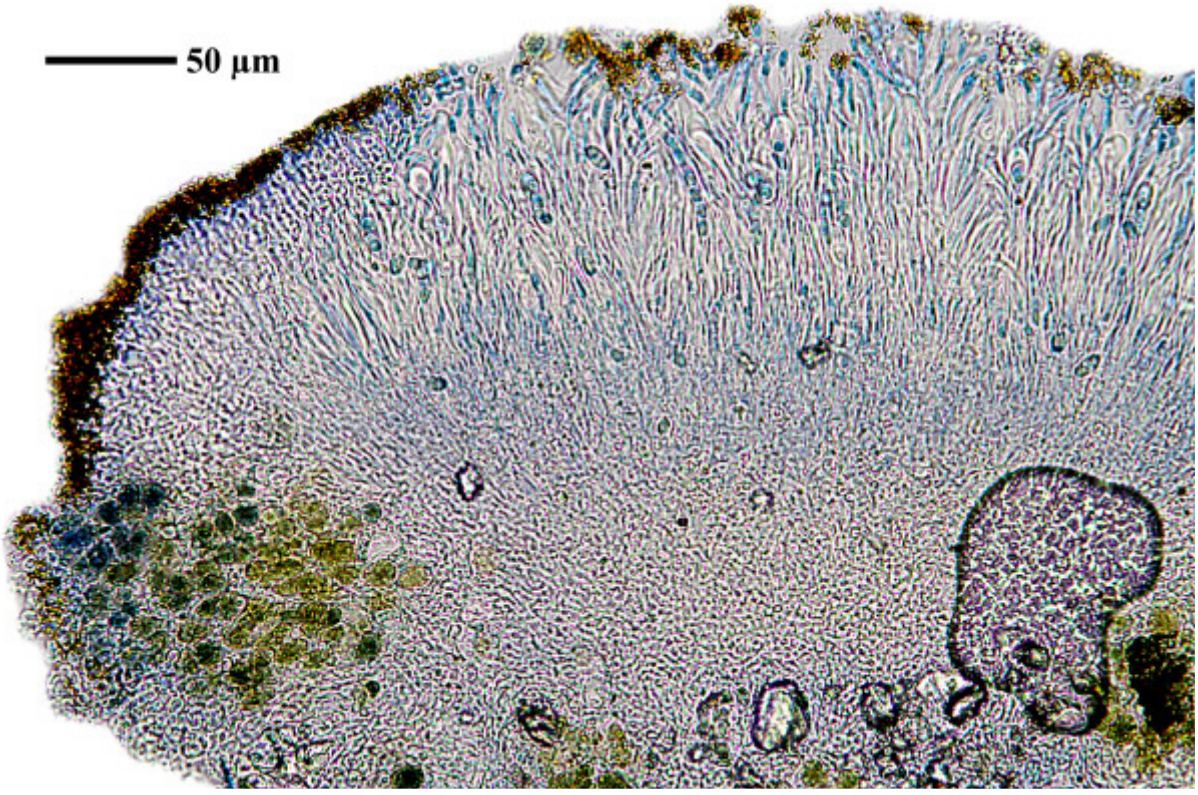
Caloplaca lacteoides



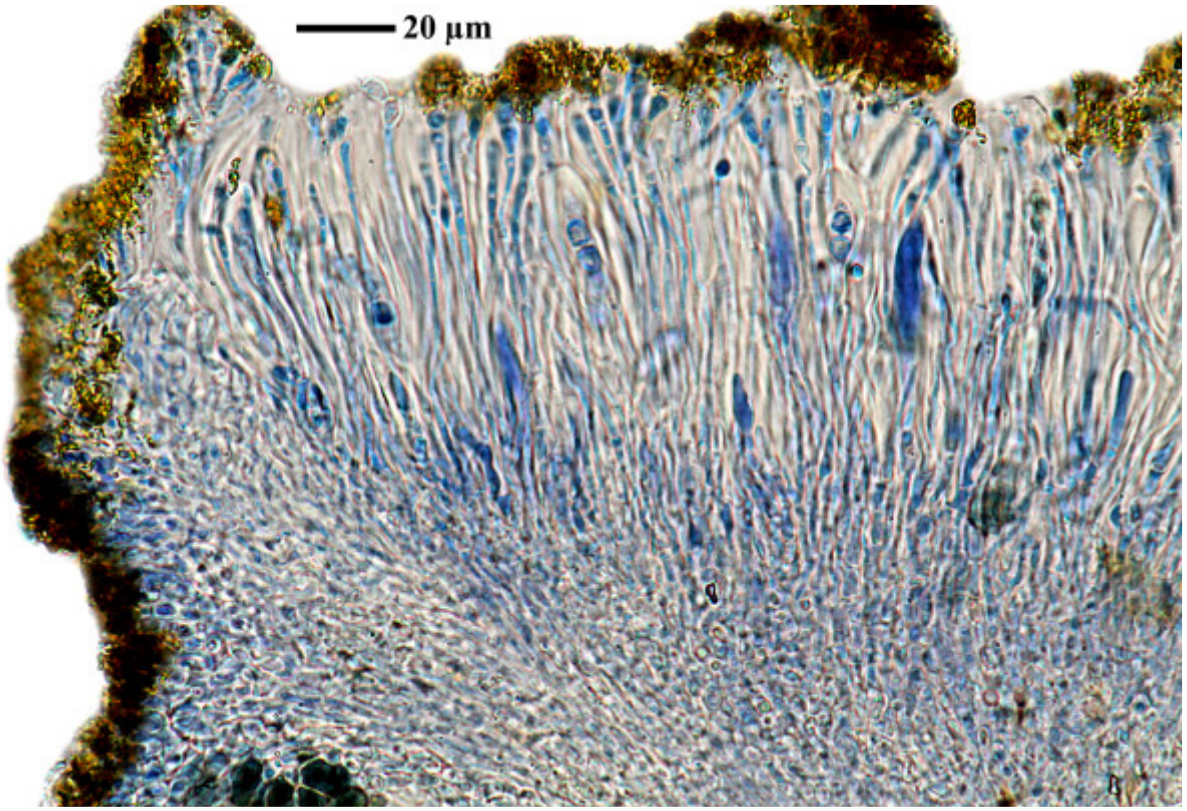


Caloplaca lacteoides

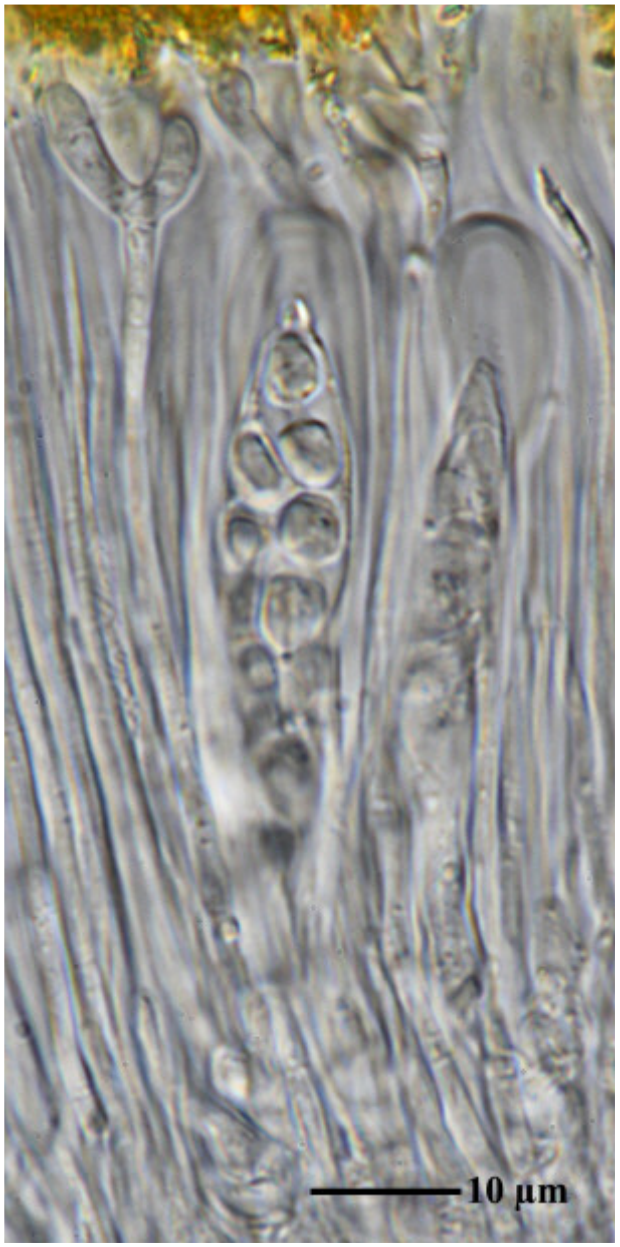




Caloplaca lacteoides







Caloplaca lacteoides

Caloplaca lecanorocarpa Aptroot & M. Cáceres

On non calcareous-rocks. Ascospores 12.5-14.3 x 5.3-5.8 µm, septum 6.5-7.1 µm, epihymenium brown. Chemistry: atranorin, terpenoid. Lit. Lichenologist 48: 205 (2016)

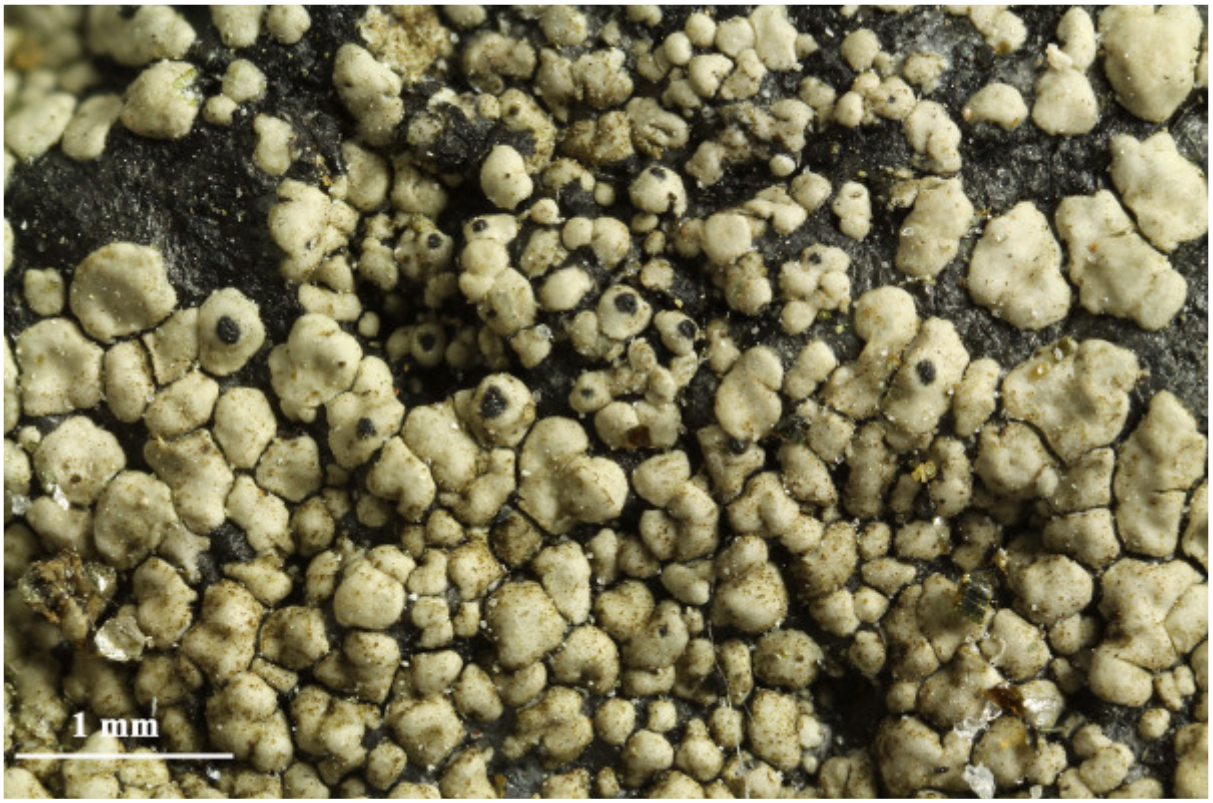
[ABL 21364], Brazil, Ceará, Quixadá, Açude Cedró, trilha da Galinha, 04°58’ S, 39°03’ W, 250 m, on gneiss in Caatinga. Leg. M. Cáceres & A. Aptroot, 31.03.2014, det. A. Aptroot 2014.

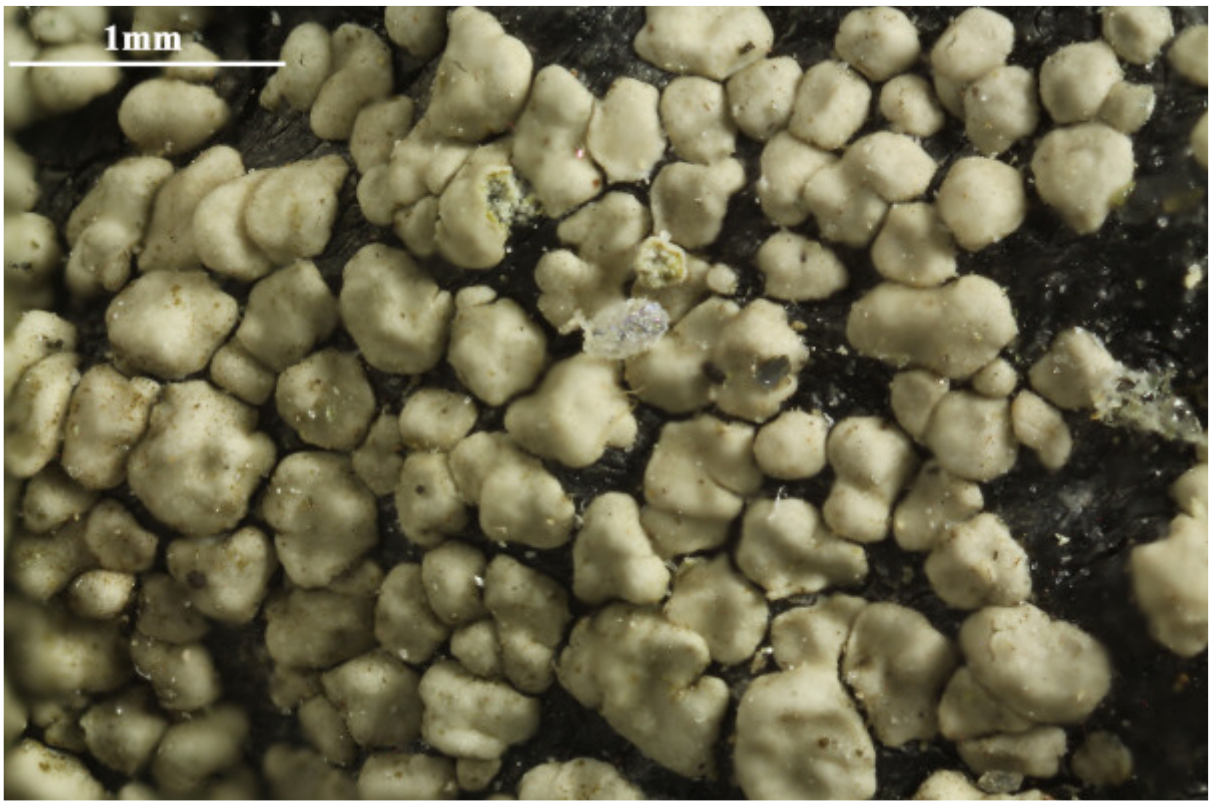






Caloplaca lecanorocarpa

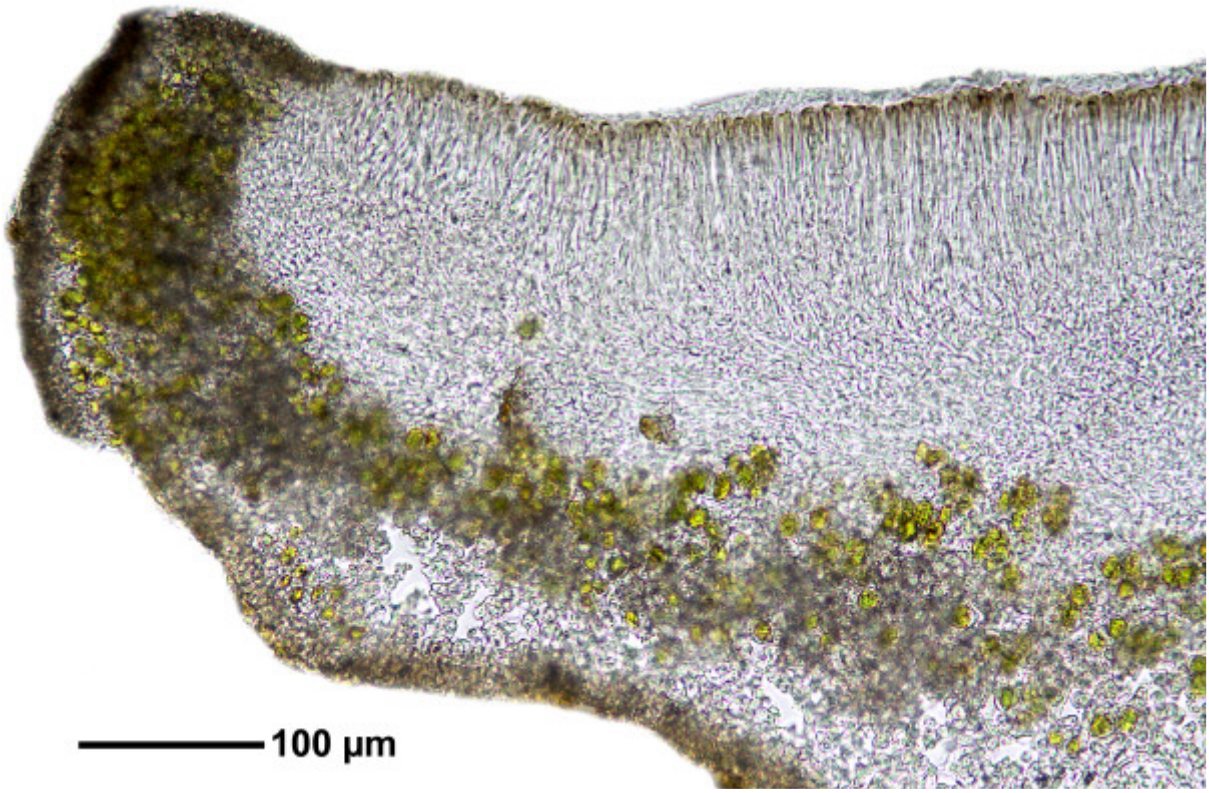


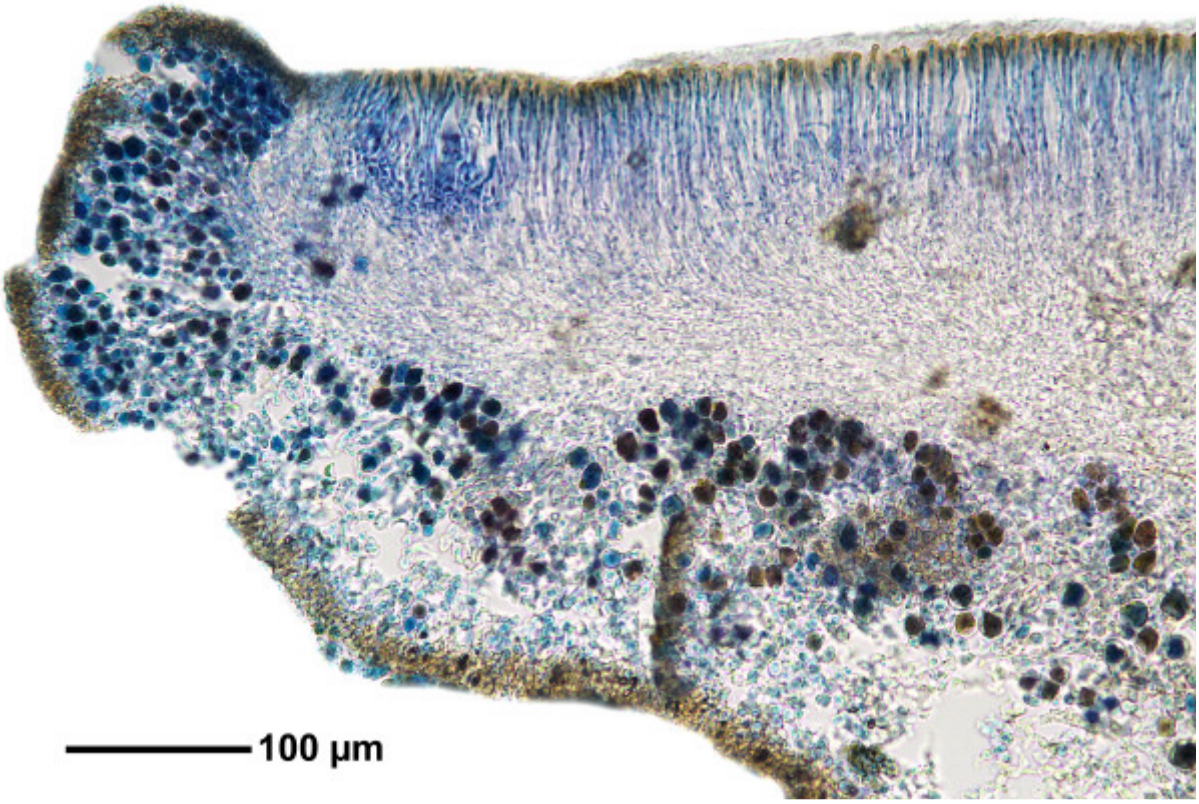


Caloplaca lecanorocarpa

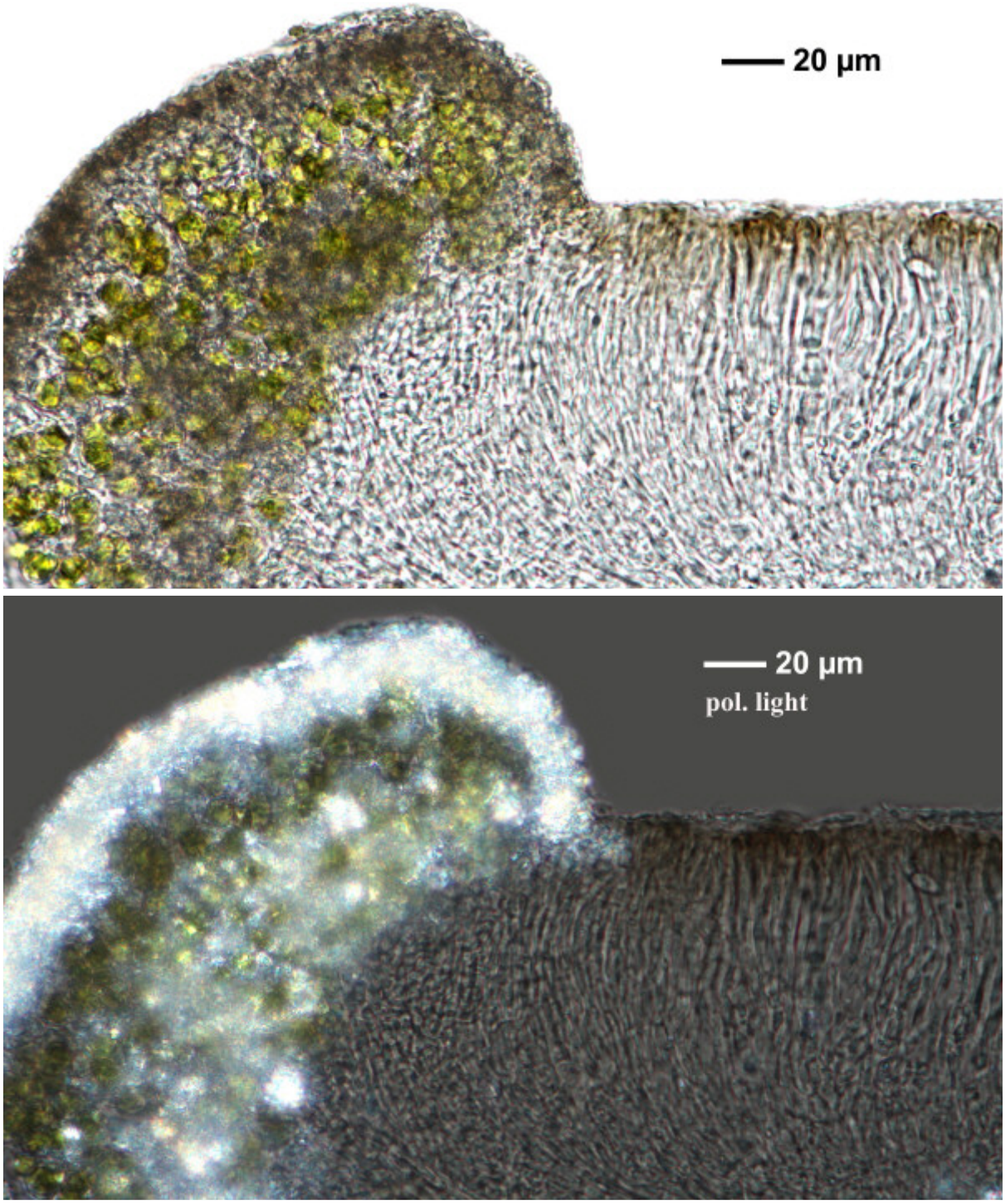


Caloplaca lecanorocarpa

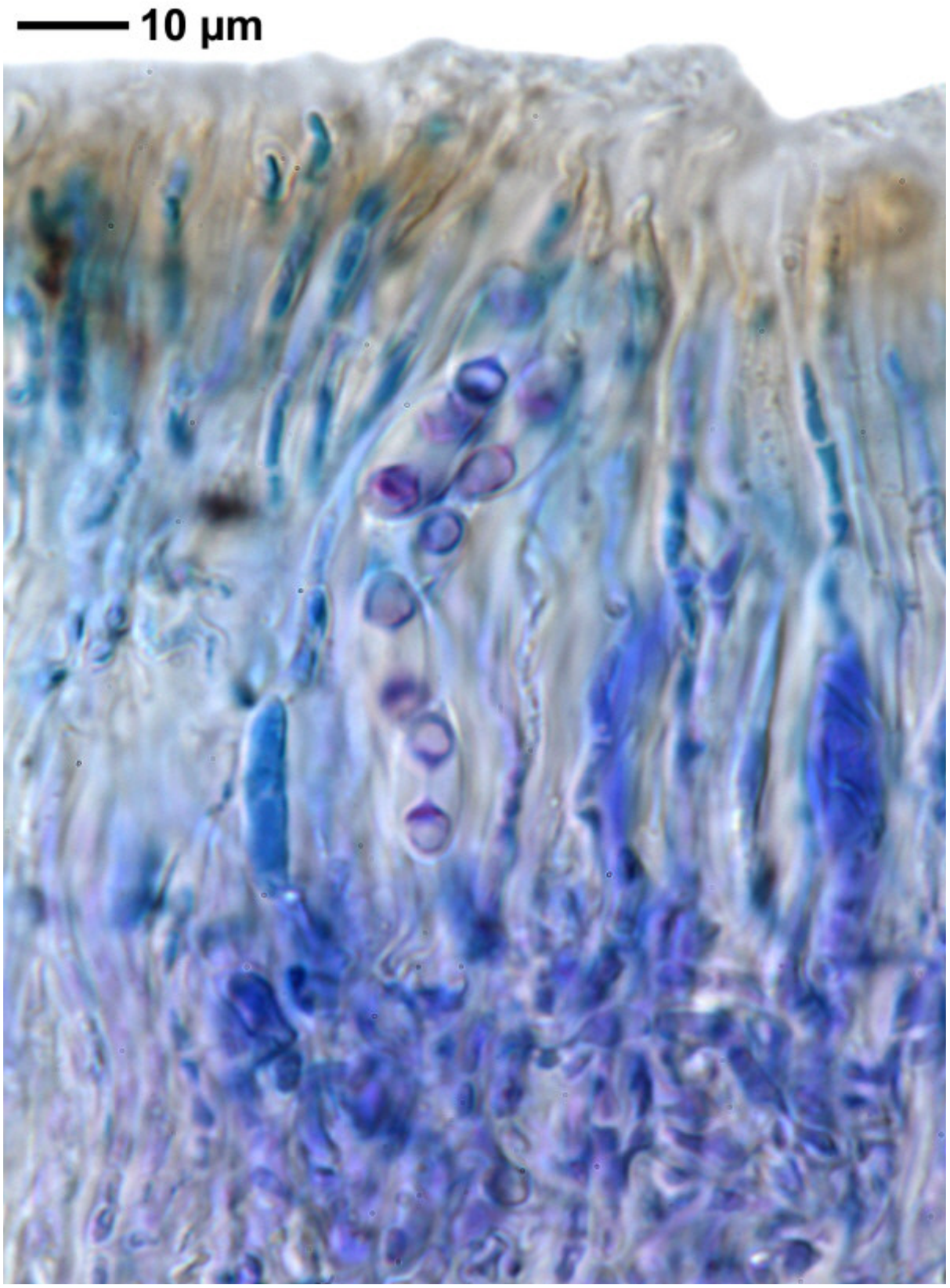




Caloplaca lecanorocarpa



Caloplaca lecanorocarpa





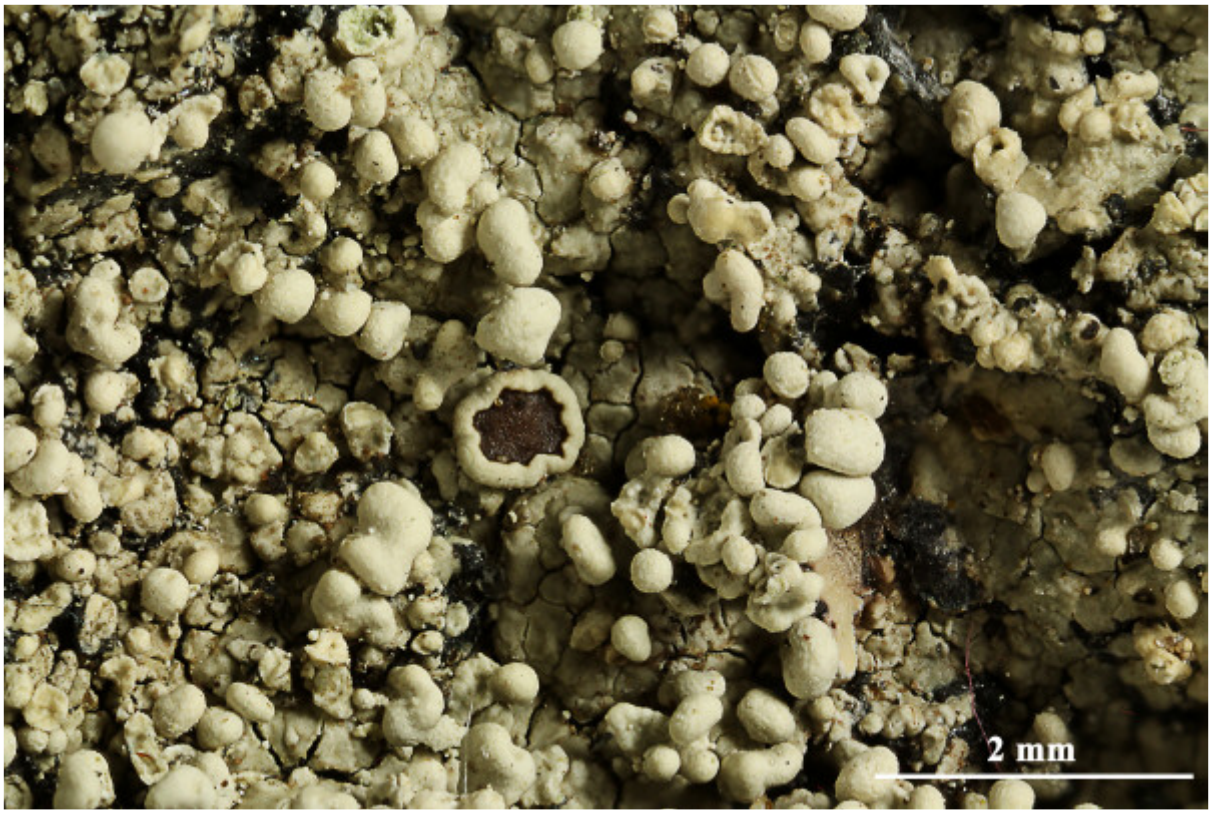
Caloplaca lecanorocarpa

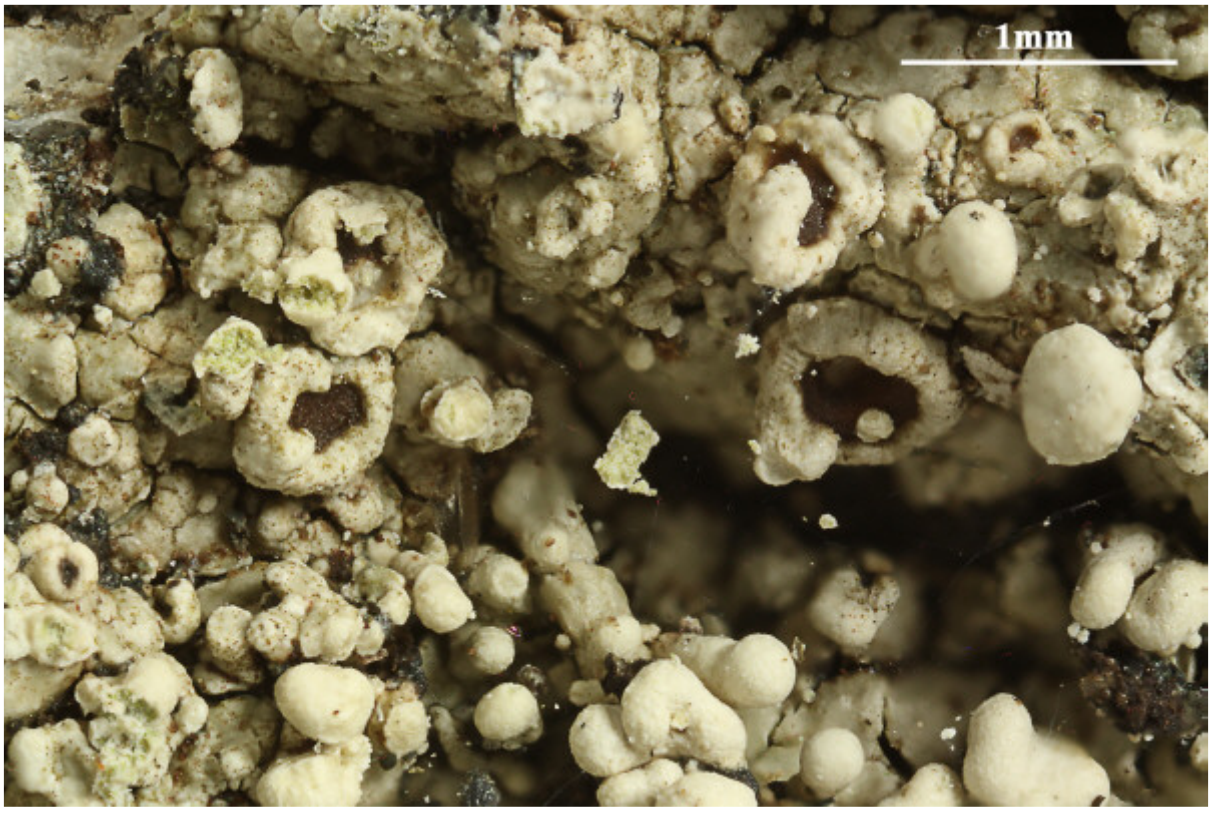
Caloplaca lecapustulata Aptroot & M. Cáceres

On non calcareous-rocks. Ascospores polarilocular, hyaline, 8/ascus, 11-14.5 x 6-7.5 µm, septum 5.5-9.4 µm. Chemistry: atranorin, triterpenoid. Lit. Lichenologist 48: 205 (2016)

[ABL 21383], Brazil, Ceará, Quixadá, Açude Cedró, trilha da Galinha, 04°58’ S, 39°03’ W, 250 m, on gneiss in Caatinga. Leg. M. Cáceres & A. Aptroot, 31.03.2014, det. A. Aptroot 2014.



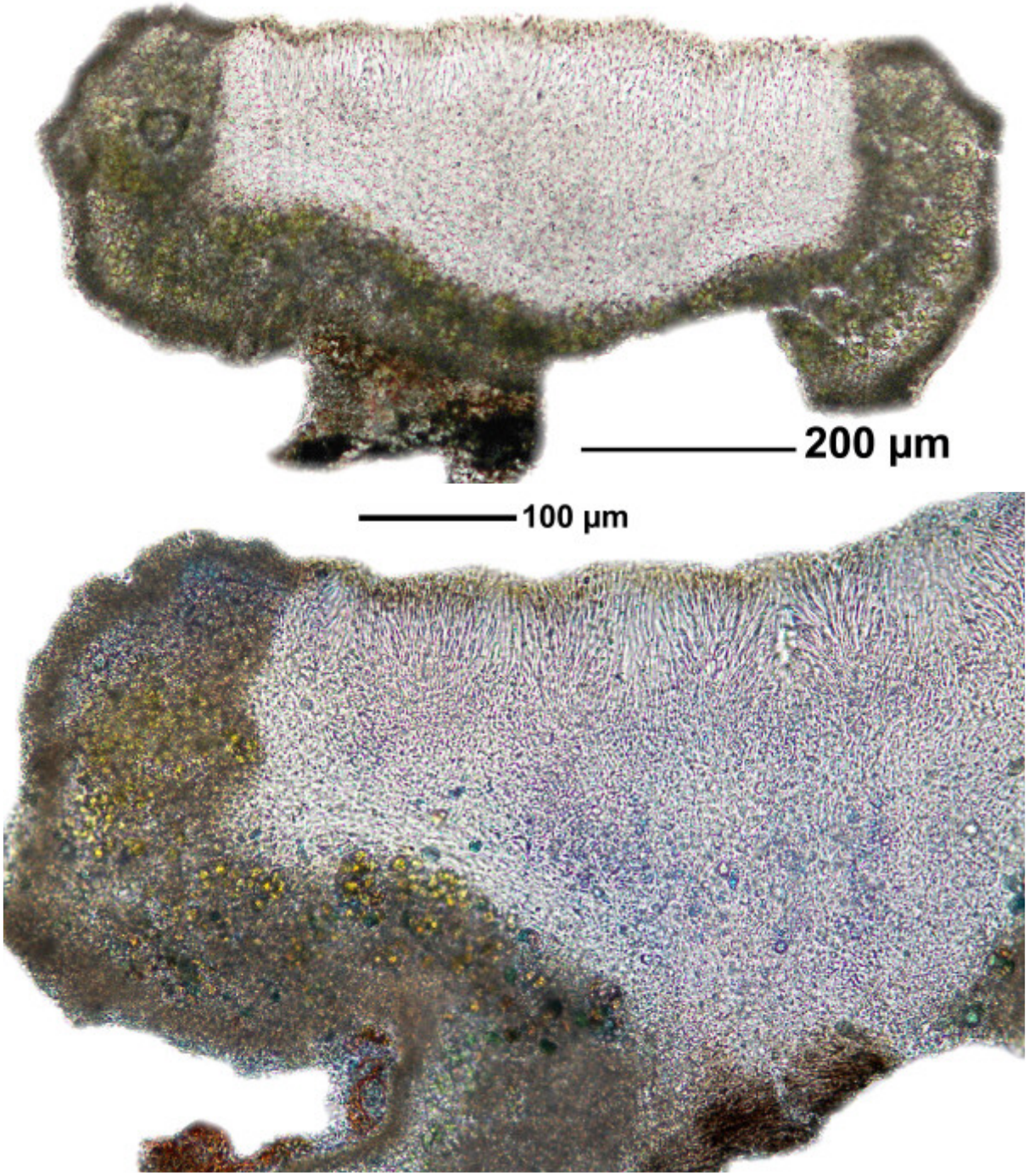




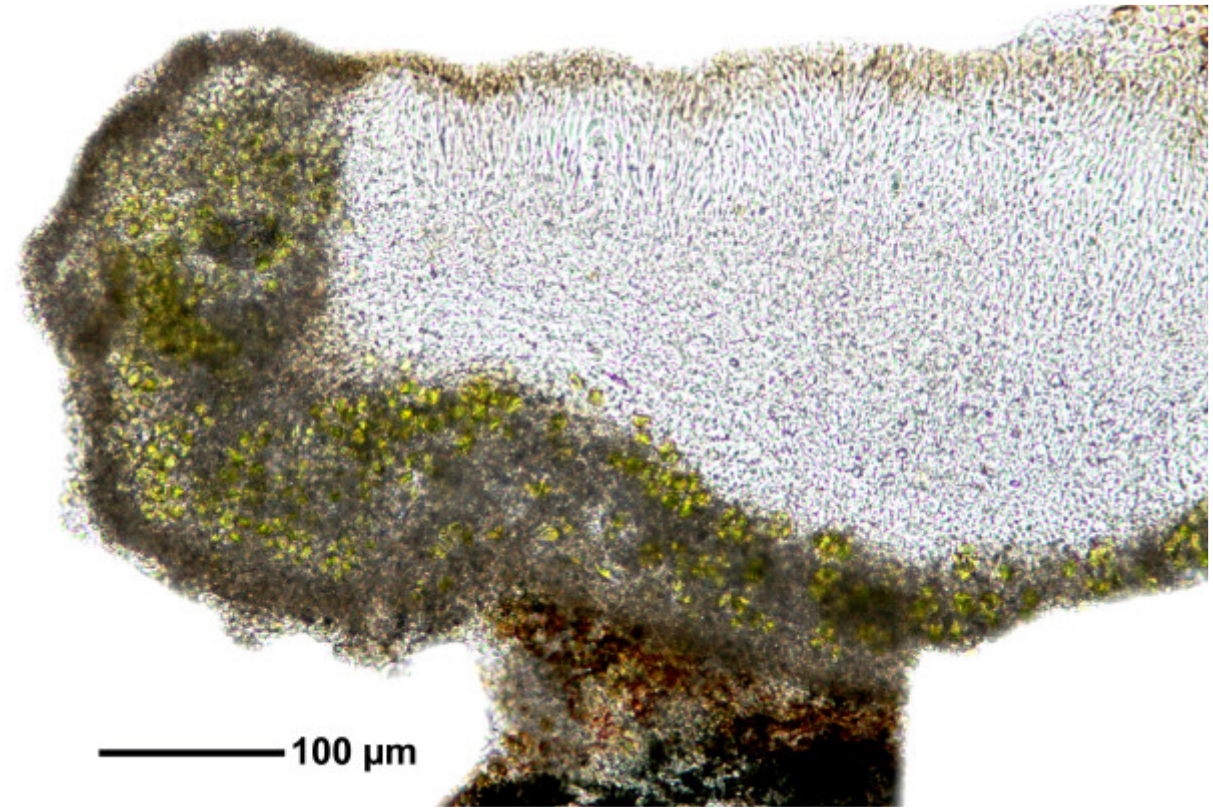
Caloplaca lecapustulata

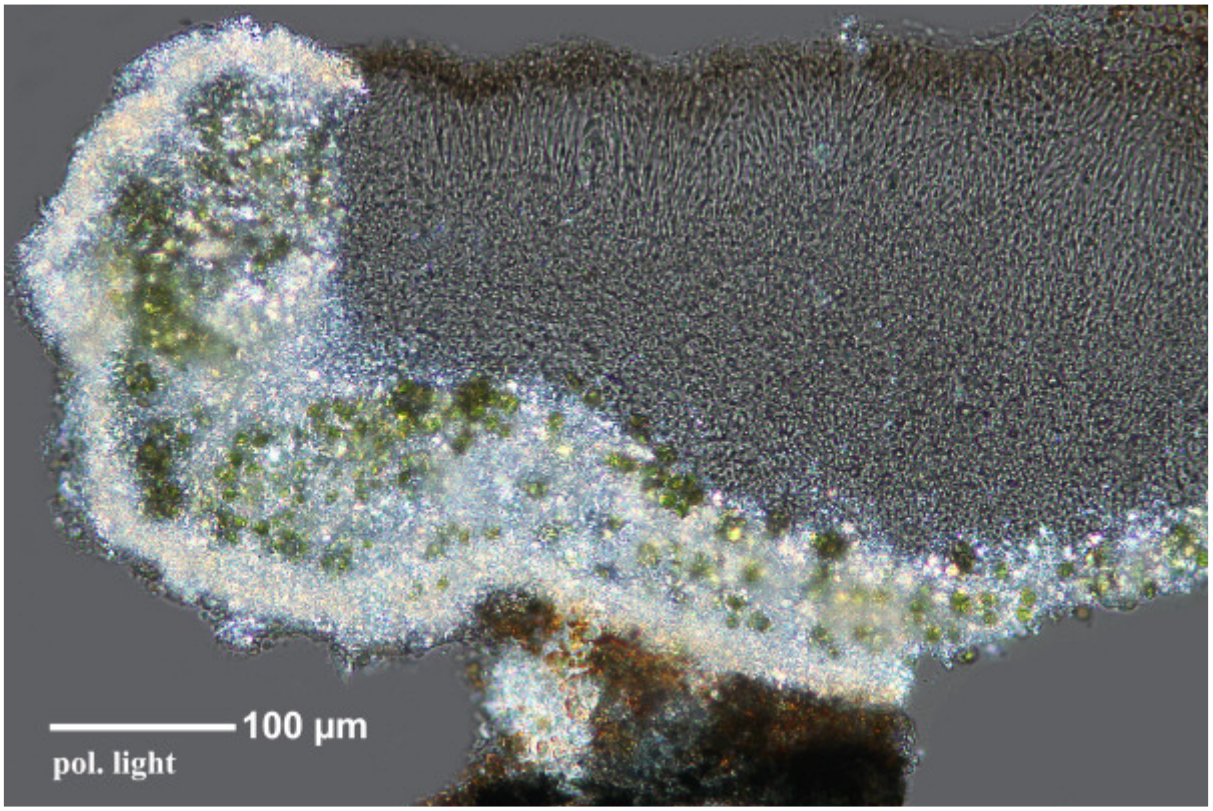


Caloplaca lecapustulata

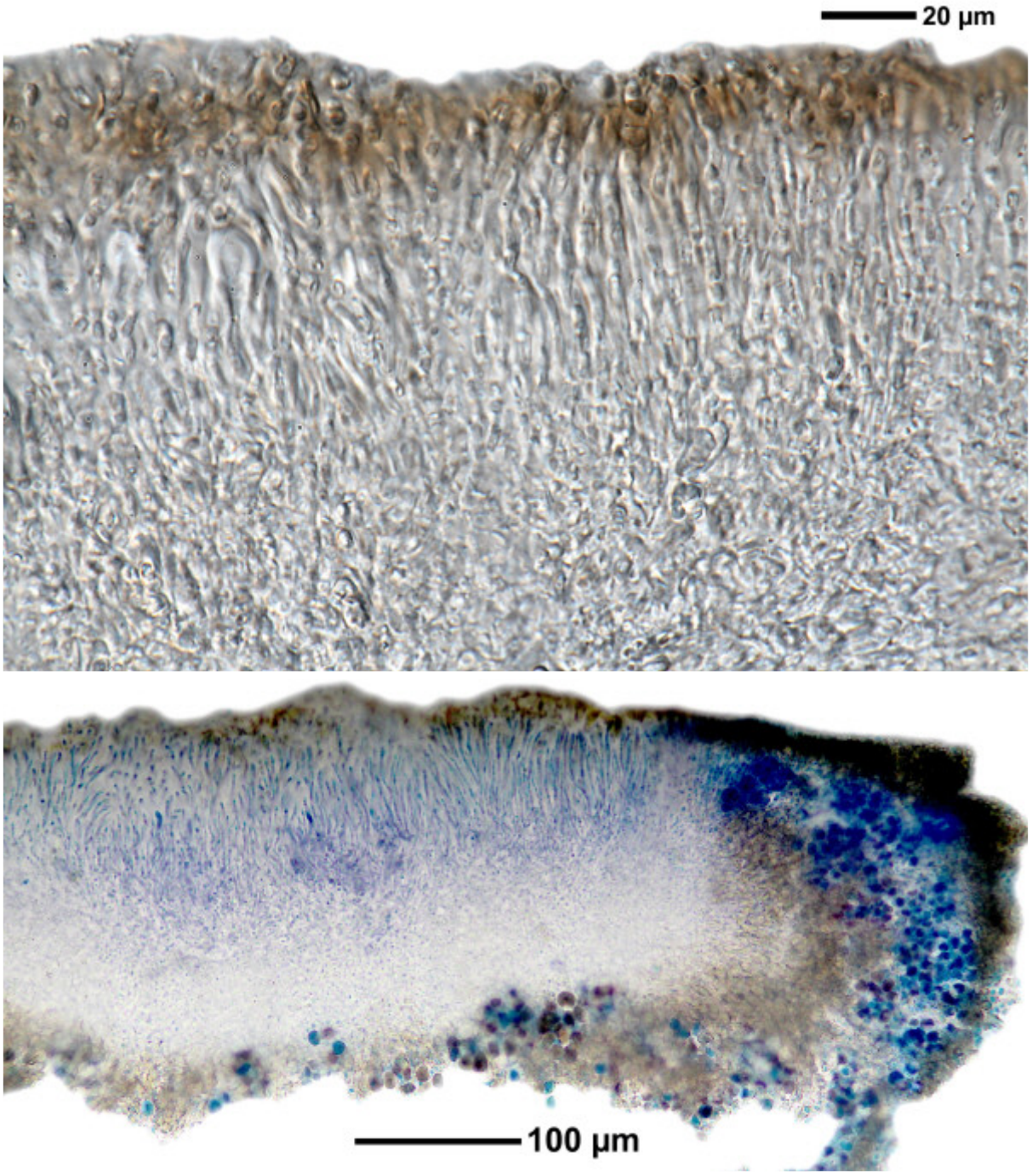


Caloplaca lecapustulata

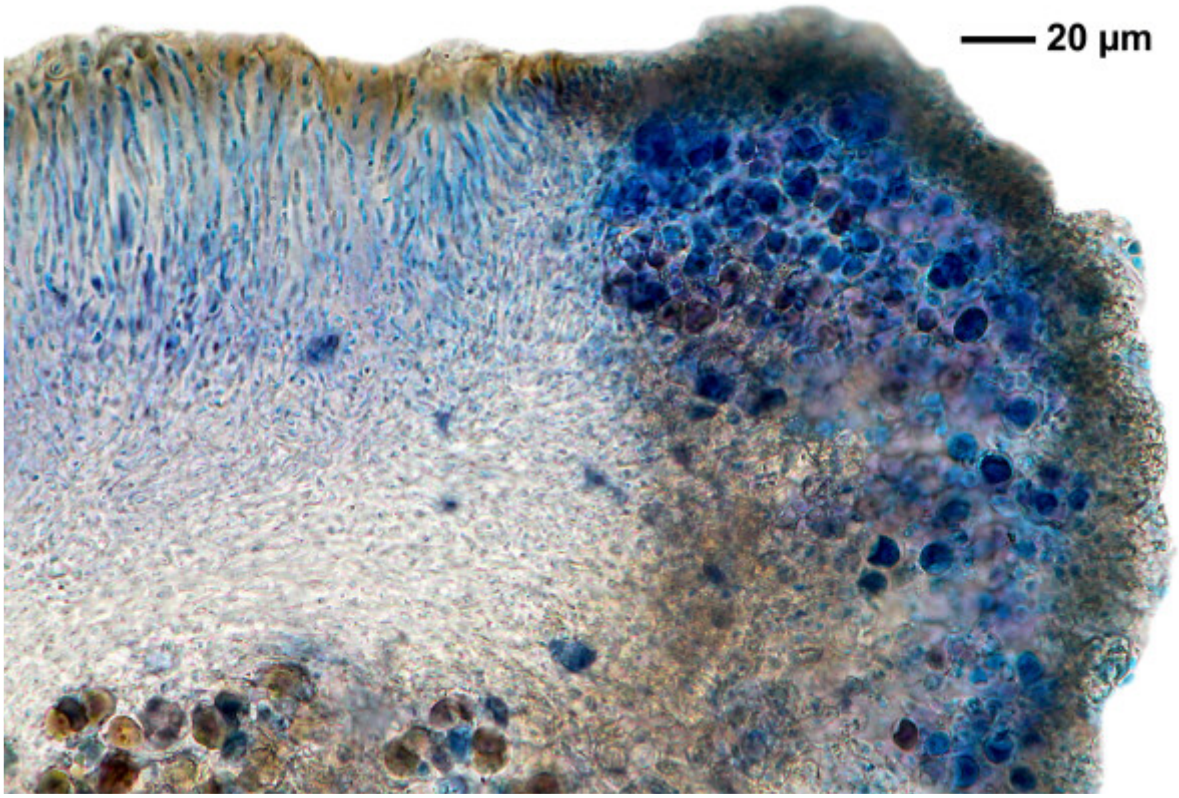


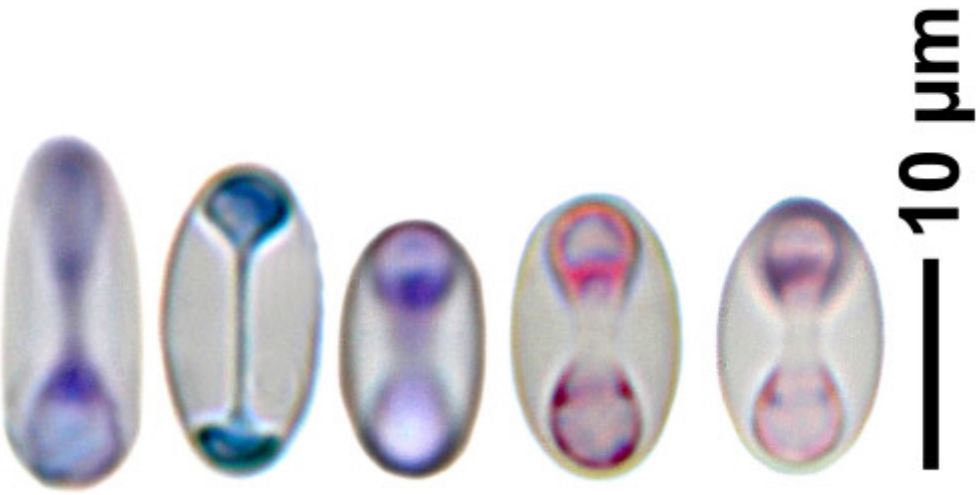


Caloplaca lecapustulata



Caloplaca lecapustulata





Caloplaca lecapustulata

Caloplaca lecideina (Müll. Arg.) Clauzade & Rondon

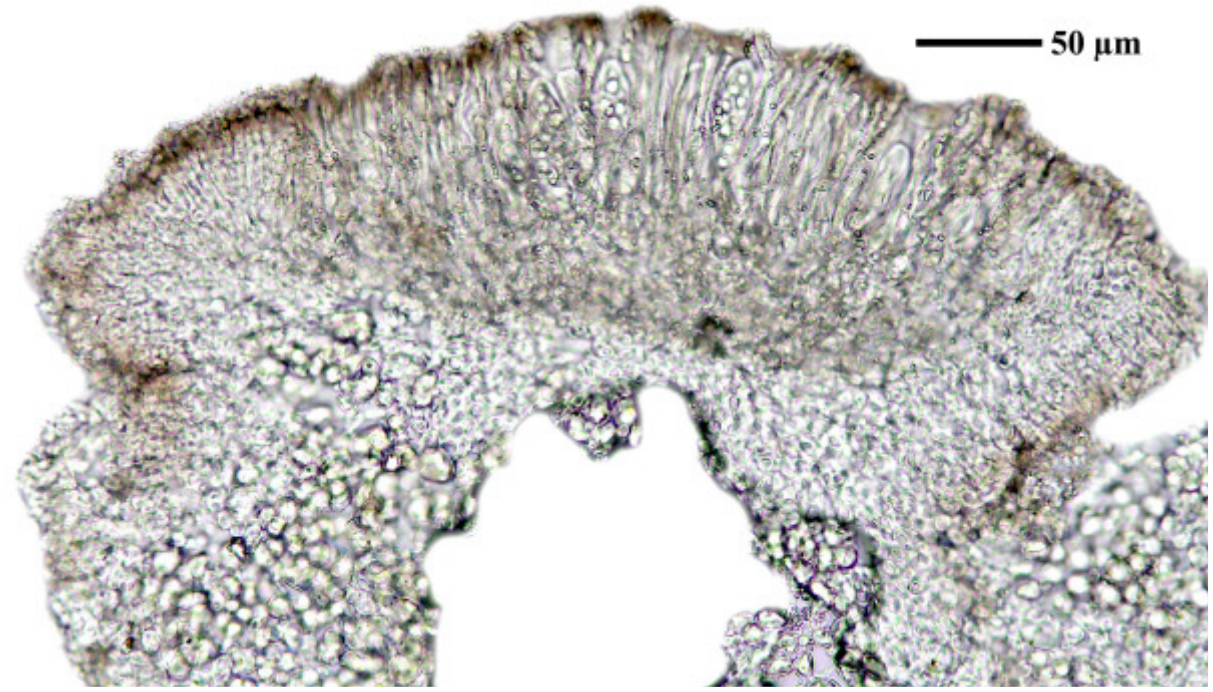
Spores 13.3-14.3 x 6.4-7.2 µm, septum 2.8 µm. Hymenium insperse.

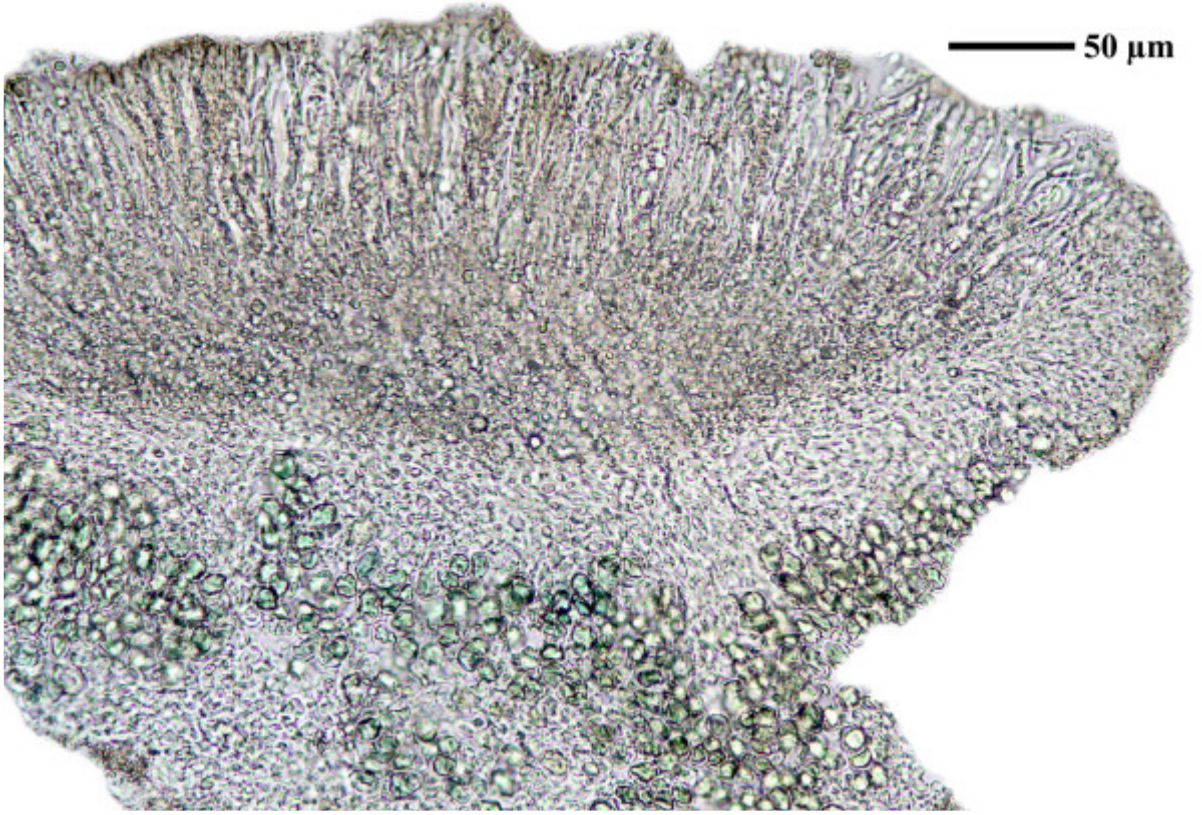
[BR5030027993578], Turkey, 662 Iğdur, Zordağ, 39°45’49.05’’ N, 43°53’20.13’’ E, 2400 m. Leg. K. Yazici (20110),13.06.2010, det. A. Aptroot, 2011.



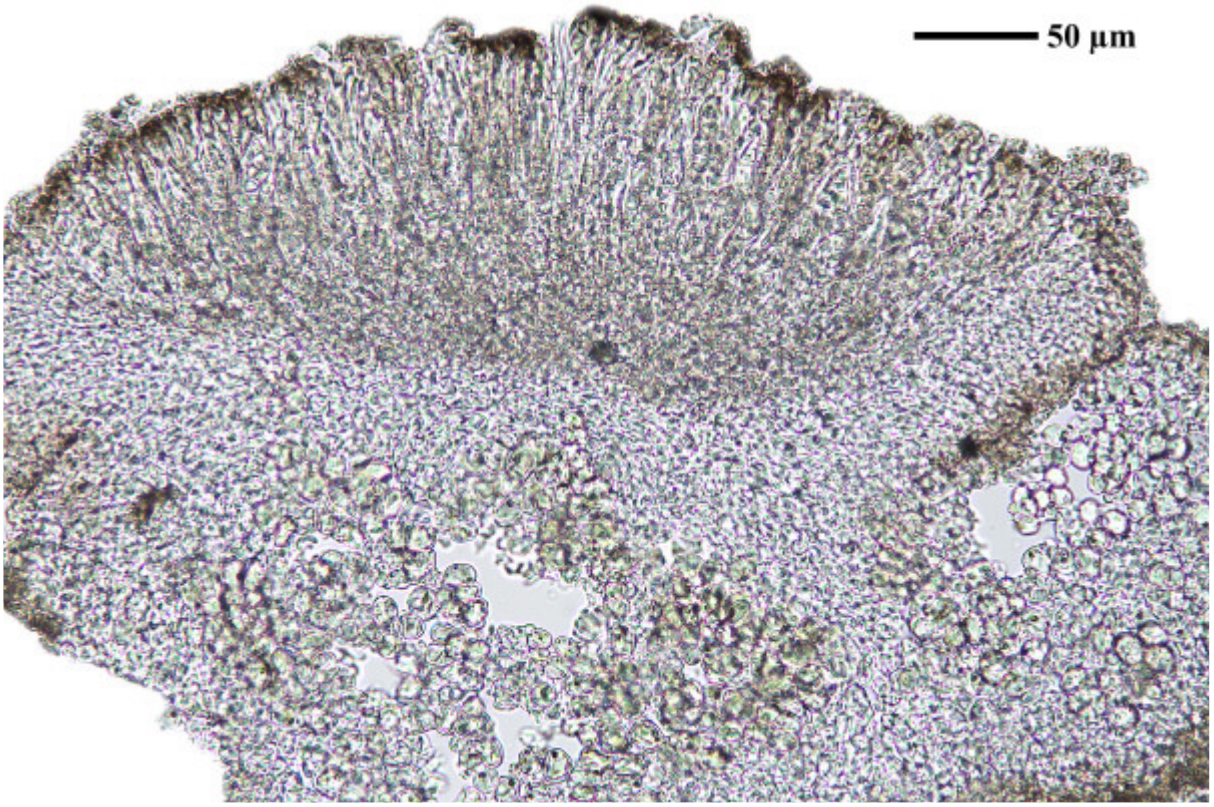


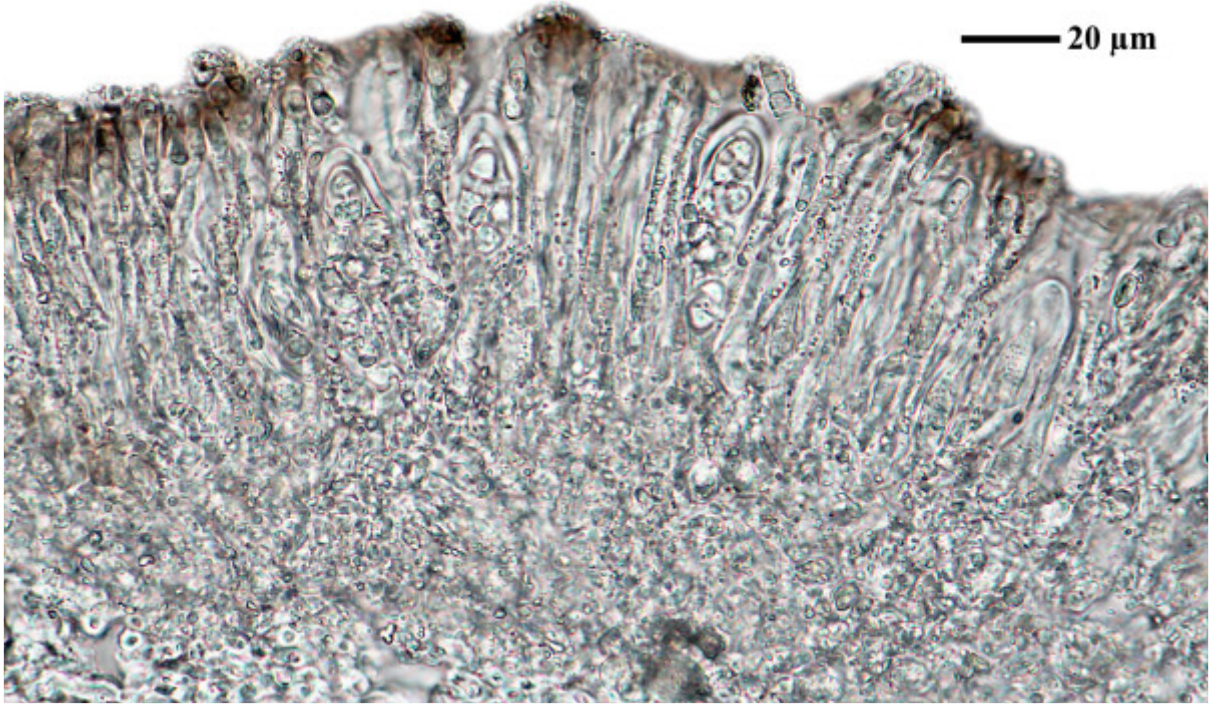
Caloplaca lecideina



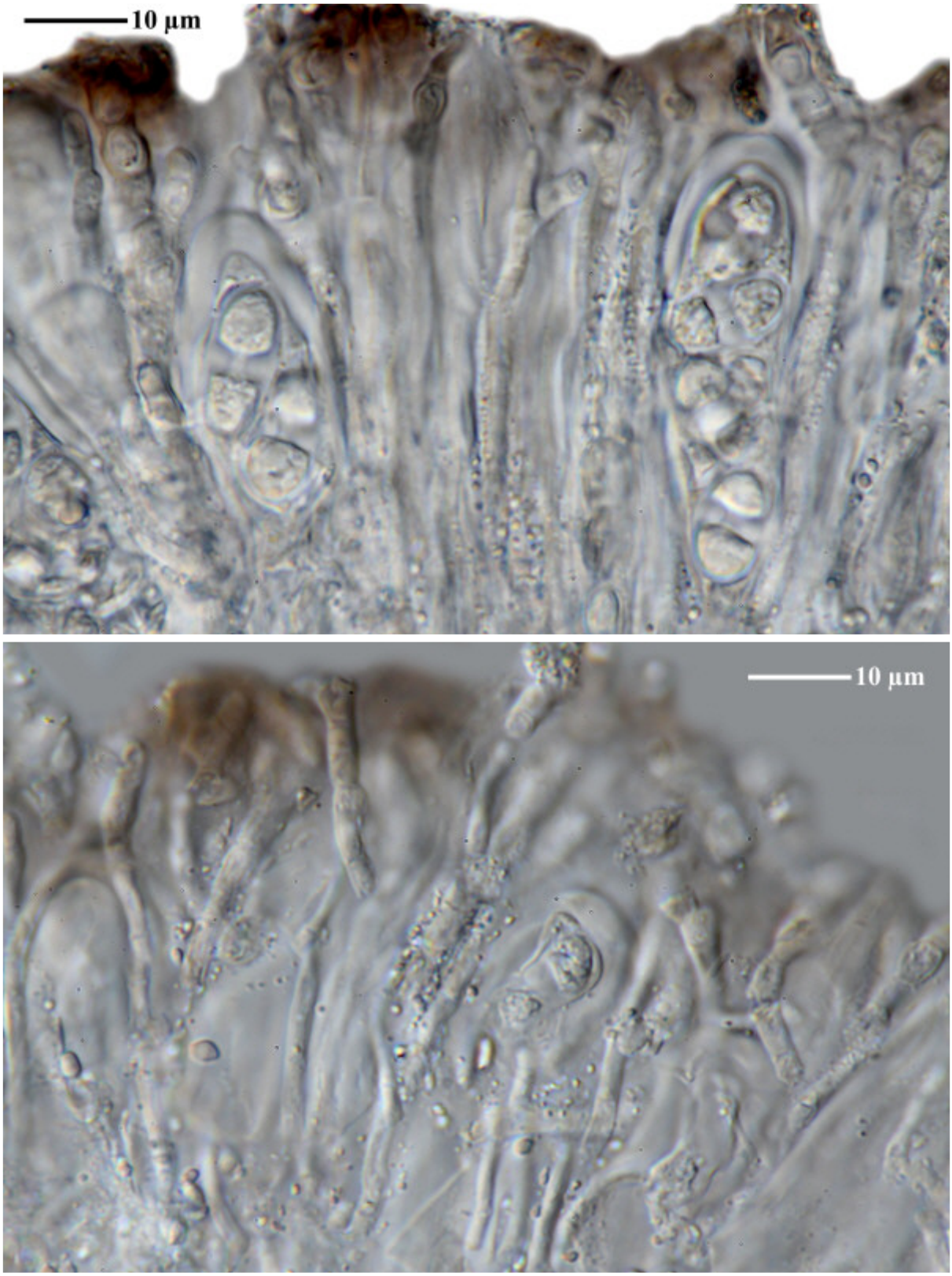


Caloplaca lecideina

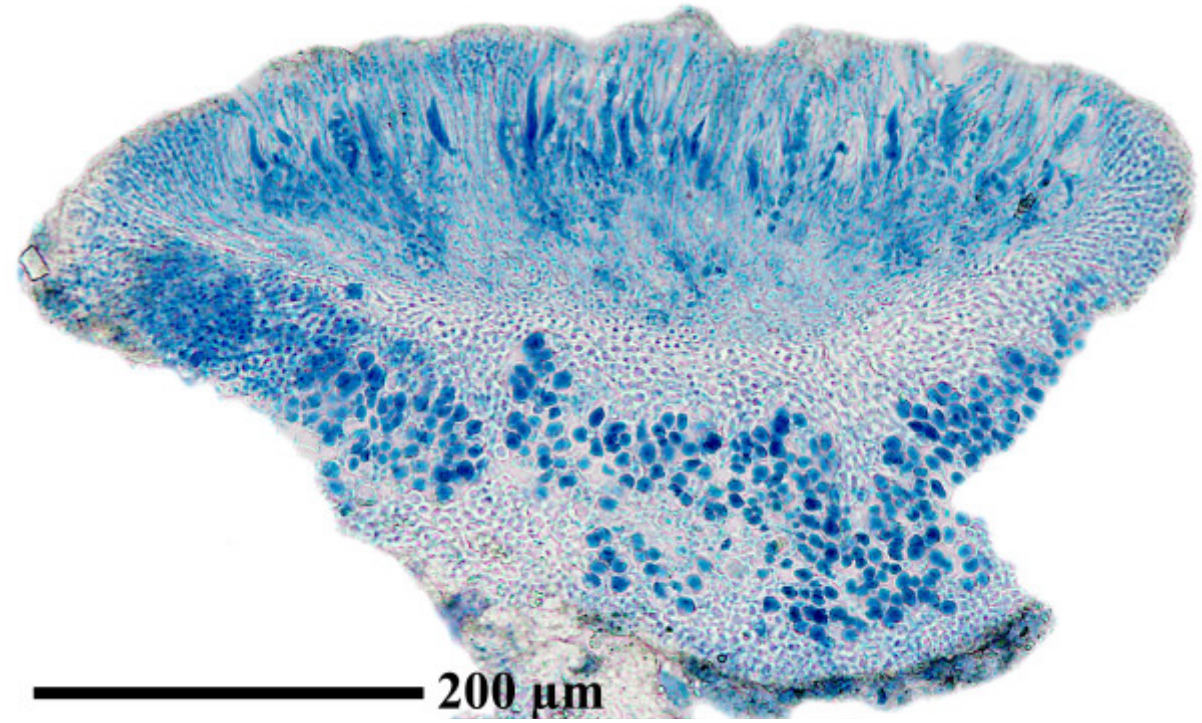


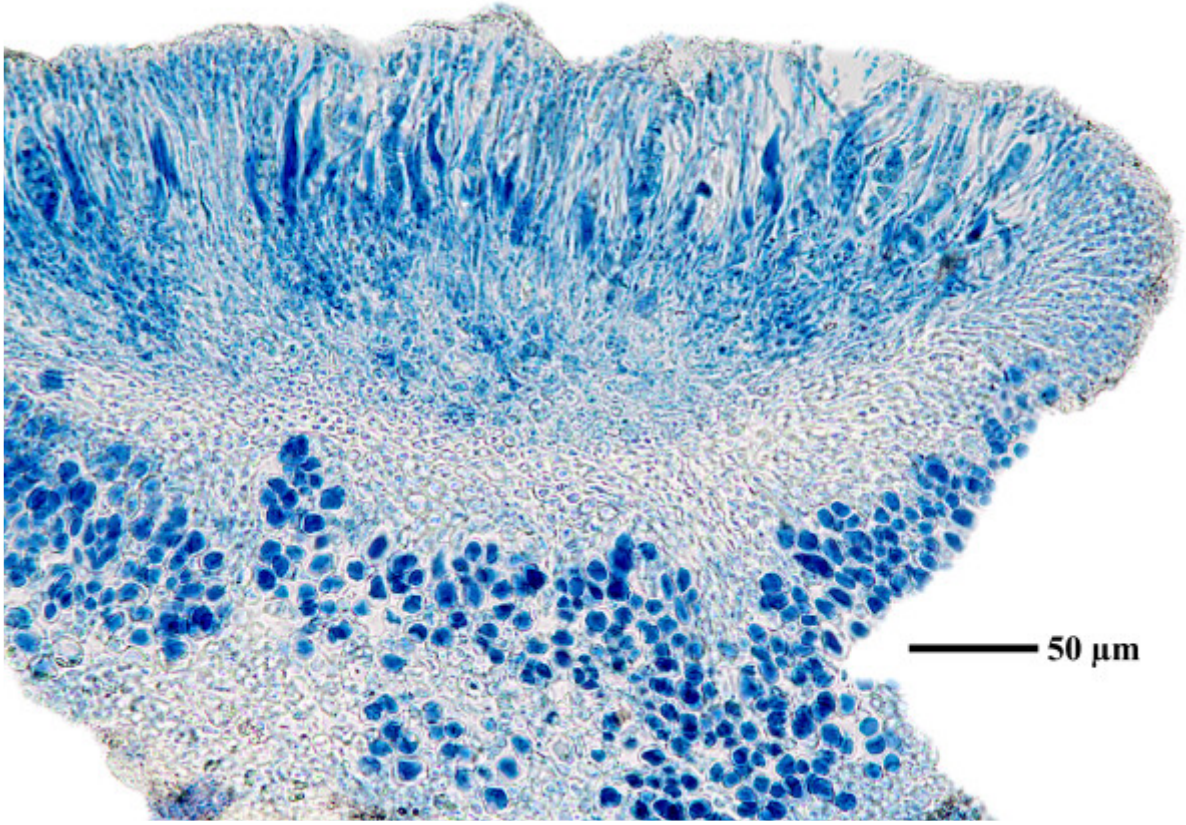


Caloplaca lecideina

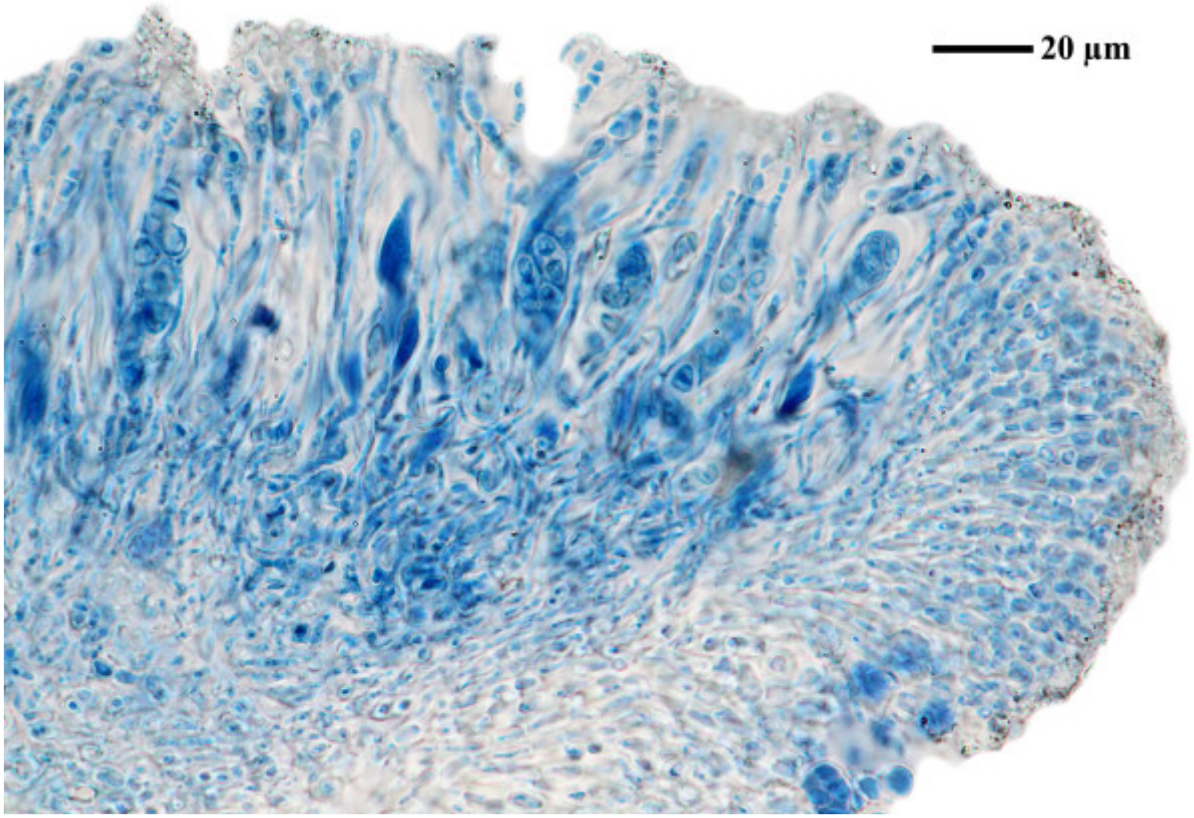


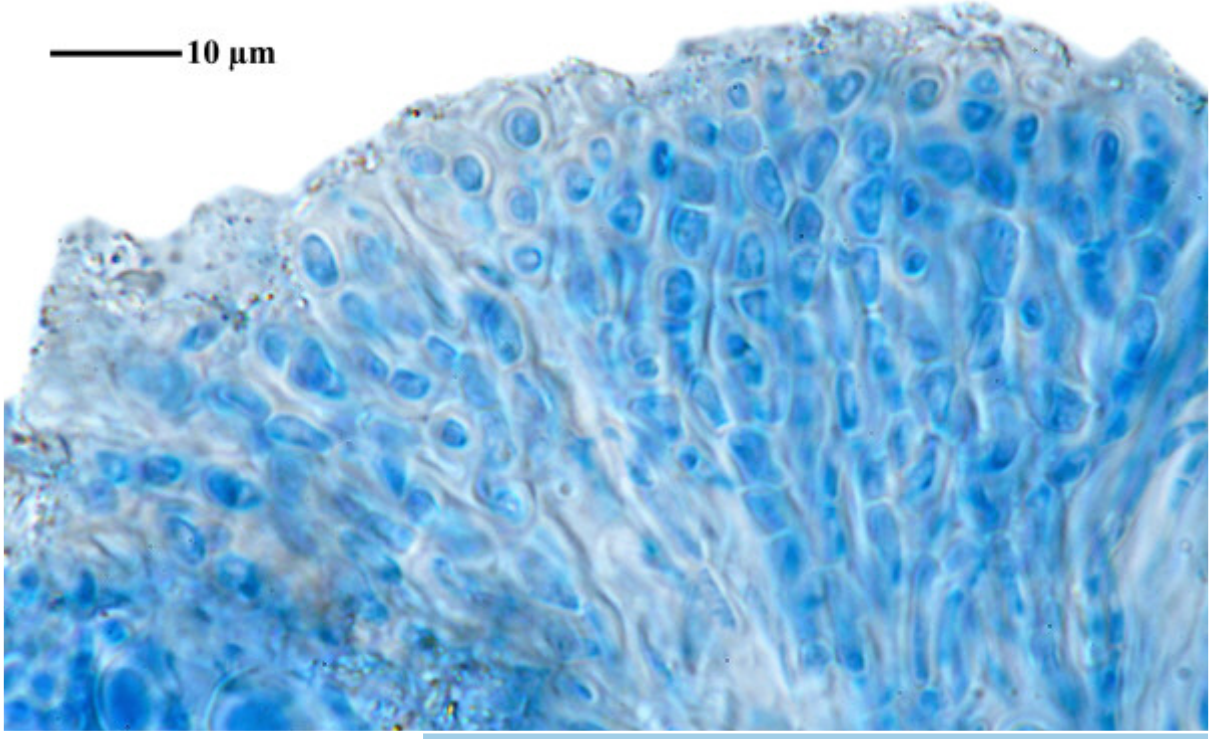
Caloplaca lecideina

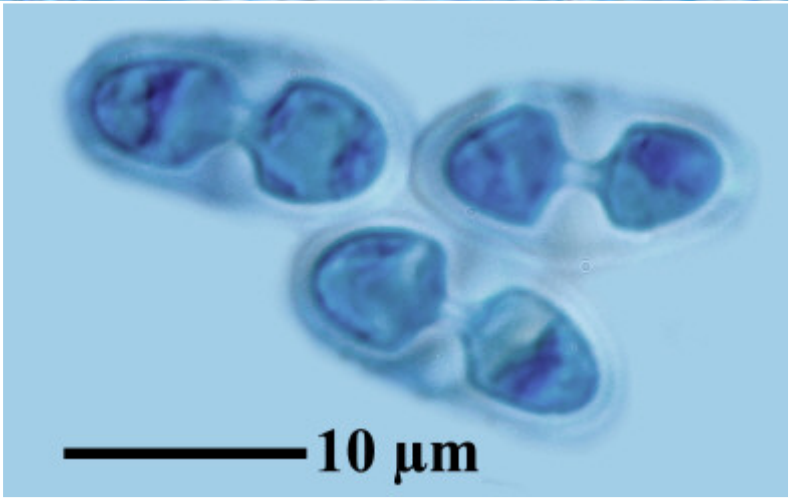




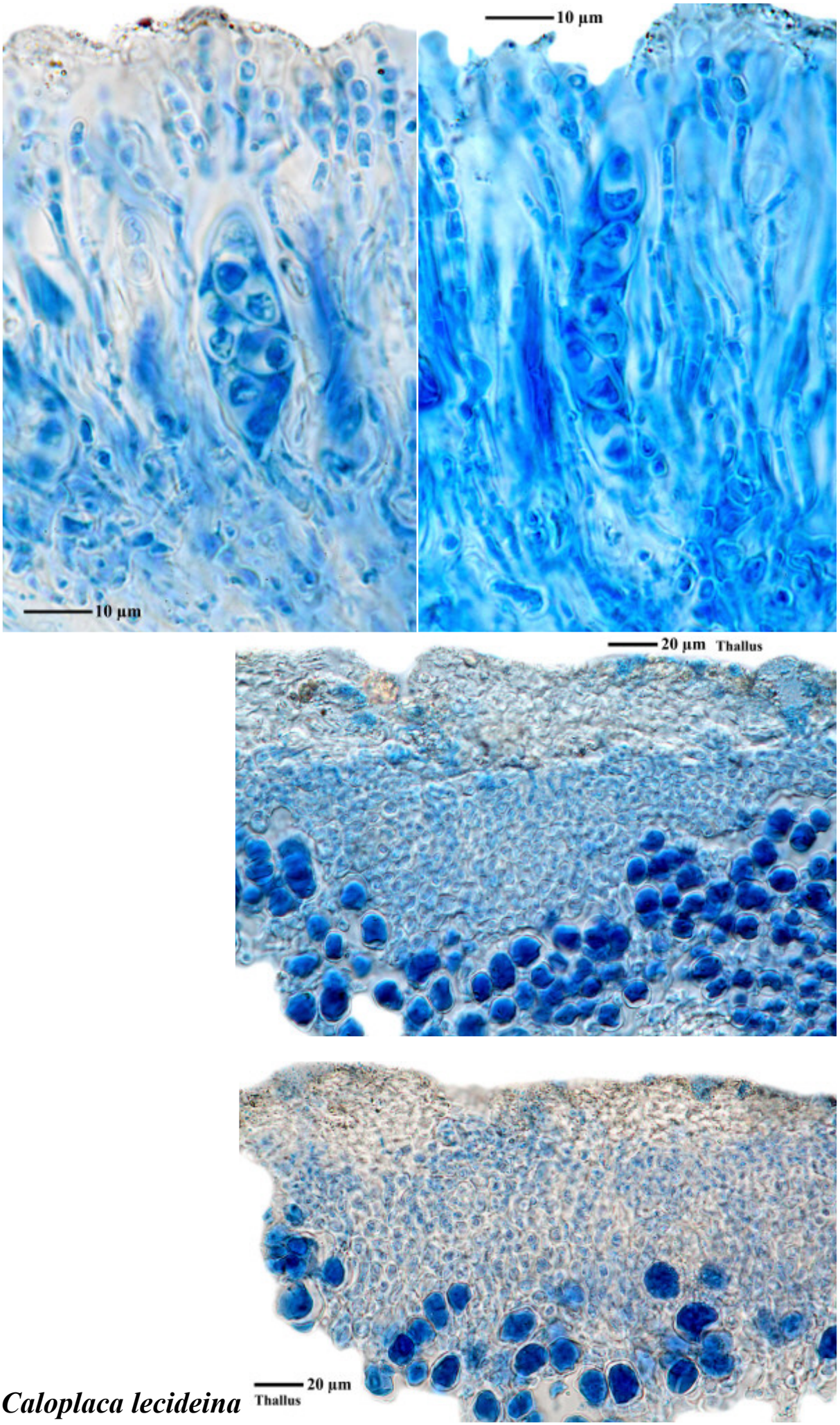
Caloplaca lecideina







Caloplaca lecideina

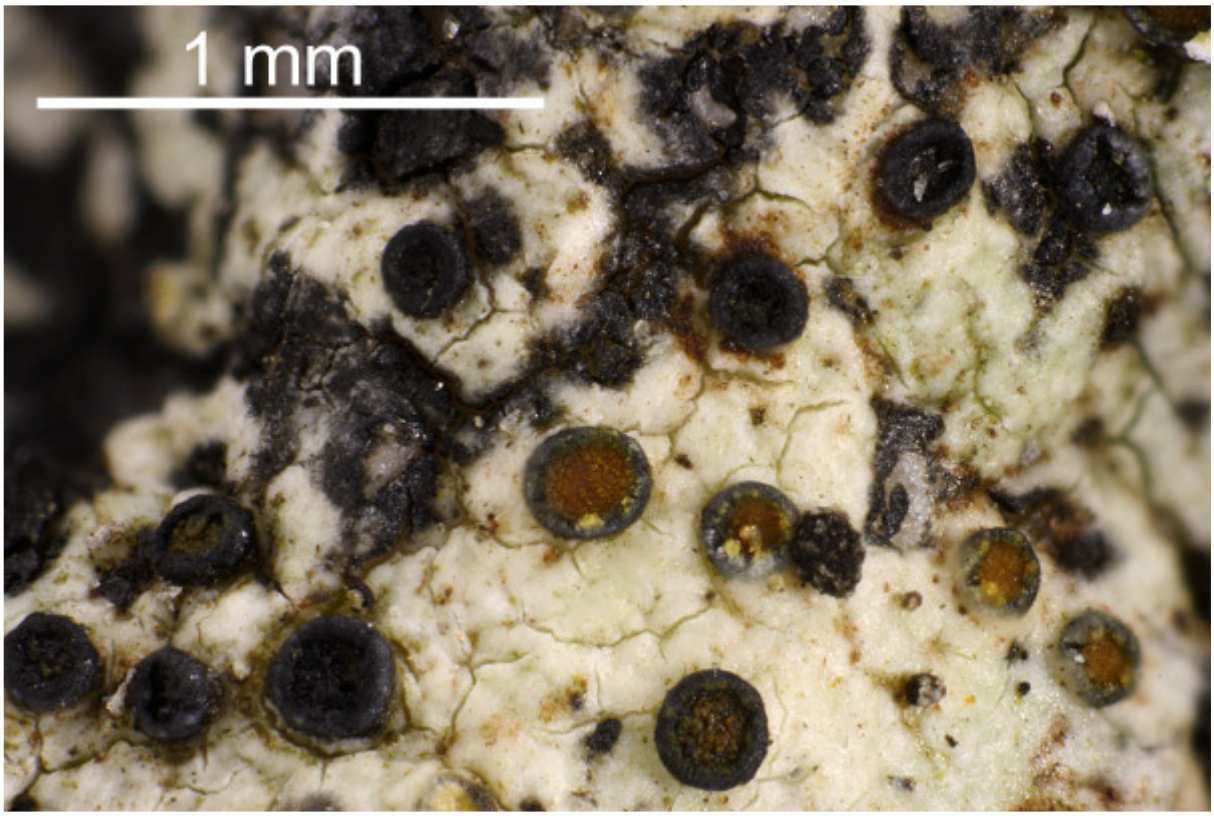


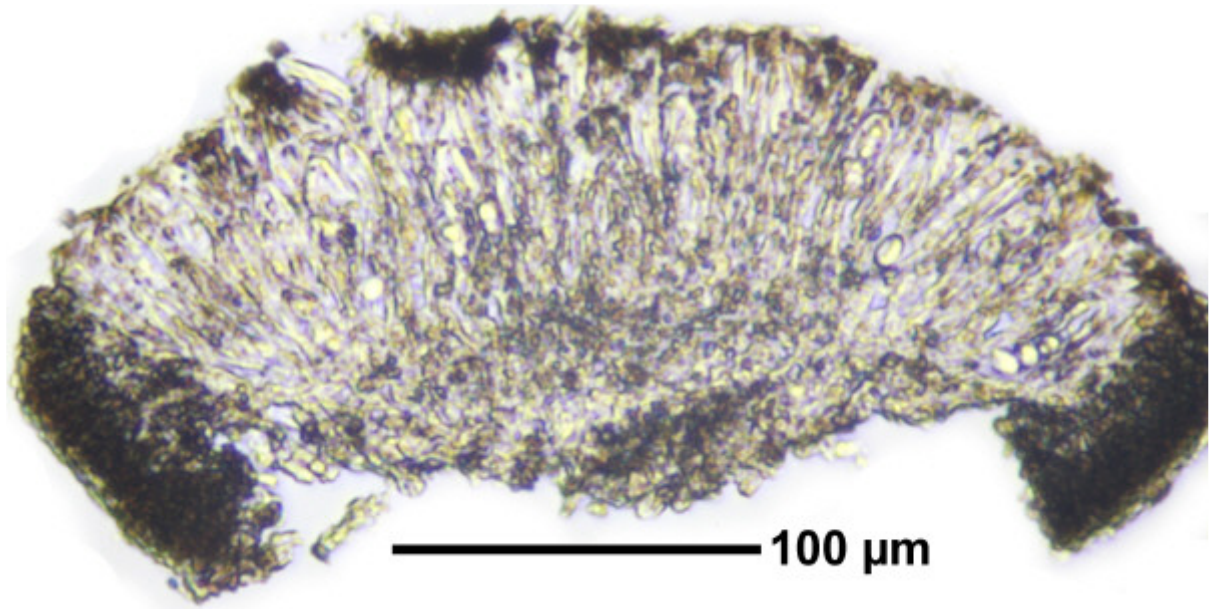
Caloplaca lecideina

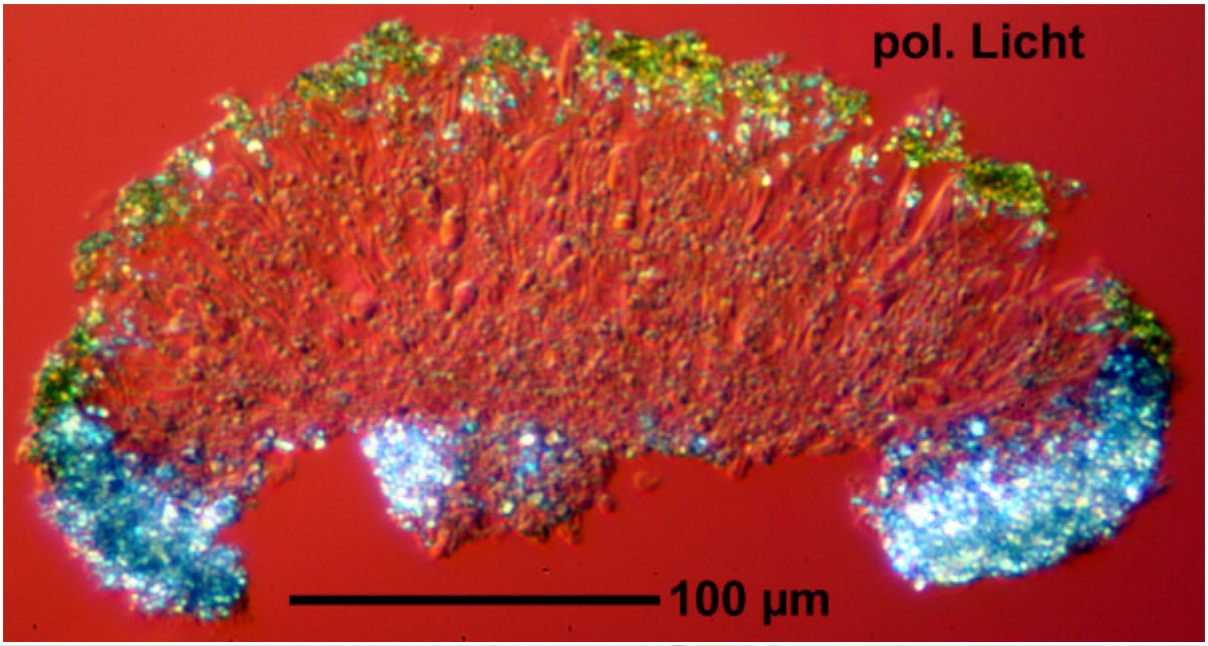
Caloplaca leptozona (Nyl.) Zahlbr.

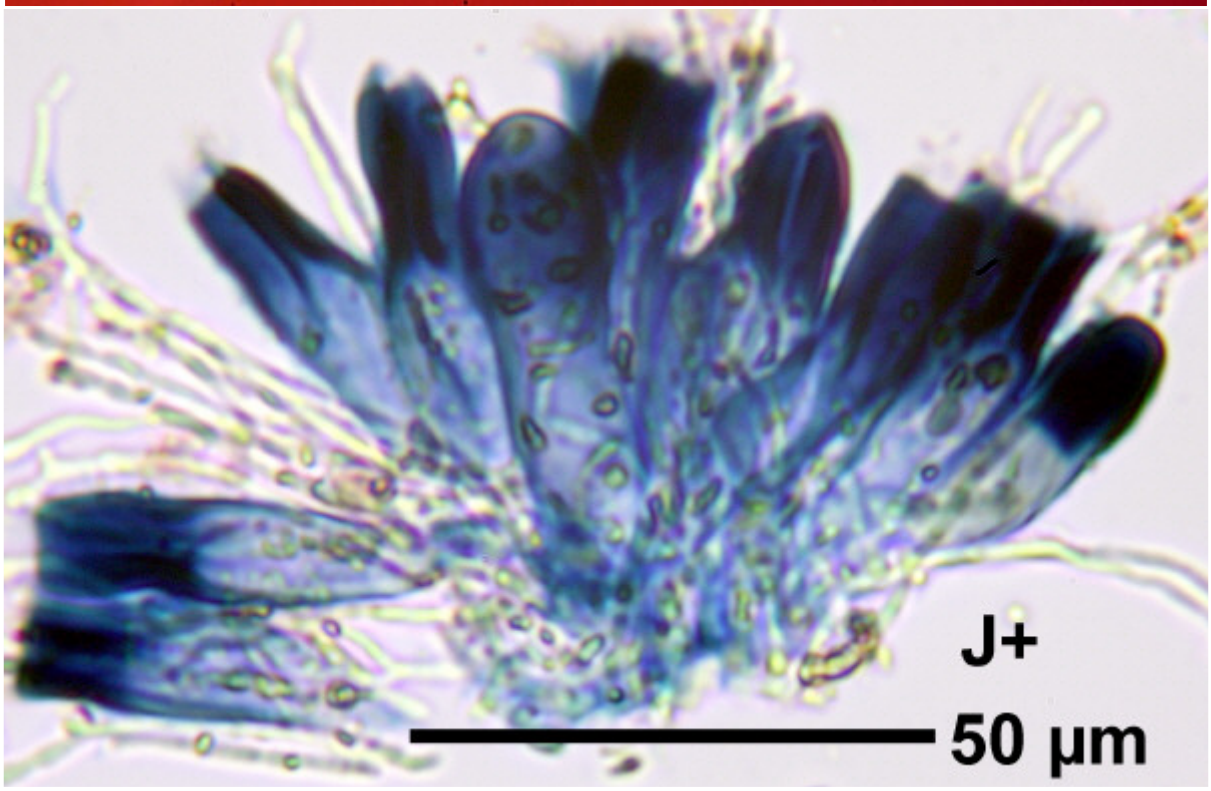
Apothecia not always present. Spores hyaline, 1-septate, 10-12 x 5-7 µm, septum c. 4 µm. Margins of the apothecia with many crystals, without photobionts. Hymenium c. 80-90 µm high. Thallus K+red, with or without soredia. Palaeotropical.

[14468], Seychelles, Praslin, zwischen St. Maries Point und Anse Lazio, ca. 4°18.288' S, 55°41.388' E, ca. 0-250 m. Leg. Schumm & Frahm 01.10.2008, det. A. Aptroot 2008.

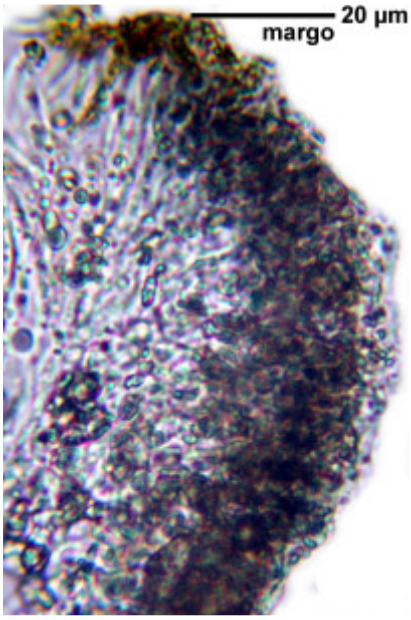










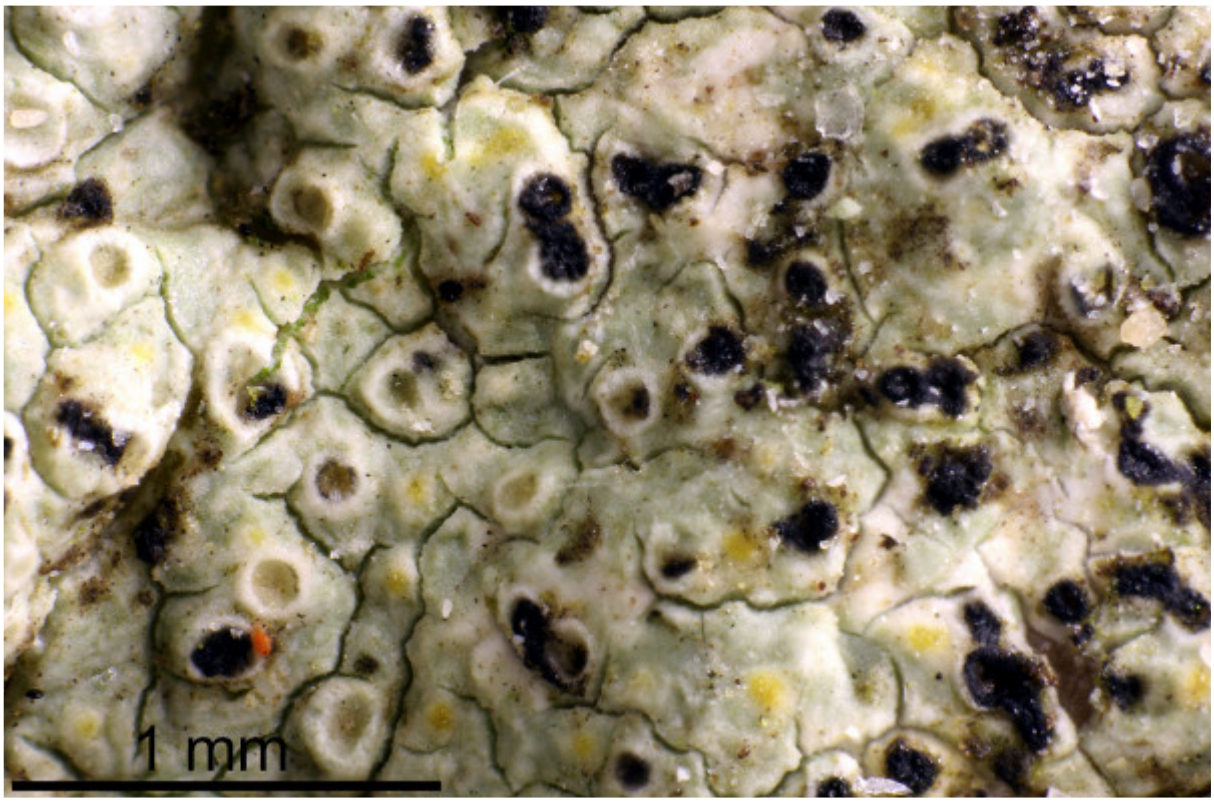


Caloplaca leptozona

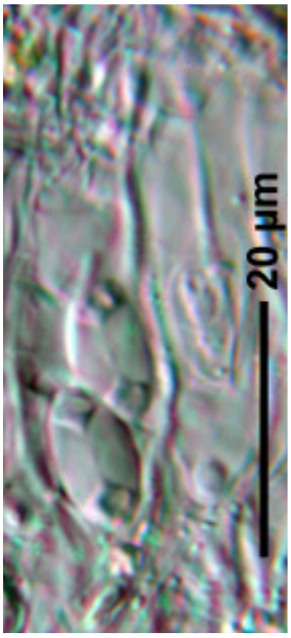
Caloplaca leptozona (Nyl.) Zahlbr.

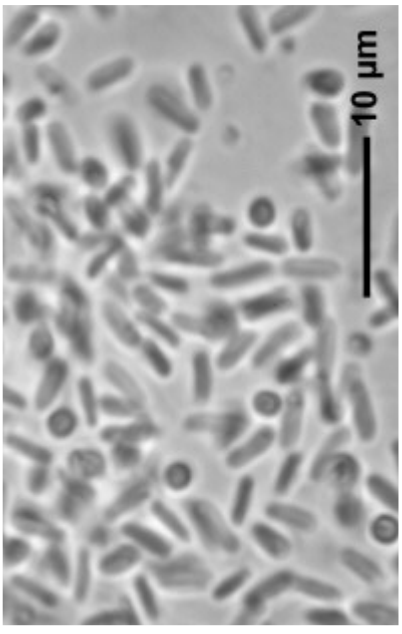
Specimen with lichenicolous fungus. Spores brown, 13-16 x 4.4-8.7 µm.
Caloplaca: Sporen polar-2-zellig, 10-11 x 6-7 µm, Paraphysen verzweigt, Ap. teils eingesenkt, Pykniden K+ rot, Pyknosporen 3,3 x 1,1 µm.
Parasit (schwarze Teile): Sporen braun, 1-(2) zellig, 13-16 x 4,4-8,7 µm, teils mit Keimspalt

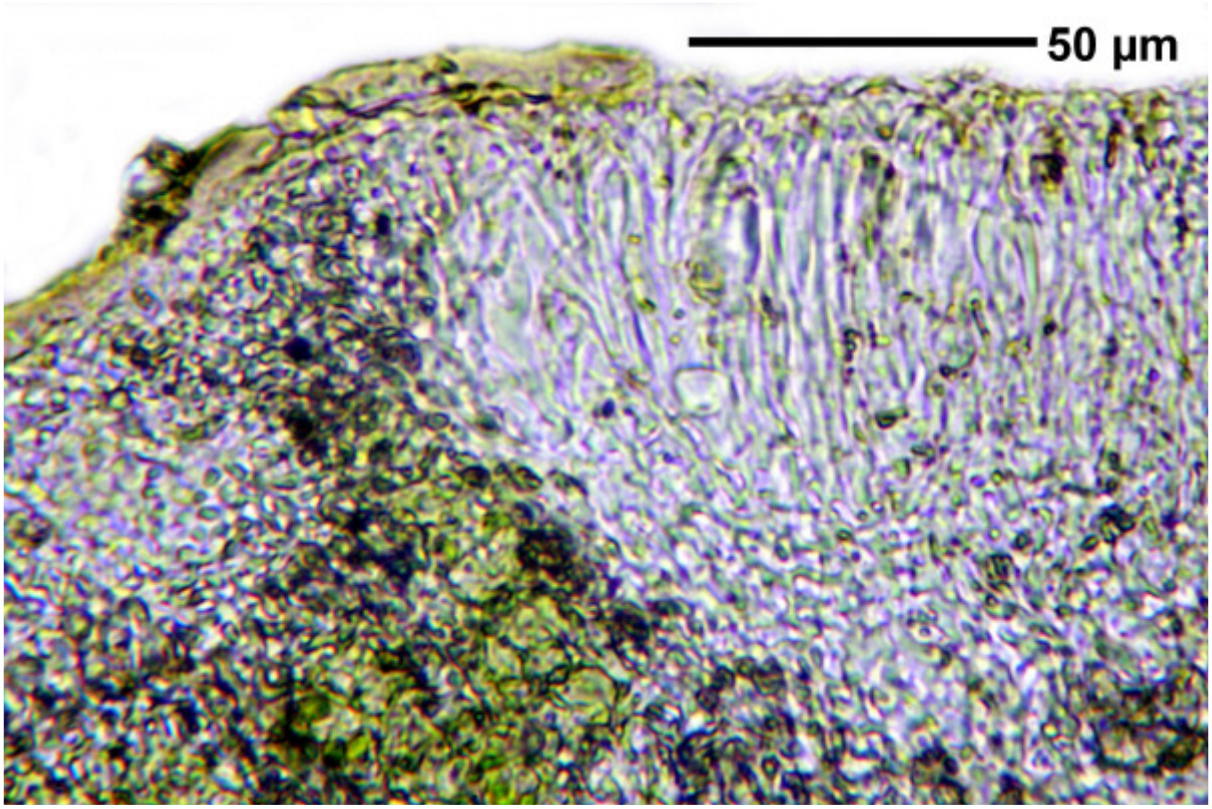
[14471], Seychelles, Praslin, zwischen St. Maries Point und Anse Lazio, ca. 4°18.288' S, 55°41.388' E, ca. 0-250 m, an Granit. Leg. Schumm & Frahm 01.10.2008, det. A. Aptroot 2008.



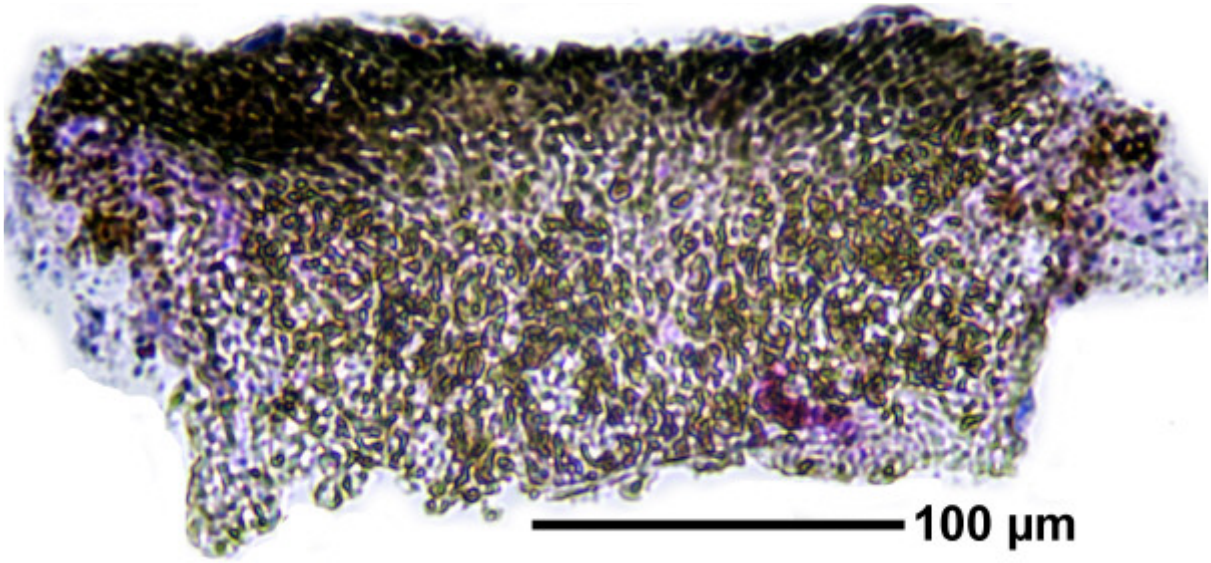


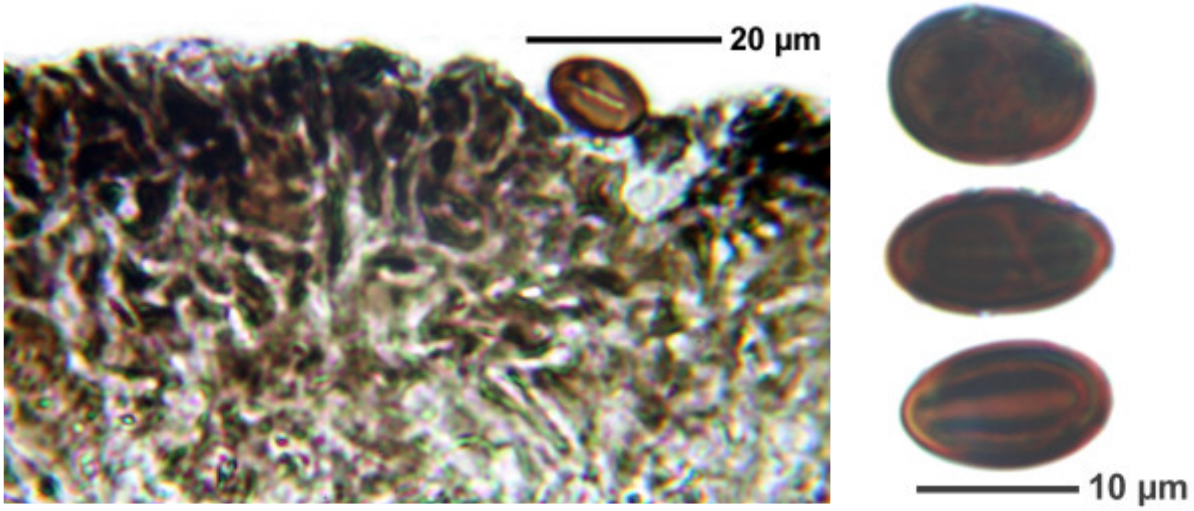






lichenicolous fungus





Caloplaca leptozona

Caloplaca leptozona (Nyl.) Zahlbr.

On non calcareous-rocks. Spores polarilocular, hyaline, 8/ascus, 13-15 x 6-5-7.5 µm, septum 6-7 µm.

[ABL 21372], Brazil, Ceará, Quixadá, Açude Cedró, trilha da Galinha, 04°58’ S, 39°03’ W, 250 m, on gneiss in Caatinga. Leg. M. Cáceres & A. Aptroot, 31.03.2014, det. A. Aptroot 2014.

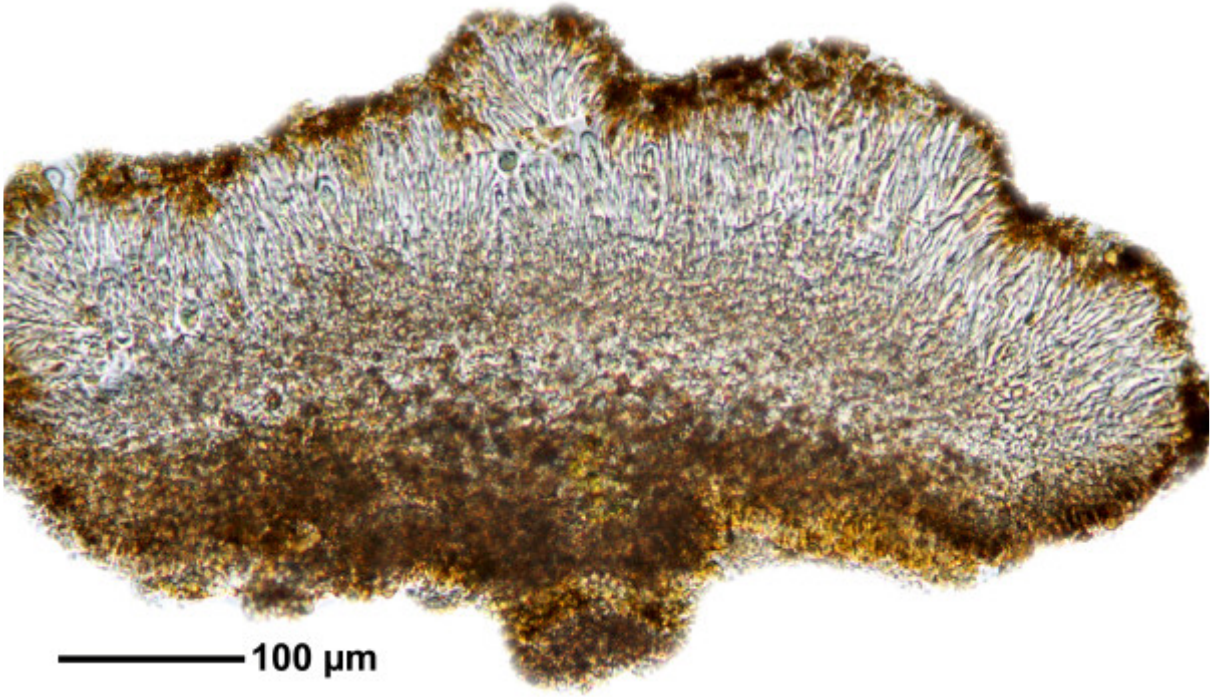


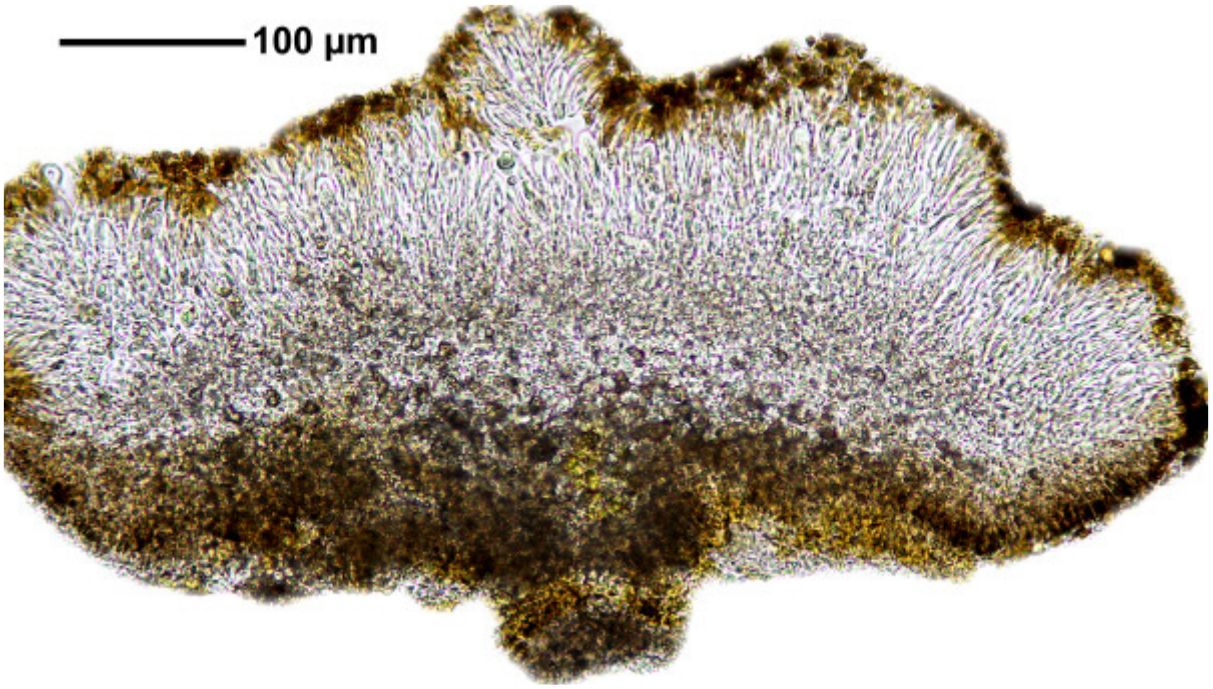


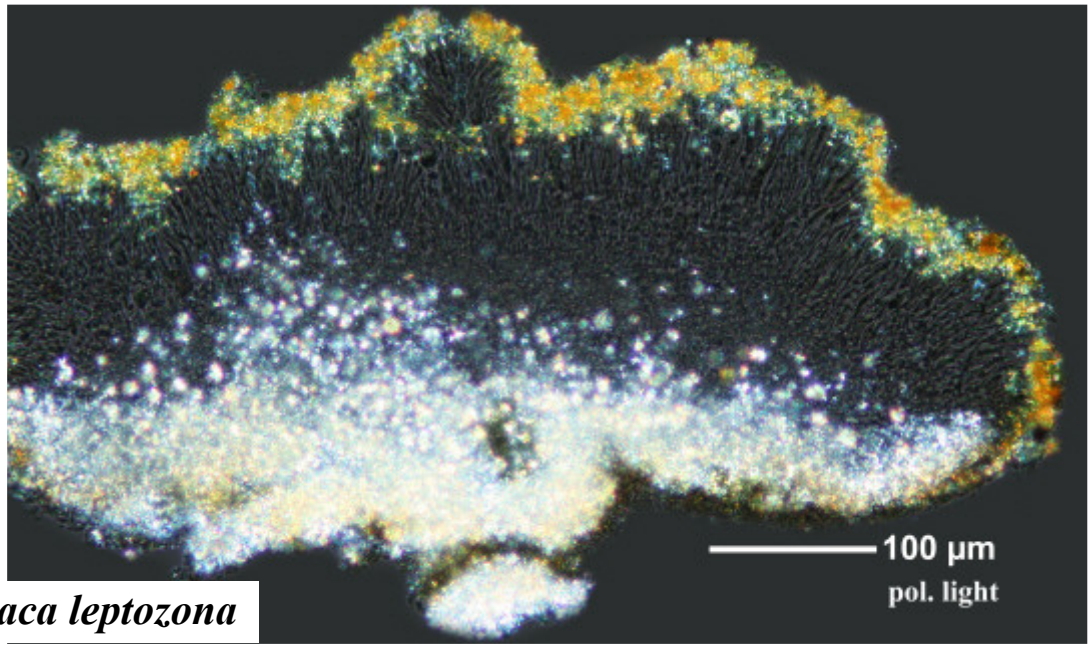
Caloplaca leptozona



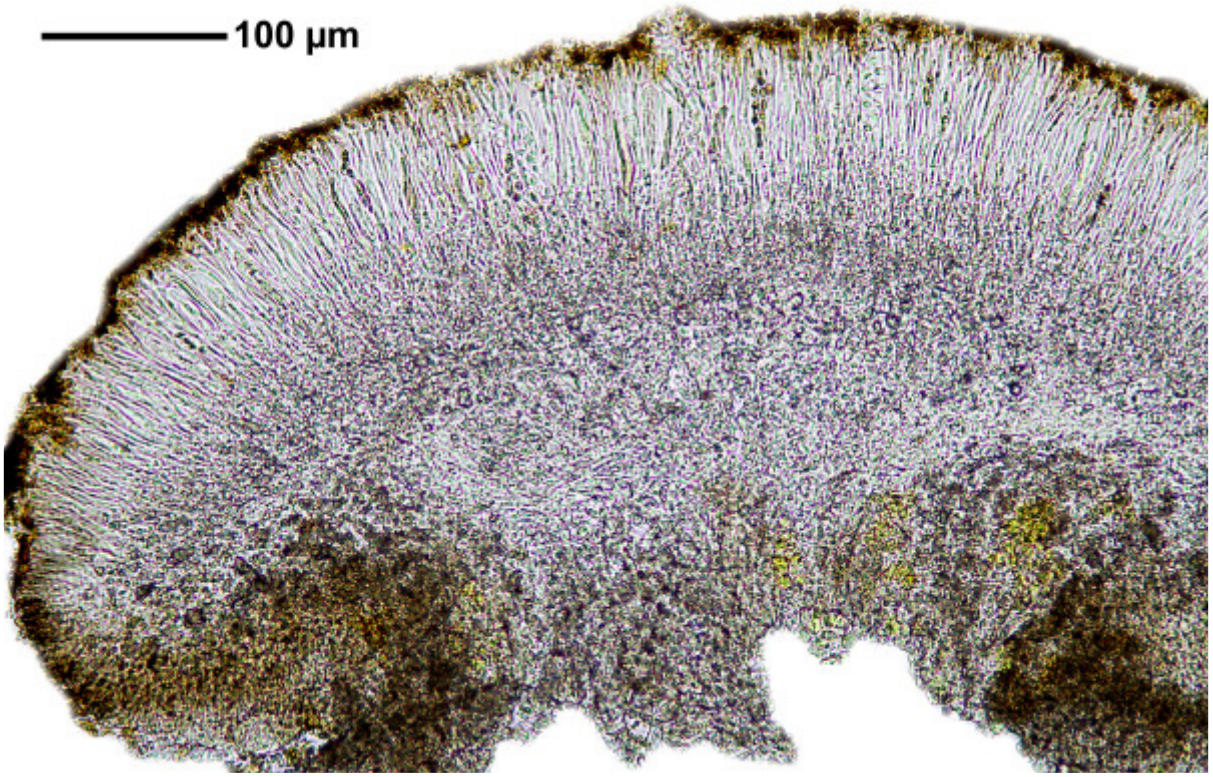
Caloplaca leptozona

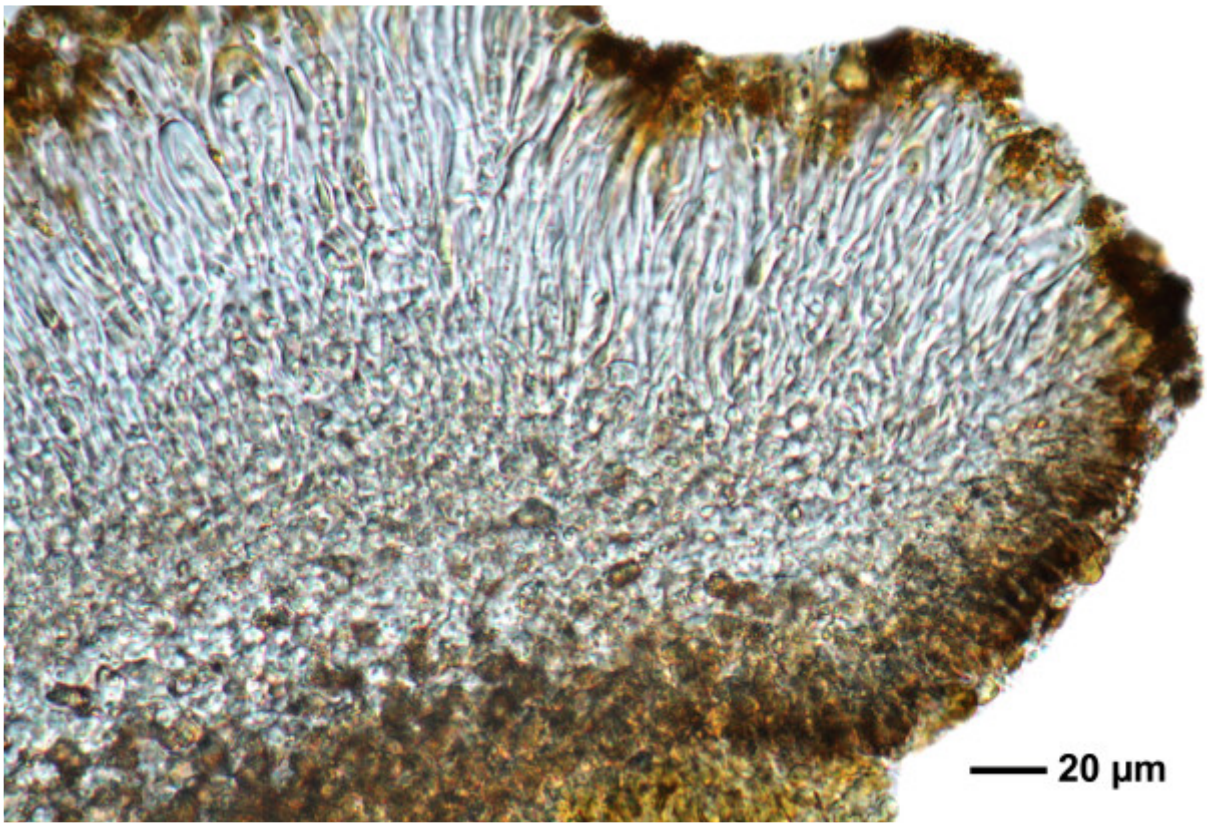




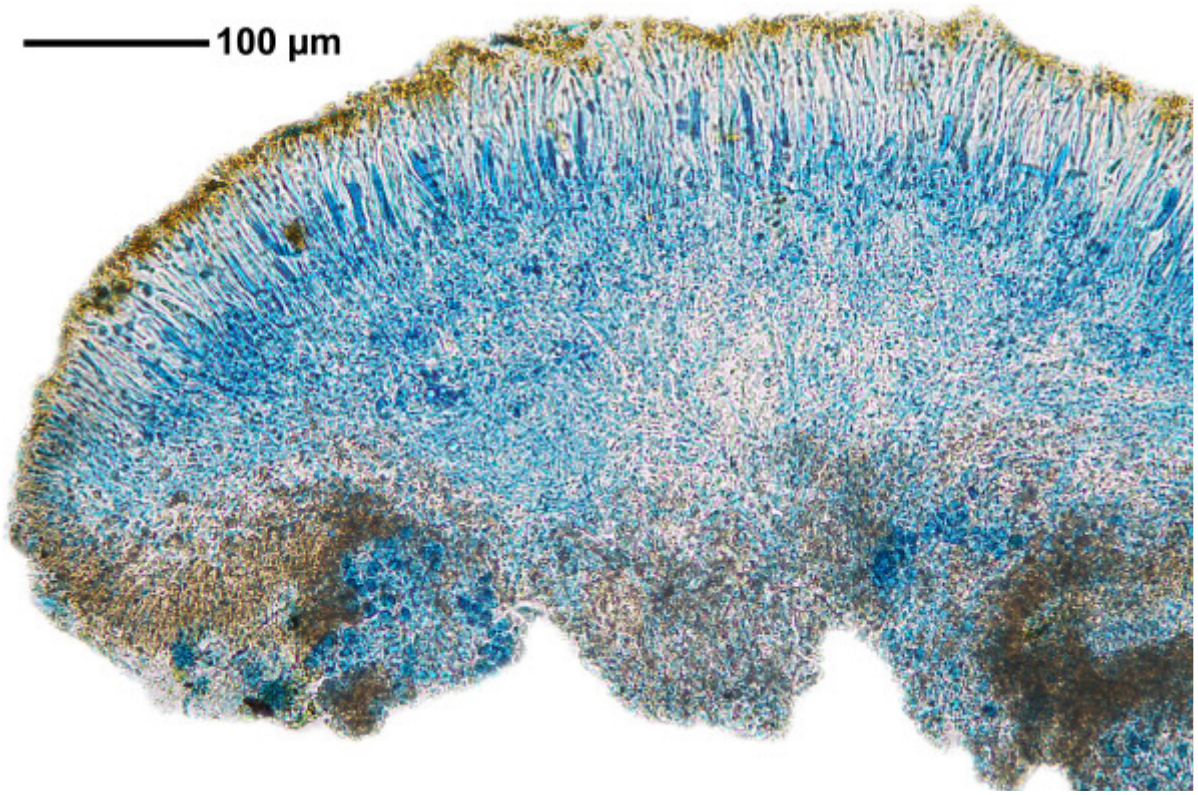


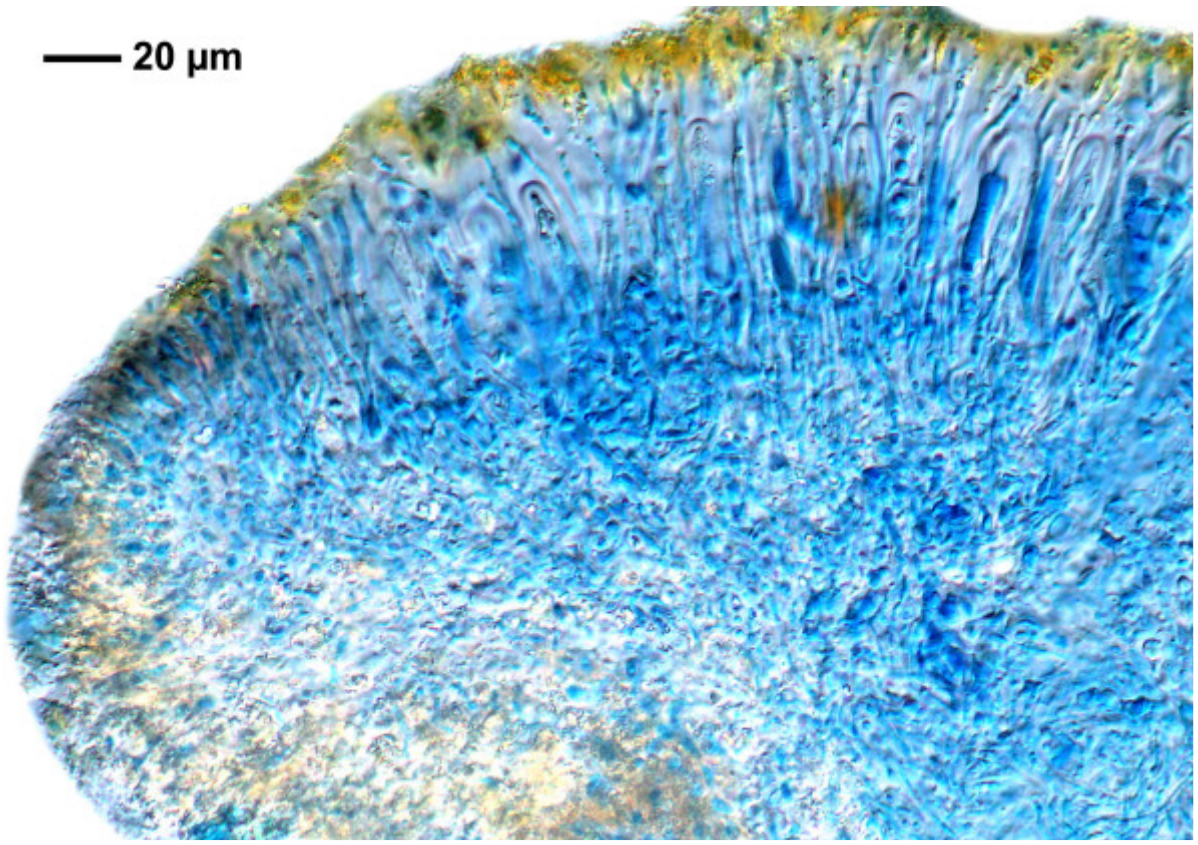
Caloplaca leptozona



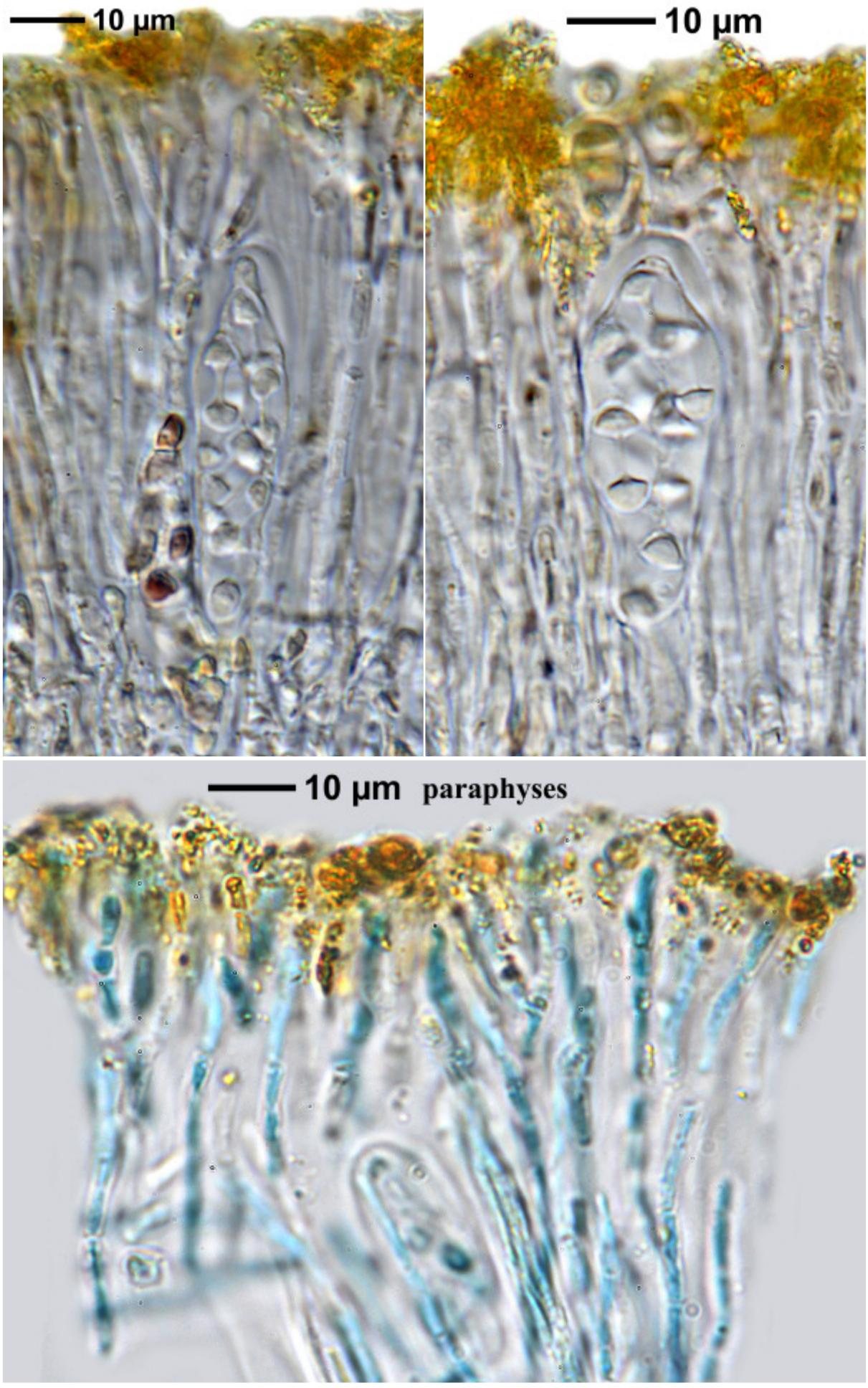


Caloplaca leptozona

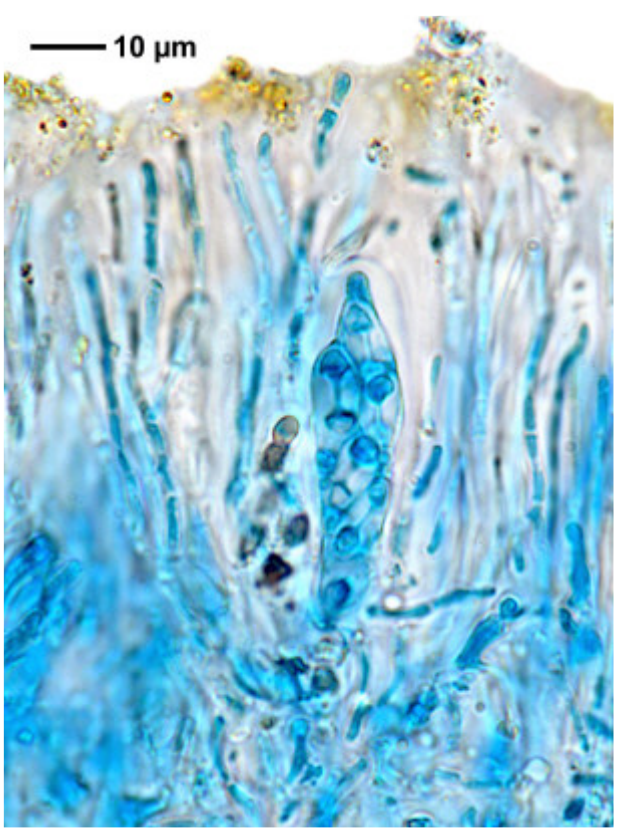


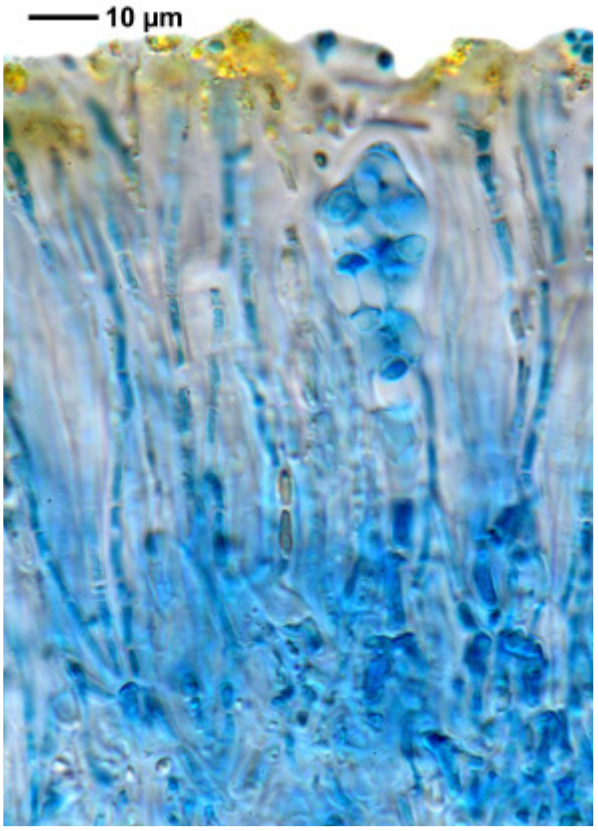


Caloplaca leptozona



Caloplaca leptozona







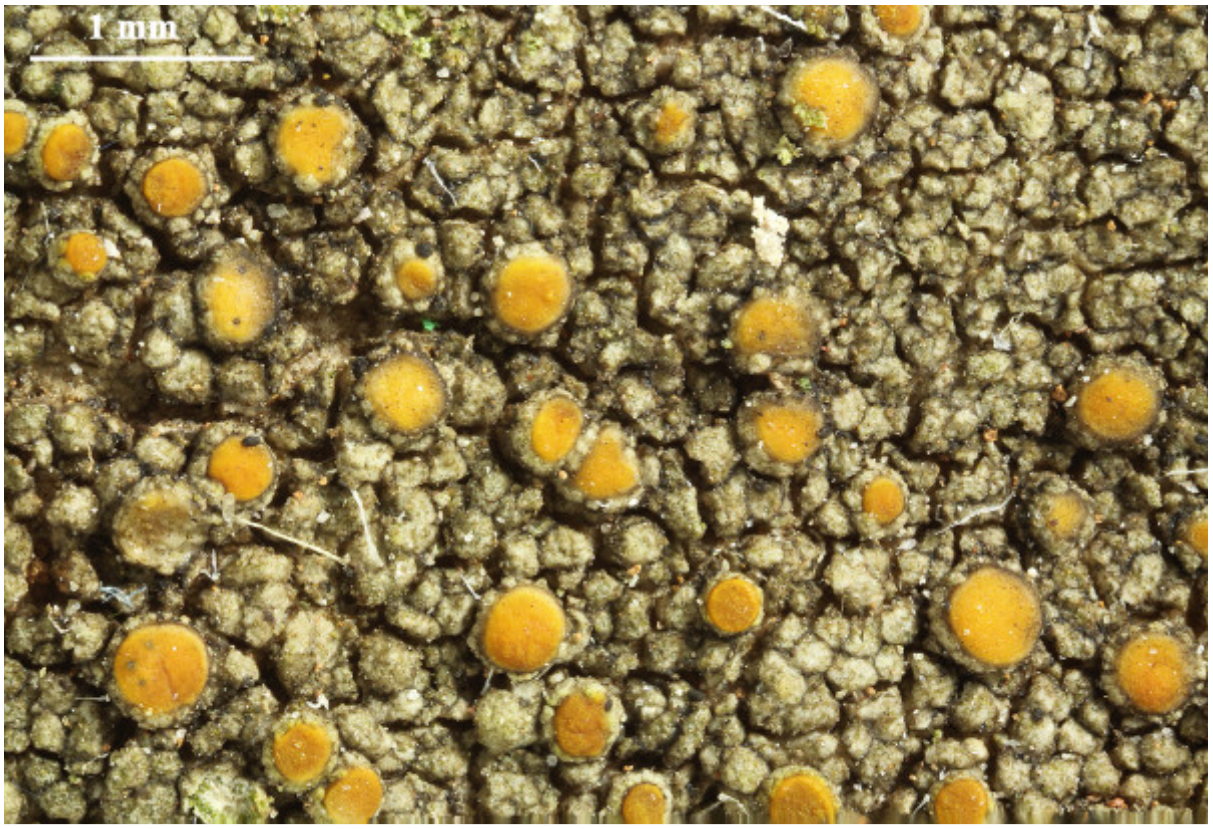
Caloplaca leptozona

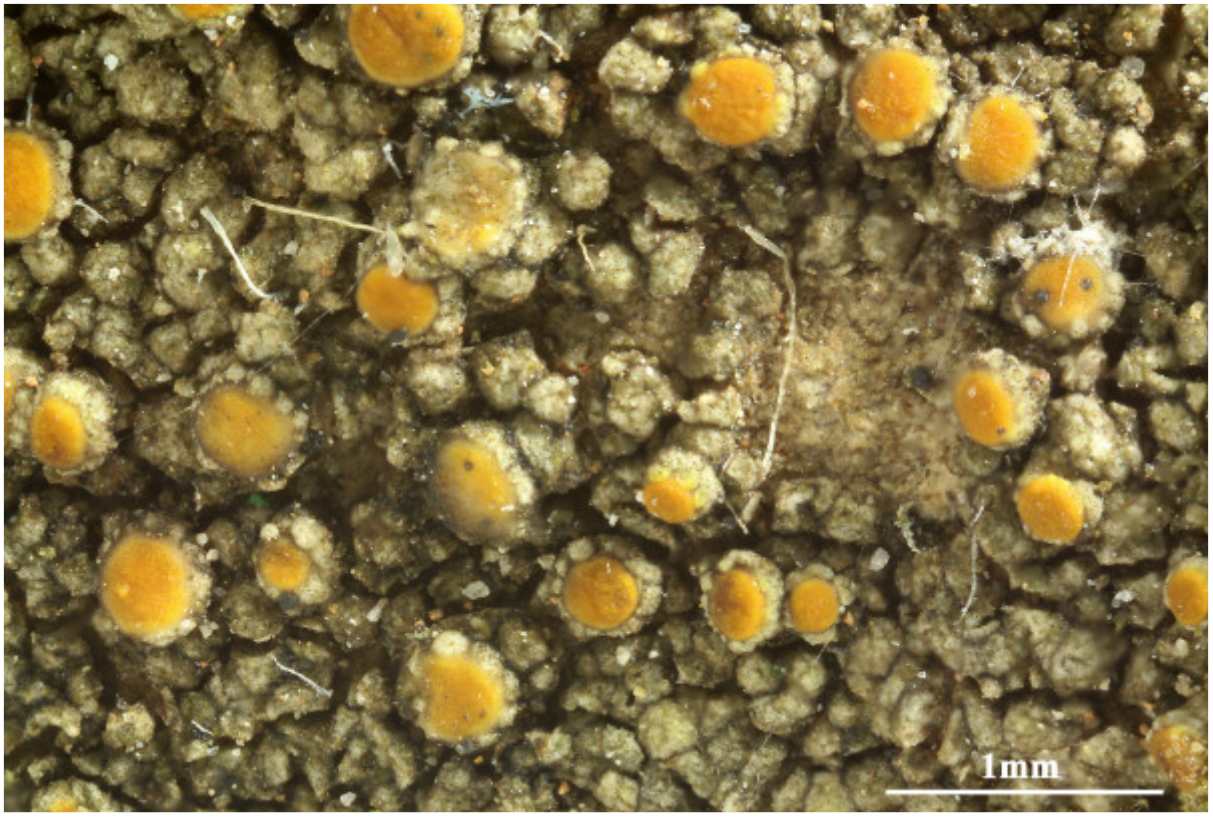
Caloplaca leptozona (Nyl.) Zahlbr.

On calcareous rock; a shade morph!

[ABL 73009], Korea, Gangwon-do, Samcheok city, Singi-myeoun, Shingiri, around Shindong elementary School, c. 37°21’ N, c. 129°05’ E, c. 100 m, on limestone. Leg. A. Aptroot 20.10.2014, det. A. Aptroot 2014.





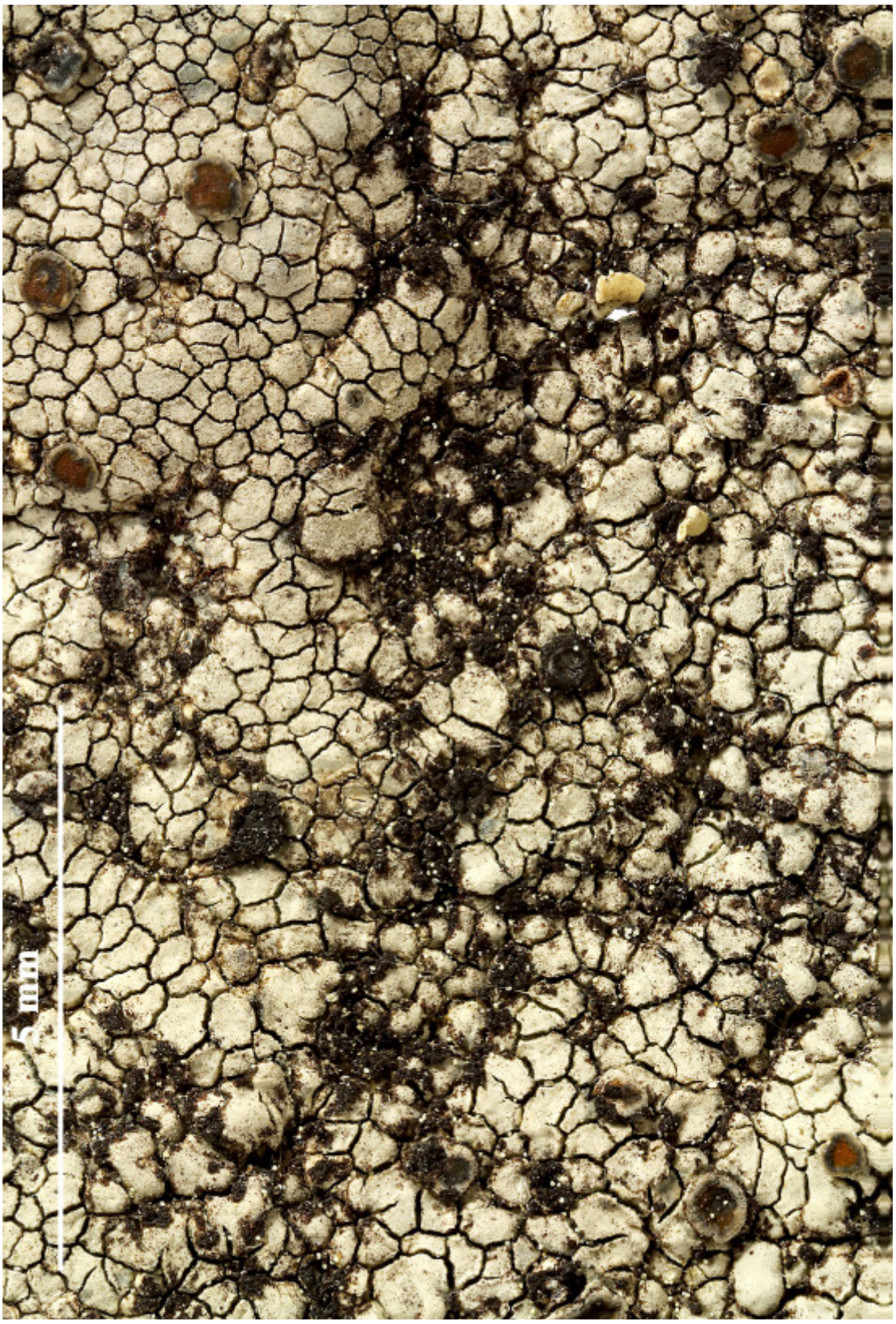


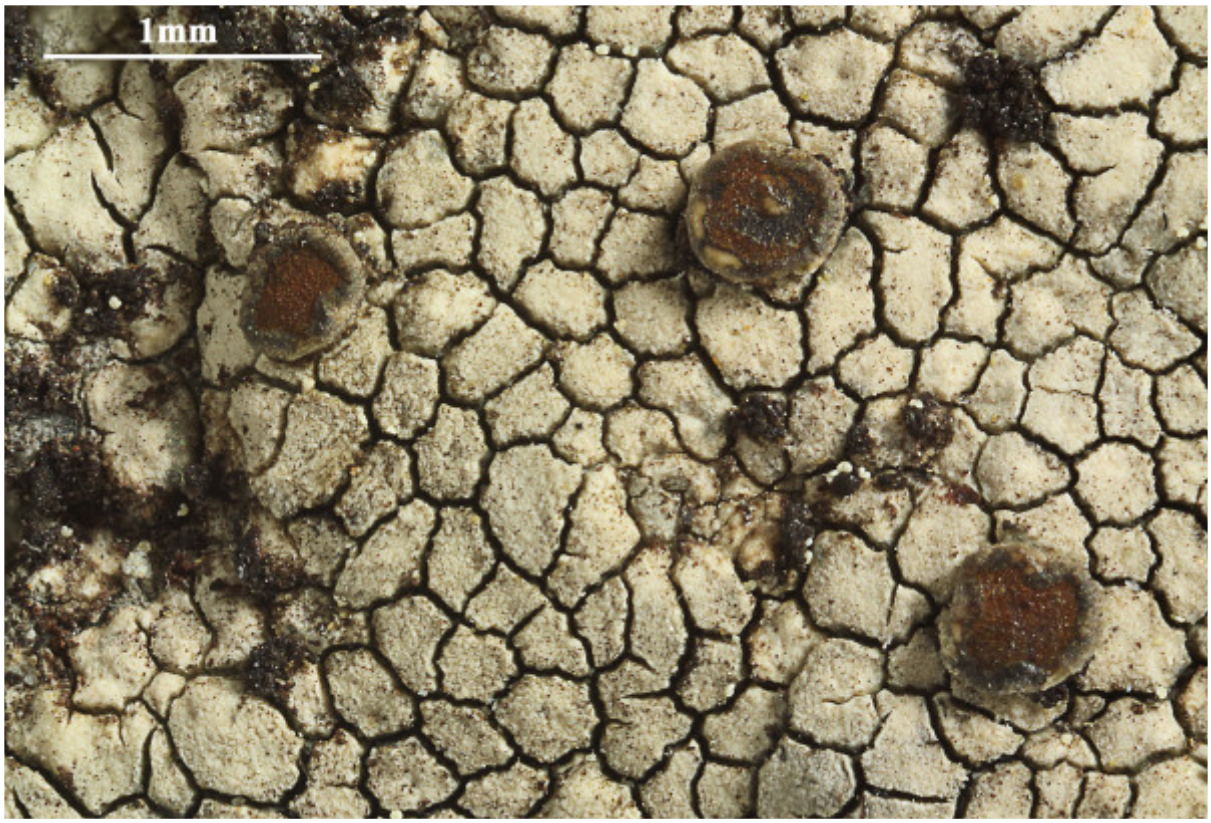
Caloplaca leptozona

Caloplaca leptozona (Nyl.) Zahlbr.

On rock.

[ABL Moon14216], Korea, Prov. Gangwon-do, along the Baekdam Valley, Mt. Sorak, Yongdae-ri, Buk-myun, Inje-gun, 38°10’51.90’’ N, 128°22’51.90’’ E, 400 m, on rocks. Leg. K.H. Moon (14216), C. Ahn & H. Kashiwadani, 29.05.2014, det. A. Aptroot 2014.







Caloplaca leptozona

Caloplaca lignicola Wetmore **ISOTYUS**

On wood.

[19397], U.S.A. South Dakota, McPherson Co. About 17.5 km W and 3.2 km S of Leola, adjacent to Nature Conservancy's Ordway Preserve, 580 m, 45°42'31" N, 99°o9'28" W. Leg. M.K. Advaita (No. 5435), det. C. Wetmore. TELOSCHISTACEAE EXSICCATI NR. 108 DISTRIBUTED BY C. WETMORE.







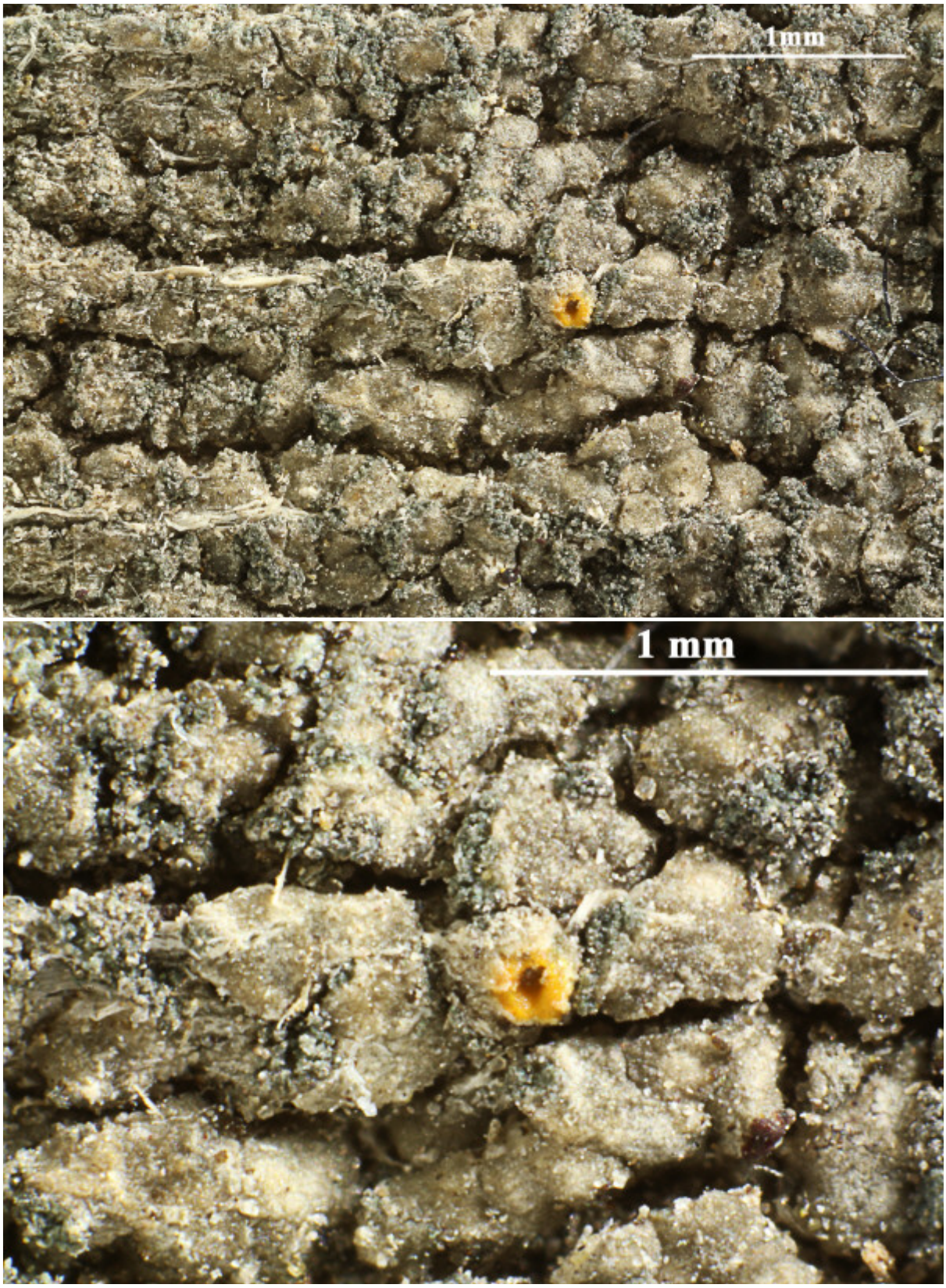
Caloplaca lignicola

Caloplaca lignicola Wetmore

On wood.

[19398], U.S.A. North Dakota, Barnes Co. 1.6 km W of St. Mary's Lake, 11 km SSE of Sanborn 16 km SW of Valley City, on roof shingles of abandoned hay building of abandoned farmstead, 454 m, 46°50'53" N, 98°07'57" W. Leg. Thomas D. Trana (No. 12402), 3. Sept. 1984, det. C. Wetmore. TELOSCHISTACEAE EXSICCATI NO. 109 DISTRIBUTED BY C. WETMORE.





Caloplaca lignicola

Caloplaca lignicola Wetmore

Thallus dark grey areolae with marginal soralia.

[BR5030110037363V], USA, Minnesota, Clay Co: ca 3 mi E & 2 mi S of Glyndon, the Nature Conservancy's Bluestern Prairie Preserve. 46°50.78' M, 96°28.61' W, 925 ft. Flat open tallgrass prairie, few scattered glacial erratics and rock piles, occasional old homestead with shelterbelts. On wooden shingles of old fallen-down shack, roof now at ground level, locally frequent. Leg. M.K. Advaita (6629), 9. May 2008. LICHENES EXSICCATI MAGNICAMPORUM NO. 35. Mixed with ***Caloplaca microphyllina*** (Tuck.) Hasse.

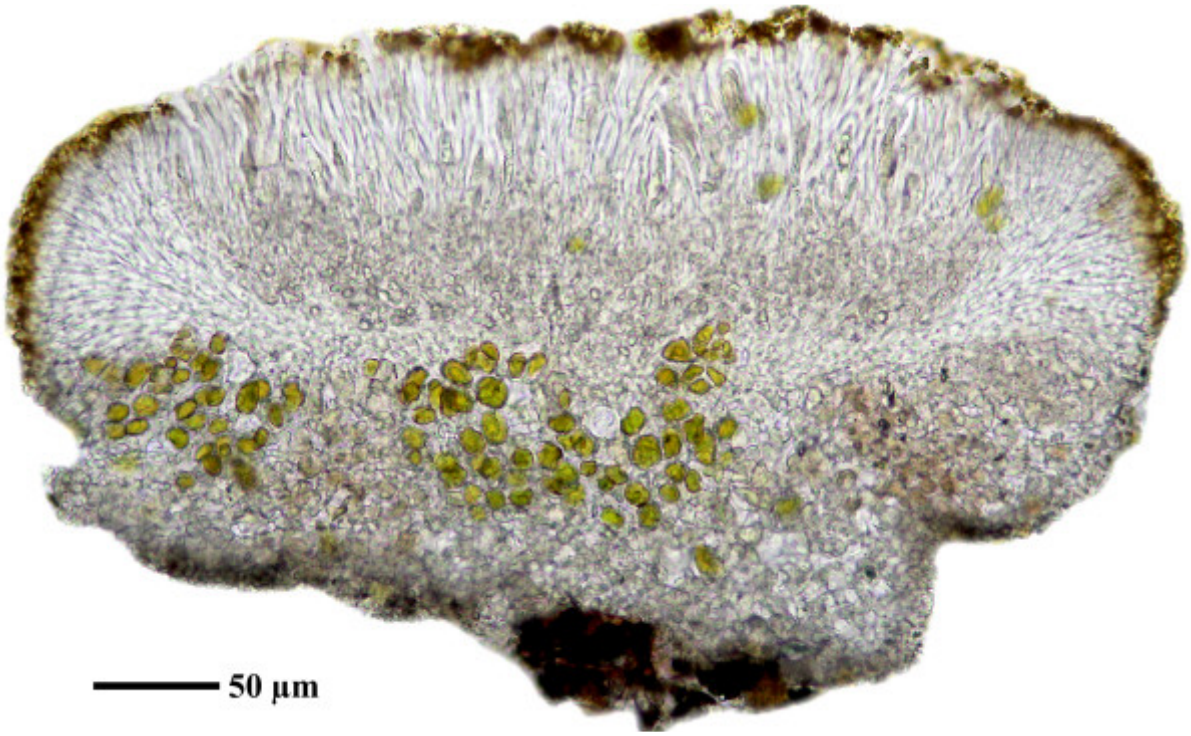






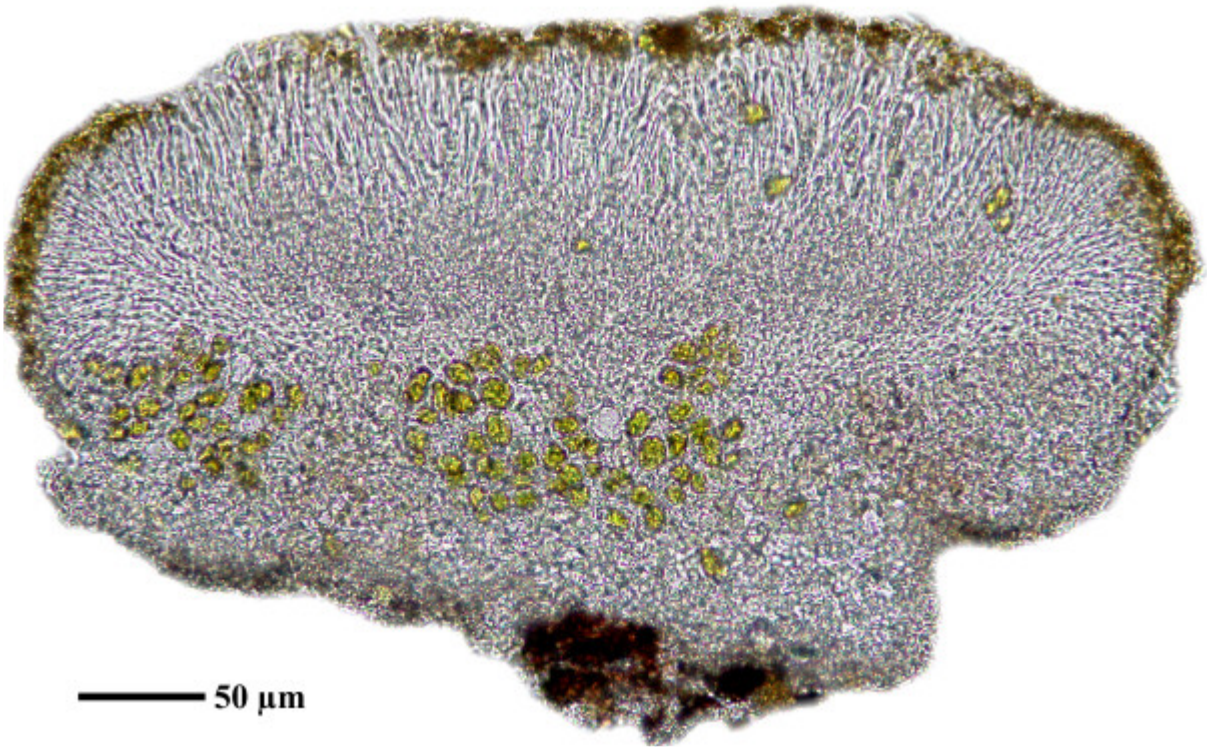
Caloplaca lignicola

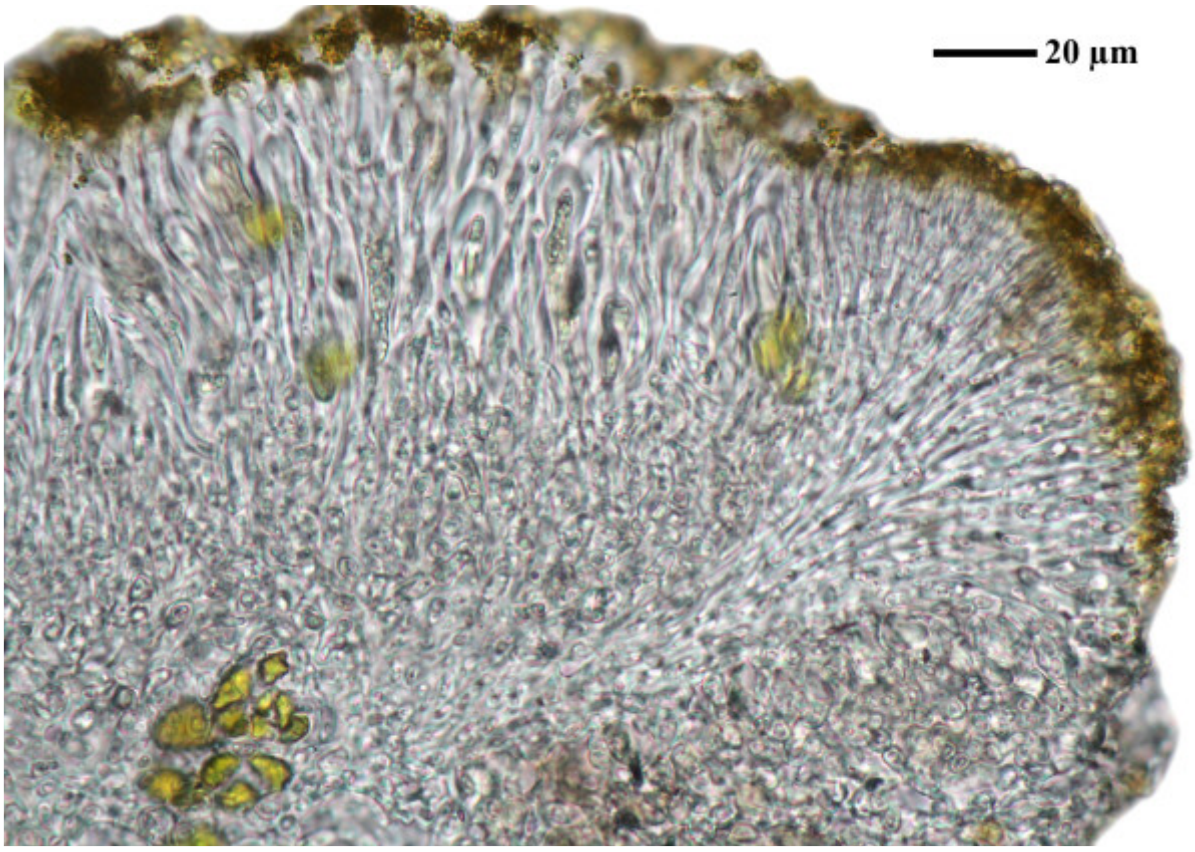




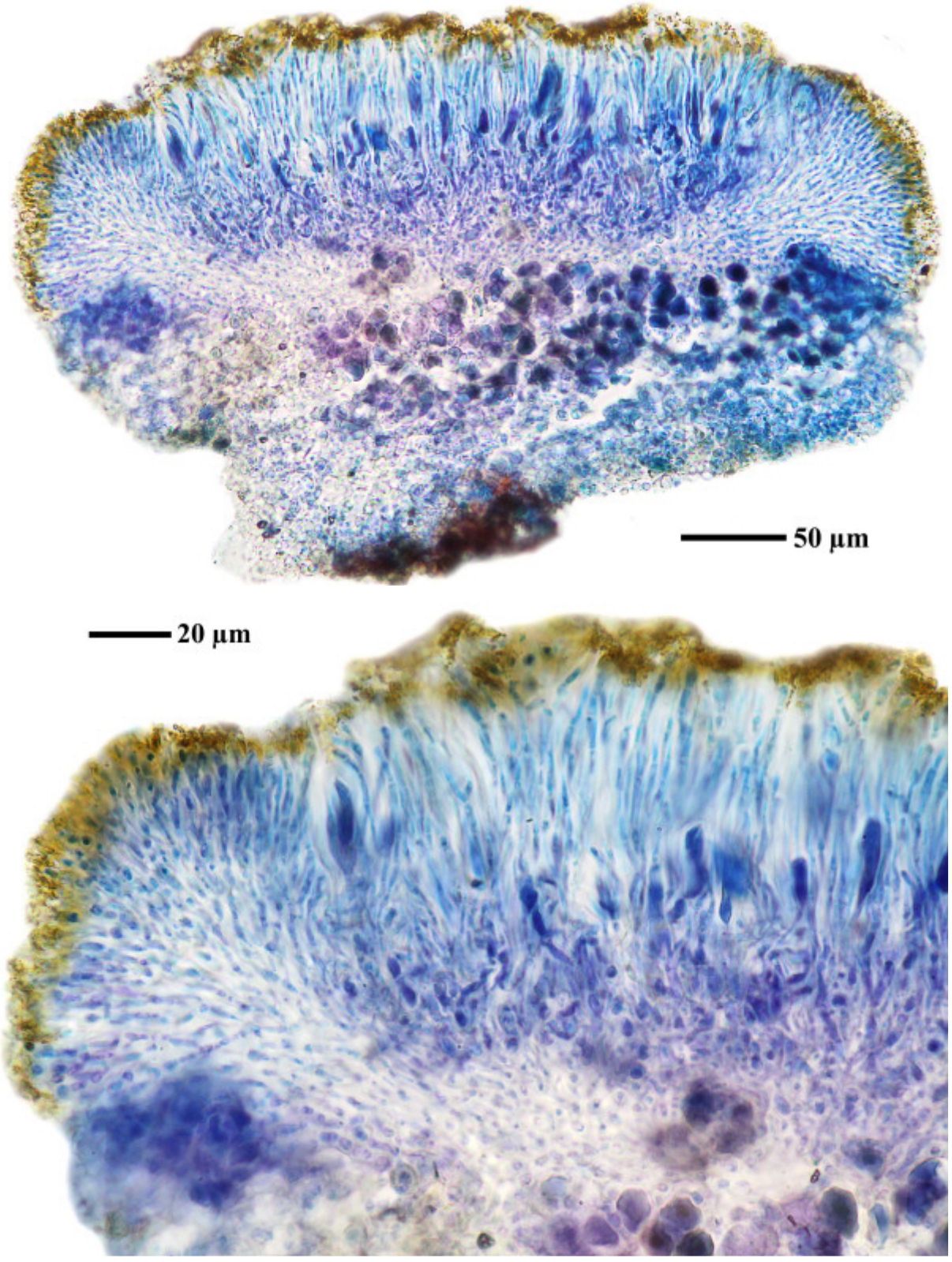


Caloplaca lignicola

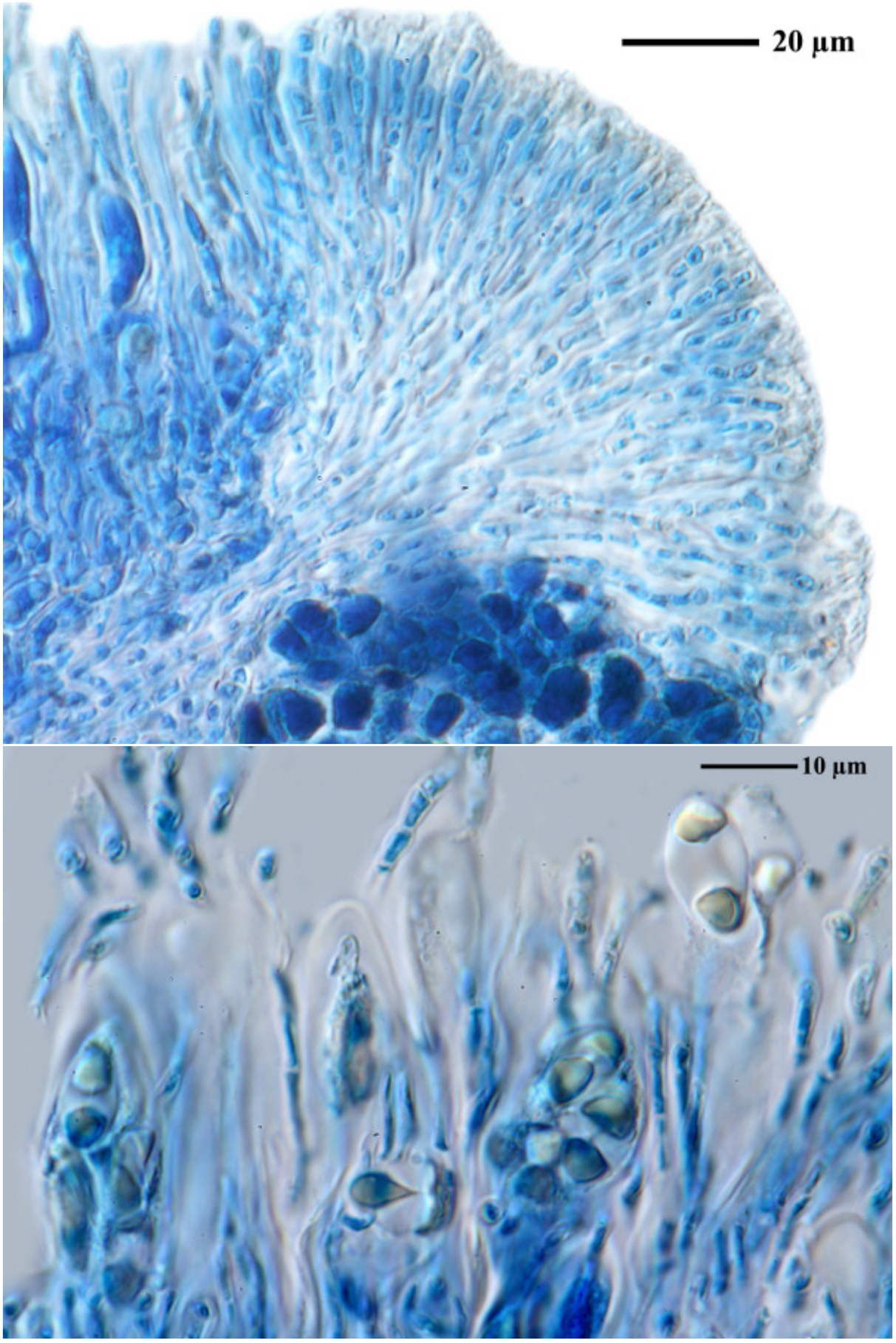




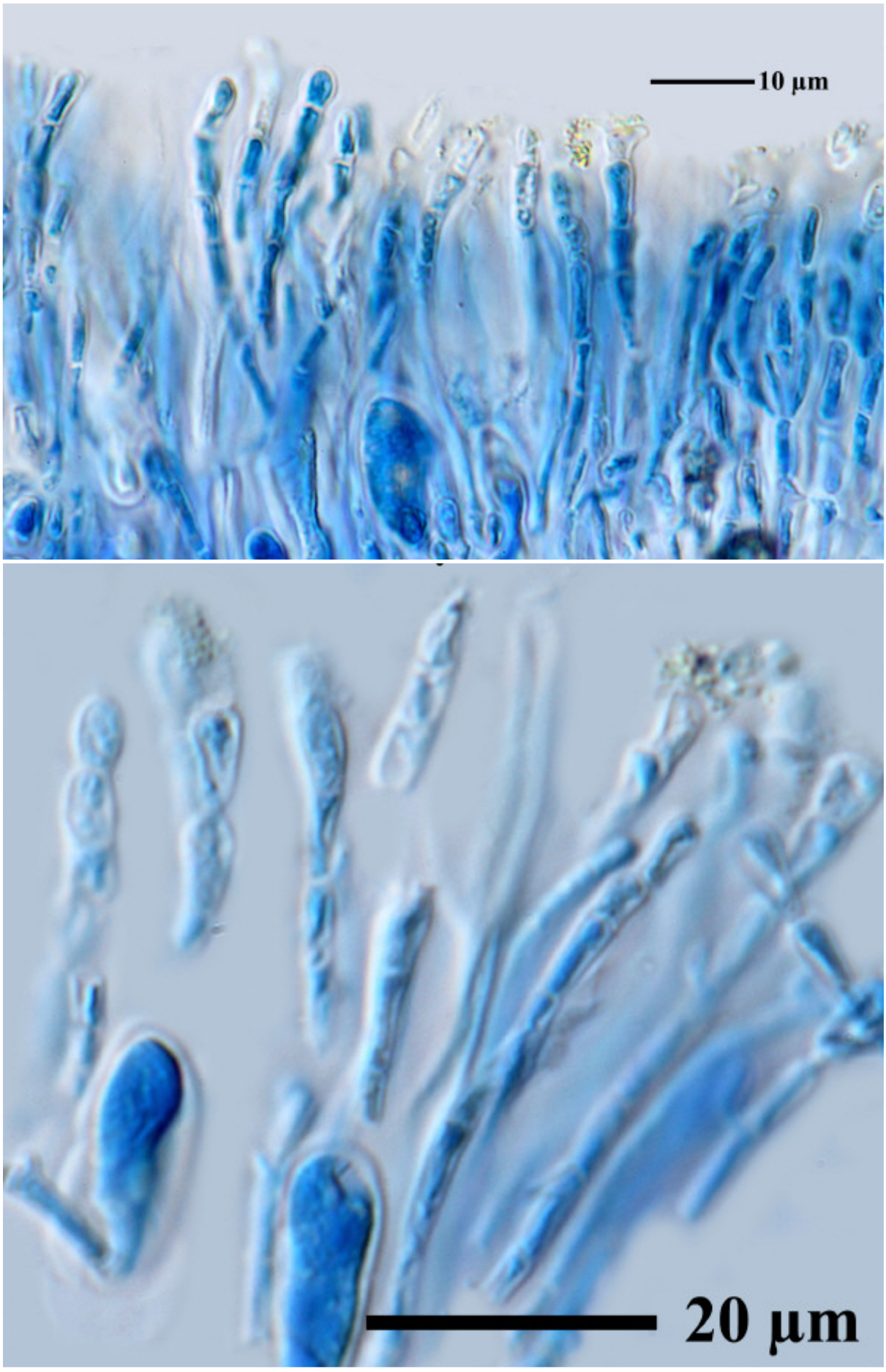
Caloplaca lignicola



Caloplaca lignicola



Caloplaca lignicola

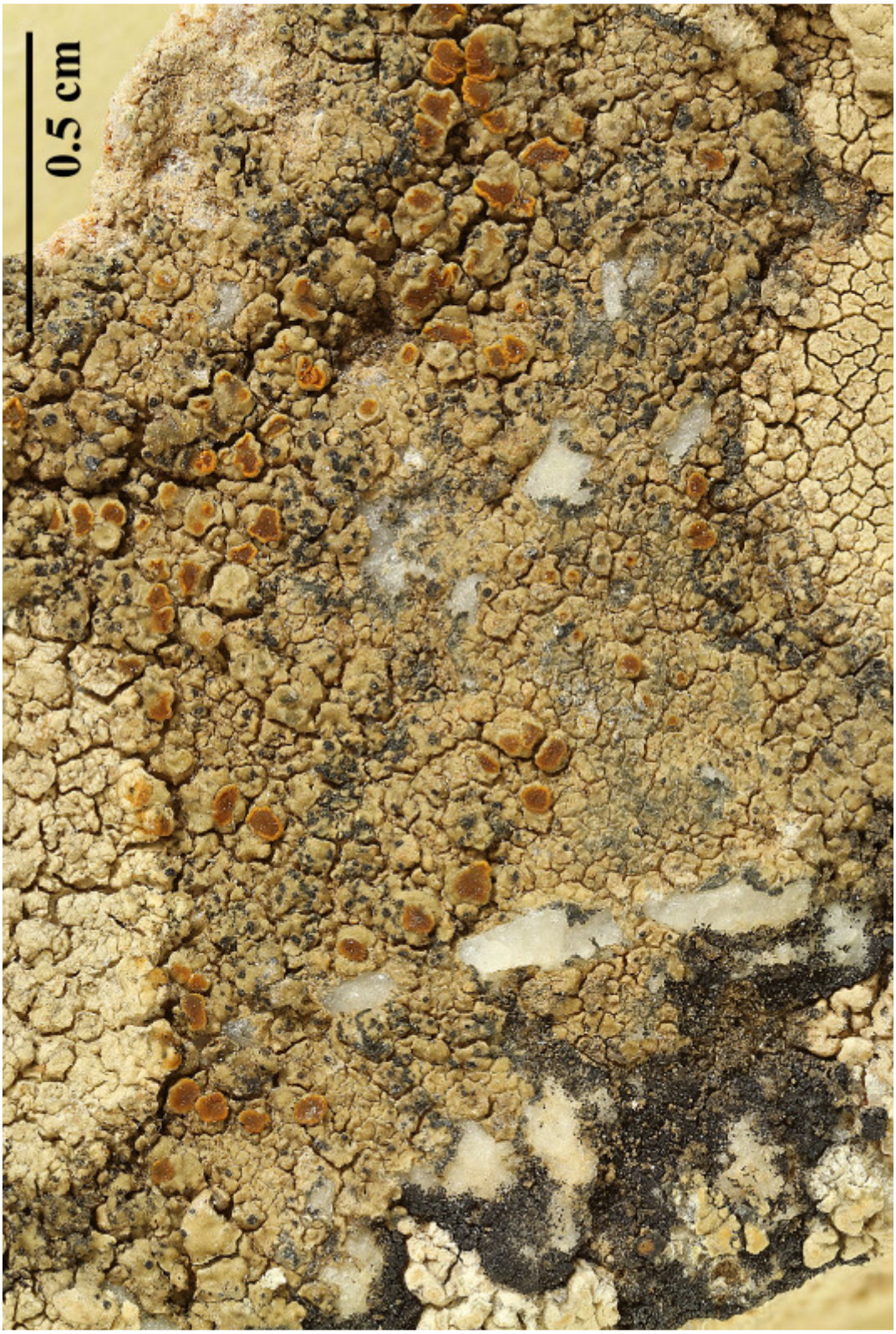


Caloplaca lignicola

Caloplaca limitosa (Nyl.) H. Olivier

Spores 9.5-12 x 4.5-6 µm, septum 3.5-5.7 µm (FS). Pycnospores 2-3 x 0.5 µm, ostiople pigment darkgreen, K- (Sipm.)

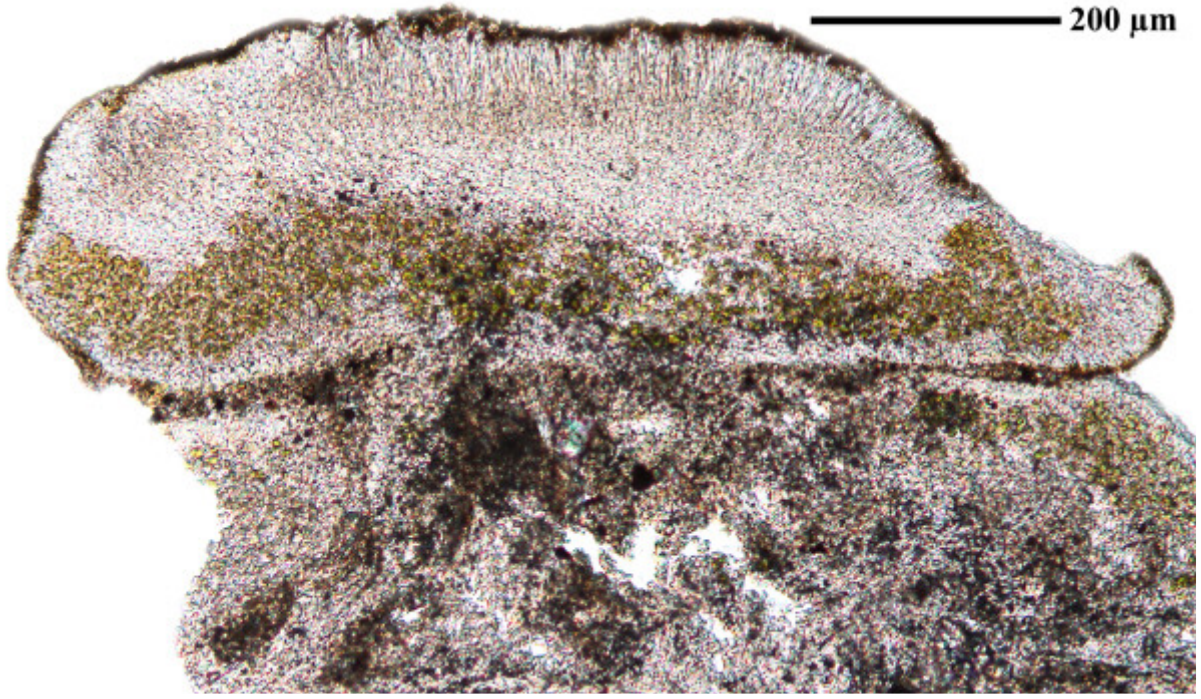
[B 60 0158718], Greece, W Aegean, Nomos Evvias, Ep. & Dim. Karistos, S Evvia, hilltop W of Kastri, siliceous schist outcrops in phrygana on hill top, N-exposed. 37°58.90' N, 24°30.20' E, 420 m. Leg. H. Sipman (54347) & Th. Raus, 2. October 2005, det. H. Sipman, 2006.

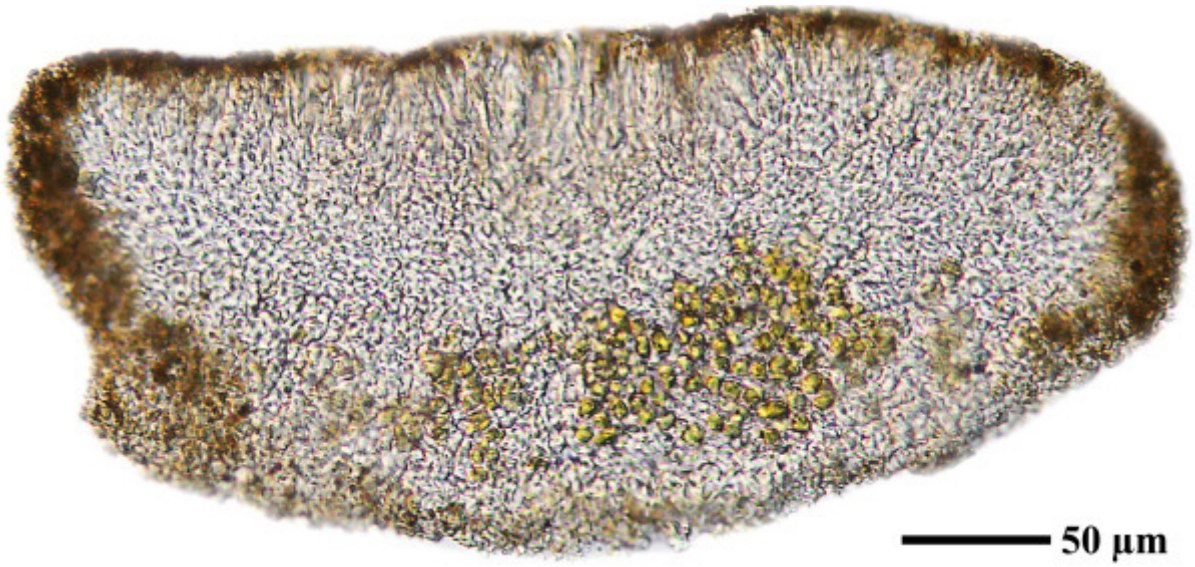


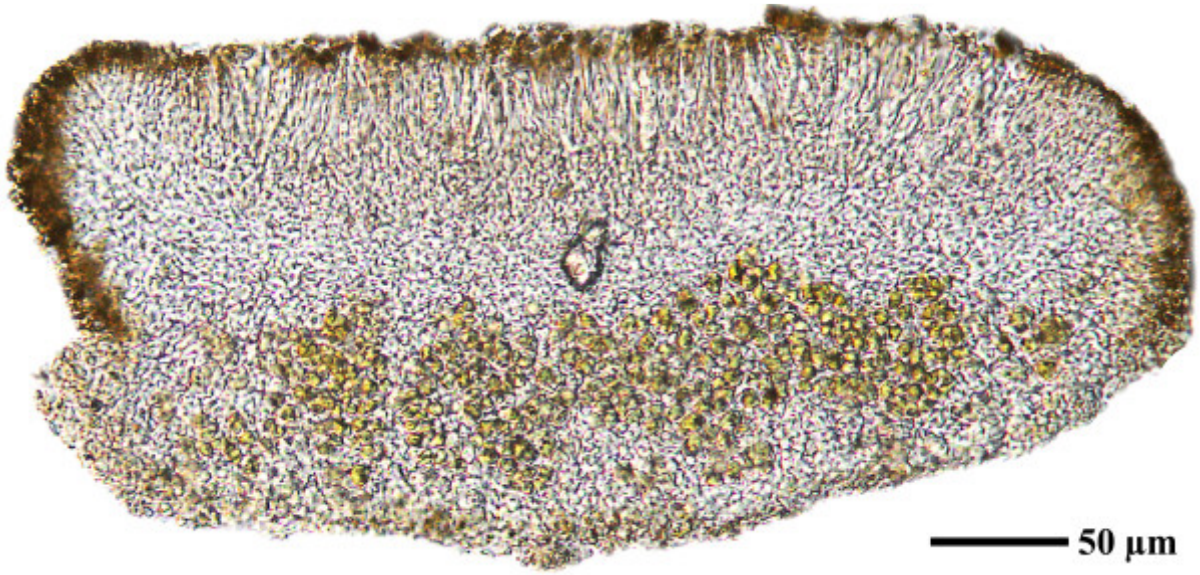




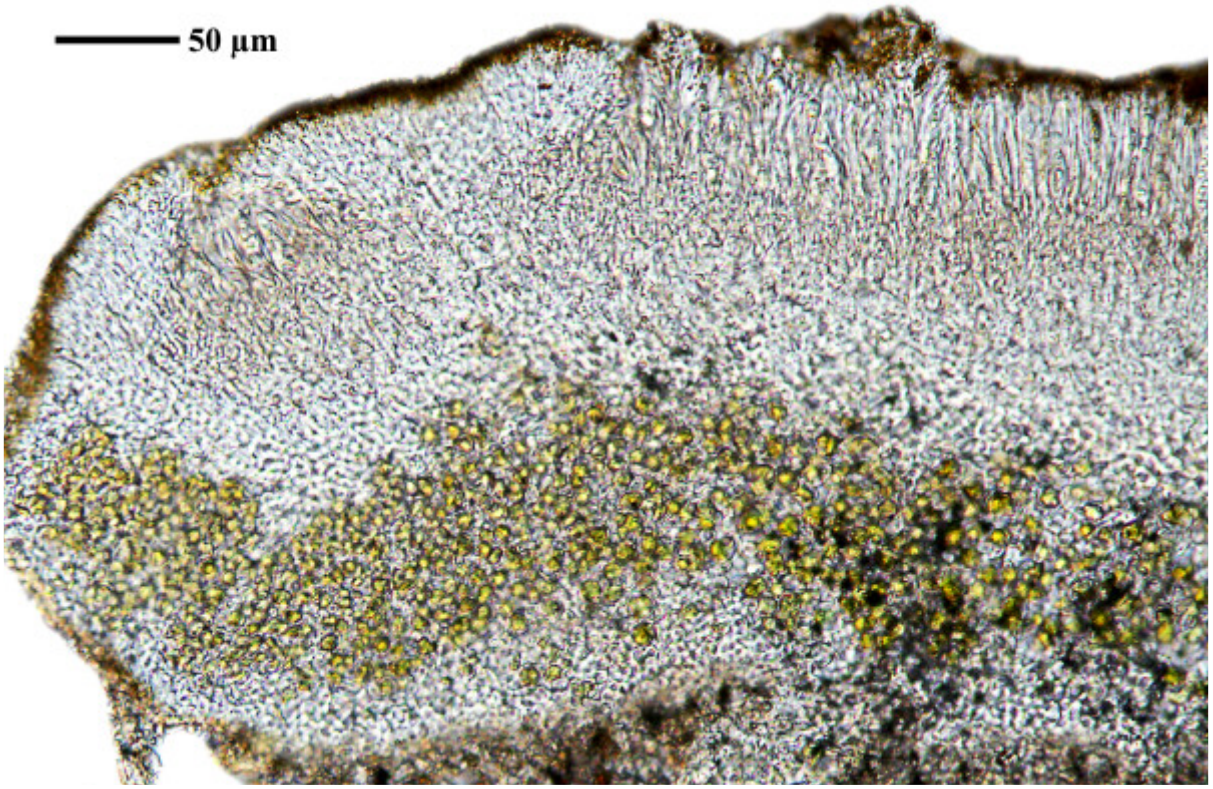
Caloplaca limitosa

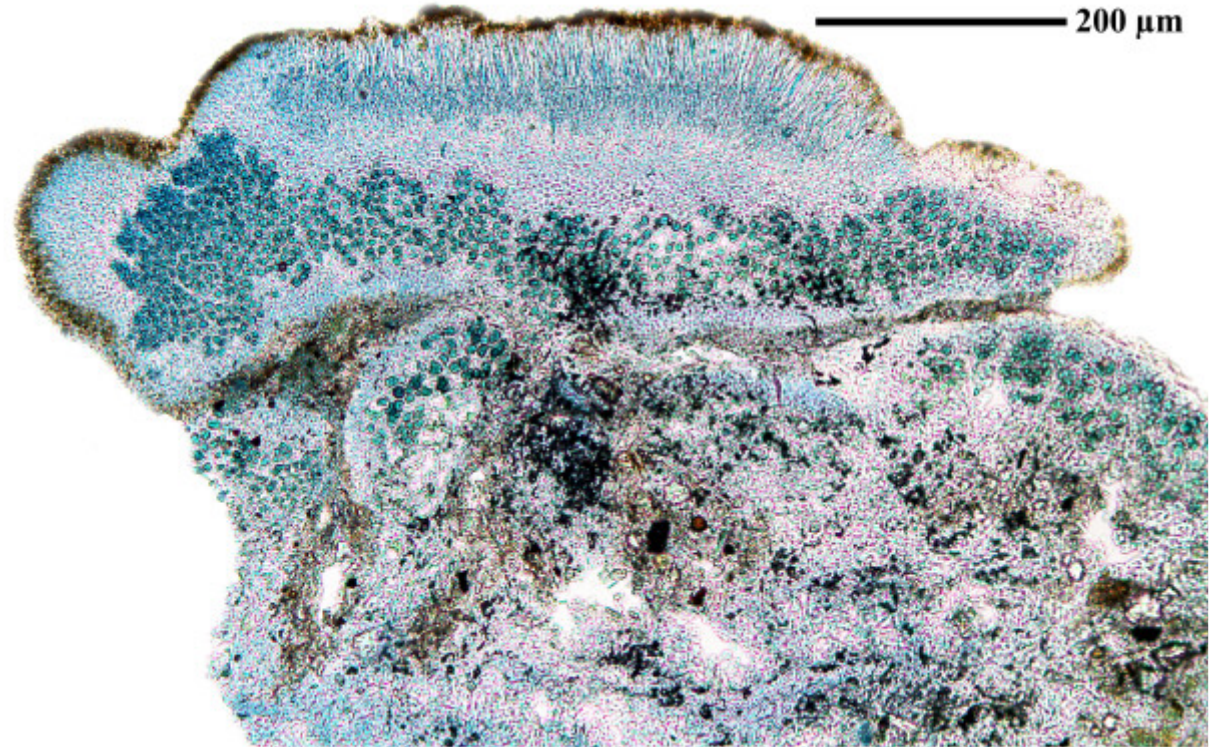




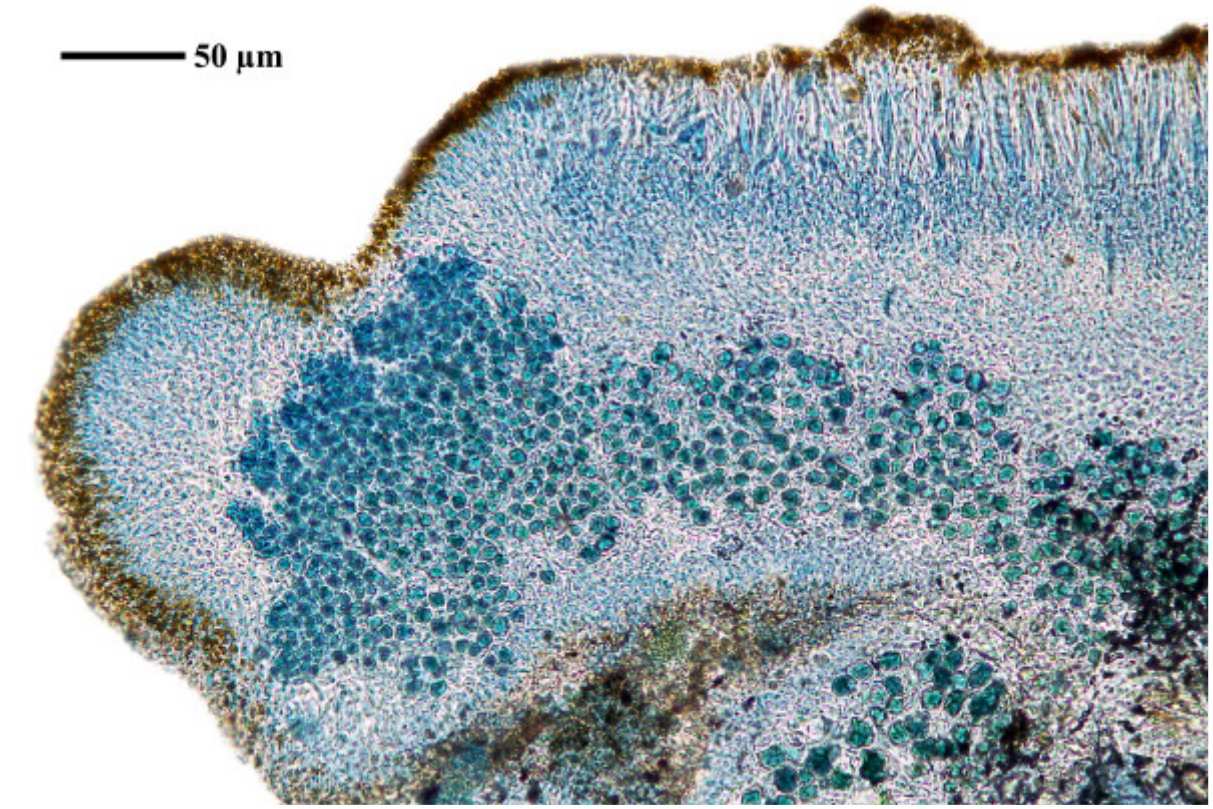


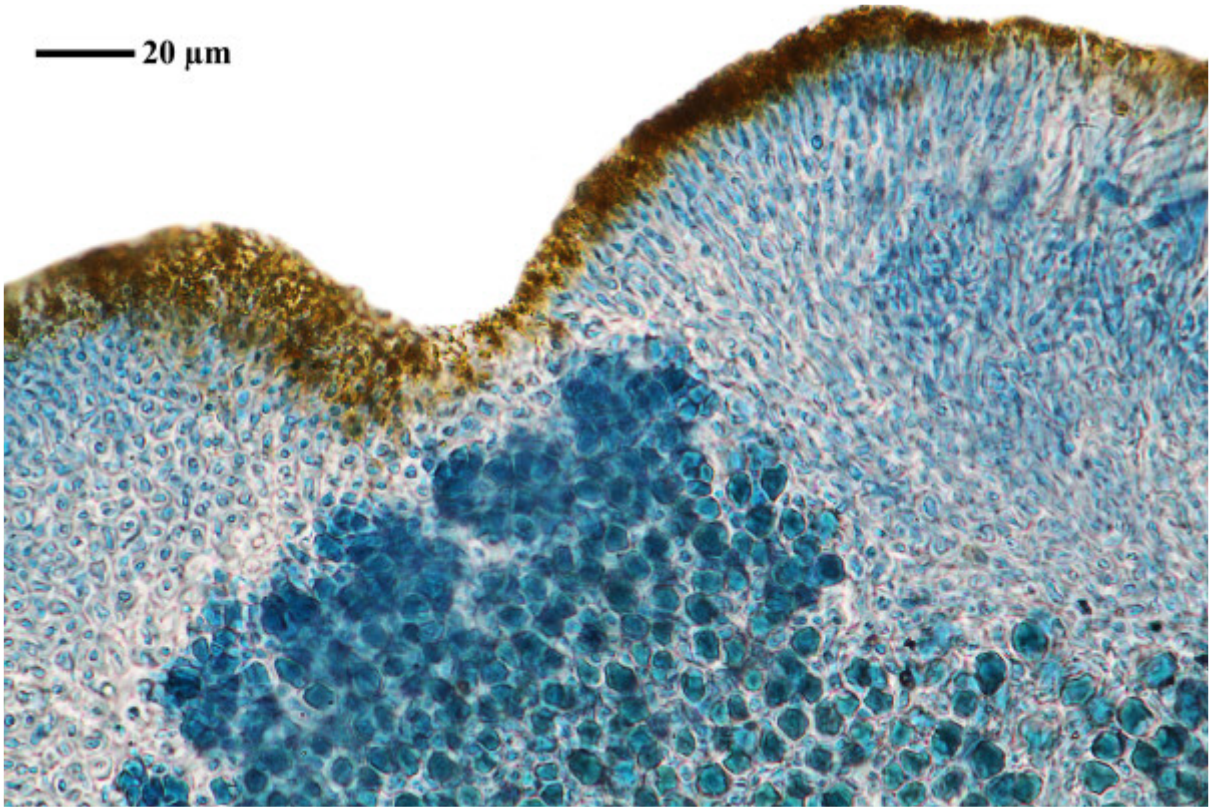
Caloplaca limitosa





Caloplaca limitosa

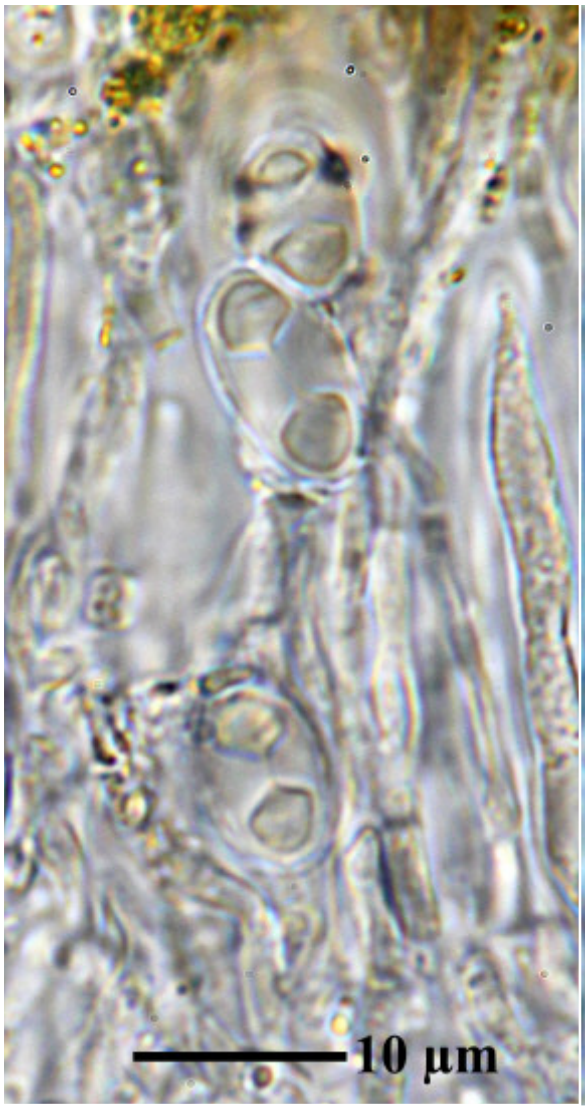


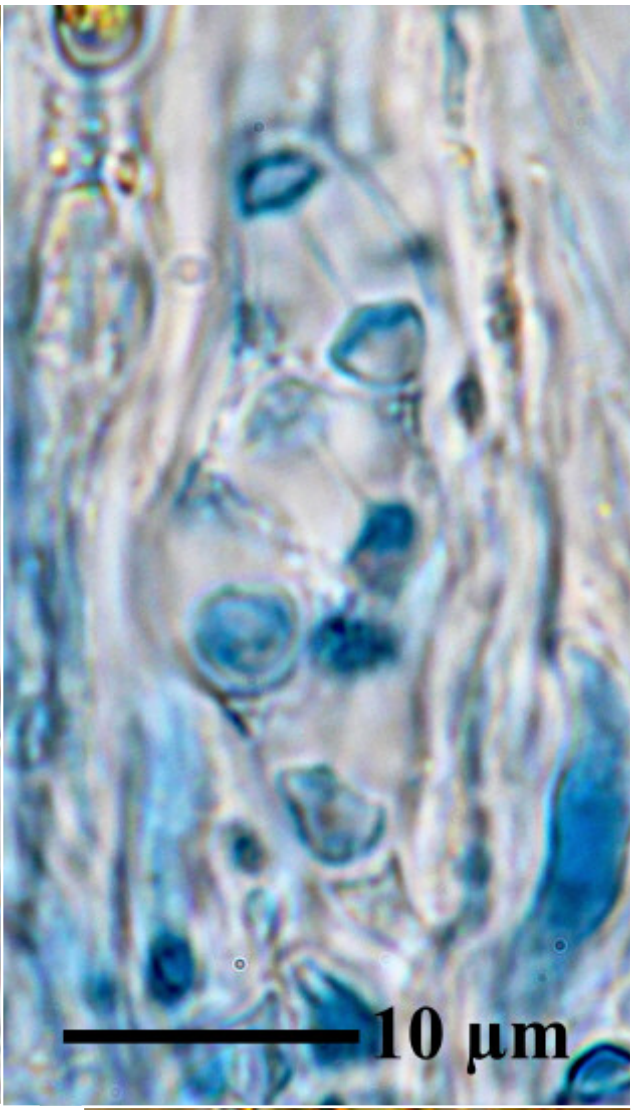


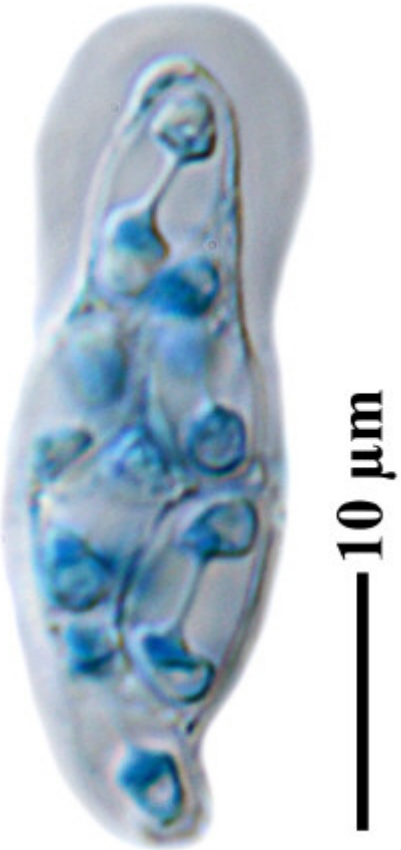
Caloplaca limitosa

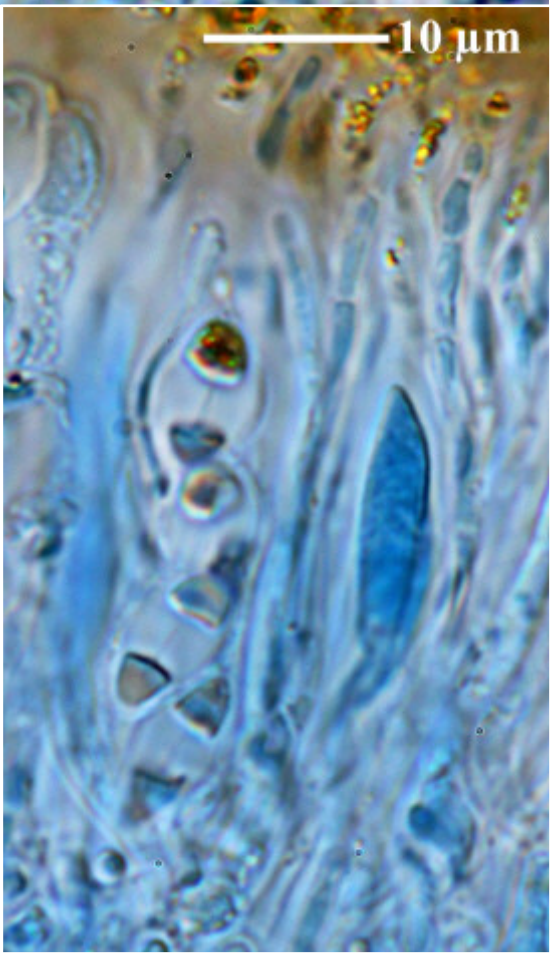


Caloplaca limitosa

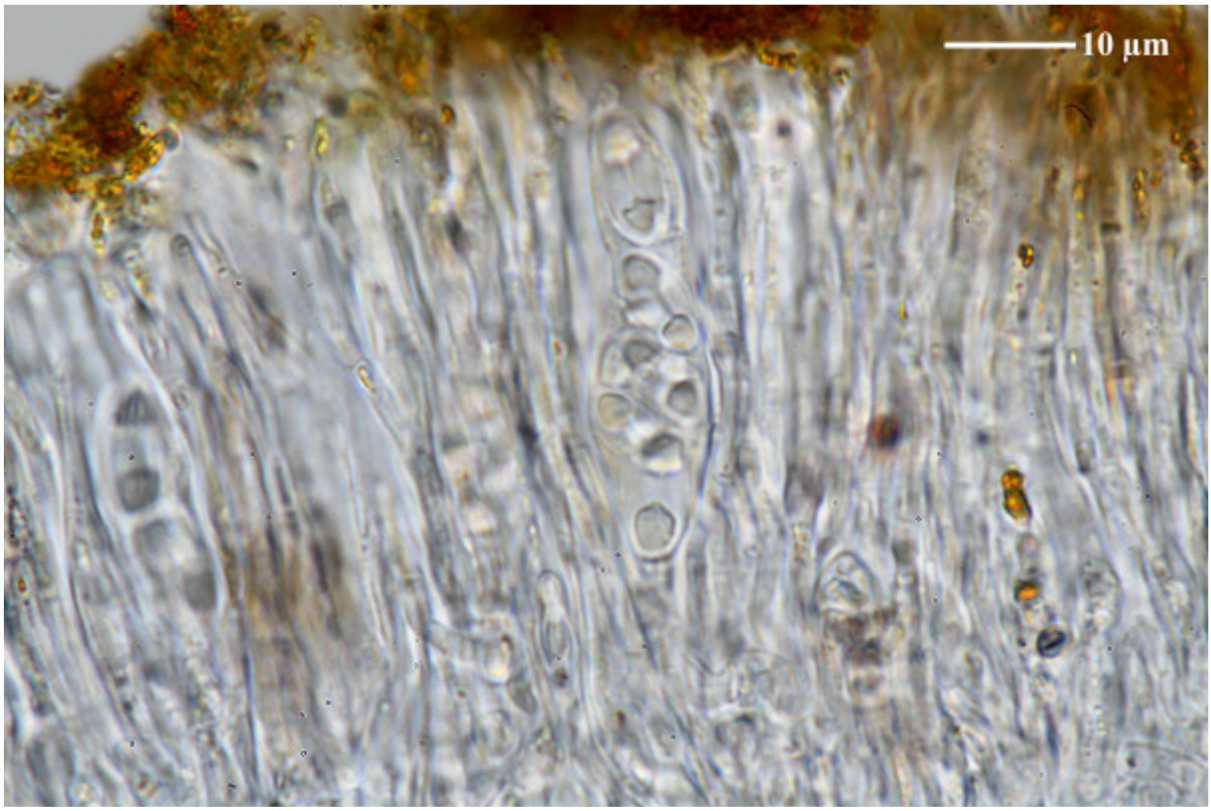


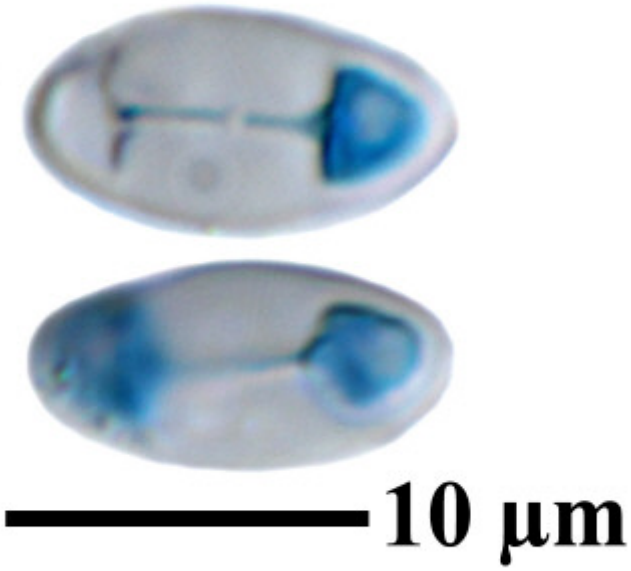






Caloplaca limitosa

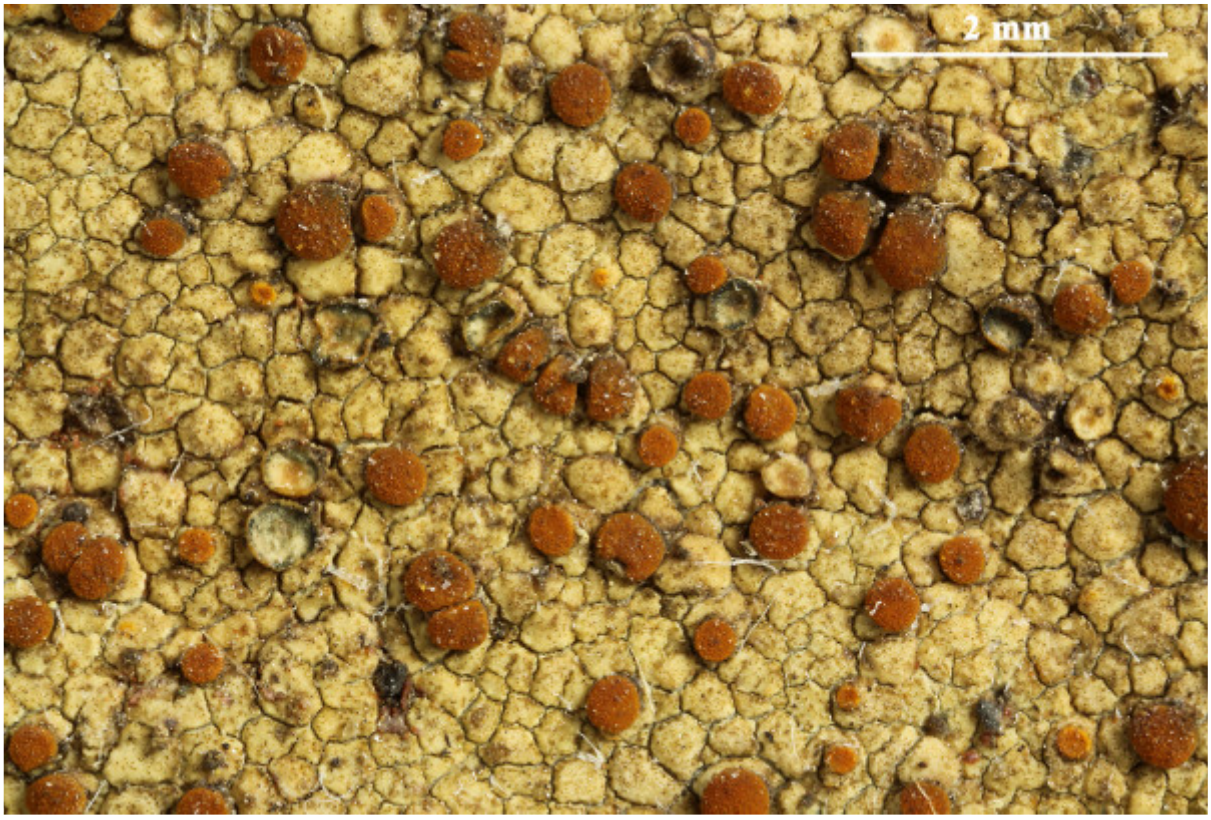




Caloplaca limitosa

Caloplaca limitosa (Nyl.) H. Olivier, Mém. Soc. natn. Sci. nat. Cherbourg 37: 114 (1909)

[TSB_25467], Portugal, Lousa, Ermida da Sierra da Piedade, on clay schists, Leg. et det. C.N. Tavares, 03.08.1959 (ex Herb. Tavares, Lichenes Lusitaniae).

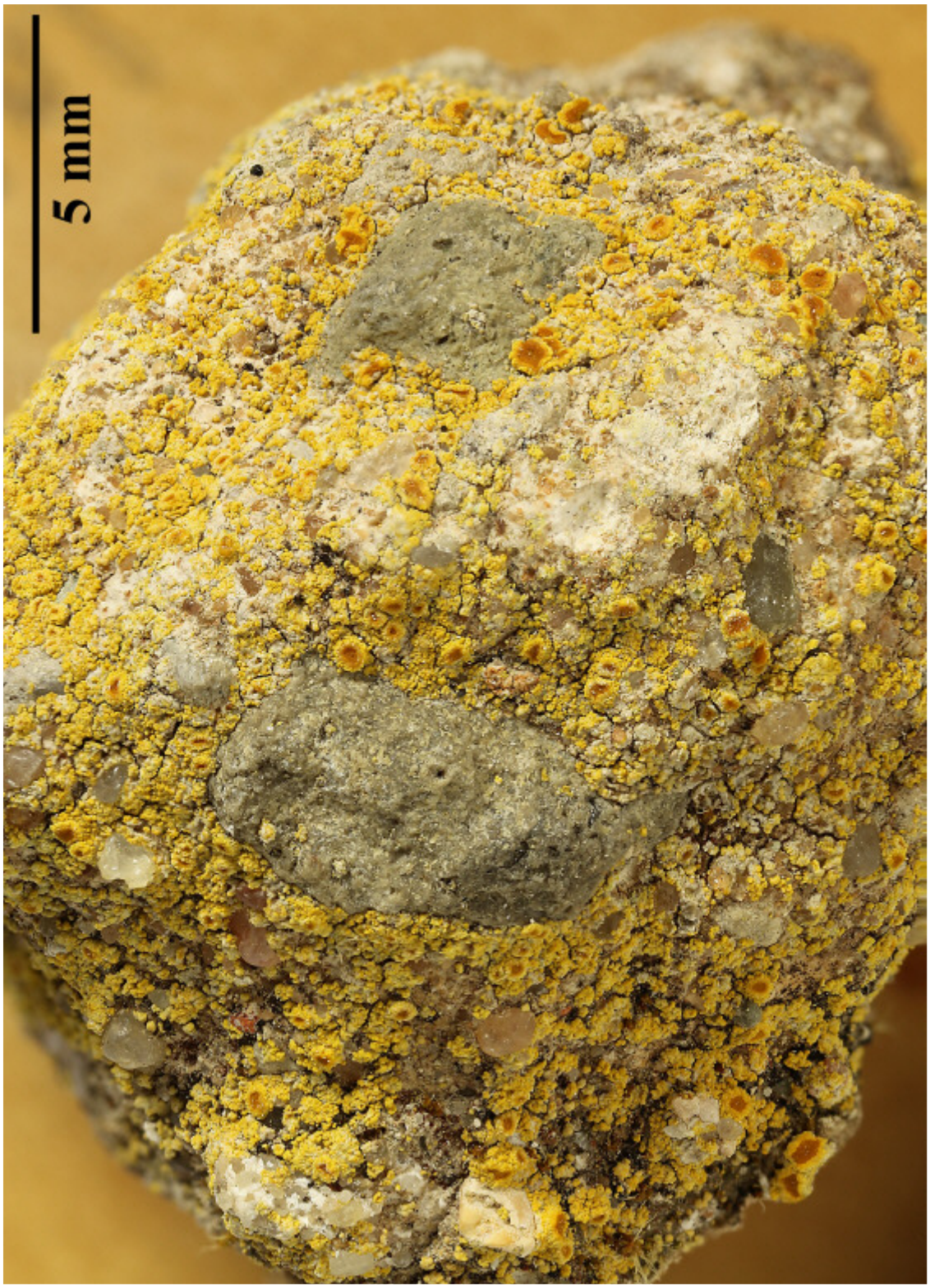


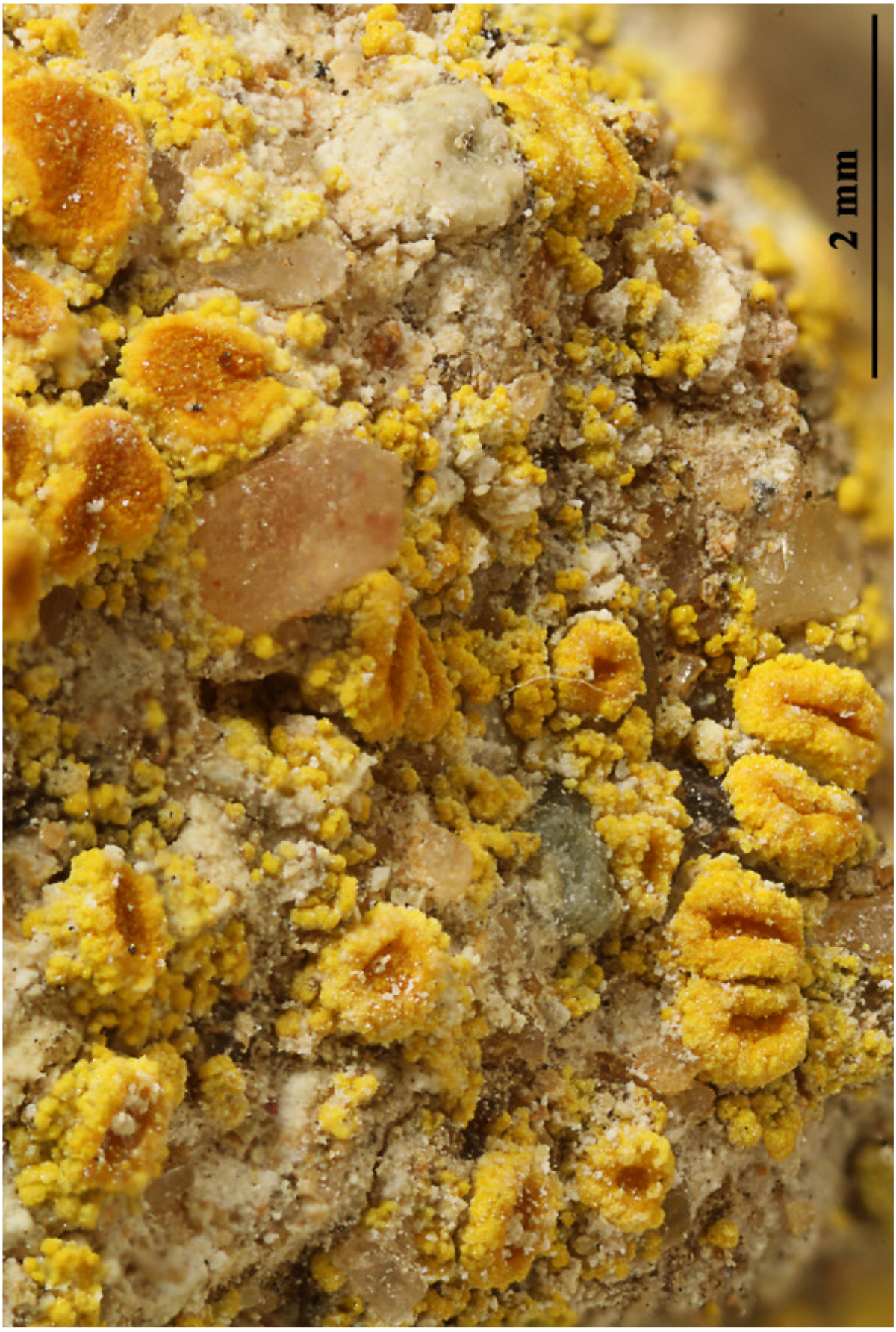


Caloplaca limonia Nimis & Poelt
[= *Flavoplaca limonia* (Nimis & Poelt) Arup, Frödén & Søchting]

On calcareous stone walls.
Apothecien 0.7-0.9 mm. Algen unter dem Hypothecium aber nicht im Rand. Epithecium braun, 8 µm; Hymenium hell, 80 µm, Hypothecium hell, 80 µm, Sporen 12 x 4.5-6 µm, 8/Ascus

[2162], Tunesien, Karthago, an Mauern der Thermen des Antonius Pius. Leg. F. Schumm, 11.03.1973, det. A. Aptroot 2016.



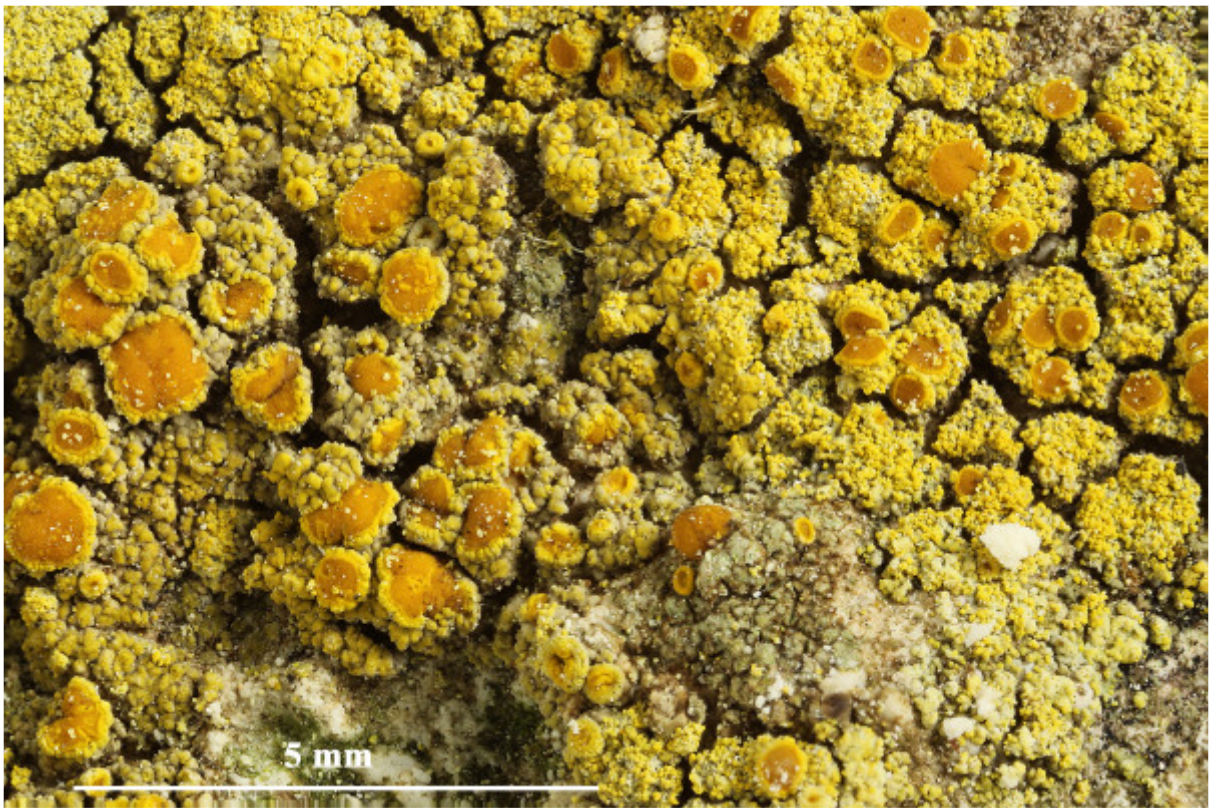


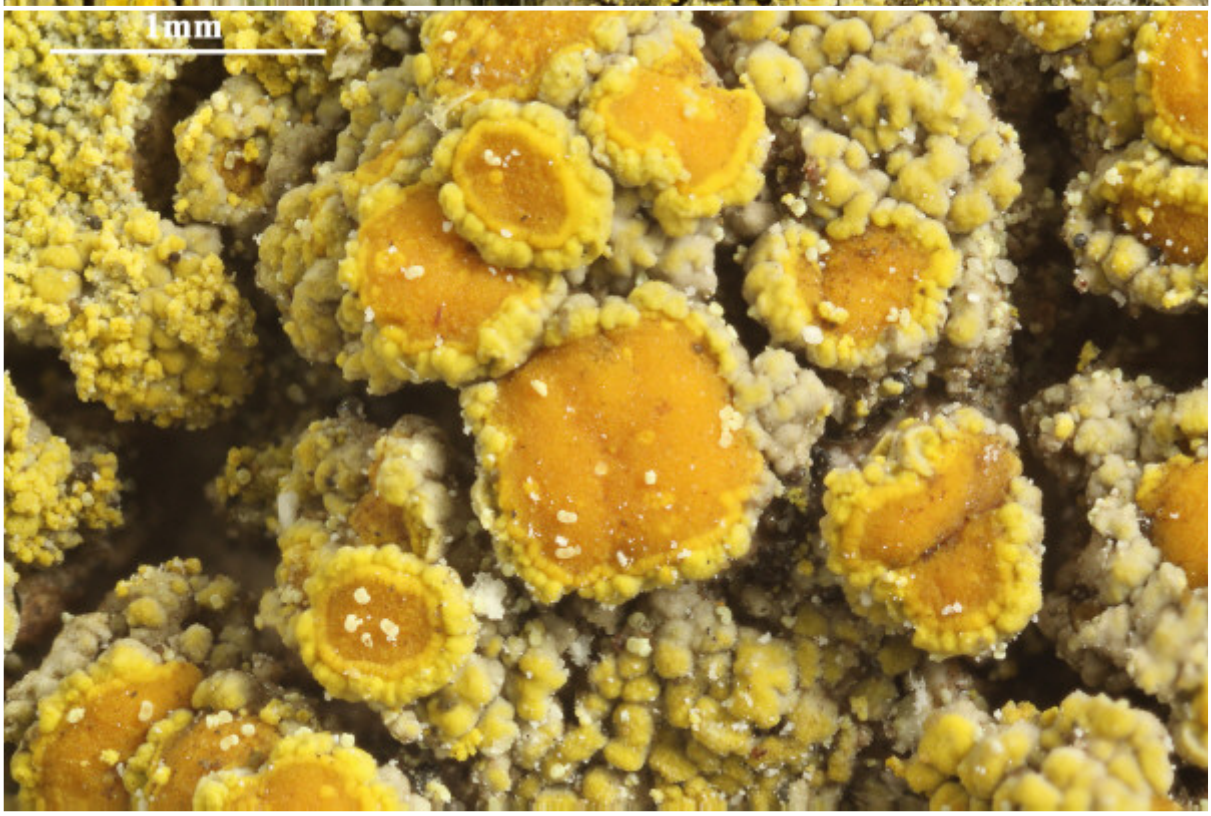
Caloplaca limonia

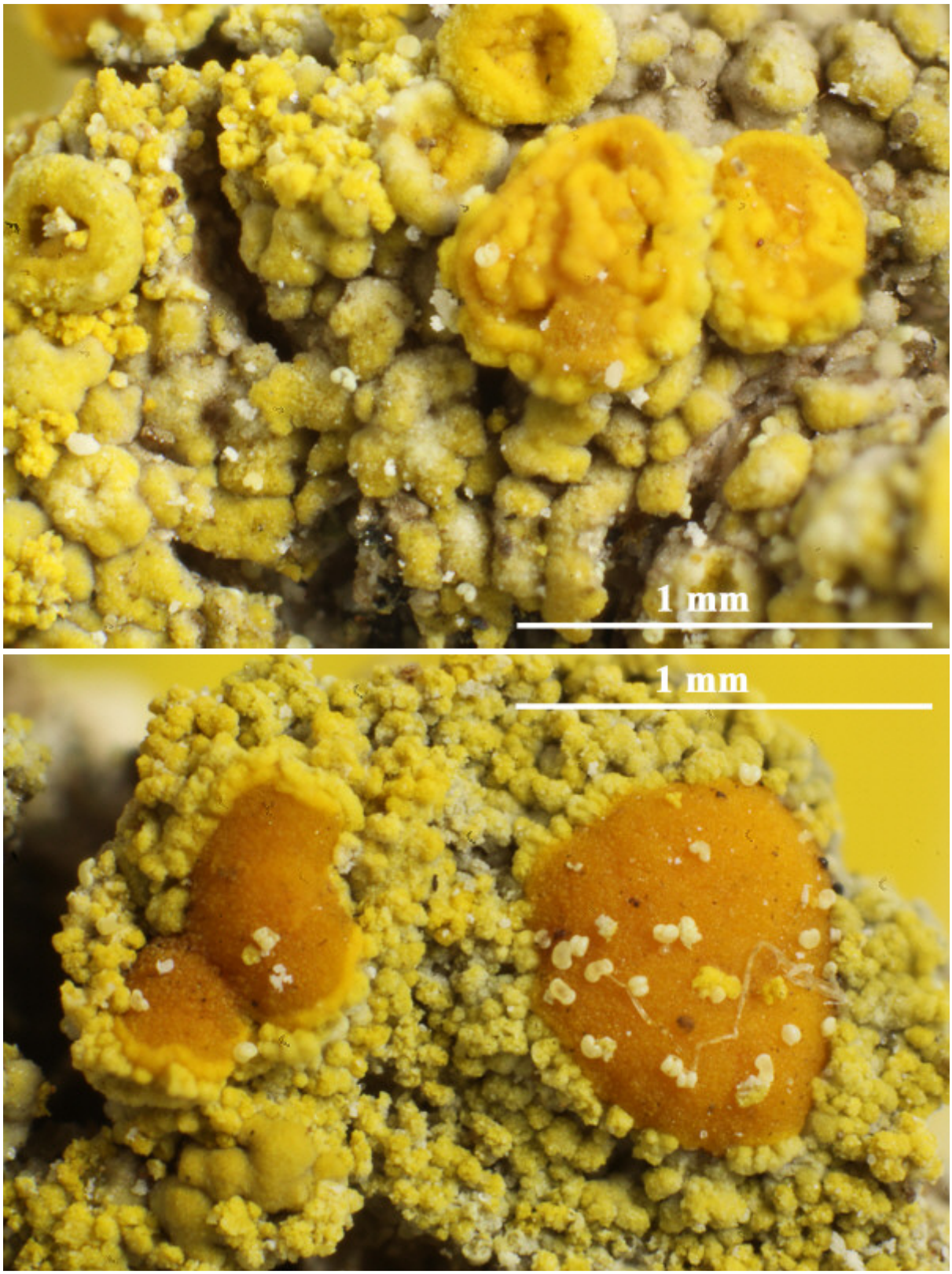
Caloplaca limonia Nimis & Poelt
[= *Flavoplaca limonia* (Nimis & Poelt) Arup, Frödén & Søchting]

On calcareous rocks.

[13691], Malta, Xemxija, Pinus halepensis Wäldchen, 35°56.760'N, 14°22.193'E, 53 m. Leg. F. Schumm, J.-P. Frahm, 12.03.2008, det. A. Aptroot 2016.







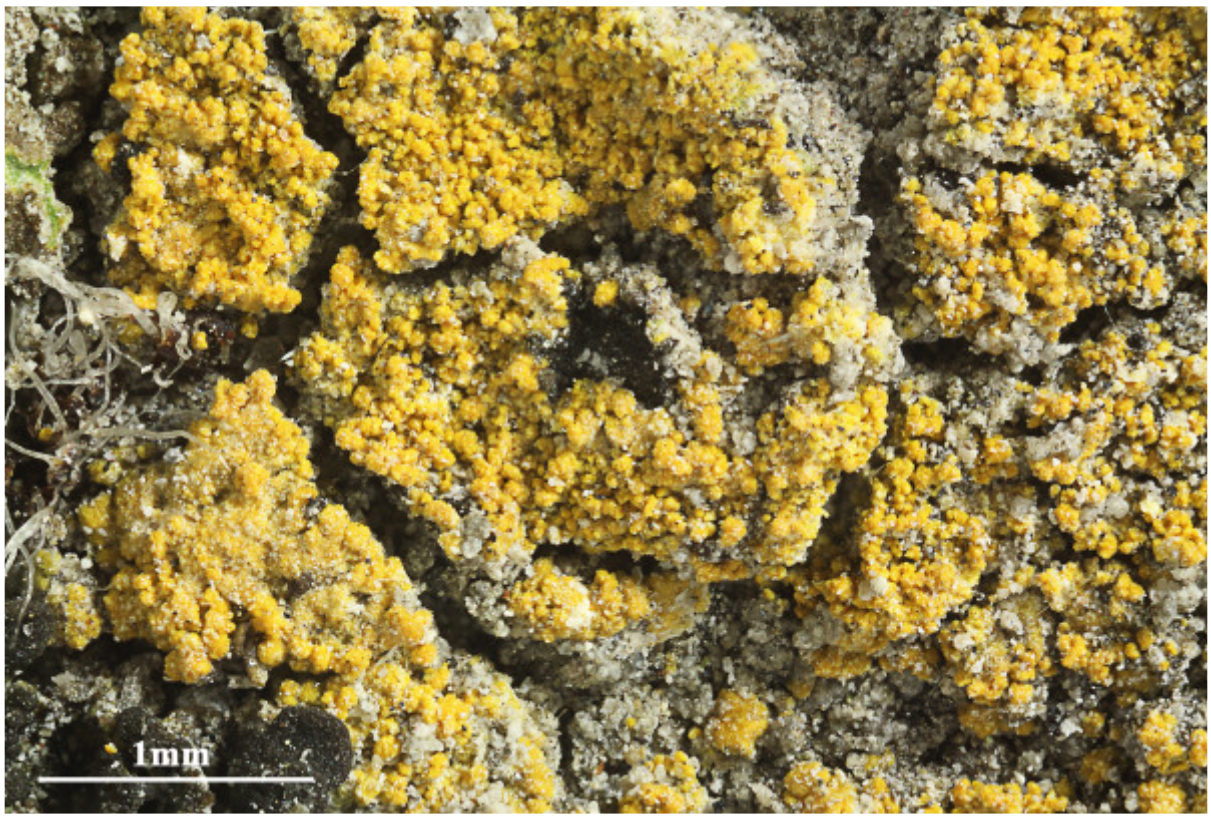
Caloplaca limonia

Caloplaca limonia Nimis & Poelt
[= *Flavoplaca limonia* (Nimis & Poelt) Arup, Frödén & Søchting]

[ABL 73697], The Netherlands, Prov. Noord-Holland, Velsen, ENCI 102,48 498,4, on chalk dust. Leg. A. Aptroot, 05.06.2015, det. A. Aptroot 2015.





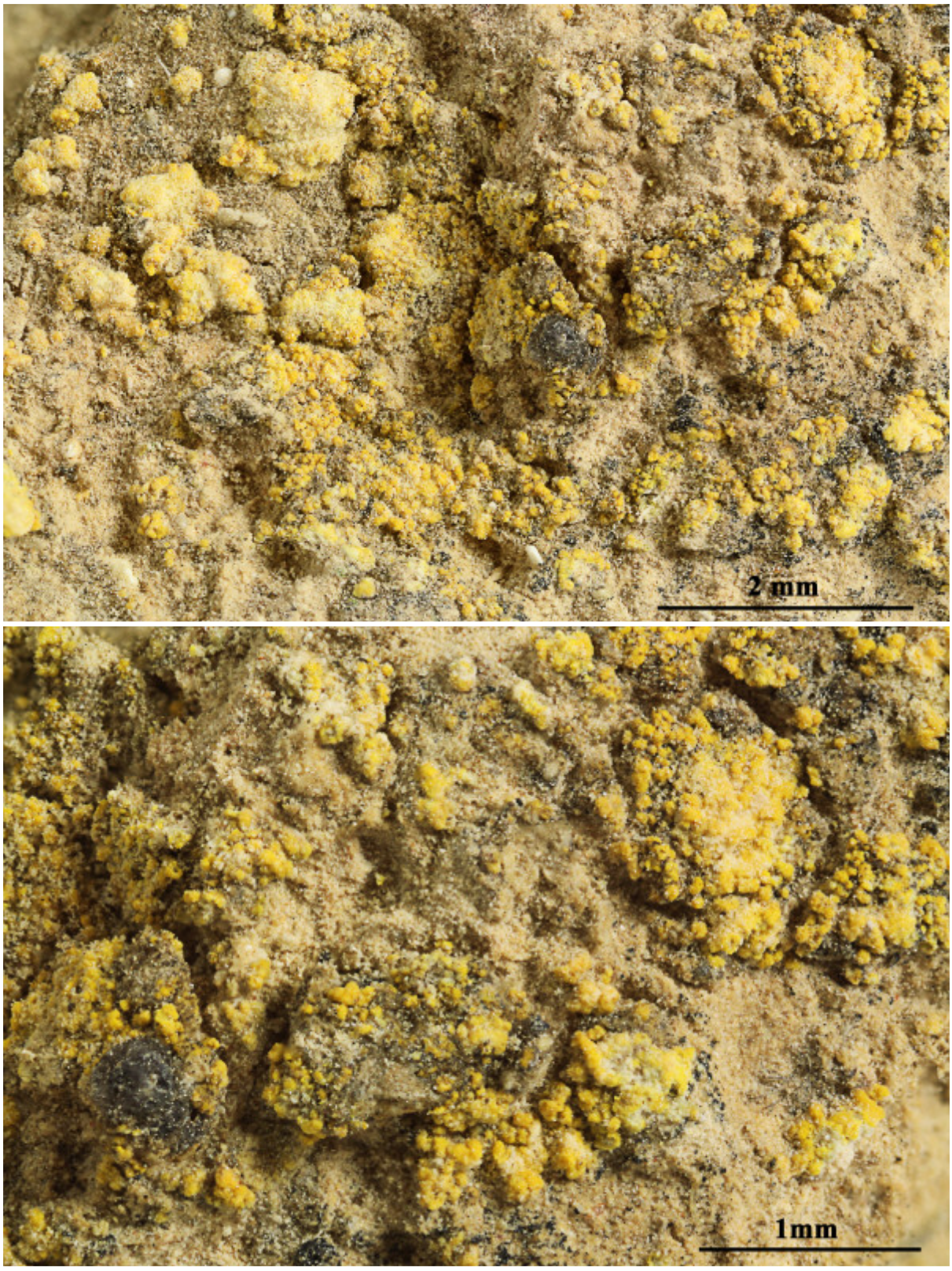


Caloplaca limonia

Caloplaca limonia Nimis & Poelt, ISOTYPUS, in Nimis, Poelt, Tretiach, Ottonello, Puntillo & Vězda, Bull. Soc. linn. Provence 45: 252 (1994)
[= *Flavoplaca limonia* (Nimis & Poelt) Arup, Frödén & Søchting, Nordic J. Bot. 31(1): 45 (2013)]

[TSB_18657], Italia, Sicily, Island of Marettimo (Egadi Islands, Prov. Trapani), c. 150 m, on calciferous soil. Leg. P.L. Nimis, 24-31.03.1991.





Caloplaca limonia



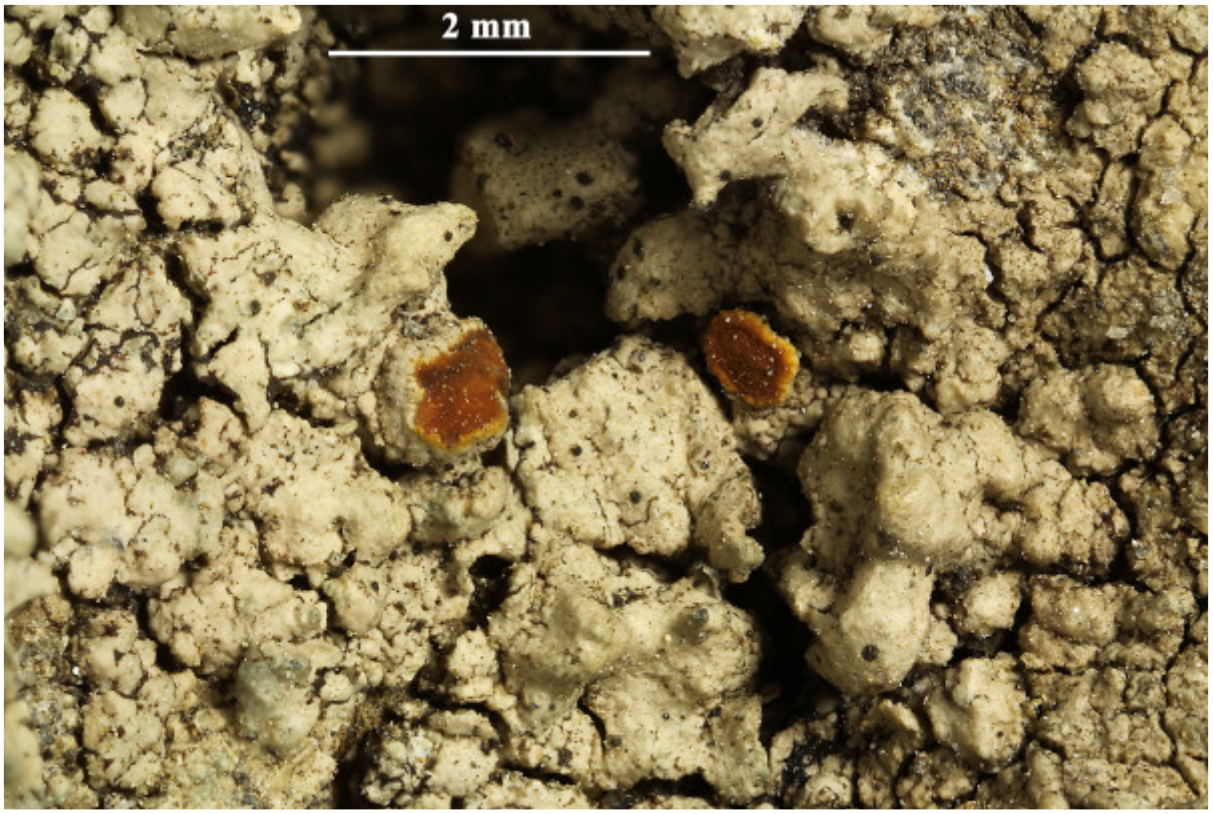
Caloplaca limonia

Caloplaca litoricola Brodo

Spores 11.5-13 x 6.5-8.5 µm, septum 5-6 µm

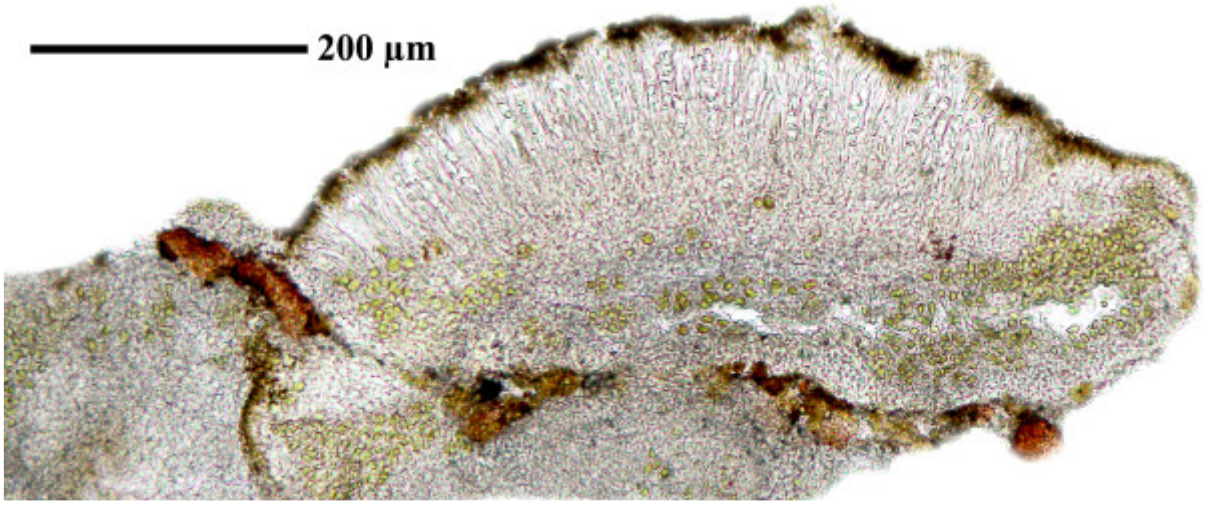
[BR50300666673660], South Korea, Jeju-do, Sogwipo-shi, Songsan-up, Onpyong-ri, the coast of Onpyon-ri, the coast road from Kosong-ri to Shinsan-ri. 33°24’44.5” N, 126°54’35.7” E, 6 m, on lava. Leg. A. Aptroot (67579), 16.May 2007, det. A. Aptroot, 2007.

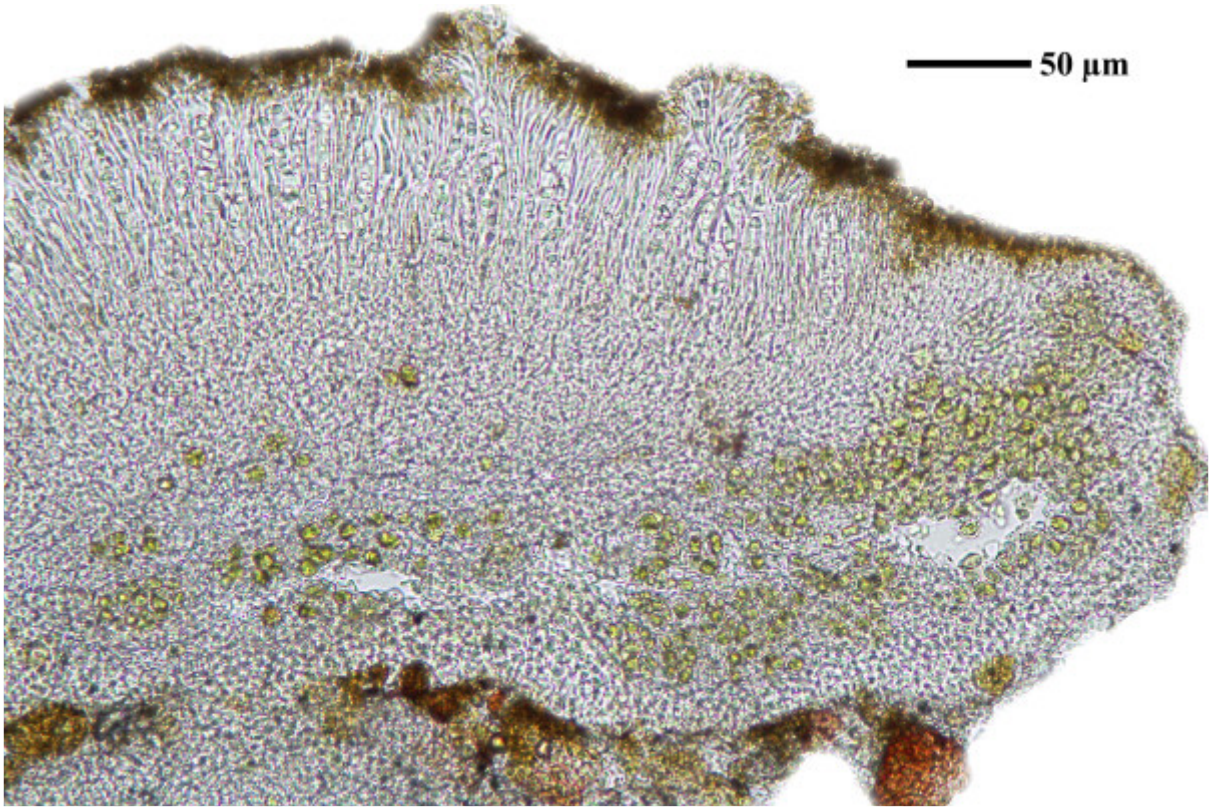


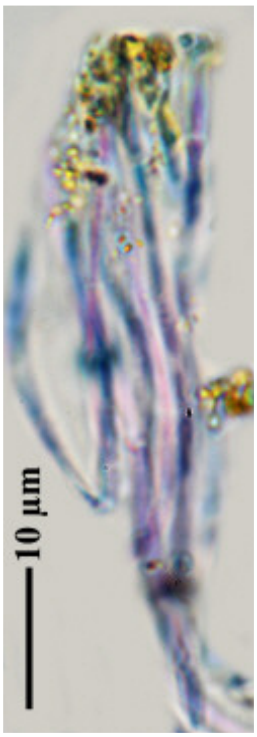


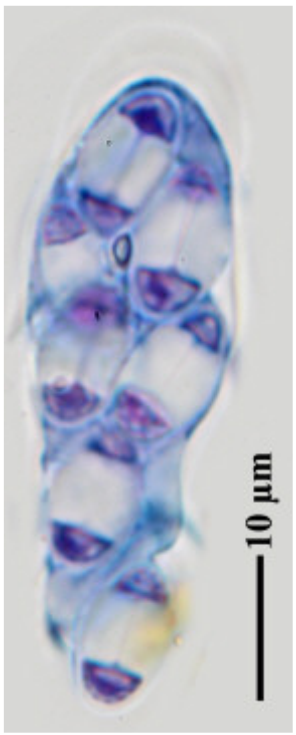


Caloplaca litoricola

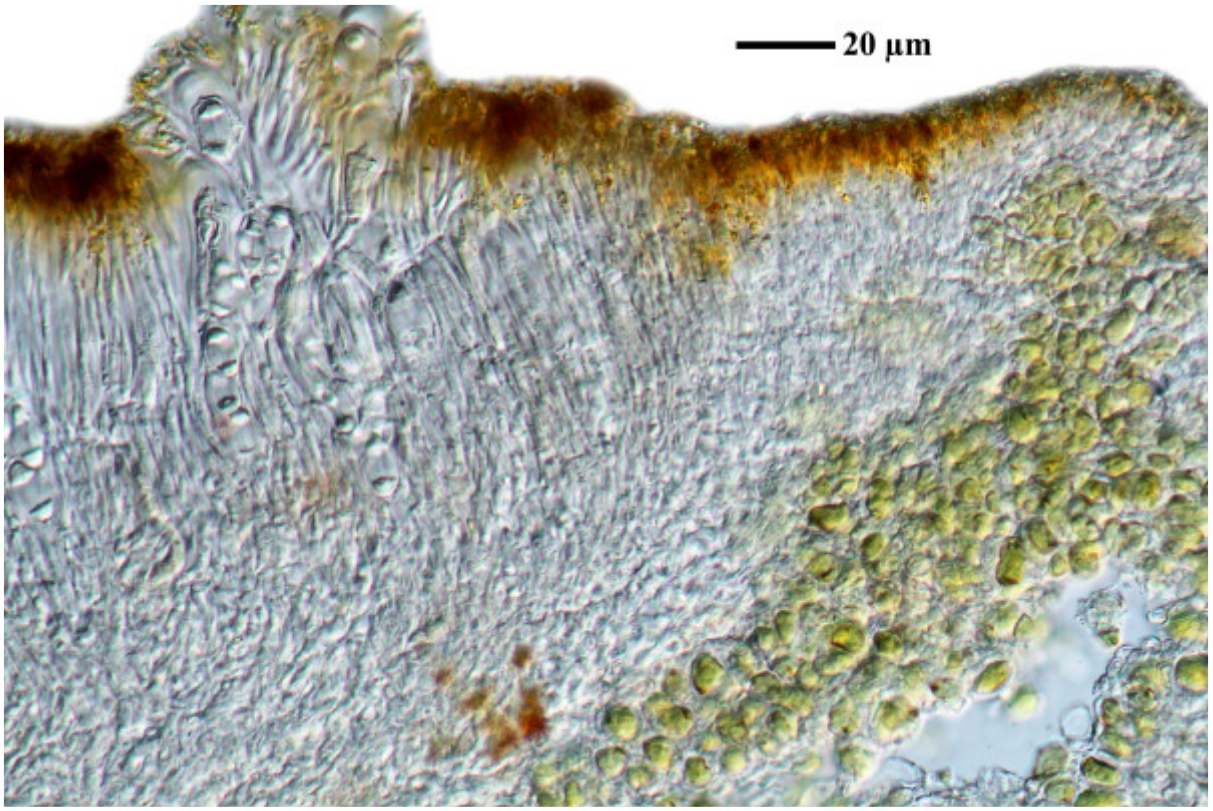


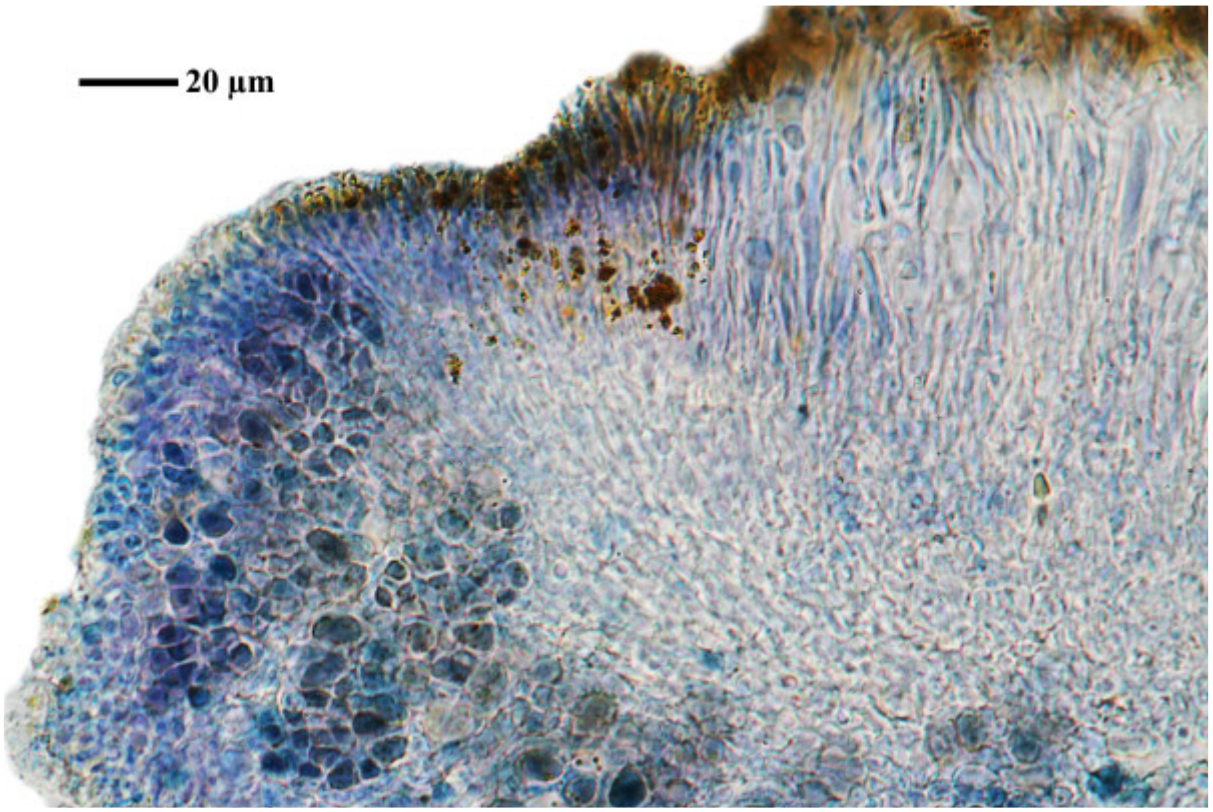






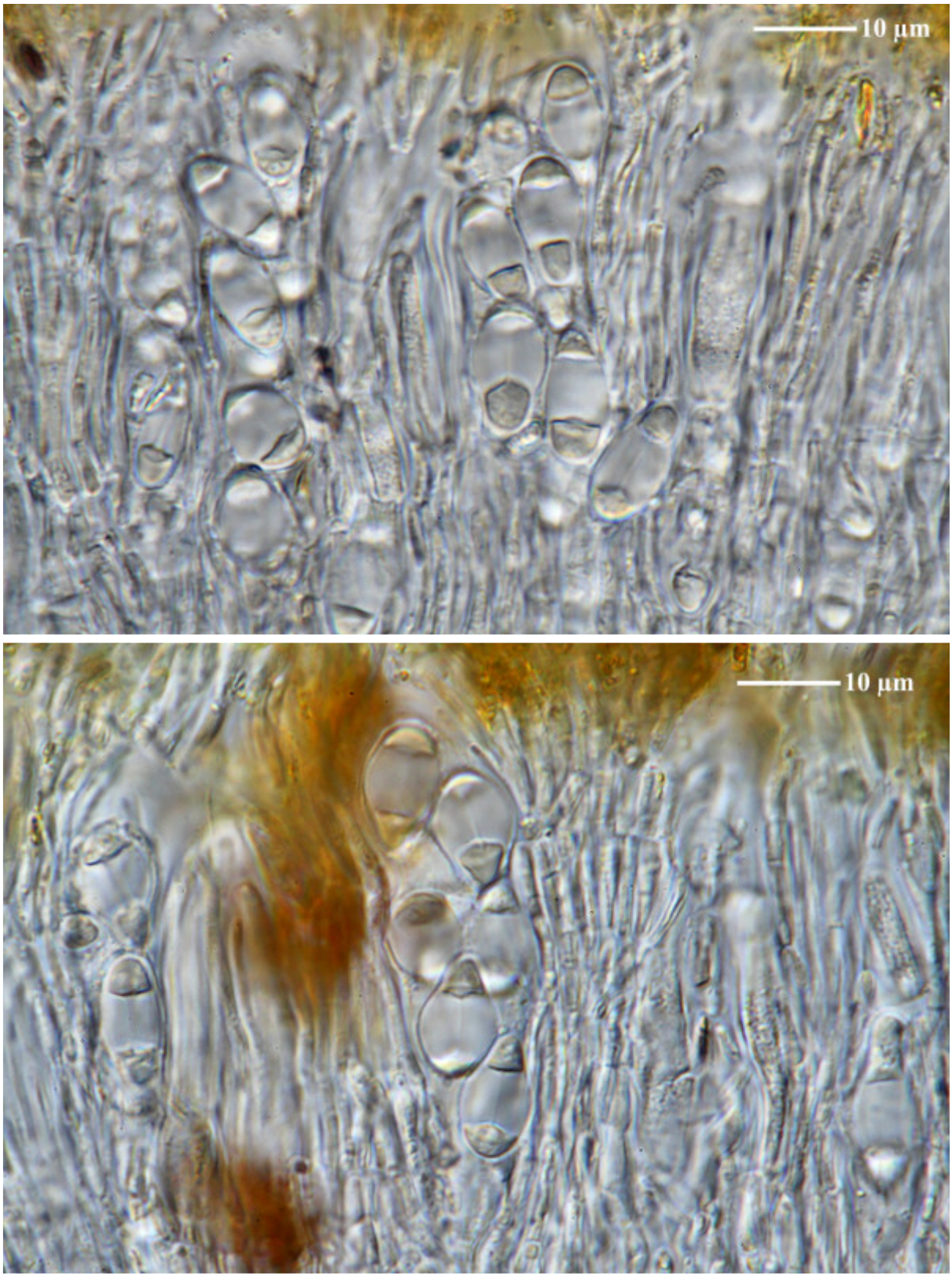
Caloplaca litoricola







Caloplaca litoricola

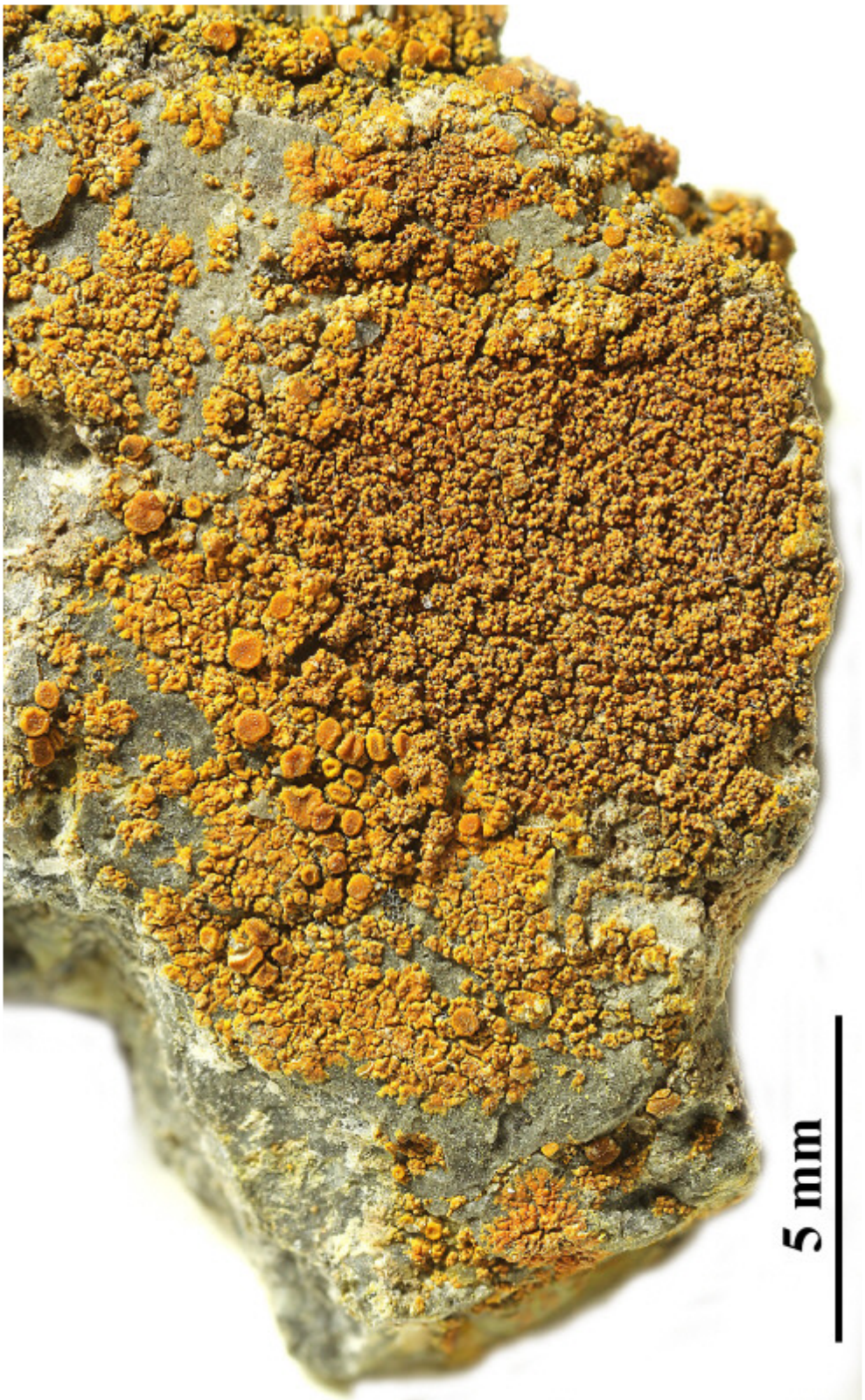


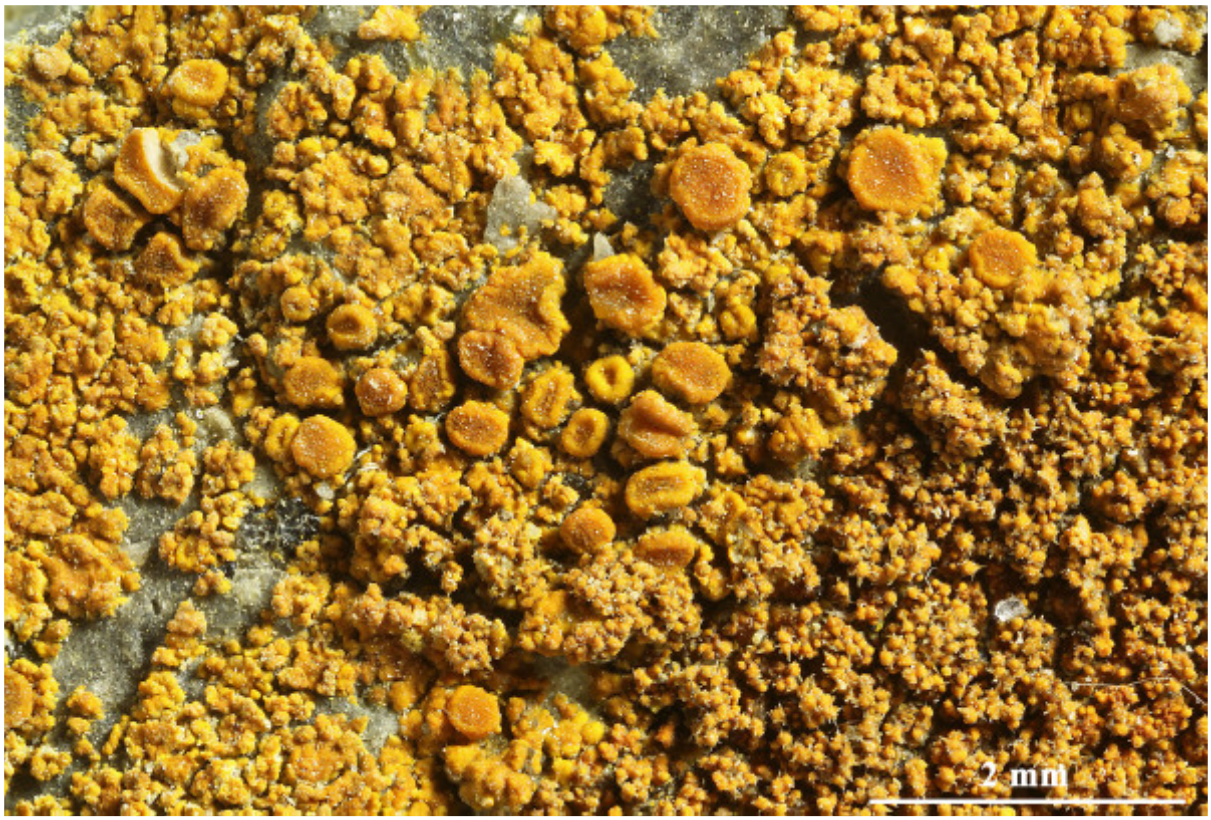
Caloplaca litoricola

Caloplaca littorea Tav.

Spores 9.4-12.6 x 5.4-6.2 µm, septum 2-4.5 µm (FS). On non-calcareous rocks. Lit. C. N. Tavares in Revista Fac. Cienc. Lisboa, ser. 2C, 5: 129 (1956).

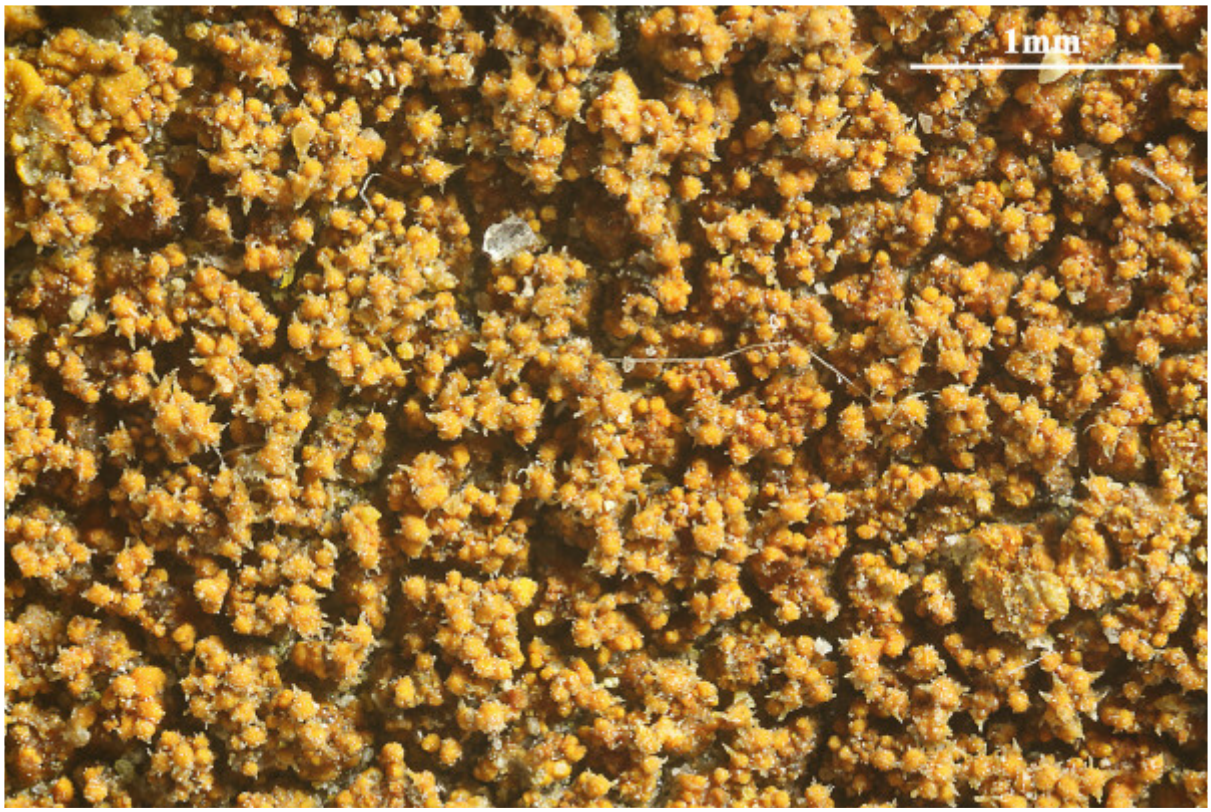
[19597],Hispania, Murcia, Isla Grosa, Cabo de Palos, alt. 6 m, ad scopulos vulcanicos. Leg. M. Egea & X. Llimona, 3.11.1978, det. M. Egea. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1970.

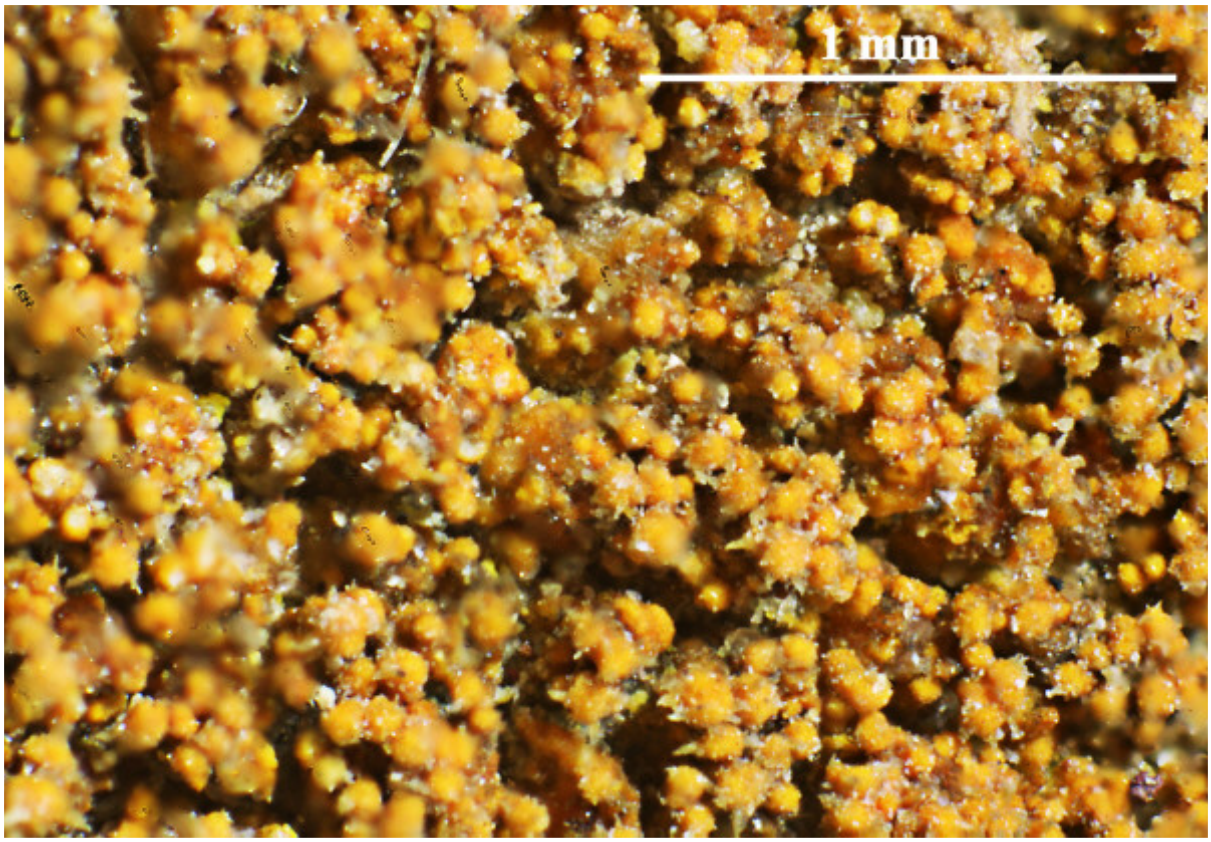




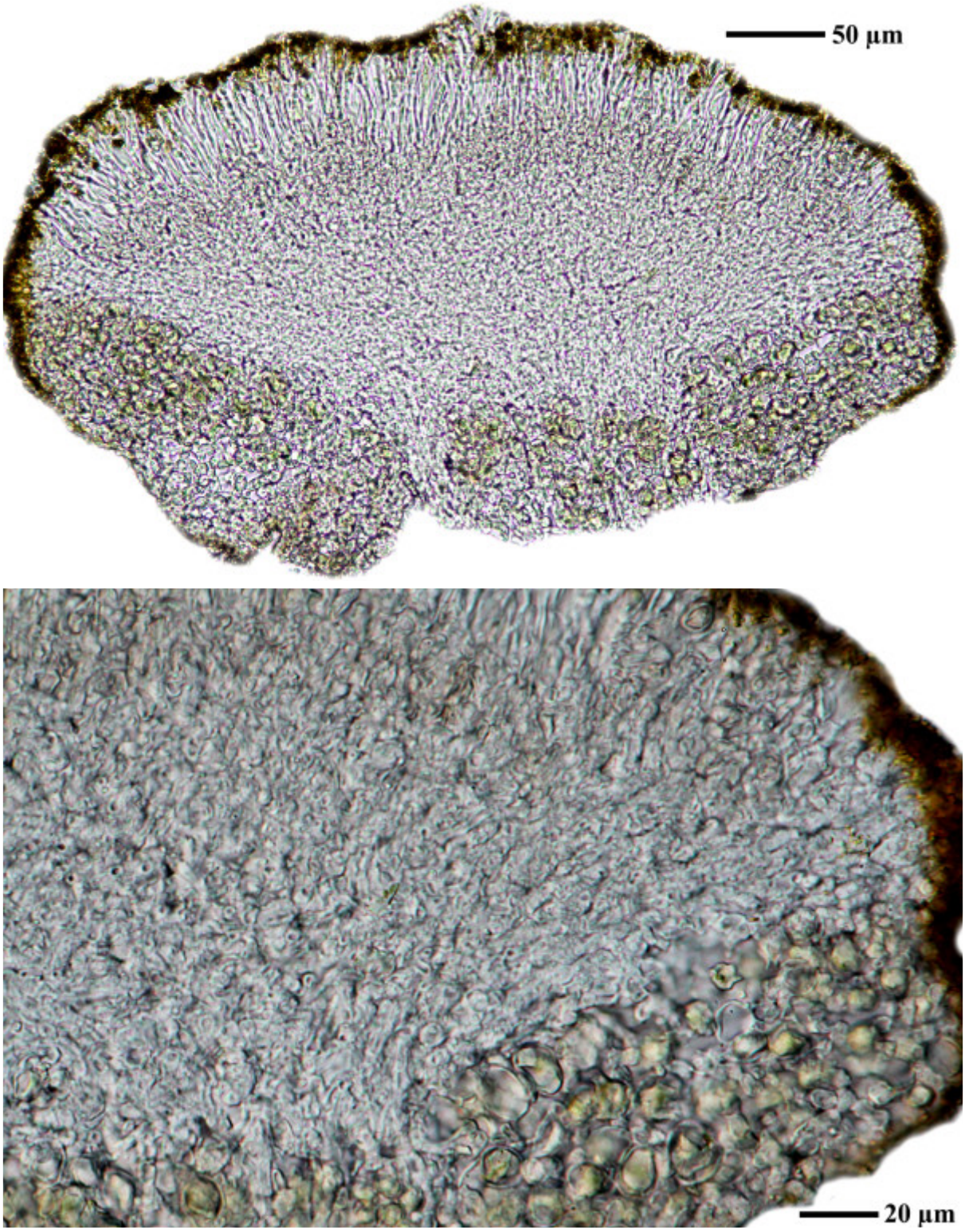


Caloplaca littorea

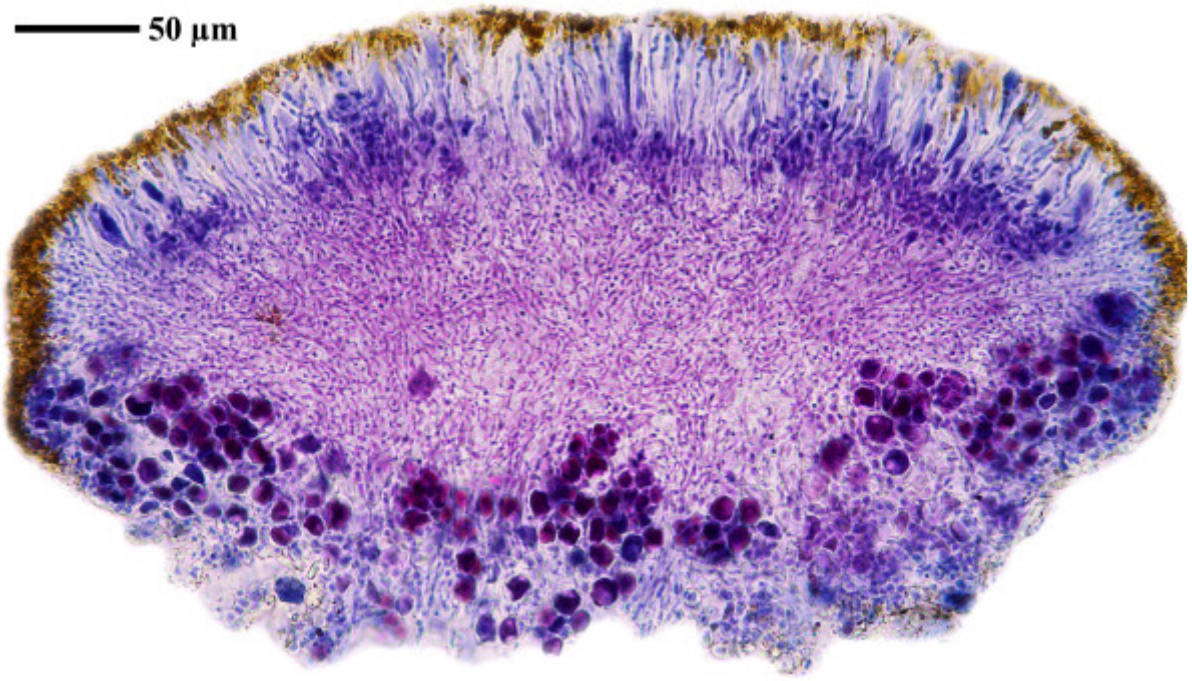


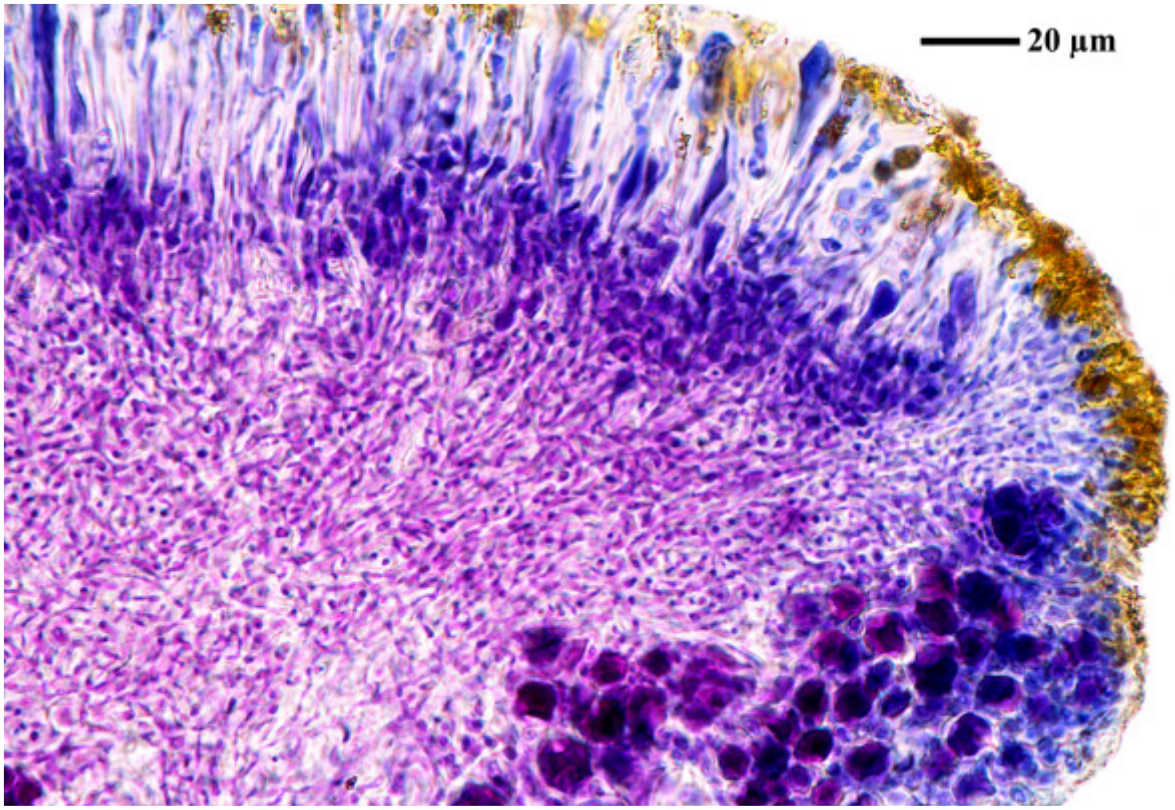


Caloplaca littorea

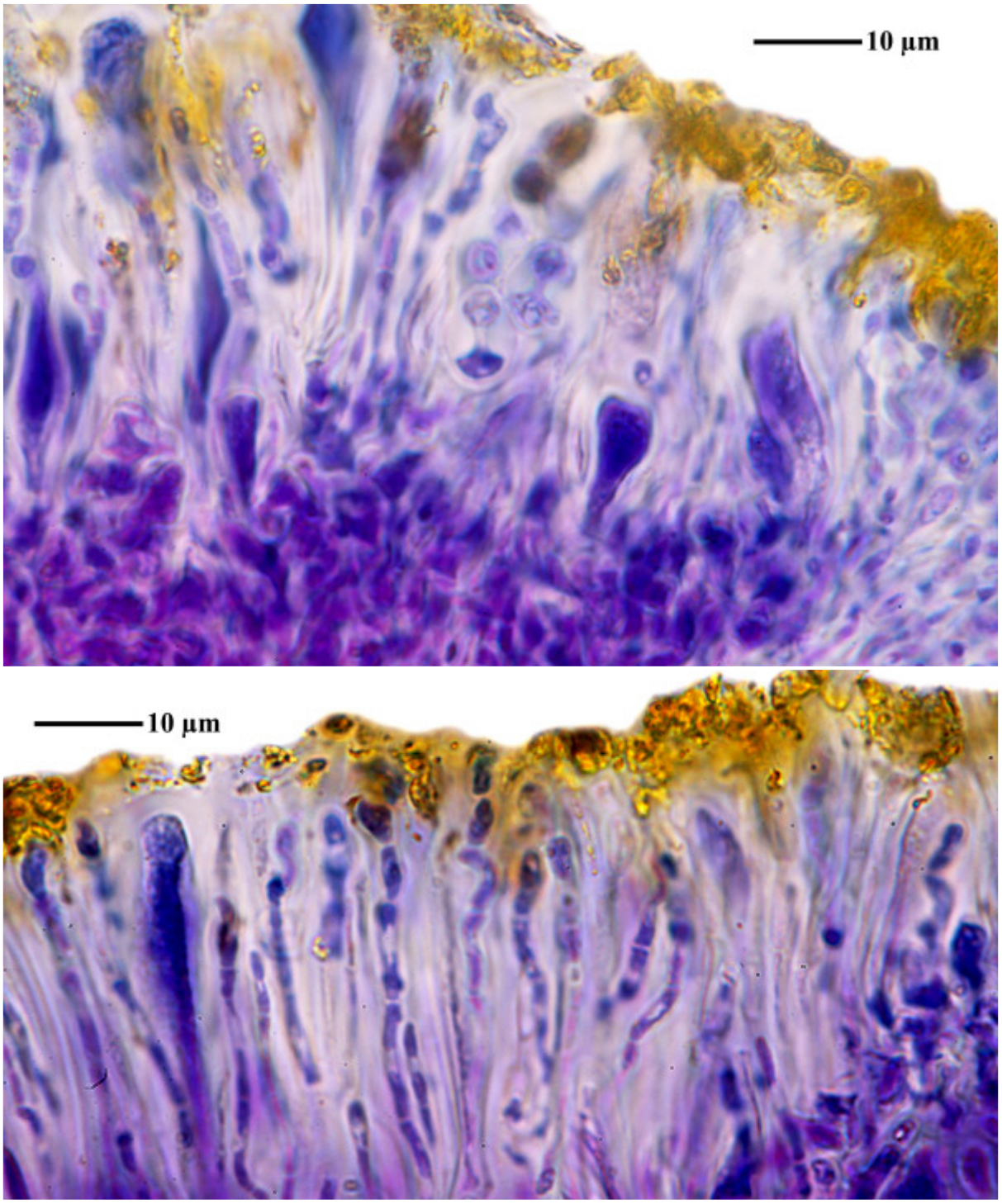


Caloplaca littorea

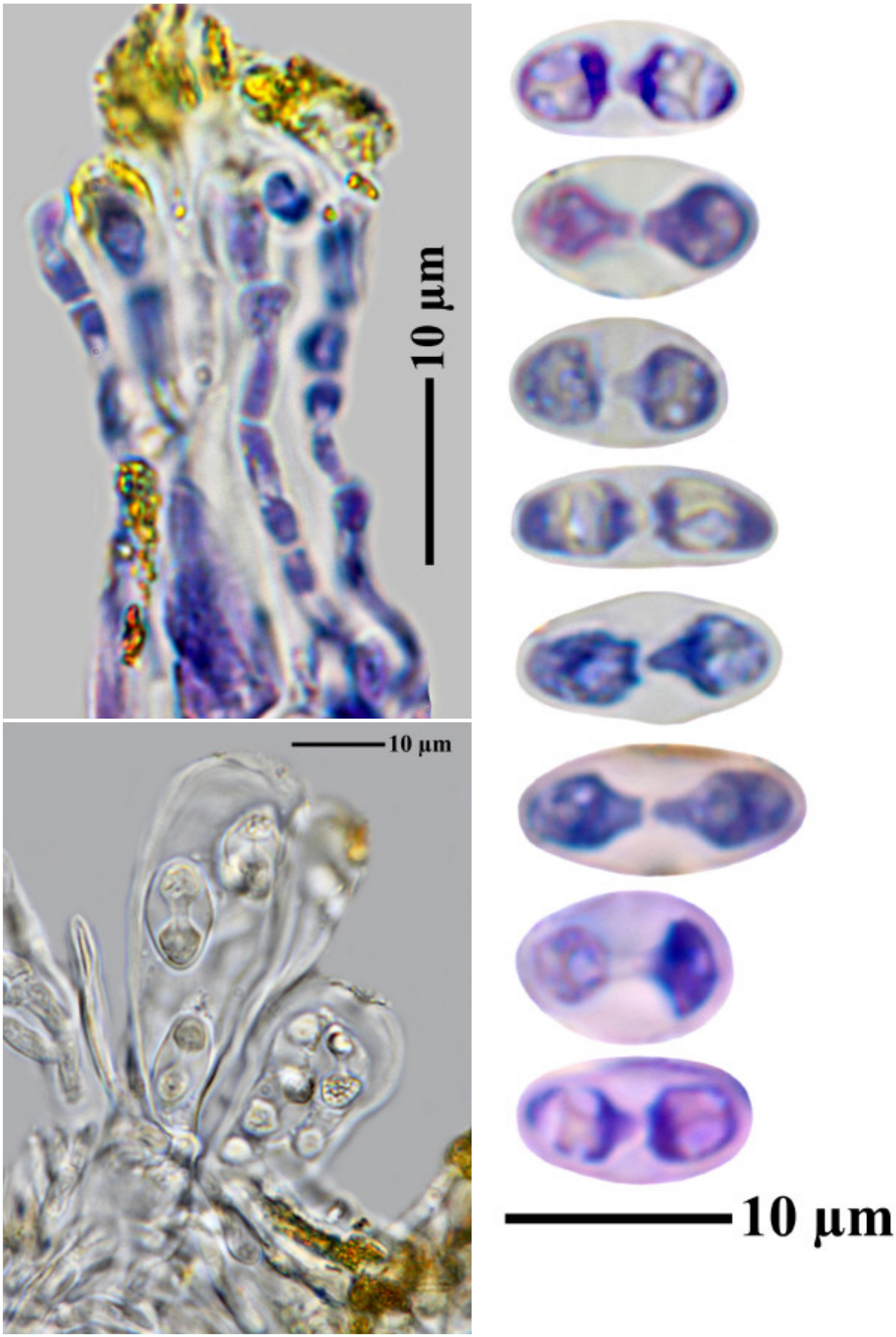




Caloplaca littorea



Caloplaca littorea



Caloplaca littorea

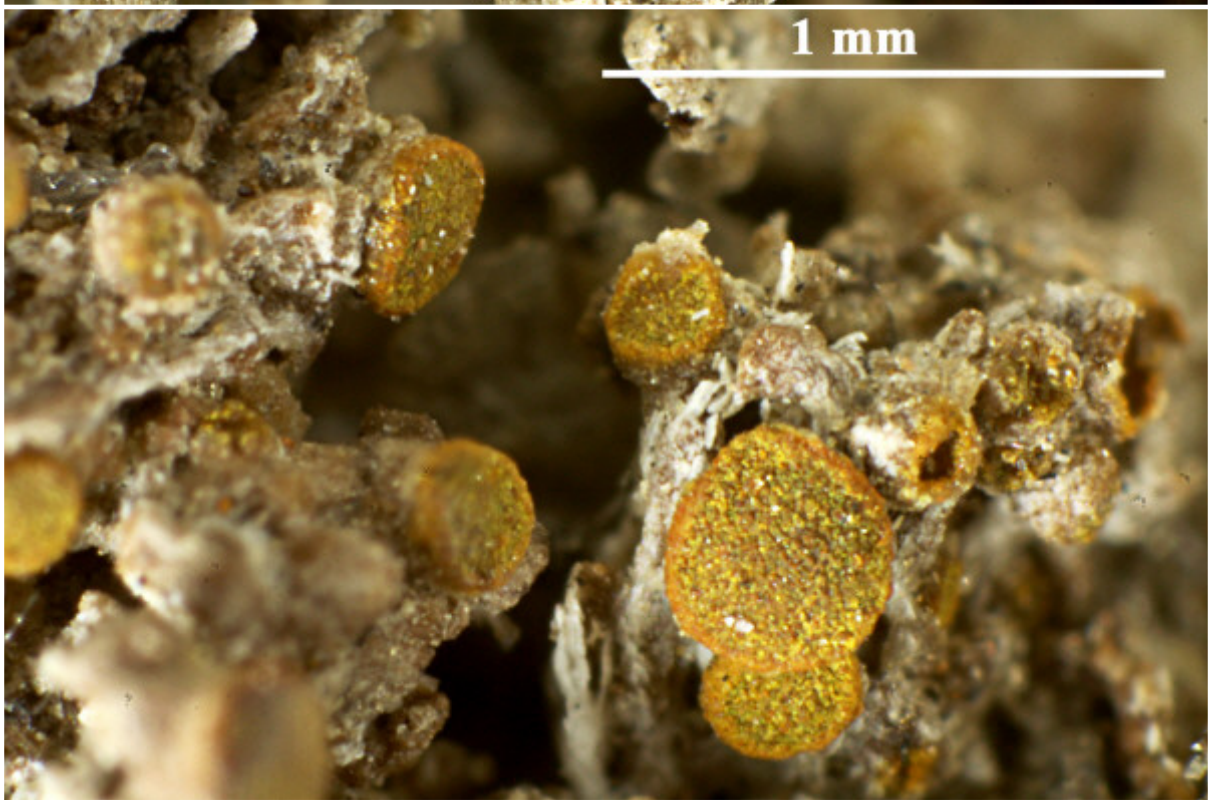
Caloplaca livida (Hepp) Jatta

On bryophytes and rotten plants.

[19399], U.S.A. Wyoming, Teton Co. Yellowstone National Park, Continental Divide E of Craig Pass, on ridgetops N of road with *Pinus contorta* and young *Pinus albicaulis*, 2562 m, 44°26'05' N, 110°38'35". Leg. Clifford M. Wetmore (No. 82083), 10. Aug. 1998. TELOSCHISTACEAE EXSICCATI NR. 110 DISTRIBUTED BY C. WETMORE.







Caloplaca livida

Caloplaca livida (Hepp) Jatta

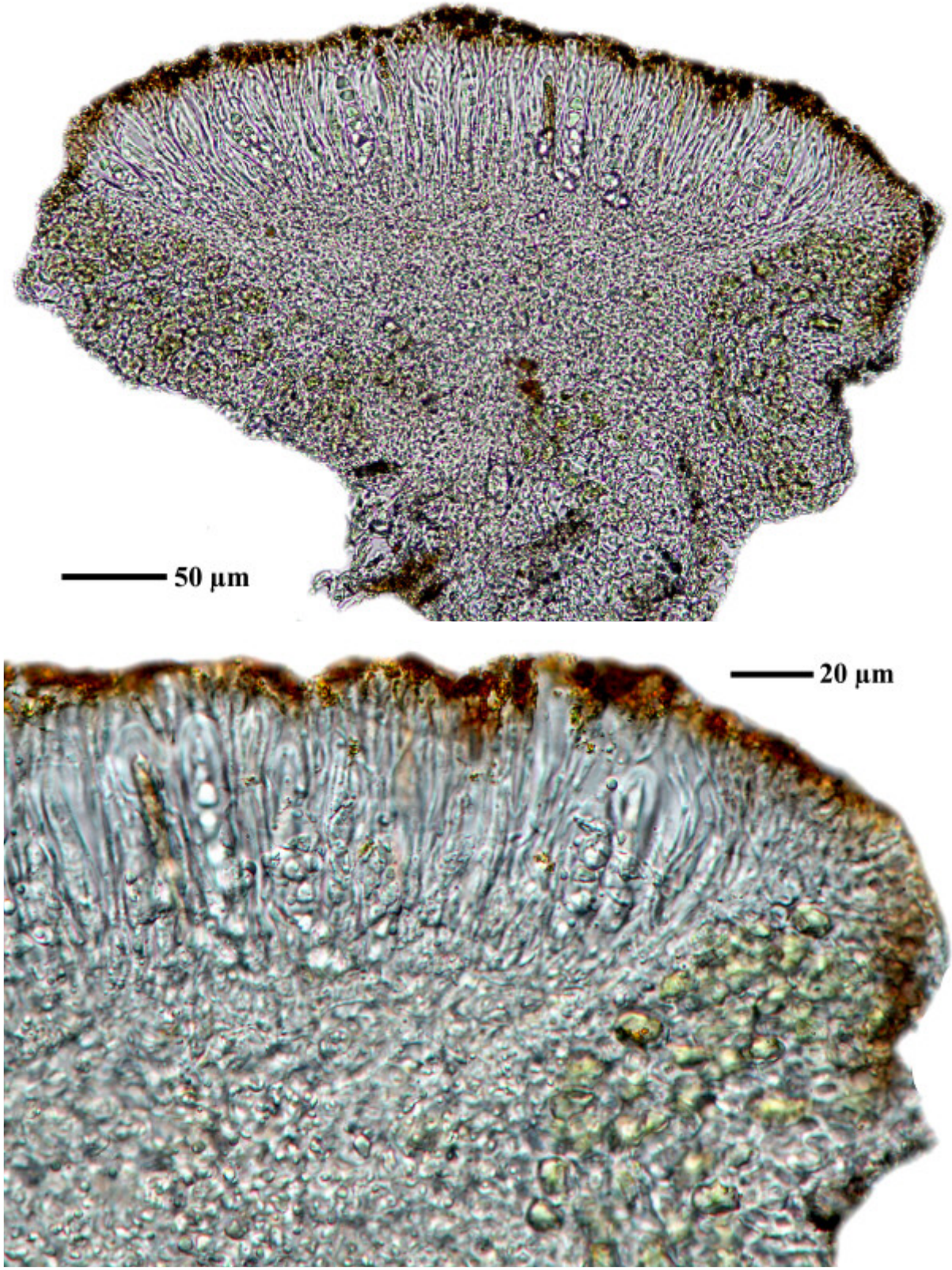
Hymenium 60 µm, Spores 8/ascus, 14 x 7 µm, septum small (Sipman). Spores 11.8-14.3 x 6.1-8.2 µm, septum 3.2-3.6 µm (FS)

[B 60 0065945], Switzerland, Wallis, Gletsch, near Rhône Glacier, Gletschboden, gravel plain in front of glacier, with open dwarfshrub vegetation, 1800 m. Leg. H. Sipman, 25.08.1979 (No. 12576).

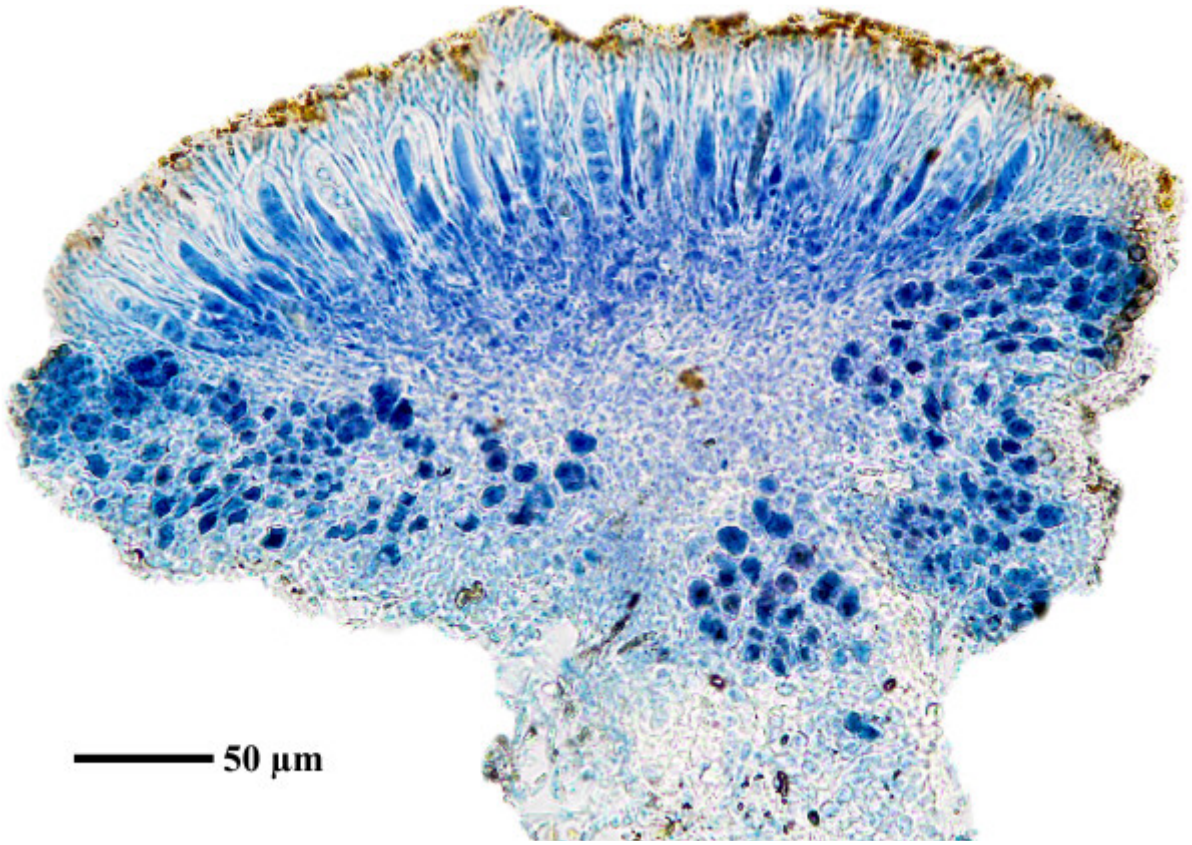


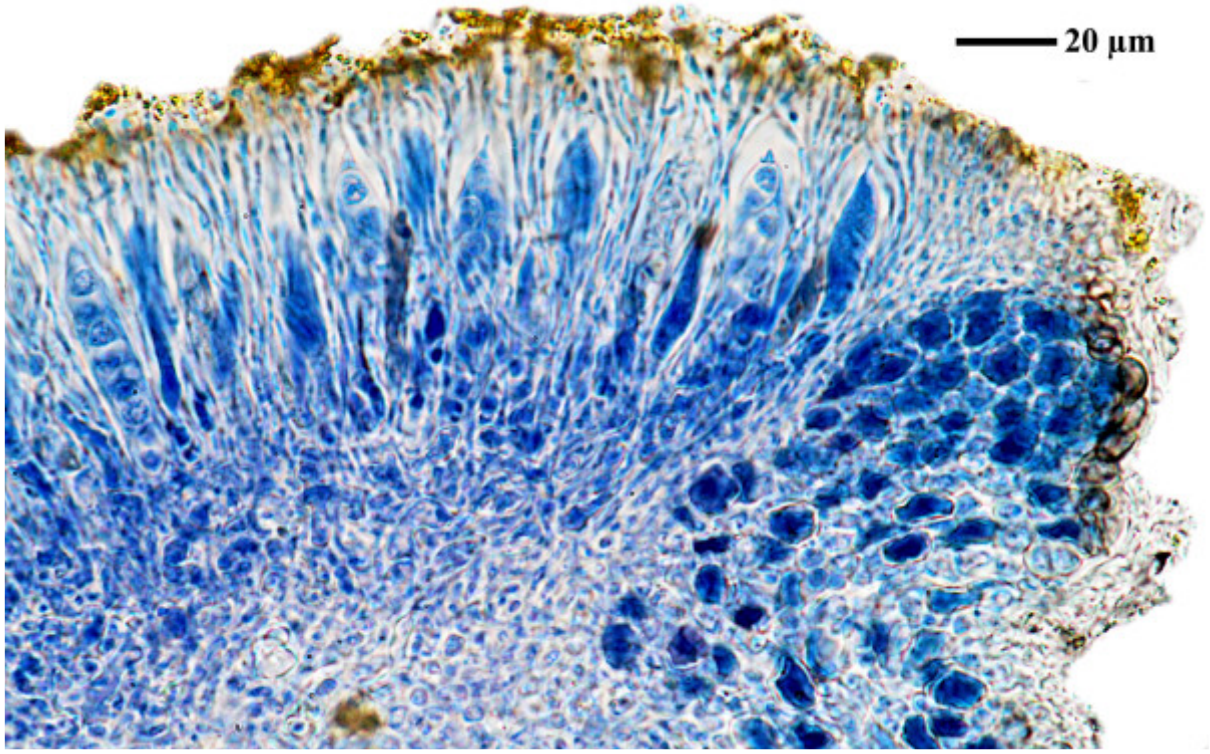


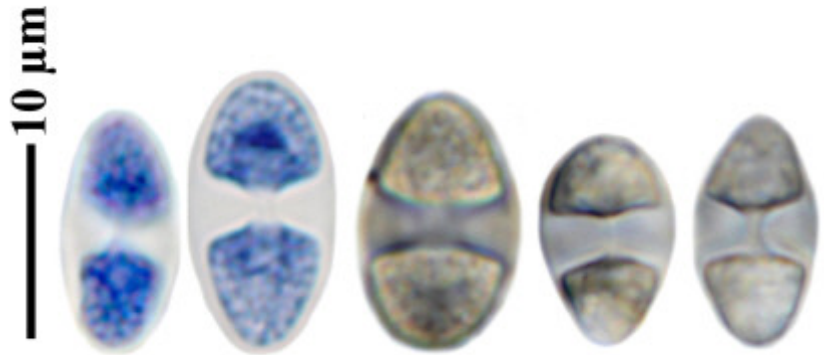
Caloplaca livida



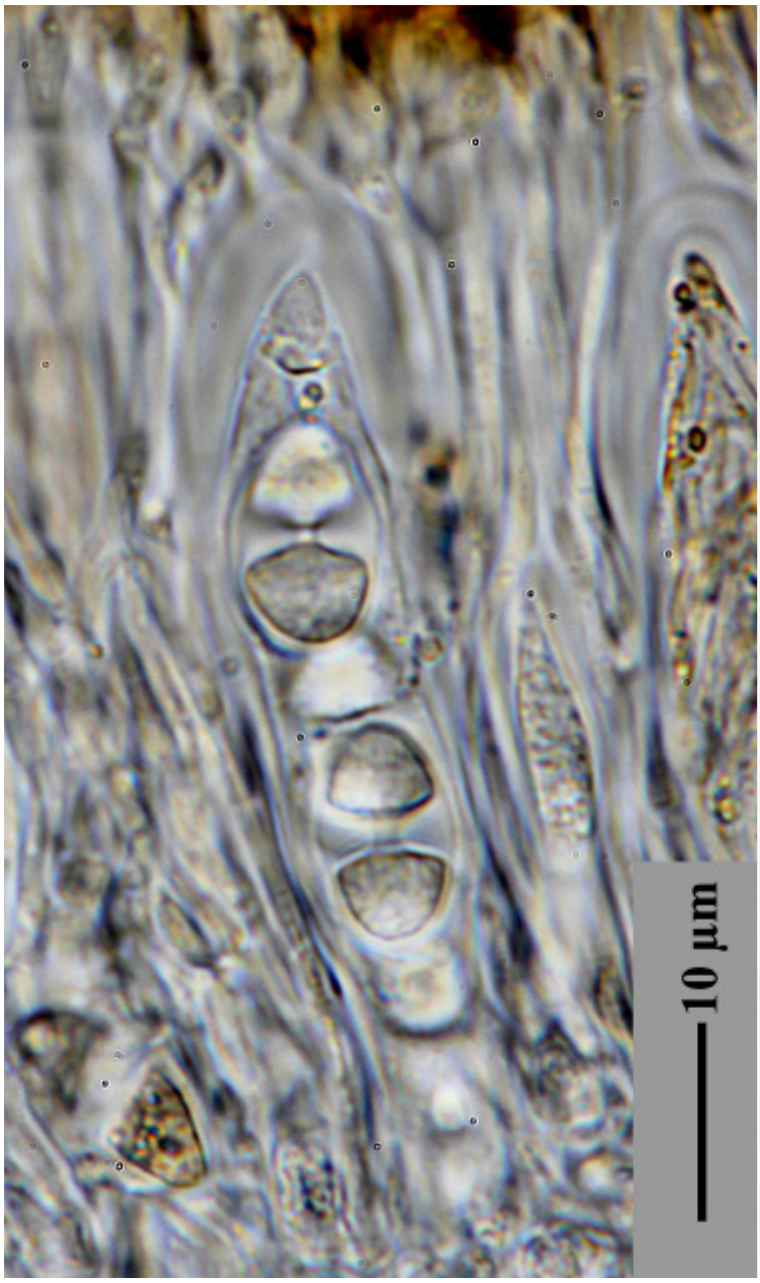
Caloplaca livida

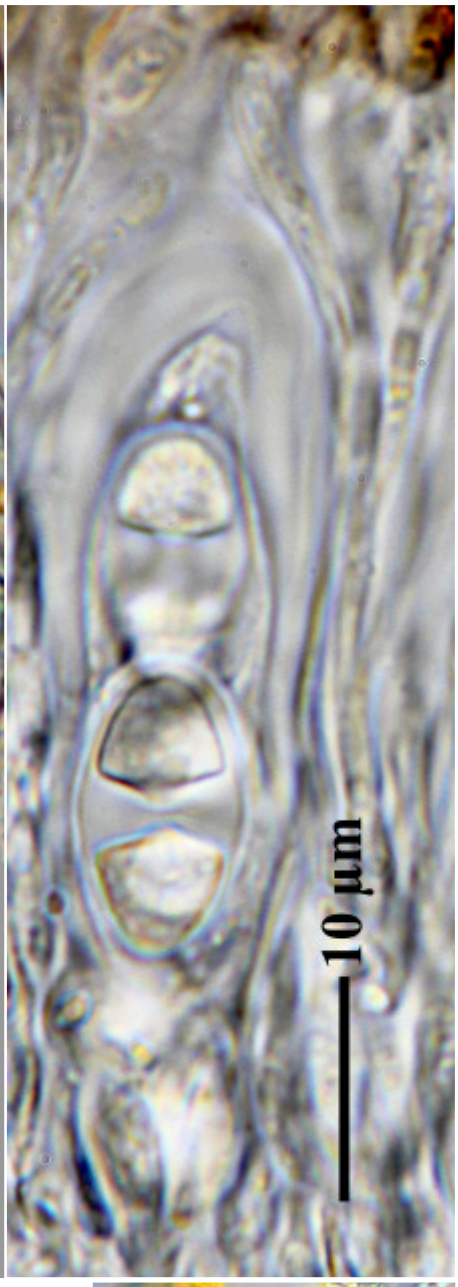


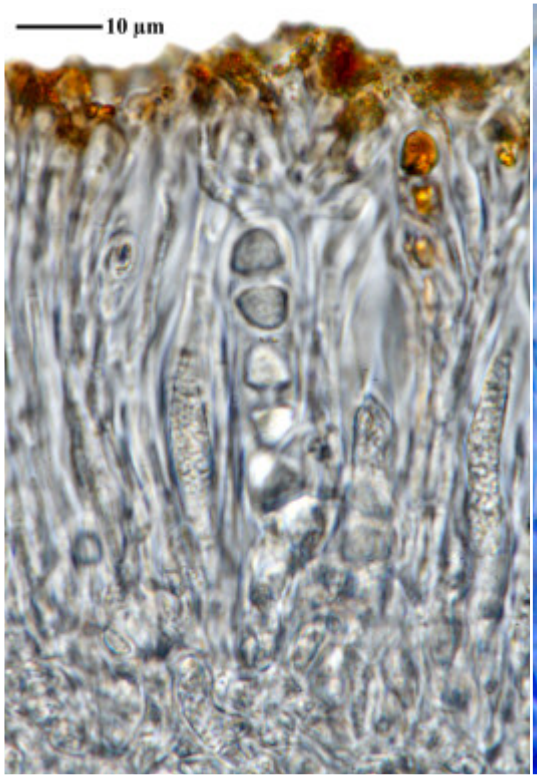


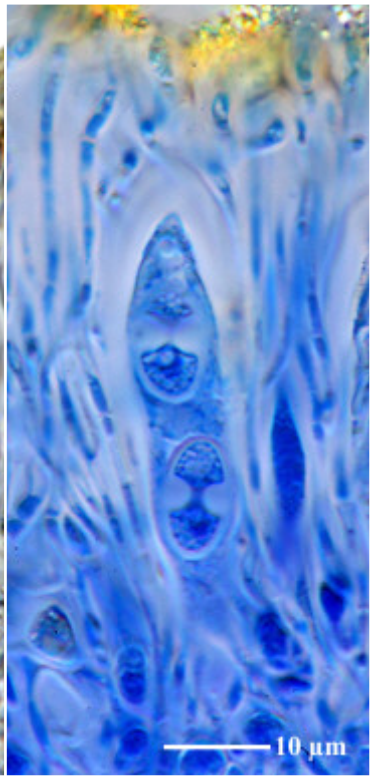


Caloplaca livida









Caloplaca livida

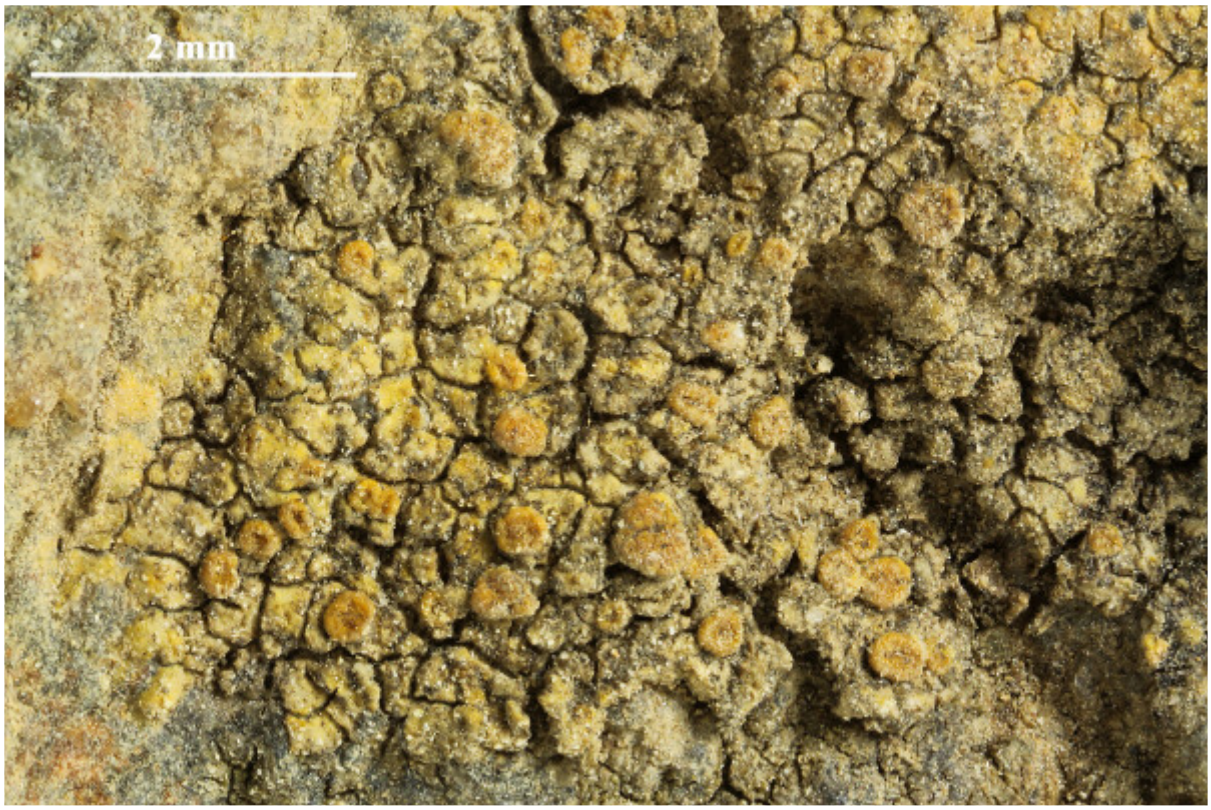
Caloplaca loekoesii S.Y. Kondr. & Hur, in Kondratyuk, Lőkös, Zarei-Darki & Hur, Acta Biologica Hungarica 54(3-4): 322 (2012)

[= *Orientophila loekoesii* (S.Y. Kondr. & Hur) Arup, Søchting & Frödén, Nordic Jl Bot. 31(1): 47 (2013)]

On non-calcareous rock.

[ABL 72924], Korea, Gangwon-do, Samcheok city, Gundeok-myeoun, Hamaengbang-ri, Maengfbang beach, around Mt. Deokbong-san, c. 37°23’ N, c. 129°14’ E, c. 4-10 m, on coastal siliceous rock. Leg. A. Aptroot 18.10.2014, det. A. Aptroot 2019.







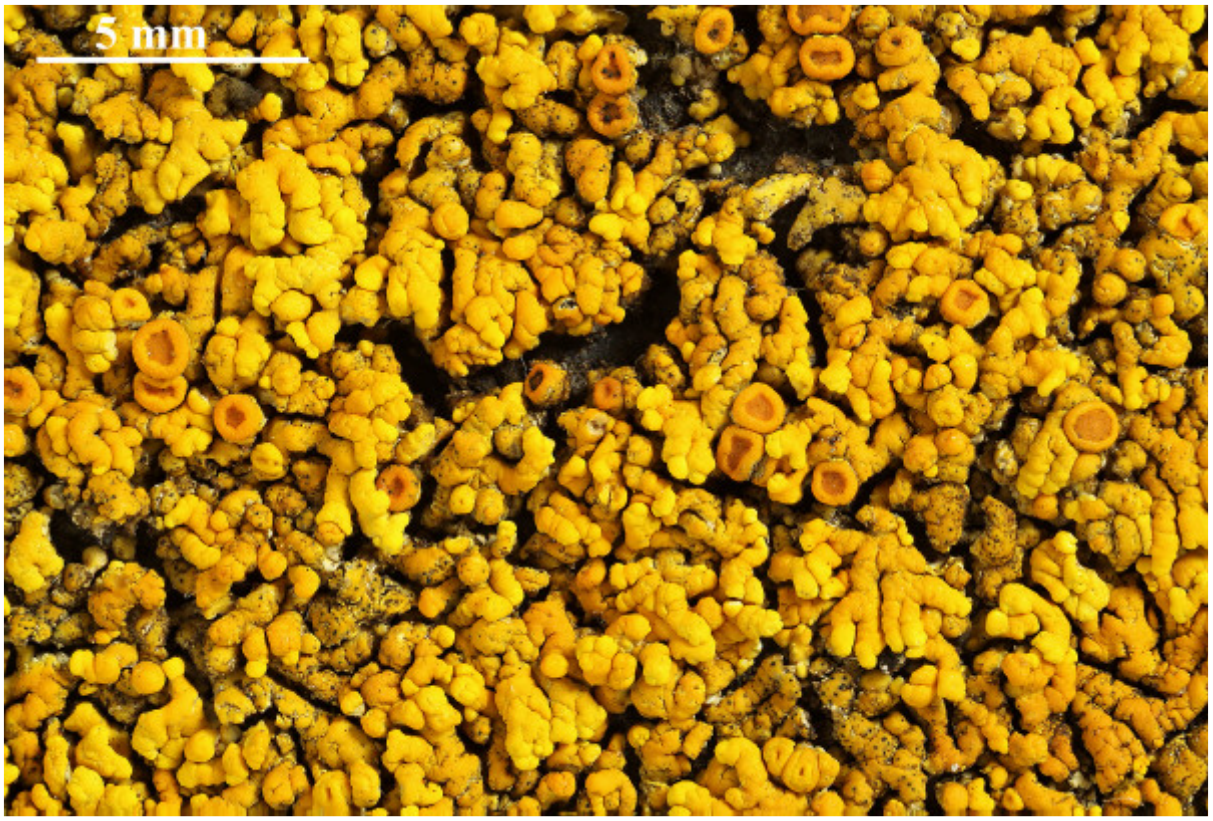
Caloplaca loekoesii

Caloplaca lucens (Nyl.) Zahlbr.
[= *Austroplaca lucens* (Nyl.) Søchting, Frödén & Arup]

On rock.

[ABL M2013-138], NJM Gremmen - Marion Island Relief Expedition 2013. Prince Edward Islands, Marion Island, Fault Point, 46°53'19.4" S, 37°52'27.7" E, 27 m, growing on grey lava rock, in coastal rocks, abundant. Leg. NJM Gremmen (M2013-138), 6.05.2014, det. D. O. Øvstedal.







Caloplaca lucens



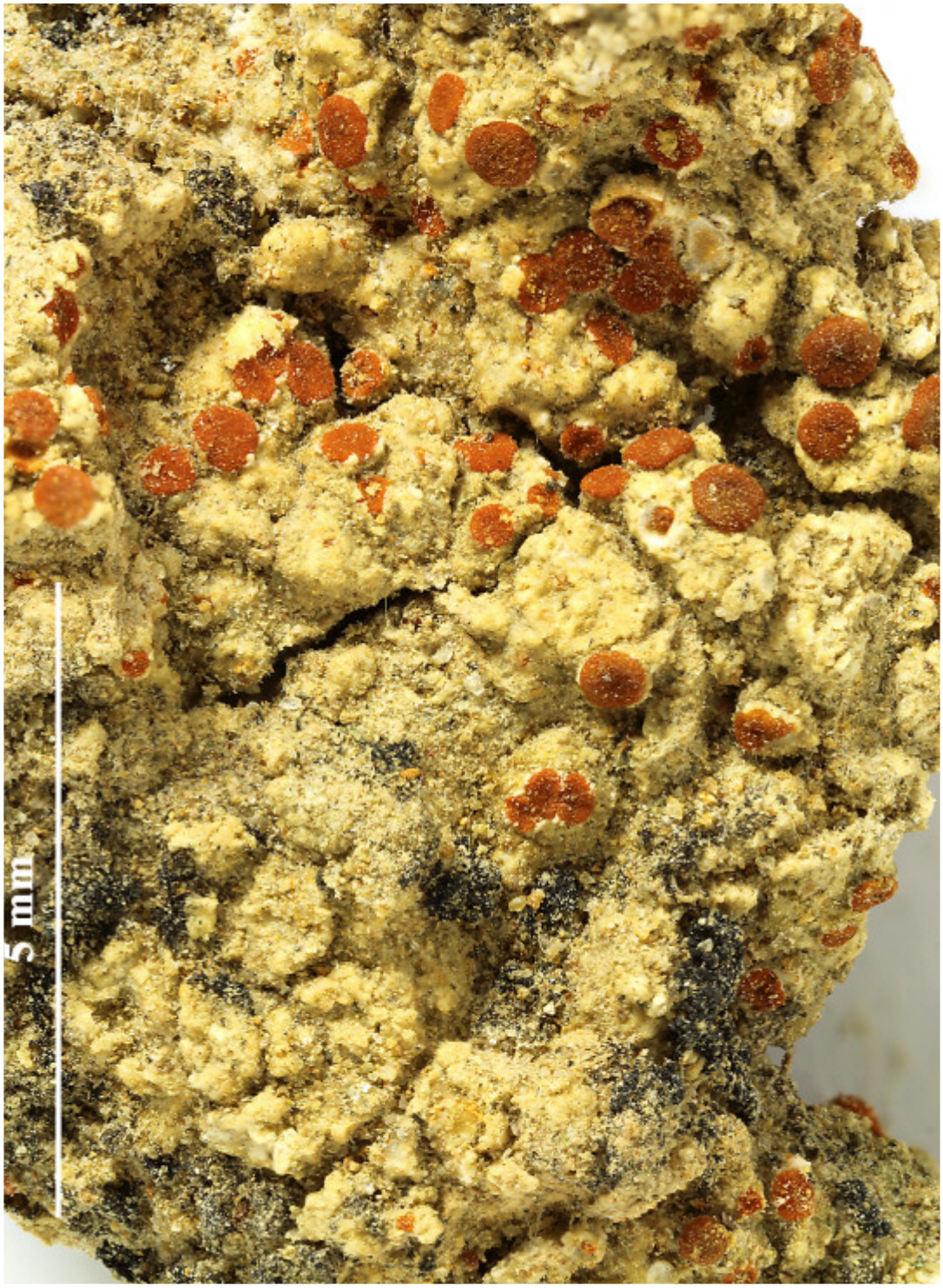


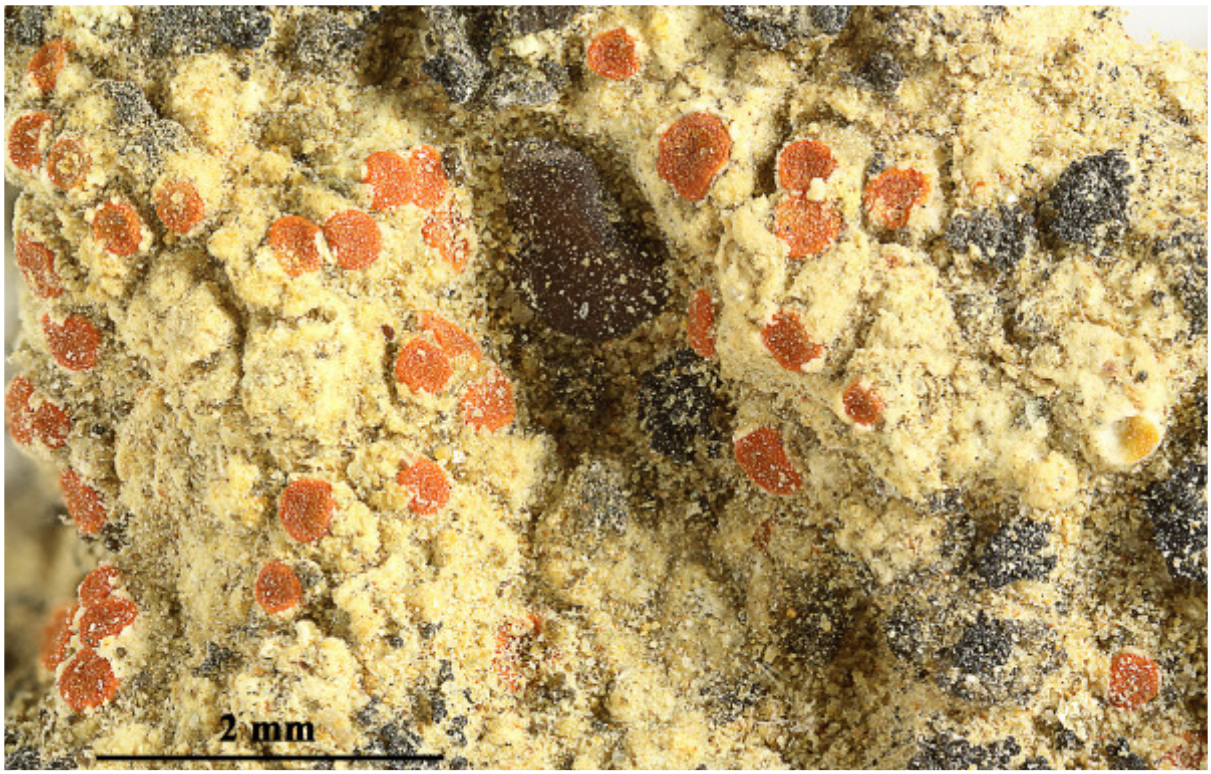
Caloplaca lucens

Caloplaca luteominia (Tuck.) Zahlbr.
[= *Polycauliona luteominia* (Tuck.) Arup, Frödén & Søchting]

Apothecia K+red.

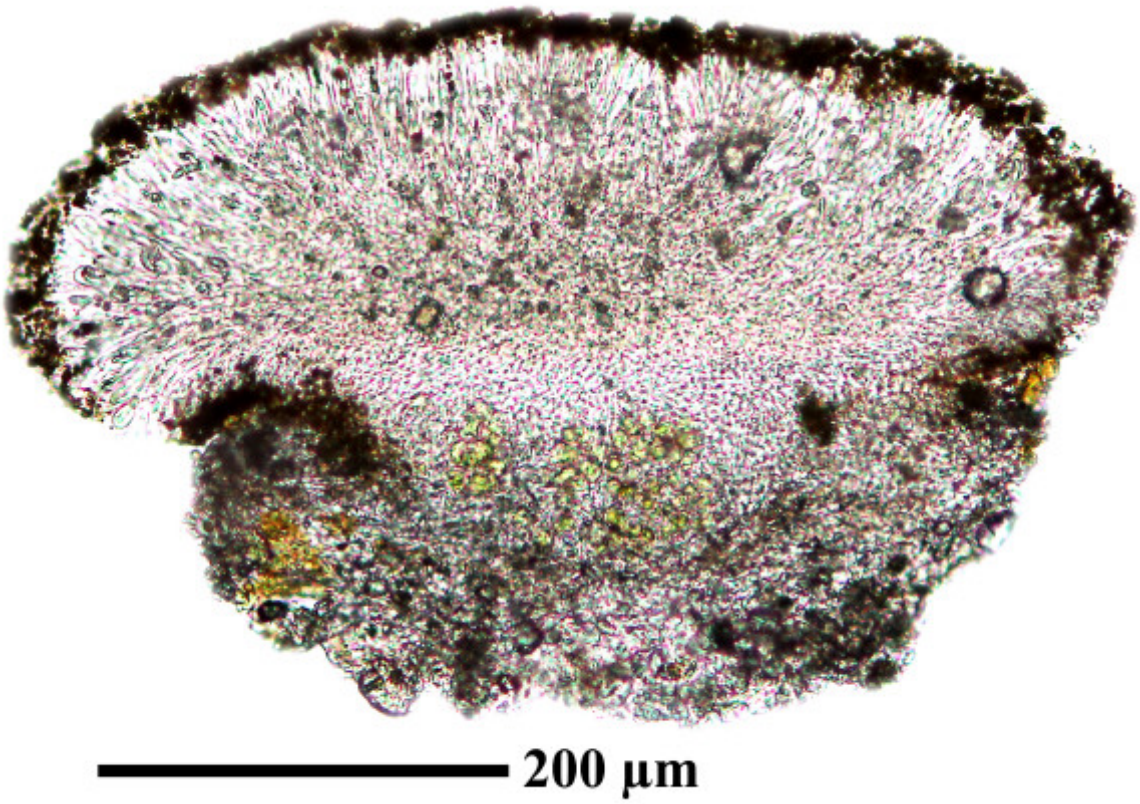
[BR5030036173893], Mexico, Baja California, 10 km N El Rosario in Cañon del Rosario, coastal scrub community (*Aesculus californica, Jatropha, Lycium*, etc.), 90 m, post-batholithic marine sedementary rocks, Rosaria group of Upper Cretaceous origin, 30°08' N, 115°46' W, on soil. Leg. A. & M. Aptroot (24554), 5. Jan. 1989, det. A. Aptroot, 1989.

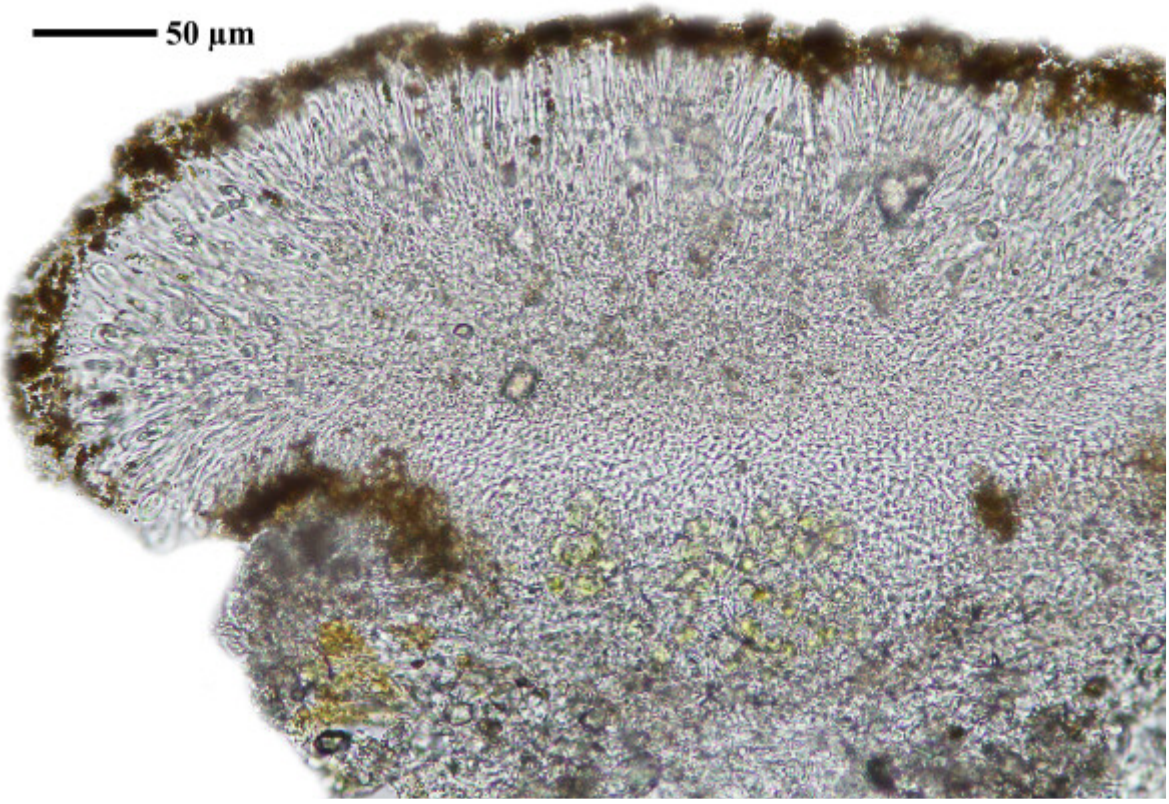




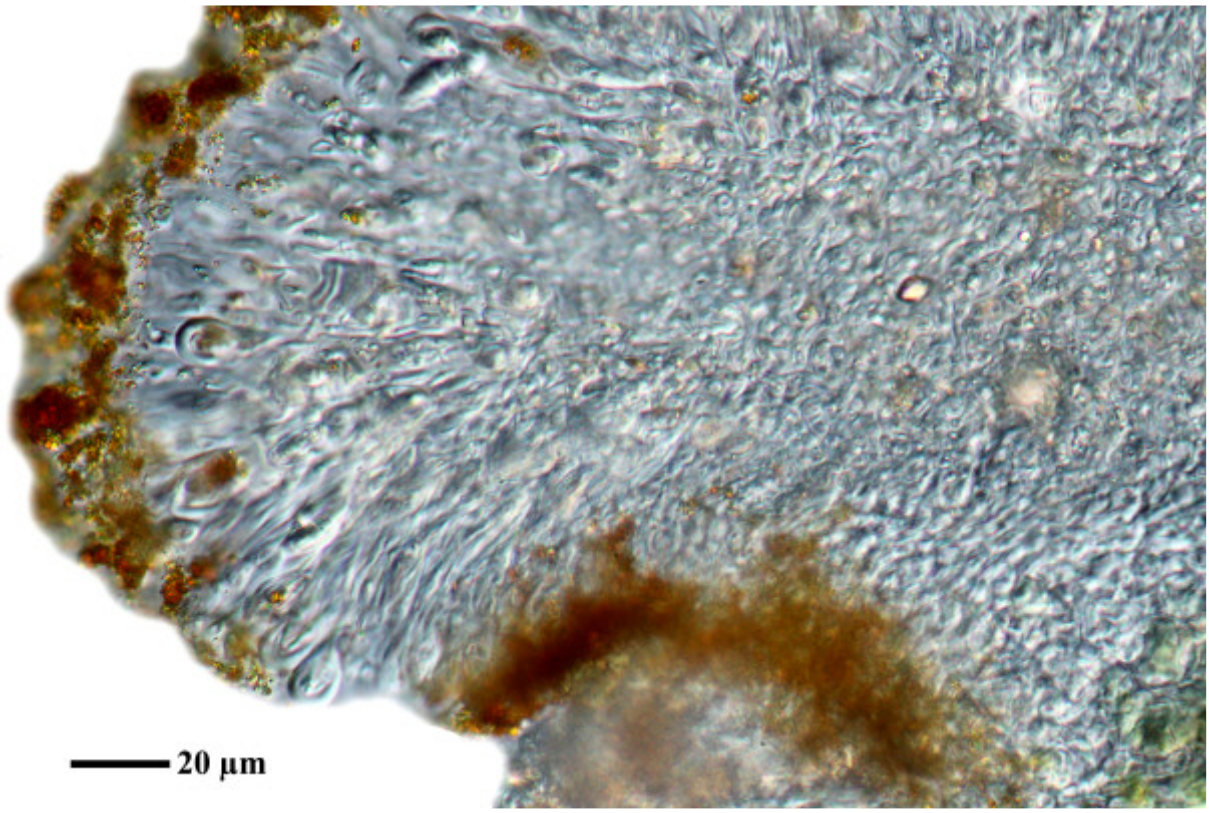


Caloplaca luteominia



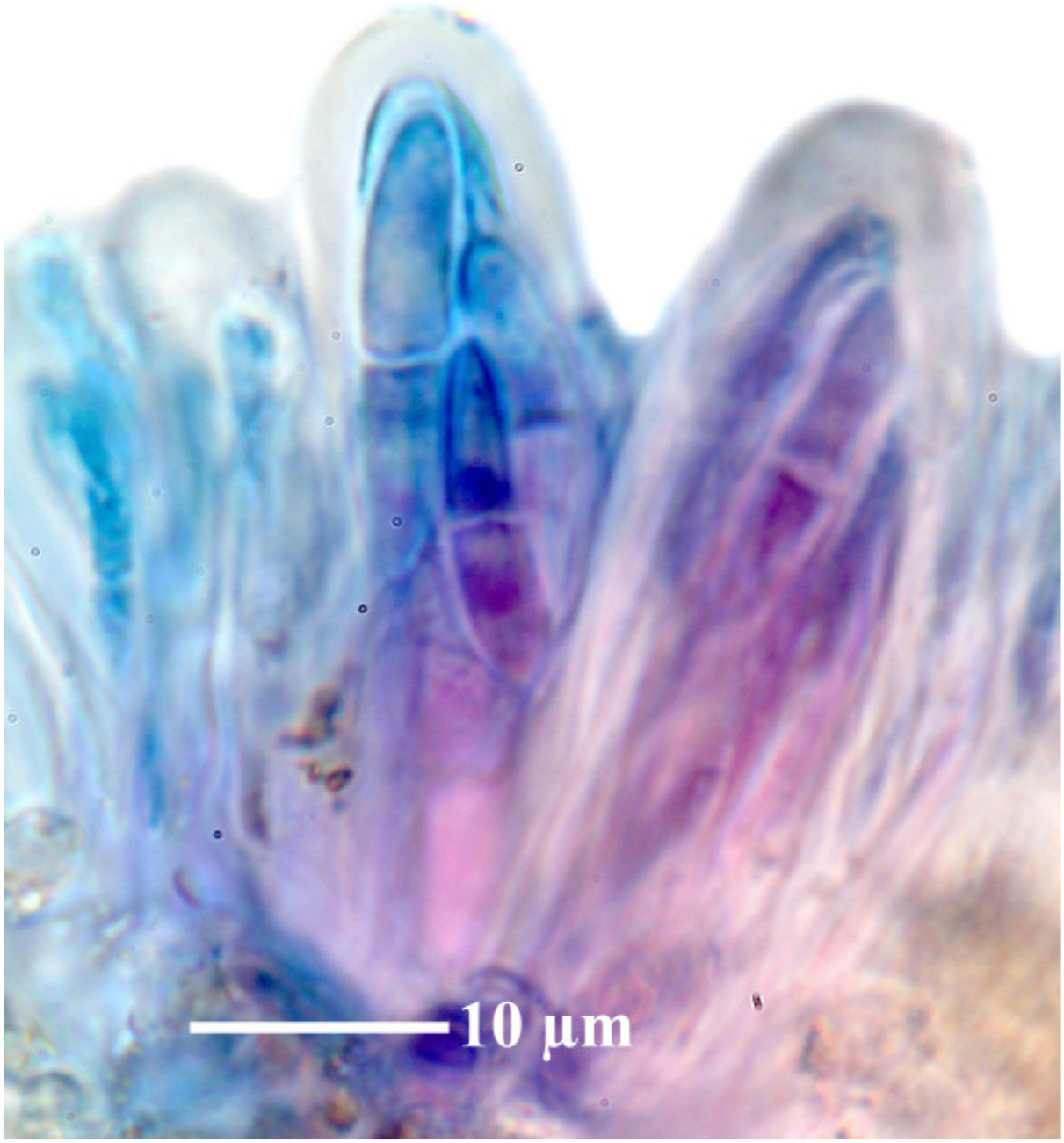


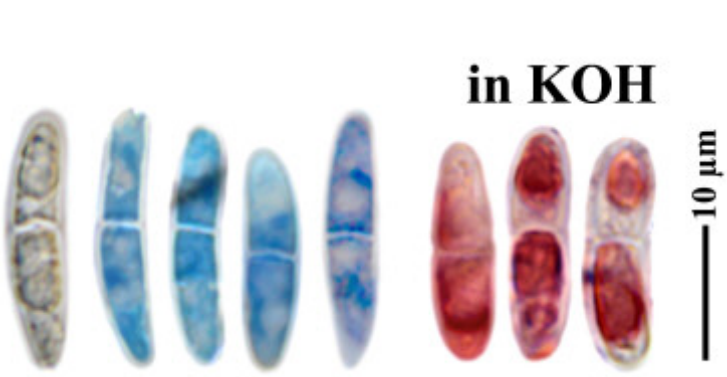
Caloplaca luteominia

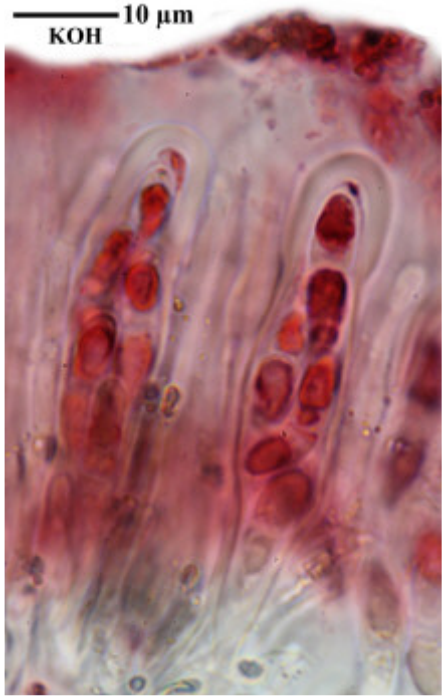




Caloplaca luteominia







Caloplaca luteominia

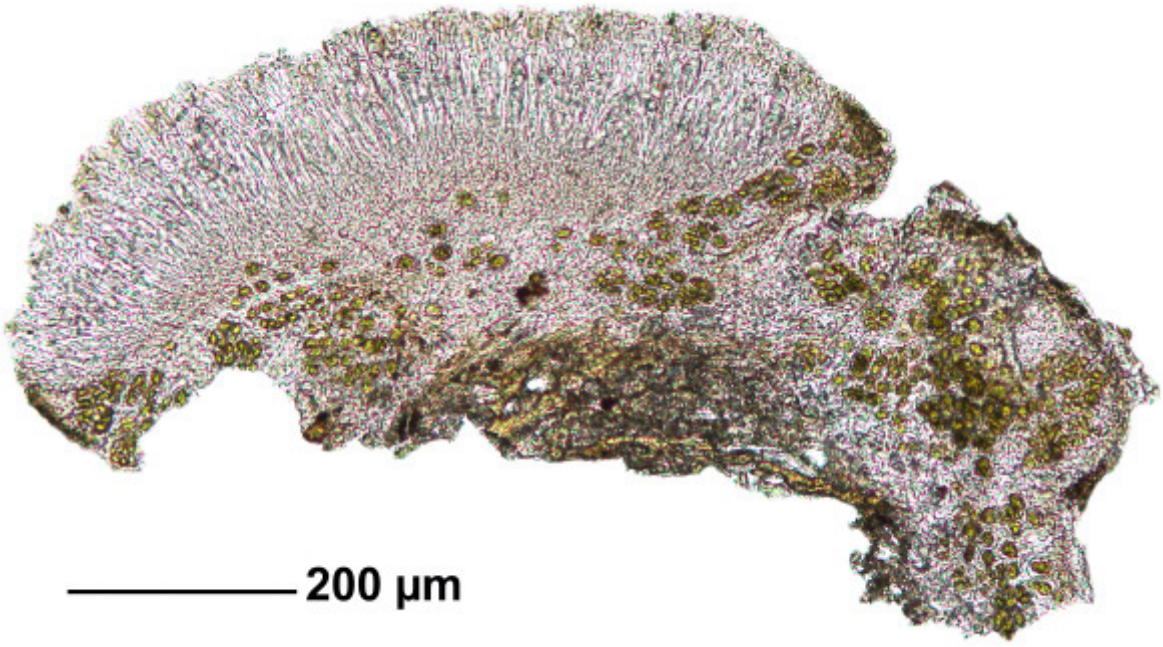
Caloplaca magnetensis S.Y. Kondr., Elix, Kärnefelt & Kalb

Thallus corticolous, dark greenish-brown, continuous, sometimes cracked. Apothecia 0.3-0.7 mm diam., lecanorine; disc greenish-yellow to brownish-orange; thalline margin greyish or browenish-green to greenish-black. Ascospores (11-)12-15(-17) x 4-5 µm, septum narrow with broad channel, 1-2(-3) µm. Chemistry: parietin (major), emodin (minor); epihymenium K+ purple. Lit.: Kondratyuk, Kärnefelt, Elix & Thell, Bibliotheca Lichenol. 100: 260 (2009).

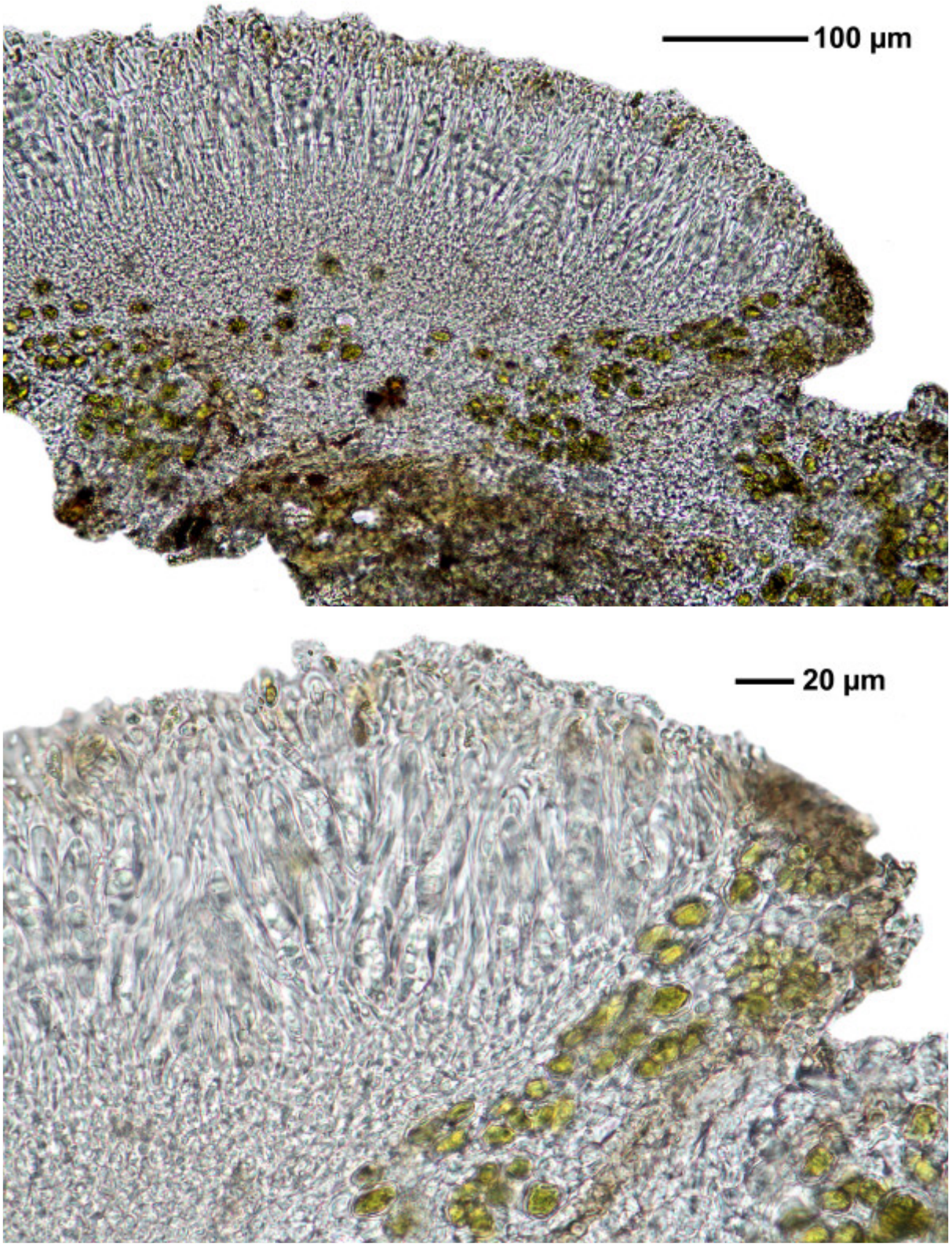
[KK30555], Australia, Western Australia, Great Northern Highway, between Mt. Magnet and Meekatharra, c. 35 km south of Meekatharra, 175 m, 27°03’ S, 118°10’ E. Leg. K. & A. Kalb, 30.07.1995, det. S. Kondratyuk. Holotype.



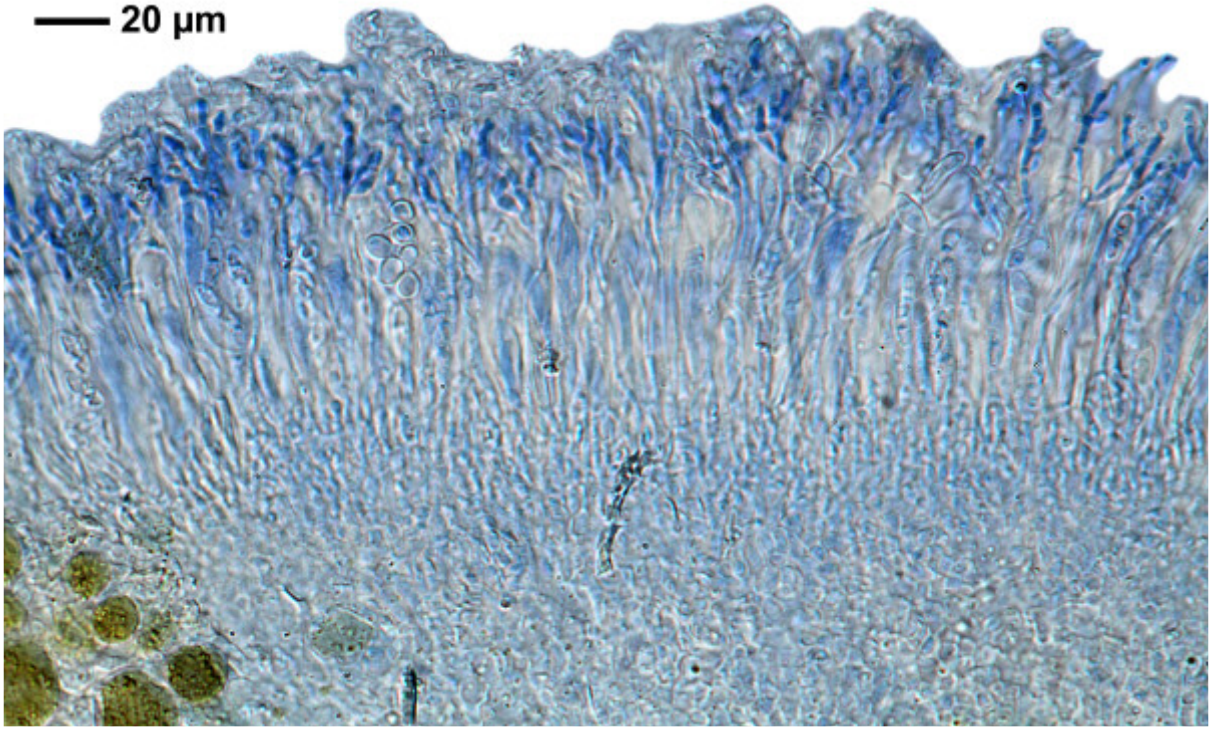


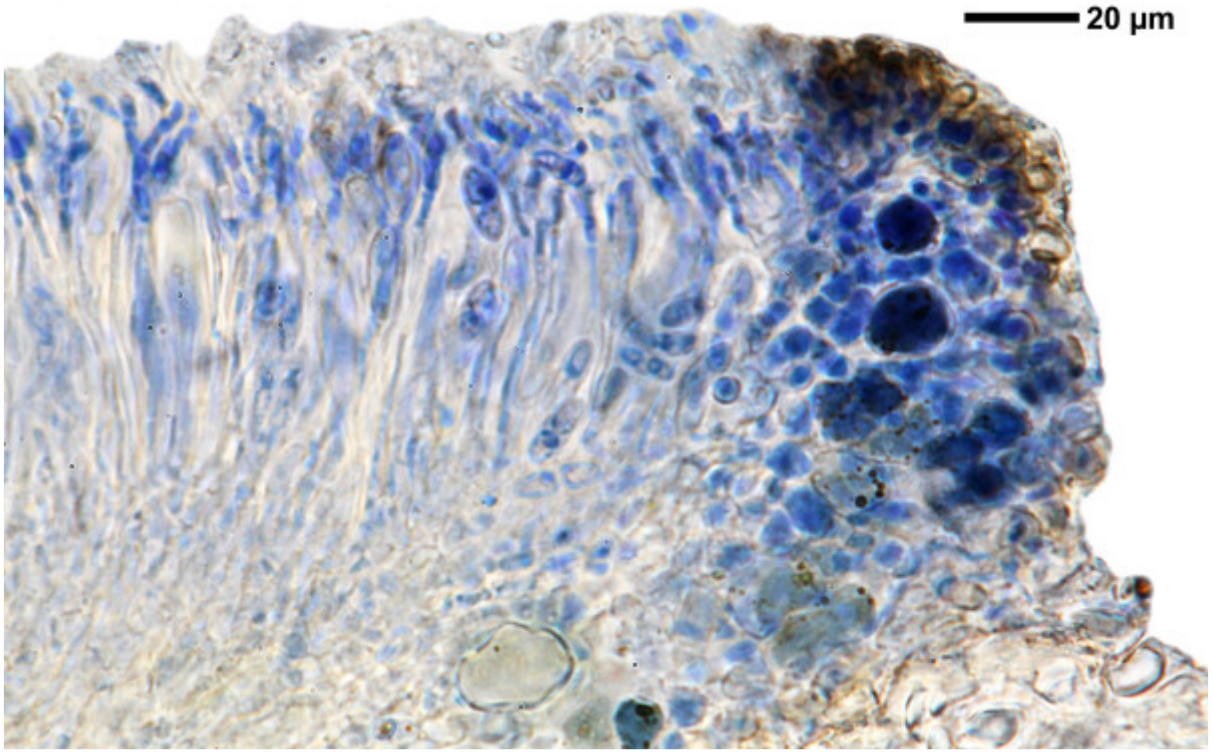


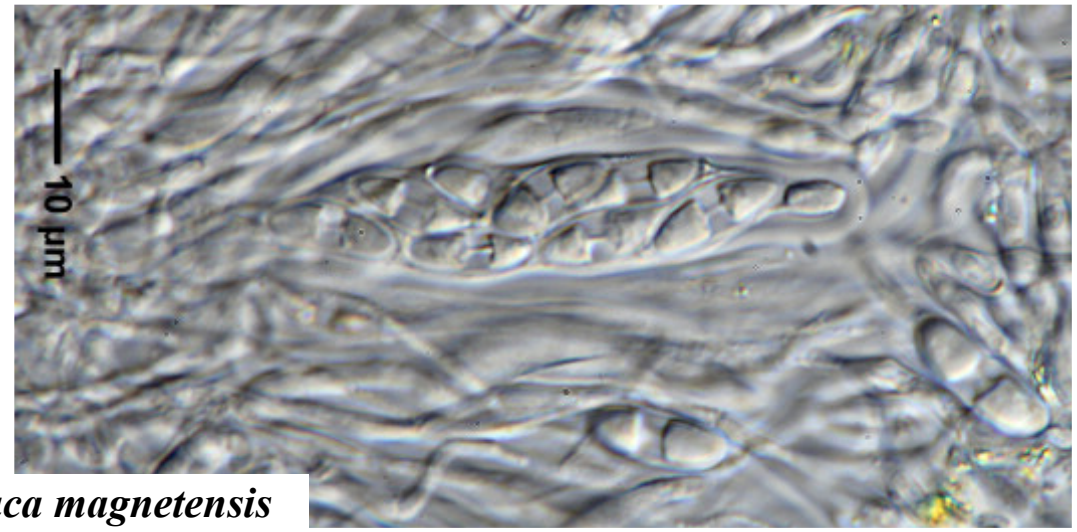
Caloplaca magnetensis



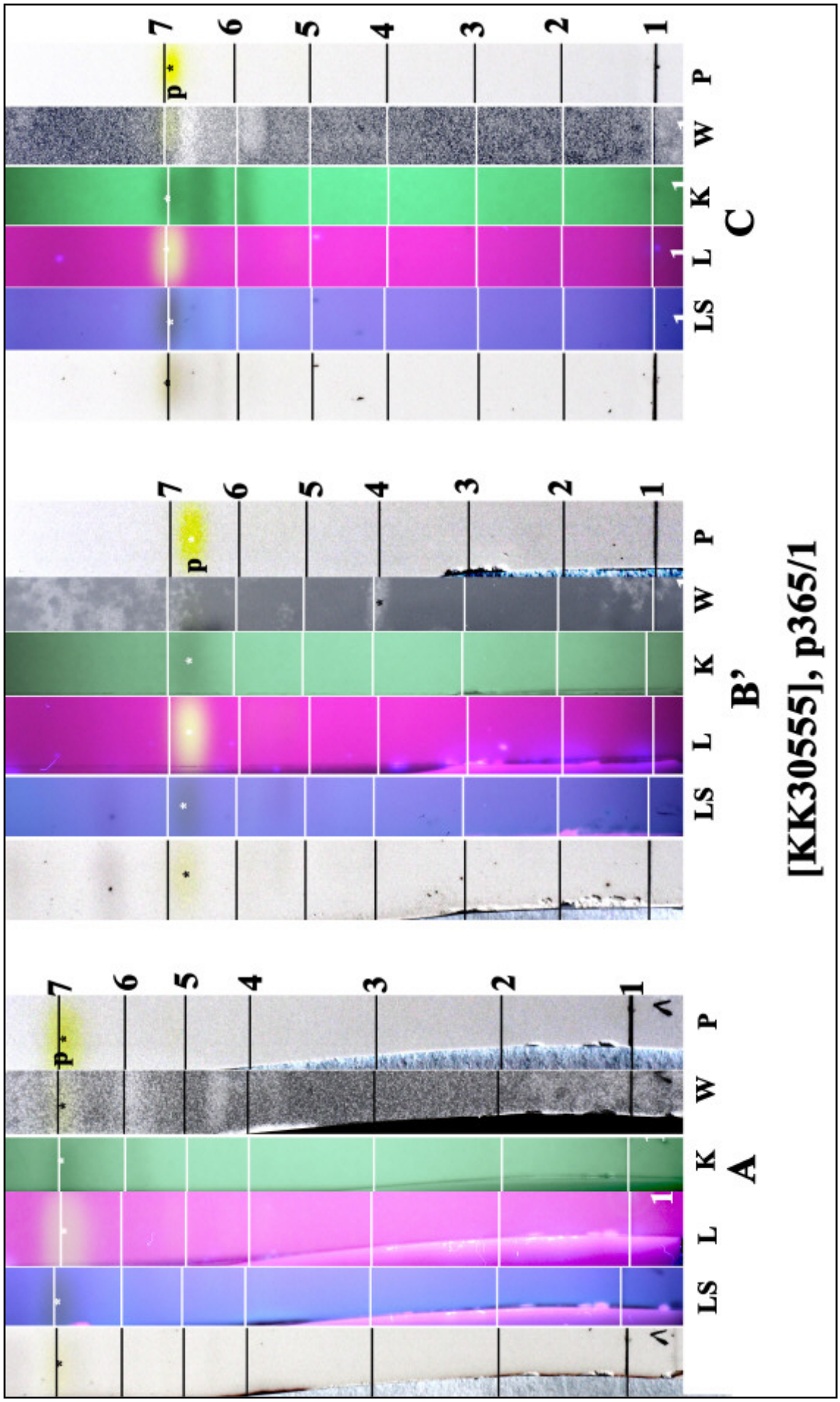
Caloplaca magnetensis







Caloplaca magnetensis



Caloplaca magnetensis

Caloplaca marchantiorum S.Y. Kondr. & Kärnefelt

Thallus indistinct, whitish- or greenish-grey, continuous to areolate, sometimes covered with small, whitish-grey granules or squamules. Apothecia 0.2-0.7 mm diam, lecanorine to zeorine; thalline margin whitish to greenish-brown; true exciple of textura intricata and upper lateral parts blackish; disc pale brown to brownish-orange. Ascospores 10-12(-13) x (5-)6-7(-8) µm, septum (3-)4-5(-6 µm, young ascospores often brownish, 4-6-8 well developed spores per ascus. The species is similar to *Caloplaca cerina* (Ehrh.) Th.Fr. Lit.: Kondratyuk, Kärnefelt, Elix & Thell, Bibliotheca Lichenol. 100: 261 (2009).

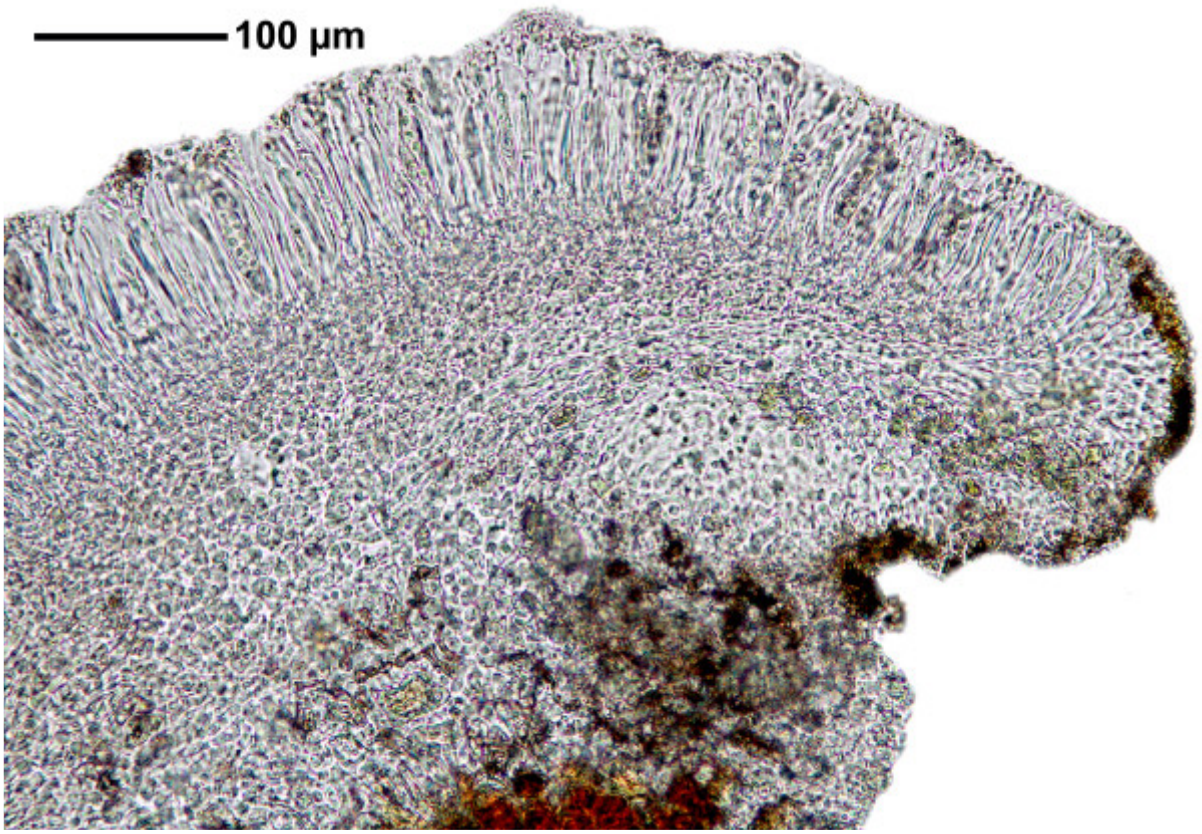
[KK29193], Australia, ACT, Molongo Gorge Reserve, c. 16 km east of Canberra, in wet forest with *Acacia*, *Eucalyptus macrorhyncha*, *Calythris endlicheri*, 35°20’ S, 149°16’ E. Leg. K. Kalb, J. Elix & G. Kantvilas, 7.09.1995, det S. Kondratyuk 2008.



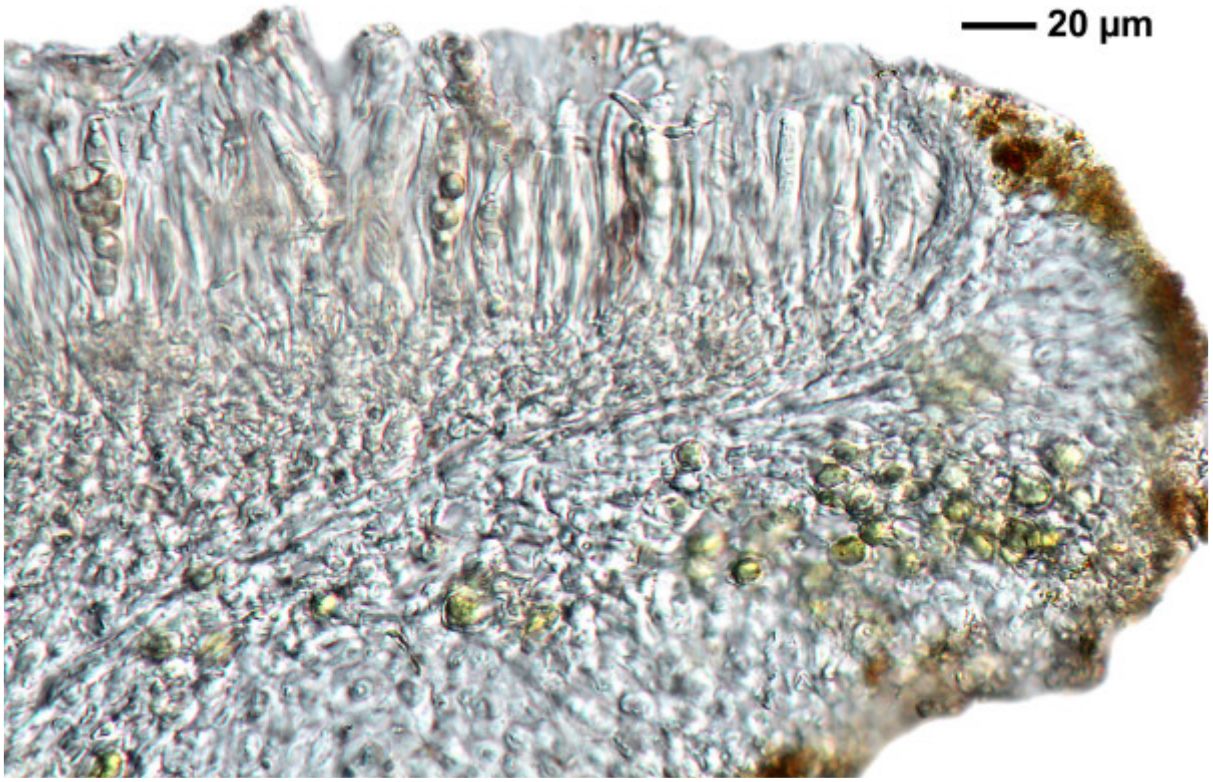


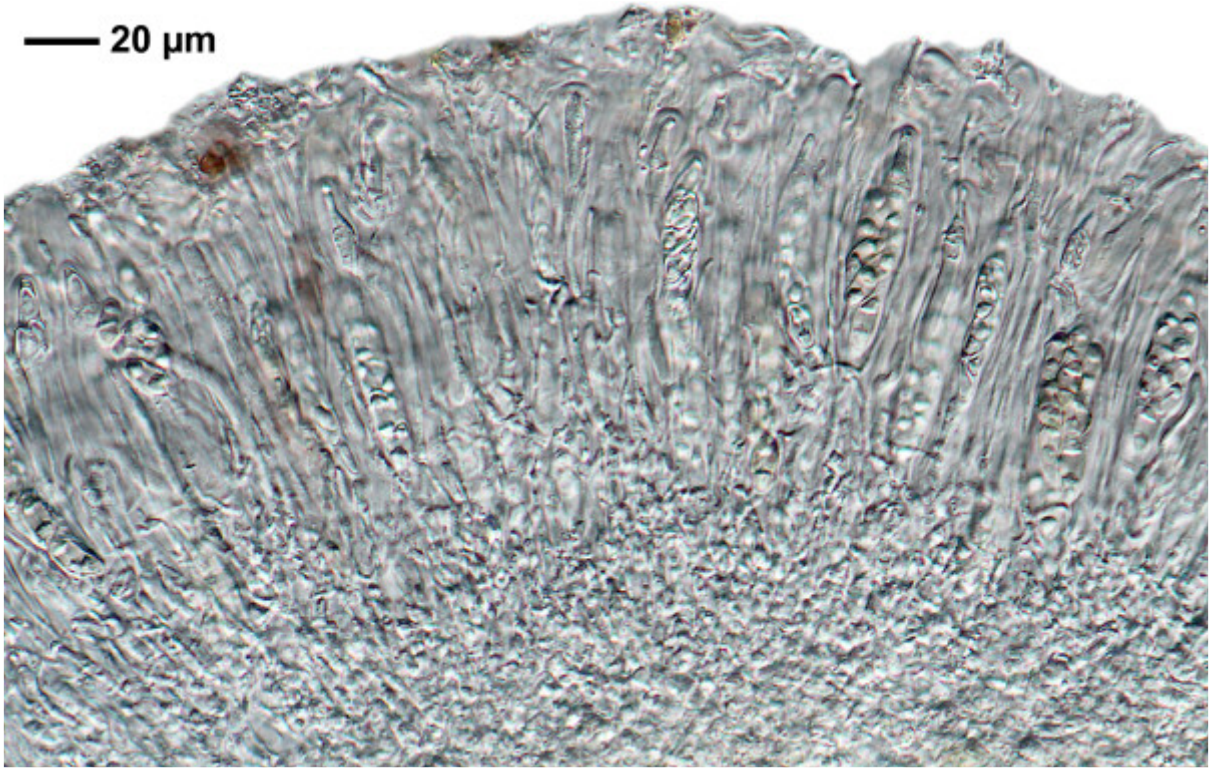
Caloplaca marchantiorum



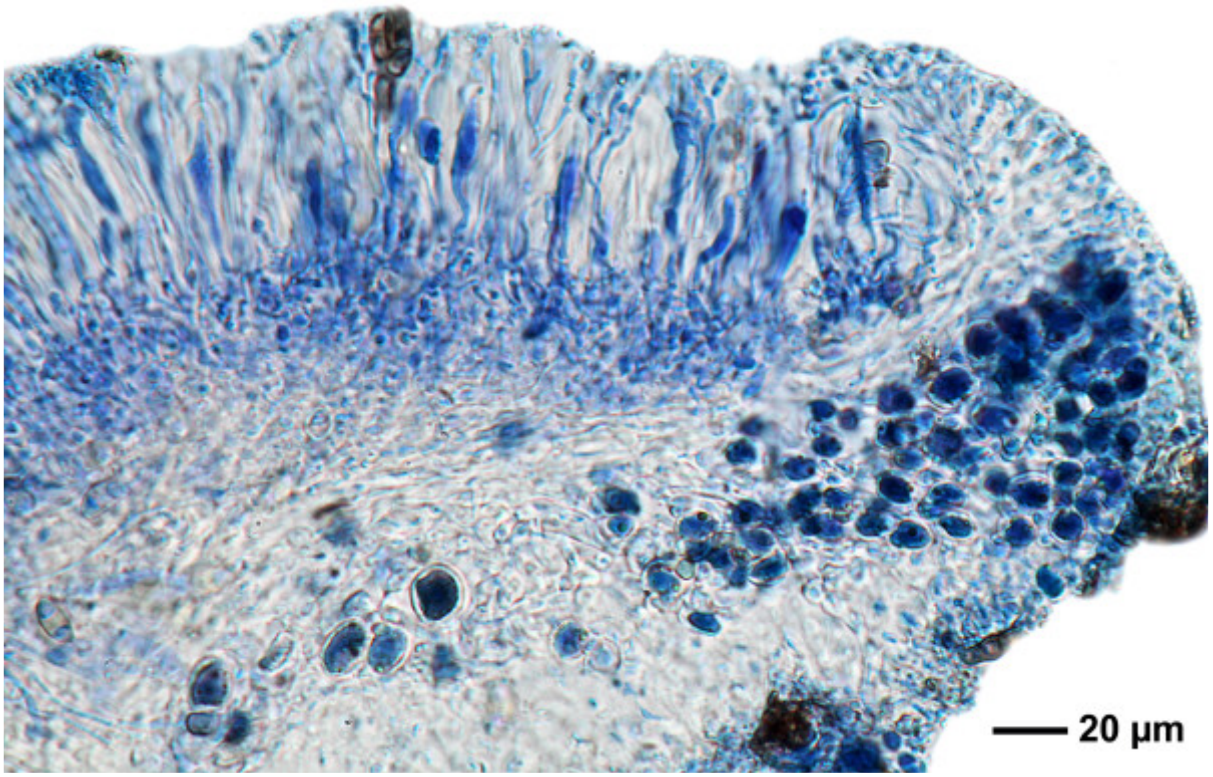


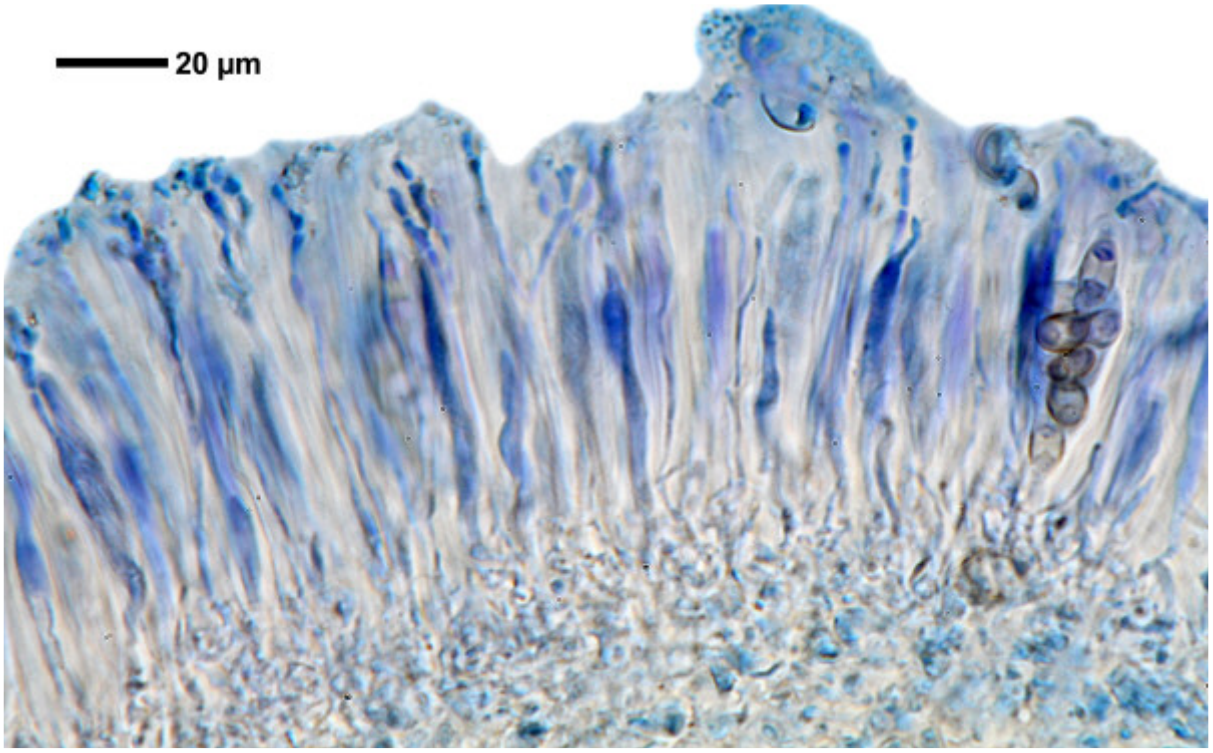
Caloplaca marchantiorum



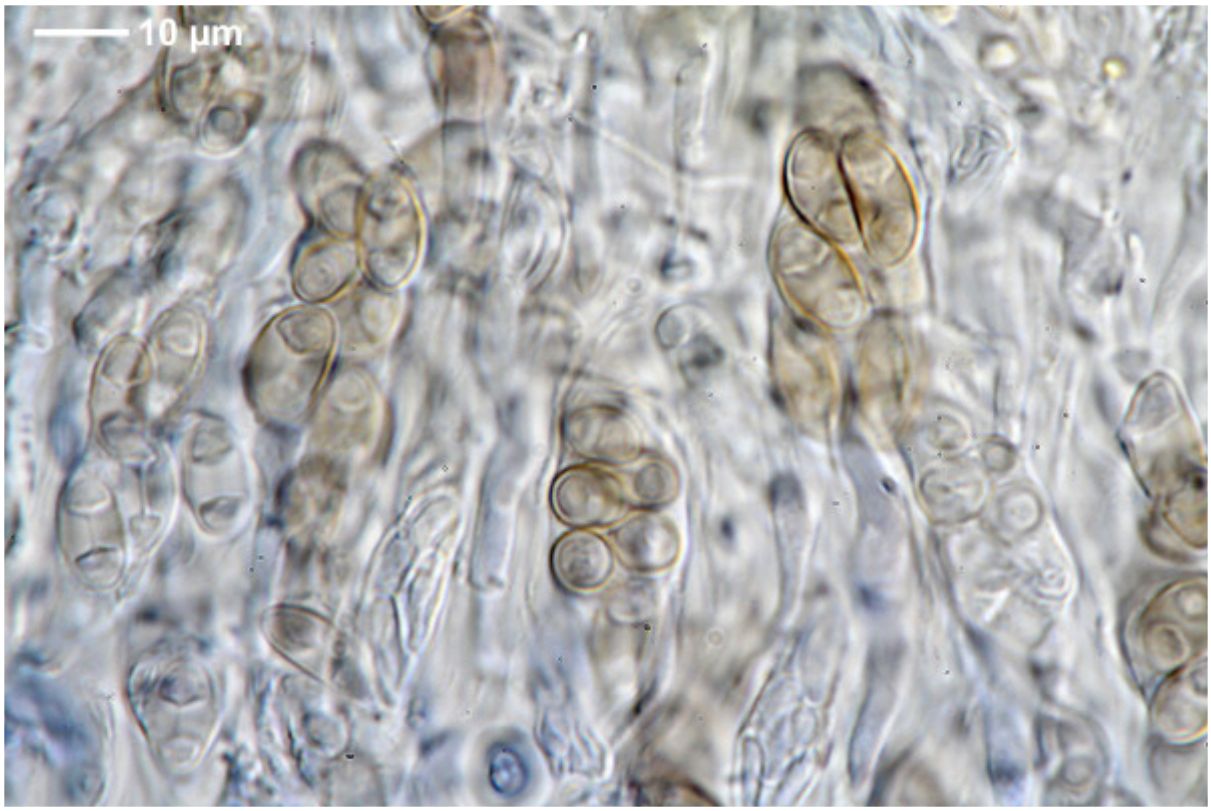


Caloplaca marchantiorum

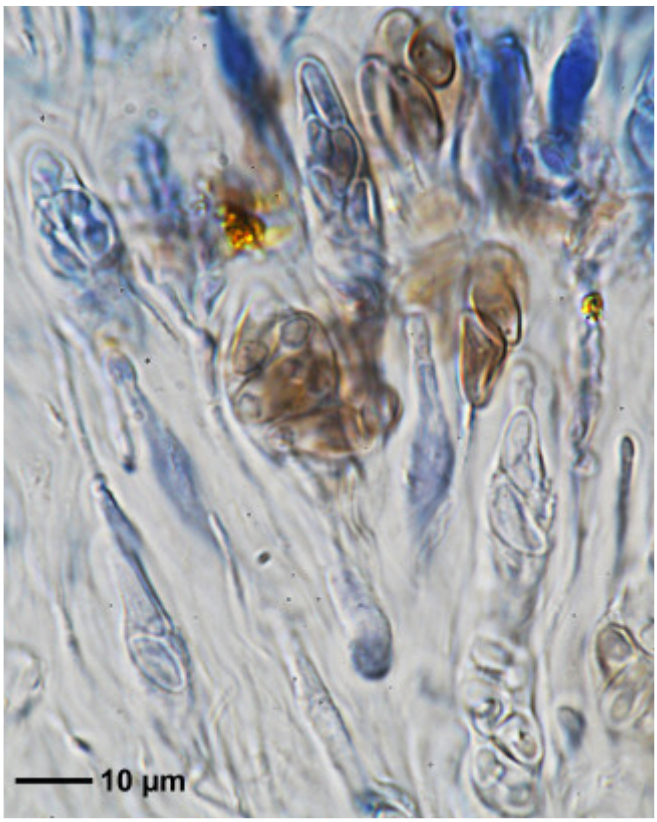




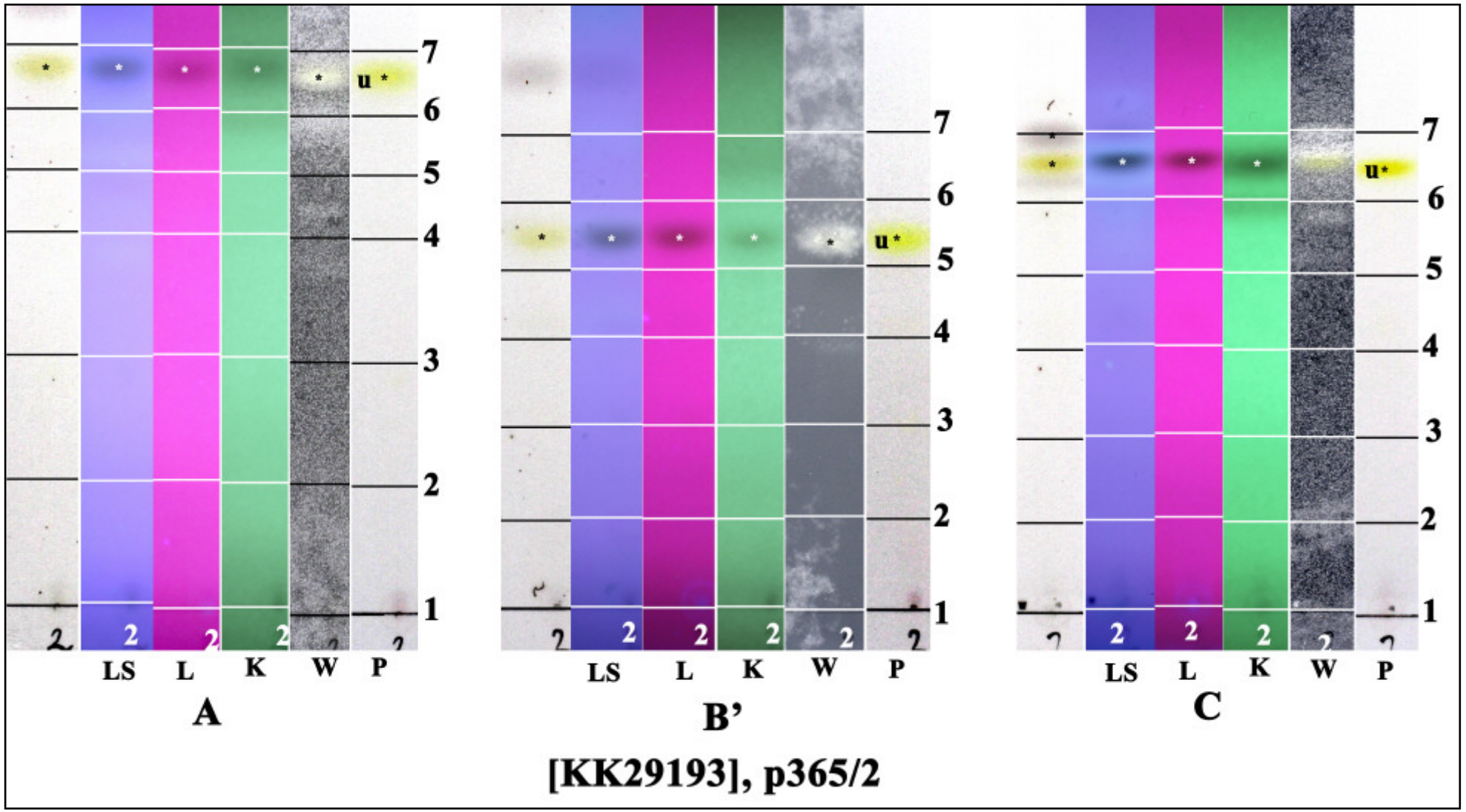
Caloplaca marchantiorum







Caloplaca marchantiorum



u: neochloroemodin (major) = 4-chloroemodin

Caloplaca marina (Wedd.) Zahlbr., in Du Rietz, Meth. Grund. Mod. Pflanzensoziol.: 170 (1921)

[= *Flavoplaca marina* (Wedd.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 45 (2013)]

Spores 11-12 x 6.5-7 µm, septum4.5-6 µm.

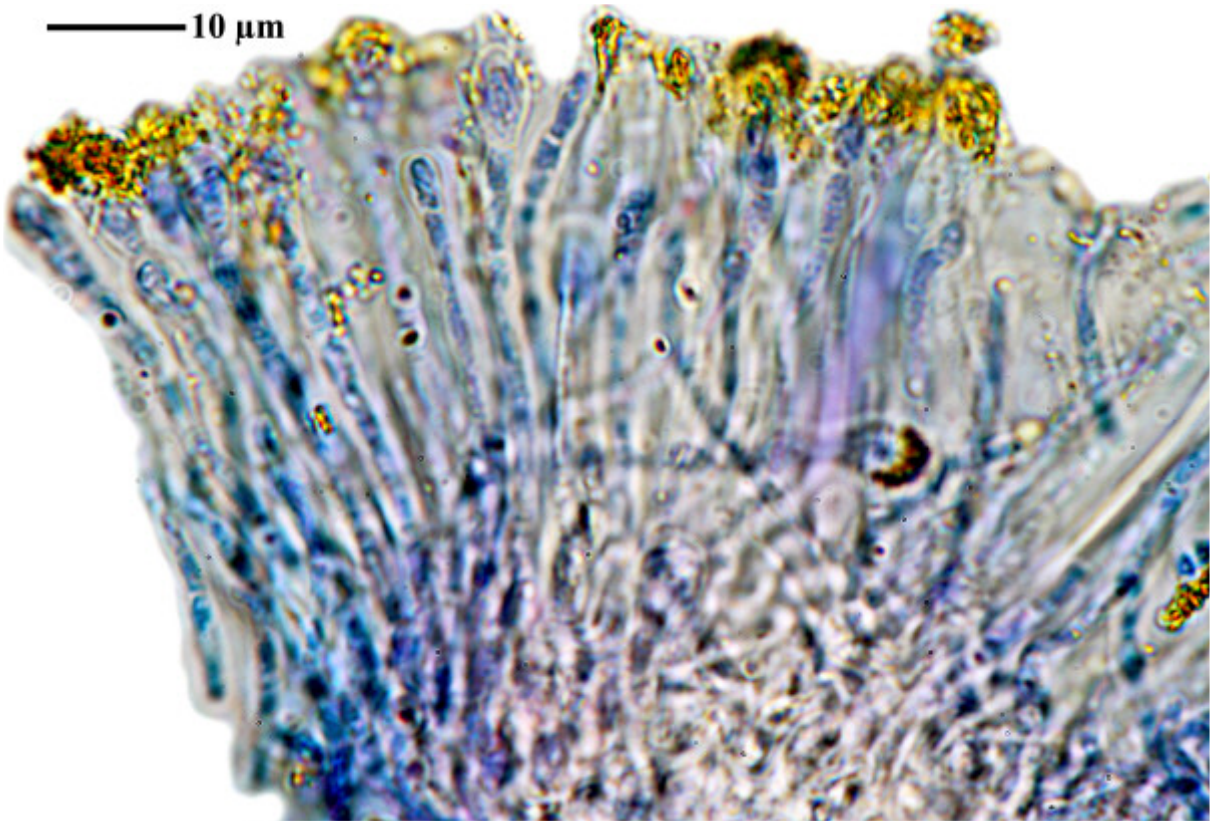
[BR5030036250693], Spain, Canary Isles, La Palma, Playa de los Cancajos, 3 km S of Santa Cruz, on volcanic rock, 0-25 m. Leg. A. Aptroot (28222), Jan. 1992, det. A. Aptroot 2019.

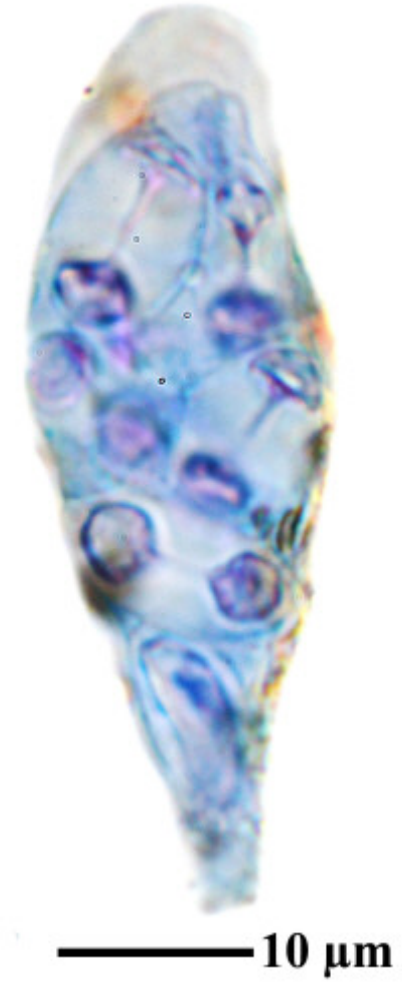


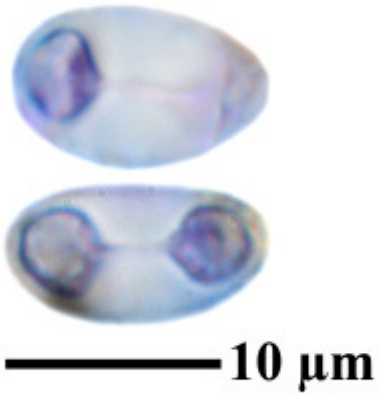




Caloplaca marina







Caloplaca marina

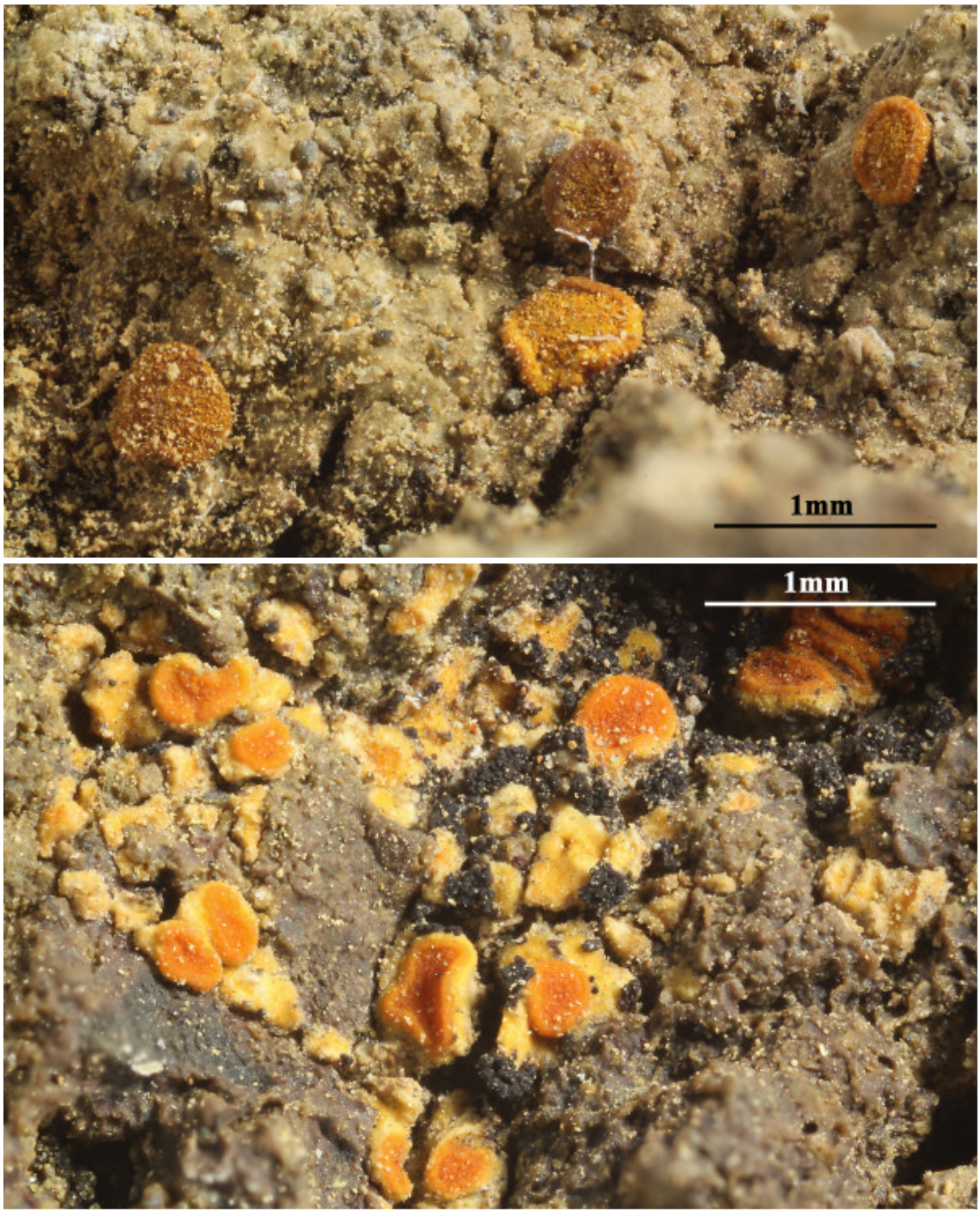
Caloplaca marina (Wedd.) Zahlbr., in Du Rietz, Meth. Grund. Mod. Pflanzensoziol.: 170 (1921)

[= *Flavoplaca marina* (Wedd.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 45 (2013)]

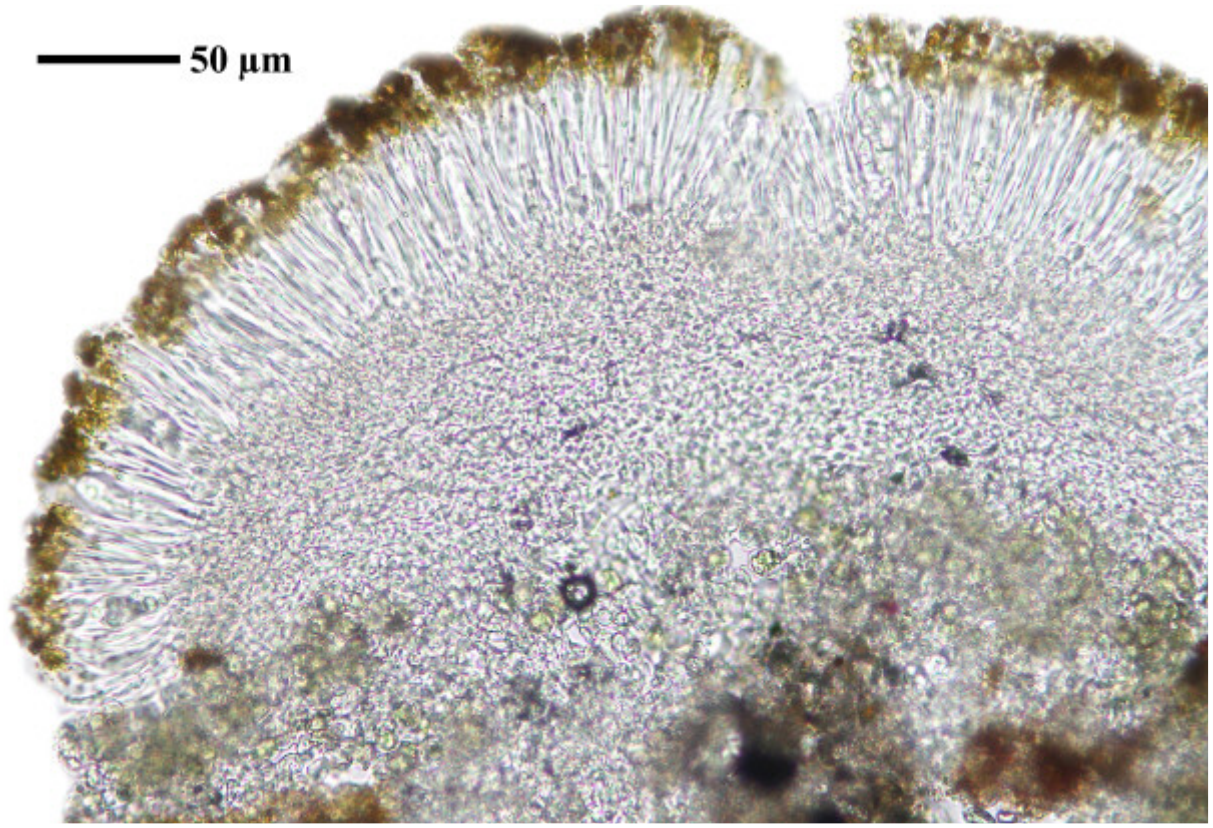
Spores 10.3-12.8 x 6.3-6.5 µm, septum 5.3-6.3 µm (FS)

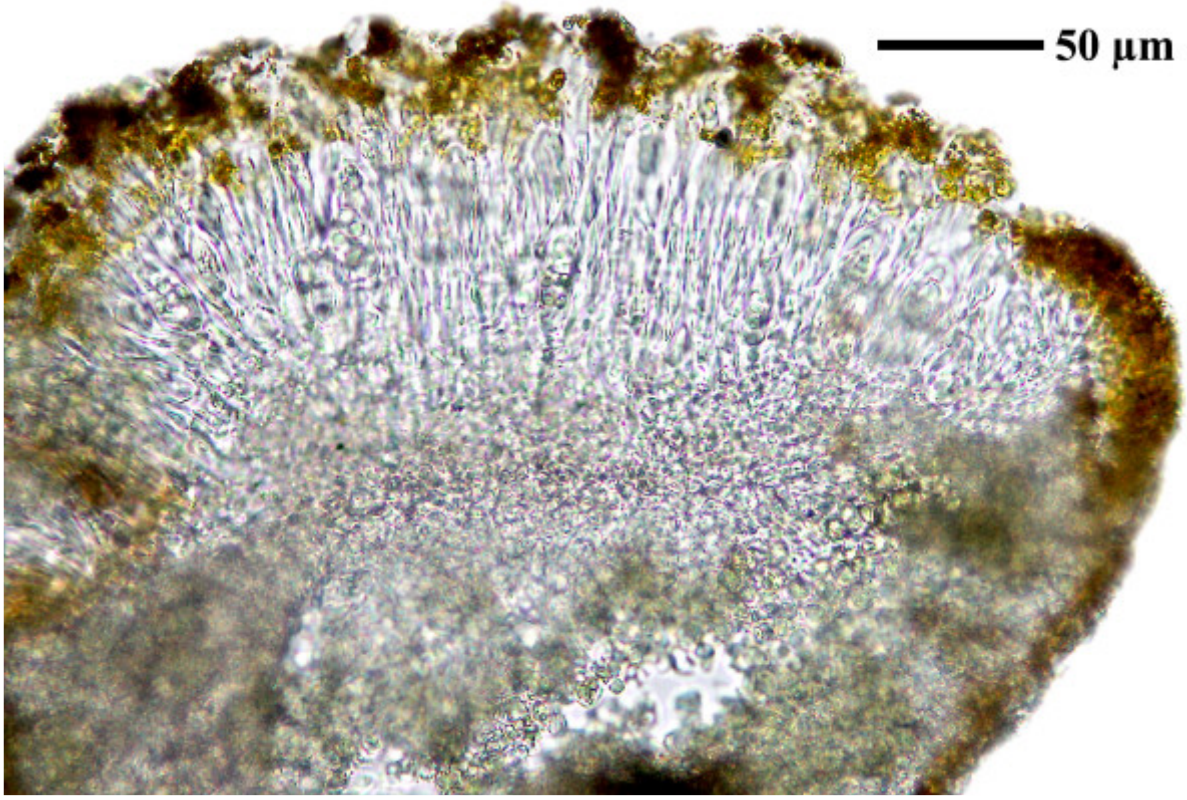
[BR5030036314364], Spain, Canary Islands, La Palma. Playa de Los Cancajos, 3 km S of Santa Cruz, on volcanic rock, 0-25 m. Leg. A. Aptroot (28241), Jan. 1992, det. A. Aptroot 2019.



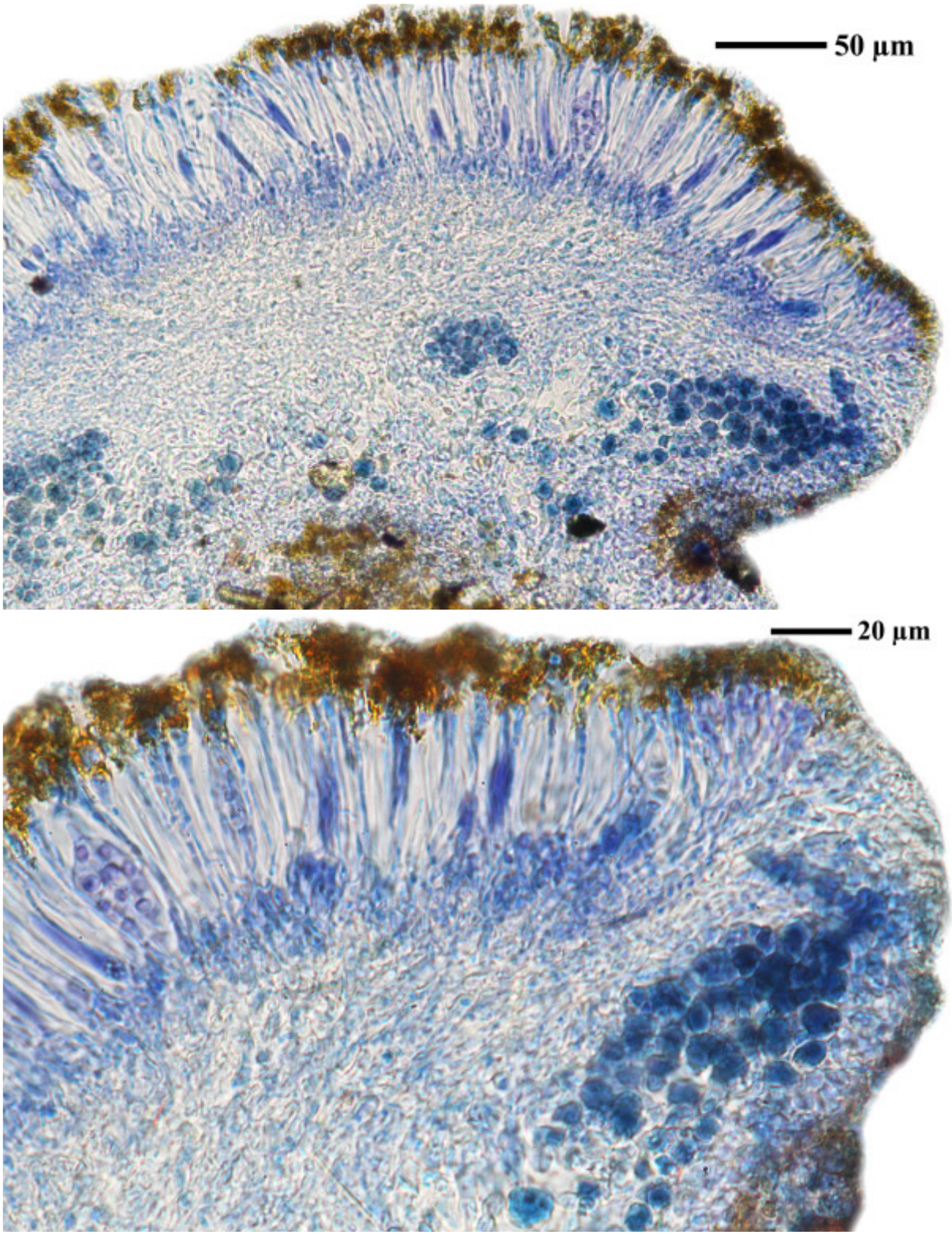


Caloplaca marina

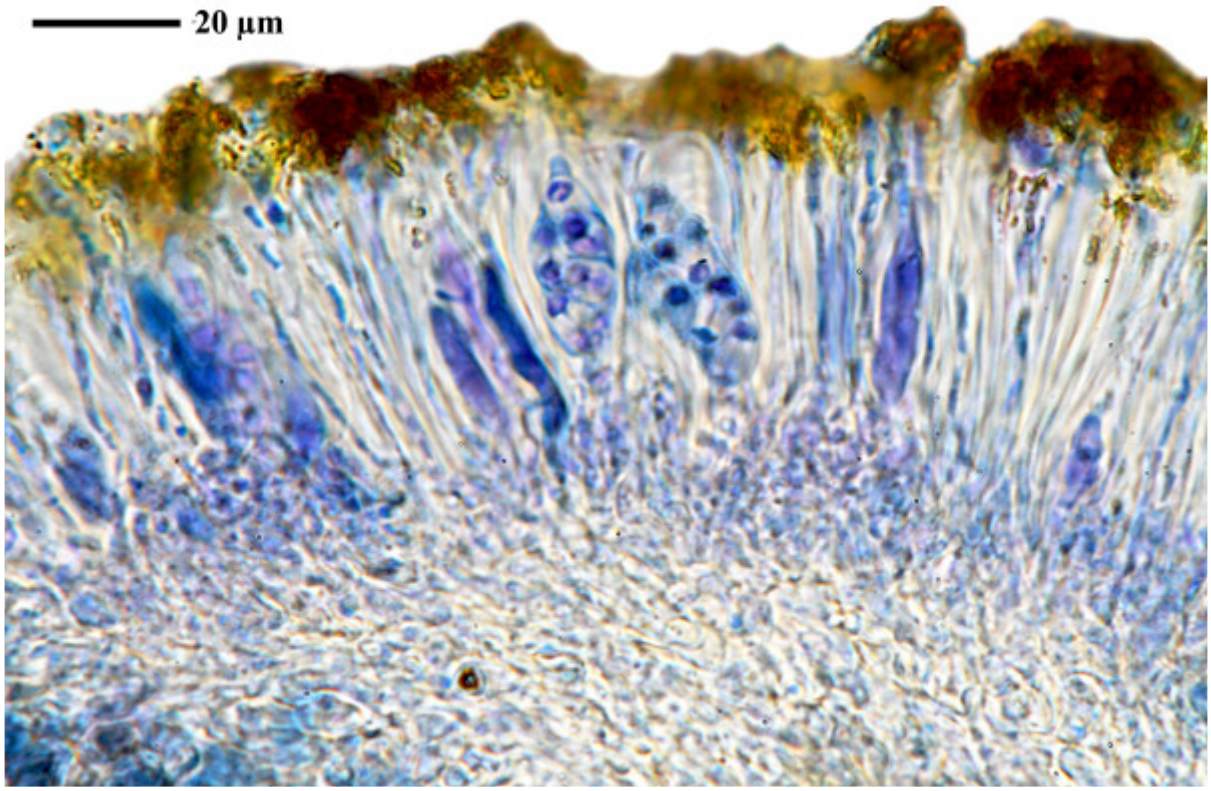


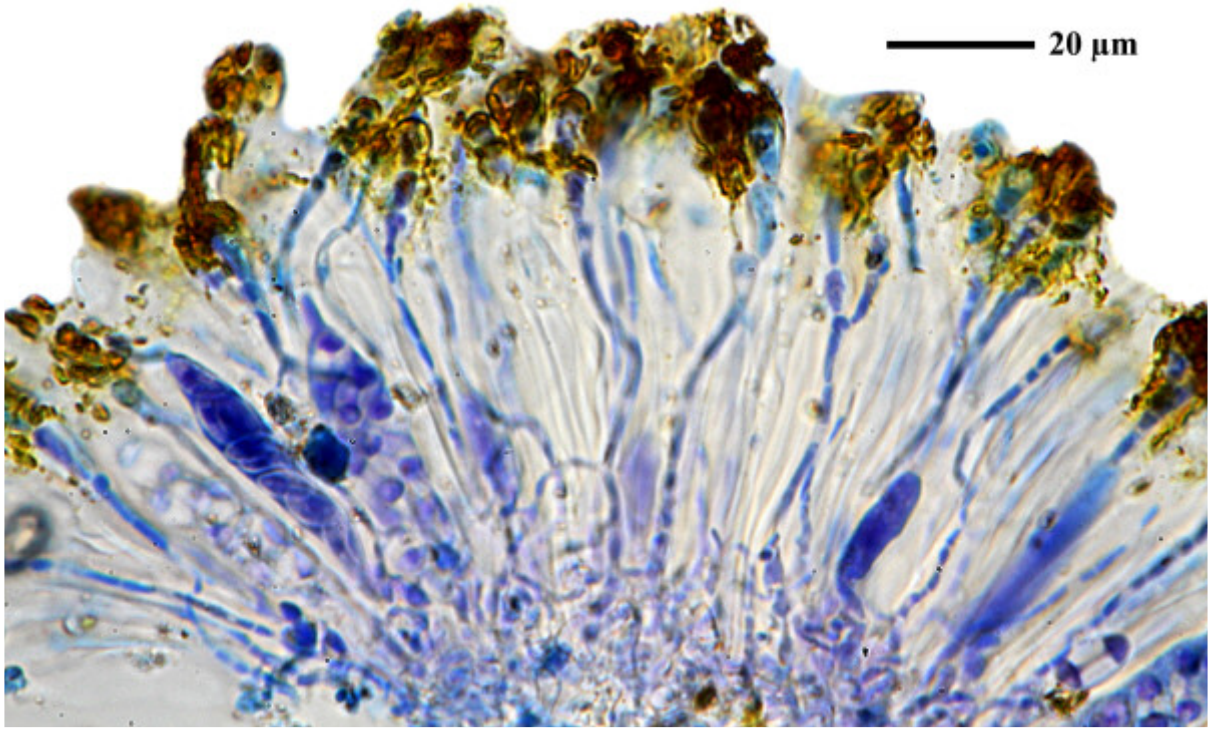


Caloplaca marina

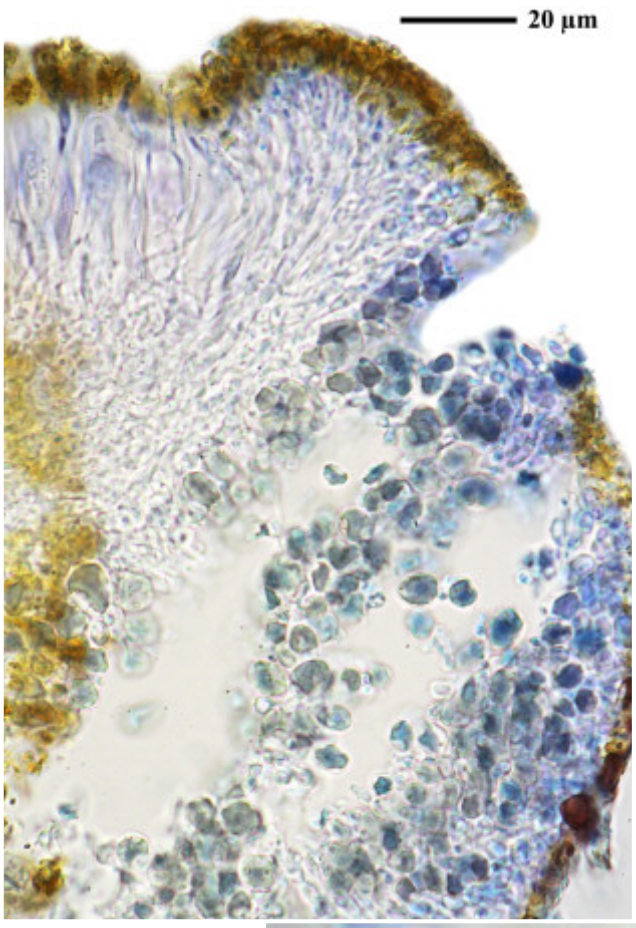


Caloplaca marina

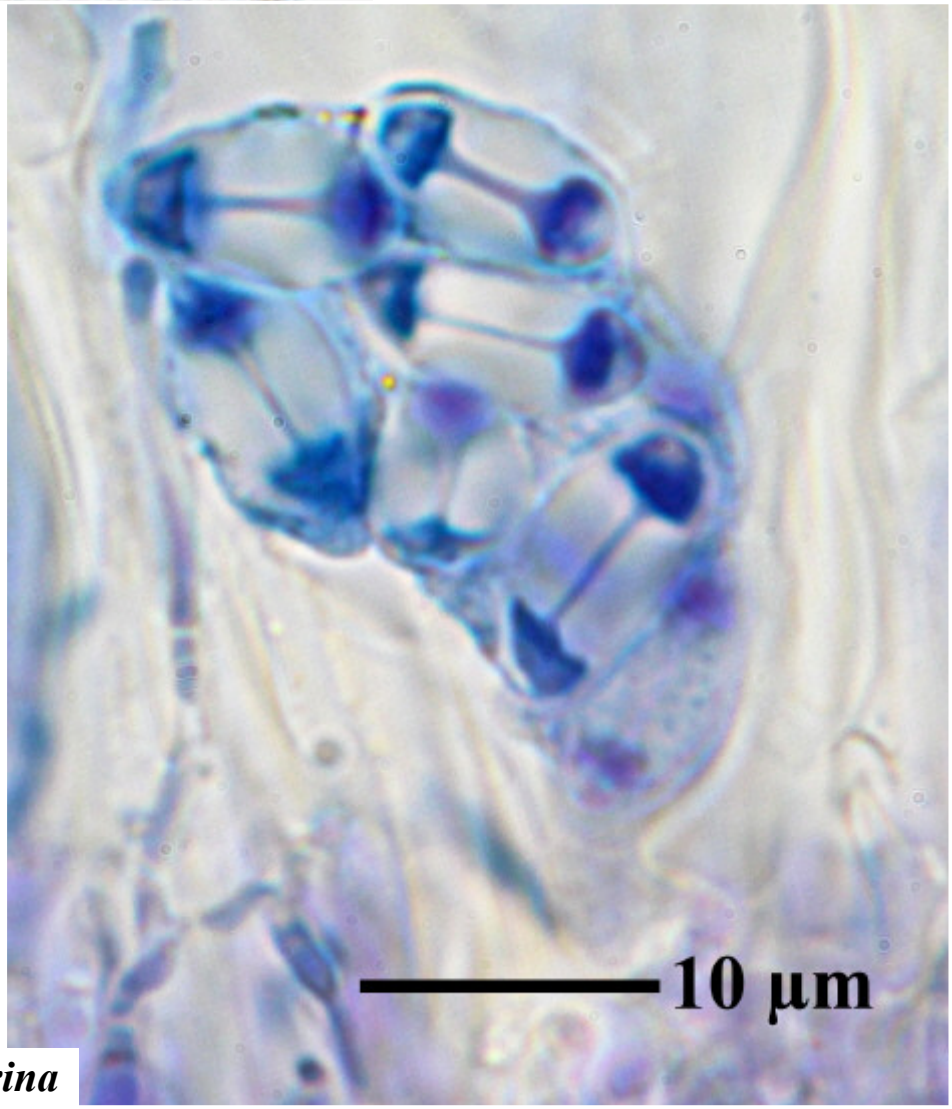




Caloplaca marina







Caloplaca marina

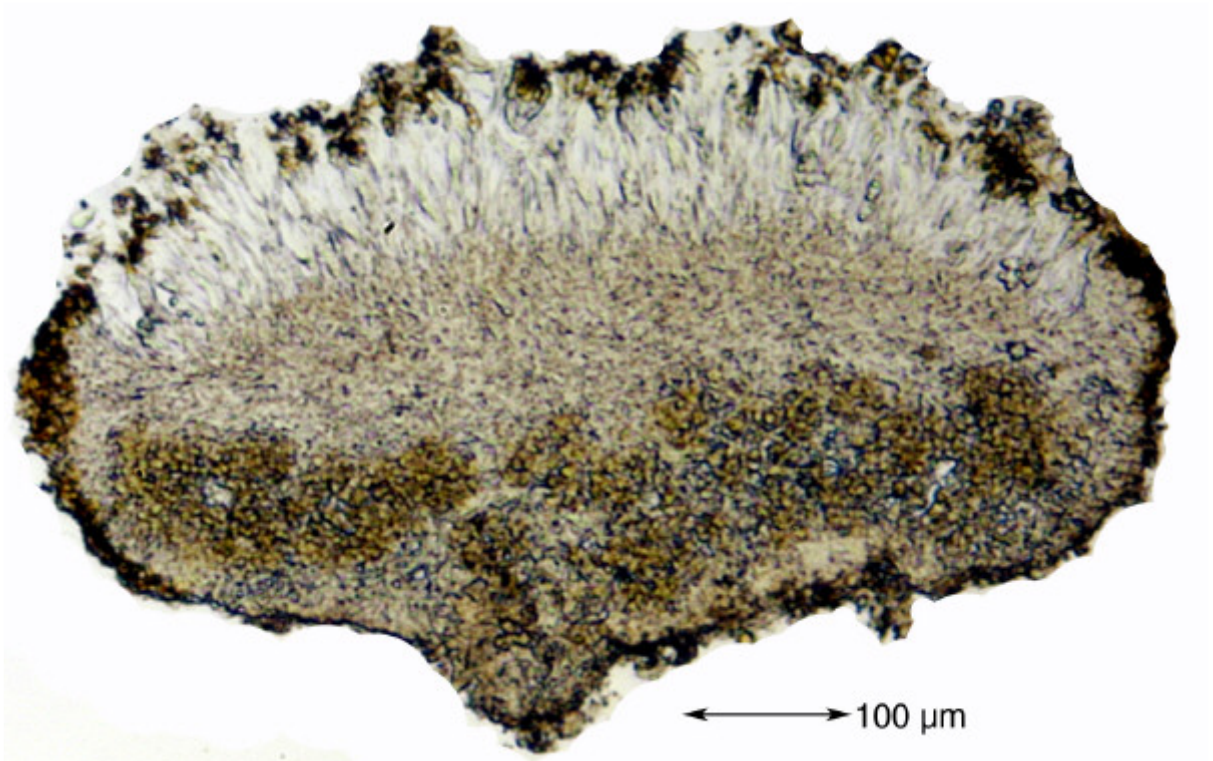
Caloplaca marina (Wedd.) Zahlbr., in Du Rietz, Meth. Grund. Mod. Pflanzensoziol.: 170 (1921)
[= *Flavoplaca marina* (Wedd.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 45 (2013)]

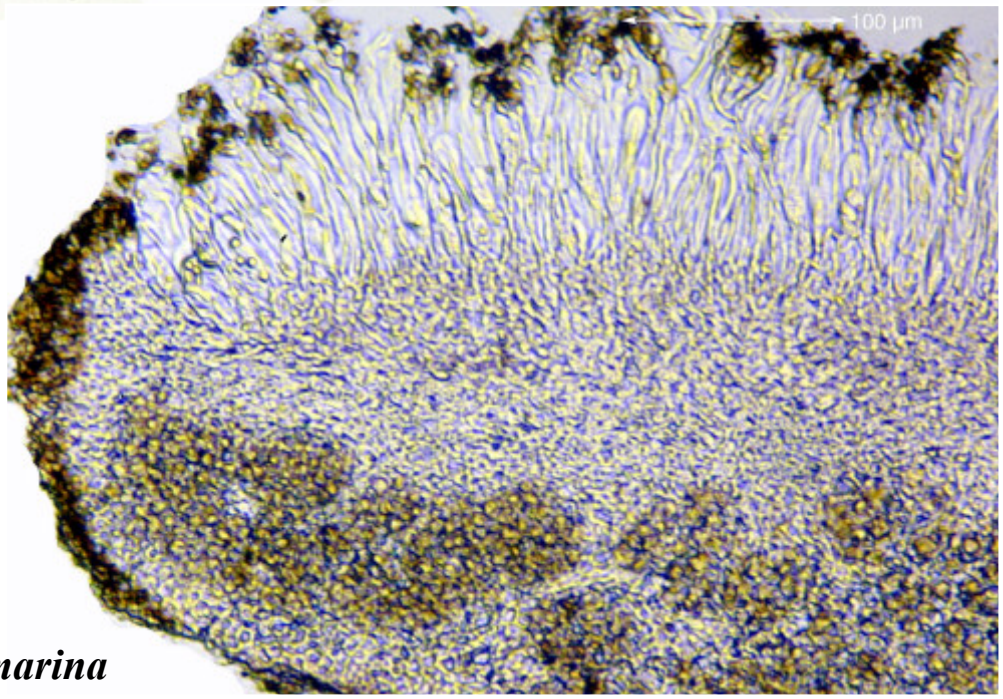
Thallus fehlend oder orange und aus getrennten, runden, konvexen, 0,2-0,6 mm großen Feldchen bestehend. Isidien und Sorale fehlen. Apothecien 0,3-0,6 mm breit, dem Gestein direkt oder einem Thallusfeldchen aufsitzend; Scheibe orange, Rand etwas heller; Hymenium ca. 66 µm hoch, Hypothecium ca. 67 mm, darunter eine durchgehende Algenzone; Paraphysen oben verzweigt und am Ende kopfig angeschwollen (ca. 5,5 µm). Sporen polar-2-zellig, ellipsoidisch, 15,3-6,5 µm, Septum 4-5 µm lang, seitlich nicht aufgetrieben. Chemie: Anthrachinone. Silikatreiche, küstennahe Lavafelsen.

[11141], Portugal, Azoren, Sao Miguel, Westküste, Ponta da Ferraira, an porösen, schwarzen Lavablöcken in Meeresnähe, 37°51,624' N, 25°51,144' W, 0 m. Leg. et det. Schumm 04.06.2003, rev. A. Aptroot 2019.

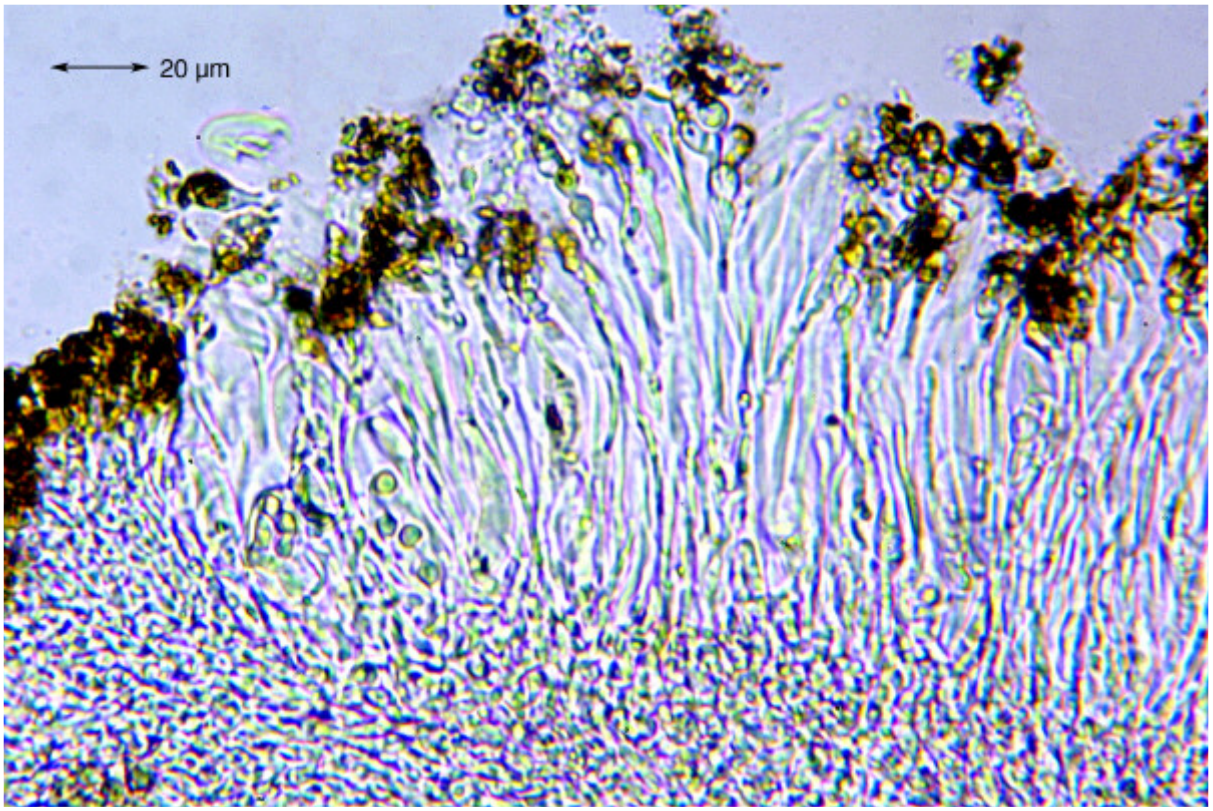


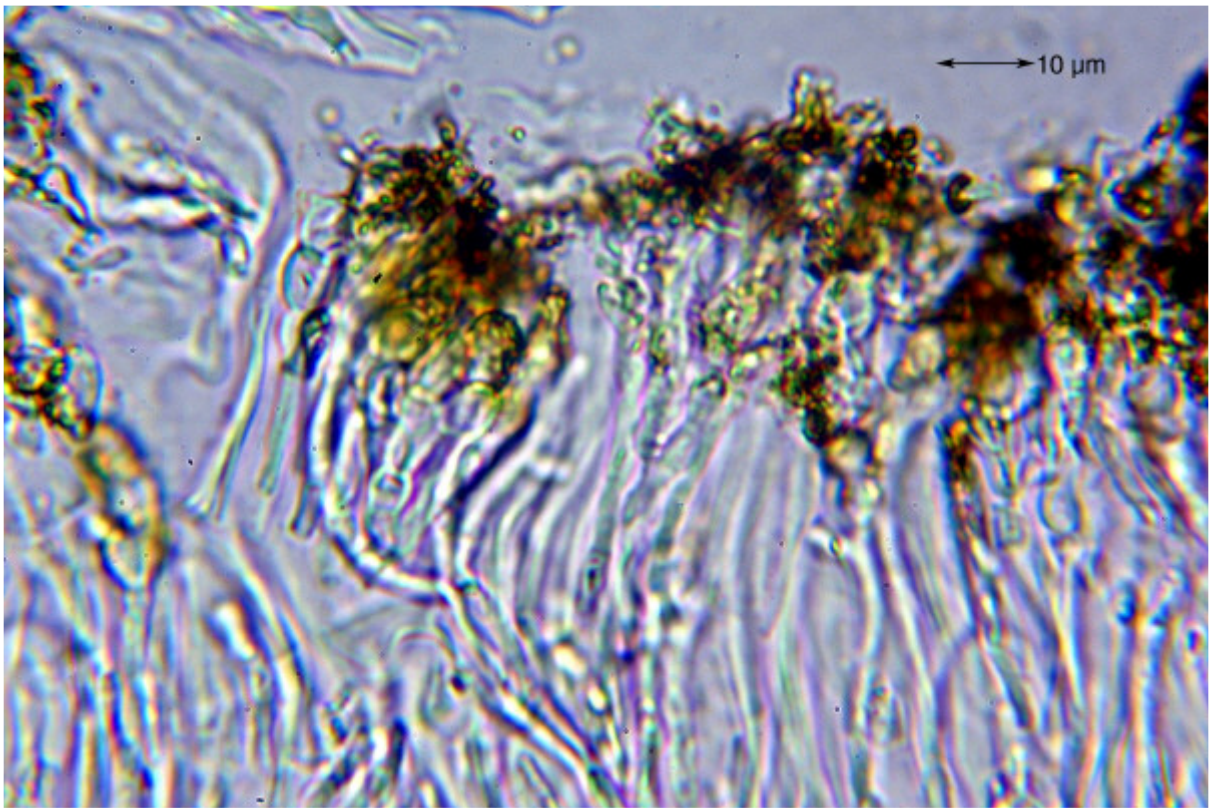




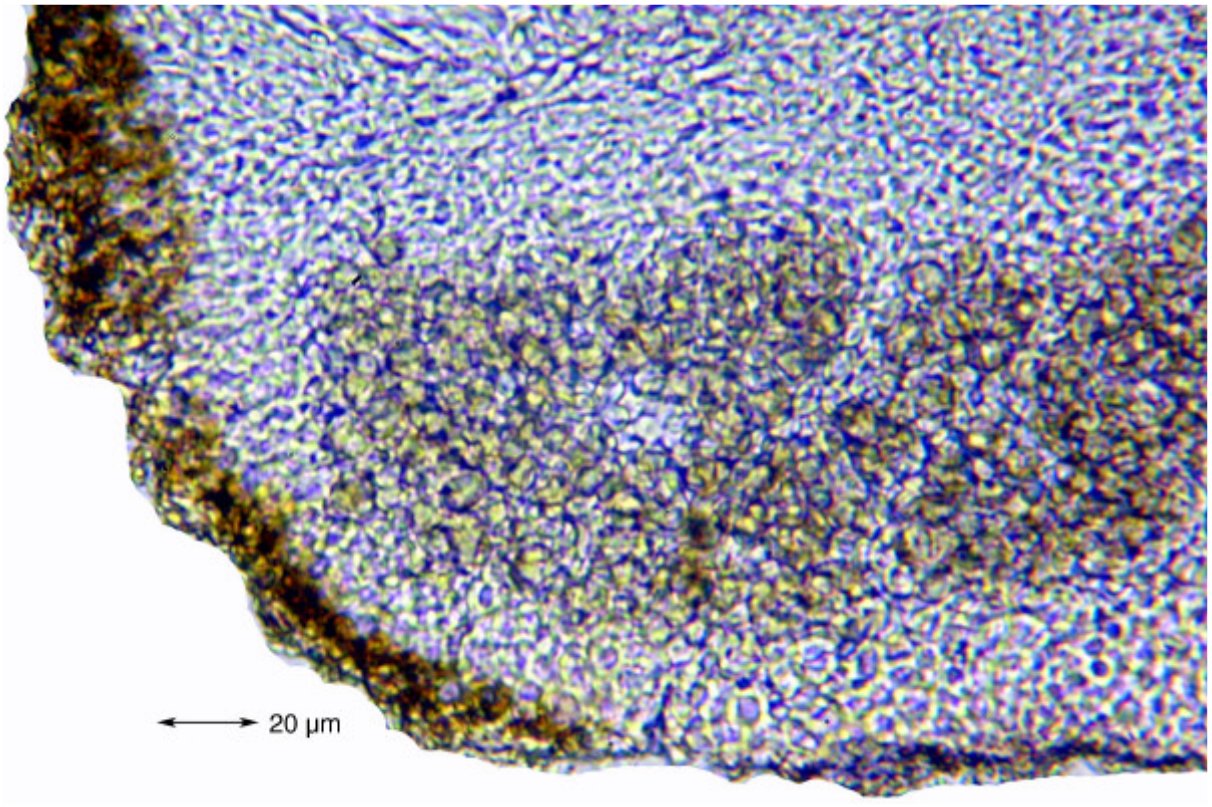


Caloplaca marina





Caloplaca marina





Caloplaca marina

Caloplaca maritima (B.de Lesd.) B.de Lesd.
[= *Flavoplaca maritima* (B.de Lesd.) Arup, Frödén & Søchting]

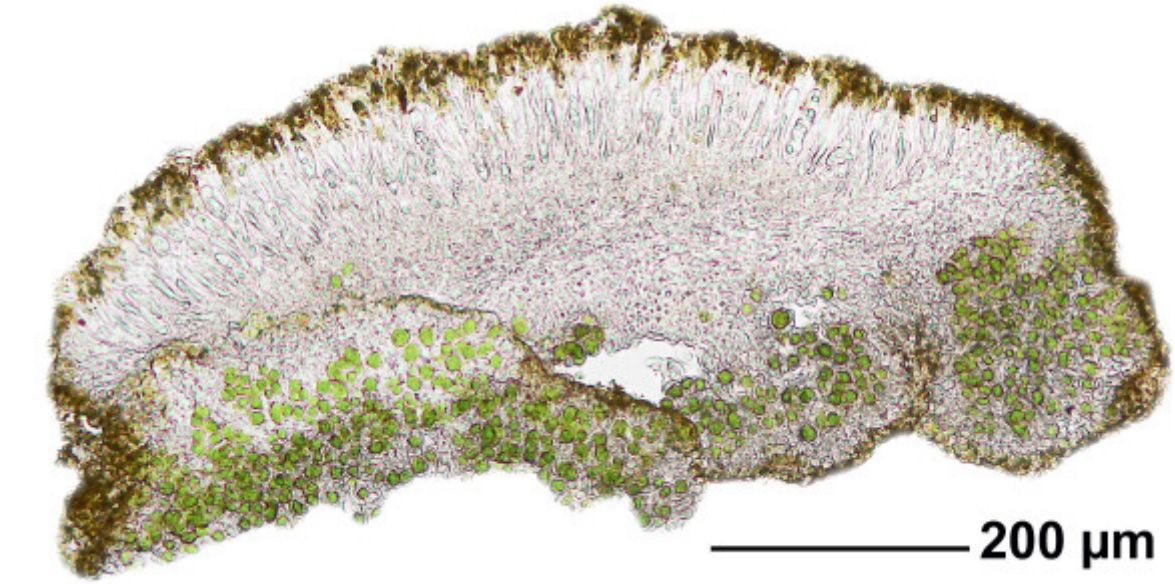
On not calcareous rocks. Spores polarilocular, hyaline, 8/ascus, 15-17 x 6-8 µm, septum 4-6.5 µm.

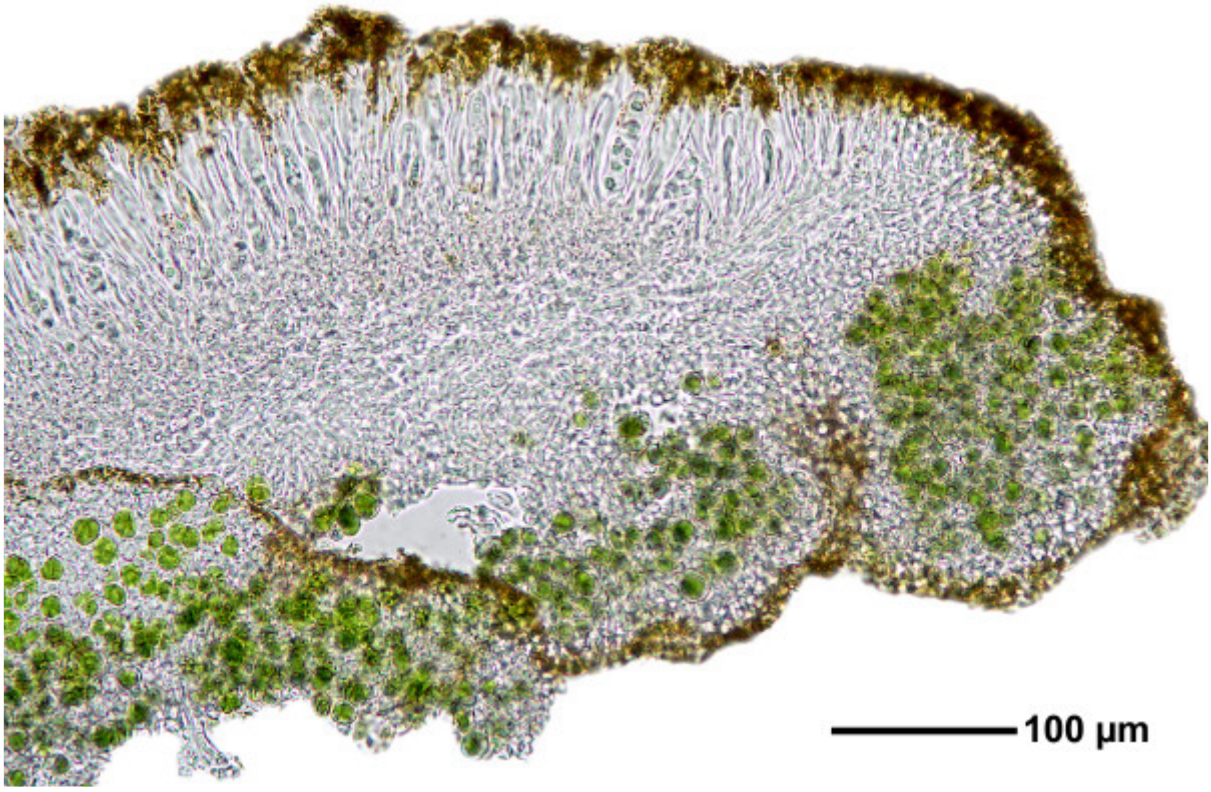
[ABL 75356], The Netherlands, Prov. Noord-Holland, Holysloot, Amsterdamsezeedijk, on former seadlike on granite on shore line. Leg. et det. A. Aptroot 15.10.2016.



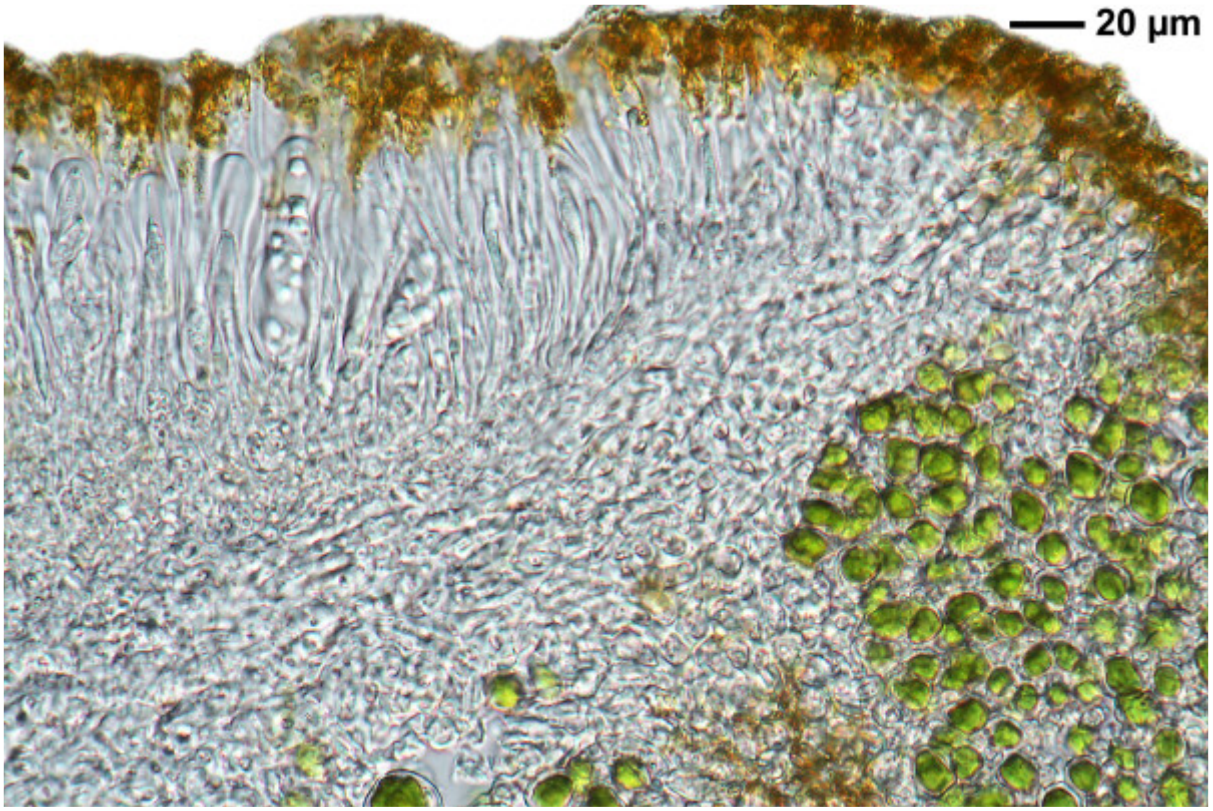


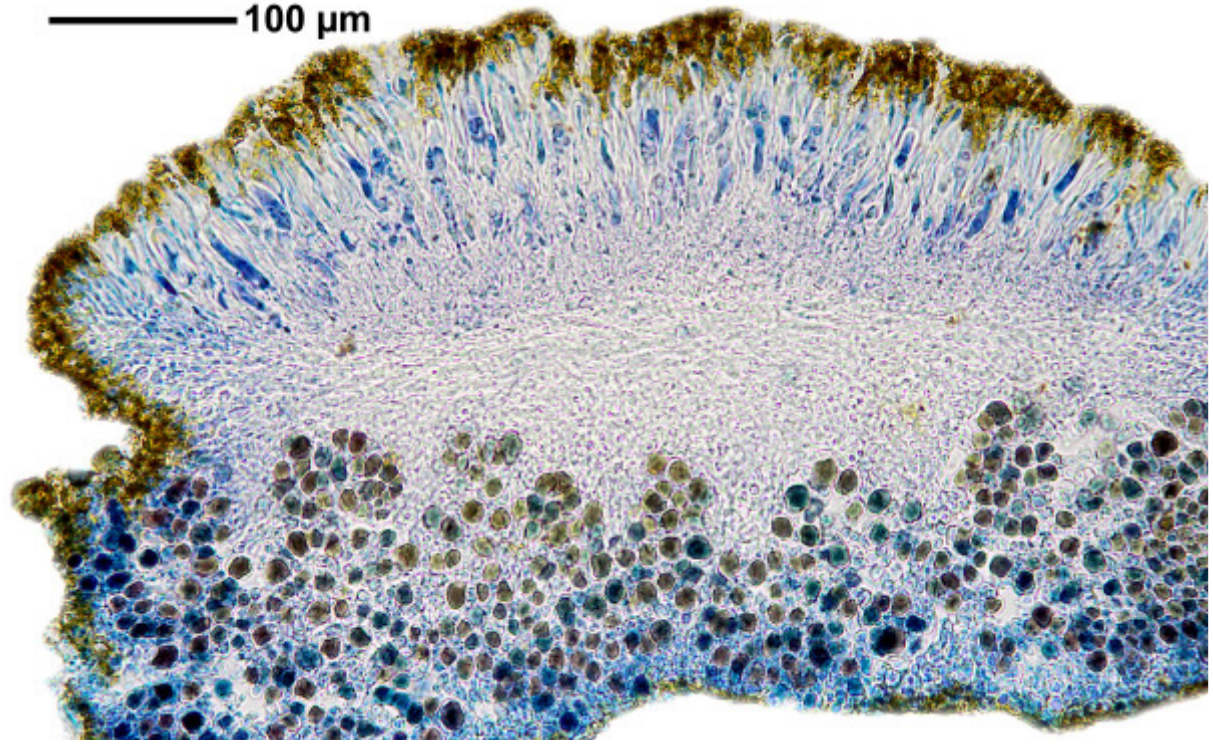
Caloplaca maritima



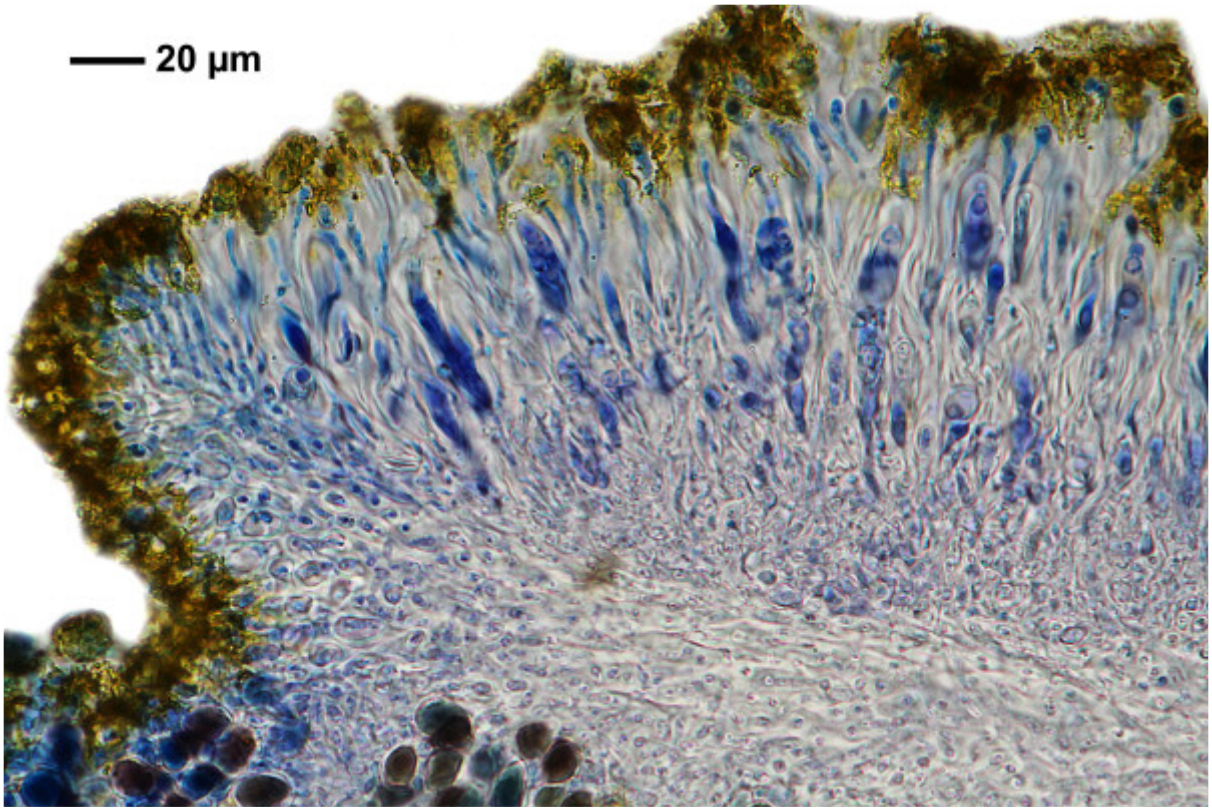


Caloplaca maritima

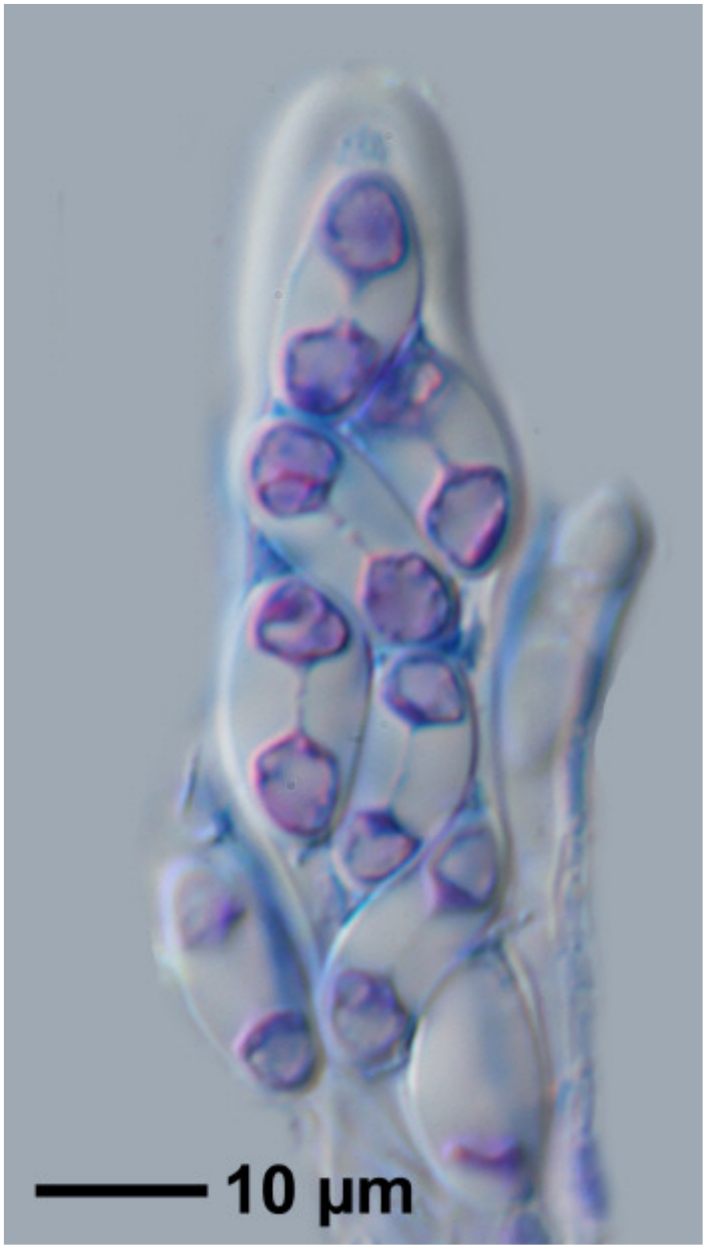




Caloplaca maritima





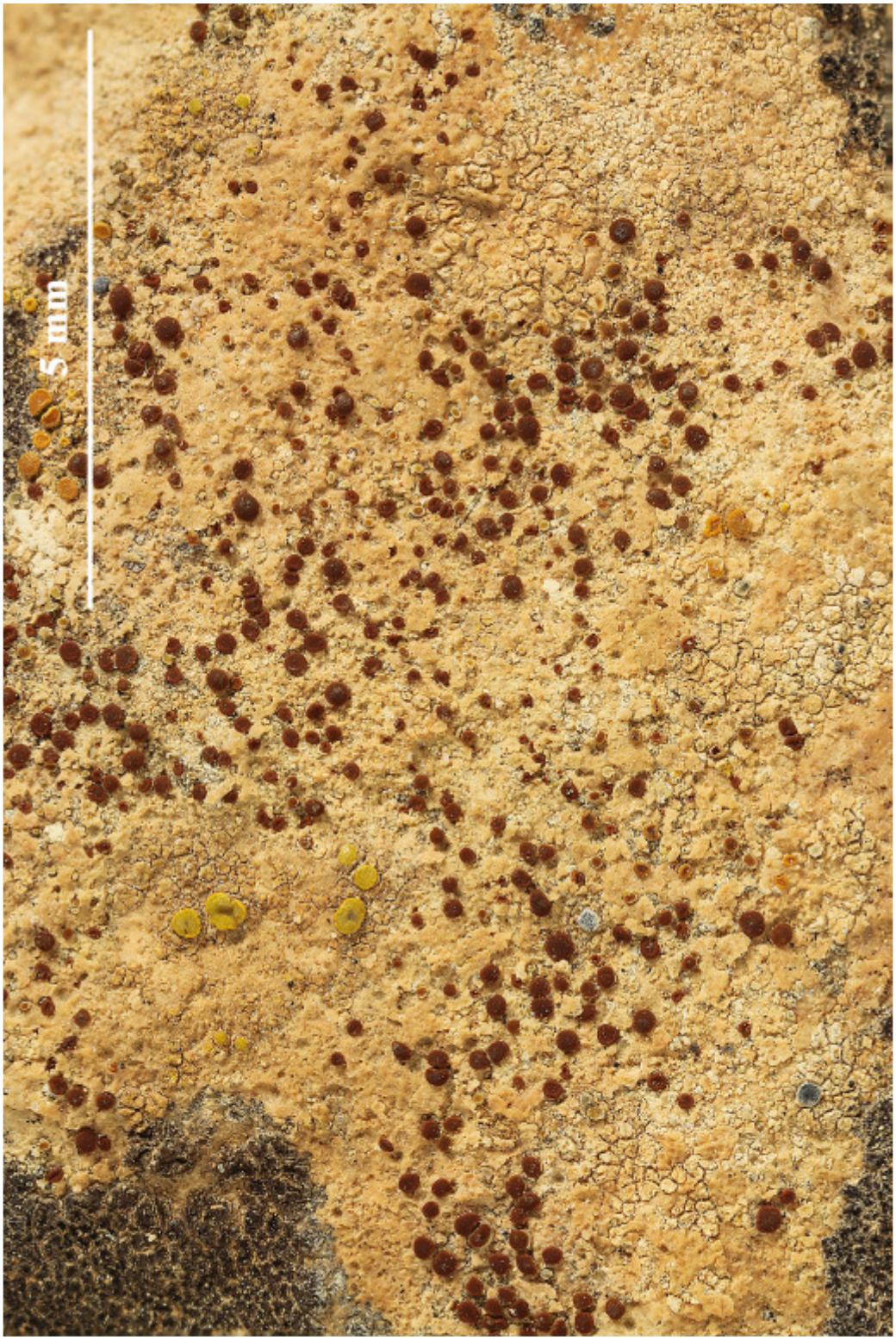


Caloplaca maritima

Caloplaca marmorata (Bagl.) Jatta
[= *Xanthocarpia marmorata* (Bagl.) Frödén, Arup & Søchting]

On stones.
Apothecien 0.20-0.59 mm, schnell konvex mit verschwindendem roten Eigenrand, Apothecienrand ohne Algen (biatorin) , nur in ganz jungen Stadien mit Thallusrand. Sporen14-16 x 7-8 mm, Septum 3.5 µm.

[2188], Tunesien, Cheninin, auf losen Steinchen, trocken, sonnig, stark staubig, äußerst lückige Vegetation (Wüste), ca. 460 m. Leg. F.







Caloplaca marmorata

Caloplaca marmorata (Bagl.) Jatta
[= *Xanthocarpia marmorata* (Bagl.) Frödén, Arup & Søchting]

On calcareous rocks.

[13671], Malta, westl. Mellieha in der Oasam Barrani Schlucht, 35°57.485' N, 14°21.088' E, 80 m. Leg. F. Schumm & J.-P. Frahm, 11.03.2008, det. A. Aptroot 2016.



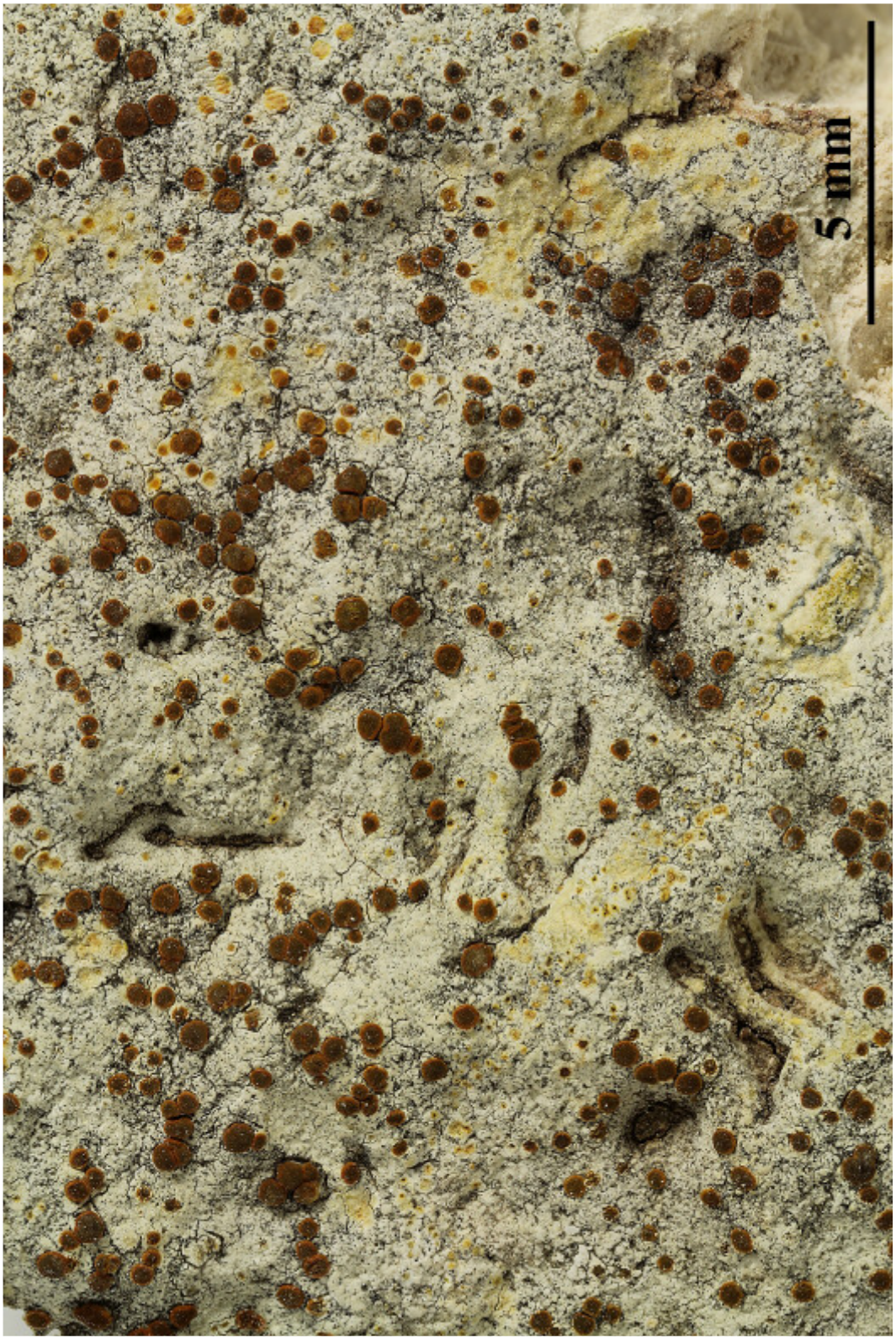


Caloplaca marmorata

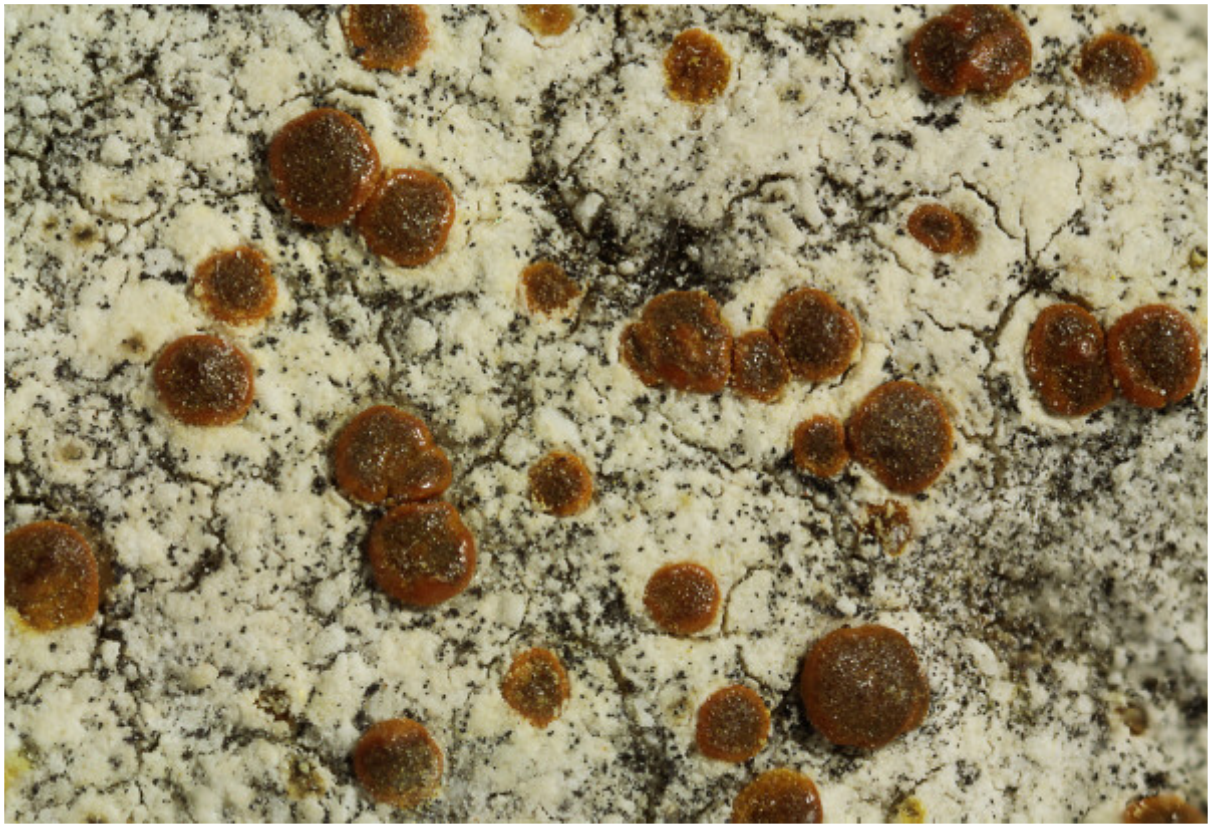
Caloplaca marmorata (Bagl.) Jatta
[= *Xanthocarpia marmorata* (Bagl.) Frödén, Arup & Søchting]

On calcareous rocks. Spores polarilocular, hyaline, 8/ascus, 12-15 x 6.5-8.5 µm, septum 5.2-5.6 µm.

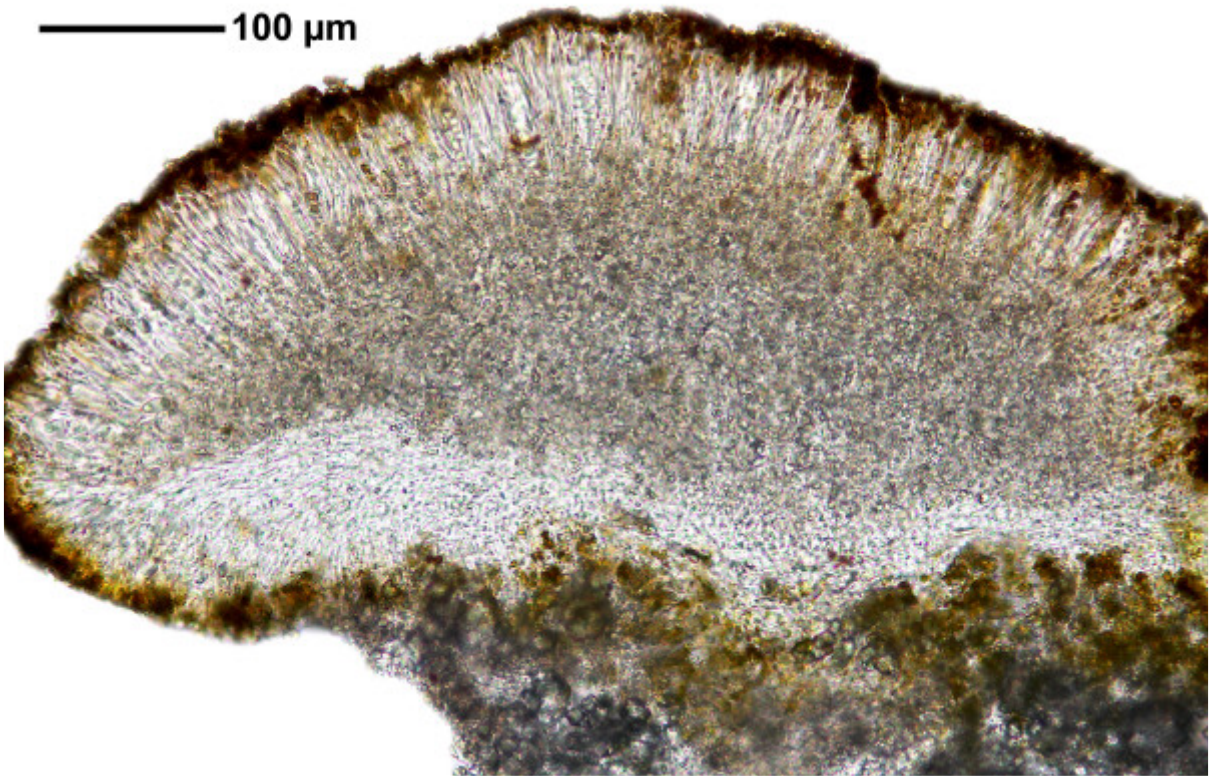
[13675], Malta, westl. Mellieha in der Oasam Barrani Schlucht, 35°57.485' N, 14°21.088' E, 80 m. Leg. F. Schumm & J.-P. Frahm,11.03.2008, det. A.Aptroot 2016.

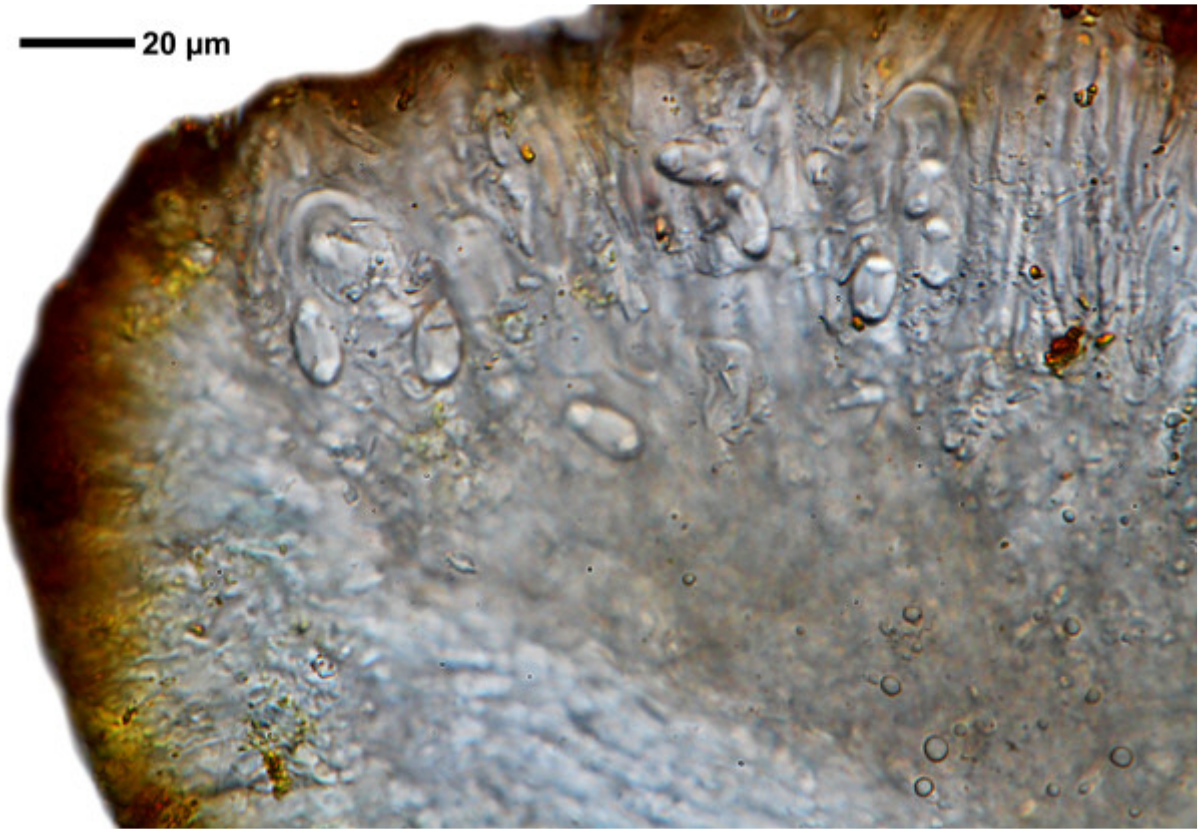


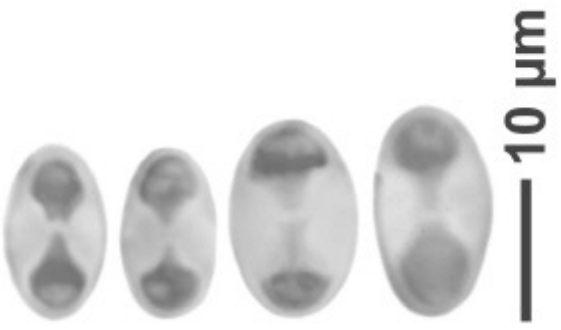




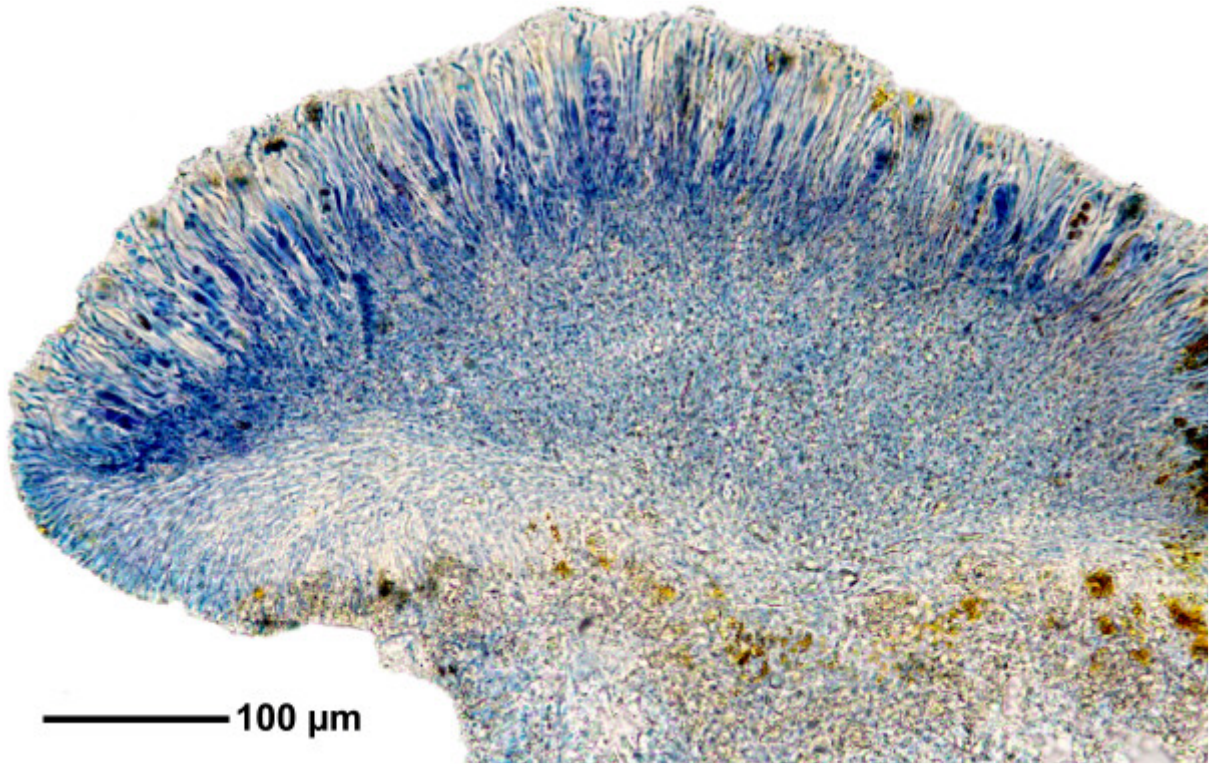
Caloplaca marmorata

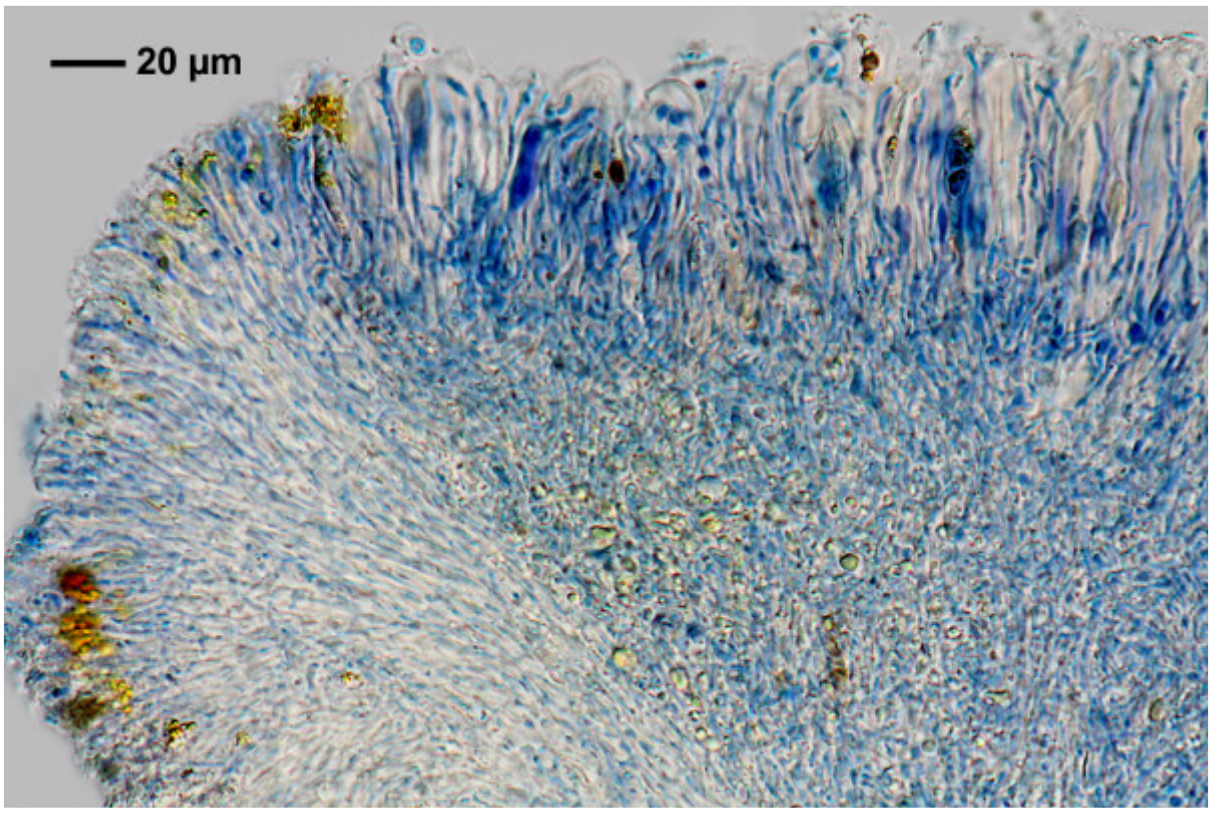


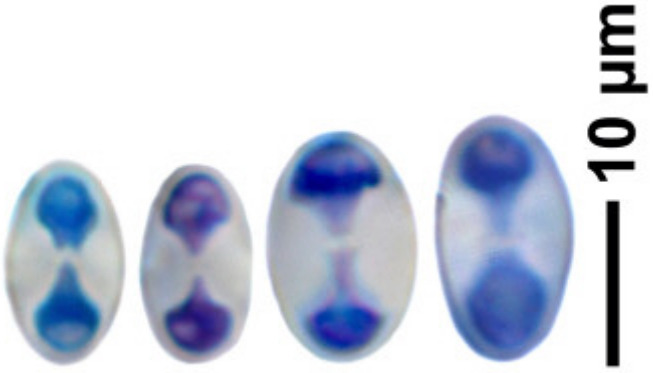




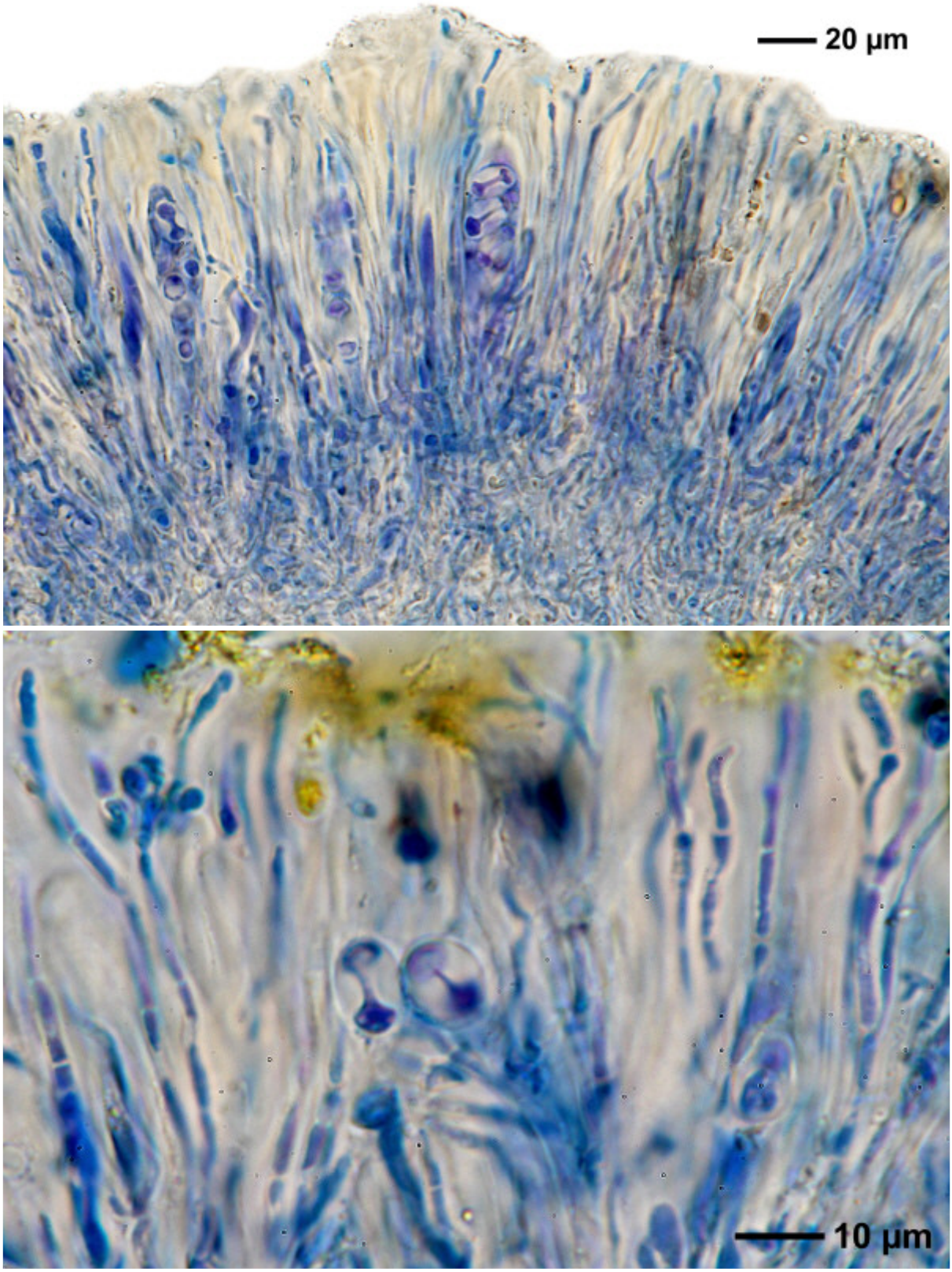
Caloplaca marmorata







Caloplaca marmorata



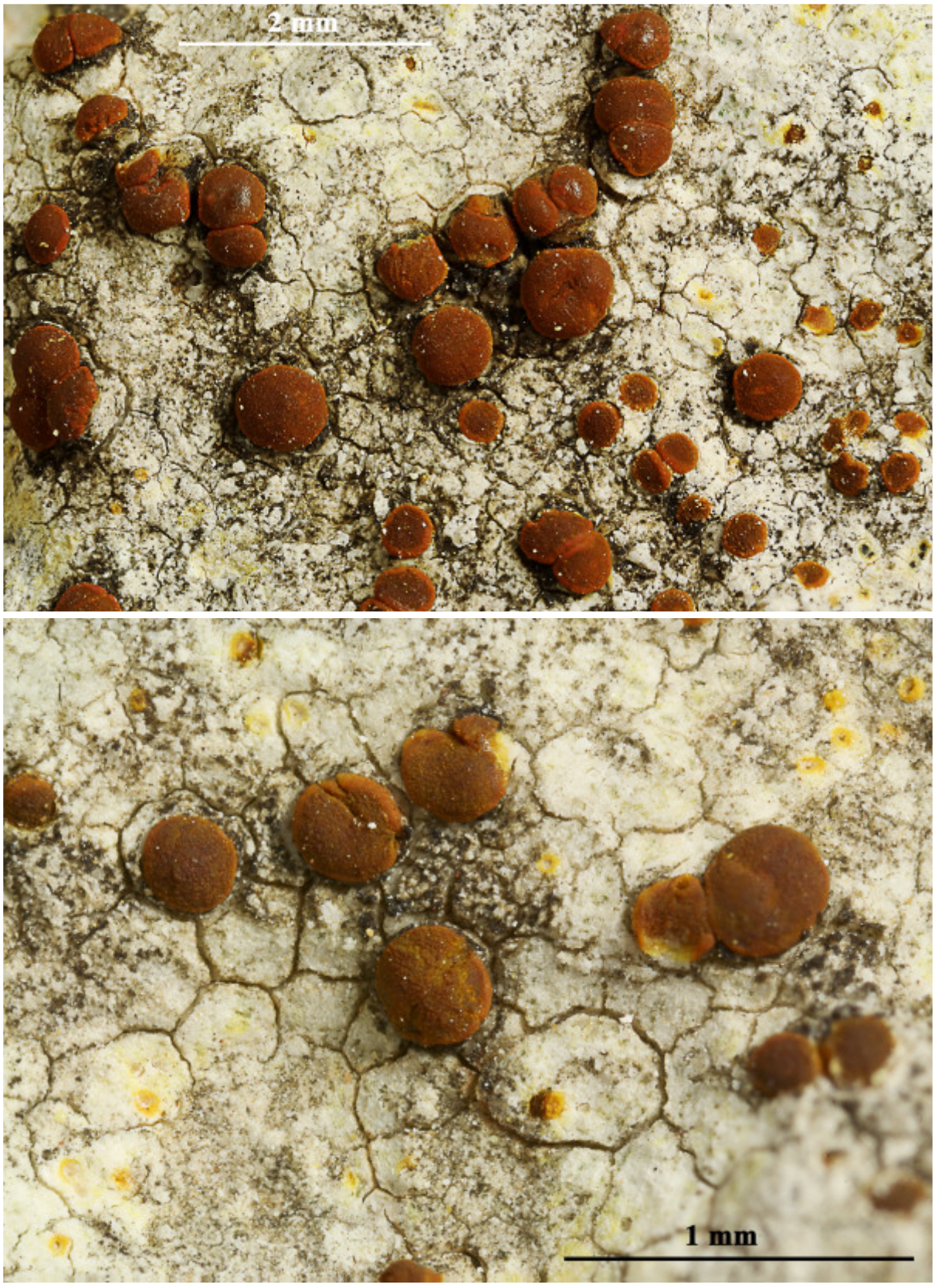
Caloplaca marmorata

Caloplaca marmorata (Bagl.) Jatta
[= *Xanthocarpia marmorata* (Bagl.) Frödén, Arup & Søchting]

On calcareous rocks.

[13699], Malta, Bingemma Chapel südlich von Zebbiegh, 35°54.220' N, 14°22.631' E, 150 m. Leg. F. Schumm & J.-P. Frahm, 12.03.2008, det. A. Aptroot 2016.



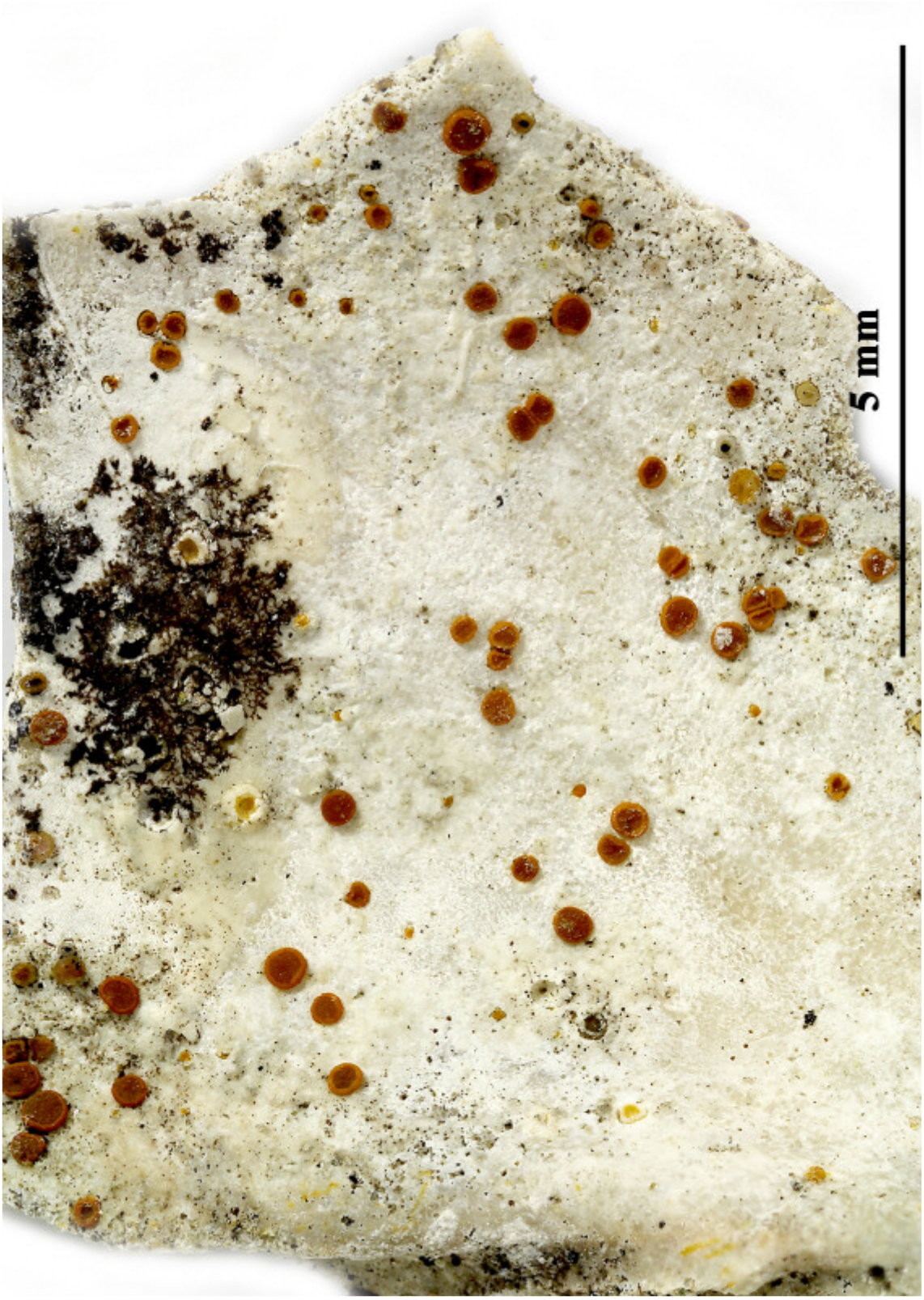


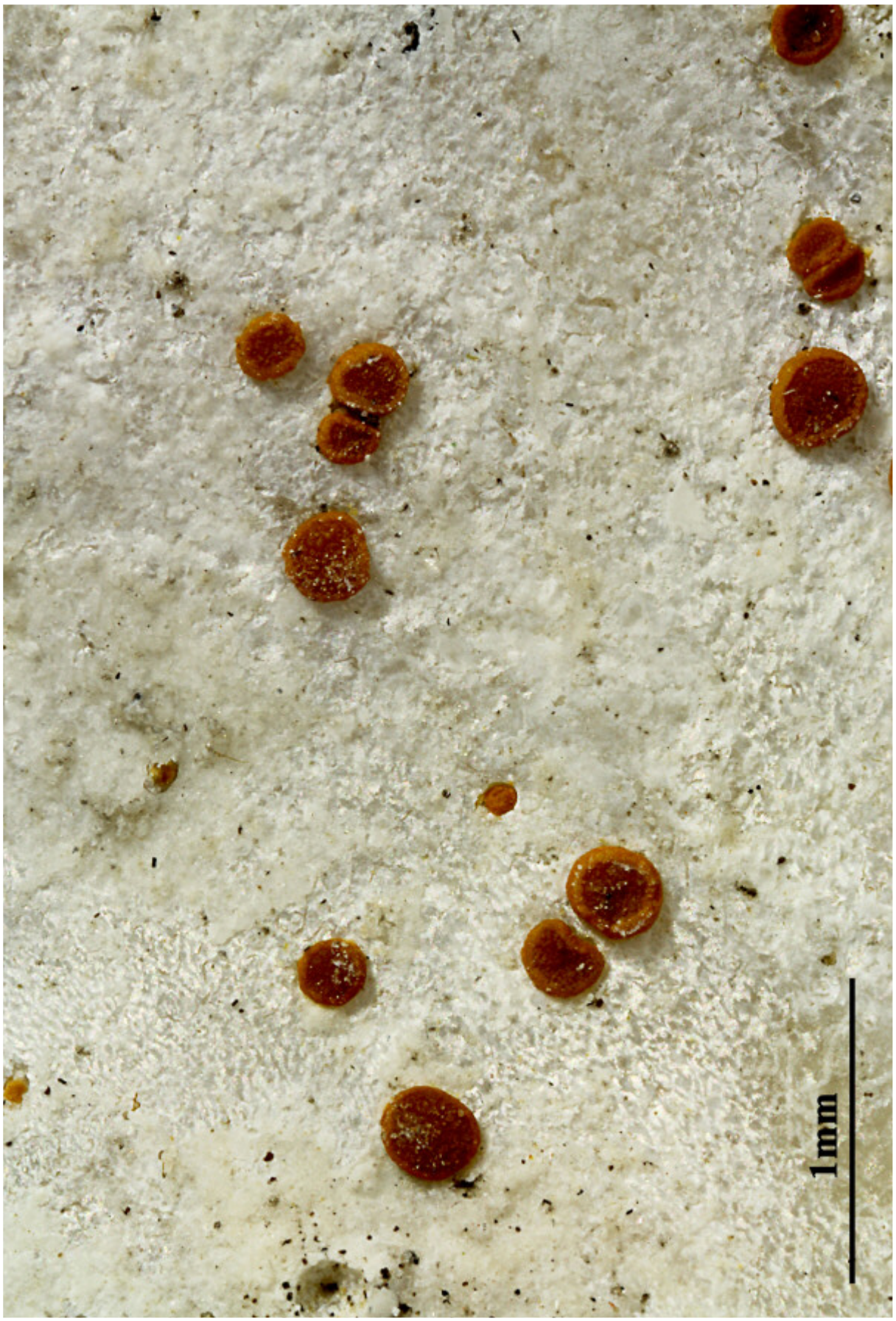
Caloplaca marmorata

Caloplaca marmorata (Bagl.) Jatta, Syll. Lich. Ital.: 251 (1900)
[= *Xanthocarpia marmorata* (Bagl.) Frödén, Arup & Søchting, Nordic Jl Bot. 31(1): 57 (2013)]

On shells.

[ABL 75300], The Netherlands, Prov. Noord-Holland, Texel, Slufterbollen, 115,9 571,8, on shells. Leg. A. Aptroot 26.08.2016, det. A. Aptroot 2016. New record for the Netherlands!



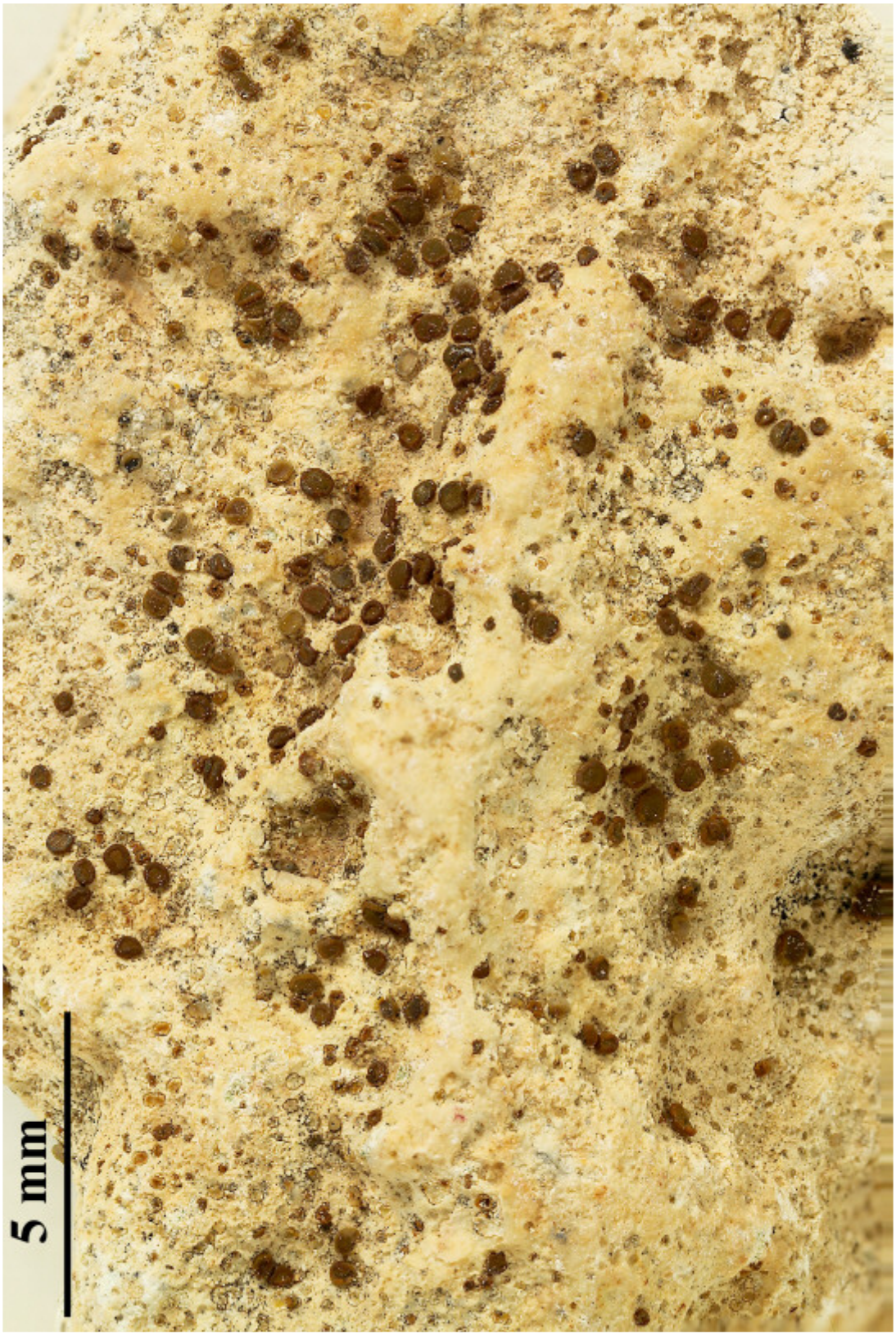


Caloplaca marmorata

Caloplaca marmorata (Bagl.) Jatta
[= *Xanthocarpia marmorata* (Bagl.) Frödén, Arup & Søchting]

On calcareous rocks. Lit. Jatta, Sylloge lich. ital. (1900): 251.

[19556], Italia, Pelagiae insulae, insula Lampedusa, in centro insulae, alt. 50 m, ad lapillos calcareos in terra. Leg. P.L. Nimis, J. Poelt & A. Vězda, 04. 1992. VĚZDA: LICHENES RARIORES EXSICCATI NR. 42.





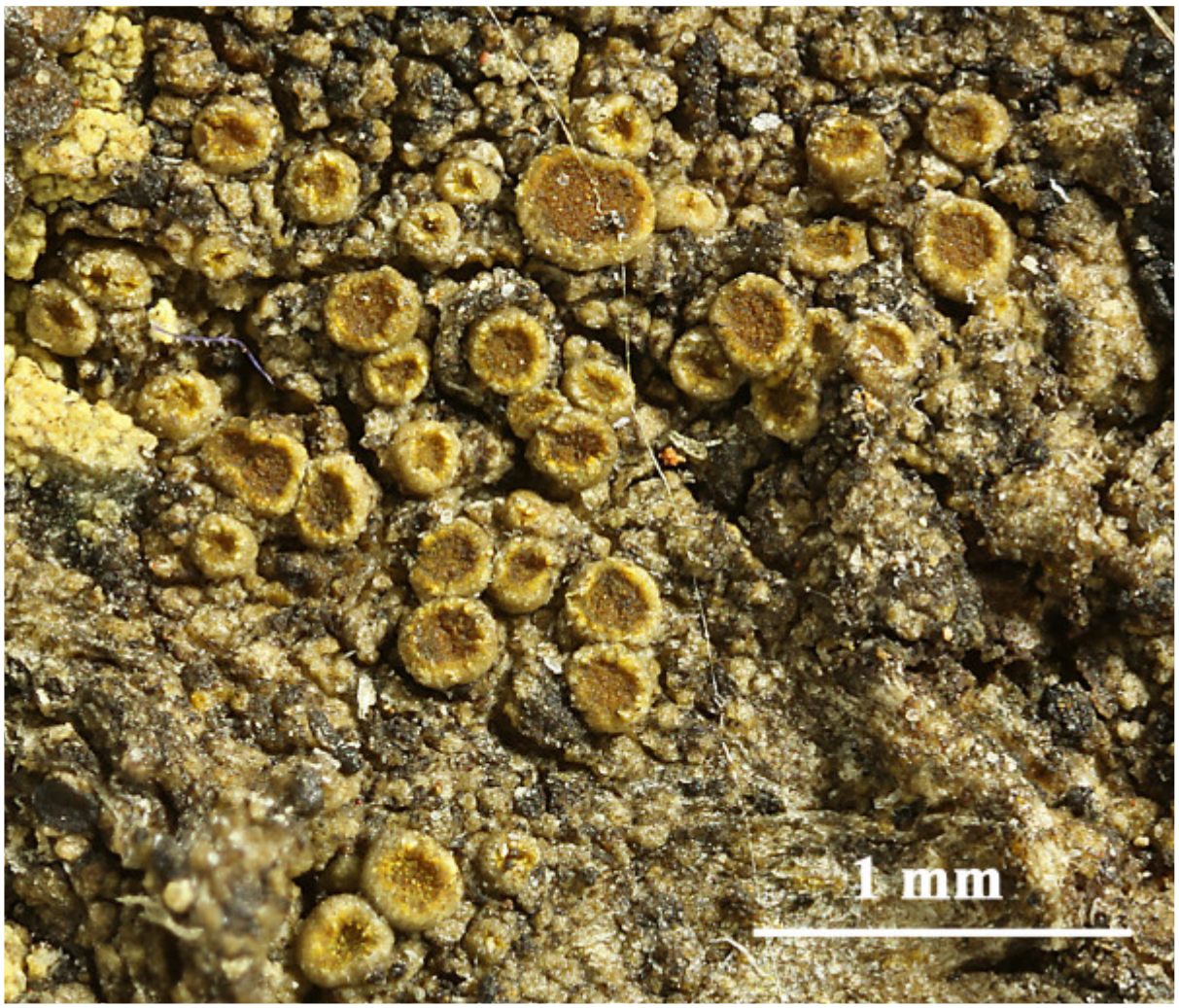


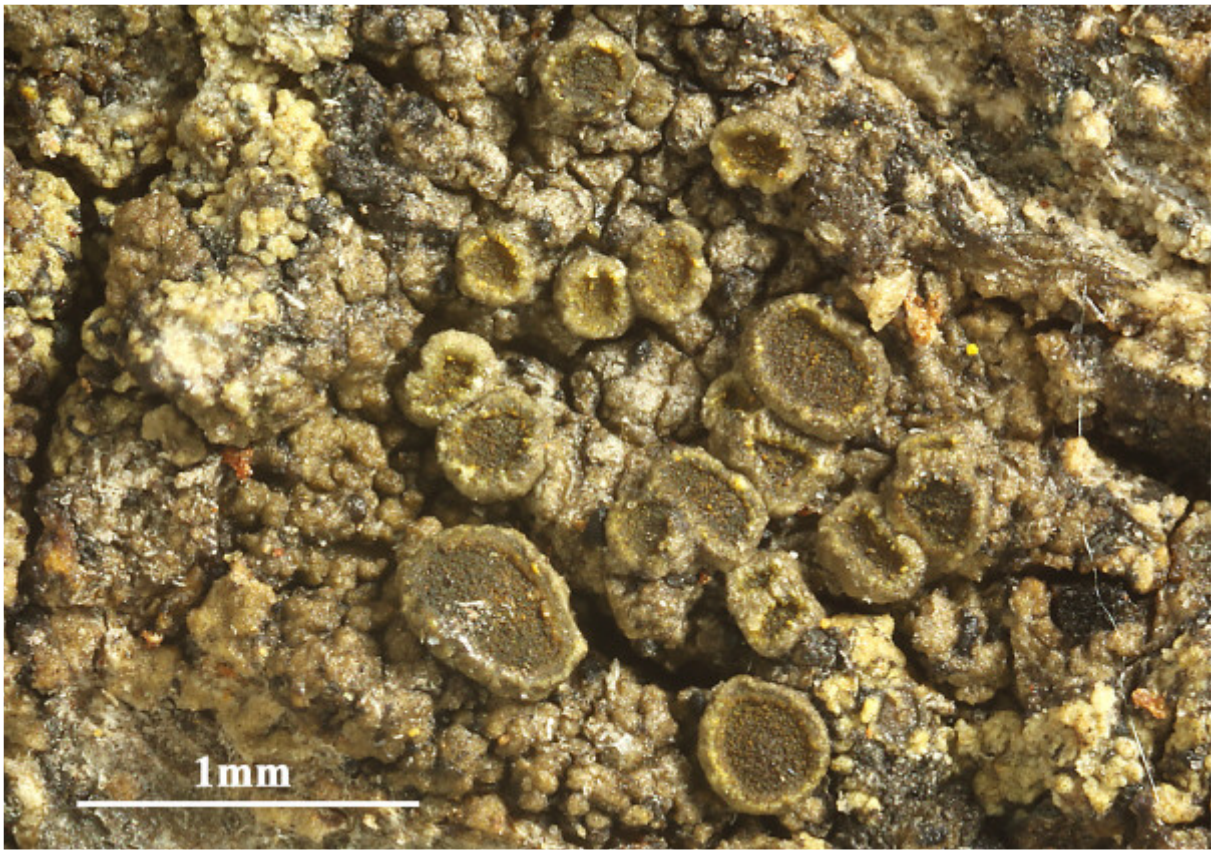
Caloplaca marmorata

Caloplaca michelagoensis Elix, S.Y. Kondr. & Kärnefelt

Thallus corticoluos, entire to verruculose, areolate, grey, dark grey to brownish-grey. Apothecia (0.2-)0.4-0.7 mm diam., lecanorine or zeorine; disc plane to weakly subconvex, varying in colour from blackish, dirty brown, orange brown or concolorous with thallus. Ascospores small, often becoming brownish (K+ purple) or blackish in the ascus, 2-4-6 or 8/ascus, (9-)10-14(-16) x (3-)4-6(-7) µm, septum 3-6(-7) or absent. Chemistry: neochloroemodin (major), an anthraquinone similar to 5-chloroemodin. Lit.: Kondratyuk, Kärnefelt, Elix & Thell, Bibliotheca Lichenol. 100: 262 (2009).

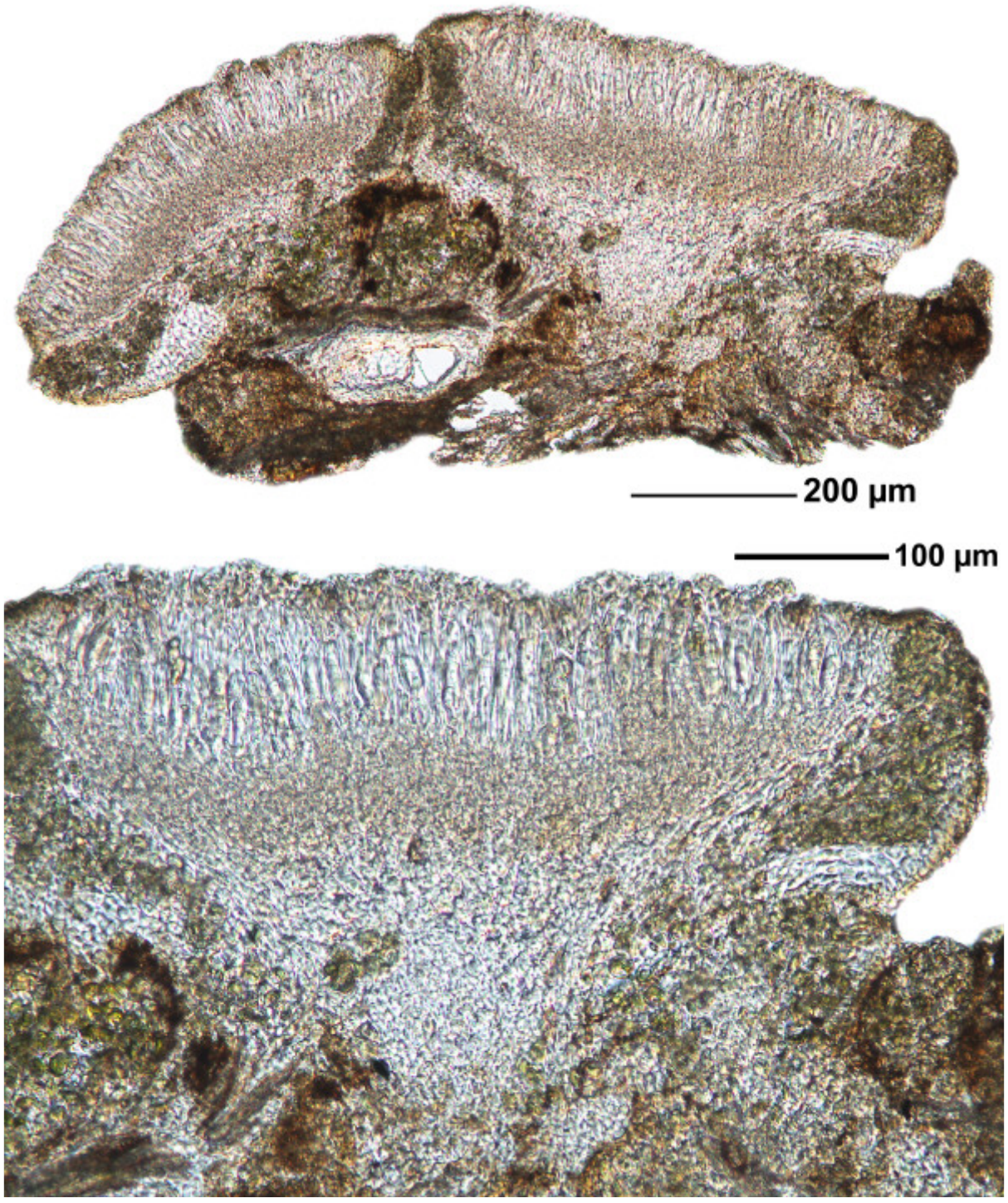
[KK35830], Australia, Western Australia, c. 5 km south-east of Katanning, on bark of allee trees (Casuarina spec.), 250 m, 33°40’ S, 117°38’ E. Leg. K. & A. Kalb, 16.08.1994, det. S. Kondratyuk.

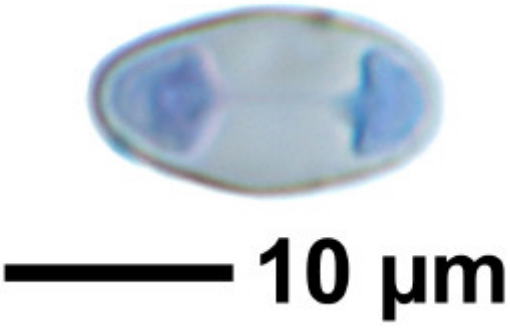




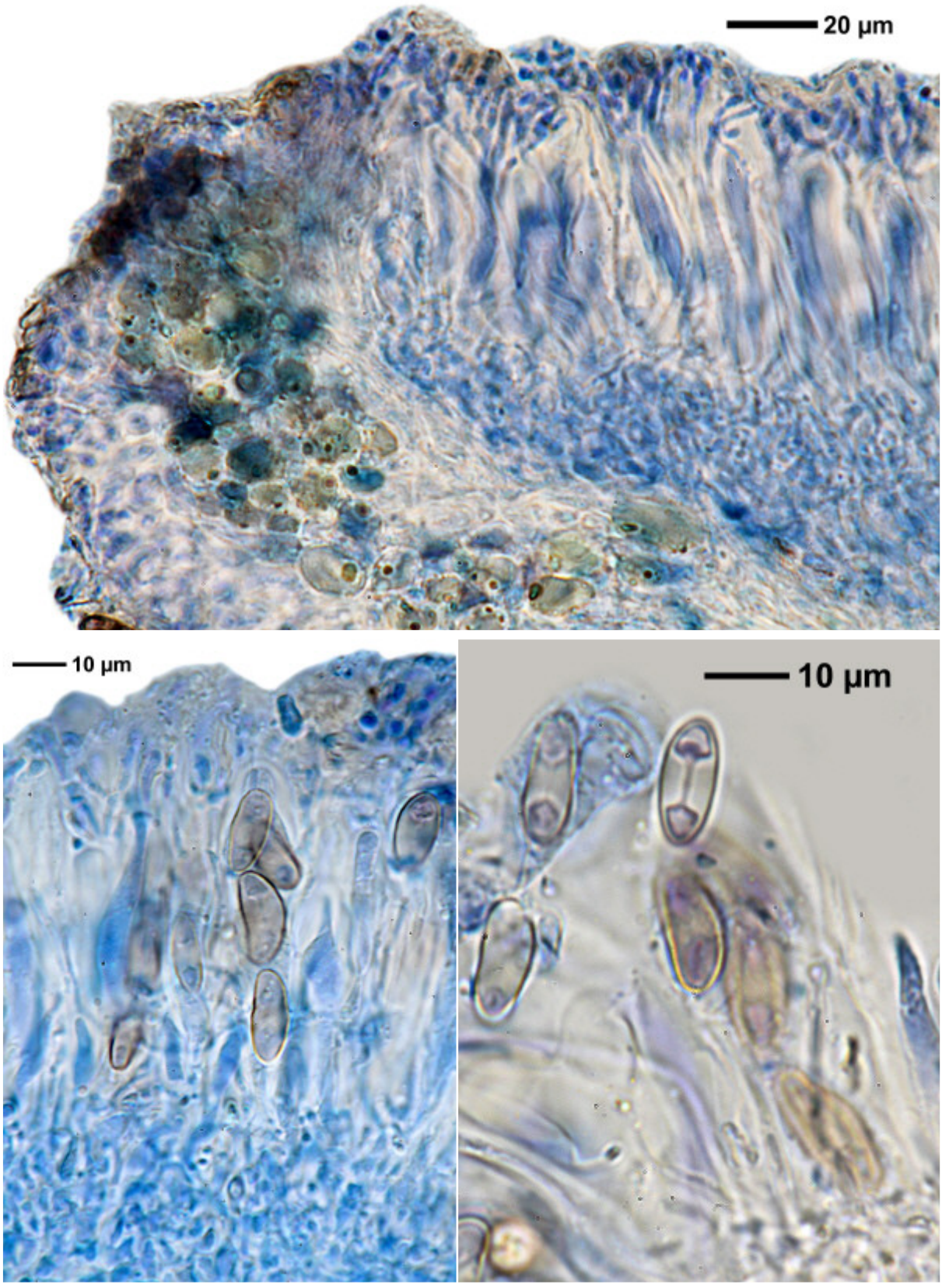


Caloplaca michelagoensis



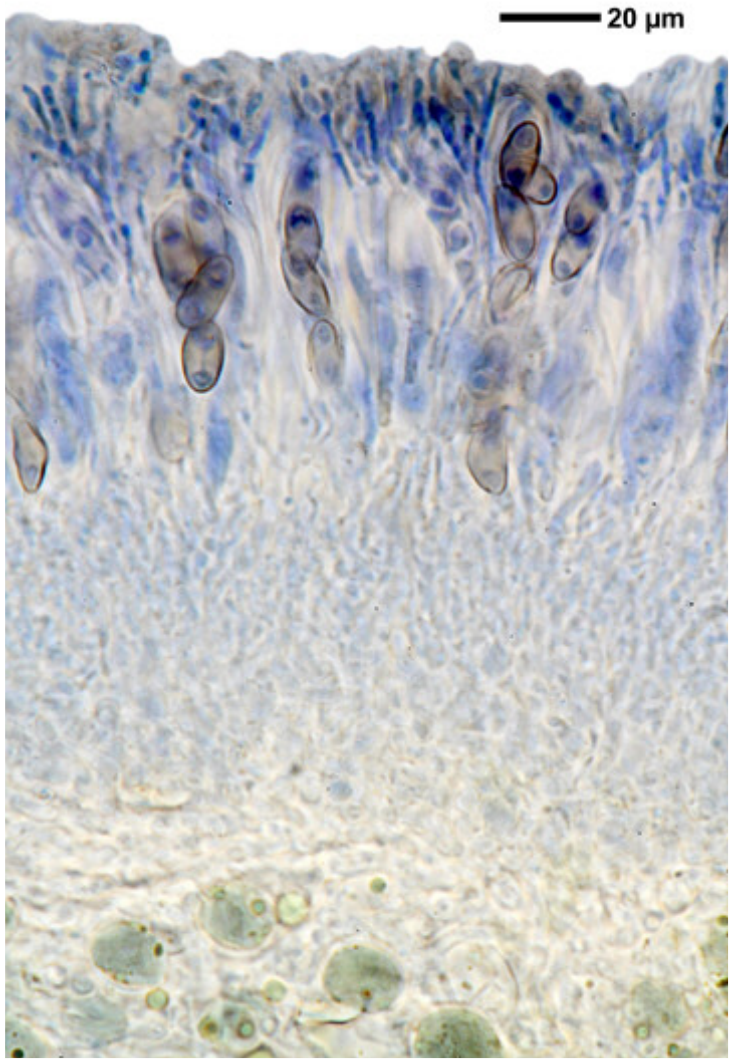


Caloplaca michelagoensis

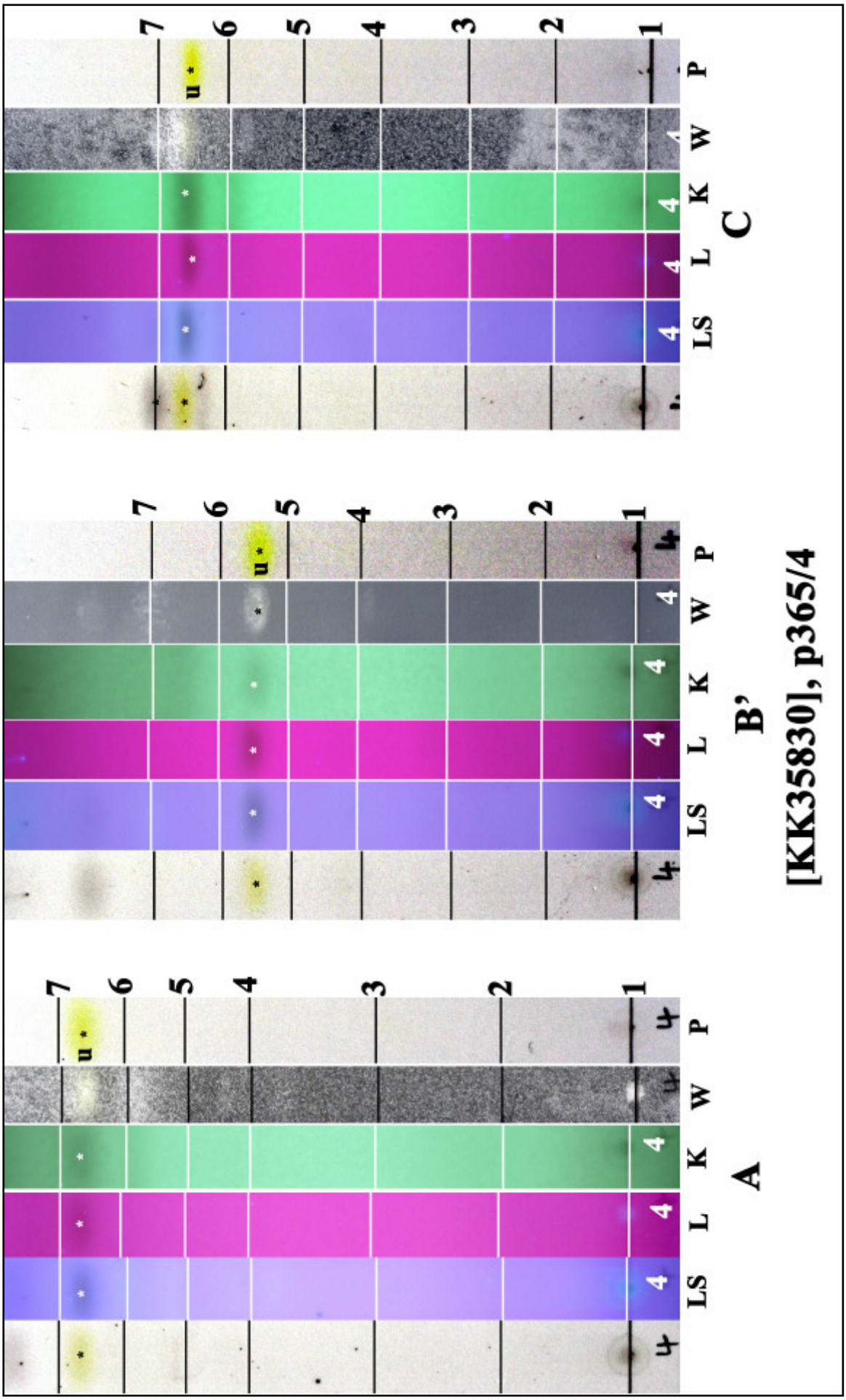


Caloplaca michelagoensis





Caloplaca michelagoensis



u: neochloroemodin (major) = 4-chloroemodin; conf. J.A. Elix

Caloplaca michelagoensis

Caloplaca microphyllina (Tuck.) Hasse

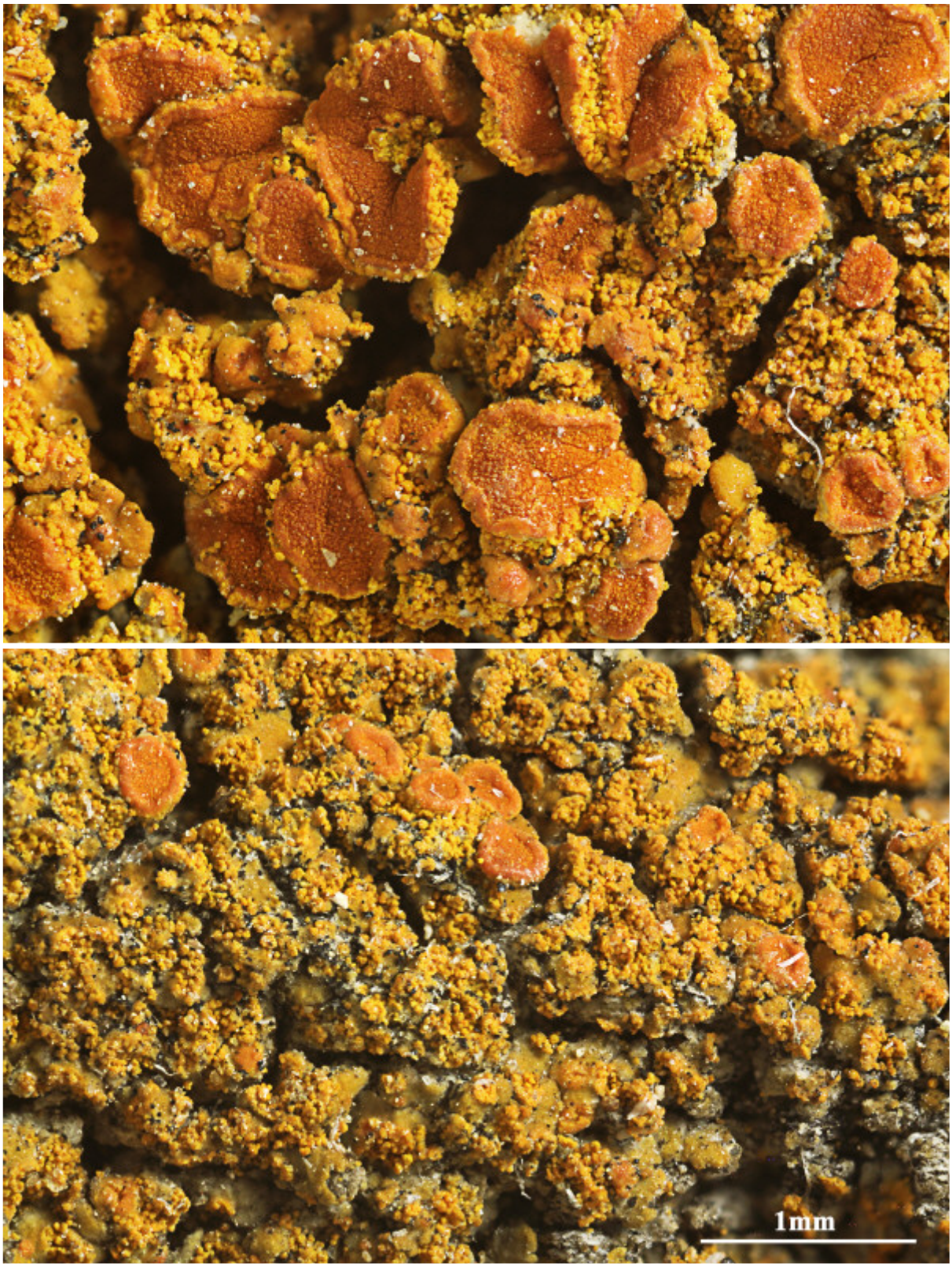
On bark.

[19404], USA, Nebraska, Scotts Bluff Co., Scotts Bluff National Monument, on top of bluff in ponderosa pine (*Pinus ponderosa*) area, 1403 m, 41°15'17" N, 103°42'04" W, on pine snag. Leg. Clifford M. Wetmore (No. 77577), 2. July 1997. TELOSCHISTACEAE EXSICCATI NO. 111 DISTRIBUTED BY C. WETMORE.





Caloplaca microphyllina



Caloplaca microphyllina

Caloplaca microphyllina (Tuck.) Hasse

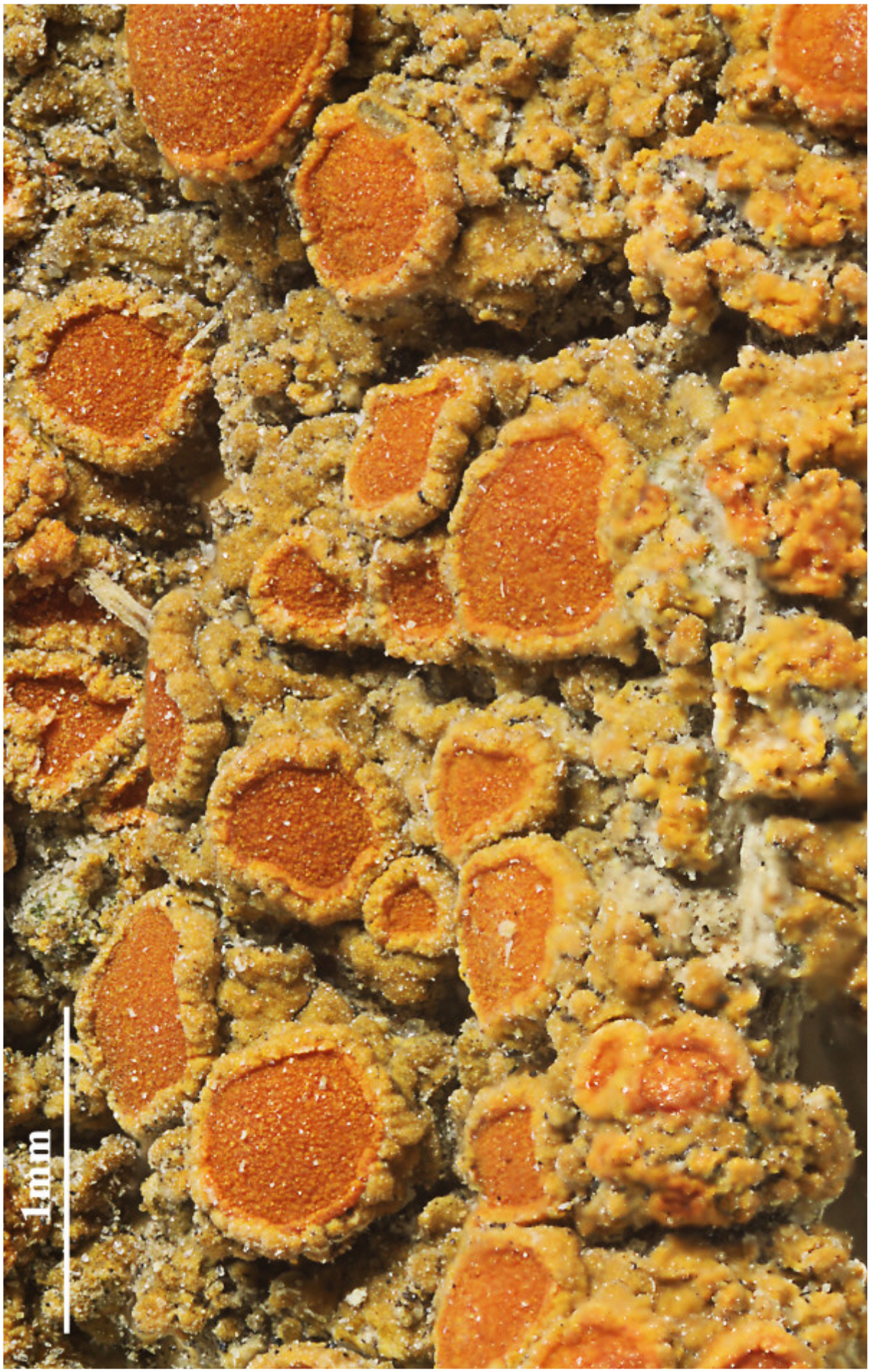
Spores 11.5-14 x 4.5-5 µm, septum 2.7 µm

[BR5030038241231], USA, California, Joshuattree National Monument, on Juniperus californica. 33°58' N, 116°04' W, 1200 m. Leg. C. M. van Herk, 14.04.1995, det. A. Aptroot 1995.

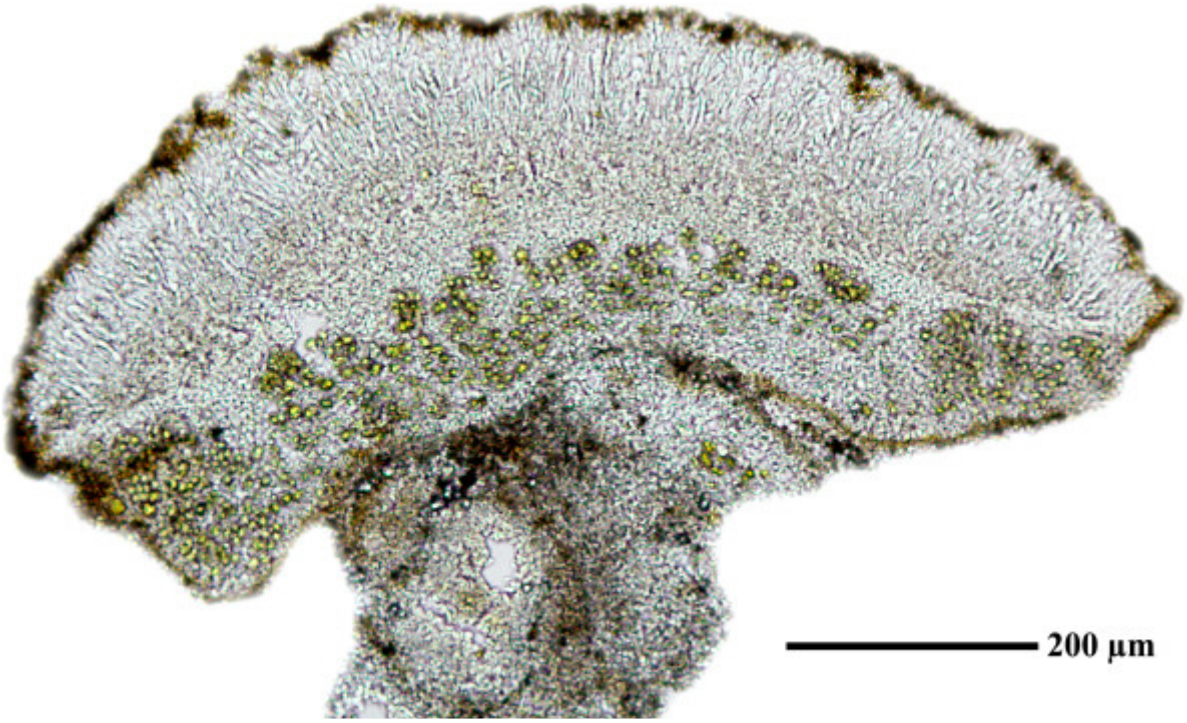


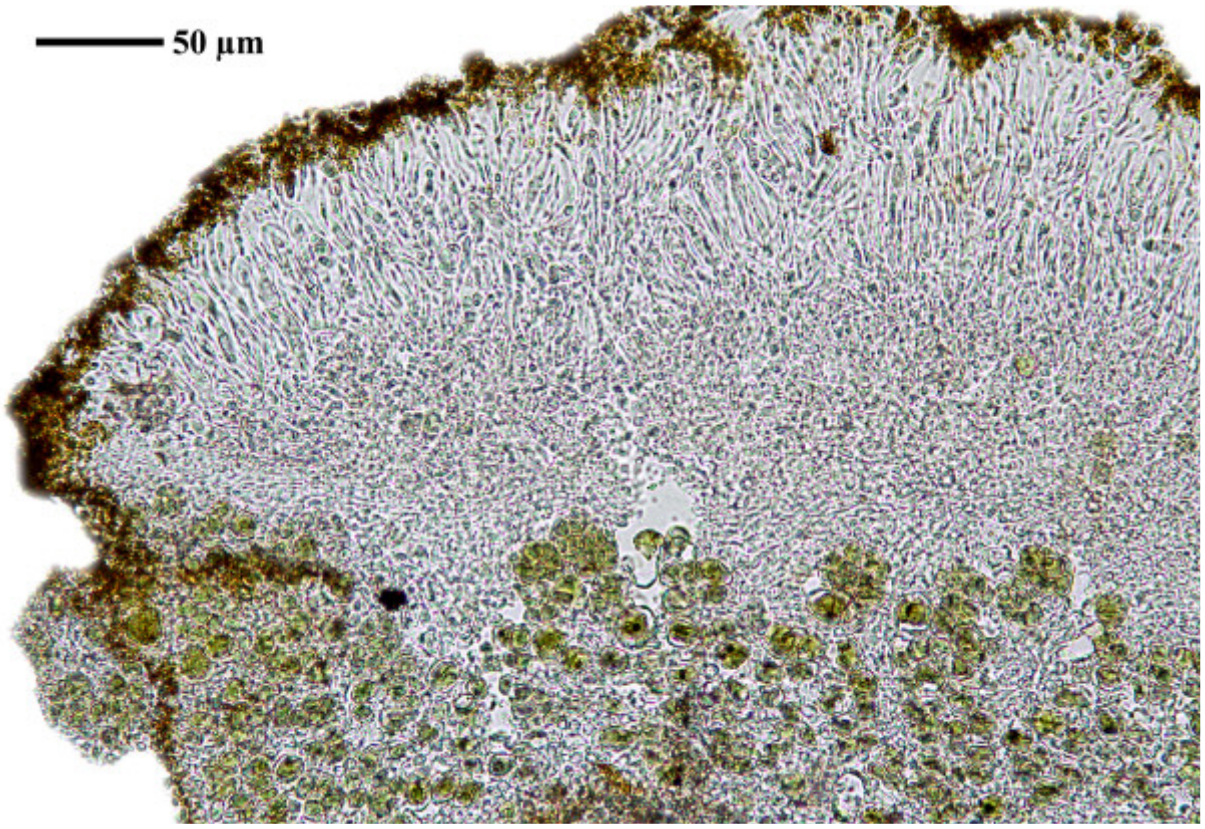


Caloplaca microphyllina

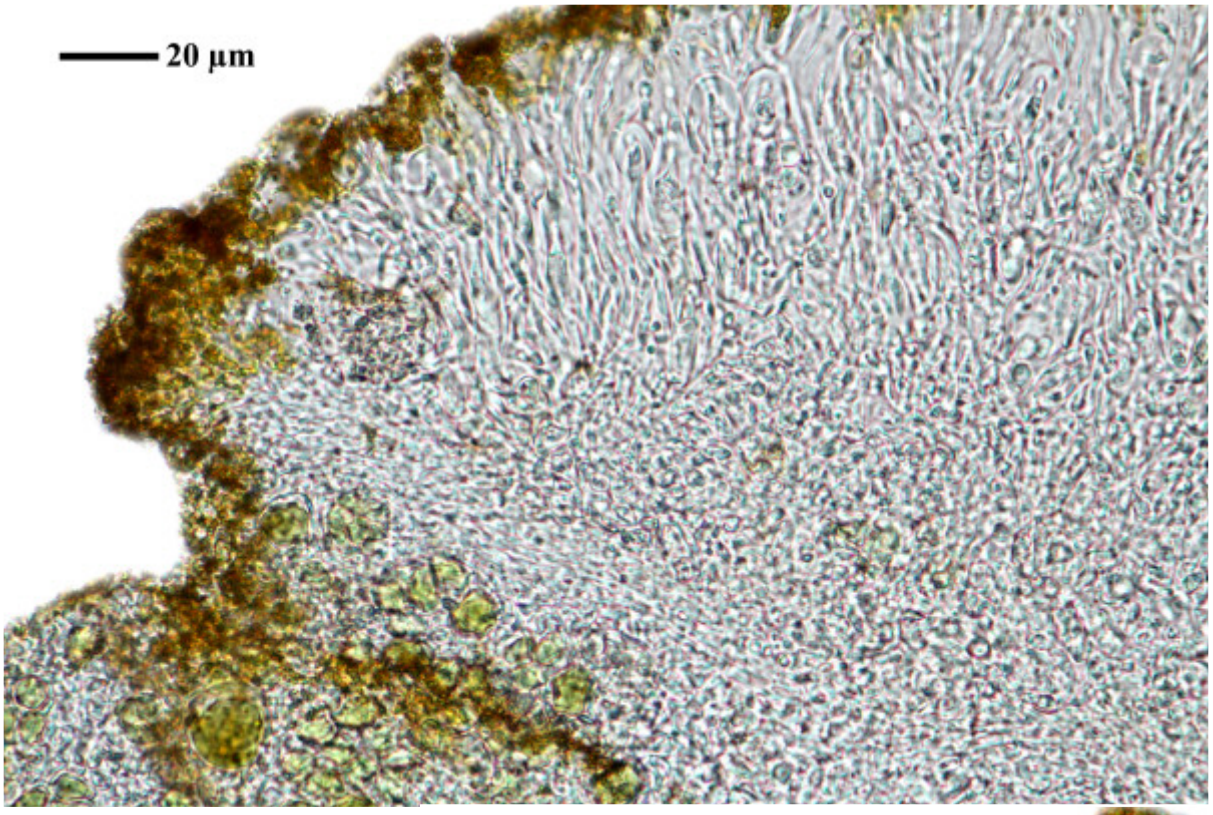


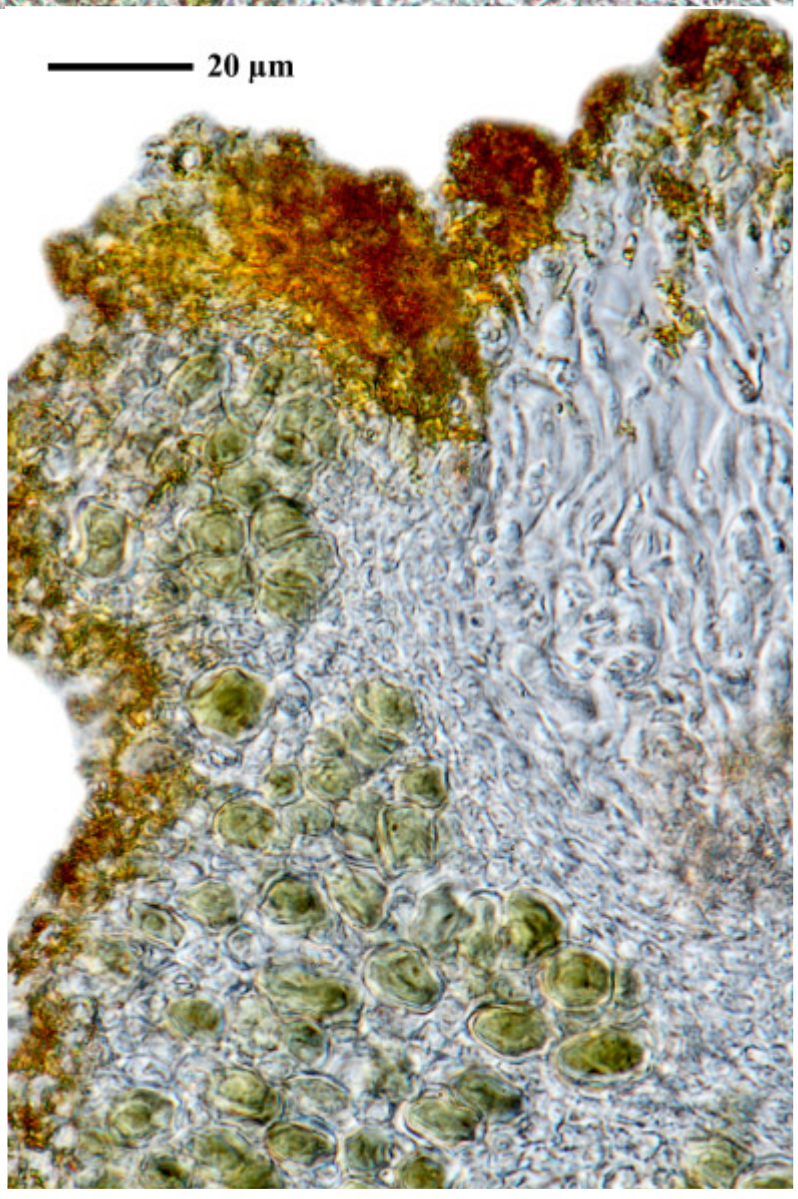
Caloplaca microphyllina



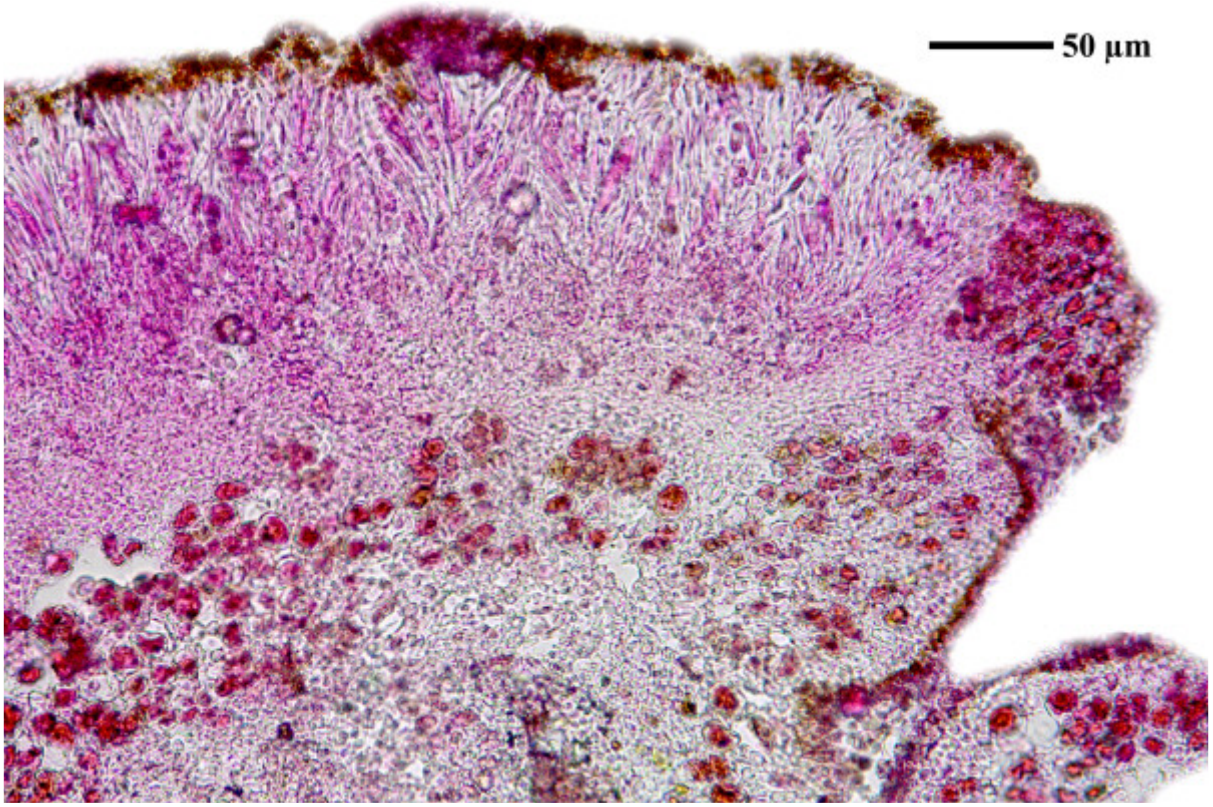


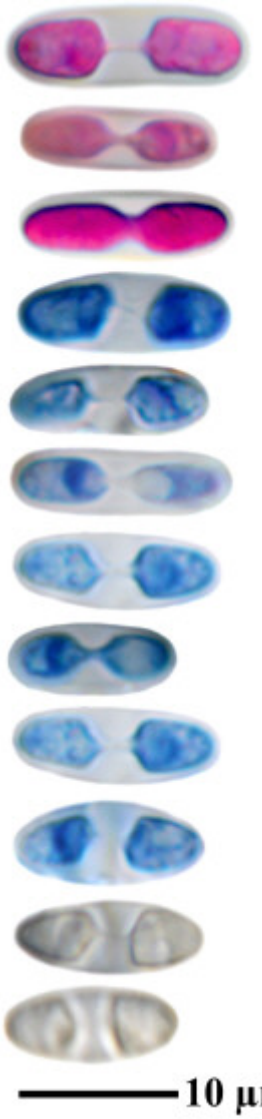
Caloplaca microphyllina

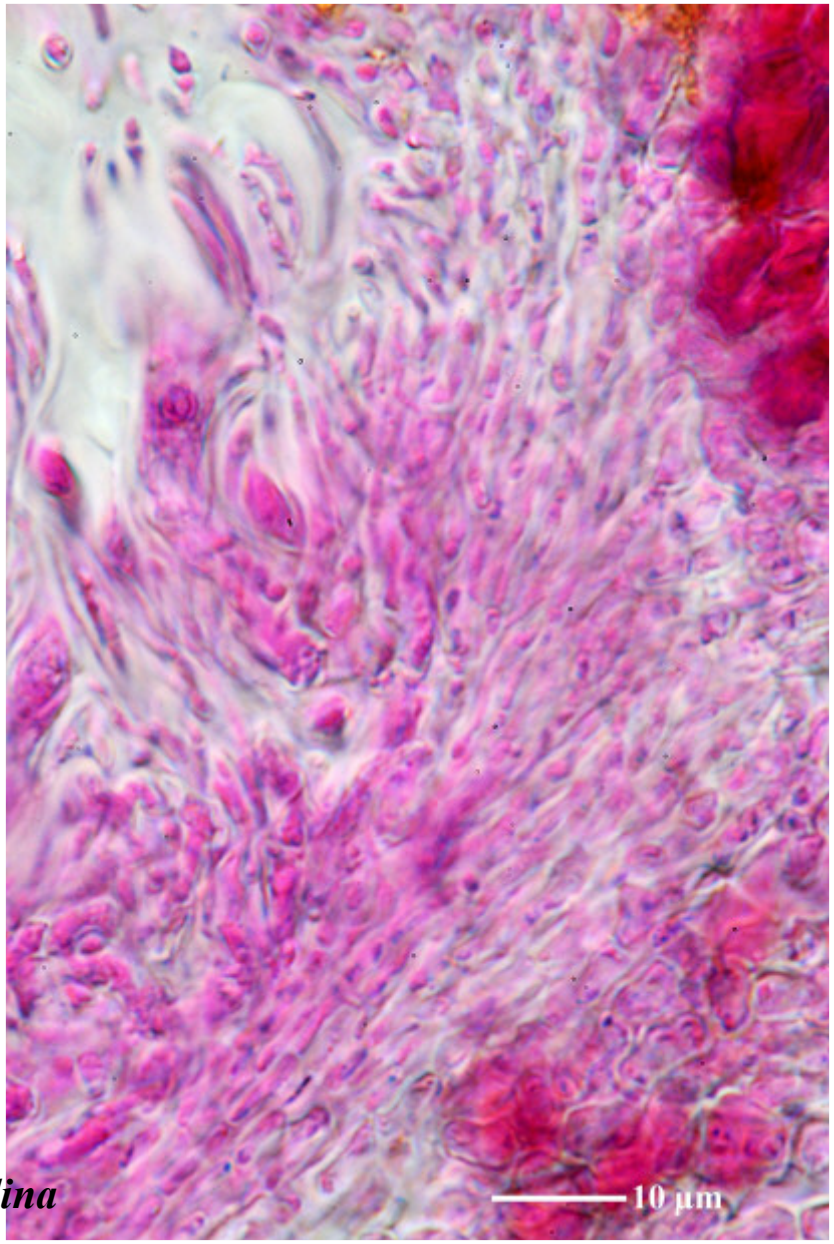




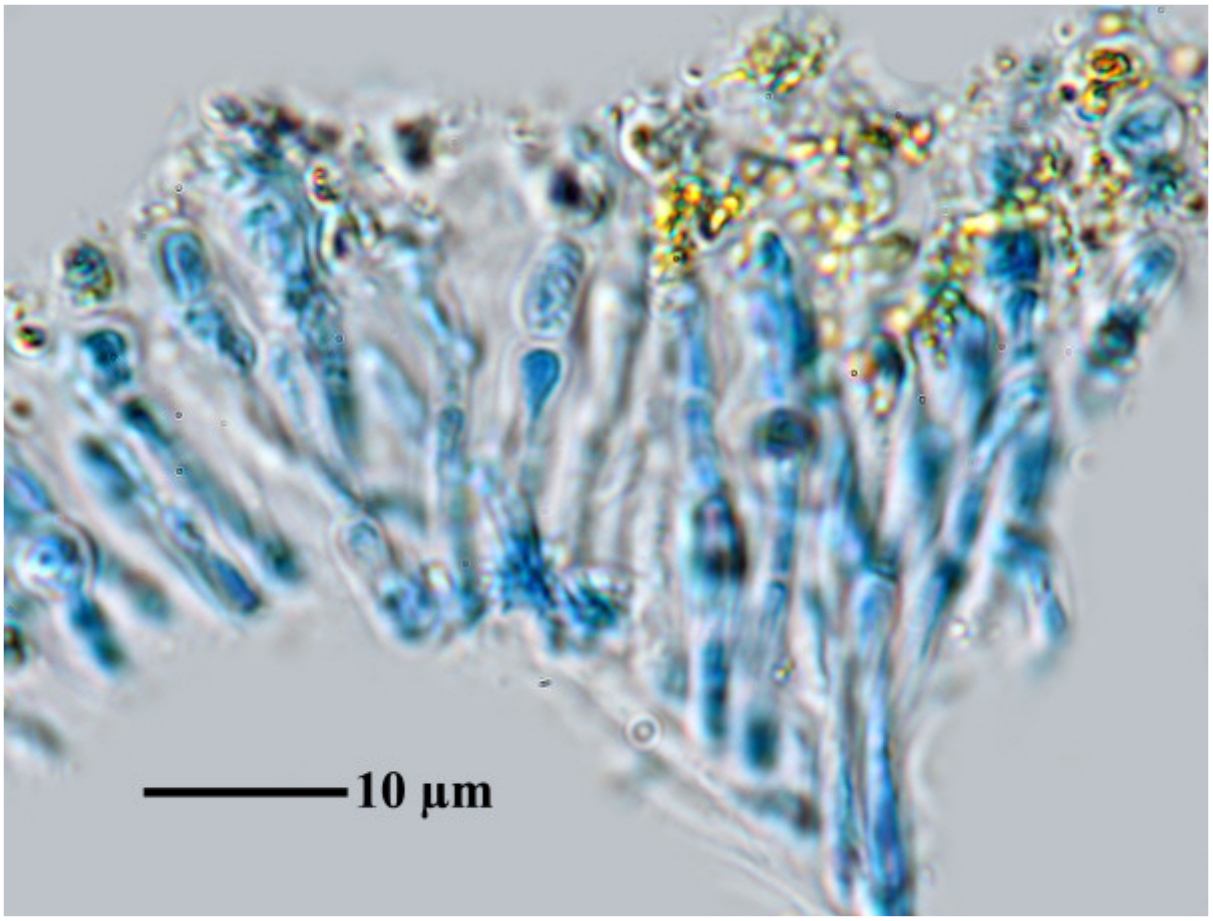
Caloplaca microphyllina

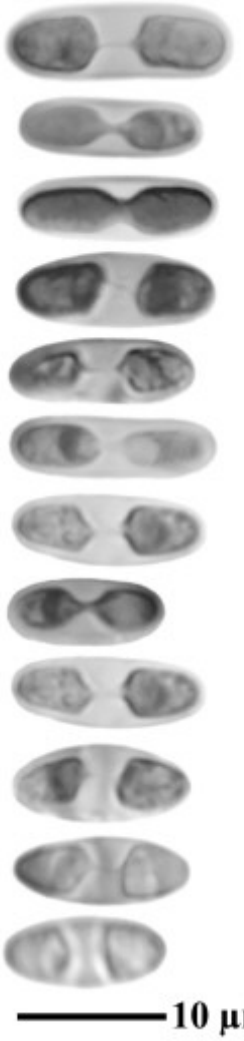


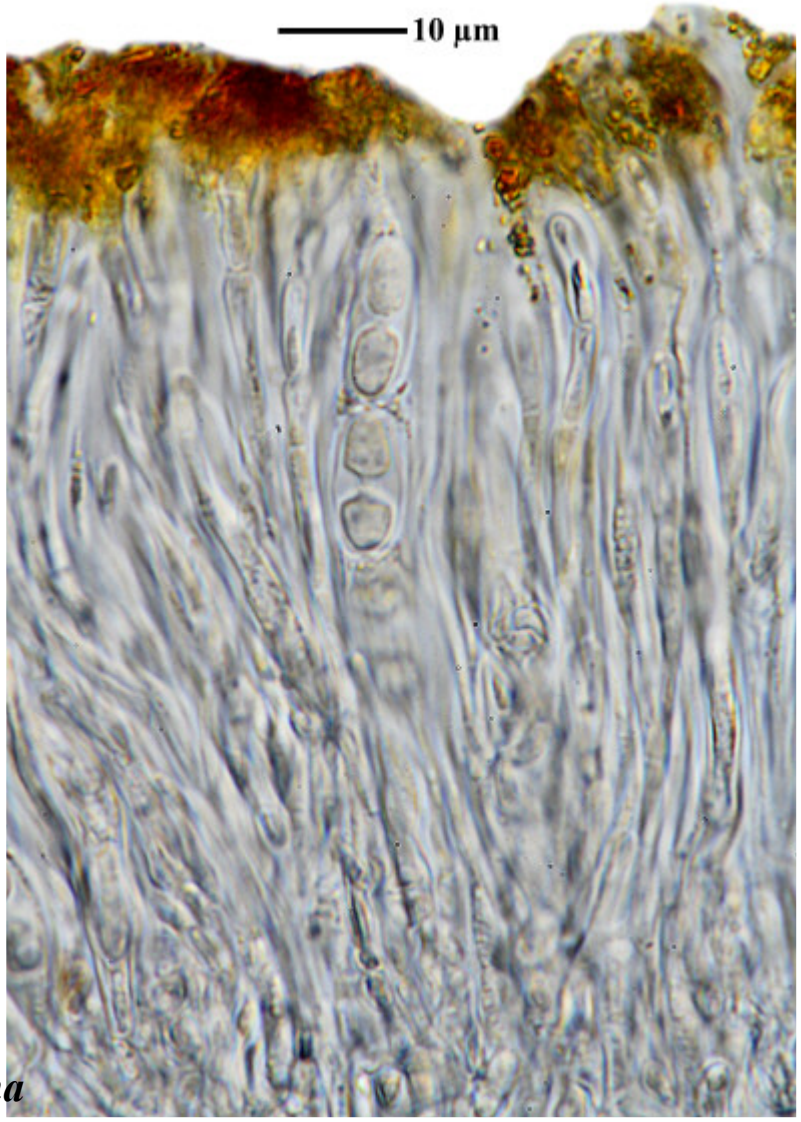




Caloplaca microphyllina







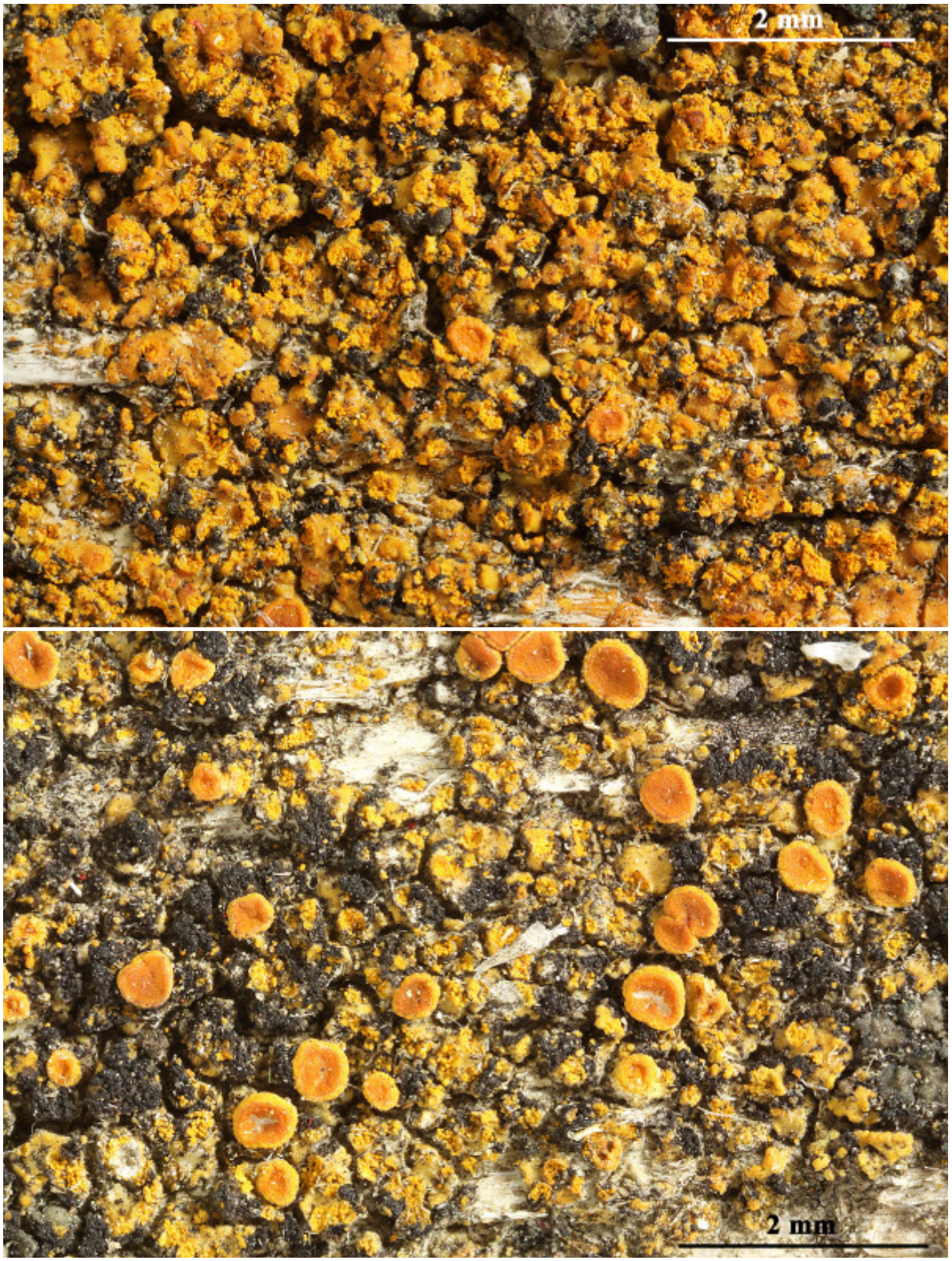
Caloplaca microphyllina

Caloplaca microphyllina (Tuck.) Hasse

Spores 10-12.5 x 6.5-7.5 µm, septum 3.5-5.3(-6) µm, 8/ascus, halin.

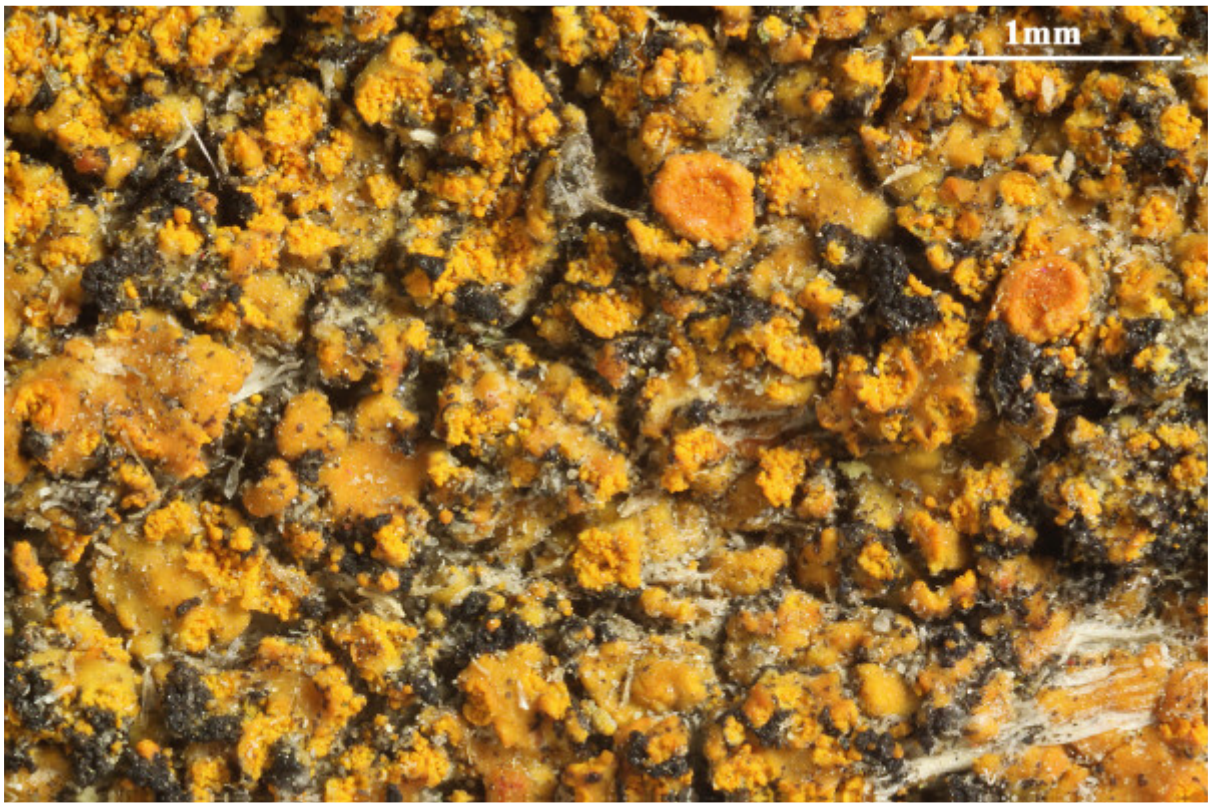
[BR5030110037363V], USA, Minnesota, Clay Co: ca 3 mi E & 2 mi S of Glyndon, the Nature Conservancy's Bluestern Prairie Preserve. 46°50.78' M, 96°28.61' W, 925 ft. Flat open tallgrass prairie, few scattered glacial erratics and rock piles, occasional old homestead with shelterbelts. On wooden shingles of old fallen-down shack, roof now at ground level, locally frequent. Leg. M.K. Advaita (6629), 9. May 2008. LICHENES EXSICCATI MAGNICAMPORUM NO. 35. Mixed with the para-typus of ***Caloplaca lignicola*** Wetmore.





Caloplaca microphyllina

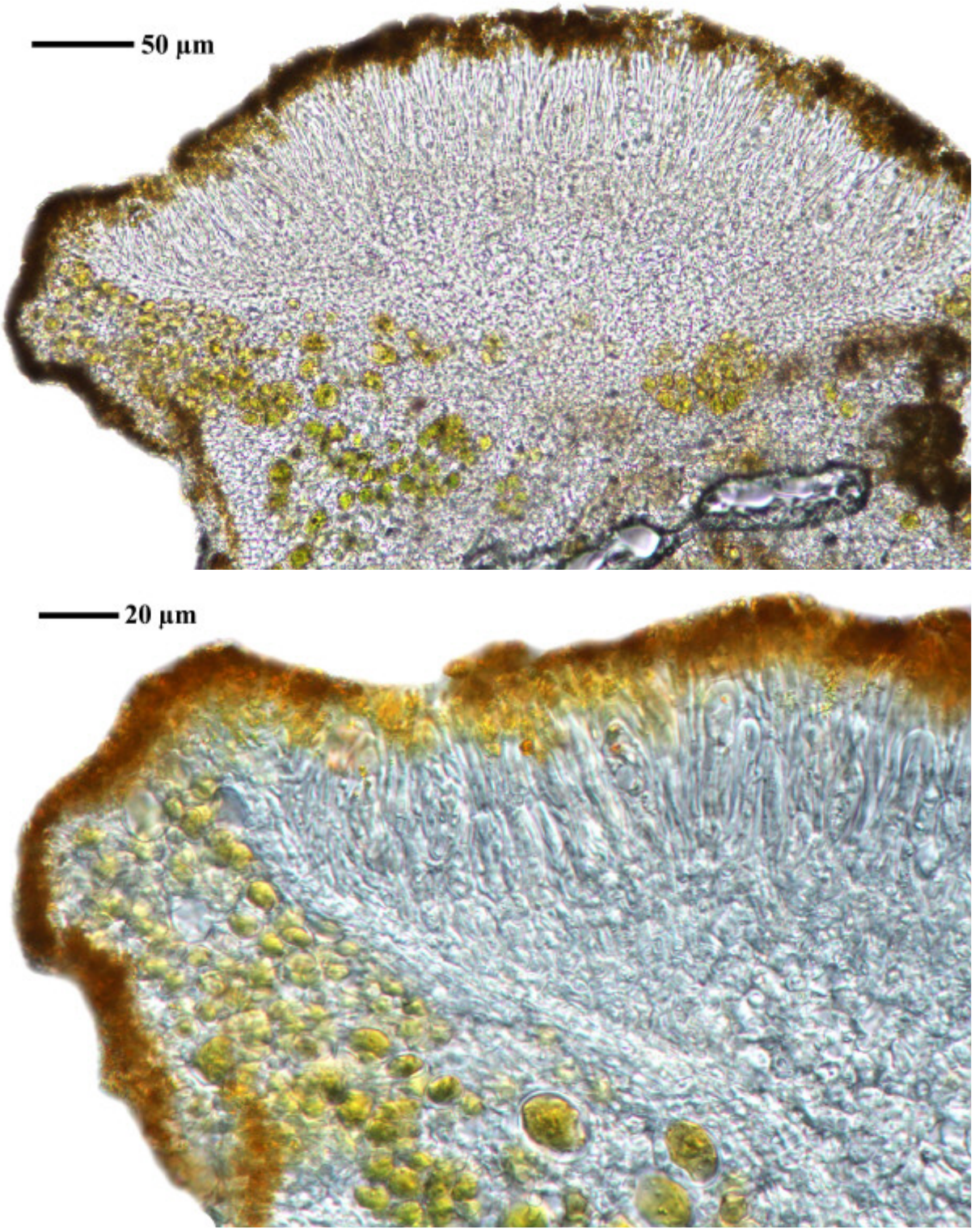




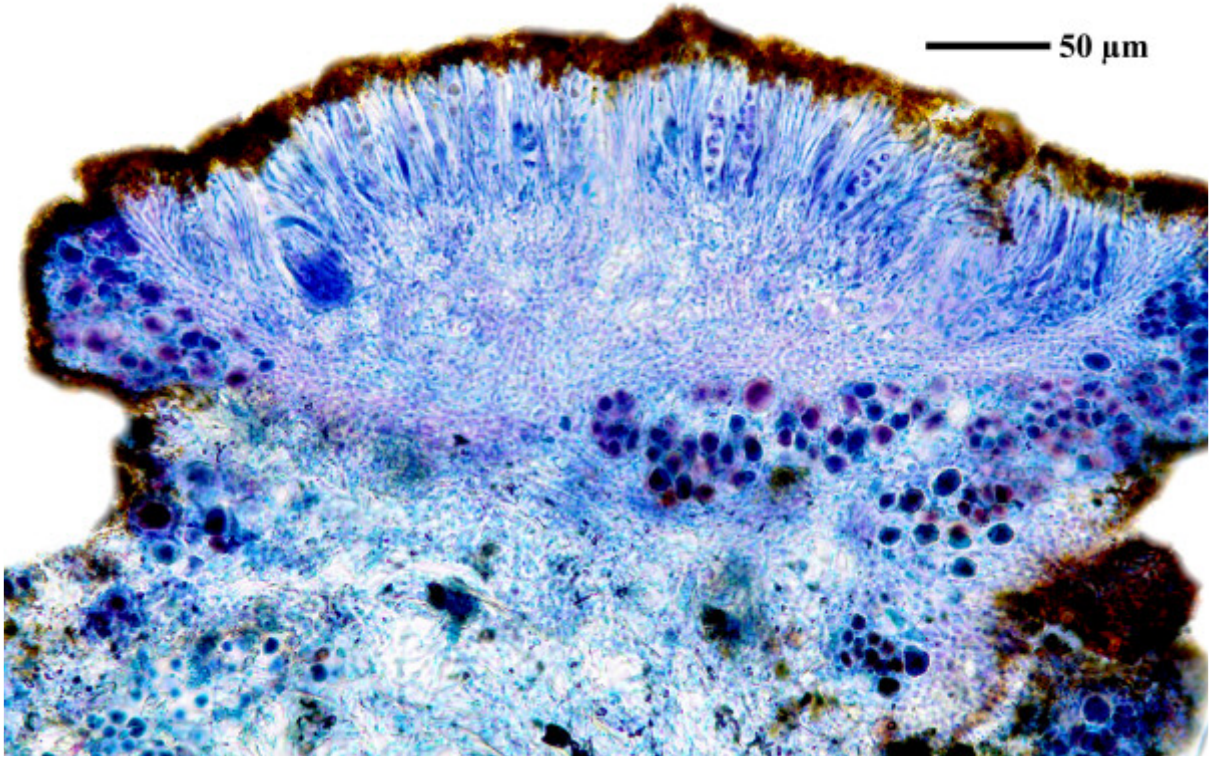
Caloplaca microphyllina

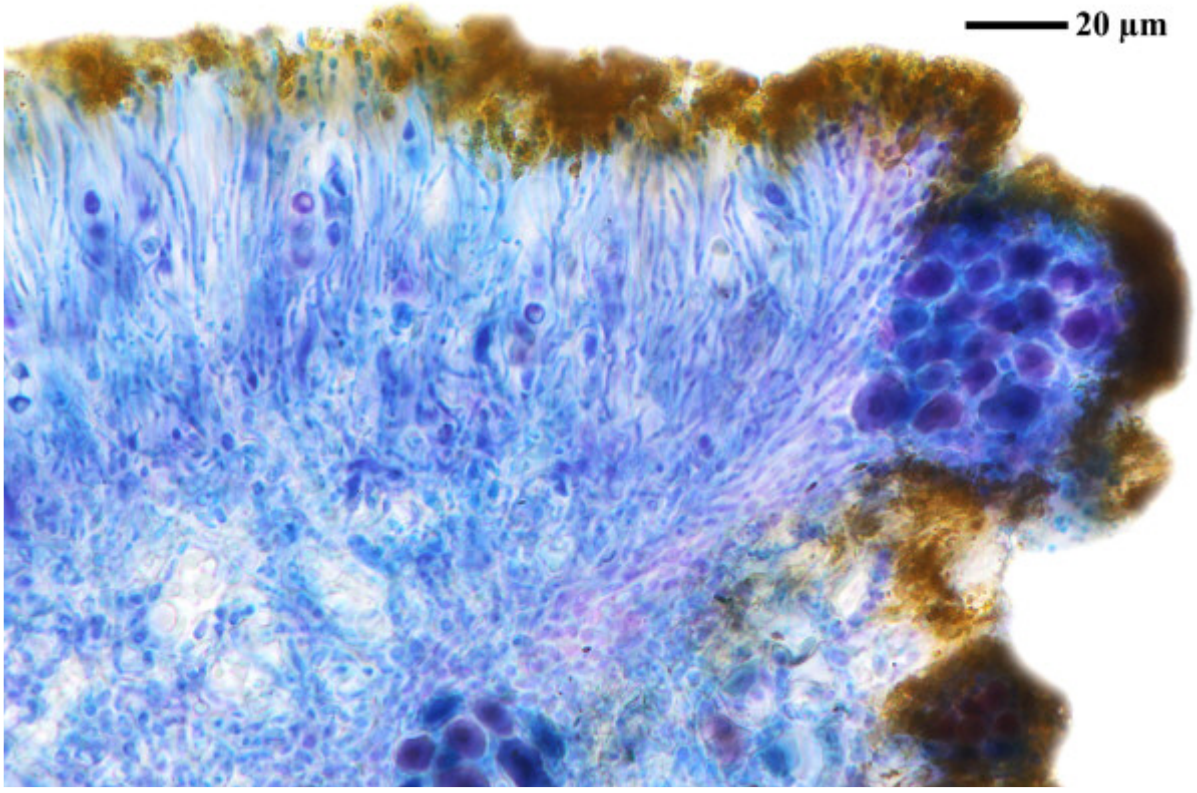


Caloplaca microphyllina



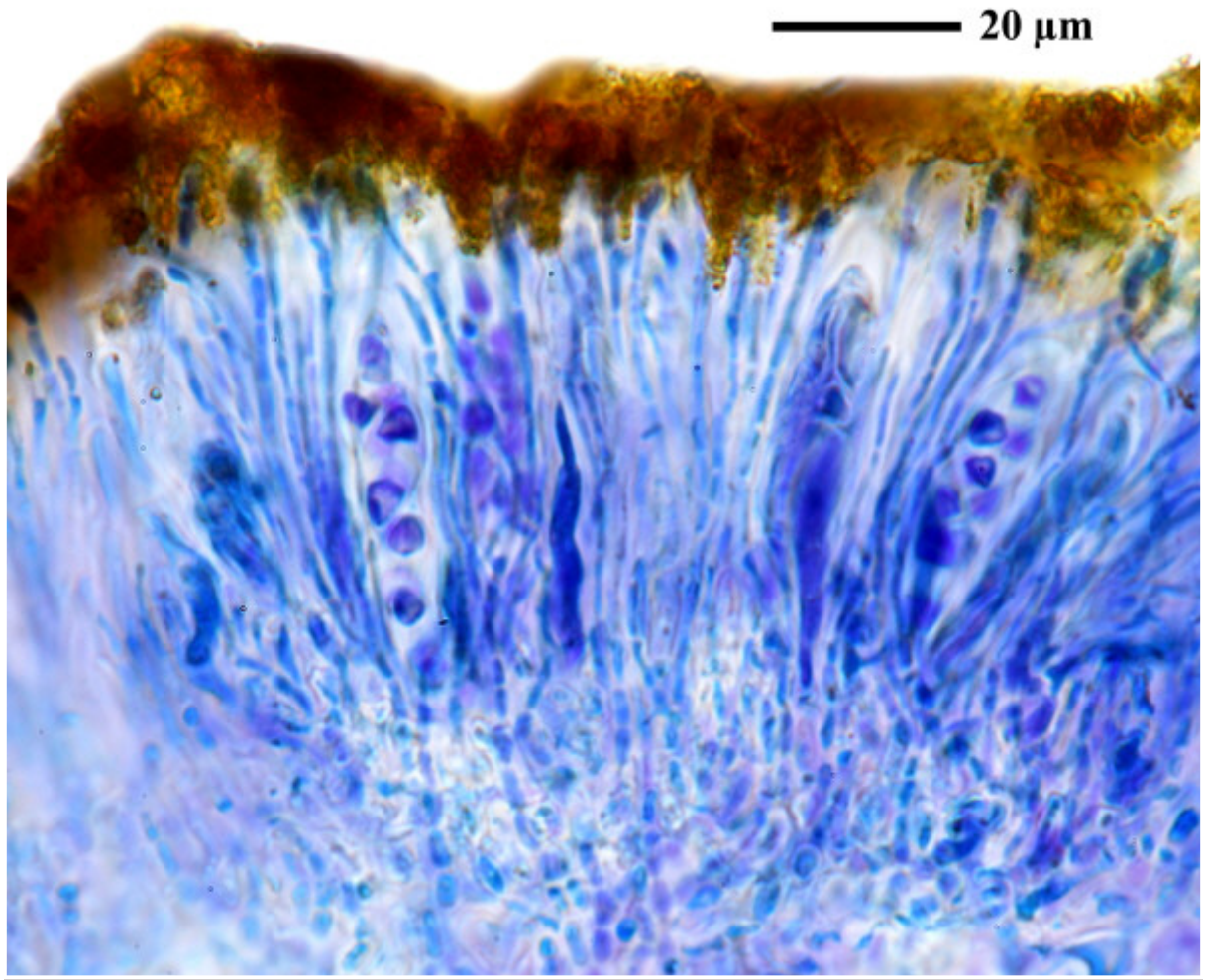
Caloplaca microphyllina

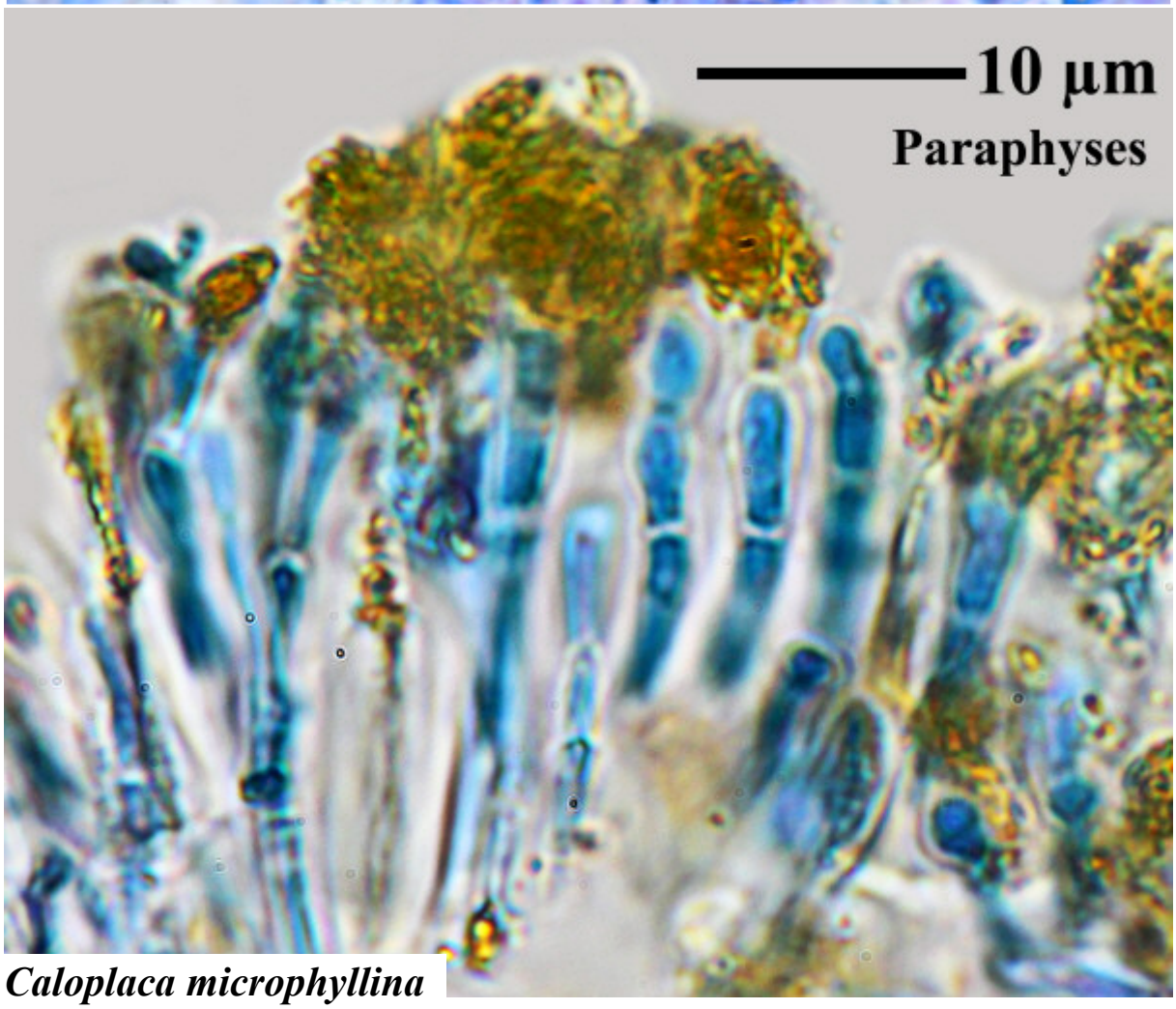






Caloplaca microphyllina





Caloplaca microphyllina

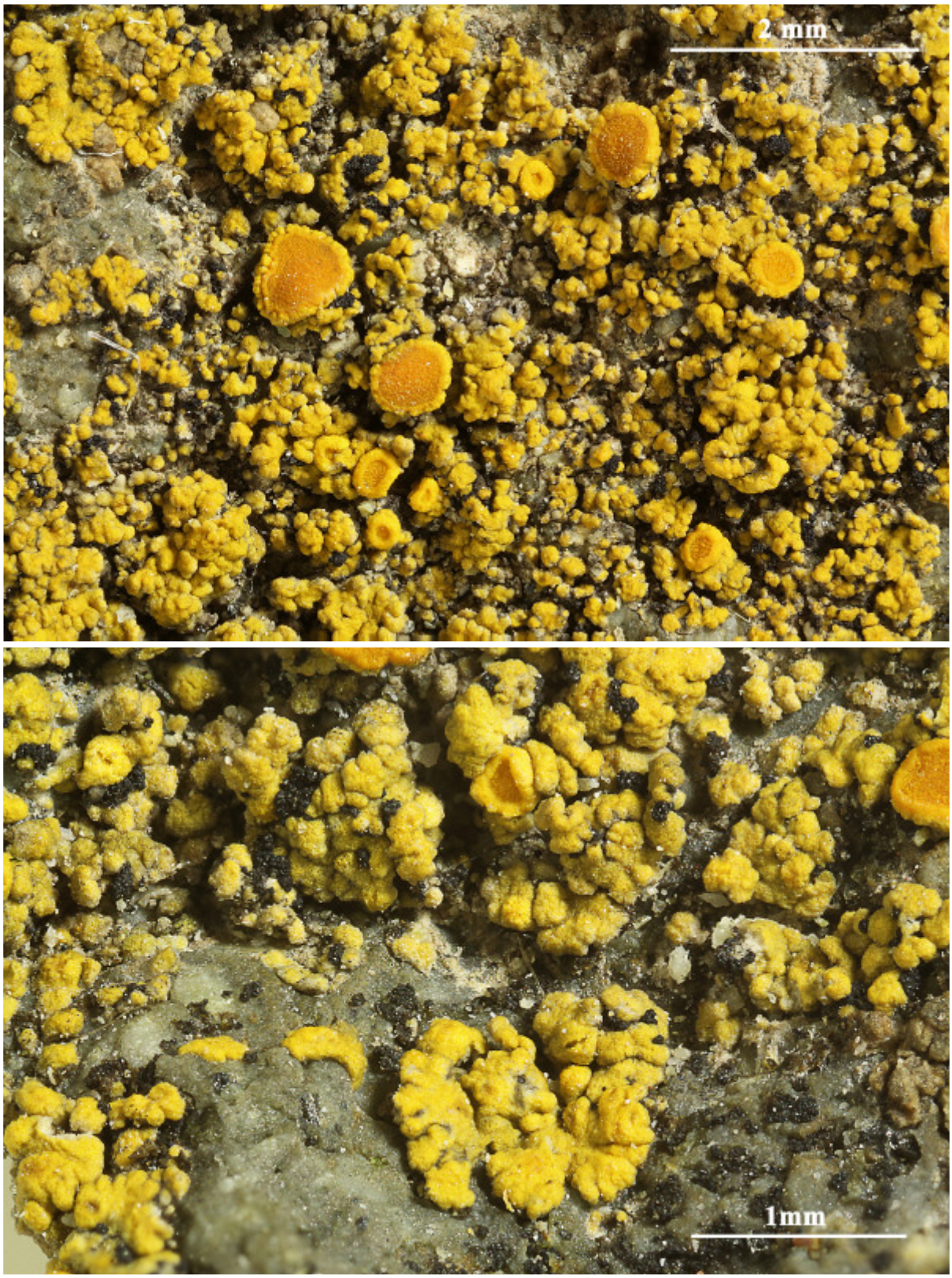
Caloplaca microthallina Wedd., Mém. Soc. Imp. Sci. Nat. Cherbourg 19: 276 (1875)

[= *Flavoplaca microthallina* (Wedd.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 46 (2013)]

Spores 19.7-14 x 5.3-6.7 µm, septum 2.5-3 µm (FS). On non-siliceous rocks.

[19598], Bulgaria, Pontus, distr. Burgas, in litore prope pagum Lozonec, alt. 1-2 m, ad scopulos siliceos. Leg. A. Kiszely & A. Vězda, 15.08.1975. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1361.

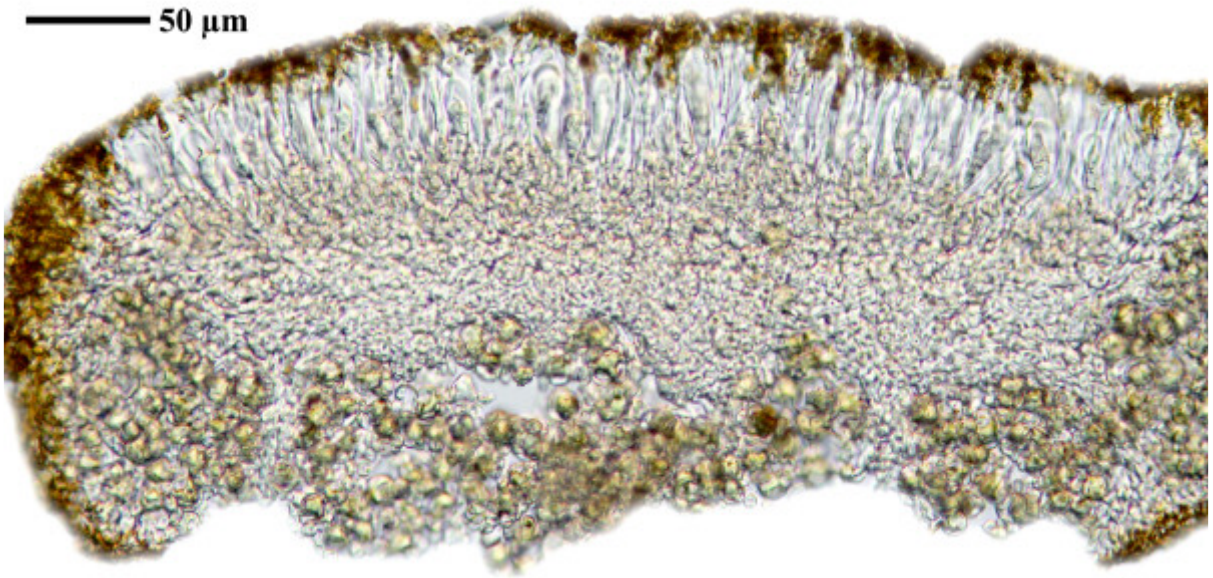


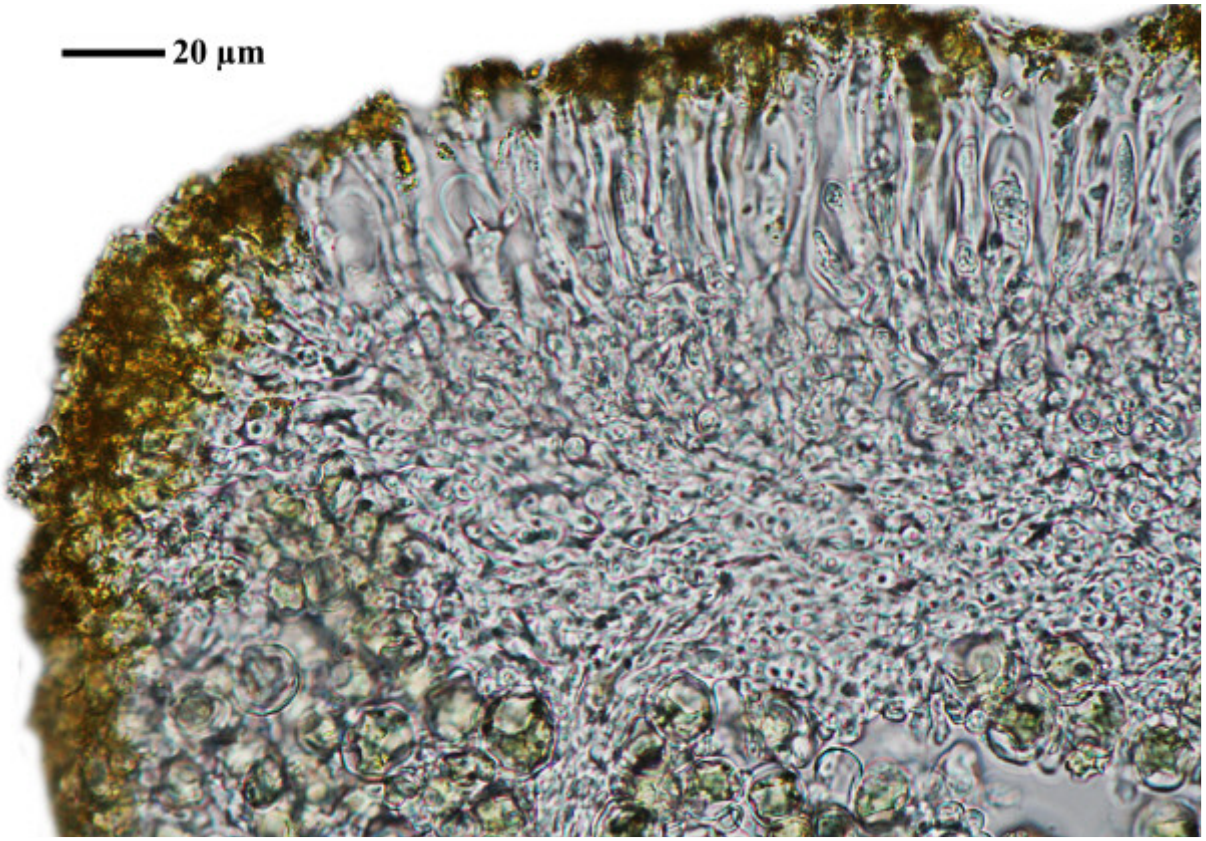


Caloplaca microthallina

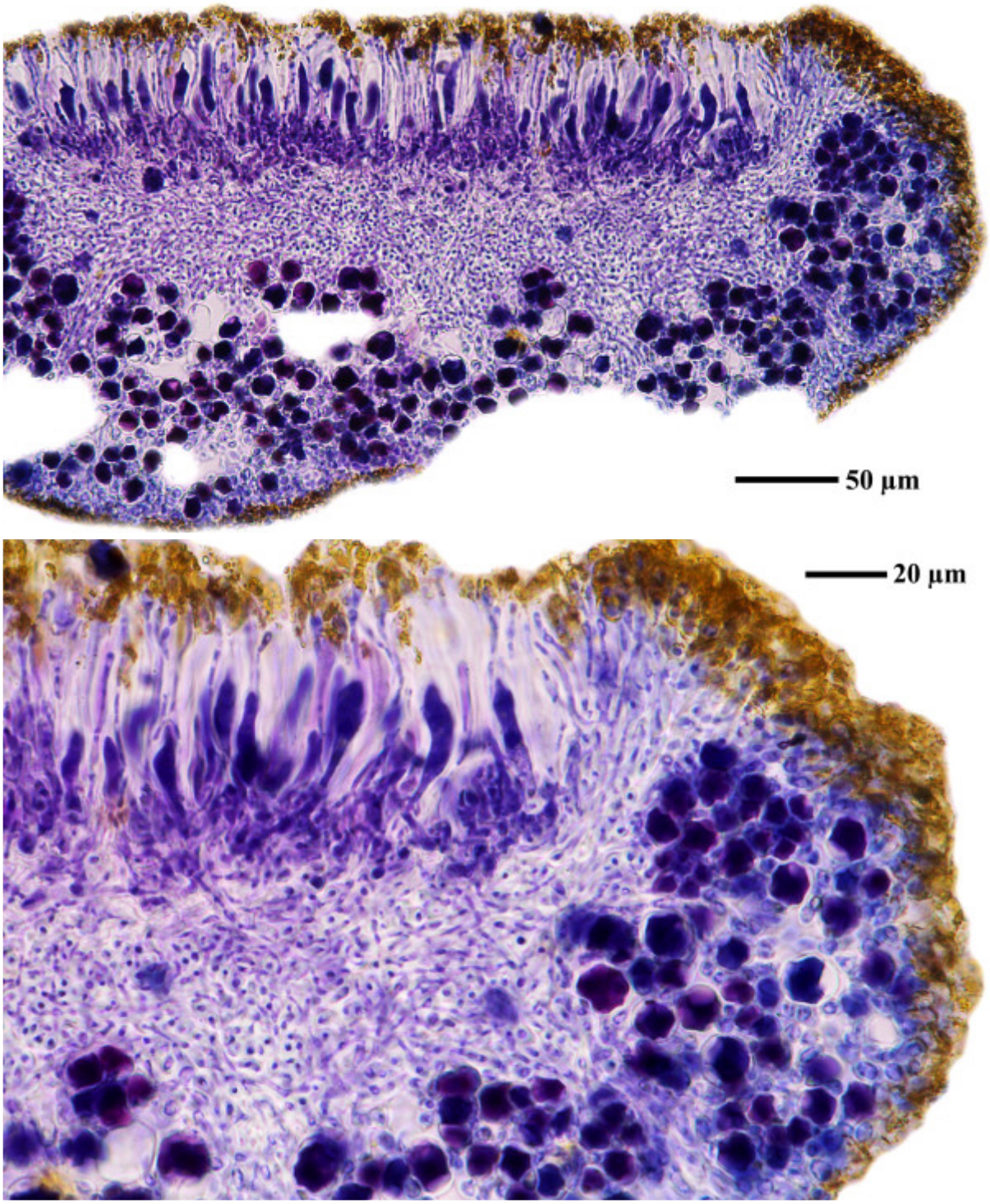


Caloplaca microthallina

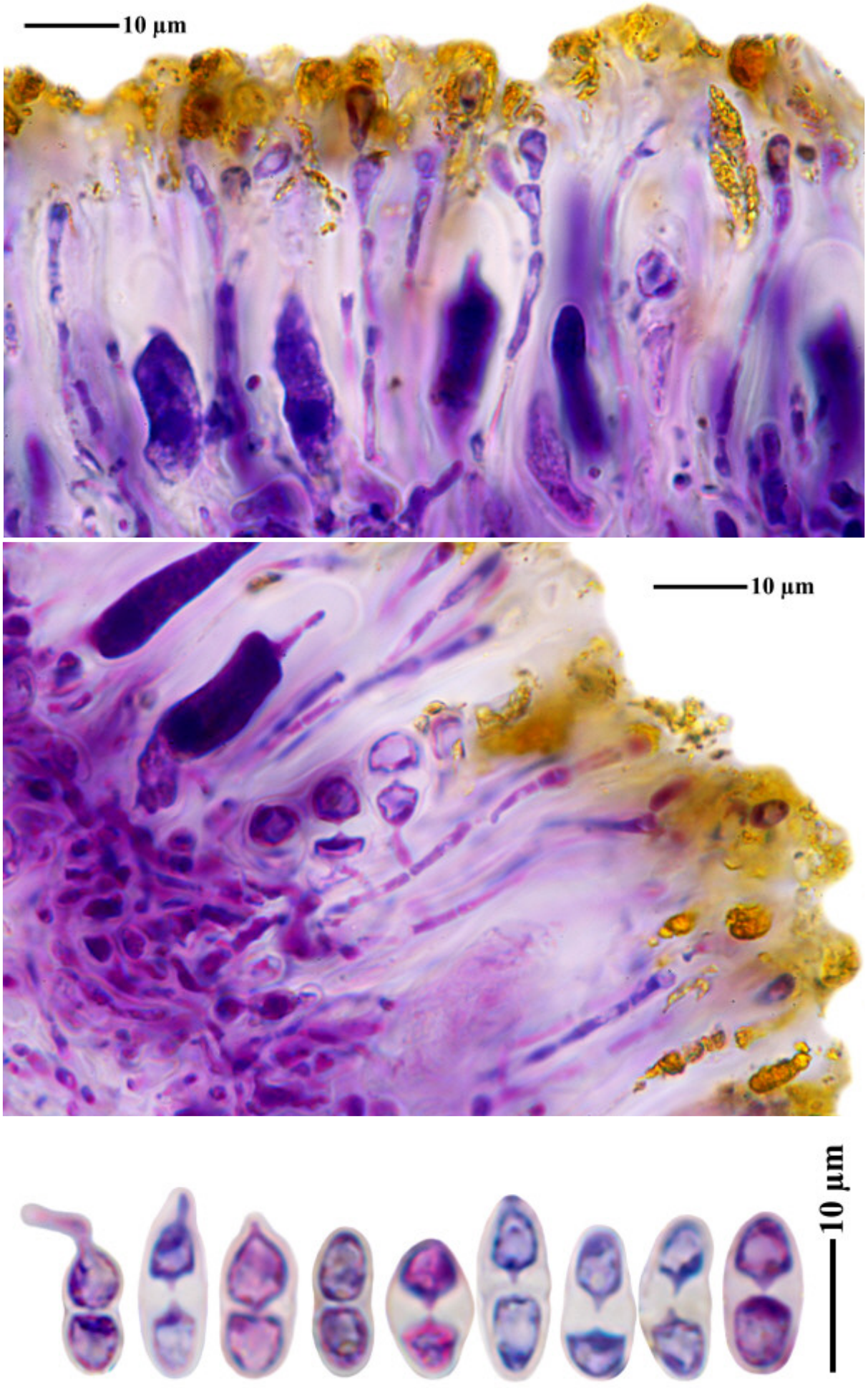




Caloplaca microthallina



Caloplaca microthallina

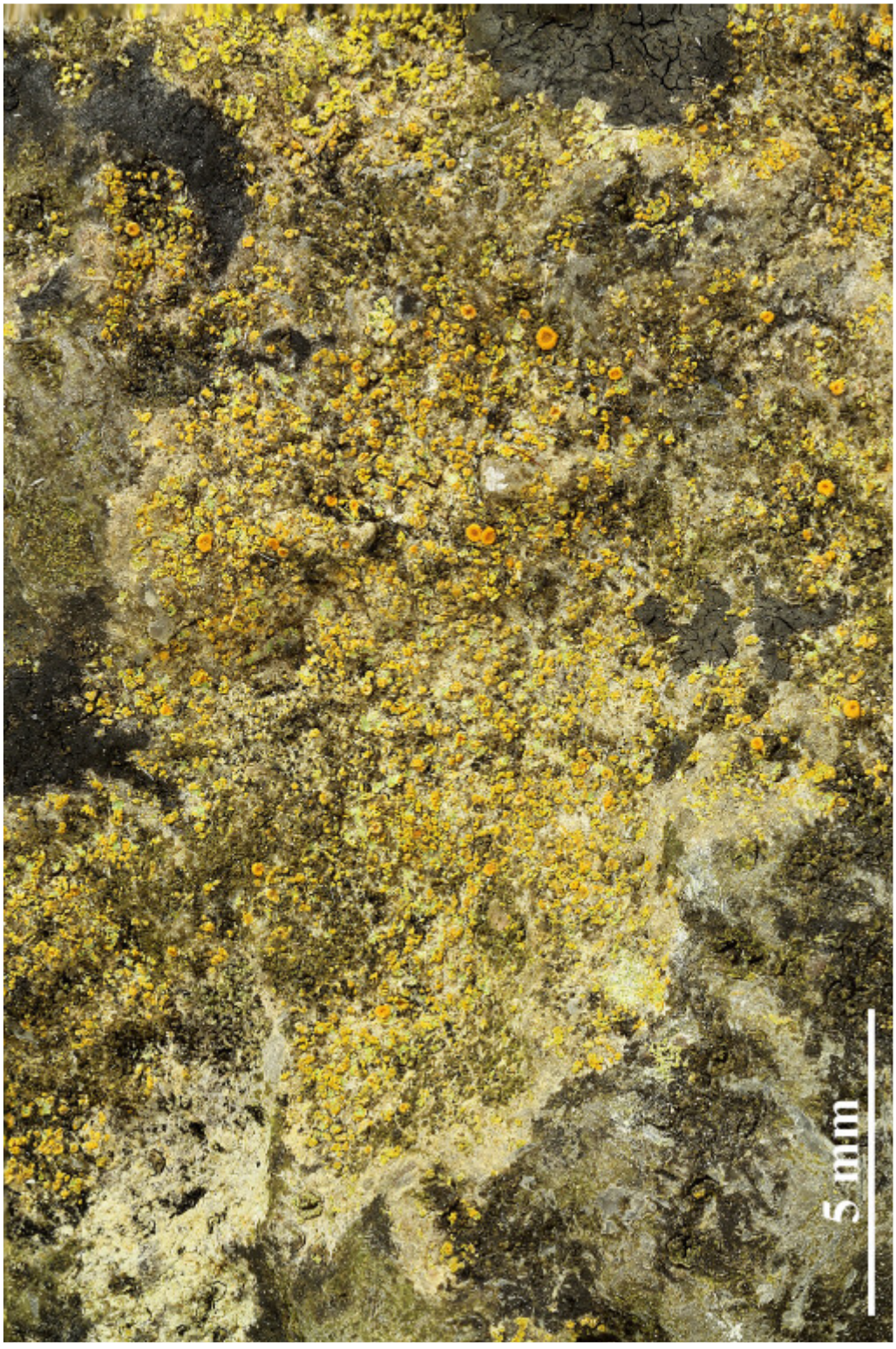


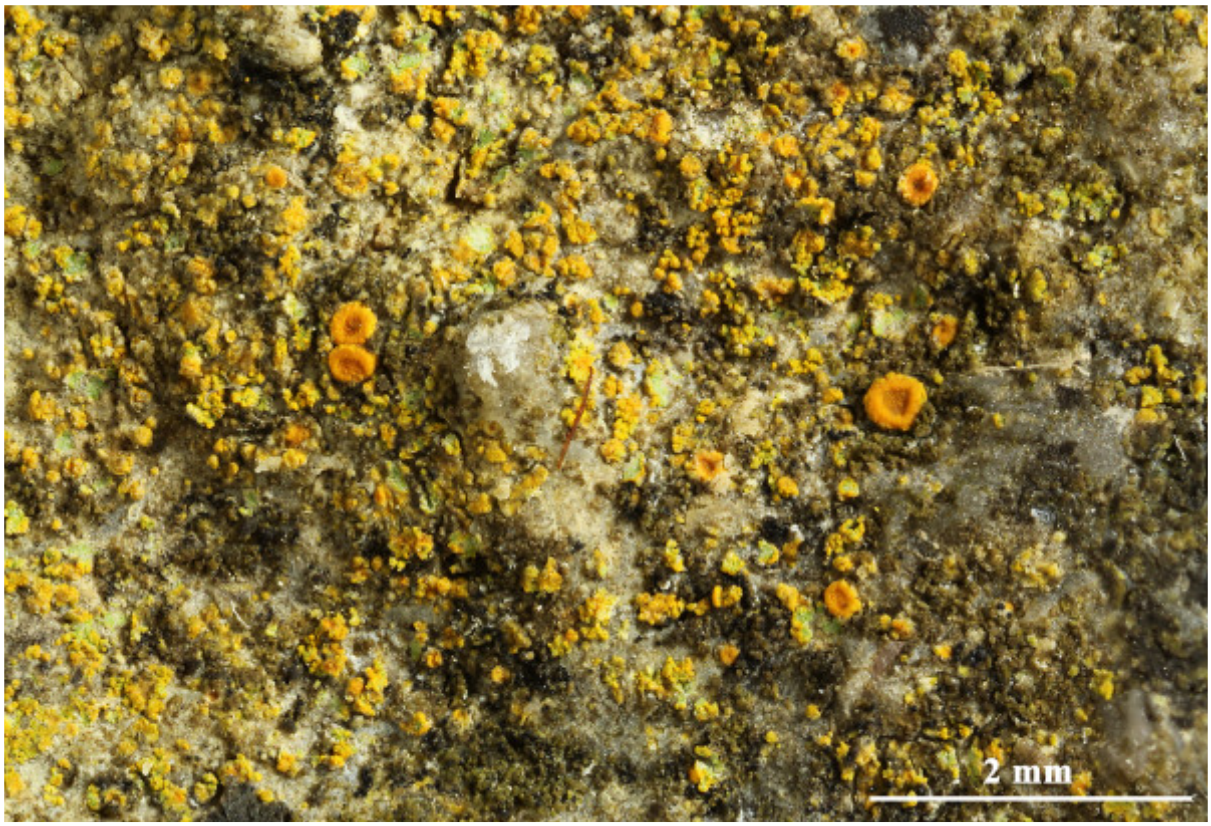
Caloplaca microthallina

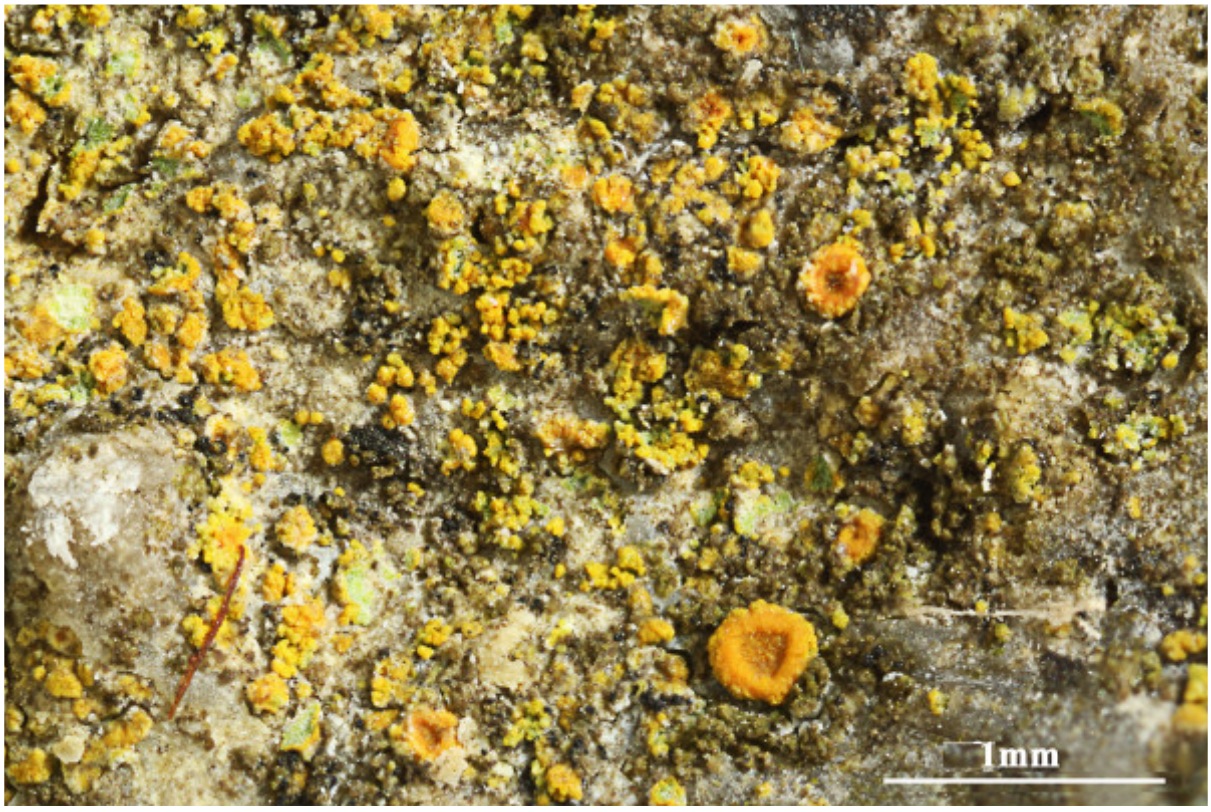
Caloplaca microthallina Wedd., Mém. Soc. Imp. Sci. Nat. Cherbourg 19: 276 (1875)
[= *Flavoplaca microthallina* (Wedd.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 46 (2013)]

On rock.

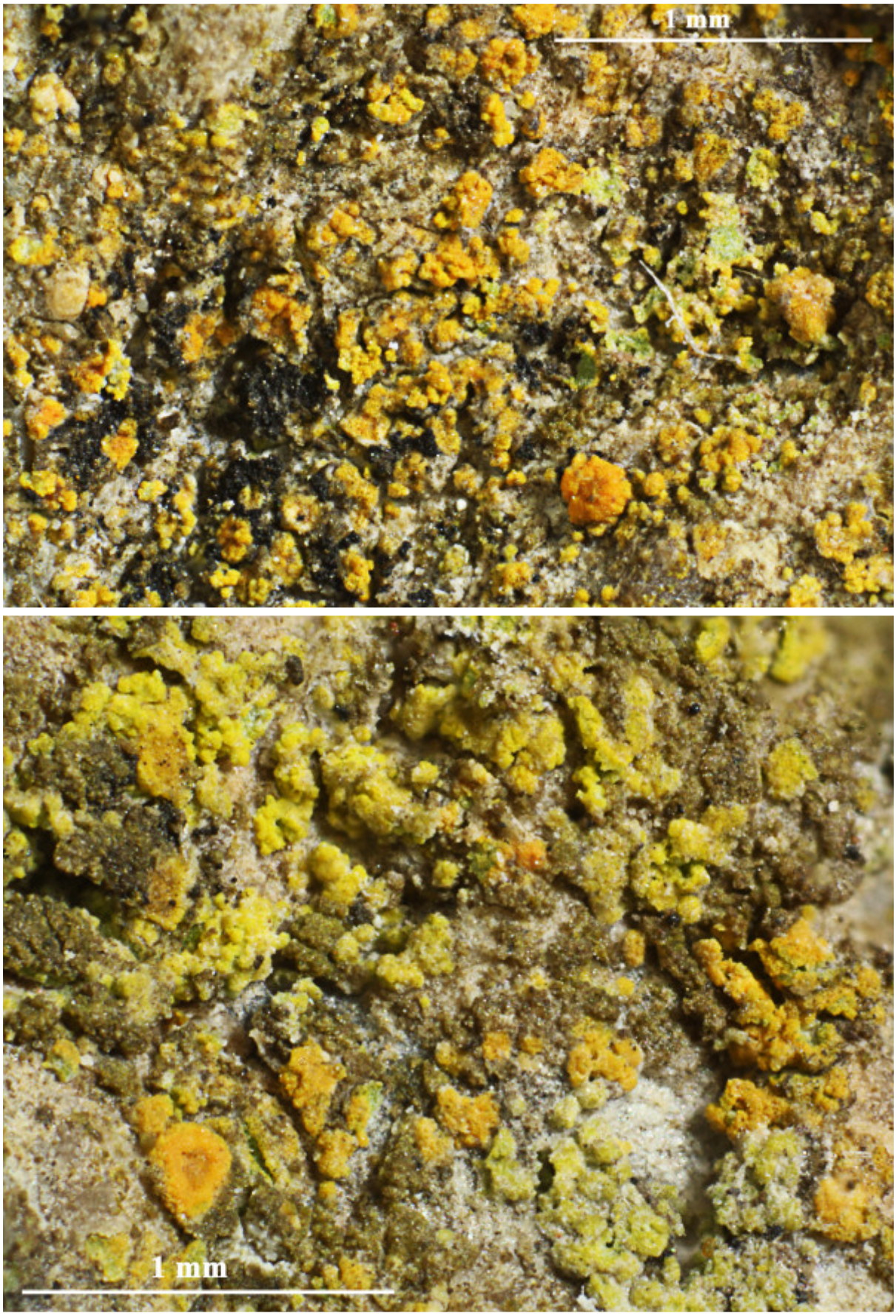
[ABL 75232], Schweden, Öland, near Långe Jan near Ottenby, UTM 586-6228, coastal wall, on limestone. Leg. A. Aptroot 18.06.2016, det. A. Aptroot 2016.







Caloplaca microthallina



Caloplaca microthallina

Caloplaca modesta (Zahlbr.) Fink

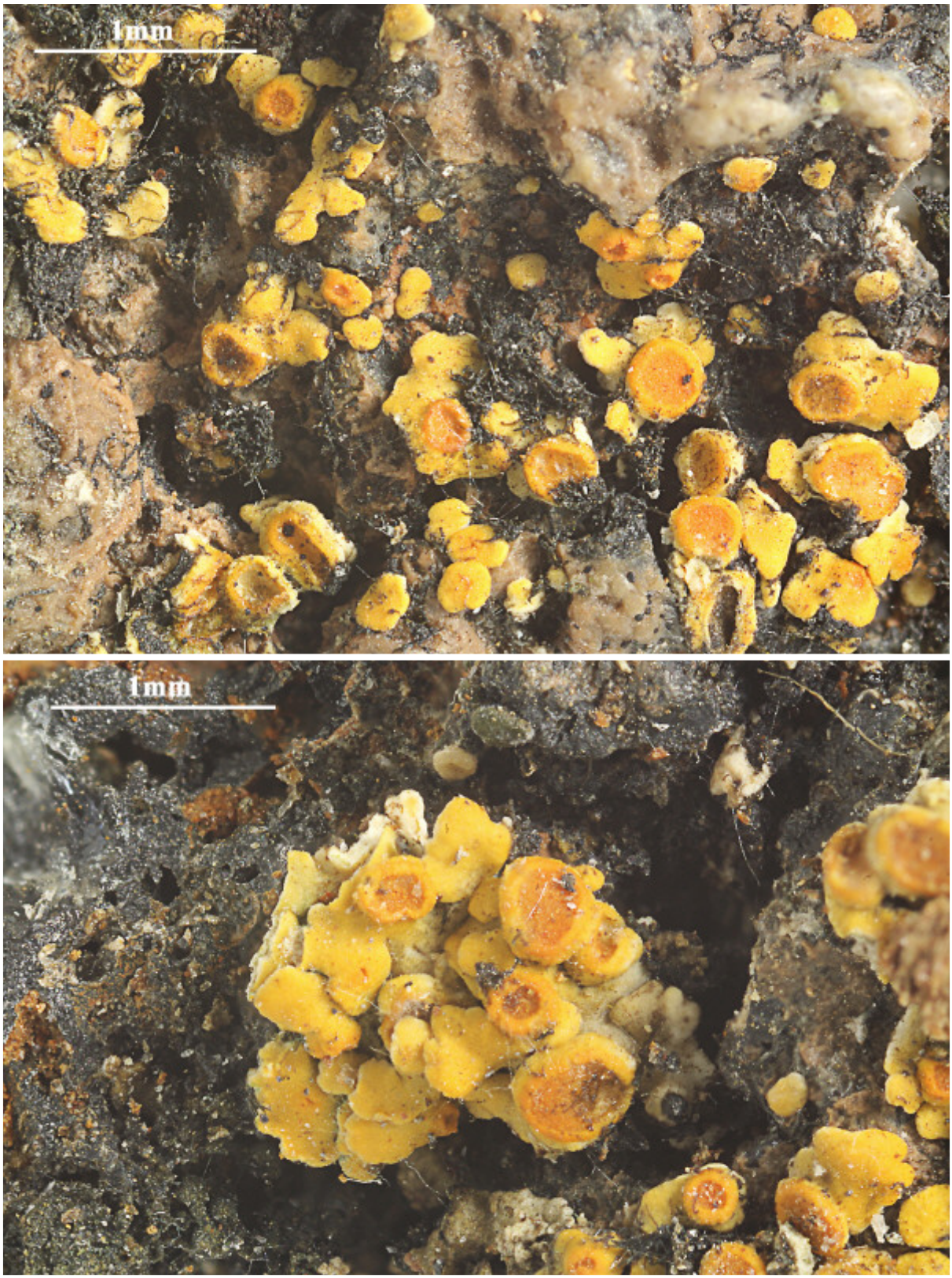
Spores 8-9.4 x 4.5-5.4 µm, septum 3-3.5 µm.

[BR5030038246281], Ecuador, Galapagos Islands, Isla Isabela, northwest coast between Punta Albemarle and Volcan Ecuador. Leg. W. A. Weber (L-63256) & J. Lanier, 7. May 1976. EX HERB. COLO.

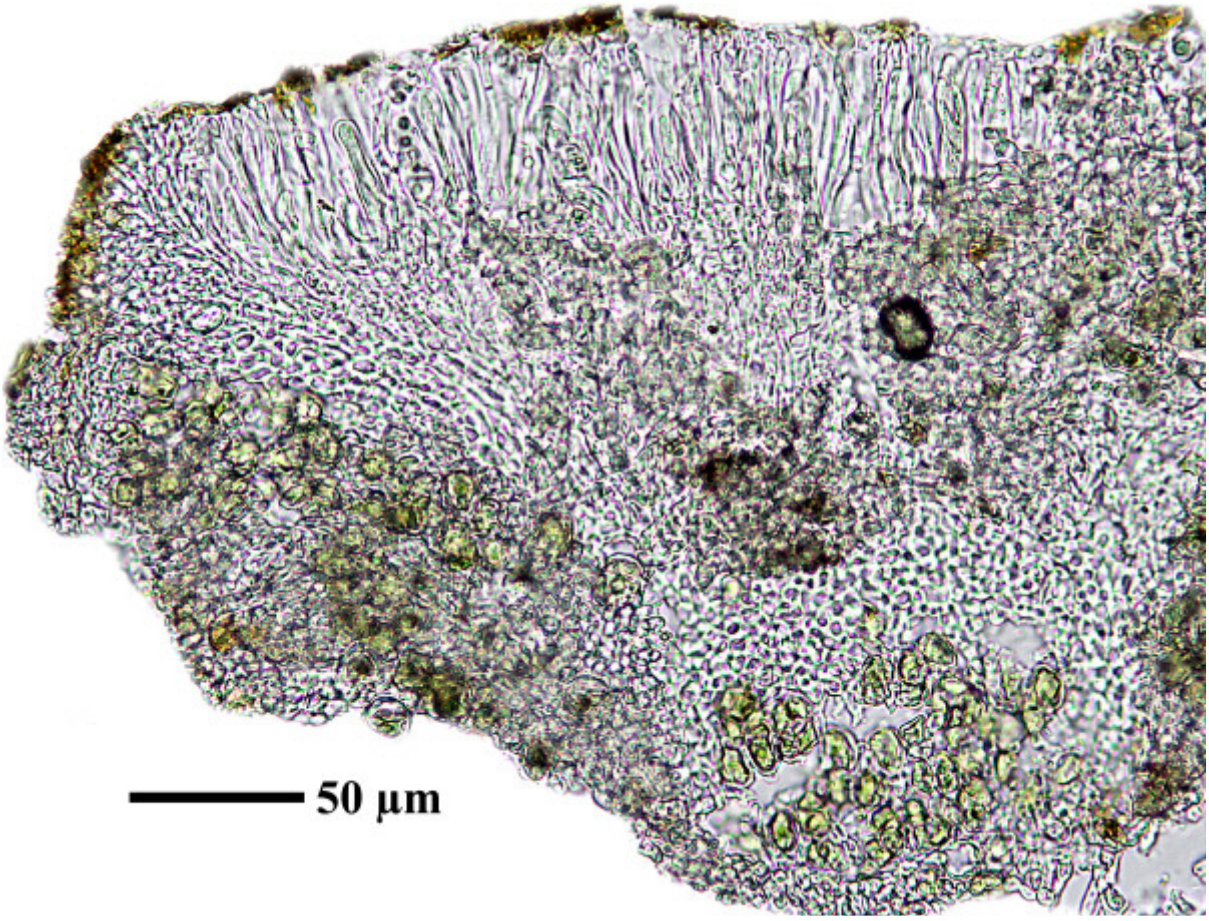


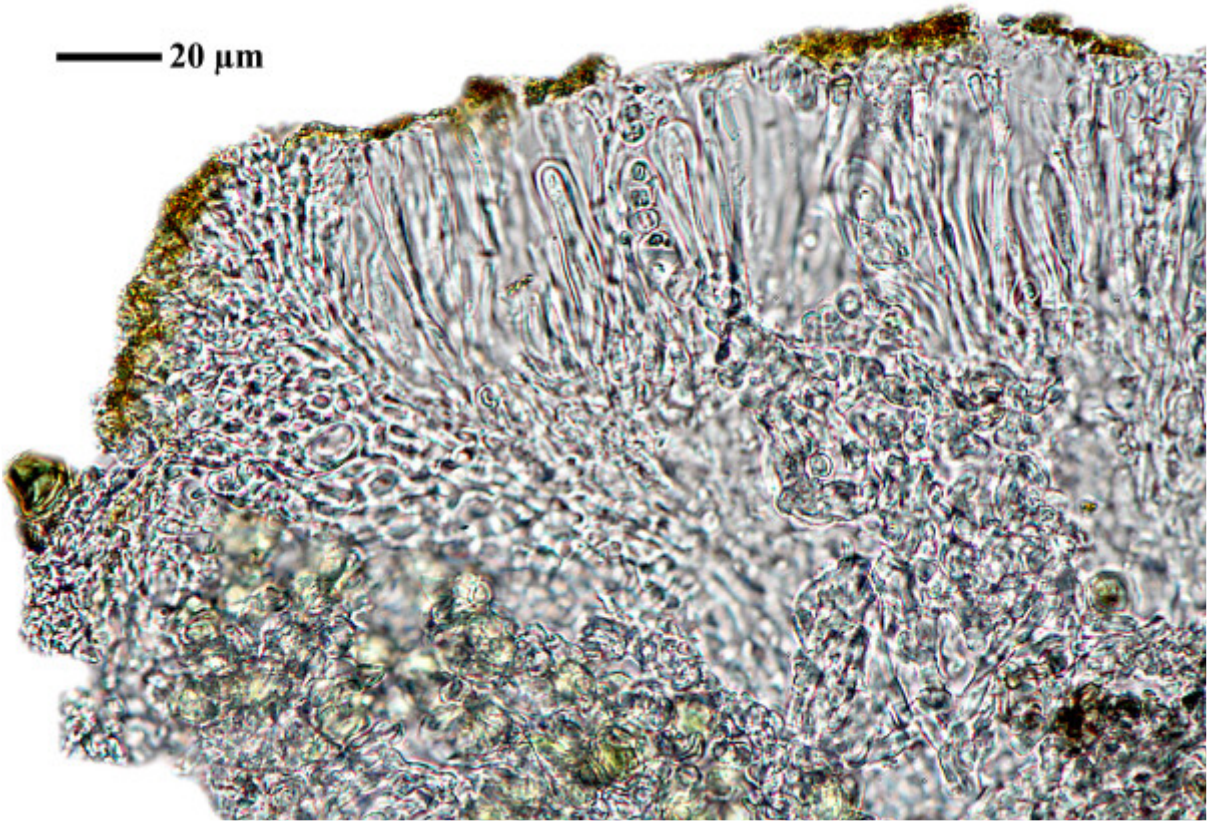


Caloplaca modesta

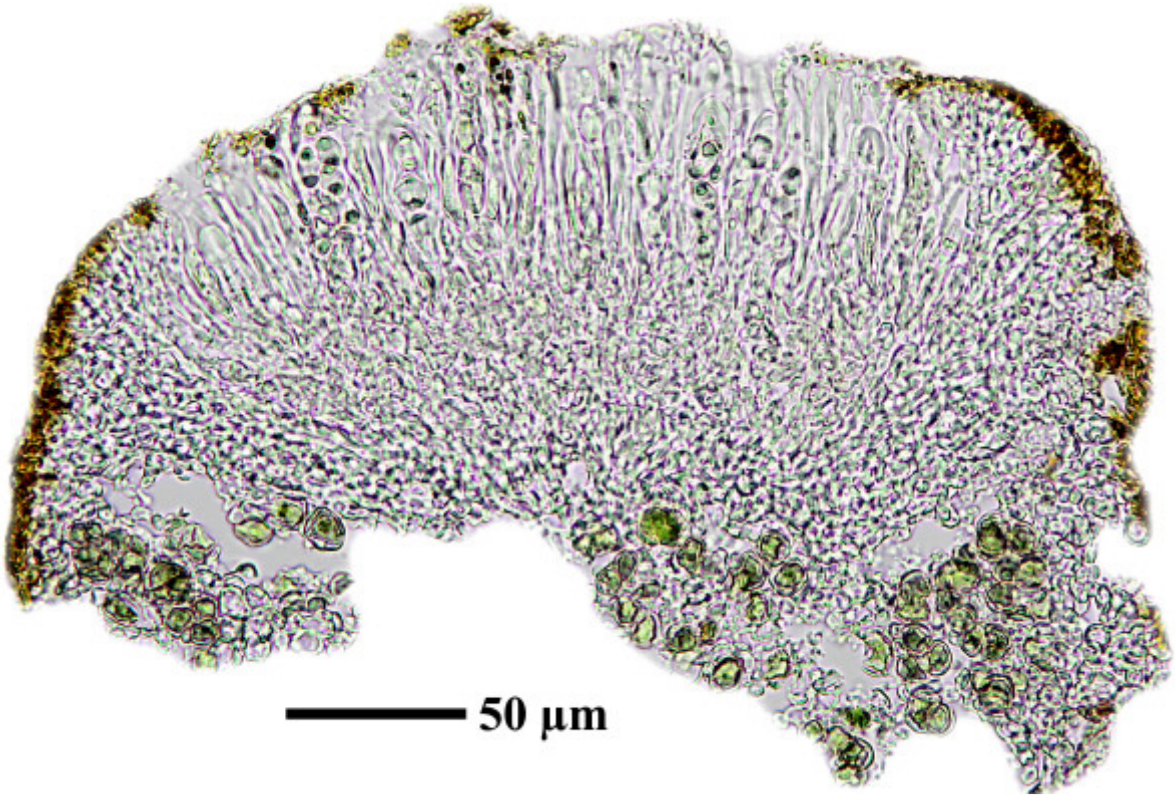


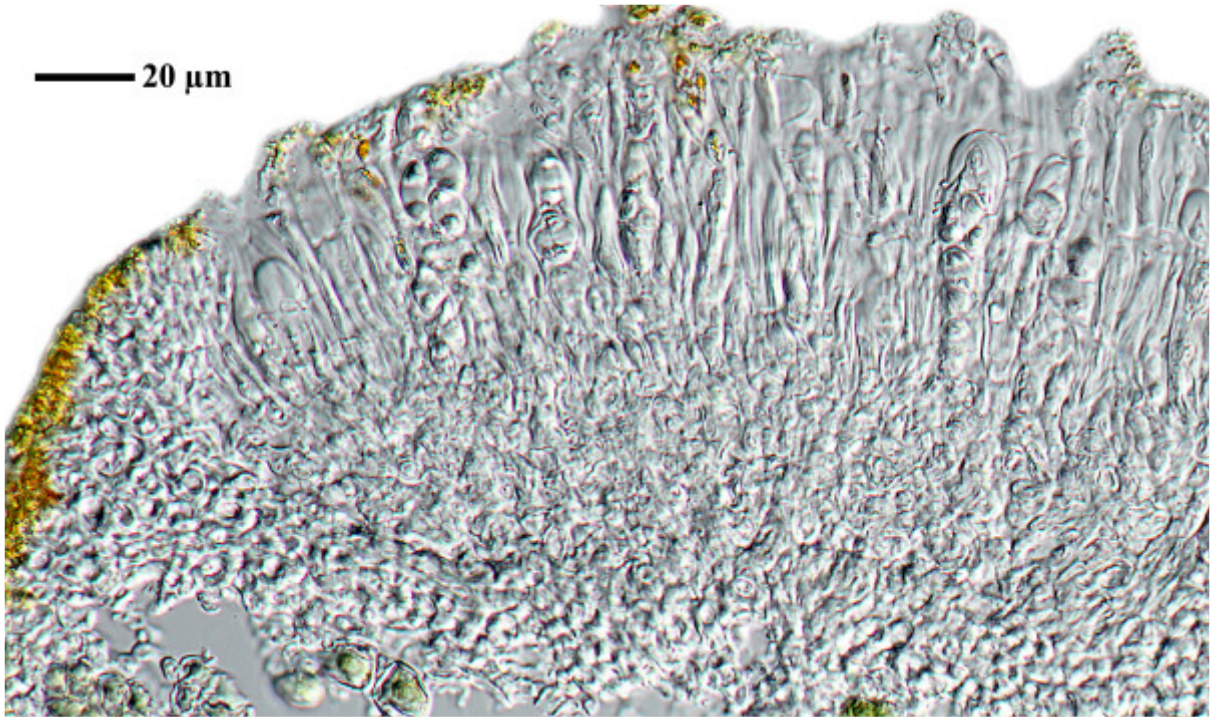
Caloplaca modesta

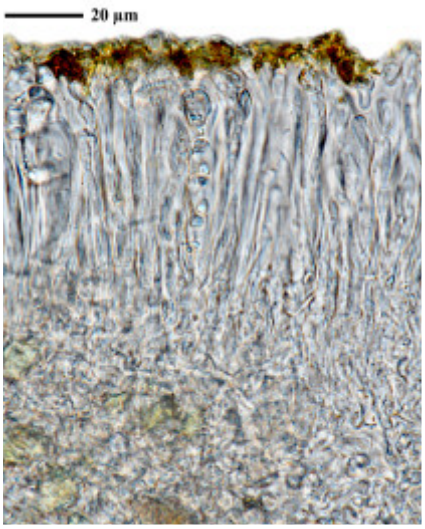




Caloplaca modesta







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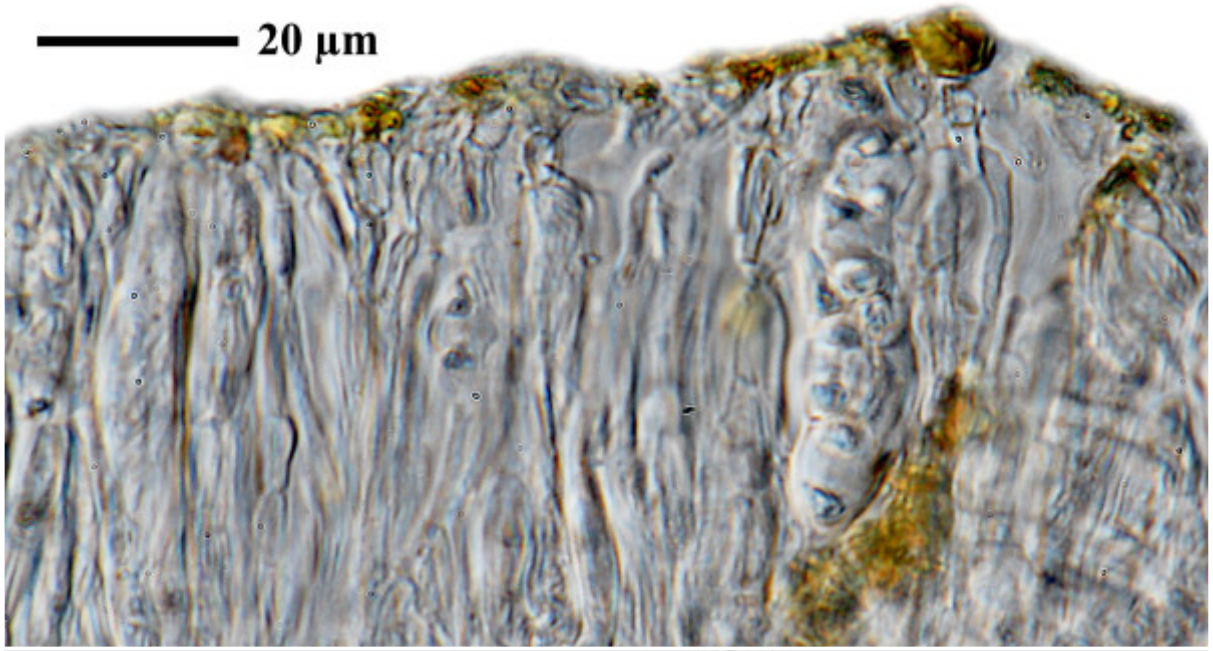

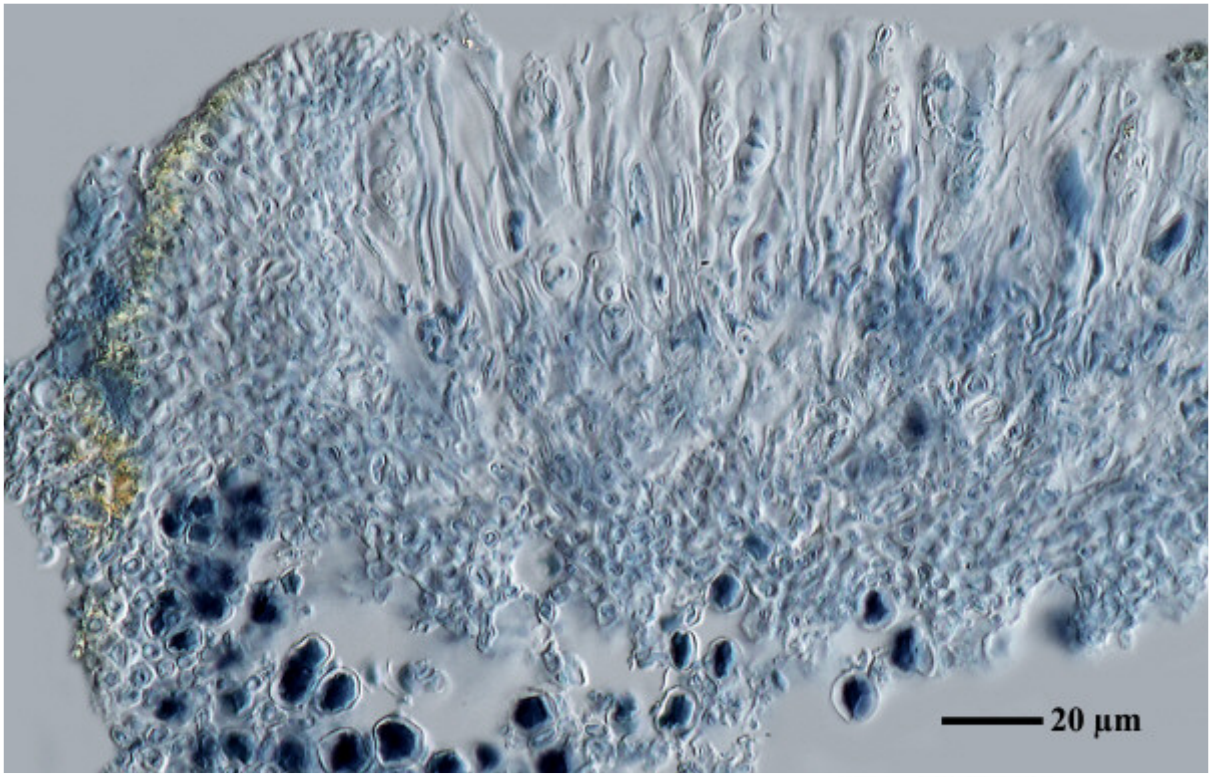

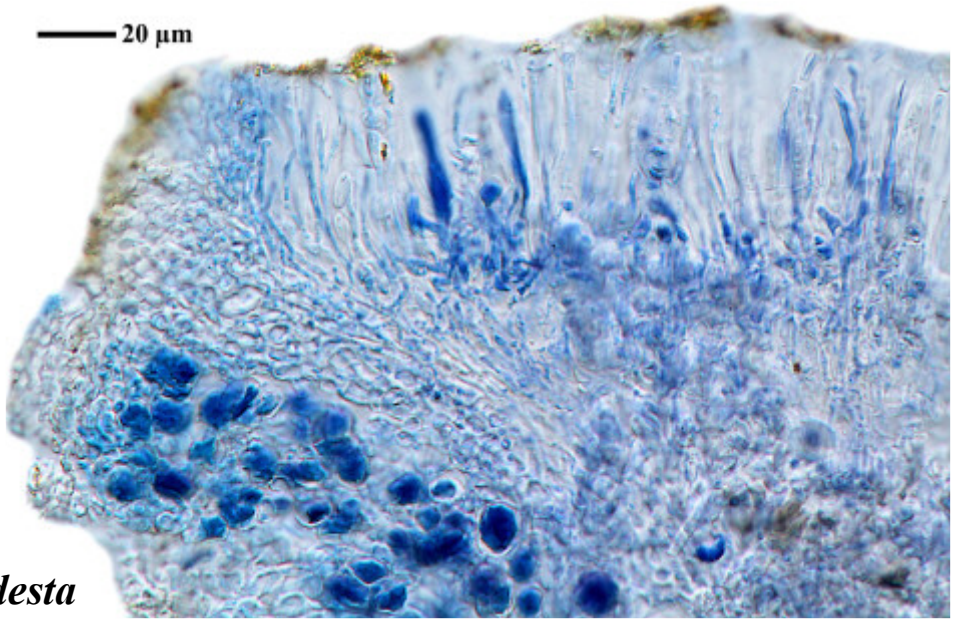

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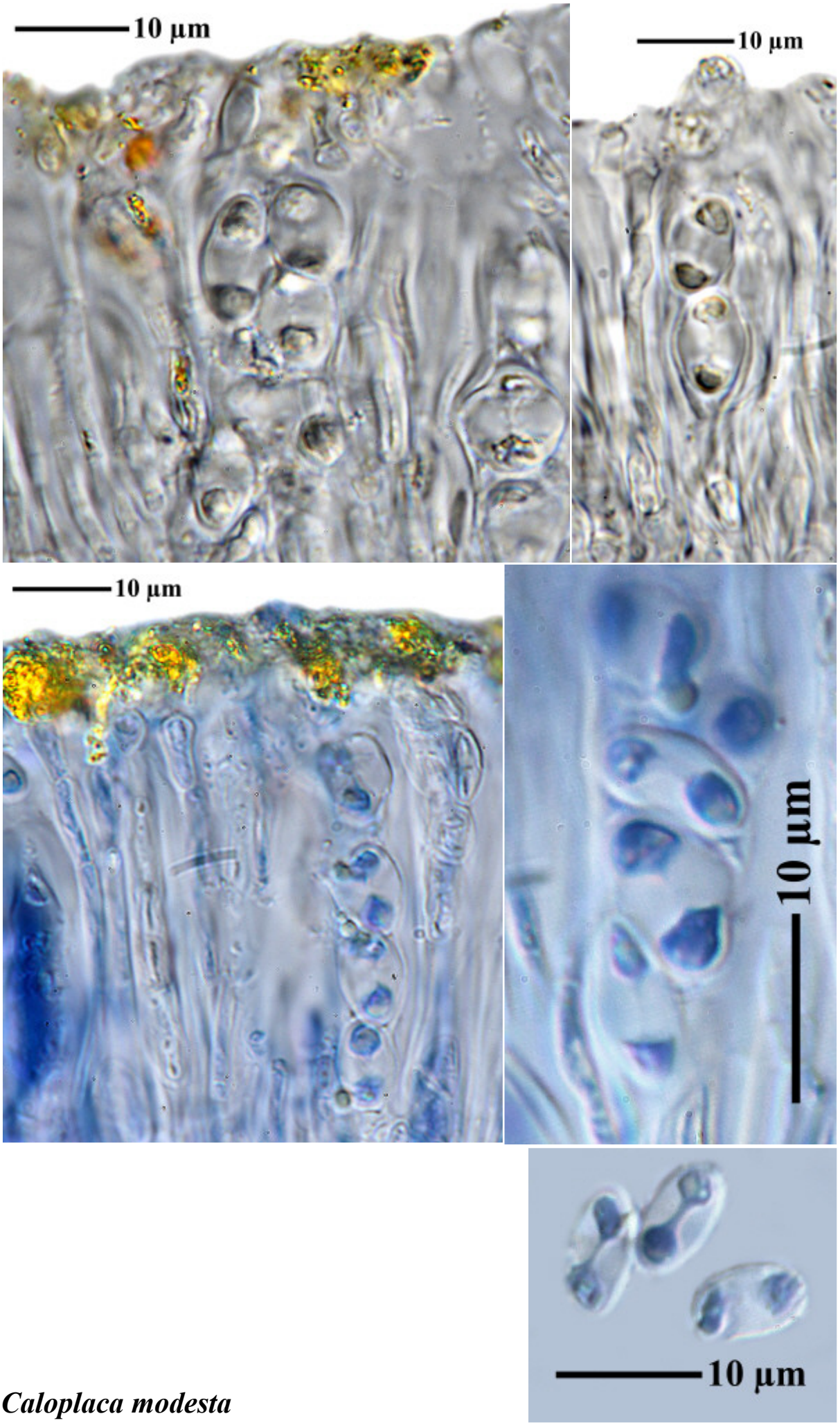


Caloplaca modesta

Caloplaca modesta (Zahlbr.) Fink

Spores 10-11.5 x 6-6.8 µm, septum 3.4 µm.

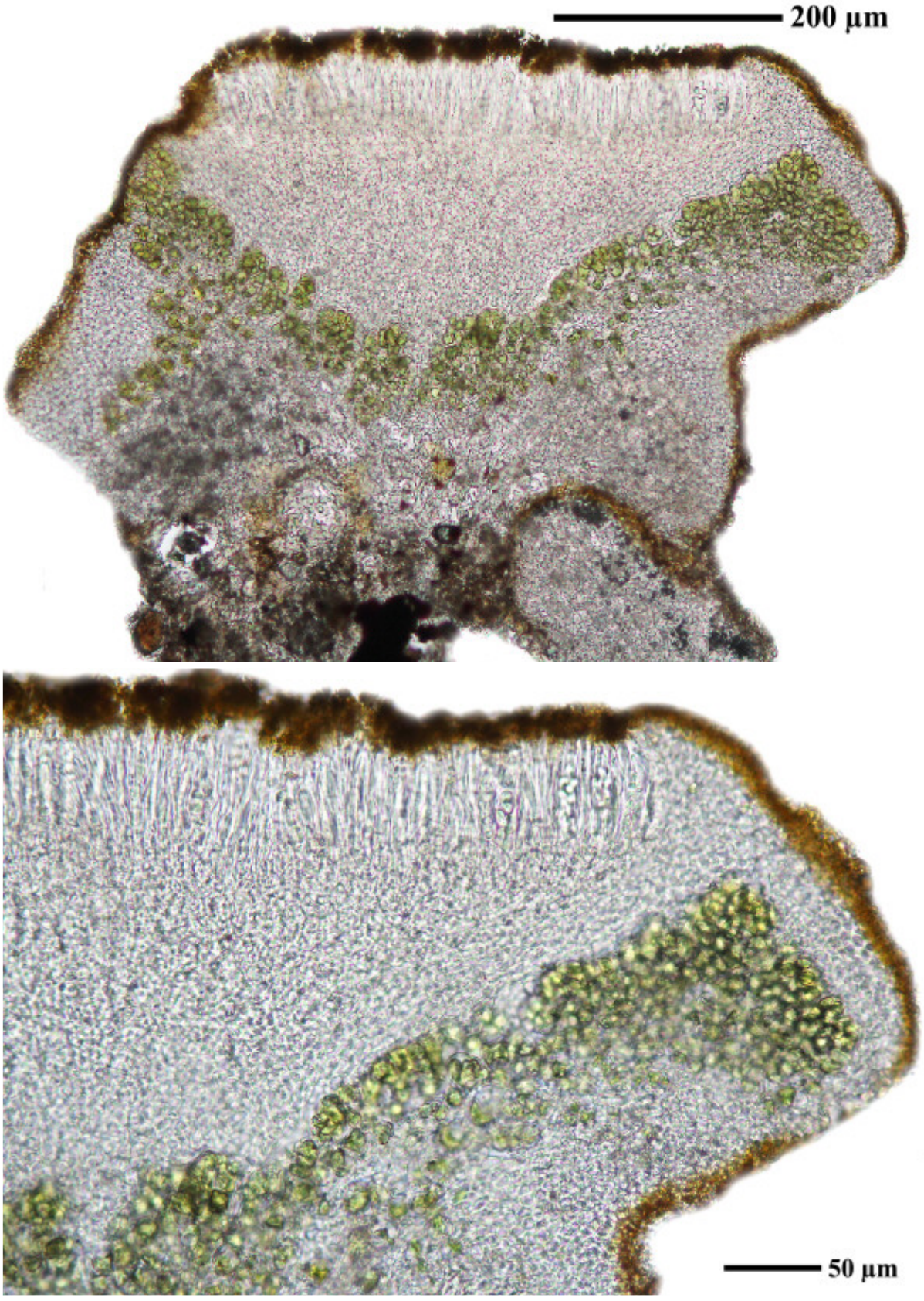
[BR5030038247295], USA, Arizona, Burro Creek, on lava rock in canyon. 34°32' N, 113°26' W, 600 m. Leg. C. M. van Herk, 18.04.1995, det. A. Aptroot, 1995.



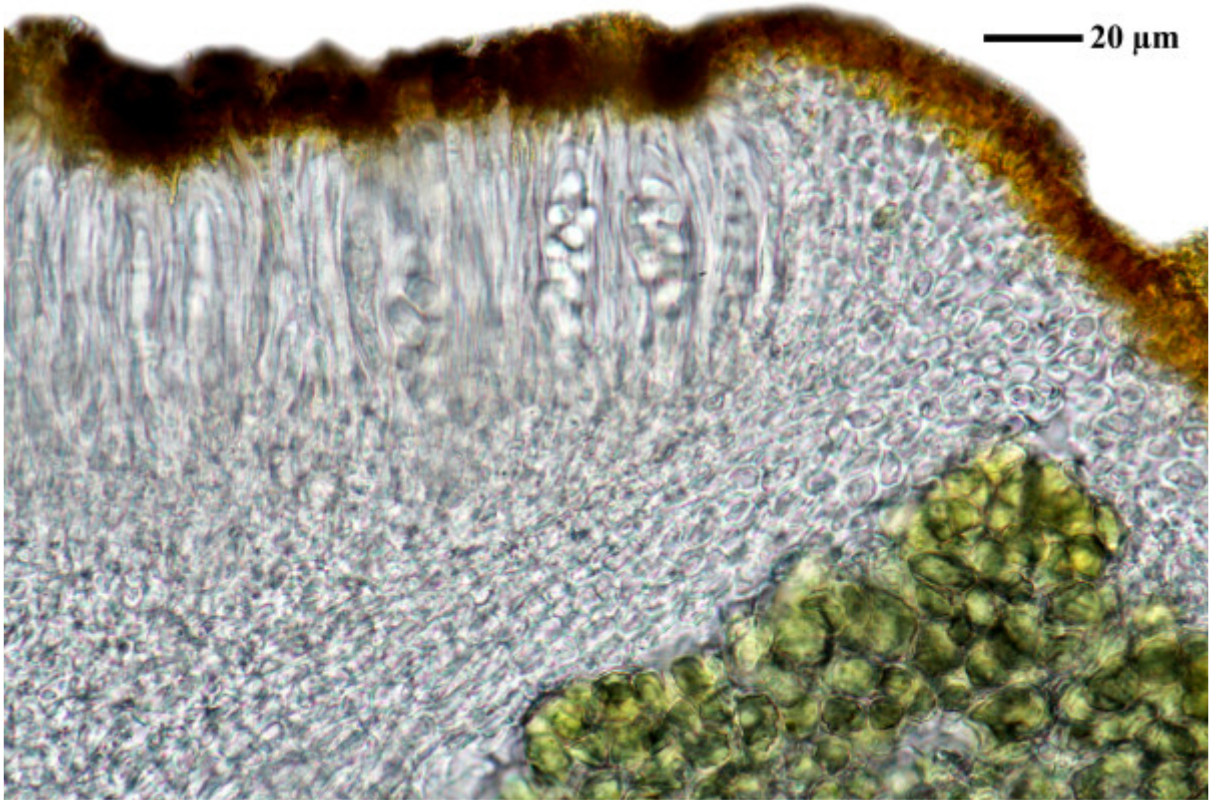


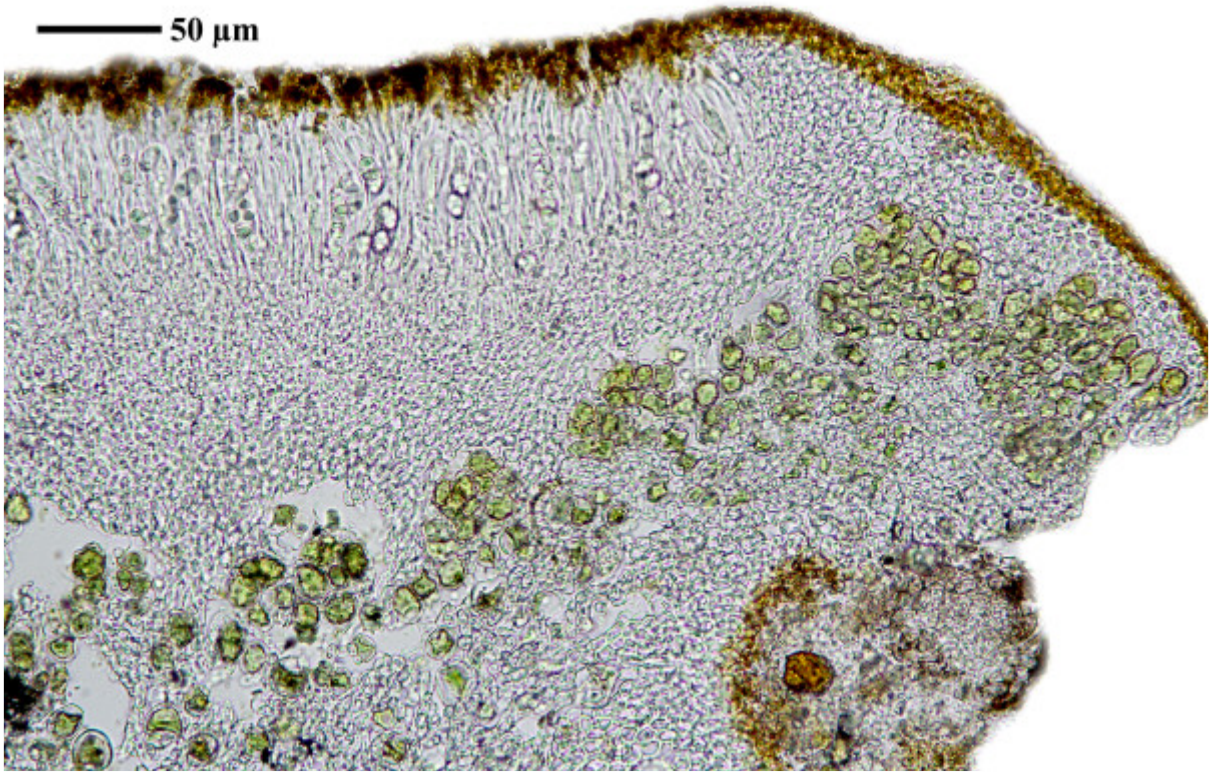


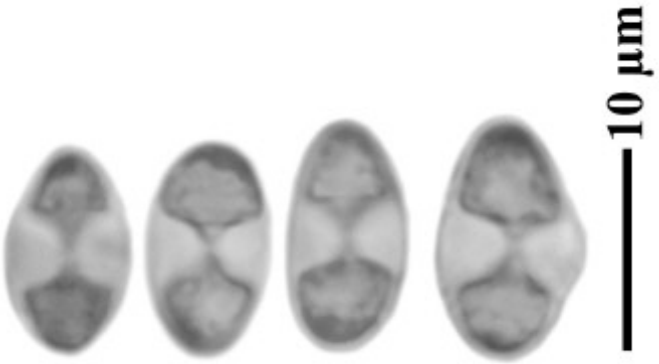
Caloplaca modesta



Caloplaca modesta







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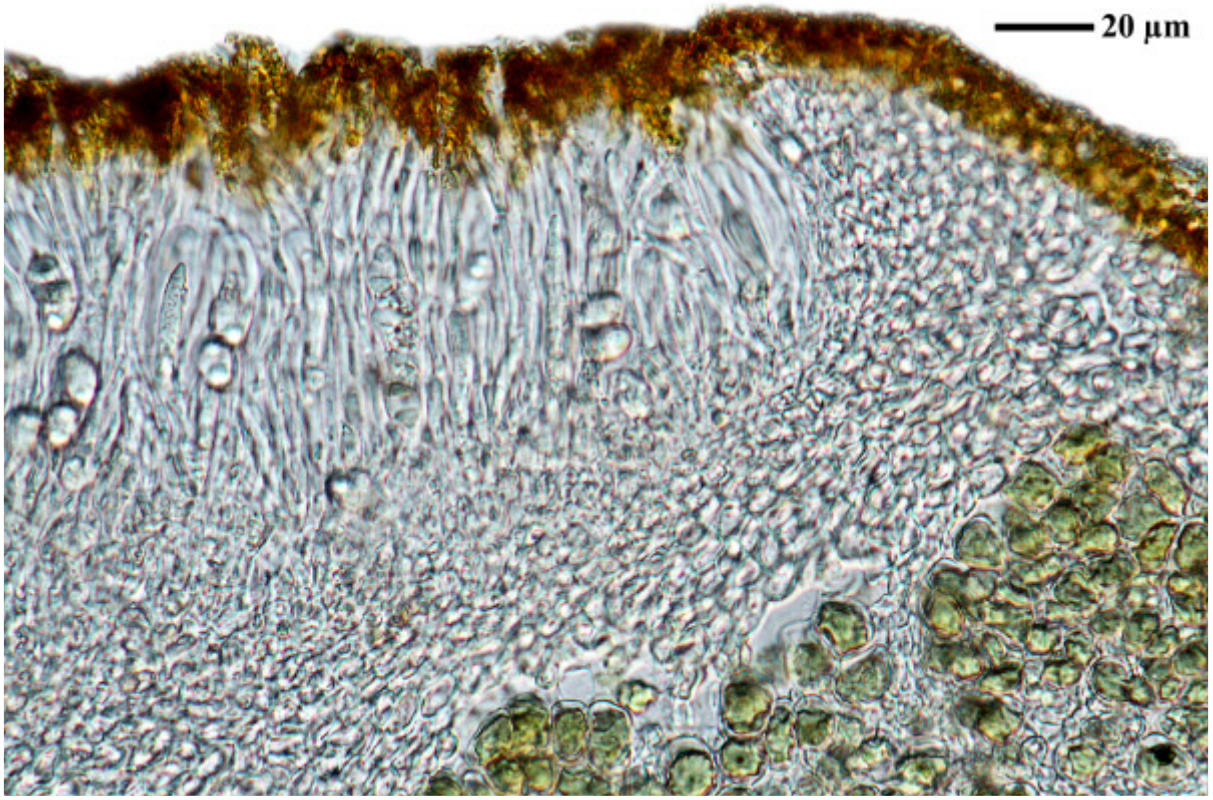
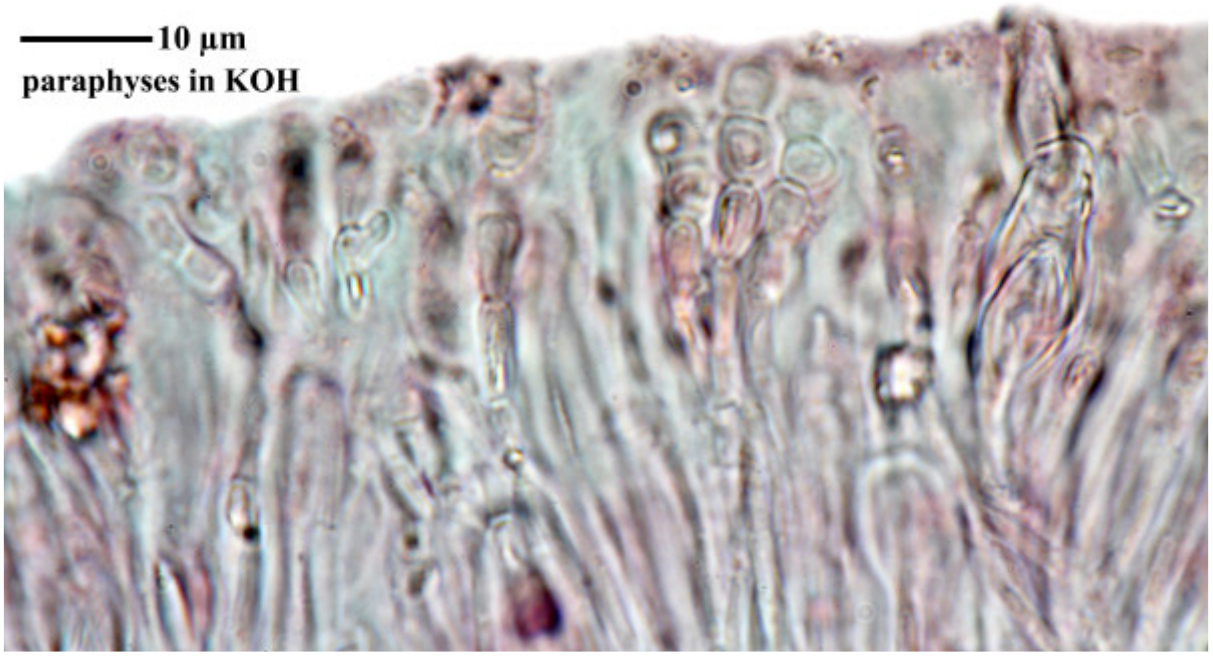
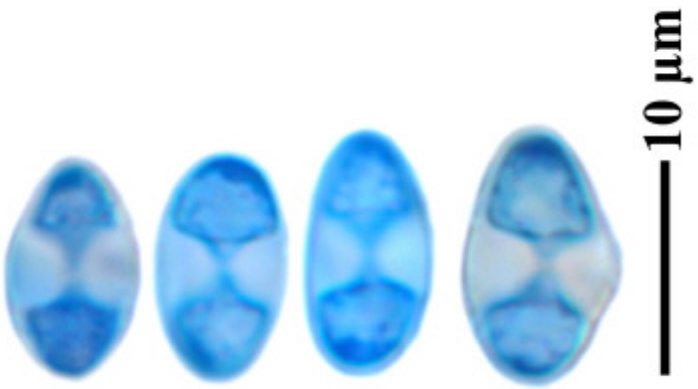






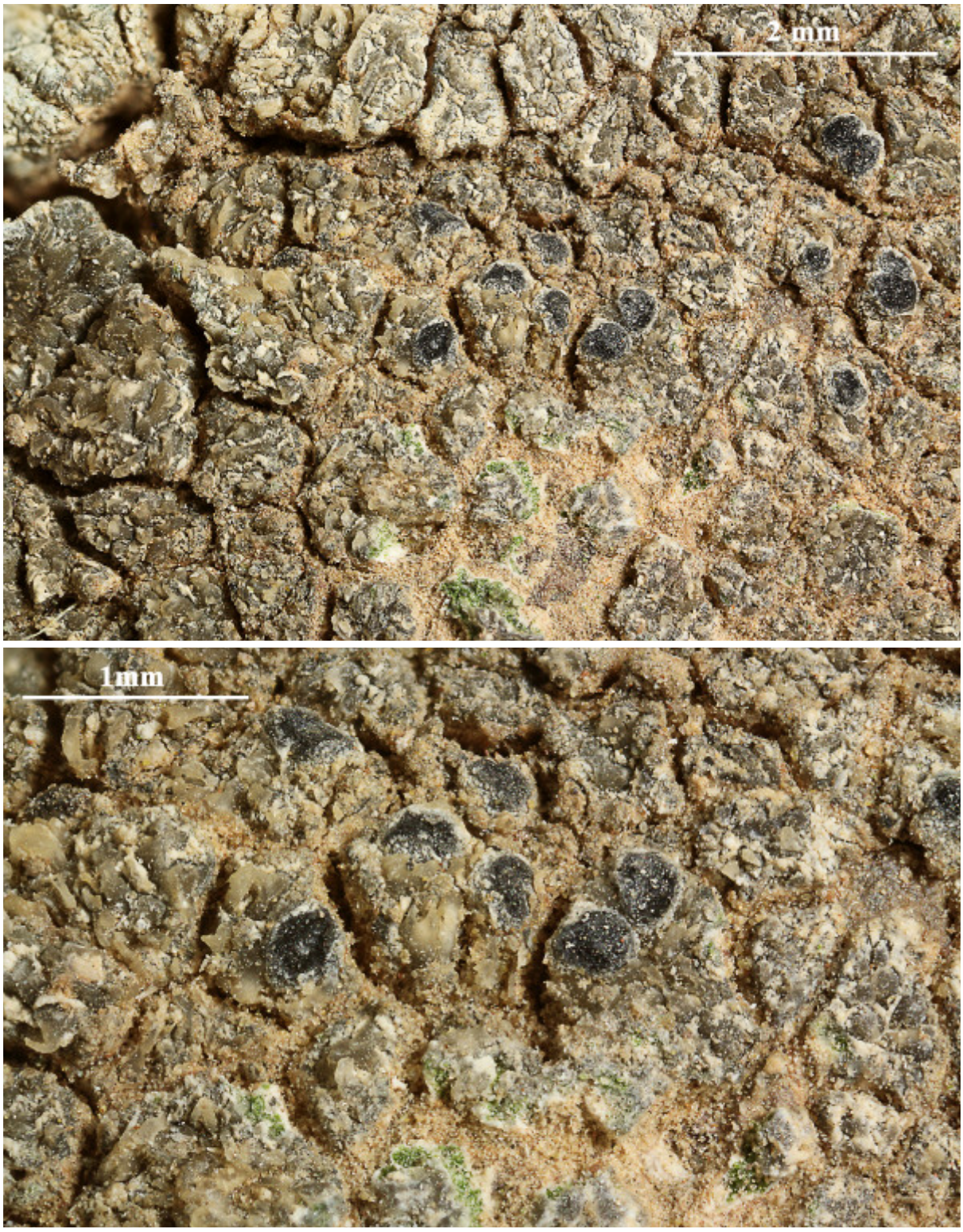
Caloplaca modesta

Caloplaca molariformis Frolov, Vondrák, Nadyeina & Khodos., in Vondrák, Frolov, Říha, Hrouzek, Palice, Nadyeina, Halıcı, Khodosovtsev & Roux, Lichenologist 45(6): 712 (2013)

Spores 11-18 x 5-7.5 µm, septum 2.5-3.5 µm (FS).

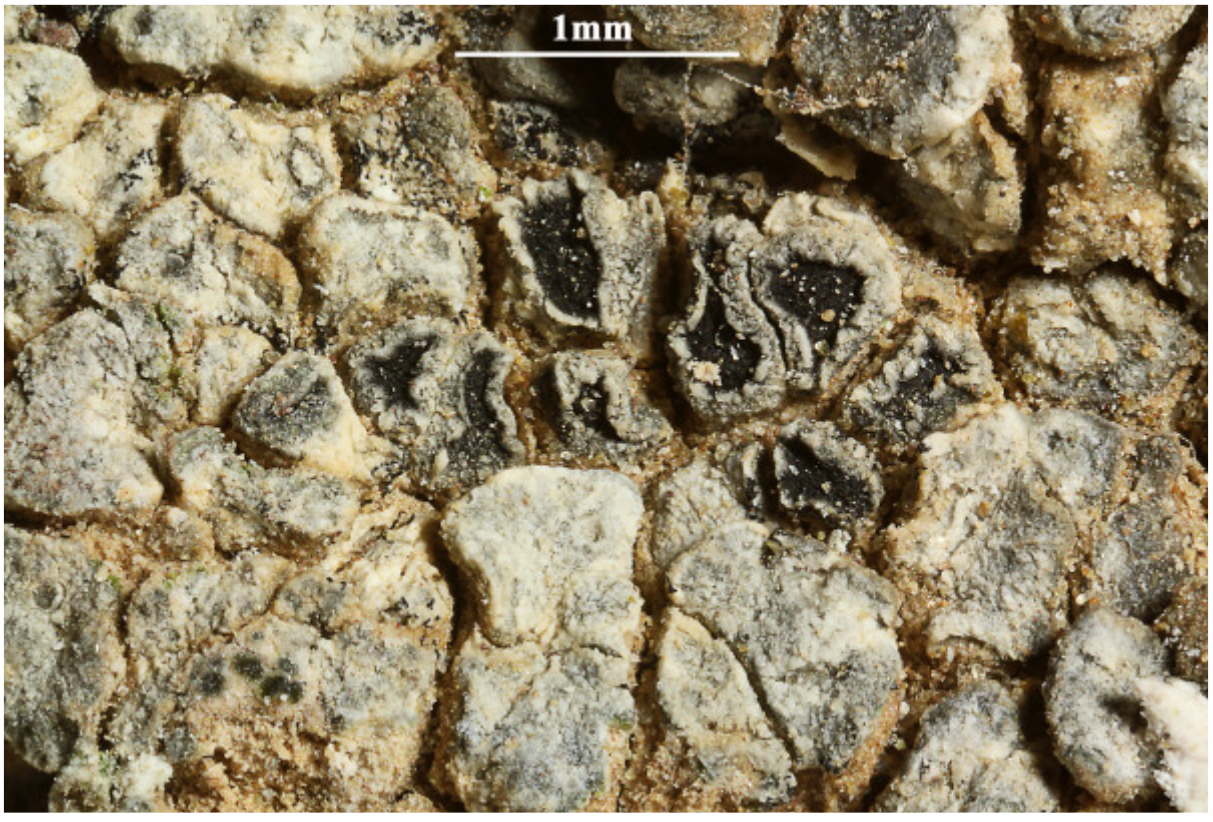
[B 60 0197578], Iran, Razavi Khorsan province, 20 km on road of Torbate Jam to Mashad, Revenj, 35°11' N, 60°02' E, 1250 m. Leg. M. Haji Moniri (7) &M. Abbasju, M., 14.03.2013, det. M. Haji Moniri , 2014.



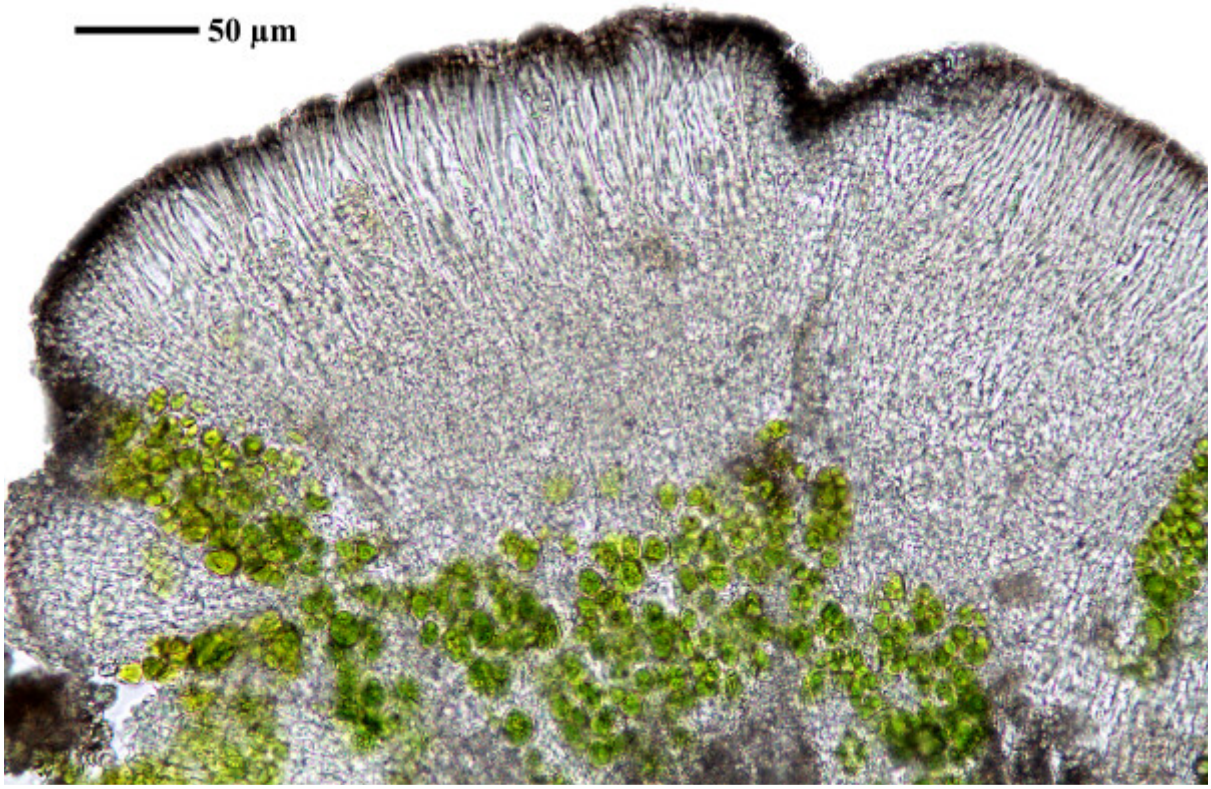


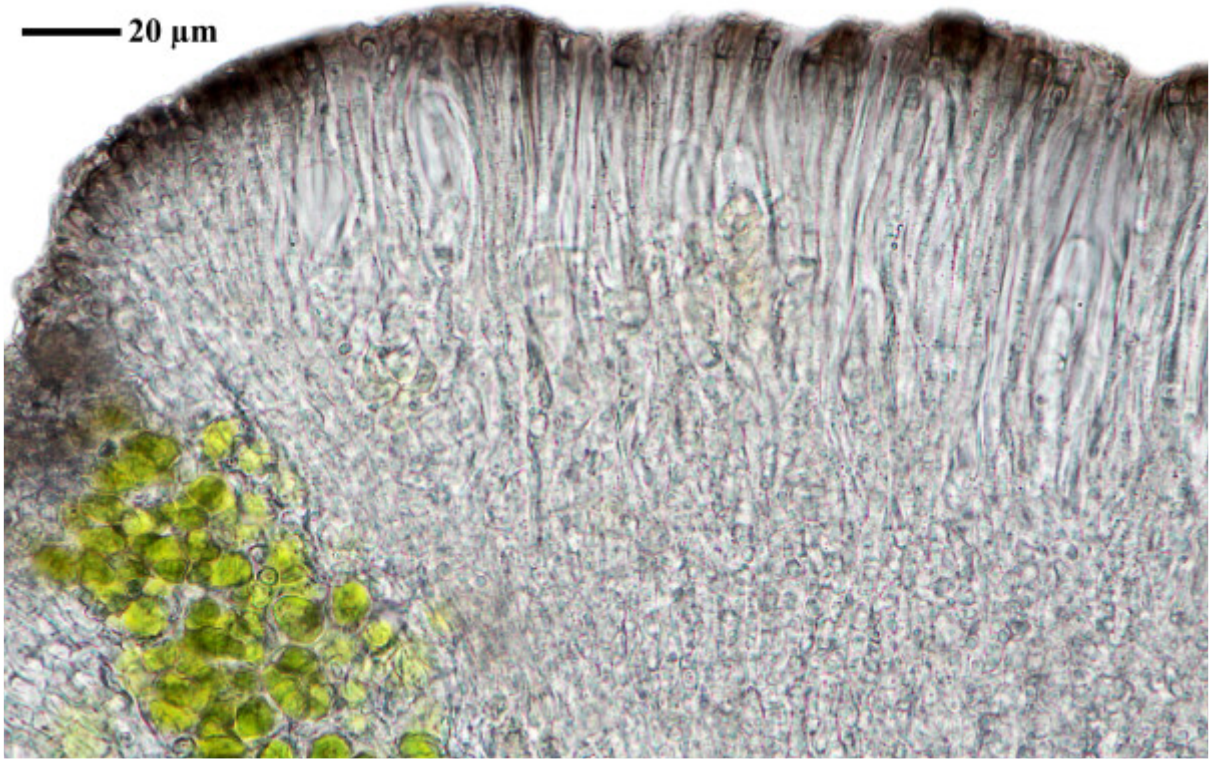
Caloplaca molariformis





Caloplaca molariformis





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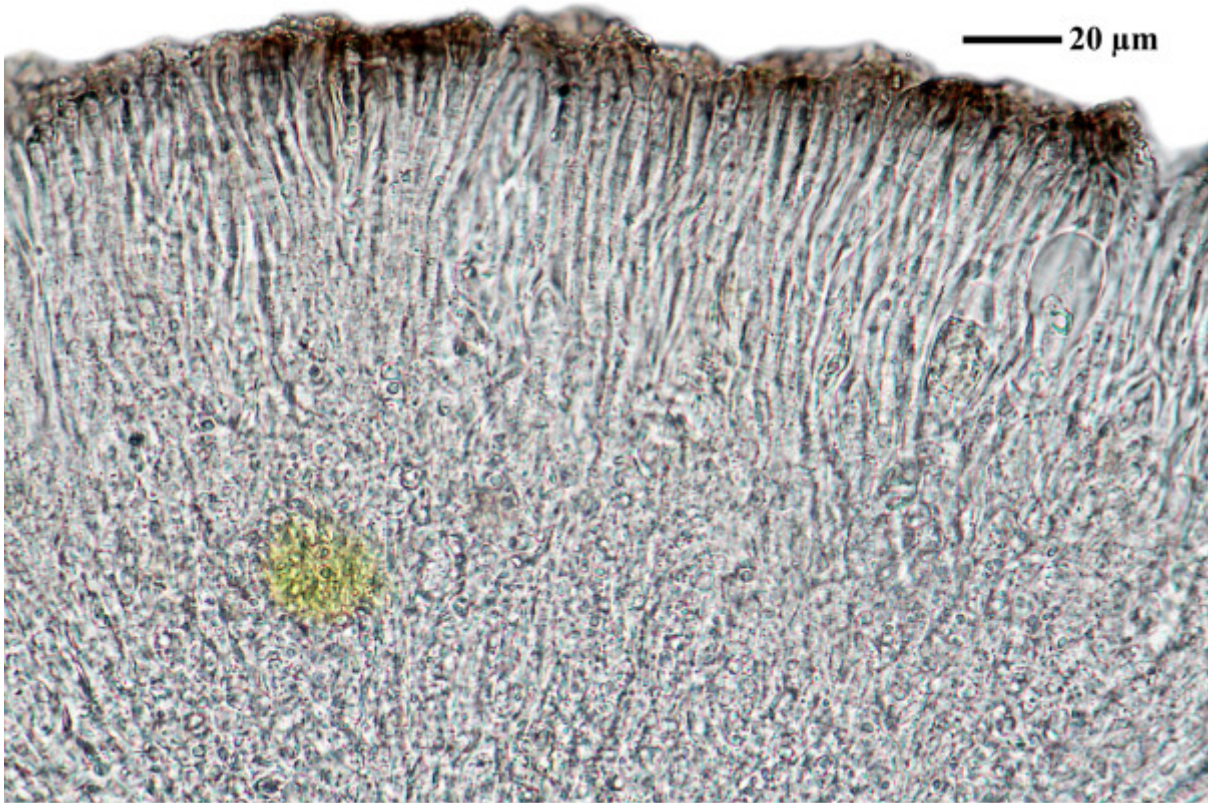

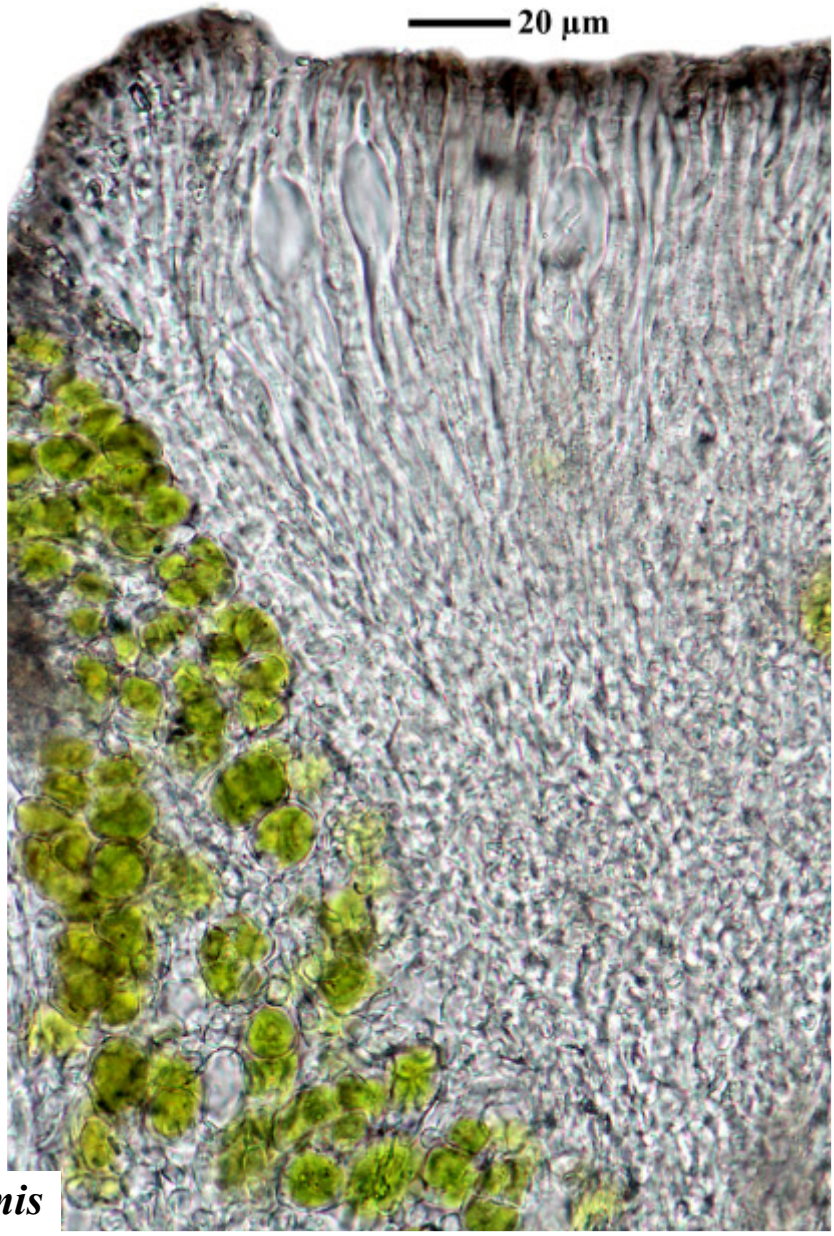

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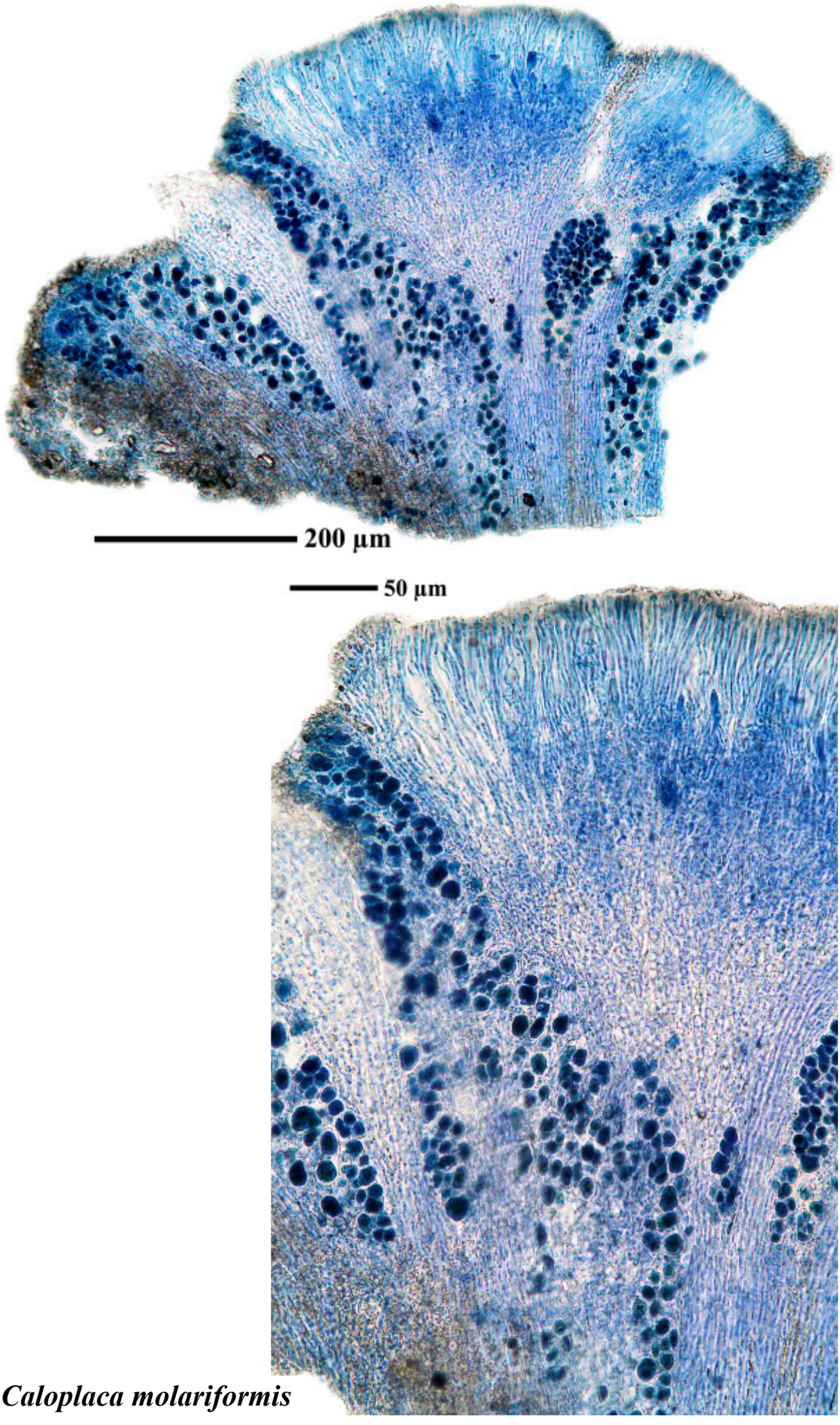

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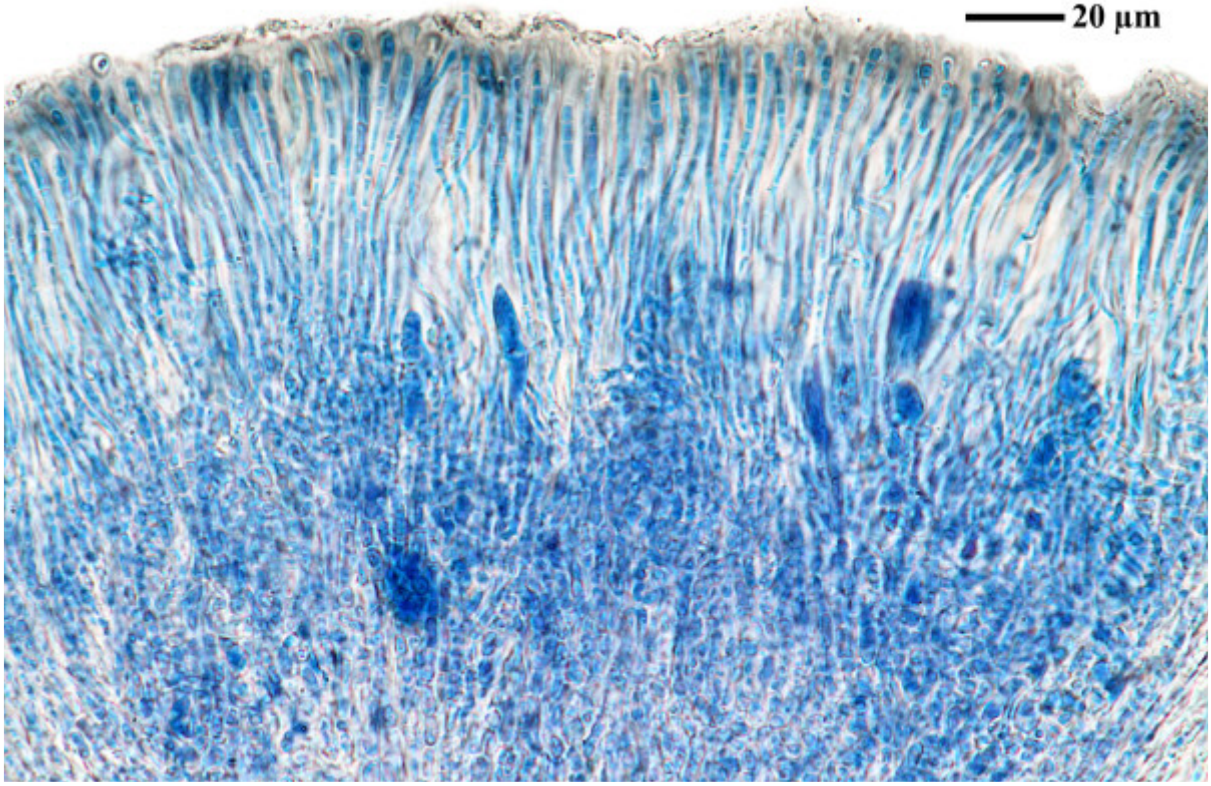

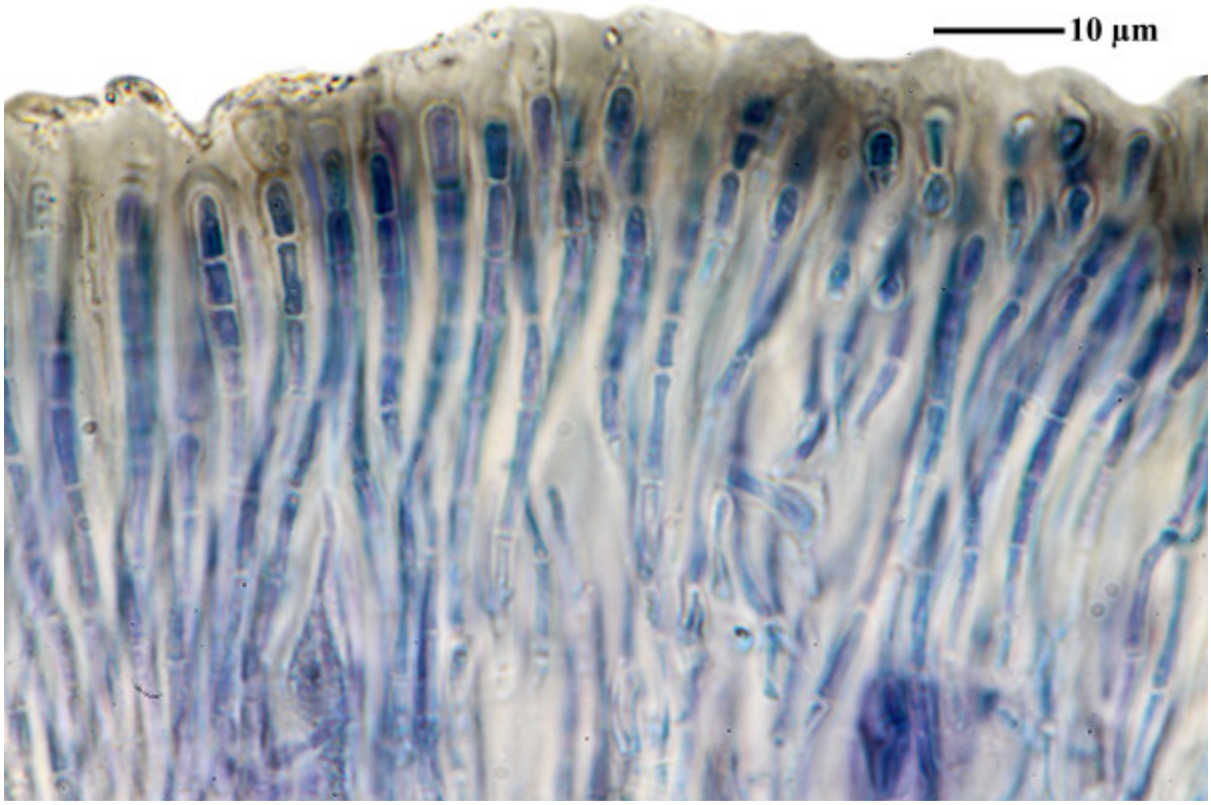

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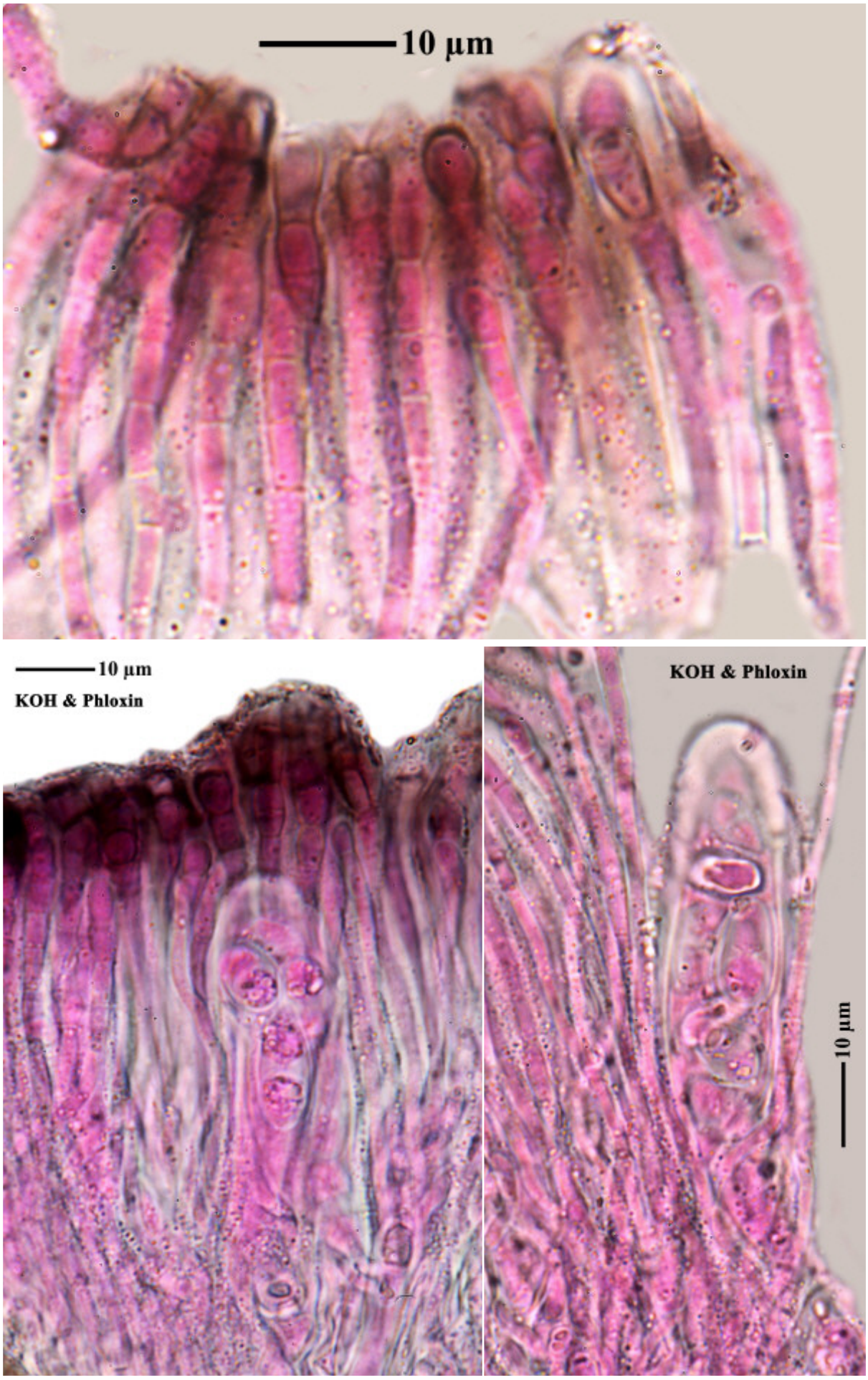

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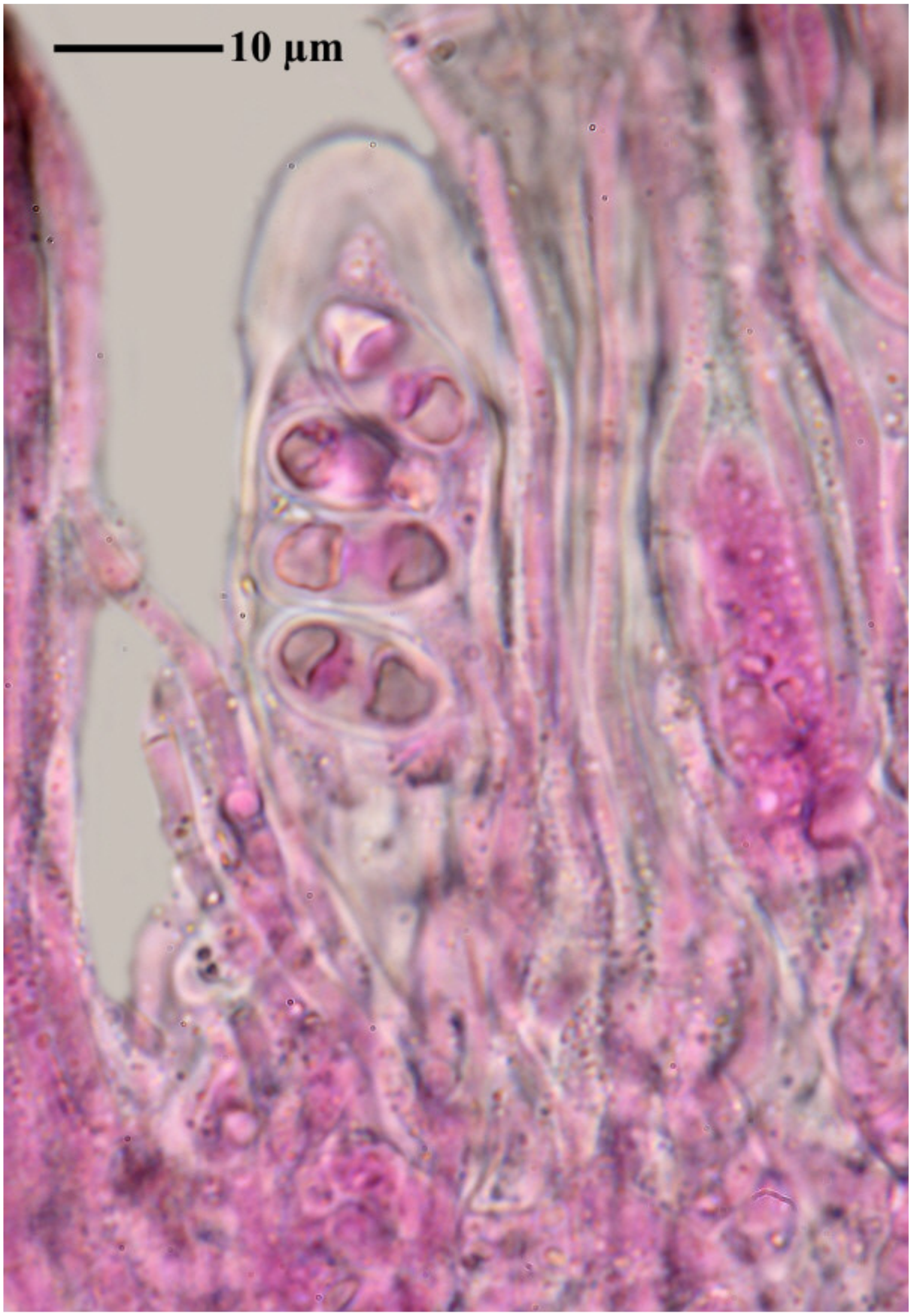
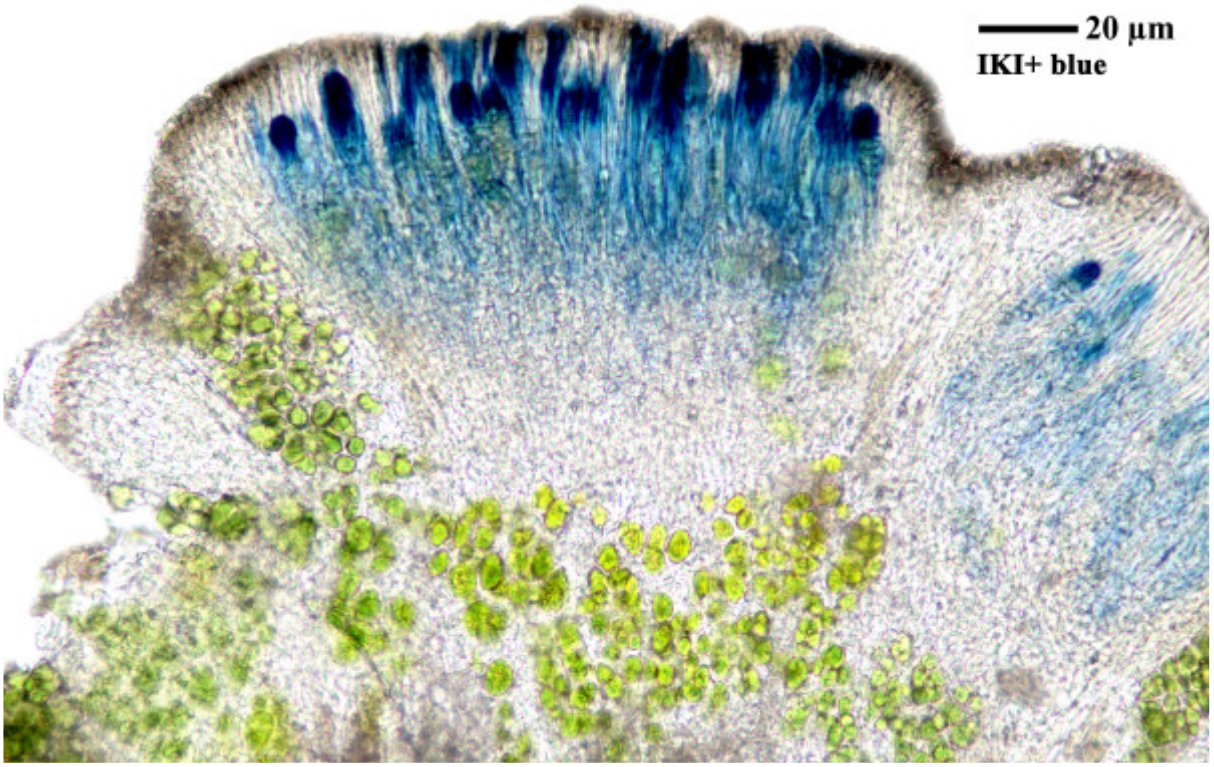
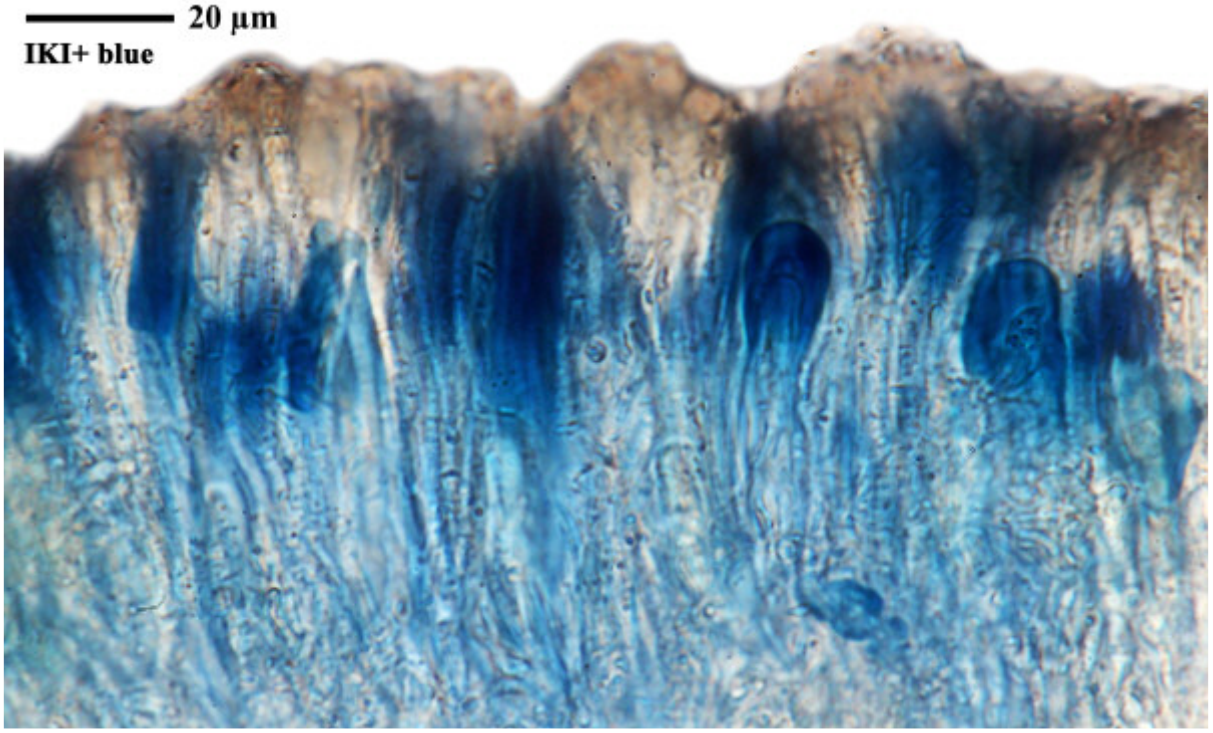




Caloplaca molariformis





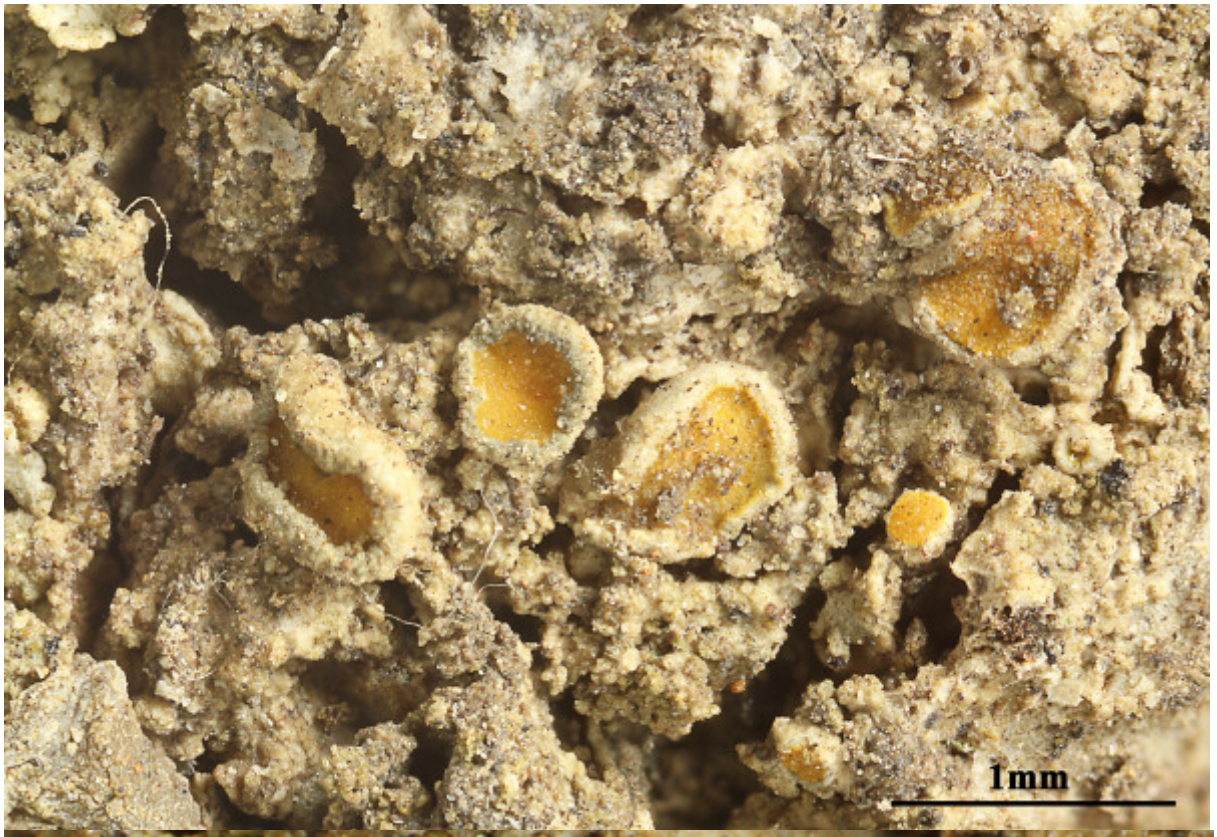
Caloplaca molariformis

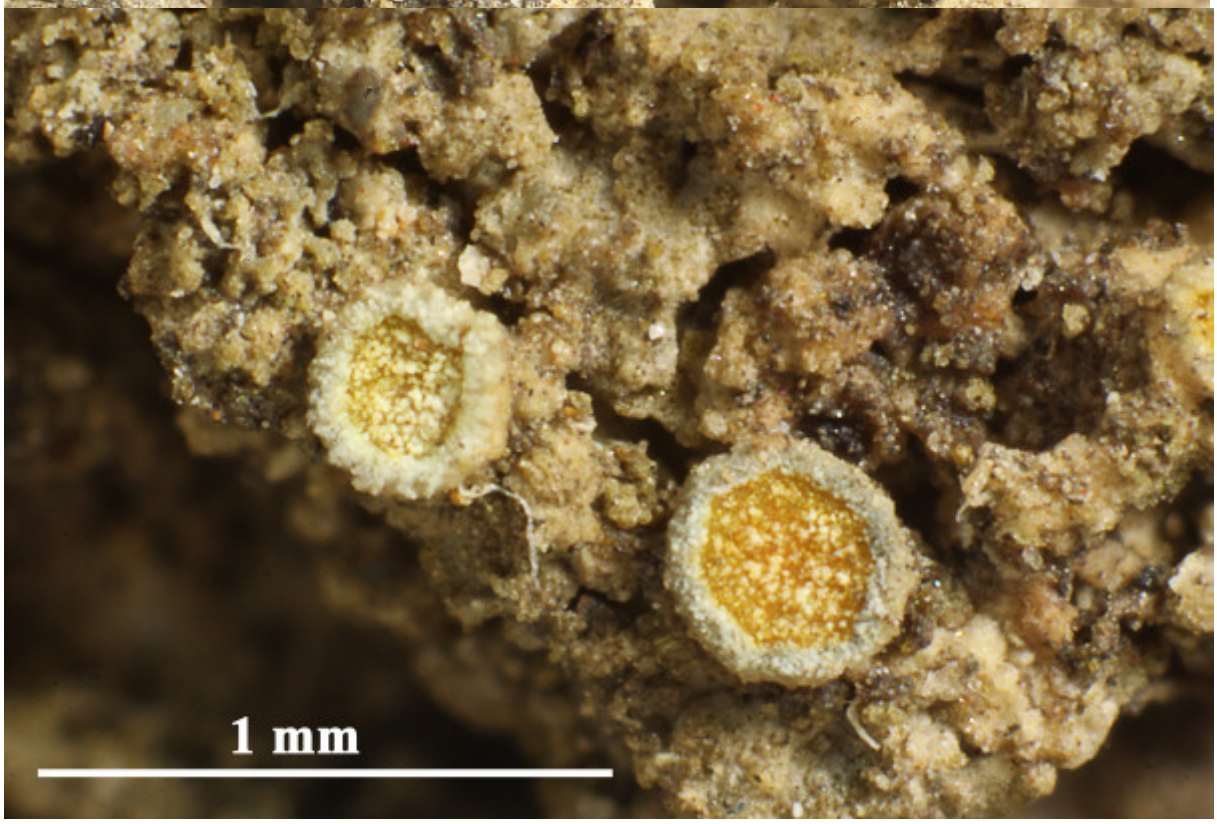
Caloplaca monacensis (Leder.) Lettau

On bark. Thallus tiny granular-squamose, grey. Spores polarilocular, hyaline, 8/ascus, 5.5 x 7.5 µm, septum 5.2-6.6 µm.

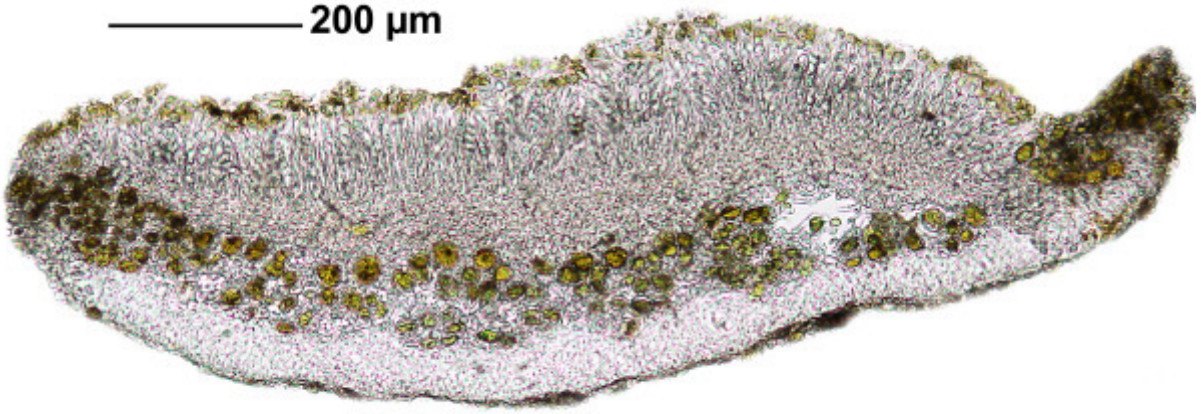
[13395], Griechenland, S-Kreta, Gebirgszug zwischen Pombia und Pigedakia, westl. des Gipfels Vigla, 34°59.880' N, 24°52.150' E, 420 m. Leg. F. Schumm & R. Düll, 16.10.2007, det. A. Aptroot 2016.

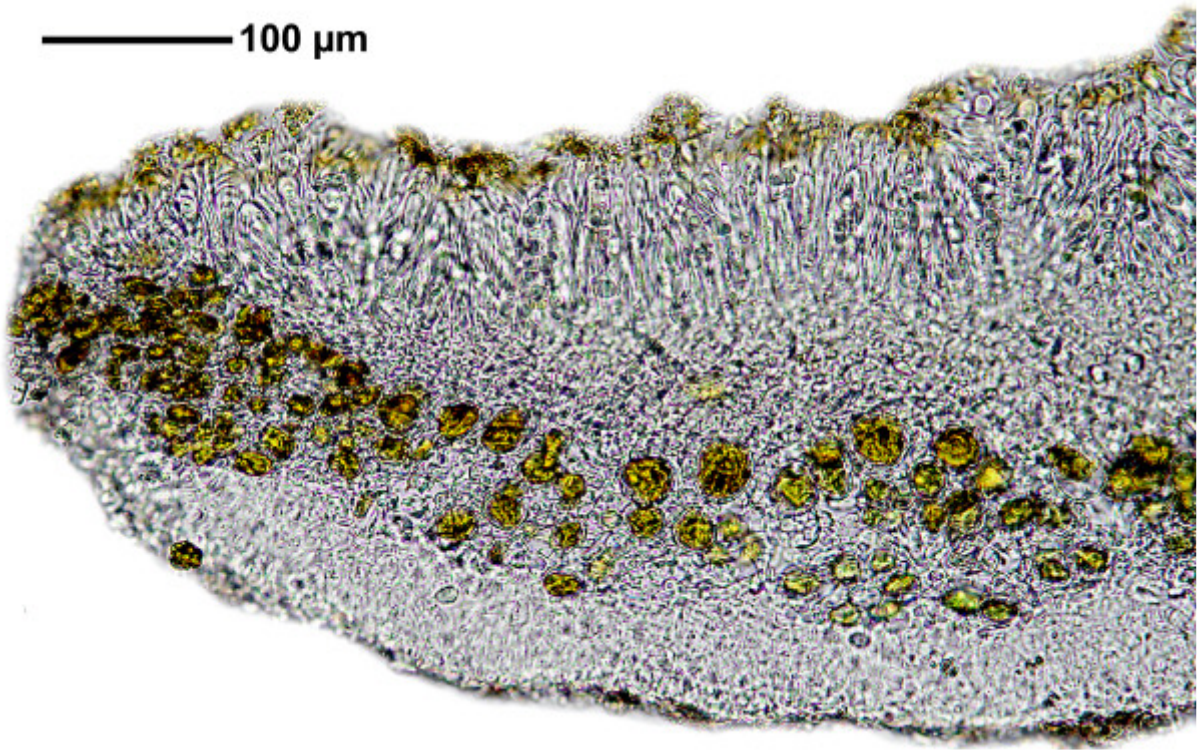




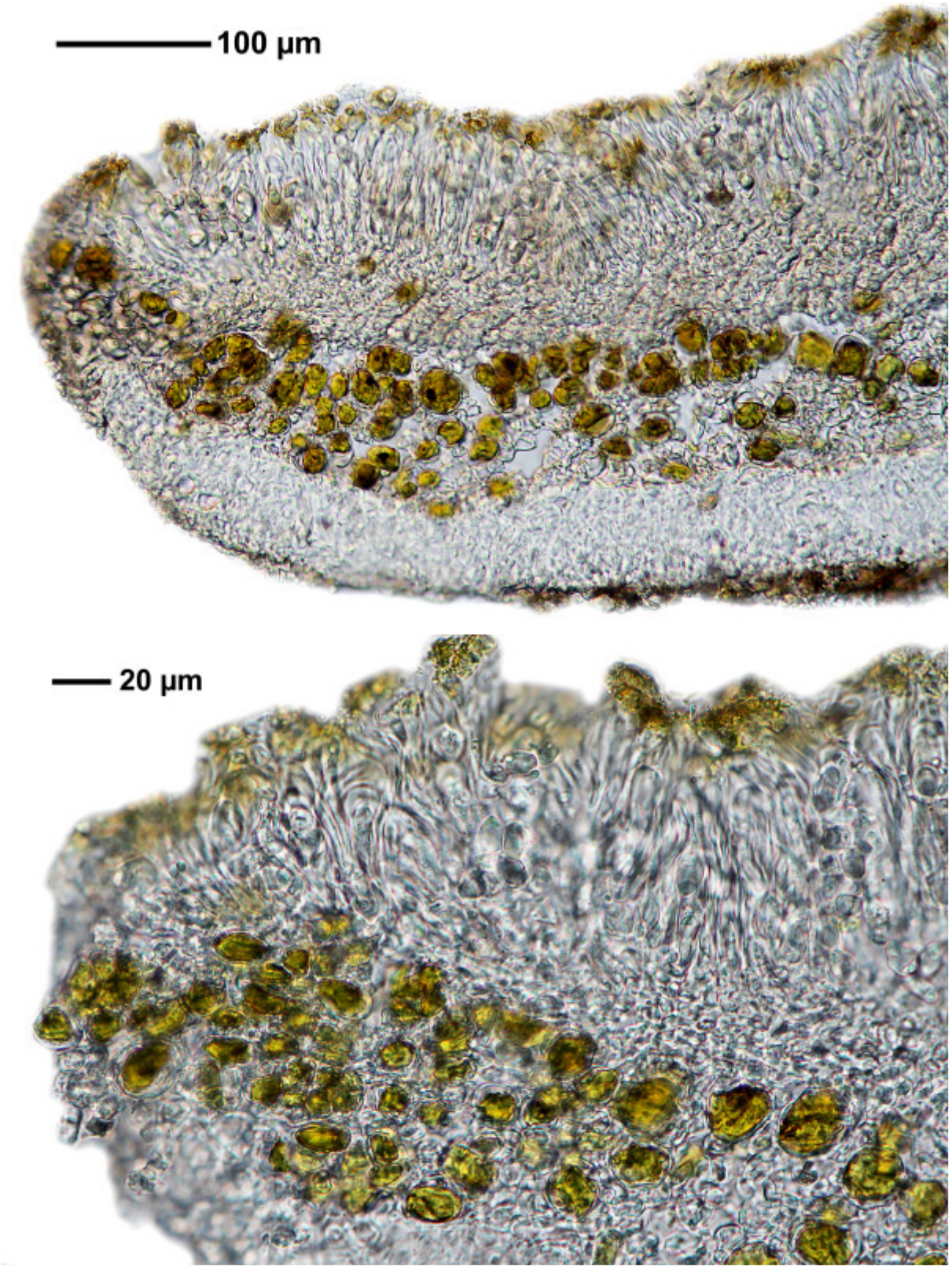


Caloplaca monacensis

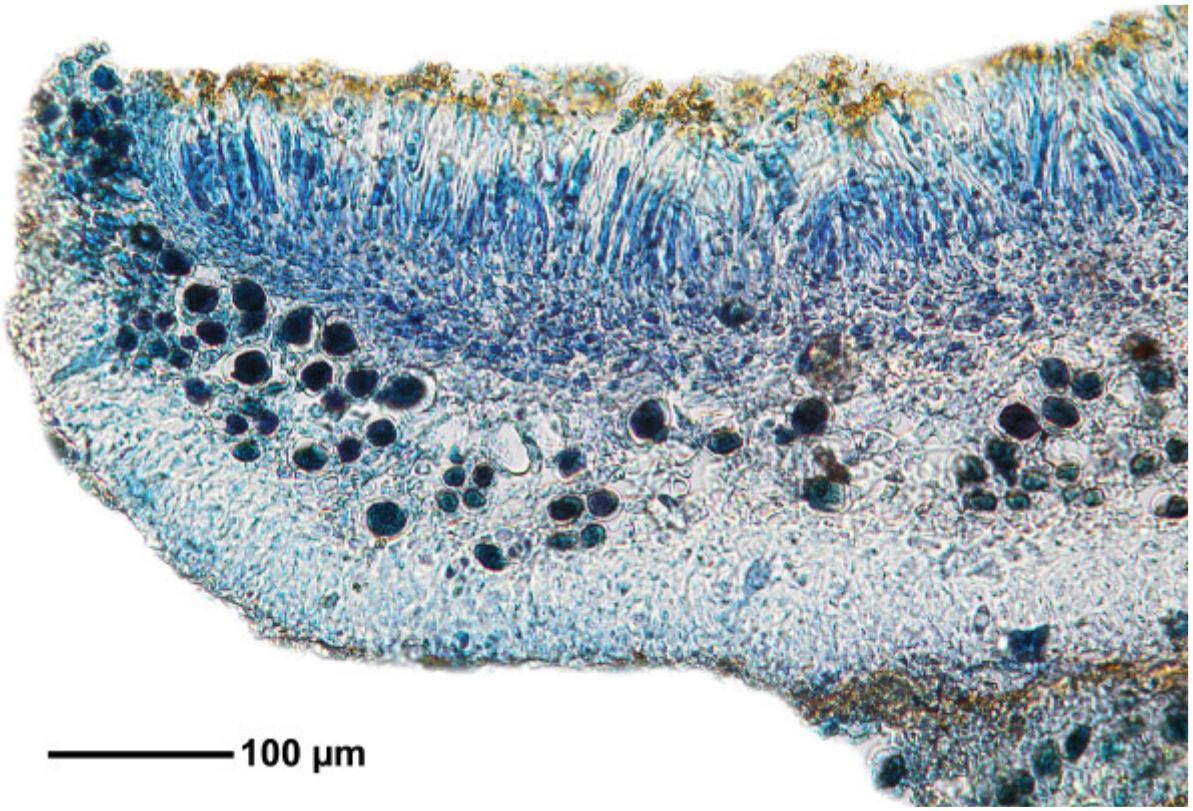


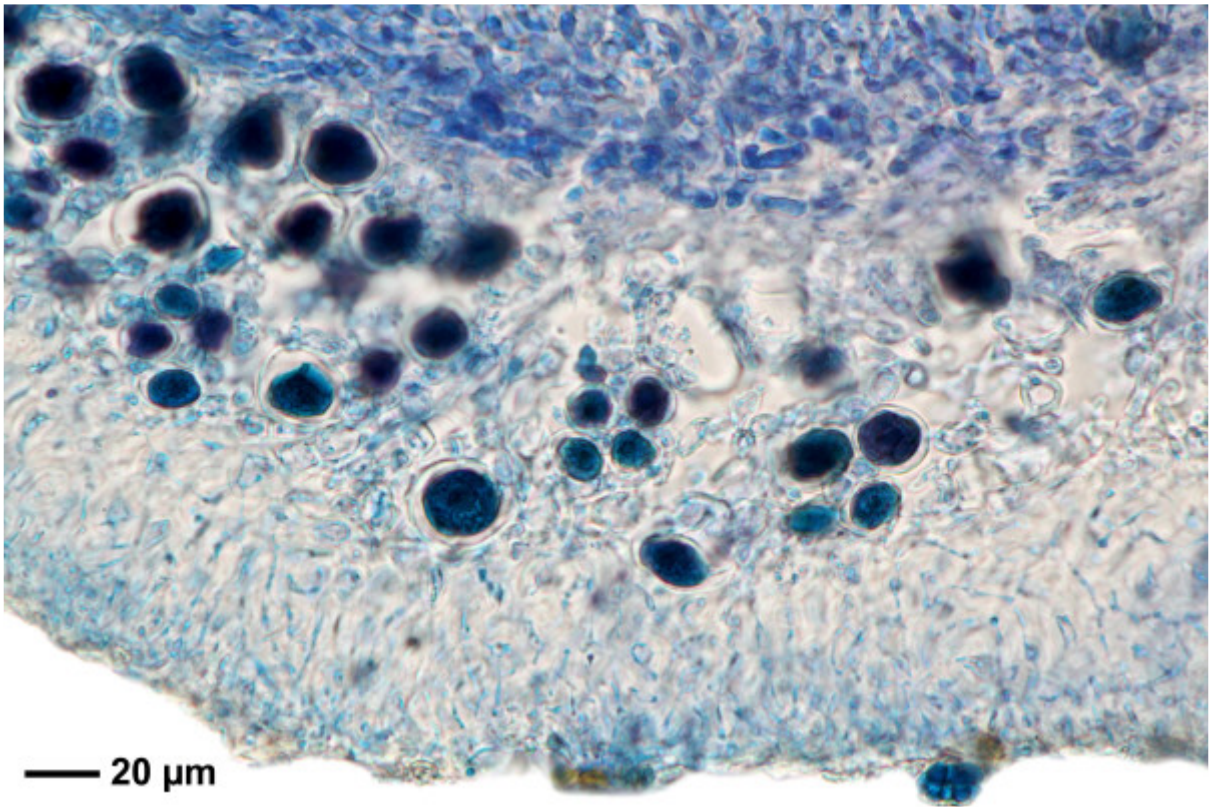


Caloplaca monacensis

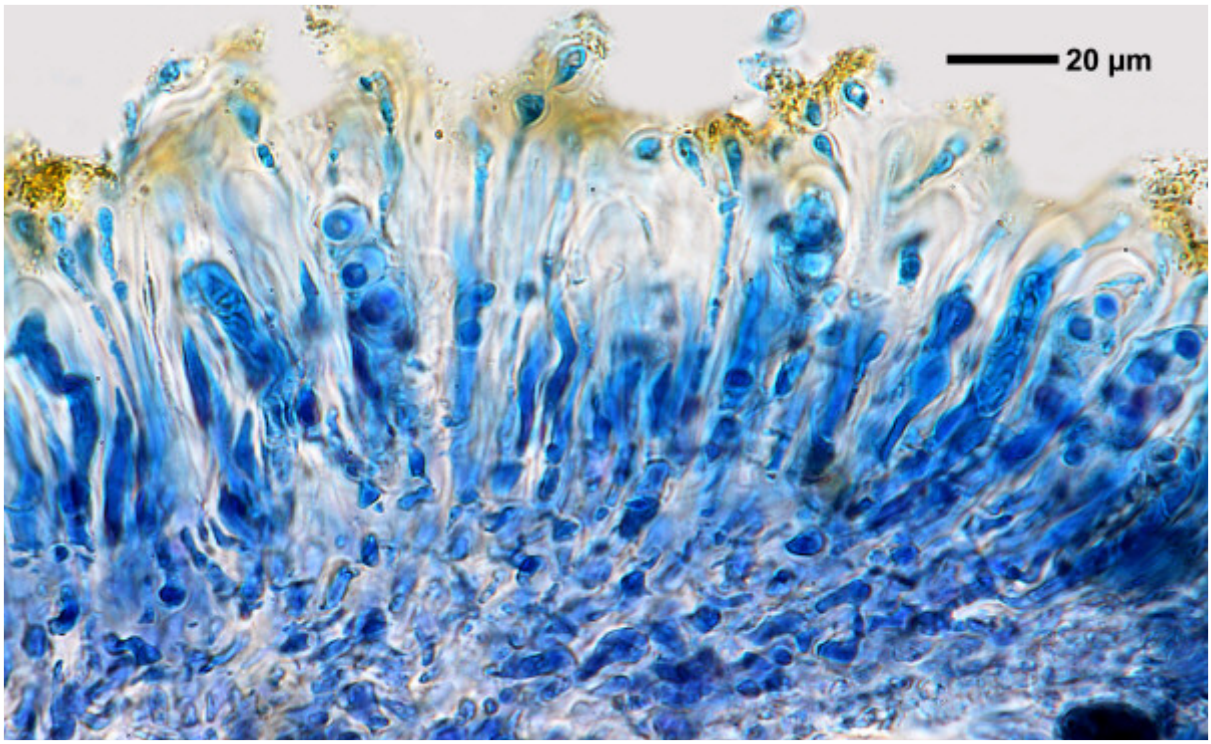


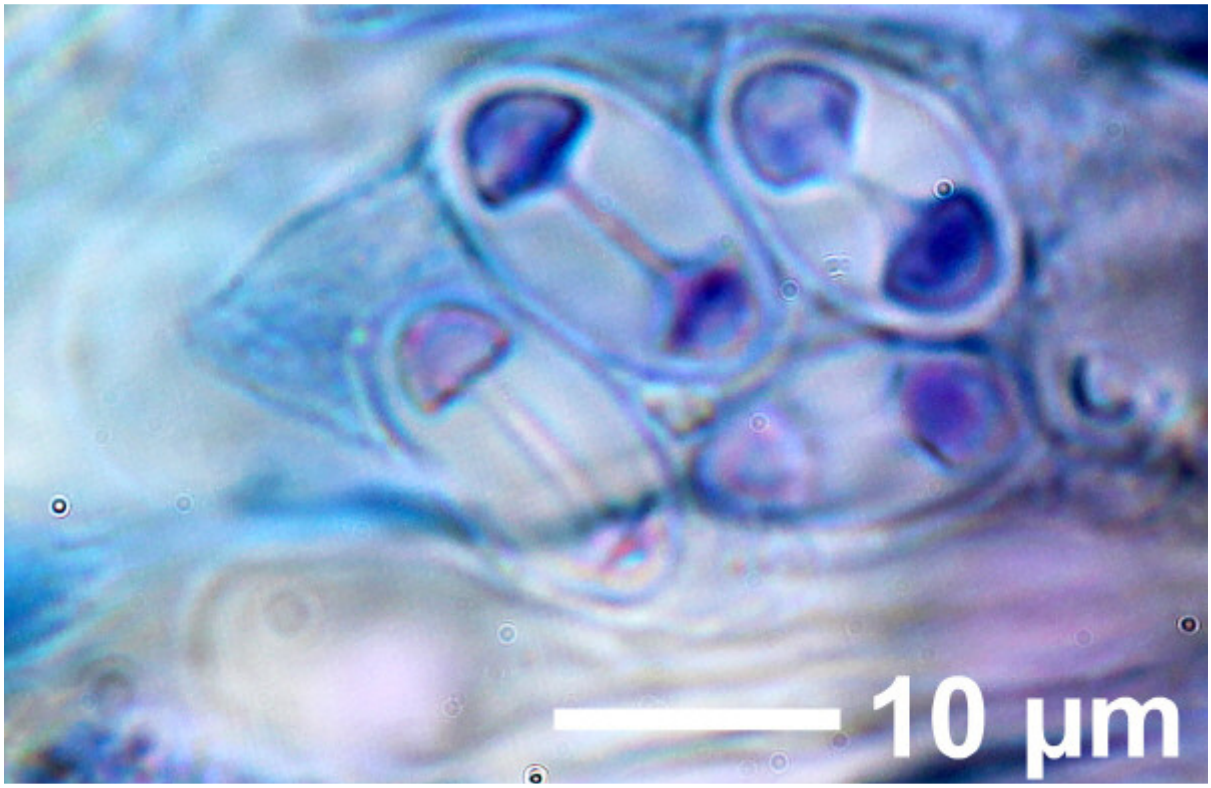
Caloplaca monacensis





Caloplaca monacensis





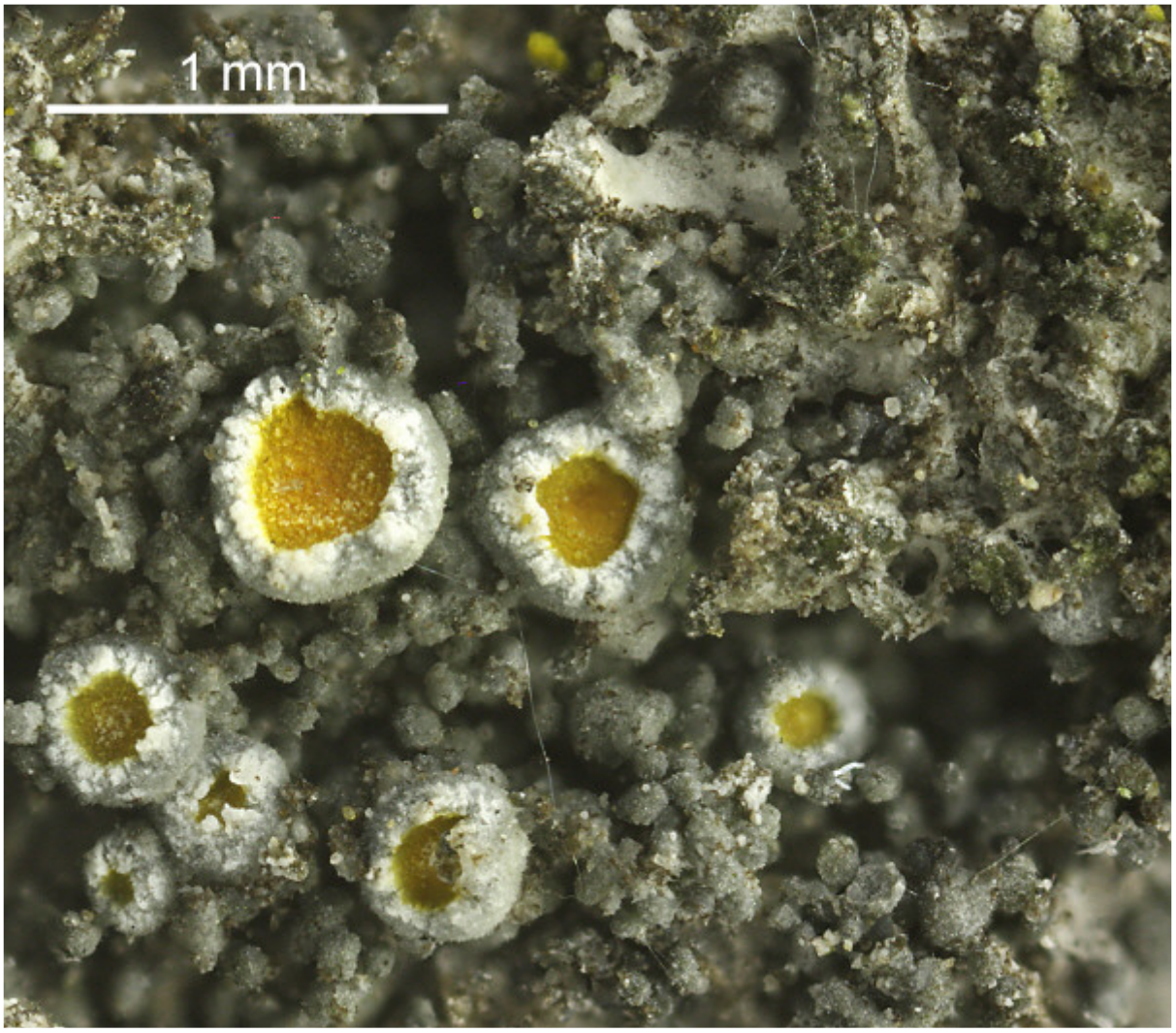


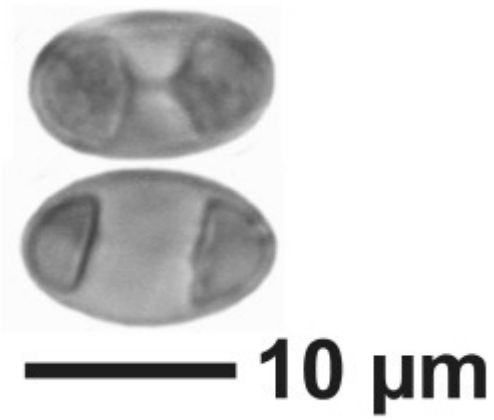
Caloplaca monacensis

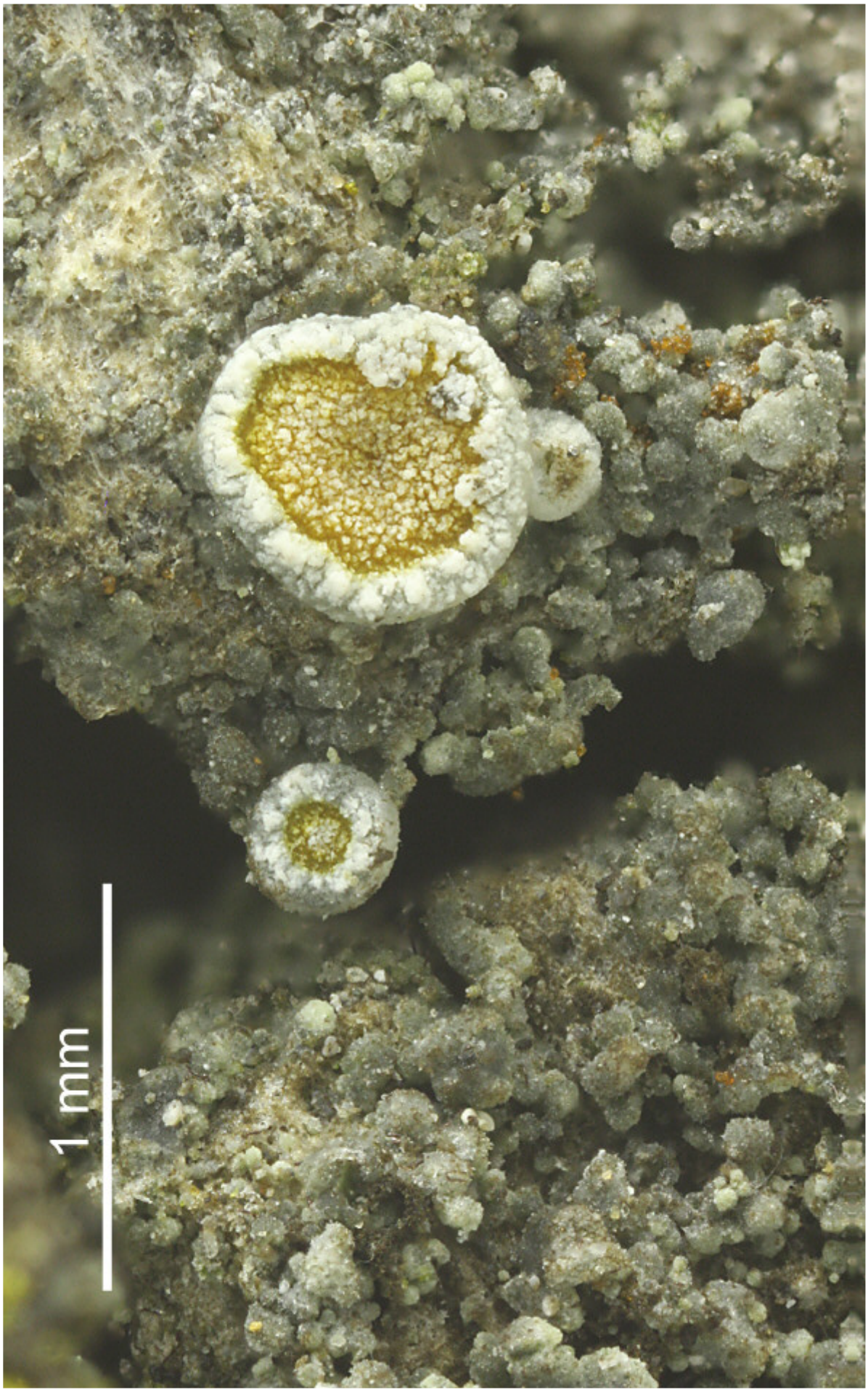
Caloplaca monacensis (Leder.) Lettau

Apothecien mit grauweißem Thallusrand, Scheibe gelb (K+ karminrot). Sporen polar-2-zellig, ca. 12 x 6 µm, 8/Ascus. Thallus grau, (K+ schwach violett), warzig bis isidiös, blastidiös.

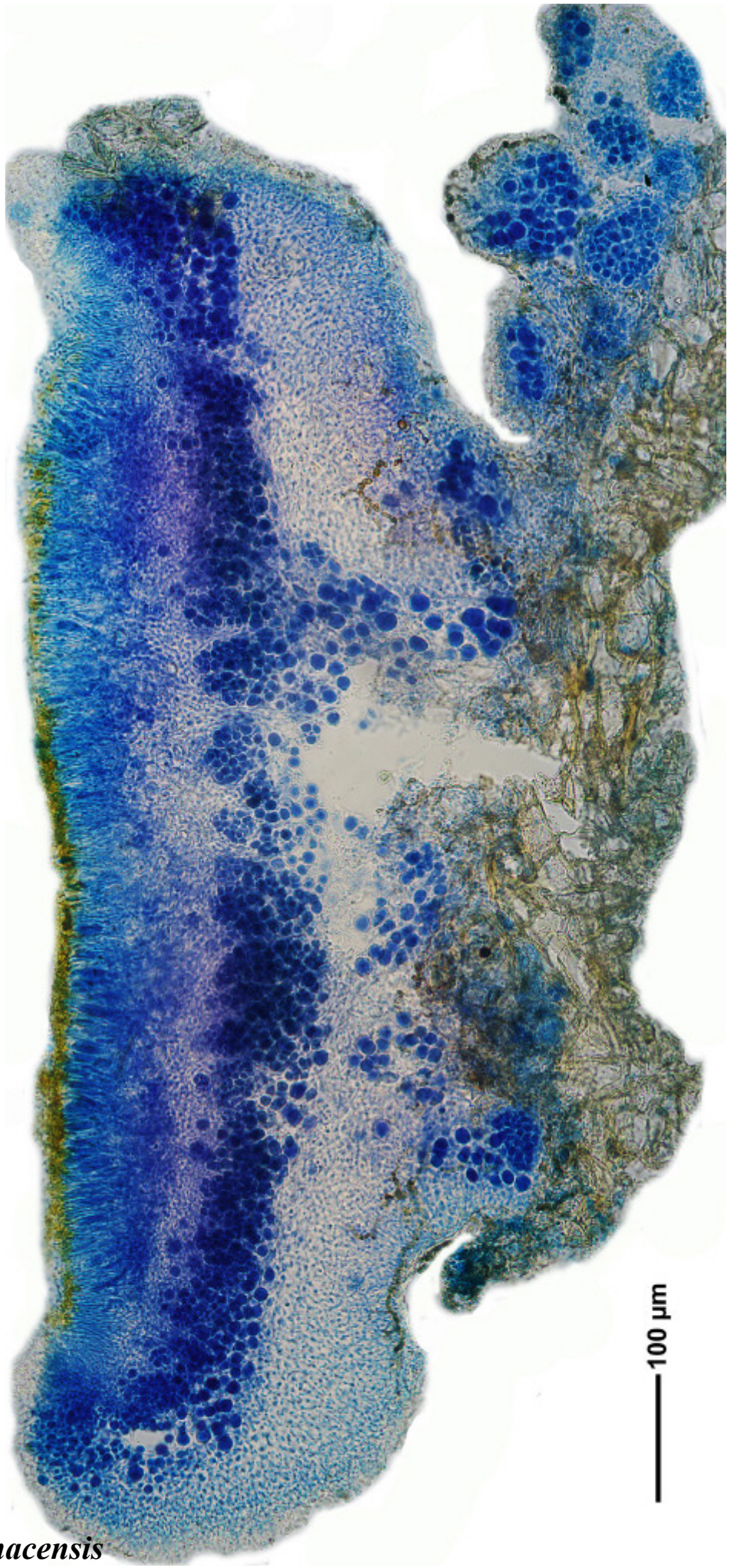
[17088], Germany, Baden-Württemberg, Kreis Göppingen, an Linden im Klosterhof des Klosters Adelberg, 48,75872° N, 0,59839° E, 460 m. Leg. Schumm 05.03.2011, det.Aptroot 2011 als *Caloplaca chlorina*, rev. 2016 H. Sipmann nach Foto.



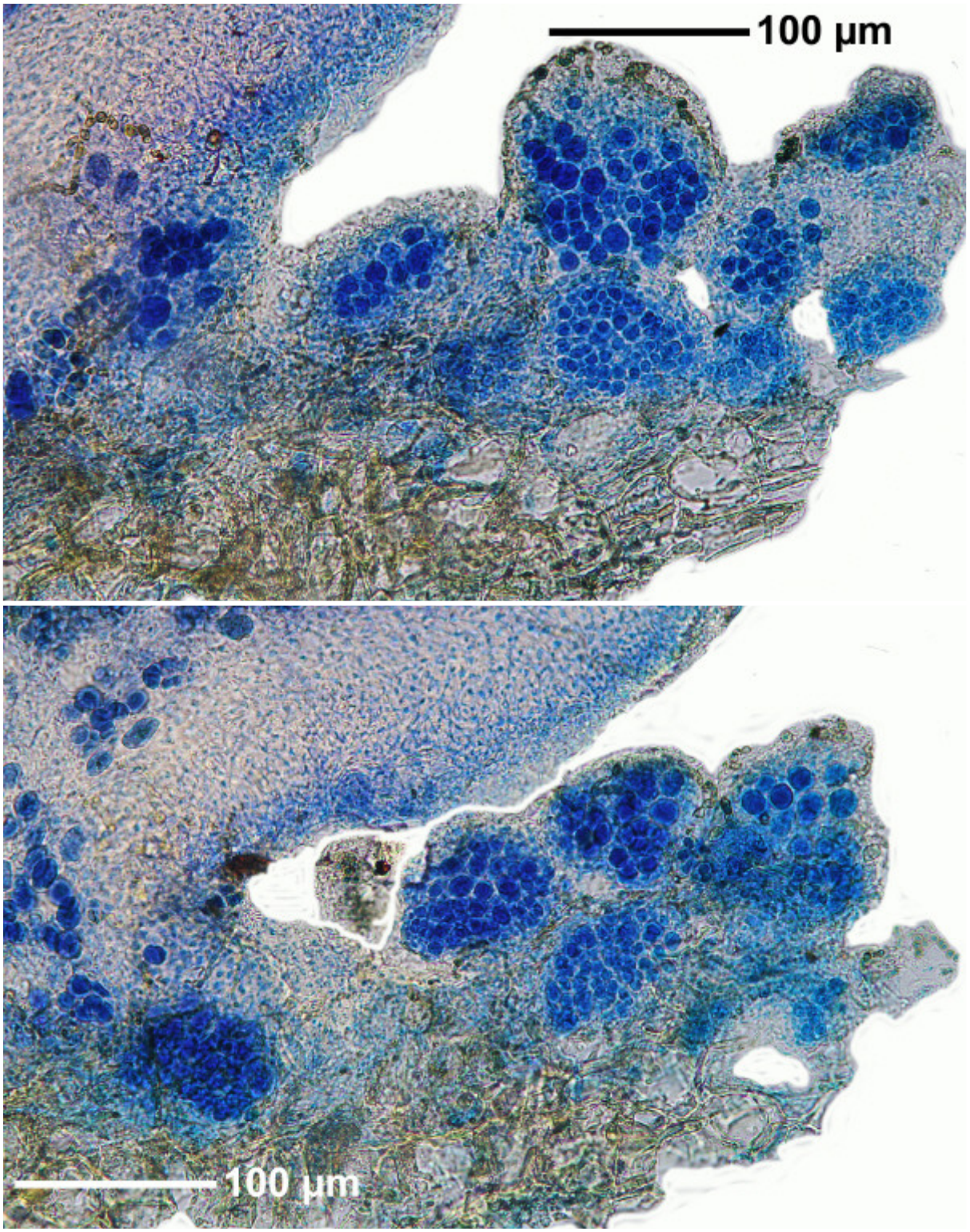




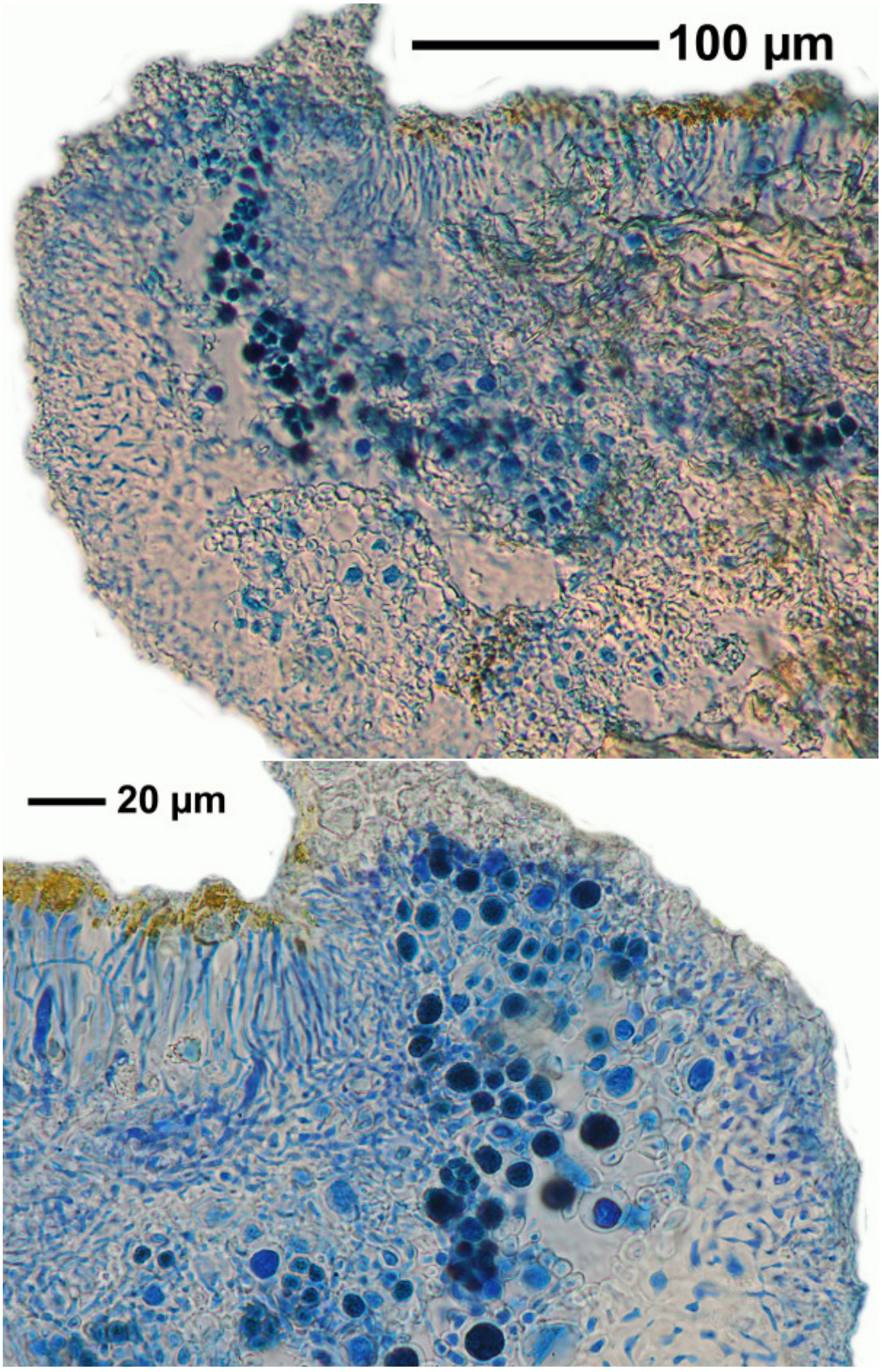
Caloplaca monacensis



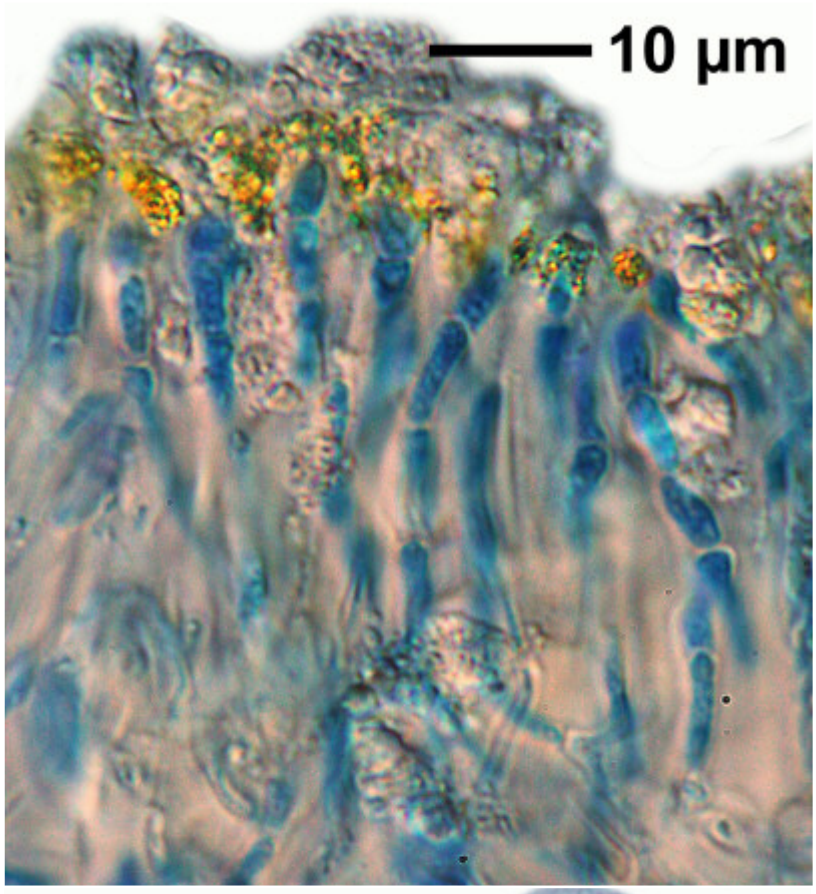
Caloplaca monacensis

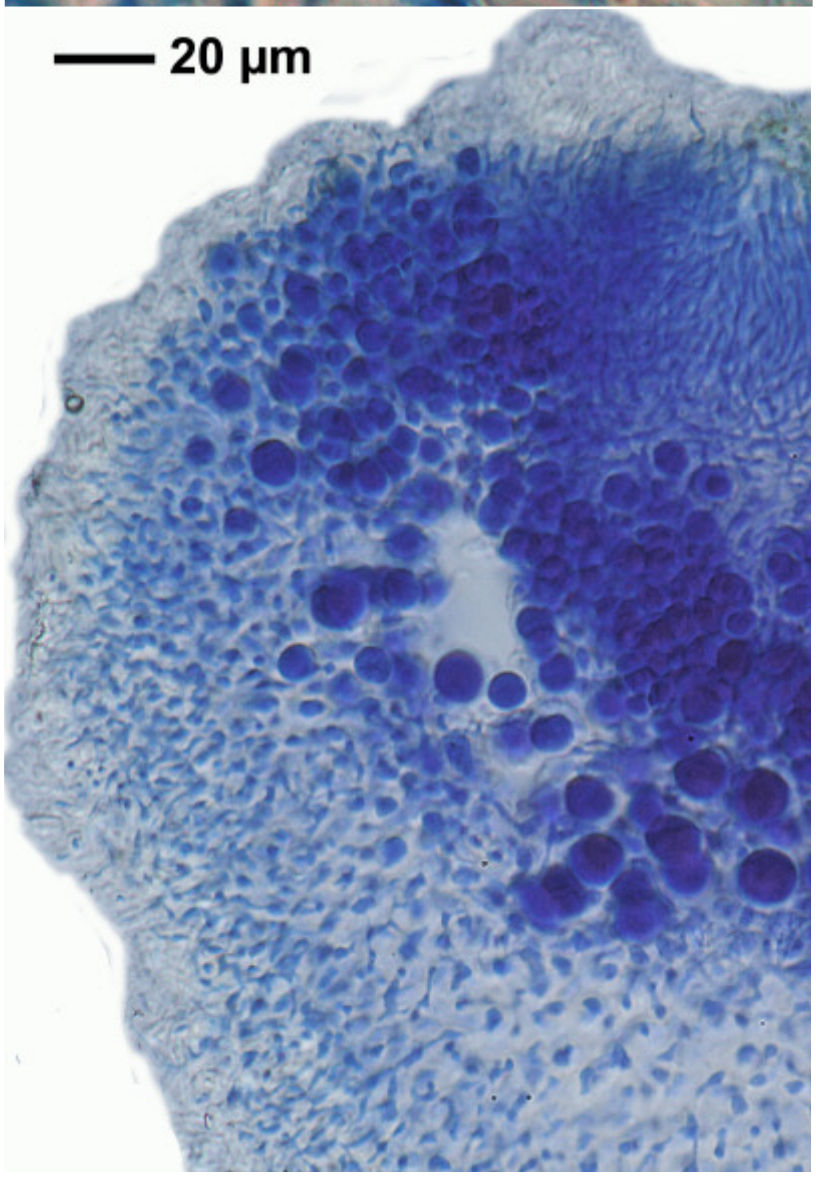


Caloplaca monacensis



Caloplaca monacensis





Caloplaca monacensis

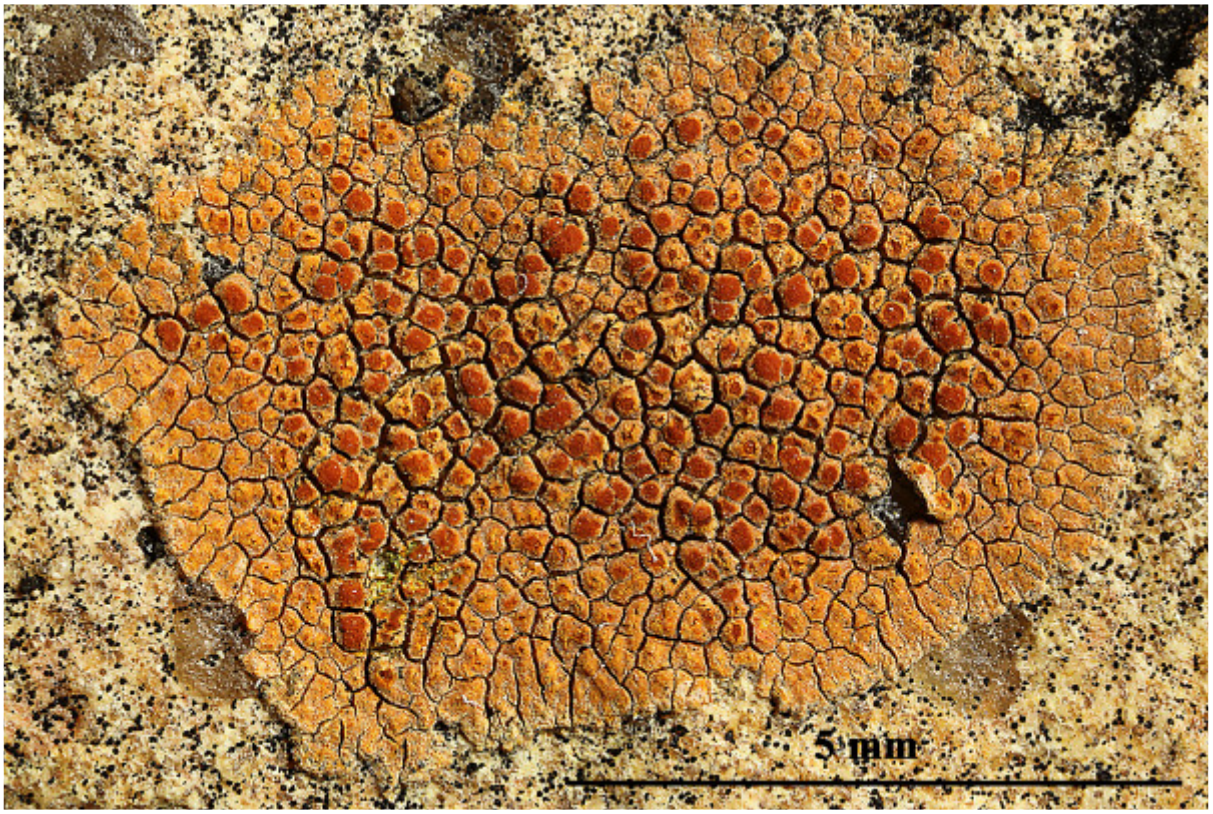
Caloplaca montisfracti S.Y. Kondr. & Kärnefelt, in Kondratyuk, Kärnefelt, Elix & Thell, Biblthca Lichenol. 95: 370 (2007)

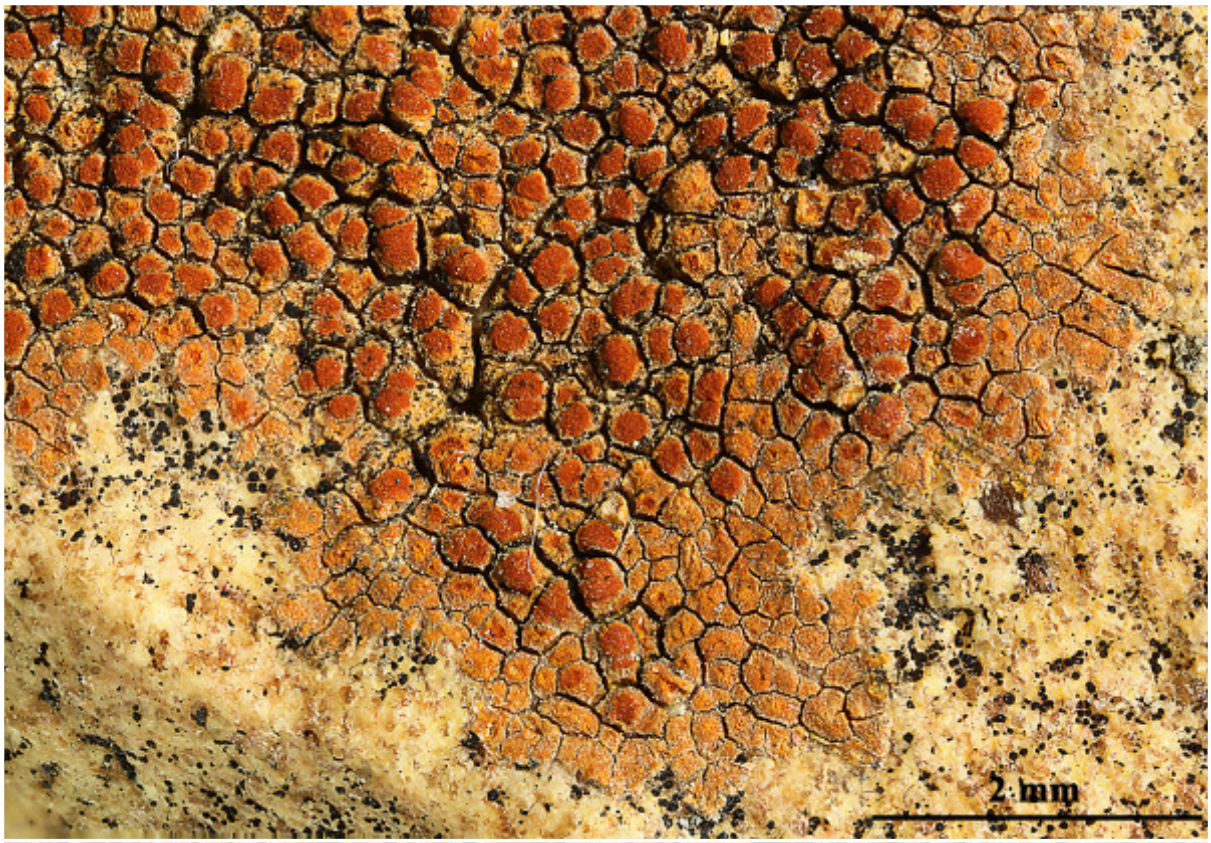
[= *Brownliella montisfracti* (S.Y. Kondr. & Kärnefelt) S.Y. Kondr., Kärnefelt, Elix, A. Thell & Hur, in Kondratyuk et al., Acta bot. hung. 55(3-4): 271 (2013)]

[= *Neobrownliella montisfracti* (S.Y. Kondr. & Kärnefelt) S.Y. Kondr., Elix, Kärnefelt & A. Thell, in Kondratyuk, Kärnefelt, Thell, Elix, Kim, Kondratyuk & Hur, Acta bot. hung. 57(3-4): 340 (2015)]

Thallus saxicolous, orange-red, areolate, marginal lobate or indistinct. Apothecia bright red or deep orange-red, immersed in areoles, 0.2-0.3(-0.7) mm diam. Ascospores elongated to almost sphaerical, 7-12 x 5-6.5 µm, septum (1.5-)2.5-3.5 µm.

[KK21566], Australia, New South Wales, c. 20 km west of Armidale, in pasture with granite- and porphyric rocks, at the Bundarra Road, 900 m, 30°31’ S, 151°30’ E. Leg. K. Kalb & J. Williams, 9.8.1988, det. S.Y. Kondratyuk.

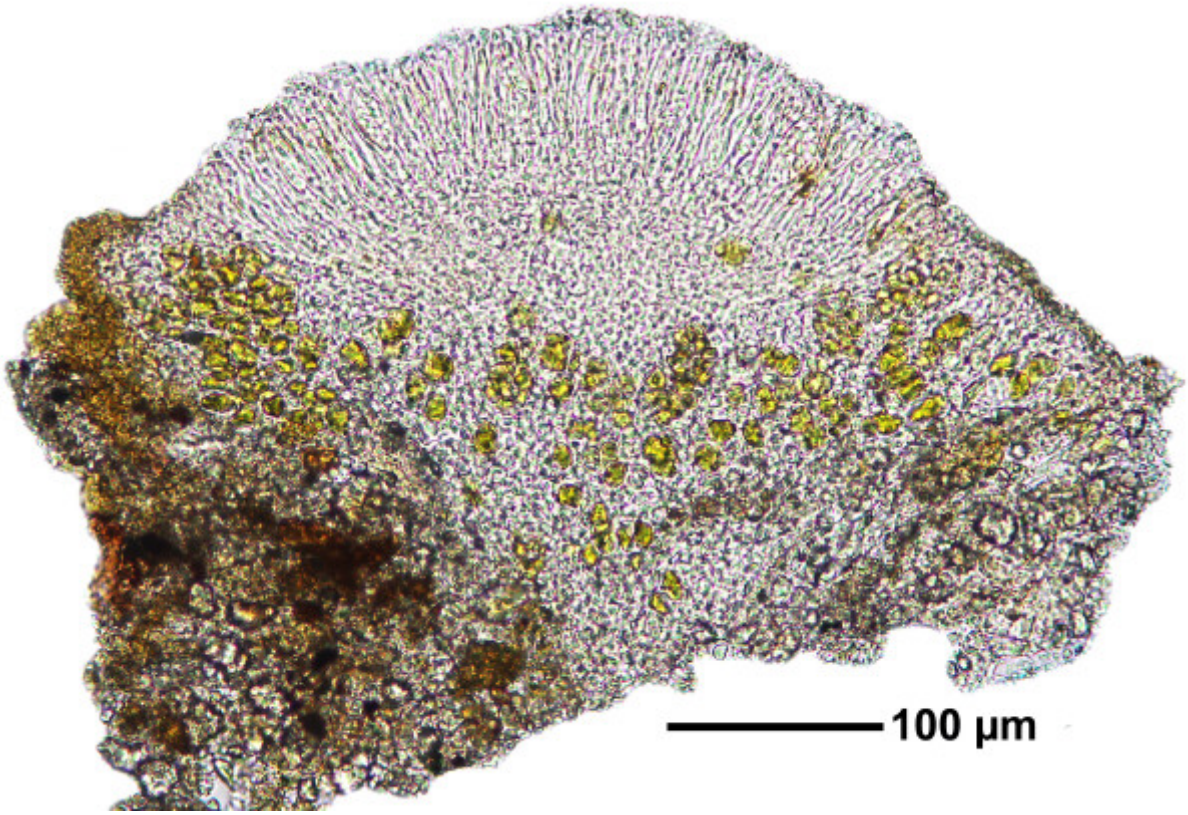




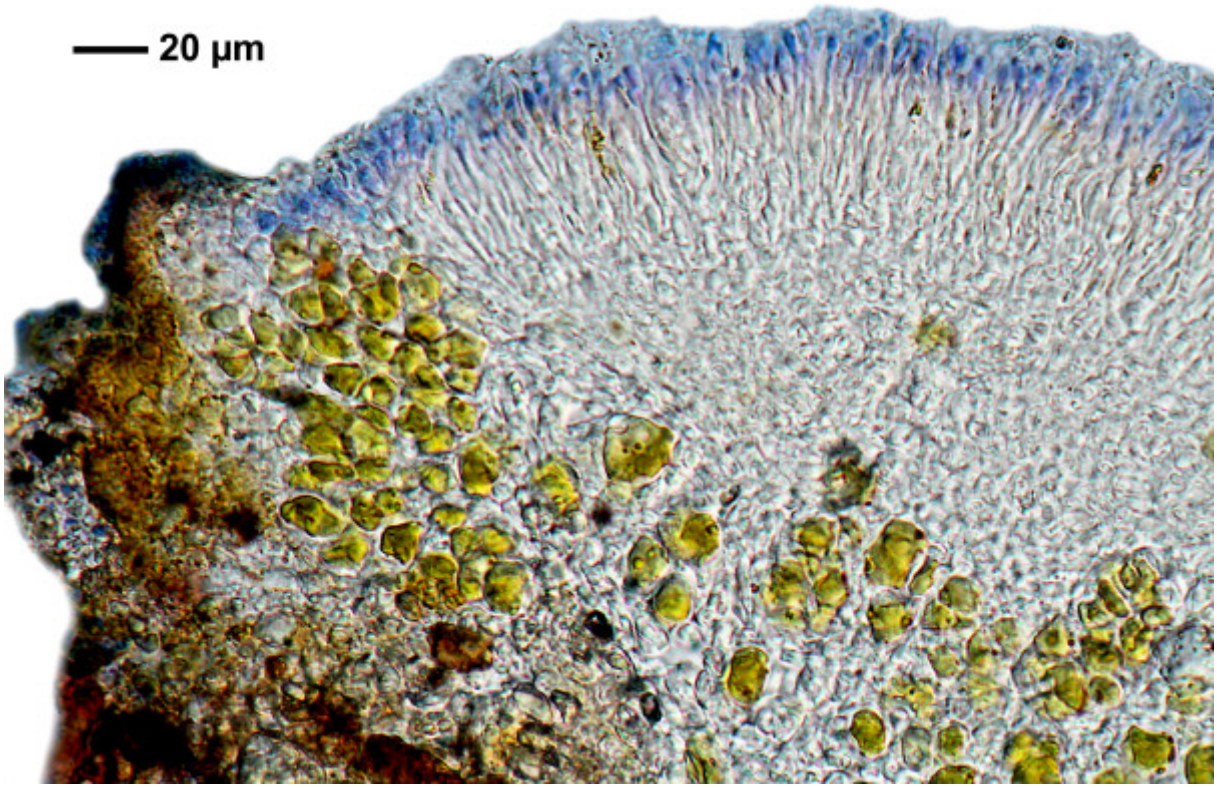


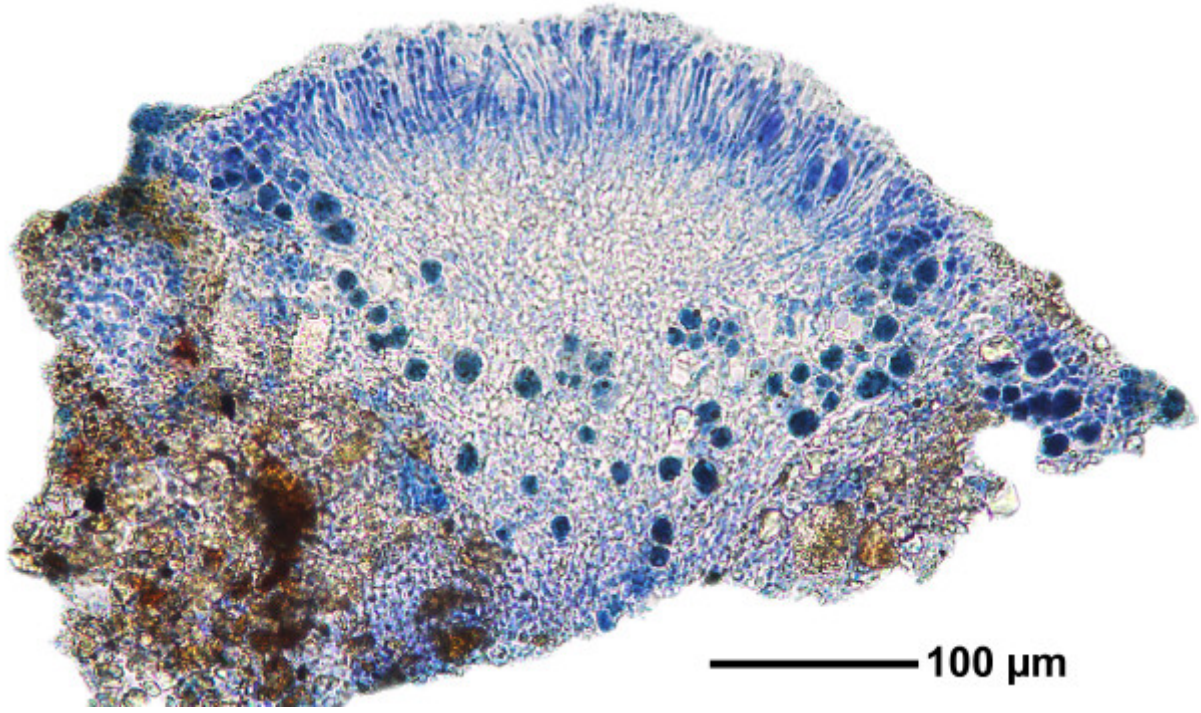
Caloplaca montisfracti



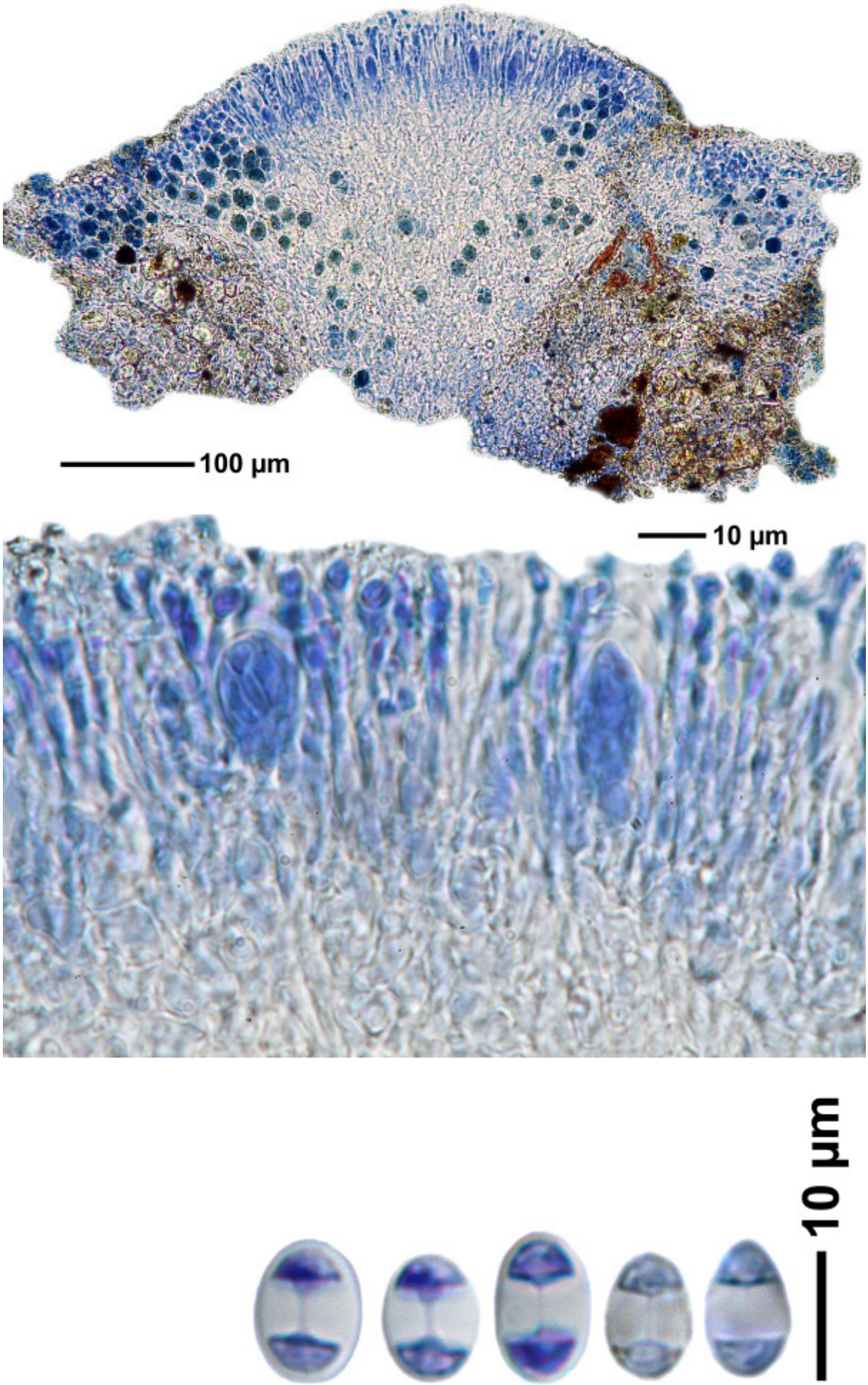


Caloplaca montisfracti

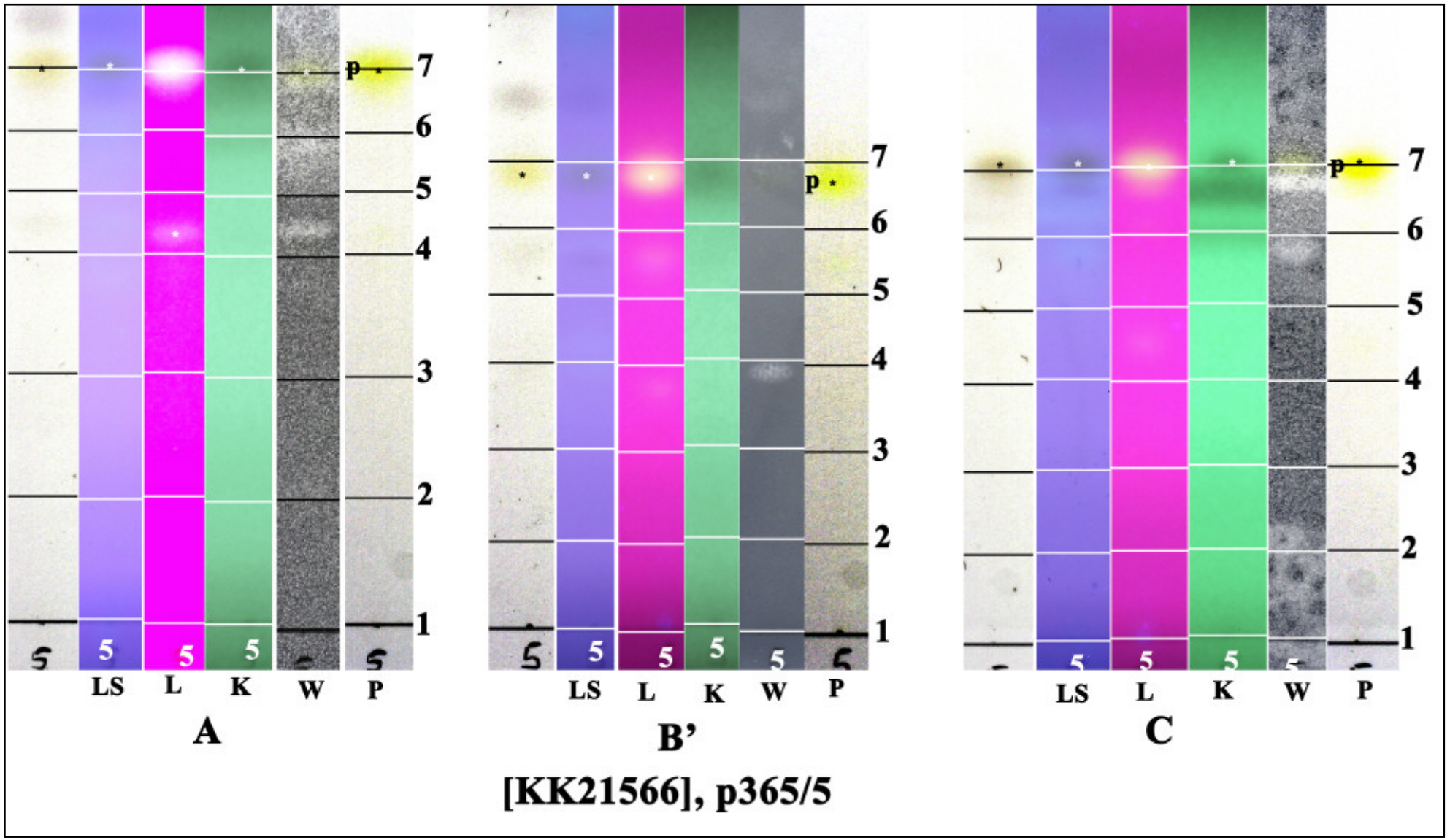




Caloplaca montisfracti



Caloplaca montisfracti

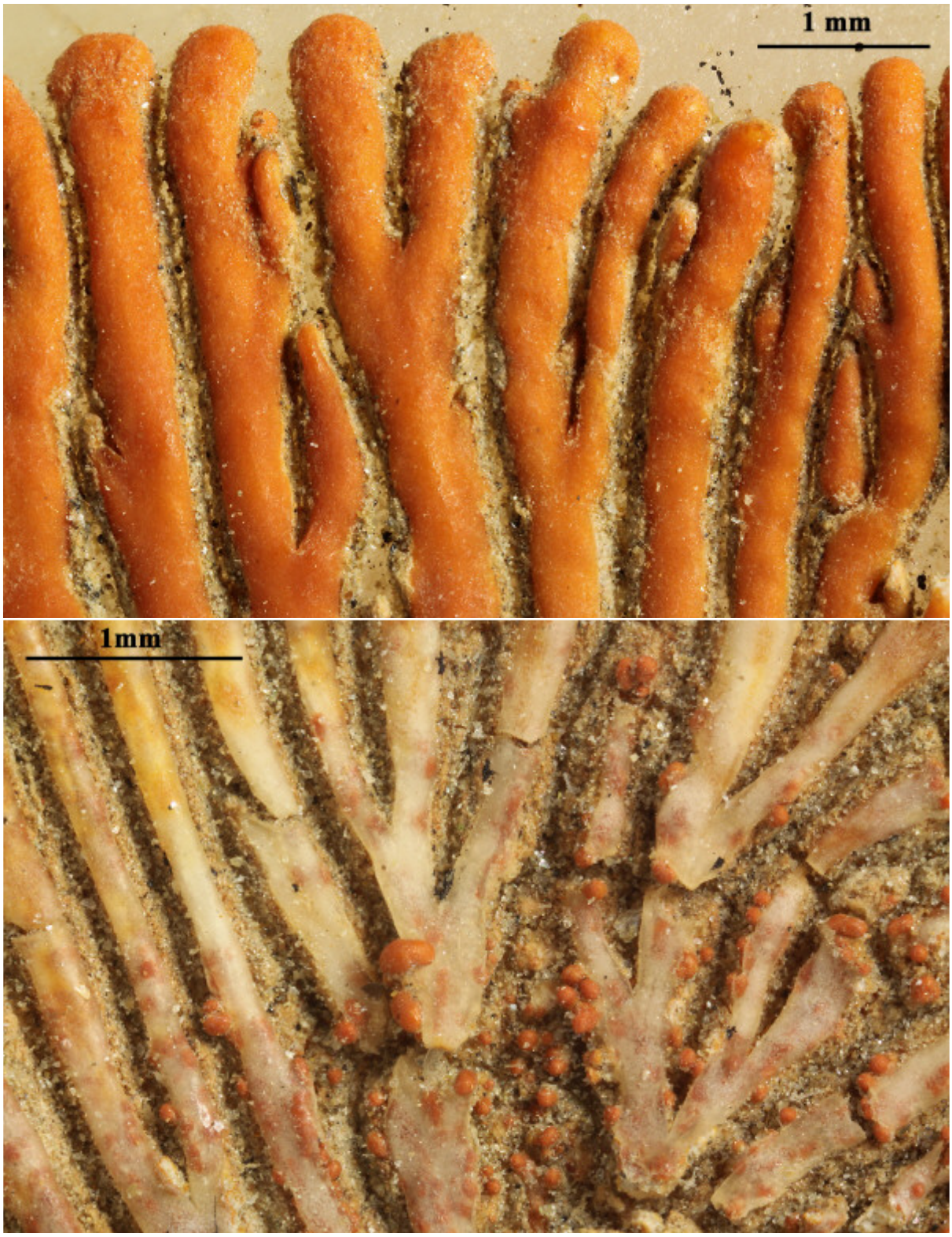


p: parietin; conf. J.A.Elix

Caloplaca namibensis Kärnefelt
[= *Stellarangia namibensis* (Kärnefelt) Frödén, Arup & Søchting]

[BR5030038249312], Namibia, 40 km E of Swakopmund. Leg. Farjon, 11.1995, det. A. Aptroot, 1995.





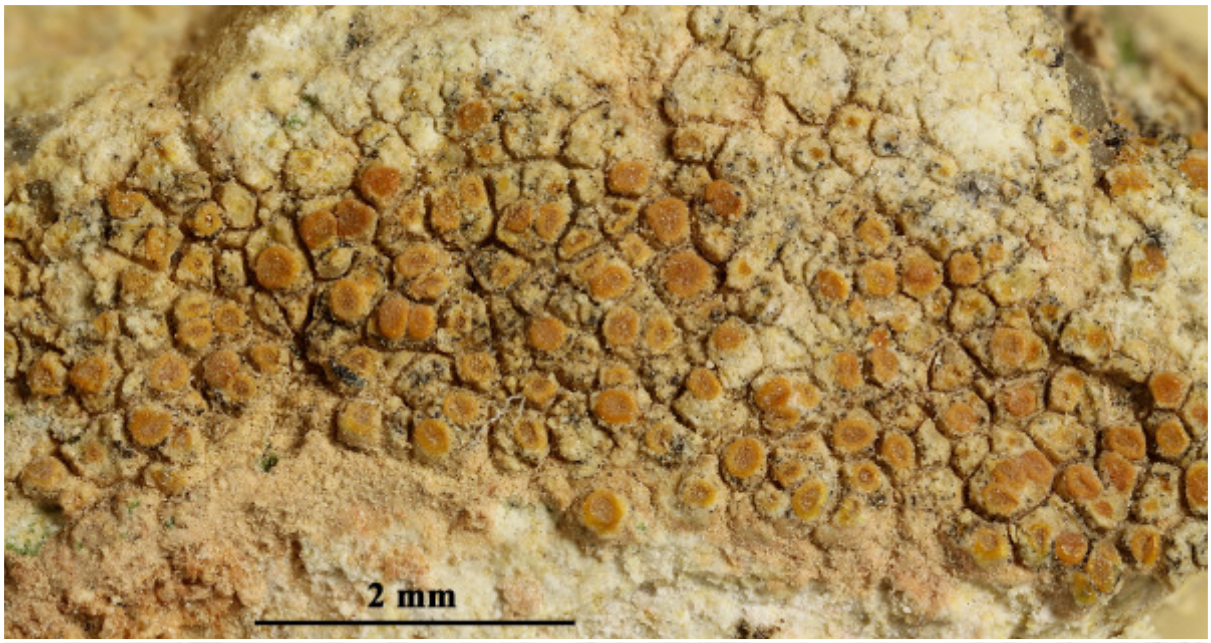
Caloplaca namibensis

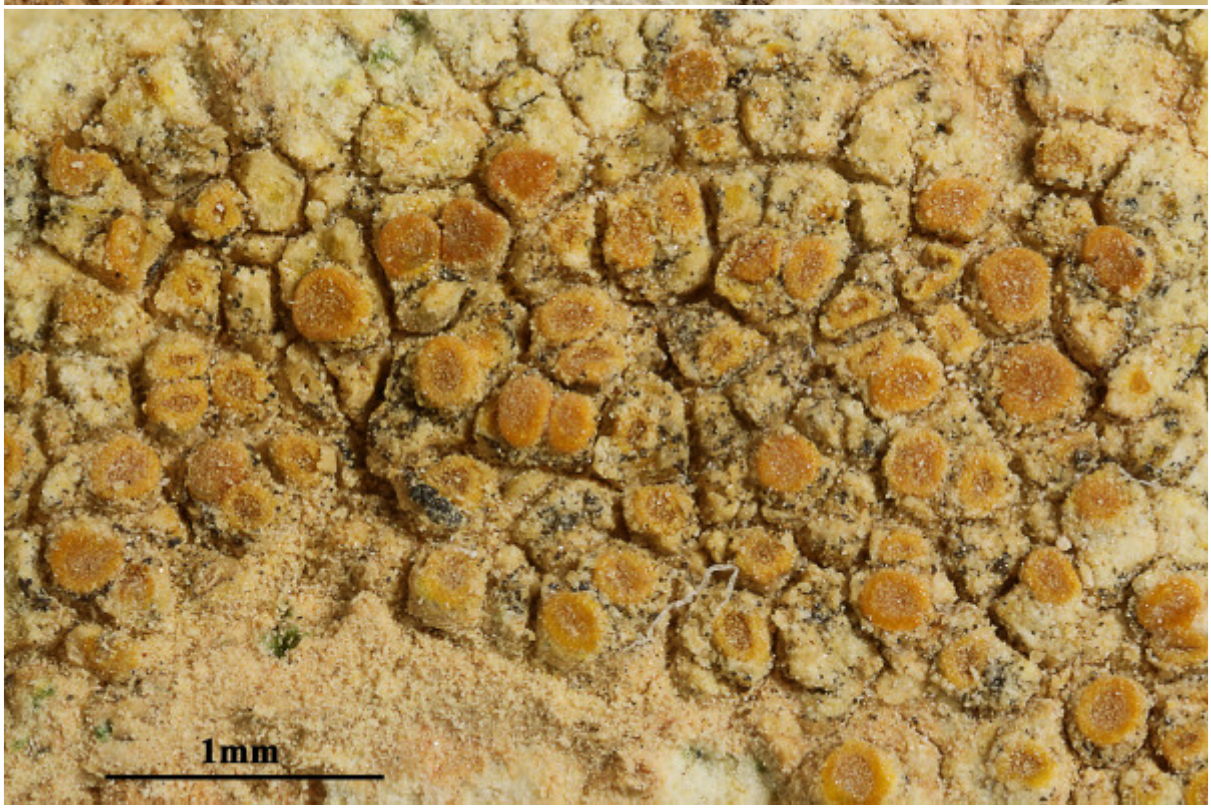
Caloplaca navasiana Nav.-Ros. & Cl. Roux
[= *Flavoplaca navasiana* (Nav.-Ros. & Cl. Roux) Arup, Søchting & Frödén]

Hymenium 50 µm, clear. Spores 13 x 7 µm, septum 5 µm (Sipm.). Spores 10.2-11 x 5-5.3 µm, septum 3.3-4.1 µm (FS).

[B 60 0154666], Greece, South Aegean, Dodecanese, Kasos island, Paralia Helatro on SW coast, calcareous rocks near the coast. 35°20.9' N, 26°52.4' E, 5 m. Leg. H. Sipman (56409) & Th. Raus, 29. September 2007, det. H. Sipman, 2008.



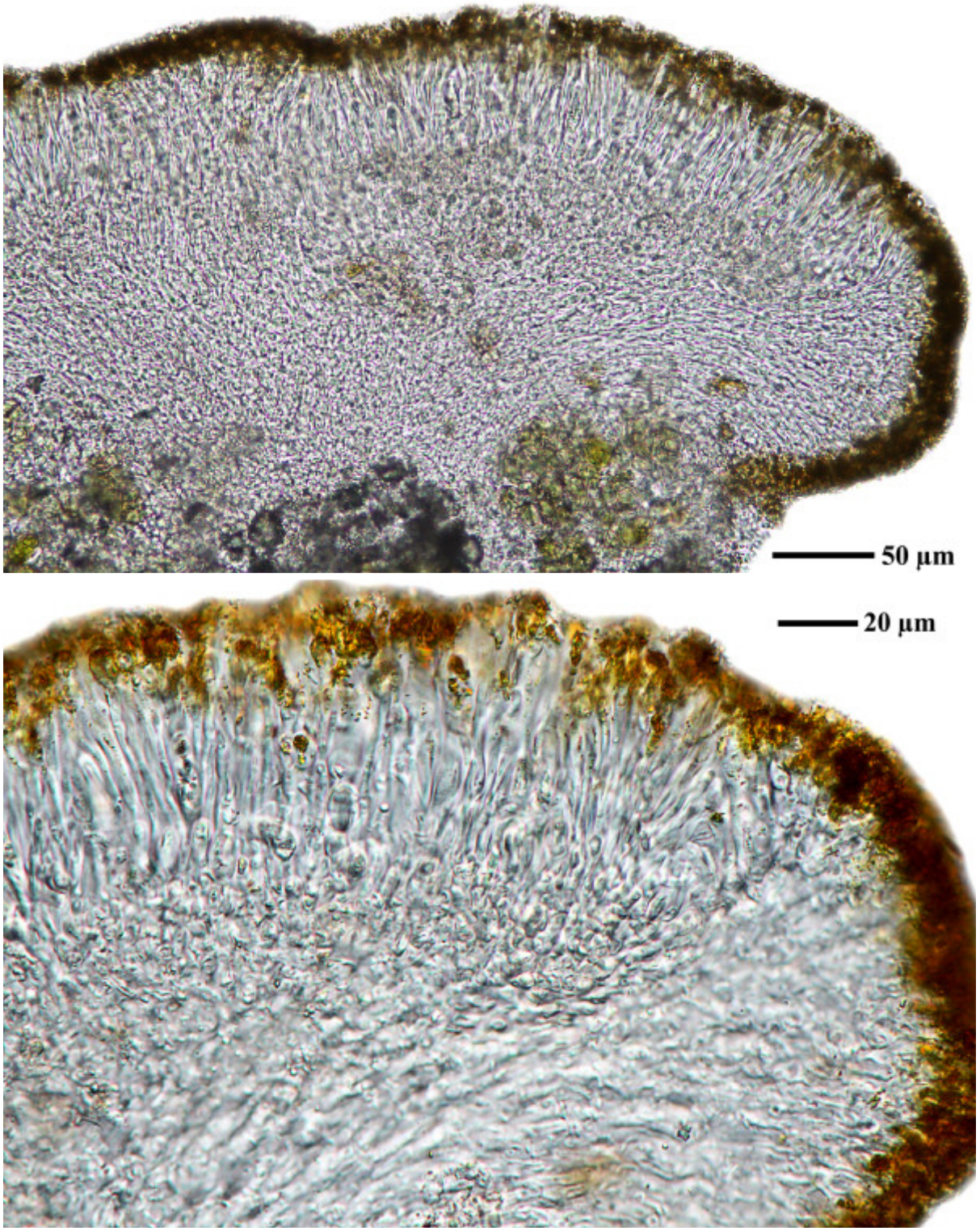




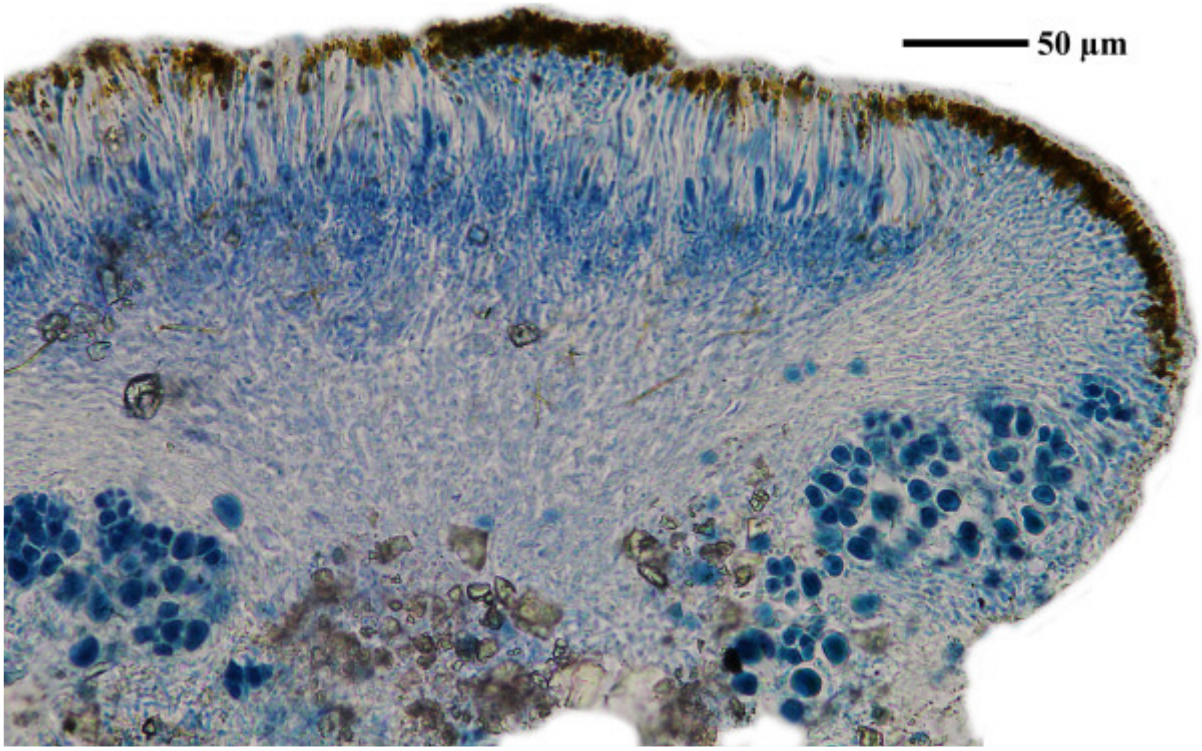
Caloplaca navasiana

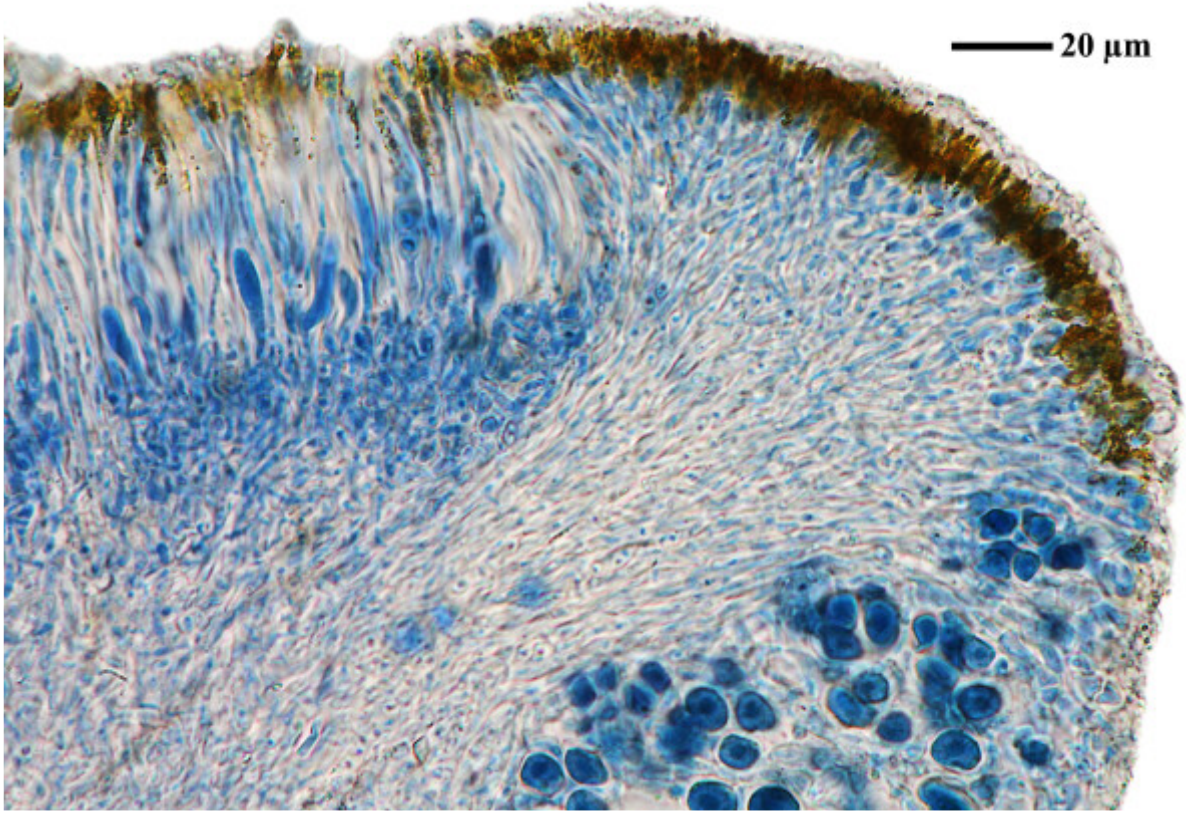


Caloplaca navasiana

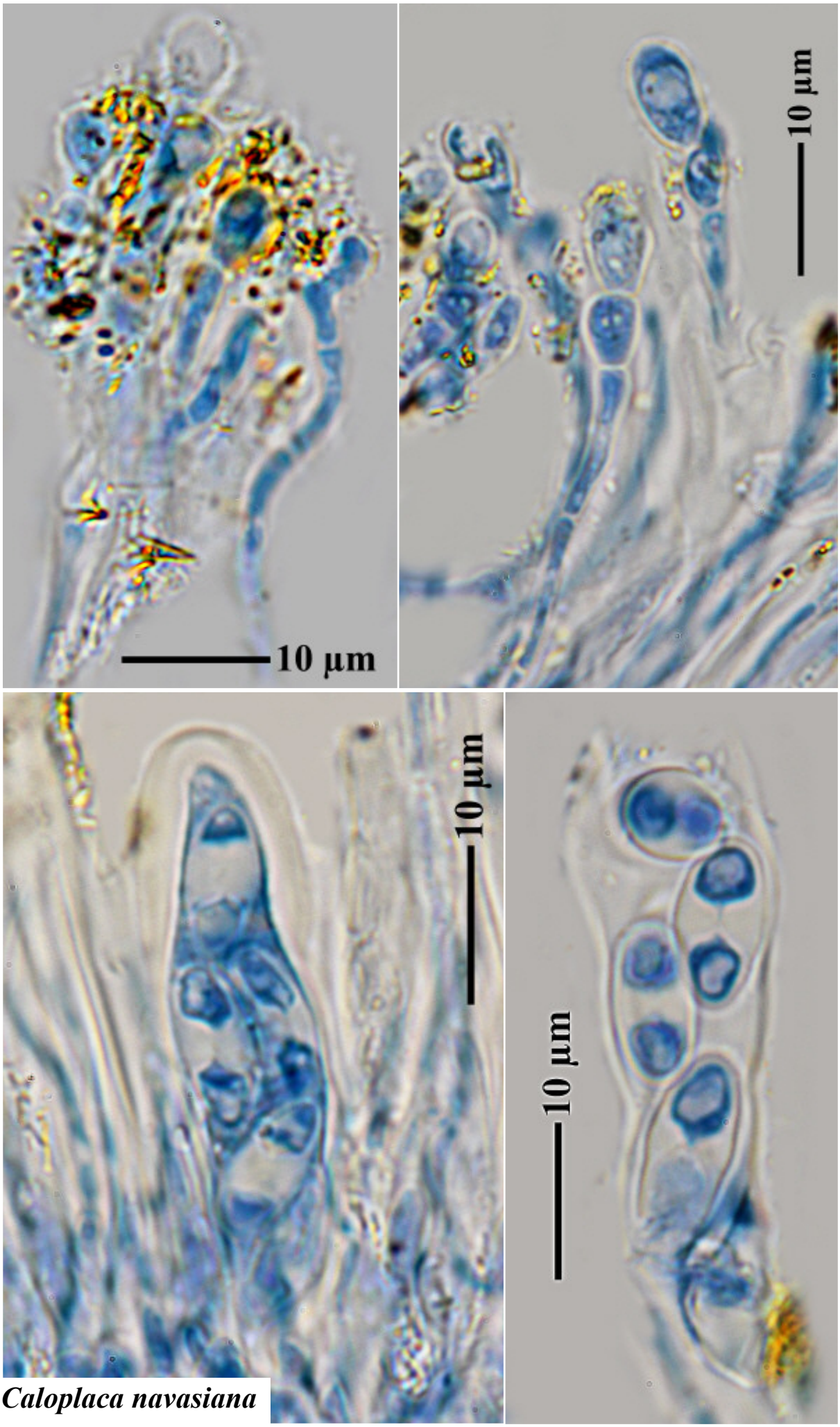


Caloplaca navasiana





Caloplaca navasiana



Caloplaca navasiana

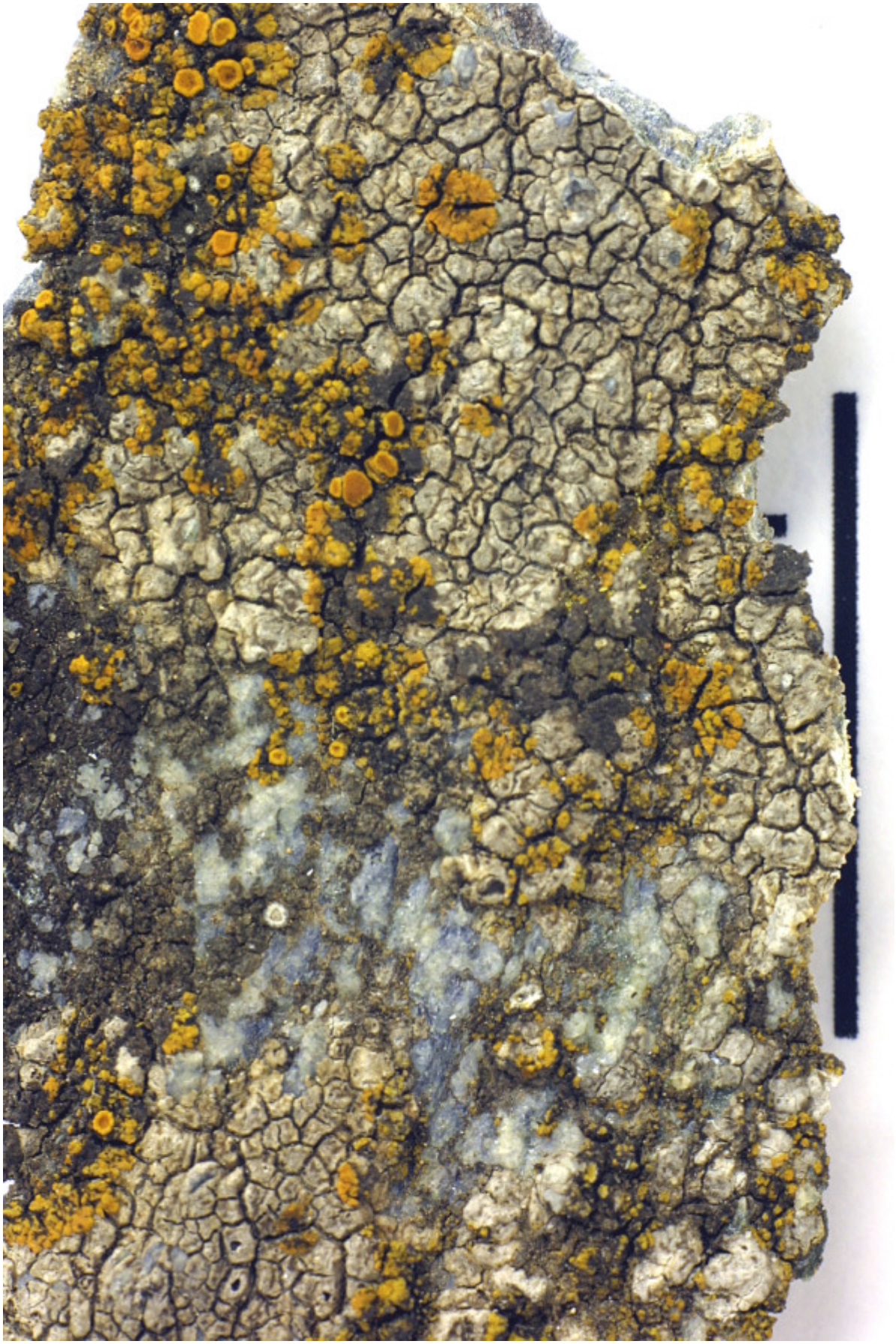


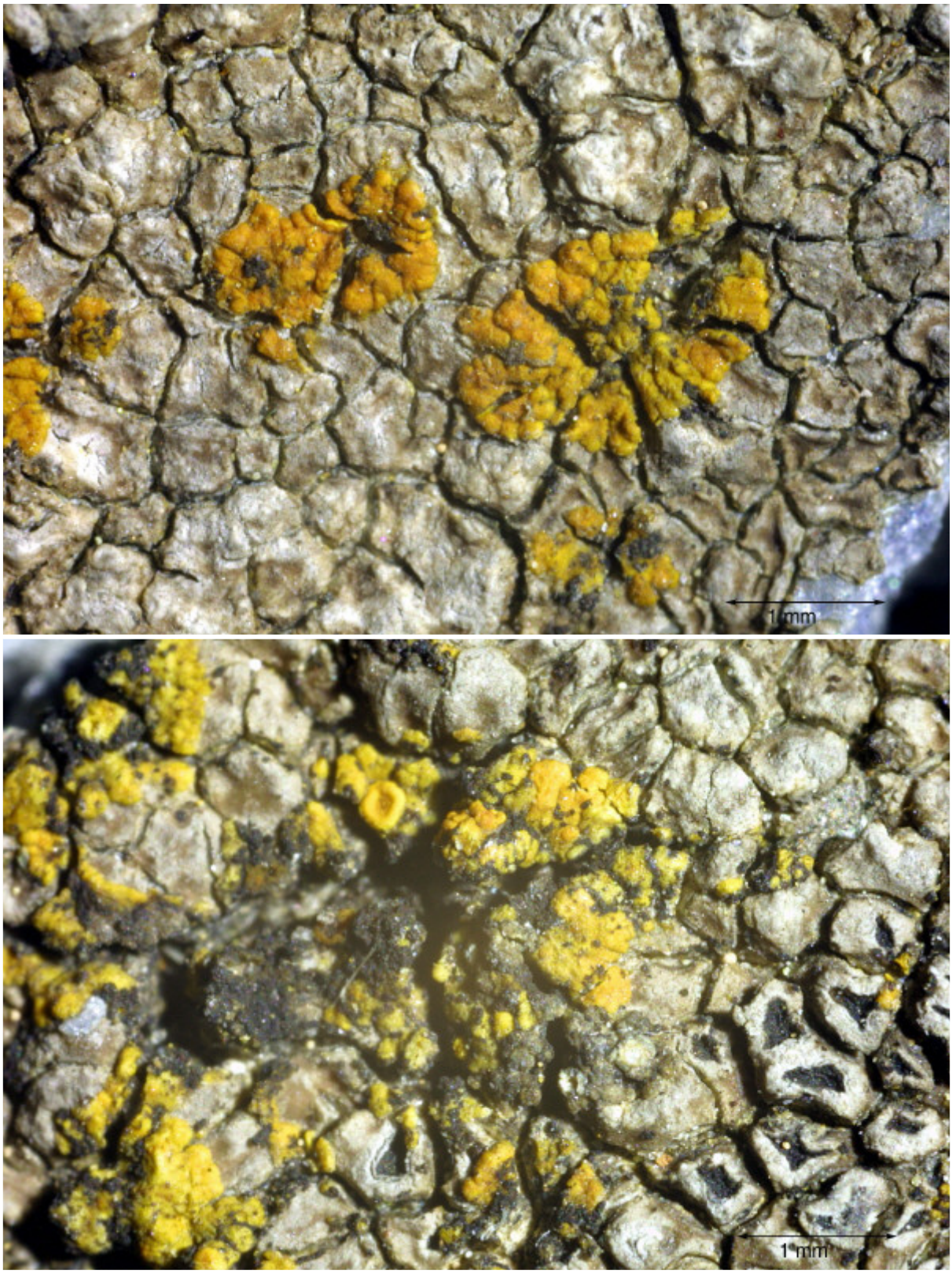


Caloplaca navasiana

Caloplaca necator Poelt & Clauzade

[180], Korsika, Distr. Brando. Secus viam inter Bastia et Col de Teghime, 160 m, ad saxa schistosa. Leg. J. Lambinon & A. Vězda, 27.06.1969. LICHENES CORSICANI.





Caloplaca necator

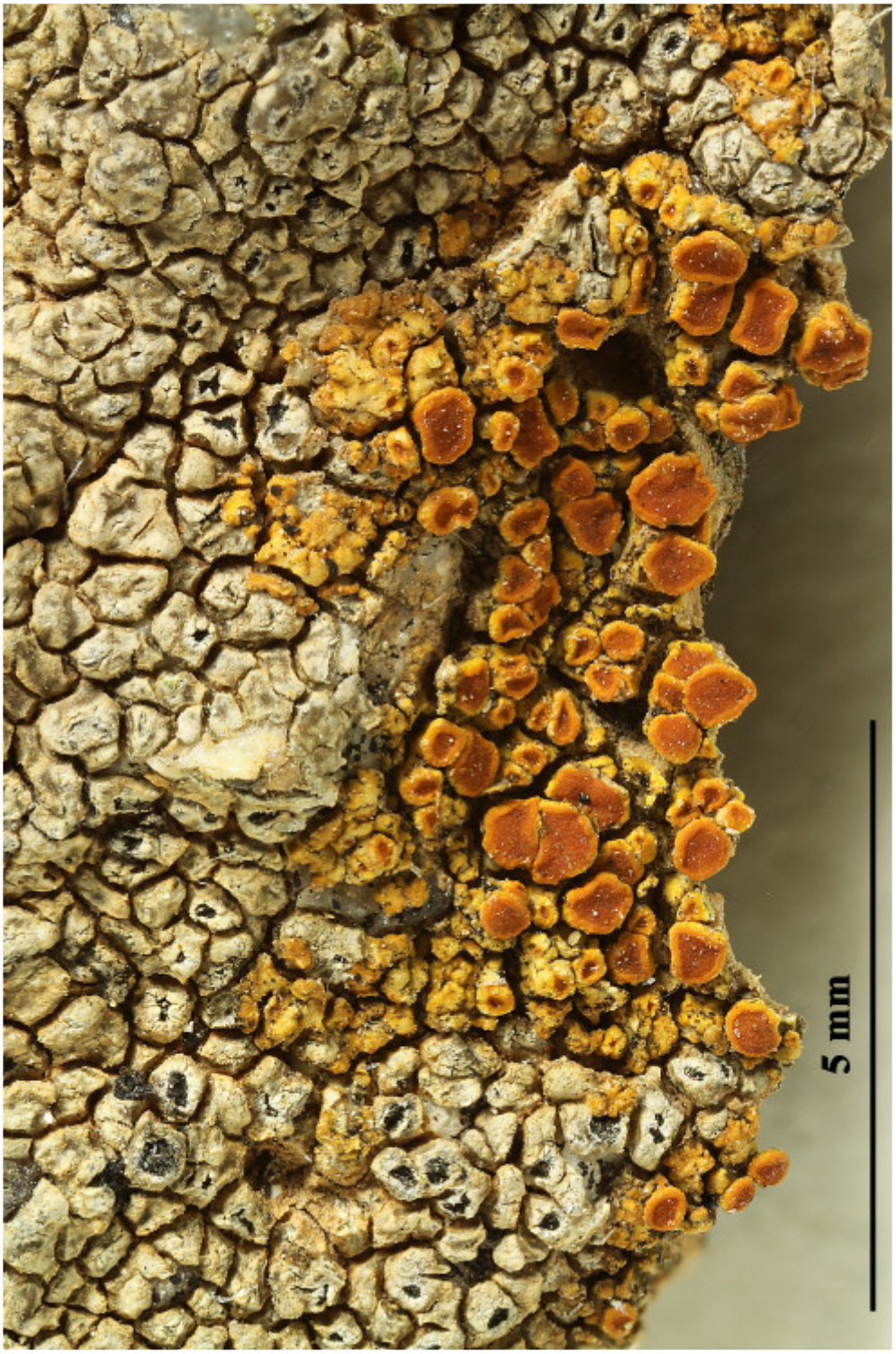


Caloplaca necator

Caloplaca necator Poelt & Clauzade, in Poelt, Planta 51: 302 (1958)
[= *Caloplaca inconnexa* (Nyl.) Zahlbr. var. *nesodes* Poelt & Nimis]

Spores 9.8-10.8 x 5-5.9 µm, septum 3,3-4.2 µm (FS). On on -calcareous rocks, parasitic on *Aspicilia*. Poelt J. et Nimis P.L. in Nimis P.L. et Poelt J., Studia Geobot., Trieste, 7, suppl. 1: 66 (1987)

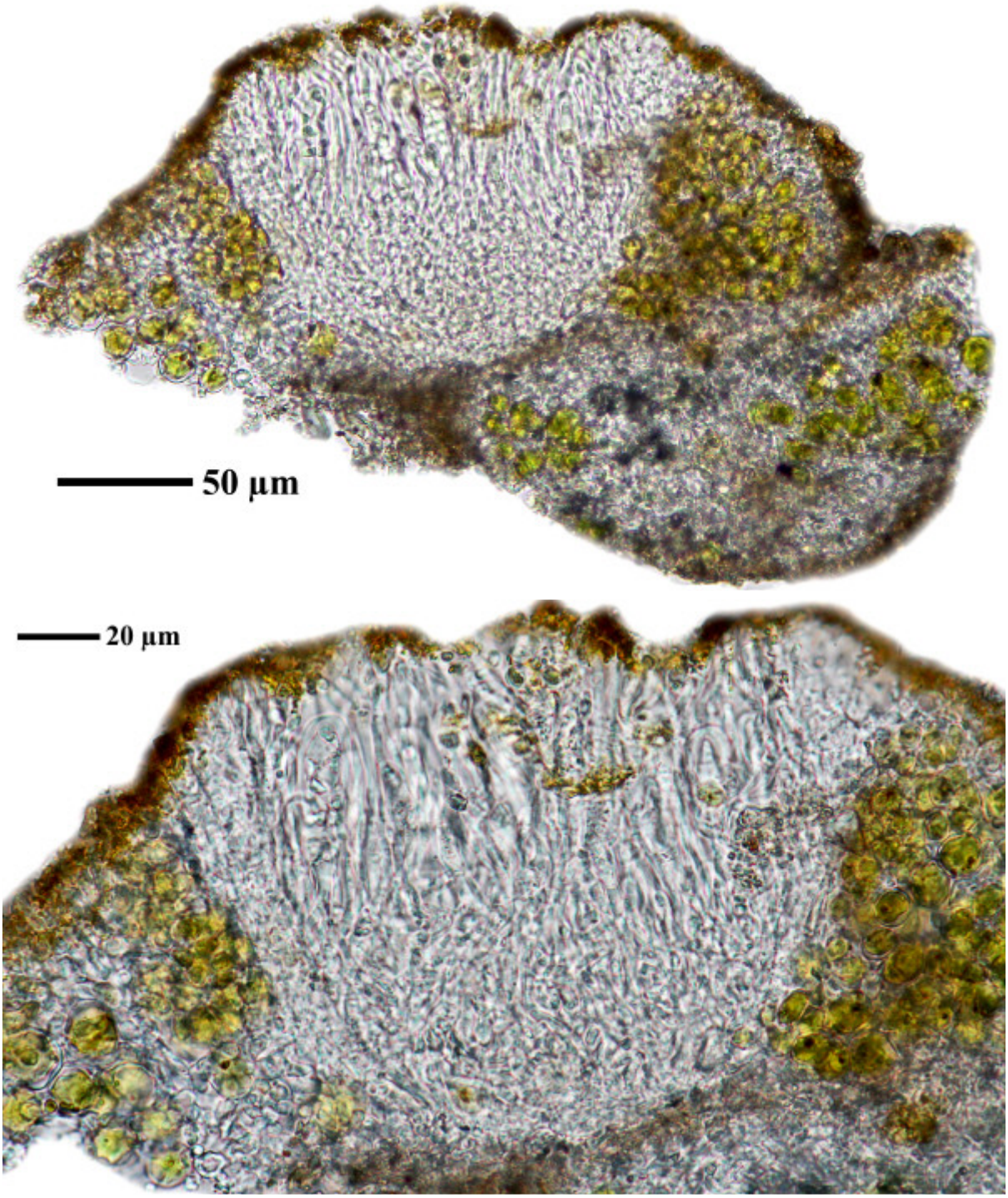
[19591], Italia, Sardinia, Prov. Cagliari, Pinta (Capo) Boi, alt. 50 m, ad saxa silicea. Leg. A. Buschardt & A. Vězda, 13.07.1987. VĚZDA: LICHENES SELECTI EXSICCATI NR. 2214. Distributed as *Caloplaca inconnexa* (Nyl.) Zahlbr. var. *nesodes* Poelt & Nimis



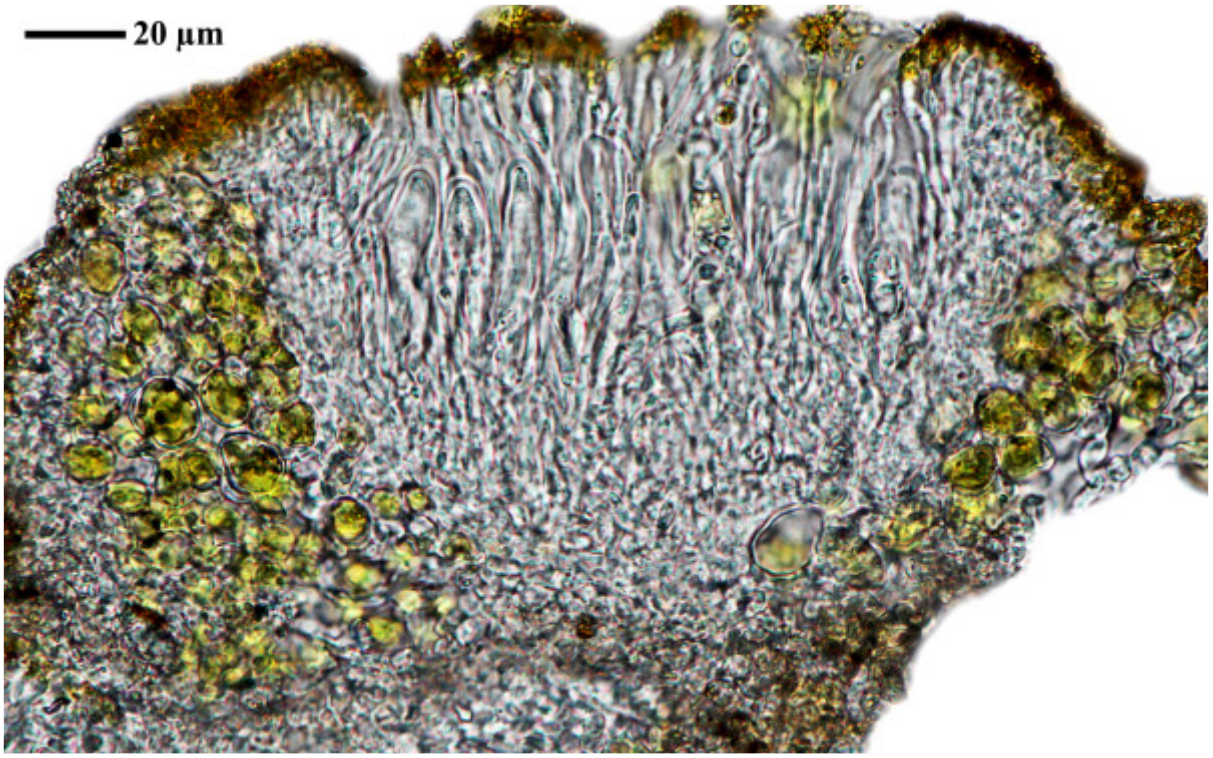


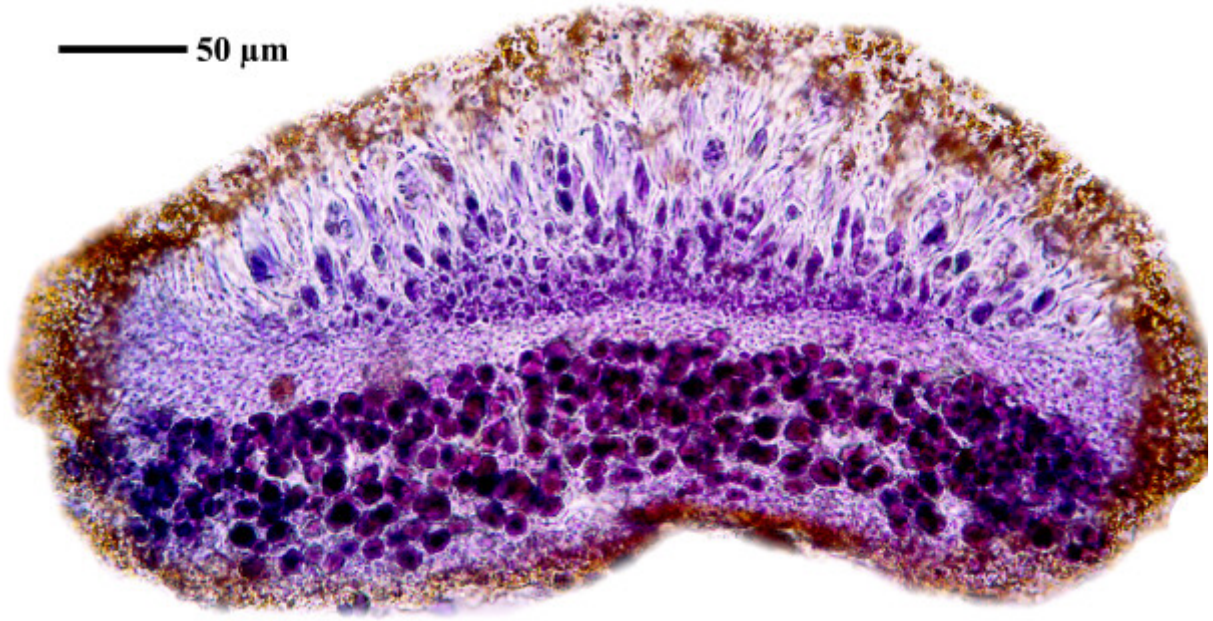


Caloplaca necator



Caloplaca necator





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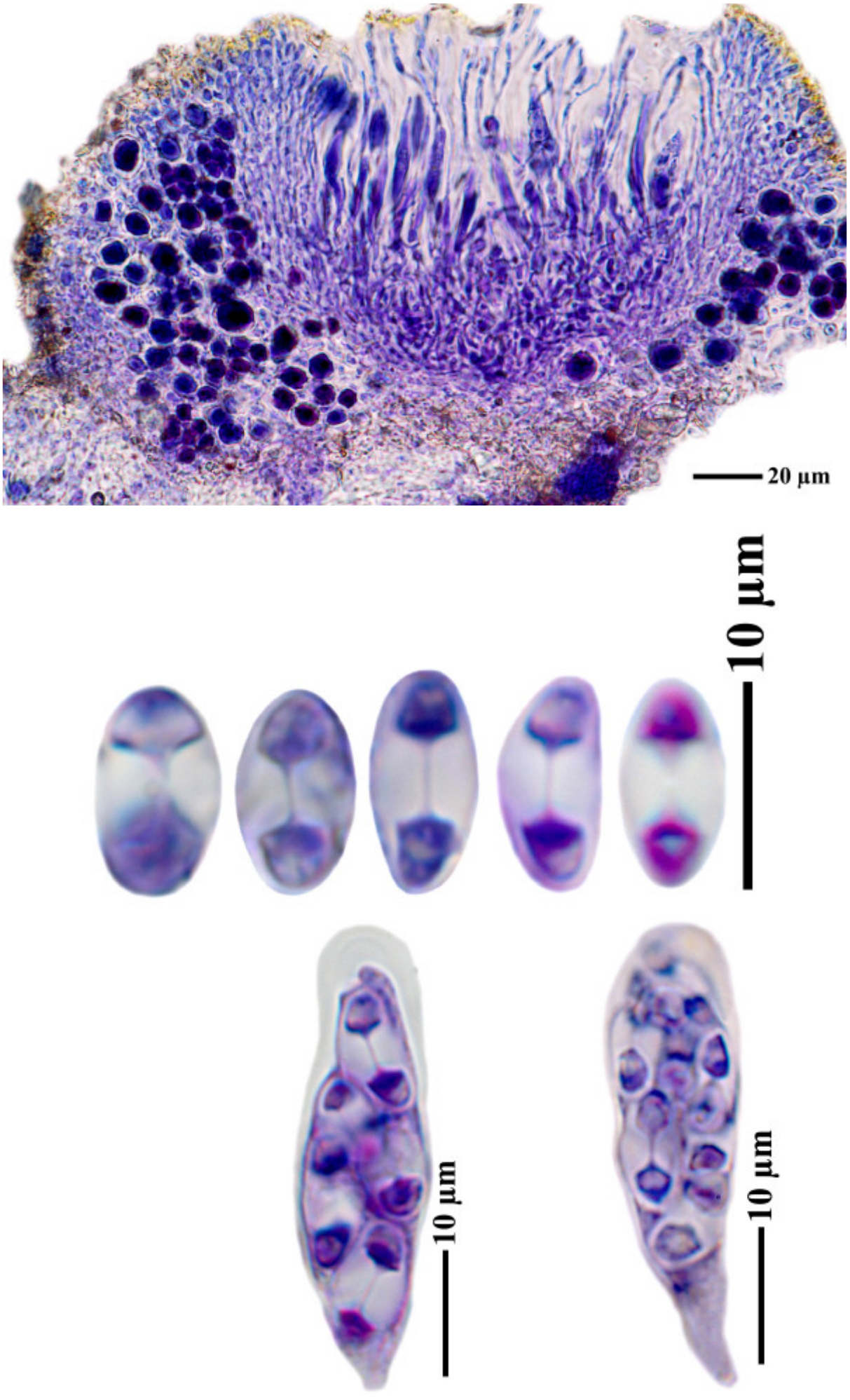
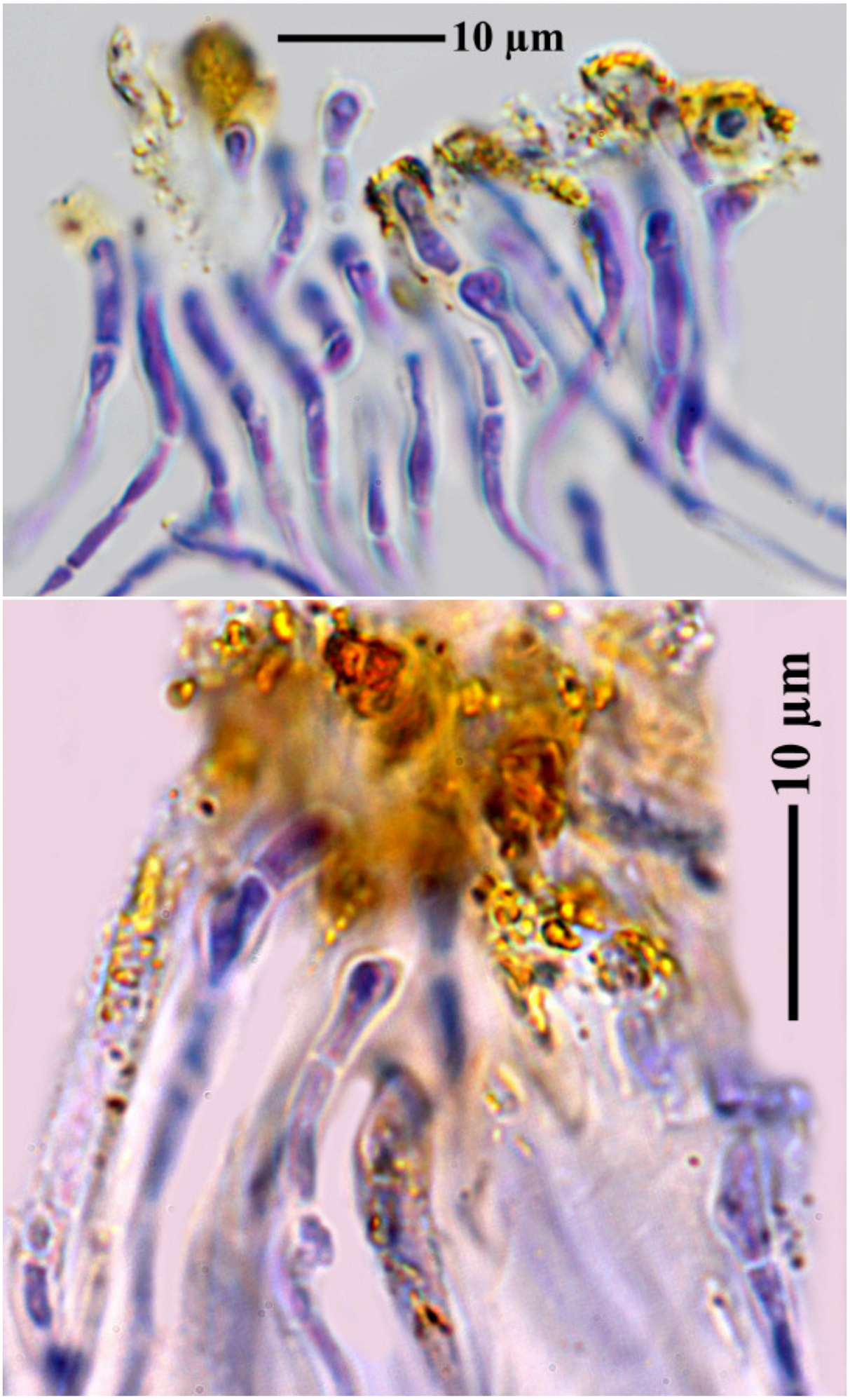


Caloplaca necator



Caloplaca necator

Caloplaca necator Poelt & Clauzade

Spores 8.4-10.6 x 4.6-5.8 µm, septum 3-2-3.6 µm (FS). On non-calcareous rocks parasitic on *Aspicilia*. Lit. Poelt et Clauzade in Planta 51: 302 (1958).

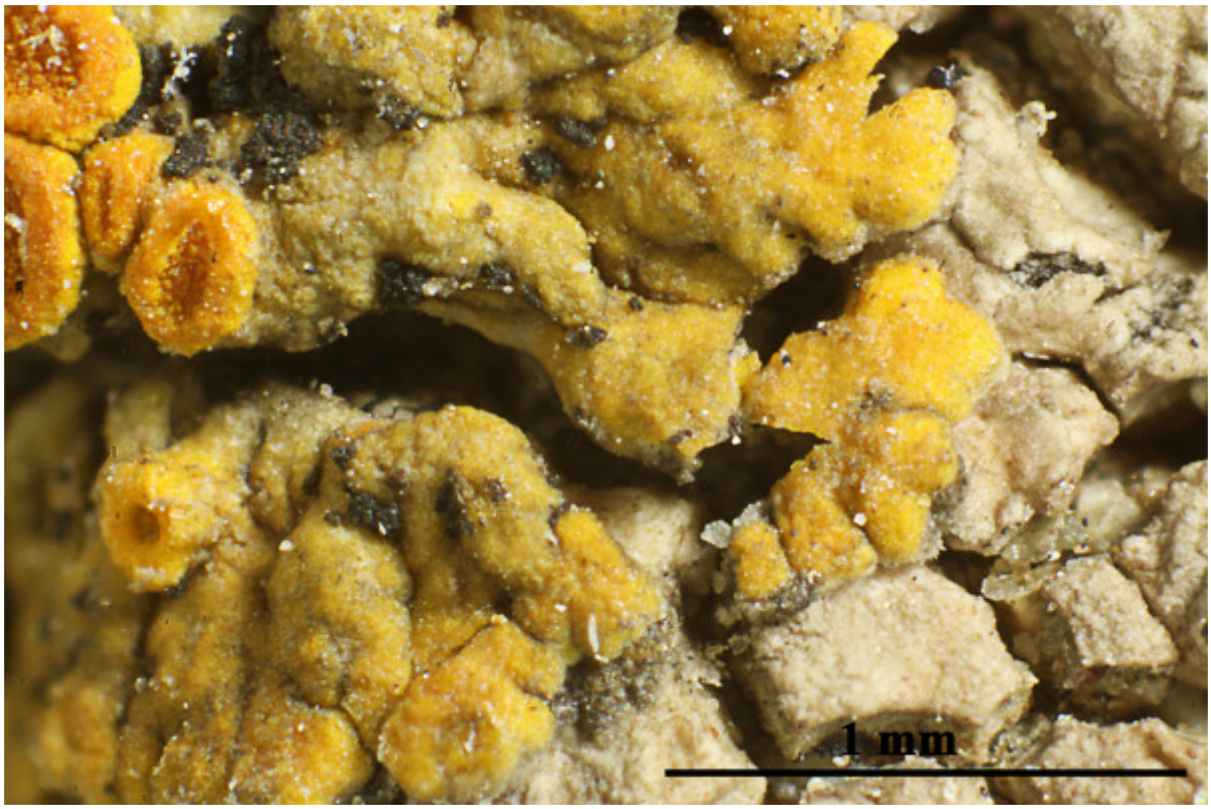
[19599], Bulgaria, Pontus, distr. Burgas, in litore inter pagos Mičurin et Varvara, alt. 3-5 m, ad saxa silicea in vicinitate maris, in thallo *Aspiciliae* sp. vigens. Leg. A. Kiszely & A. Vězda, 18.08.1975. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1360.





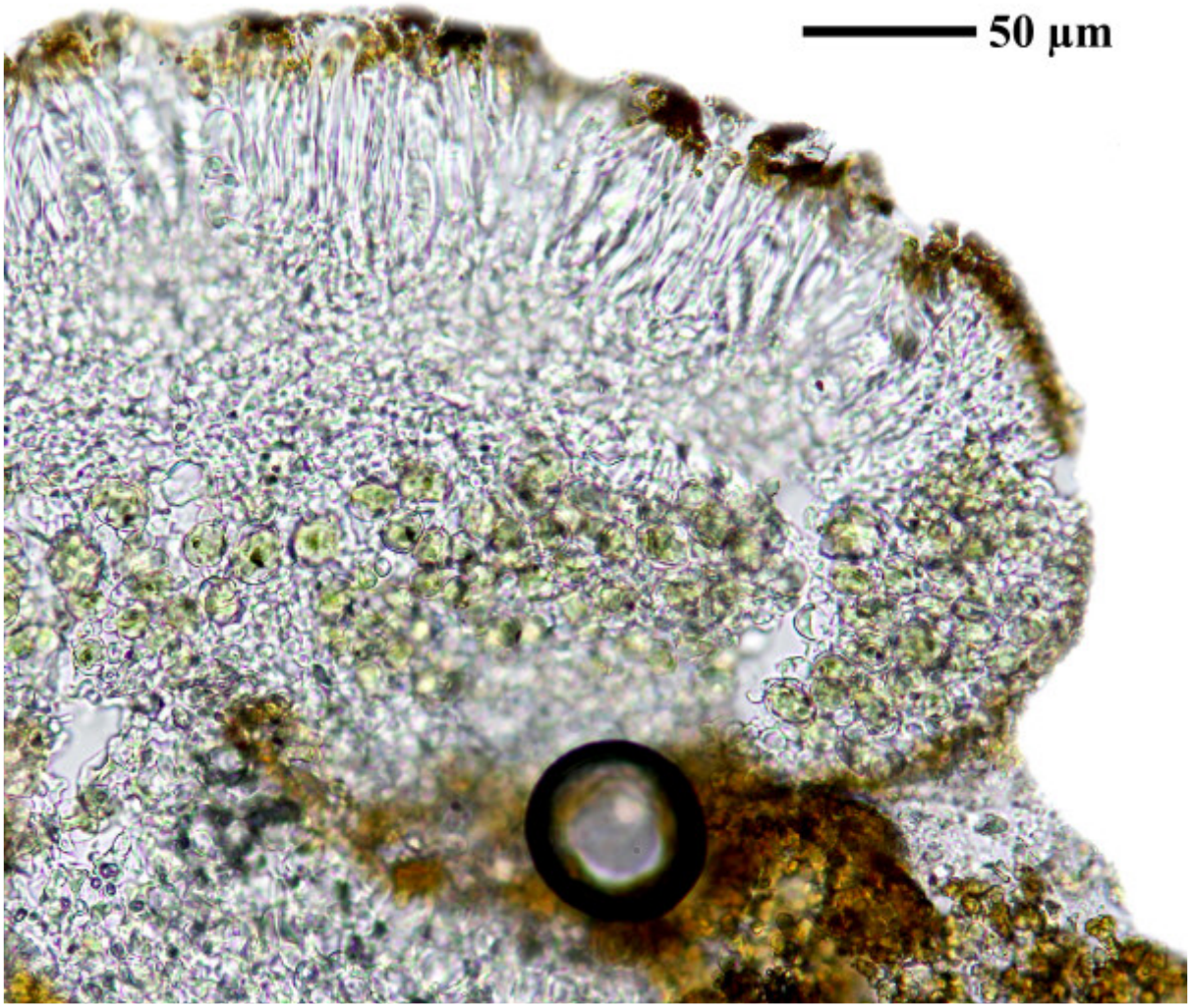
Caloplaca necator

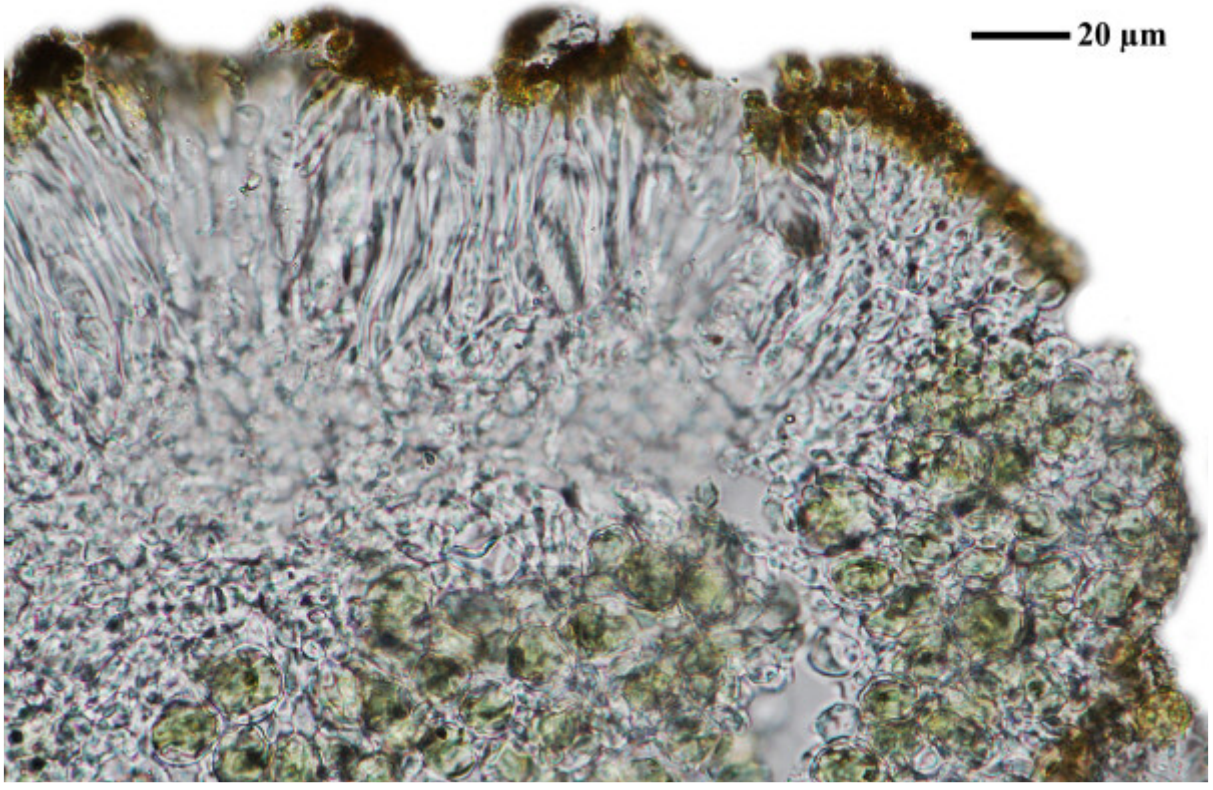
1803



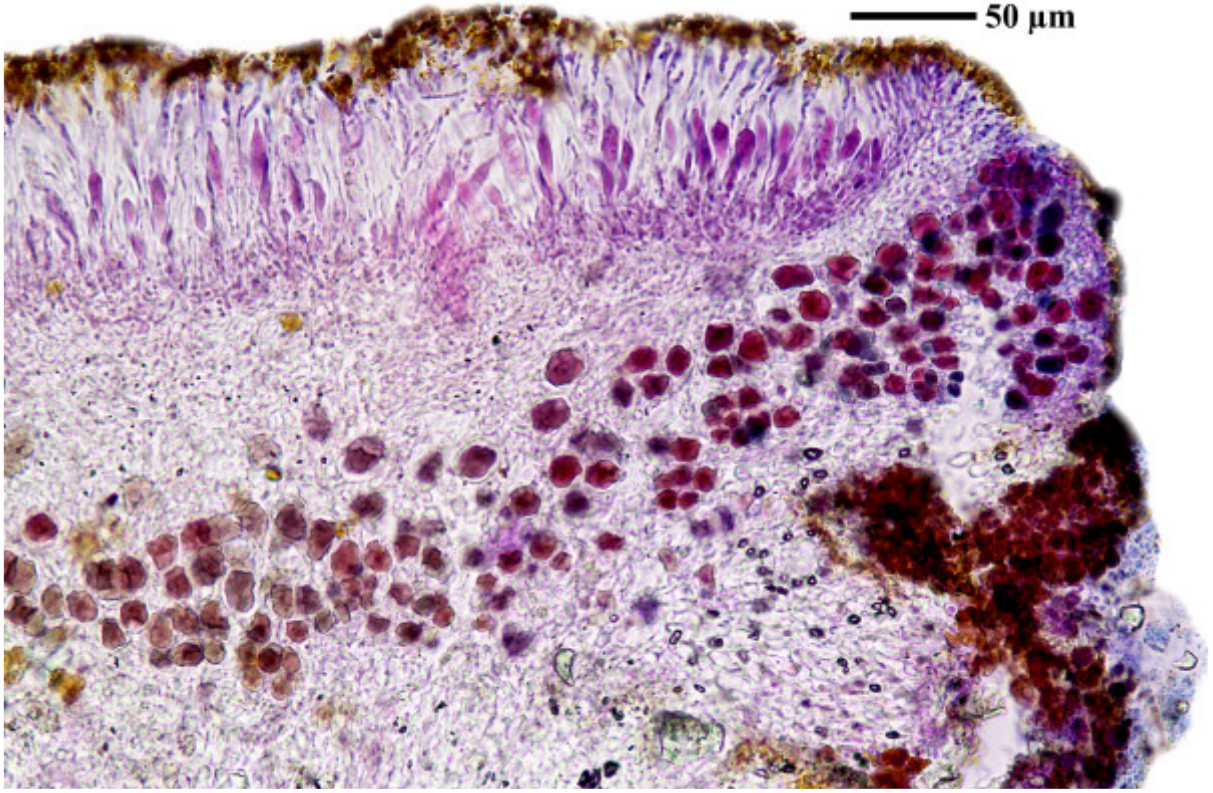


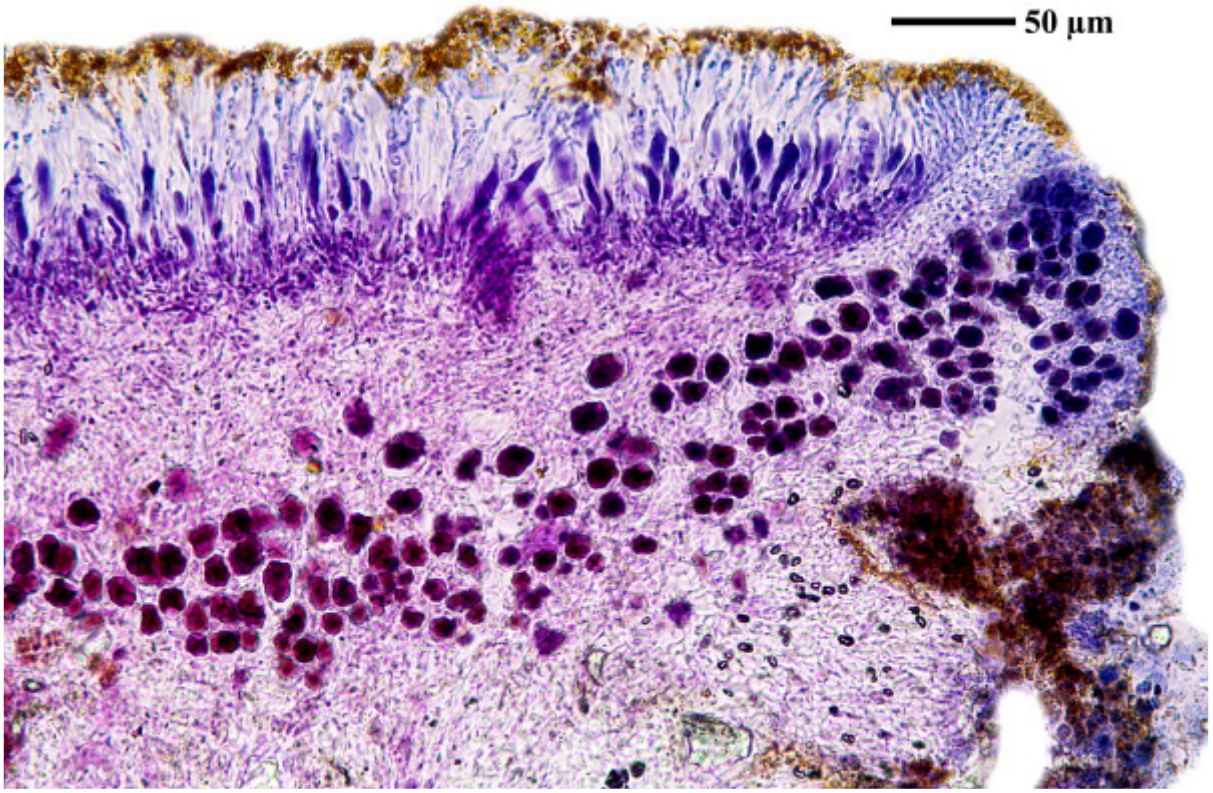
Caloplaca necator



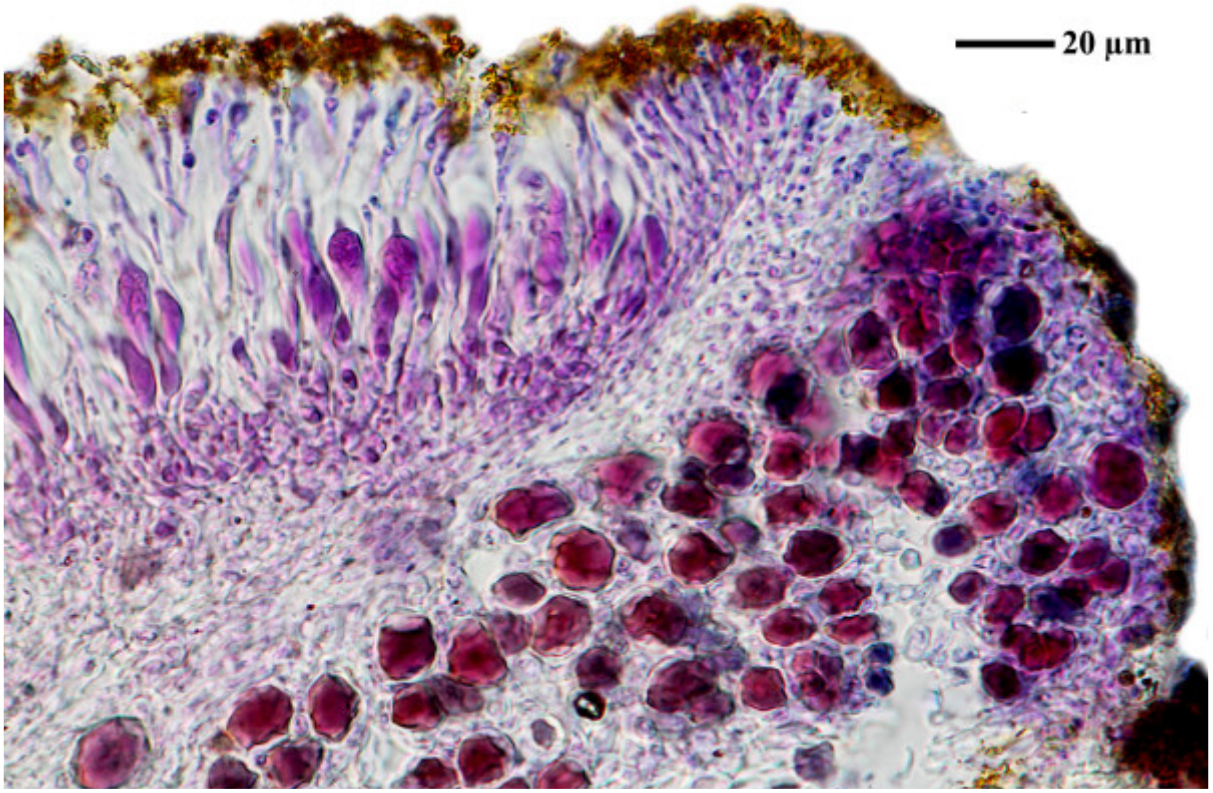


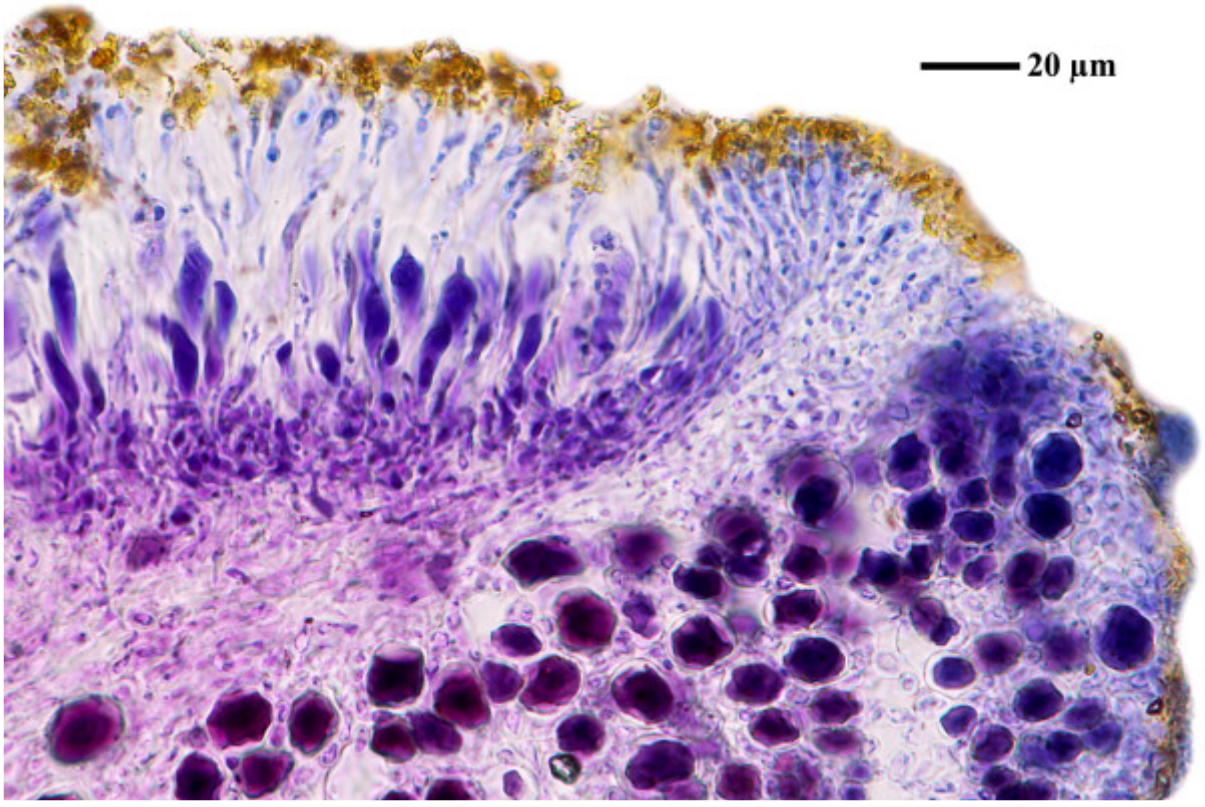
Caloplaca necator





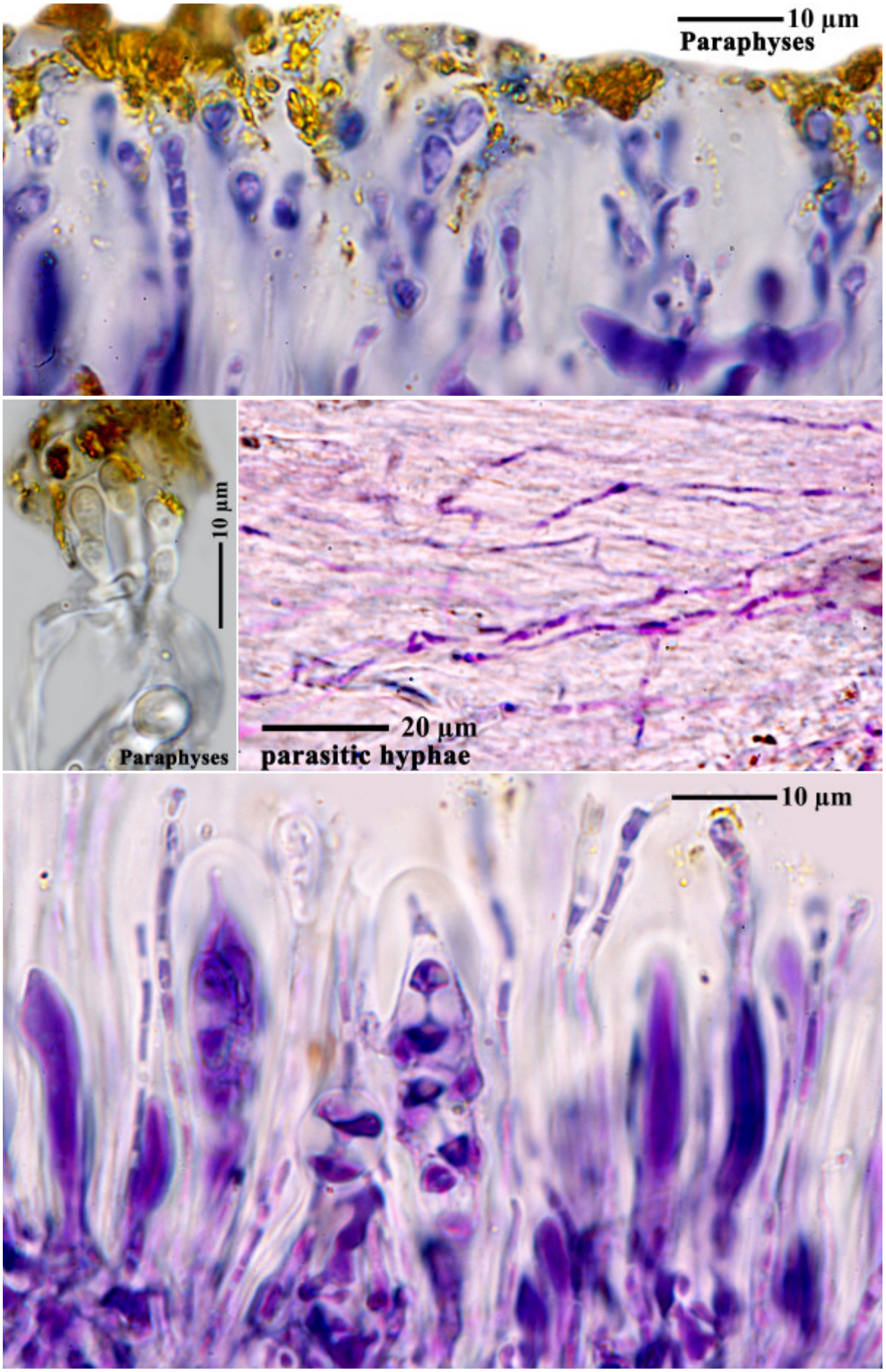
Caloplaca necator



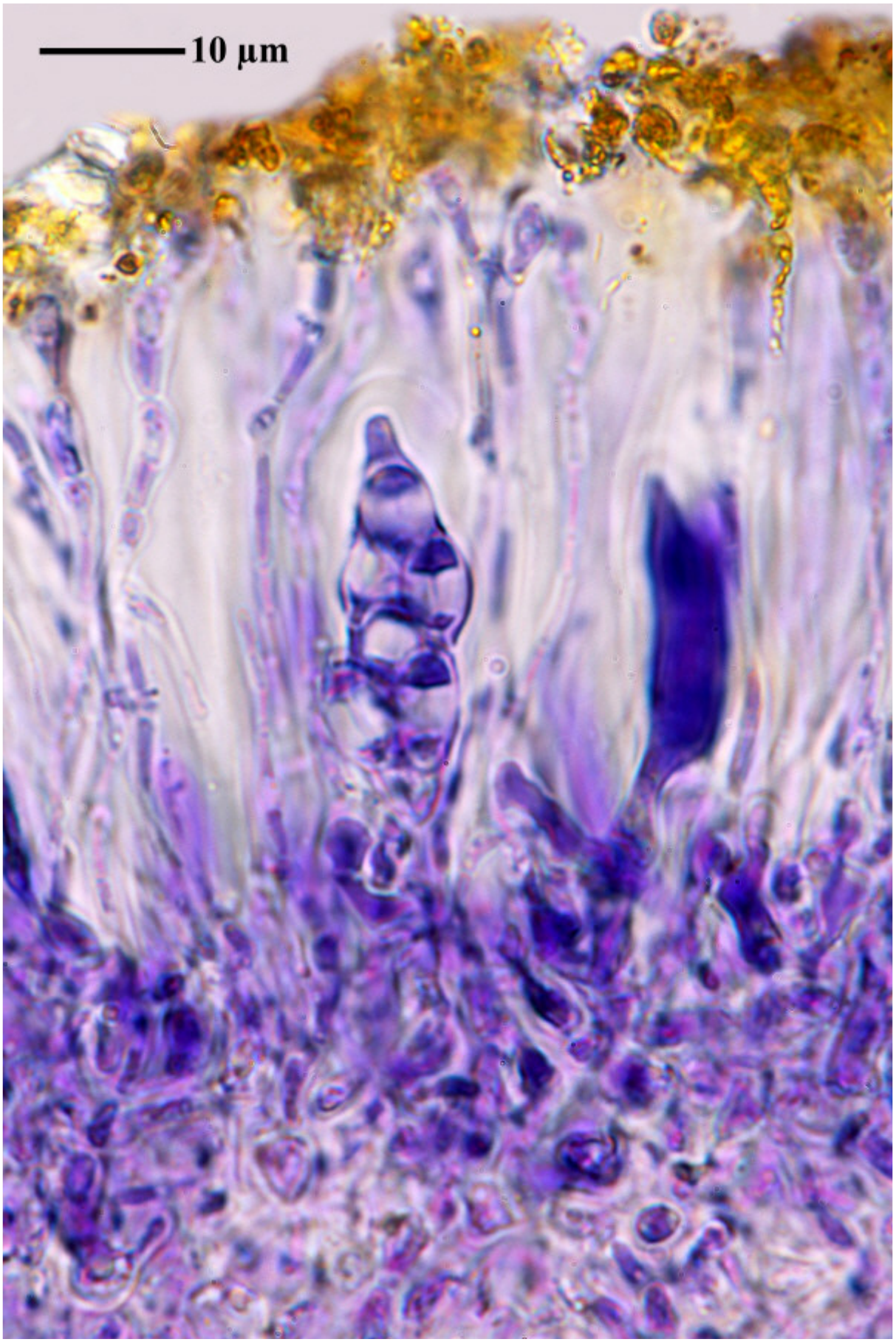




Caloplaca necator



Caloplaca necator

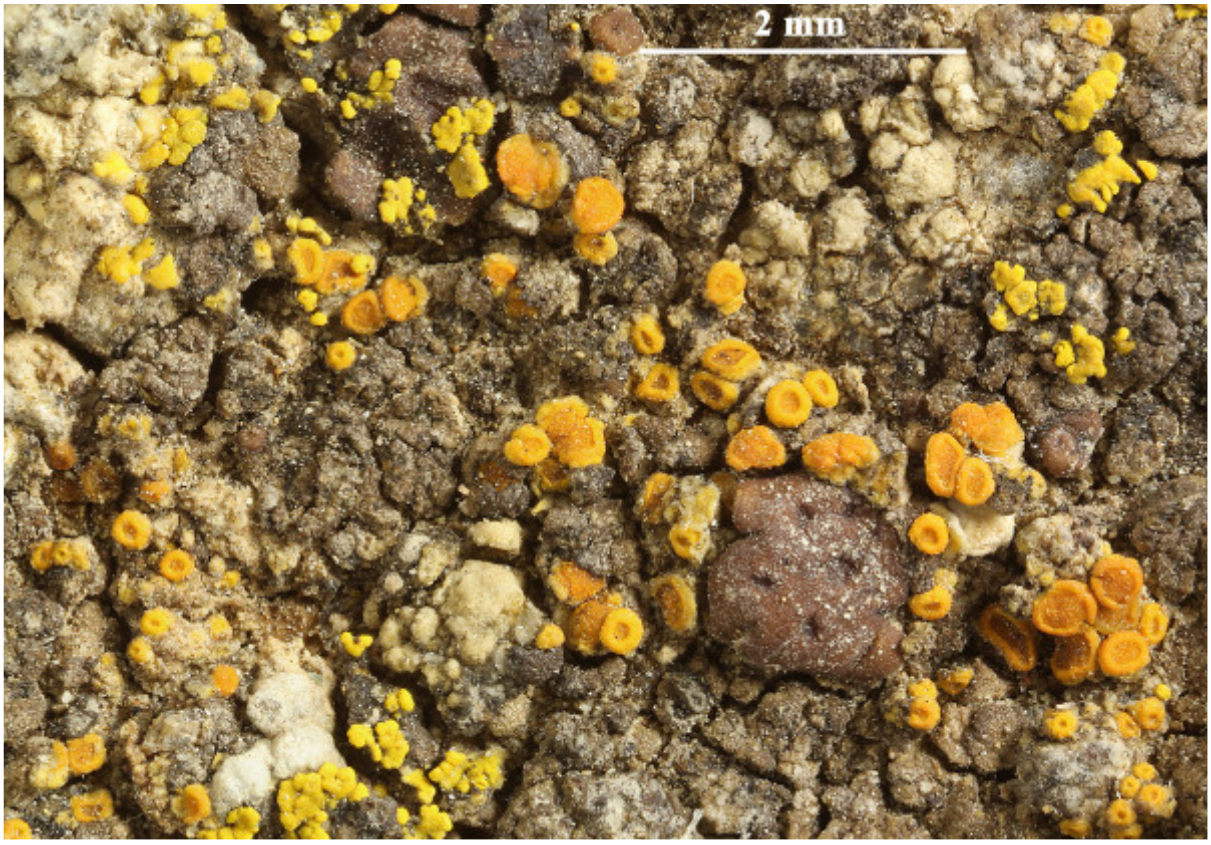


Caloplaca necator

Caloplaca necator Poelt & Clauzade

Spores c. 8.5-10 x 6-6.5 µm, septum 3-4 µm.

[BR5030038250325],Turkey, prov. Ağri, 30 km W of Eleçkirt, siliceous rock,2200 m. Leg. R. V. Hensen, 07.1987, det A. Aptroot, 1987.

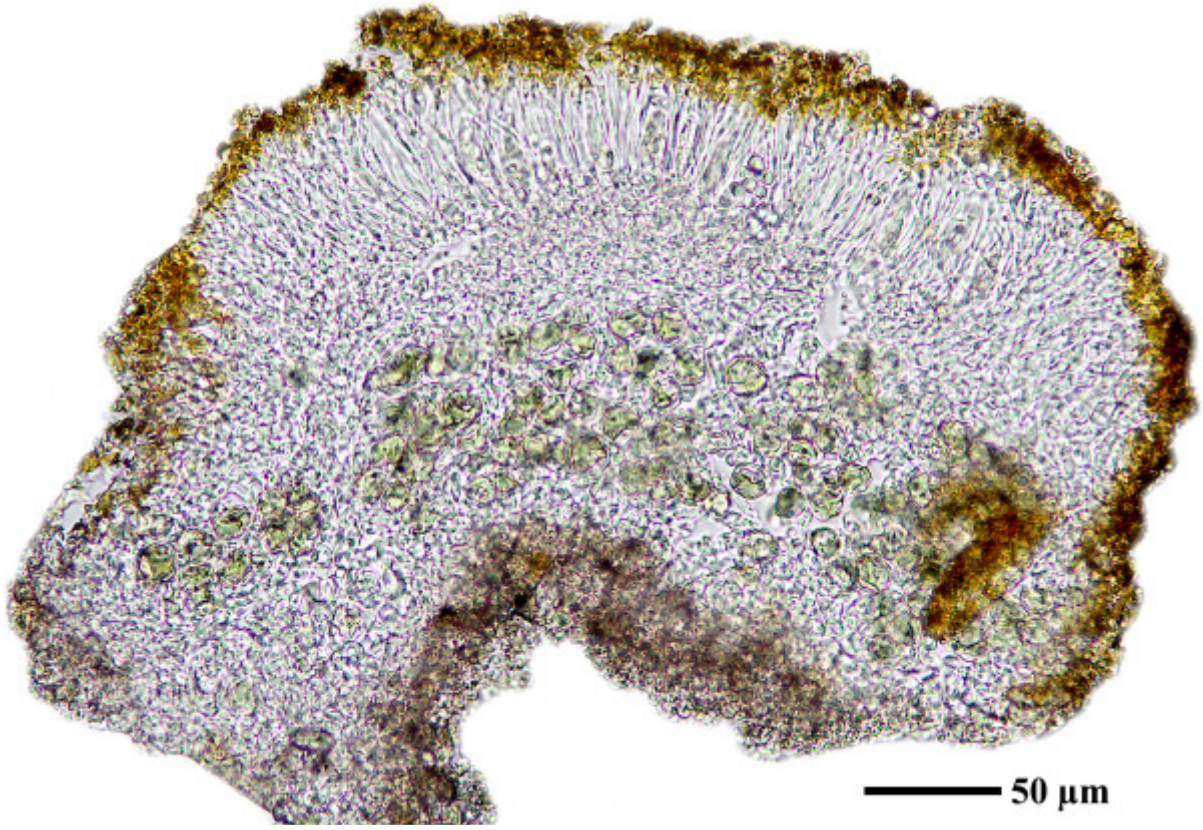


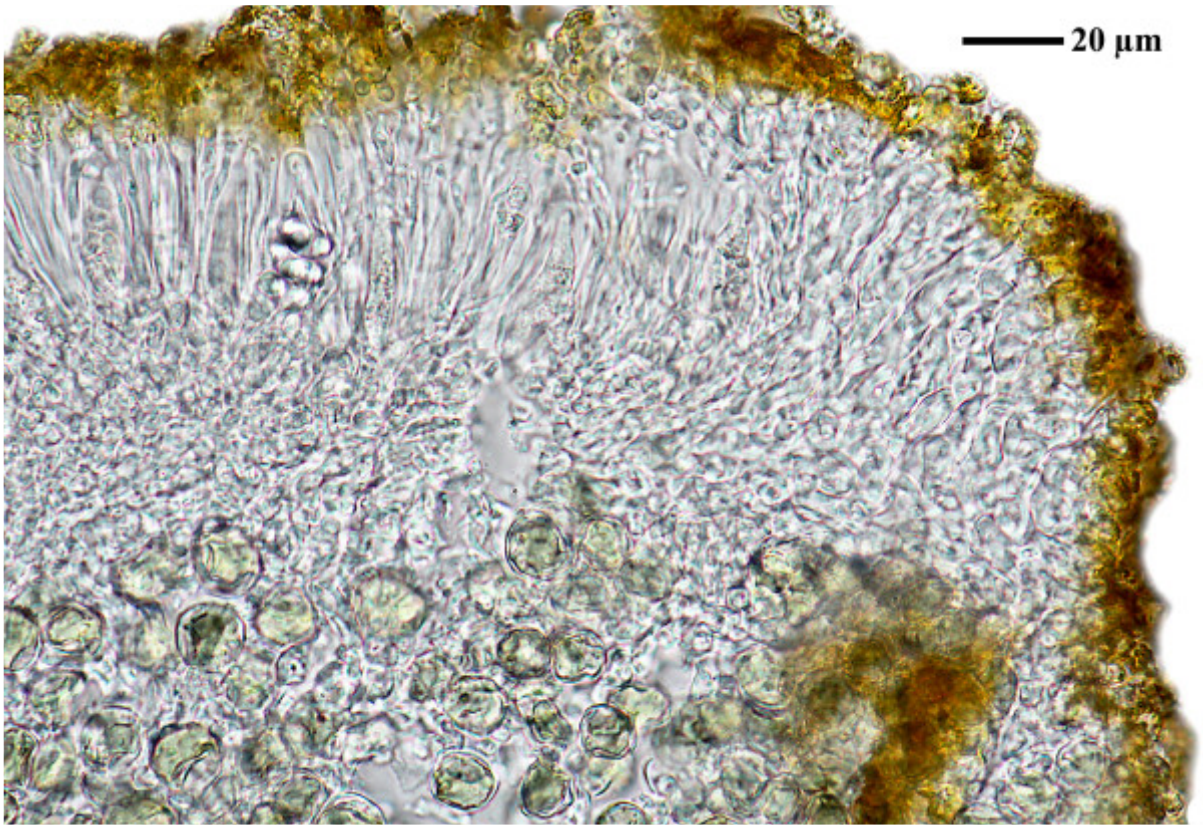




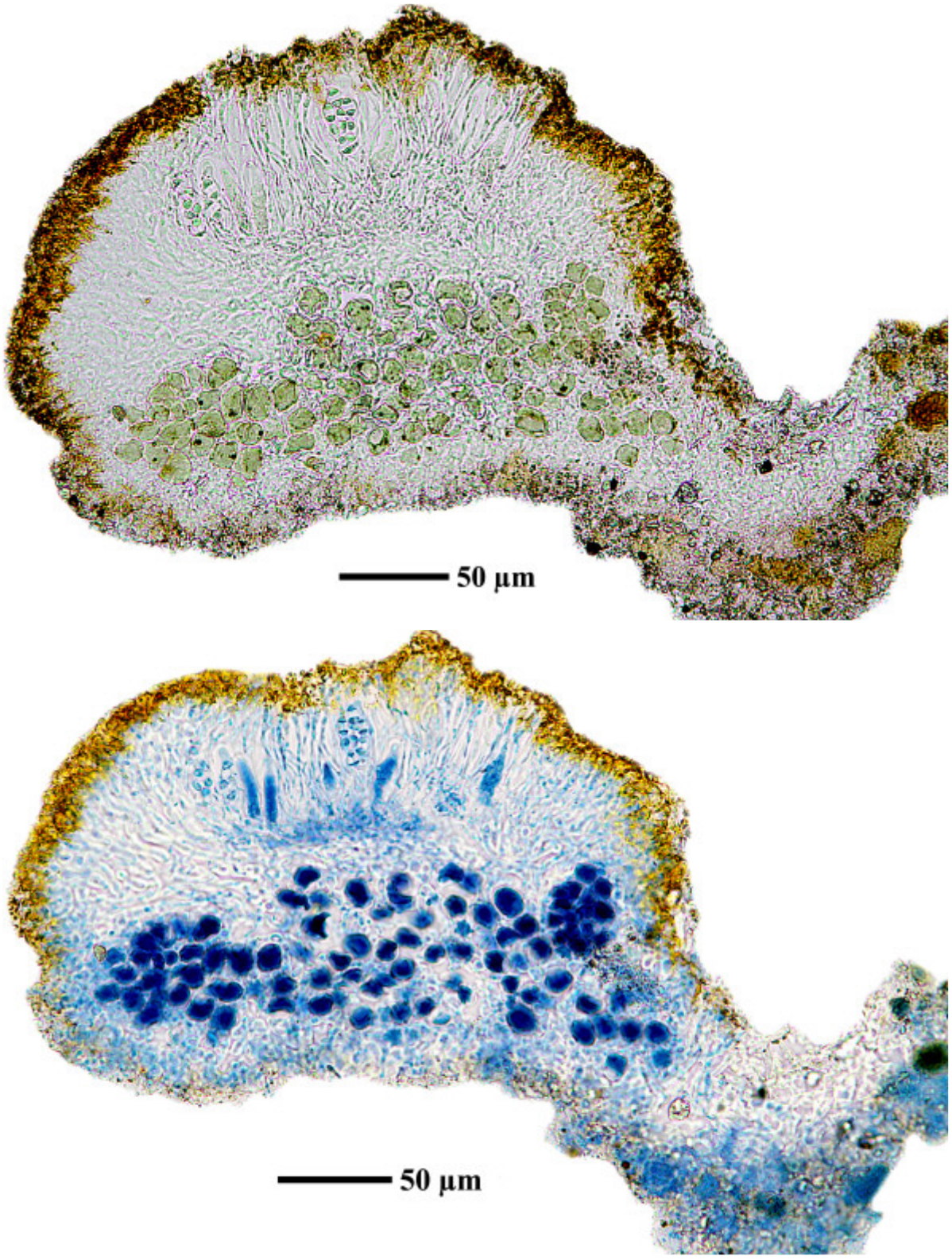


Caloplaca necator

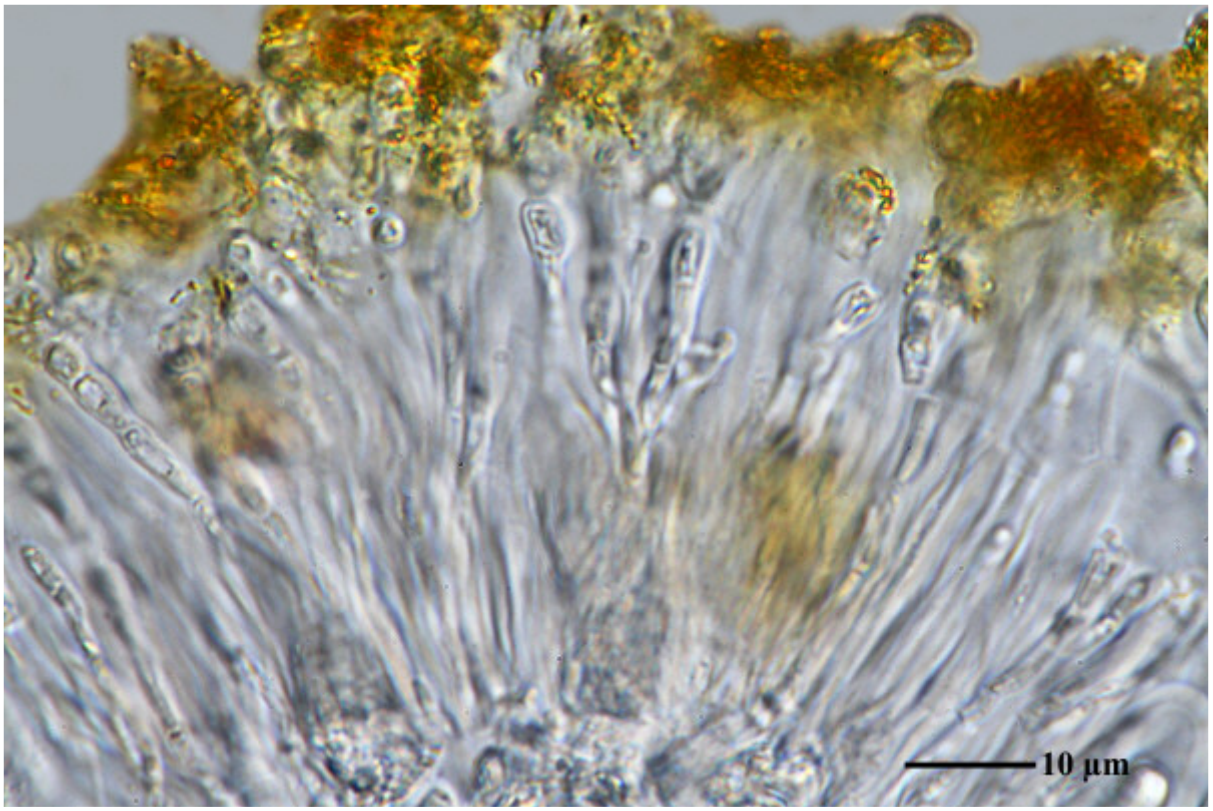


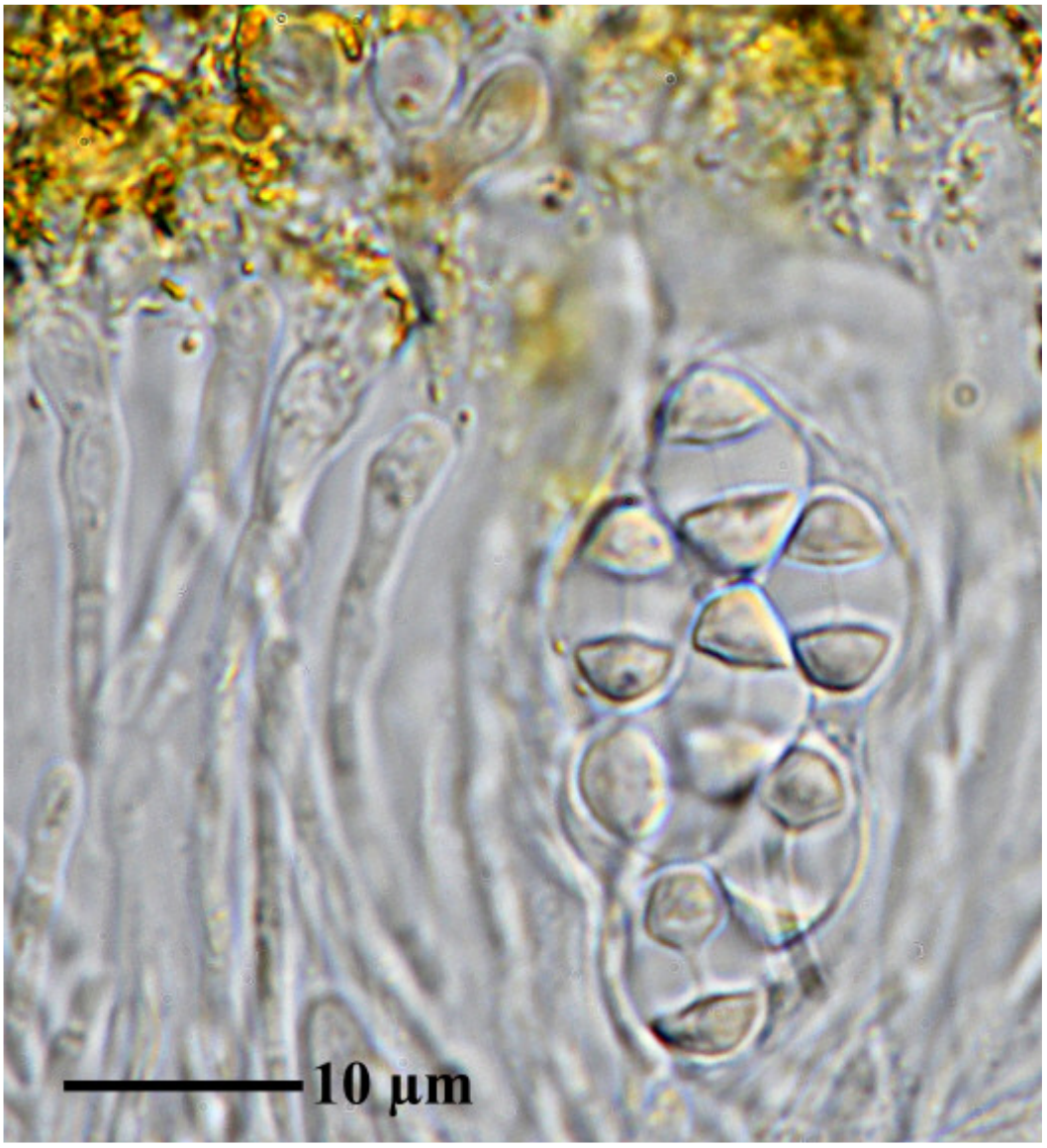


Caloplaca necator

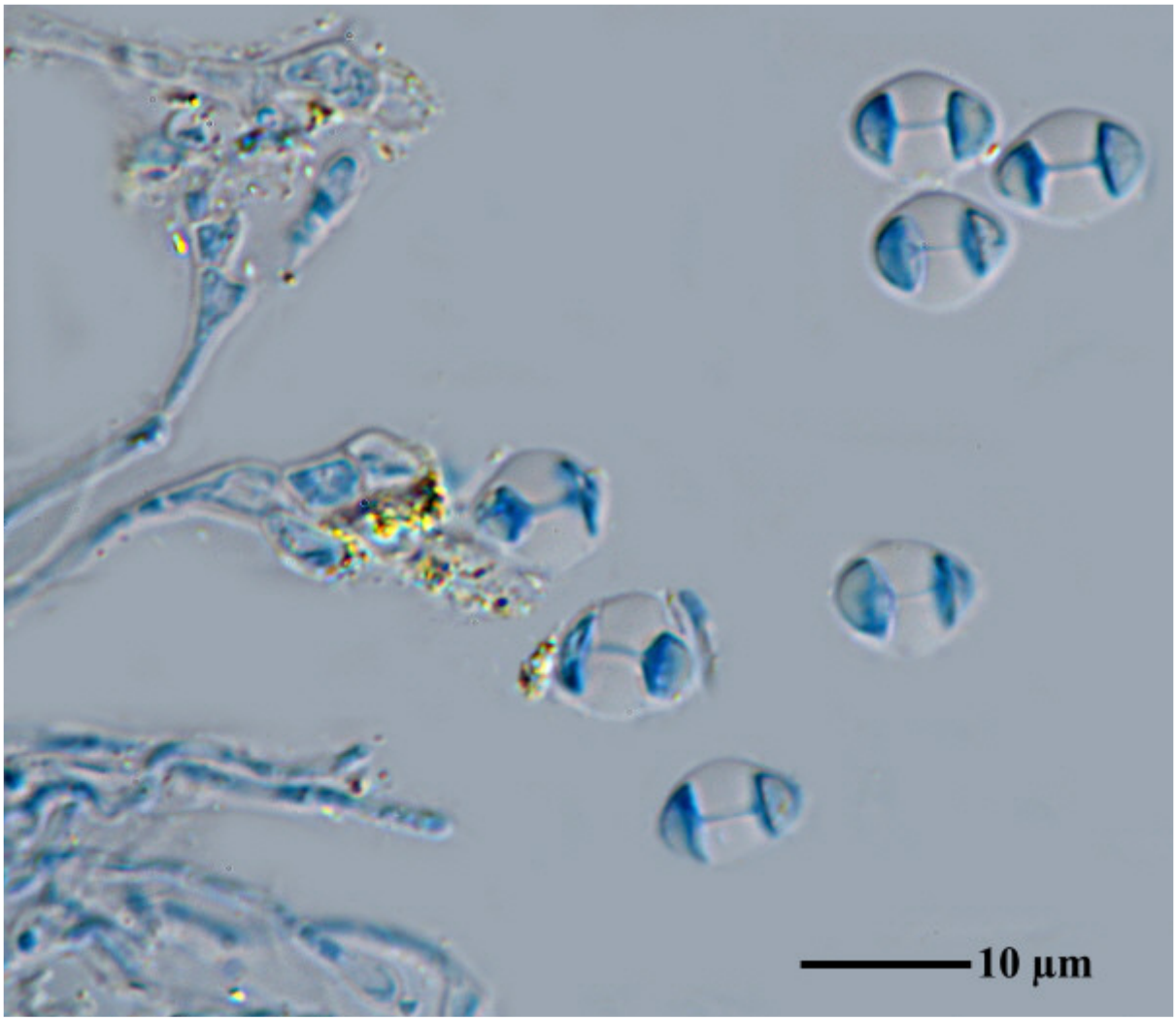


Caloplaca necator





Caloplaca necator





Caloplaca necator

Caloplaca necator Poelt & Clauzade

[BR5030038251339],Turkey, prov. Ağri, 30 km W of Eleçkirt, siliceous rock,2200 m. Leg. R. V. Hensen, 07.1987, det A. Aptroot, 1987.





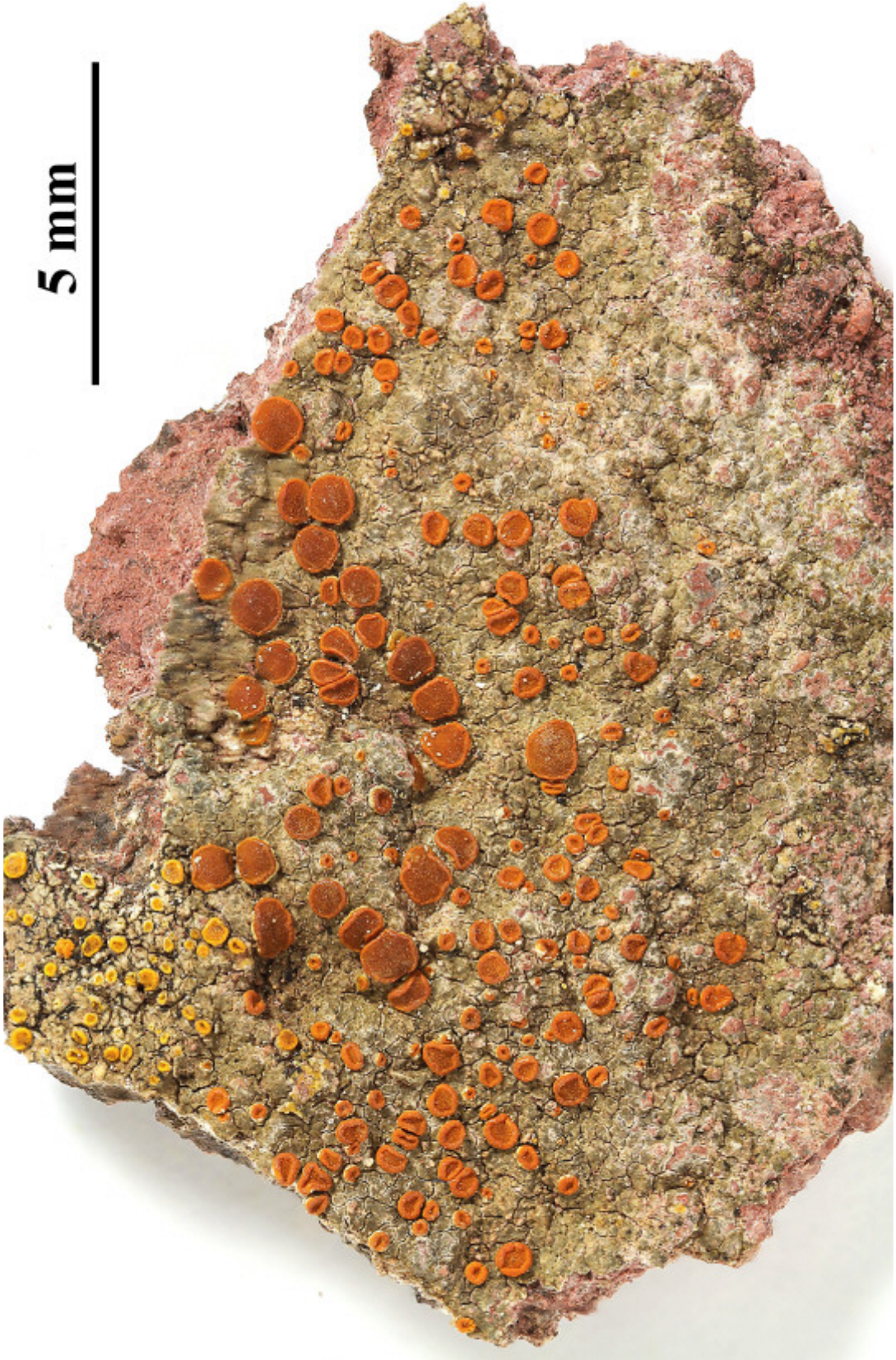
Caloplaca necator

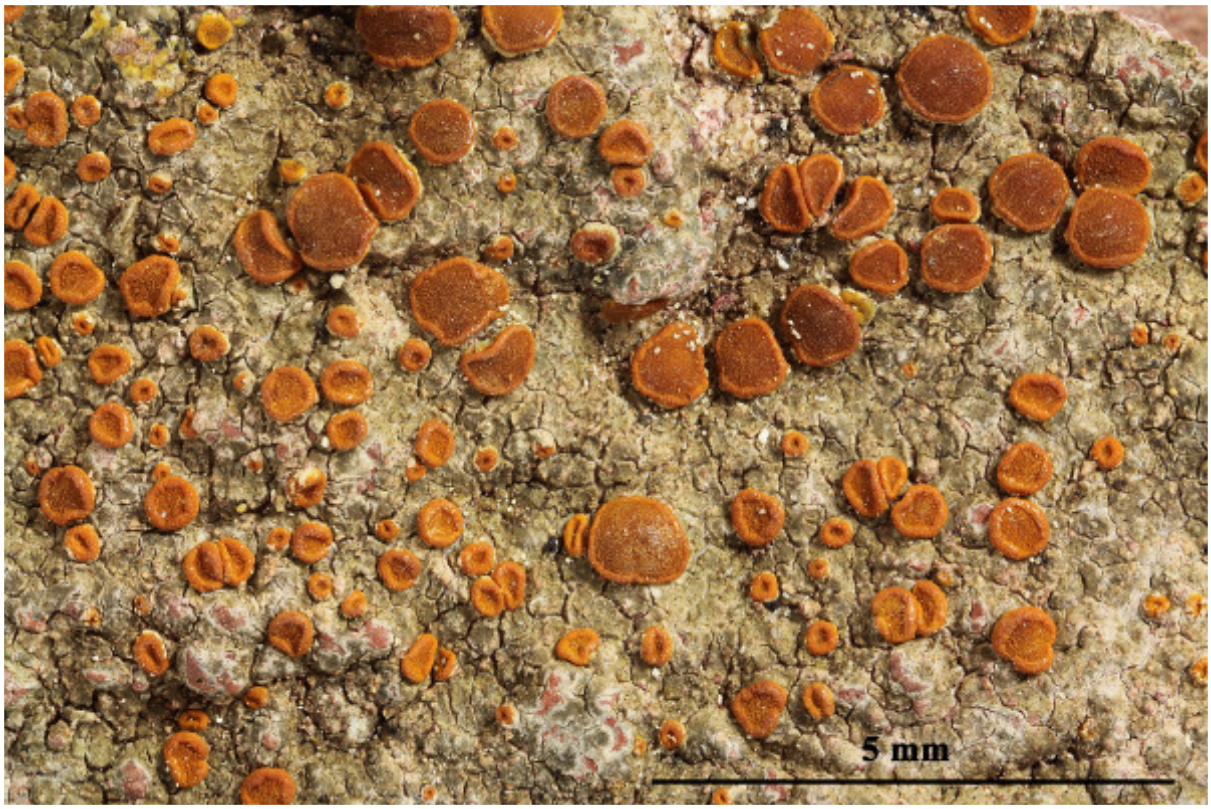
1817

Caloplaca neotaurica Vondrák, Khodos, Arup & Søchting

On volcanic rocks.

[ABL 73625], Portugal, Madeira Islands, Porto Santo, NE part, Pico Castelo, summit area, c. 400 m, 33°04’53’’ N, 16°20’06’’ W, on volcanic rock. Leg. A. Aptroot 23.05.2015, det. A. Aptroot 2015.







Caloplaca neotaurica

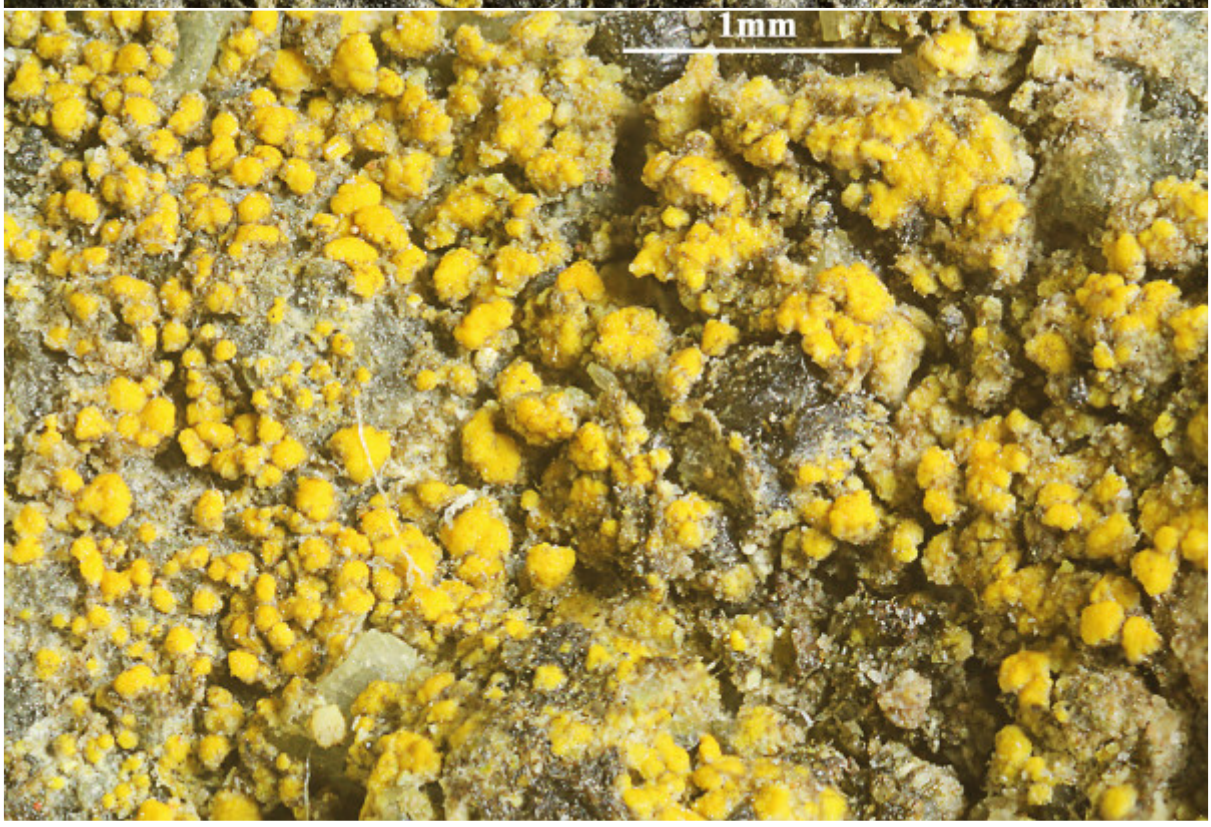
Caloplaca nigromarina Vondrák, Říha, Arup & Søchting
[= *Flavoplaca nigromarina* (Vondrák, Říha, Arup & Søchting) Arup, Søchting & Frödén]

Hymenium 40 µm; paraphyses tips swollen with brown cover. Spores 7 x 2.5 µm, septum thin. (Sipm.)

[B 60 0163330], Turkey, prov. Trabzon, Araklı distr., Konakönü place, on siliceous rock, accomp. Lecania polycycla (Anzi) Lettau. 40°57.3' N, 40°02.9' E, 3 m. Leg. Kadir Kinalioglu (1561), 12 August 2006, det. H. Sipman, 2008.







Caloplaca nigromarina



Caloplaca nigromarina

1822

Caloplaca nivalis (Körb.) Th.Fr.

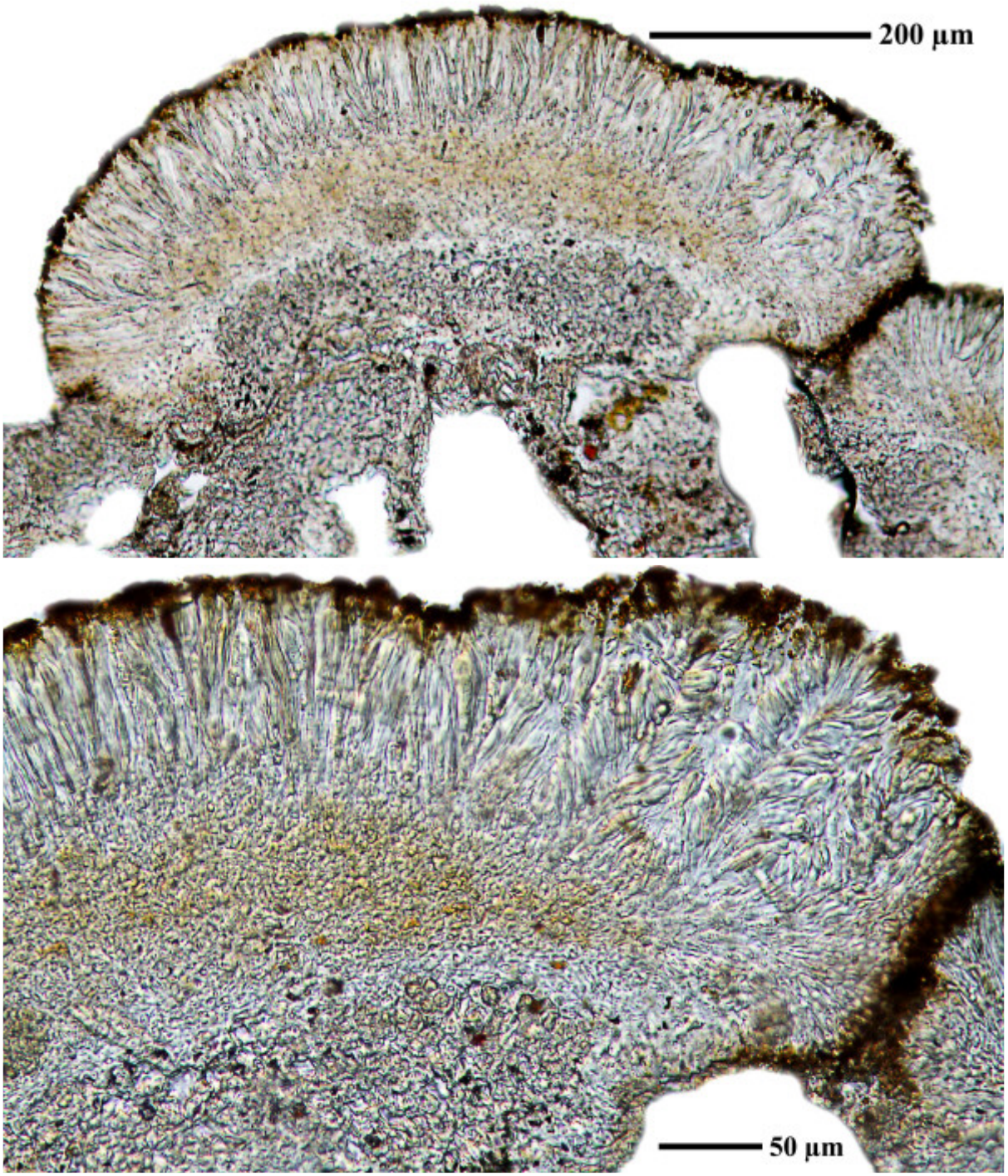
Spores 16.5-26.5 x 4.5-5 µm, septum absent (FS).

[B 60 0130677], Russia, Murmansk Oblast, Kola Halbinsel, Chibiny-Gebirge, Kirowsk, Yukspor Mt. , auf Moos (Grimmia spec. ?). Leg. S. Huneck (USSR90-37), 29. June 1990, det. T. Lumbsch, 1990.

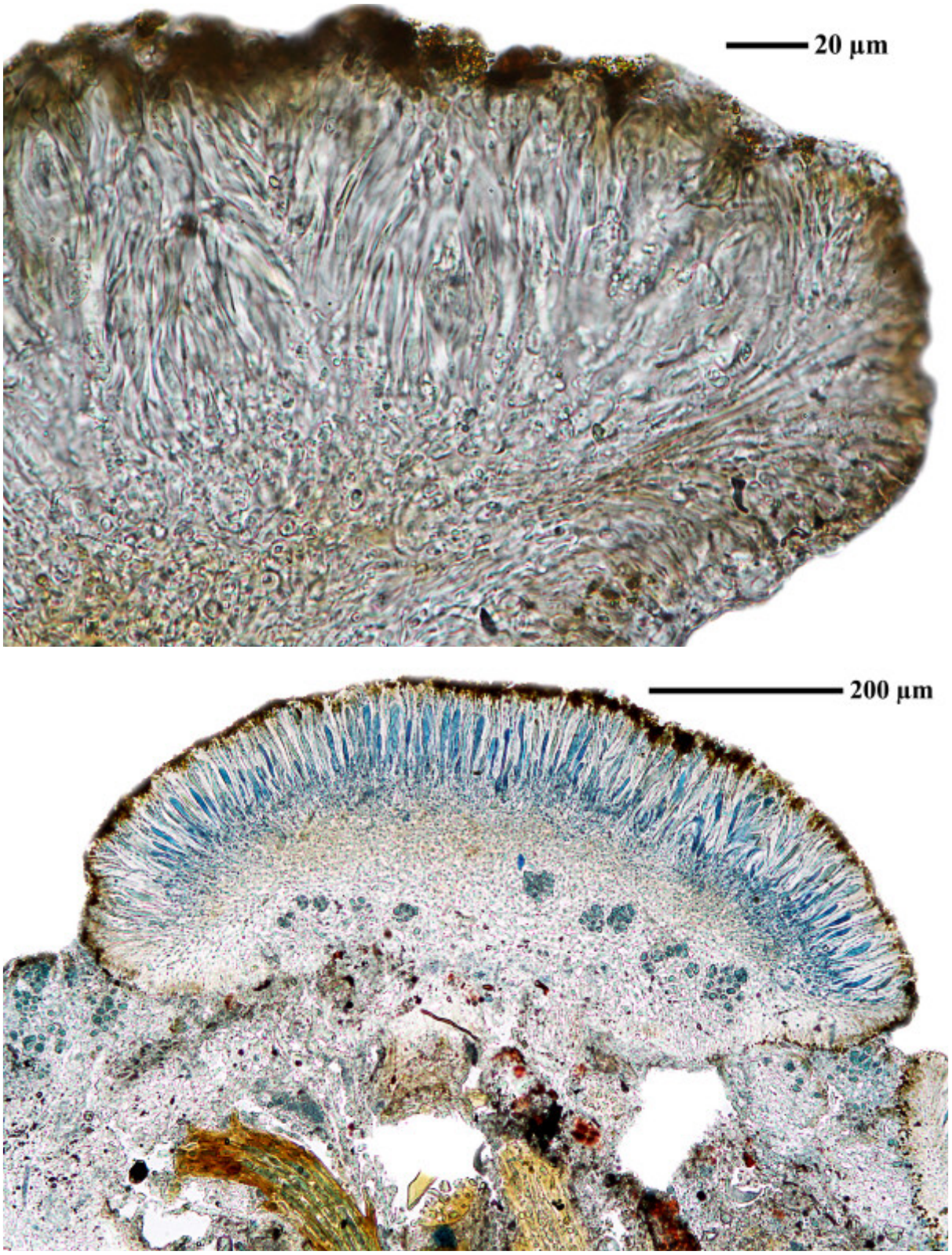




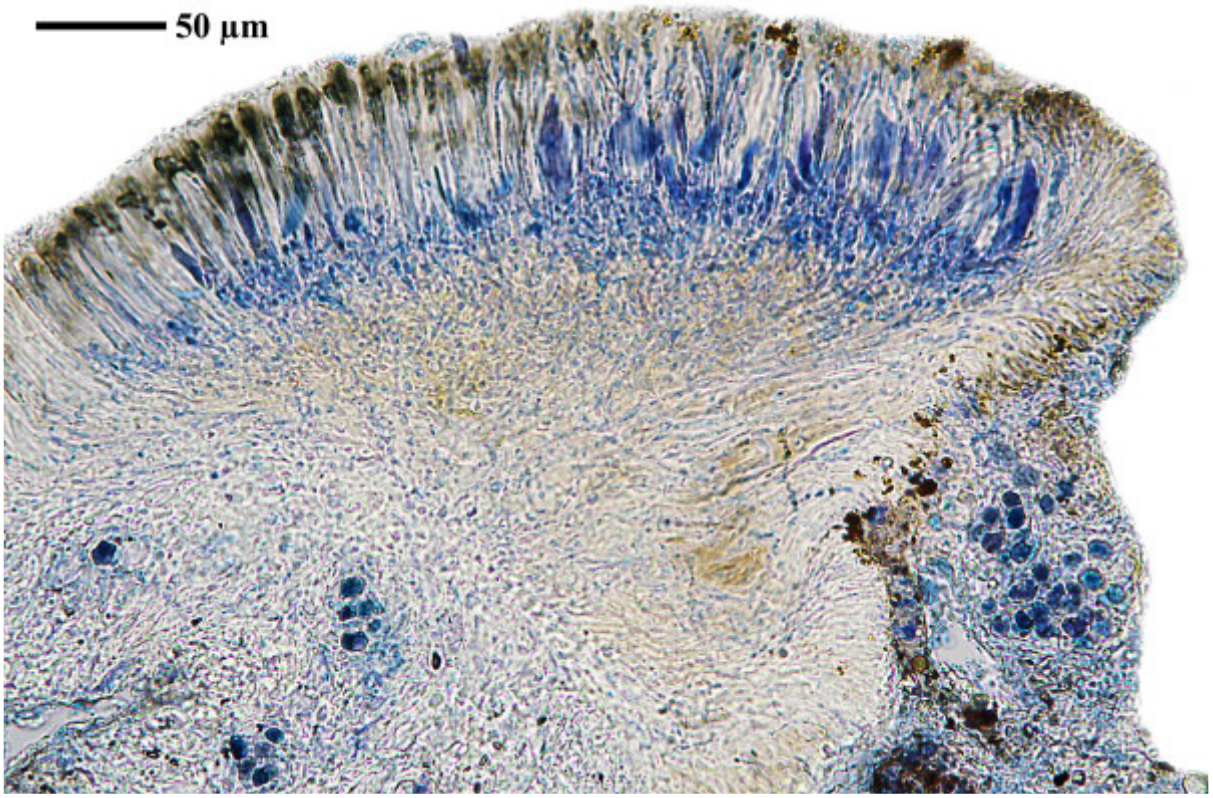
Caloplaca nivalis

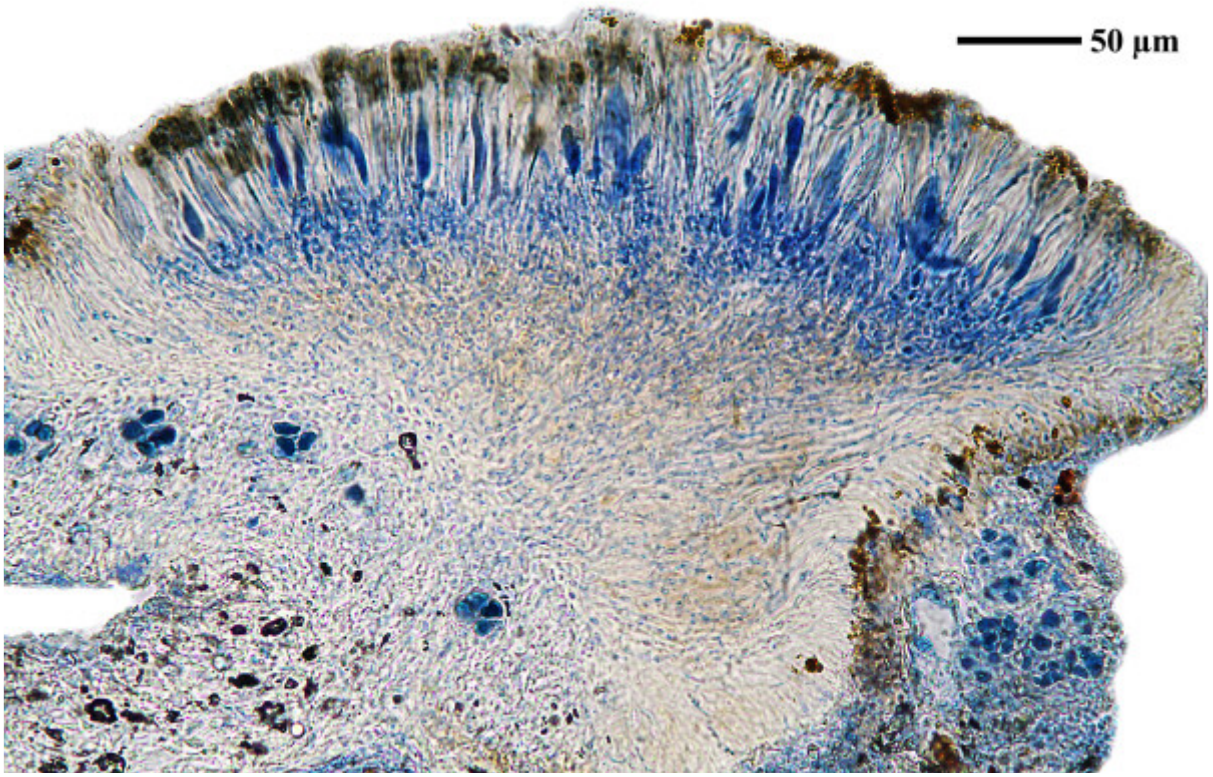


Caloplaca nivalis

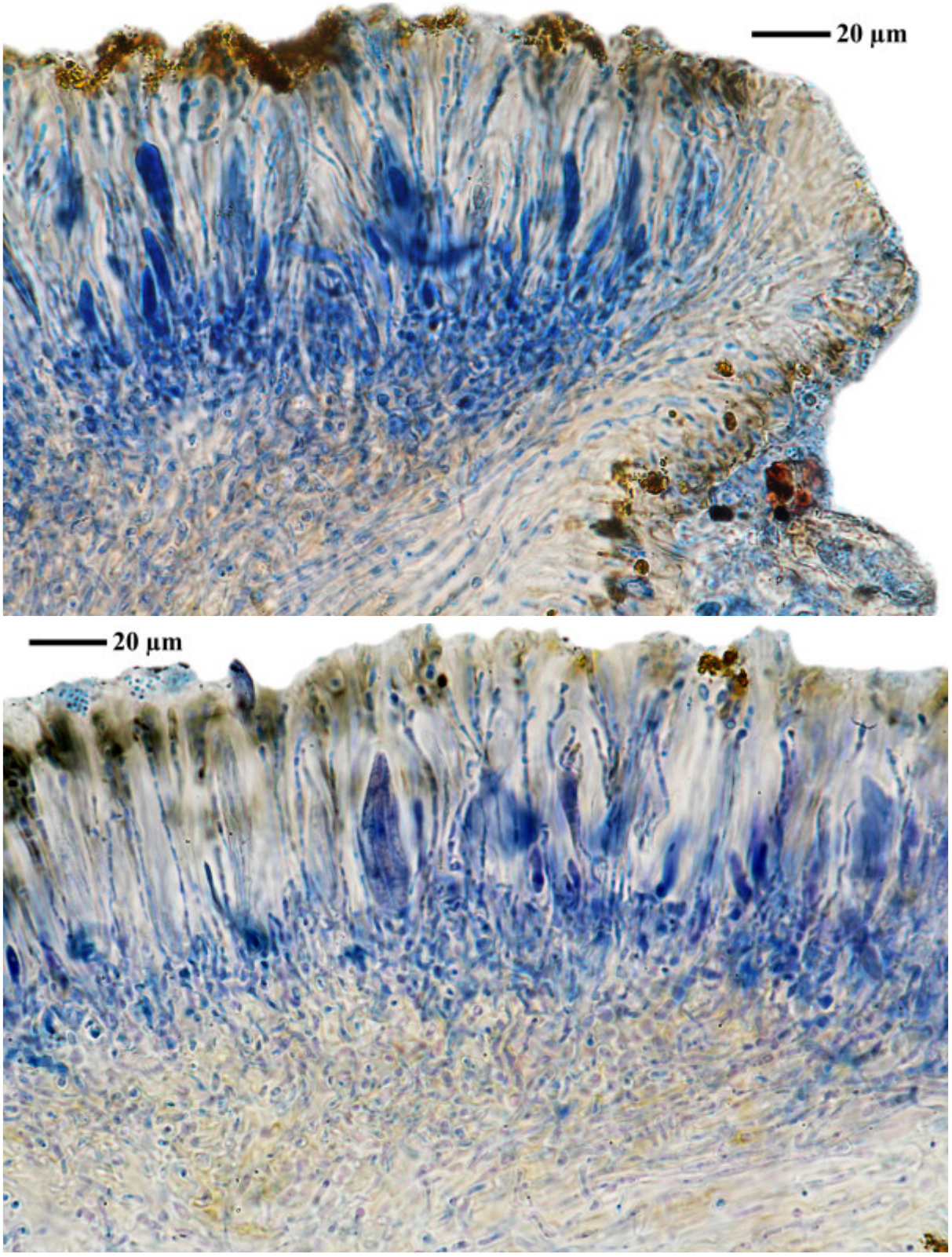


Caloplaca nivalis

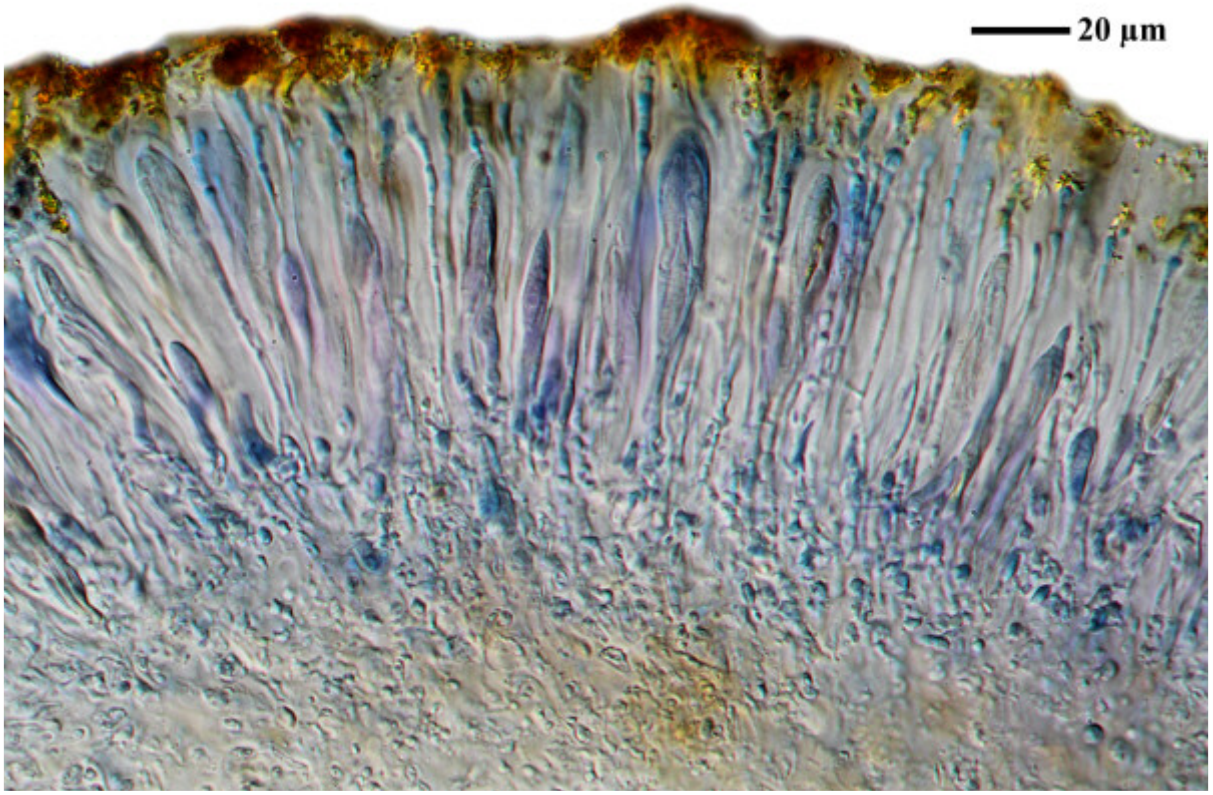


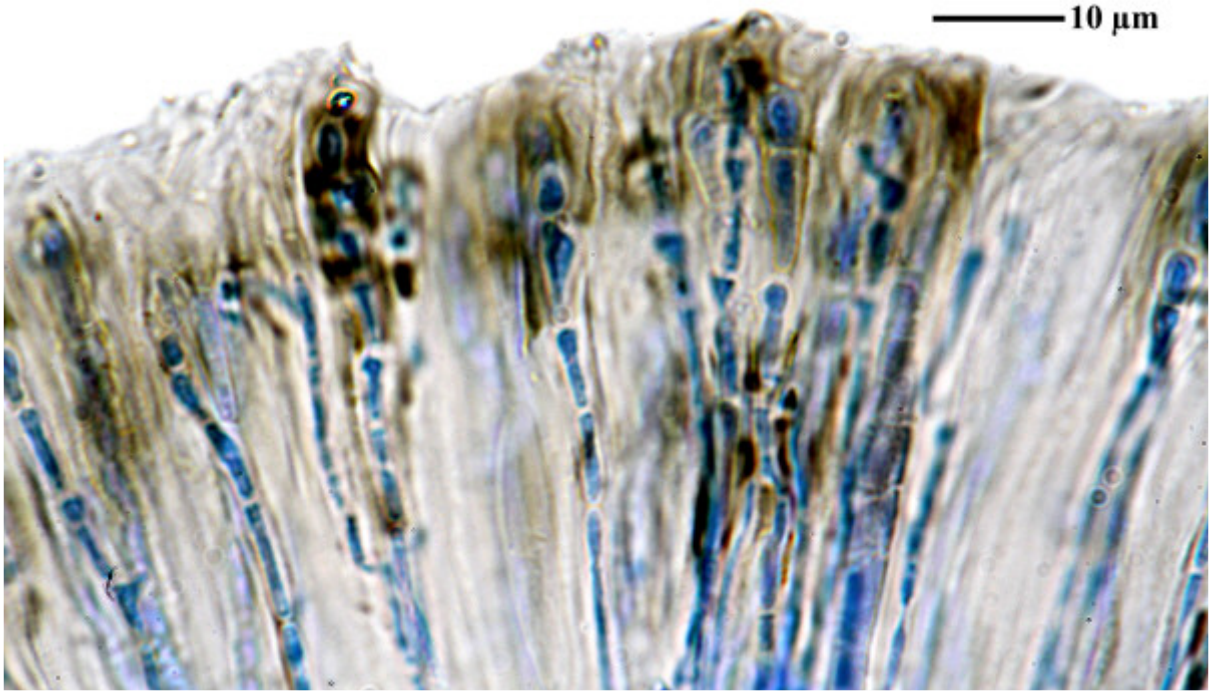


Caloplaca nivalis

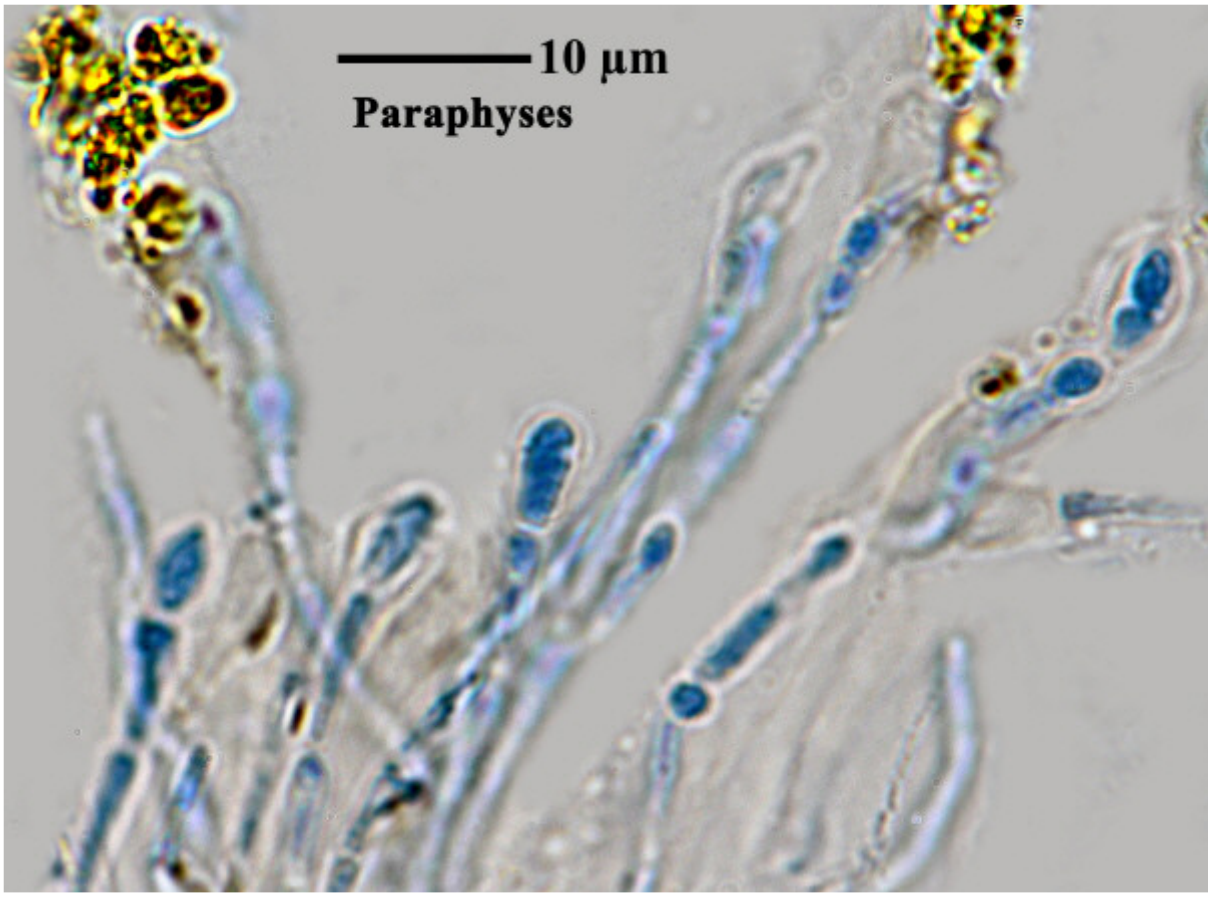


Caloplaca nivalis

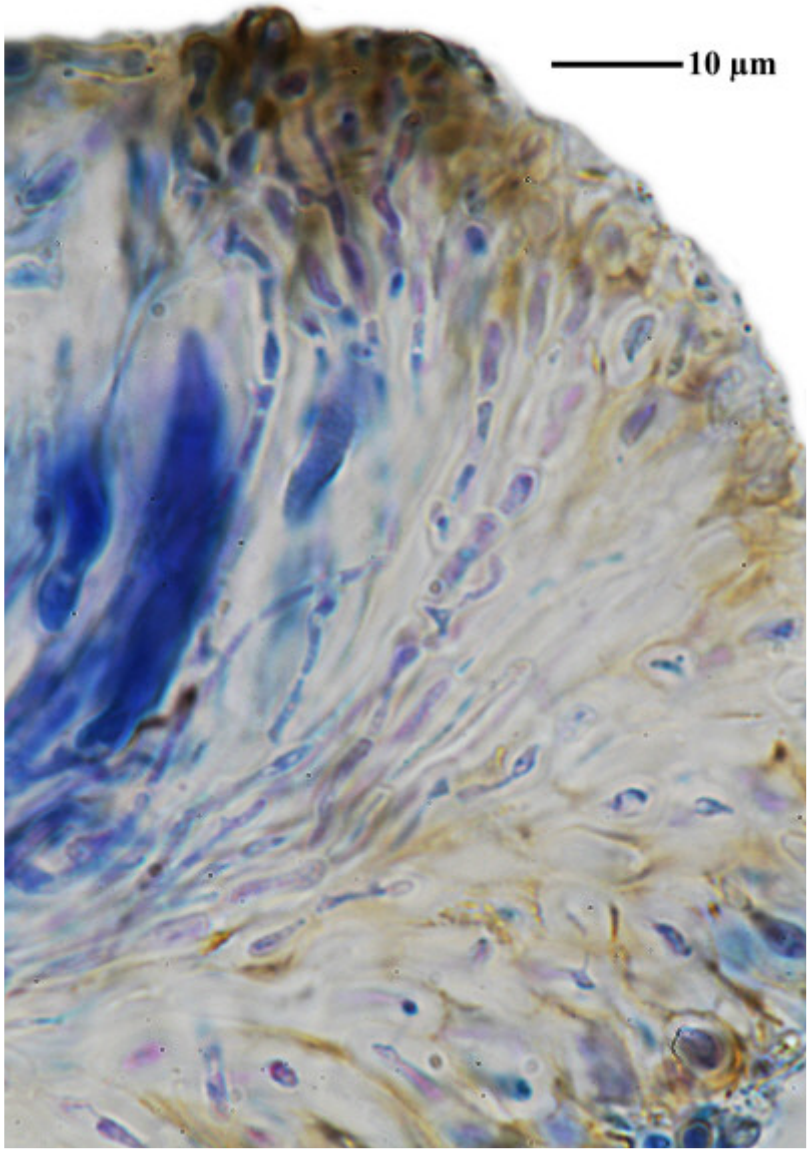




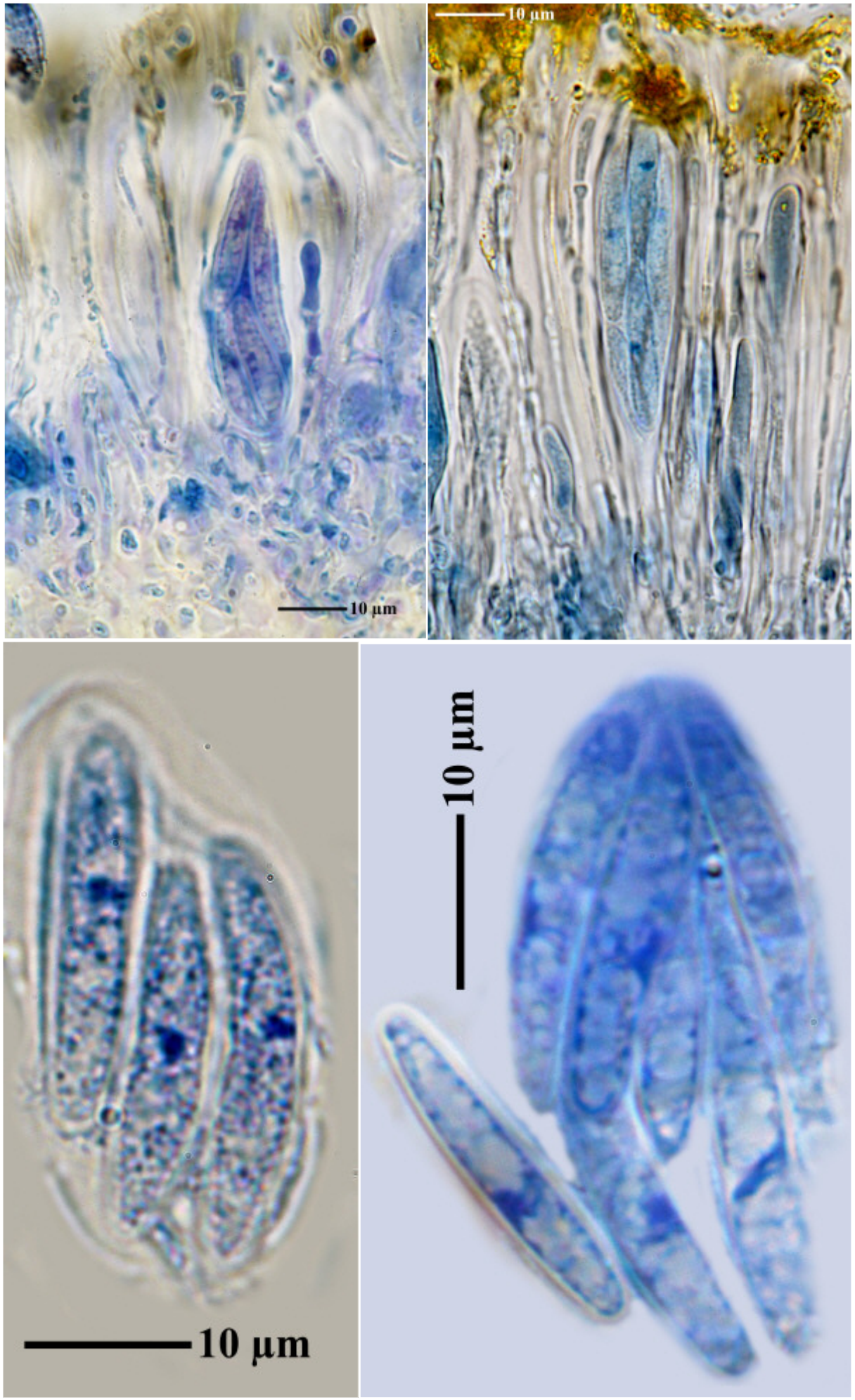
Caloplaca nivalis







Caloplaca nivalis



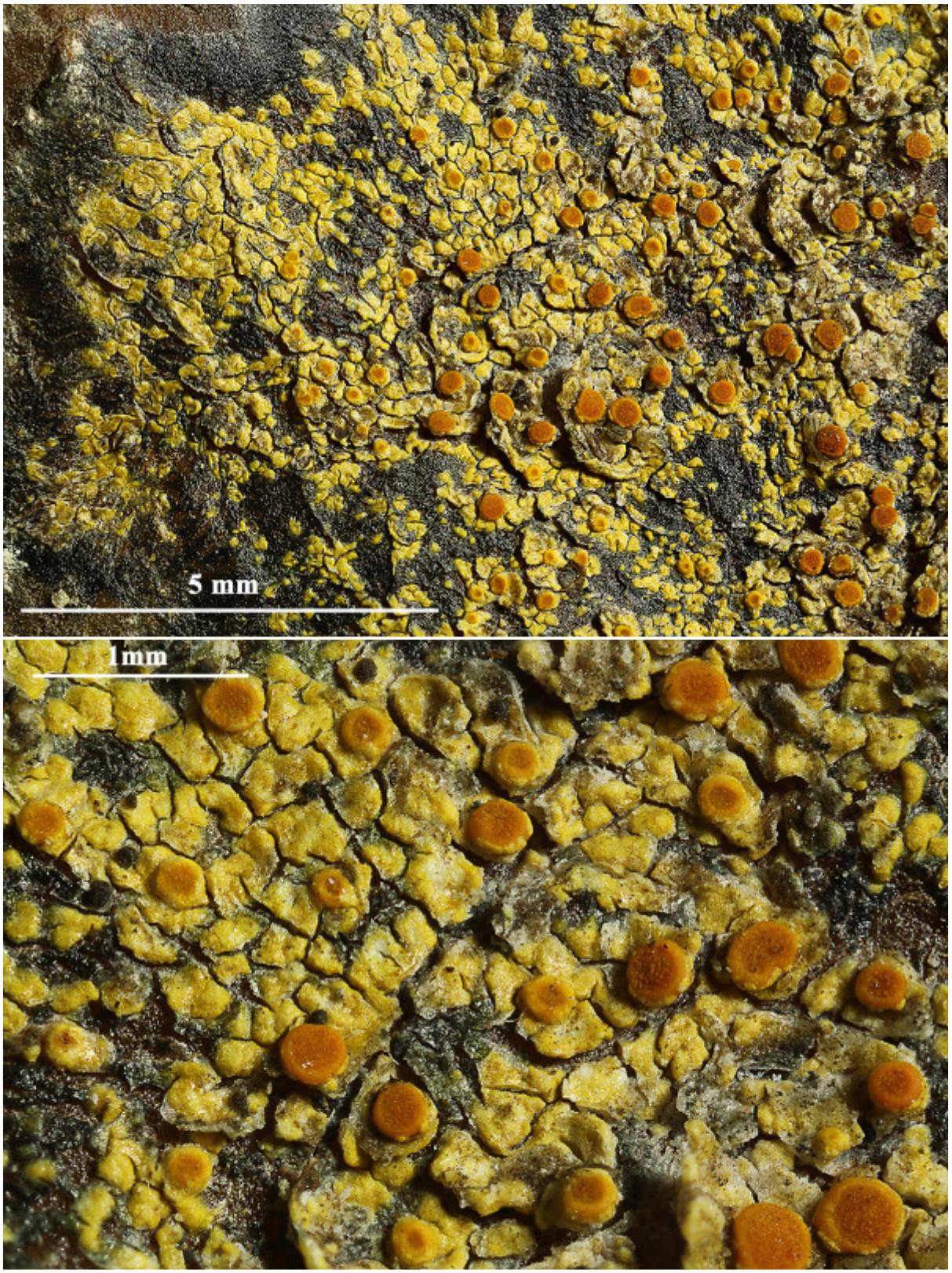
Caloplaca nivalis

Caloplaca norfolkensis Elix, S.Y. Kondr. & Kärnefelt

Thallus corticolous, yellow, areolate, on black, well developed hypothallus. Apothecia 0.3-1 mm diam, zeorine or biatorine, disc orange, margin slightly brightly. Ascospores (10-)12-18(-19) x (5-)6-9 µm, septum 5-10(-12) µm. Chemistry brialmontin 1 (major), brialmontin 2 (major), fragilin (minor), 7-chloroparietinic acid (minor), lichexanthone (minor), 7-chlorofallacinal (trace), 7-chloroteloschistin (trace); thallus and apothecia K+ purple. Lit.: Kondratyuk, Kärnefelt, Elix & Thell, Bibliotheca Lichenol. 99: 273 (2009).

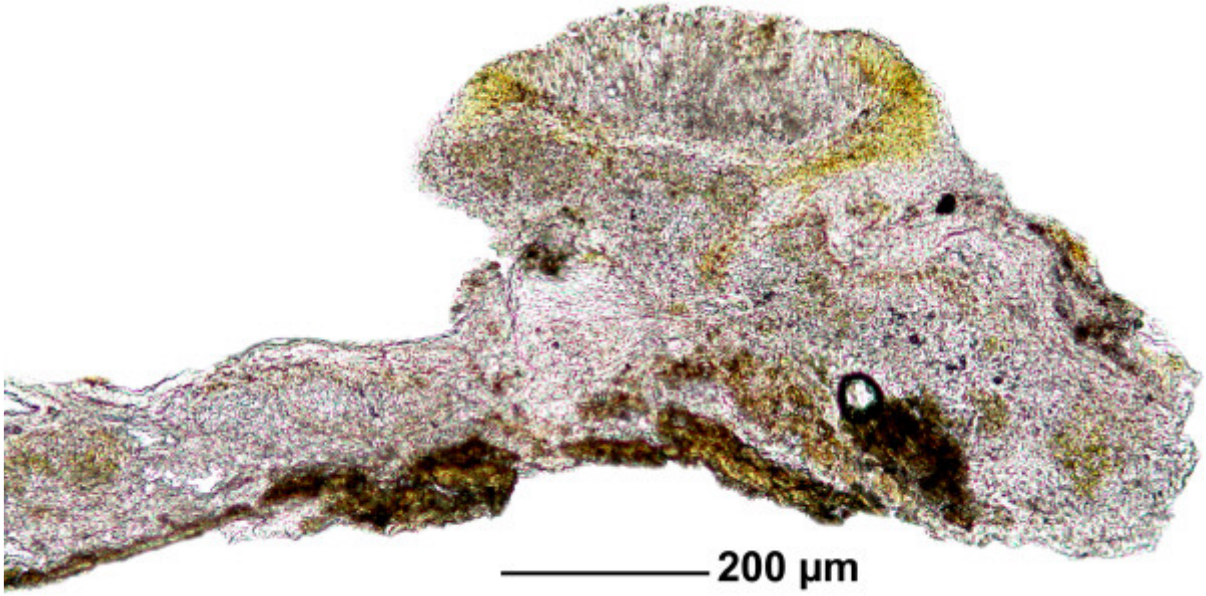
[KK18967], Australia, Queensland, road to the Bunya Mountains, c. 12 km NNE from Mt. Mowbullan, 680 m, 26°50’ S, 151°38’ E. Leg. K. Kalb & R. Rogers, 14.08.1988, det. S.Y. Kondratyuk, 2008.





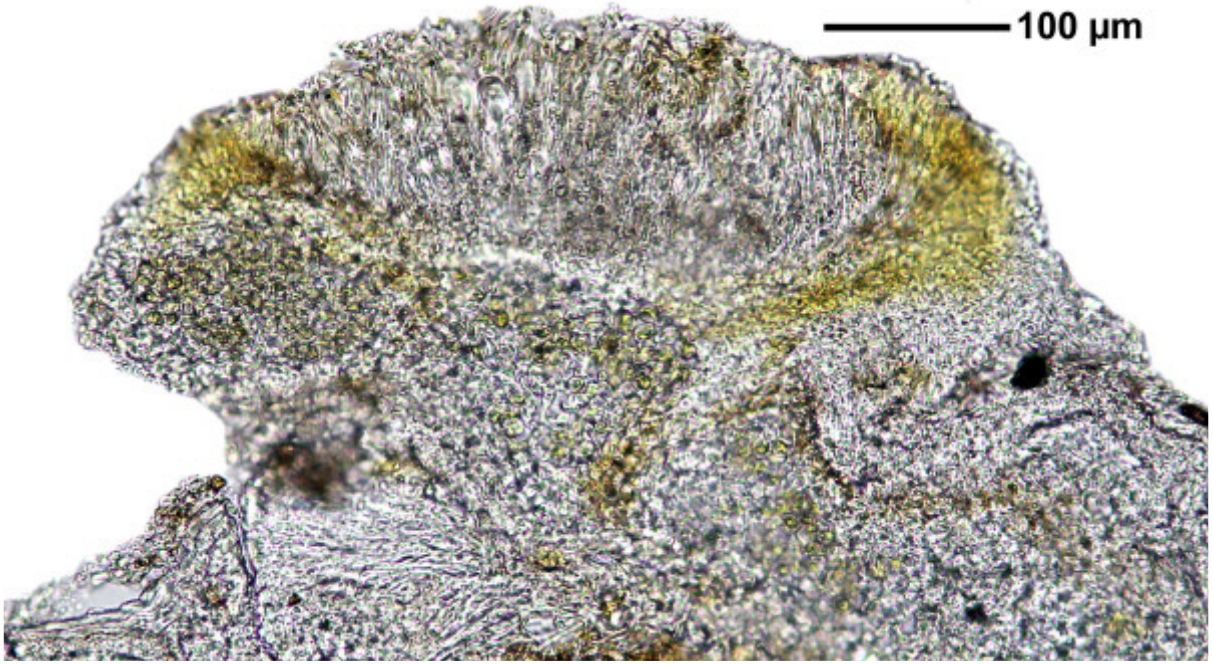
Caloplaca norfolkensis

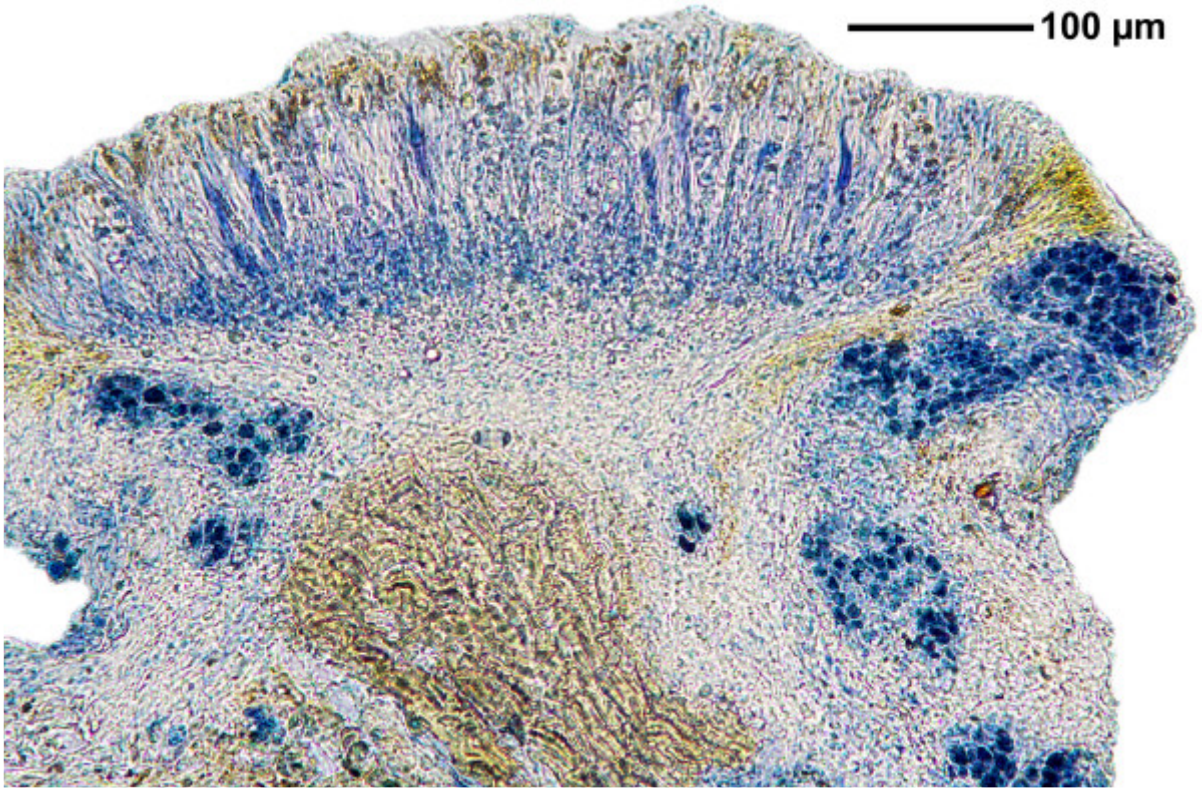




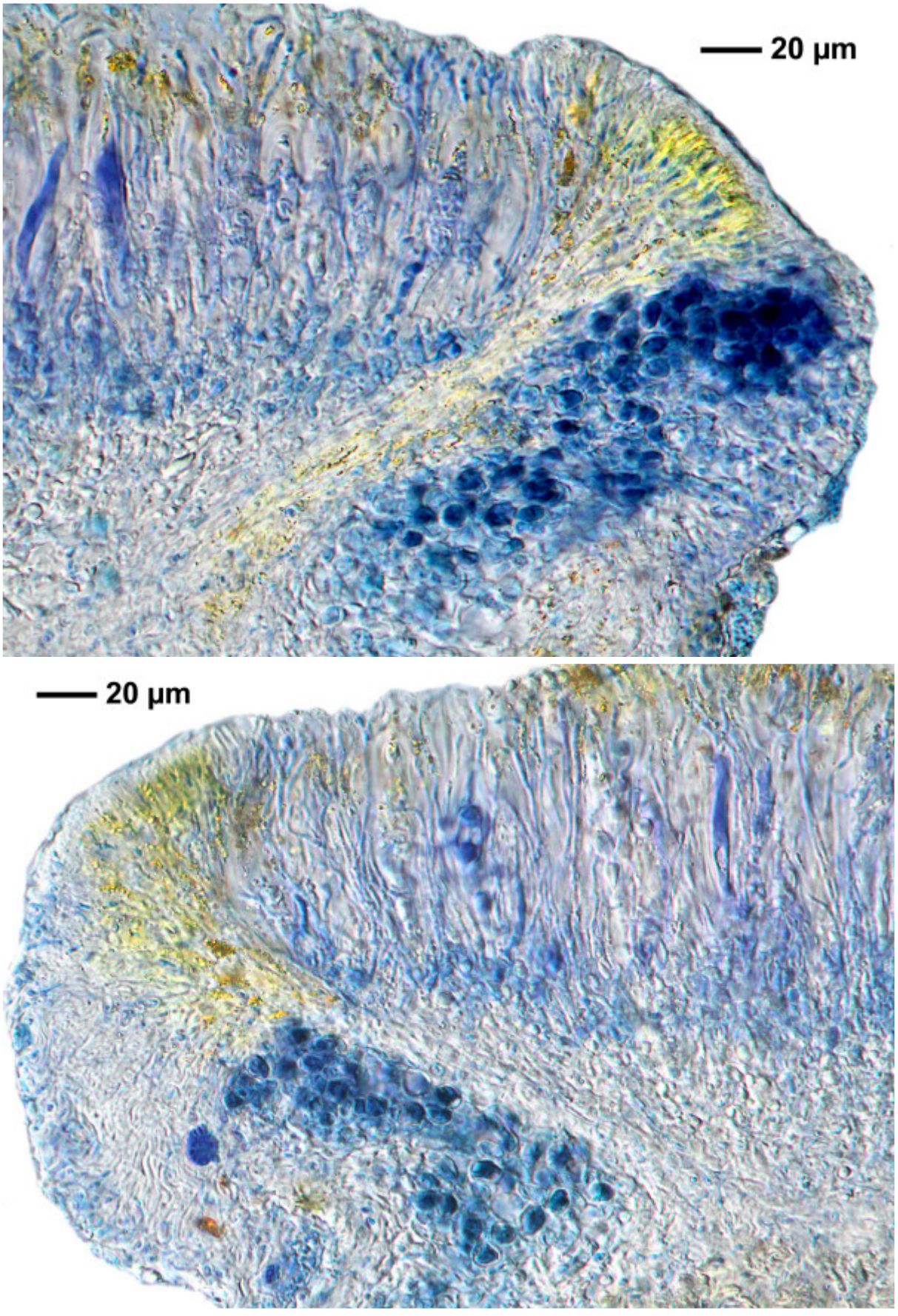


Caloplaca norfolkensis

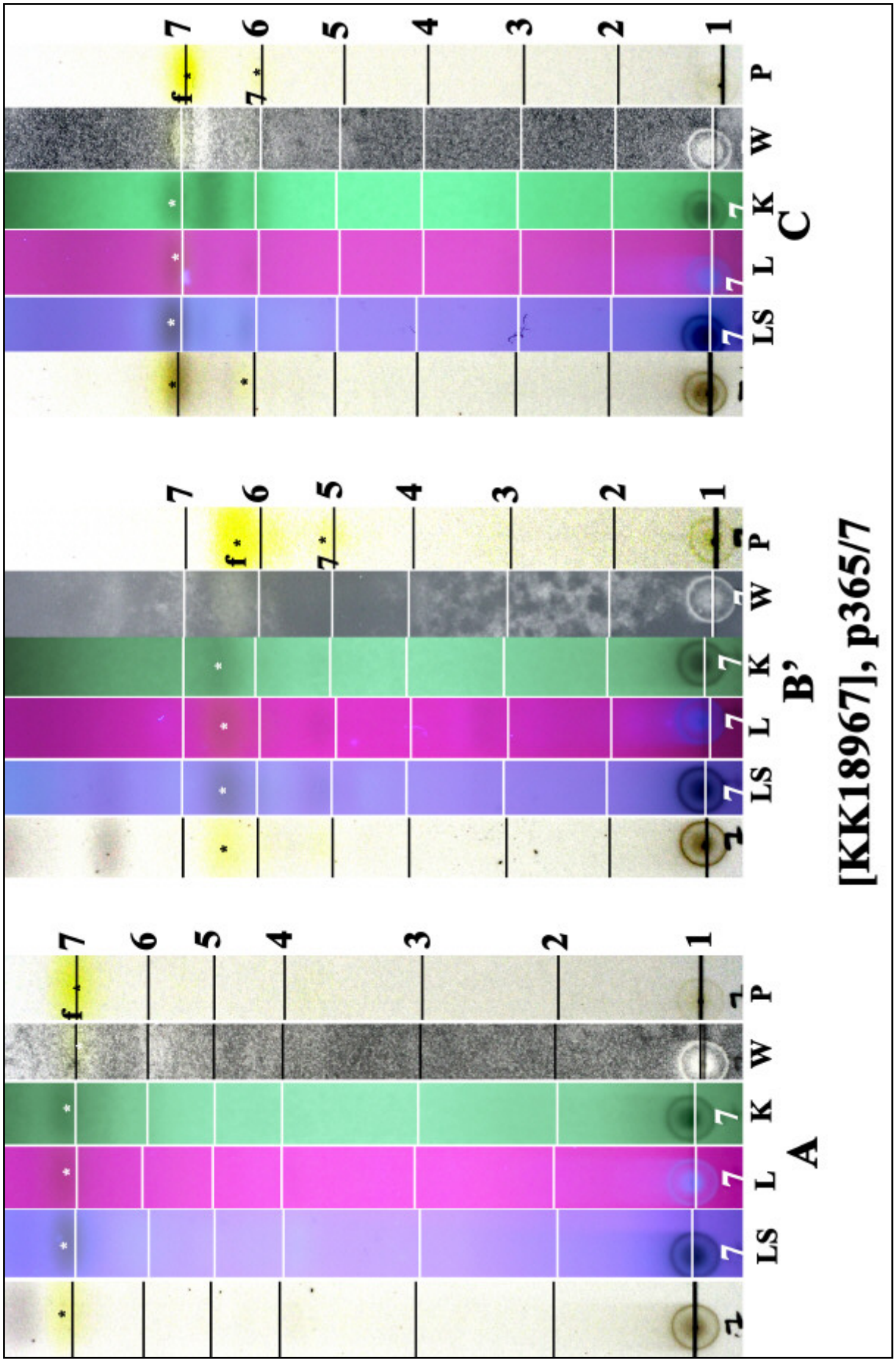




Caloplaca norfolkensis



Caloplaca norfolkensis



f: fragilin, 7: 7-chloroparietinic acid; conf. J.A. Elix

Caloplaca norfolkensis

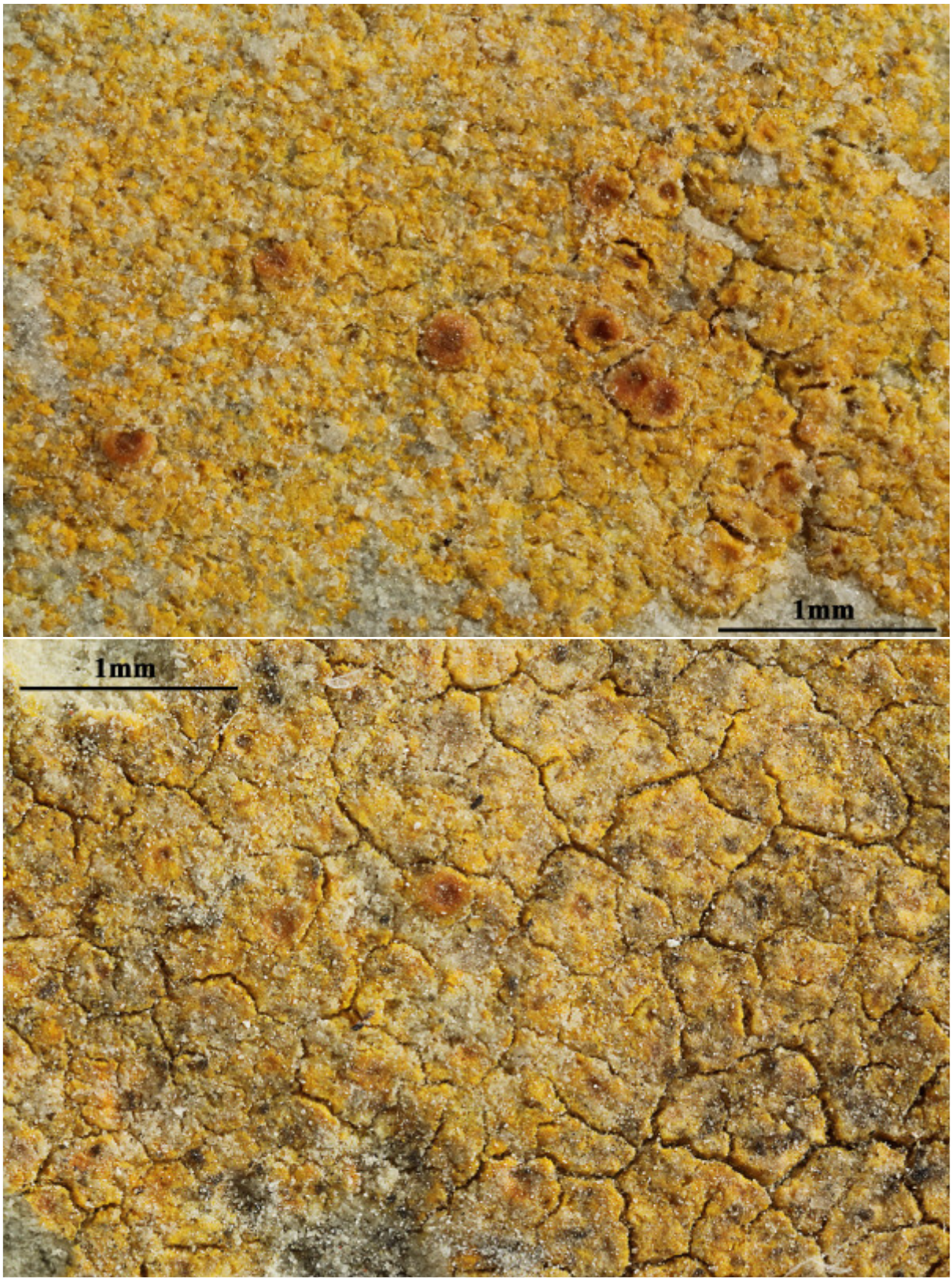
Caloplaca nubigena (Kremp.) Dalla Torre & Sarnth.

Spores 9-11 x 4.5-5 µm, septum 1.5-2 µm (FS)

[BR5030040195379], France, Alpes Maritrimes, Enclave de la Brigue, rockes calcares, 2180 m. Leg. E. Jacques (6636), 29.07.1968.

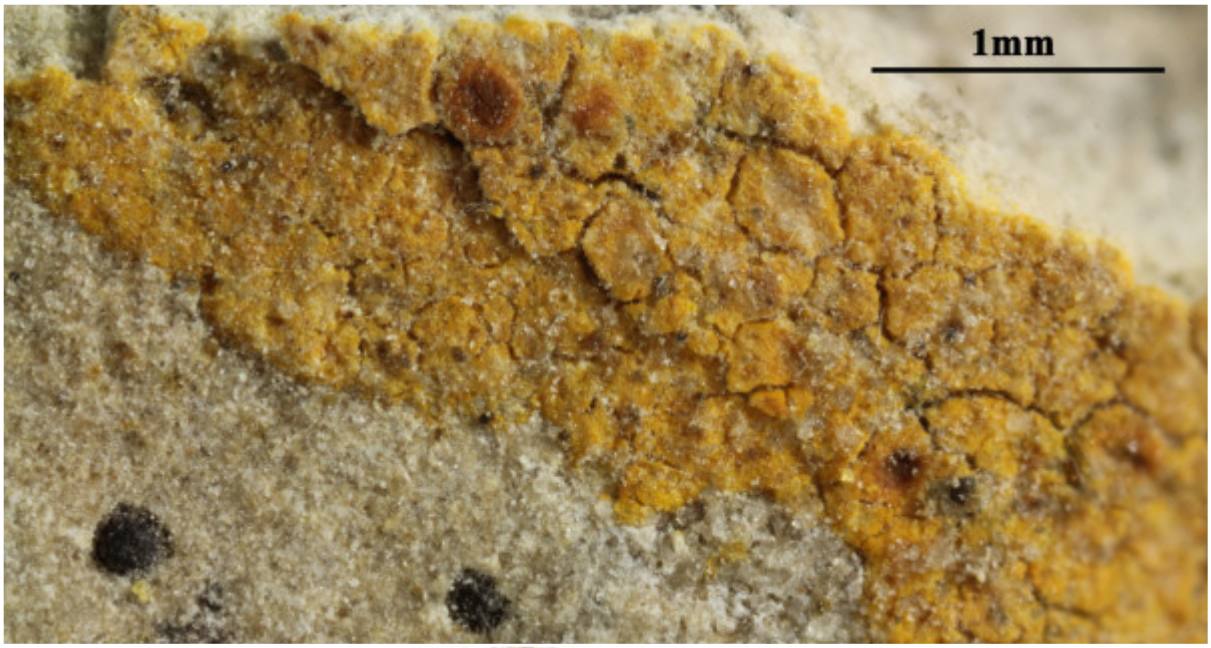


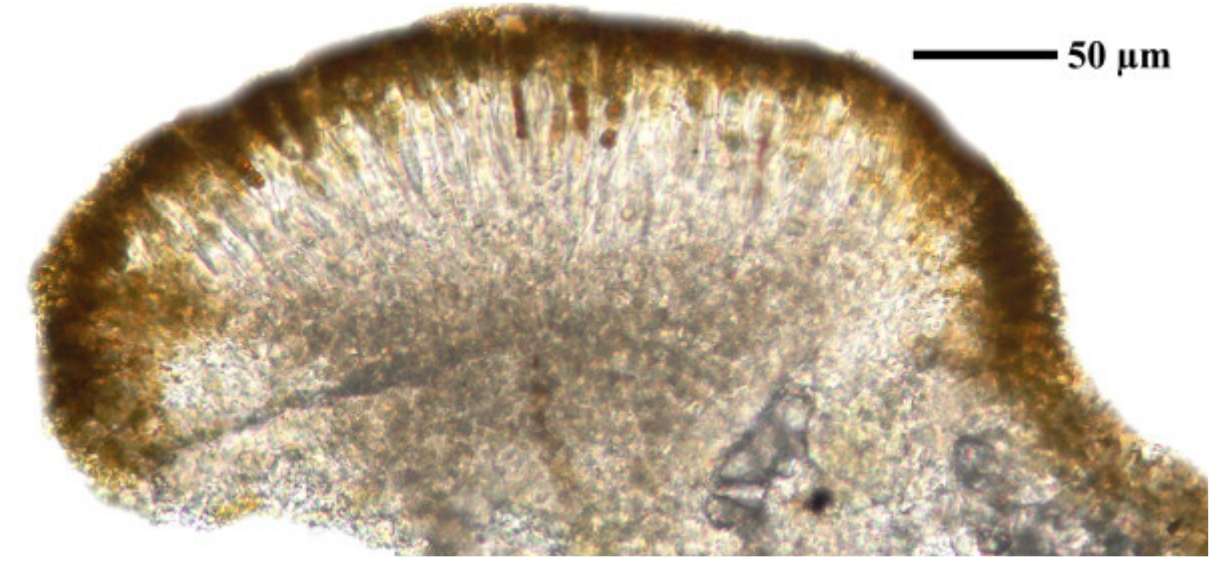


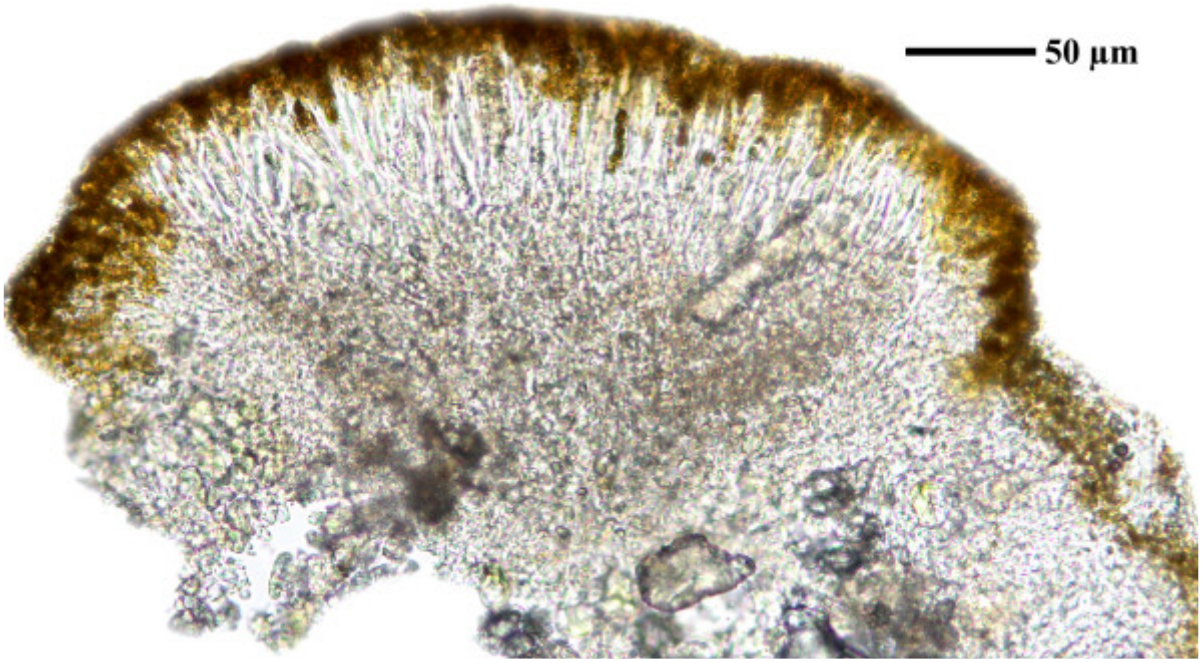


Caloplaca nubigena

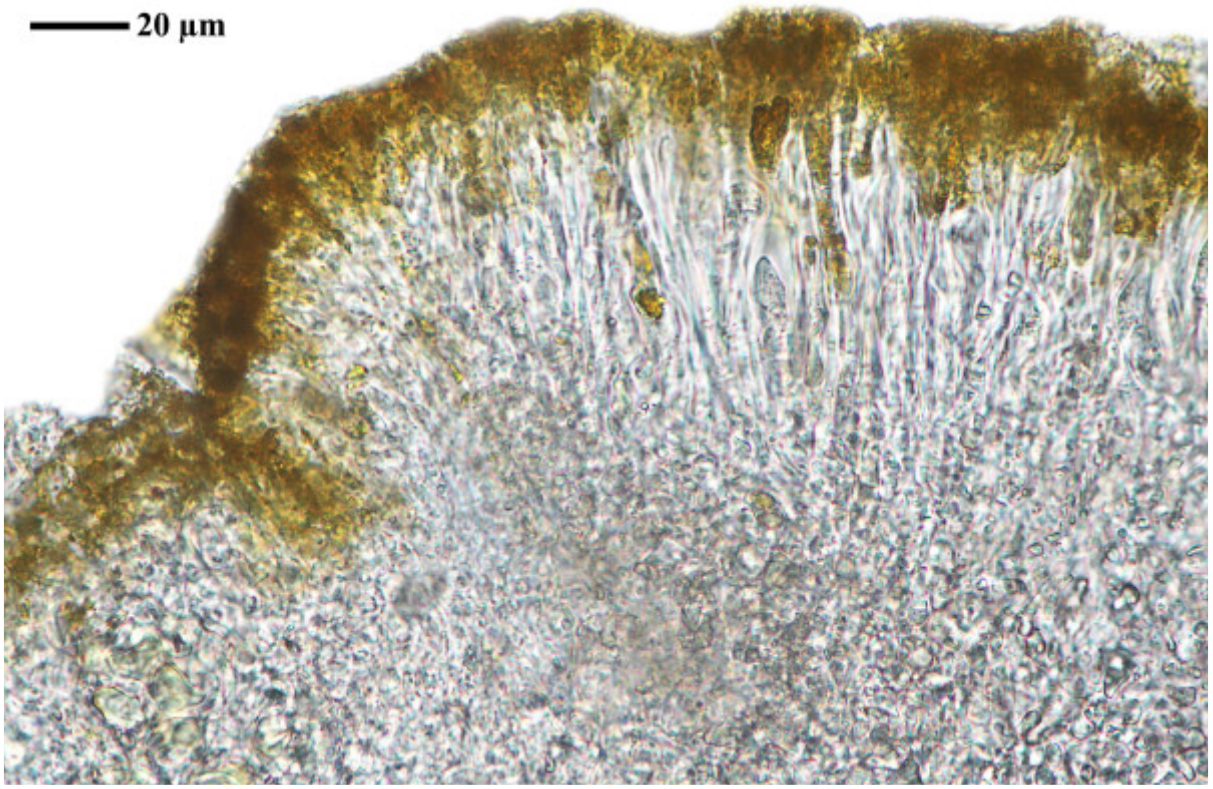
1839

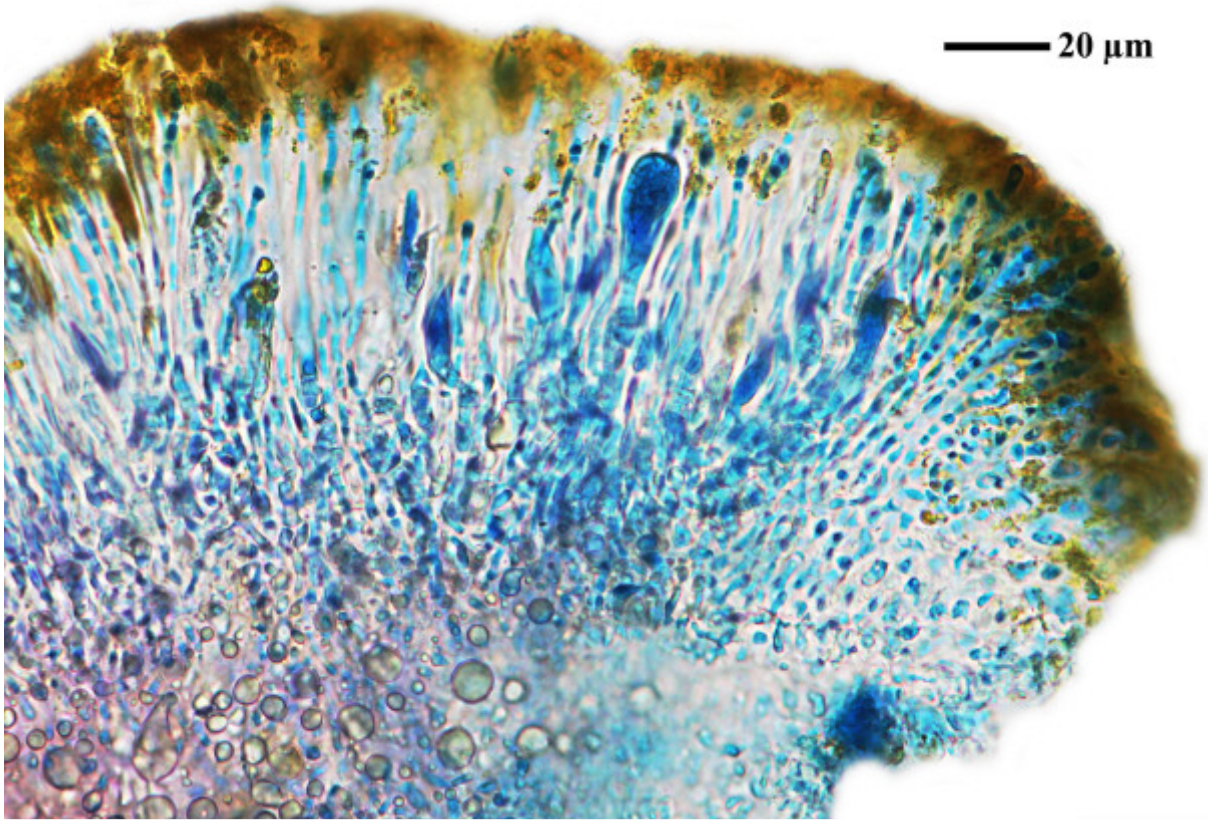




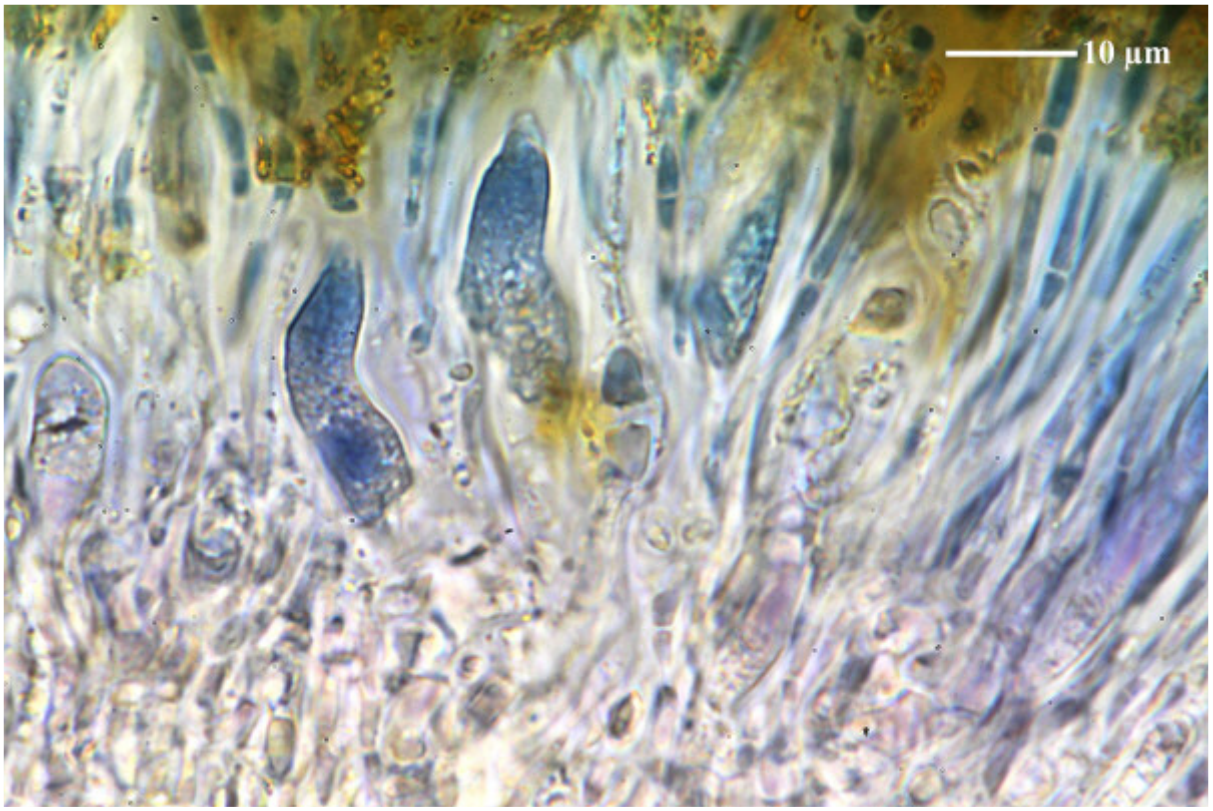


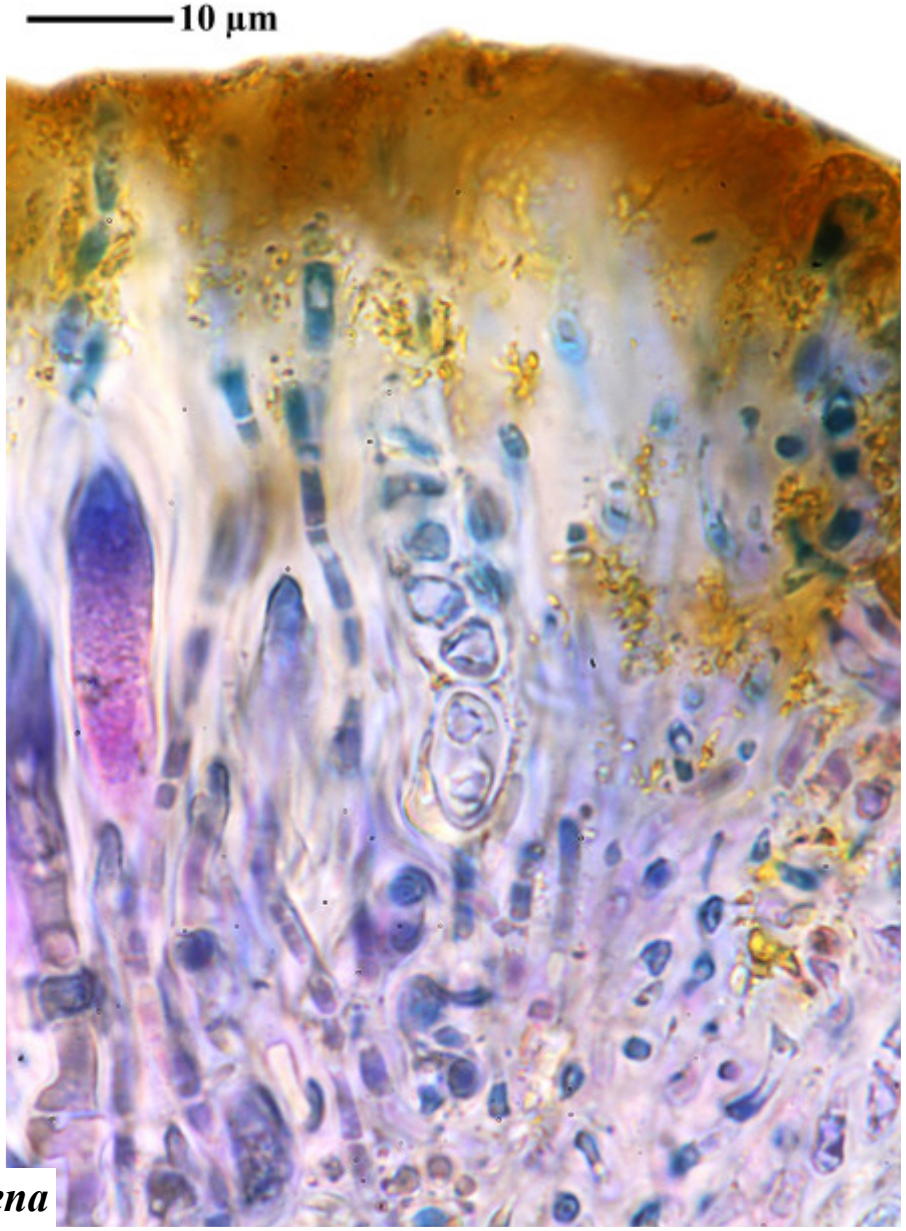
Caloplaca nubigena





Caloplaca nubigena





Caloplaca nubigena

Caloplaca nubigena (Kremp.) Dalla Torre & Sarnth.

[BR5030040196383], Yugoslavia, Montenegro, 1500 m. Leg. et det. M. Servit 1929.







Caloplaca nubigena

1844



Caloplaca nubigena

1845

Caloplaca oasis (A. Massal.) Szatala
[= *Flavoplaca oasis* (A. Massal.) Arup, Frödén & Søchting]

On stones.

[6931], Spanien, Kaønarische Inseln, Gran Canaria; an einer feuchten mit viel Aeonium bewachsenen Felswand an der Straße von Ariñez zum Pinos de Galdar im Barranco del Charquillo; 28°01.327’ N, 15°35.272’ W, Höhe 1370 m. Leg. F. Schumm & U. Schwarz 05.01.2000, det. A. Aptroot 2016.





Caloplaca oasis

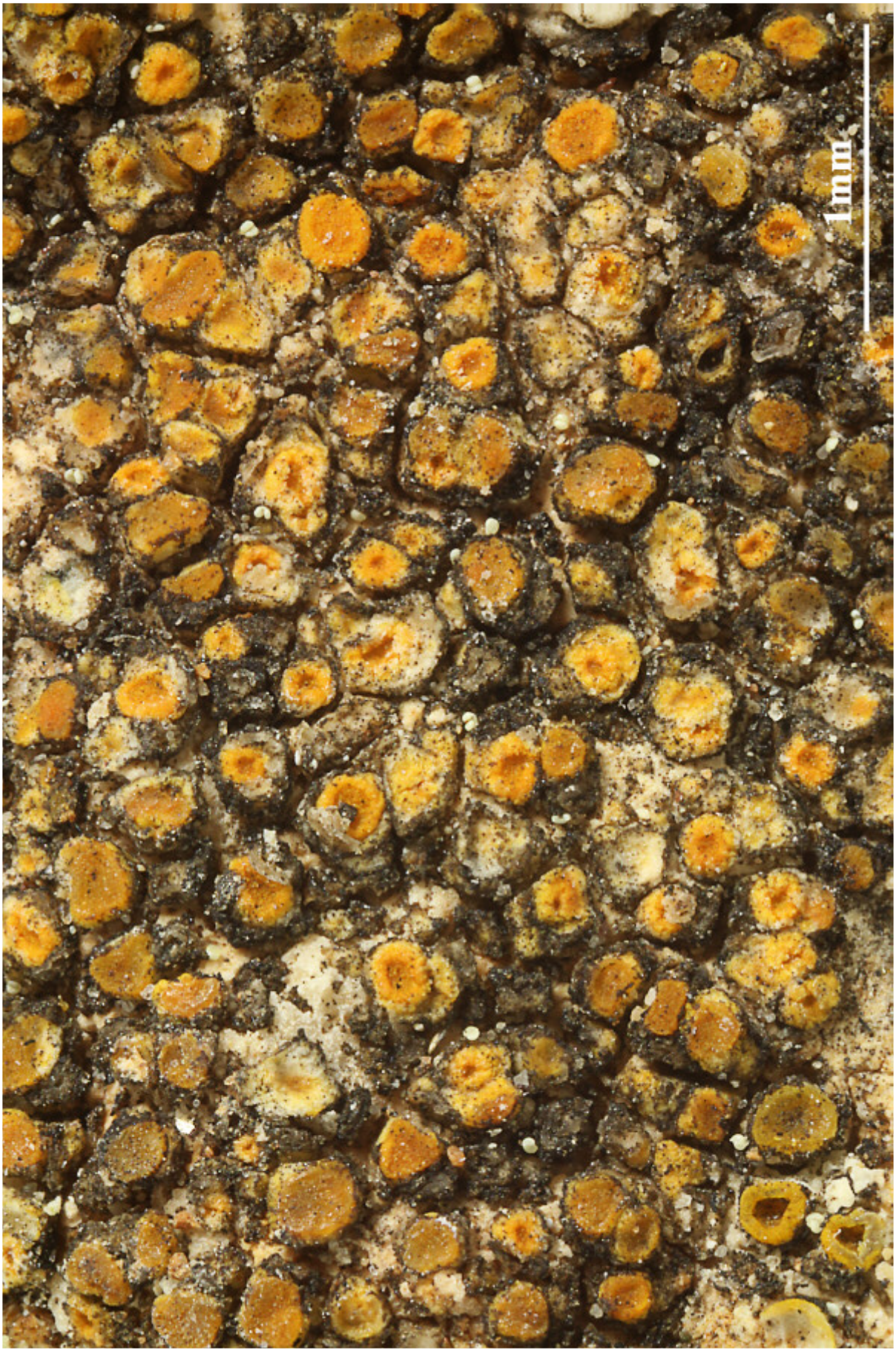
1847

Caloplaca oasis (A. Massal.) Szatala
[= *Flavoplaca oasis* (A. Massal.) Arup, Frödén & Søchting]

On stones.

[16295], Mallorca (Süd): Zwischen S'Arenal und Cala Brava, lichtoffener Straßenrand (Ma-6014); 39,49342° N, 2,75414° E, 30 m.
Leg. F. Schumm, 12.03.2010, det. A. Aptroot 2016.





Caloplaca oasis

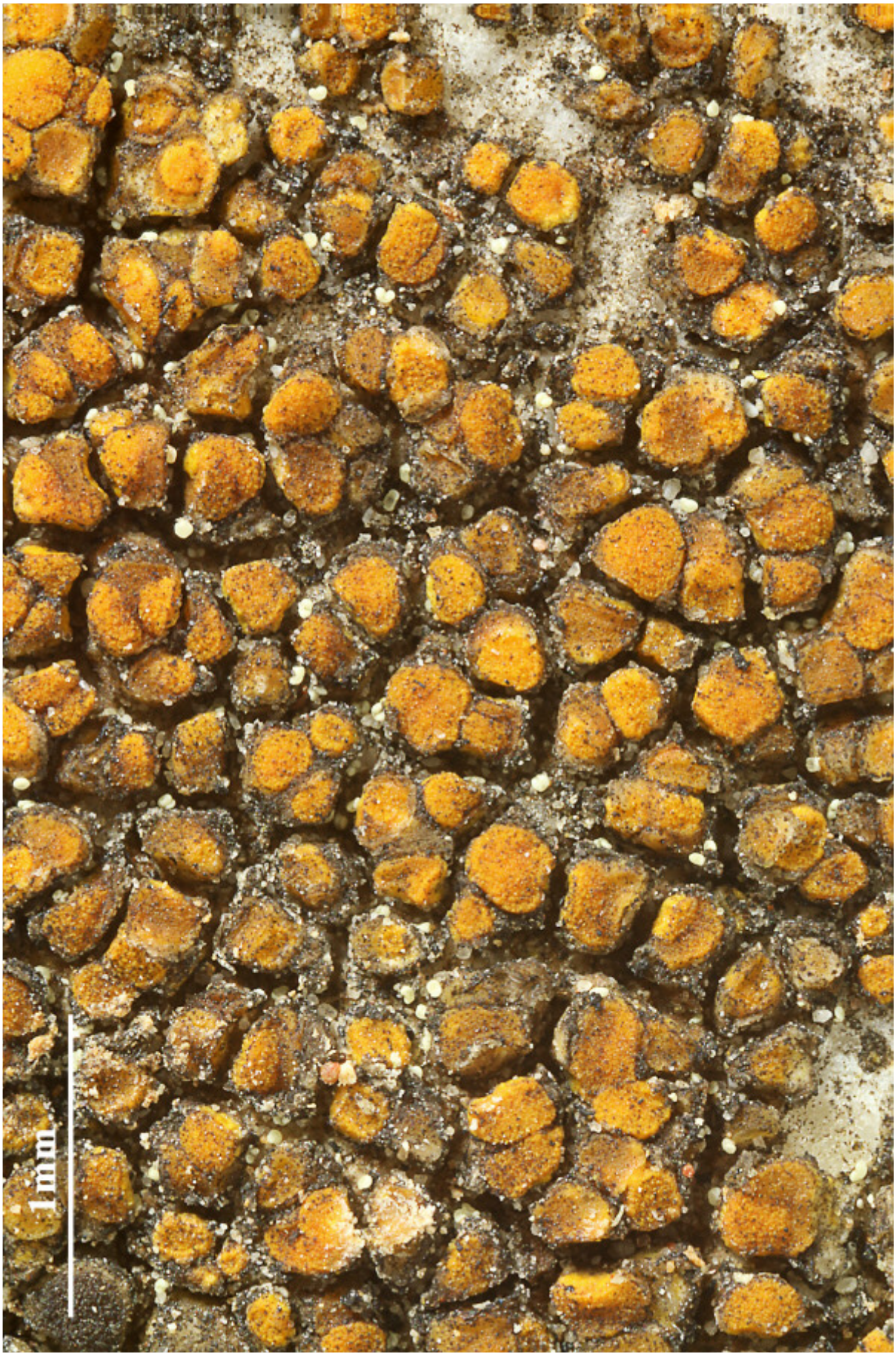
1849

Caloplaca oasis (A. Massal.) Szatala
[= *Flavoplaca oasis* (A. Massal.) Arup, Frödén & Søchting]

On stones. Spores polarilocular, hyaline, 8/ascus, 14.5-15.5 x 6.5-7.5 µm, septum 5-5.8 µm.

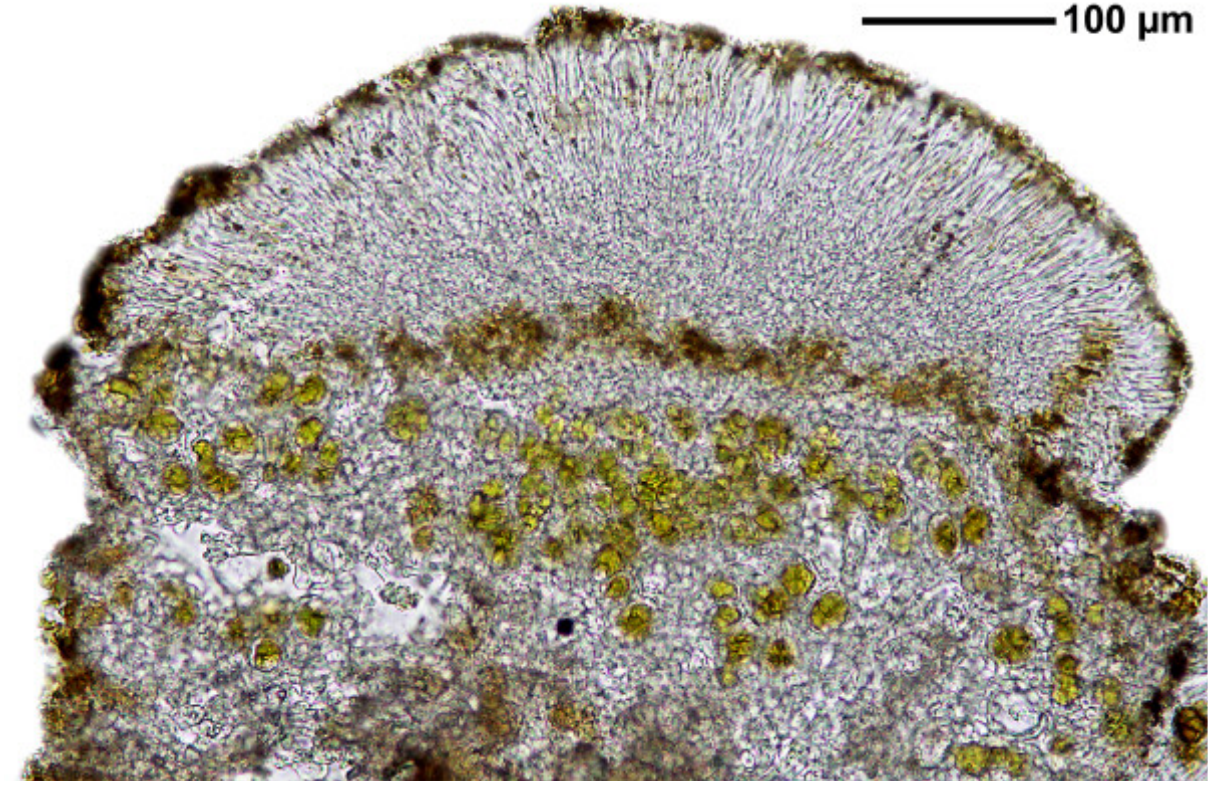
[16296], Mallorca (Süd): Zwischen S'Arenal und Cala Brava, lichtoffener Straßenrand (Ma-6014); 39.49342° N, 2.75414° E, 30 m. Leg. F. Schumm, 12.03.2010, det. A. Aptroot 2016.

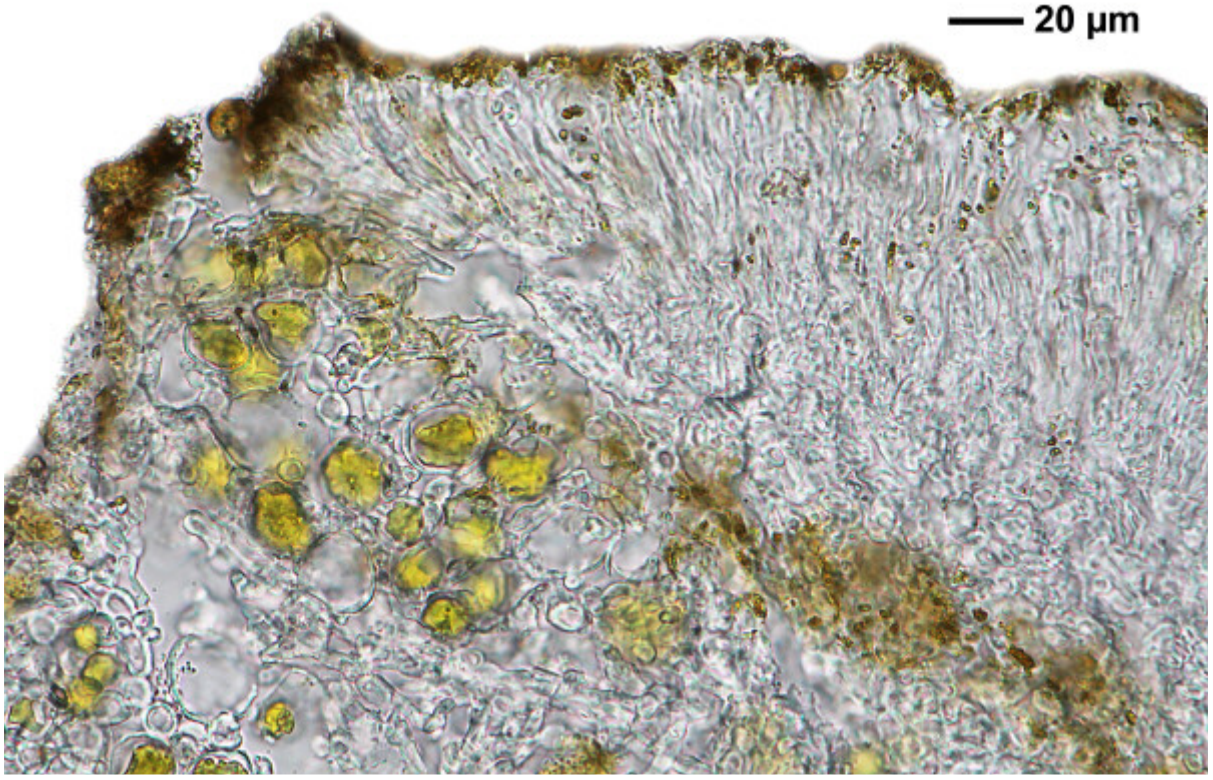




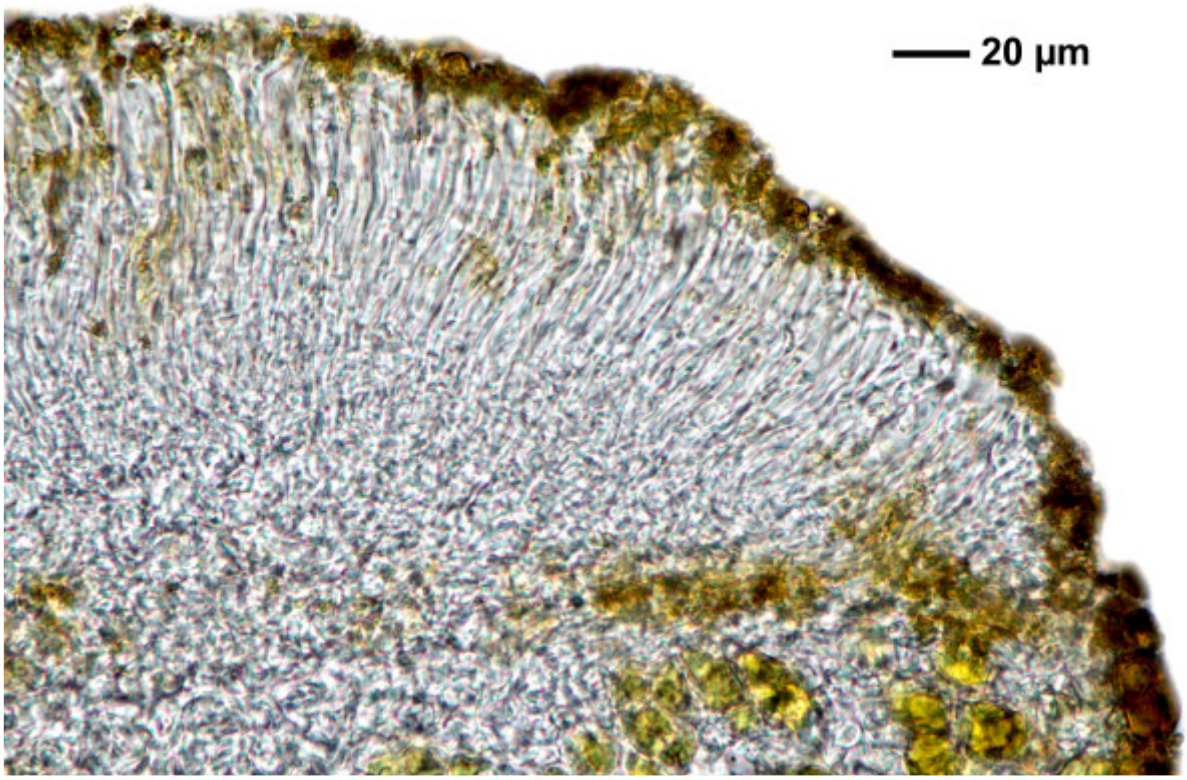
Caloplaca oasis

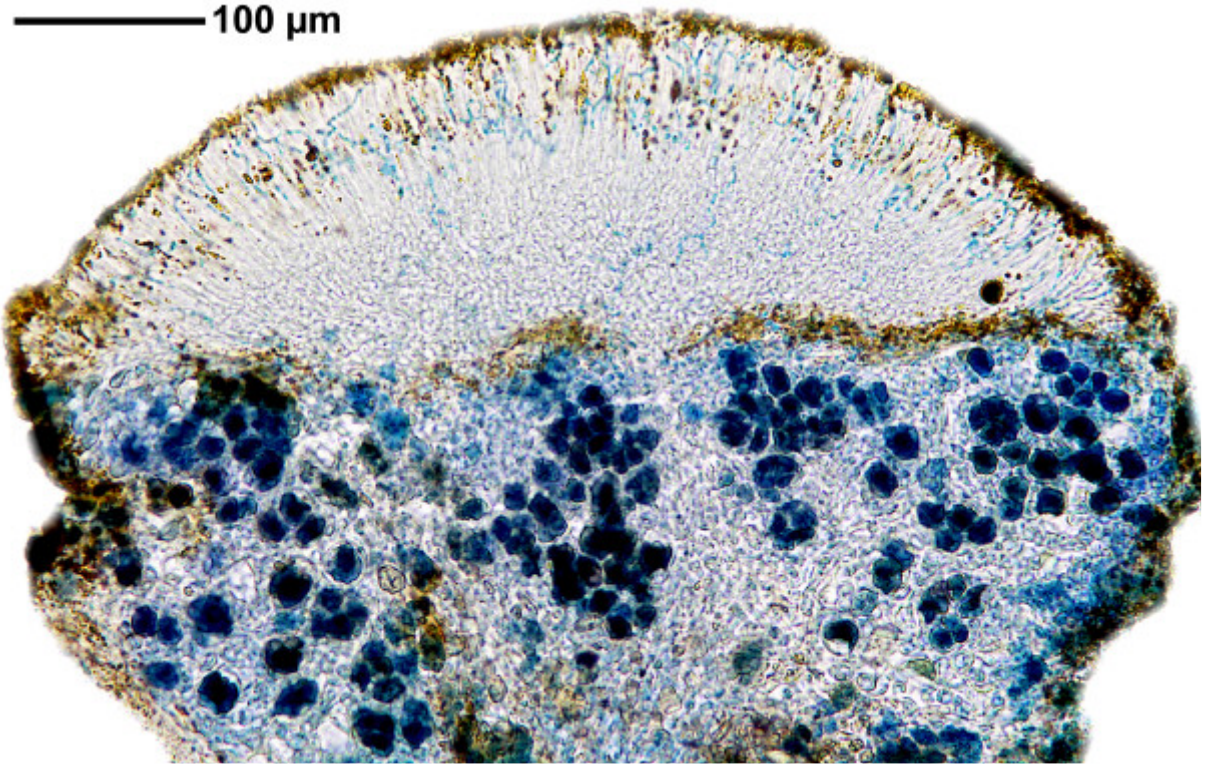
1851



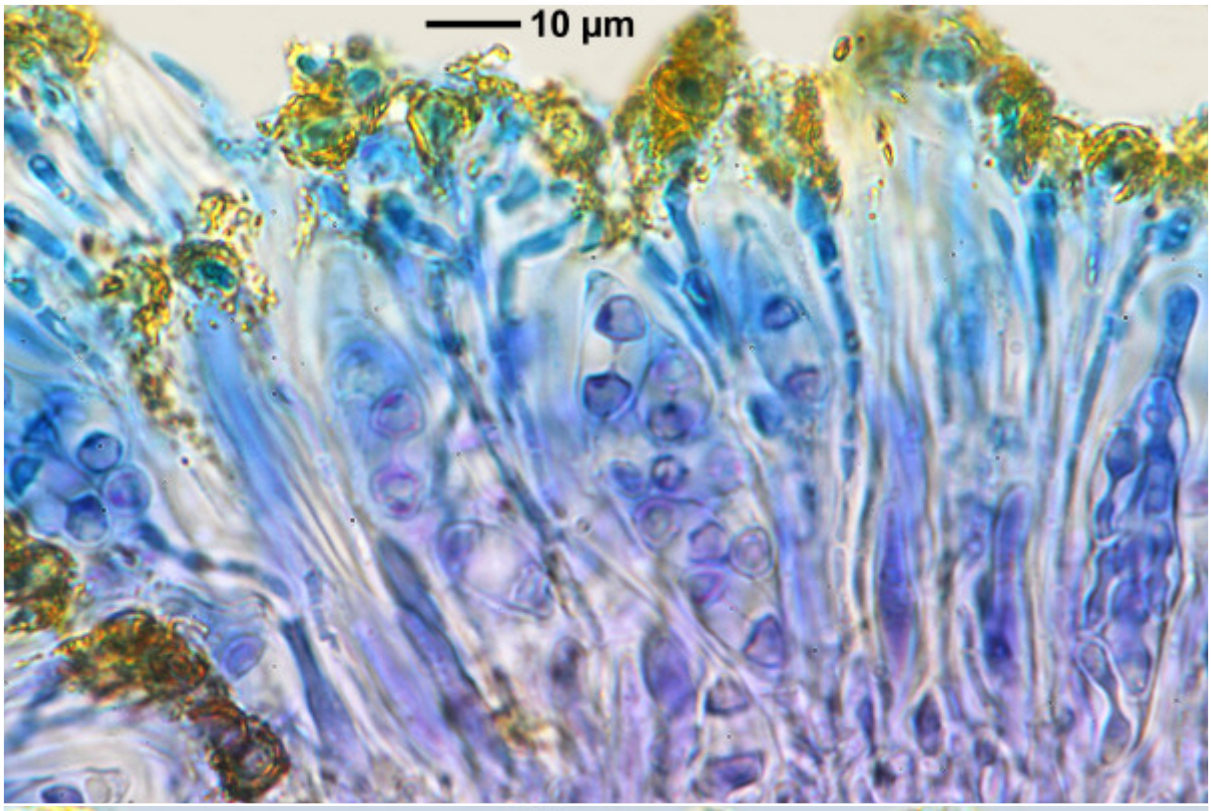


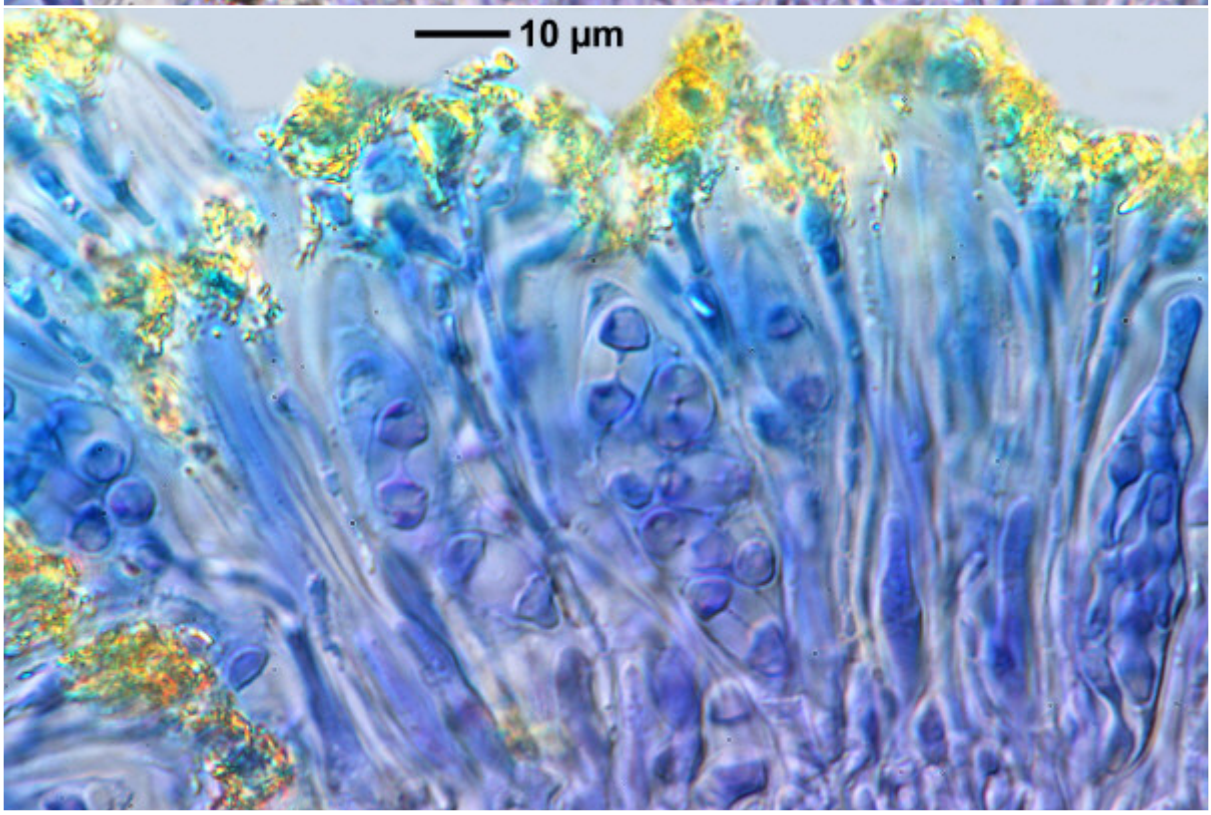
Caloplaca oasis

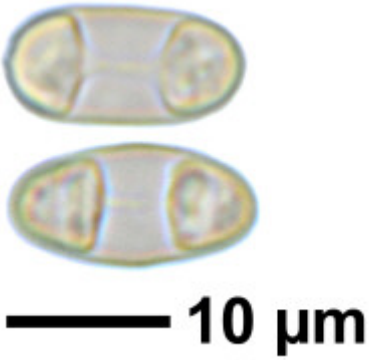




Caloplaca oasis





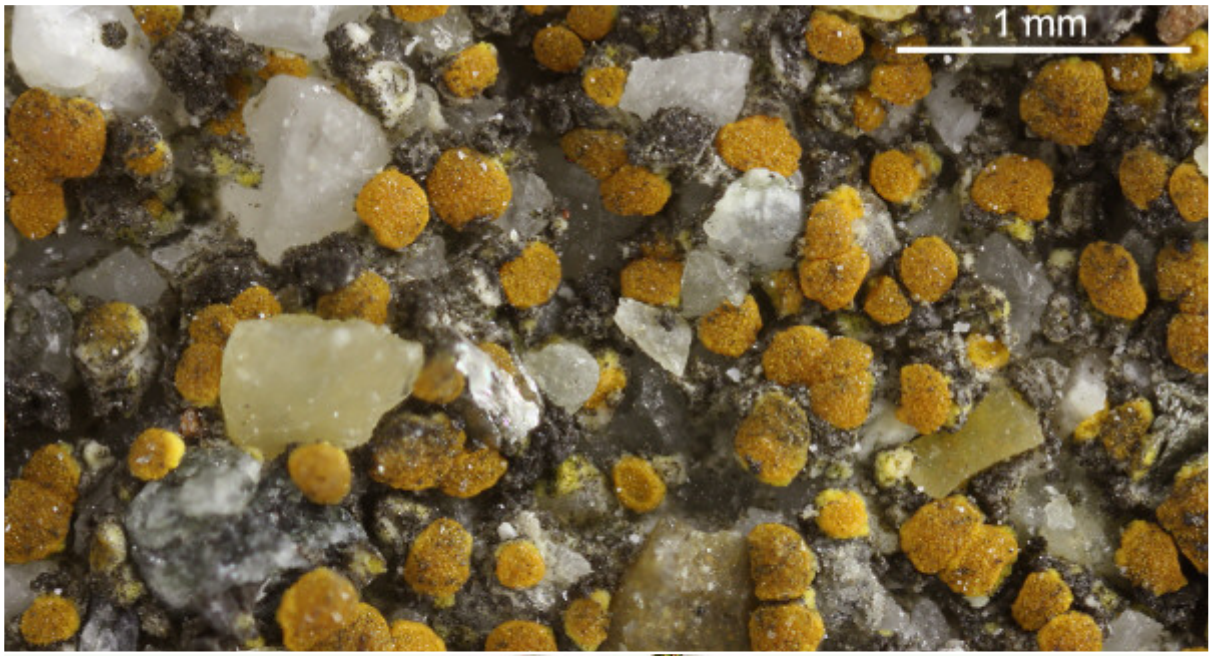


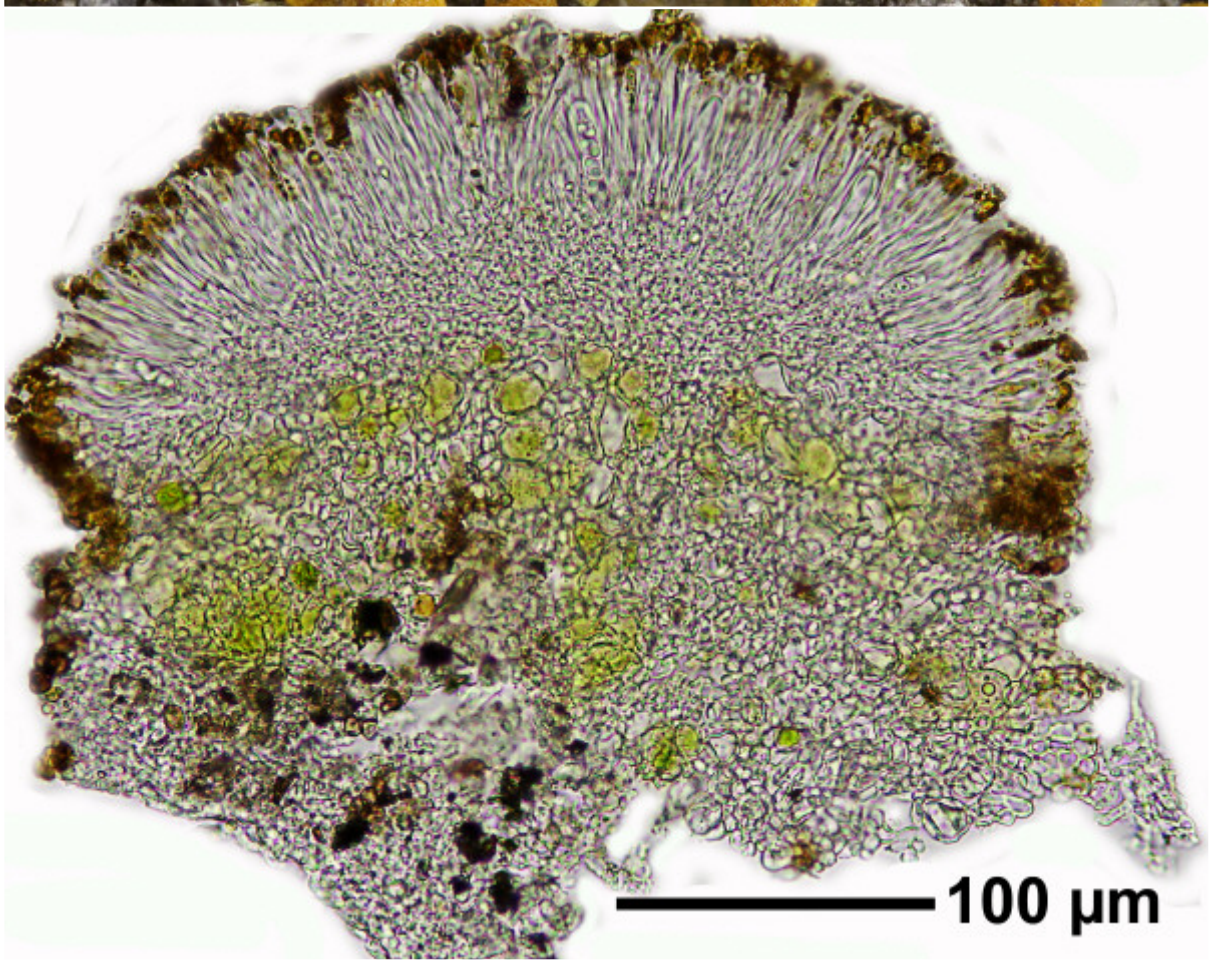
Caloplaca oasis

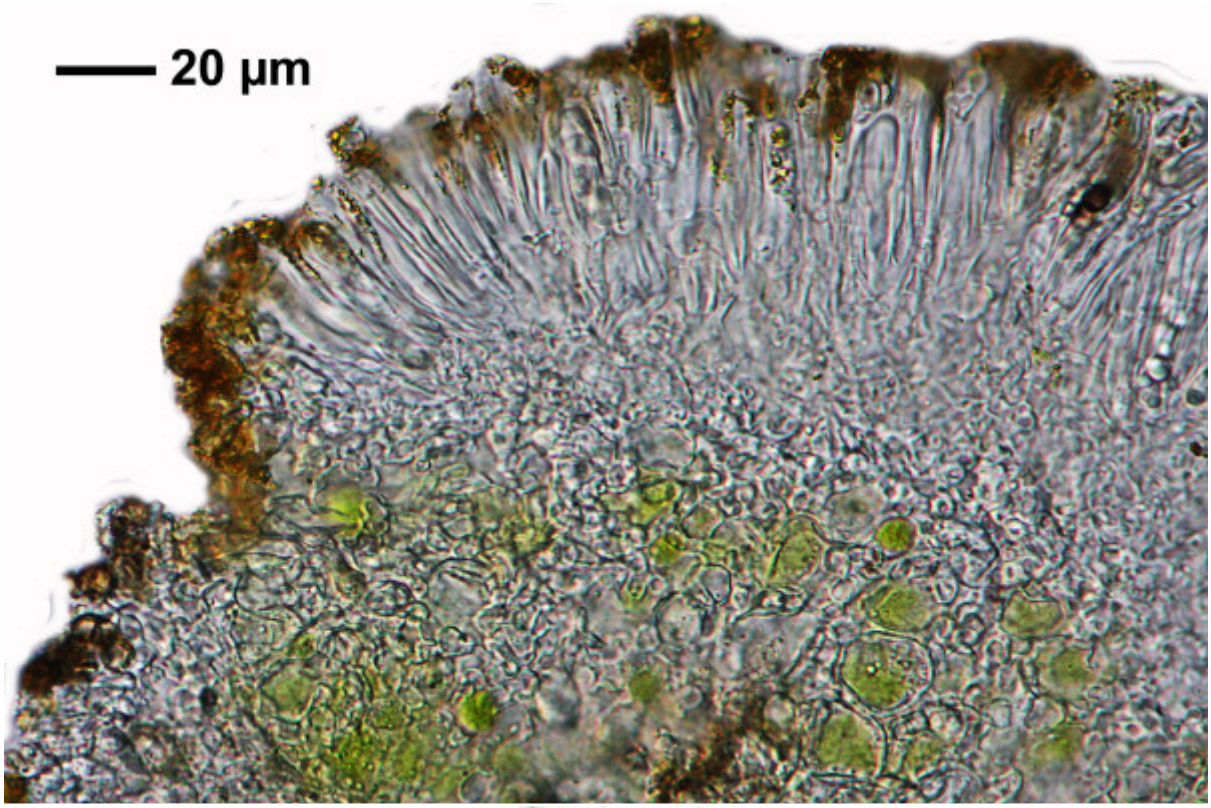
Caloplaca oasis (A. Massal.) Szatala
[= *Flavoplaca oasis* (A. Massal.) Arup, Frödén & Søchting]
[? = *Caloplaca lithophila* H. Magn. (1946)]

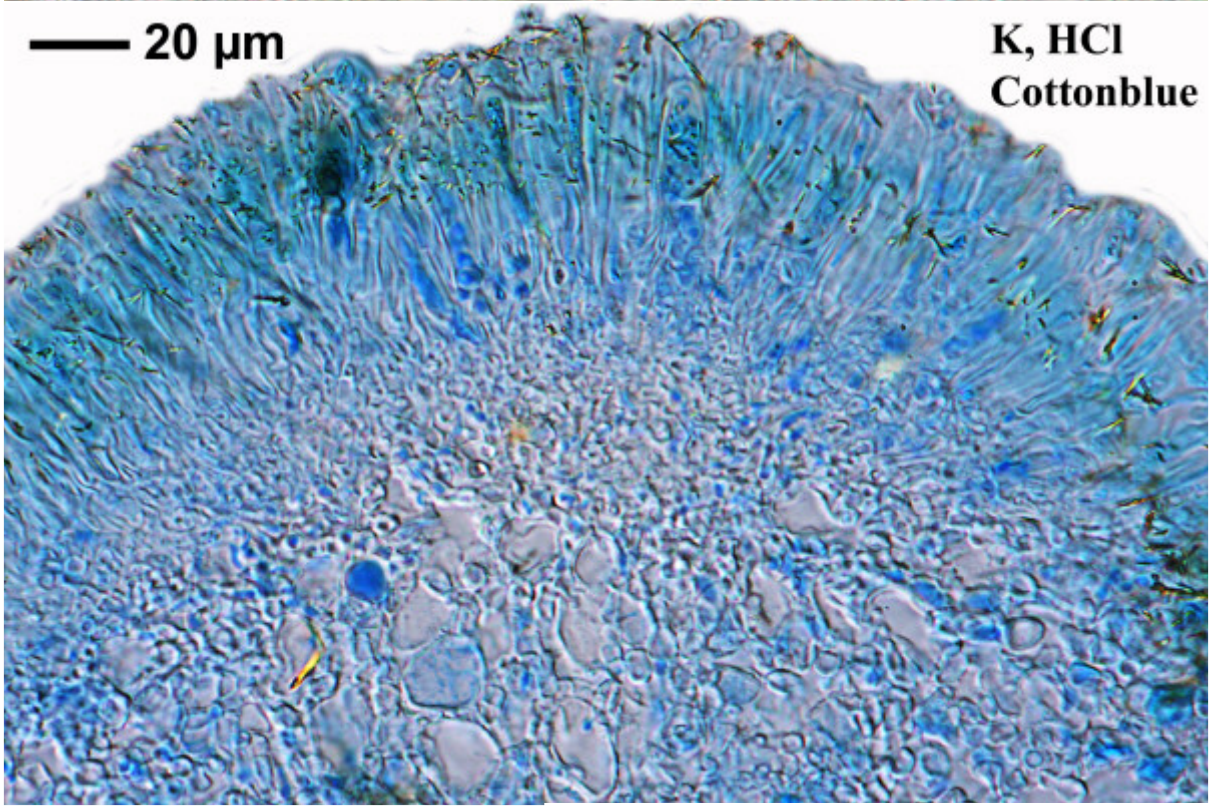
Apothecien klein, 0,2-0,3 mm, dunkelorange, Rand sehr dünn, farblich kaum abgesetzt. Thallus fehlend bis schwärzlich mit graugelblichen Stellen. Sporen hyalin, polar-2-zellig, 8/Ascus, 9-10 µm, Septum 3-4 µm.

[16570], Germany, Baden-Württemberg, Kreis Göppingen, Messelstein bei Donzdorf, an Betonpfosten, 48.69045° N, 9.83113° E, 750 m. Leg. et det. Schumm 25.07.2010,



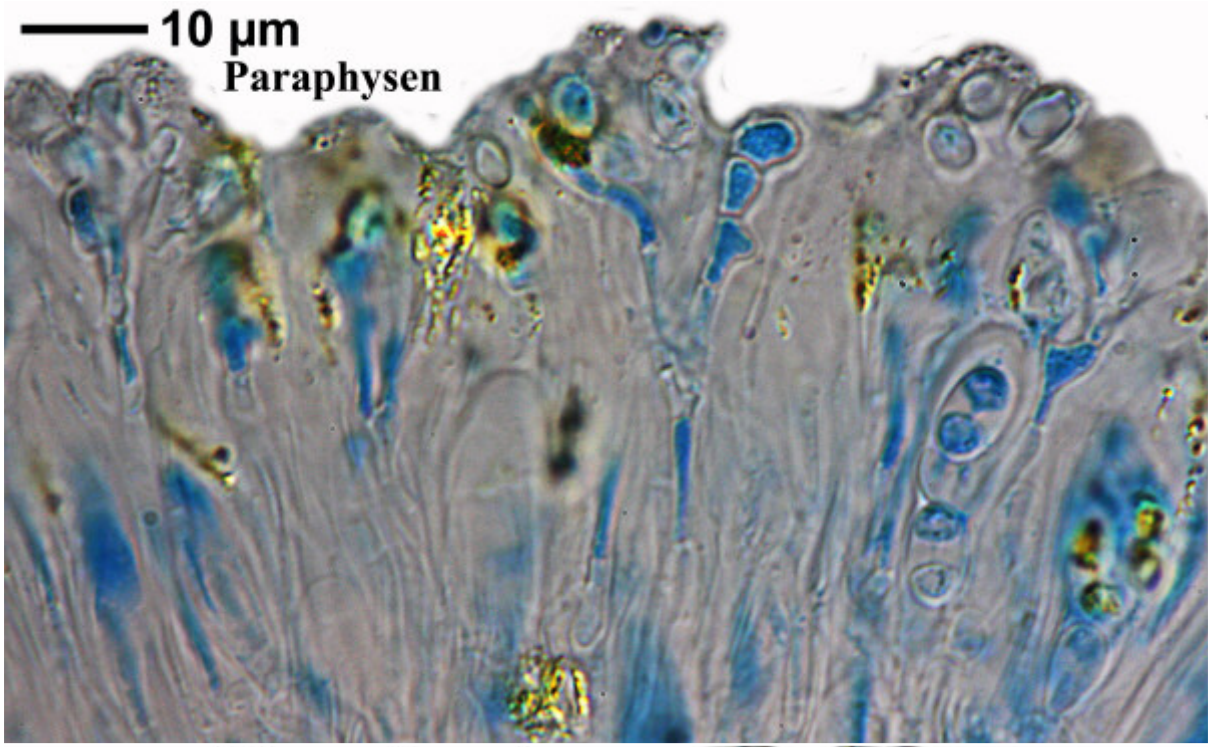


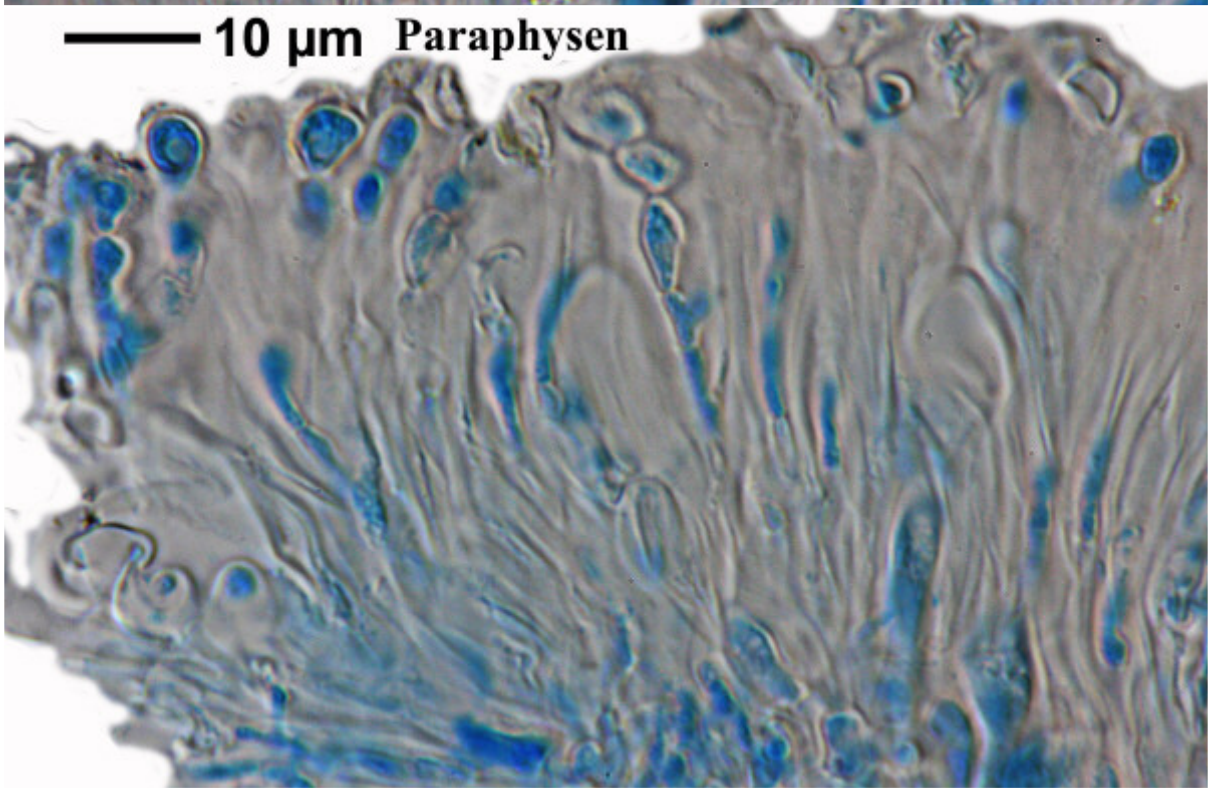






Caloplaca oasis





Caloplaca oasis

Caloplaca oasis (A. Massal.) Szatala
[= *Flavoplaca oasis* (A. Massal.) Arup, Frödén & Søchting]

[19542], Griechenland, N-Samos, südlich von Agios Konstandinos, an der Straße nach Manolates, sonnige Terrassenmauern, 37°342'N, 26°49.527'E, 318 m. Leg. F. Schumm & R. Düll, 05.05.2006, det. A. Aptroot 2016.



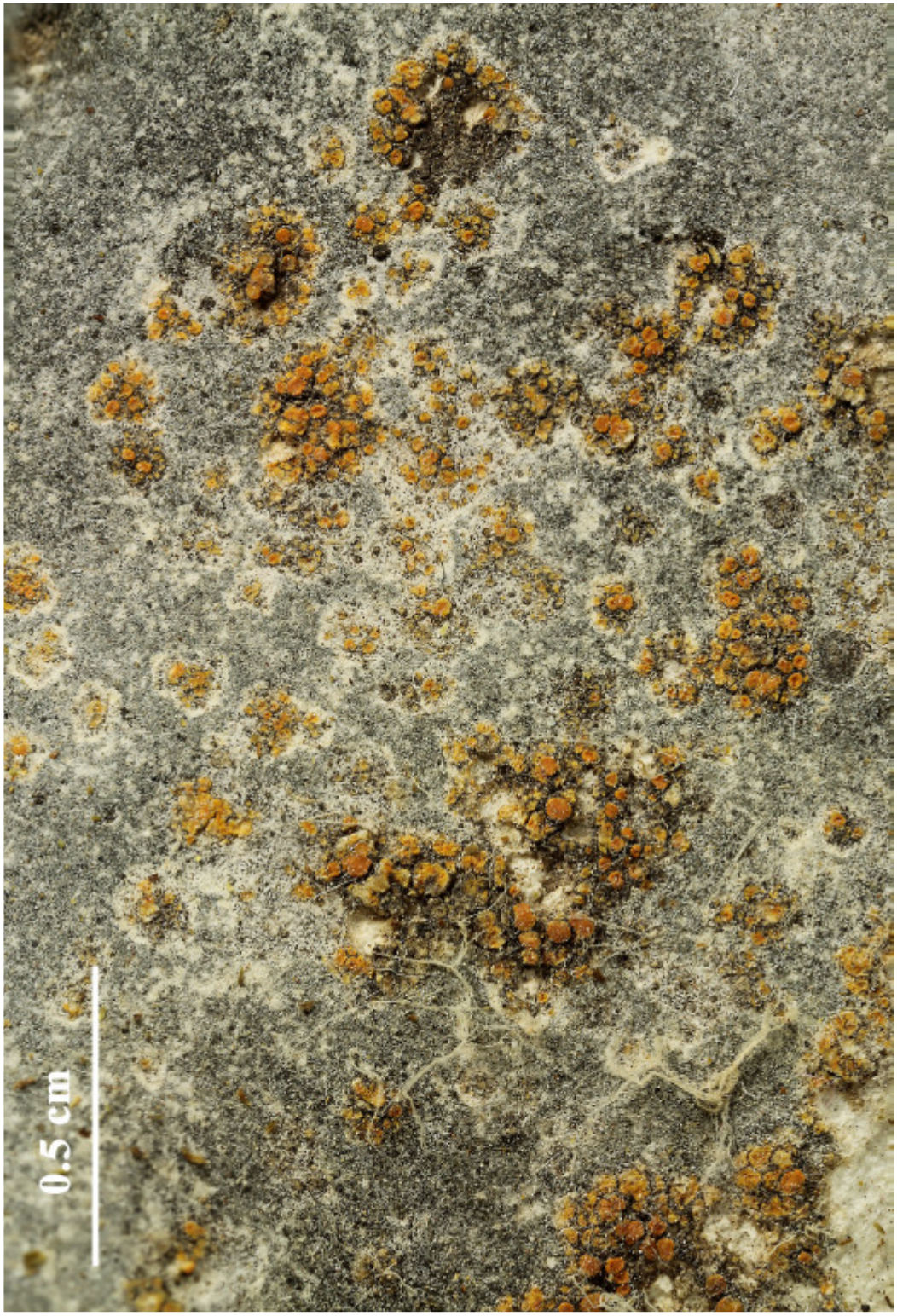


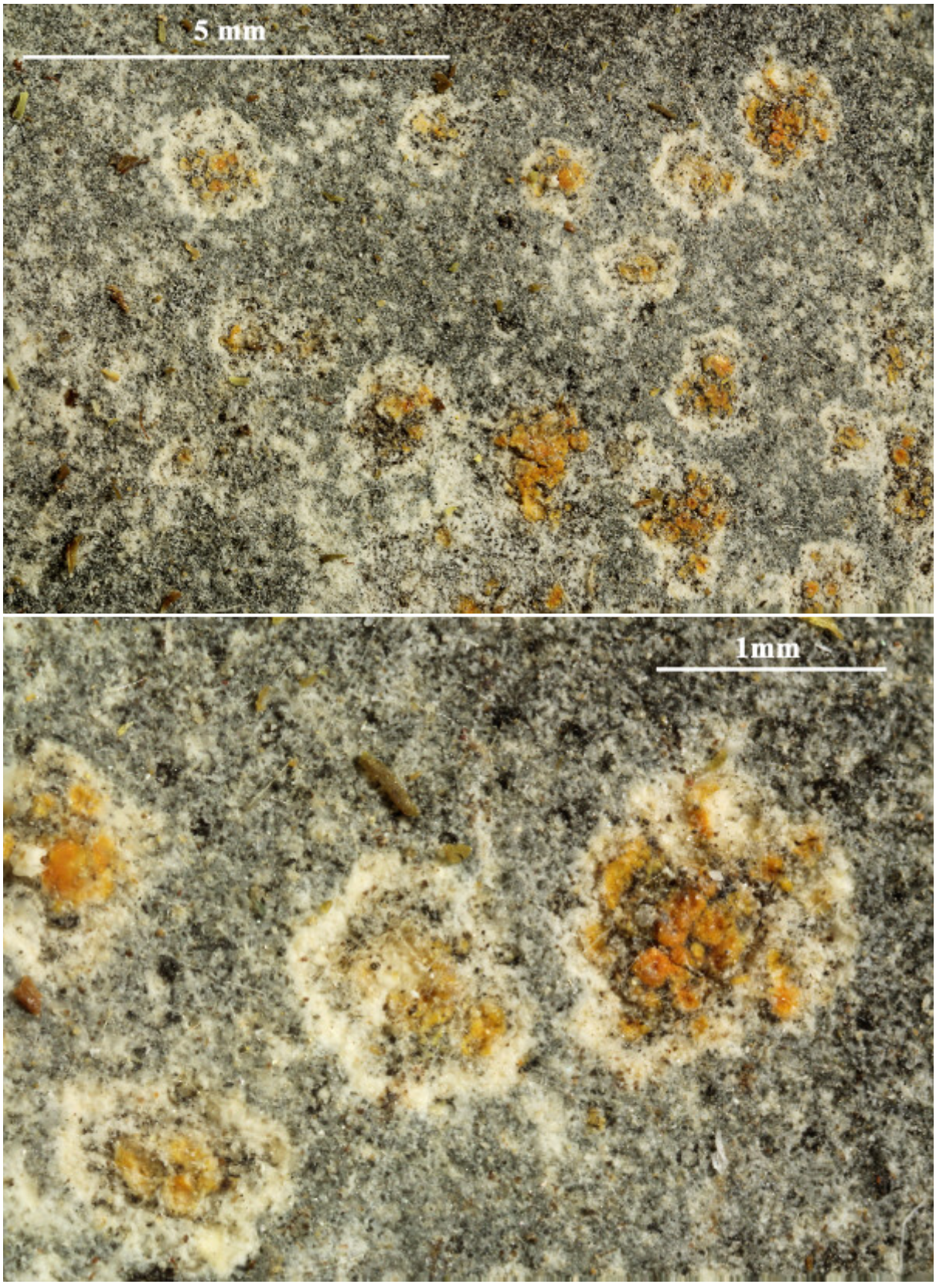
Caloplaca oasis

1859

Caloplaca oasis (A. Massal.) Szatala
[= *Flavoplaca oasis* (A. Massal.) Arup, Frödén & Søchting]
[= *Caloplaca aurantiaca* f. *oasis* (A. Massal.) Th.Fr., Lich. Scand. (Upsaliae) 1(1): 178 (1871)]
[= *Caloplaca velana* var. *oasis* (A. Massal.) Zahlbr., Cat. Lich. Univers. 7: 197 (1931)]

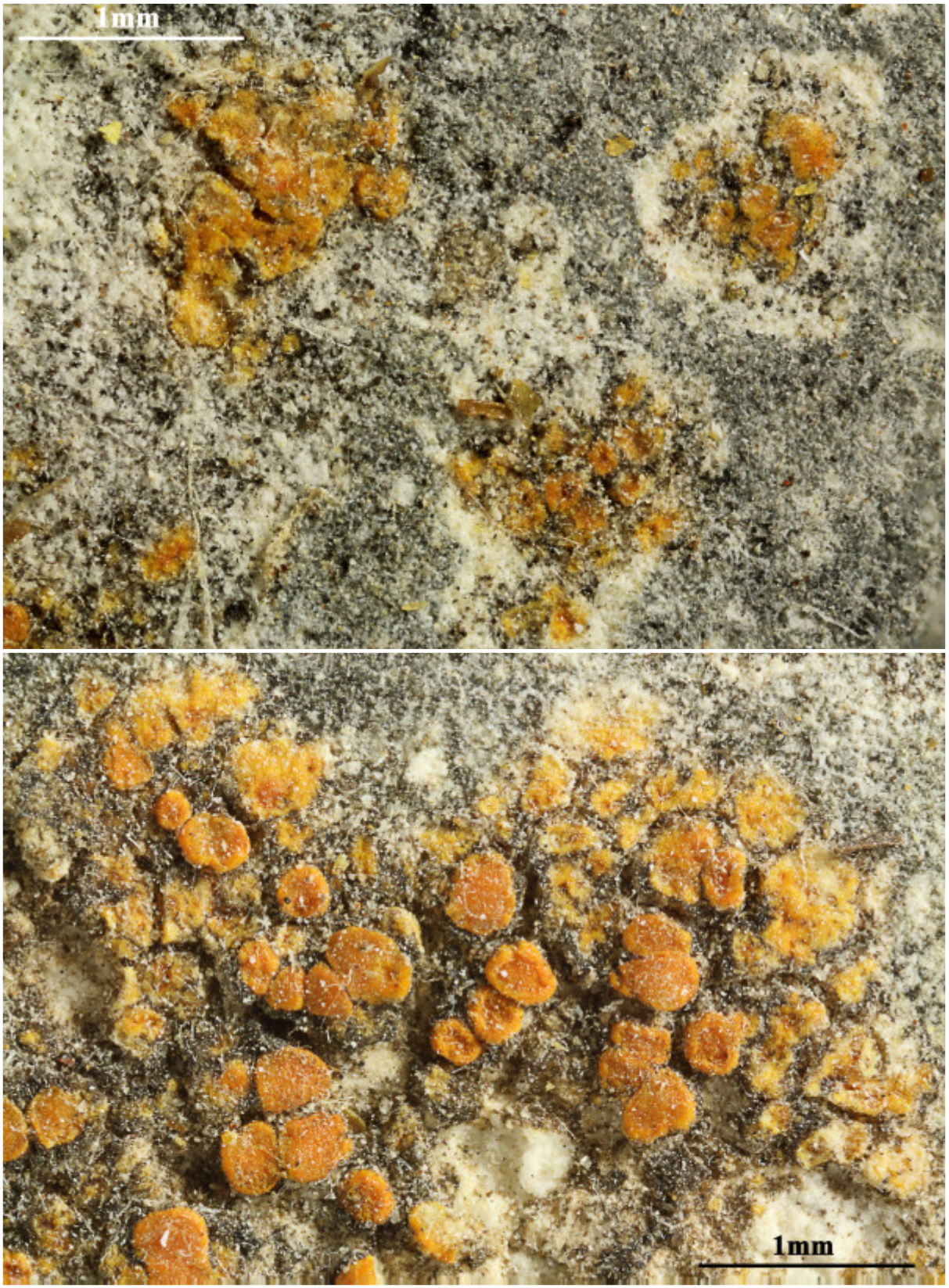
[TSB_11707], Italia, Sicilia, Prov. Palermo, Madonie Mnts., loc. Portella Mandarini above Grerace Siculo, c. 1400 m, on limestone, parasitic on *Bagliettoa sp*. Leg. P.L. Nimis & J. Poelt, 06.1988





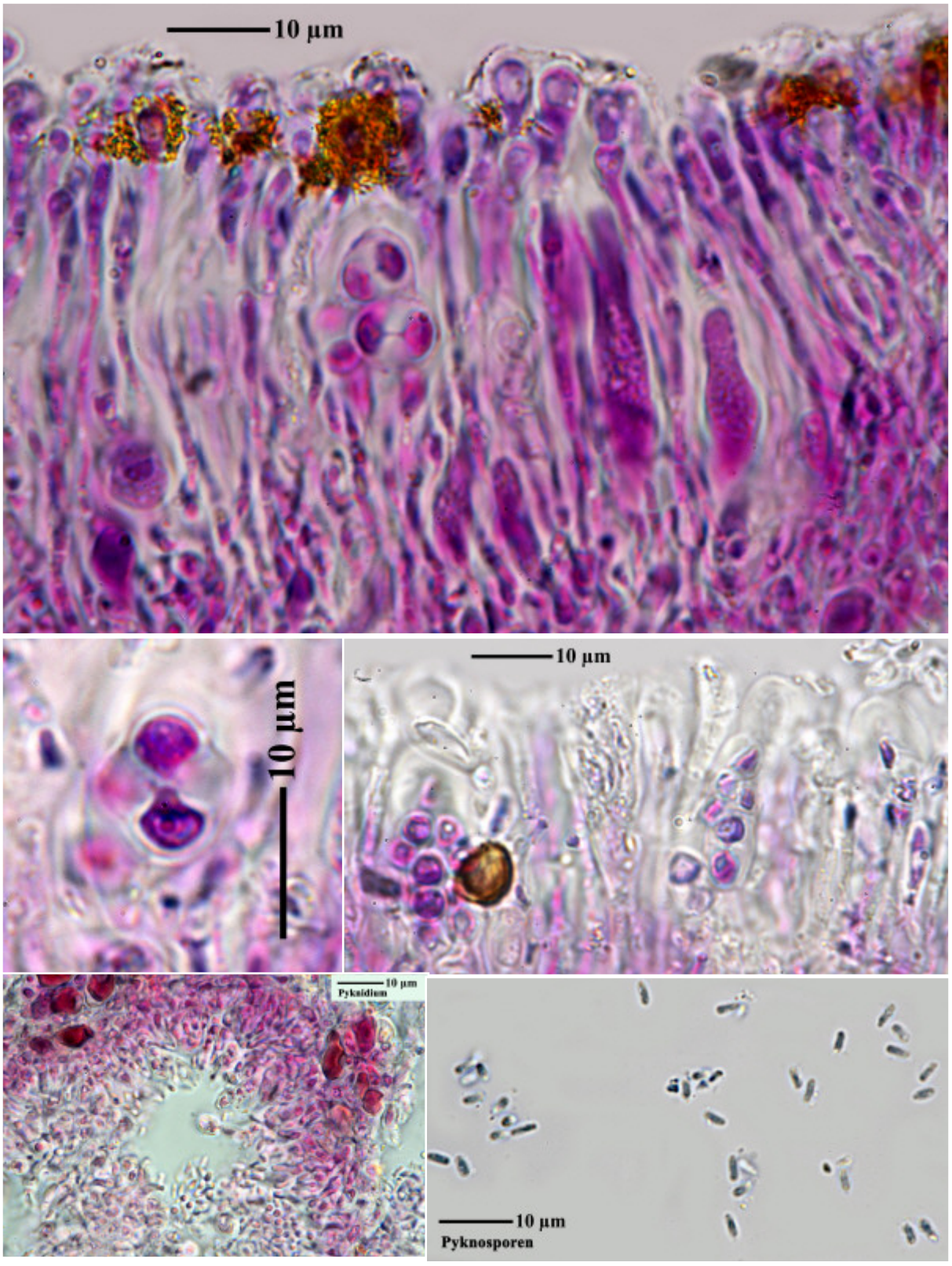
Caloplaca oasis

1861



Caloplaca oasis

1862



Caloplaca oasis

Caloplaca oasis (A. Massal.) Szatala, Magy. Bot. Lapok 31: 120 (1932)
[= *Flavoplaca oasis* (A. Massal.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 46 (2013)]
[= *Caloplaca aurantiaca* f. *oasis* (A. Massal.) Th.Fr., Lich. Scand. (Upsaliae) 1(1): 178 (1871)]
[= *Caloplaca velana* var. *oasis* (A. Massal.) Zahlbr., Cat. Lich. Univers. 7: 197 (1931)]

Spores 9-10.5 x 6-7.8 µm, septum 3.6-5 µm.

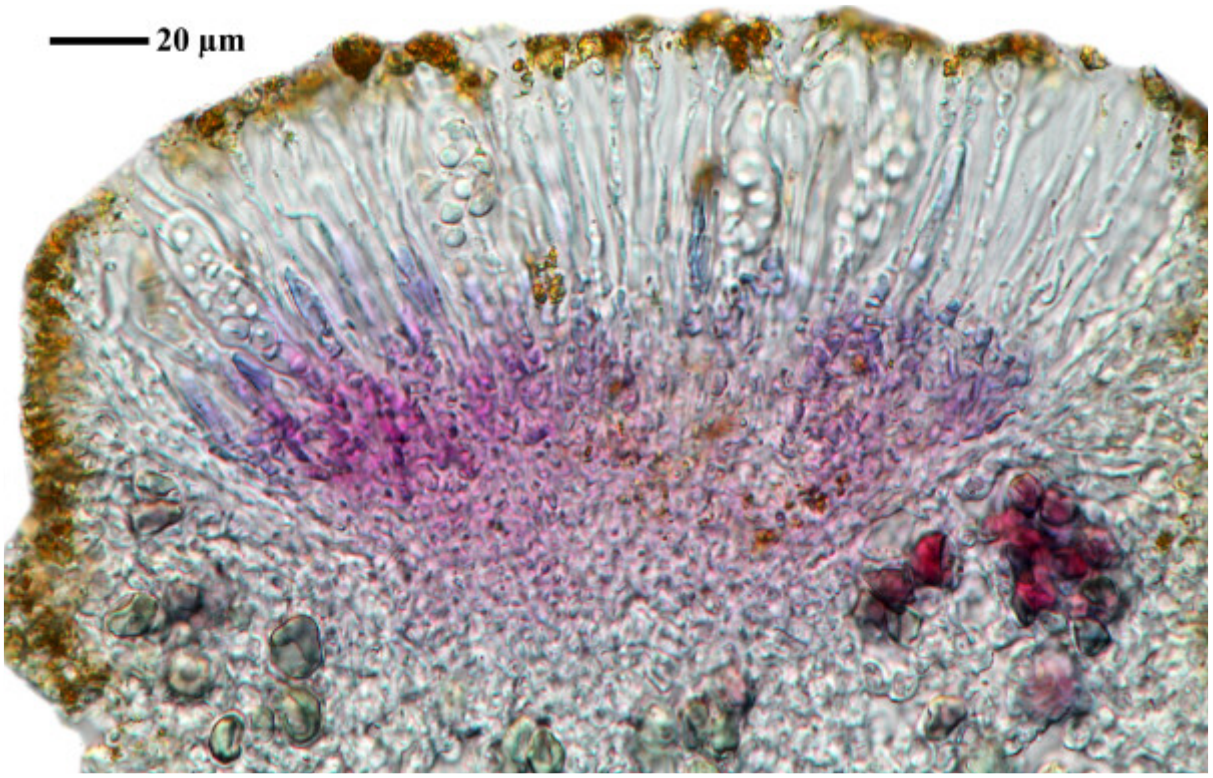
[TSB_16669], Italia, Friuli Venezia Giulia, Prov. Trieste, Gropada, near Abisso Plutone, on limestone in a doline, parasitic on *Baglietoa sp*. Leg. M. Tretiach, 25.12-1992.

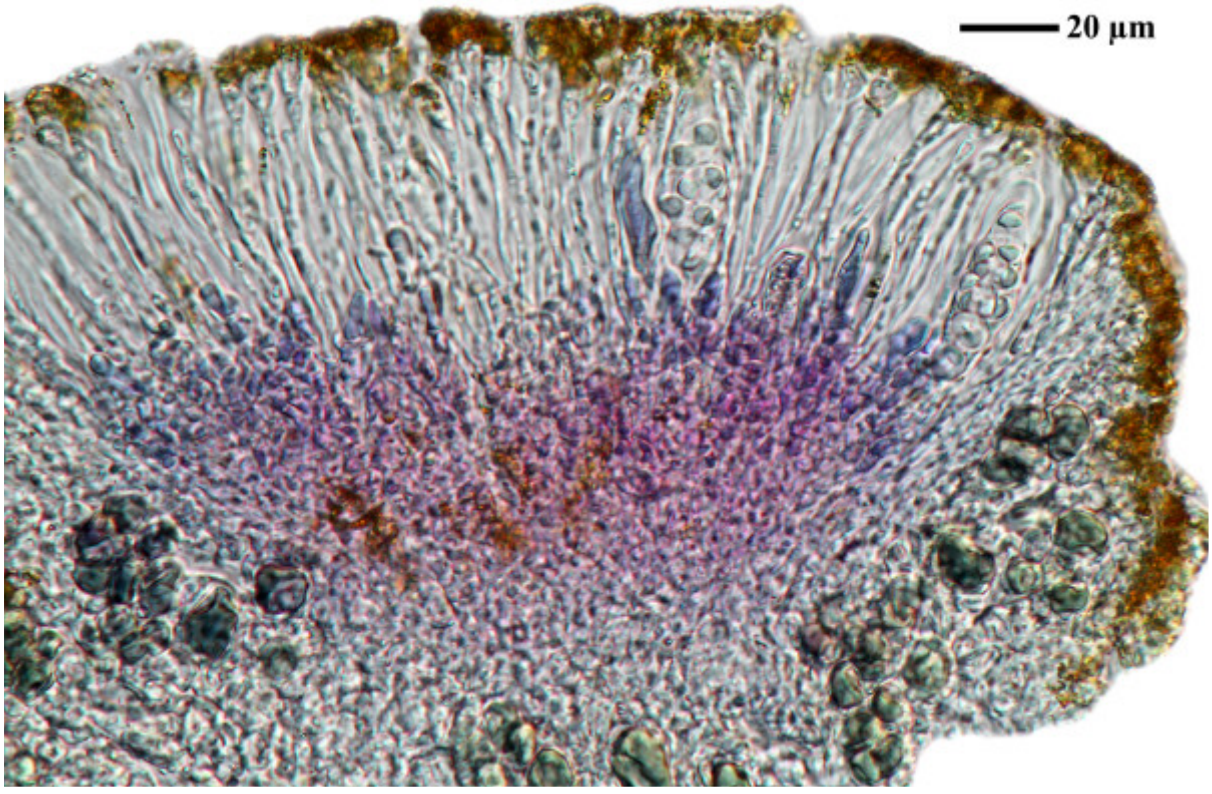




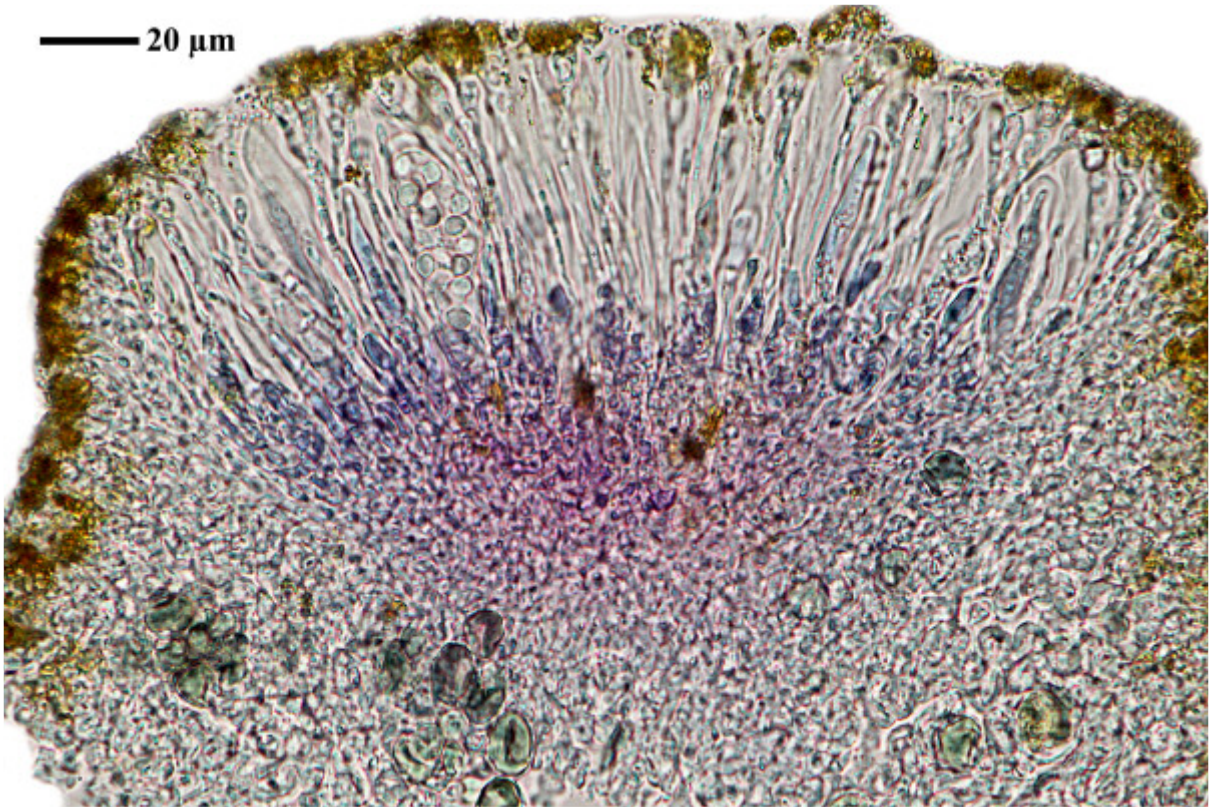
Caloplaca oasis

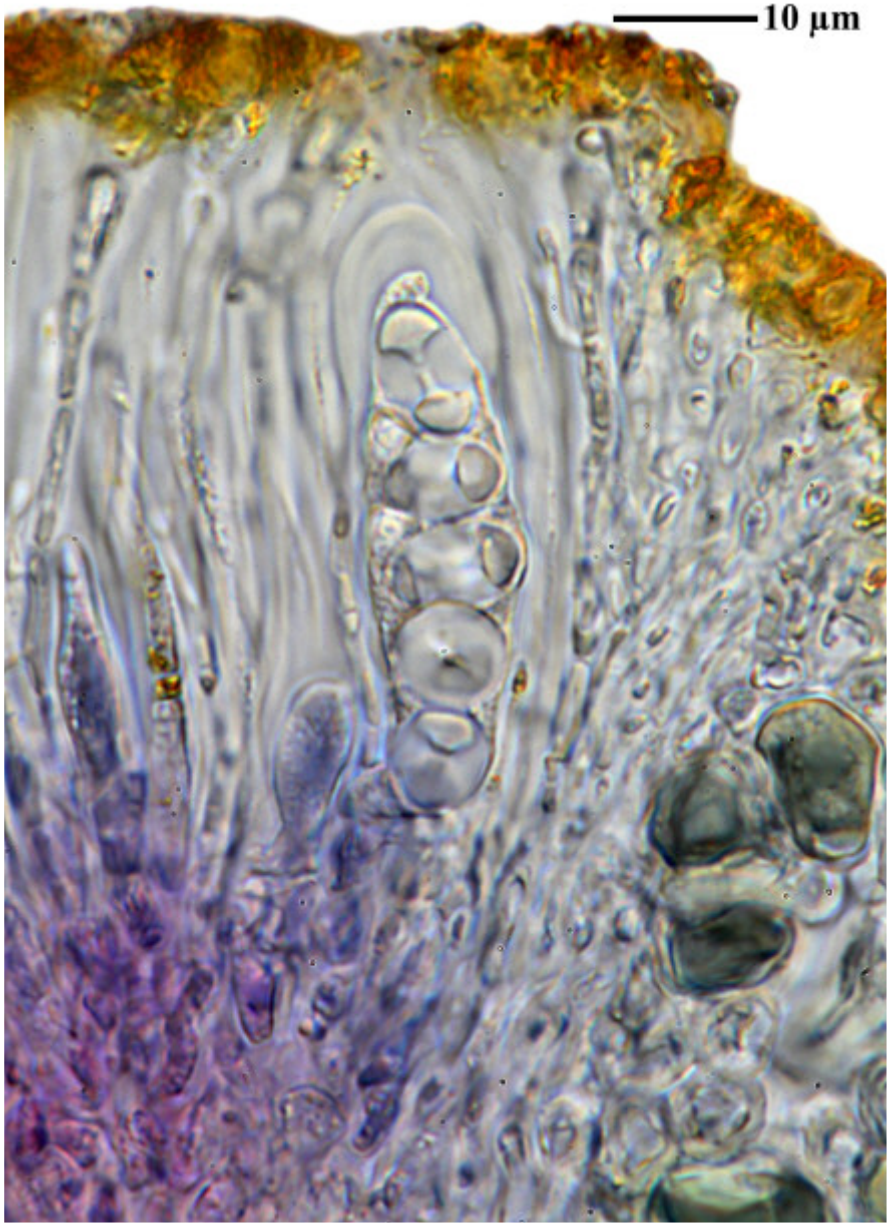
1865





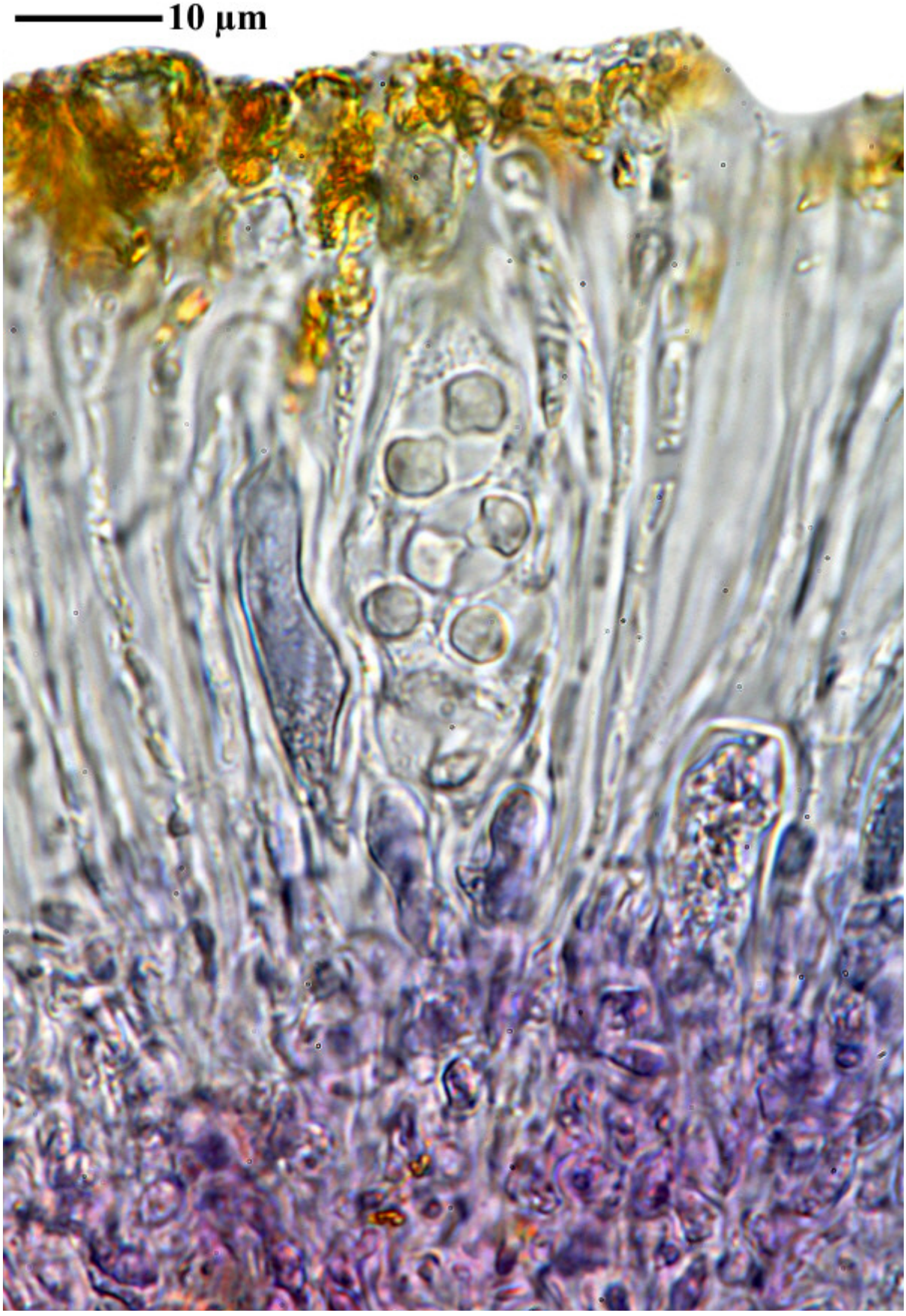
Caloplaca oasis





Caloplaca oasis

1867

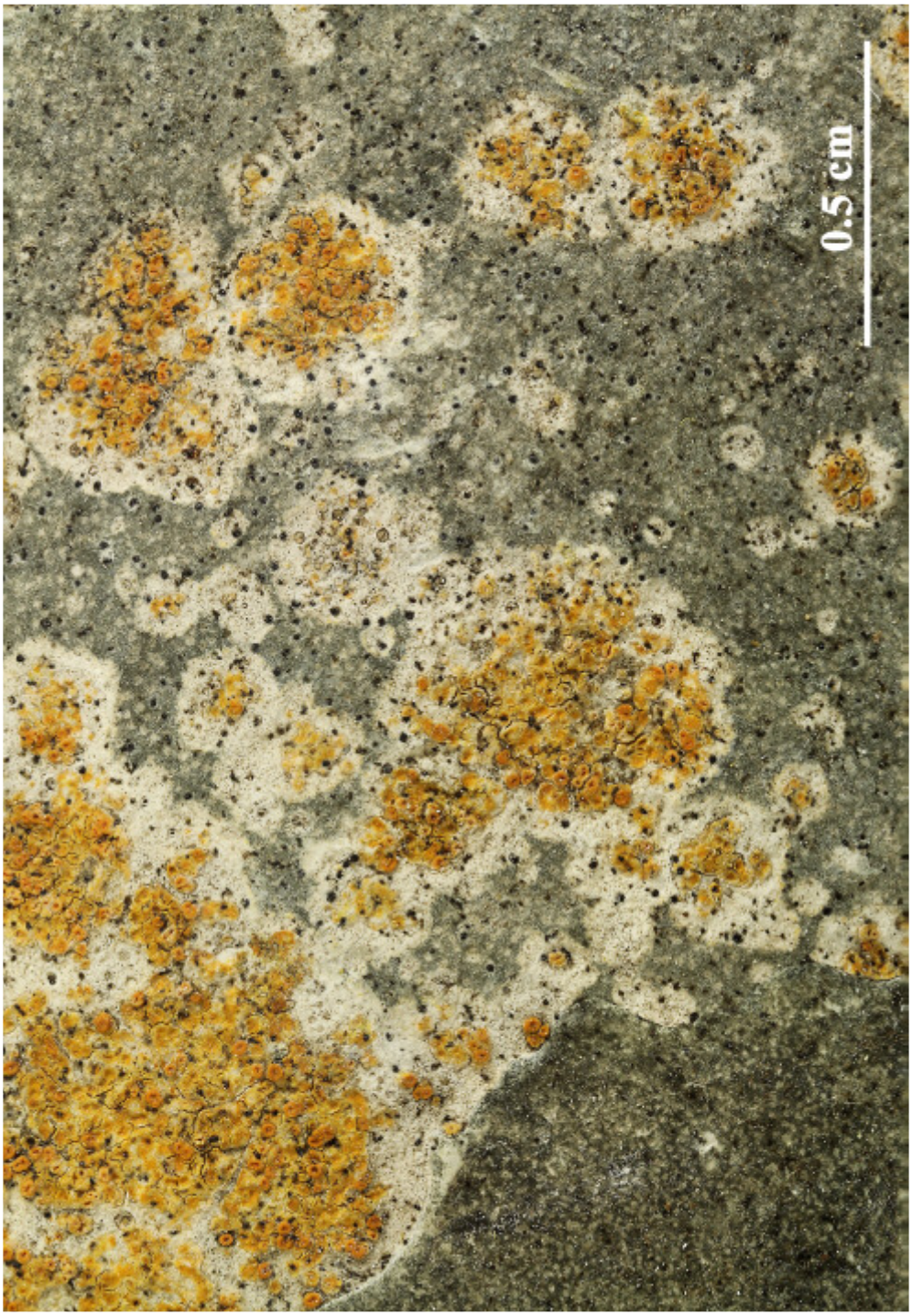


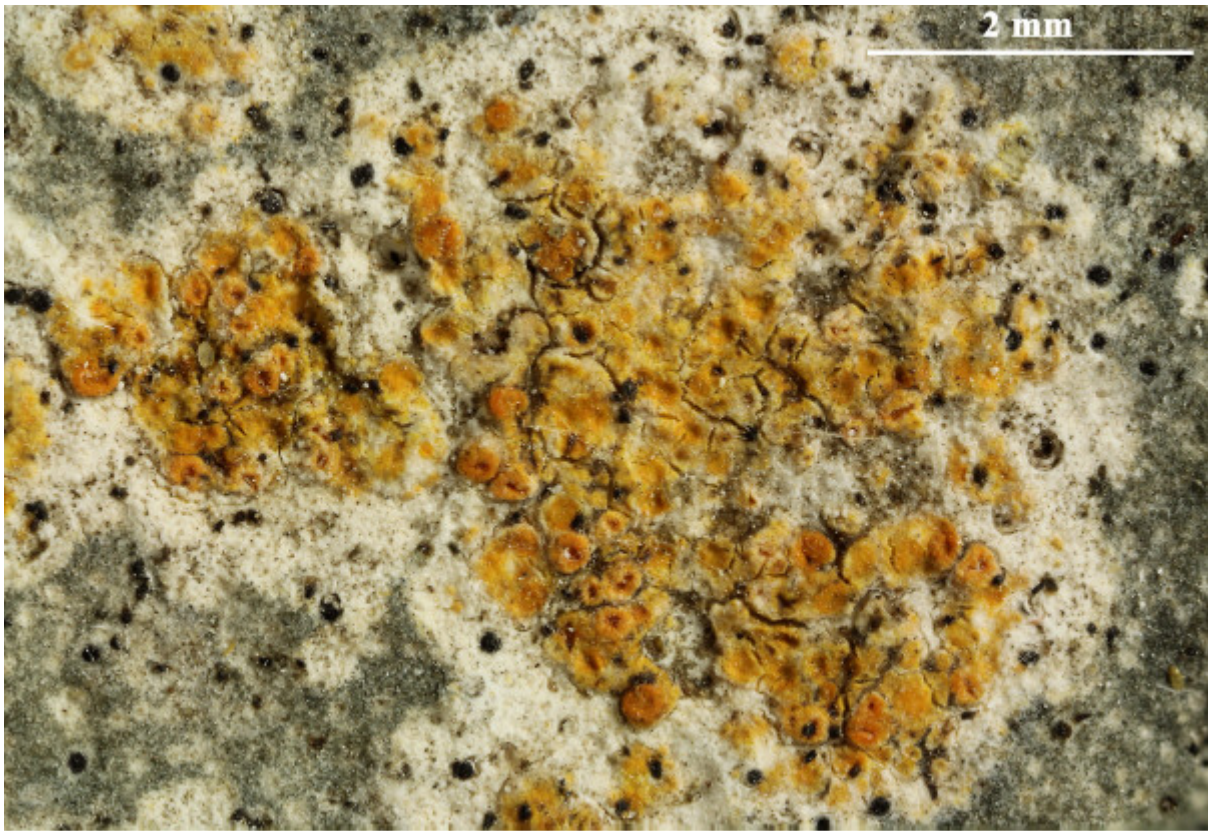
Caloplaca oasis

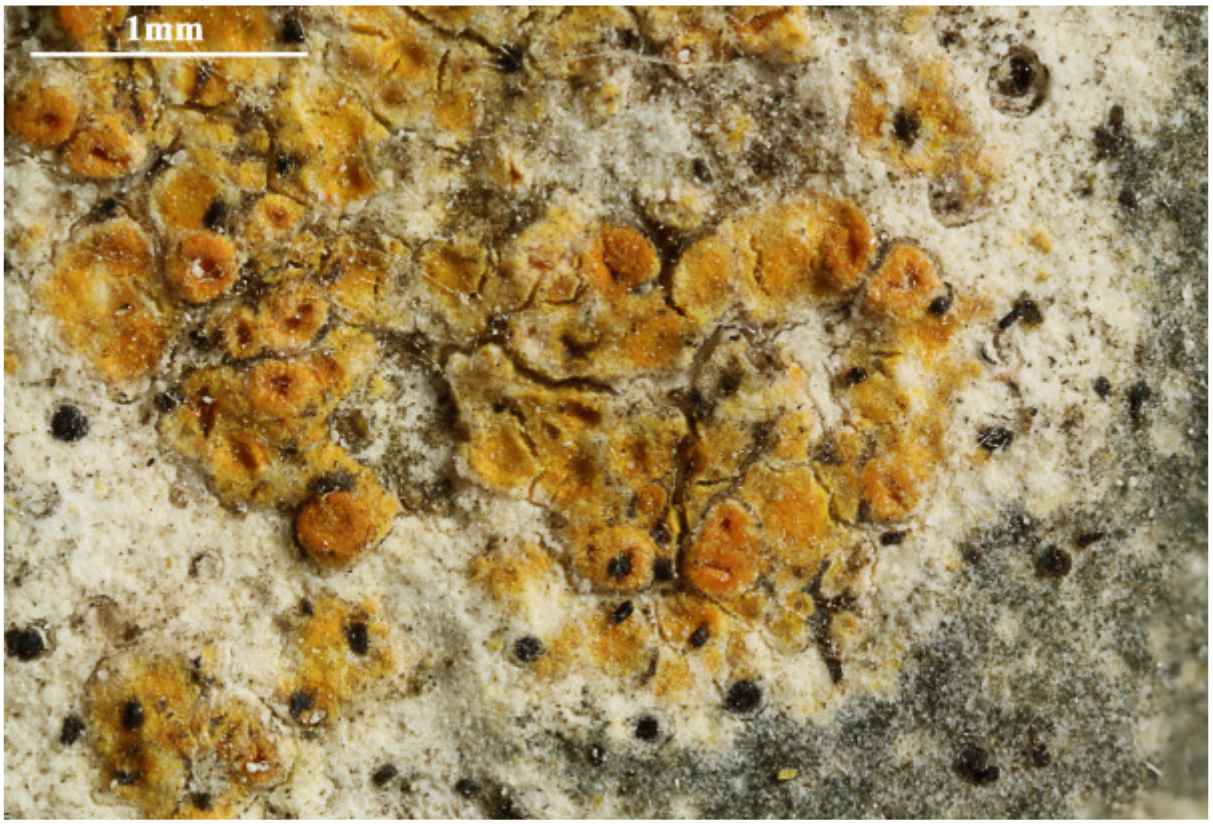
1868

Caloplaca oasis (A. Massal.) Szatala, Magy. Bot. Lapok 31: 120 (1932)
[= *Flavoplaca oasis* (A. Massal.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 46 (2013)]
[= *Caloplaca aurantiaca* f. *oasis* (A. Massal.) Th.Fr., Lich. Scand. (Upsaliae) 1(1): 178 (1871)]
[= *Caloplaca velana* var. *oasis* (A. Massal.) Zahlbr., Cat. Lich. Univers. 7: 197 (1931)]

[TSB_21965], Italia, Basilicata, Prov. Potenza, Viggiano, Acqua dei Pastori below Santuario di Madonna di Viggiano, 1370 m, on limestone, parasitic on *Bagliettoa sp*. Leg. P.L. Nimis & M.Tretiach, 11.04.1995.







Caloplaca oasis



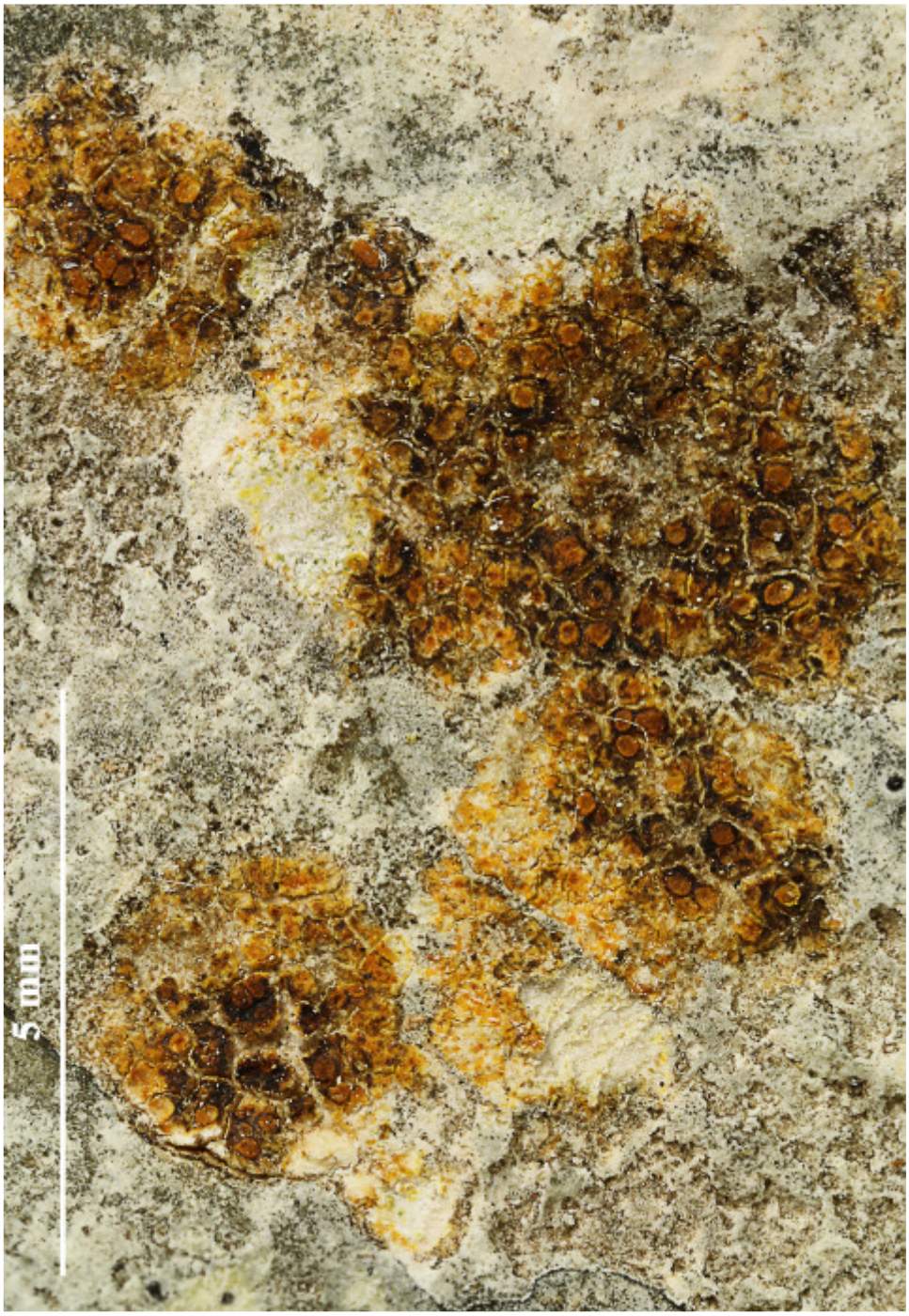
Caloplaca oasis

1871

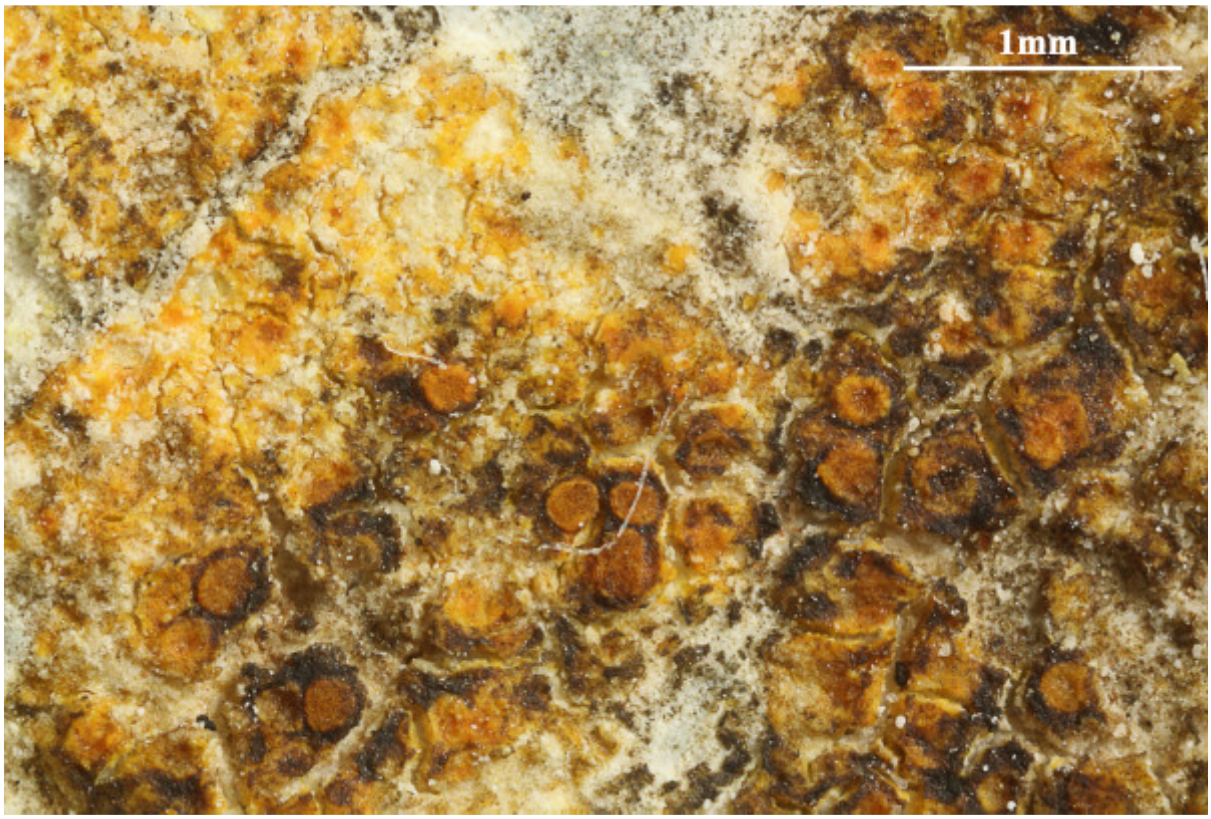
Caloplaca oasis (A. Massal.) Szatala, Magy. Bot. Lapok 31: 120 (1932)
[= *Flavoplaca oasis* (A. Massal.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 46 (2013)]
[= *Caloplaca aurantiaca* f. *oasis* (A. Massal.) Th.Fr., Lich. Scand. (Upsaliae) 1(1): 178 (1871)]
[= *Caloplaca velana* var. *oasis* (A. Massal.) Zahlbr., Cat. Lich. Univers. 7: 197 (1931)]

Spores 8-9 x 4.5-6.5 µm, septum 3.1-5 µm.

[TSB_32392], Italia, Lazio, Prov. Latina, Aurunci Mountains at Monte Sant'Angelo near Gaeta, road to the top, c. 1200 m, on limestone, parasitic on *Bagliettoa sp*. Leg. P.L. Nimis & M. Tretiach, 05.04.2000

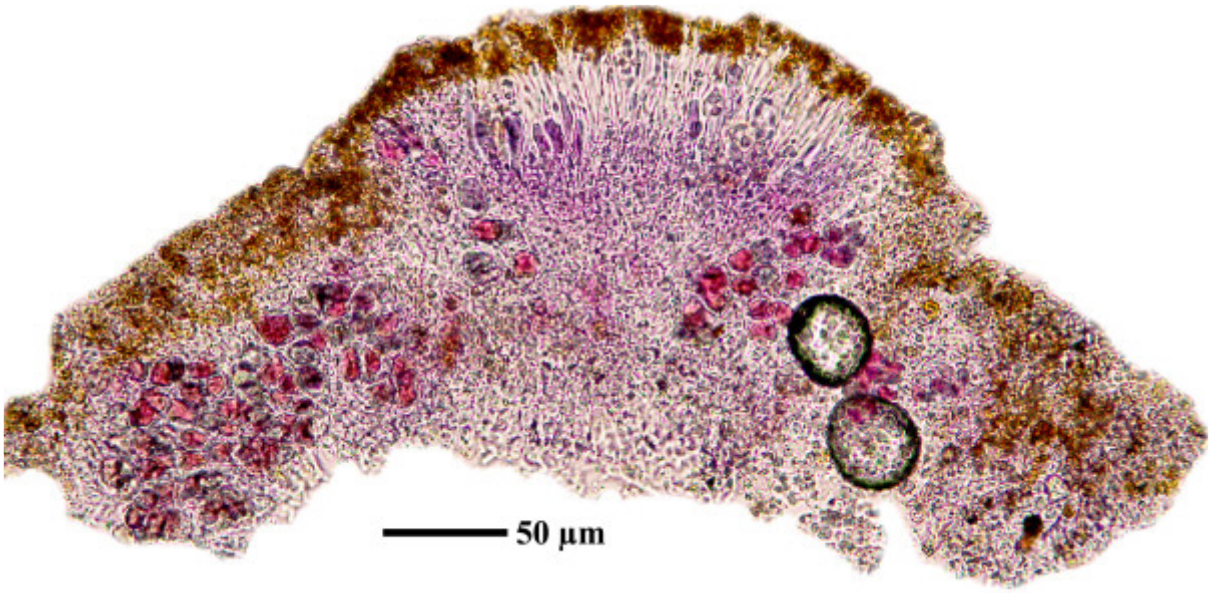




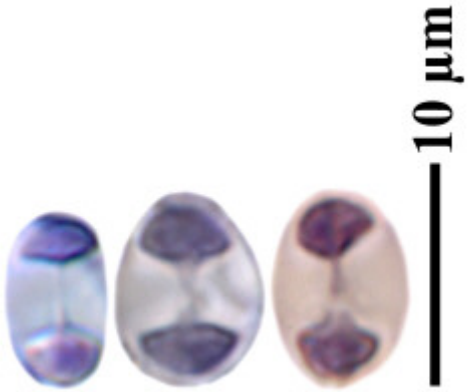


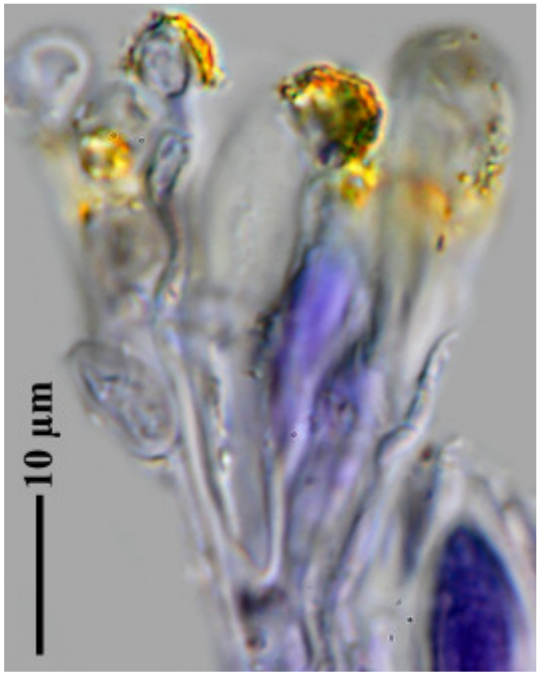
Caloplaca oasis

1873

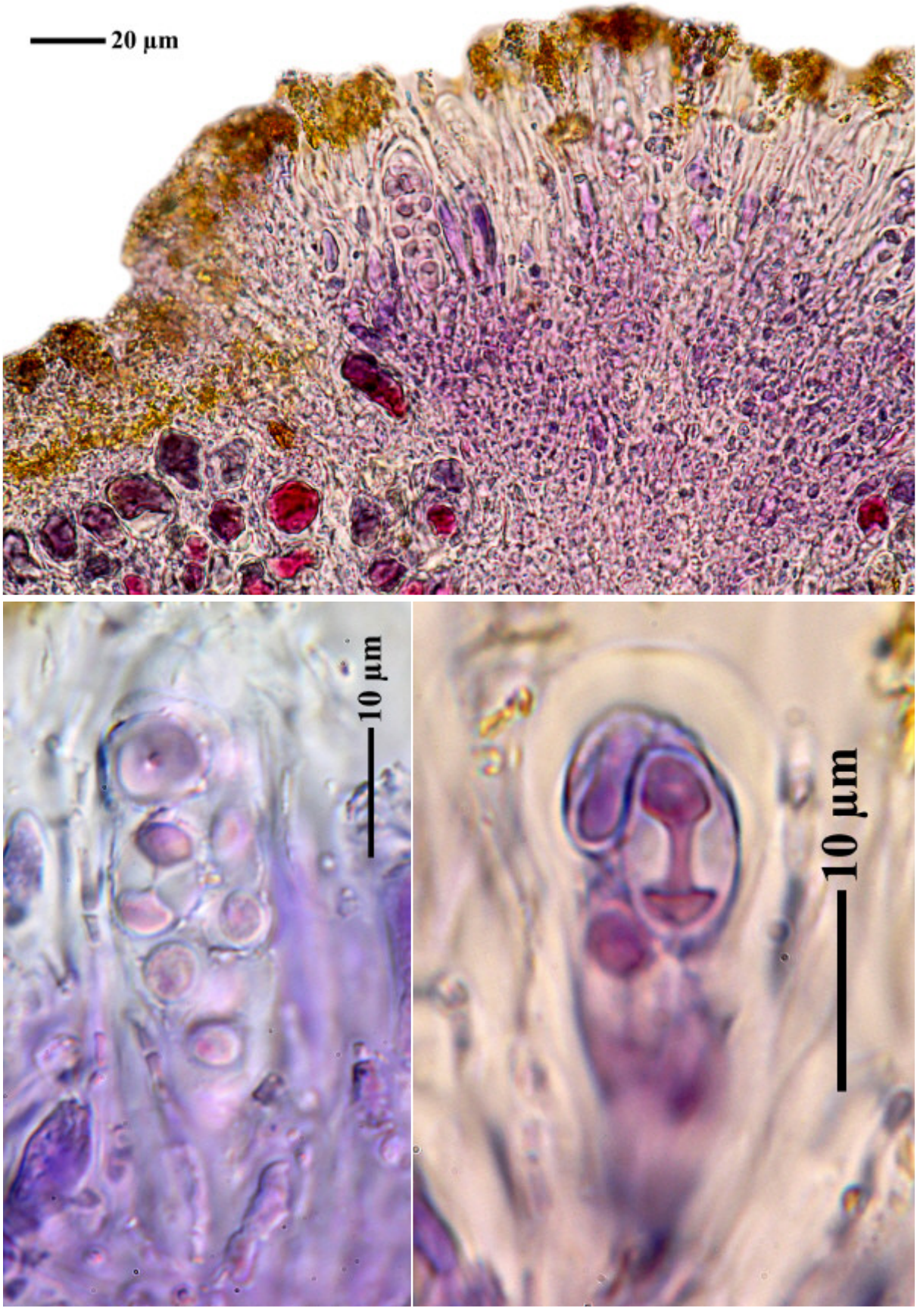








Caloplaca oasis



Caloplaca oasis

Caloplaca obliterans cfr. (Nyl.) Blomb. & Forssell
[= *Leproplaca obliterans* cfr. (Nyl.) Arup, Frödén & Søchting]

[BR5030038258406]. Somalia, Buur Hakaba, insel mountain N of road, 2°47' N, 44°05' E, on granite. Leg. Vagn Alstrup (74-S), 18. June 1987, det. A. Aptroot.





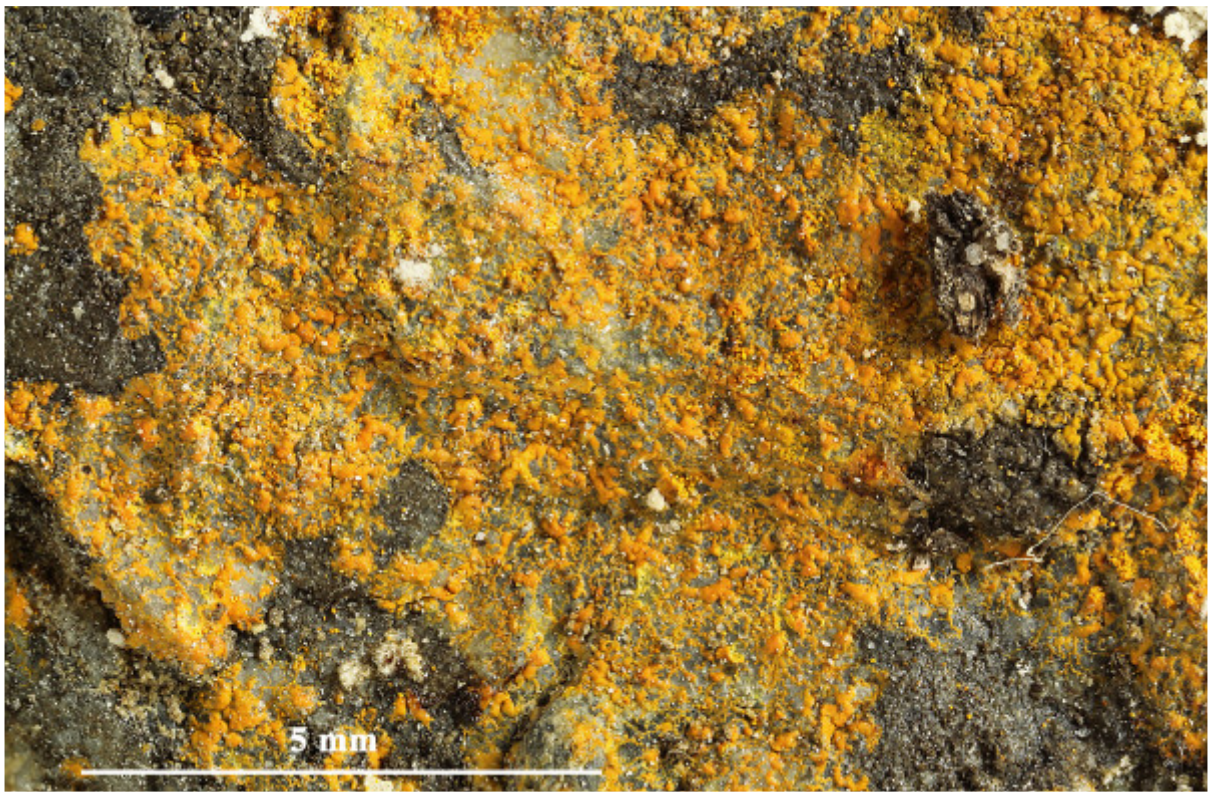


Caloplaca obliterans cfr.

1877

Caloplaca obliterans cfr. (Nyl.) Blomb. & Forssell
[= *Leproplaca obliterans* cfr. (Nyl.) Arup, Frödén & Søchting]

[BR5030038260423], Switzerland, Valais, Val d'Hérens S of Sion, 1700 m, on rock. Leg. H. F. van Dobben & W. O. van der Knaap, 28.07.1990, det. A. Aptroot 1990.









Caloplaca obliterans cfr.

Caloplaca obscurella (J. Lahm) Th.Fr.

Thallus anfänglich dünn, zusammenhängend, blass bis dunkelgrau, nass lebhaft grün, glatt bis schwach rundlich areoliert, mit zerstreuten bis zusammenhängenden, winzigen, abgerundeten, zerfressenen, 0,1-0,4 mm großen Soralen. die uneben schorfig, weiß bis blass gelbgrün oder bläulichgrau, konkav bis flach, werden und durch aufreißen von konvexen, pickelförmigen Behältern entstehen, teils „kraterförmig“. Chemie: Thallus und Sorale K-, C-, KC-, P-, UV-.

[14946], Germany, Baden-Württemberg, Kreis Göppingen, Faurndau, Friedhof, 314 m, TK 7223.



Caloplaca obscurella (J. Lahm) Th.Fr.

Thallus anfänglich dünn, zusammenhängend, blass bis dunkelgrau, nass lebhaft grün, glatt bis schwach areoliert, mit zerstreuten bis zusammenhängenden, winzigen, abgerundeten, zerfressenen, 0,1-0,4 mm großen Soralen. die uneben schorfig, weiß bis blass gelbgrün oder bläulichgrau, konkav bis flach, werden und durch aufreißen von konvexen, pickelförmigen Behältern entstehen. Prothallus ± vorhanden, grau bis bläulich schwarz. Apothecien selten, braun, bis 0,8 mm, unauffällig, zerstreut, flach bis etwas gewölbt; Thallus- und Eigenrand erst deutlich, dann schnell zurückgedrängt, schmutzig bis dunkelbraun, naß durchscheinend. Epithecium blass graubraun, K- (!). Sporen 10-13 x 6-8µm, Septum 4-8 µm. Chemie: Th. und Ap. K- (!)

[14947], Germany, Baden-Württemberg, Kreis Göppingen, Faurndau, Friedhof, 314 m, TK 7223; det Aptroot

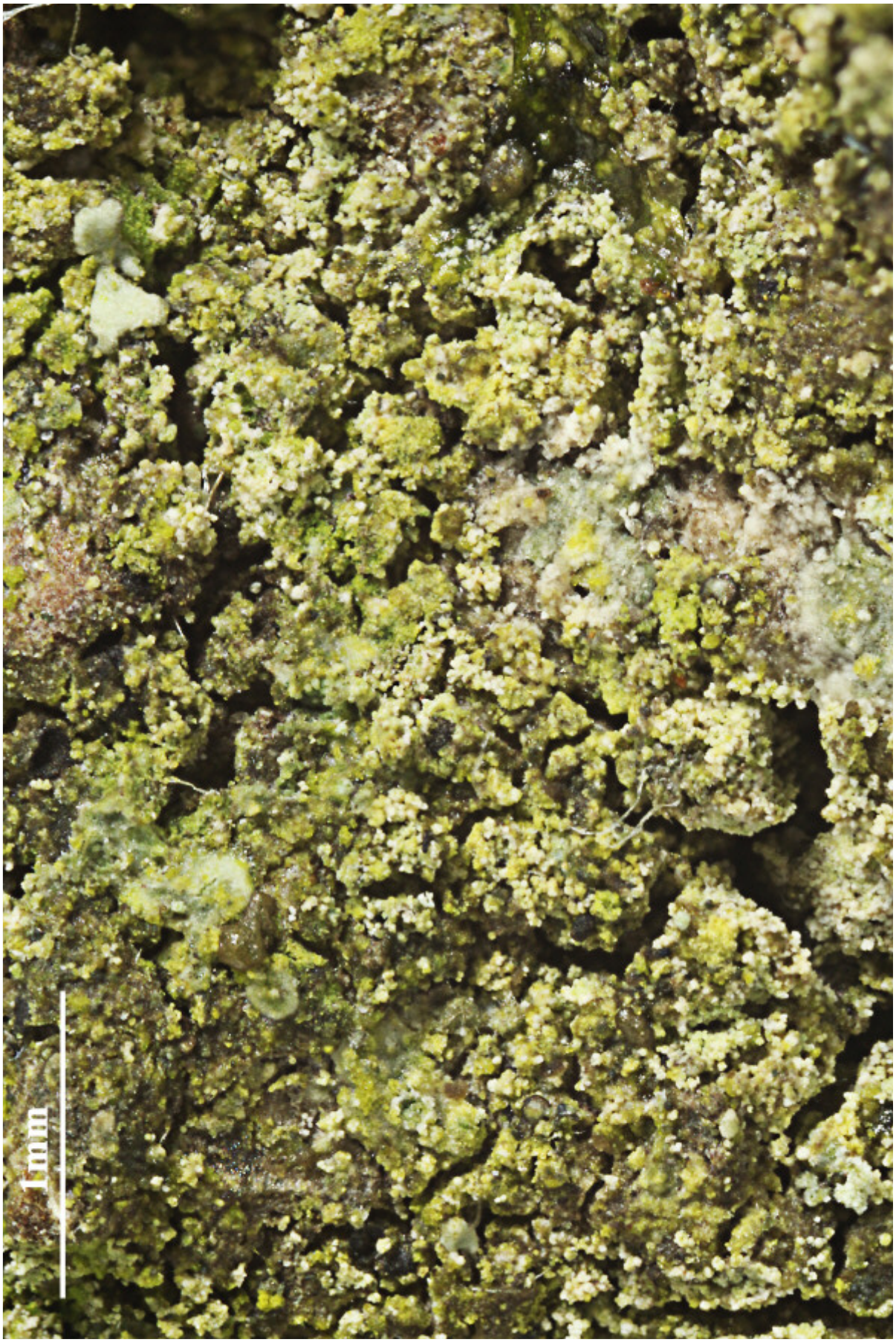


Caloplaca obscurella (J. Lahm) Th.Fr.

On bark.

[ABL 75242], Schweden, Öland, Ottenby lund naturreservat, UTM 587-6231, UTM 587-6230, in deciduous fores on Salix. Leg. A. Aptroot 18.06.2016, det. A. Aptroot 2016.





Caloplaca obscurella

1883

Caloplaca occidentalis Elix, S.Y. Kondr. & Kärnefelt

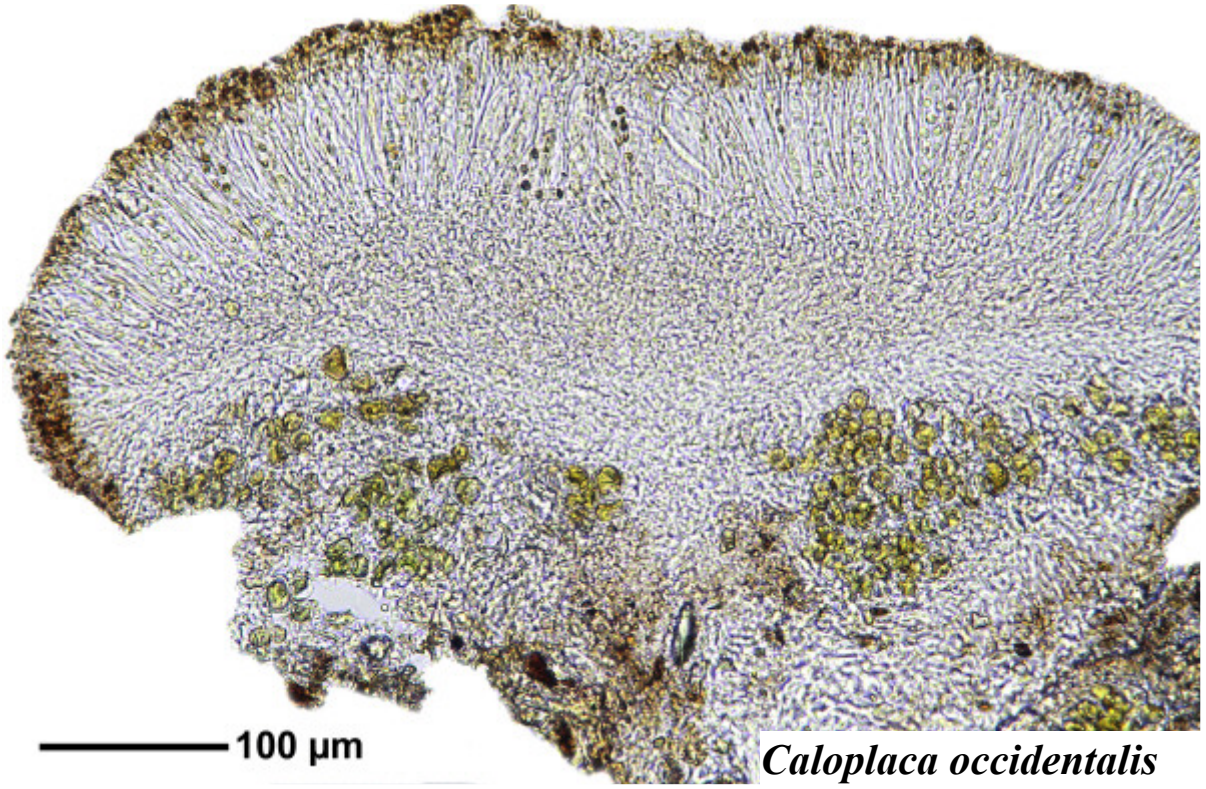
Thallus of very small dark greenish, brown or dark brownish-green areoles immersed into bark. Apothecia 0.3-0.7 mm diam, biatorine, thalline margin brownish, disc dull orange or brownish-orange. Ascus of Teloschistes-type. Ascospores bipolar, 11-13(-15) x 4.5-6 µm, septum 3-5(-6) µm wide. Chemistry: parietin (major), parietinic acid (minor), emodin (minor), ascomatic acid, (trace), methyl ascomate (trace), 7-*O*-methylascomatic acid (trace), russulone absent?. Lit.: Kondratyuk, Kärnefelt, Elix & Thell, Bibliotheca Lichenol. 100: 264 (2009).

[KK30781], Australia, Western Australia, near Yalgoo, between Geraldton and Mt. Magnet, on bark, 150 m, 28°24' S, 116°11' E. Leg. K. & A. Kalb, 30.07.1995, det. S. Kondratyuk, 2008.

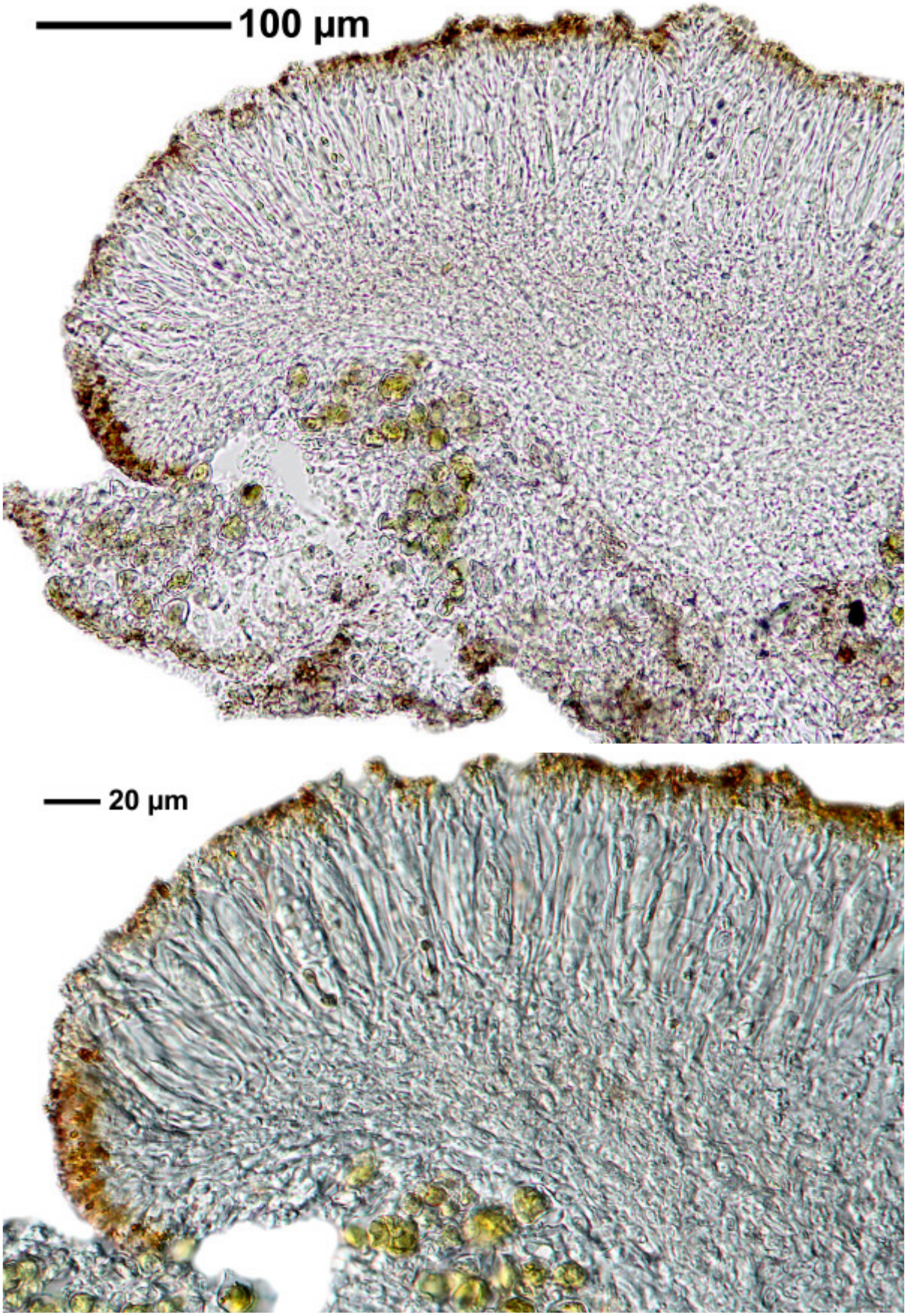






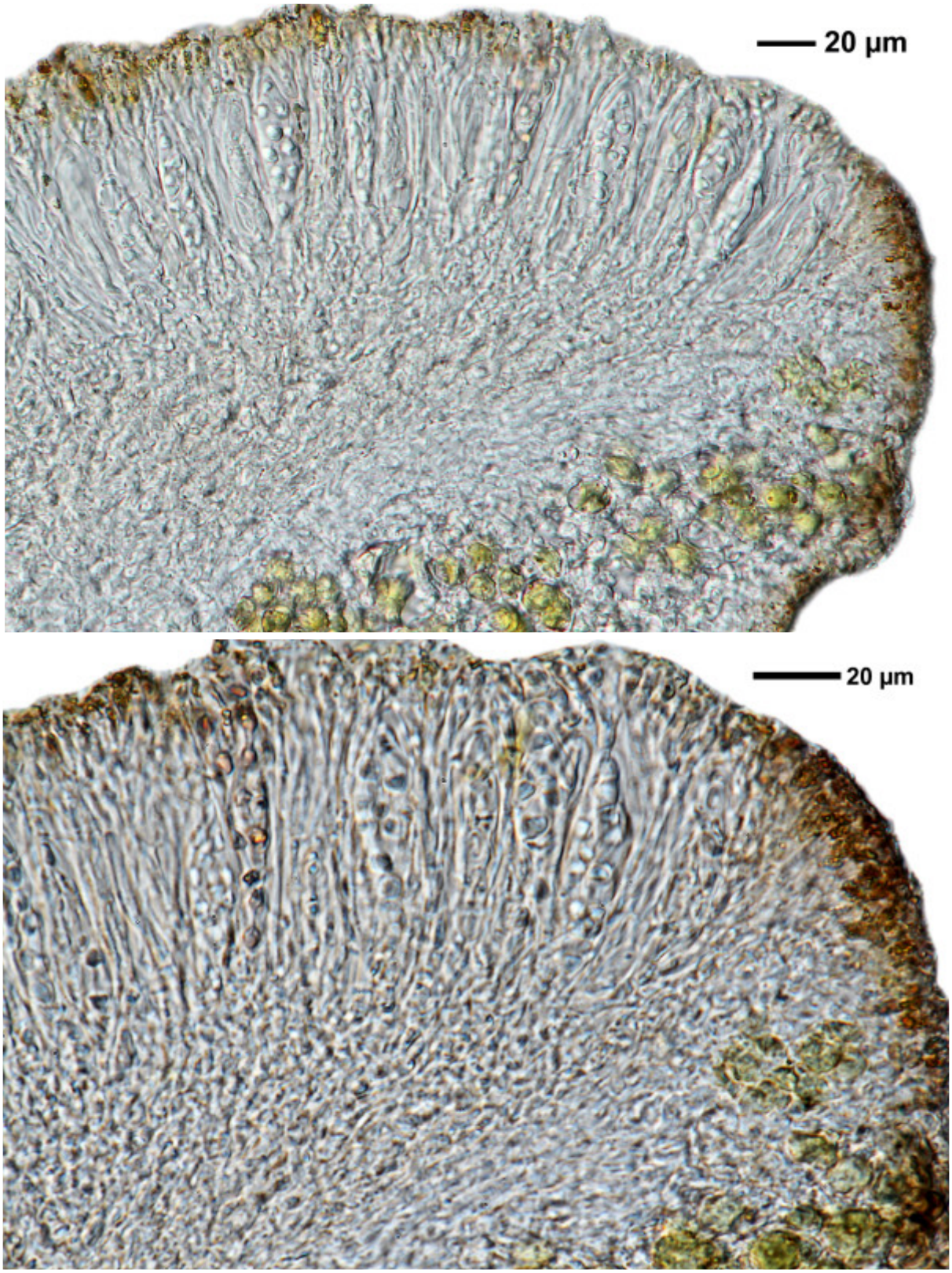


Caloplaca occidentalis



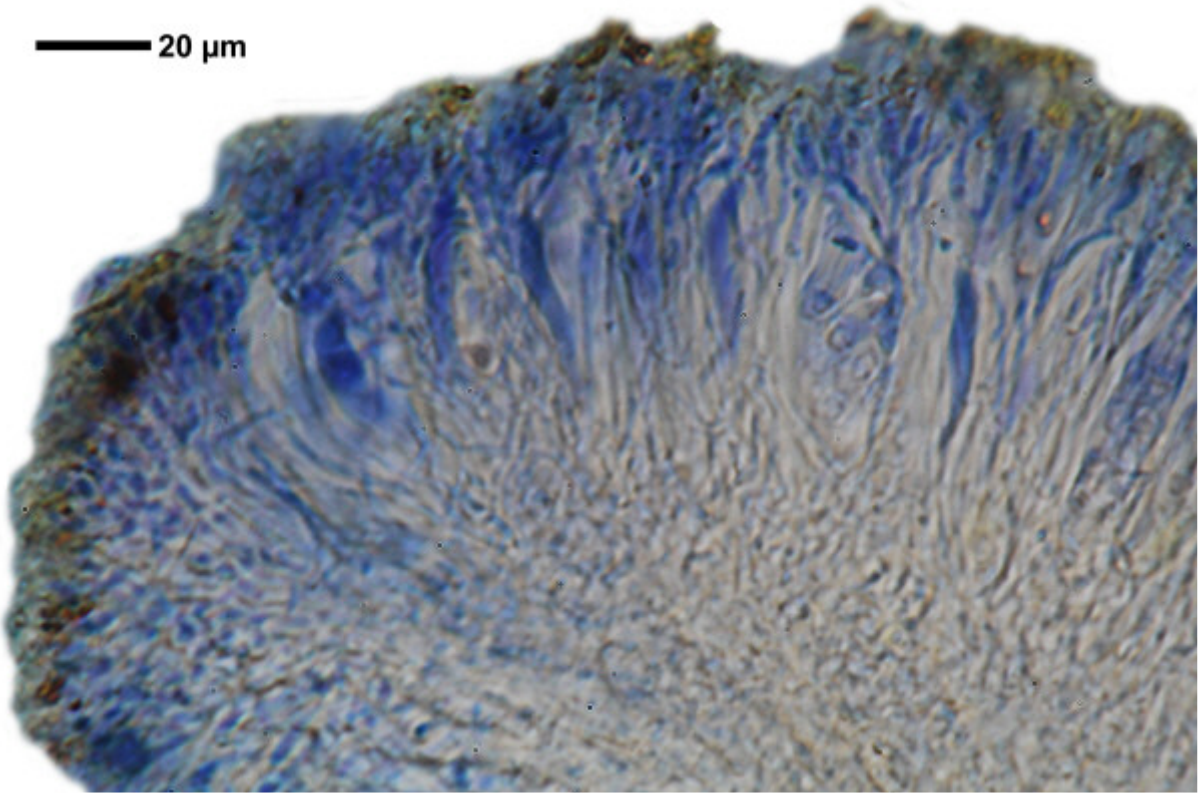
Caloplaca occidentalis

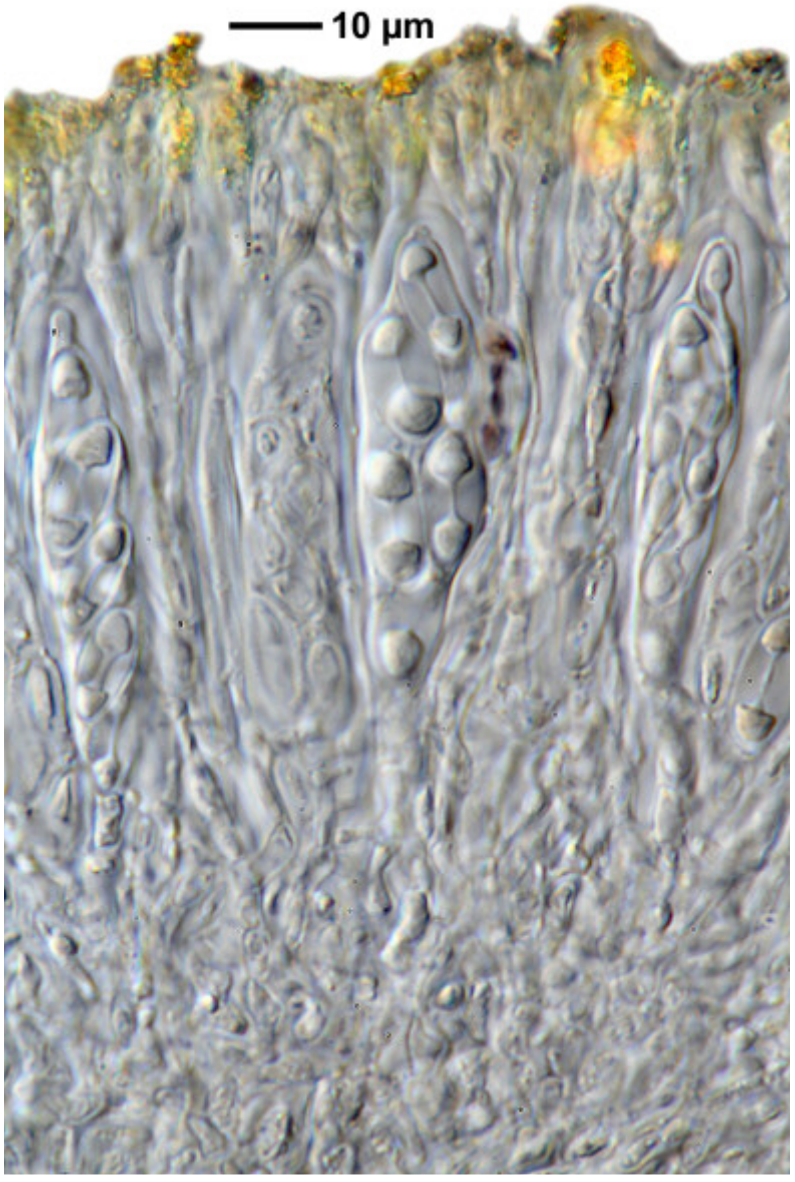
1886

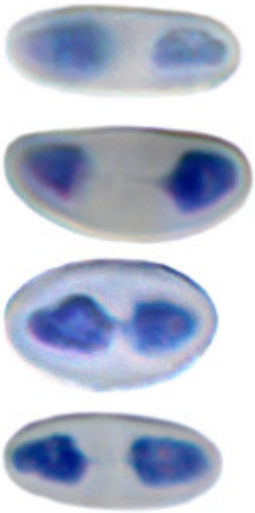


Caloplaca occidentalis

1887



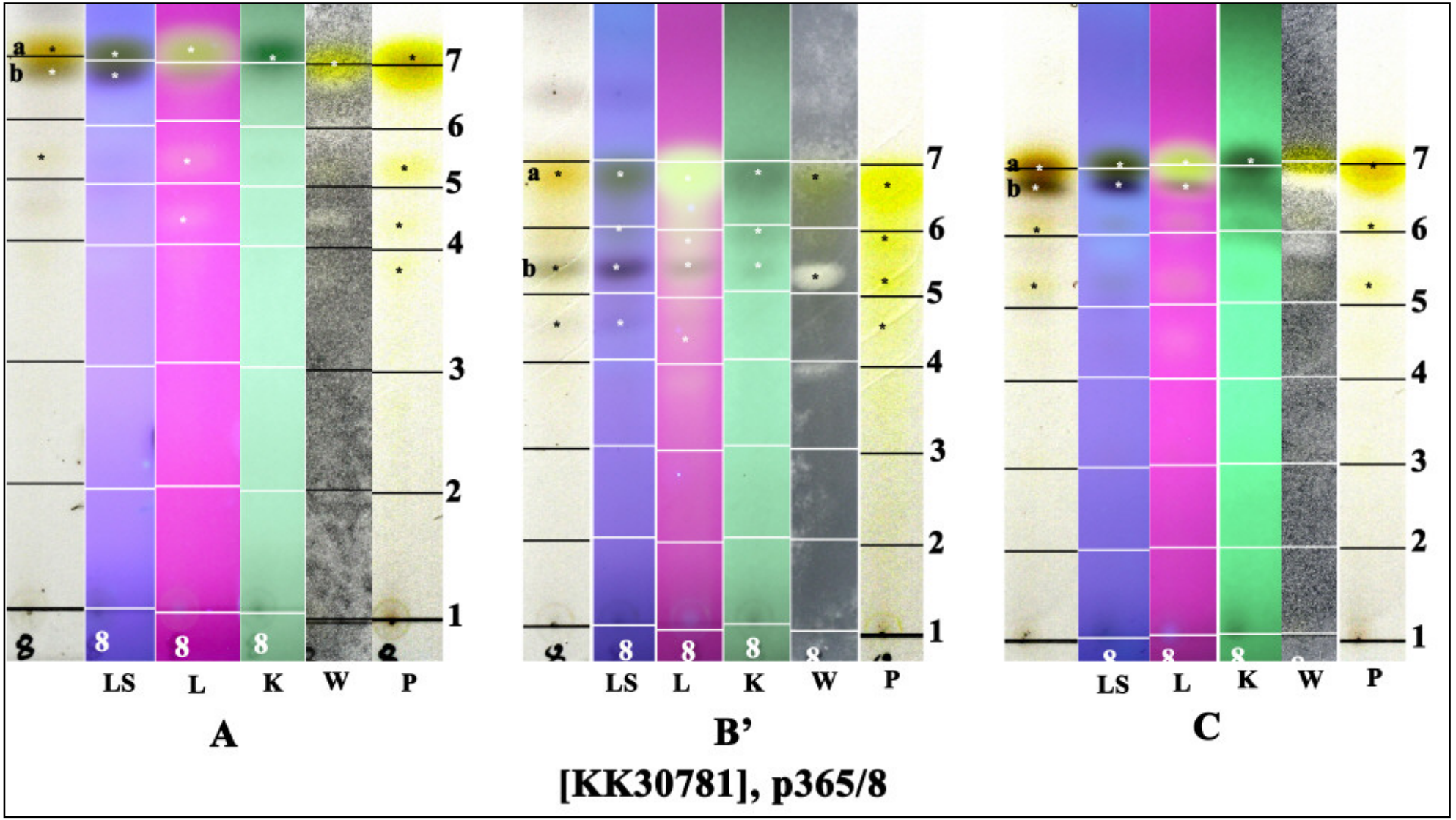




10 µm

Caloplaca occidentalis

1888



a: parietin, b: unknown from bark; conf. J.A. Elix

Caloplaca ochracea (Schaer.) Flagey
[= *Xanthocarpia ochracea* (Schaer.) A. Massal. & De Not.]

Spores, hyaline, 8/ascus, 3-4 locular, 16-20 x 5-12 µm.

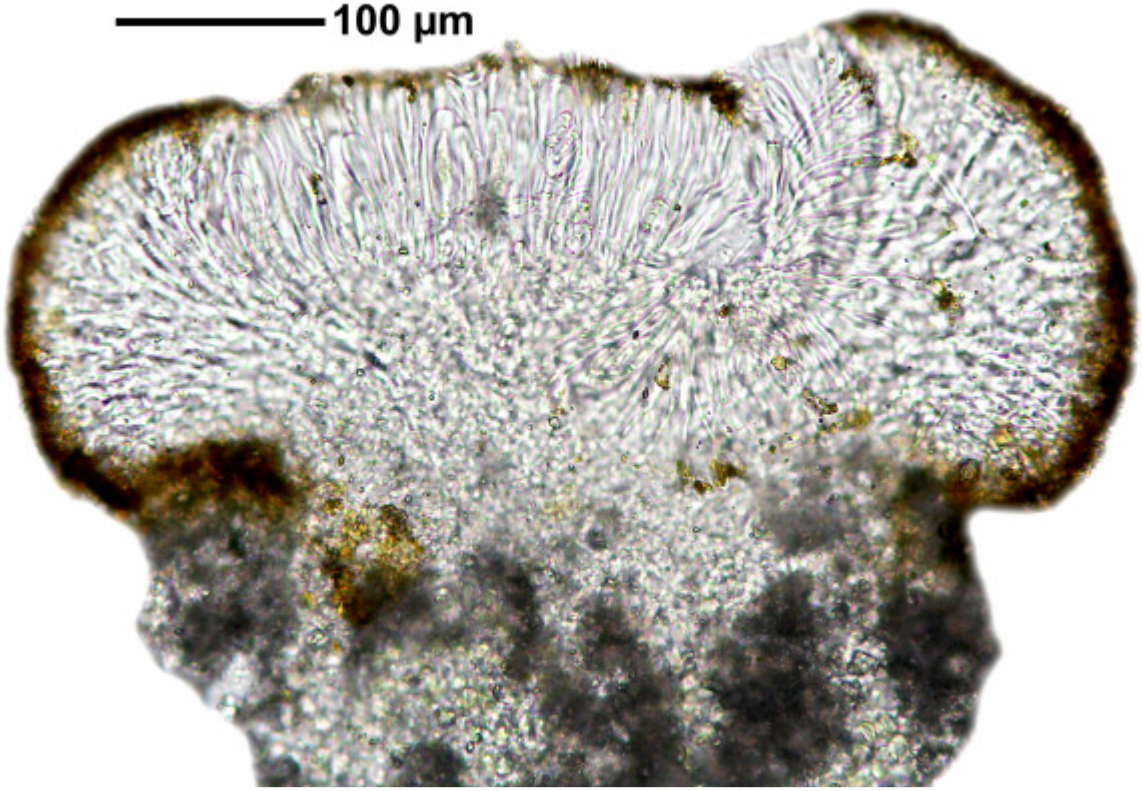
[10731], Jugoslawien, Sibenik, auf sonnenbeschienen Kalkblöcken bei Jadrija. Leg. F. Schumm 24.08.1970, det. F. Schumm 1970.

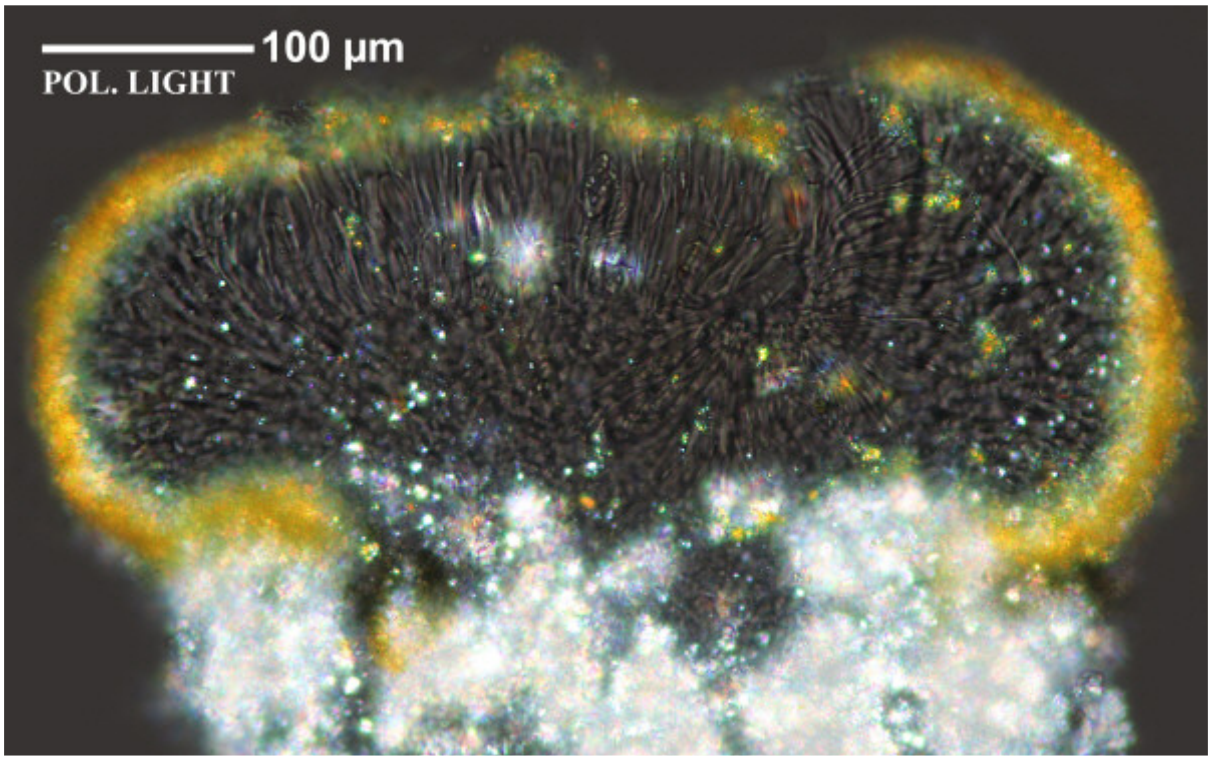


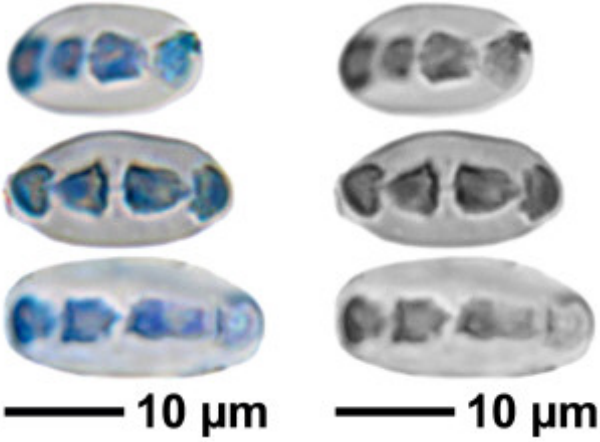


Caloplaca ochracea

1891

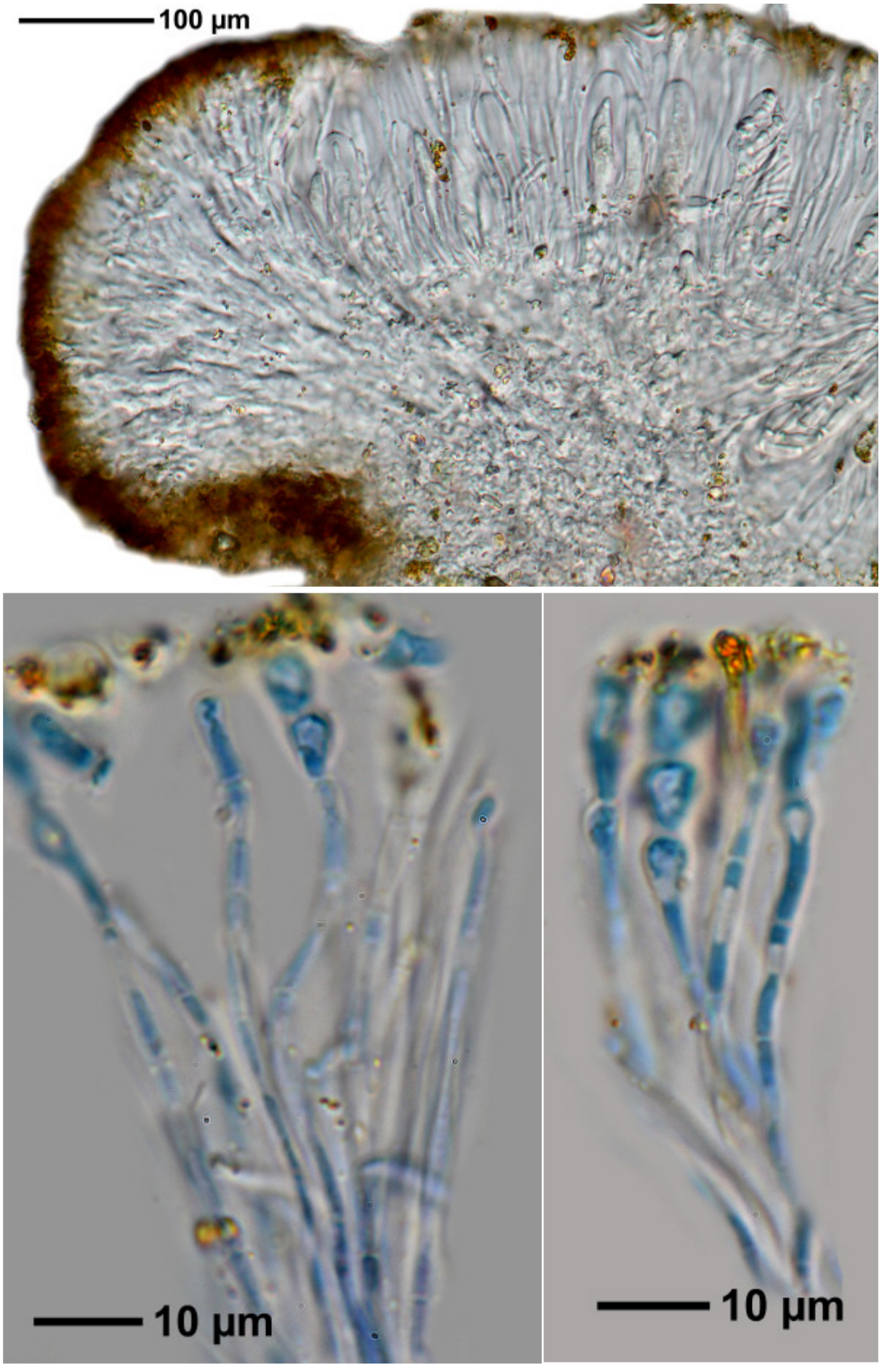






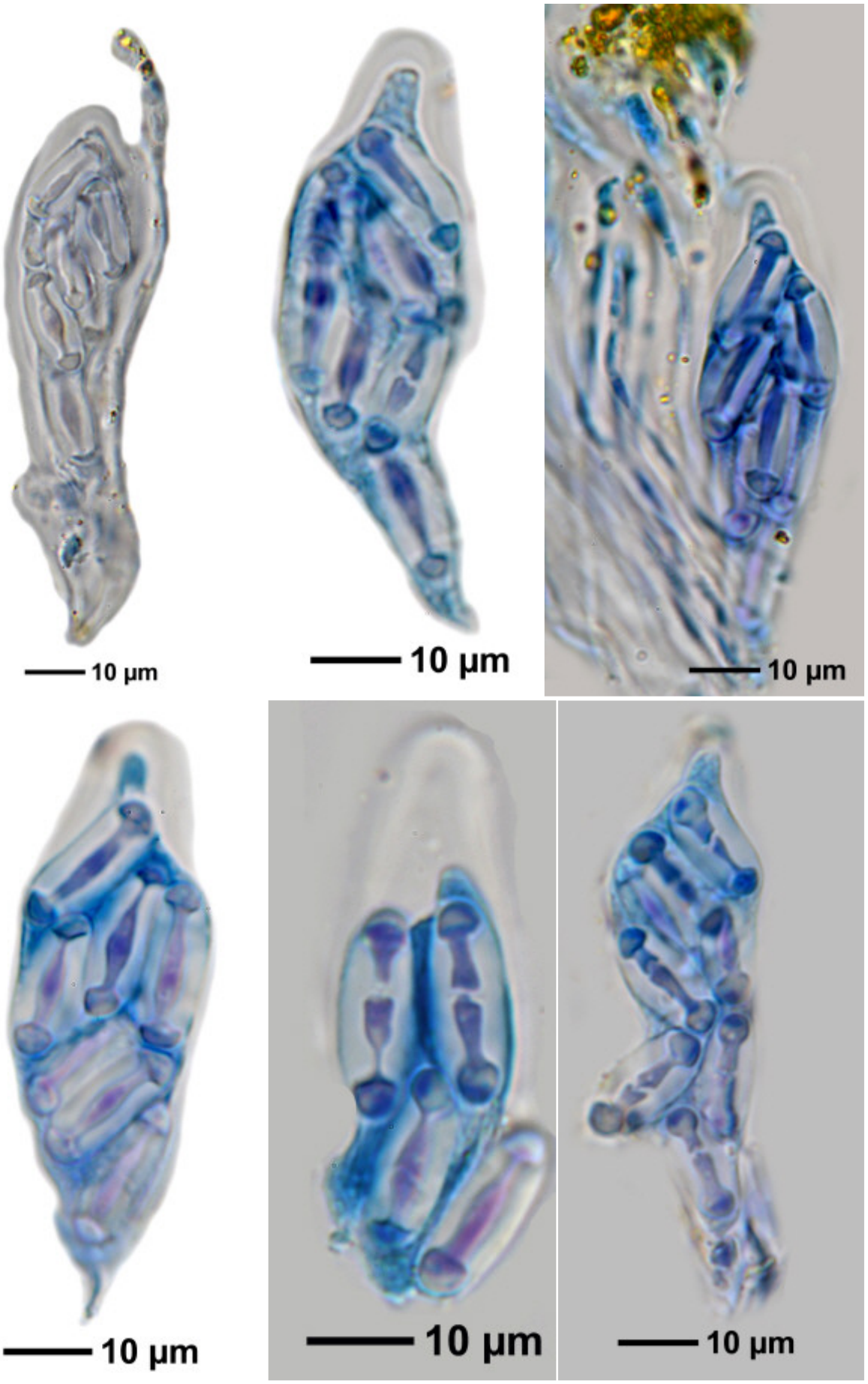
Caloplaca ochracea

1892



Caloplaca ochracea

1893

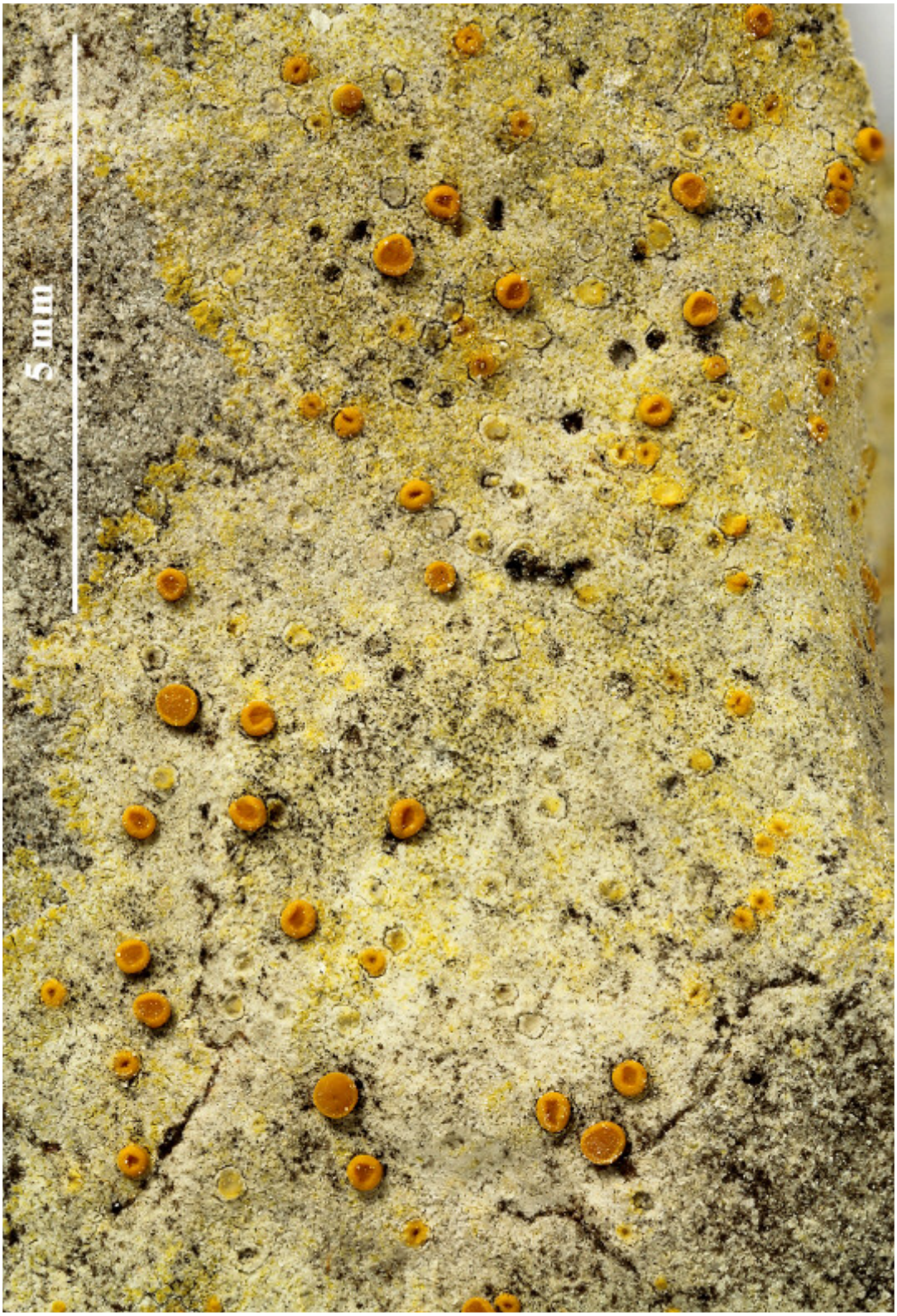


Caloplaca ochracea

Caloplaca ochracea (Schaer.) Flagey
[= *Xanthocarpia ochracea* (Schaer.) A. Massal. & De Not.]

On rocks.Thallus white with yellow parts, continuous. Spores 4-locular, hyaline, 8/ascus, 17-26 x 8.5-10 µm.

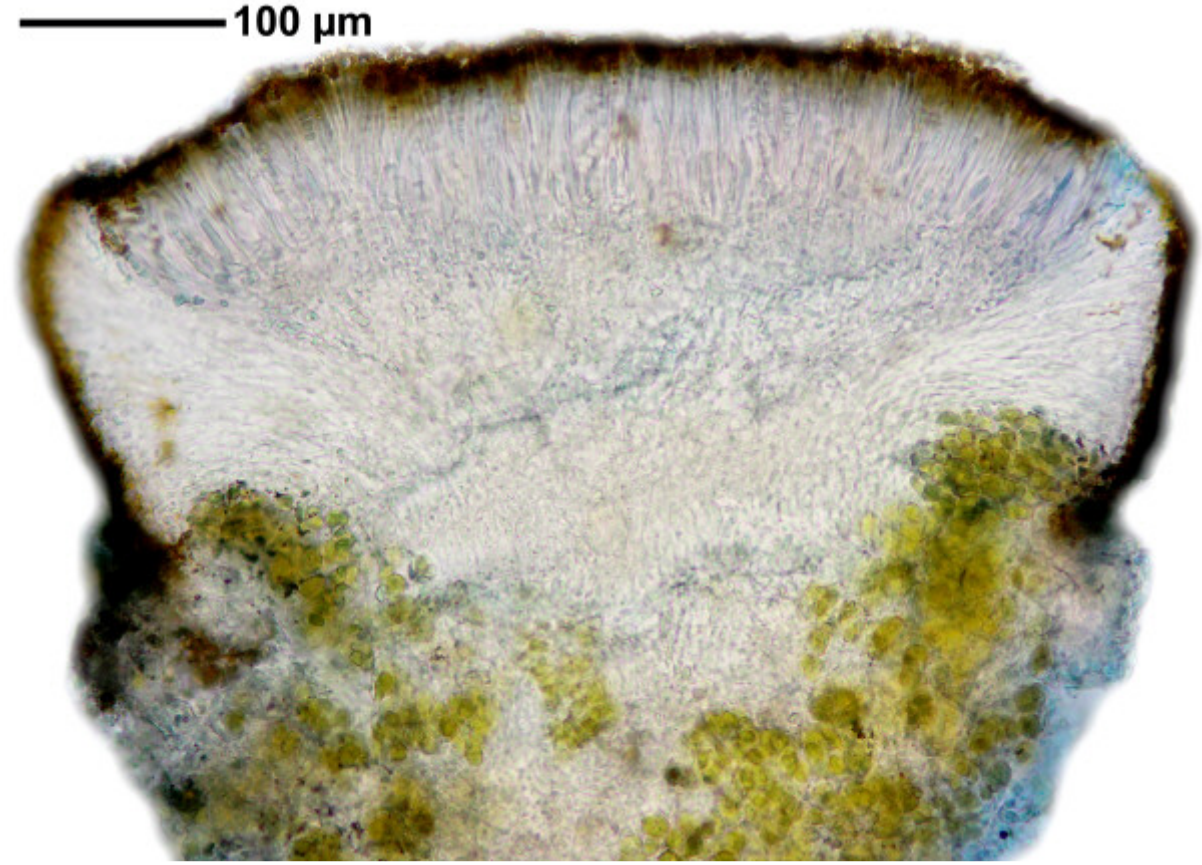
[16456], Mallorca (Nord), Torrent de Pareis, 39.82627° N, 2.84711° E, 640 m. Leg. F. Schumm, J.-P. Frahm & M. Lüth, 17.03.2010, det. F. Schumm 2017.

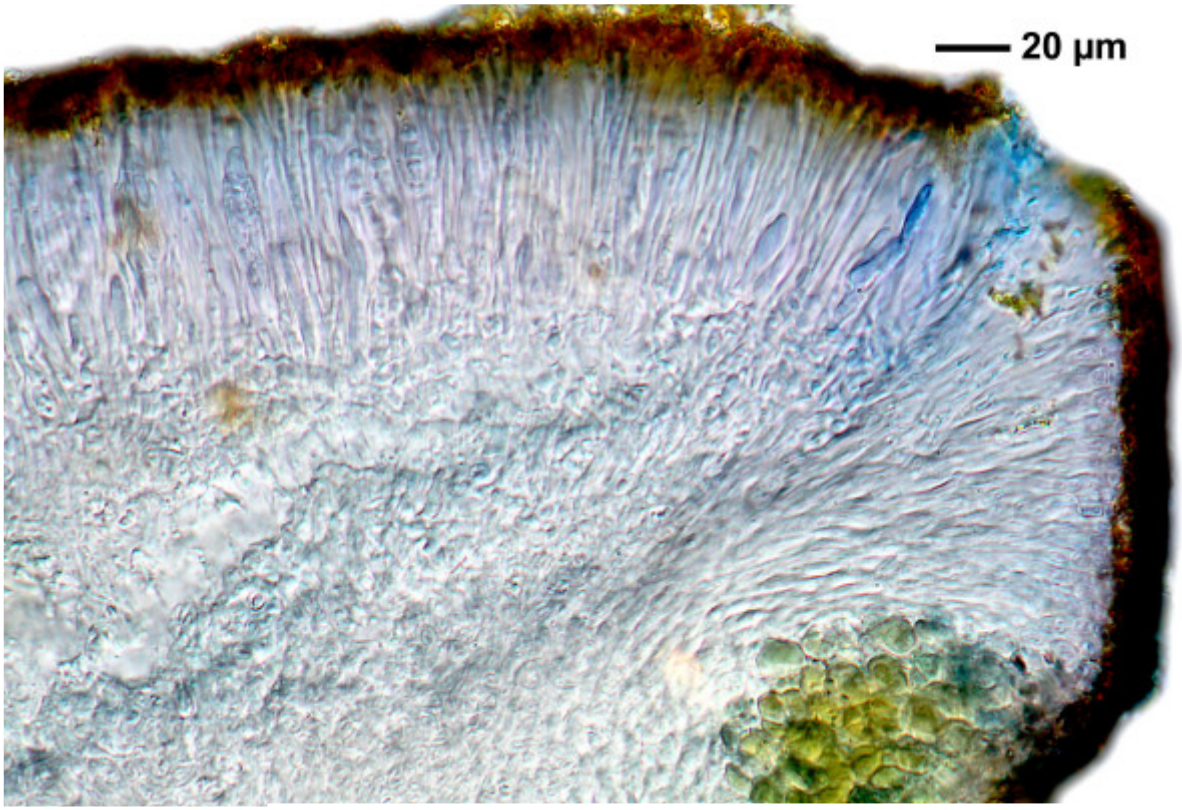




Caloplaca ochracea

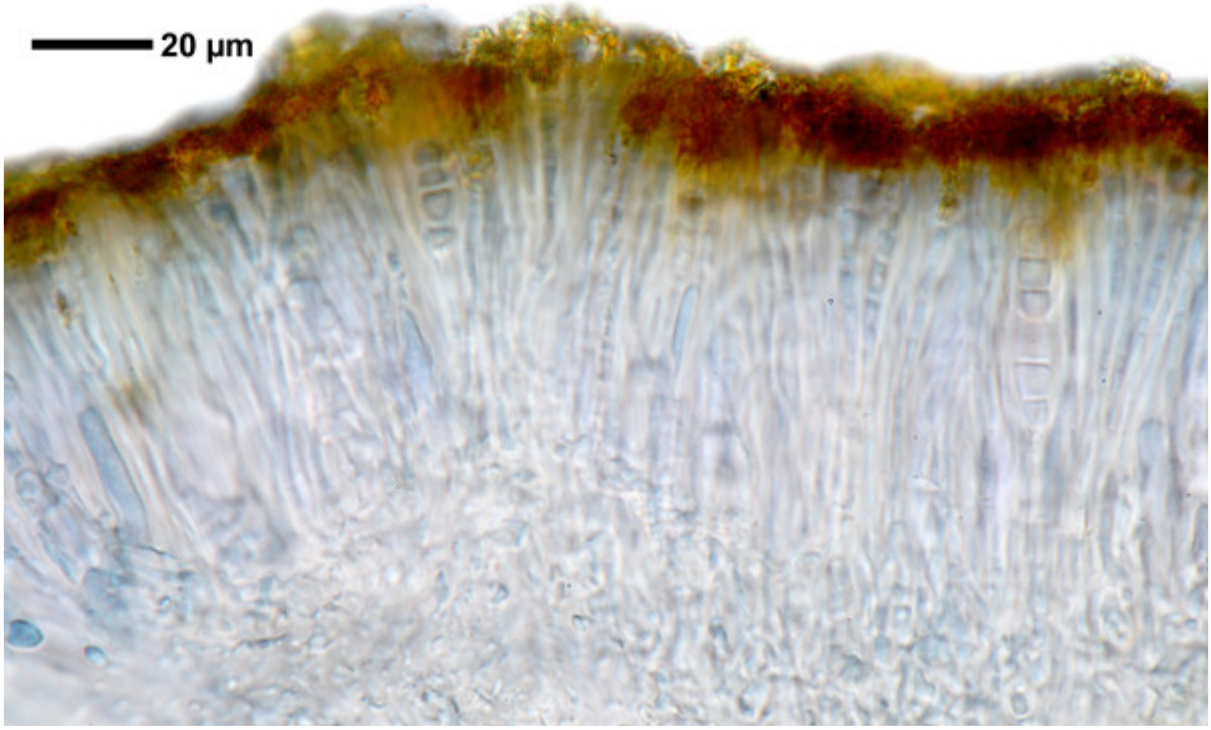
1896

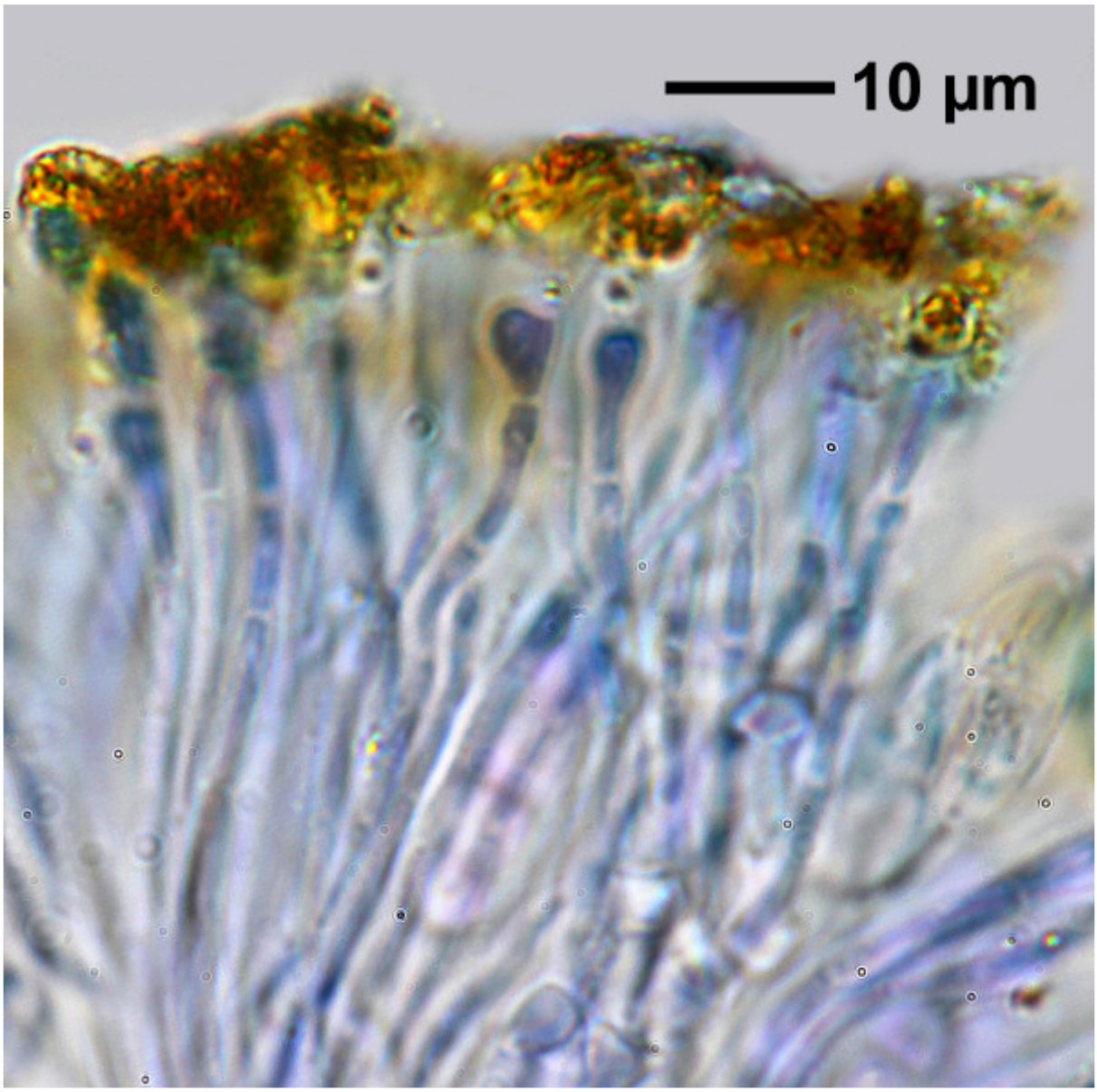






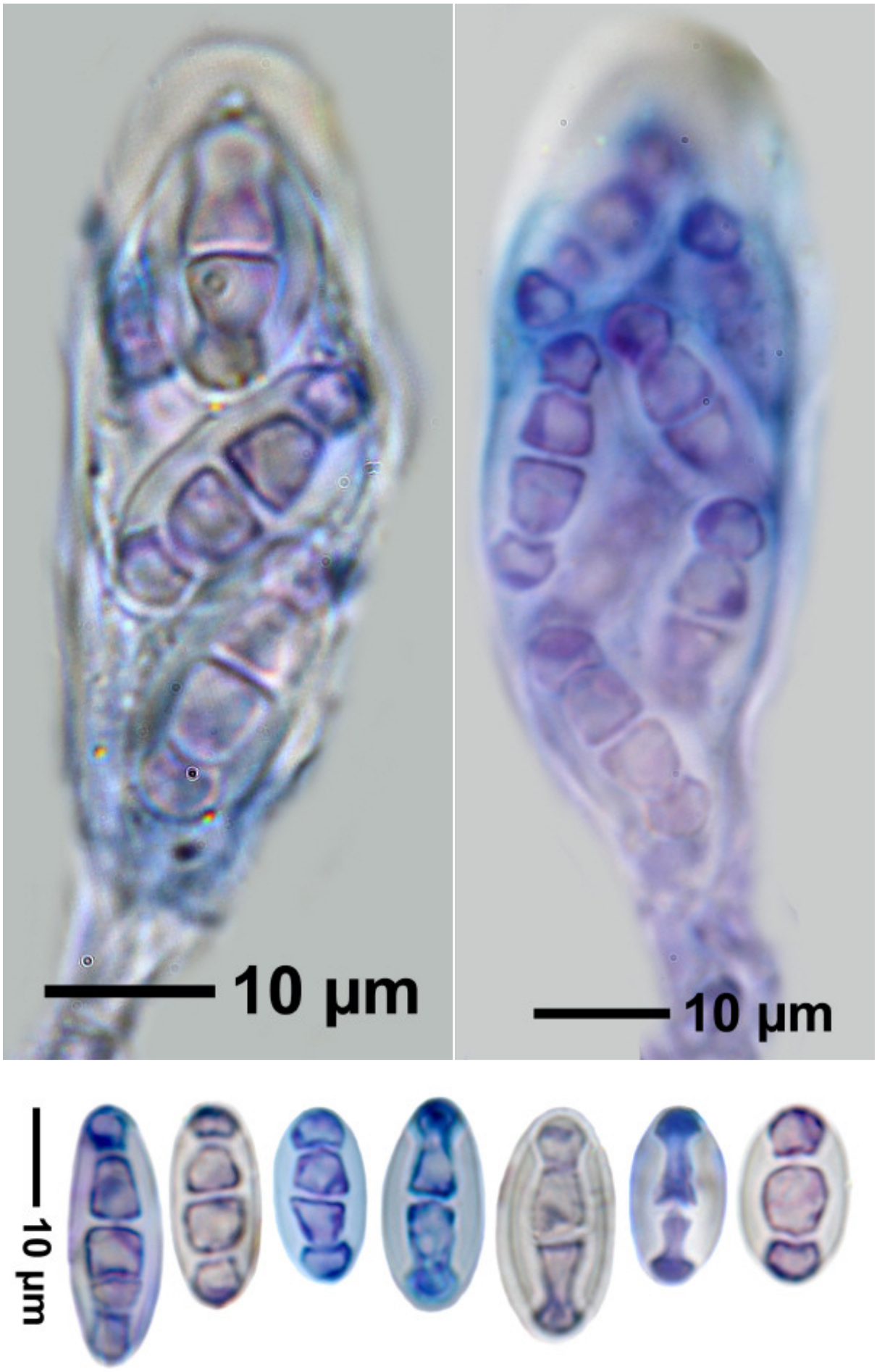
Caloplaca ochracea





Caloplaca ochracea

1898



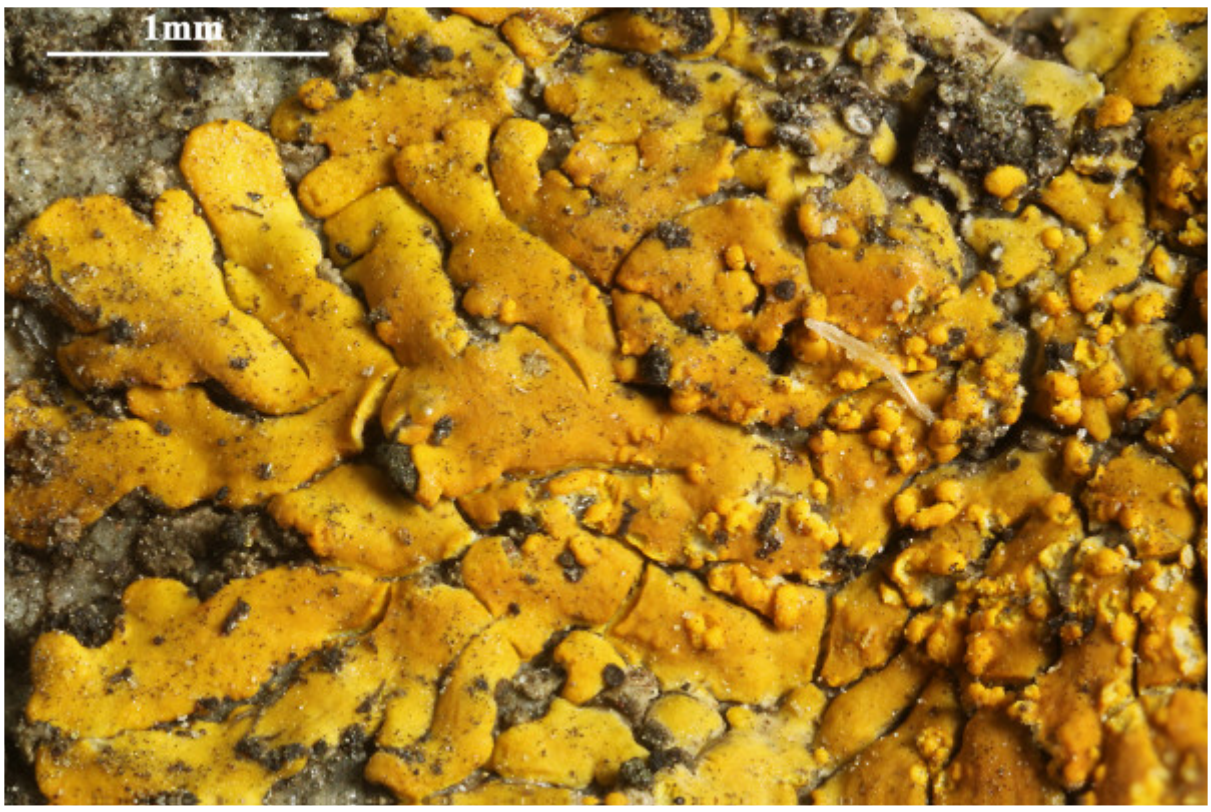
Caloplaca ochracea

Caloplaca ochraceofulva (Müll.Arg.) Jatta

[B 60 0147380], Colombia, Nariño, Munic. Imues, near El Pedregal, towards Túquerres, on road Pasto-Tumaco, on boulders in grassland slope in dry intermountain area on bottom of deep valley. 01°04' N, 77°28' W, 1880 m. Leg. H. Sipman (33540), R. Velosa et al., 16. June 1986, det. H. Sipman, 1999.

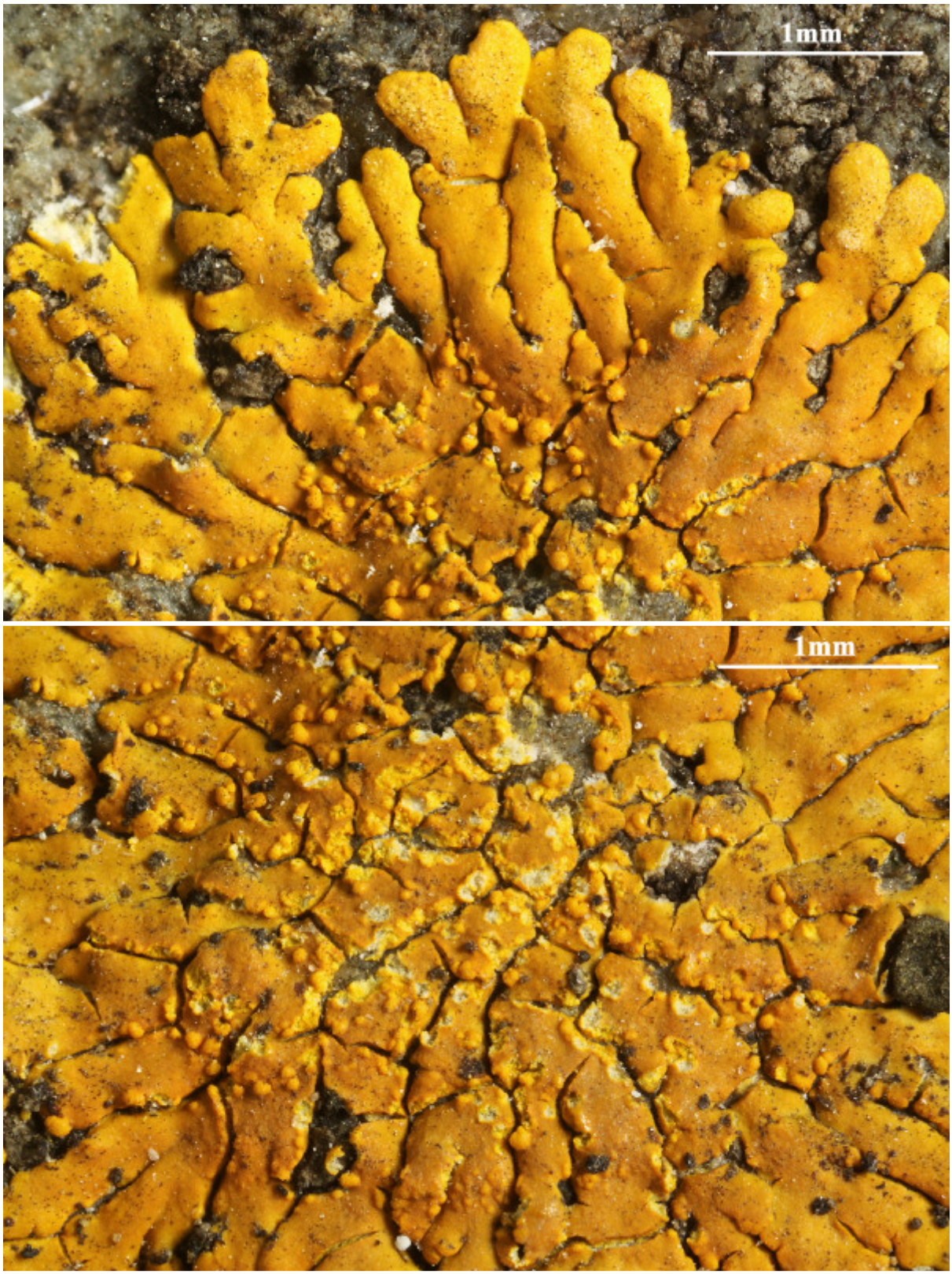






Caloplaca ochraceofulva

1901



Caloplaca ochraceofulva

1902

Caloplaca ochraceofulva (Müll.Arg.) Jatta, G. bot. ital., n.s. 17: 194, tab. I, fig. 4 (1910)

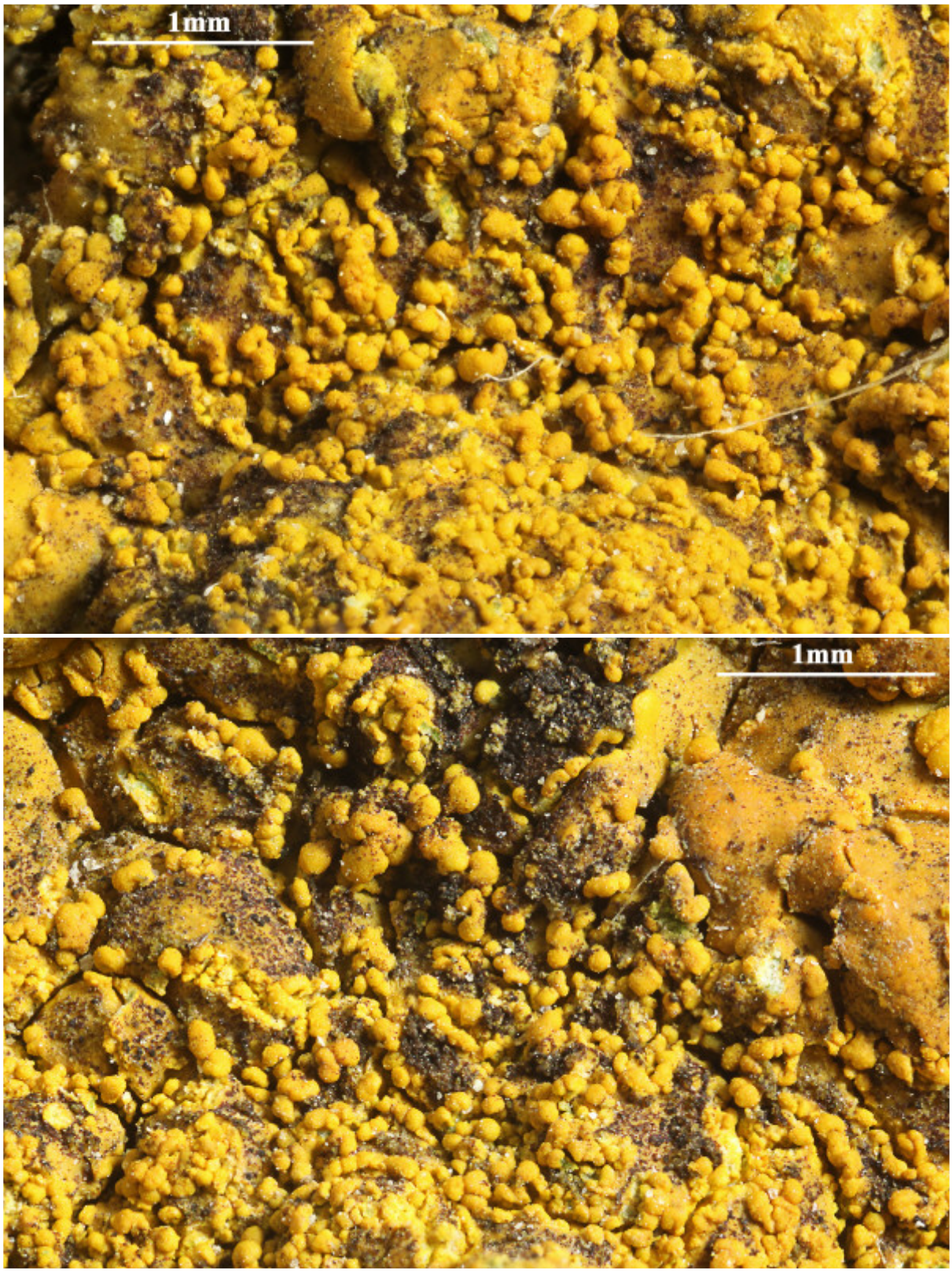
[ABL ISE27949], Brazil, Santa Catarina, São Francisco do Sul, S of Prainha, 26°14’06” S, 48°30’05” W, c. 10 m, on coastal granite. Leg. M.E.S. Cáceres & A. Aptroot, 8.10.2015, det. A. Aptroot 2019.







Caloplaca ochraceofulva

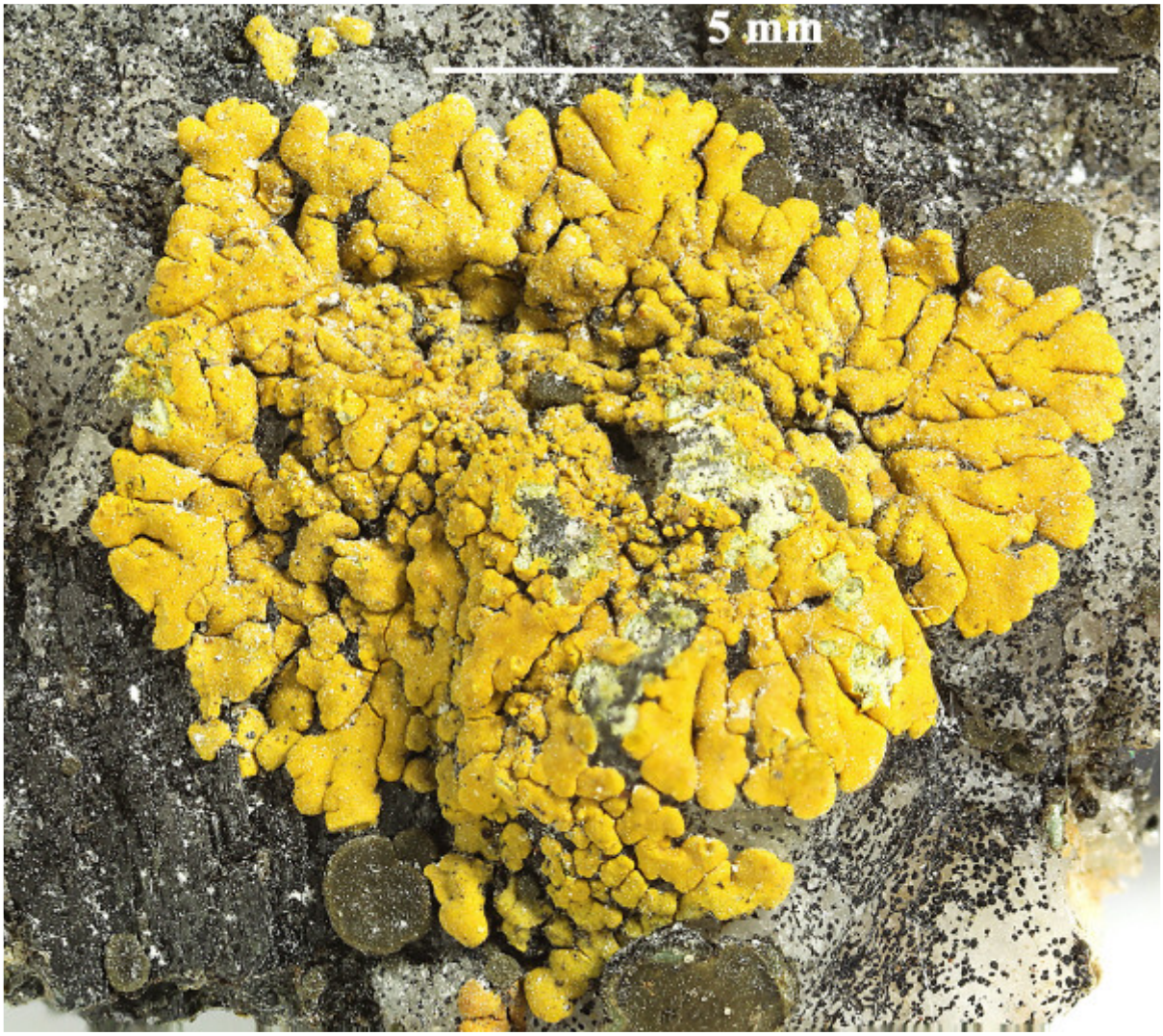


Caloplaca ochraceofulva

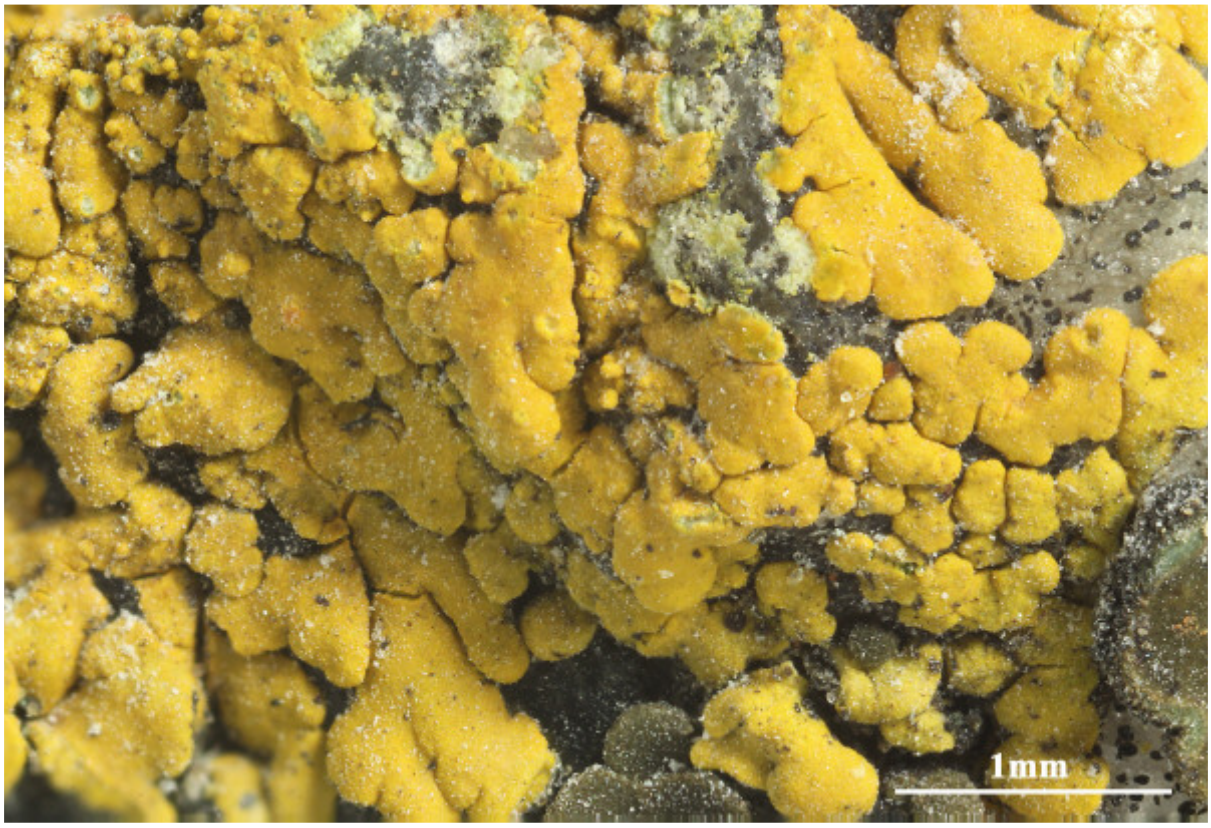
Caloplaca ochraceofulva (Müll.Arg.) Jatta, G. bot. ital., n.s. 17: 194, tab. I, fig. 4 (1910)

On non calcareous rocks.

[ABL 21366], Brazil, Ceará, Quixadá, Açude Cedró, trilha da Galinha, 04°58’ S, 39°03’ W, 250 m, on gneiss in Caatinga. Leg. M. Cáceres & A. Aptroot, 31.03.2014, det. A. Aptroot 2019.







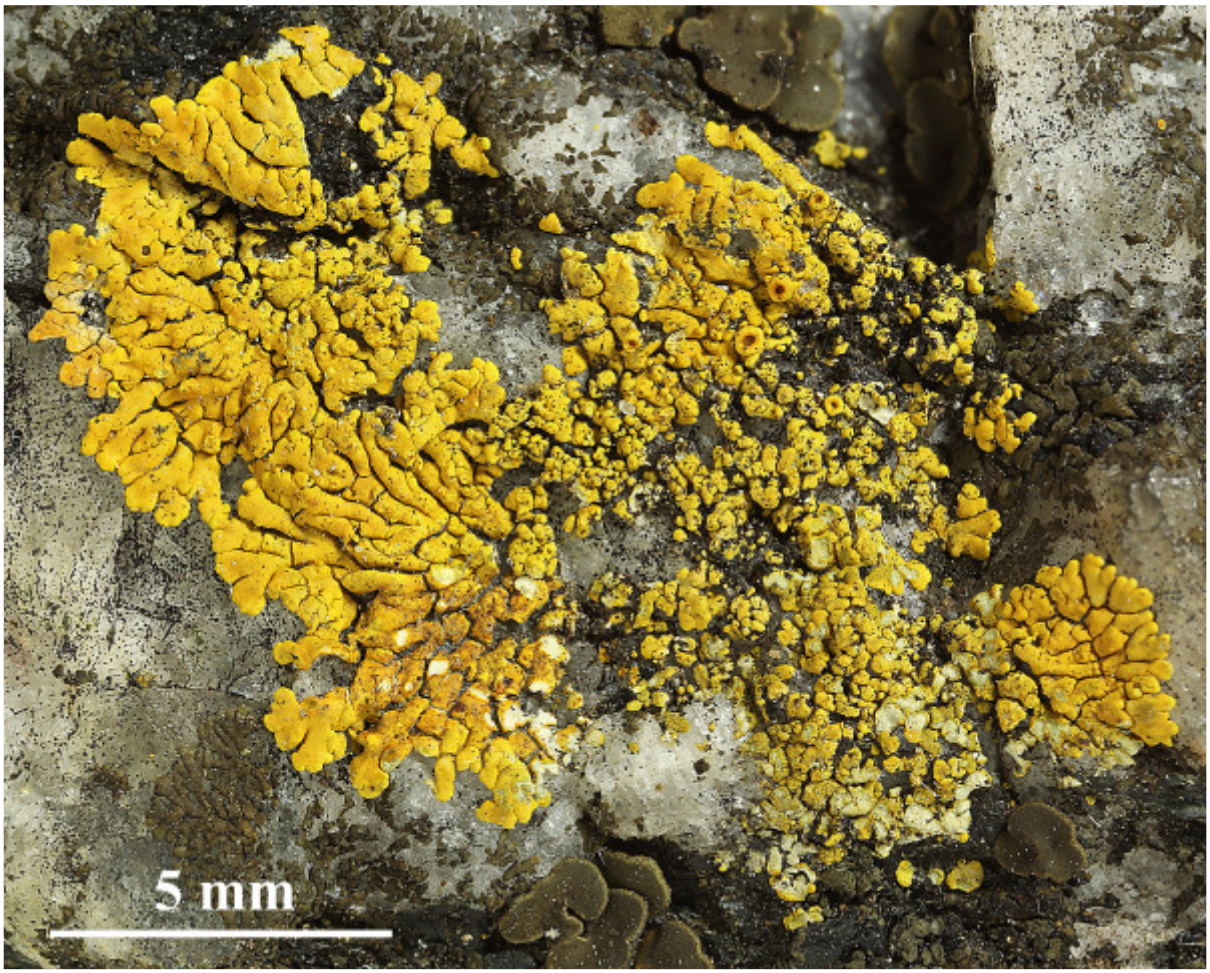
Caloplaca ochraceofulva

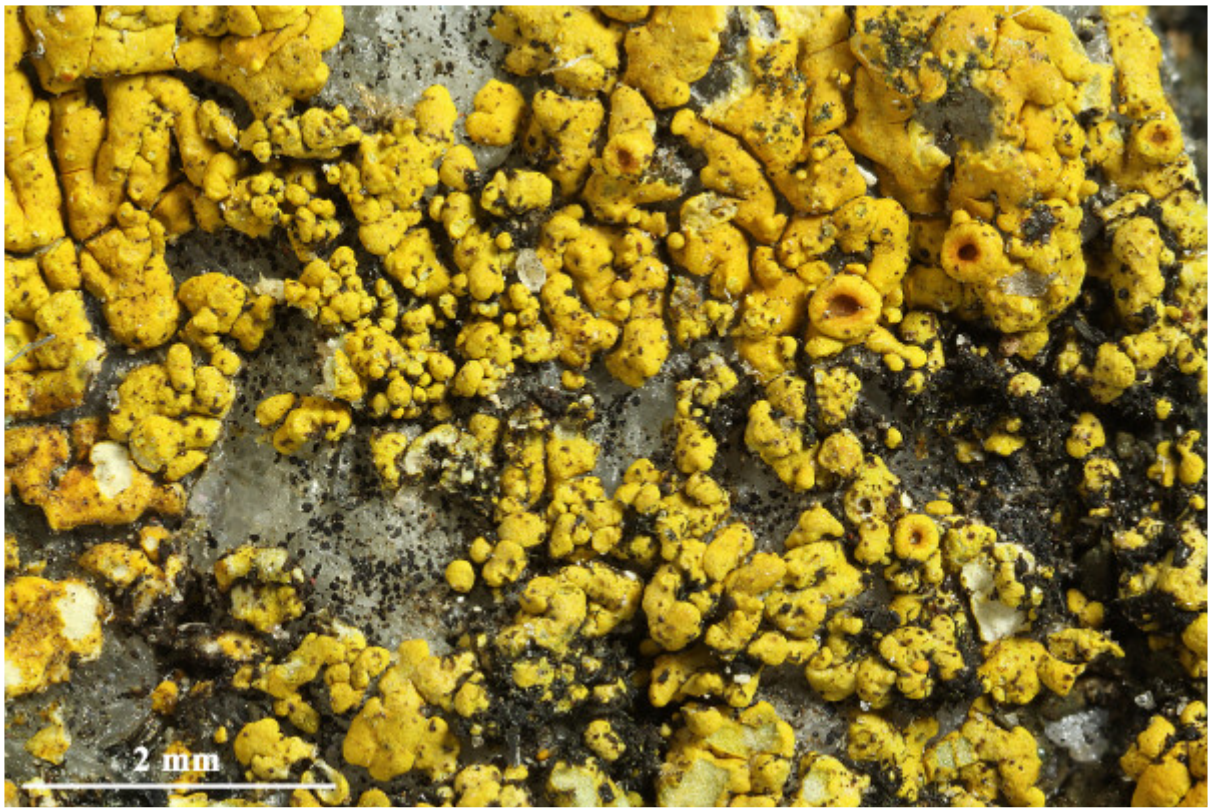
1907

Caloplaca ochraceofulva (Müll.Arg.) Jatta, G. bot. ital., n.s. 17: 194, tab. I, fig. 4 (1910)

On non calcareous rocks.

[ABL 21400], Brazil, Ceará, Quixadá, Açude Cedró, trilha da Galinha, 04°58’ S, 39°03’ W, 250 m, on gneiss in Caatinga. Leg. M. Cáceres & A. Aptroot, 31.03.2014, det. A. Aptroot 2019.







Caloplaca ochraceofulva

1909





Caloplaca ochraceofulva

1910

Caloplaca ochrolechioides S.Y. Kondr. & Kärnefelt, in Kondratyuk, Elix, Kärnefelt & Thell, Biblthca Lichenol. 106: 180 (2011)

Thallus corticolous, green-grey., continuous or with small cracks. Apothecia 0.3-0.7 mm diam., biatorine, sessile, marginsusually paler than the disc, white or witish-grey; disc tan to brown or black, usually pruinose. Ascospores 13-14 x 6-7 µm, septum 4-5(-7) µm.
Chemistry: variolaric acid, isosubnotatic acid; thallus and apothecium K-. Similar is *Caloplaca camptidia* (Tuck.) Zahlbr. which has 0.5-1.5 mm diam. apothecia that becoming convex and black.
Lit.: Kondratyuk, Elix, Kärnefelt & Thell, Bibliotheca Lichenol. 106: 180 (2011).

[KK18982], Australia, Queensland, road to the Bunya Mountains, c. 12 km NNE of Mt. Mowbullan, 680 m, 26°50’ S, 151°38’ E. Leg. K. Kalb & R. Rogers, 14.08.1988, det. S. Kondratyuk. Holotype.

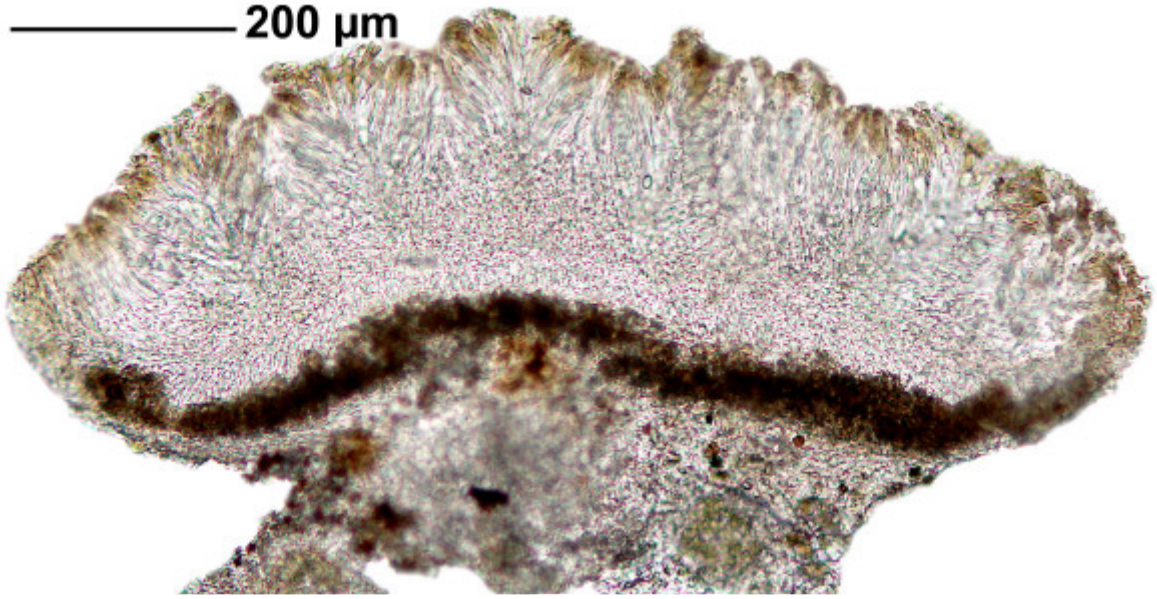




Caloplaca ochrolechioides

1912

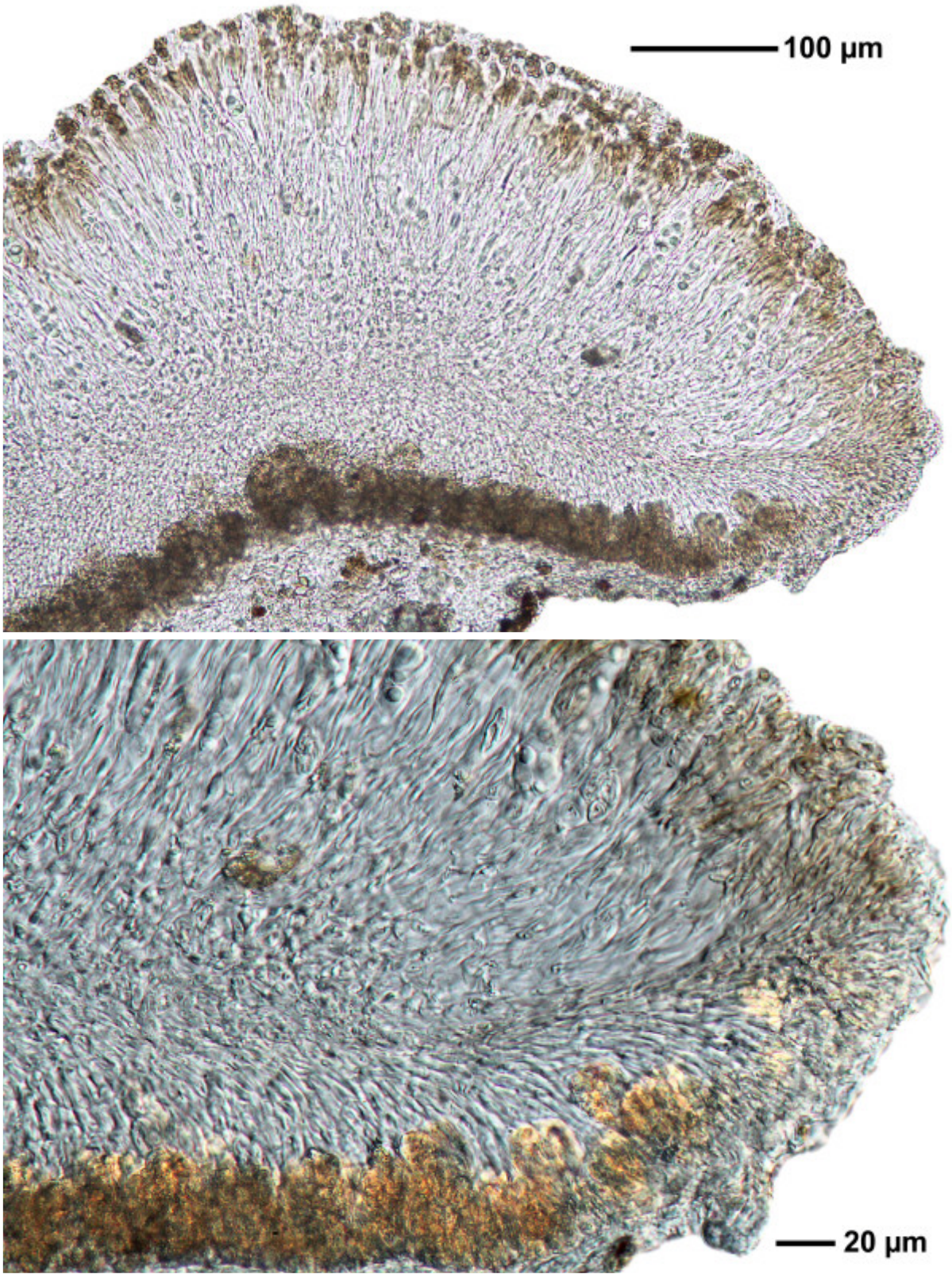




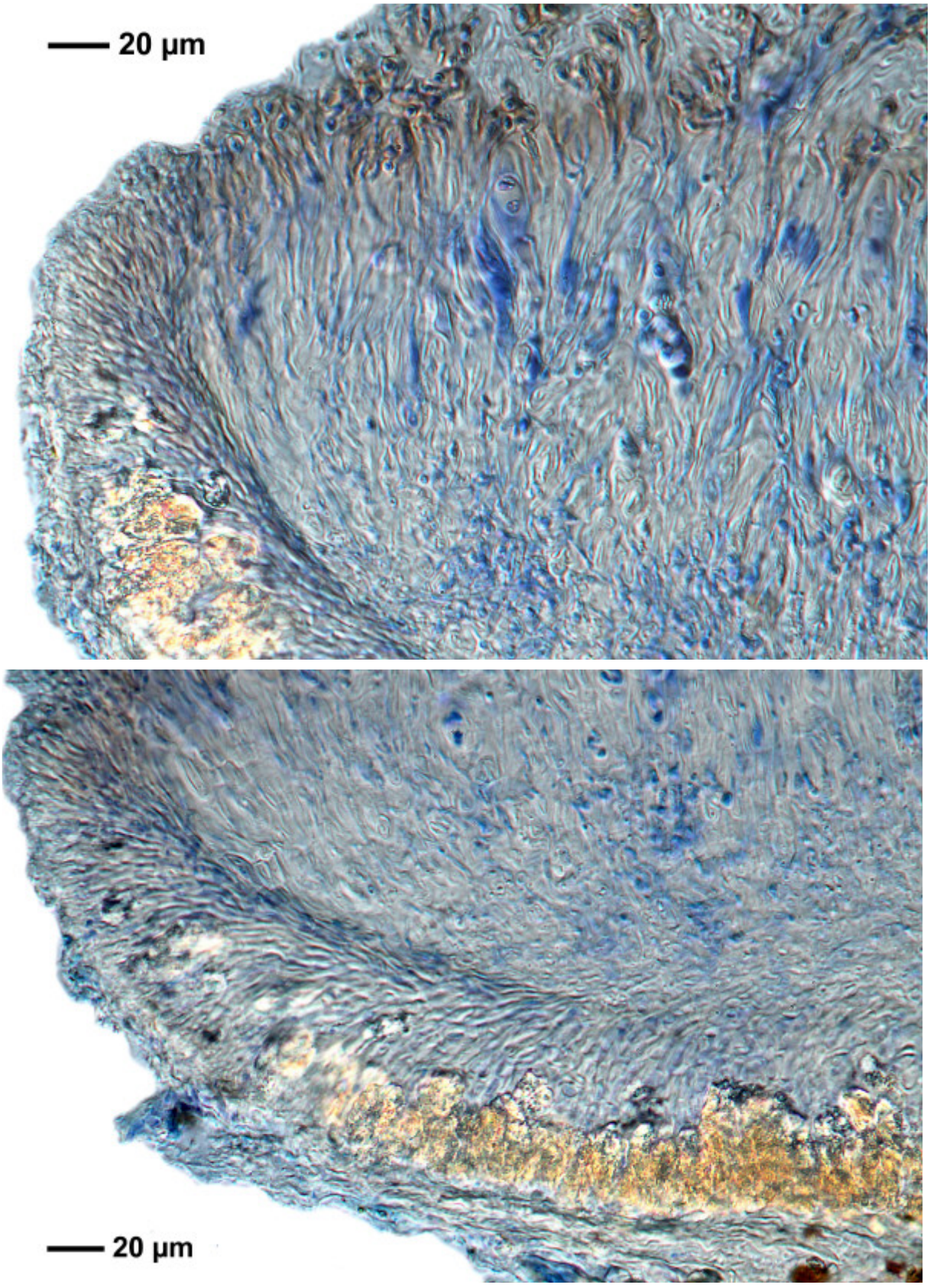


Caloplaca ochrolechioides

1913

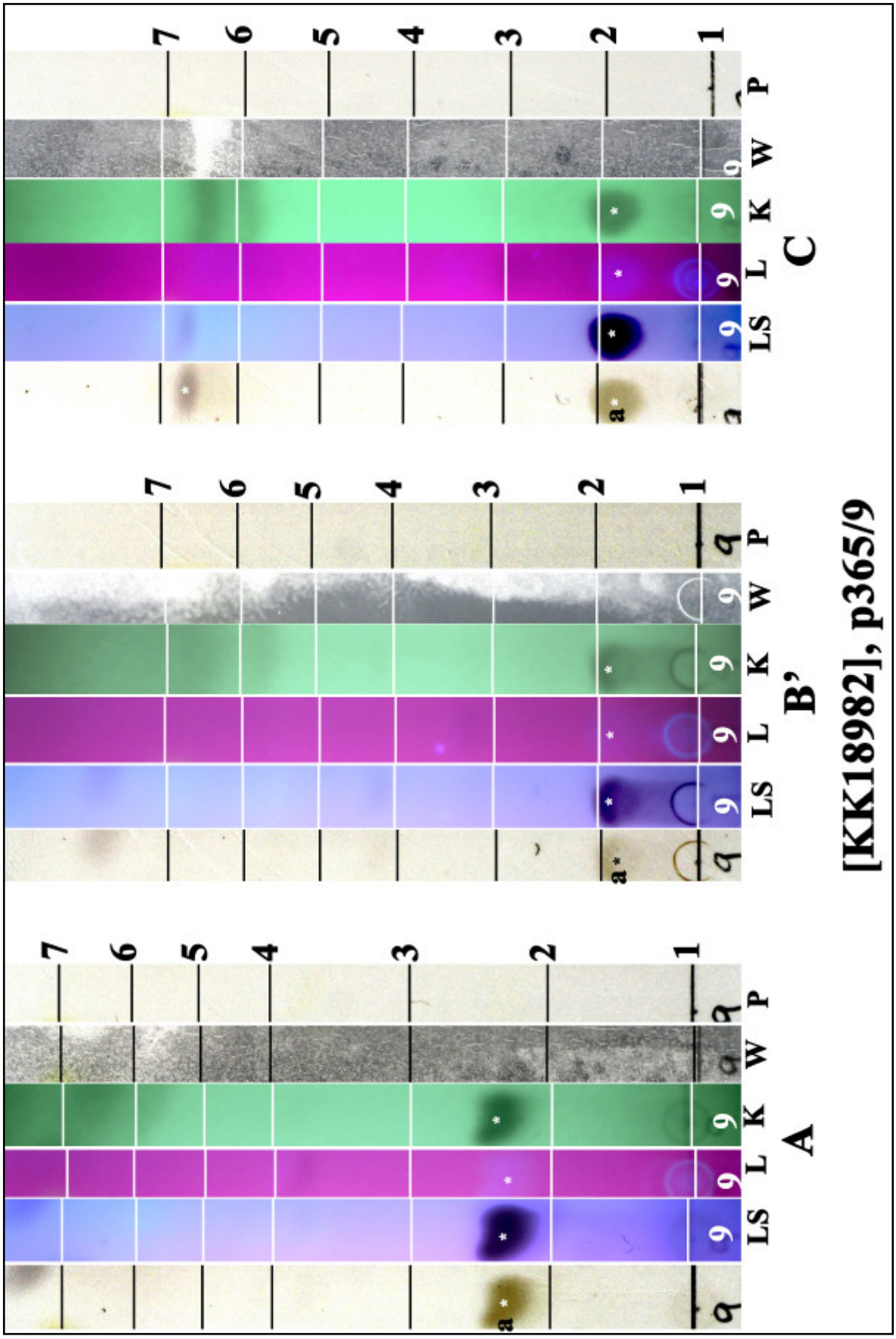


Caloplaca ochrolechioides



Caloplaca ochrolechioides

1915



a: variolaric acid; conf. J.A. Elix

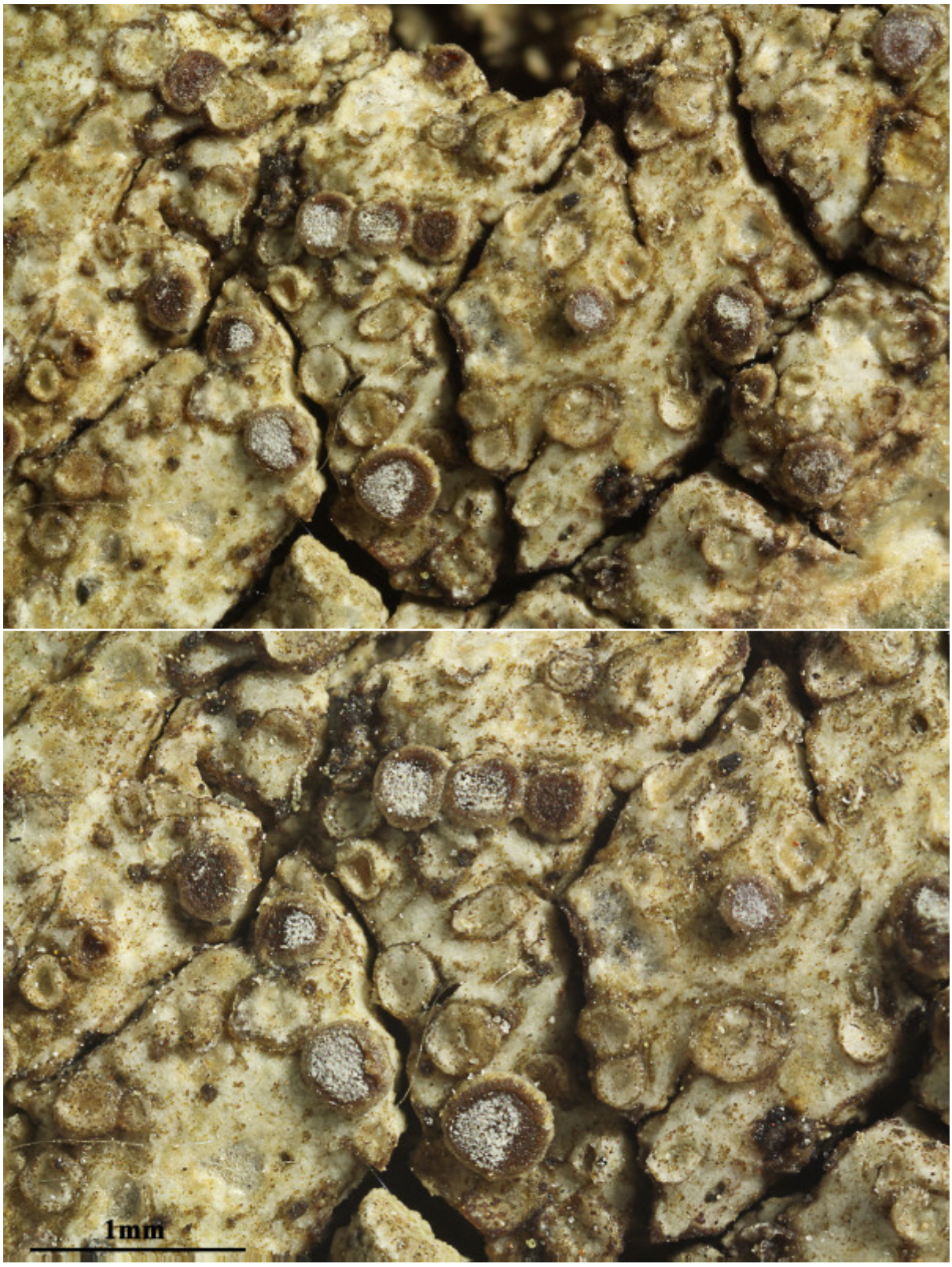
Caloplaca ochrolechioides

Caloplaca ochrolechioides S.Y. Kondr. & Kärnefelt, in Kondratyuk, Elix, Kärnefelt & Thell, Biblthca Lichenol. 106: 180 (2011)

On bark.

[19615], Sri Lanka, North Western & North Central Provinces, Wilpattu National Park, 8°25-31' N, 79°59-80' E, 43-74 m, dry low scrub monsoon forest with tall emergent. Leg. G. Weerakoon, P. Wolseley & Omal Arachchige, 28.02.2015, det. A. Aptroot 2016. New record for Sri Lanka.





Caloplaca ochrolechioides

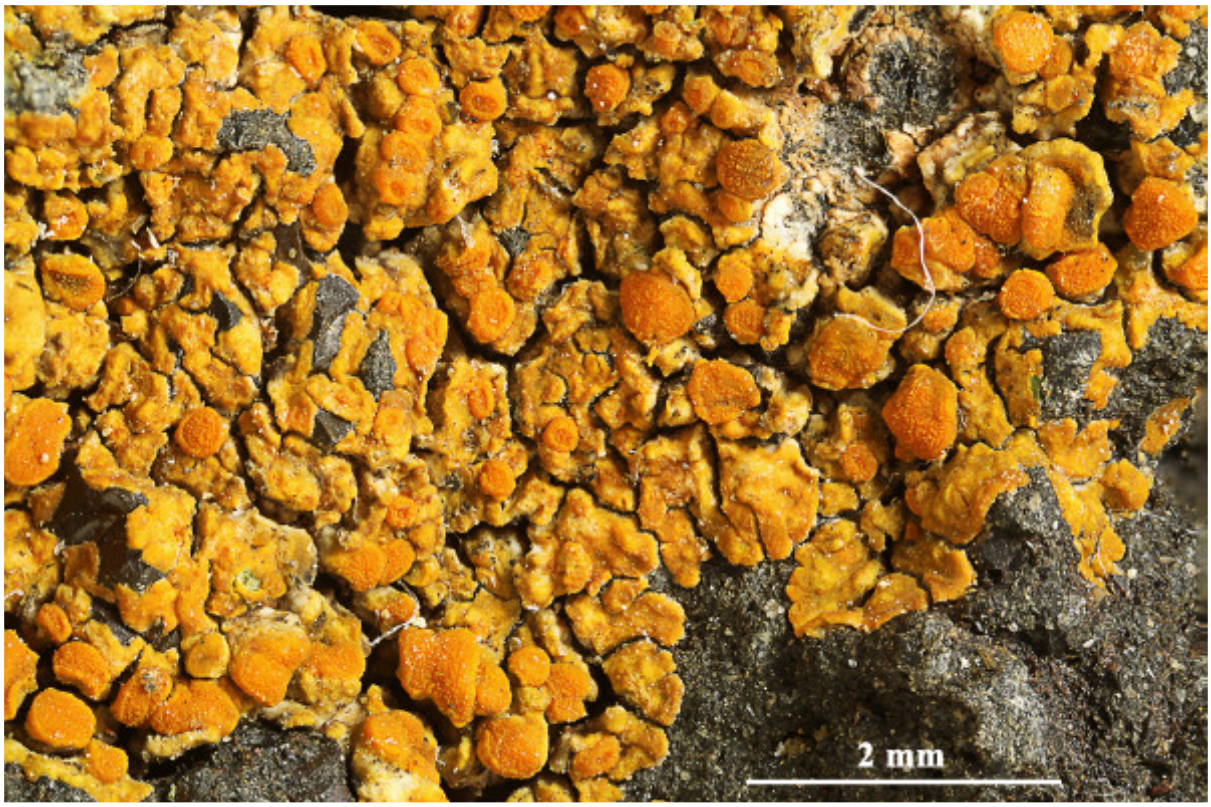
1918

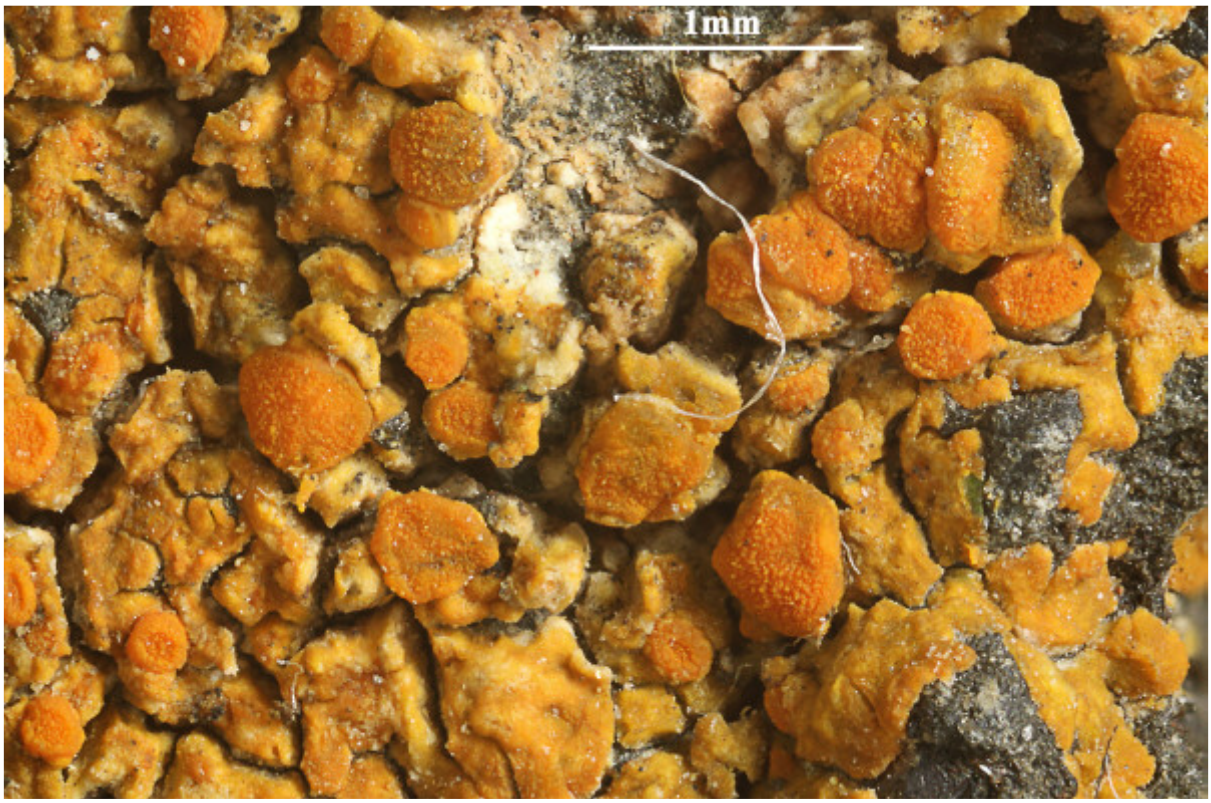
Caloplaca ora Poelt & Nimis
[= *Flavoplaca ora* (Poelt & Nimis) Arup, Frödén & Søchting]

On non-calcareous rocks. Lit. Poelt & Nimis in Nimis und Poelt, Stud. Geobot, Trieste 7(1): 70 (1987)

[19557], Italia, Pelagiae insulae, insula Linosa, litus septendrionale loco "Scoglio dei Bovi Marini" dicto, alt. 5 m, ad lavam. Leg. P.L. Nimis & A. Vězda, 16.04.1992. VĚZDA: LICHENES RARIORES EXSICCATI NR. 34.







Caloplaca ora

1920

Caloplaca ora Poelt & Nimis, in Nimis & Poelt, Stud. Geobot. 7(suppl. 1): 70 (1987)
[= *Flavoplaca ora* (Poelt & Nimis) Arup, Frödén & Søchting, Nordic J. Bot. 31(1): 46 (2013)]

Spores 8.9 x 5.4 µm, septum 3.6 µm.

[TSB_7329], Italy, Sardinia Prov. Sassari, M. Russu between Santa Teresa and Castelsardo, on siliceous rocks along the coast, c. 10 m. Leg. P.L. Nimis, 05.1986 .

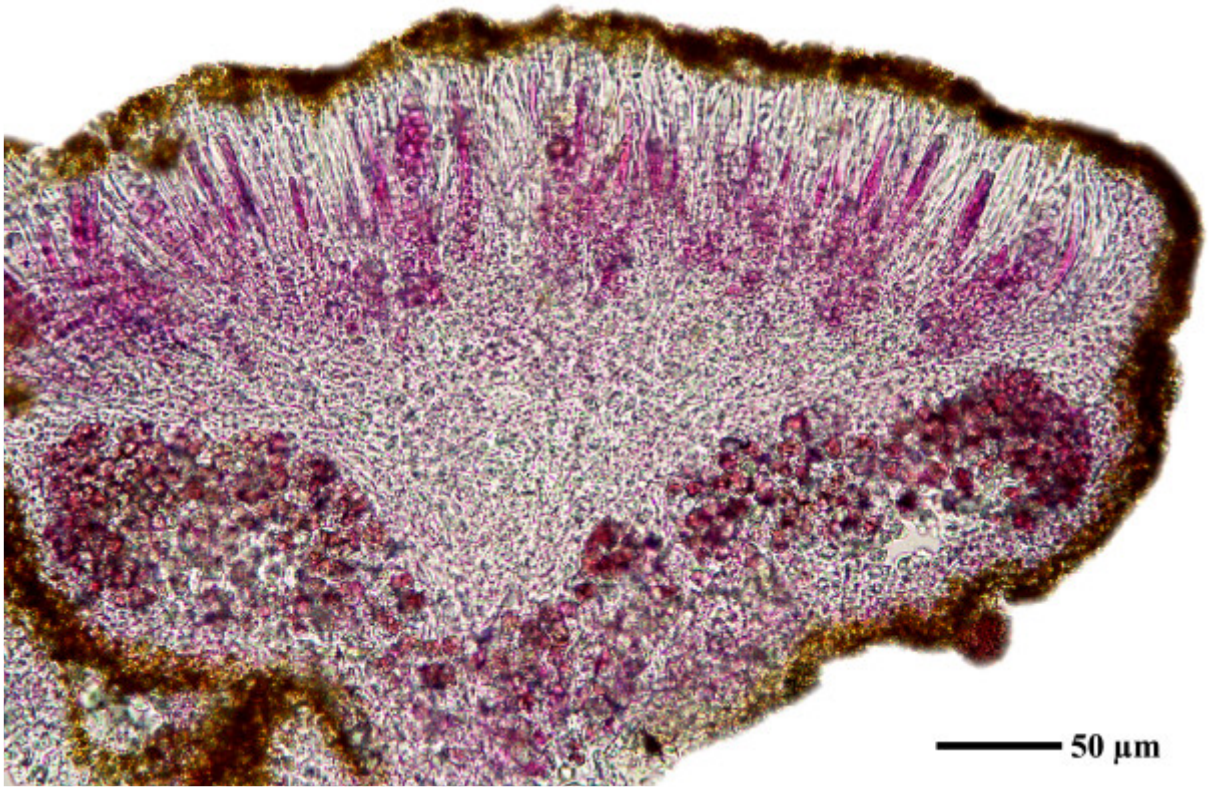


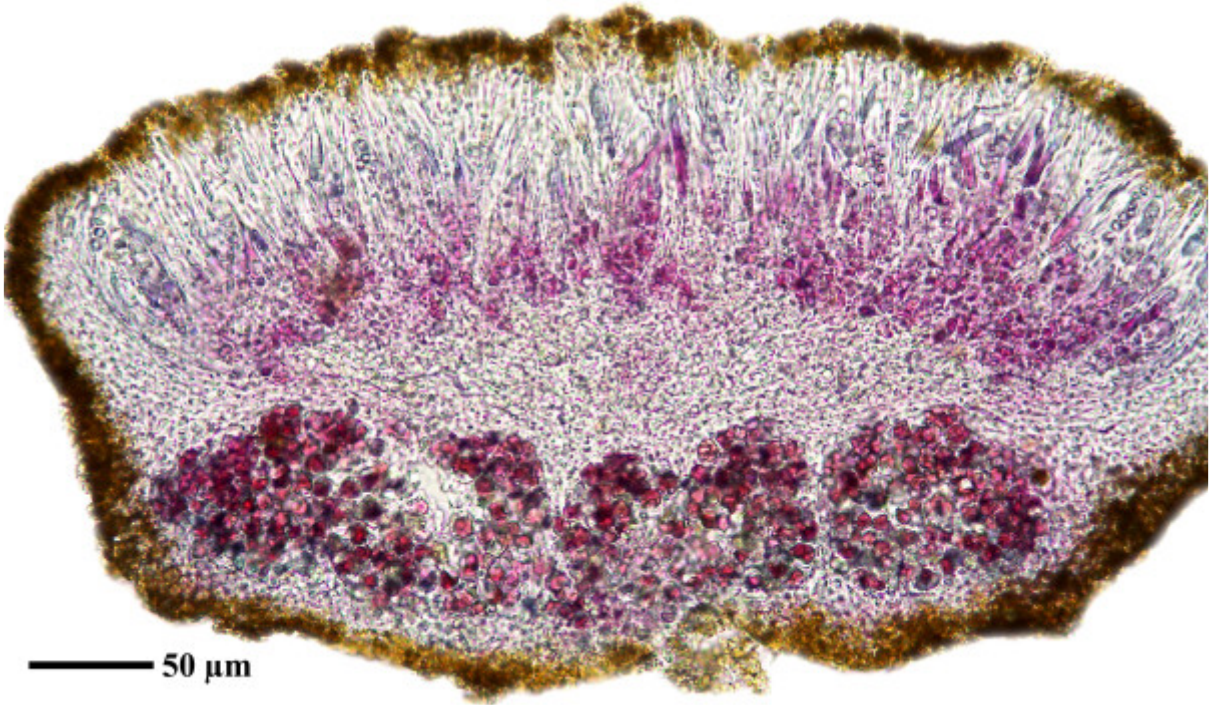




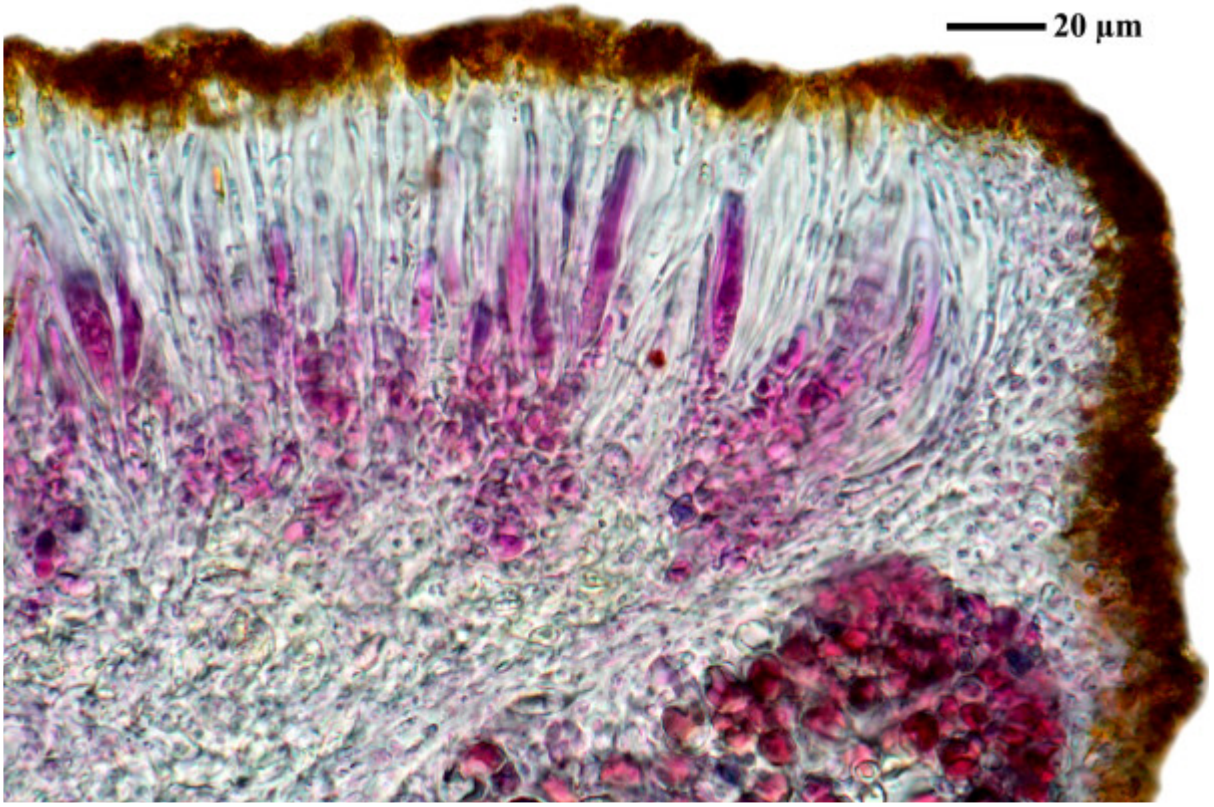
Caloplaca ora

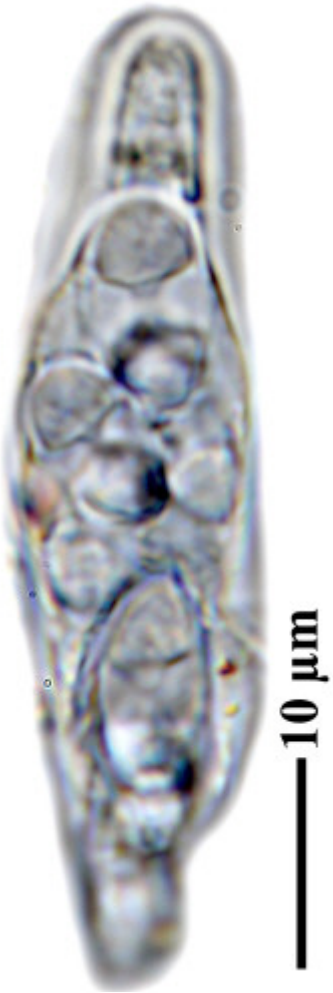
1922

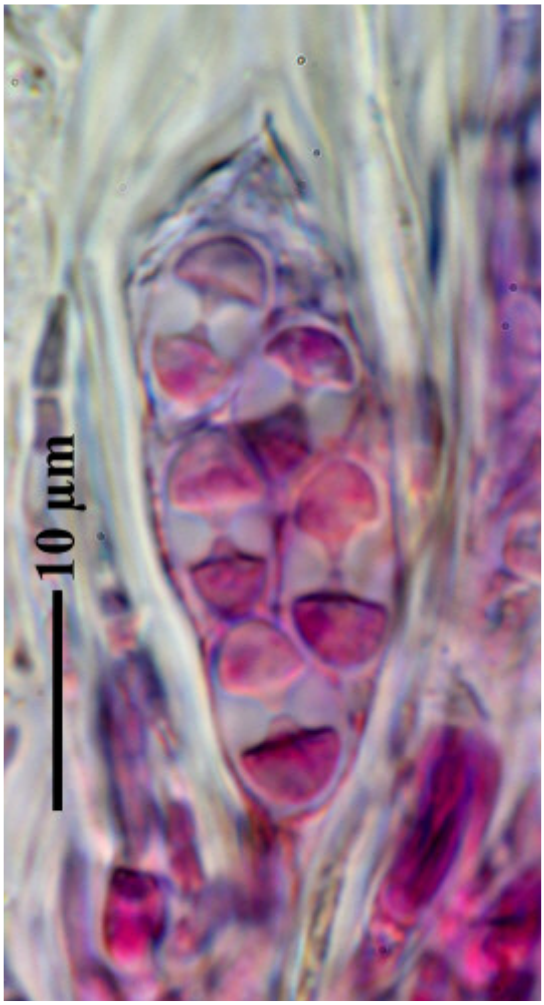


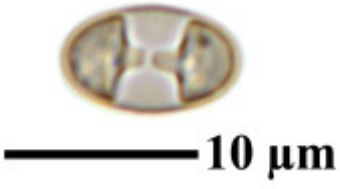


Caloplaca ora

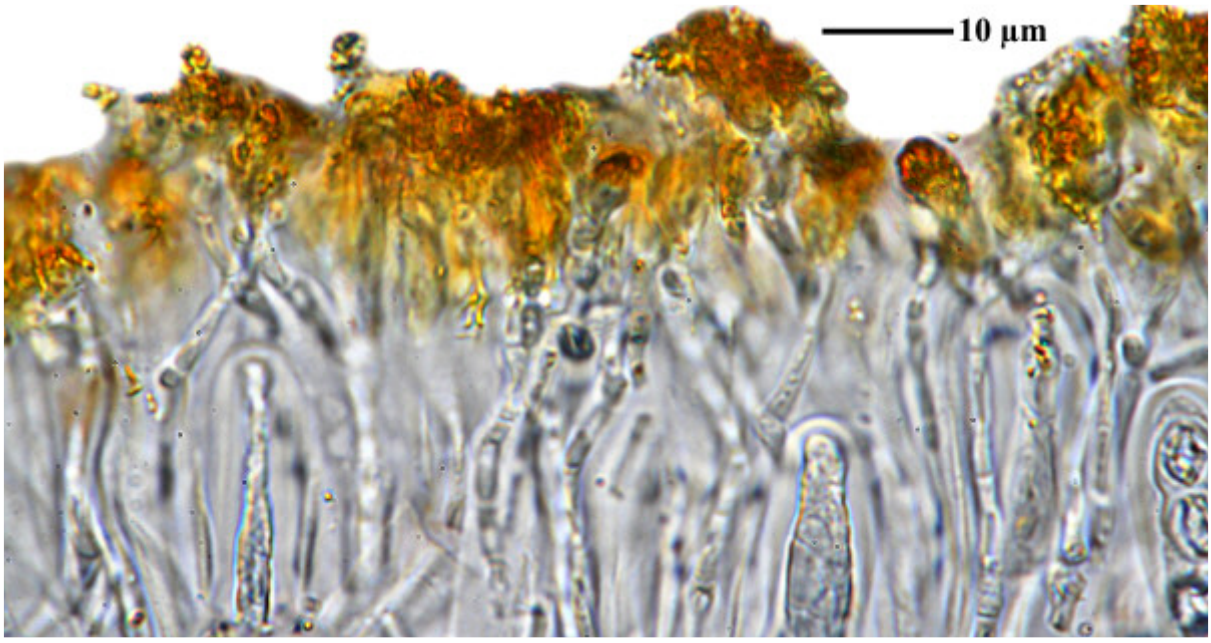








Caloplaca ora



Caloplaca ora

1925

Caloplaca orthoclada Zahlbr.
[= *Follmannia orthoclada* (Zahlbr.) Frödén, Arup & Søchting]

Spores 12-13.5 x 4.5-6 µm, septum 3.7-4.2 µm (FS)

[B 60 0180150], Chile, Región de Antofagasta, La Chimba, 23°32' S, 70°22' W, c. 250 m. Leg. G. Follmann (7648), 06.1961, det. R.C. Vargas 26.03.2010.







Caloplaca orthoclada

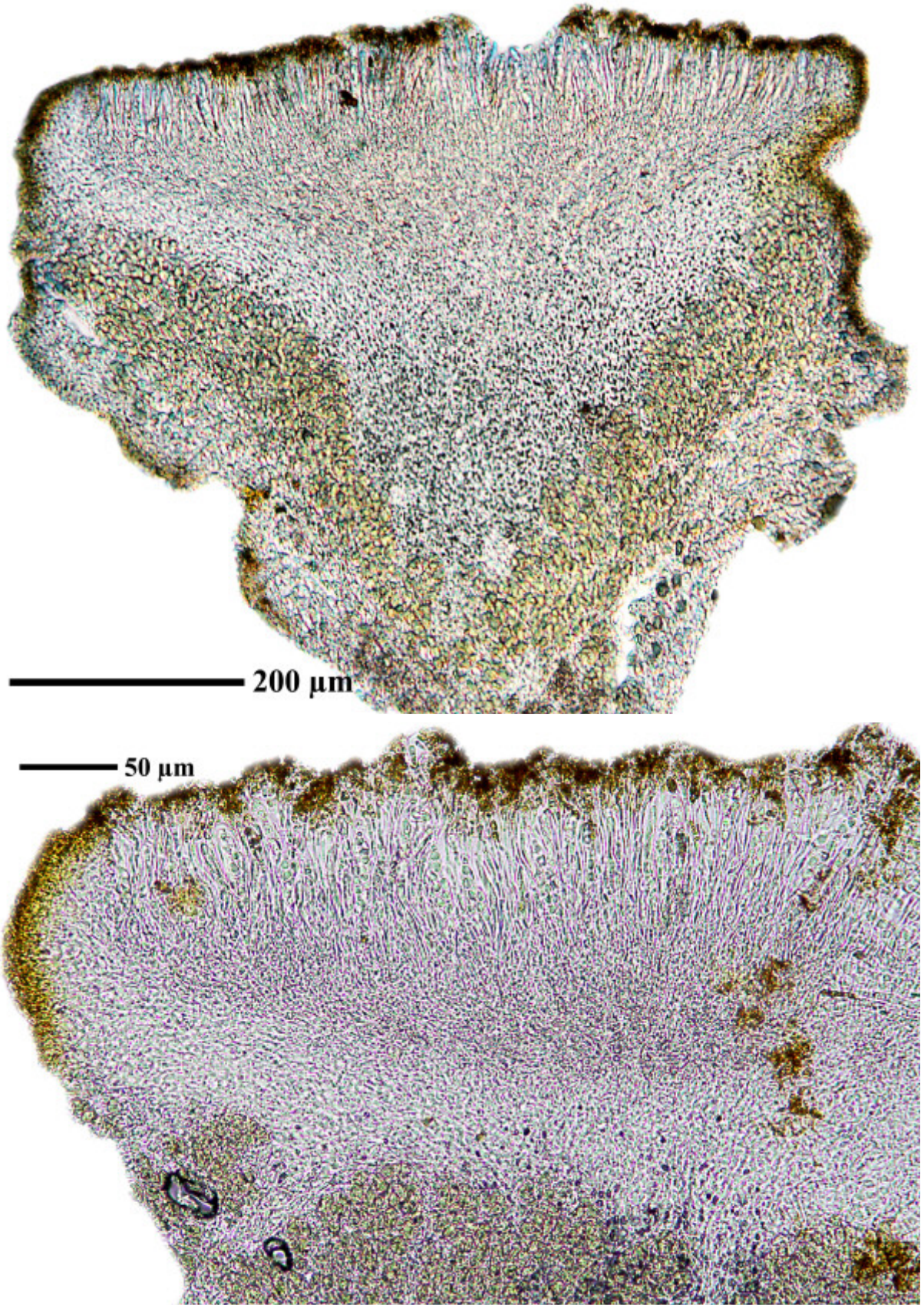
1927





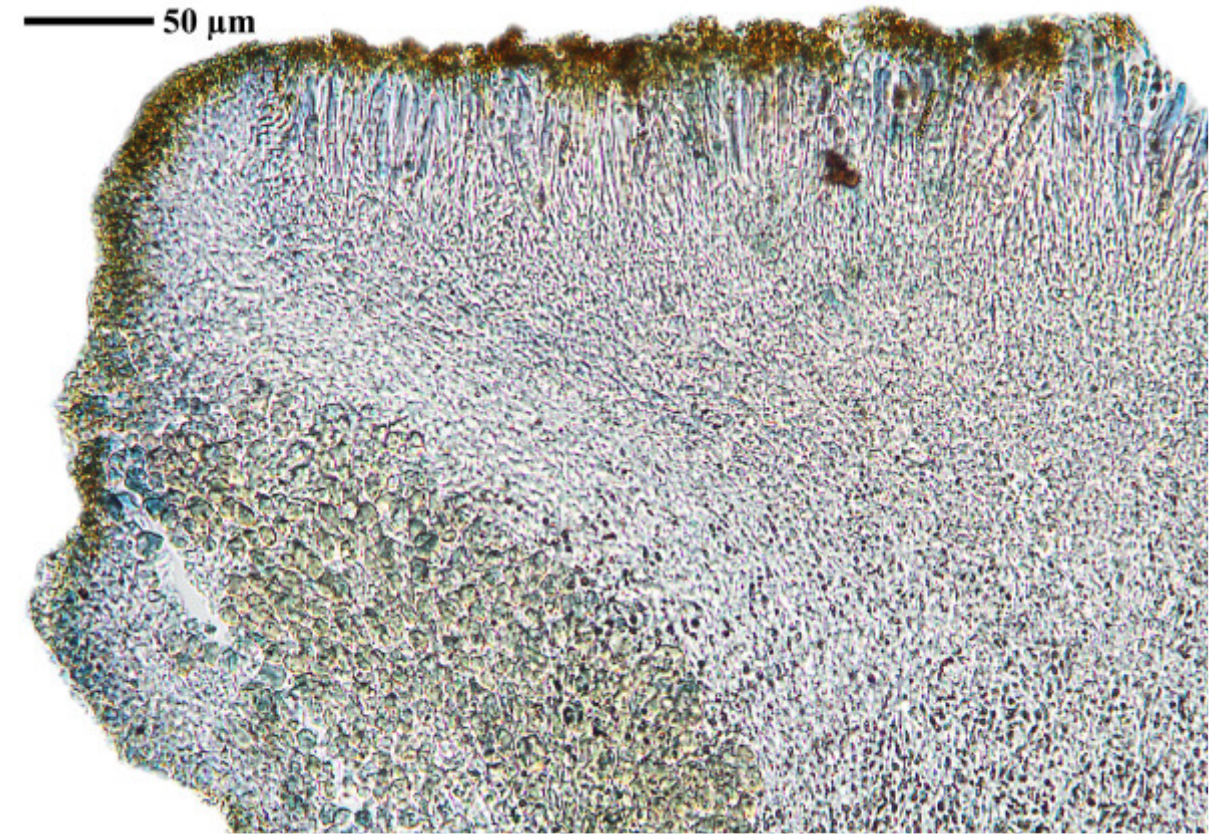
Caloplaca orthoclada

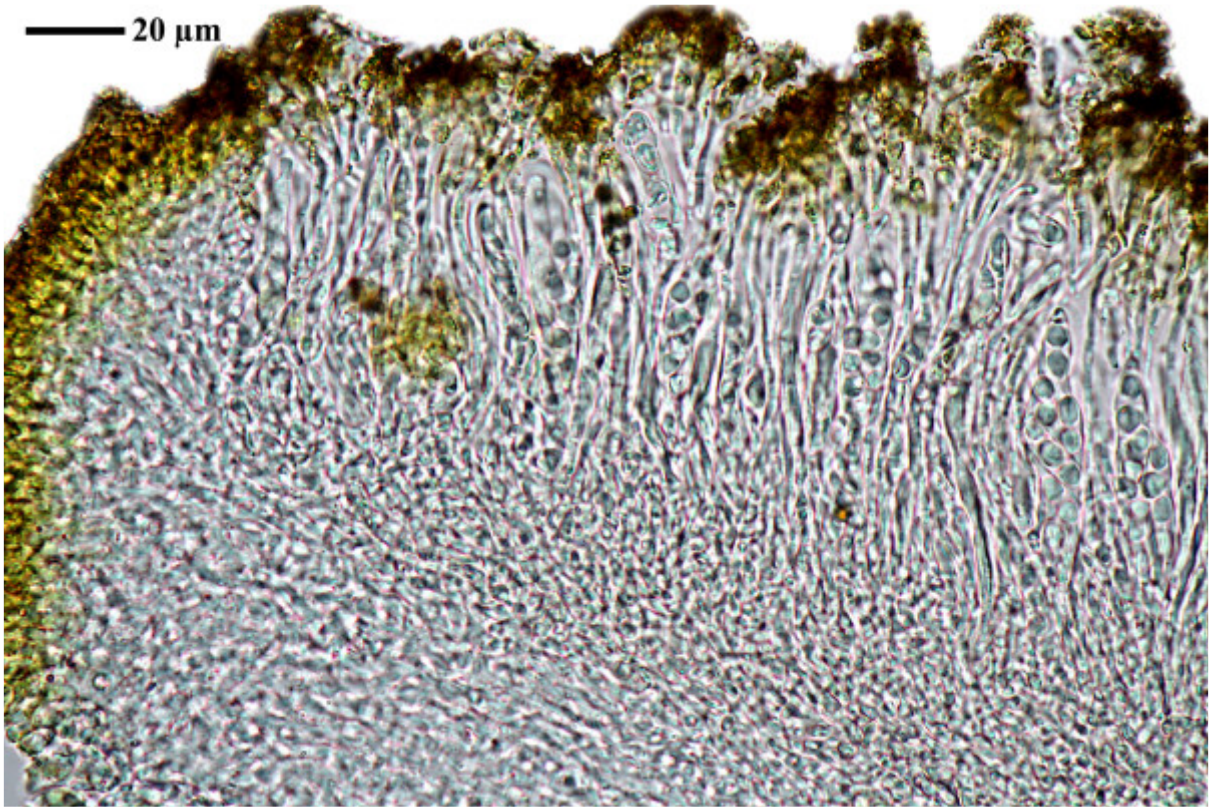
1928



Caloplaca orthoclada

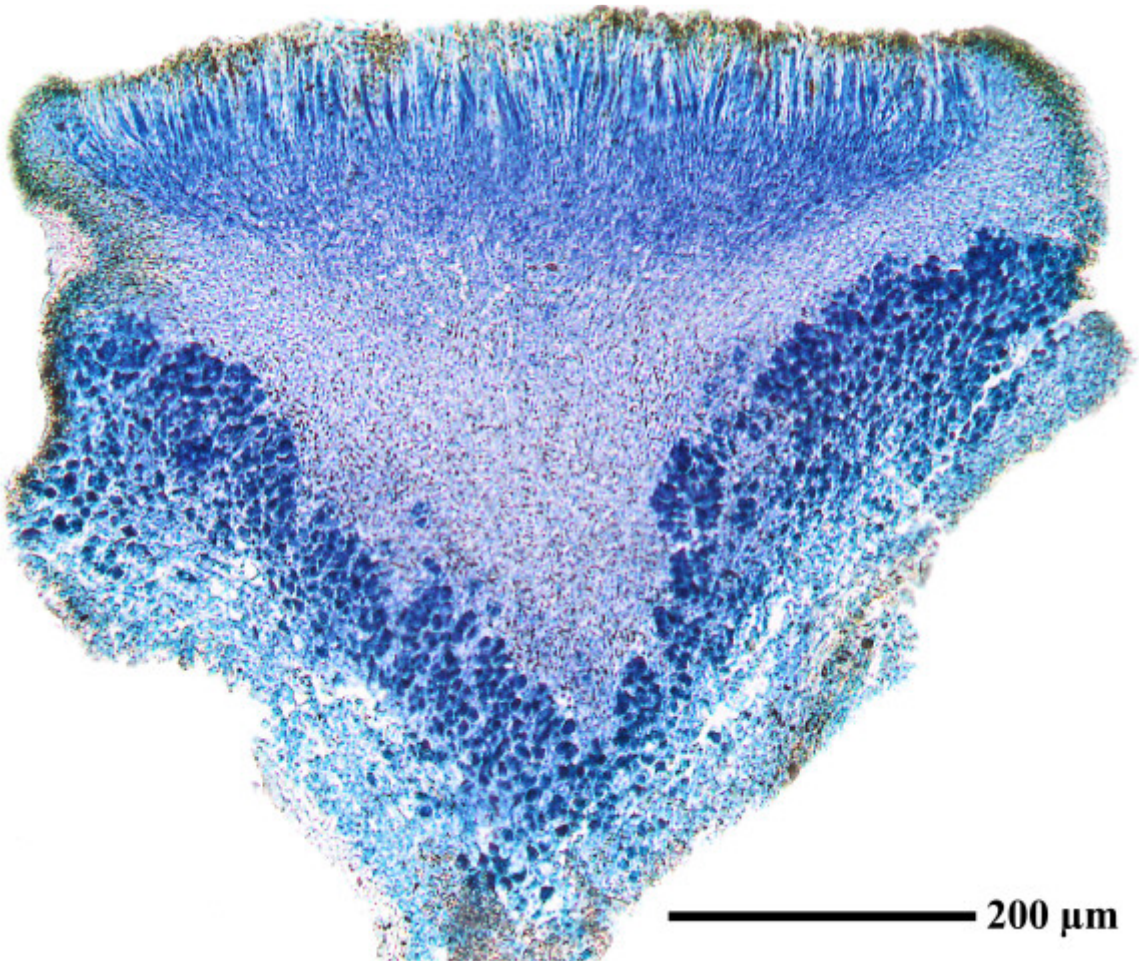
1929

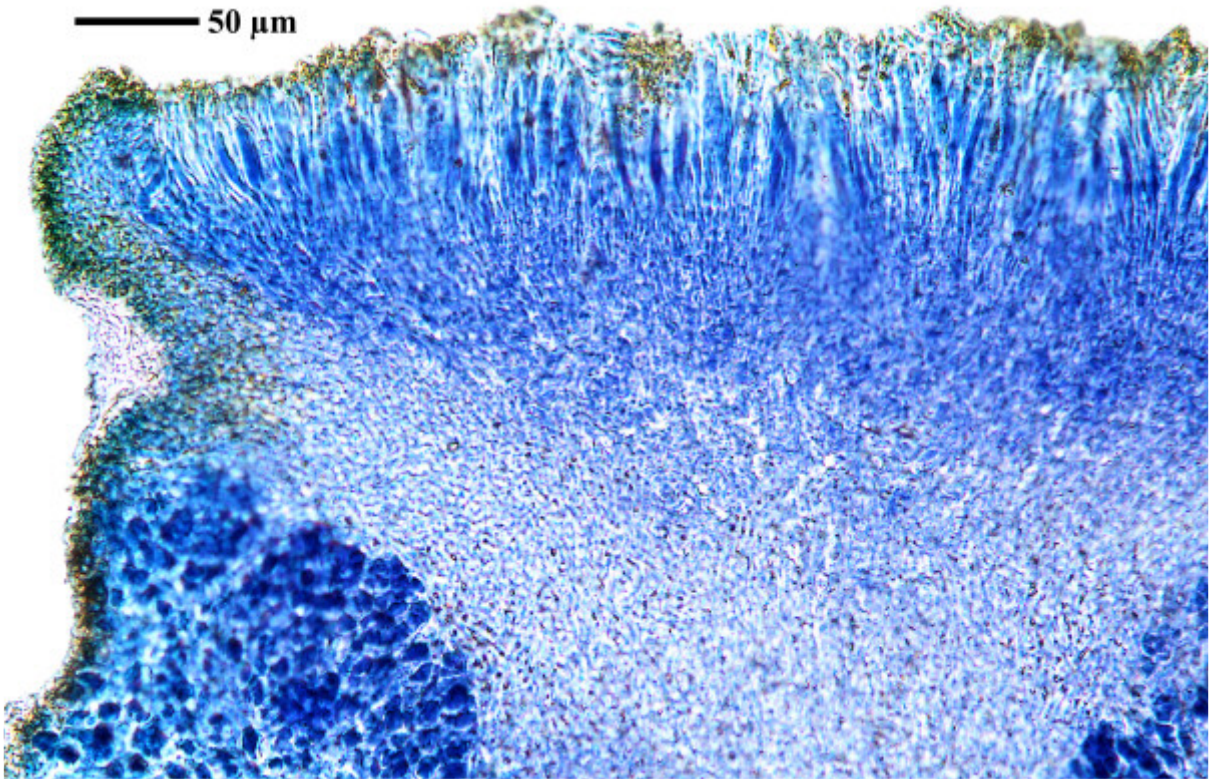




Caloplaca orthoclada

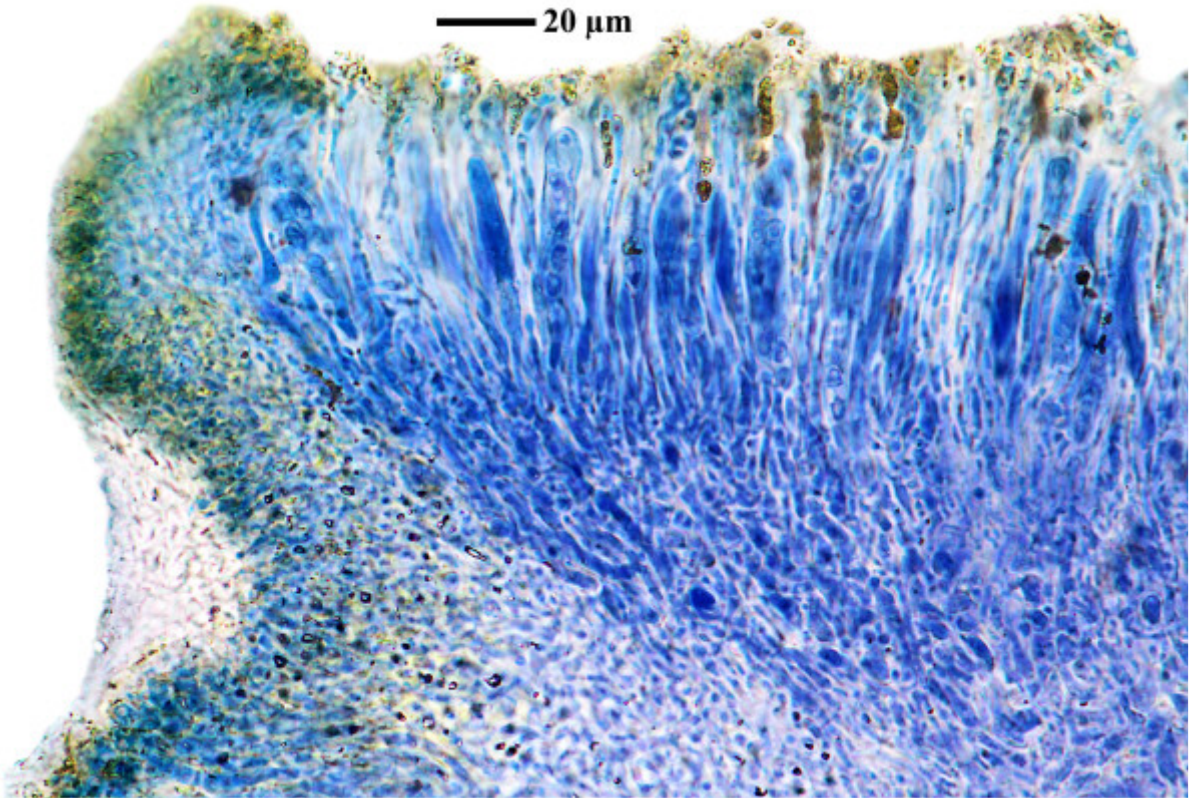
1930

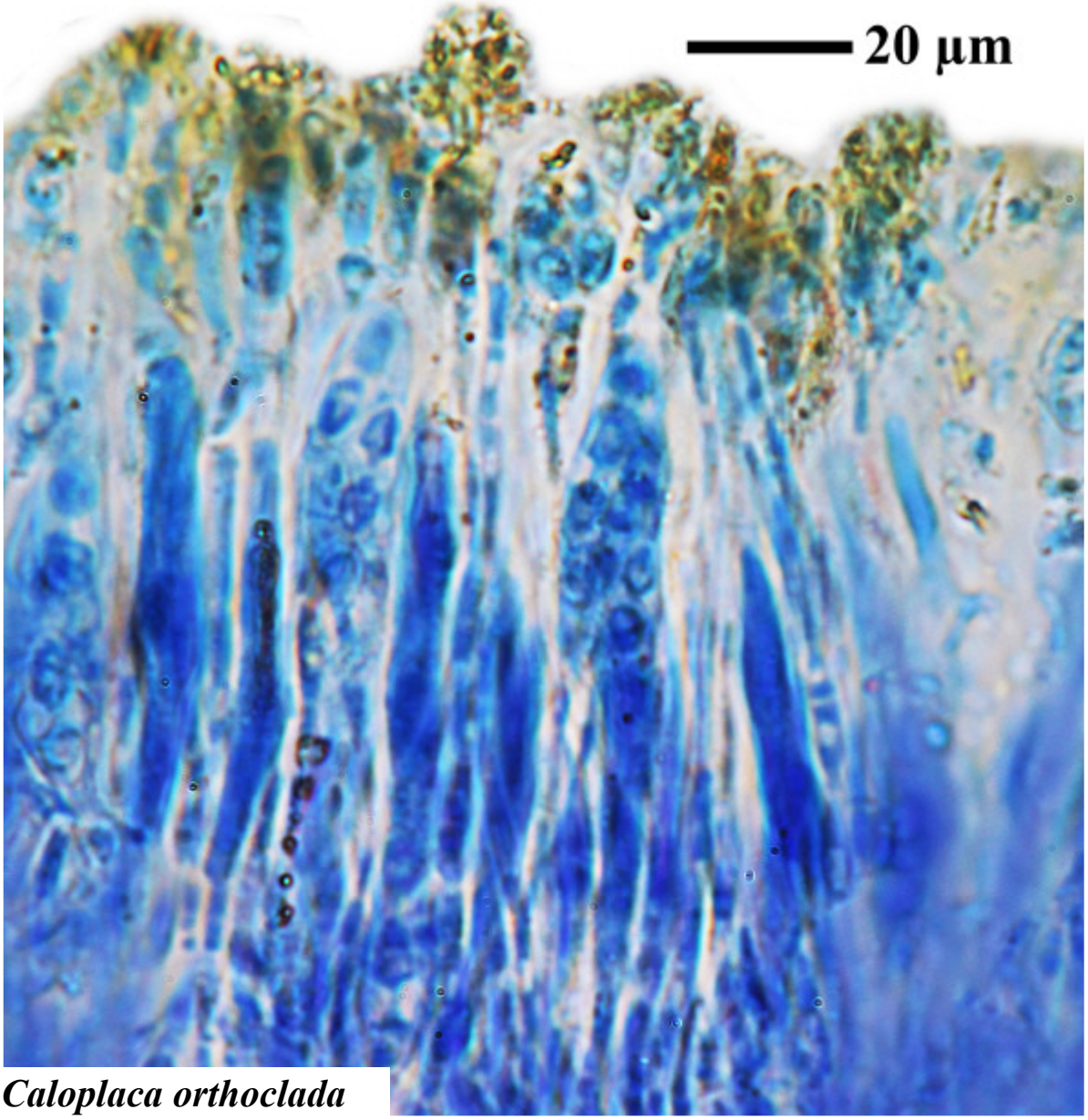




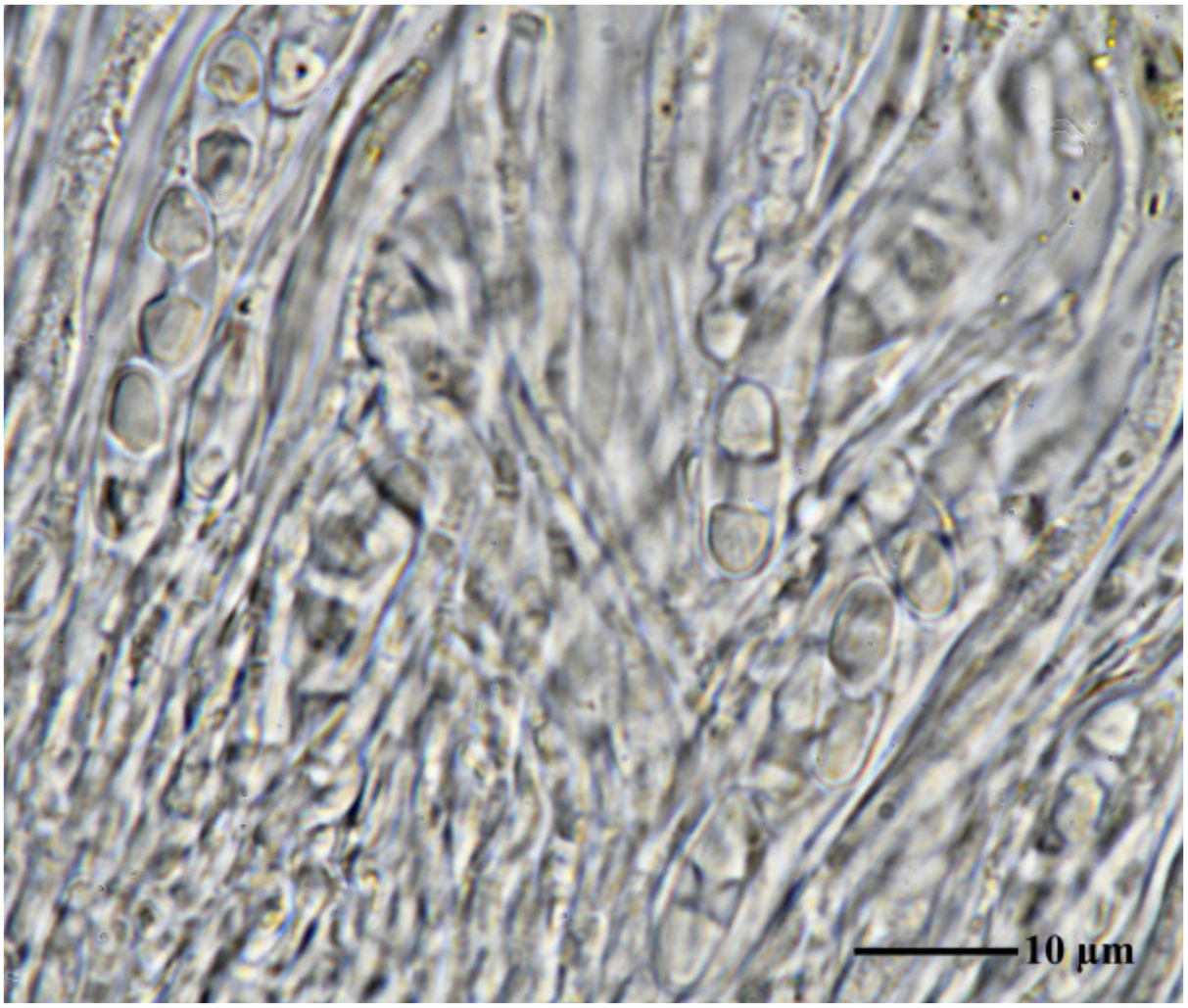
Caloplaca orthoclada

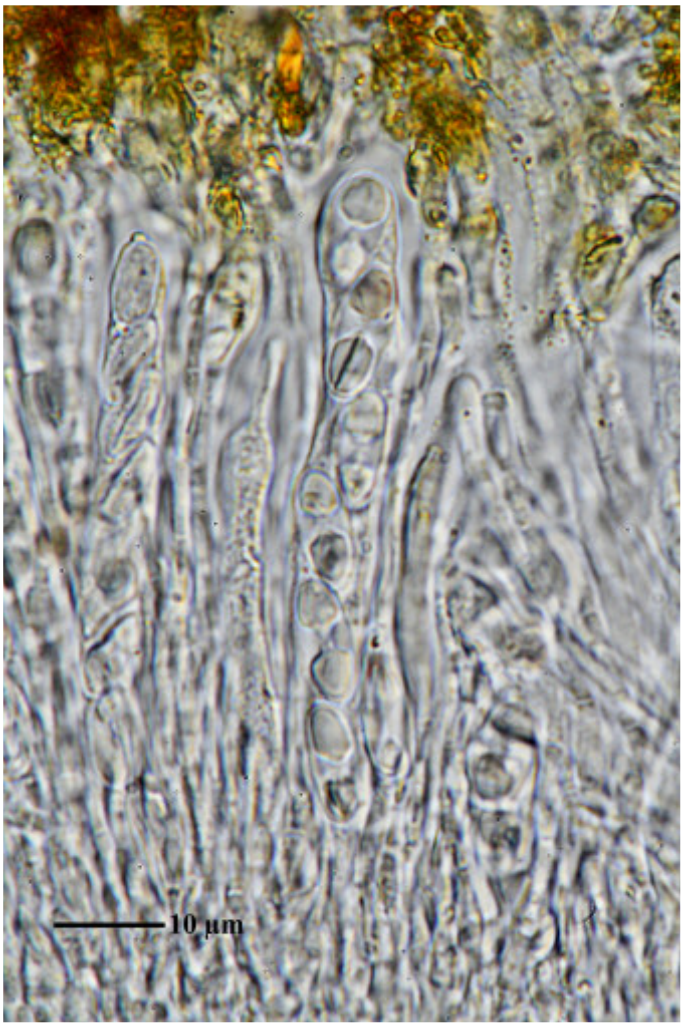
1931





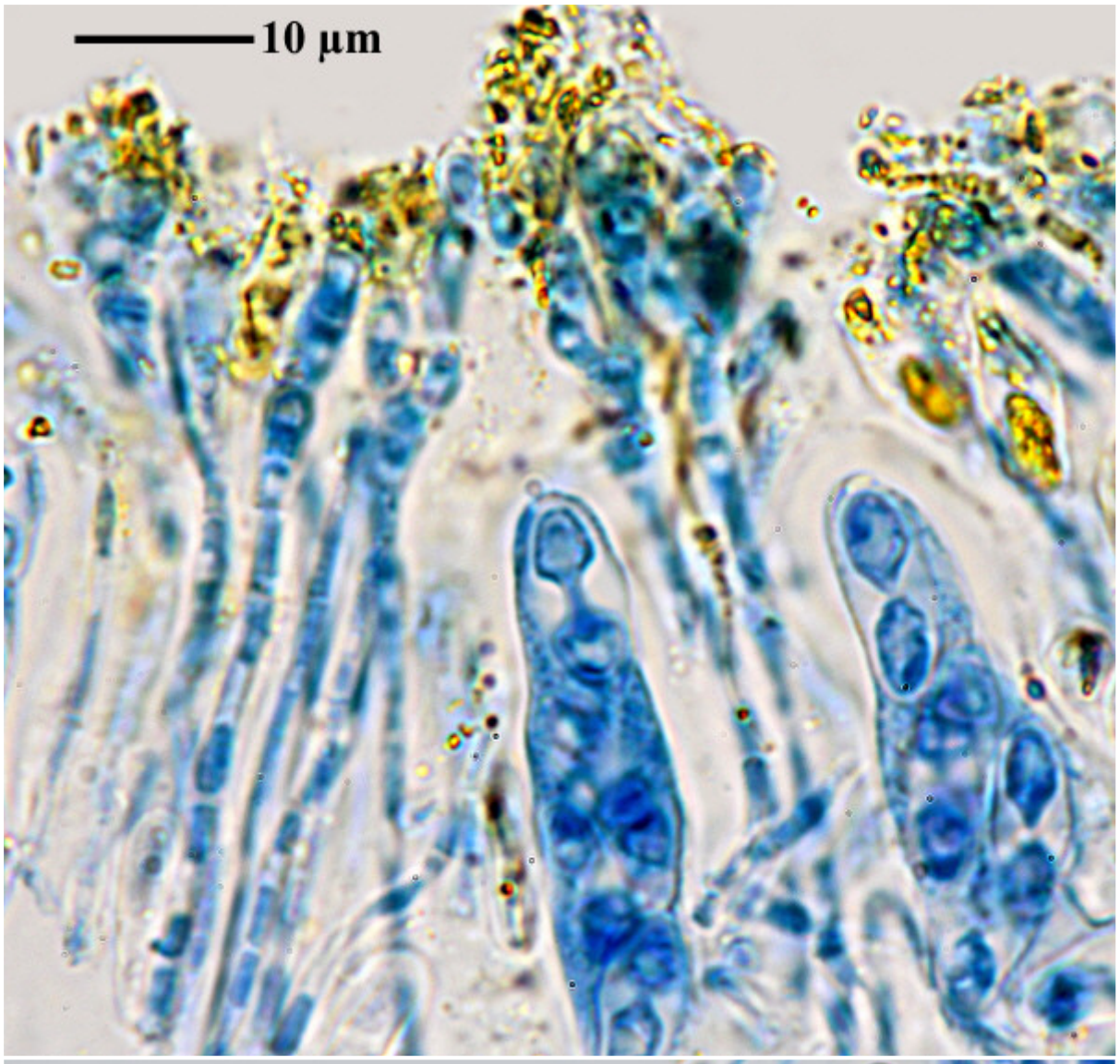
Caloplaca orthoclada

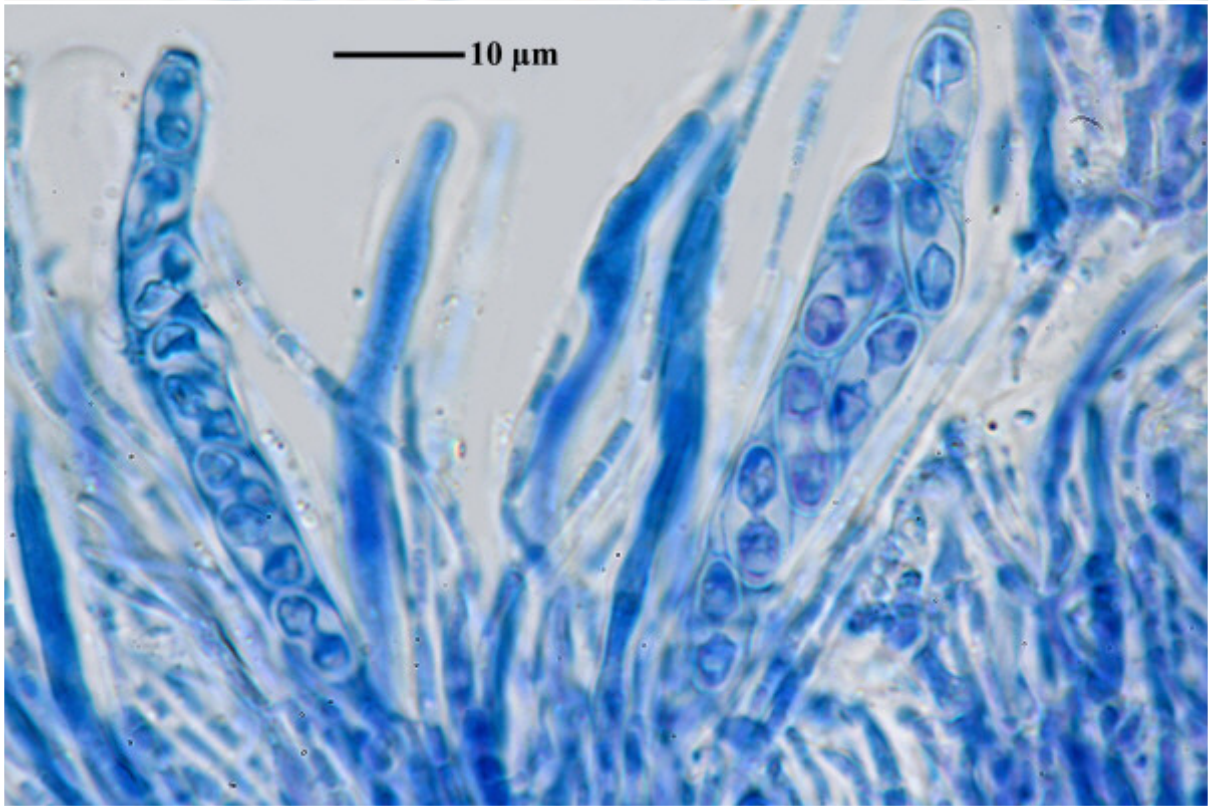




Caloplaca orthoclada

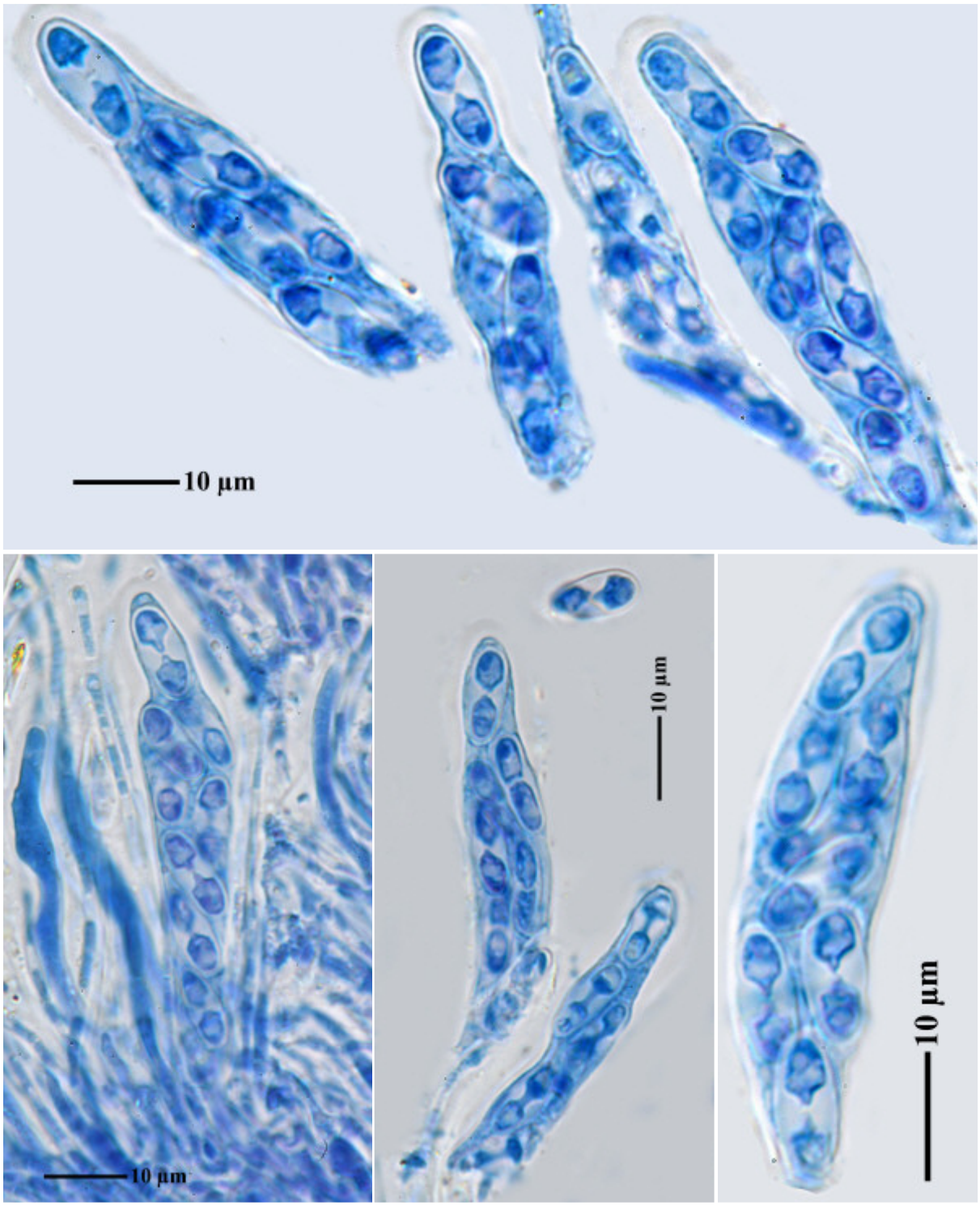
1933





Caloplaca orthoclada

1934



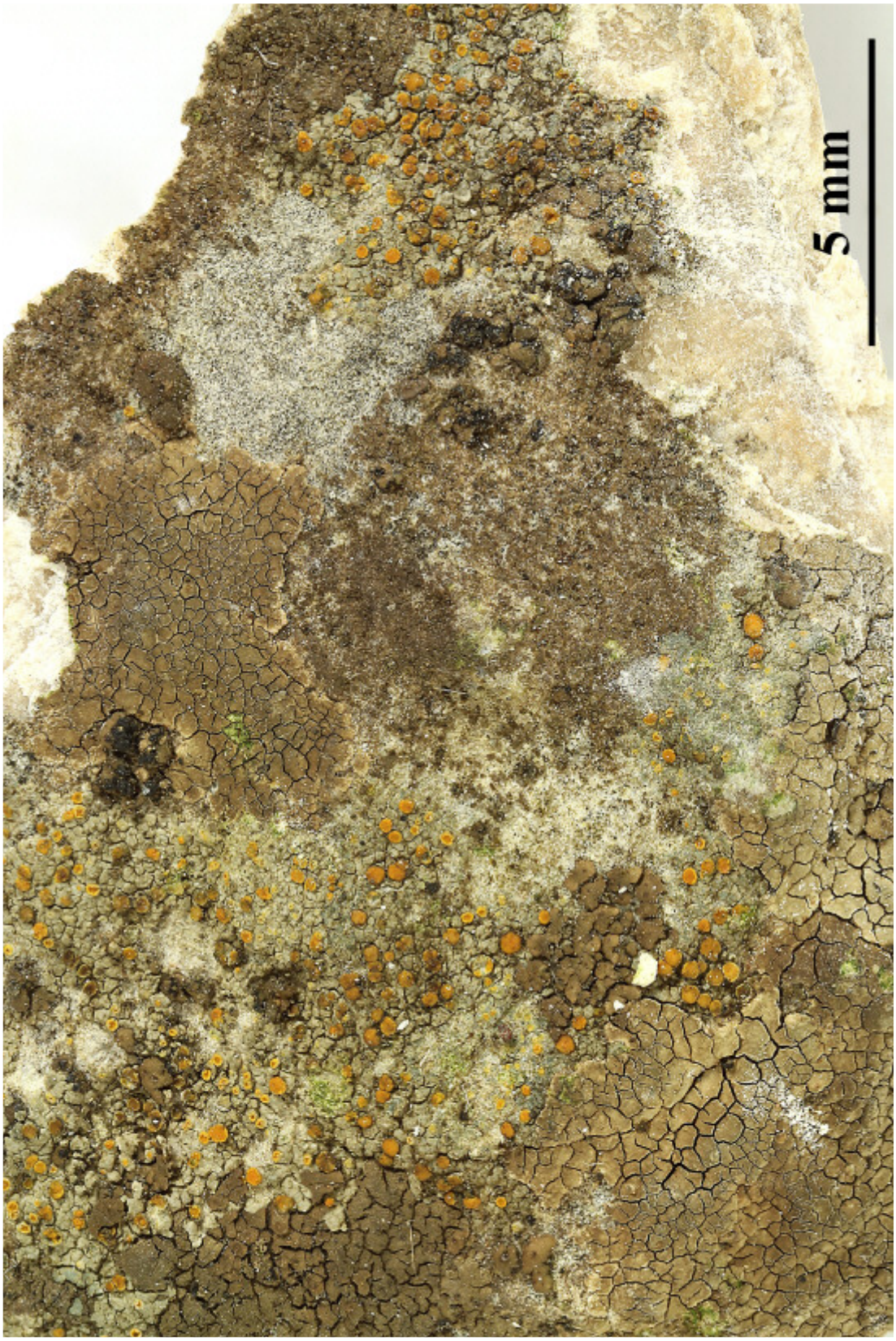
Caloplaca orthoclada

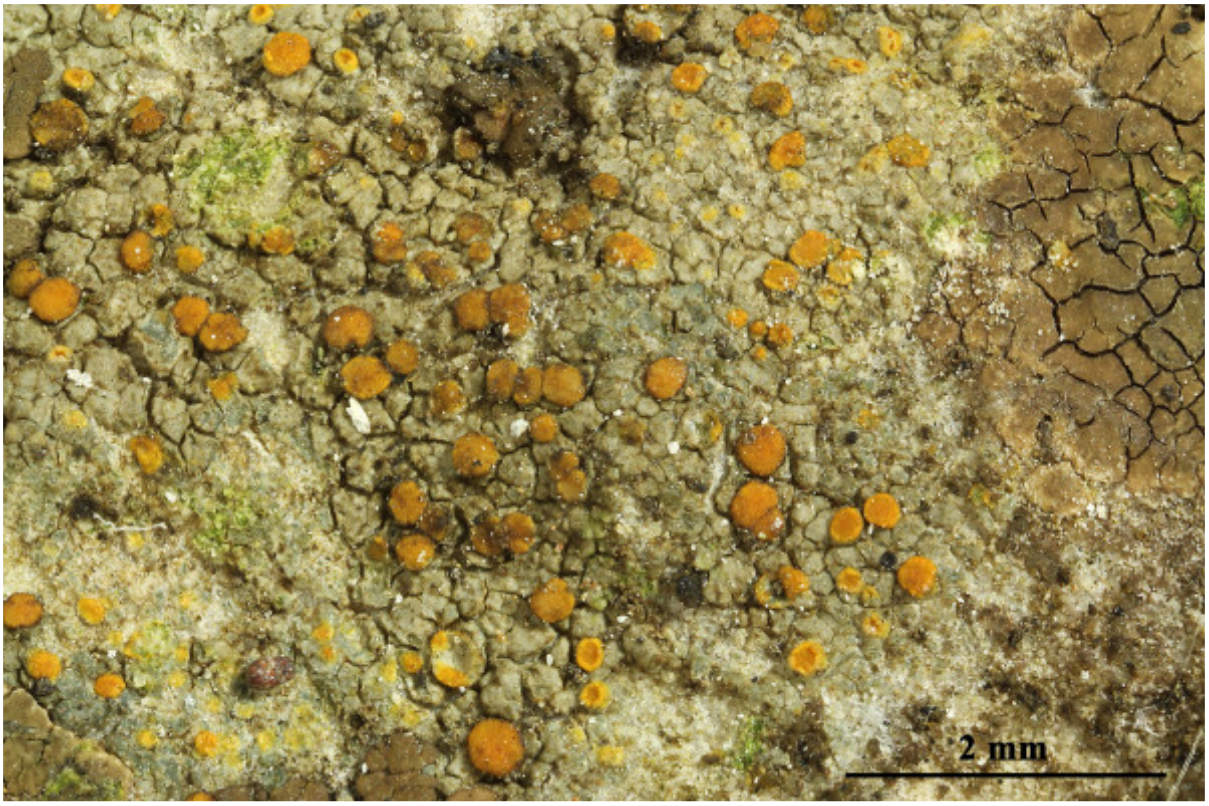
1935

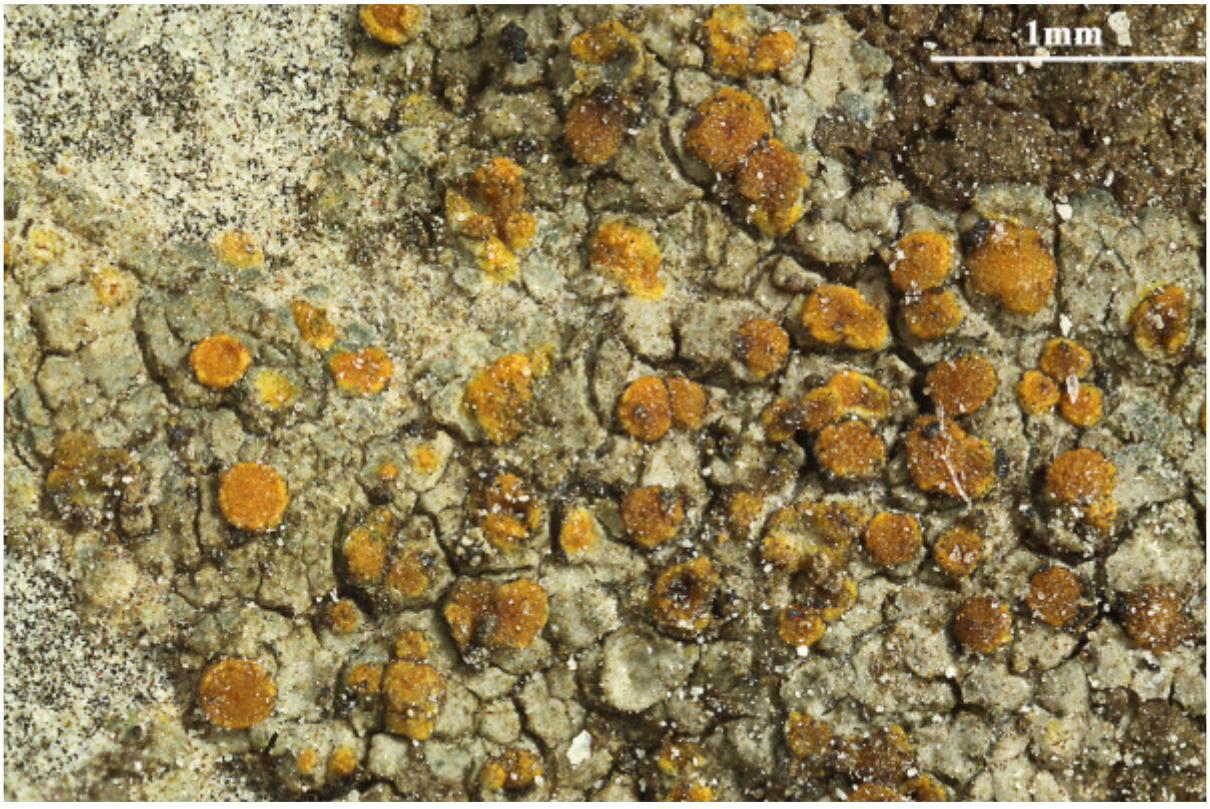
Caloplaca oxfordensis Fink
[= *Rufoplaca oxfordensis* (Fink) Arup, Frödén & Søchting]

On rock.

[ABL 72998], Korea, Gangwon-do, Samcheok city, Singi-myeoun, Daei-ri, route of Hwanseon cave, c. 37°19’ N, c. 129°00’ E, c. 400-500 m, on limestone. Leg. A. Aptroot 20.10.2014, det. A. Aptroot 2014.







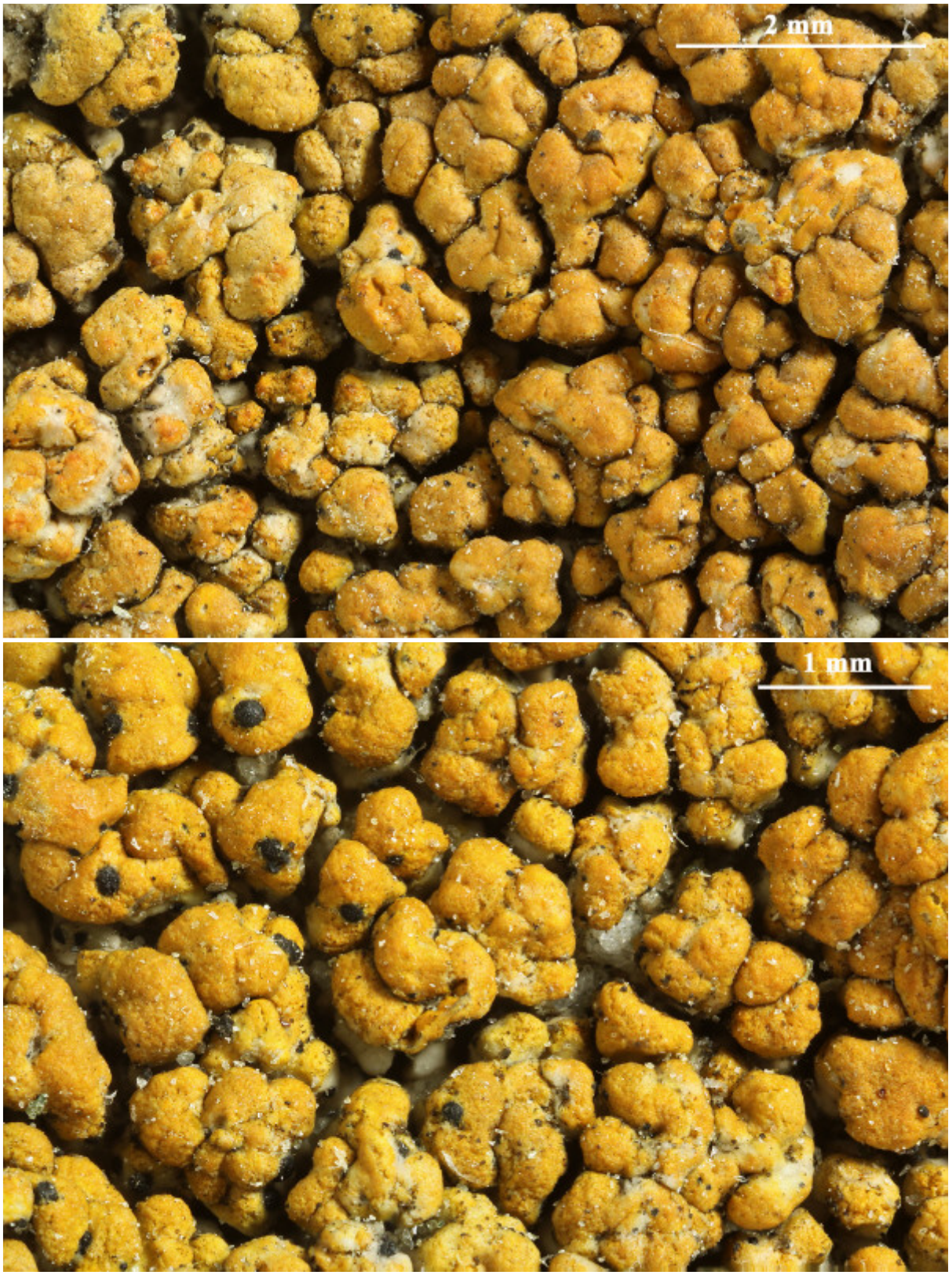
Caloplaca oxfordensis

1937

Caloplaca paulii Poelt
[= *Variospora paulii* (Poelt) Arup, Søchting & Frödén]

[B 60 0104679]; Austria, Ost-Tirol, Central Alps, NE of Kals, near Lucknerhaus in Ködnitztal, along trail Lücknerhütte-Stüdlhütte,on green schist boulders in alpine meadow in valley bottom. 47°03’ N, 12°,40’ E, 2500 m. Leg. H. Sipman, 4.09.1998 (nr. 43644), det. H. Sipman, 1999.





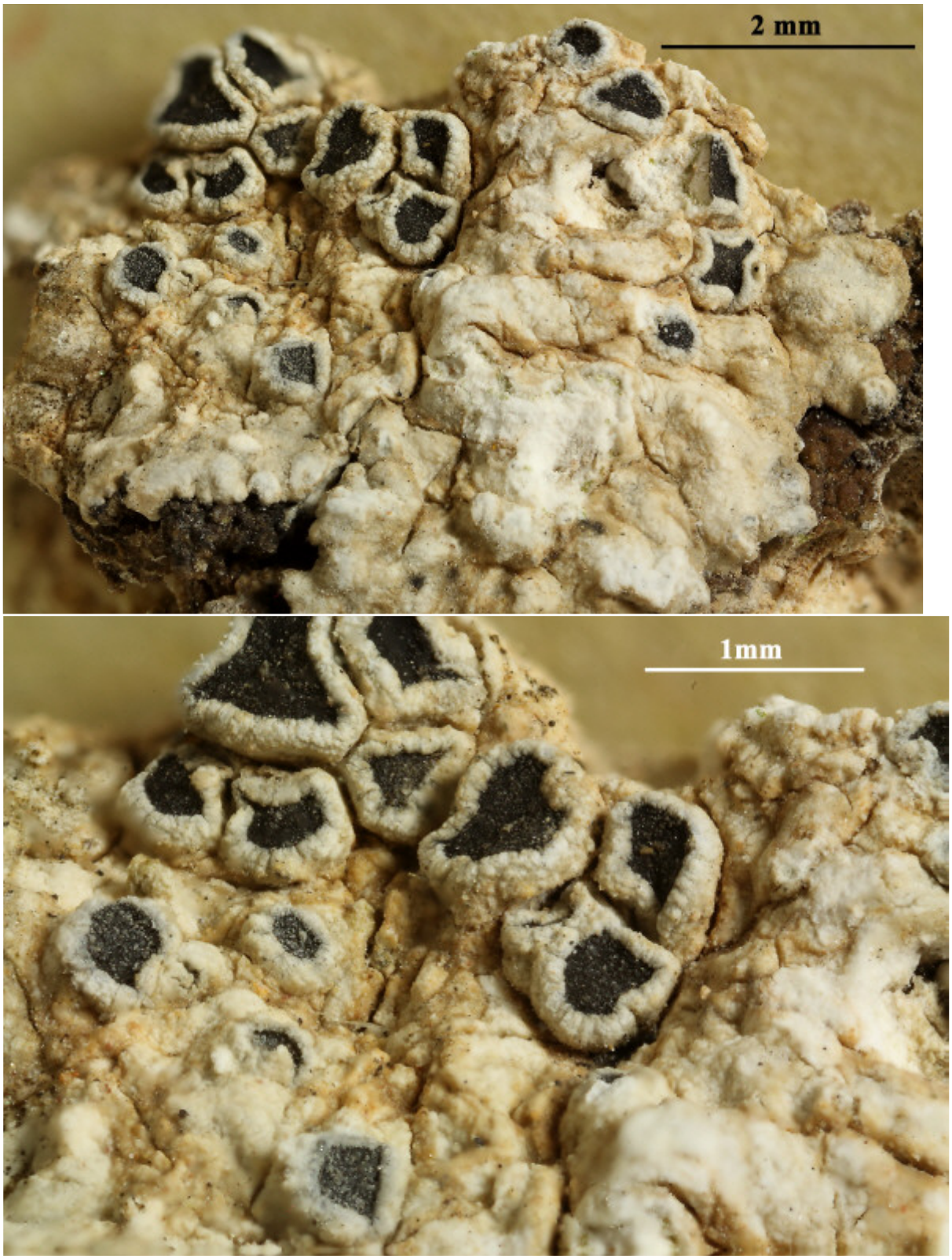
Caloplaca paulii

1939

Caloplaca paulsenii (Vain.) Zahlbr.

Hymenium 100 µm, Spores ca. 16 x 8 µm, septum small. (Sipm.). Spores 10.5-14 x 6-7.2 µm, septum 2.4-3.6 µm (FS).

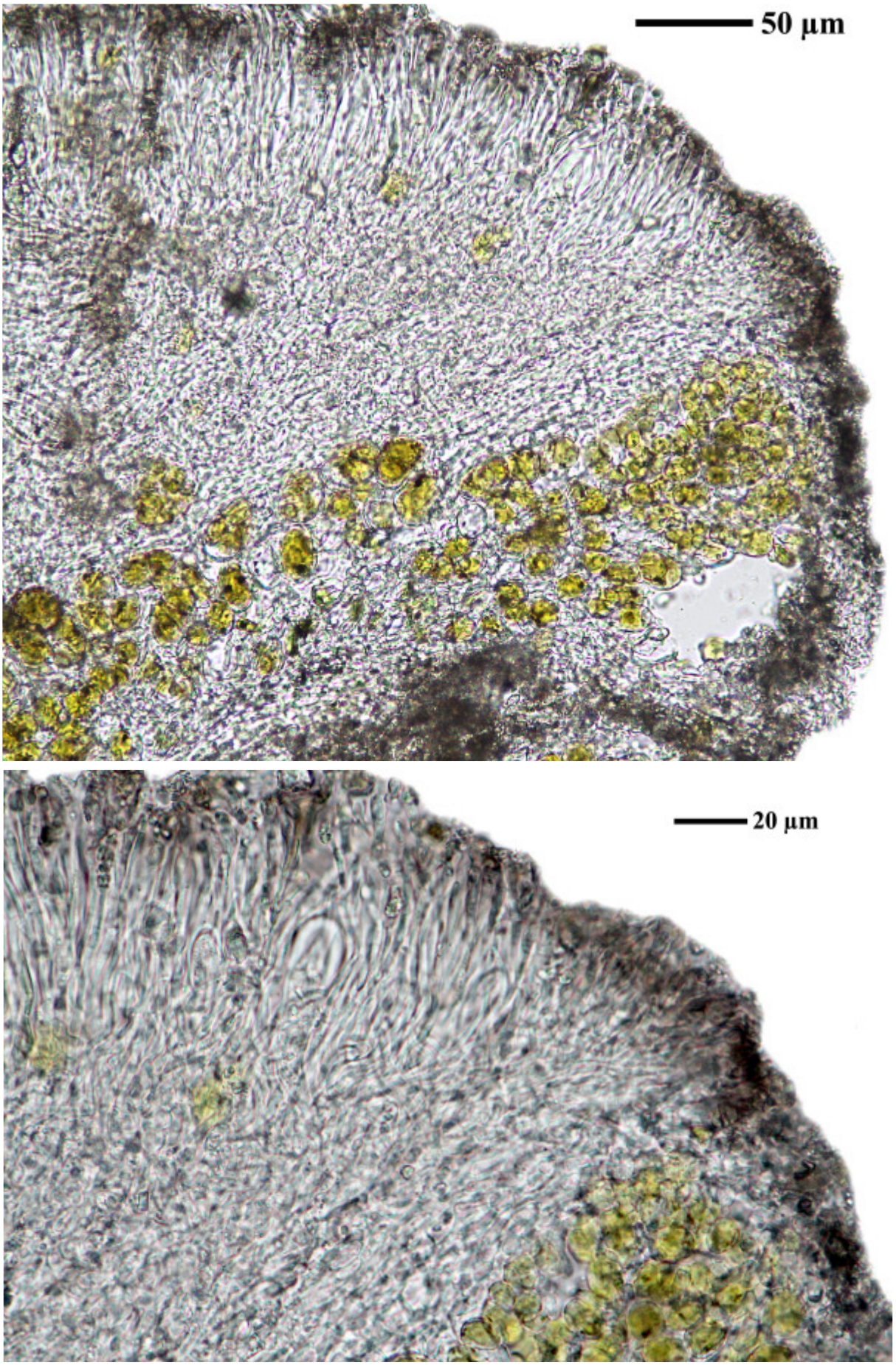
[B 60 0142659], Syria, Muhafazat Aleppo, meadows on SW-shore of Euphrates river near bridge ca. 5 km S of Tal Ahmar (NW Manbej), on calcareous rock. 36°37.88' N, 38°11.99' E, 400 m. Leg. L. Zedda (S-227), 3. April 1999, det. H. Sipman, 2003.





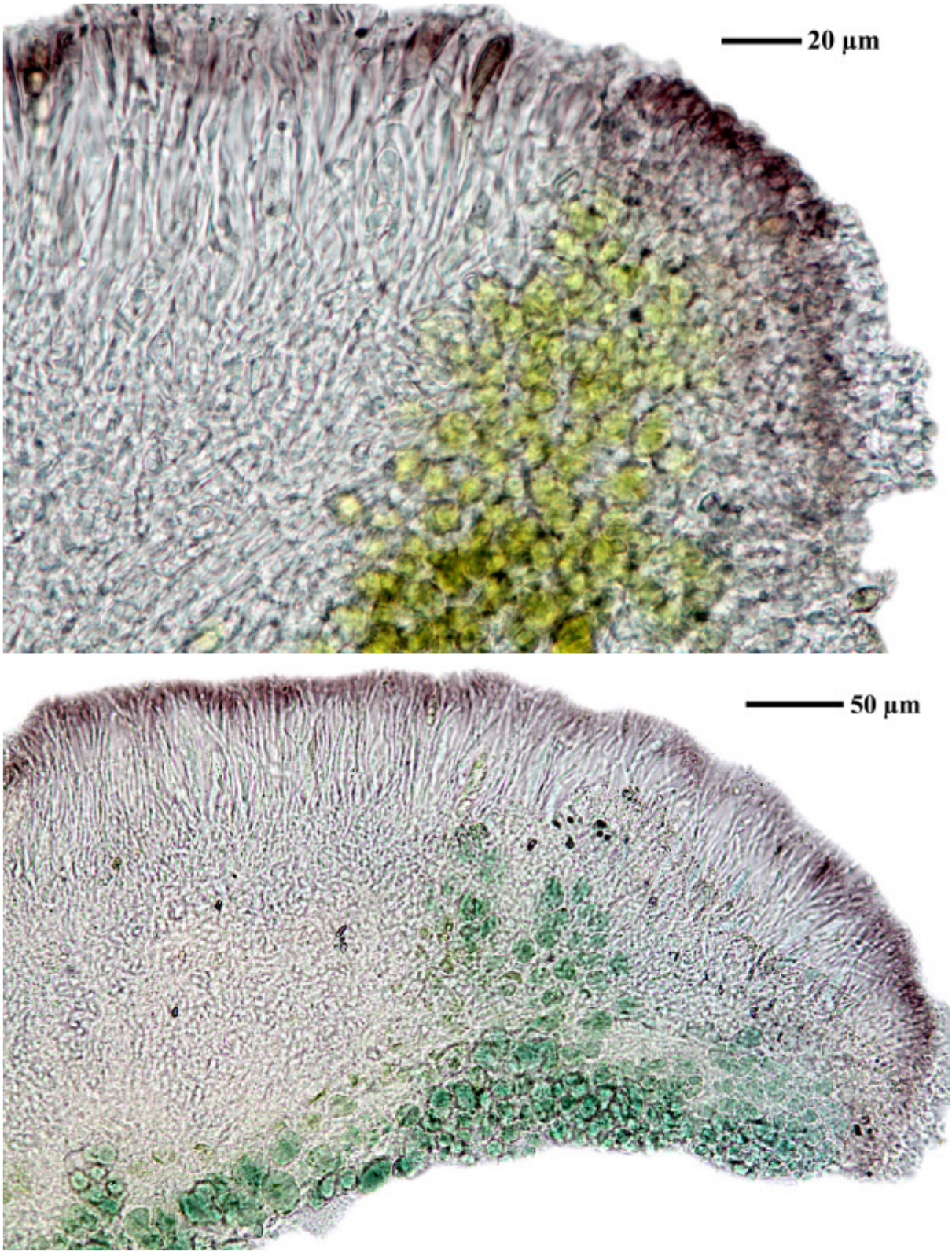


Caloplaca paulsenii



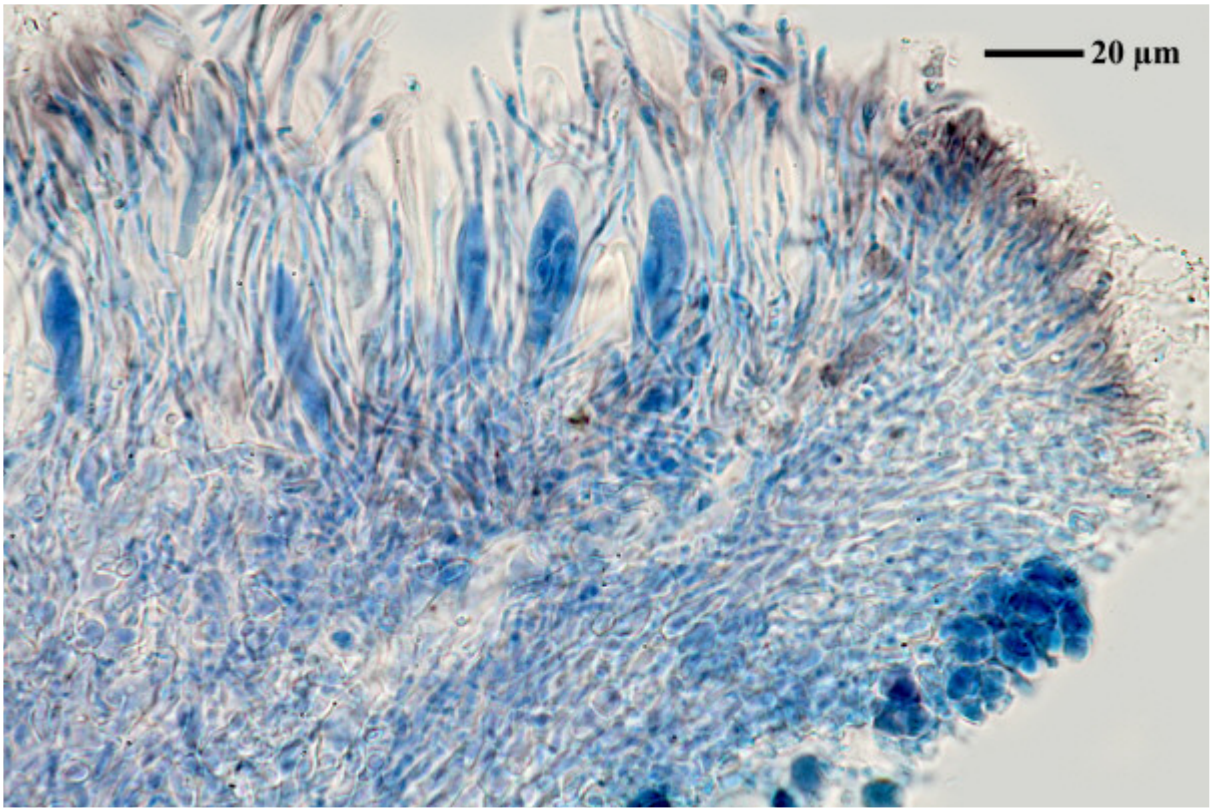
Caloplaca paulsenii

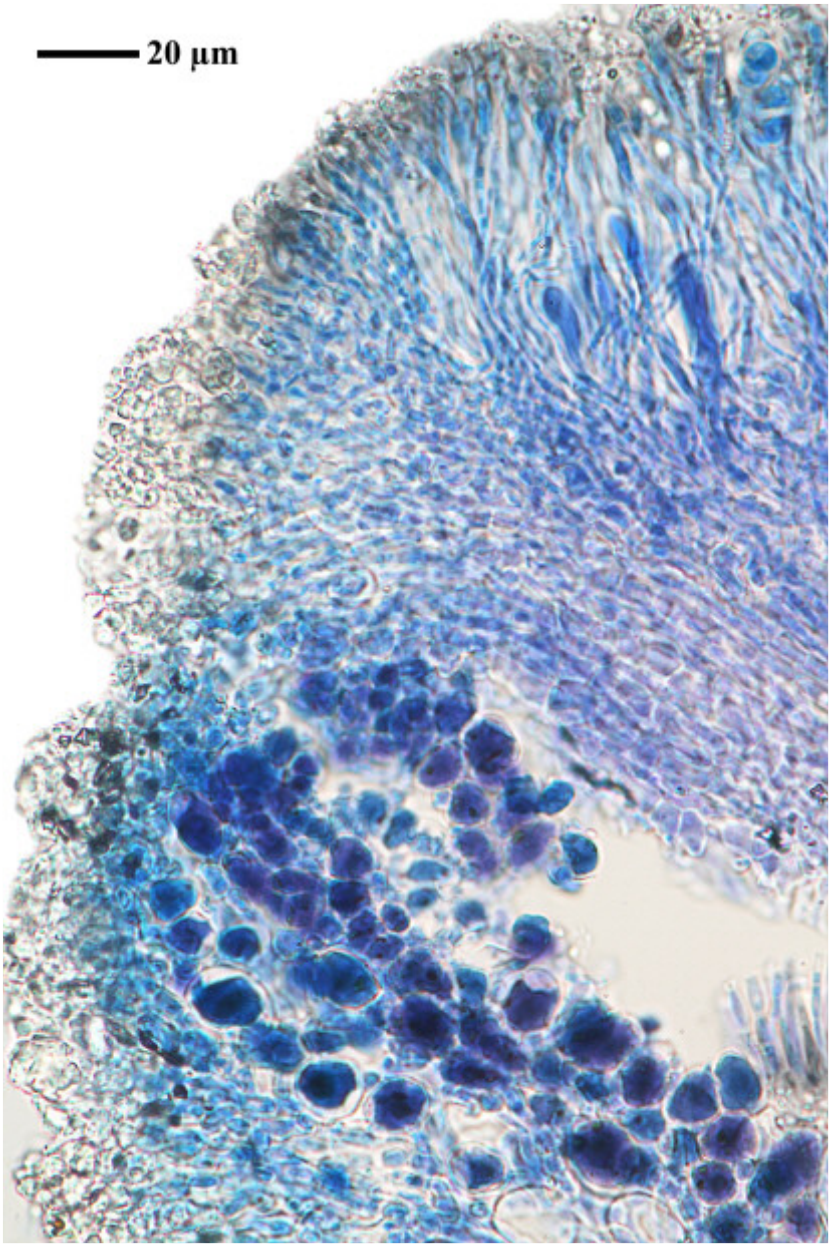
1942



Caloplaca paulsenii

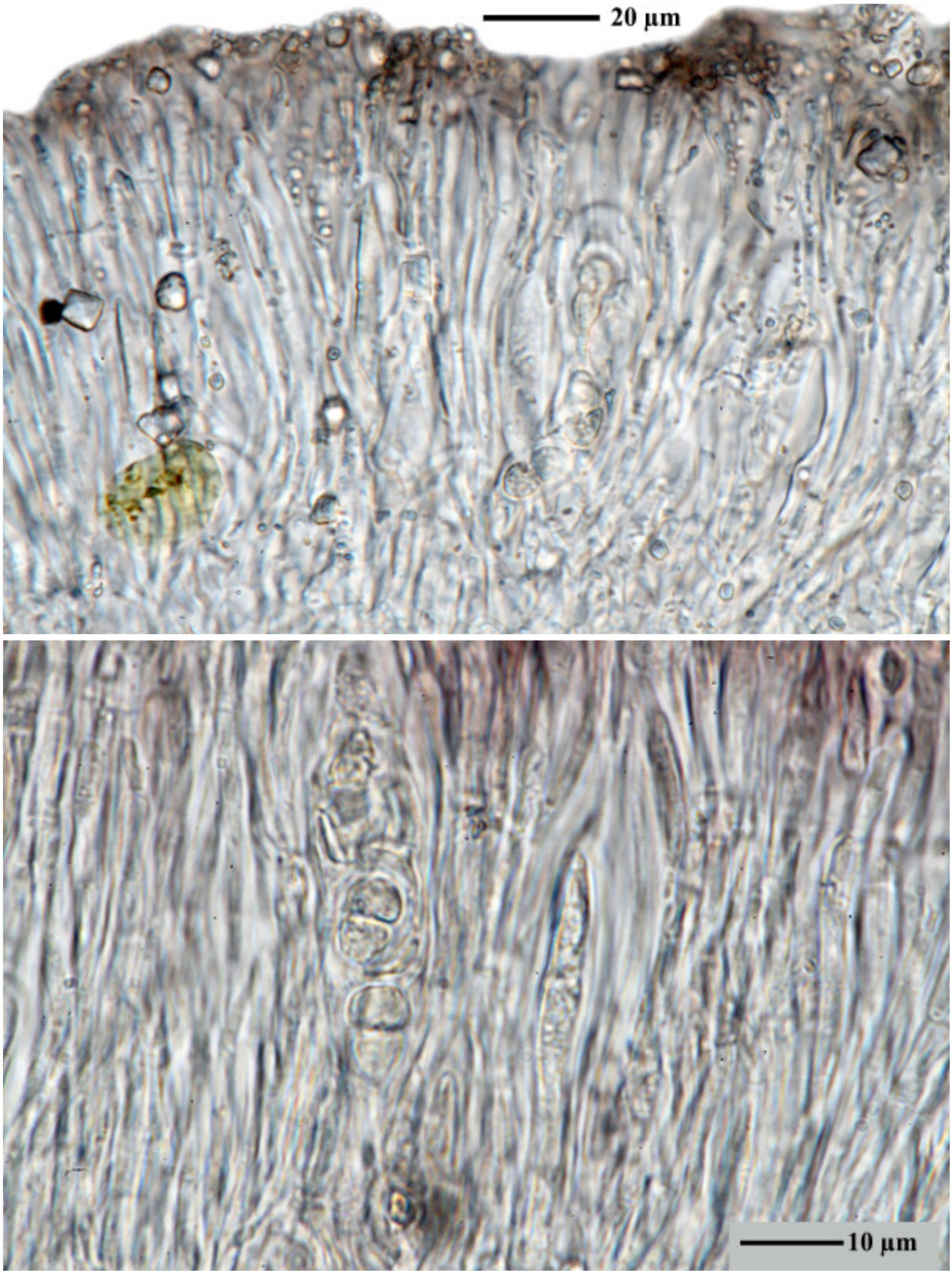
1943





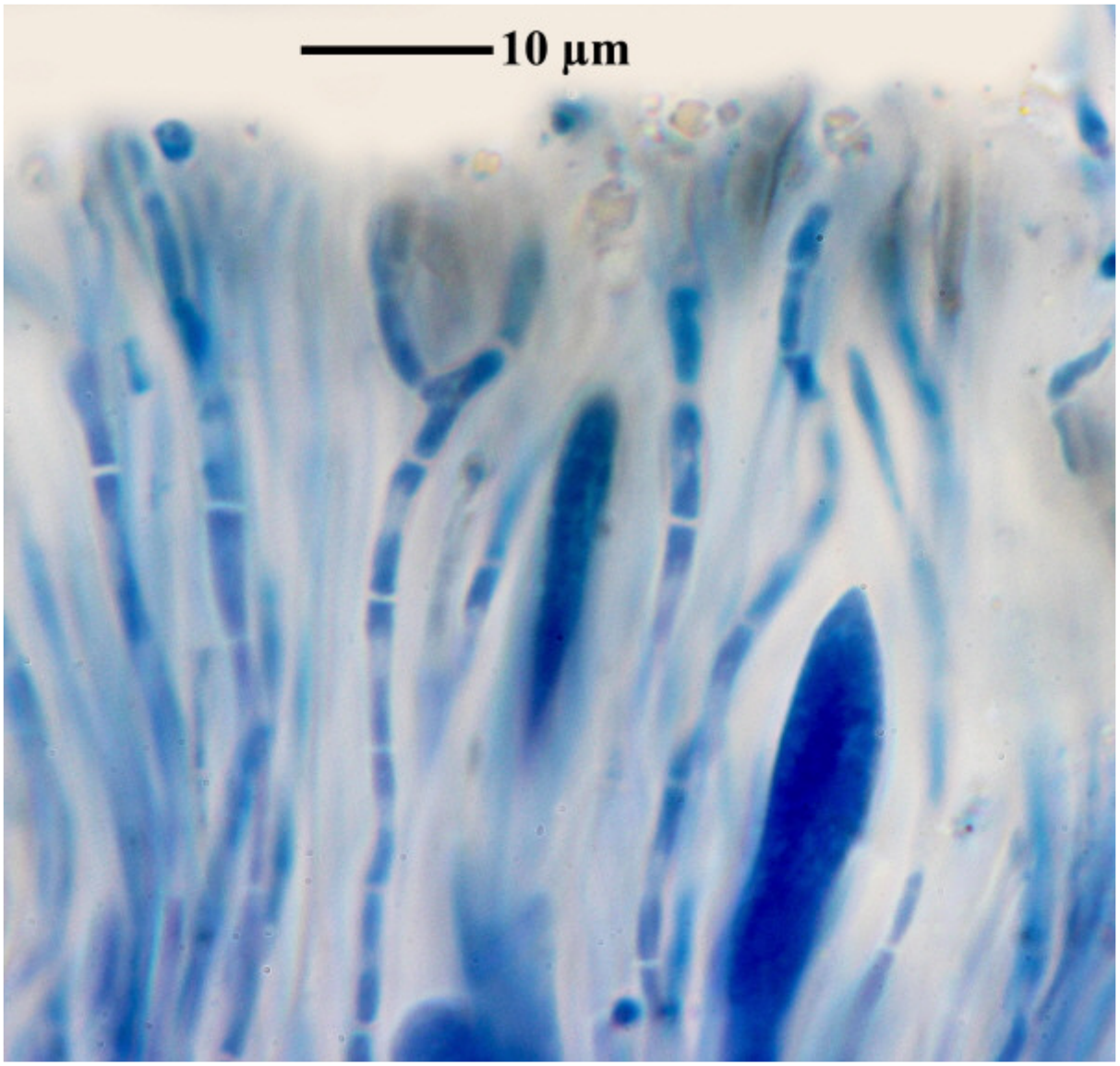
Caloplaca paulsenii

1944

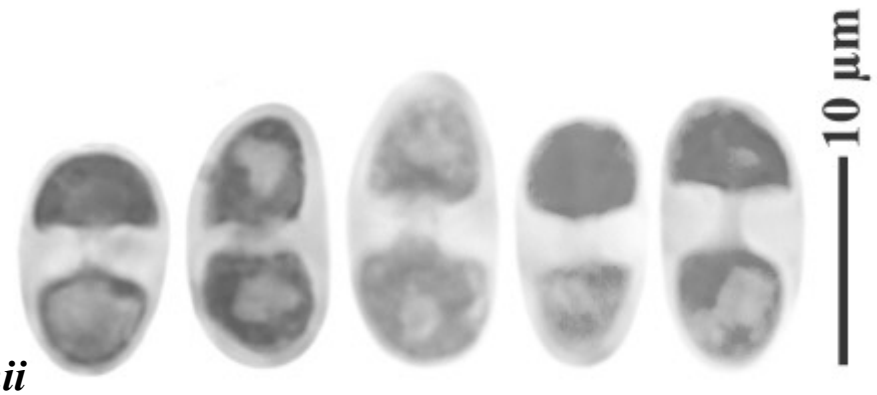


Caloplaca paulsenii

1945







Caloplaca paulsenii

Caloplaca pellodella (Nyl.) Hasse

on non-calcareous rock

[ABL Kin193], Turkey, Giresun province, Keşap district, Değirmenağzi village, sea shore, 2 m, on siliceous rocks. Leg. K. Kinalioglu (#103), 10.05.2015.







Caloplaca pellodella

1948

Caloplaca pergracilis Zahlbr.

[B 60 0025491], Chile, Región de Coquimbo, North of Santiago, cloud forest of Fray Jorge, near Ovalle, 30°39' S, 71°41' W. Leg. F. Mattick (340), 18-20.11.1960, Leg. Reinaldo C. Vargas 2009.





Caloplaca pergracilis

1950



Caloplaca pergracilis

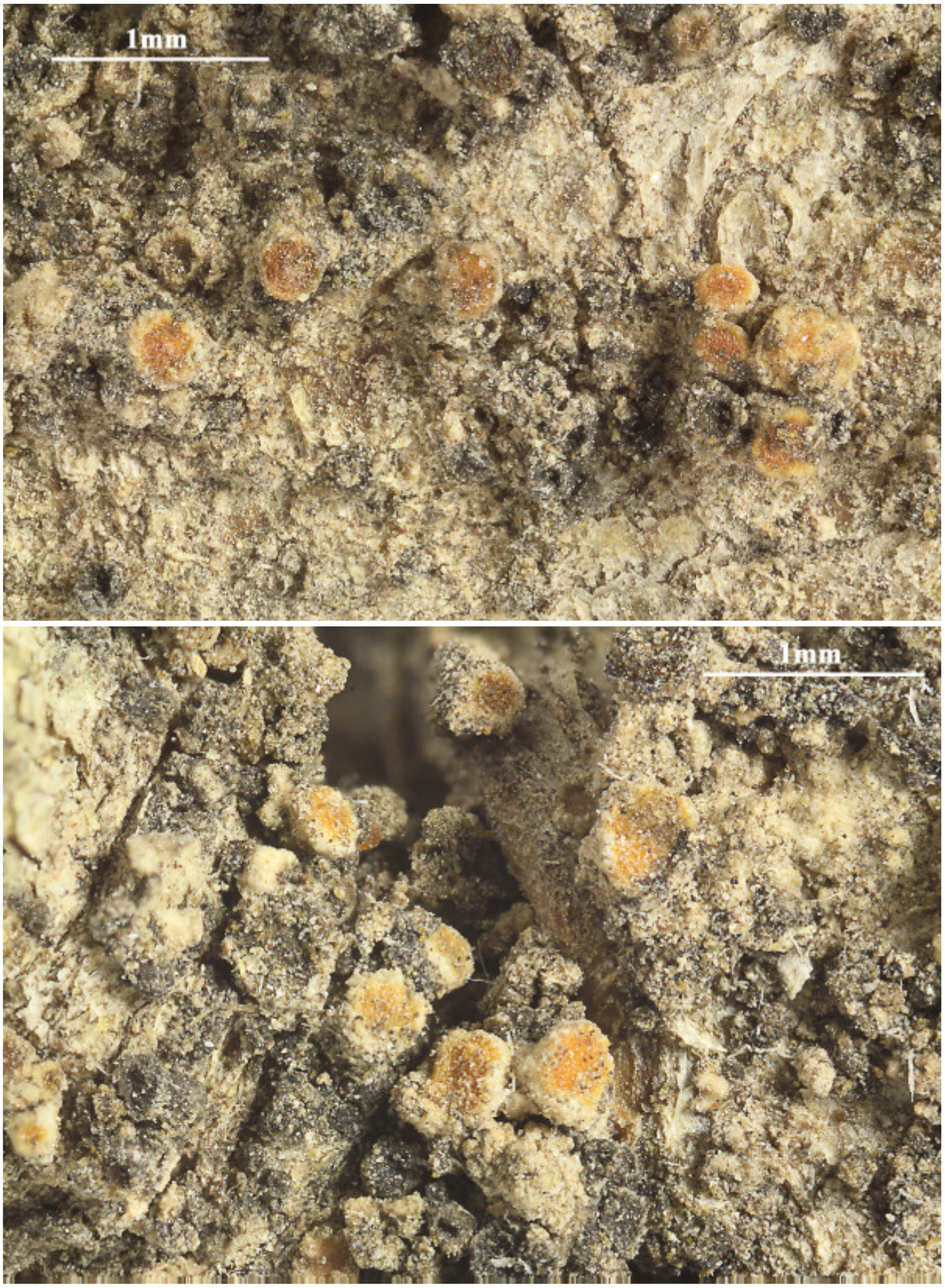
1951

Caloplaca persica (J. Steiner) M. Steiner & Poelt
[= *Calogaya persica* (J. Steiner) Arup, Frödén & Søchting]
[= *Xanthoria persica* (J. Steiner) Szatala]

Spores 7.5-10.5 x 4.5-6 µm, septum 2-4 µm FS).

[B 60 0184922], Iran, Razavi Khorasan, Salehabad Rd, Derazaab, Zalou Mt., 1300 m. Leg. M. Haji Moniri (1739), 10. April 2004.





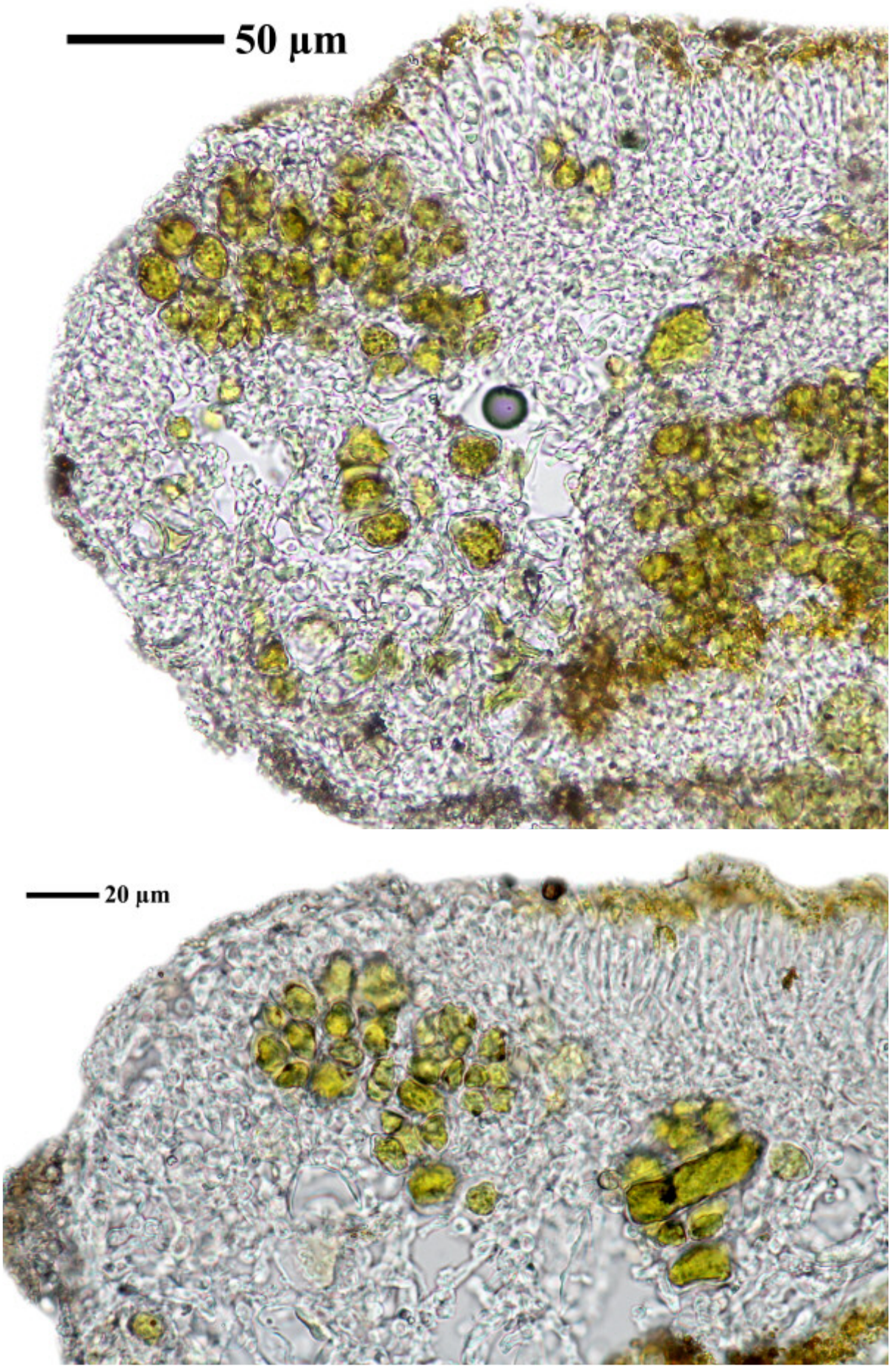
Caloplaca persica

1953



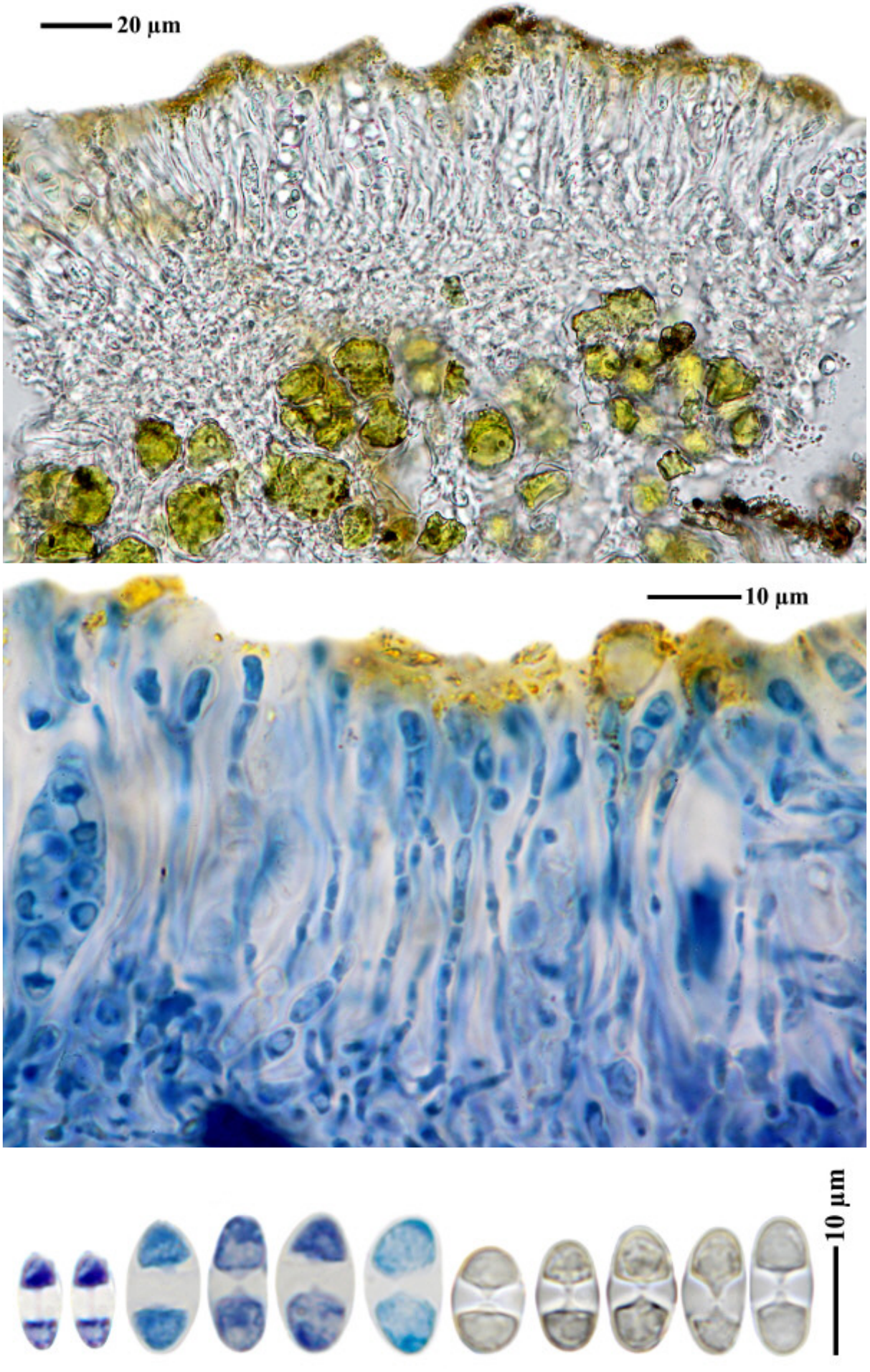
Caloplaca persica

1954



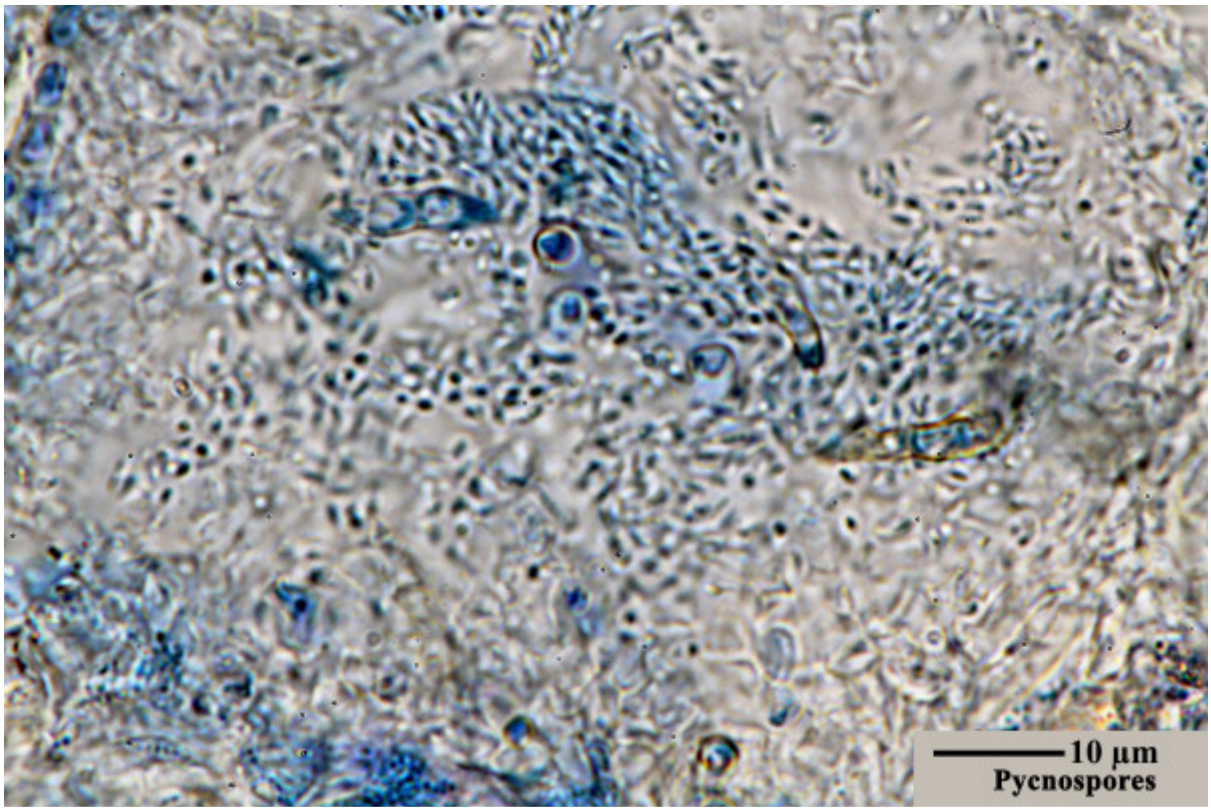
Caloplaca persica

1955



Caloplaca persica

1956

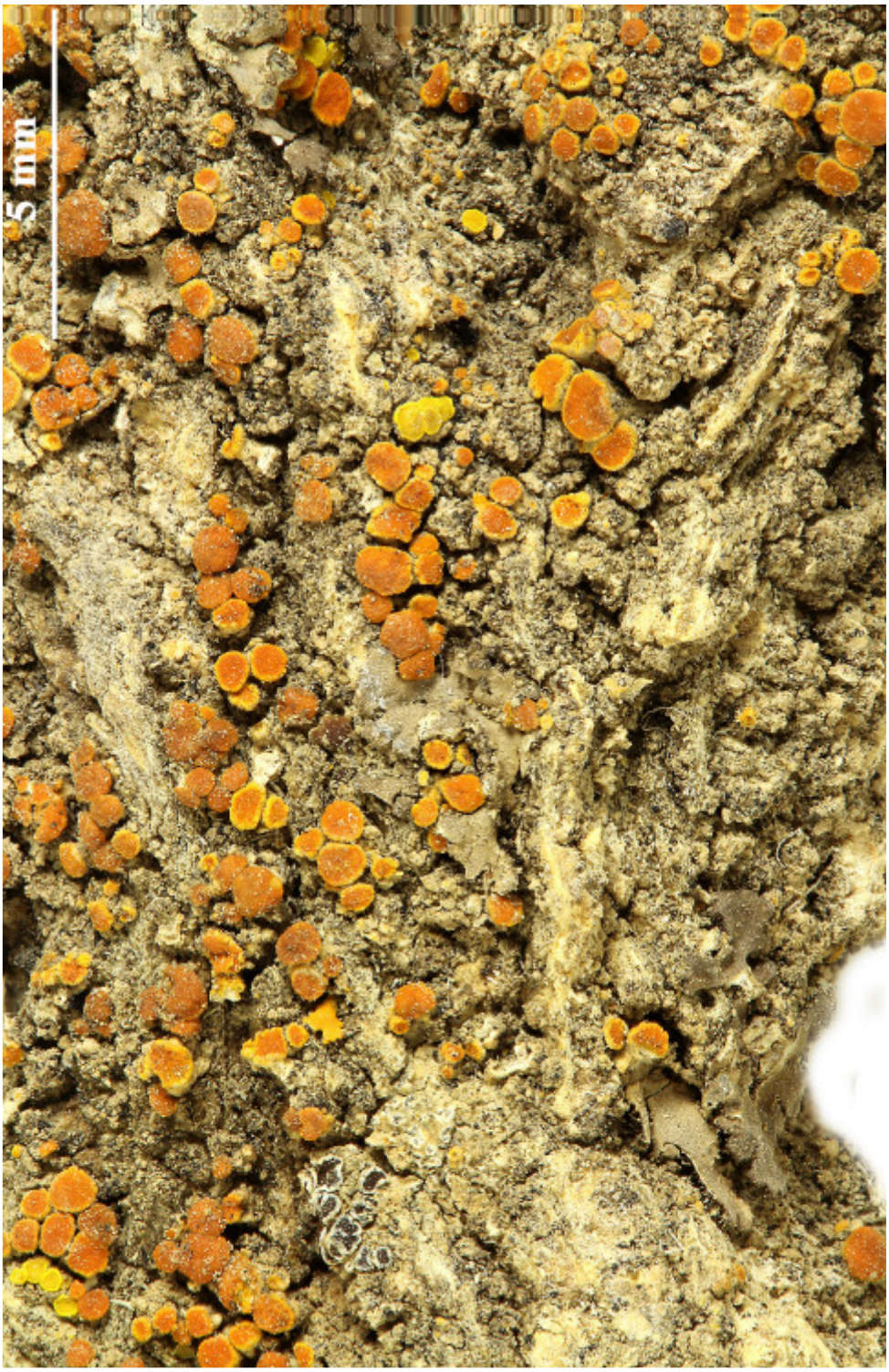


Caloplaca persica

1957

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

1959

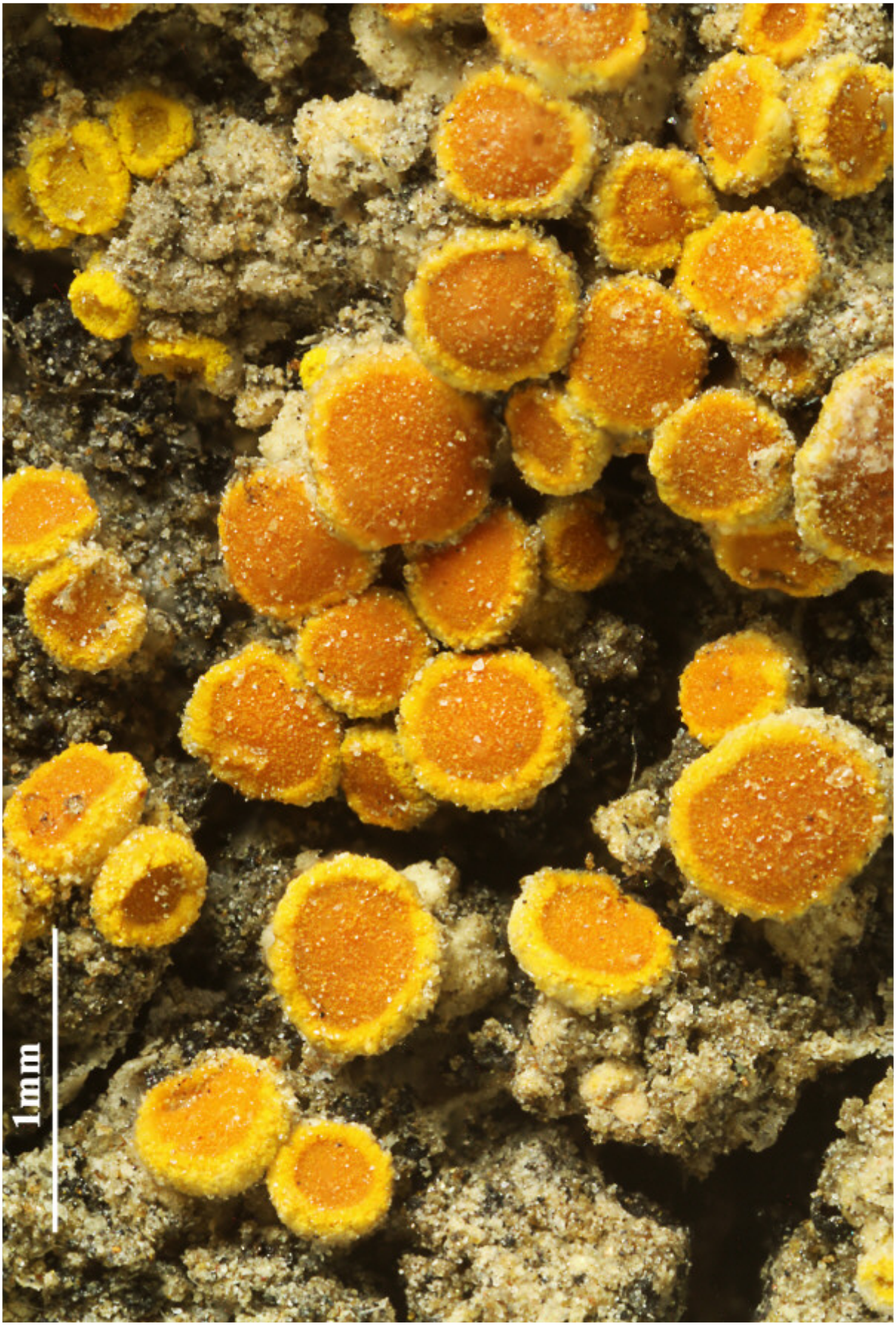
Caloplaca persica (J. Steiner) M. Steiner & Poelt, Pl. Syst. Evol. 140(2-3): 168 (1982)

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

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

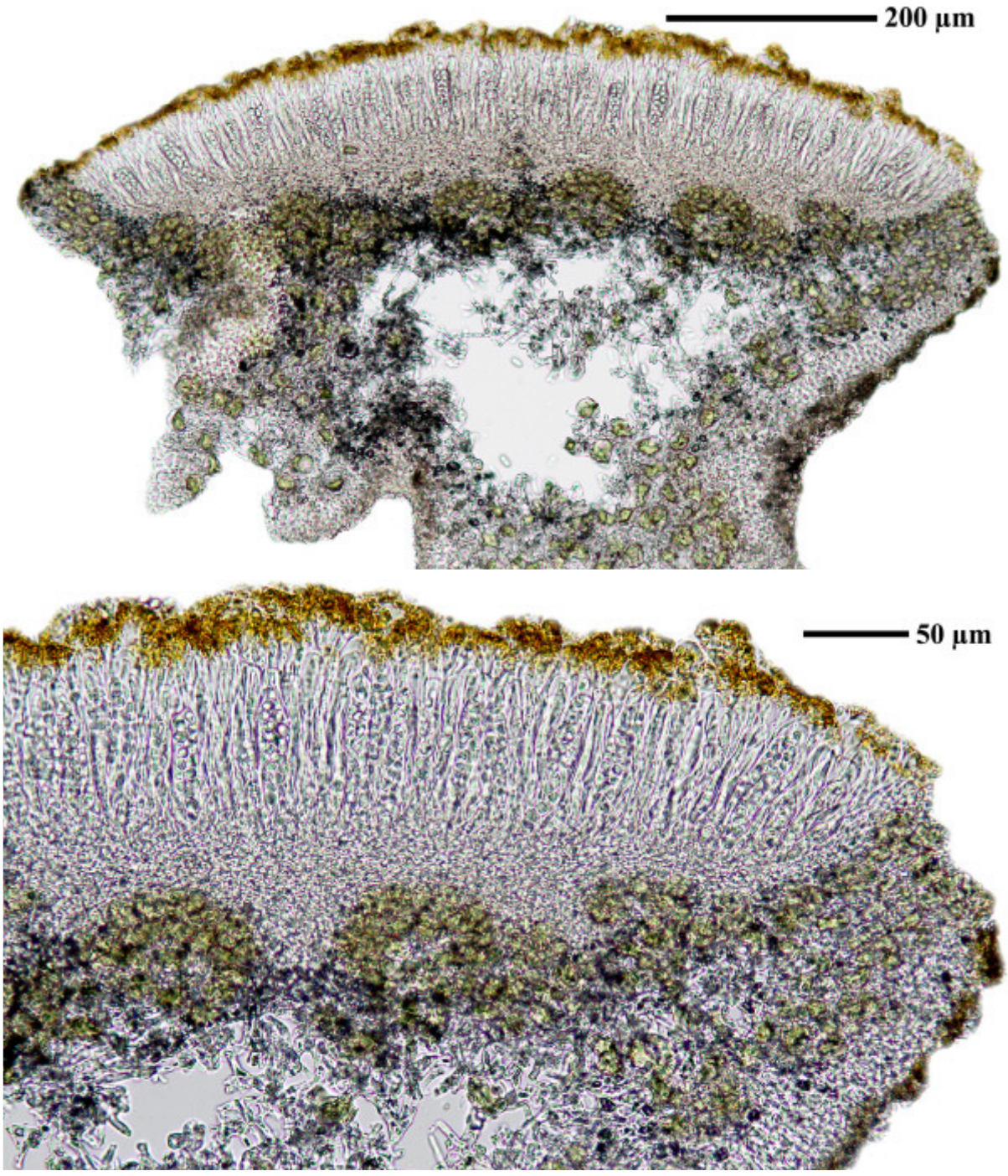
[LIAF_39], Afghanistan, Prov. Kabul, Karizemir, ca. 18 km N Kabul, an der Straße nach Charikar. 69°03' E, 34°38' N, ca. 1850 m. An *Ulmus campestris* L. im bewässerten Park eines Landgutes mit *Xanthoria fallax* (Hepp) Arn. u. a.. Leg. M. Steiner (Ste 28/2), 25.07.1970. LICHENOTHECA AFGHANICA NR. 39.





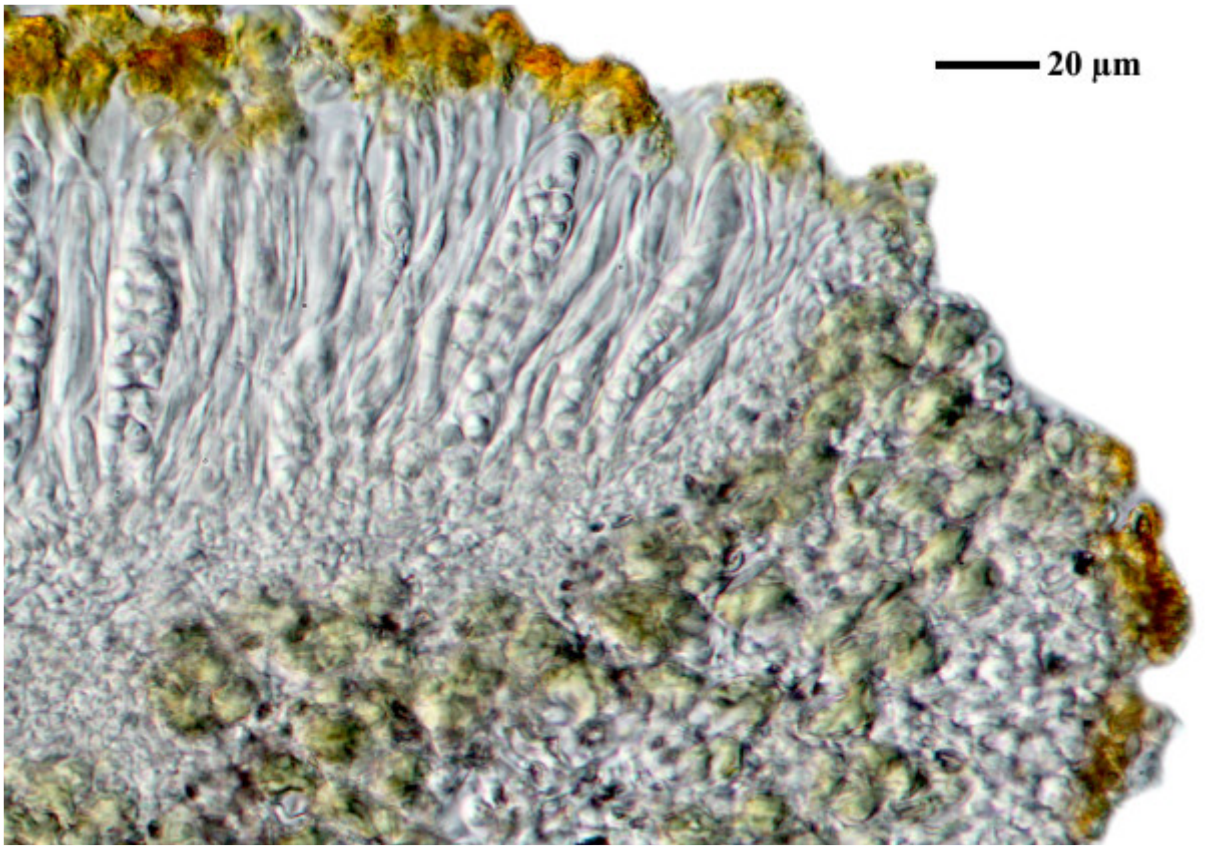
Caloplaca persica

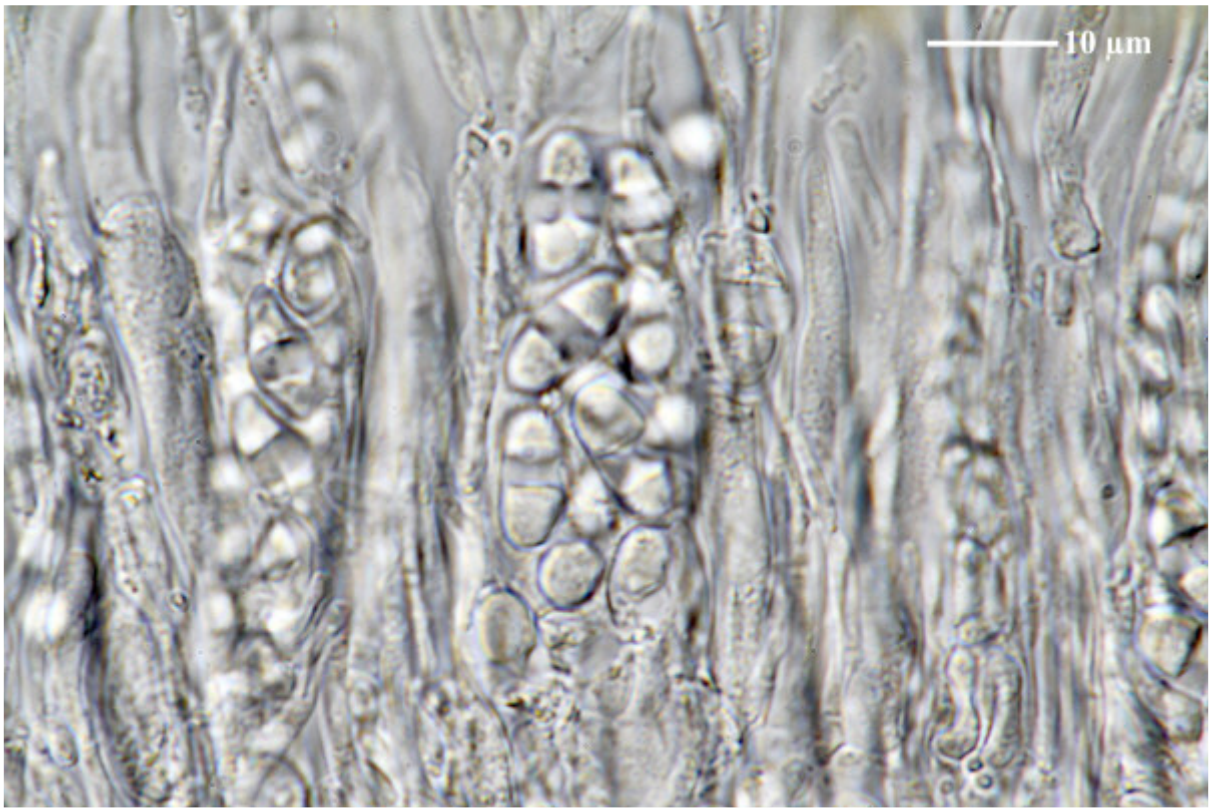
1961



Caloplaca persica

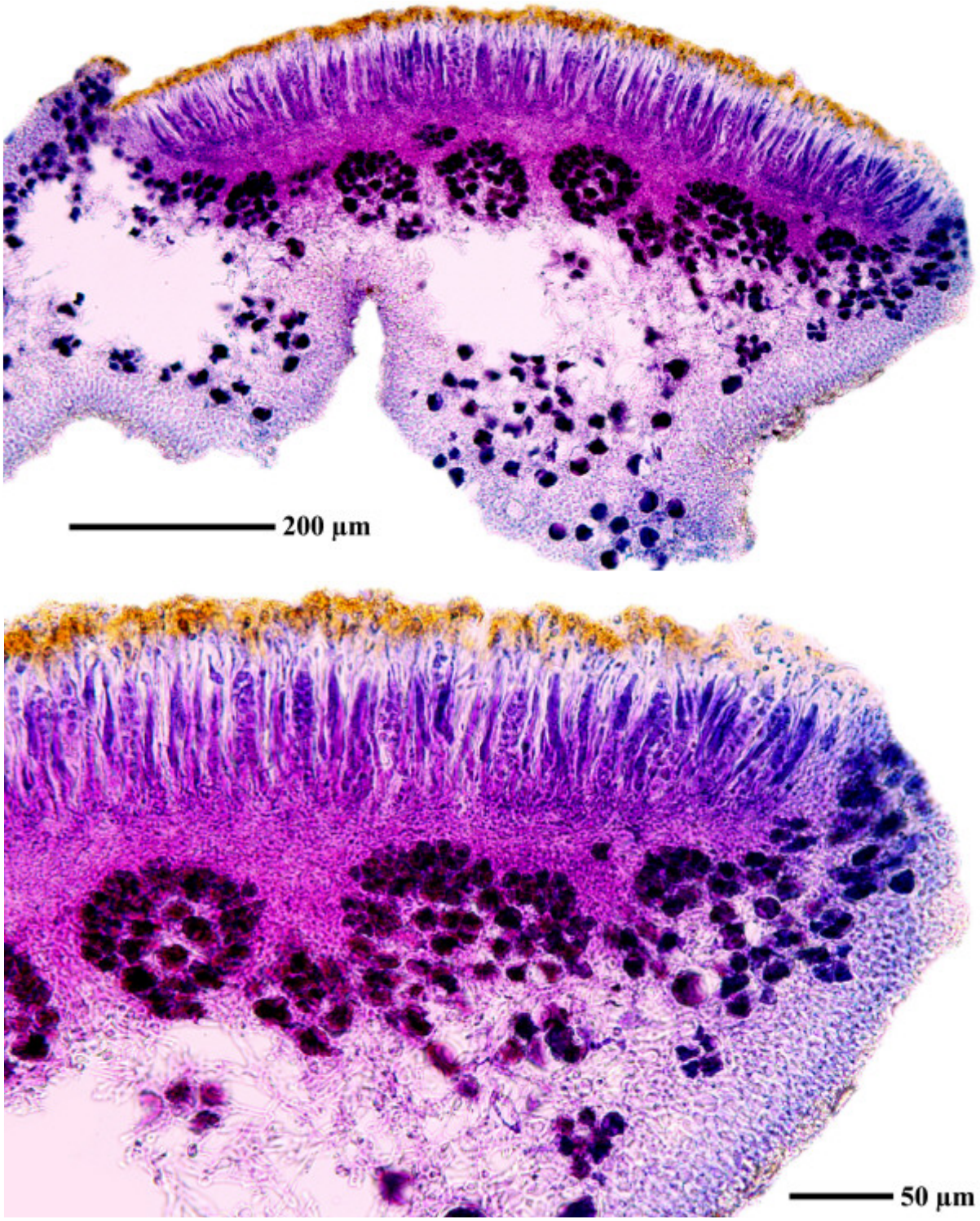
1962





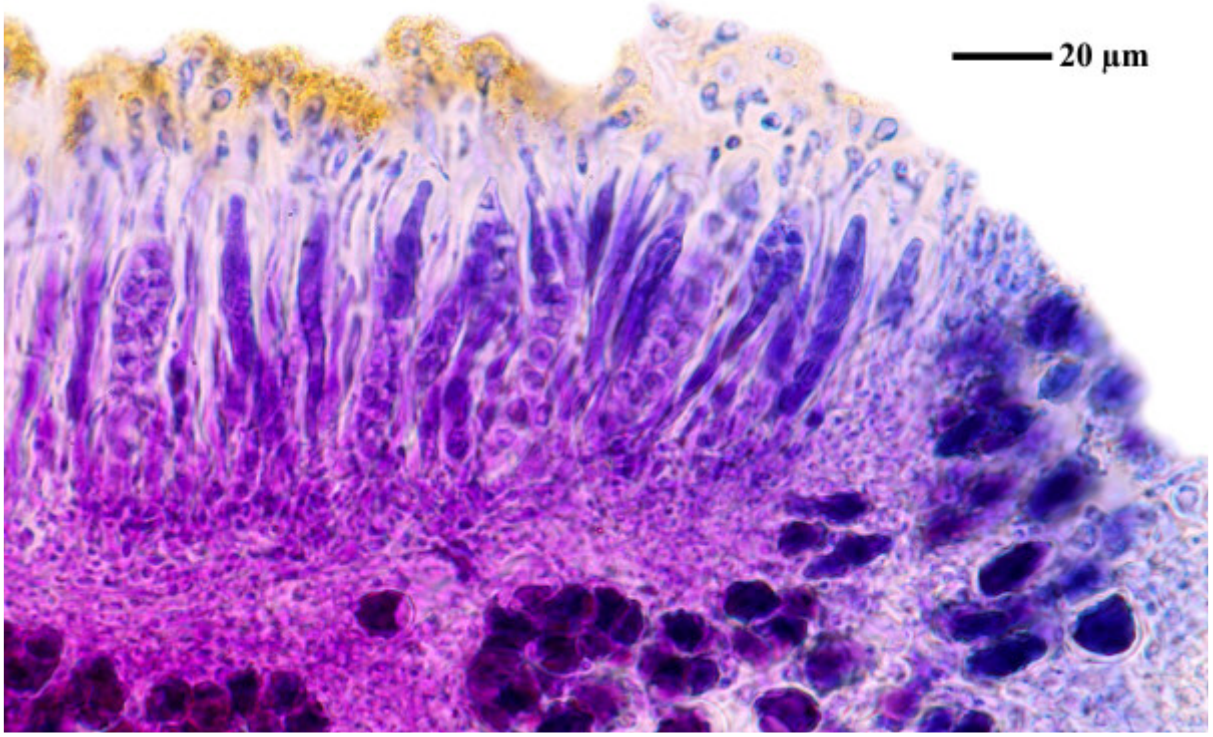
Caloplaca persica

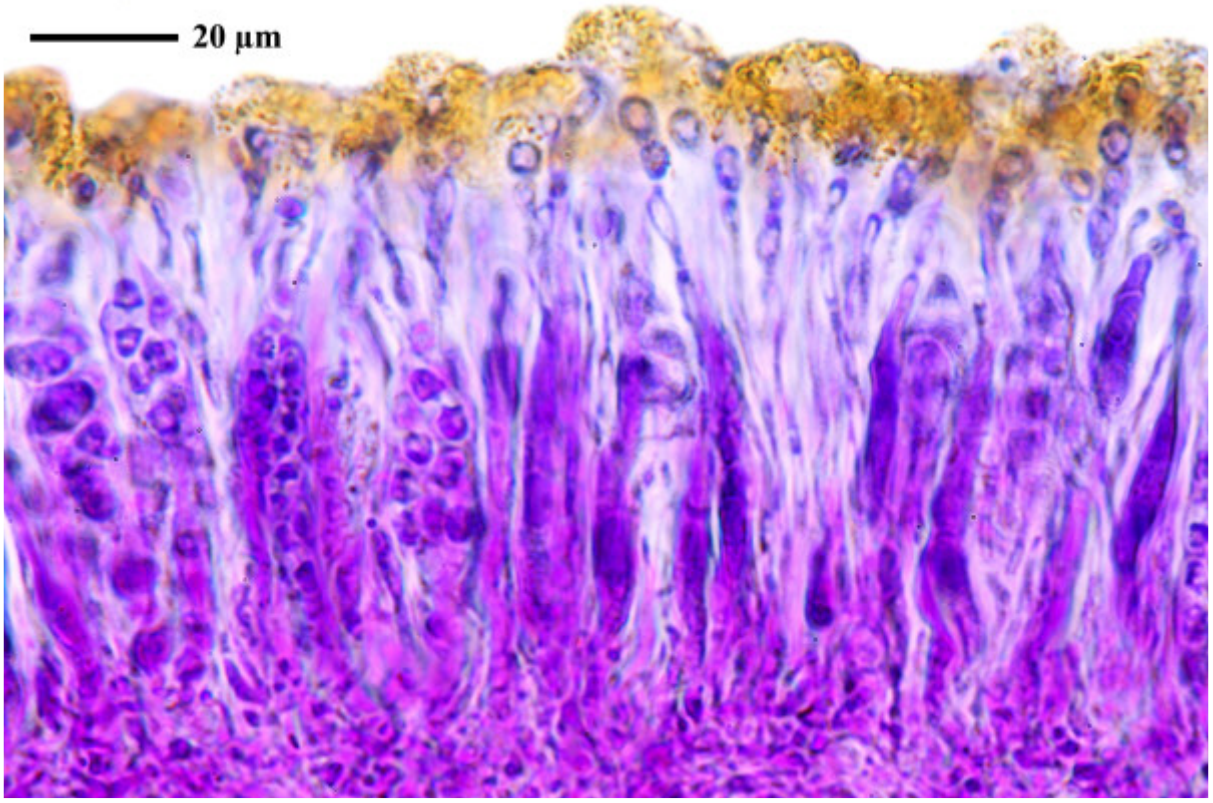
1963



Caloplaca persica

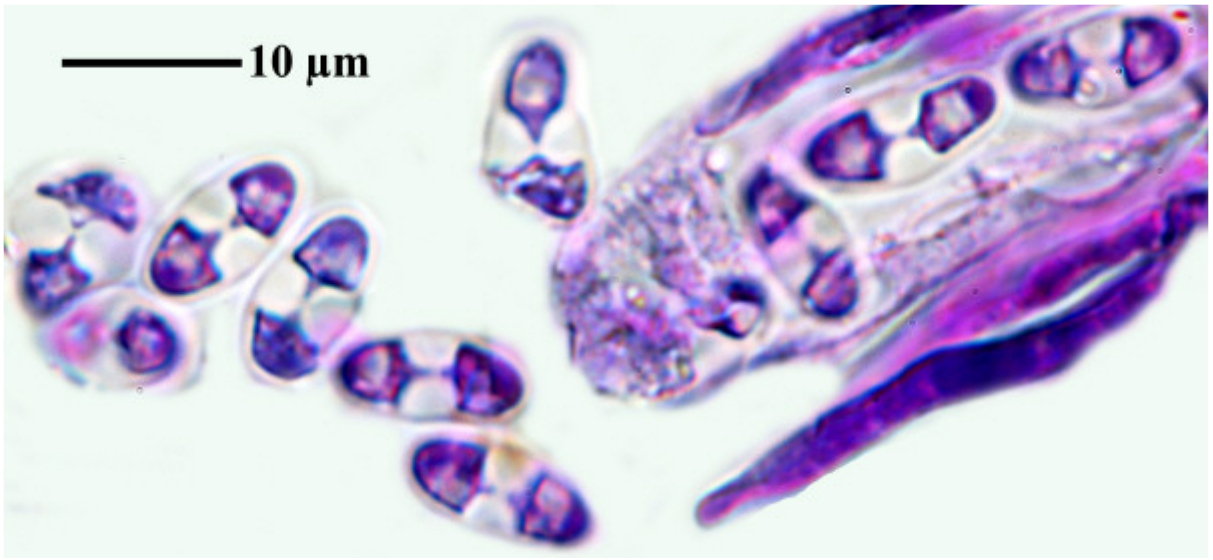
1964

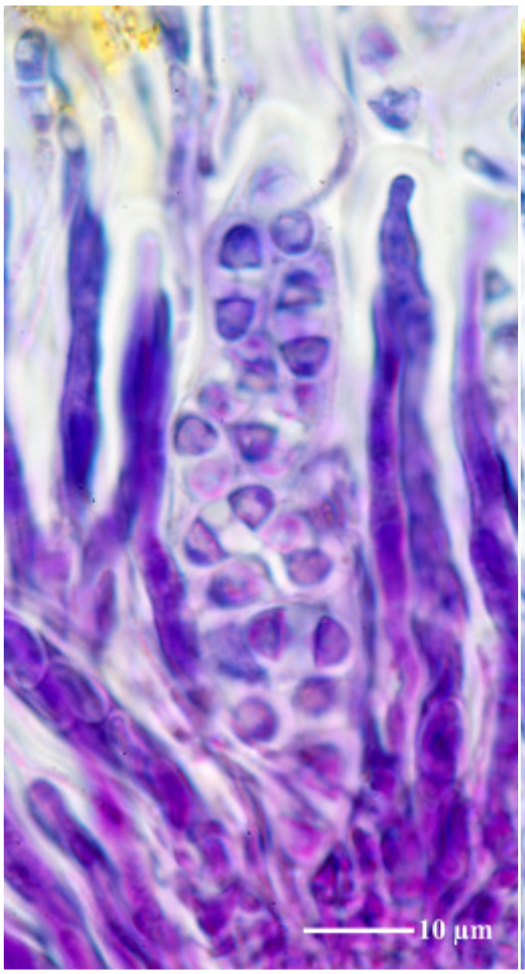


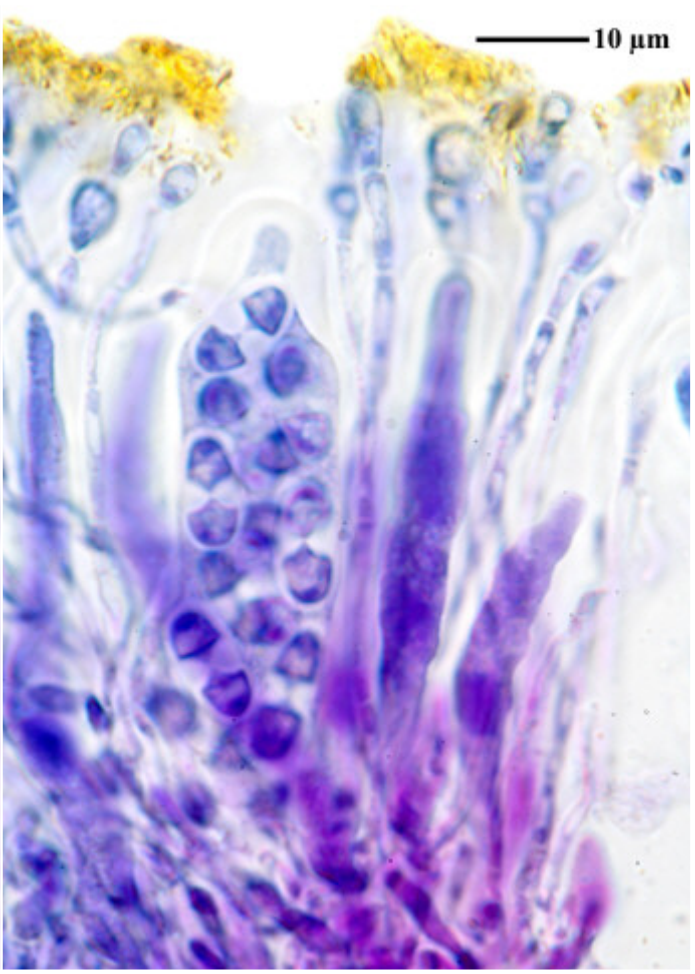


Caloplaca persica

1965

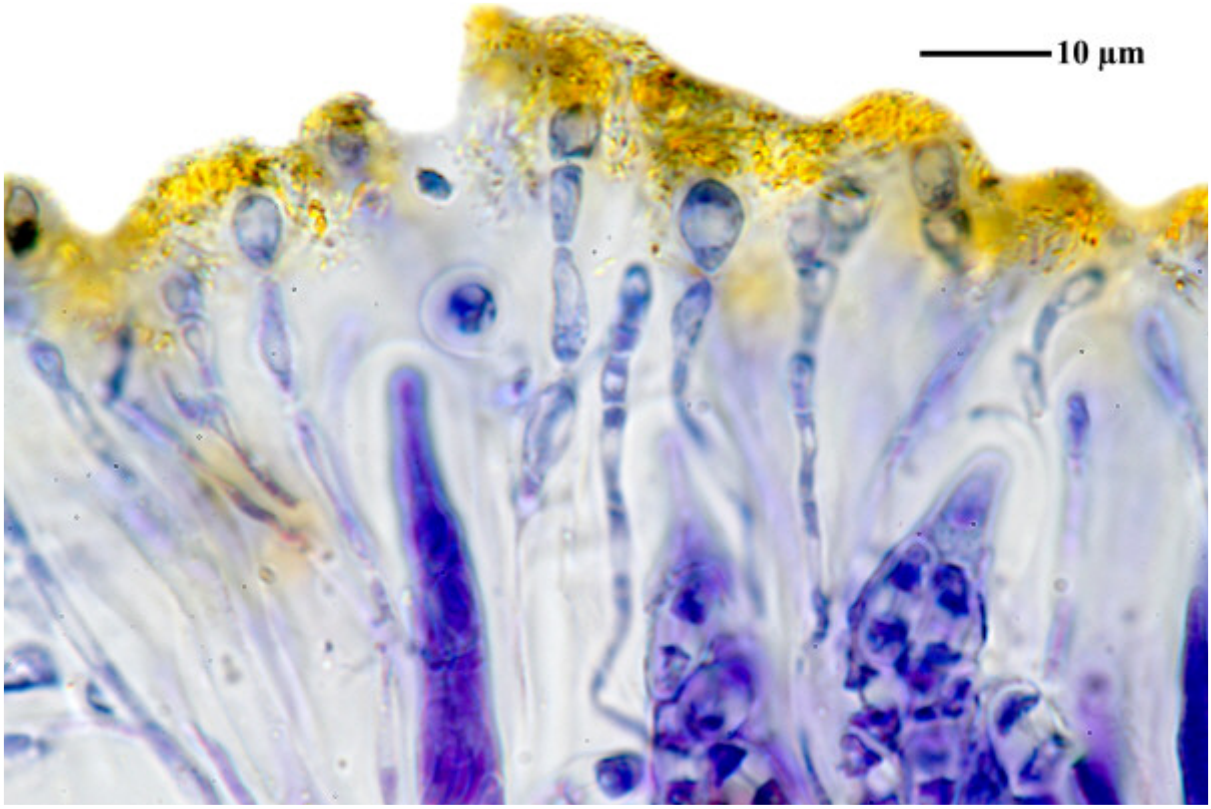






Caloplaca persica

1966



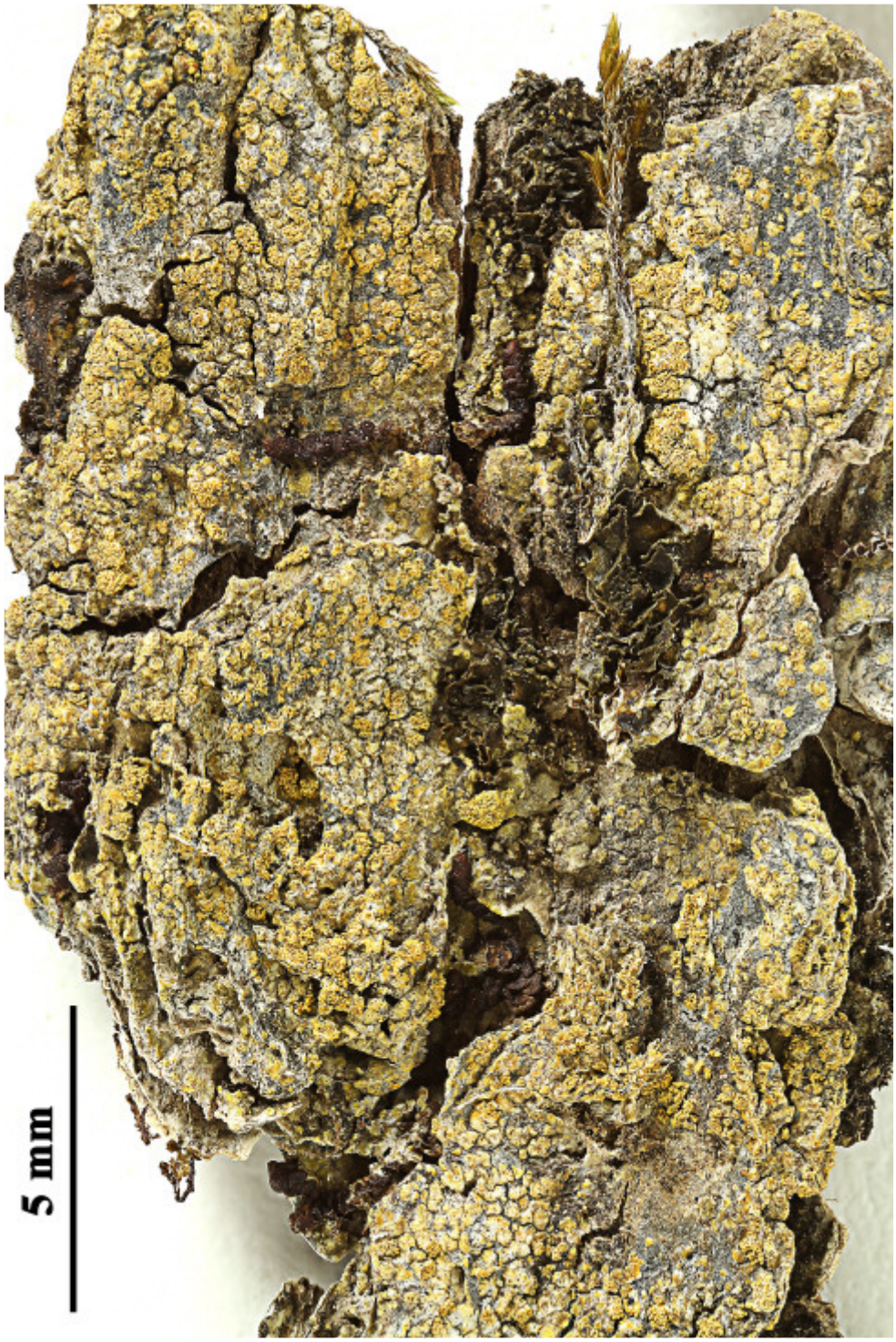
Caloplaca persica

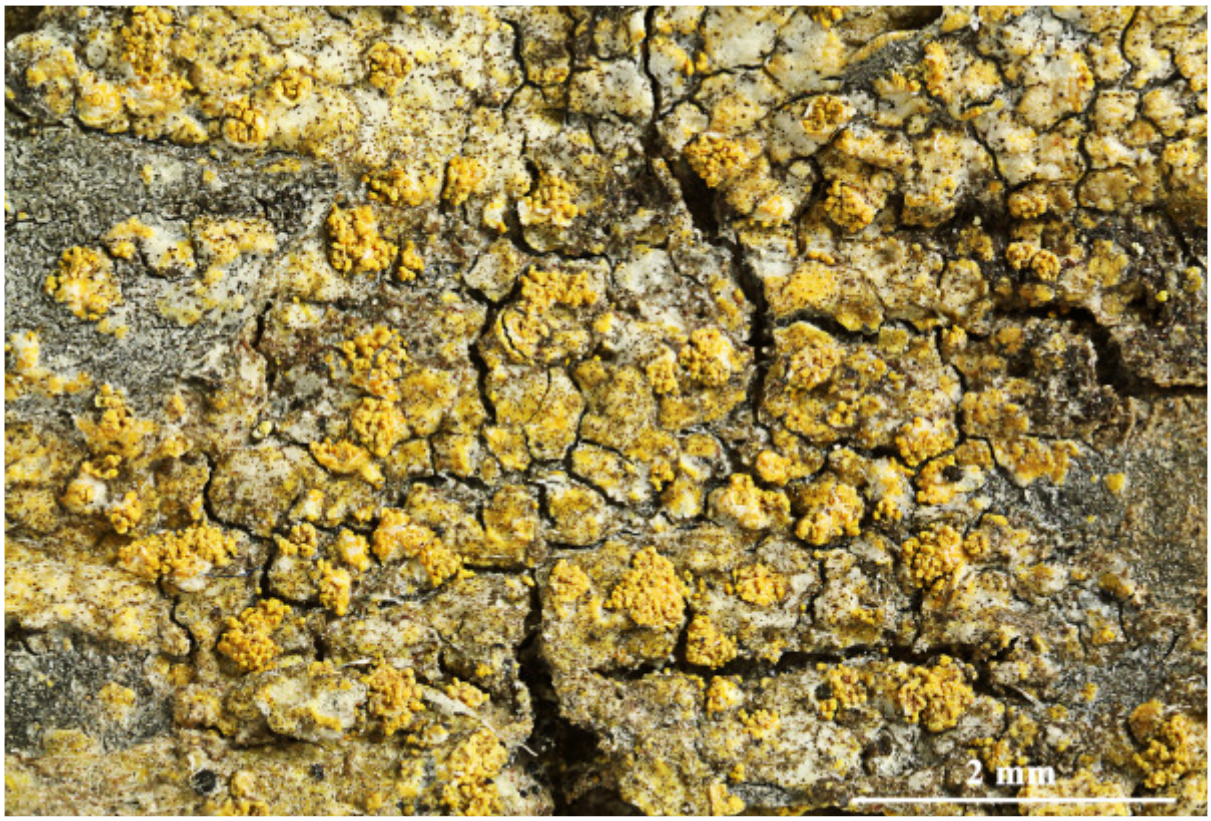
1967

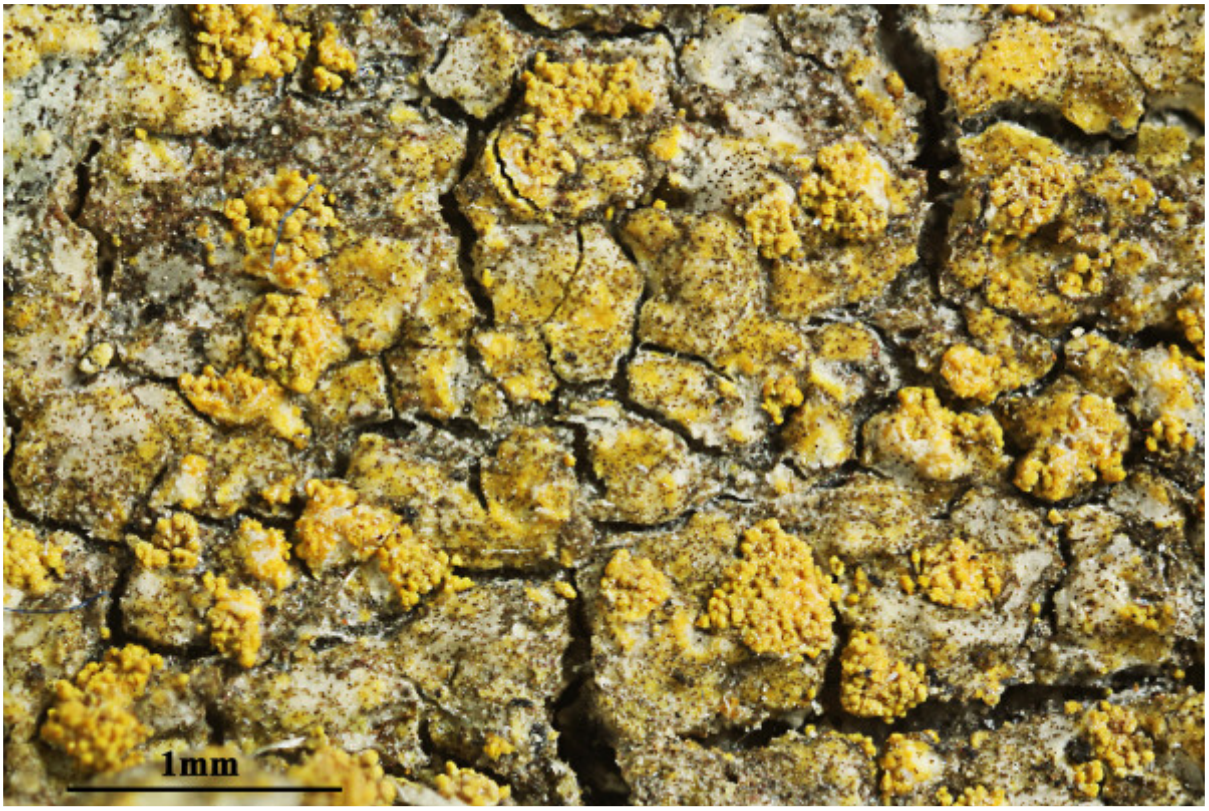
Caloplaca persimilis Wetmore
[= *Gyalolechia persimilis* (Wetmore) Søchting, Frödén & Arup]

On bark.

[19410], USA, New Mexico, Otero Co., Lincoln National Forest, Apache campground on highway 244, 1.6 km N of Cloudcroft, north slope with douglasfir (*Pseudotsuga menziesii*), white fir (*Abies concolor* and *Quercus*, 32°58'04" N, 105°53'54" W, 1669 m, on *Quercus*. Leg. Clifford M. Wetmore (No. 99797), 22. June 2010. TELOSCHISTACEAE EXSICCATI NO. 112 DISTRIBUTED BY C. WETMORE.







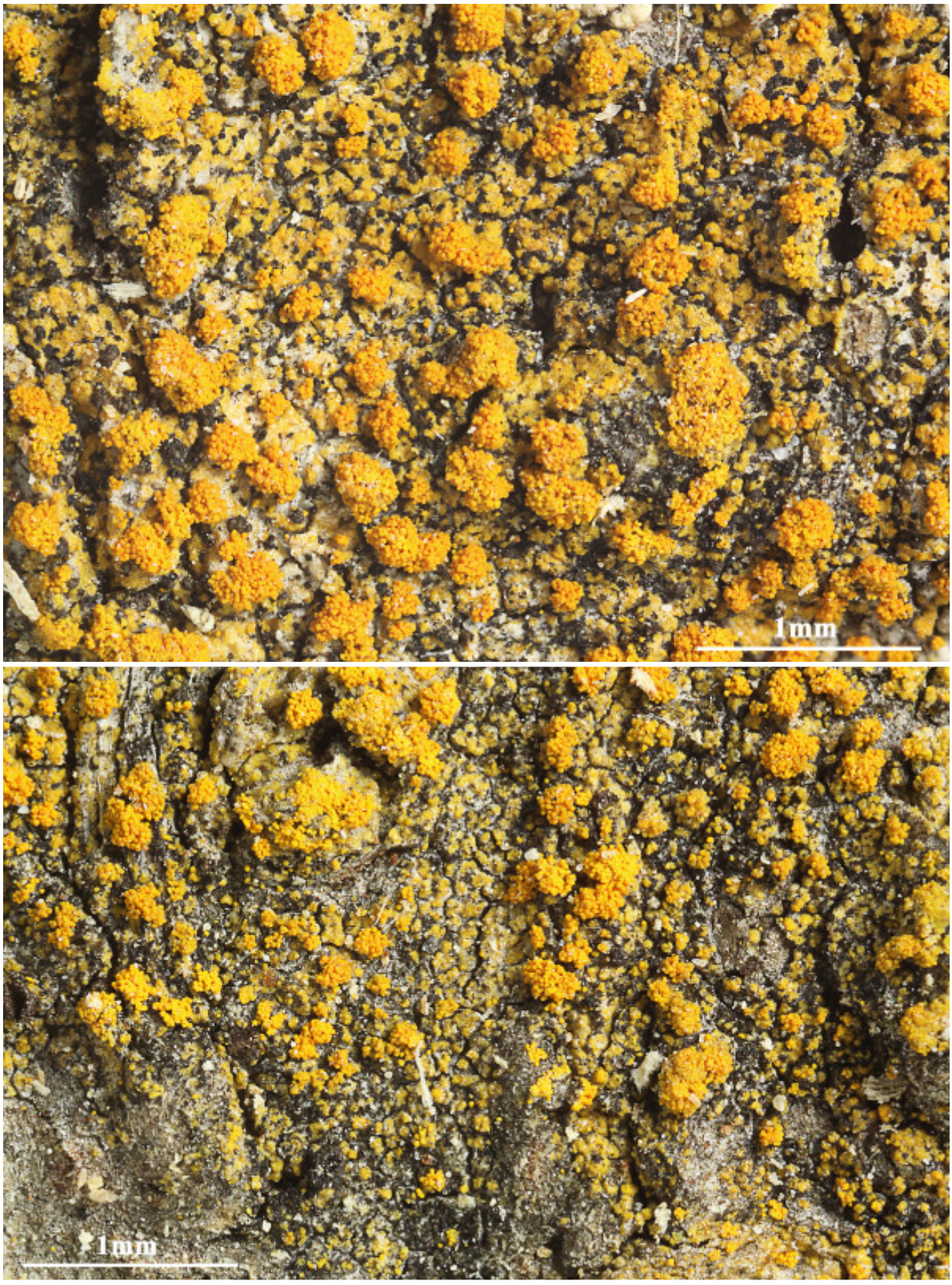
Caloplaca persimilis

1969

Caloplaca persimilis Wetmore
[= *Gyalolechia persimilis* (Wetmore) Søchting, Frödén & Arup]

[BR5030067796818], Costa Rica, Prov. Guanacaste, Monte Alto Forest Reserve, near Hojancha, 10 km SSE of Nicoya, 10°02' N, 85°24'W, 450-550 m; on bransches of tree in semideciduous secondary forest near station. Leg. A. Aptroot (60793), 21. March 2004, det. A. Aptroot 2004.





Caloplaca persimilis

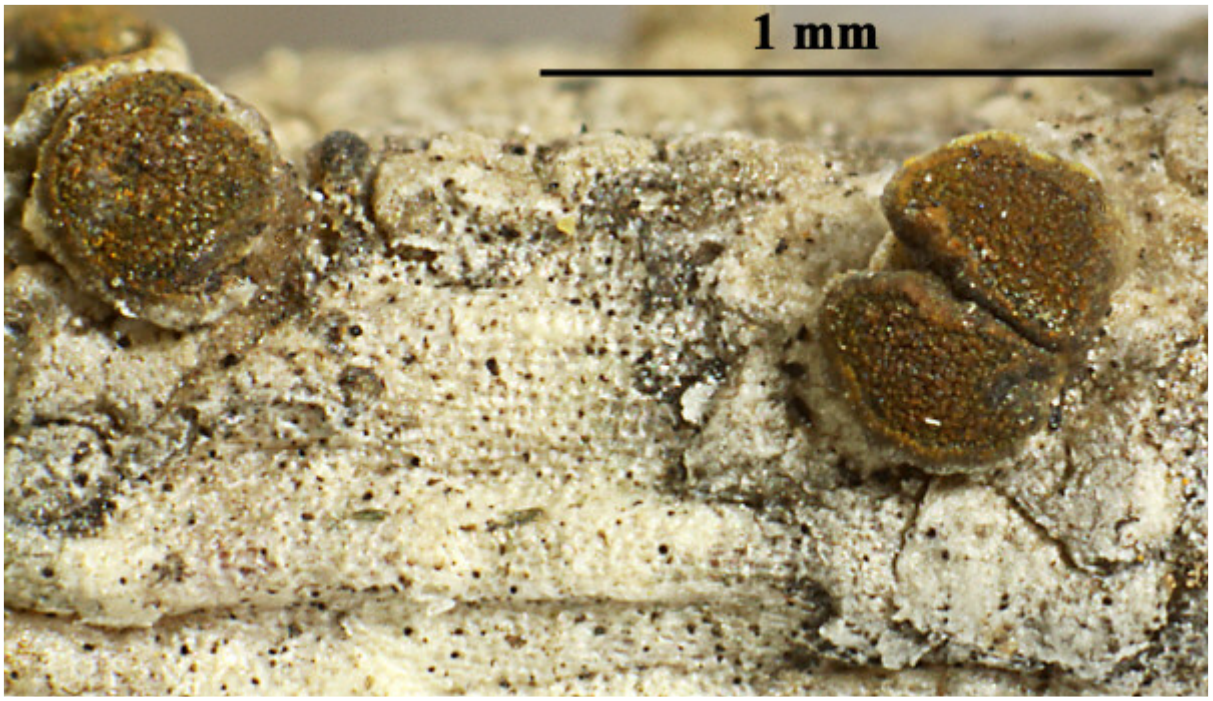
1971

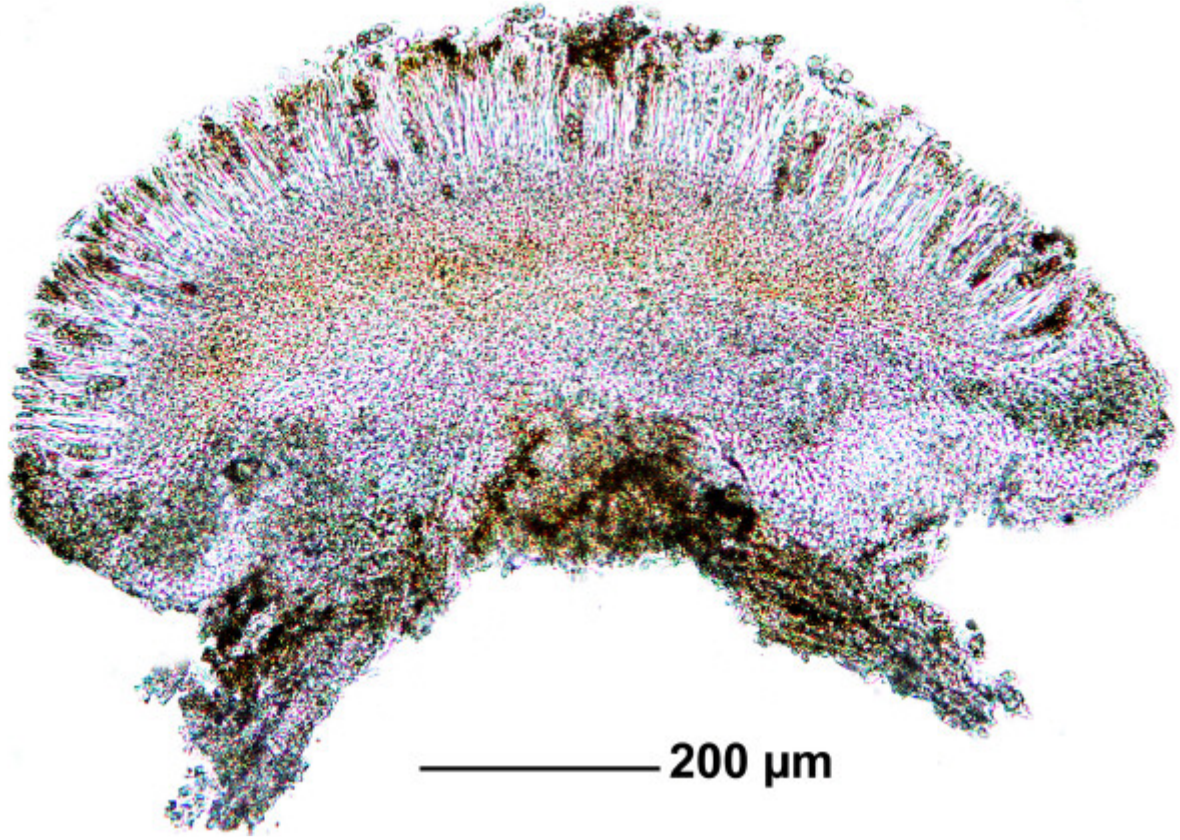
Caloplaca phaeocincta S.Y. Kondr. & Elix

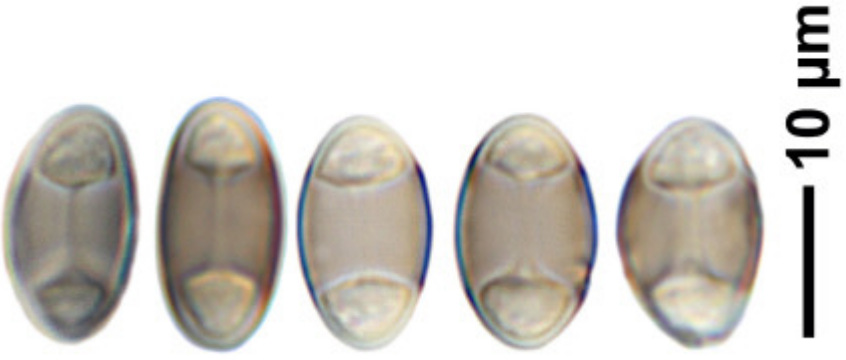
Corticolous on twigs of shrubs. Thallus white to grey, 3-5 mm wide, smooth to slightly wrinkled towards the centre. Apothecia 0.3-0.7 mm wide, lecanorine; disc yellowish brown to dark brown. Ascospores bipolarilocular, (0-)-1 septate, 8/ascus, 12-16 x (5-)6-7(-8) µm septum 5-8 µm wide, septum soon developing a brown pigmentation. Chemistry: caloploicin (major), neochloroemodin (major), vicanicin (minor), isofulgidin (minor), diploicin (trace); epithecium K+ purple.
Lit.: Kondratyuk, Elix, Kärnefelt & Thell, Bibliotheca Lichenol. 106: 182 (2011)

[KK17791], Australia, Queensland, Cunninghams Gap National Park, south exposed ridge of Mt. Cordeaux, c. 1000 m, 28°02’ S, 152°23’ E, on low shrubs. Leg. J. Hafellner & R. Rogers, 17.09.1986, det. S. Kondratyuk. Holotype.



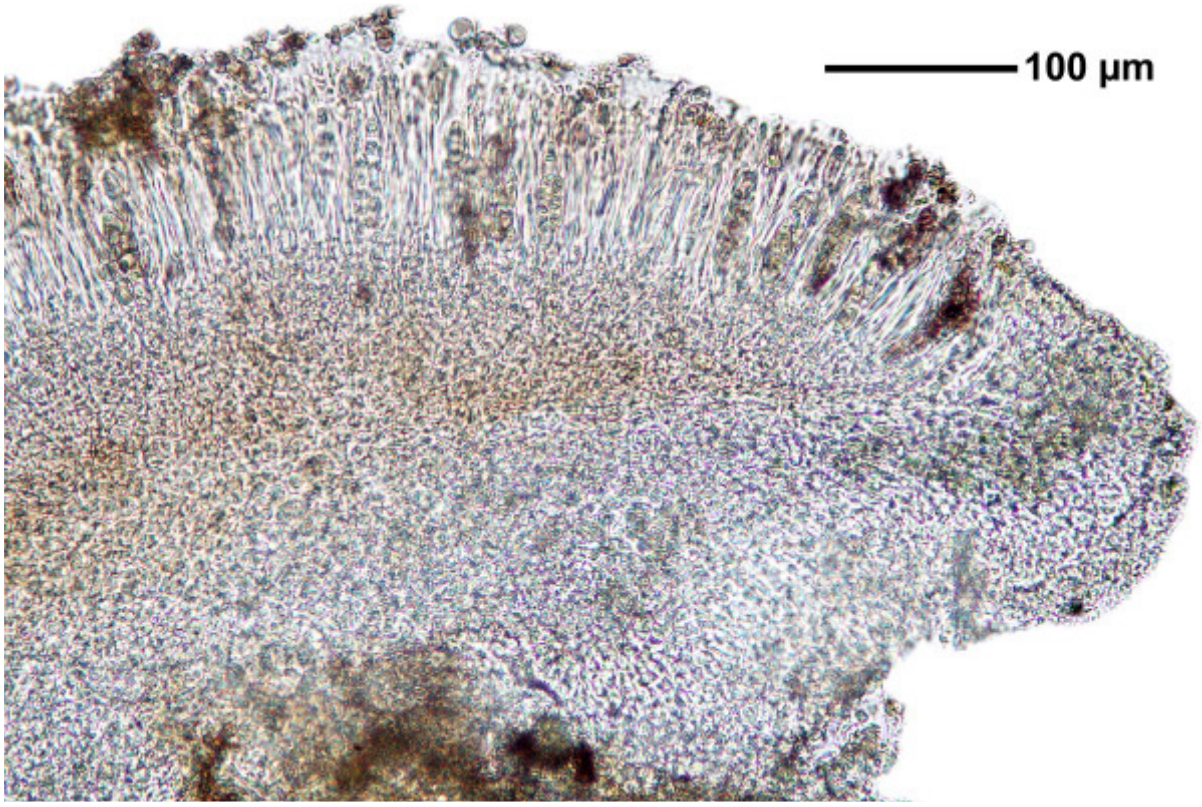


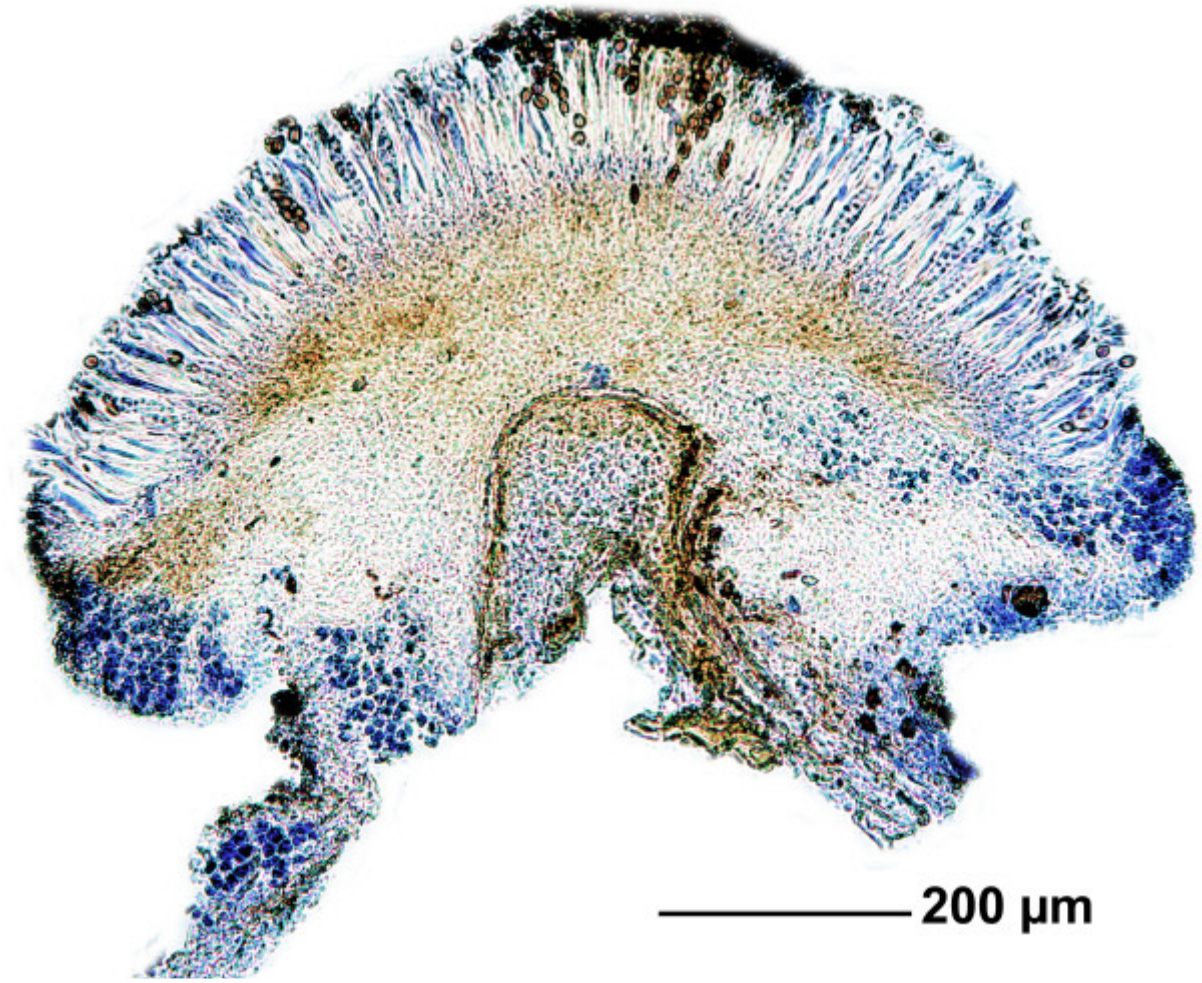




Caloplaca phaeocincta

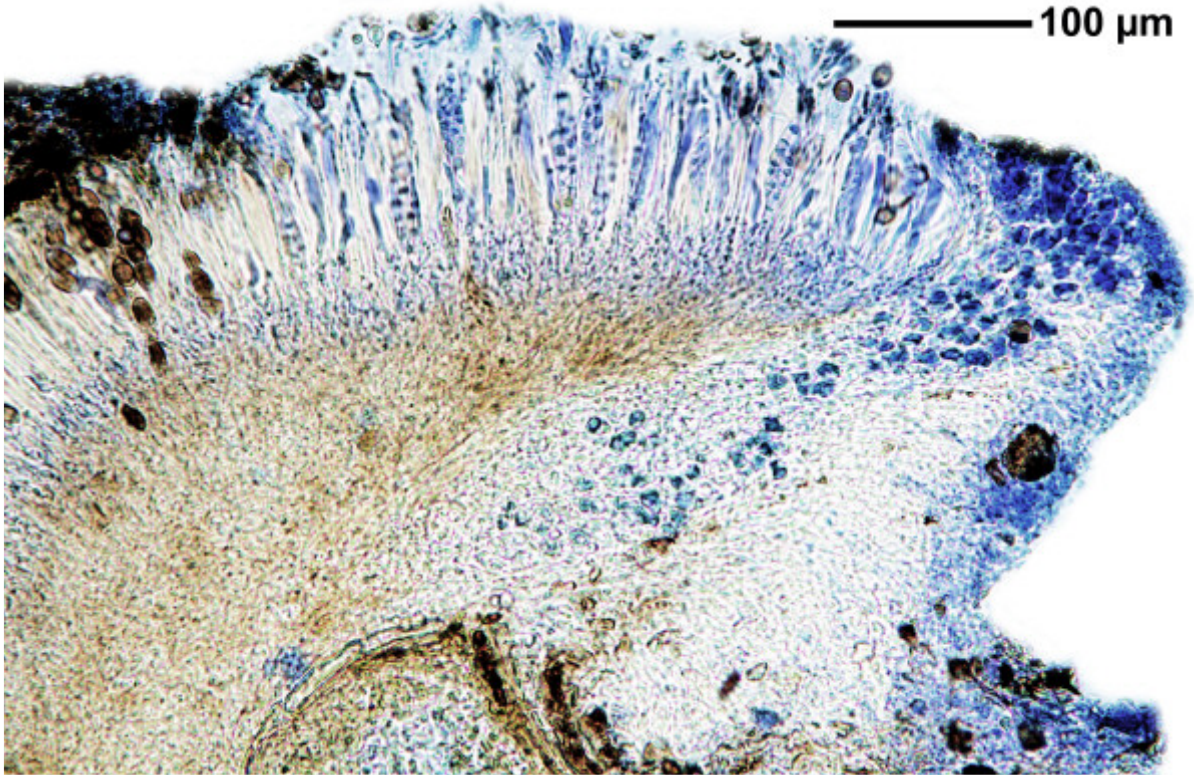
1973

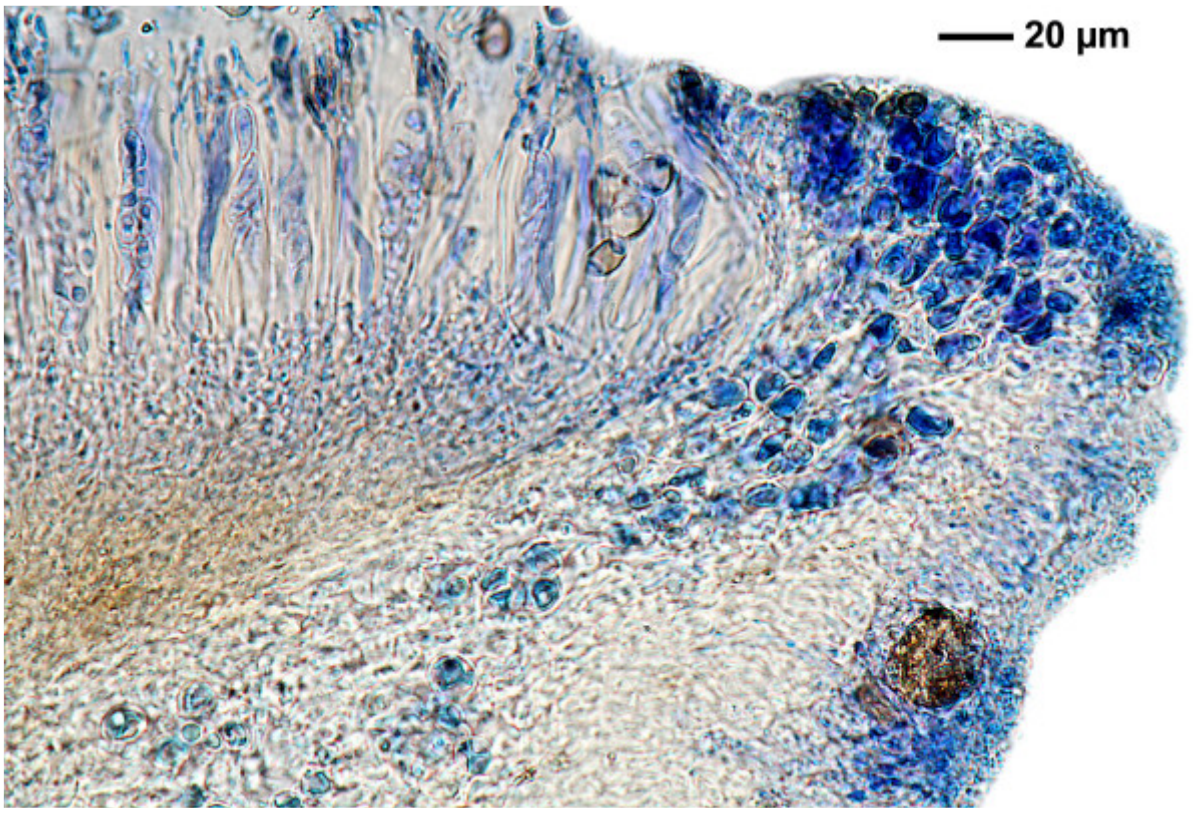




Caloplaca phaeocincta

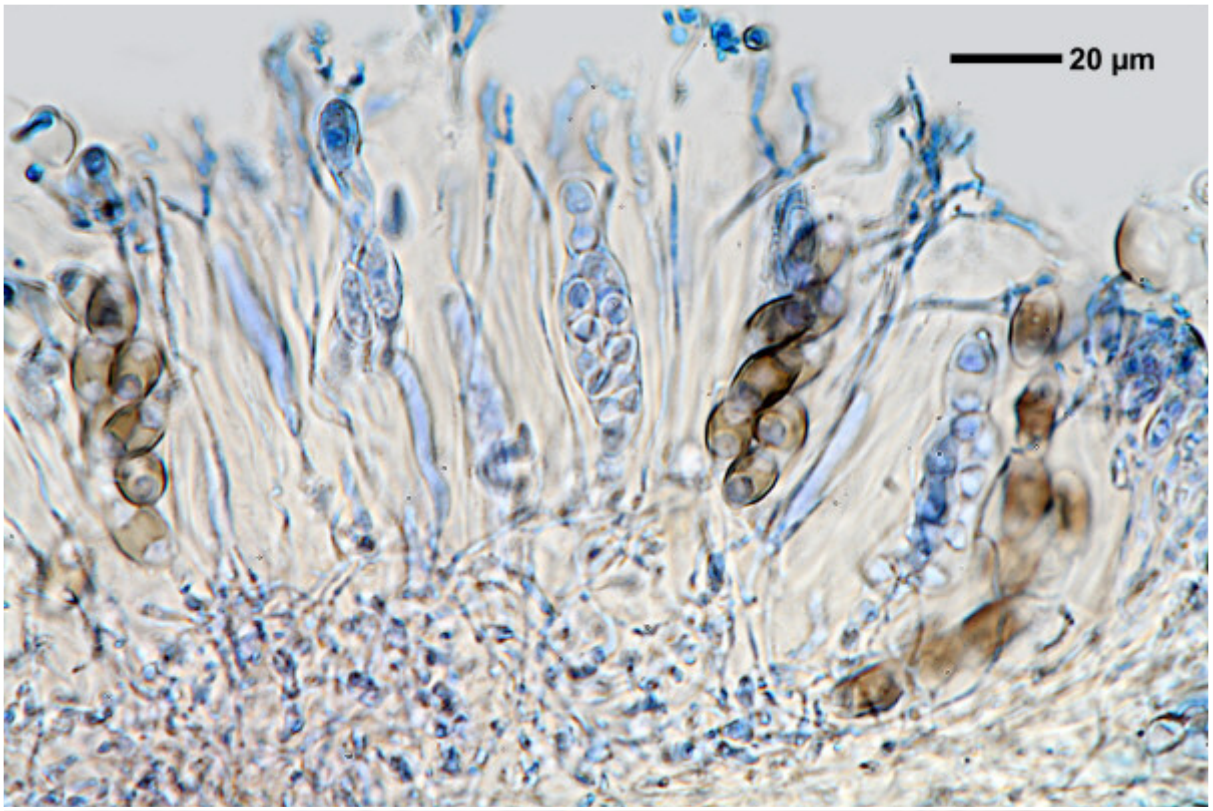
1974

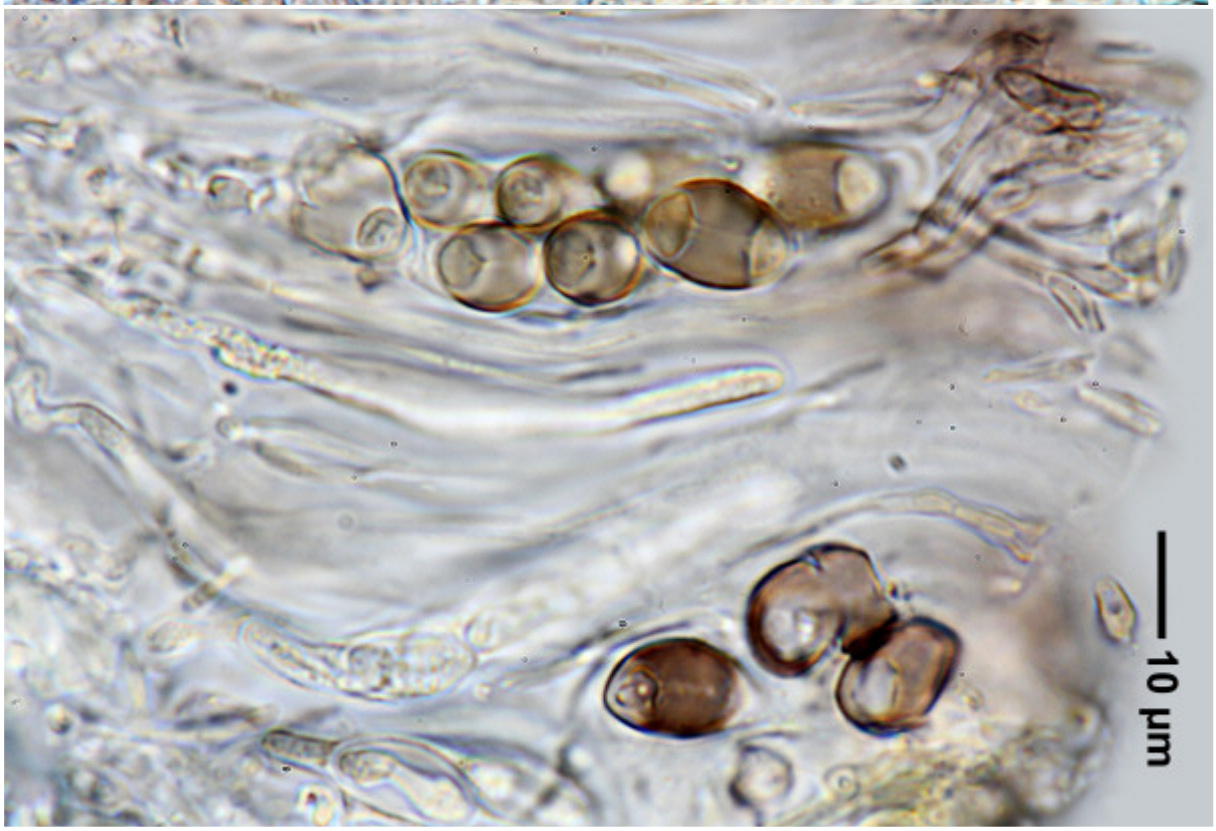


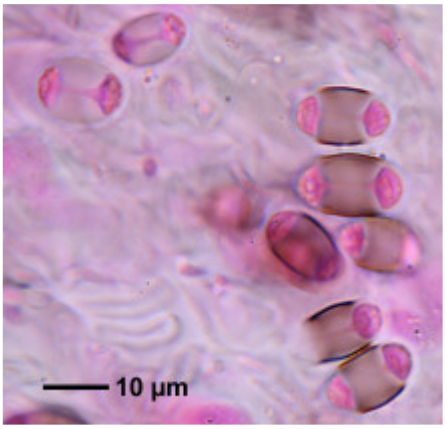


Caloplaca phaeocincta

1975

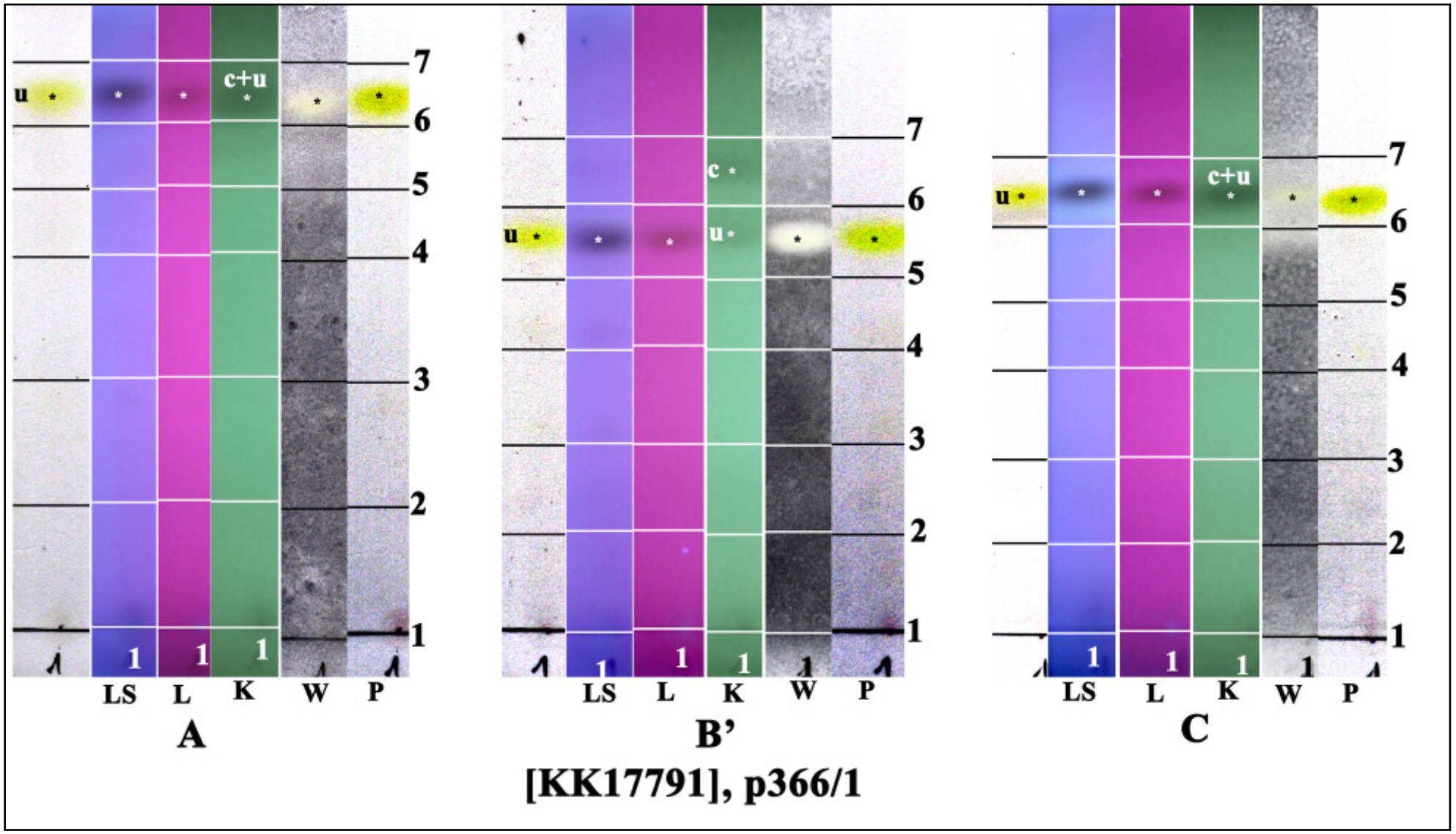






Caloplaca phaeocincta

1976



u: neochloroemodin, c: caloploicin; conf. J.A. Elix

Caloplaca phaeothamnos Kalb & Poelt

Spores 8-10 x 4-5 µm, septum 2.5-4.3 µm (FS).

[B 60 0192192], Turkey, Kurdistan, Lake Van, lava stream 7 km W of Ünseli, muscicolous in moss cushions on volcanic boulders in steppe. 8°59.8' N, 43°30.0' E, 1670 m. Leg. J. Vondrák & J. Šoun, 11.05.2007, det. J. Vondrák. VONDRÁK: SELECTED EXSICCATES OF CALOPLACA NO 70.

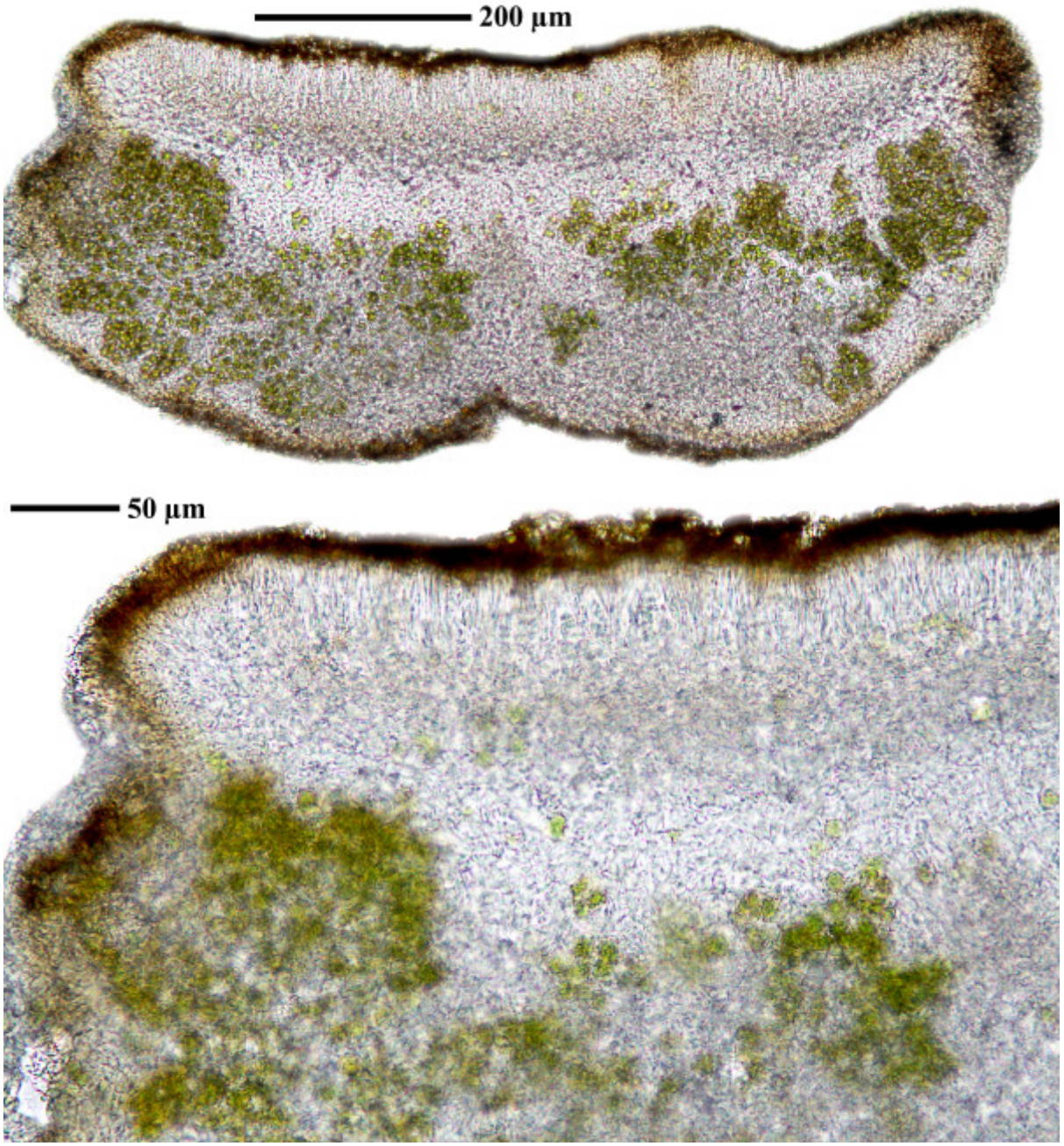






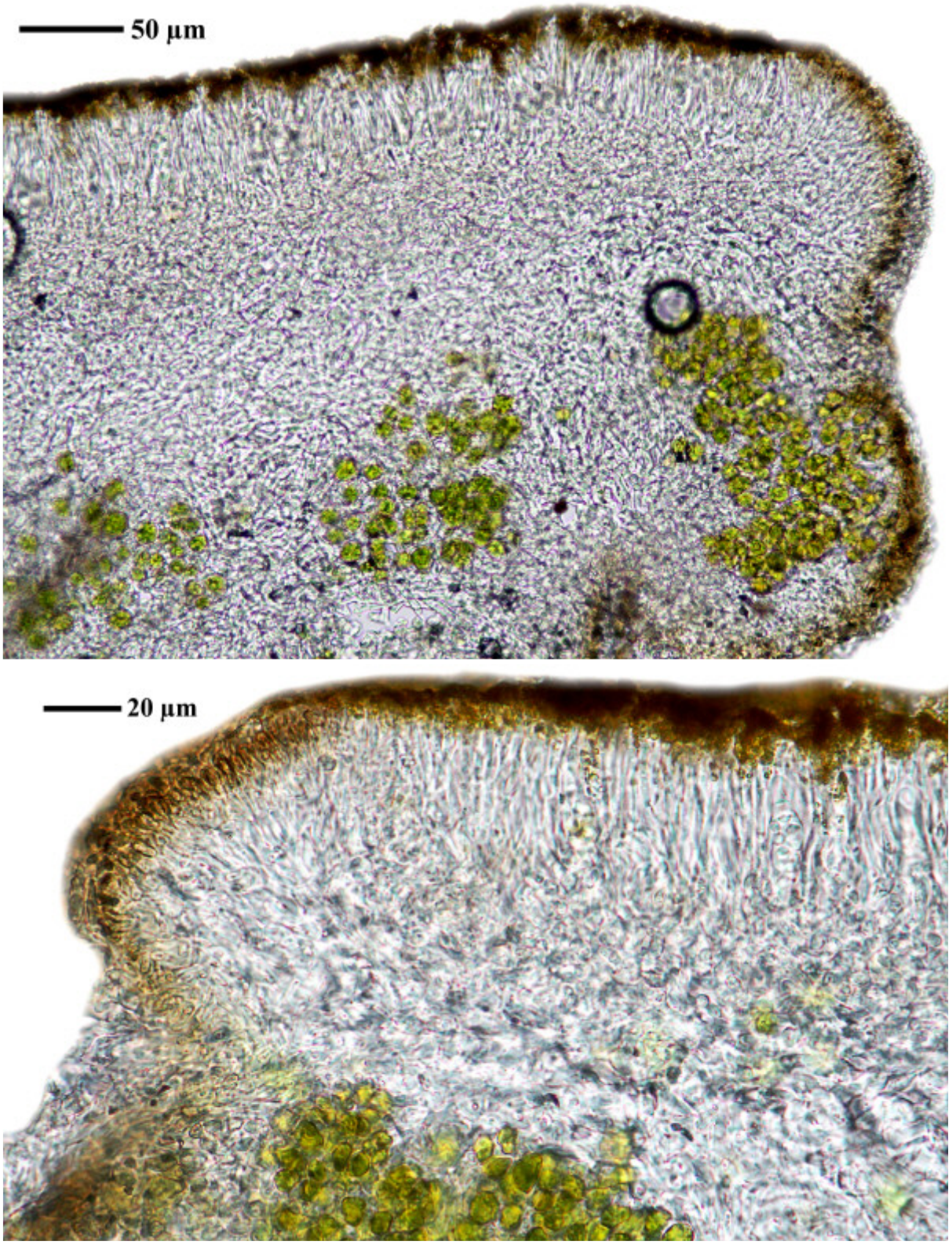
Caloplaca phaeothamnos

1979



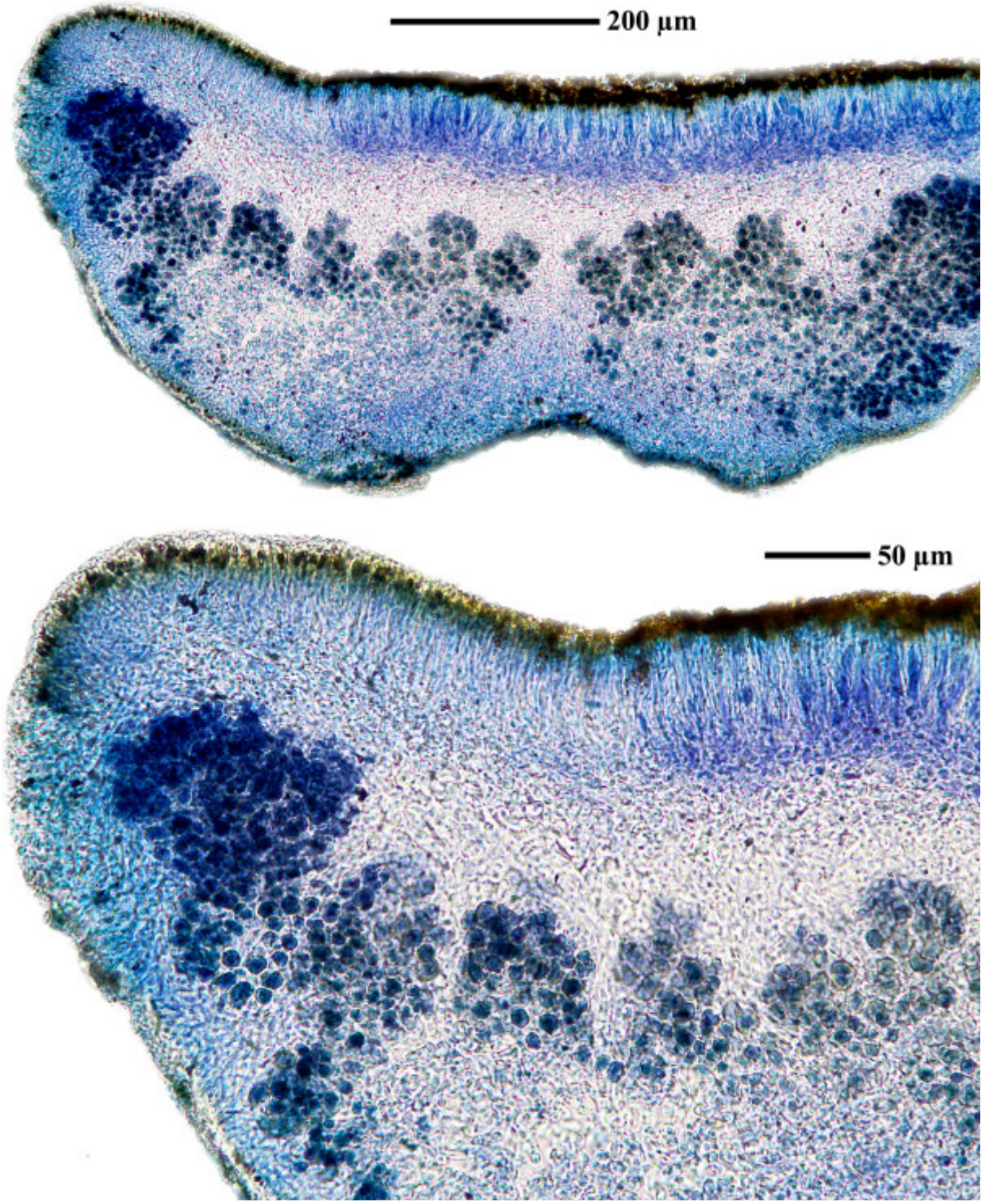
Caloplaca phaeothamnos

1980



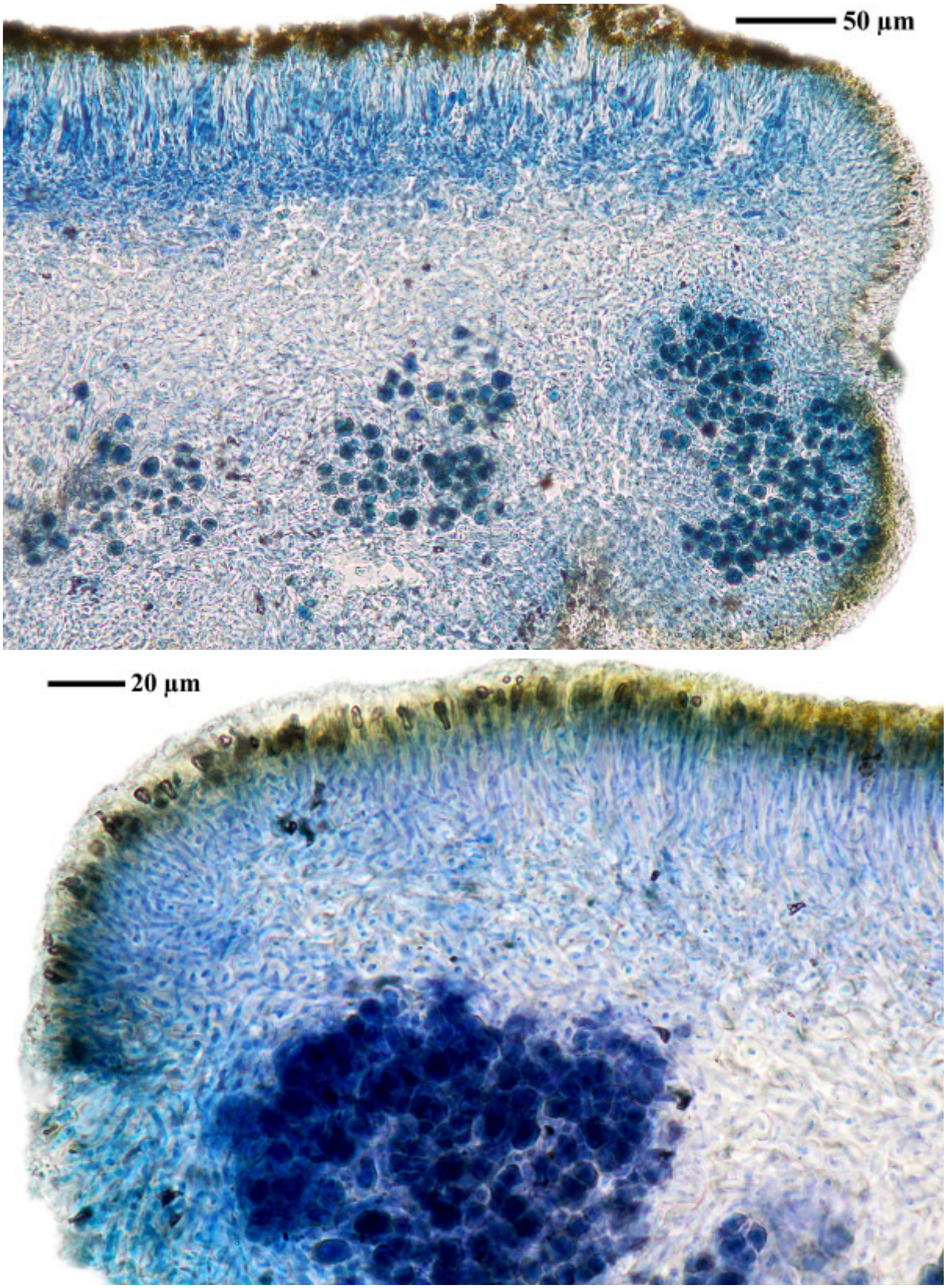
Caloplaca phaeothamnos

1981



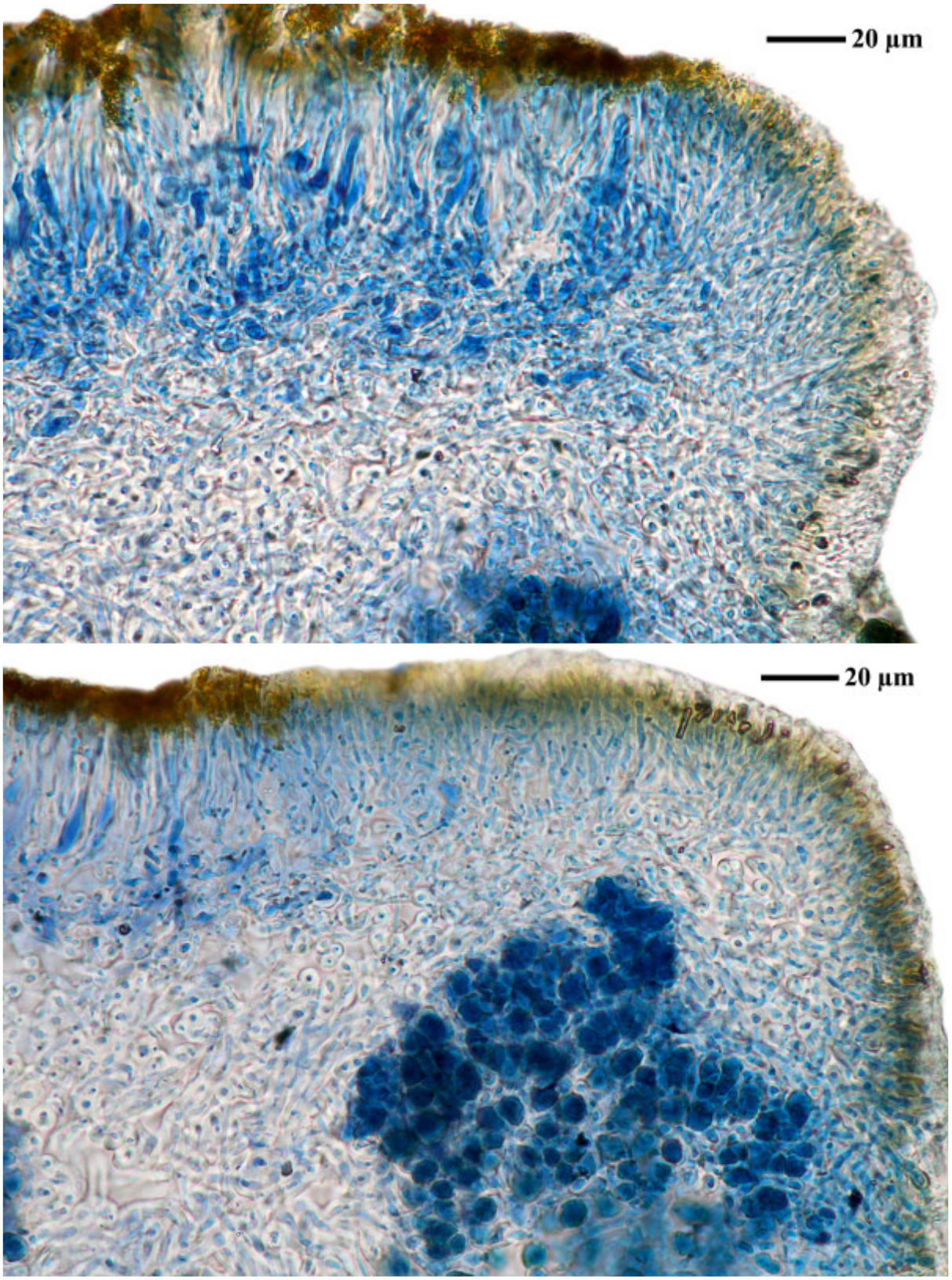
Caloplaca phaeothamnos

1982



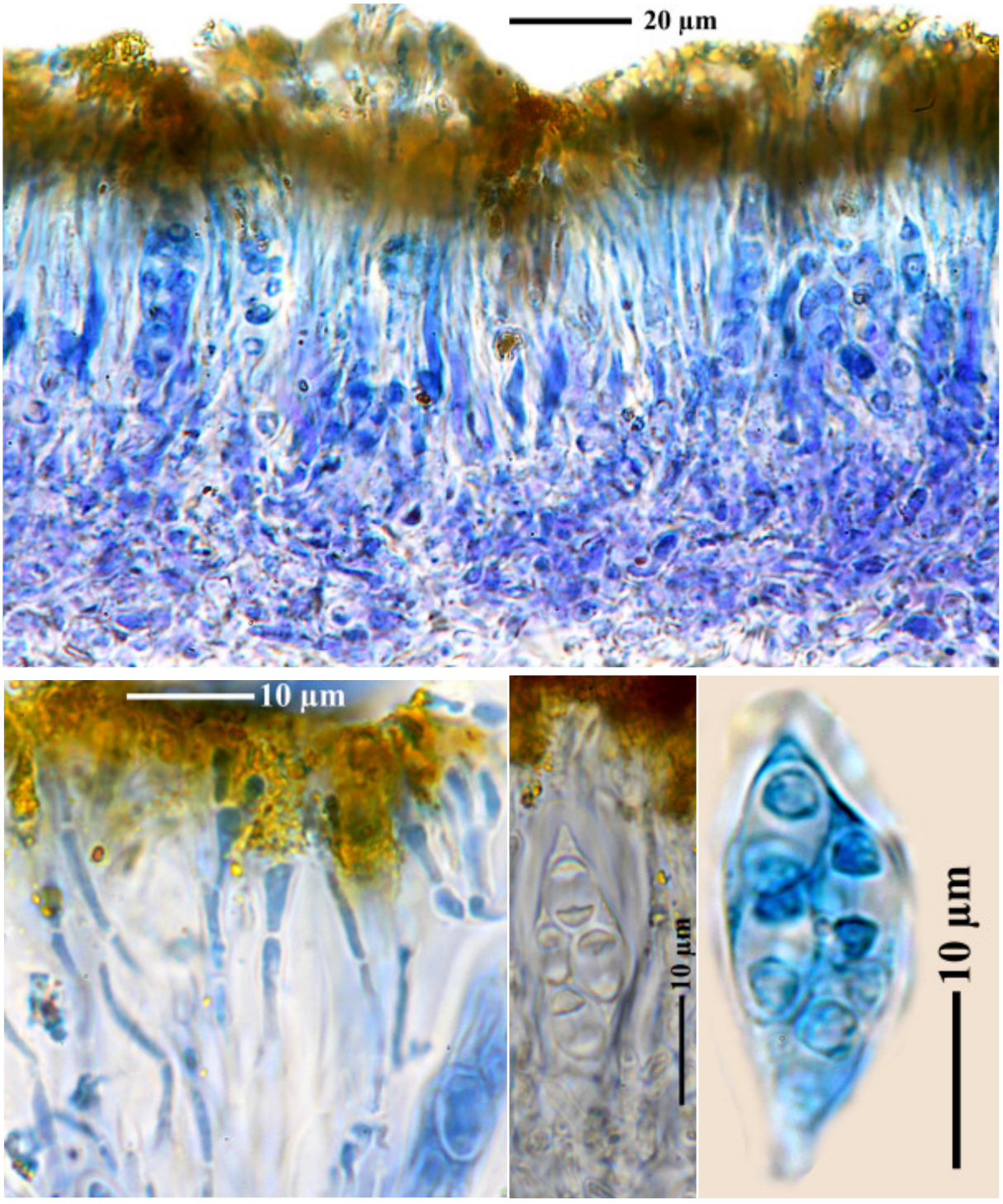
Caloplaca phaeothamnos

1983



Caloplaca phaeothamnos

1984



Caloplaca phaeothamnos

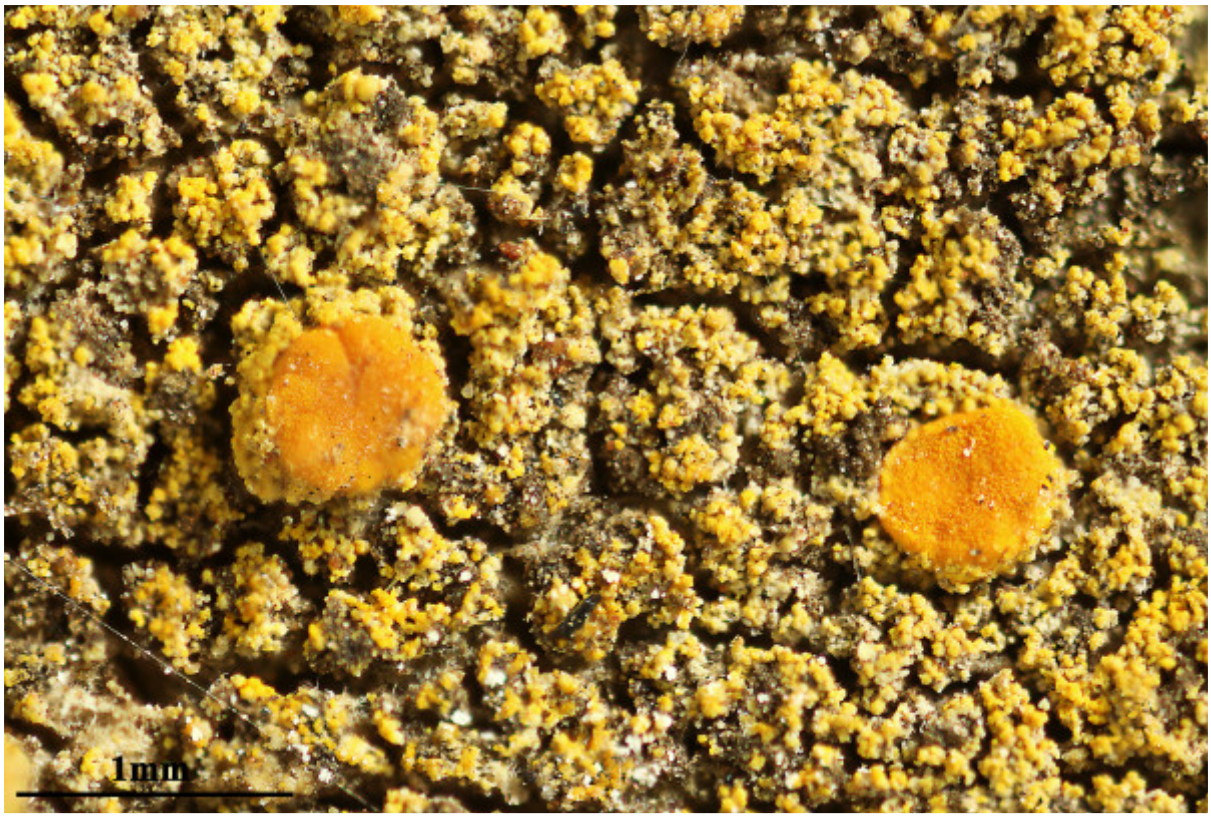
1985

Caloplaca phlogina (Ach.) Flagey
[= *Scythioria phlogina* (Ach.) S.Y. Kondr. et al.]

On bark and wood.

[9252], Spanien, Kanaren, La Gomera: Bei Las Hayas an der Straße nach Arure. 28°07.742' N, 17°17.761 W, 955 m, an *Phoenix canariensis*.Sonnig, trocken. Leg. F. Schumm, 12.02.2002, et. A. Aptroot 2016.







Caloplaca phlogina

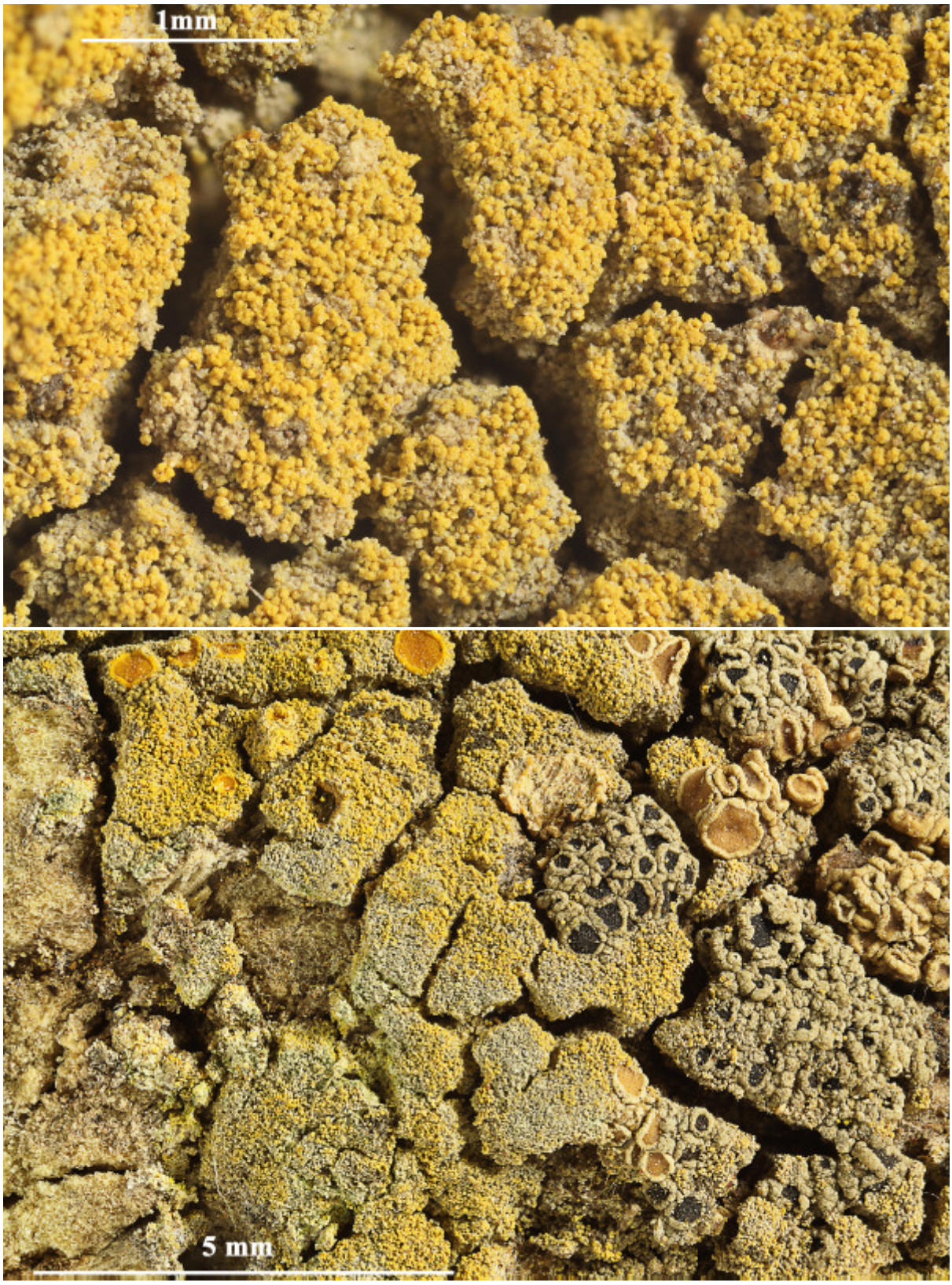
1987

Caloplaca phlogina (Ach.) Flagey
[= *Scythioria phlogina* (Ach.) S.Y. Kondr. et al.]

On bark. Thallus K+ red.

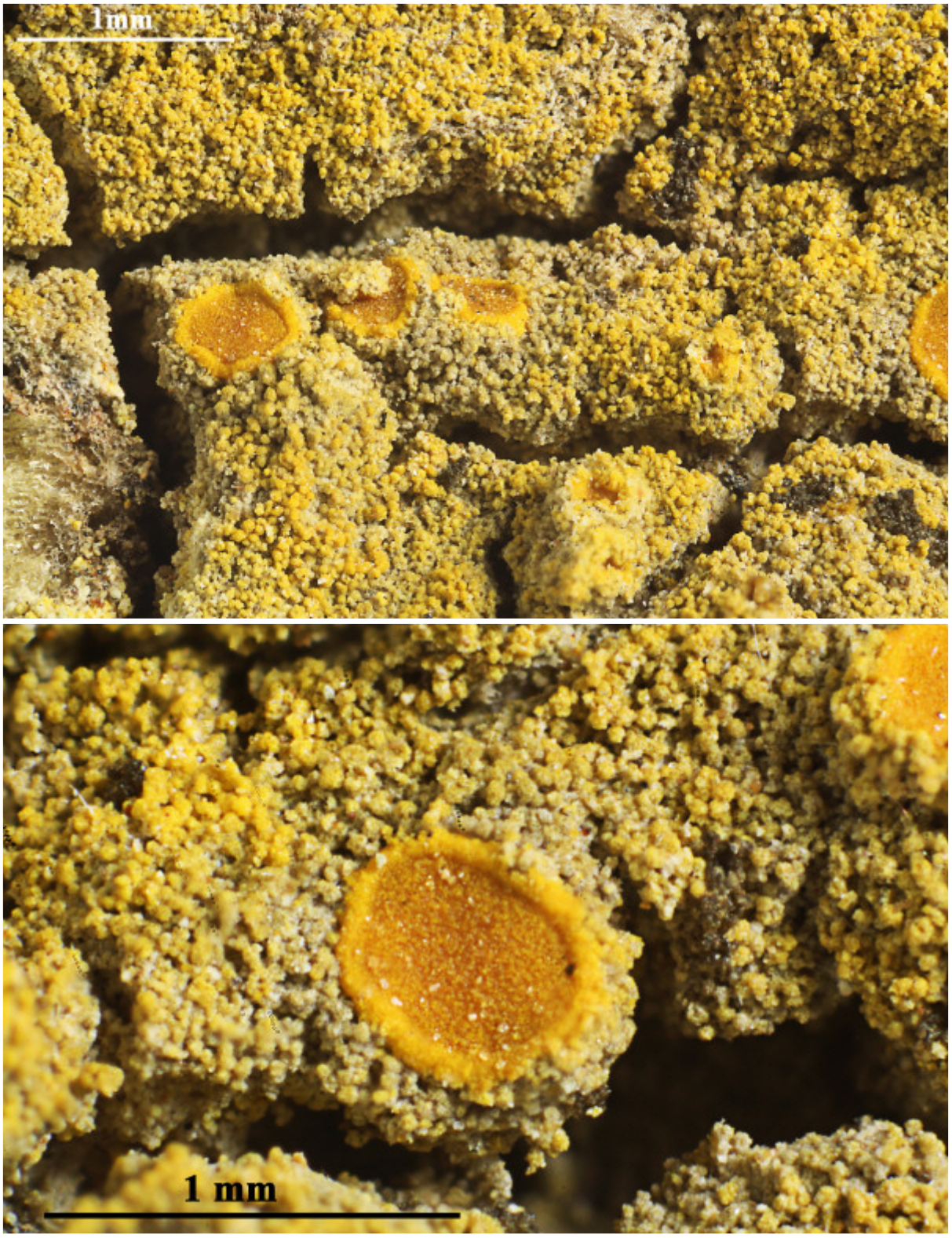
[9262], Spanien, Kanaren, La Gomera: Bei Las Hayas an der Straße nach Arure. 28°07.742' N, 17°17.761 W, 955 m. An Phoenix canariensis.Sonnig, trocken. Leg. F. Schumm, 12.02.2002, det. A. Aptroot 2016.





Caloplaca phlogina

1989



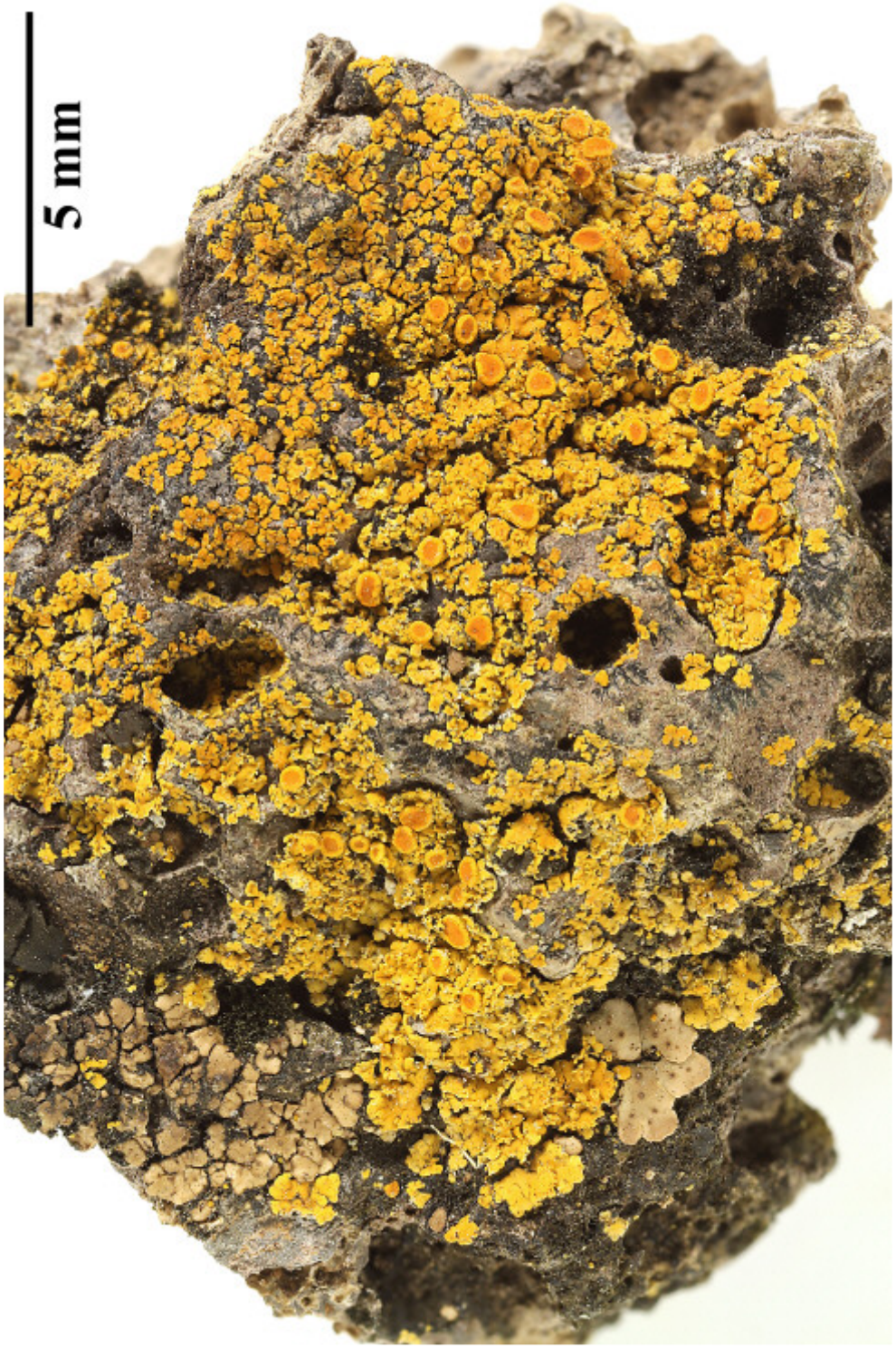
Caloplaca phlogina

1990

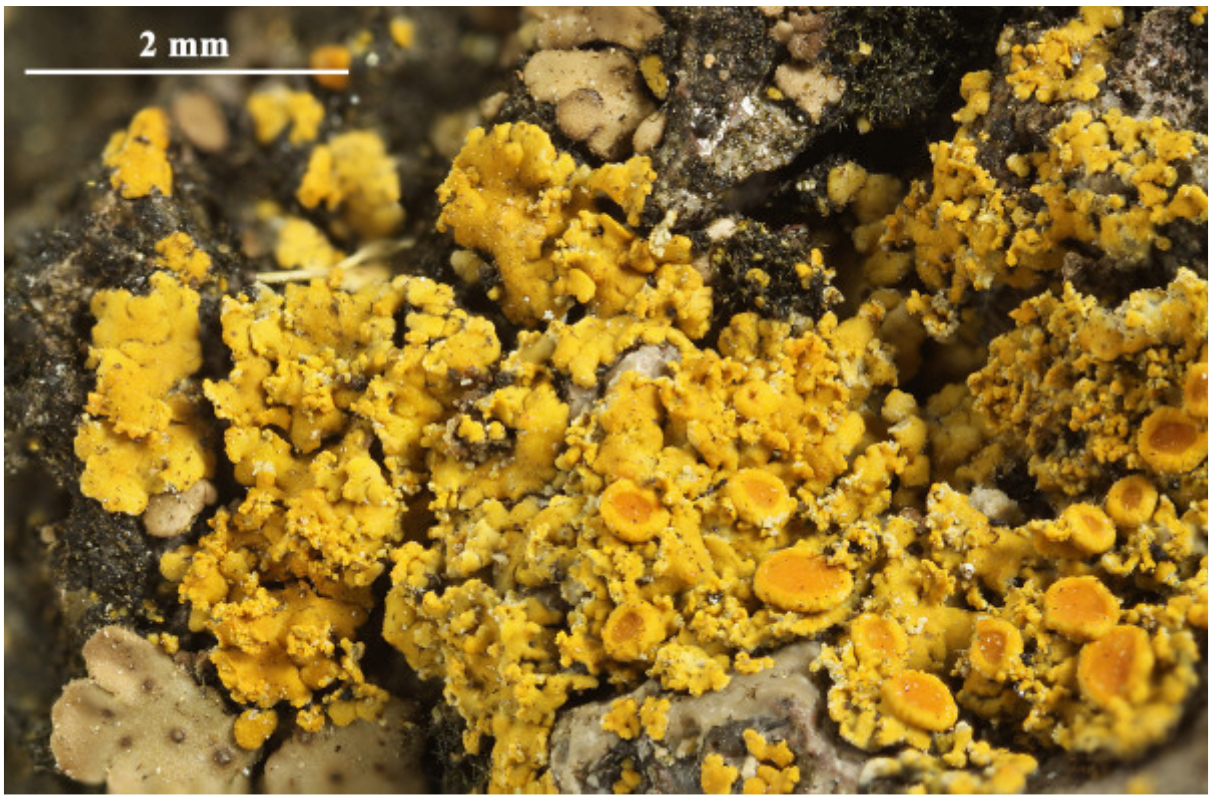
Caloplaca phyllidizans Wetmore

On lava rocks. Spores polarilocular, hyaline, 8/ascus, 11.5-14 x 7-9 µm, septum 5.8-6.5 µm.

[ABL 65468], Ecuador, Galápagos Islands, Santiago Island, along the trail from Bucanero to Jaboncillos, ca 1 km below the summit, Cerro Gavilan (SAN 7) transition zone, open *Psidium galapageium* forest with *Zanthoxylum fagara*, *Blainvillea dichotoma*, *Mentzelia aspera* and *Senna obtusifolia*, basalt boulders and outcrops inbetween on lava, 0°11'45'' S, 90°47'20'' W, 680 m. Leg and det. A. Aptroot, 22.03.2006.

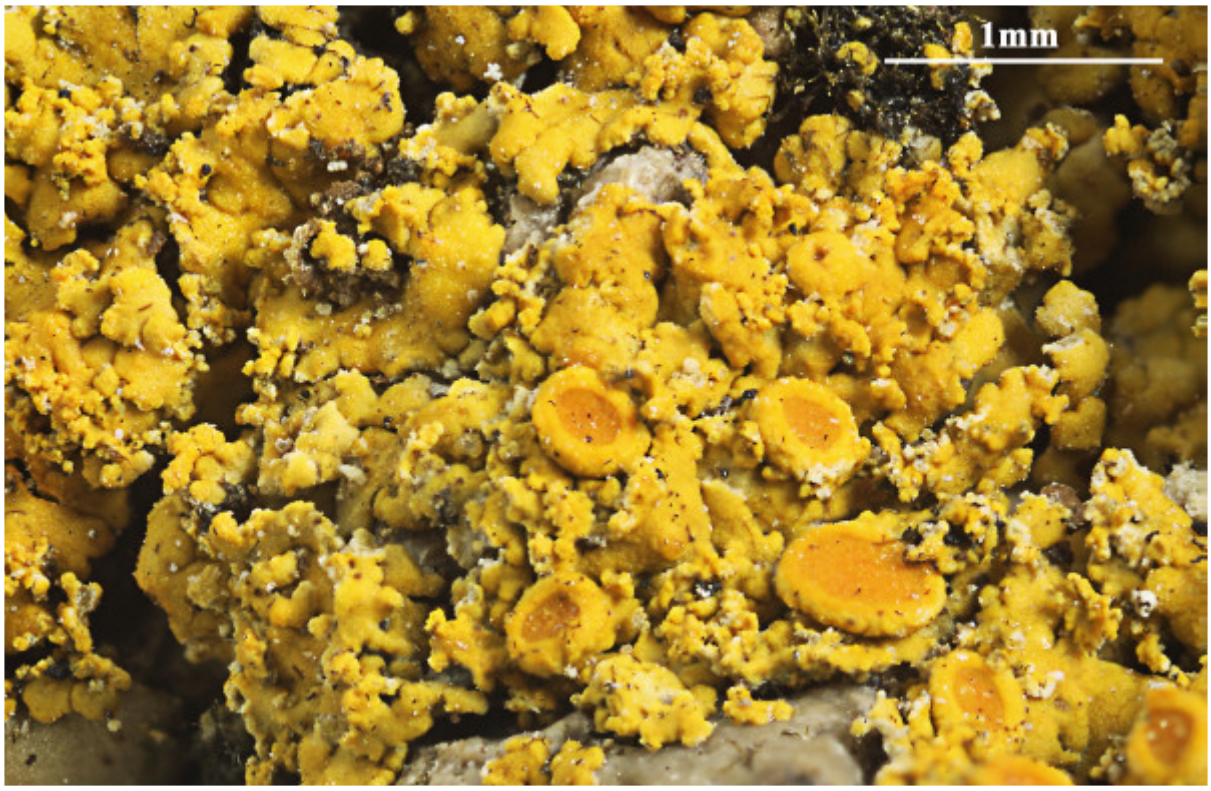






Caloplaca phyllidizans

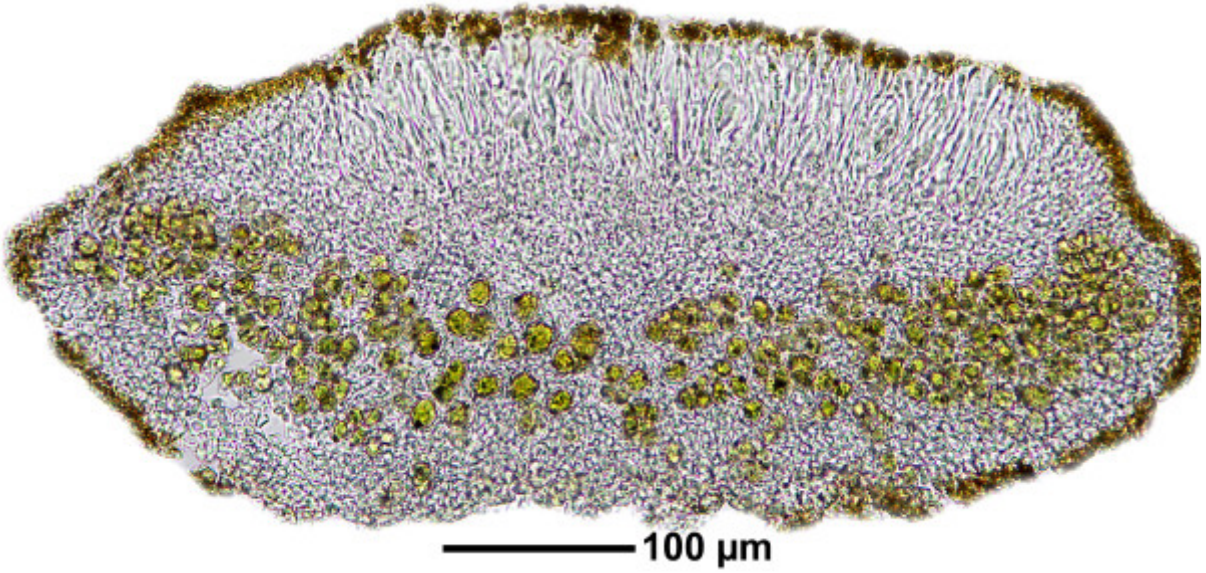
1992

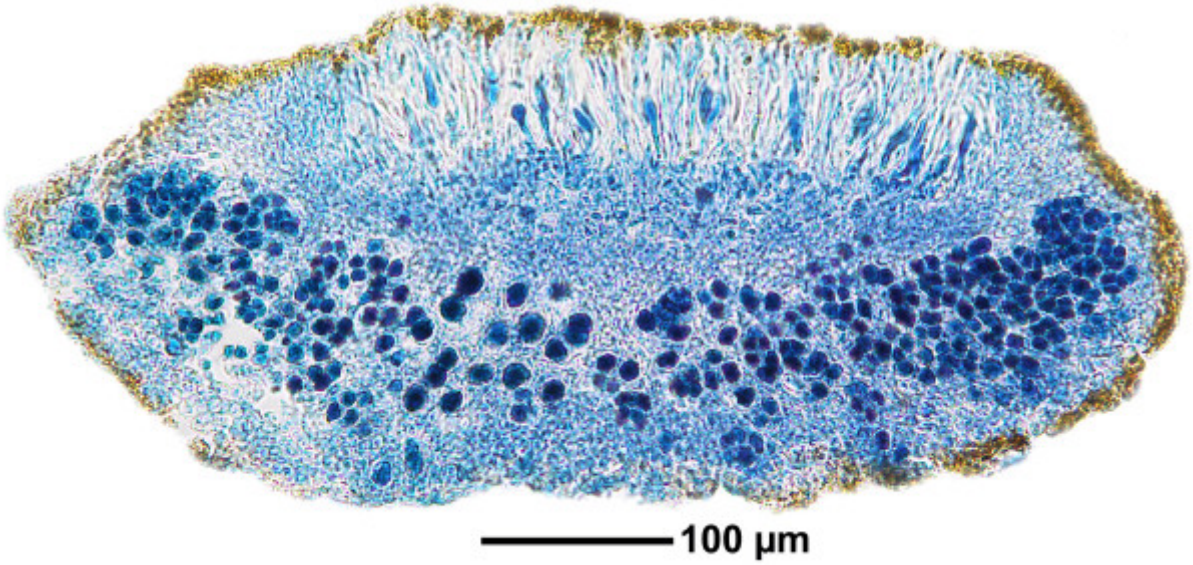


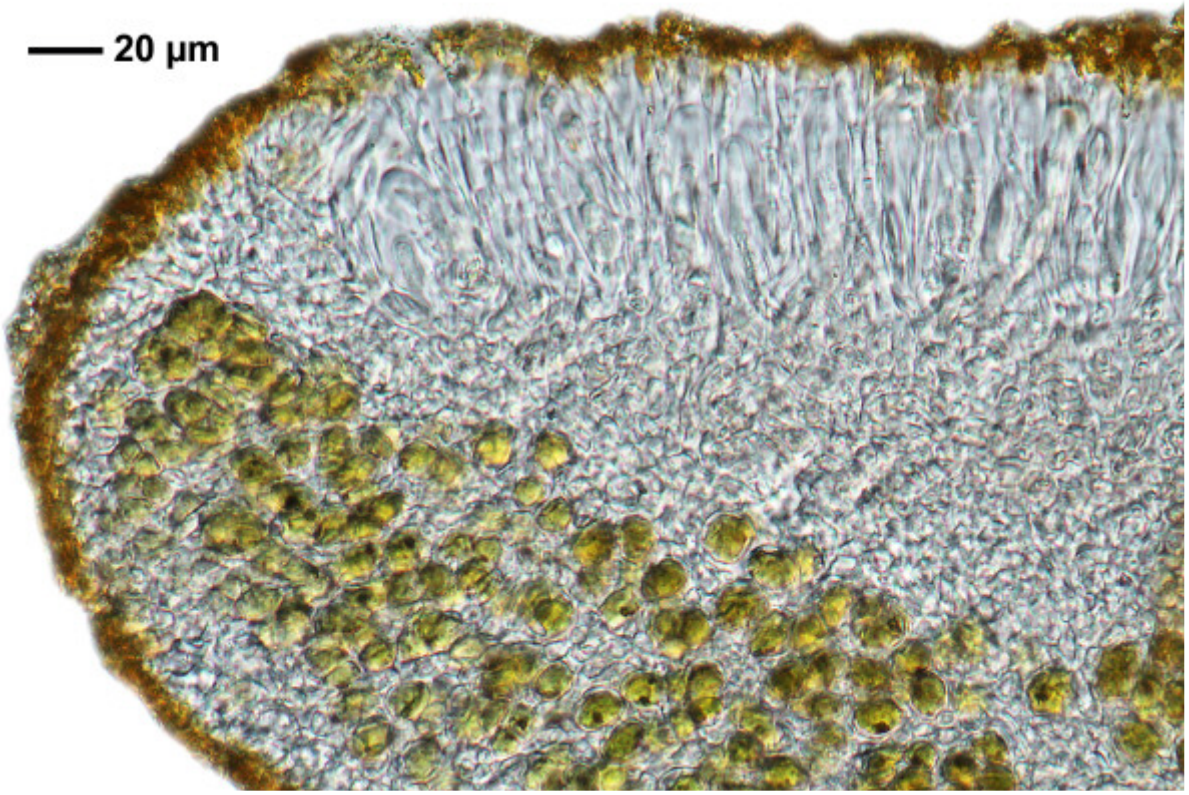


Caloplaca phyllidizans

1993

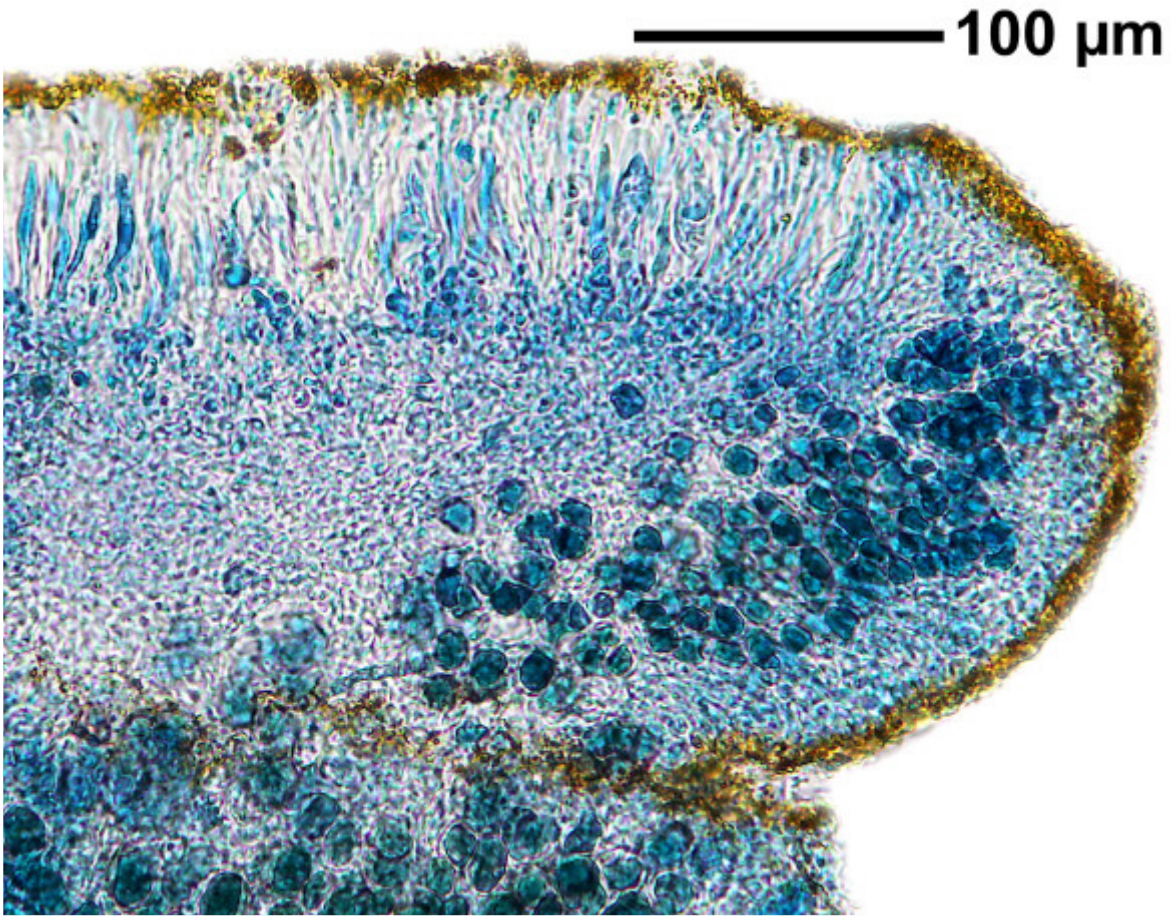


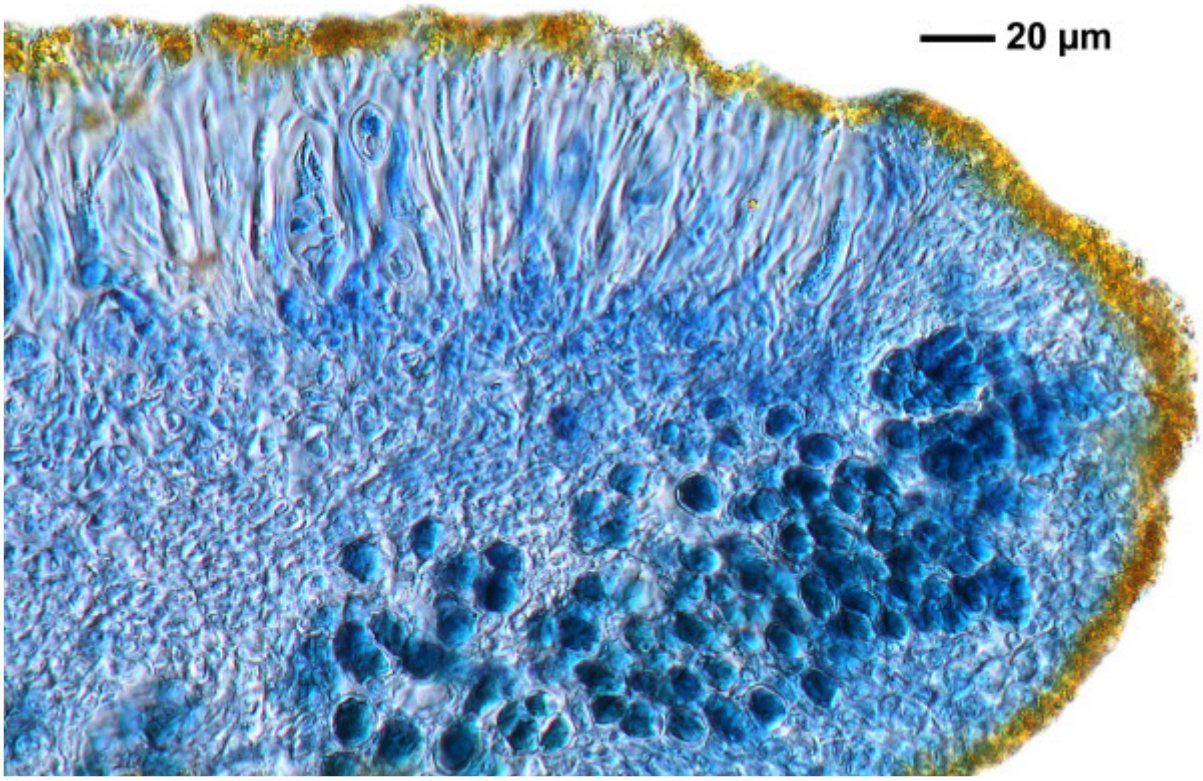




Caloplaca phyllidizans

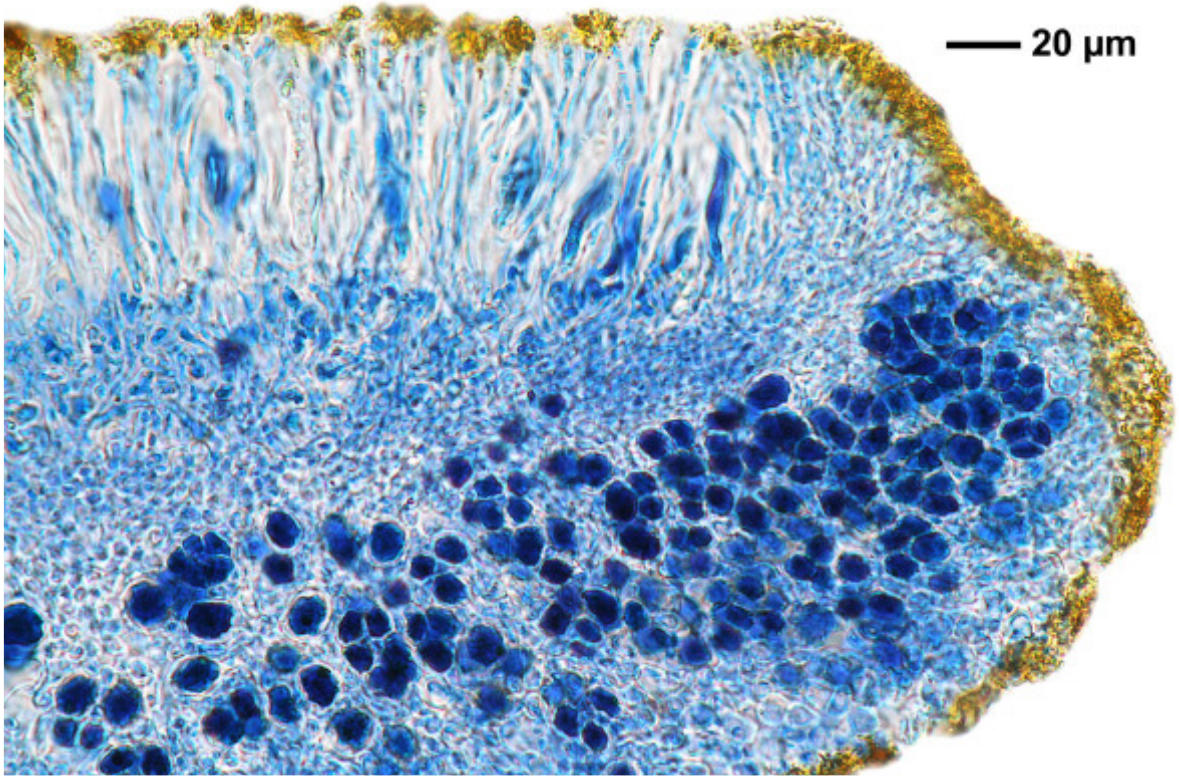
1994

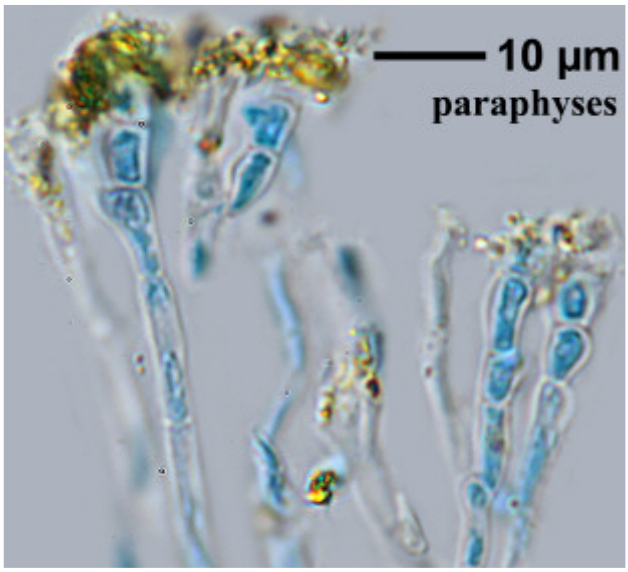


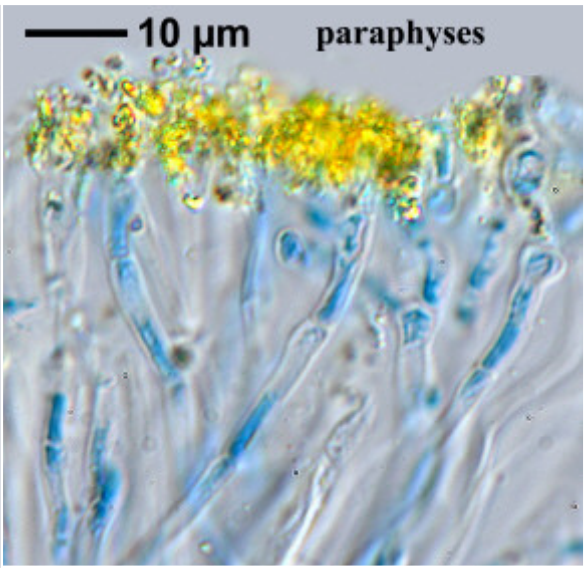


Caloplaca phyllidizans

1995

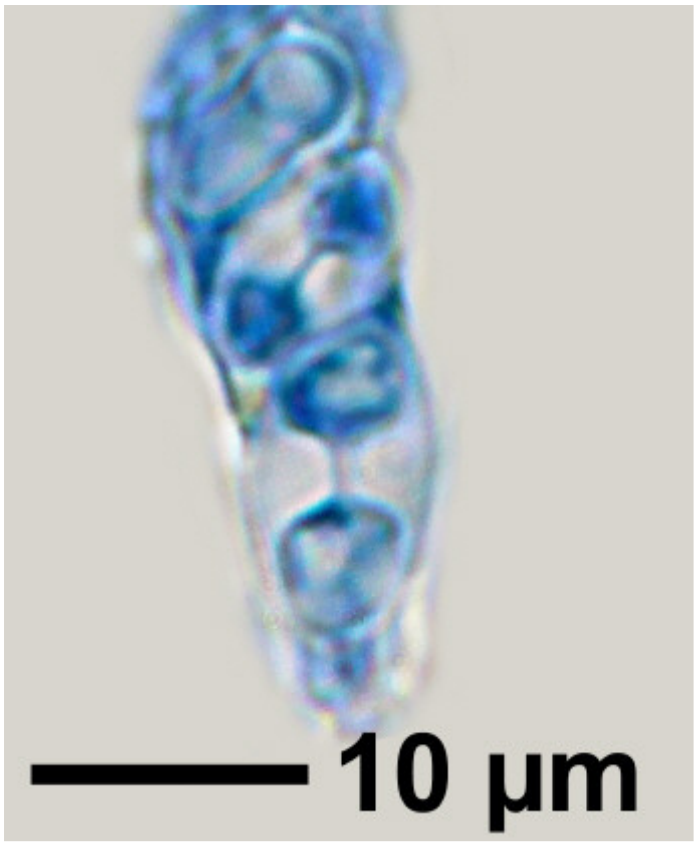


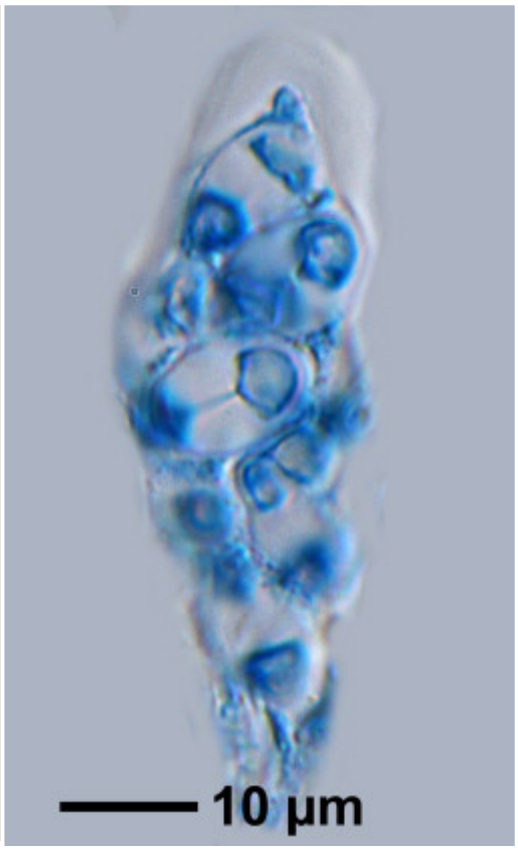


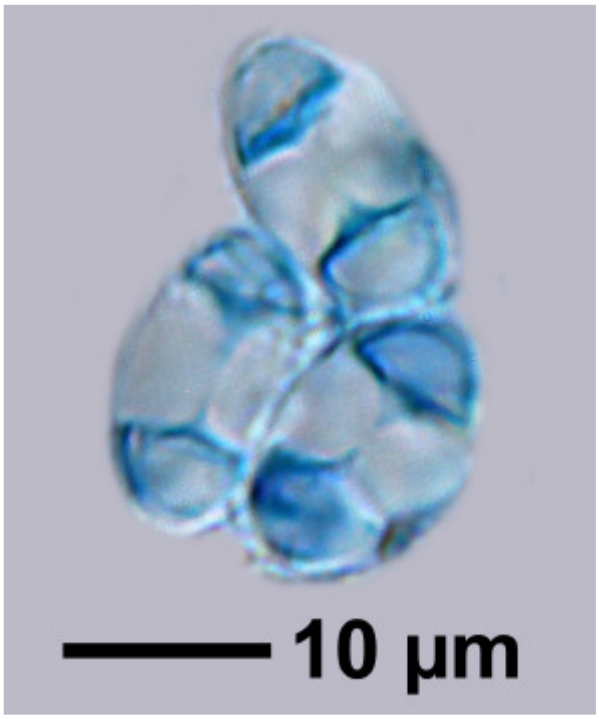


Caloplaca phyllidizans

1996







Caloplaca phyllidizans

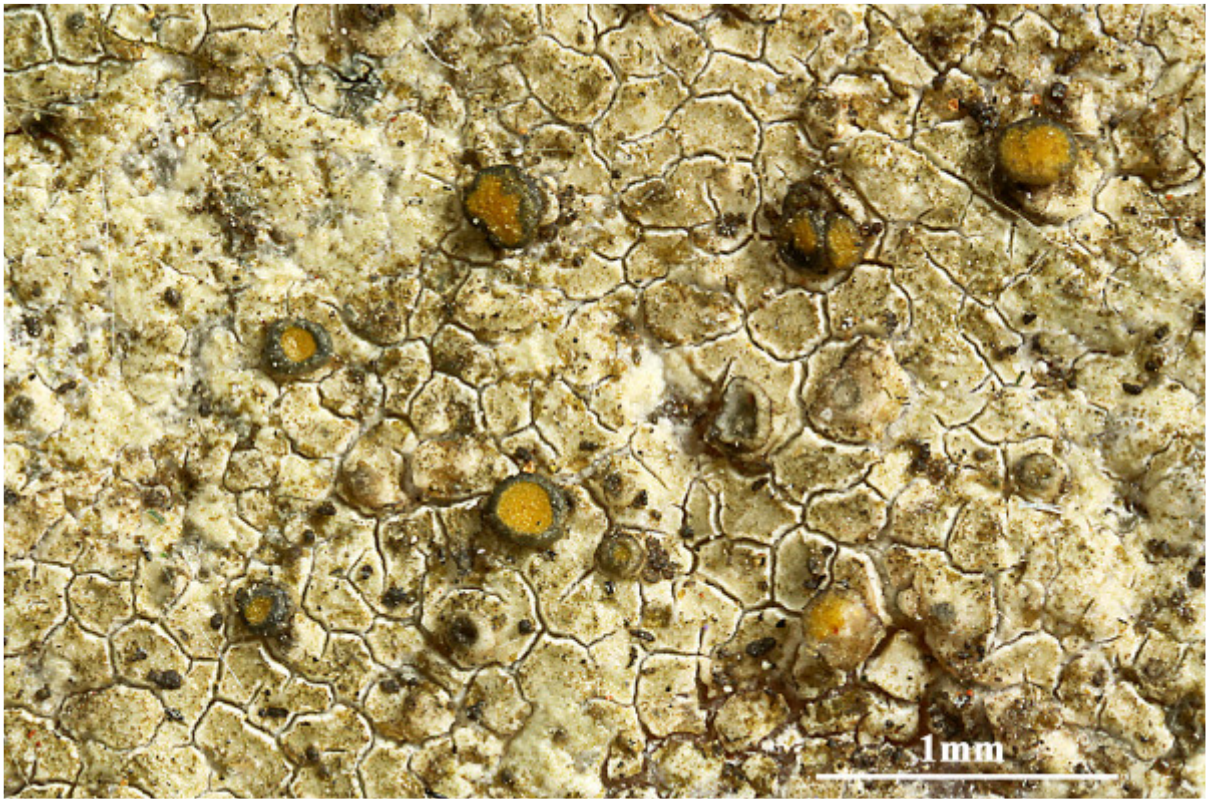
1997

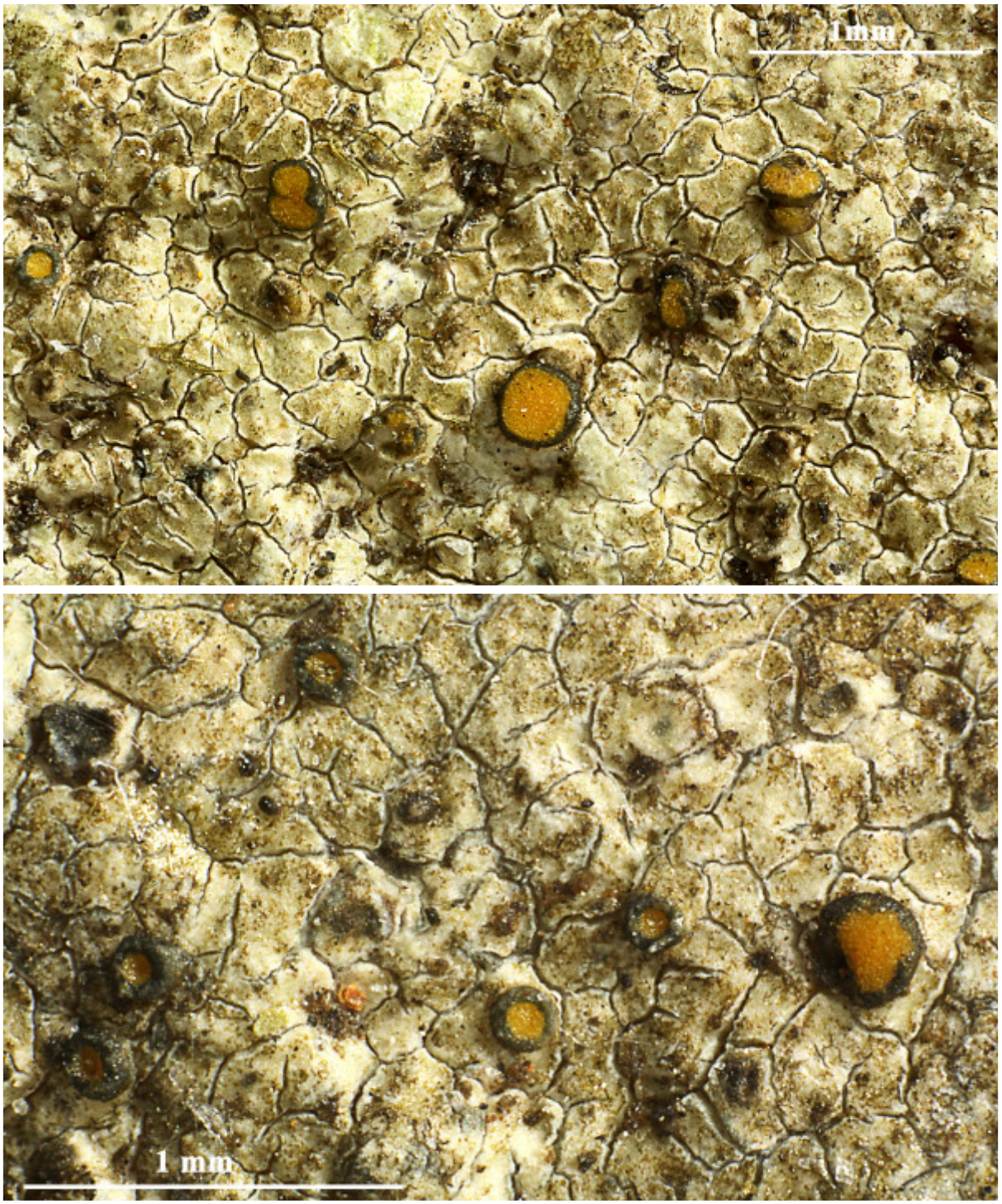
Caloplaca poliotera (Nyl.) J. Steiner

Thallus saxicolous, rimose-areolate, smooth to granular, whitish to whitish grey, K+ yellow. Apothecia biatorine, margin black, disc rust coloured to darkish. Ascospores 8/ascus, 10-11 x 6 µm. Lit.: Awasthi, D.D (1991): Key to the Microlichens of India, Nepal and Sri Lanka, Bibliotheca Lichenologica Bd. 40.

Original-diagnosis from Nylander, 1869, Flora 53: p.70: *Lecanora poliotera* Nyl. Thallus albido-cinereus sat tenuis areolato-rimosus (laevis) vel granulato-areolatus (granulatus); apothecia ferrugineo-fusca vel ferrugineo-nigricantia biatorina, nigromarginata, basi vel extus a thallo obsolete obducta ; sporae 8nae (placodinae solitae), longit. 0,010—11 millim., crassit. 0,006 millim. Soorabadeah, ad saxa quartzosa.

[KK29585], Australia, Northern Territory, Katharine Gorge National Park, „Windolf Walk“ and „Butterfly Gorge“, 200 m, 14°19’ S, 132°25’ E. Leg. K. & A. Kalb 14.-15.08.1995, det. S. Kondratyuk, 2009.

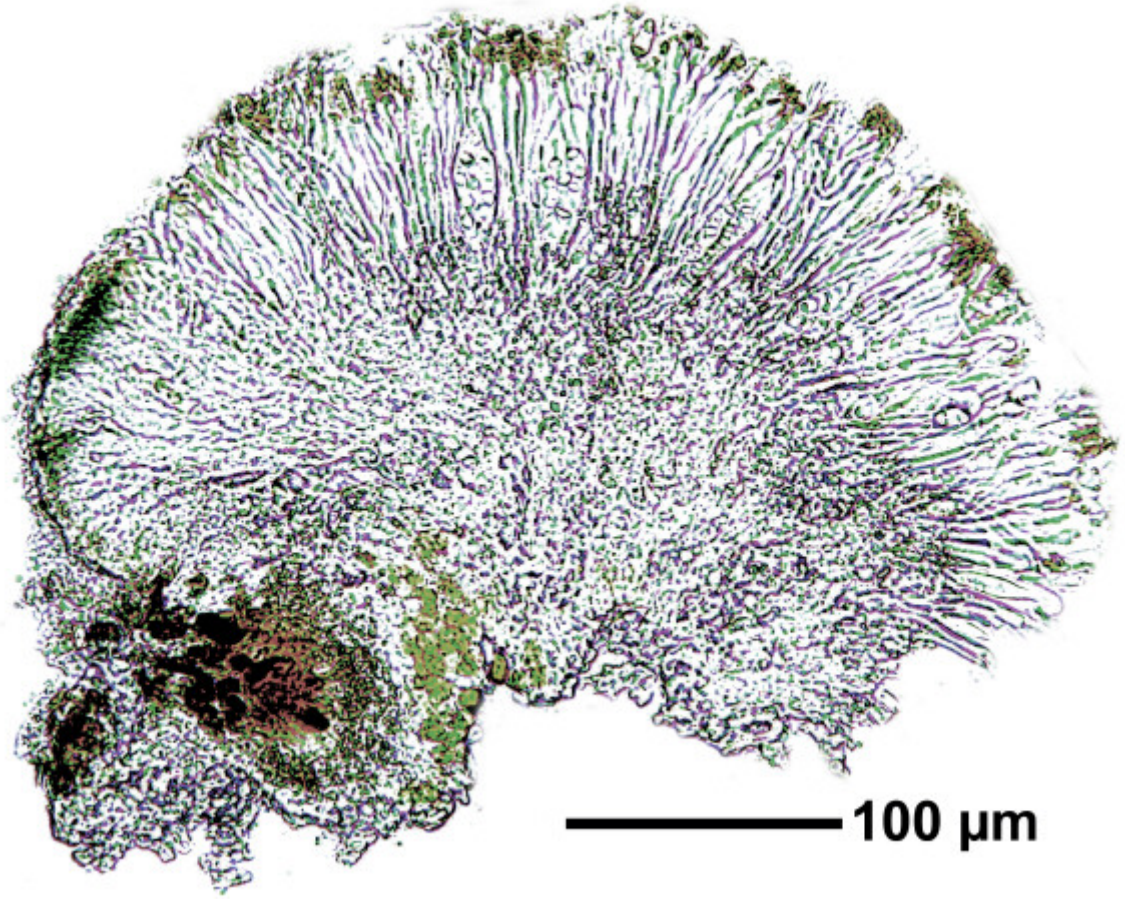


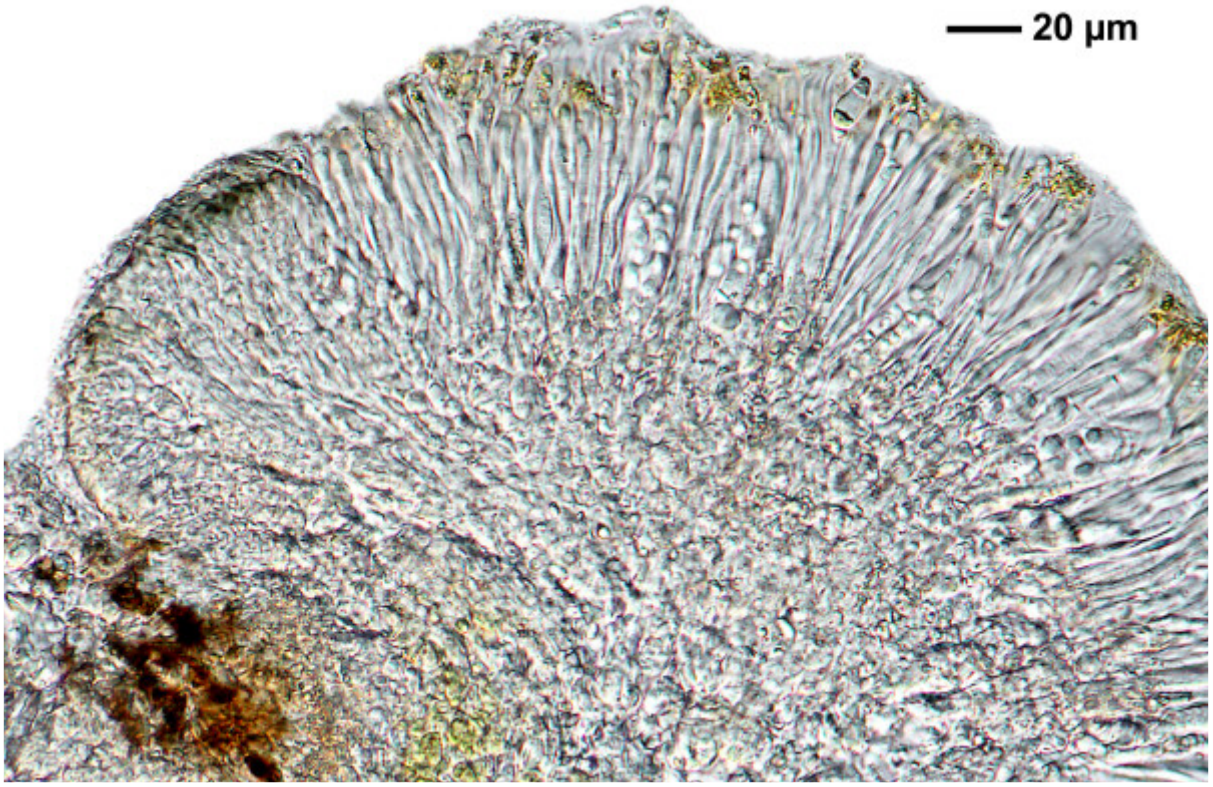




Caloplaca poliotera

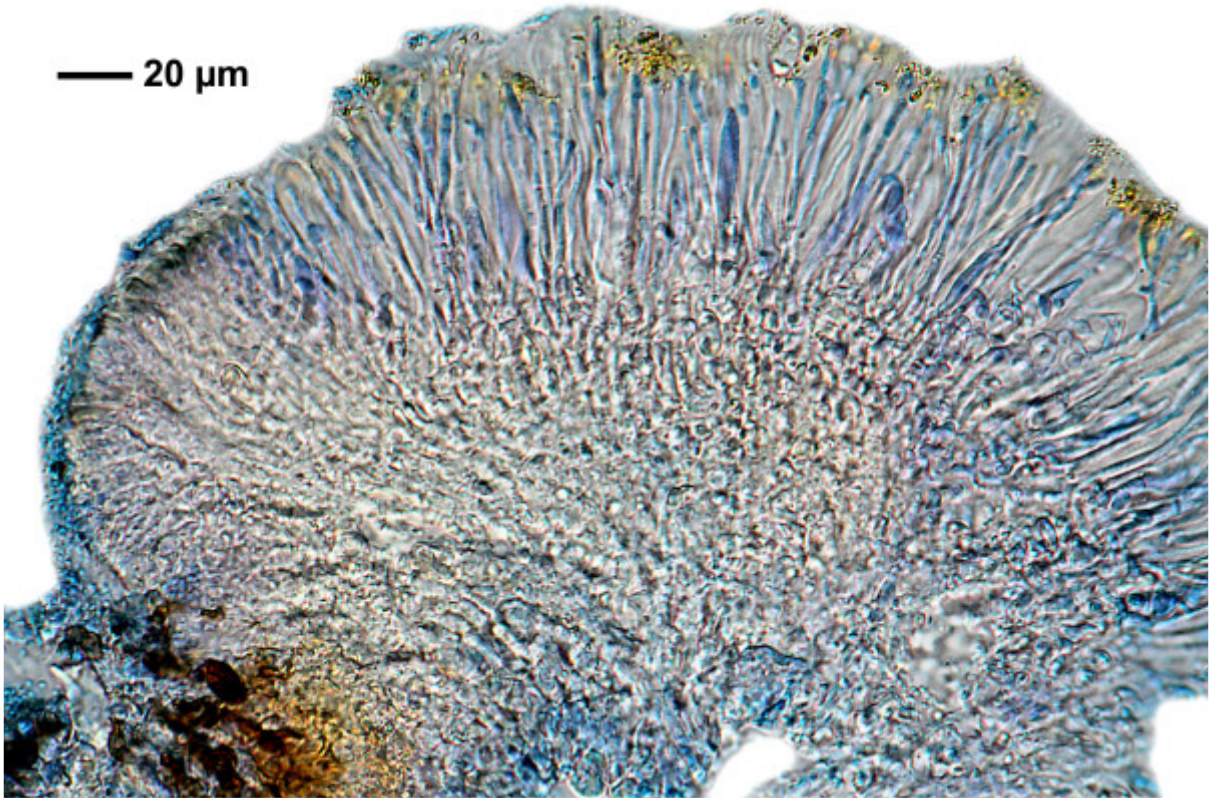
1999

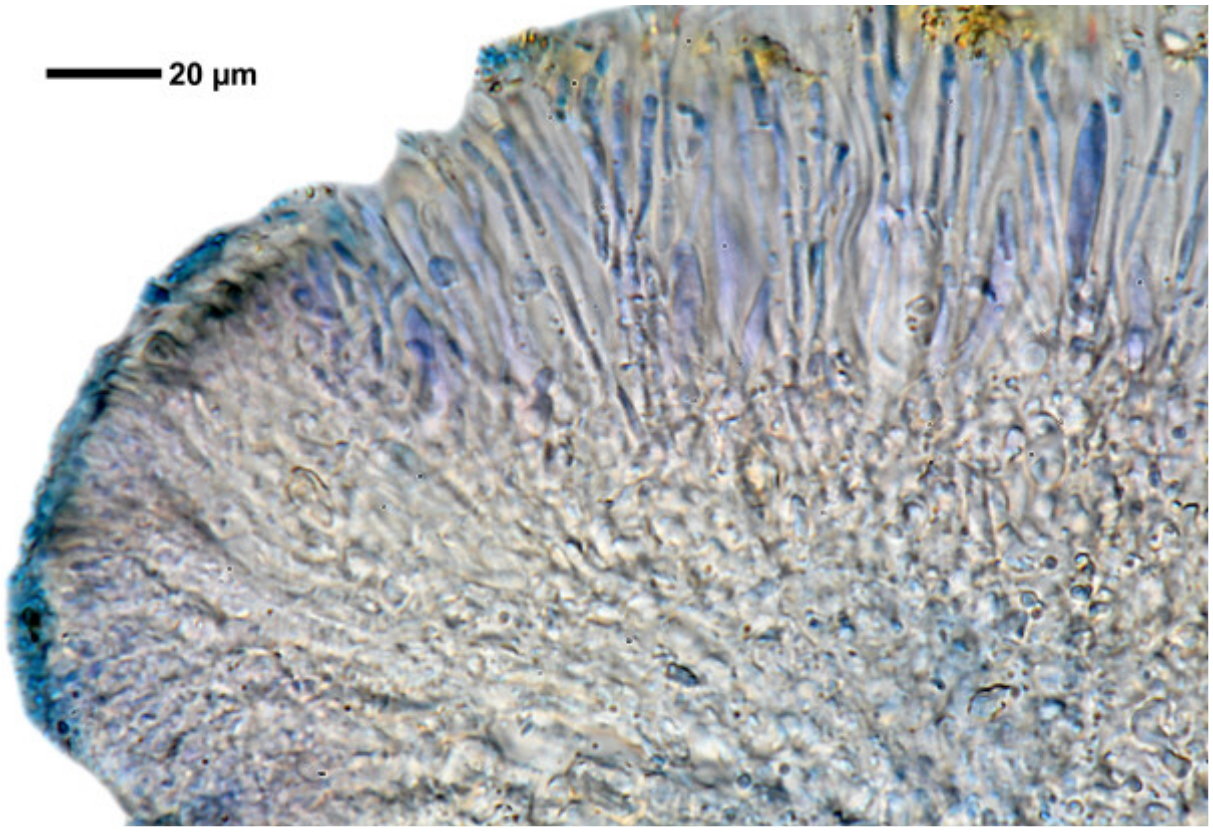




Caloplaca poliotera

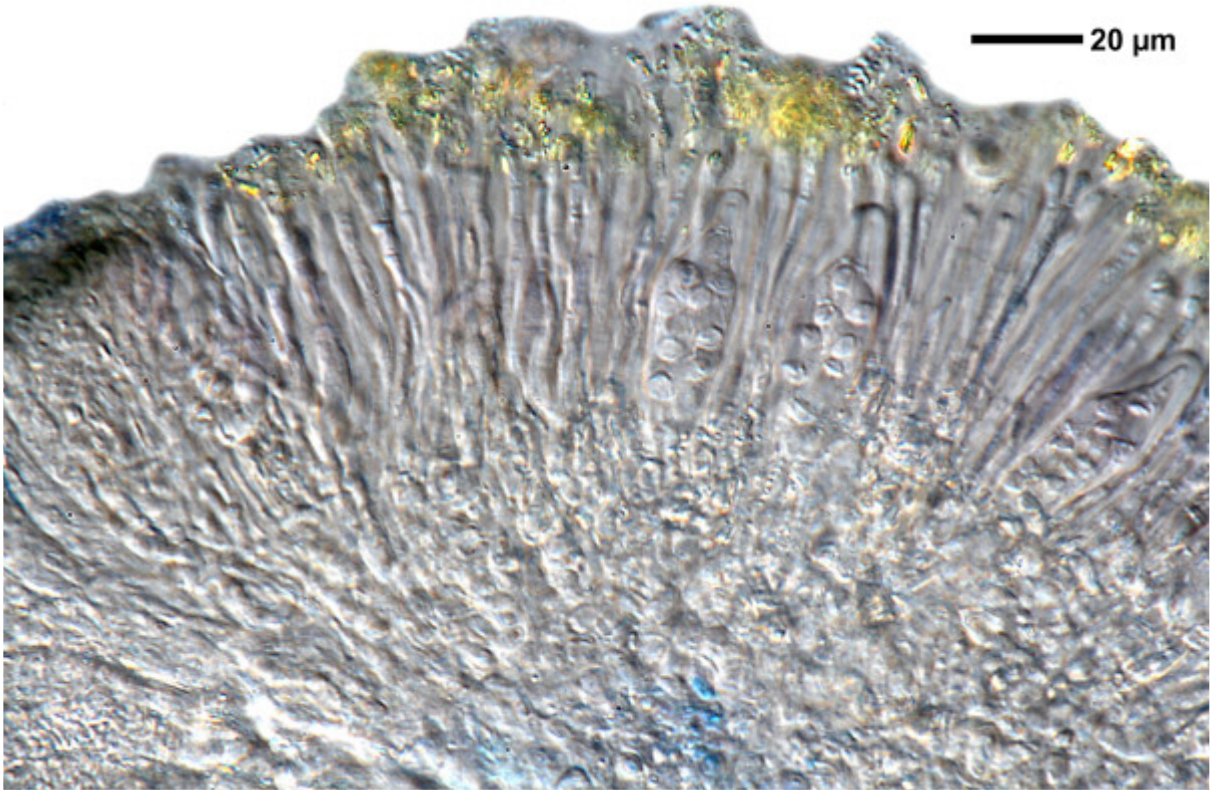
2000

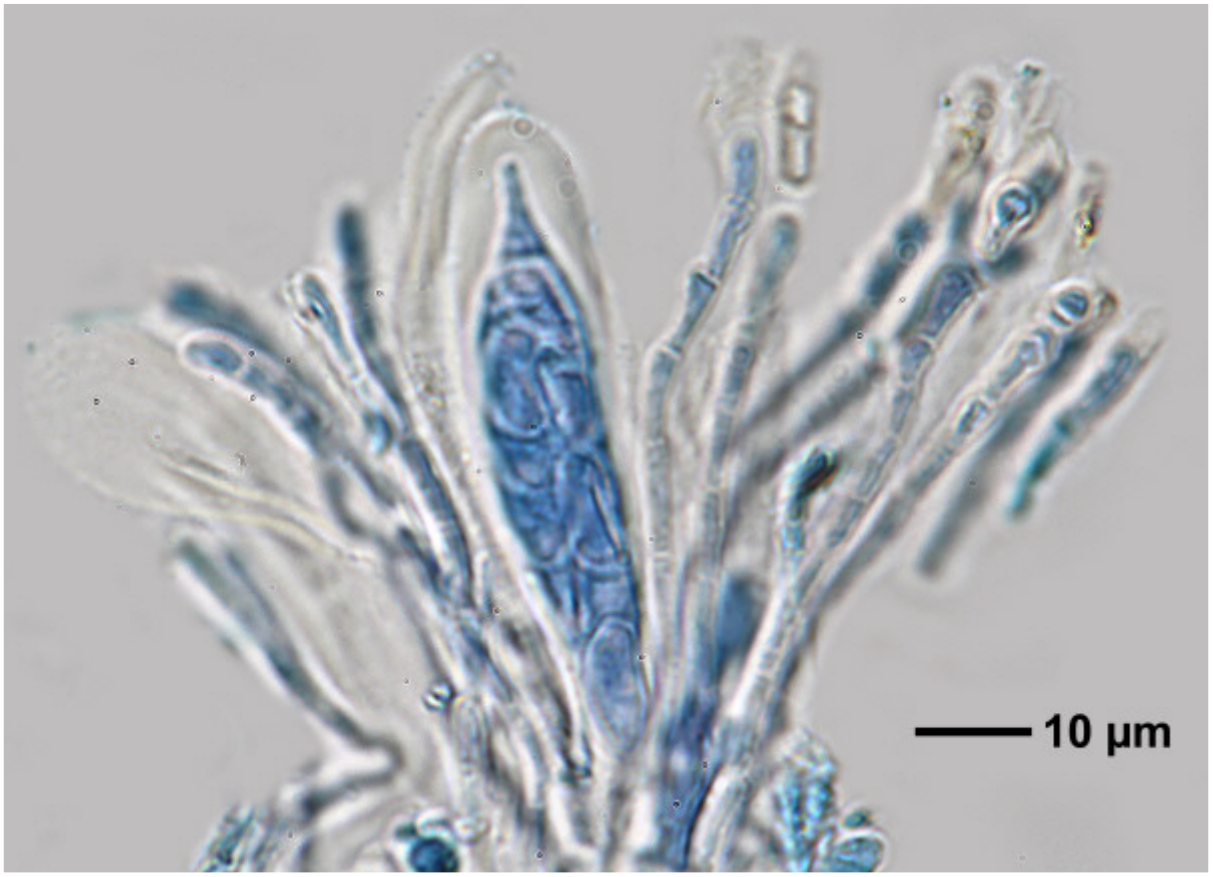




Caloplaca poliotera

2001

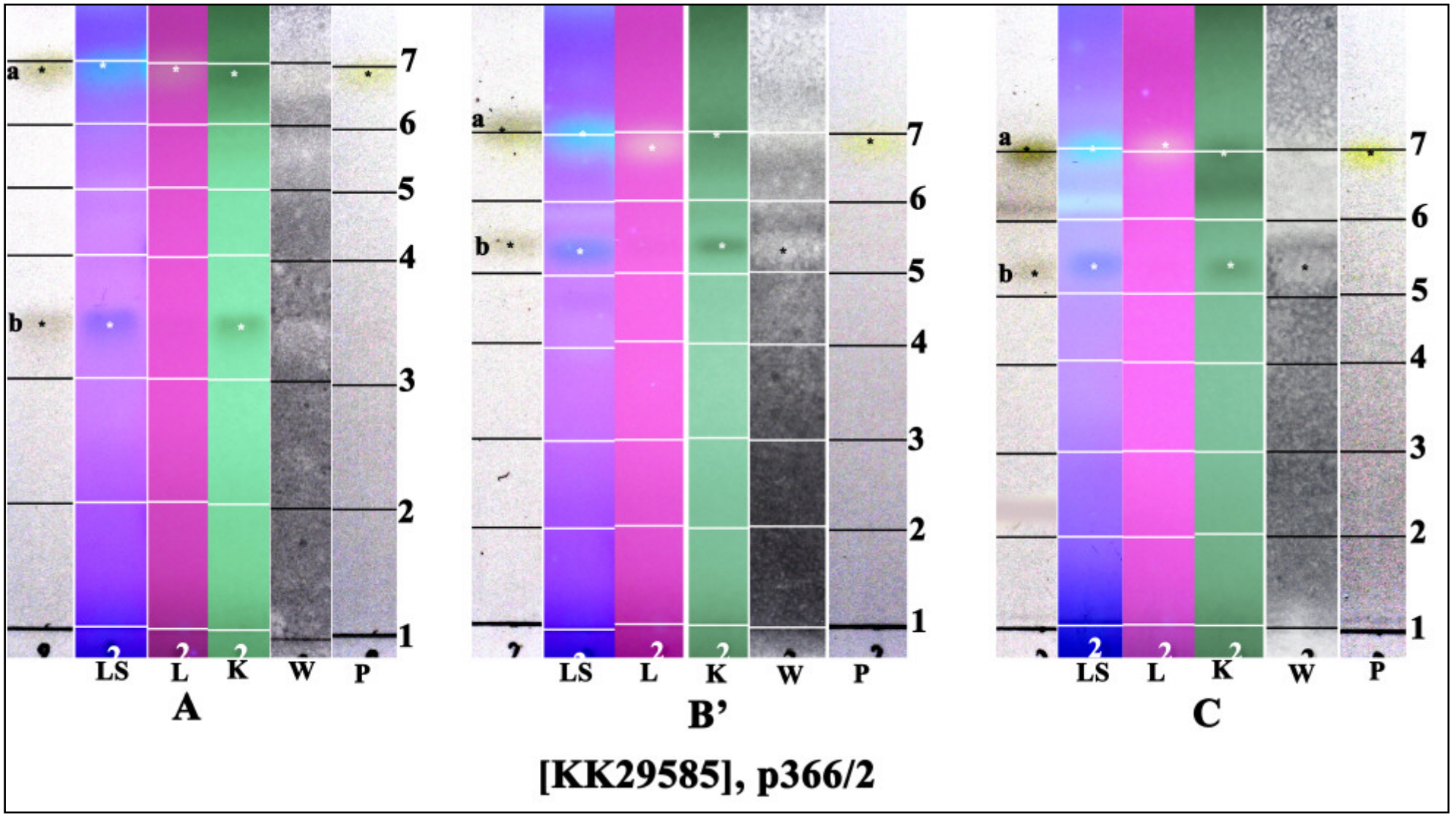




Caloplaca poliotera

2002

Caloplaca poliotera



a, b: unknowns; conf. J.A. Elix

2003

Caloplaca pollinii (A. Massal.) Jatta
[= *Huneckia pollinii* (A. Massal.) S.Y. Kondr., Kärnefelt, A. Thell, Elix, J. Kim, A.S. Kondr. & Hur]

Spores 13-14 x 8-10 µm, septum 4.5-6.5 µm (FS).

[B 60 0078257], U.S.A., Arkansas, Izard County, Calico Rock, ca. 2 mi W of town on Calico Road; top of sandstone bluff above White River with pine and juniper, on *Juniperus*. Leg. R.C. Harris (21662), 26.04.1988





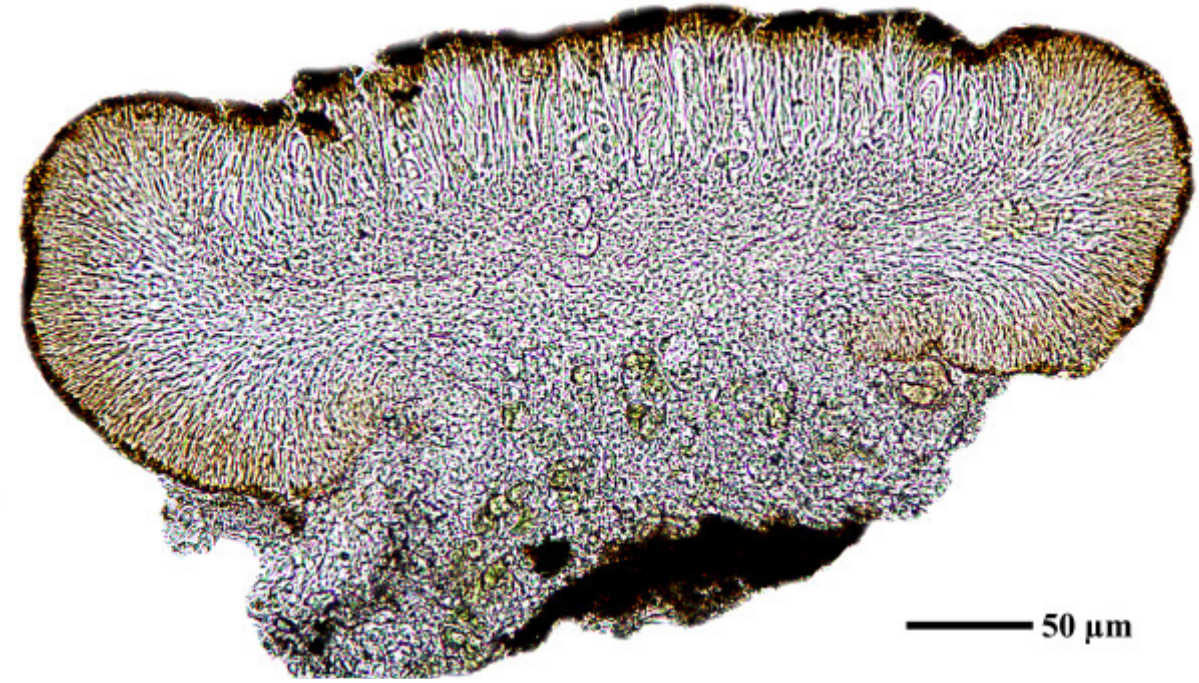
Caloplaca pollinii

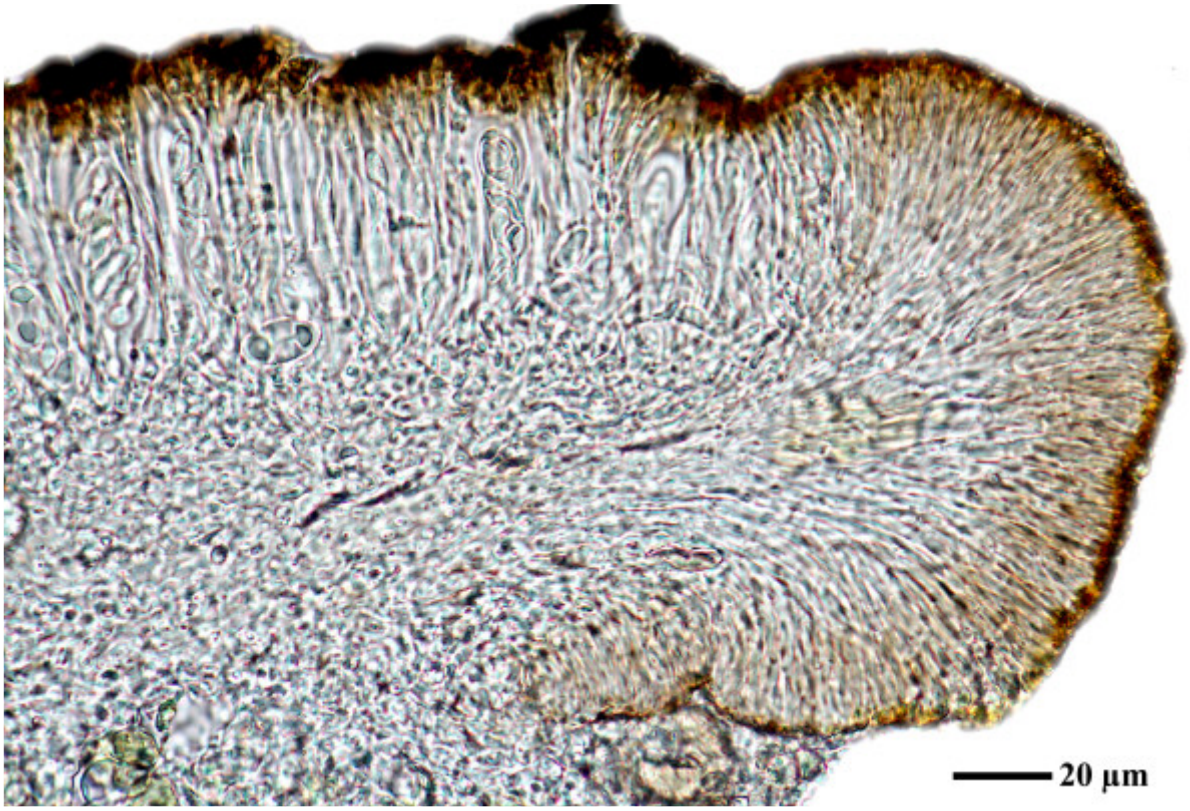
2005



Caloplaca pollinii

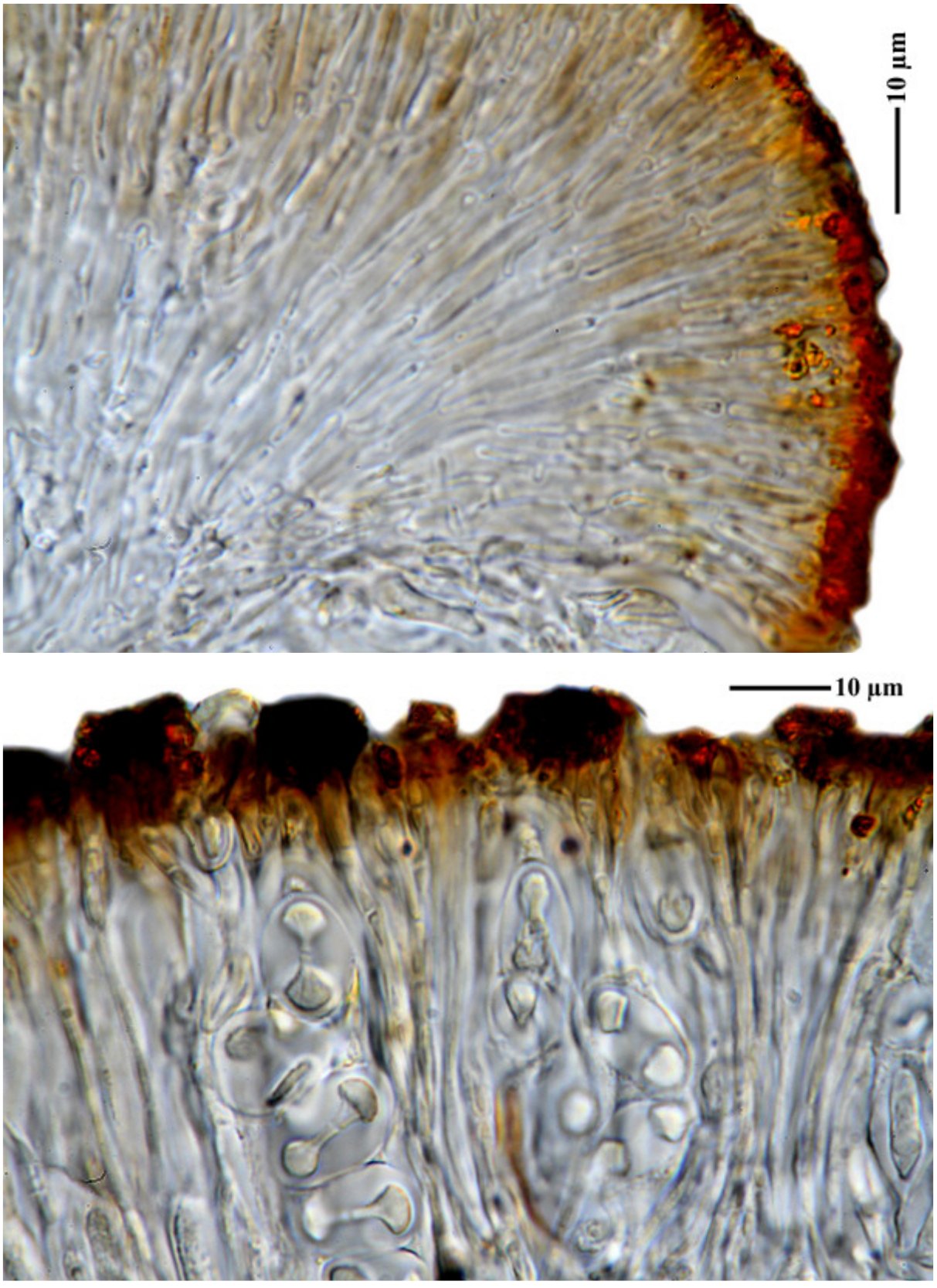
2006





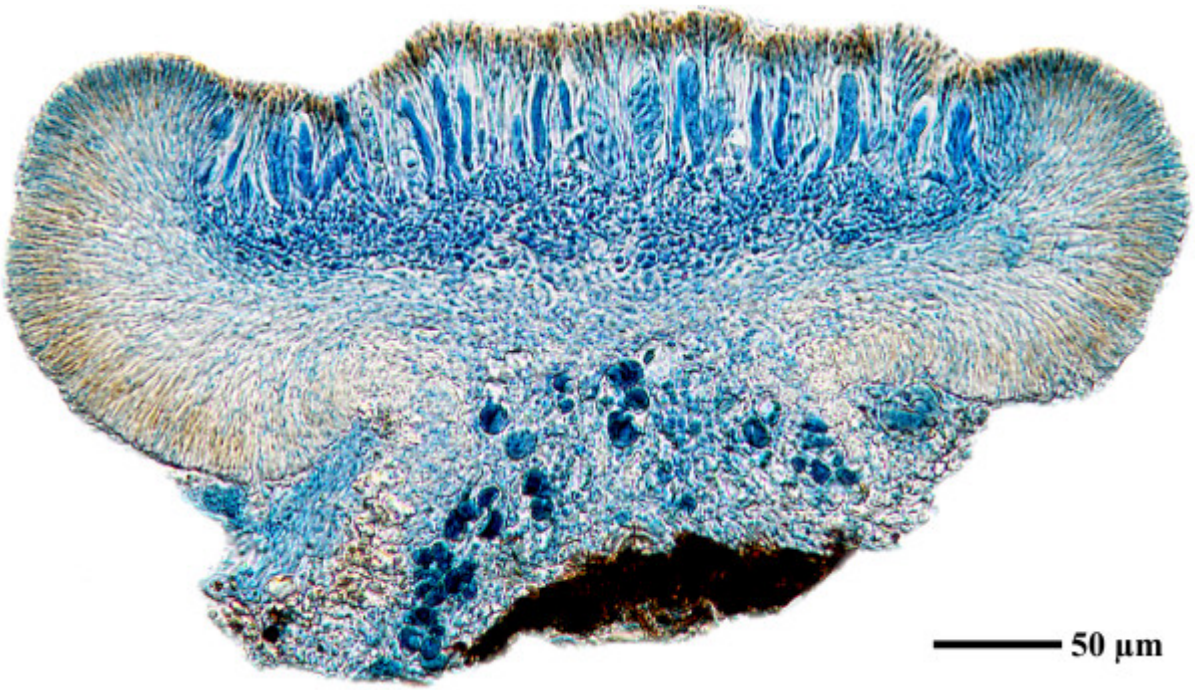
Caloplaca pollinii

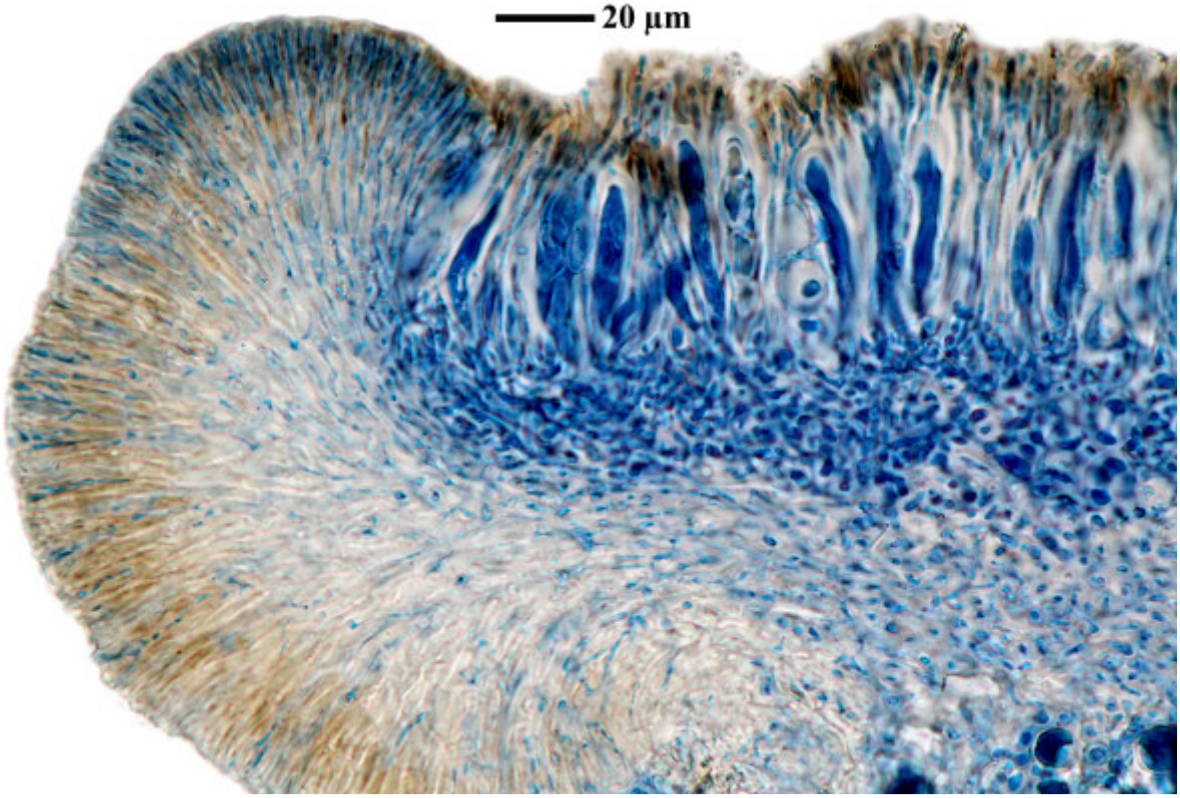
2007

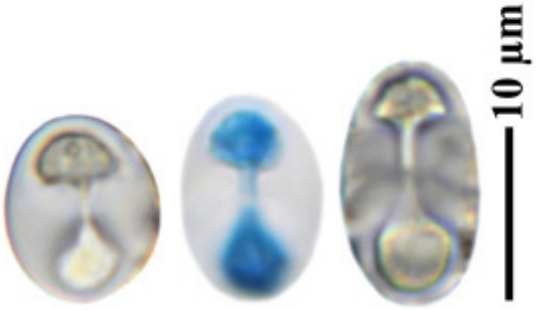


Caloplaca pollinii

2008

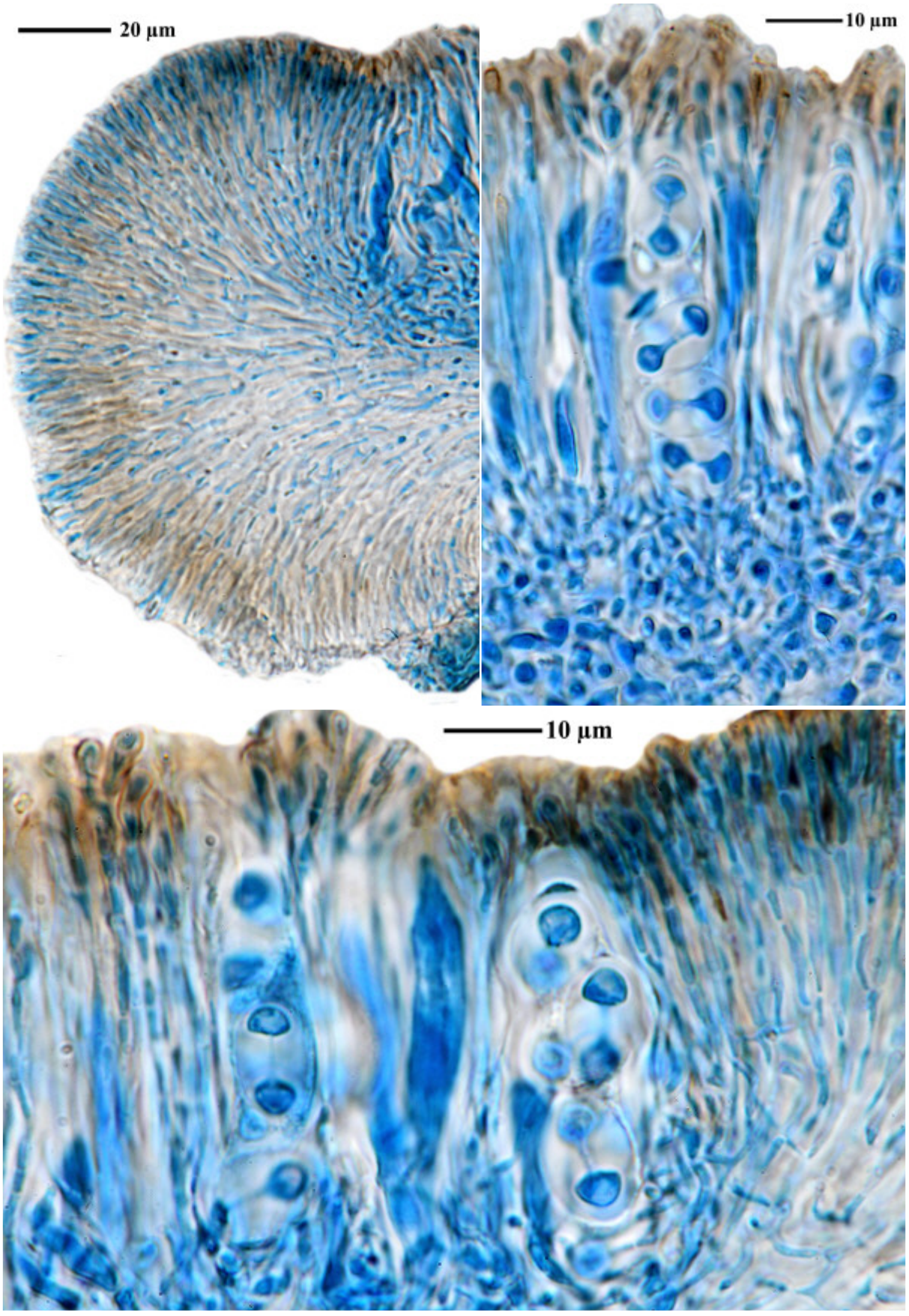






Caloplaca pollinii

2009



Caloplaca pollinii

2010

Caloplaca polycarpa (A. Massal.) Zahlbr., Öst. bot. Z. 68: 317 (1919)
[= *Flavoplaca polycarpa* (A. Massal.) Arup, Frödén & Søchting, Nordic J. Bot. 31(1): 46 (2013)]
[= *Caloplaca aurantiaca* var. *polycarpa* (A. Massal.) Jatta, Fl. ital. crypt. (Florence) 3: 379 (1910)]

[TSB_17024], Italy, Isole Pelagie, Lampedusa, Cala Madonna, on limestone. Leg. P.L. Nimis, 12.04.1992.



2011





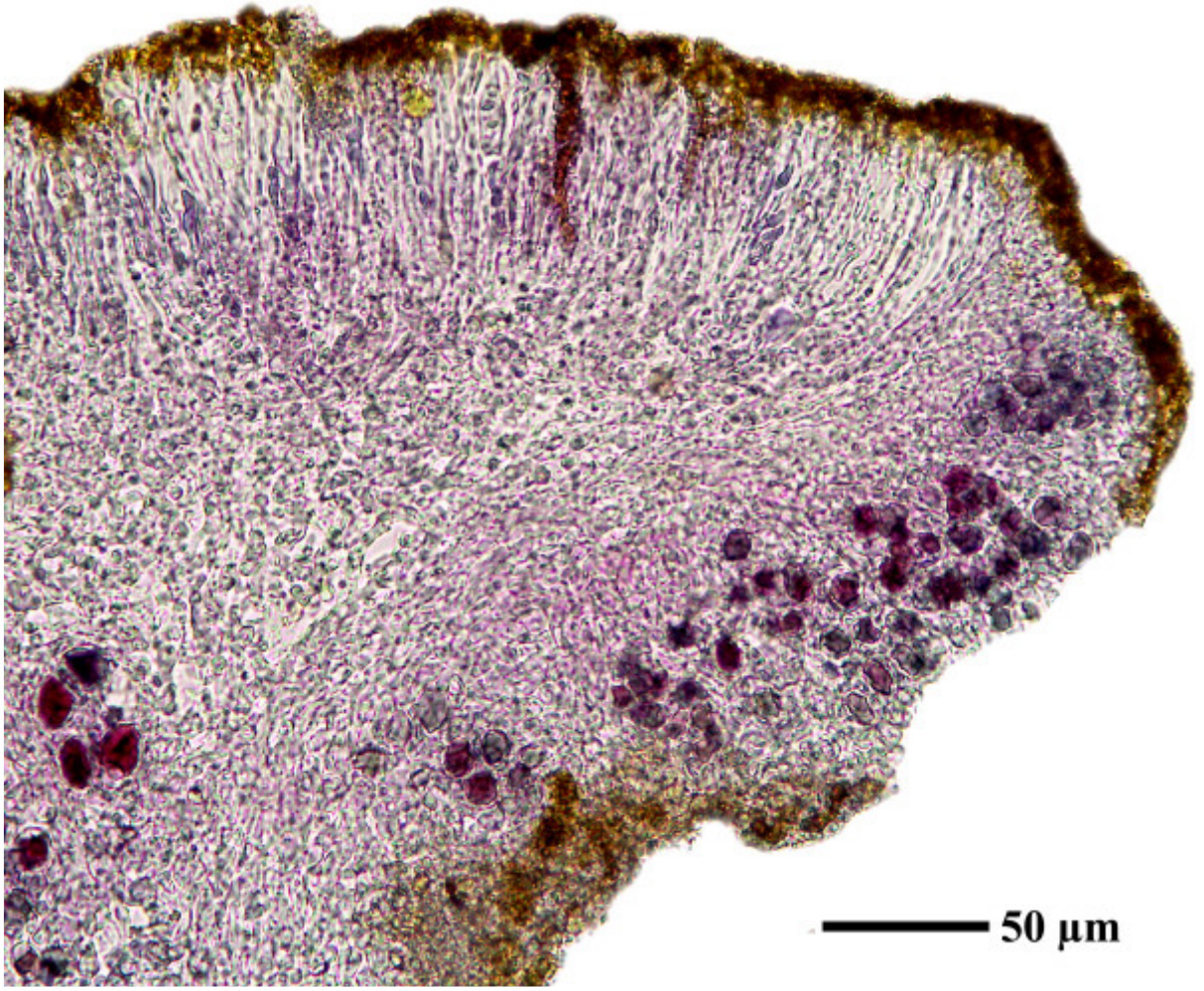
Caloplaca polycarpa

2012



Caloplaca polycarpa

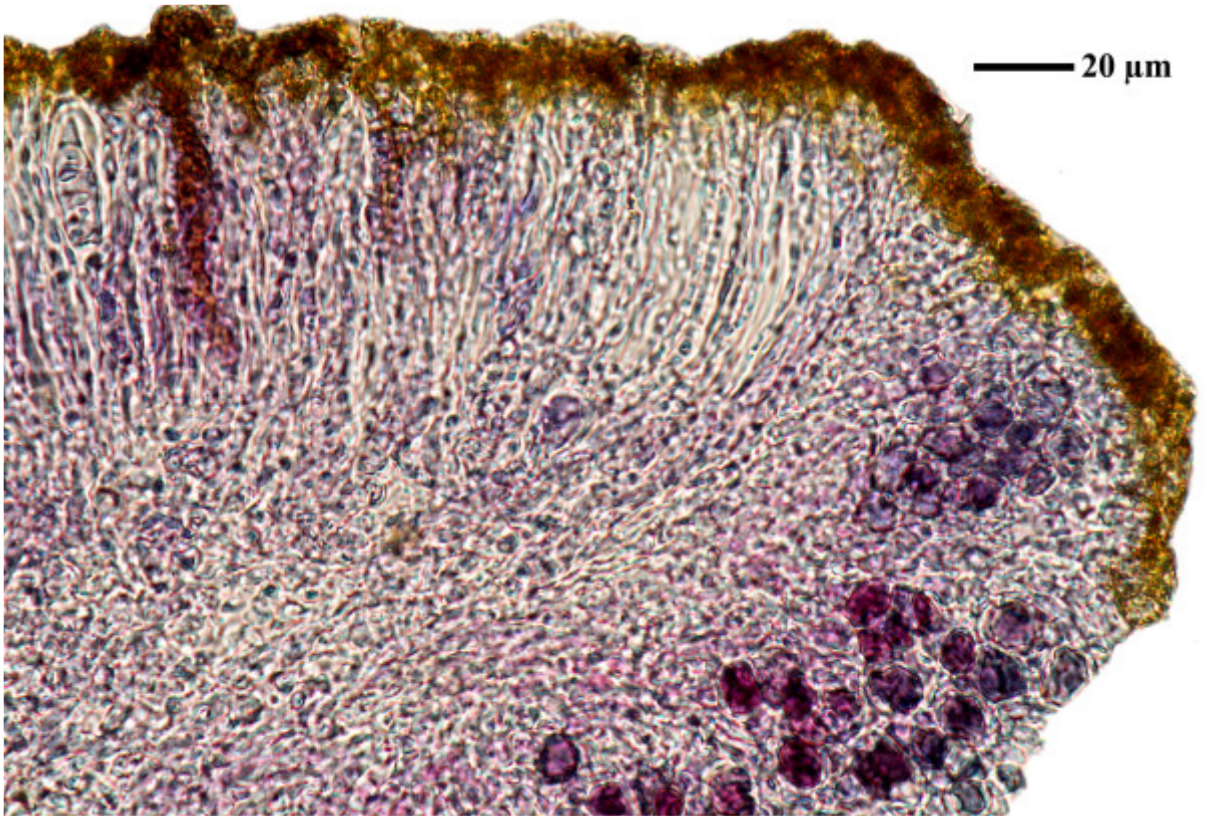
2013

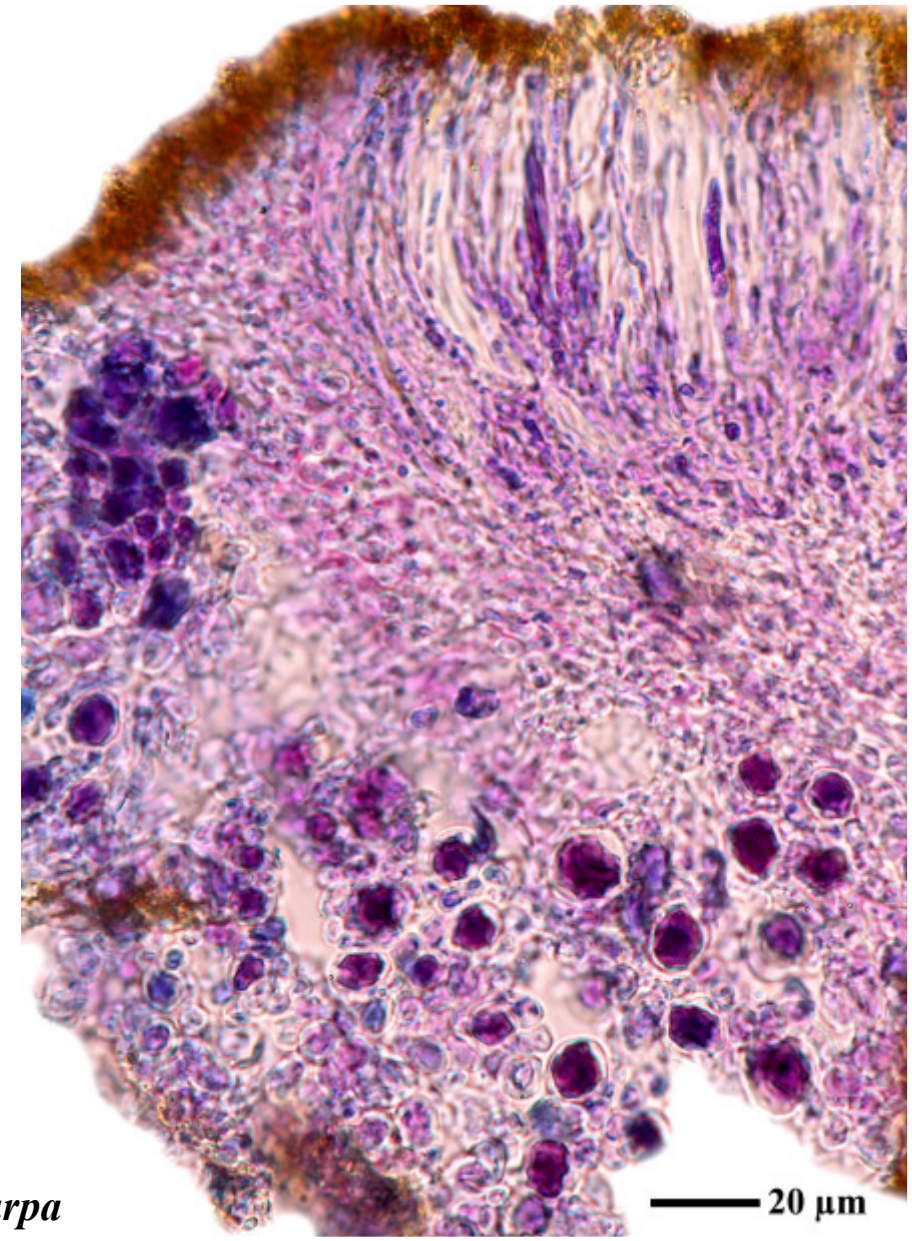




Caloplaca polycarpa

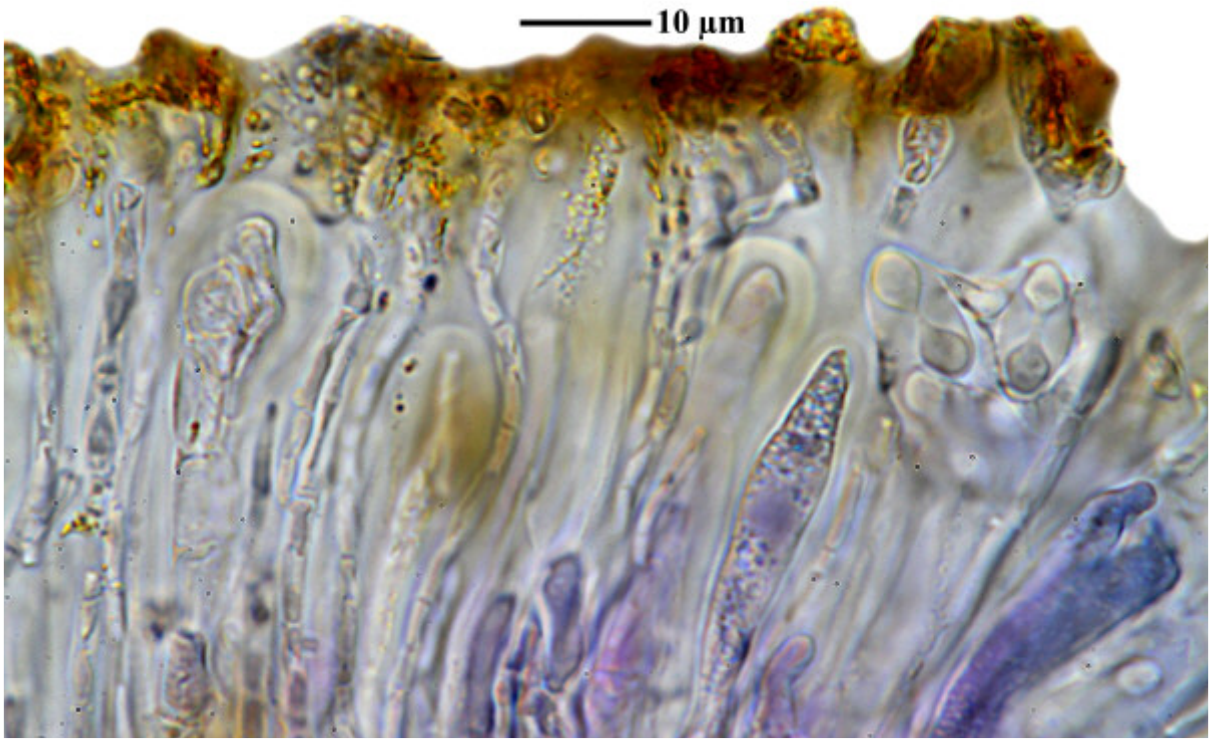
2014

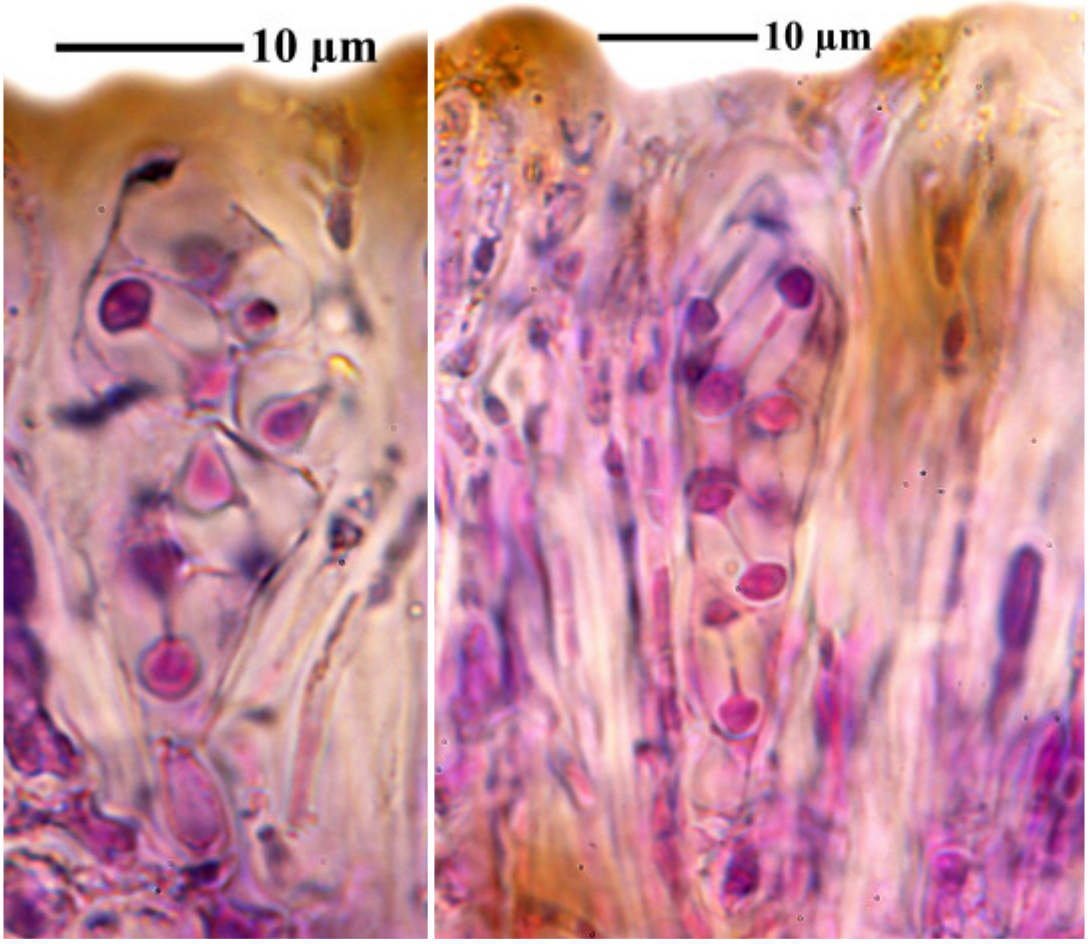


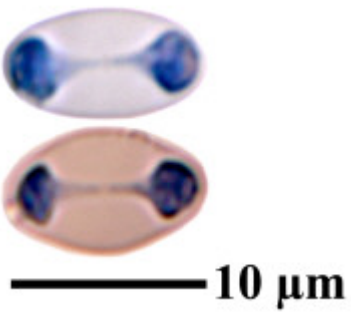


Caloplaca polycarpa

2015







Caloplaca polycarpa

2016

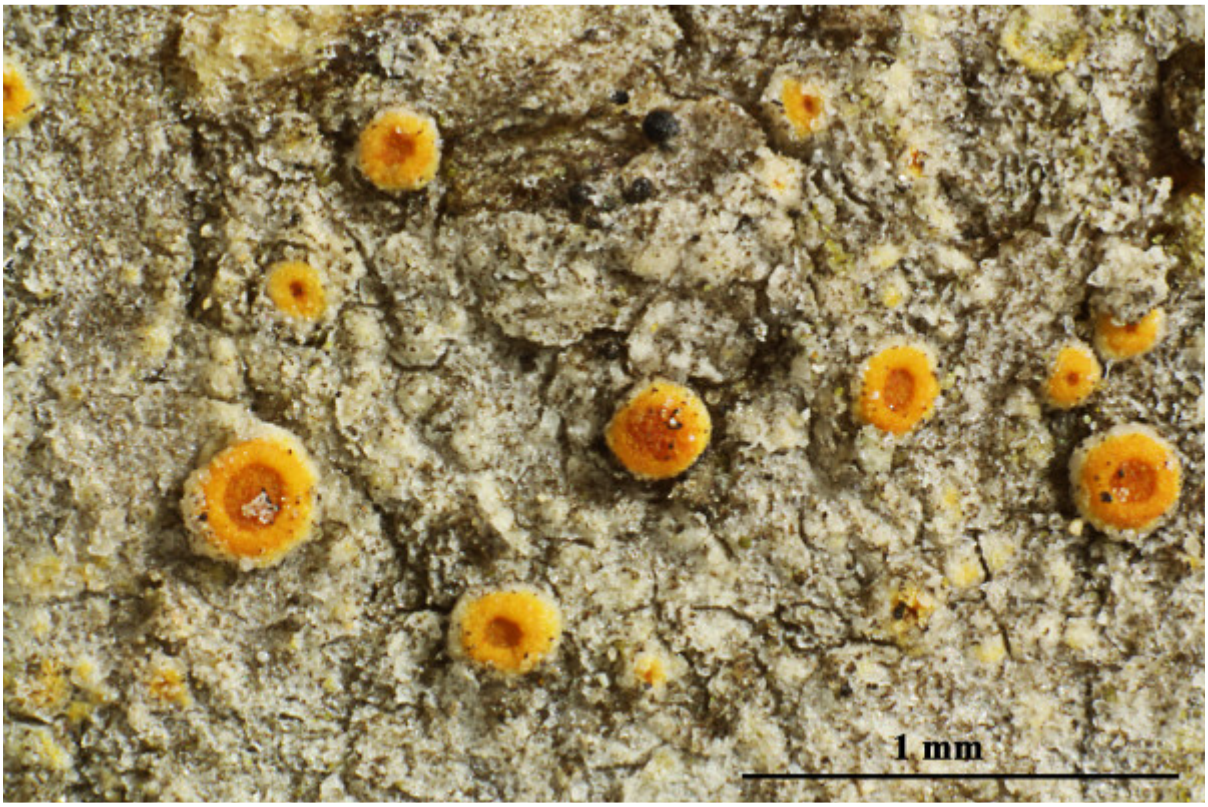
Caloplaca polycarpoides (J. Steiner) M. Steiner & Poelt
[= *Calogaya polycarpoides* (J. Steiner) Arup, Frödén & Søchting]

on bark.

[ABL 73904], Armenia, Ararat, Vedi, Urtsadzor, Khosrov Forest State Reserve, around a stream, 40°01’14” N, 44°55’00” E, 1700 m. on Fraxinus. Leg. A. Aptroot, 17.06.2015, det. A. Aptroot 2015.







Caloplaca polycarpoides

2018

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)]

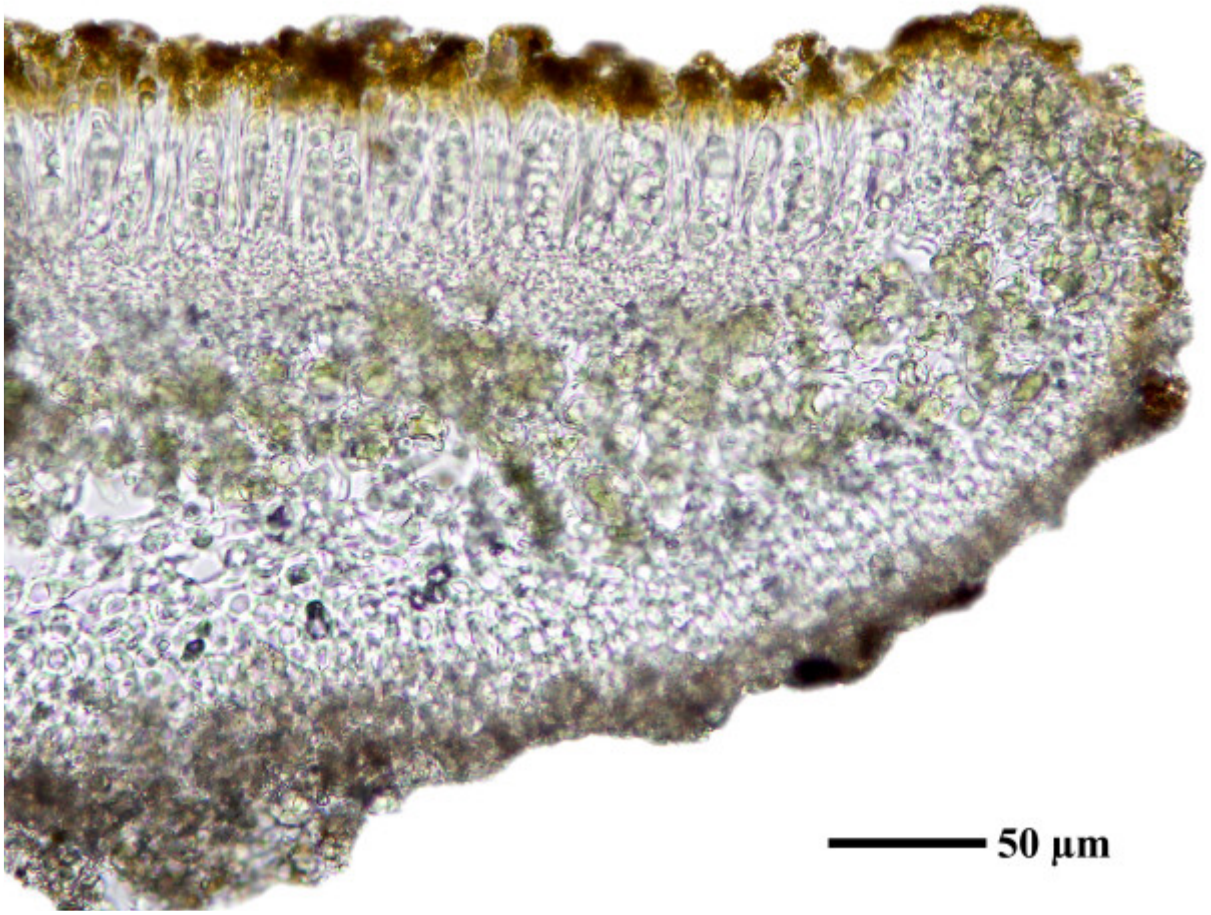
[LIAF_60], Afghanistan, Prov. Paktia, Nordhänge der Paßhöhe des Kotal-i-Taraki, an der Straße von Chamkani nach Zambar, 69°47.5 E, 33°38.5’ N, 2150 m. Auf toten Ästen einer verkrüppelten *Cedrus deodara* (Lamb.) G.Don.. Leg. M. Steiner (86/1), 04.07.1970. LICHENOTHECA AFGHANICA NR. 60.

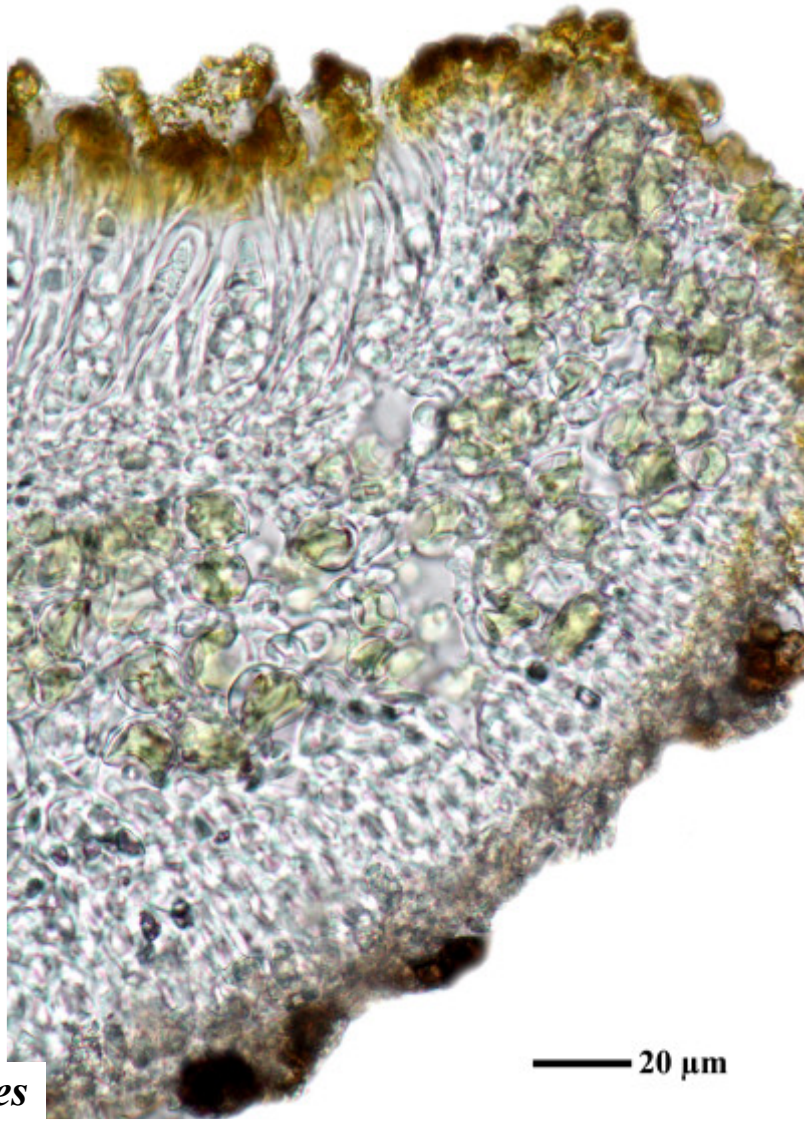




Caloplaca polycarpoides

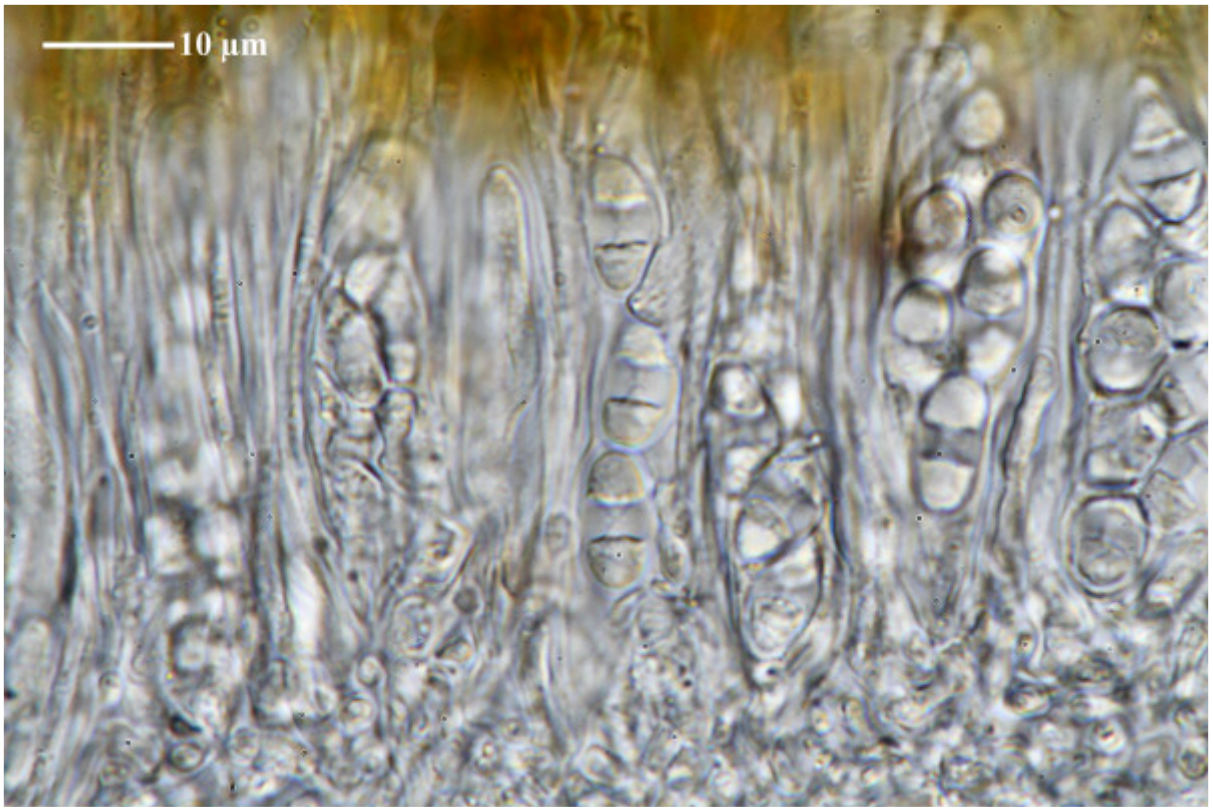
2020

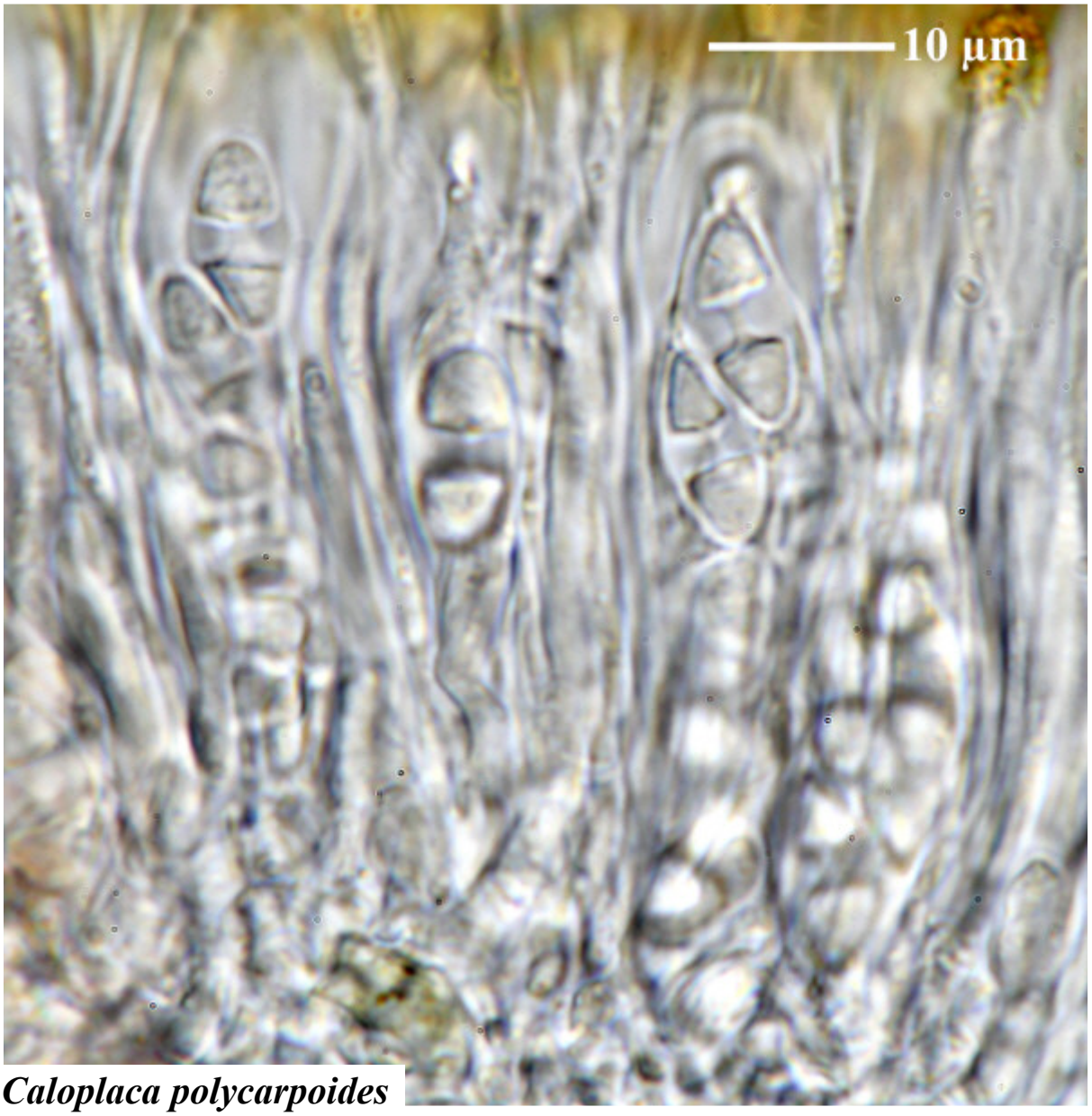




Caloplaca polycarpoides

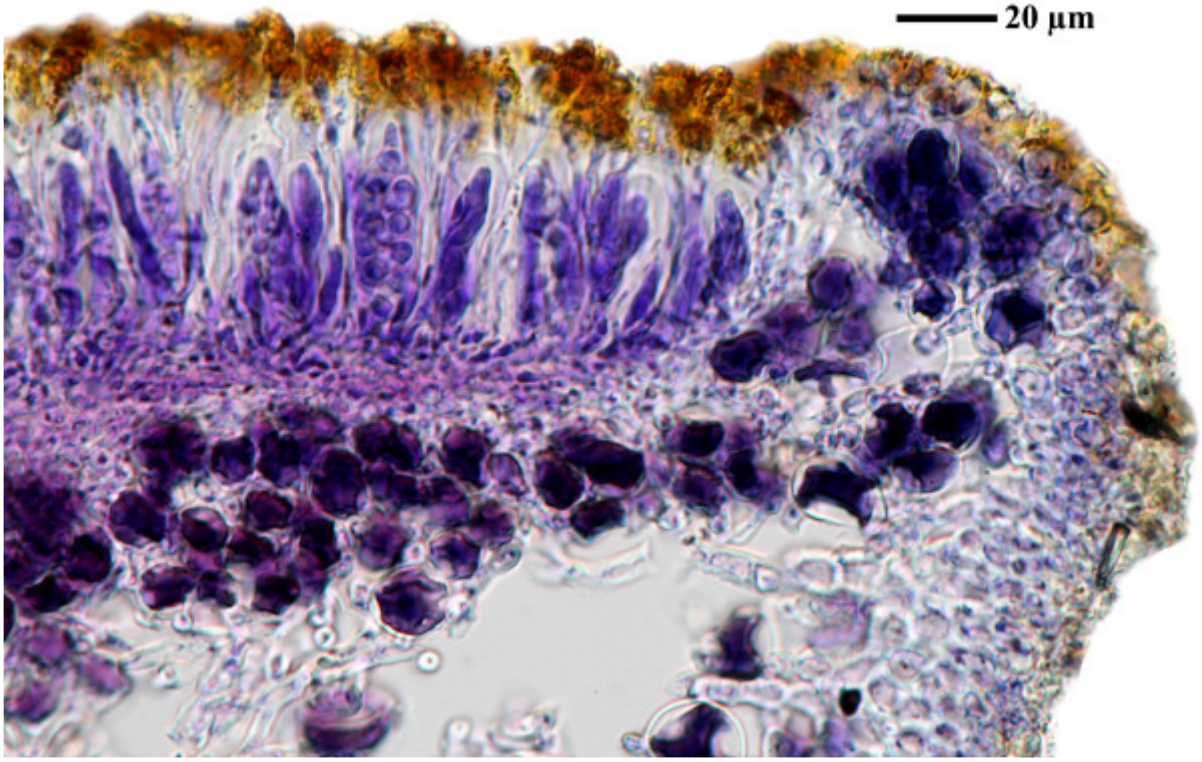
2021

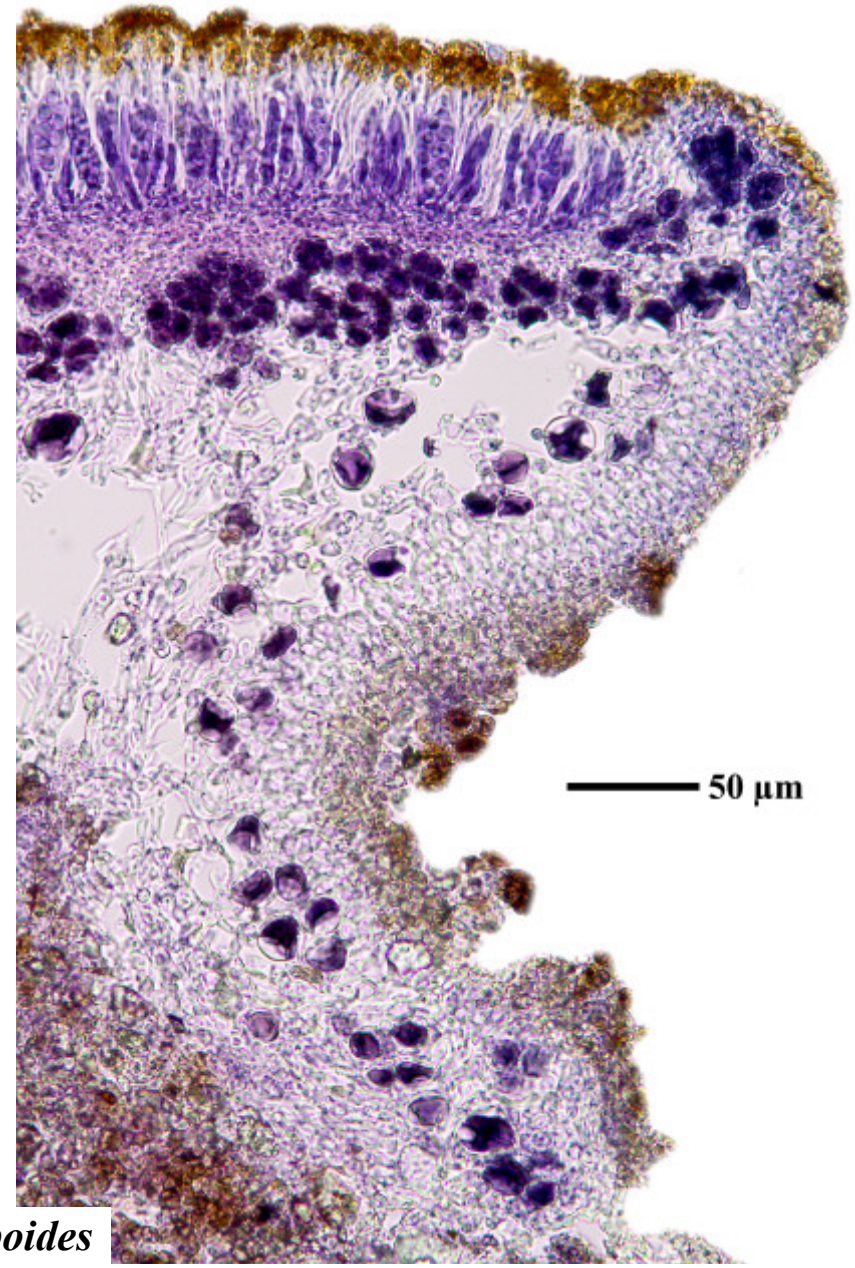




Caloplaca polycarpoides

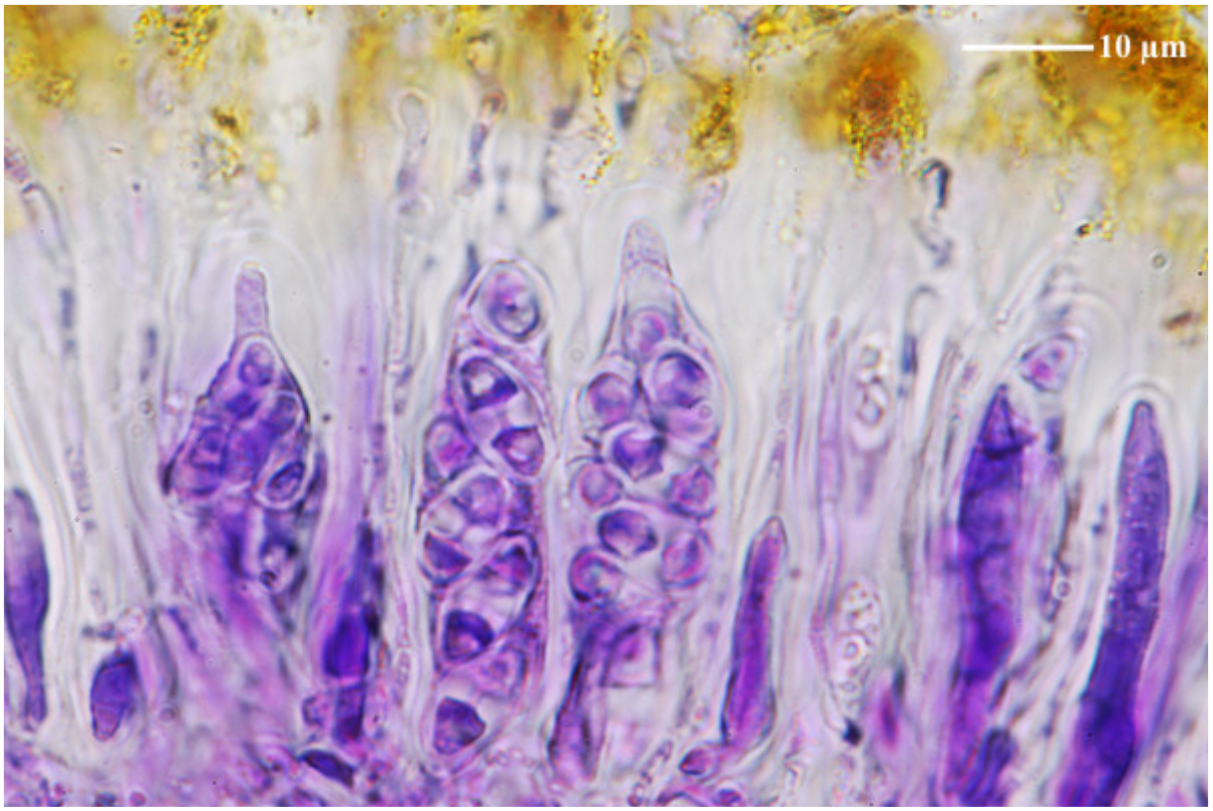
2022

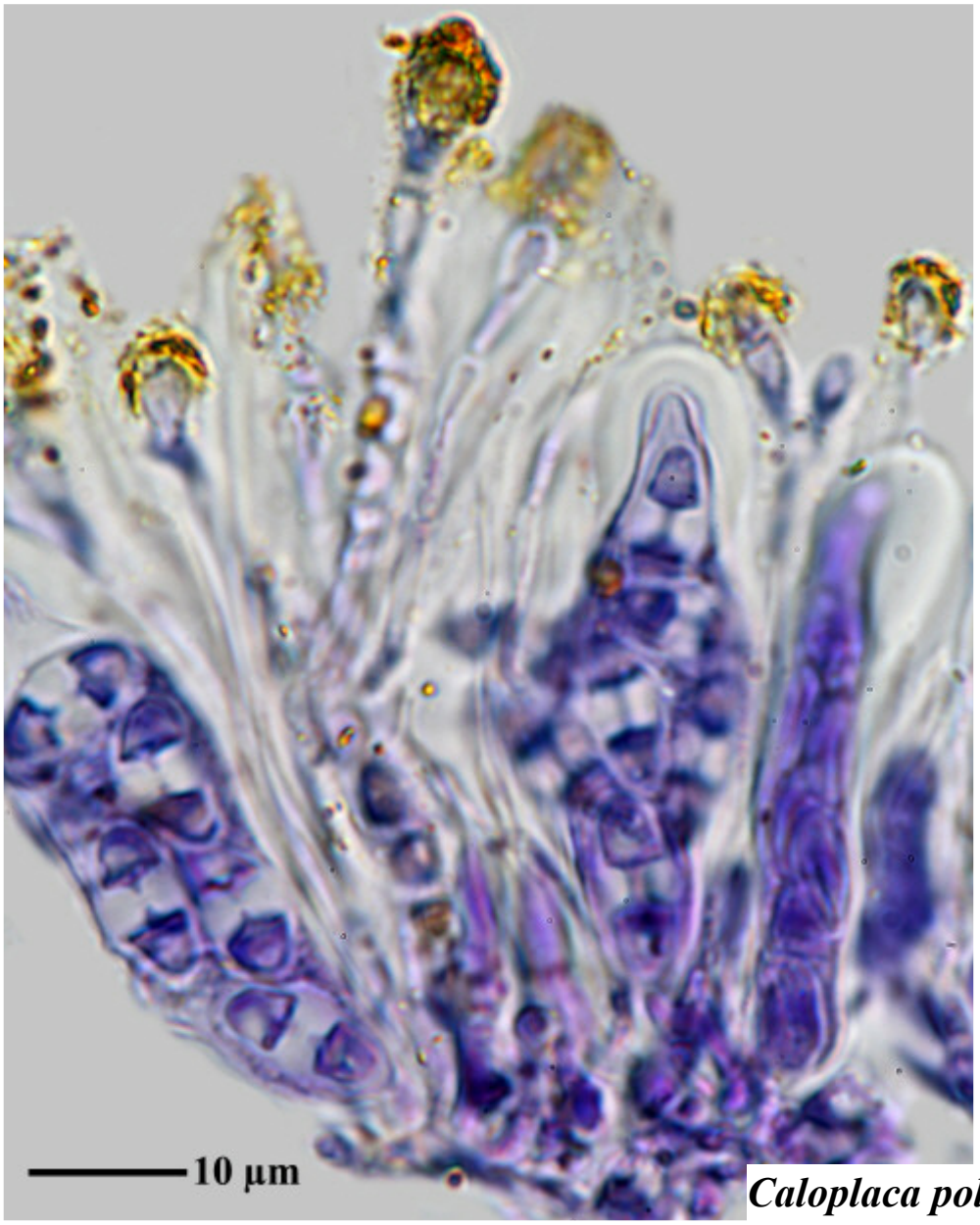




Caloplaca polycarpoides

2023

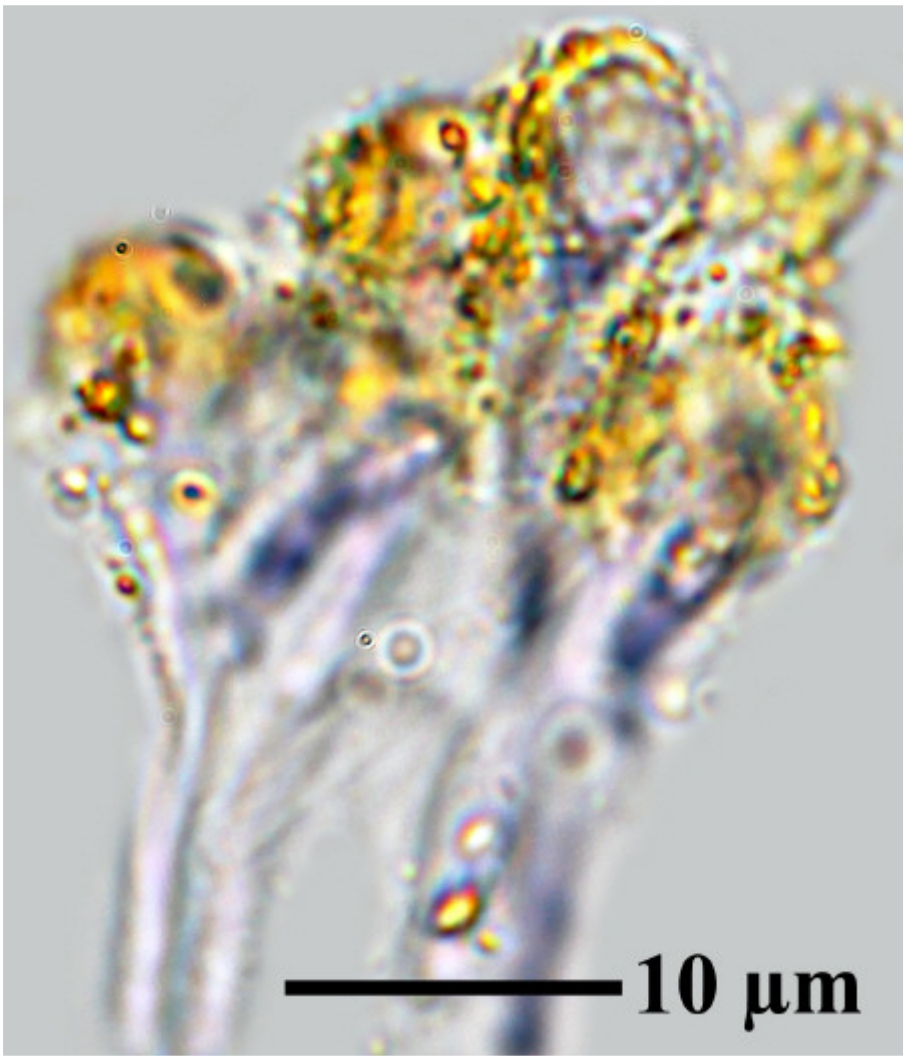




Caloplaca polycarpoides

2024





Caloplaca polycarpoides

2025

Caloplaca praeruptorum Poelt & Hinter.

Spores c. 15 x 6 µm, septum 2 µm (AA). Bibl. Lichenol. 50:175
Spores 11.4-12.4 x 4.7-4.9 µm, septum 3.6 µm (FS)

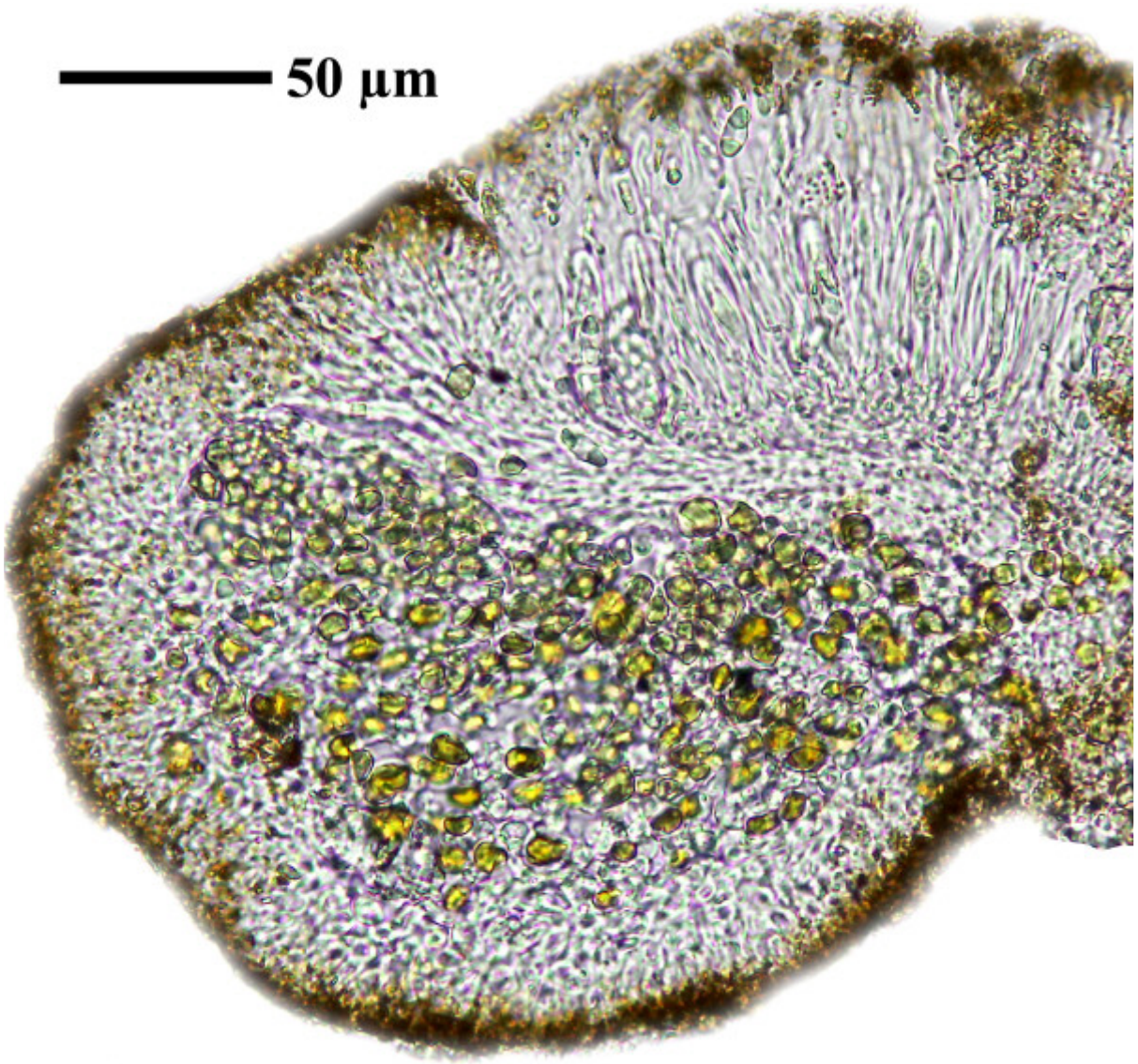
[BR5030067829868], China, Yunnan Prov., Dali Co., near trailhead to Mt. Cangshan, sclerophyll shrub on steep mountain slopes, 1350-3500 m, 25°41'06" N, 100°06'07" E, on acidic metamorphic rock (gneiss). Leg. A. Aptroot (56856), 22. October 2002, det. A. Aptroot 2003.

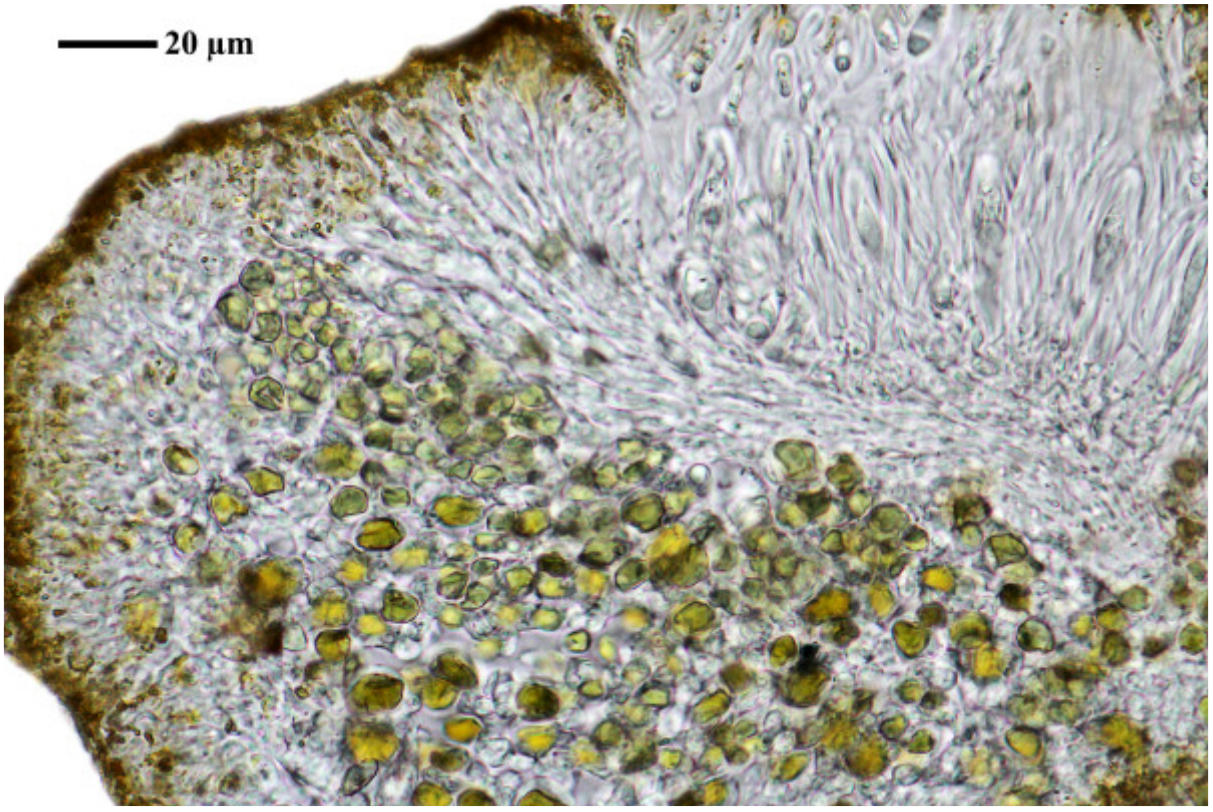




Caloplaca praeruptorum

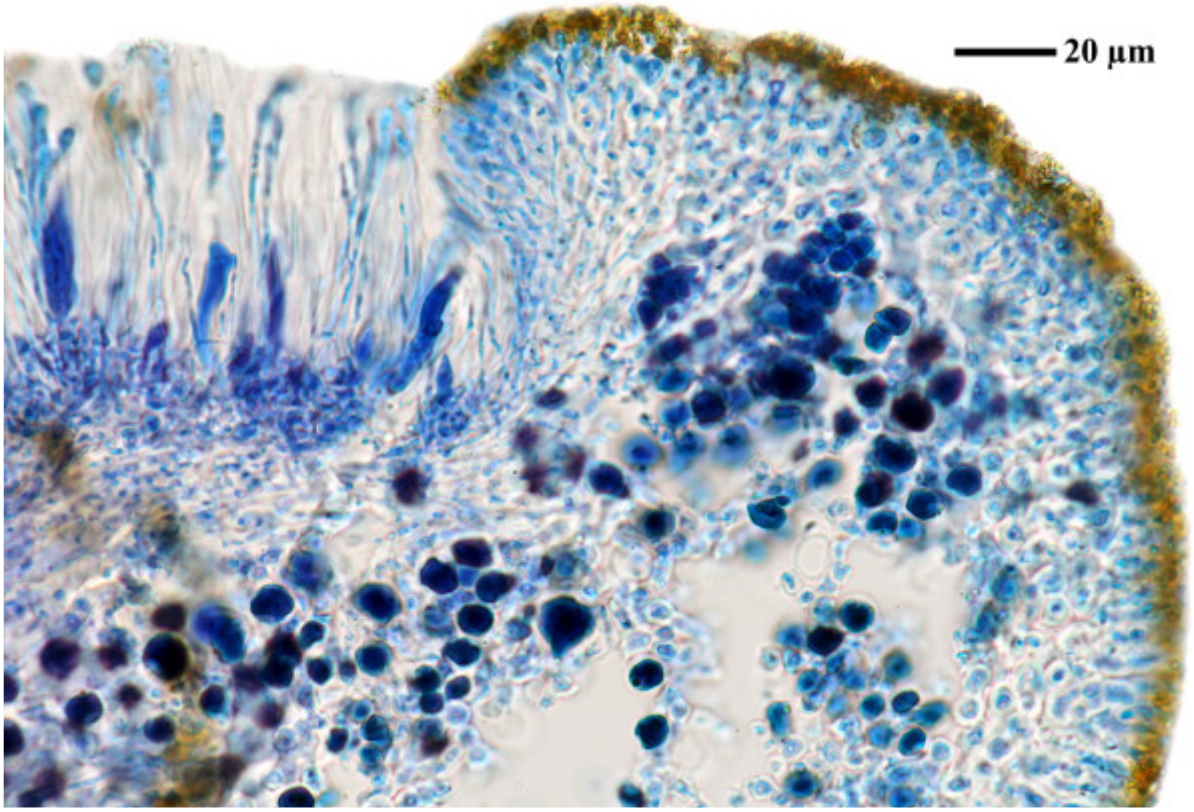
2027

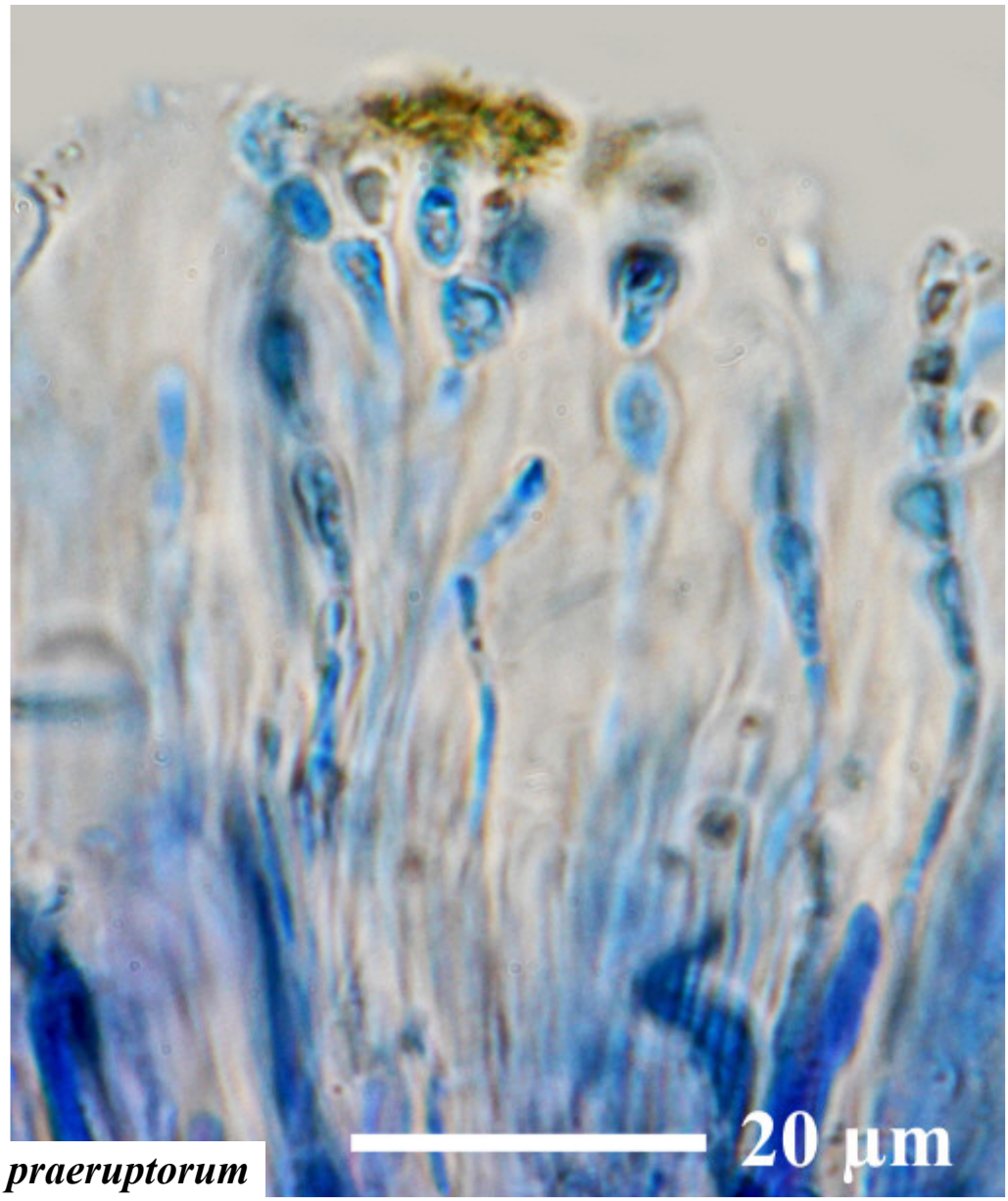




Caloplaca praeruptorum

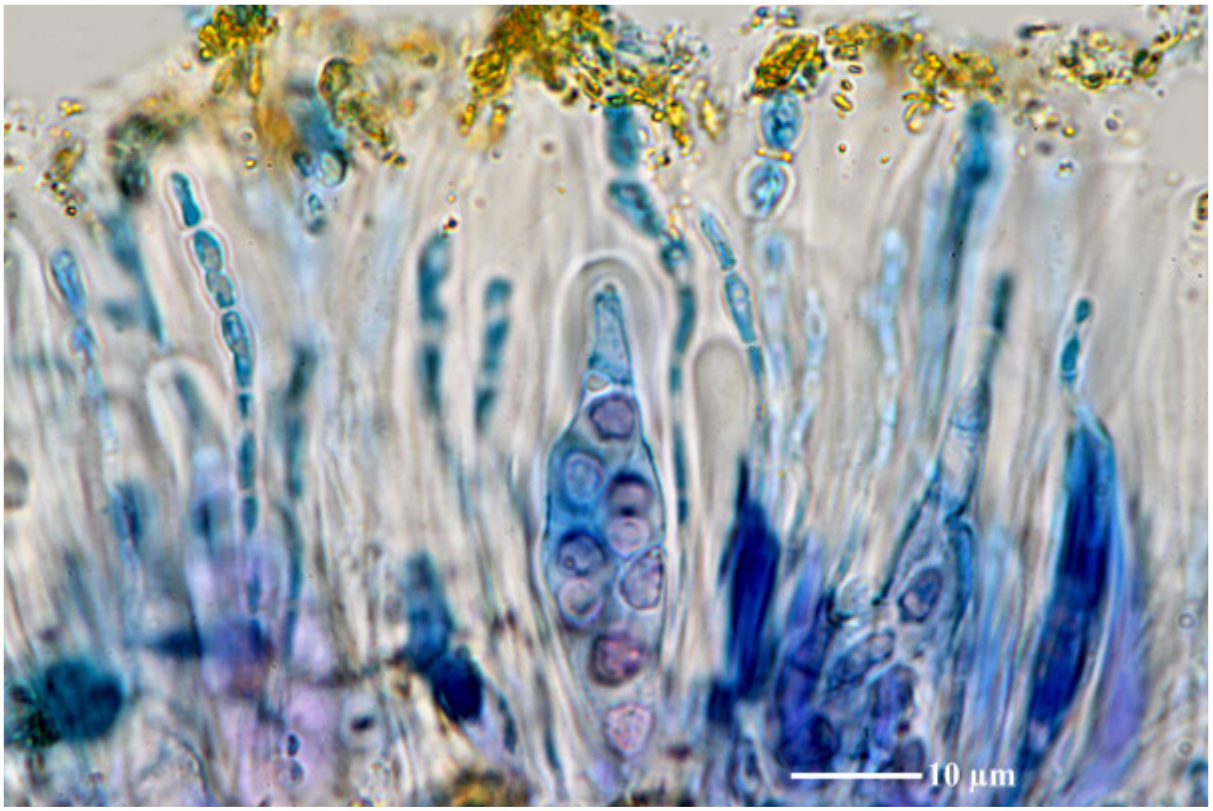
2028

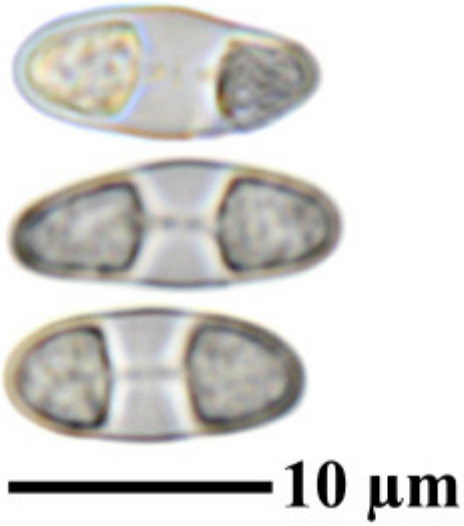


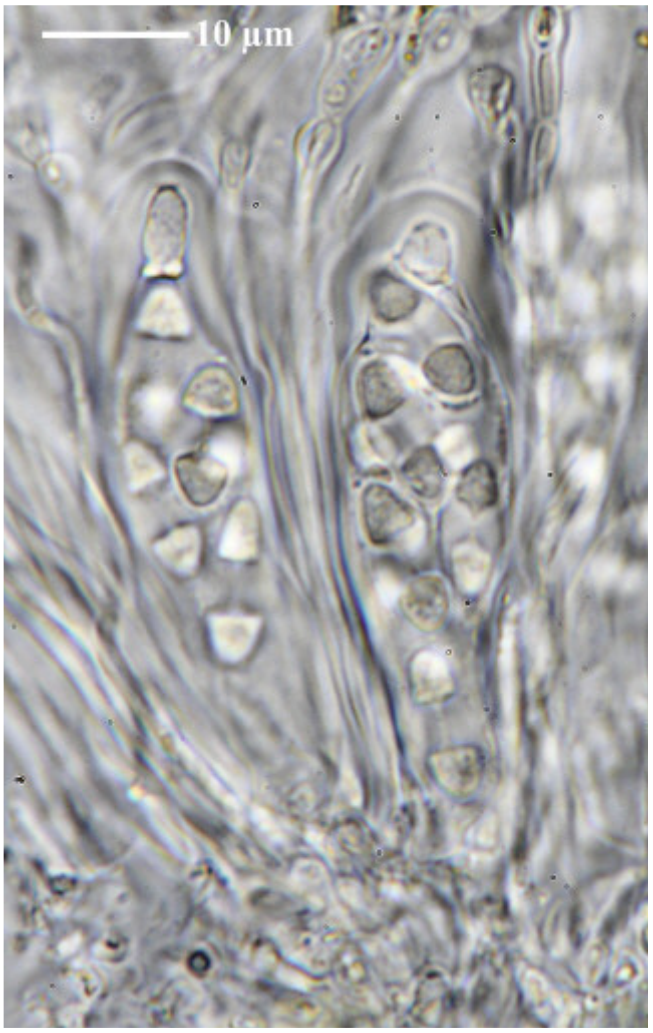


Caloplaca praeruptorum

2029







Caloplaca praeruptorum

2030

Caloplaca pratensis Wetm. ISOTYPUS

On stones.
Thallus areolate, light grey covered with dark blue-grey, 20-35 µm wide soredia. Apothecia sessile, to 0.5 mm diam., flat. Disc dark brown to black, epruinose; margin thin, grey, often lightly pruinose, with algae. Ascospores 8/ascus, polarilocular, 15.5-17.0 x 7.0-8.5 µm, isthmus less than 2 µm, often incomplete or poorly formed. Epihymenium gray to light brown, 85-120 µm, K+ violet, N+ violet (Thalloidima Green). Lit. Bryologist 2009, 112(2): 382.

[19400], U.S.A. North Dakota, Oliver Co. The Nature Conservancy's Cross Ranche Preserve, Sangor Ghost Town, ca. 3.2 km S and 6.4 km E of Hensler. Gentle slopes of mixed grass prairie, Missouri River Valley, 515 m, 47°10'48" N, 100°59'42" W. Leg. M. K. Advaita (No. 6100), 5. June 2007, det. C. Wetmore. TELOSCHISTACEAE EXSICCATI NO. 113 distributed by C. Wetmore.







Caloplaca pratensis

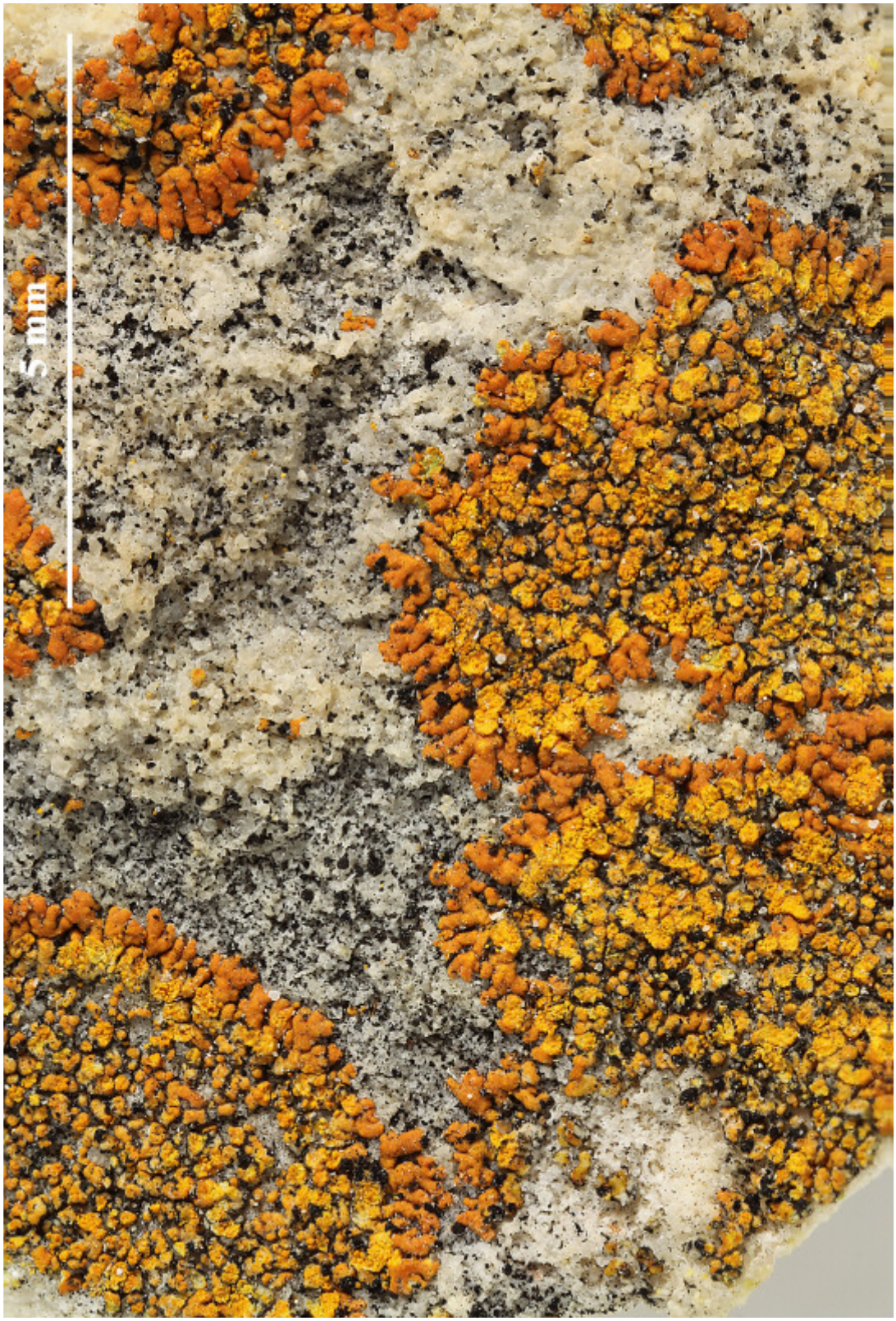


Caloplaca pratensis

Caloplaca proteus Poelt
[= *Leproplaca proteus* (Poelt) Arup, Frödén & Søchting]

Spores 10.5-14.5 x 5-6 µm, septum 3.5-5.5 µm (FS)

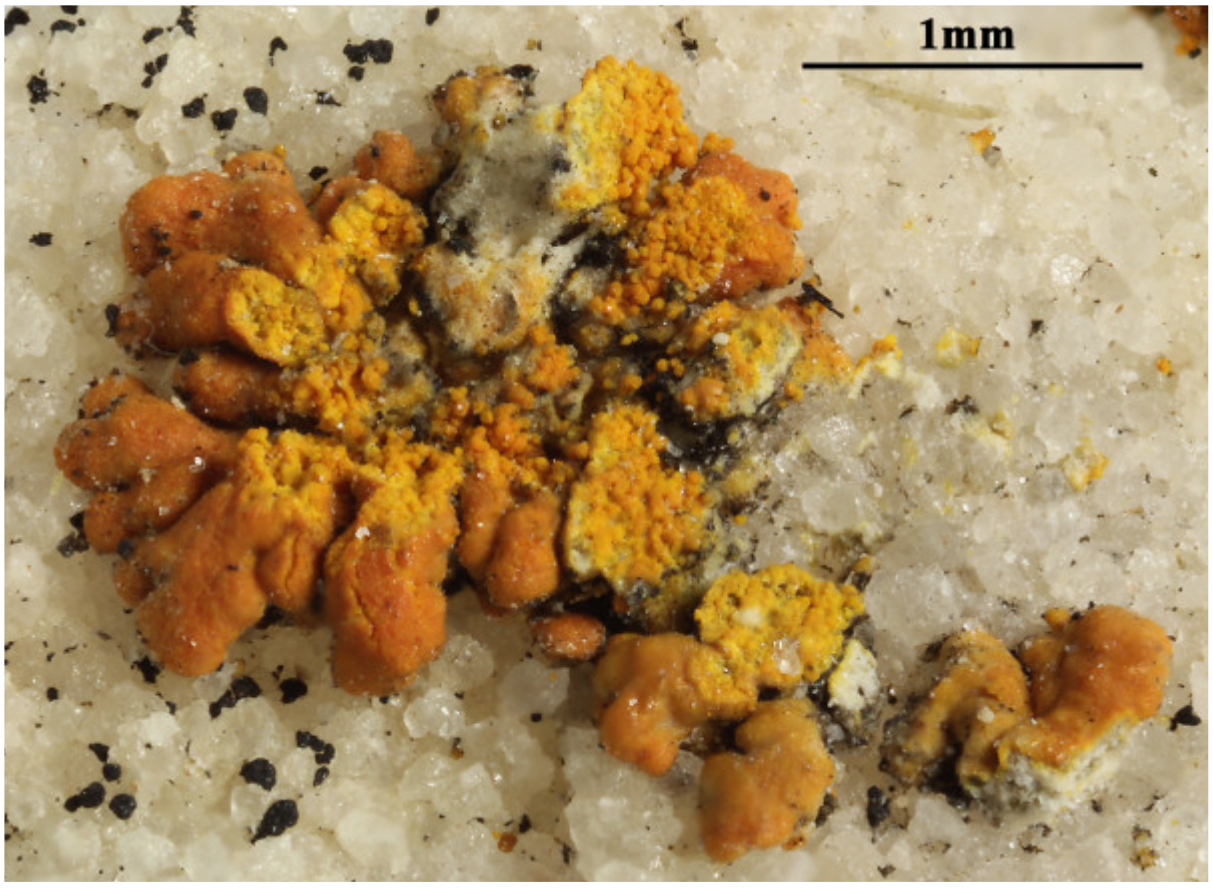
[BR5030038363483],Österreich, Tirol, Gschnitztal unterhalb St. Magdalena, auf senkrechter west-exponierter Wand, auf Kalk, zusammen mit *Caloplaca cirrochroa*, 1450 m. Leg. et det. M. Steiner, 30.07.1956, teste J. Poelt.



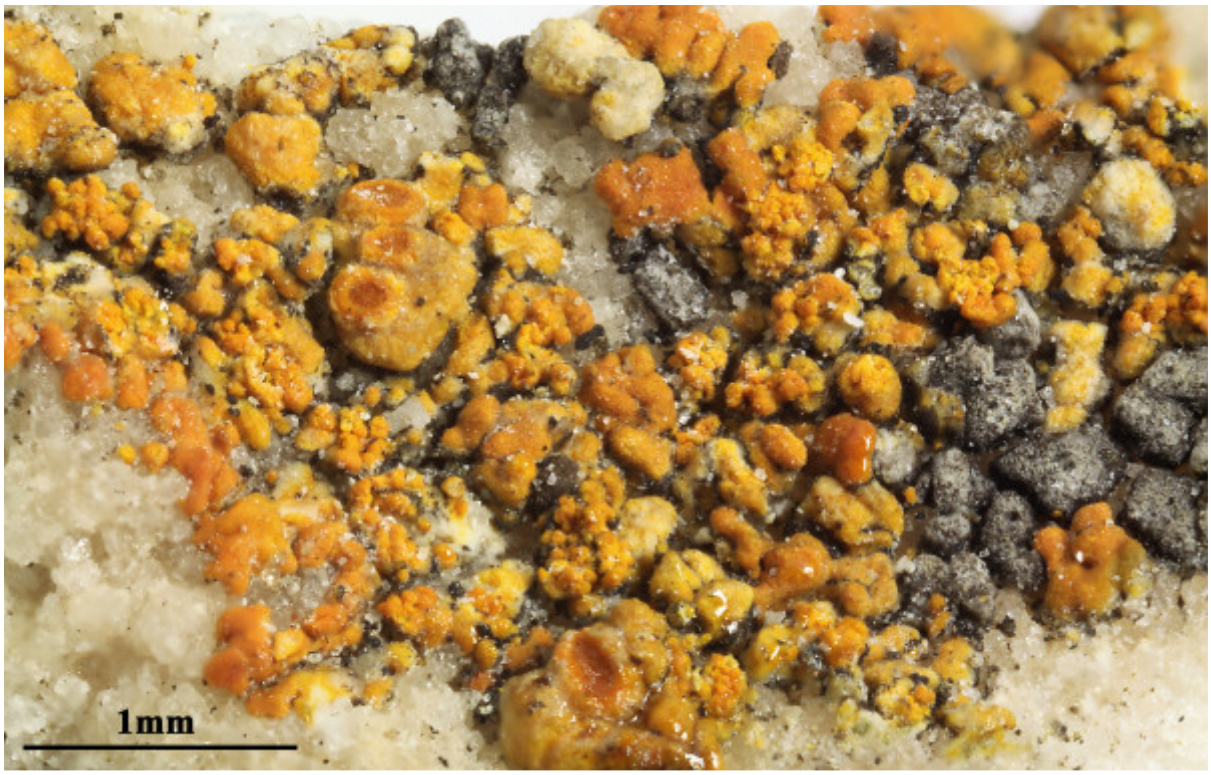


Caloplaca proteus



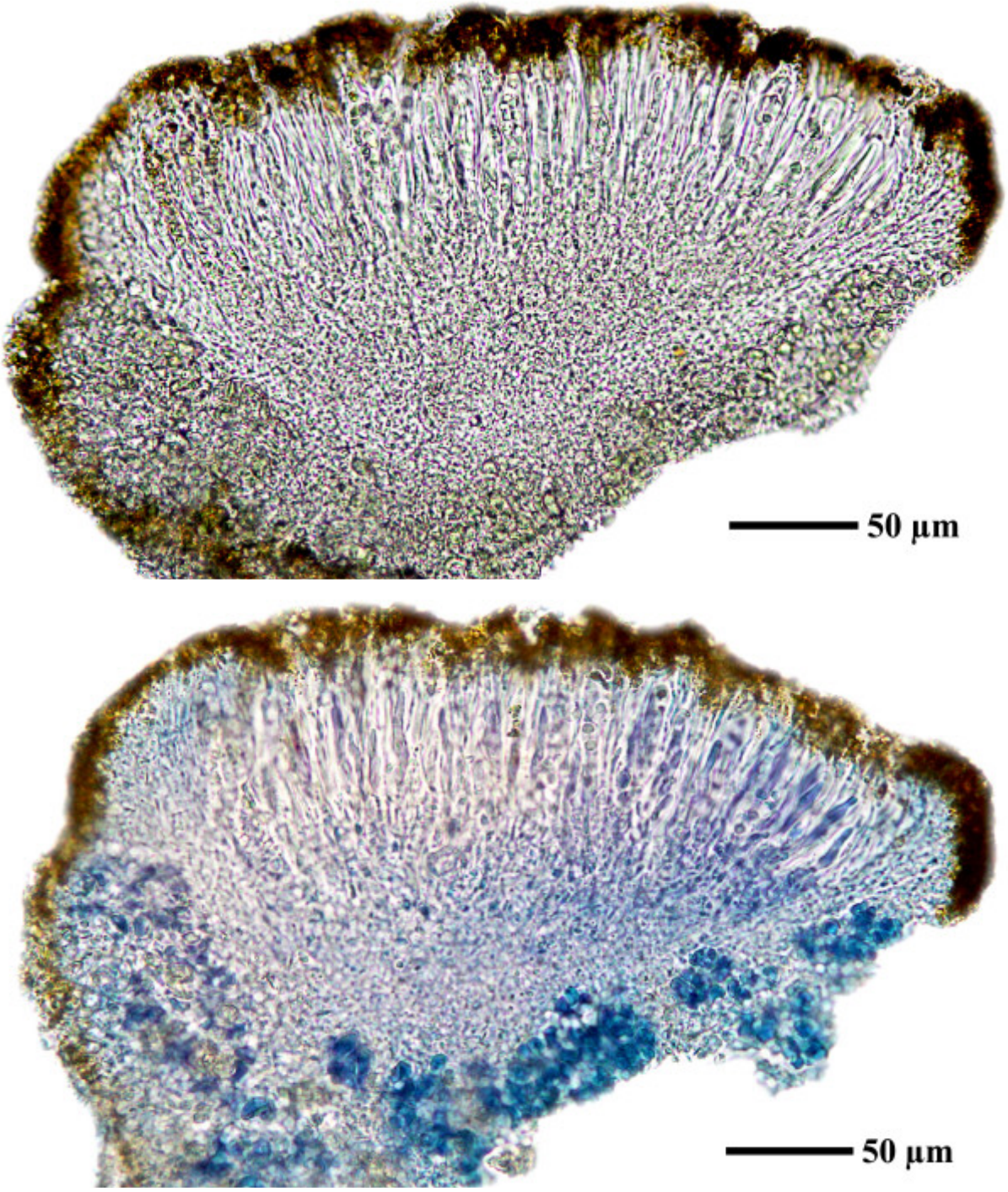


Caloplaca proteus

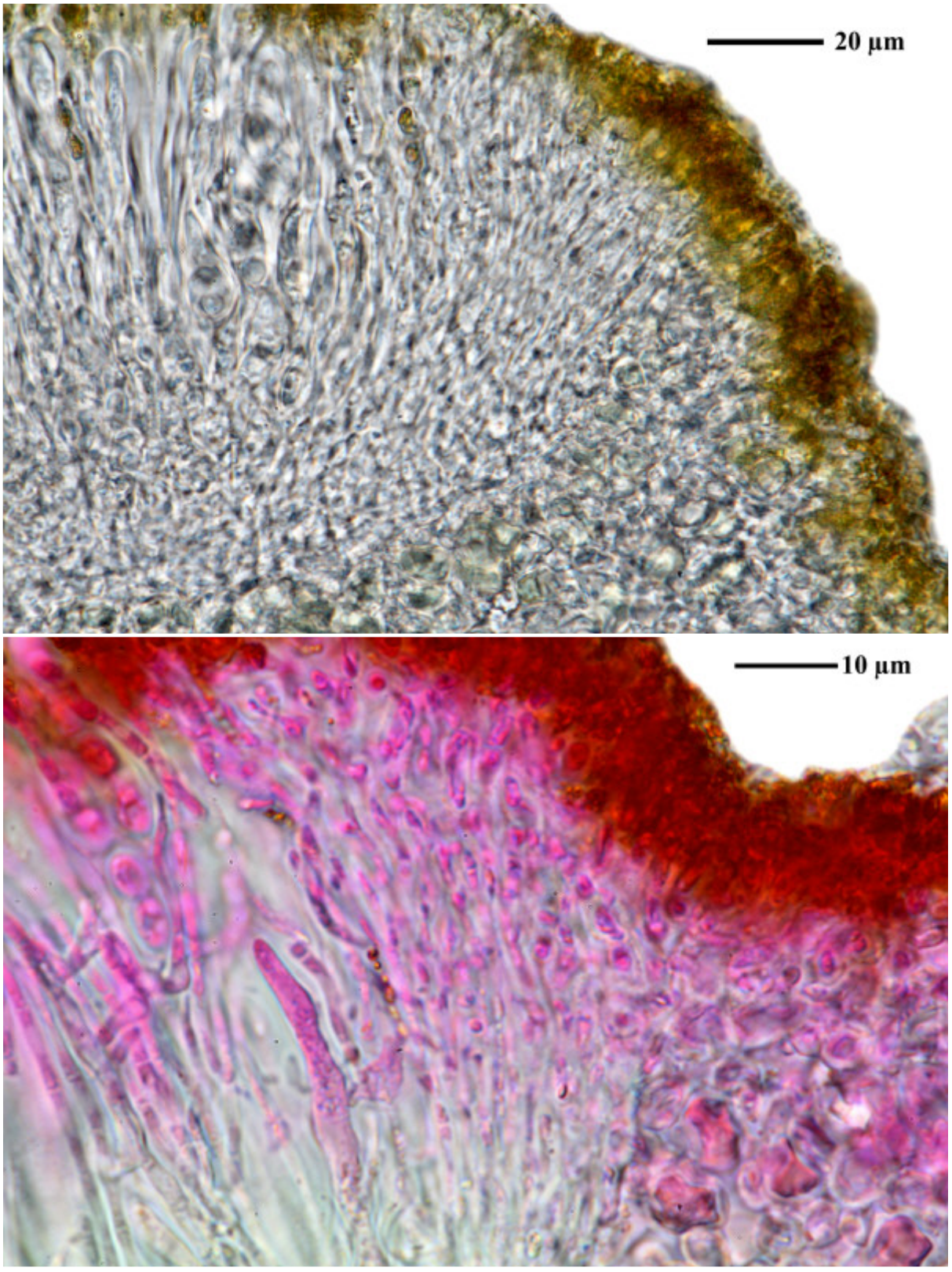




Caloplaca proteus

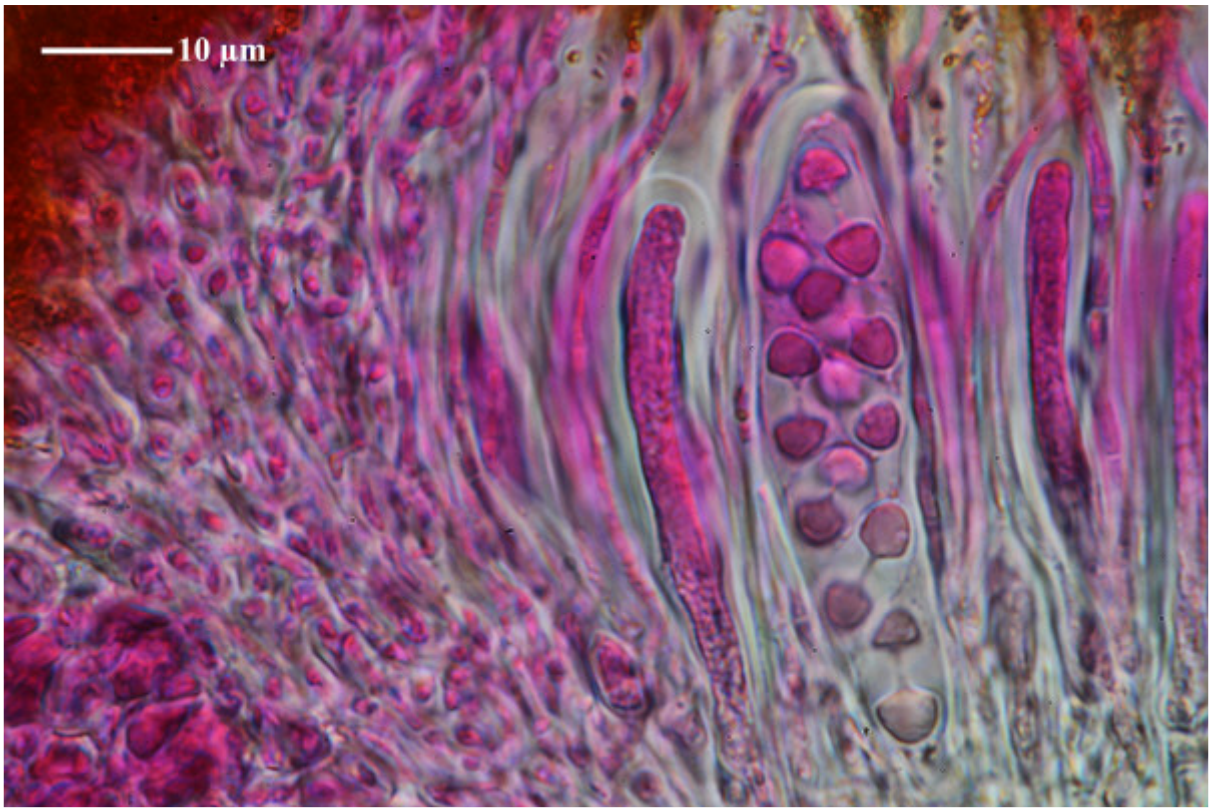


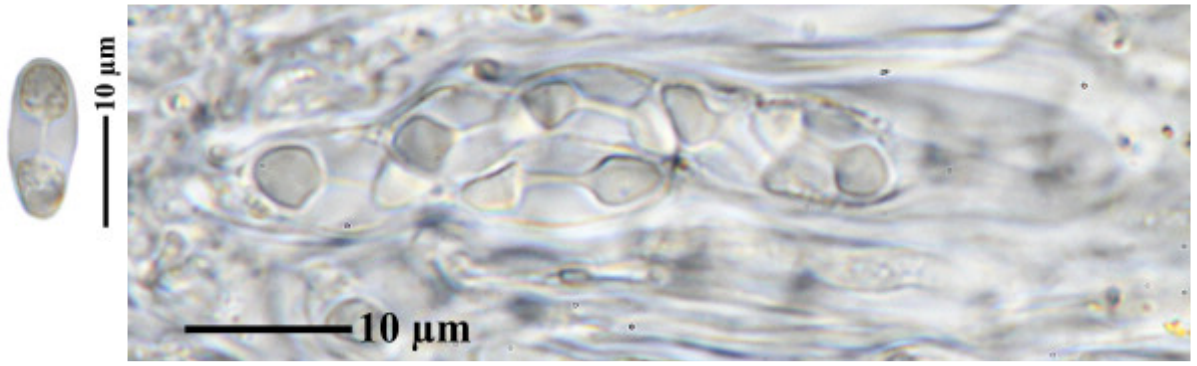
Caloplaca proteus



Caloplaca proteus







Caloplaca proteus

Caloplaca pseudisteroides Y. Joshi & Upreti, Lichenologist 40(6): 537 (2008)

Spores 11-12 x 6.2-6.6 µm, septum 5.8-6.1 µm (FS)

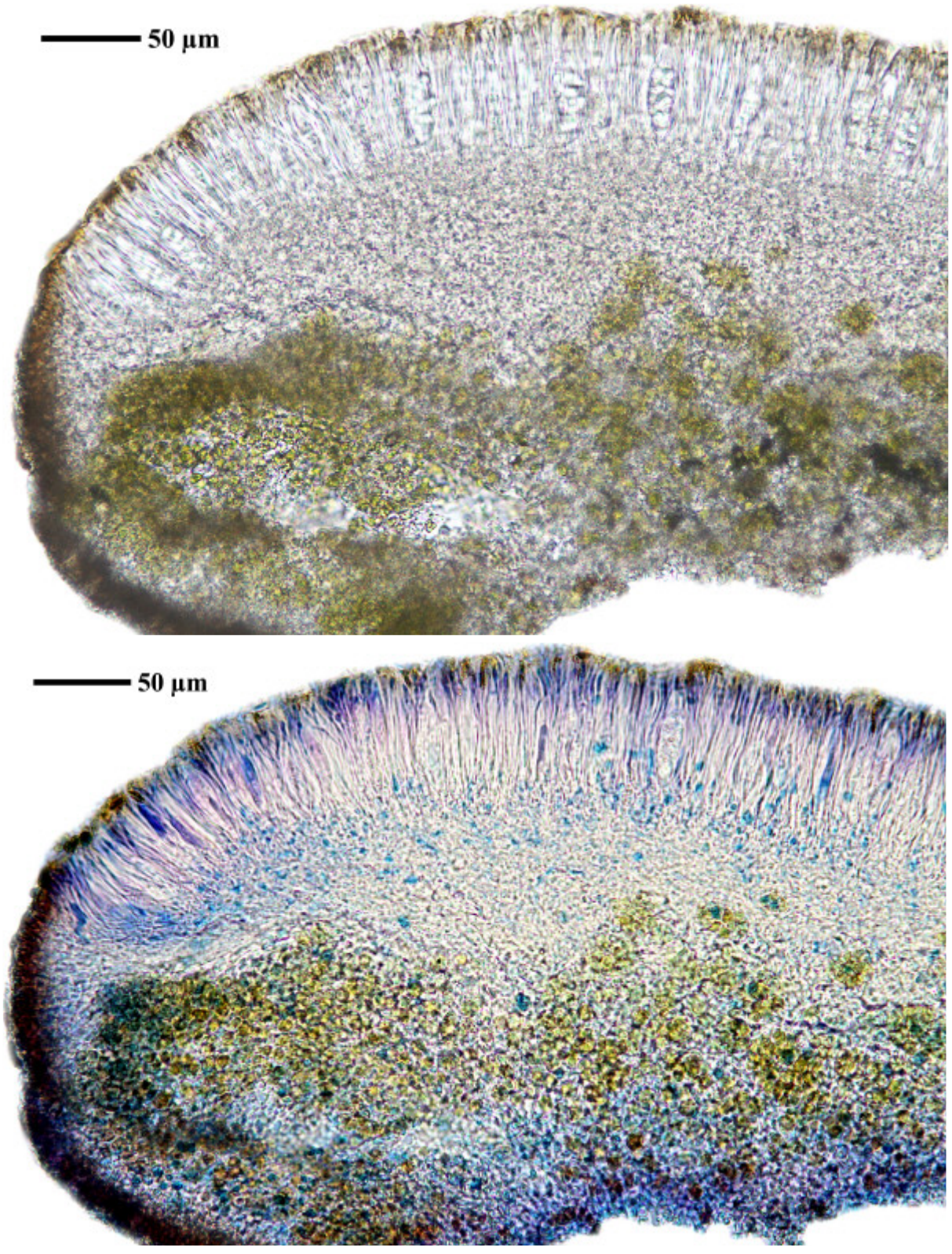
[BR5030067702604], Cambodia, Prov. Siem Reap, around Ta Nei Temple, Angkor Wat complex, Siem Reap, on brick, 13°27' N, 103°53' E. Leg. H. Kashiwadani (47862), 22 July 2006, det. A. Aptroot, 2019. New record for Cambodia



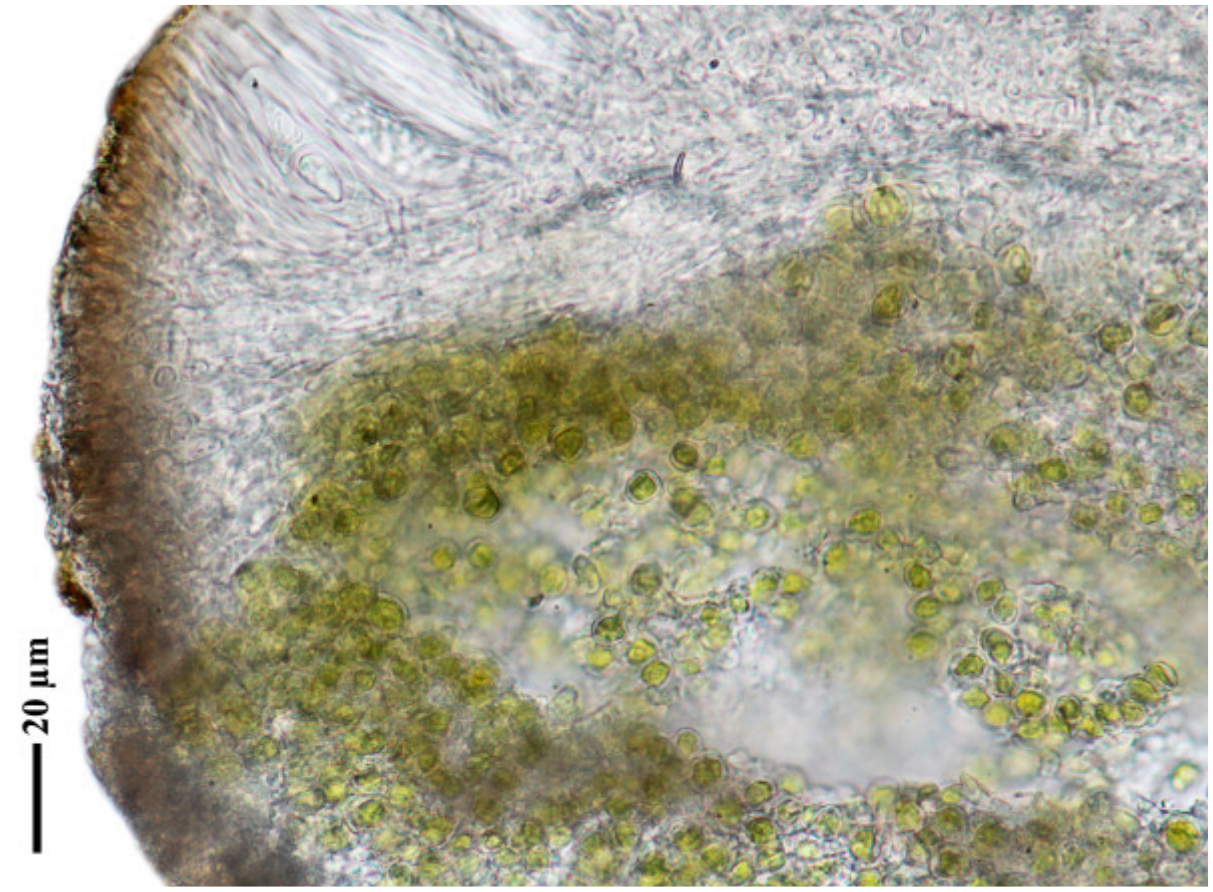


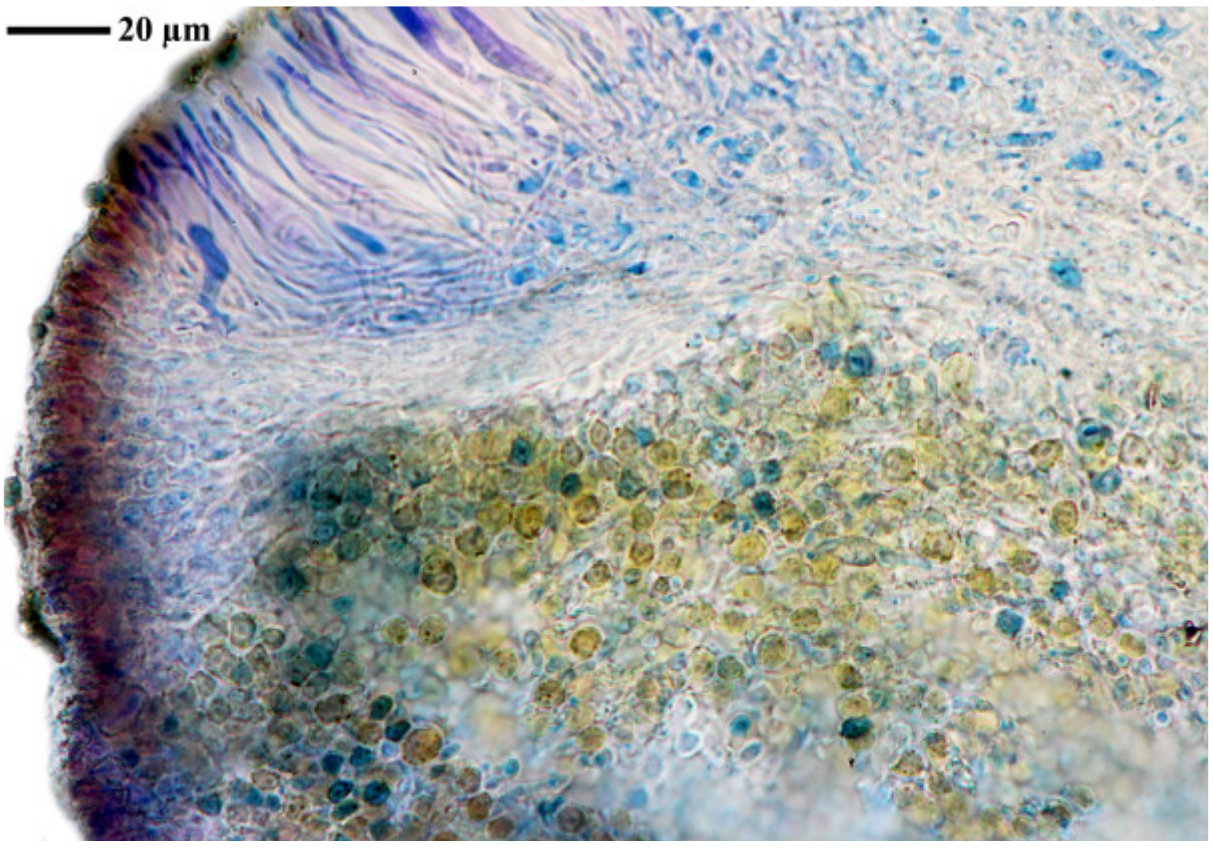


Caloplaca pseudisteroides

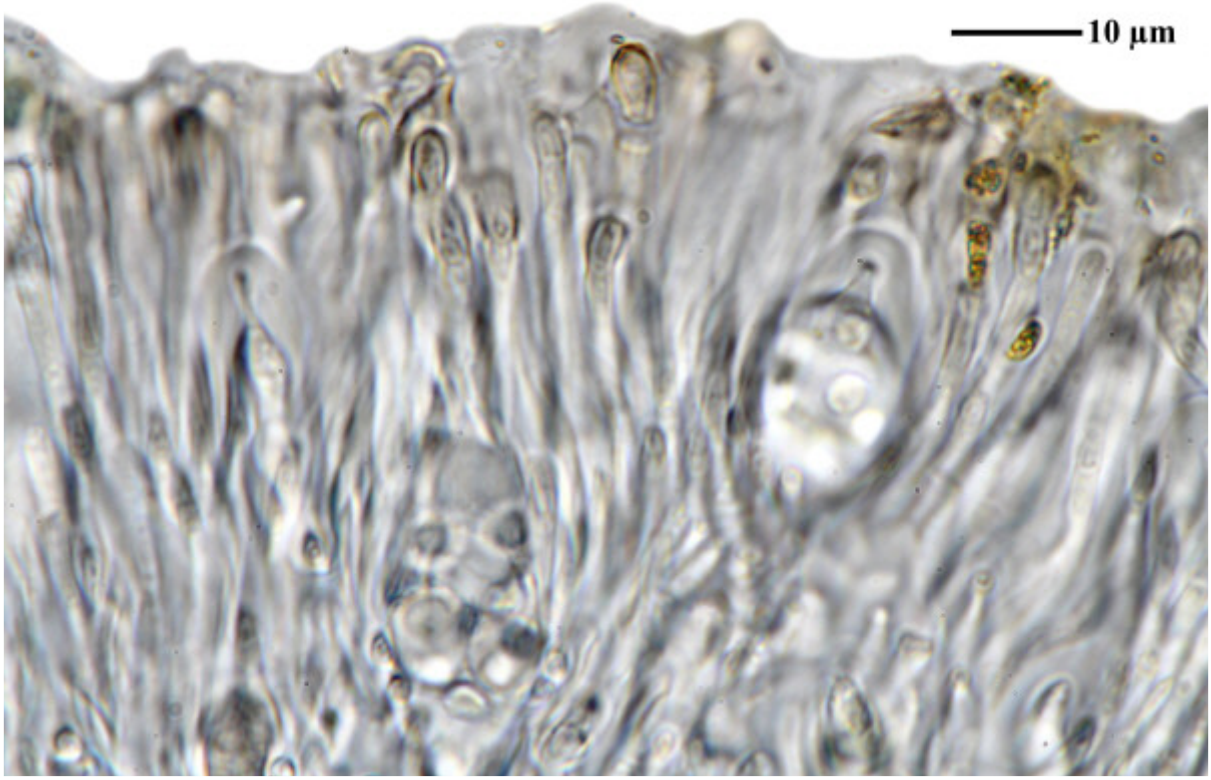


Caloplaca pseudisteroides





Caloplaca pseudisteroides





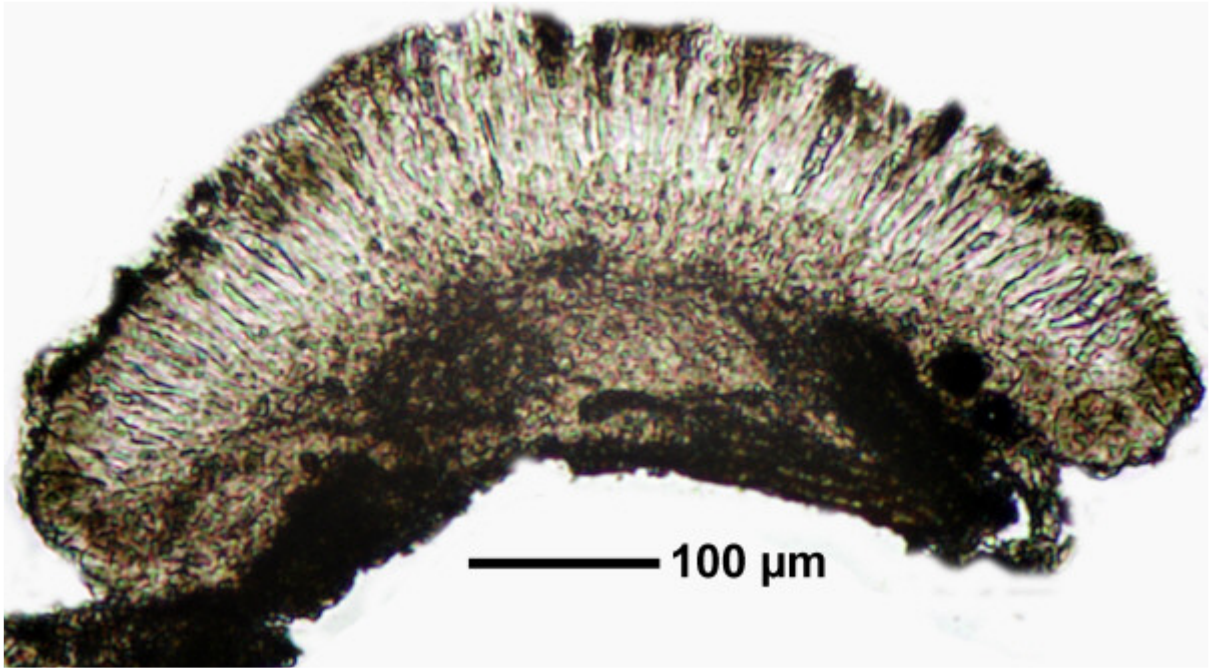
Caloplaca pseudisteroides

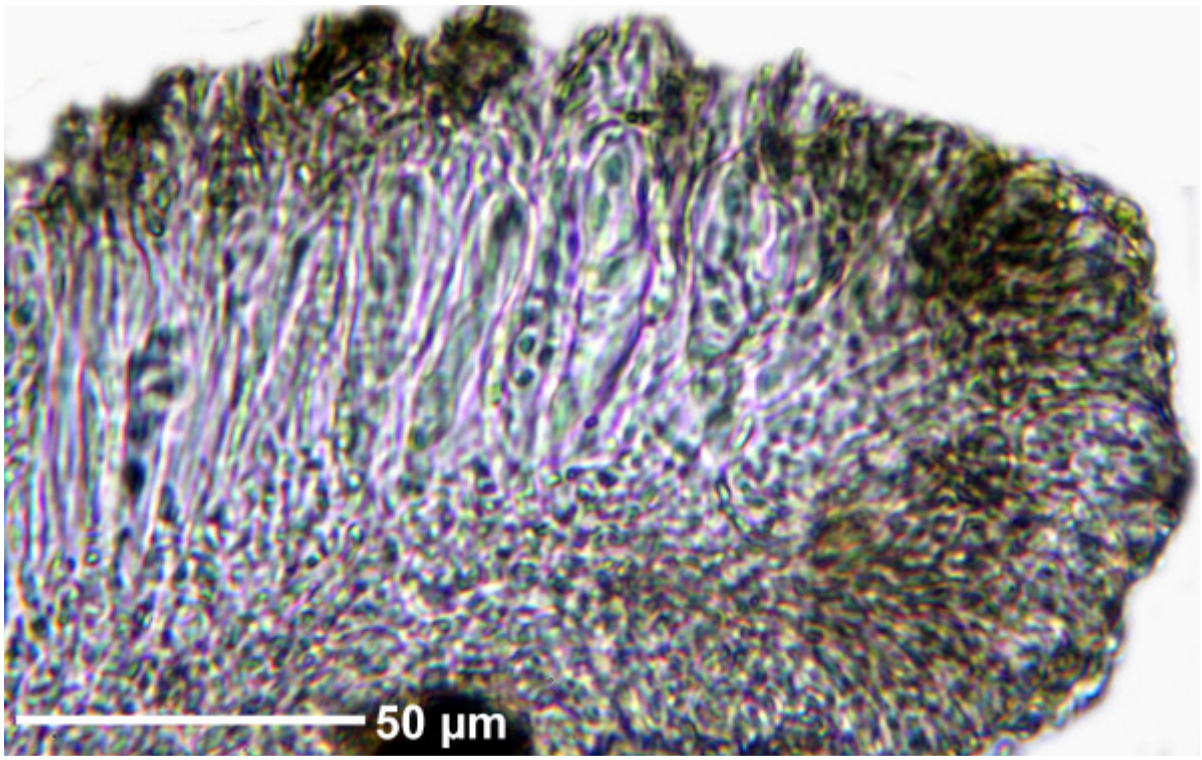
Caloplaca pulicarioides Aptroot

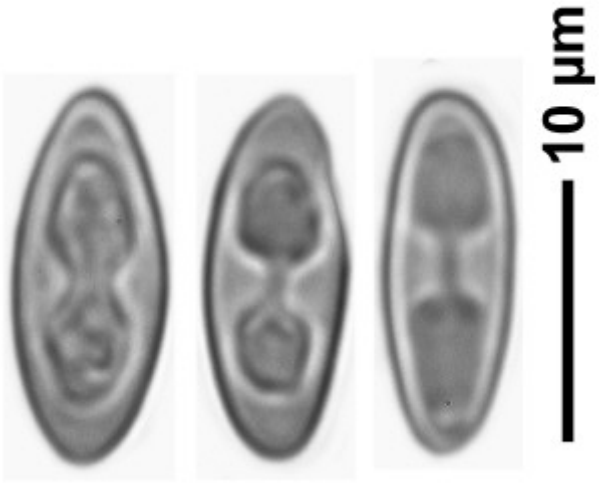
Apothecium black to dark brown, K-. Margin grey, without algae. Spores hyaline, 8/ascus, 13-16 x 5-6 µm. Palaeotropical.

[14494], Seychelles, La Digue, NE-Küste, Anse Gaulette, 4°20.508' S, 55°50.348' E, ca. 2 m. Leg. Schumm & Frahm 02.10.2008, det. Aptroot 2008.









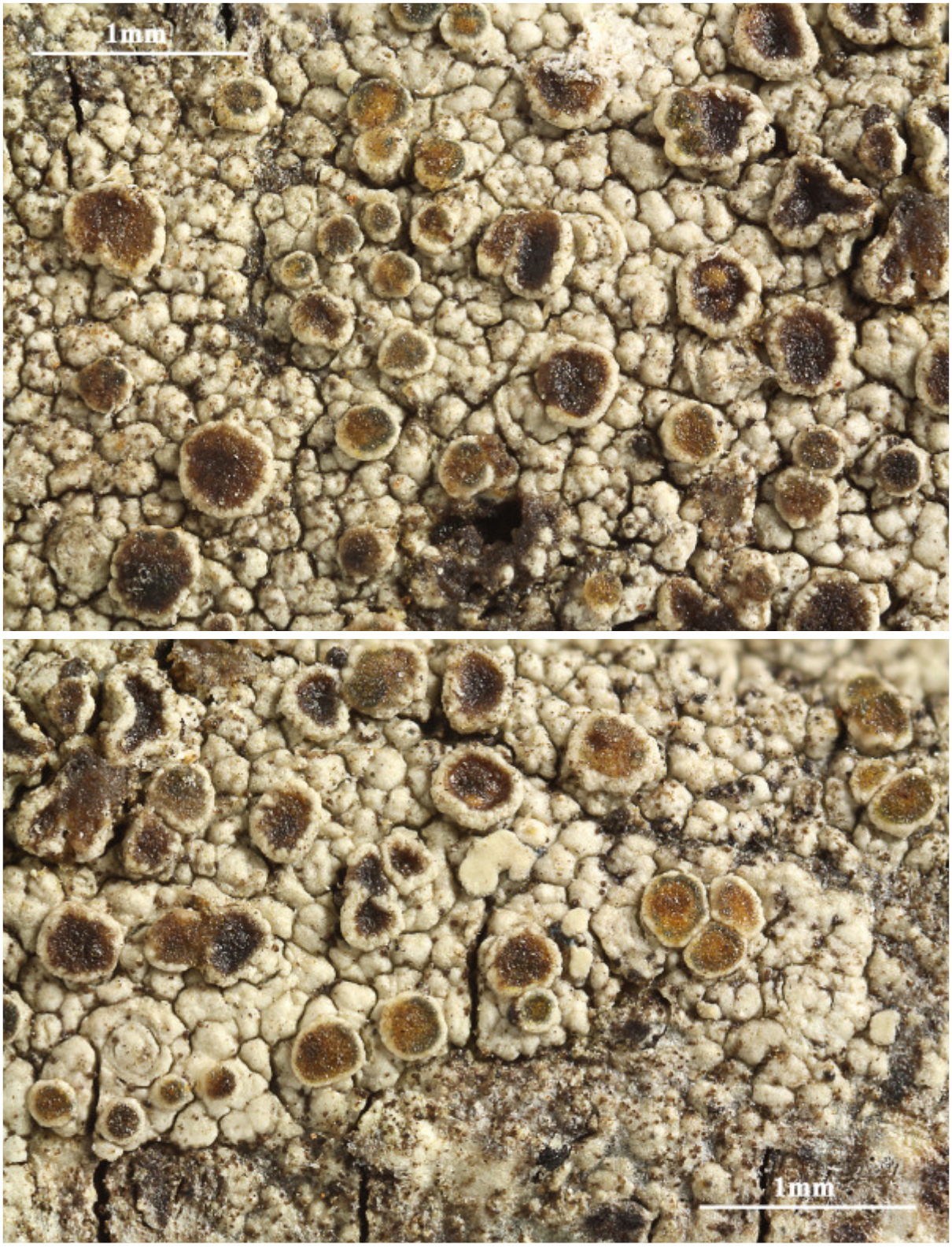
Caloplaca pulicarioides

Caloplaca pulicarioides Aptroot

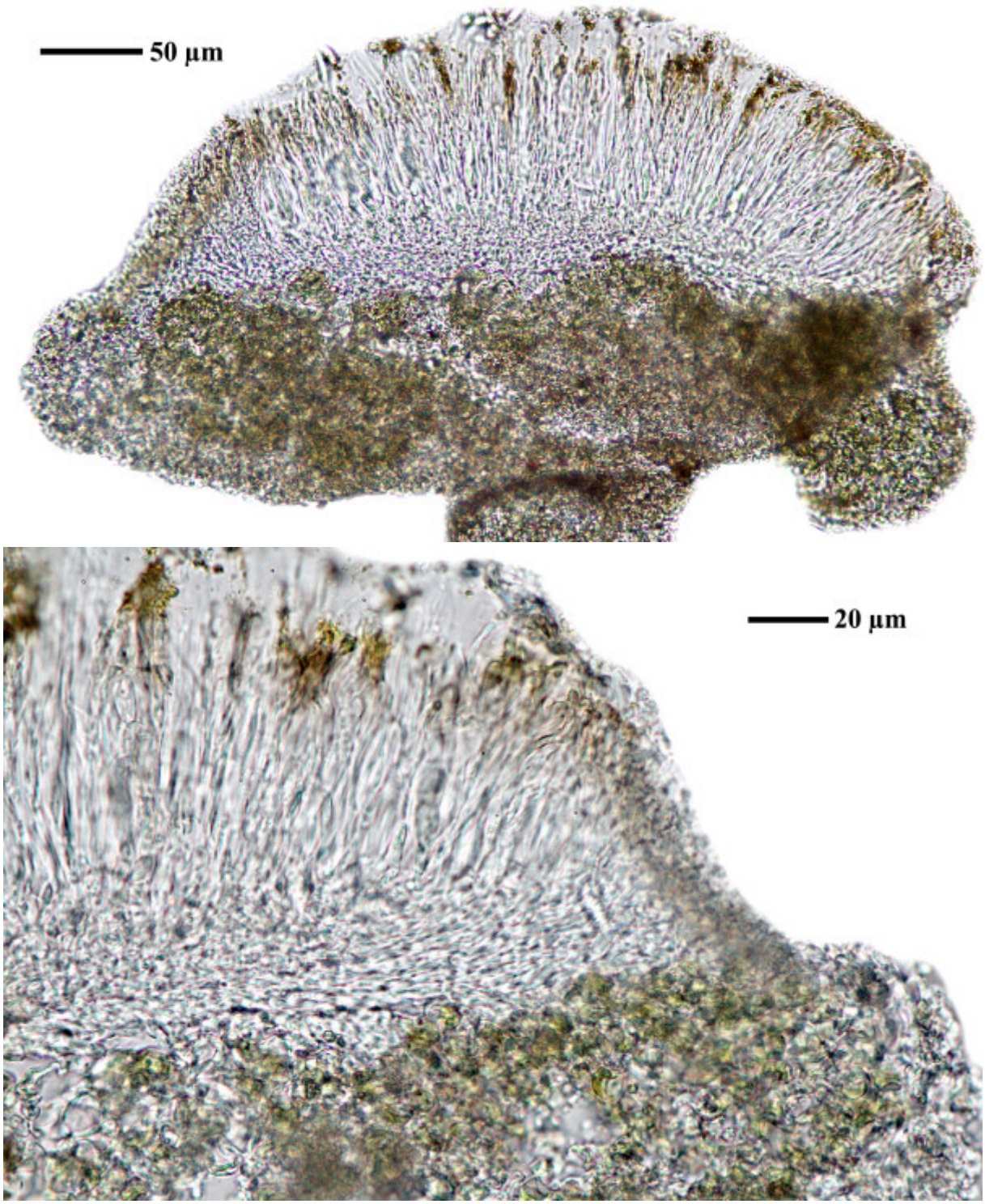
Spores 8/ascus, hyaline, 8.4-14.2 x 3-4.2 µm, septum 2-3 µm (FS).

[BR5030067780626], Seychelles, Amirantes, St. Joseph Island, on *Casuarina* twig. Leg. M.J. Hill, 5.03.2003, det. A. Aptroot 2003. Lit. Trop. Bryology 17:69.

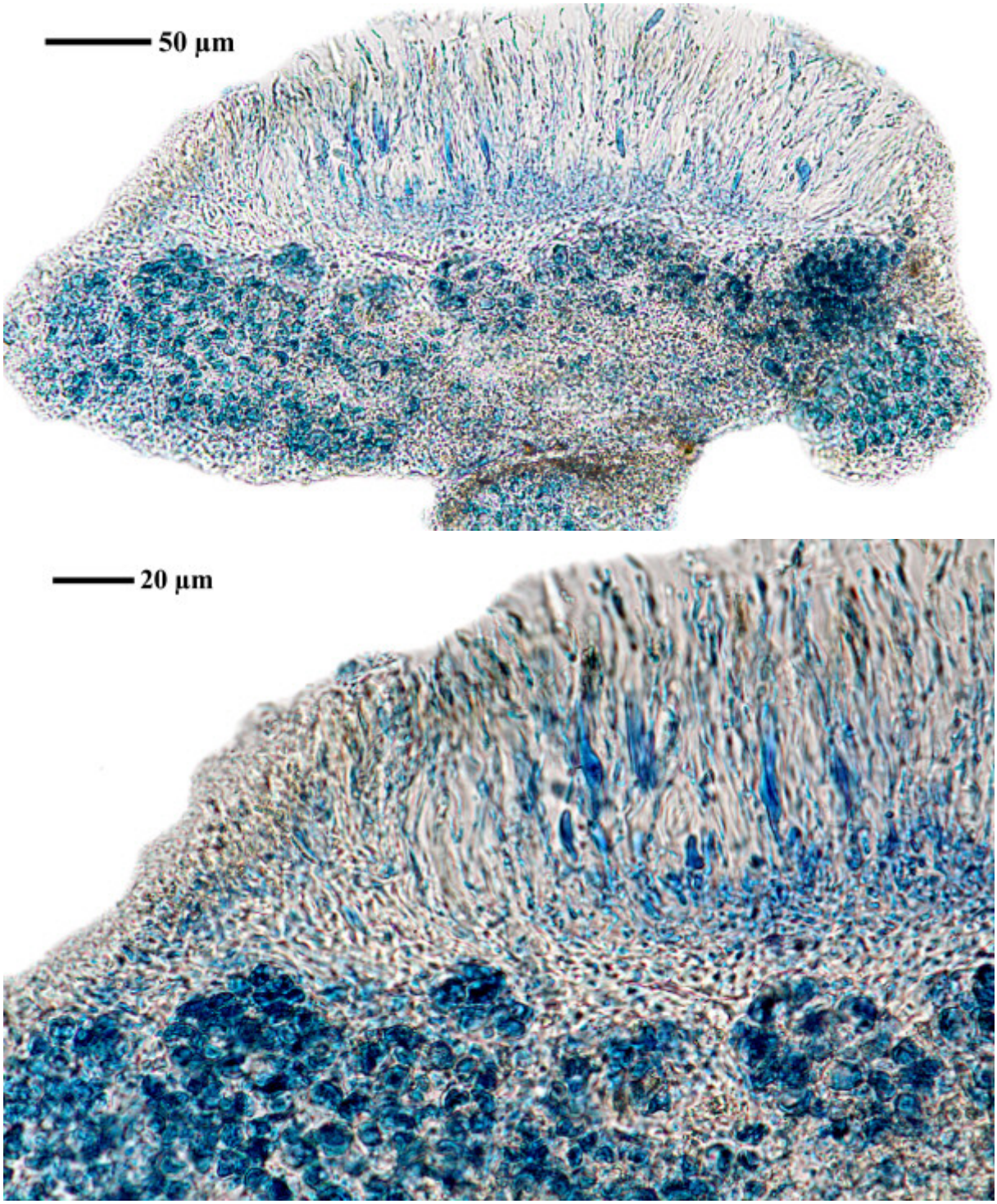




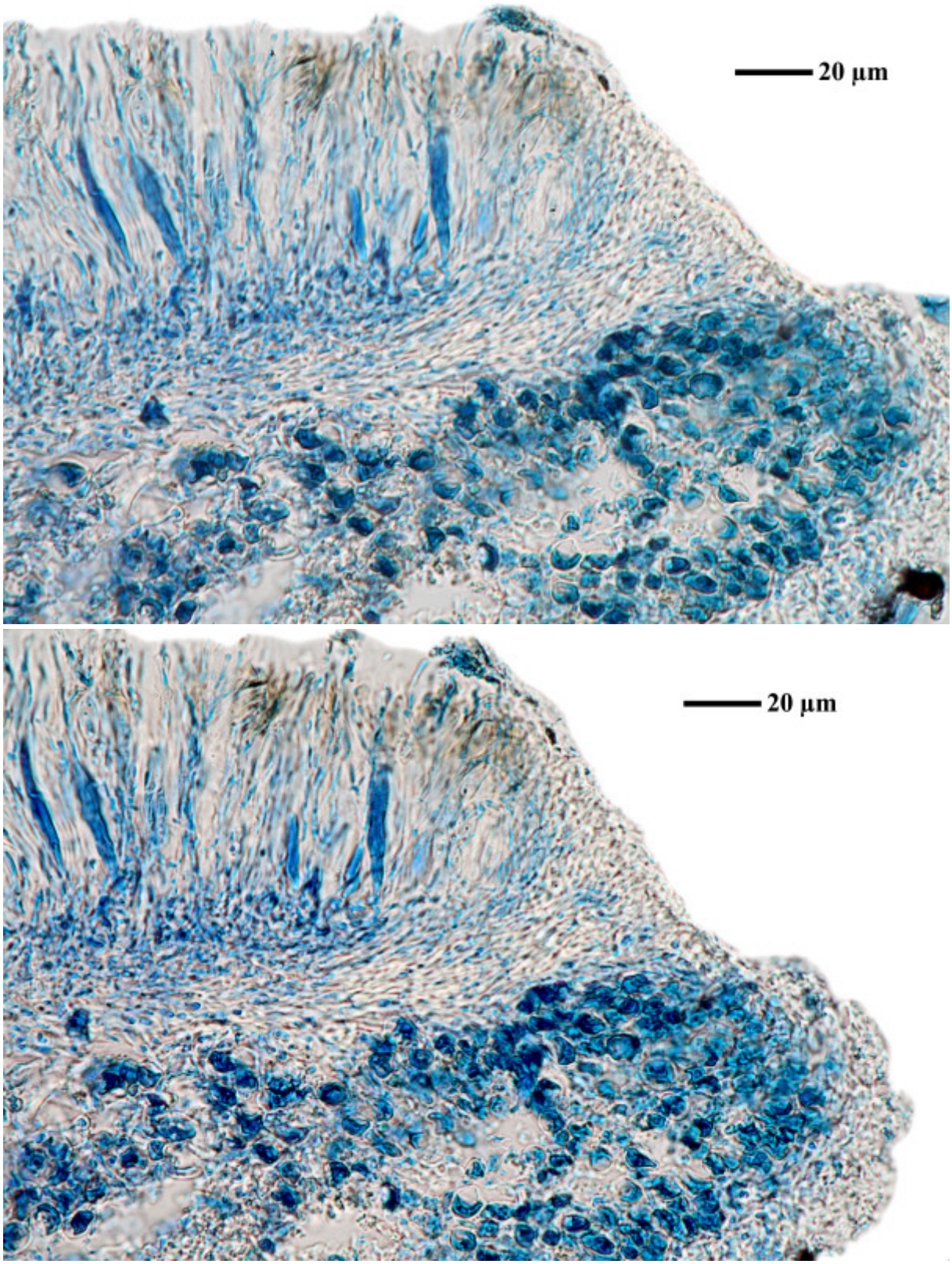
Caloplaca pulicarioides



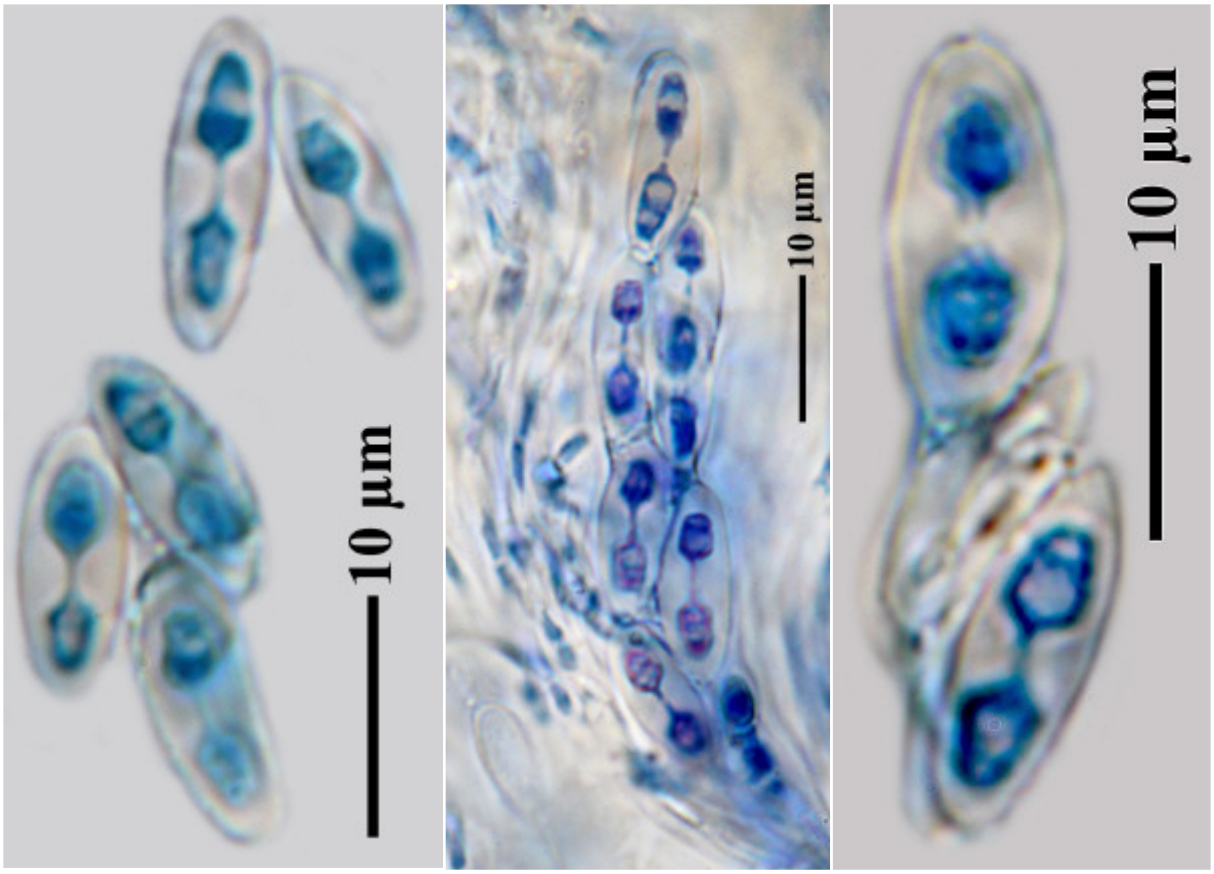
Caloplaca pulicarioides

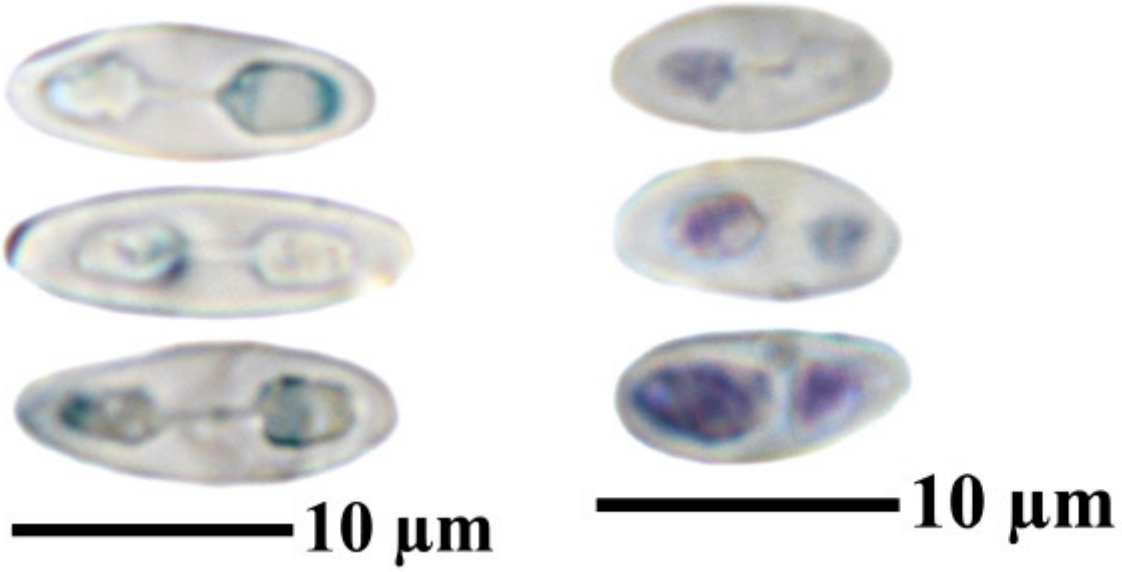


Caloplaca pulicarioides



Caloplaca pulicarioides





Caloplaca pulicarioides

The lichen genus *Caloplaca* is very diverse. Species are often colouring whole rock faces bright yellow or orange. This is the first book illustrating hundreds of species of this genus. From many species microscopic sections are illustrated, often for the first time. It includes all common species and many rarer ones. Of the most common species usually several specimens are illustrated to show the variation. This book is a resource for the identification of *Caloplaca* species.