F. Schumm & A. Aptroot

Images of the Lichen Genus Caloplaca

Volume 2

Caloplaca crenularia
|
Caloplaca holocarpa



Felix Schumm & André Aptroot

Images of the Lichen Genus

Caloplaca

Volume 2
Caloplaca crenularia
|
Caloplaca holocarpa

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April 2019
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ISBN

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Caloplaca austromaritima
Caloplaca blastidiomaritima

New combinations
Caloplaca brittonii
Caloplaca schwarzii

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

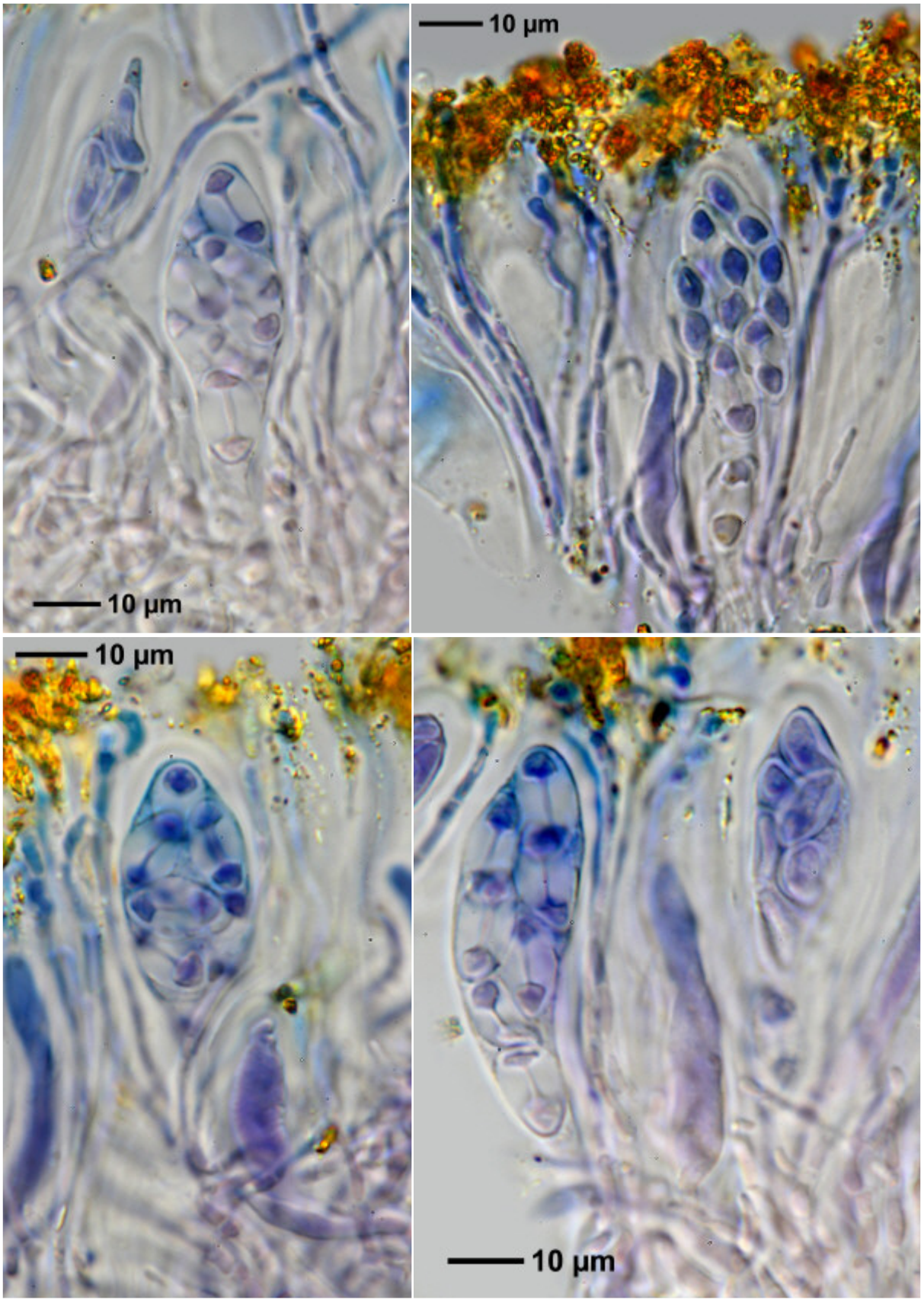
Spores polarilocular, hyaline, 8/ascus, 15-18 x 7-10 µm, septum 8.5-9 µm. On rocks.

[6693], 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 crenularia

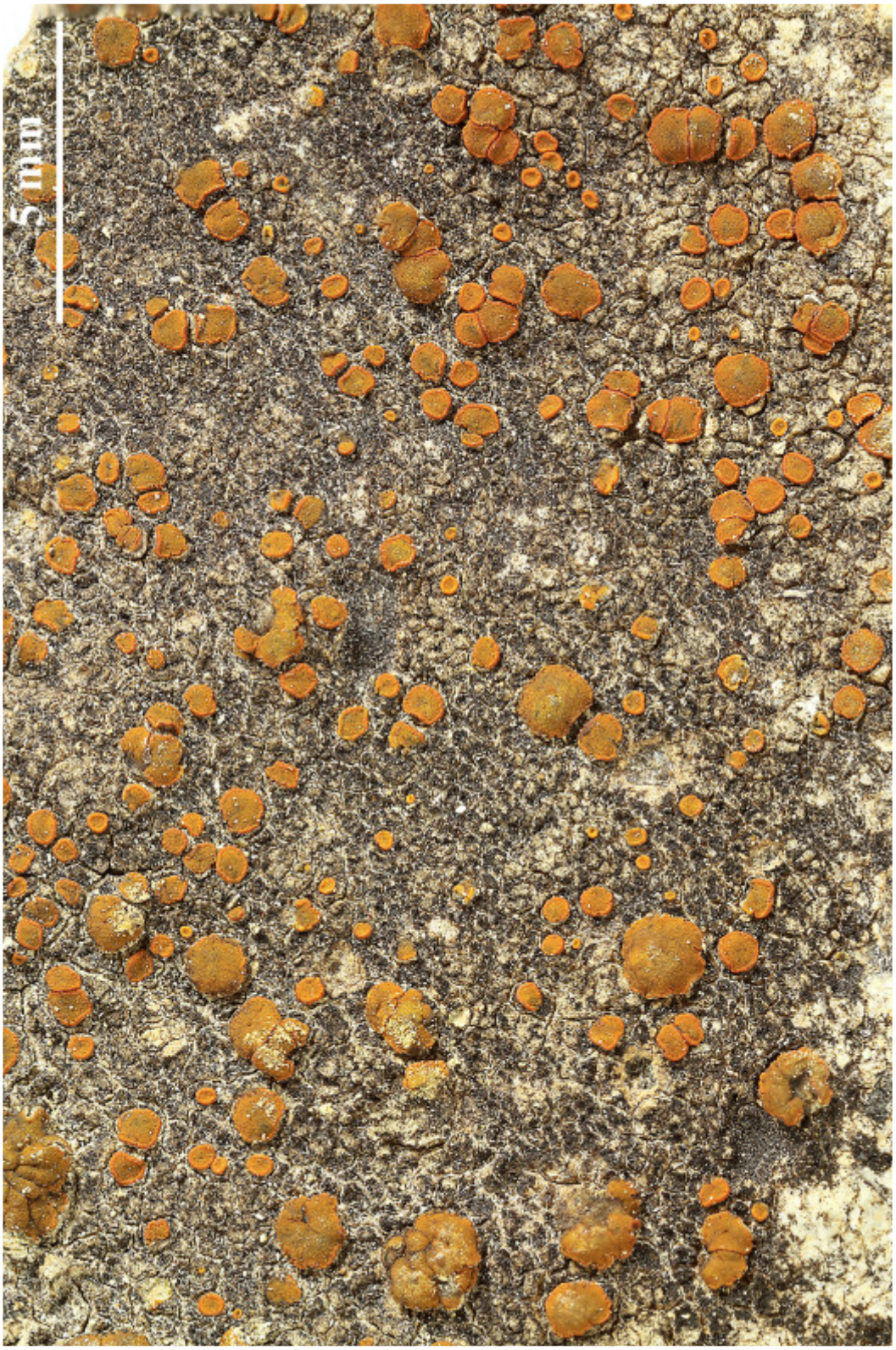


Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

On rocks.

[6740], Spanien, Kanarische Inseln, Gran Canaria; feuchteres kleines Tal an der Straße zwischen Mogan und San Nicolas; 28°01.510’ N, 15°39.424’ W, Höhe 1270 m. Leg. F. Schumm & U. Schwarz,30.12.1999, det A. Aptroot.





Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

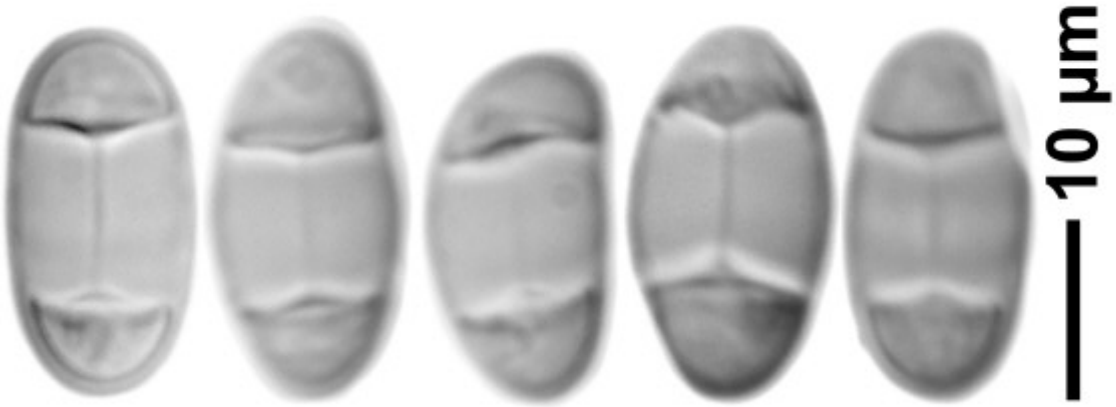
Spores polarilocular, hyaline, 8/ascus, 20-21 x 10-11 µm, septum 9-11 µm. On rocks.

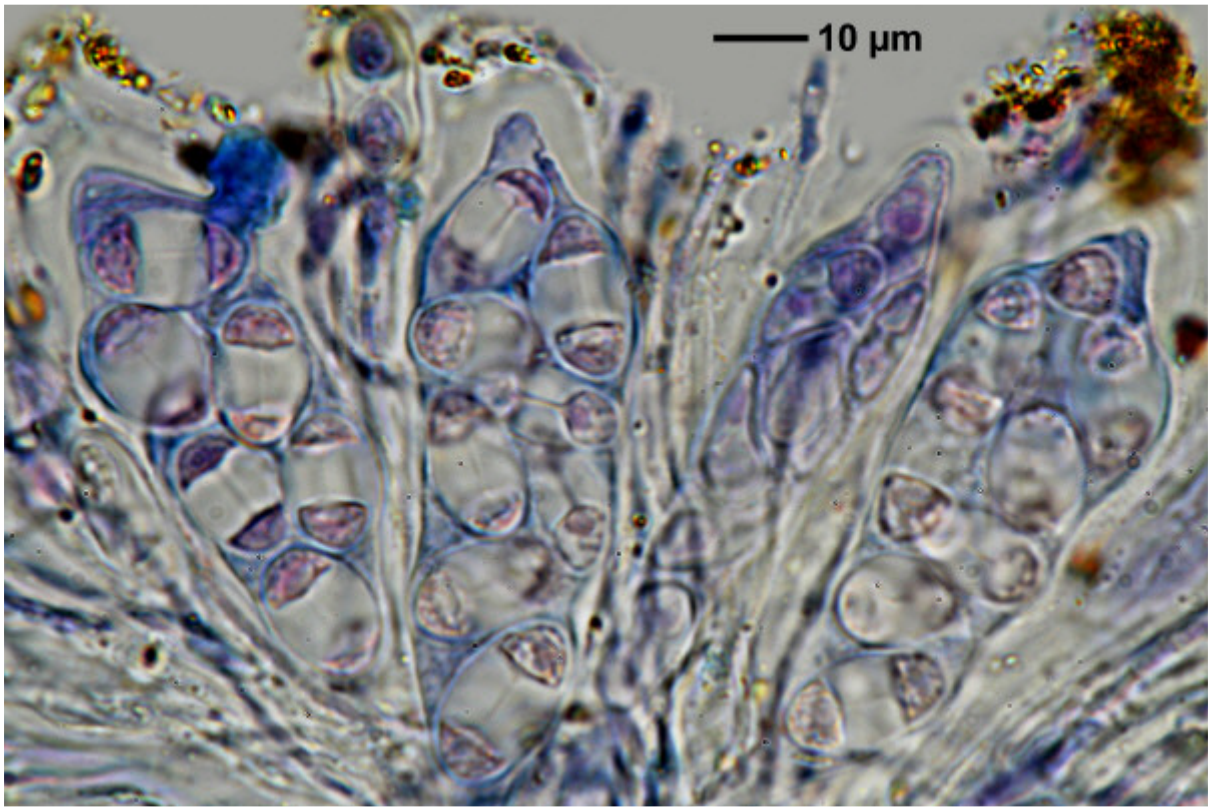
[6743], Spanien, Kanarische Inseln, Gran Canaria; feuchteres kleines Tal an der Straße zwischen Mogan und San Nicolas, 28°01.510’ N, 15°39.424’ W, Höhe 1270 m. Leg. F. Schumm & U. Schwarz 30.12.1999. det. A. Aptroot.





Caloplaca crenularia



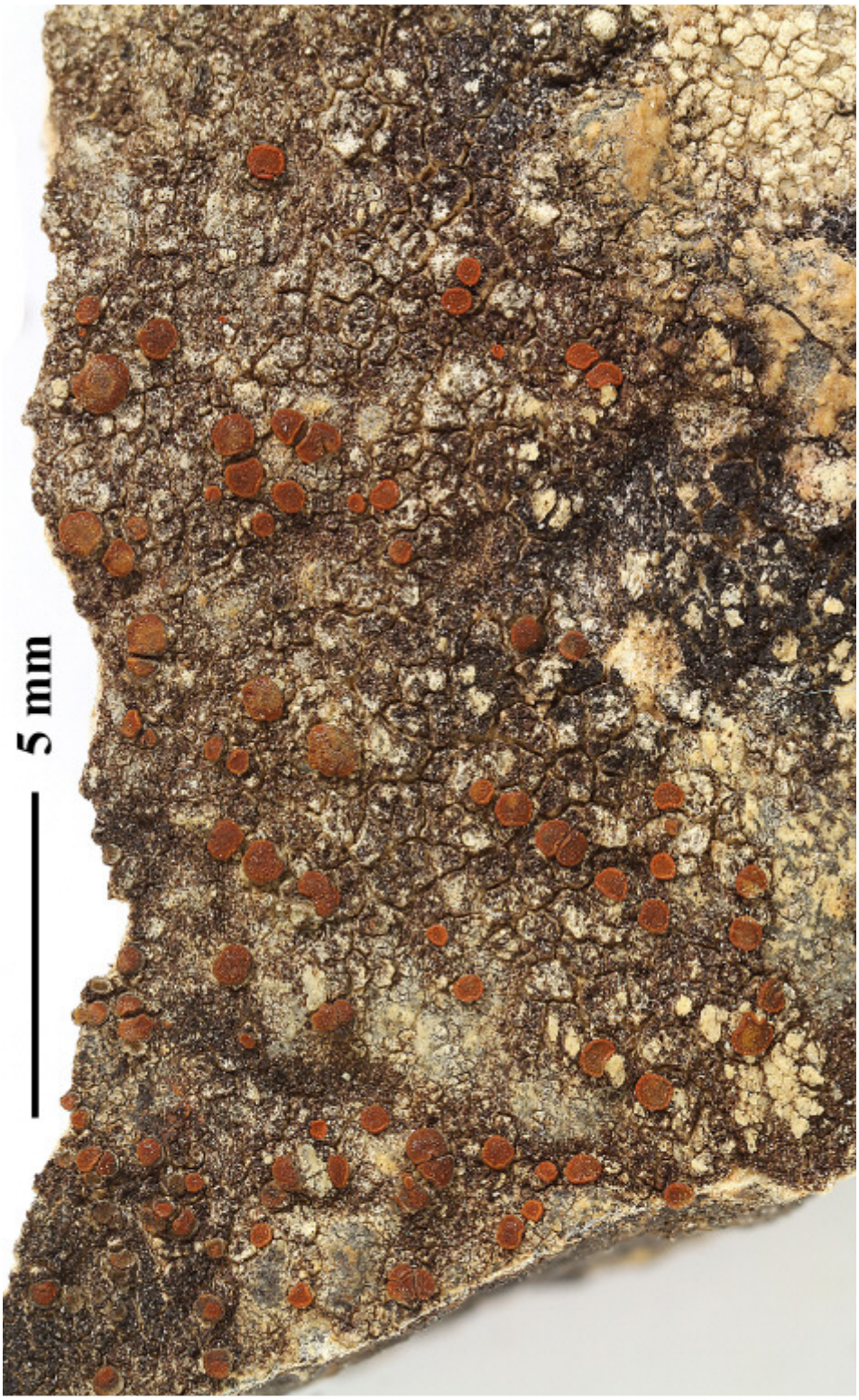


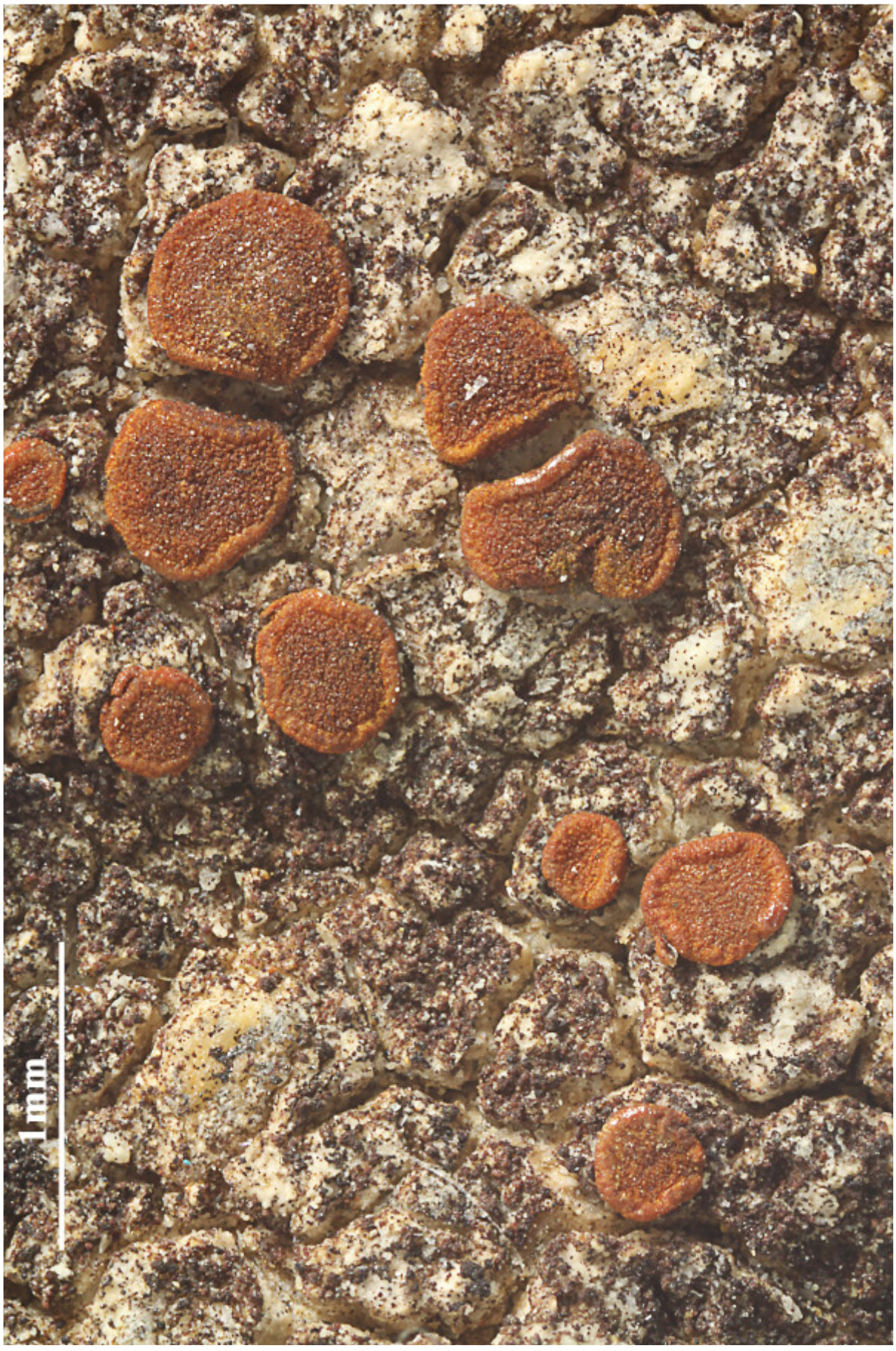
Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

Spores polarilocular, hyaline, 8/ascus, 17.5-21 x 9-11 µm, septum 7-10 µm. On rocks.

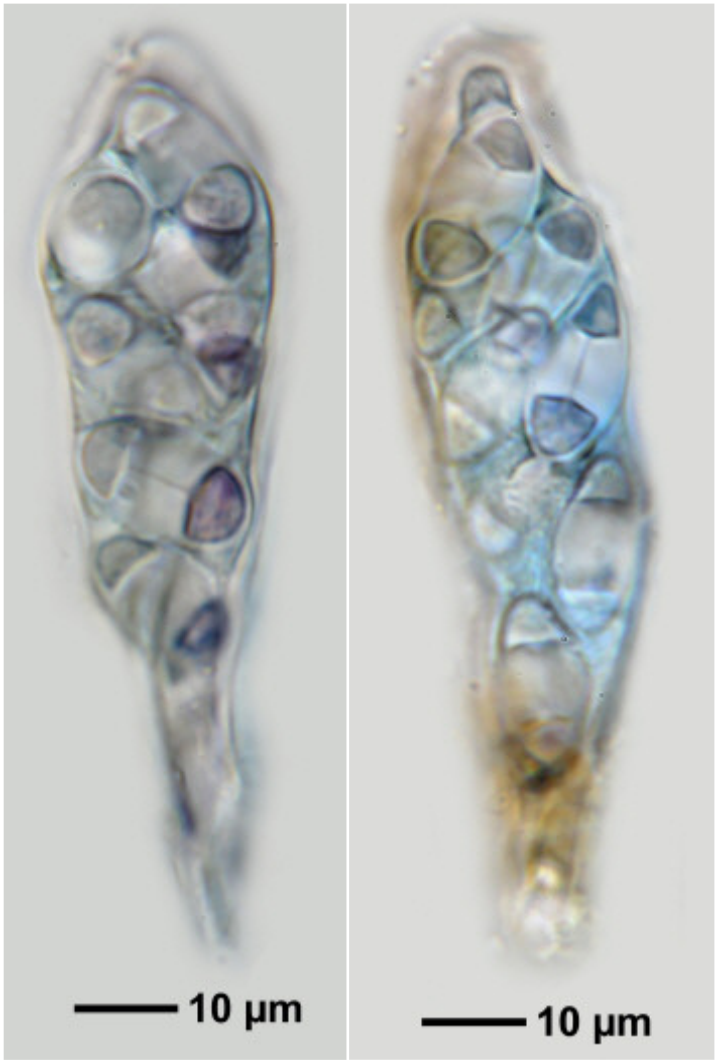
[6745], Spanien, Kanarische Inseln, Gran Canaria; feuchteres kleines Tal an der Straße zwischen Mogan und San Nicolas; 28°01.510’ N, 15°39.424’ W, Höhe 1270 m. Leg. F. Schumm & U.Schwarz, 30.12.1999, det. A. Aptroot 2016.

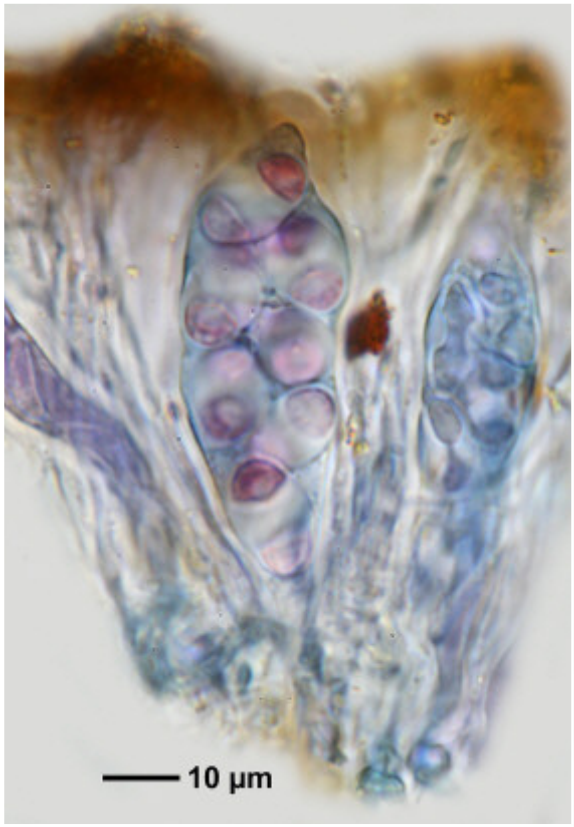


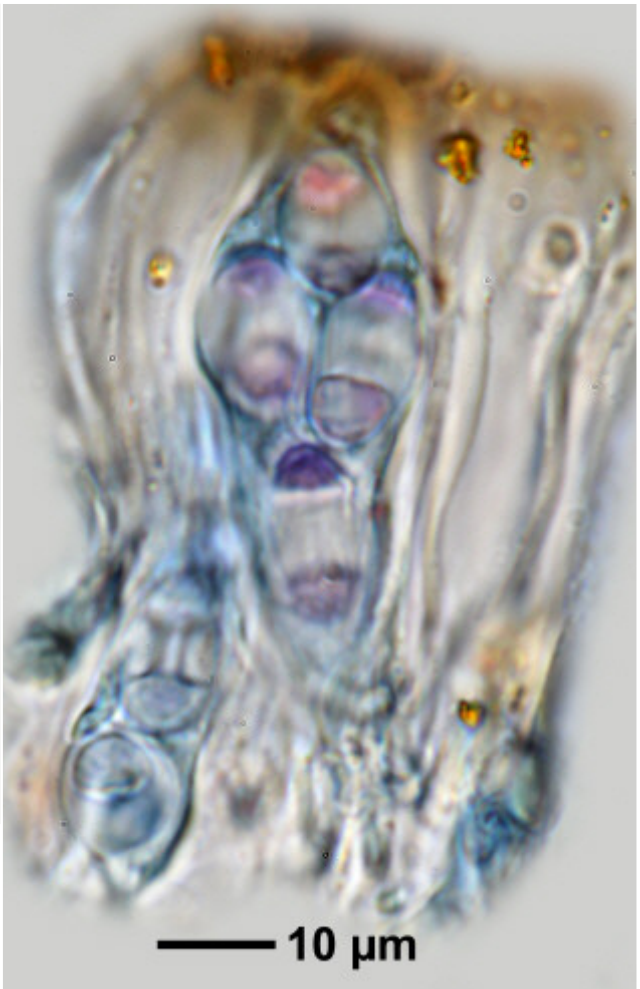


Caloplaca crenularia









Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

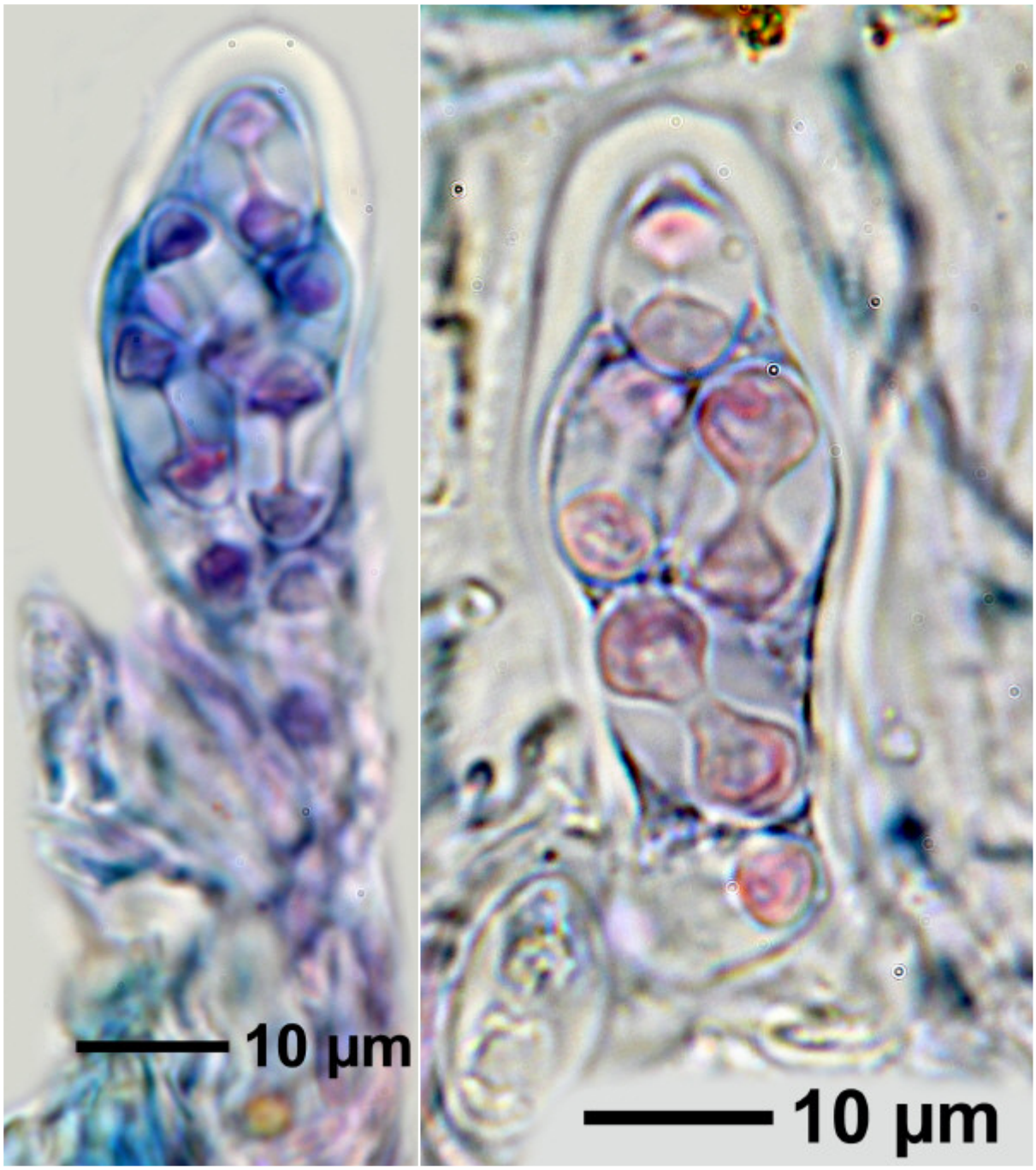
Spores polarilocular, hyaline, 8/ascus, 13-16 x 7-7.5 µm, 5-7 µm. On rocks.

[6843], Spanien, Kanarische Inseln, Gran Canaria; an der Straße von San Nicolas nach Agaete im Barranco los Berreos an nord-exponierten Stellen, an Felsen, 28°02.100’ N, 15°45.464’ W, Höhe 570 m. Leg. F. Schumm & U. Schwarz 02.01.2000, det. A. Aptroot 2016.





Caloplaca crenularia



Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

On non calcareous rocks.

[6885], Spanien, Kanarische Inseln, Gran Canaria; an der Strasse von El Tablero zum Embalse de Chira oberhalb Cercados de Espinas; nordexponierter steiler Felshang; 27°52.165’ N, 15°38.905’ W, Höhe 850 m. Leg. F. Schumm & U. Schwarz 05.01.2000, det. A. Aptroot 2016.





Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

On rocks.

[7093], Spanien, Kanarische Inseln, Gran Canaria, zwischen San Bartolomé und Tejeda,ca. 10 km vor Tejeda, in einer kleinen Schlucht neben der Straße, ca. 1400 m, auf Basaltfelsen. Leg. F. Schumm, 12.1975, det. A. Aptroot.





Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

On rocks.

[7127], Kanarische Inseln, Teneriffa, 1 km südöstlich von Los Cristianos an einem Ausläufer des Mont Guaze, ca. 220 m, auf vulkanischem Gestein in Sukkulenten-Steppe. Leg. F. Schumm, 02.01.1976, det. A. Aptroot 2016.





Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

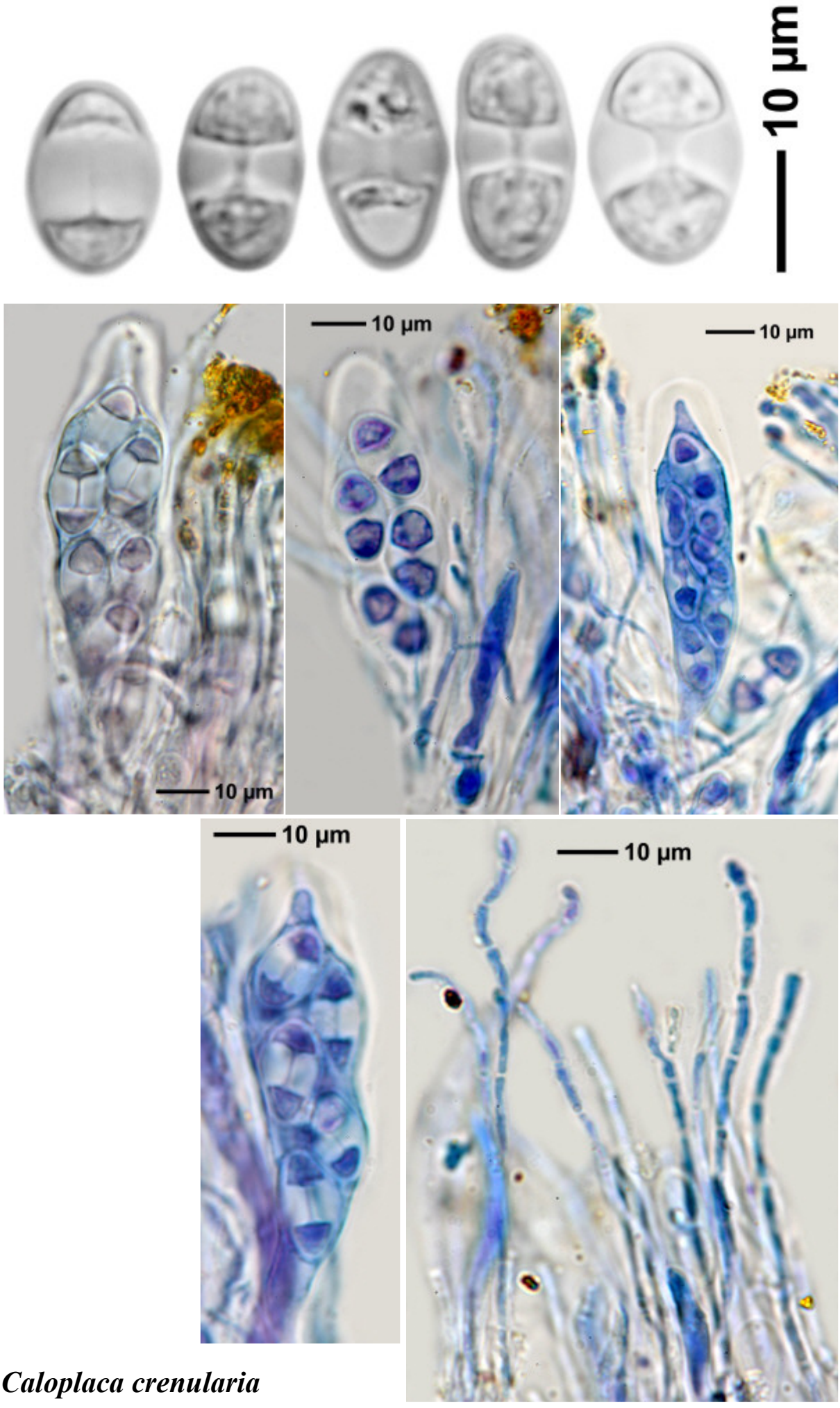
Spores polarilocular, hyaline, 8/ascus, 16-19 x 10-11 µm, septum 4-7 µm. On lava rocks.

[8094], 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 crenularia



Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

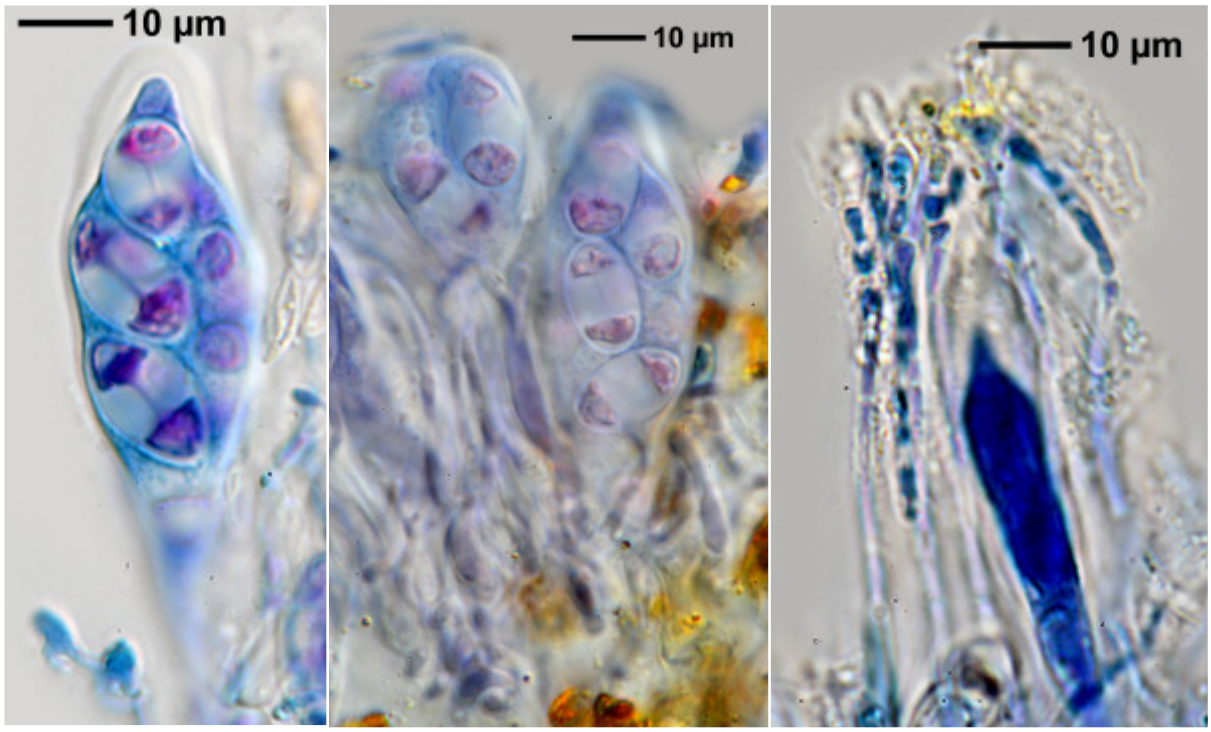
Spores hyaline, 8/ascus, 13.5-20 x 9-11 mm, septum 6.5-9 µm. On lava rocks.

[9395], Spanien, Kanaren, La Gomera: Bei Arure an der Straße nach Las Hayas. Trockener Abhang mit Felsblöcken und Euphorbia, an Felsen, 28°07.895 N, 17°18.983 W, 870 m. Leg. F. Schumm, 14.02.2002, det. A. Aptroot 2016.





Caloplaca crenularia





Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

On rocks.

[10477], Spanien, Kanaren, La Gomera: Abzweigung von der Straße von El Cedro-San Sebastian in Richtung Laguerode; 20°07.424' N, 17°09.497' W, 640 m, licht-, nebel- und windoffener mit Sukkulentengebüsch bewachsener NE Lavablockhang mit viel *Roccella* und *Ramalina,* auf Steinen. F. Schumm, 20.04.2003, det. A. Aptroot.





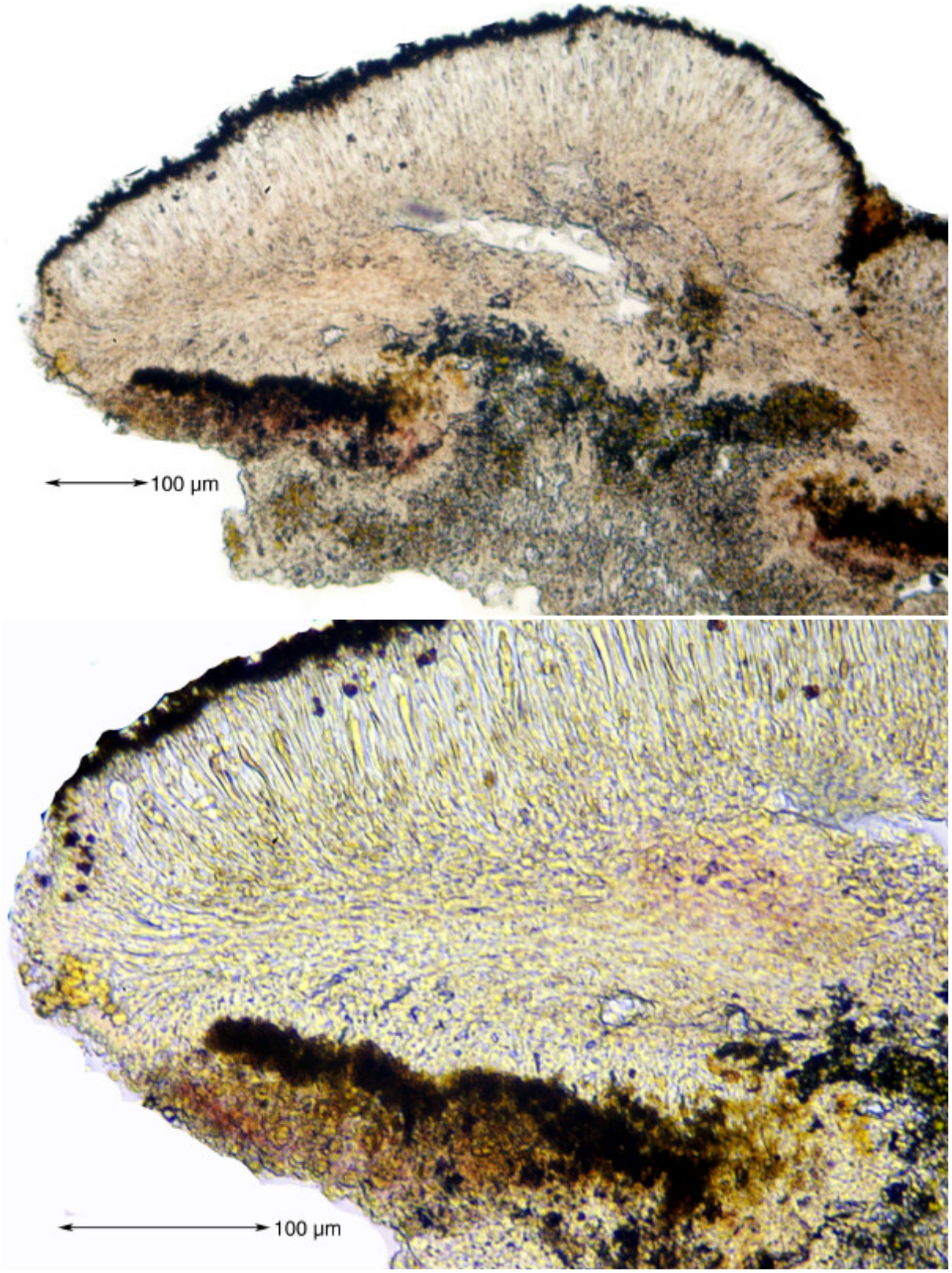
Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén
[= *Caloplaca festiva* (Ach.) Zwackh]

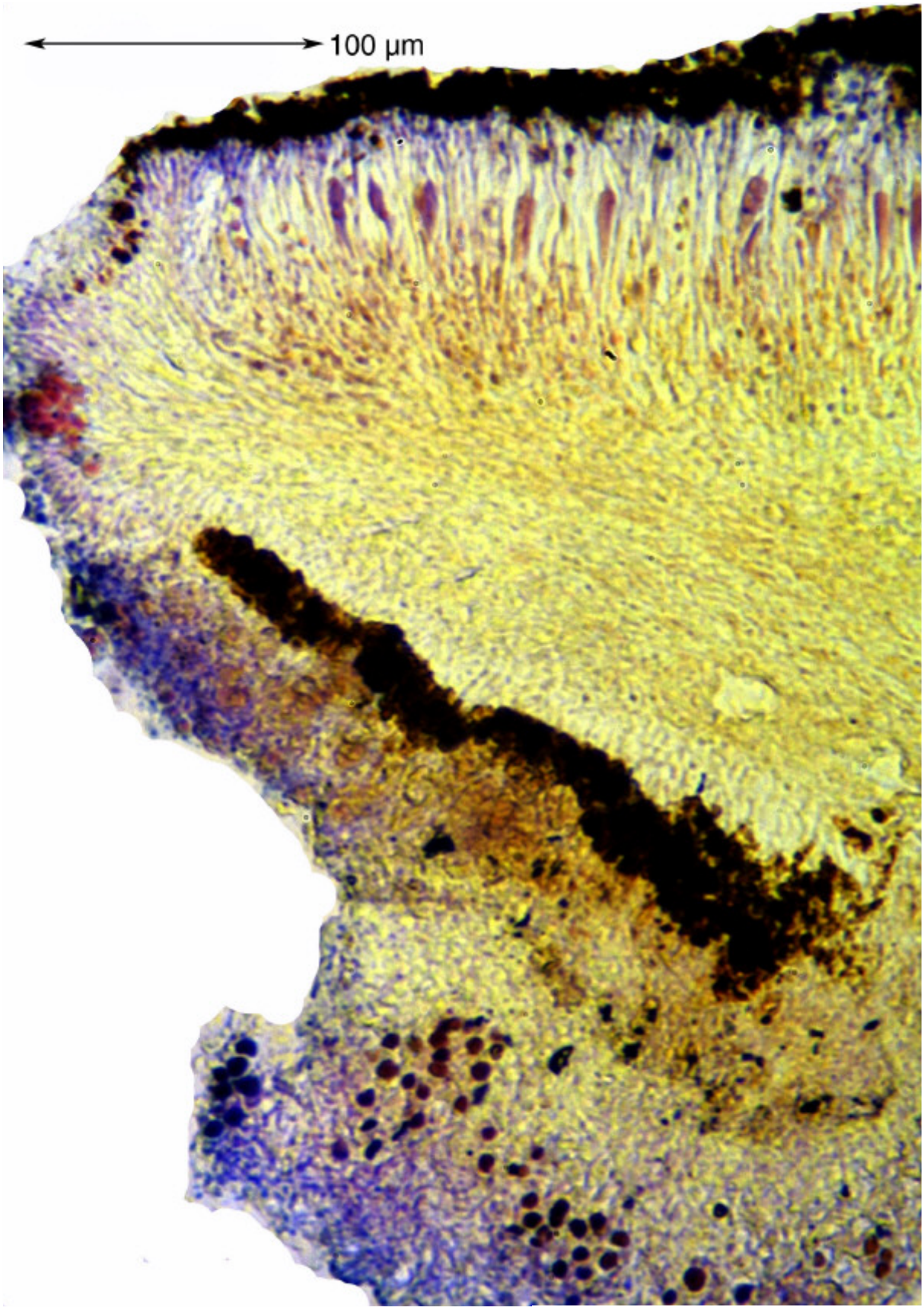
Thallus blaß- bis bräunlichgrau (K-), nicht lobat, krustig, dick, rissig bis areoliert; Areolen 0,4-0,7 mm breit. Isidien und Sorale fehlen. Apothecien 0,4-1 mm breit, braunrot bis rostrot (K+ rot), flach bis stark konvex bis halbkugelig aufsitzend; Scheibe matt und rau; Lagerrand sehr dünn, verschwindend, rot; Epithecium ca. 5 µm; Hymenium 100 µm; Algen unter dem Hypothecium, Rand algenfrei. Sporen polar-2-zellig, ellipsoidisch, 12-14 x 6-8 µm, mit bis 5 µm dickem, aber nicht seitlich aufgetriebenem Septum. Auf silikatreichen Lavefelsen.

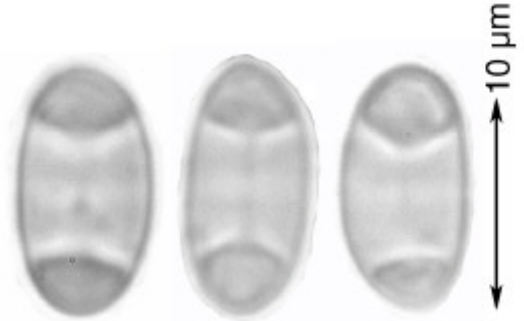
[10586], Portugal, Azoren, Sao Miguel: Agua de Pau, auf Mauern aus schwarzem, porösen Lavagestein an der Atlantikküste bei der Hotelanlage Caloura, hohe Luftfeuchtigkeit und Salzeinfluß, 37°42.847' N, 25°30.906' W, 10-20 m. Leg. et det. Schumm 01.06.2003, conf. Sipman 2009.



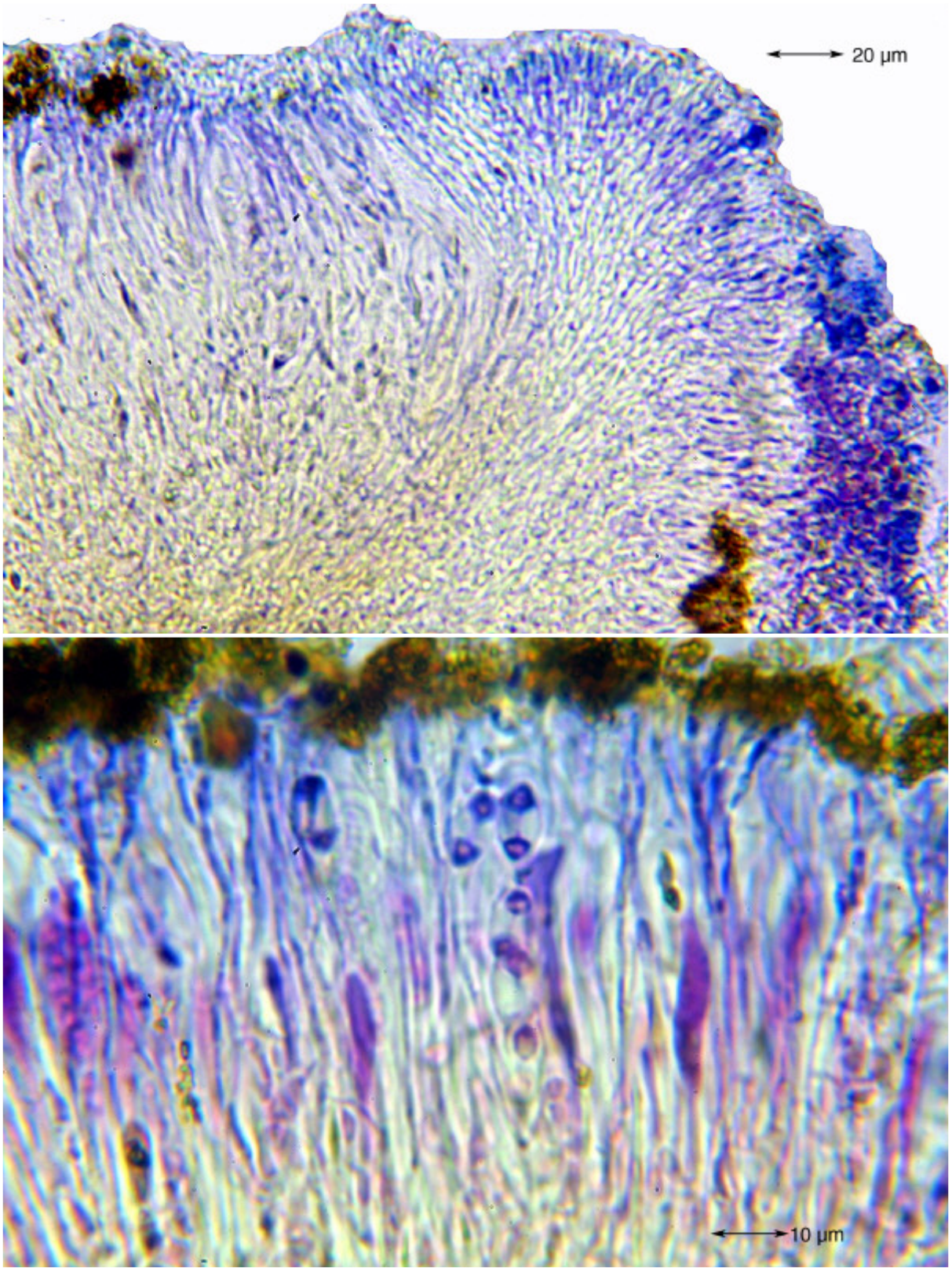


Caloplaca crenularia





Caloplaca crenularia



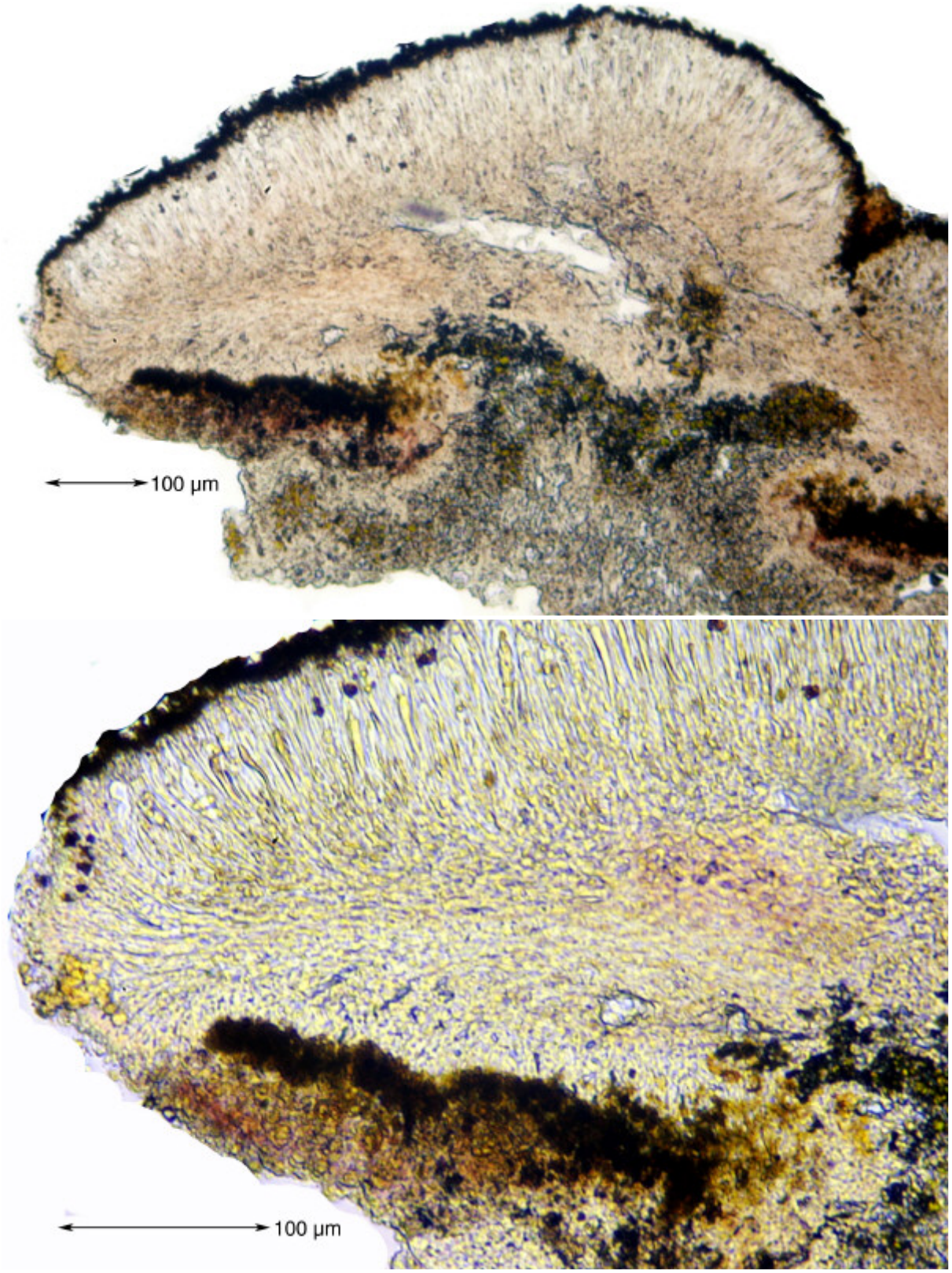
Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén
[= *Caloplaca festiva* (Ach.) Zwackh]

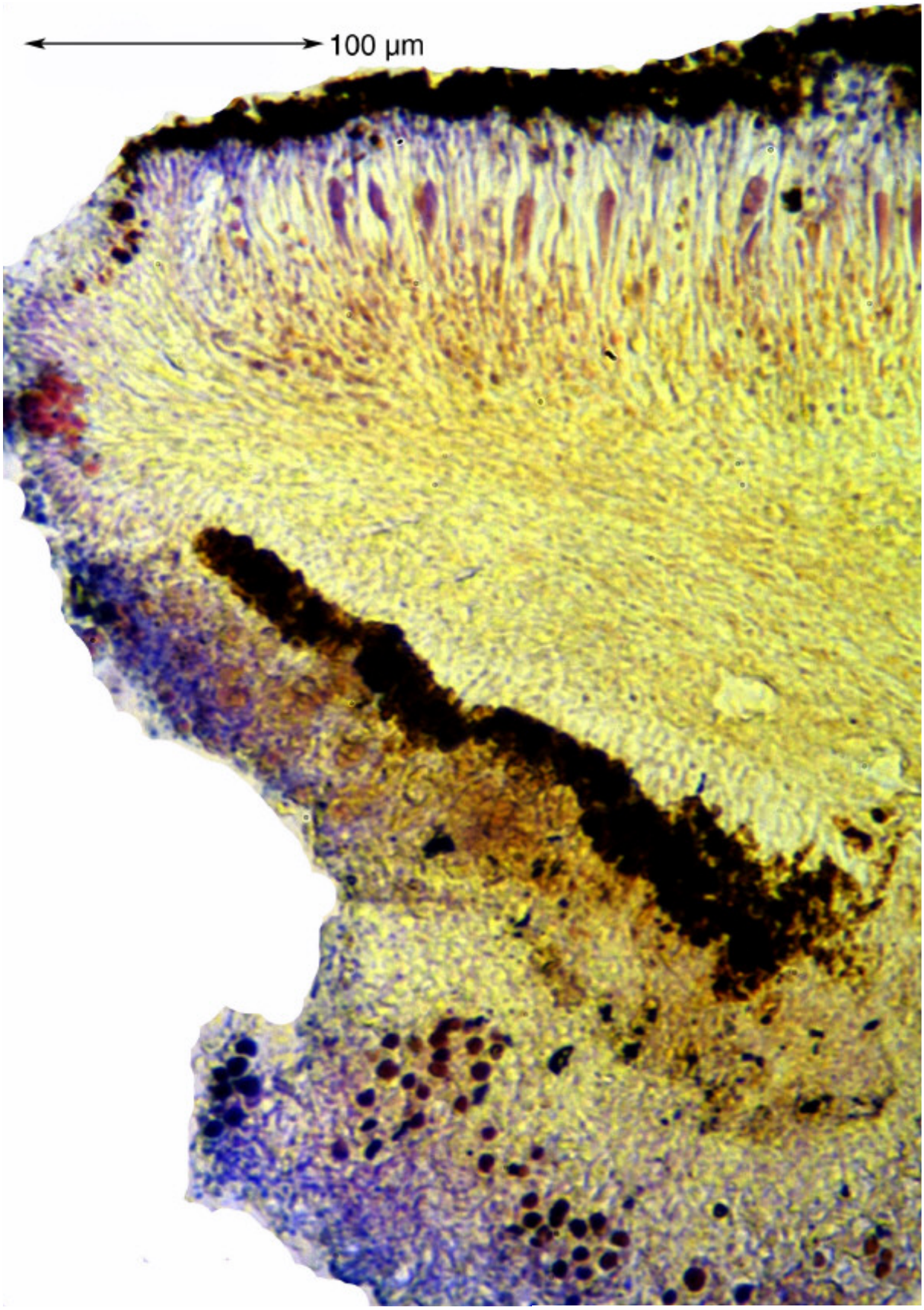
Thallus blaß- bis bräunlichgrau (K-), nicht lobat, krustig, dick, rissig bis areoliert; Areolen 0,4-0,7 mm breit. Isidien und Sorale fehlen. Apothecien 0,4-1 mm breit, braunrot bis rostrot (K+ rot), flach bis stark konvex bis halbkugelig aufsitzend; Scheibe matt und rau; Lagerrand sehr dünn, verschwindend, rot; Epithecium ca. 5 µm; Hymenium 100 µm; Algen unter dem Hypothecium, Rand algenfrei. Sporen polar-2-zellig, ellipsoidisch, 12-14 x 6-8 µm, mit bis 5 µm dickem, aber nicht seitlich aufgetriebenem Septum. Auf silikatreichen Lavefelsen.

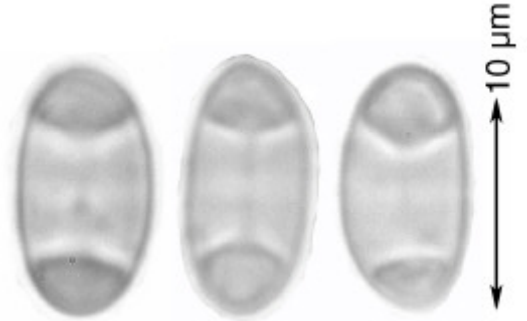
[10586], Portugal, Azoren, Sao Miguel: Agua de Pau, auf Mauern aus schwarzem, porösen Lavagestein an der Atlantikküste bei der Hotelanlage Caloura, hohe Luftfeuchtigkeit und Salzeinfluß, 37°42.847' N, 25°30.906' W, 10-20 m. Leg. et det. Schumm 01.06.2003, conf. Sipman 2009.



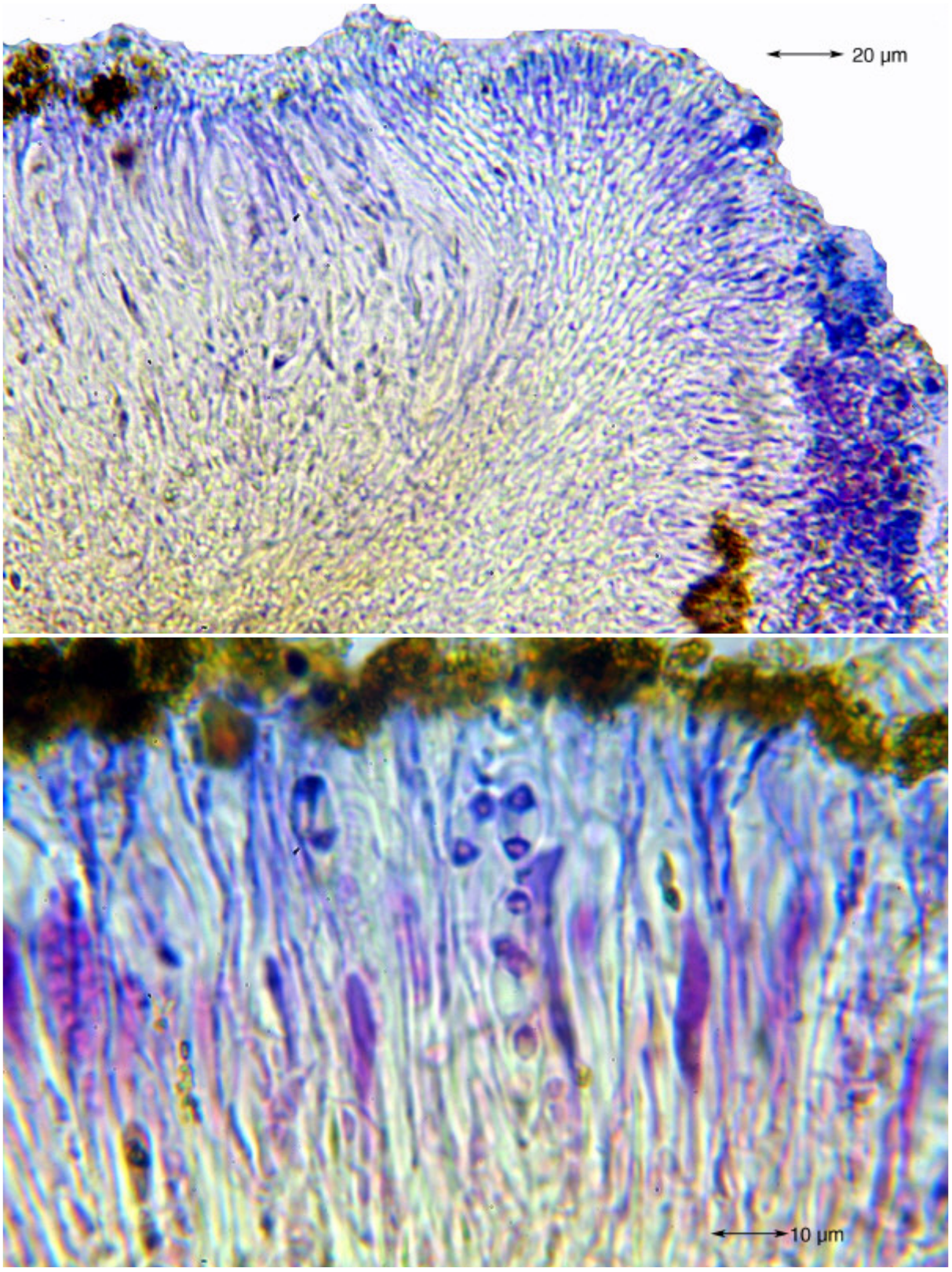


Caloplaca crenularia

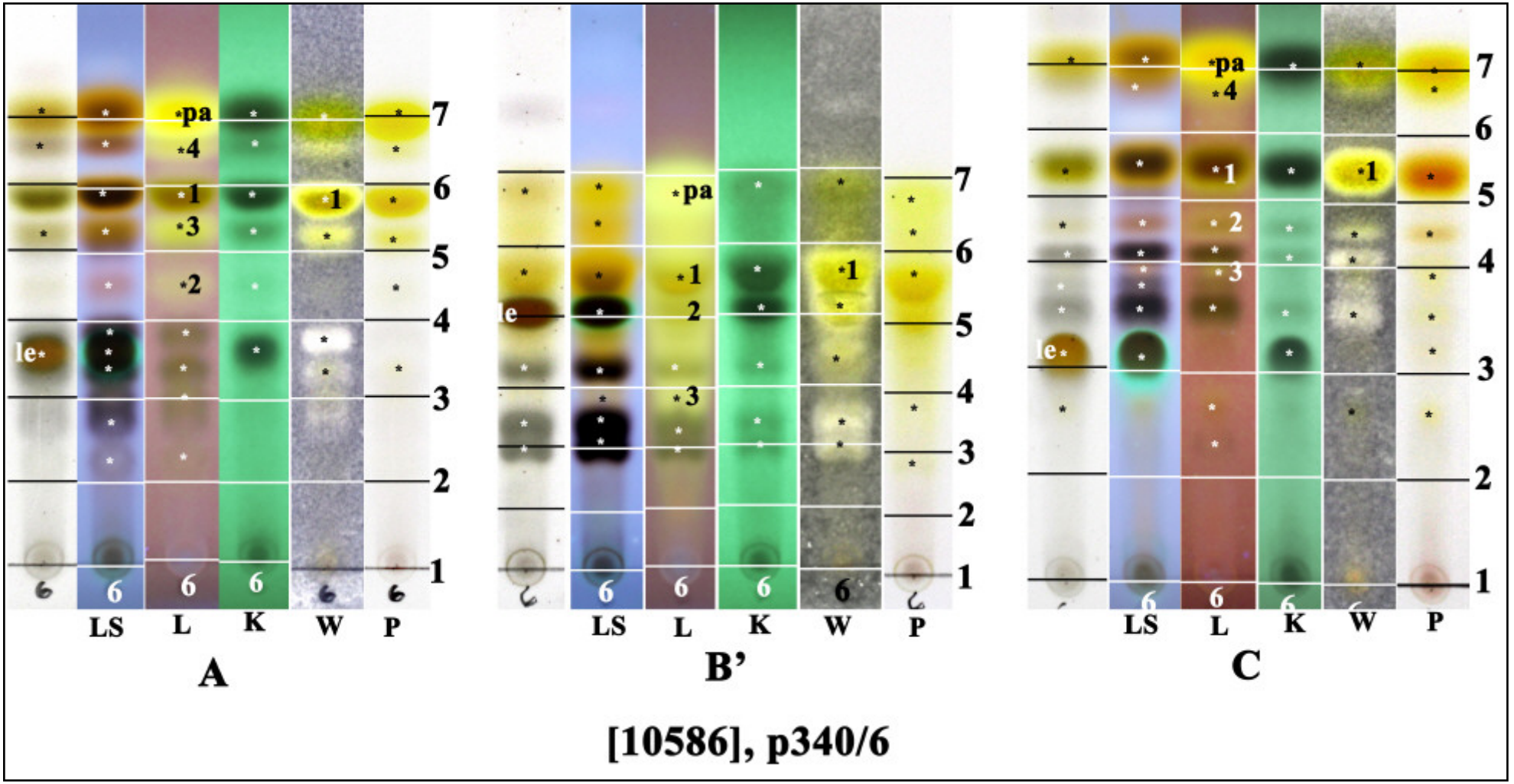




Caloplaca crenularia



Caloplaca crenularia

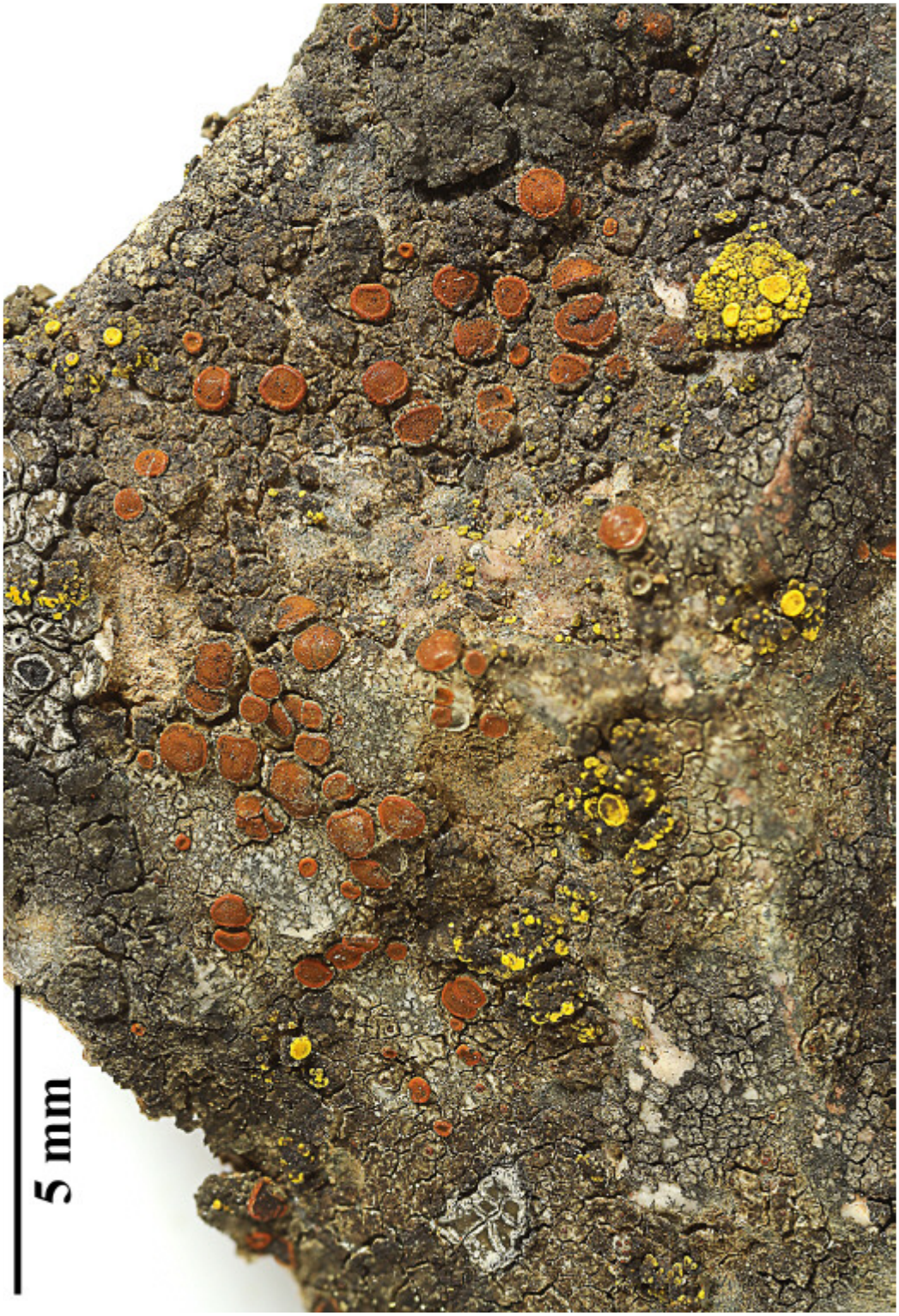


pa: parietin, 1: fallacinal, 2: parietinic acid, 3: teloschistin, 4: ?.
le: lecanoric acid from a lichen which is overgrown from the *Caloplaca*

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

Spores polarilocular, hyaline, 8/ascus, 16-21 x 9.5-13 µm, septum 8-9.7 µm. On rocks.

[12445], Griechenland, N-Samos, oberhalb der Küstenstraße zwischen Karlovasi und Agios Konstandinos bei der Kapelle Agios Nikolaos; 37°48.369' N, 26°46.265' E, 70 m. Leg. F. Schumm, R. Düll & Maier, 07.05.2006, det. A. Aptroot 2016.





Caloplaca crenularia









Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

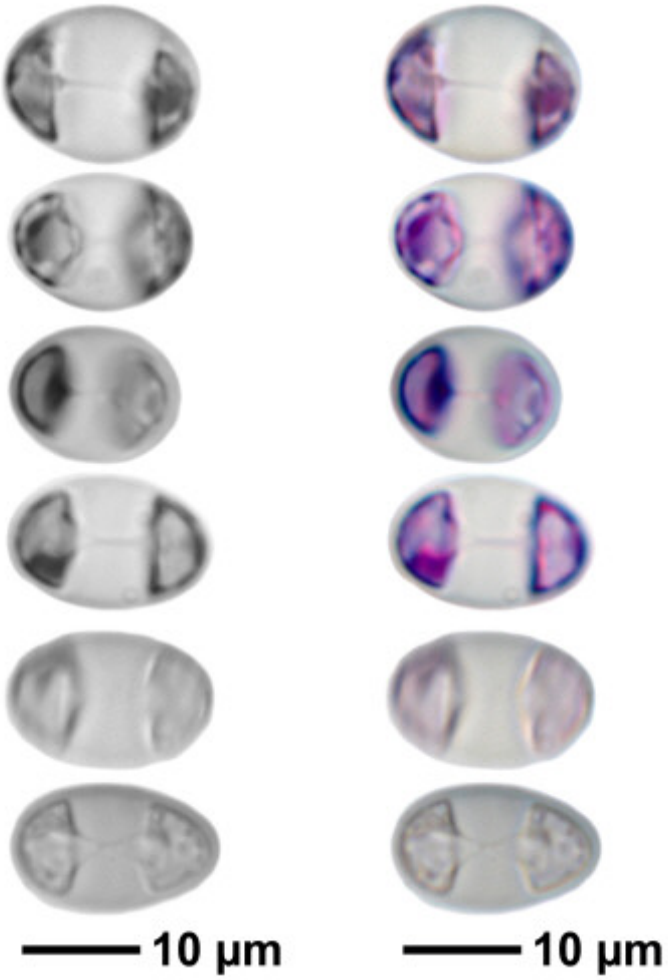
Spores polarilocular, hyaline, 8/ascus, 15.5-16.5 x 10.5-12 µm, septum 6.5-7.7 µm. On rocks.

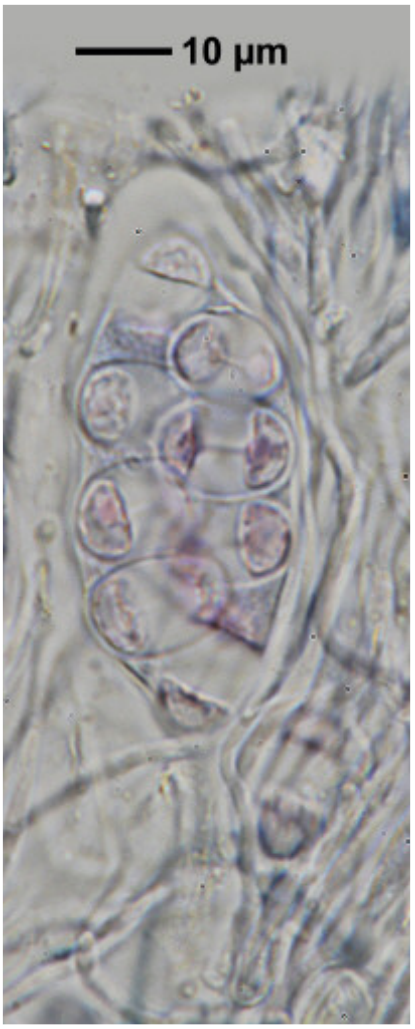
[12502], Griechenland, W-Samos, beim Mt. Kerketeas, 37°44.279' N, 26°40.224' E, 617 m. Leg. F. Schumm, R. Düll & Wunder, 13.05.2006, det. A. Aptroot 2016.

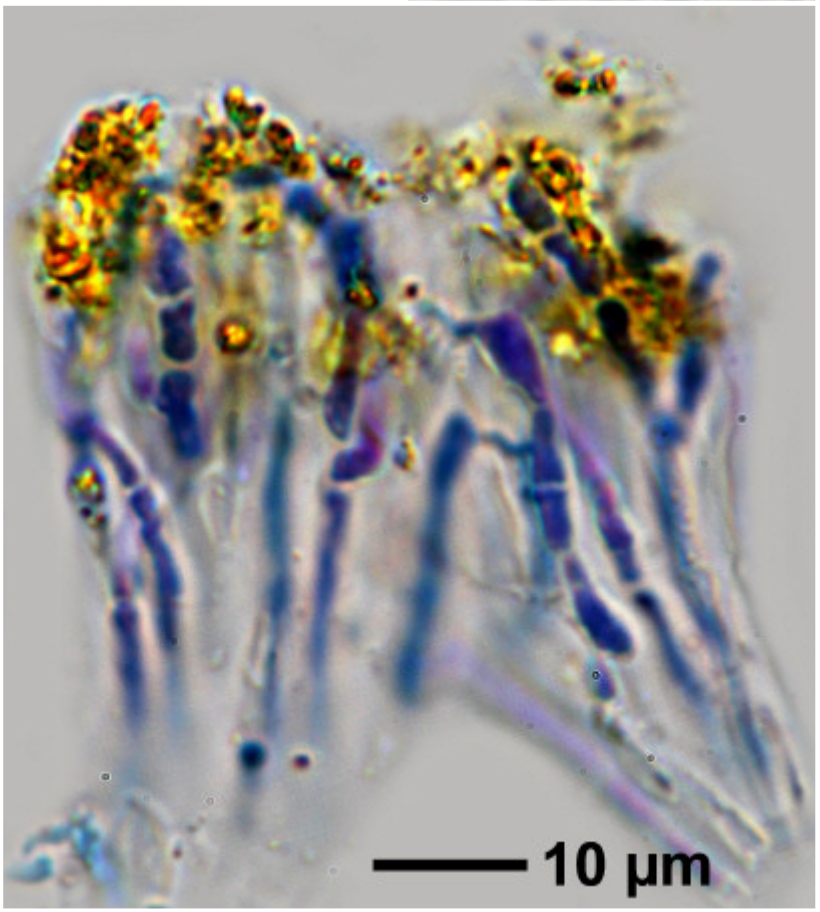




Caloplaca crenularia







Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

On rocks.

[13017], Spanien, Kanaren, La Palma (NE), südwestlich von Santa Cruz beim Mirador de la Cumbre am Straßenrand der Straße LP-2; 28°39.547' N, 17°48.796' W, ca. 920 m. Leg. F. Schumm, 18.01.2007, det. A. Aptroot.





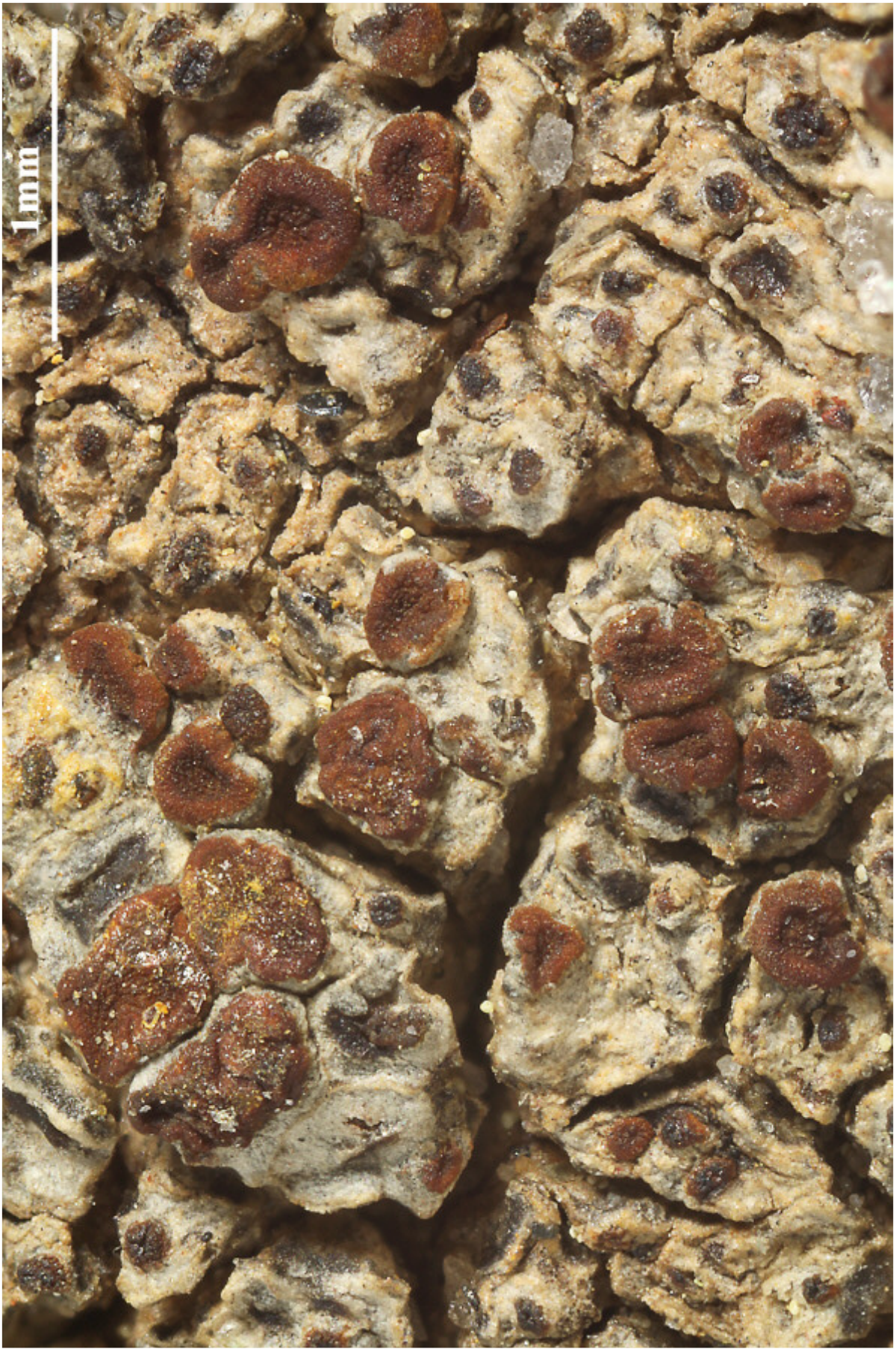
Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

On non-calcareous rocks.

[13838], Griechenland, N-Samos, oberhalb Manolates, 37°46.946' N, 26°49.659' E, 450 m. Leg. F. Schumm 13.05.2008, det. A. Aptroot 2016.





Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

On non-calcareous rocks.

[13842], Griechenland, N-Samos, oberhalb Manolates, an Glimmerschiefer, 37°46.946' N, 26°49.659' E, 450 m. Leg. F. Schumm, 13.05.2008, det. A. Aptroot 2016.





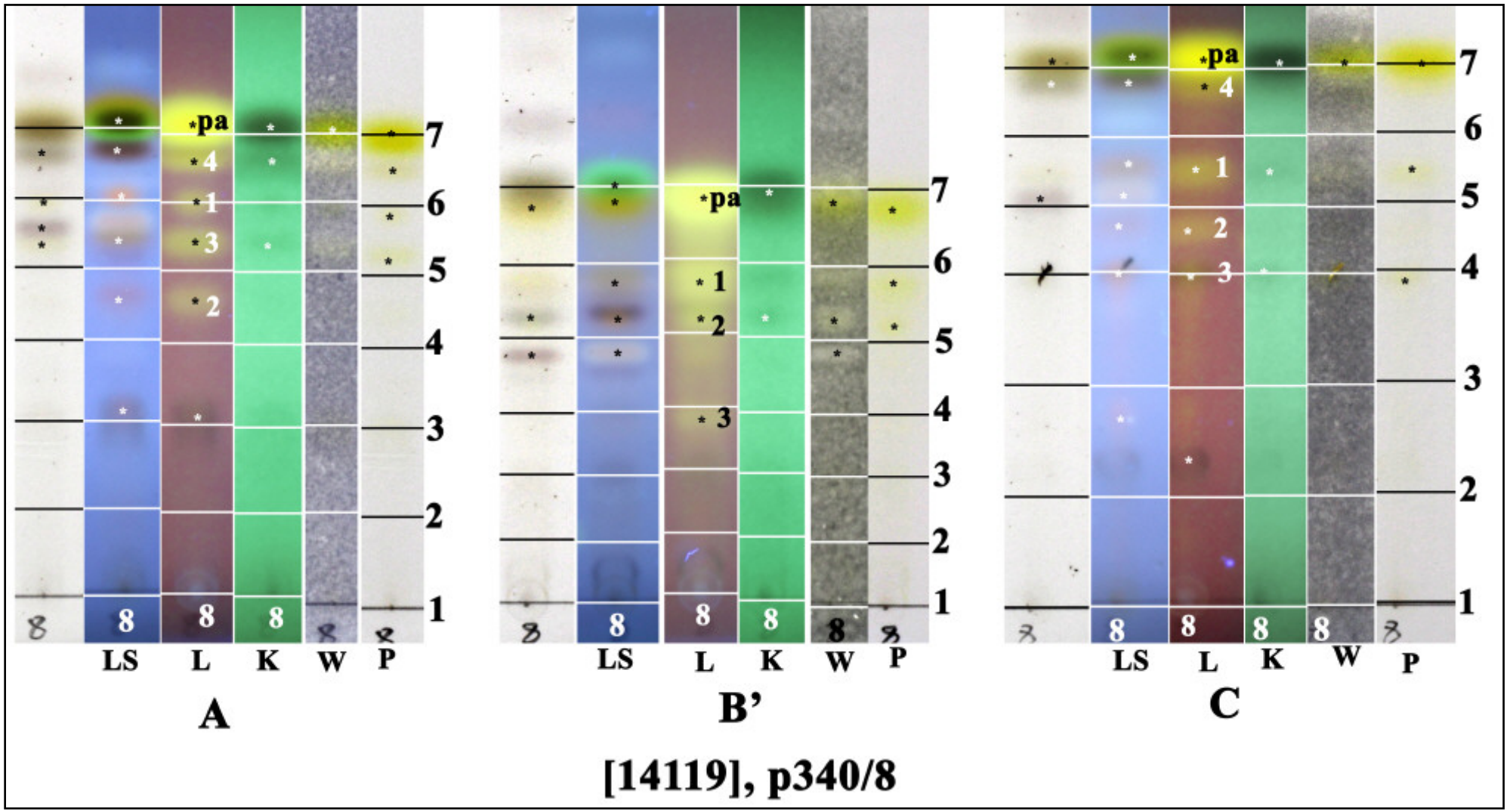
Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén
[= *Caloplaca festiva* (Ach.) Zwackh]

Chemistry p340/8:

[14119], Portugal, Azoren, Terceira, Santa Barbara, Küstenfelsen, 38°40.746' N, 27°13.942' W, 0-41 m. Leg. Aptroot & Schumm 13.07.2008, det. Aptroot 2009





pa: parietin, 1: fallacinal, 2: parietinic acid, 3: teloschistin,
at: trace of atranorin from a other lichen (green spot in LS at position 7)

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

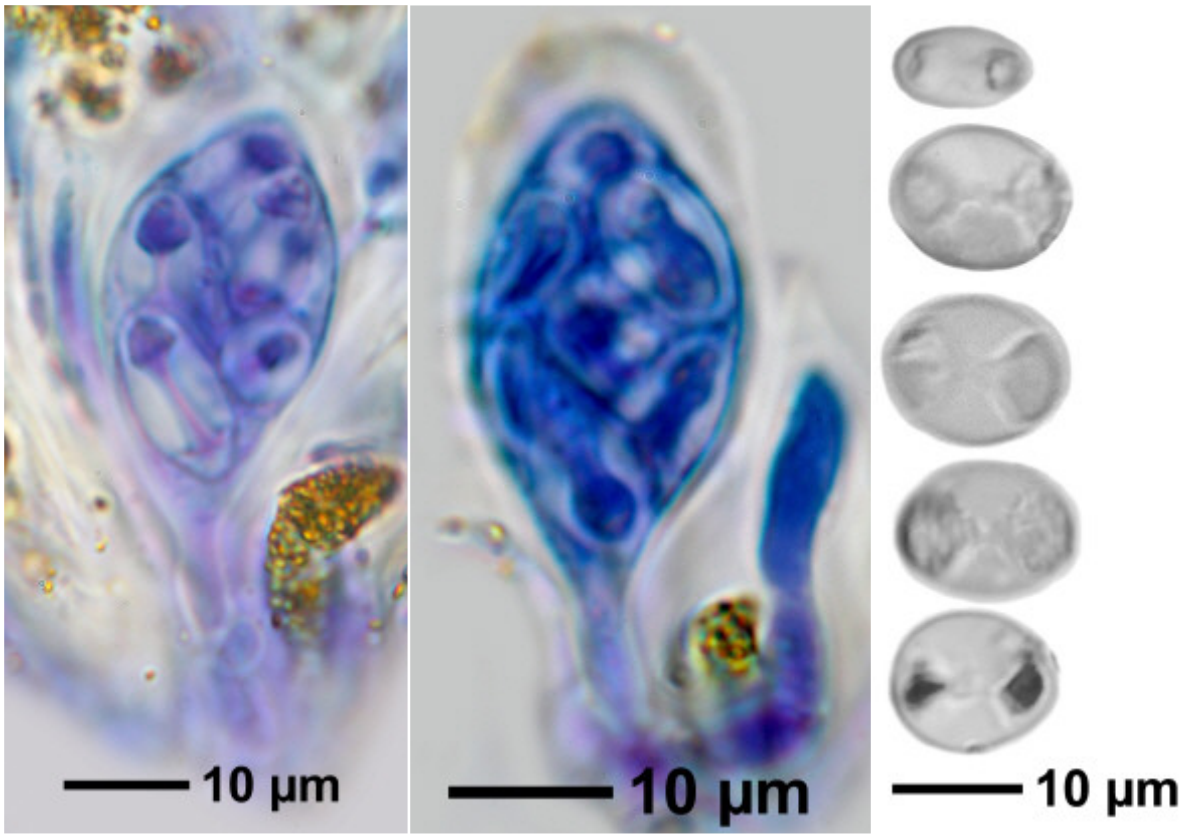
Spores polarilocular, hyaline, 8/ascus, 15 x 7-12 µm, septum 7-7.5 µm. On lava rocks.

[19528], Spanien, Kanarische Inseln, Gran Canaria; trockener, nord-west-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 crenularia



Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

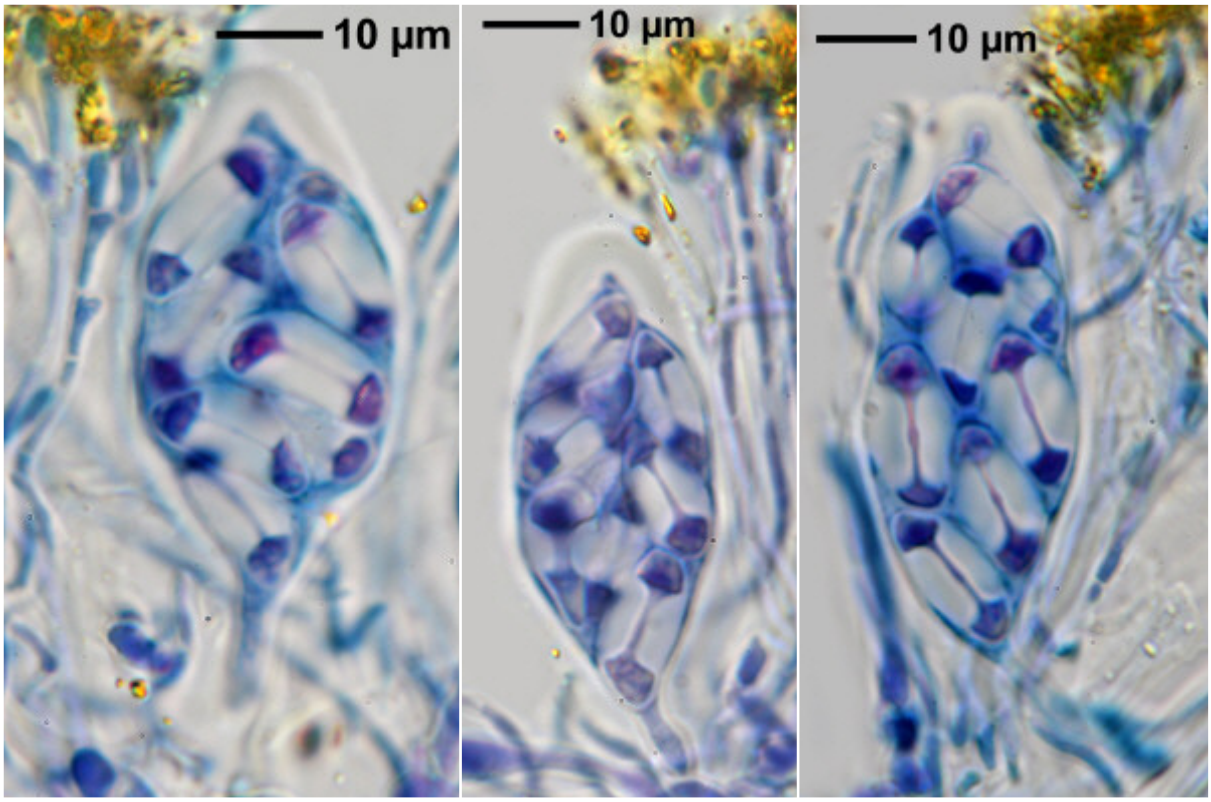
Spores polarilocular, hyaline, 8/ascus, 17-19 x 9-10 µm, septum 10-12 µm. On rocks.

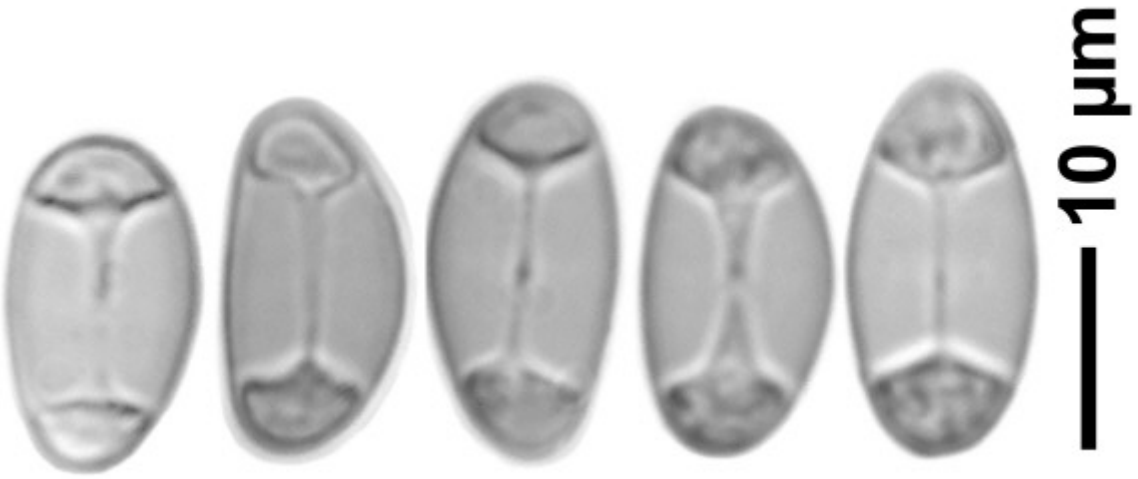
[19529], Spanien, Kanarische Inseln, Gran Canaria; an der Straße von San Nicolas nach Agaete im Barranco los Berreos an nord-exponierten Stellen, an Felsen, 28°02.100’ N, 15°45.464’ W, Höhe 570 m. Leg. F. Schumm & U. Schwarz 02.01.2000, det. A. Aptroot 2016.





Caloplaca crenularia





Caloplaca crenularia

Caloplaca crenularia (With.) J.R.Laundon
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén
[= *Caloplaca festiva* (Ach.) Zwackh]

[B 60 0183743], Greece, nom. Kavala, Thasos island, Babouras Peninsula, near abandoned house in N-part, schist rock outcrops on clearings in pine forest, under overhanging rock, accomp. *Caloplaca thracopontica, Diplotomma chlorophaeum*. 40°37.5' N, 24°46.6' E, 125 m. Leg. H. Sipman (58547) & T. Raus, 23. May 2010, det. H. Sipman, 2011.
In der Tüte für ***Caloplaca thracopontica*** Vondrák & Šoun als Beimengung mit untergebracht







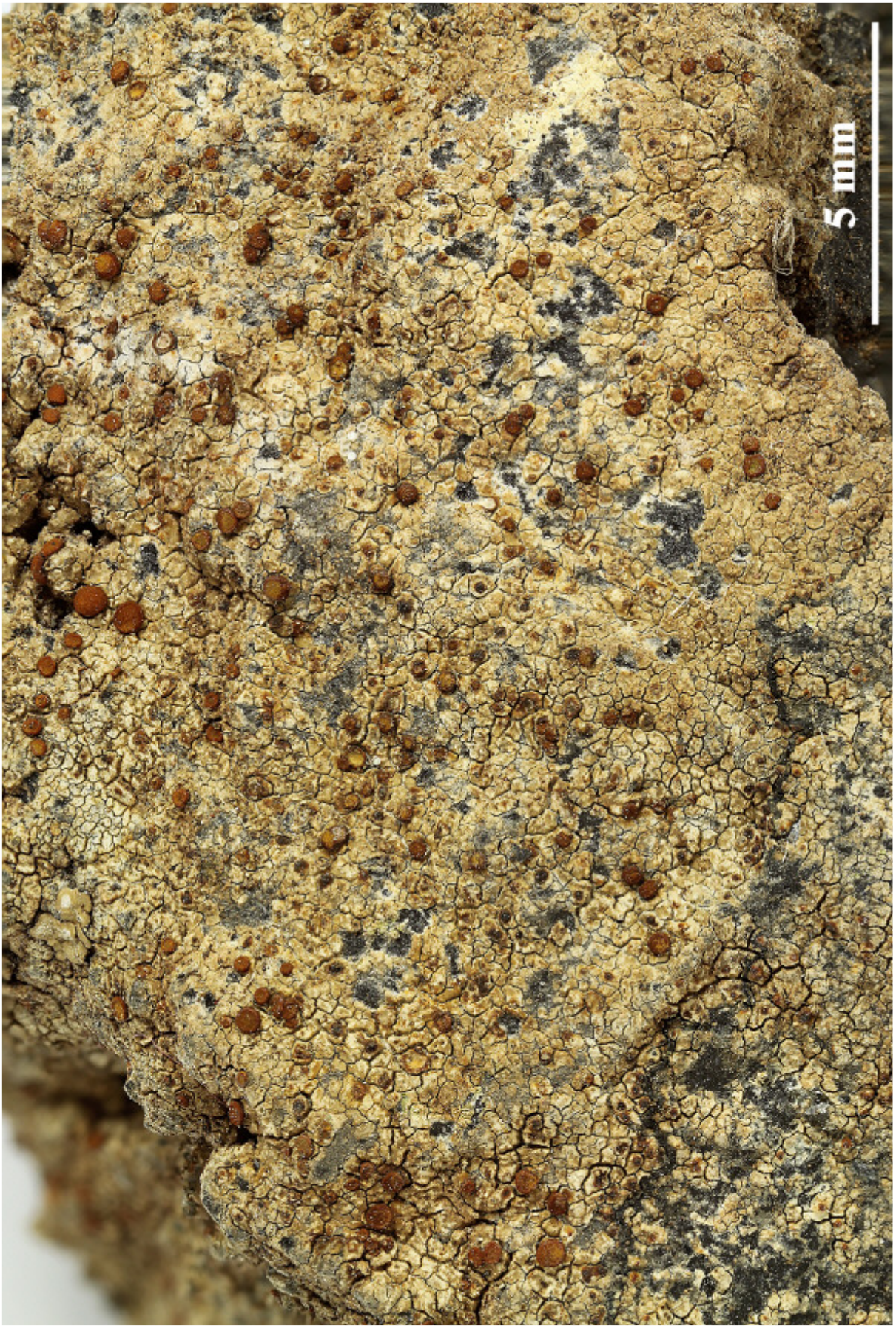
Caloplaca crenularia

Caloplaca crenularia cfr. (With.) J.R.Laundon
[= *Blastenia crenularia cfr.* (With.) Arup, Søchting & Frödén]

On rocks. Red pycnidia not visible.

[5287], Spanien, Gran Canaria, Barranco de Los Tilos südlich Moya; 28°04.766’ N, 15°35.935’ W, Höhe 620 m. Leg.F. Schumm & U. Schwarz 28.12.1998, det. A. Aptroot 2016.





Caloplaca crenularia cfr.

Caloplaca crenularia cfr. (With.) J.R.Laundon
[= *Blastenia crenularia cfr.* (With.) Arup, Søchting & Frödén]

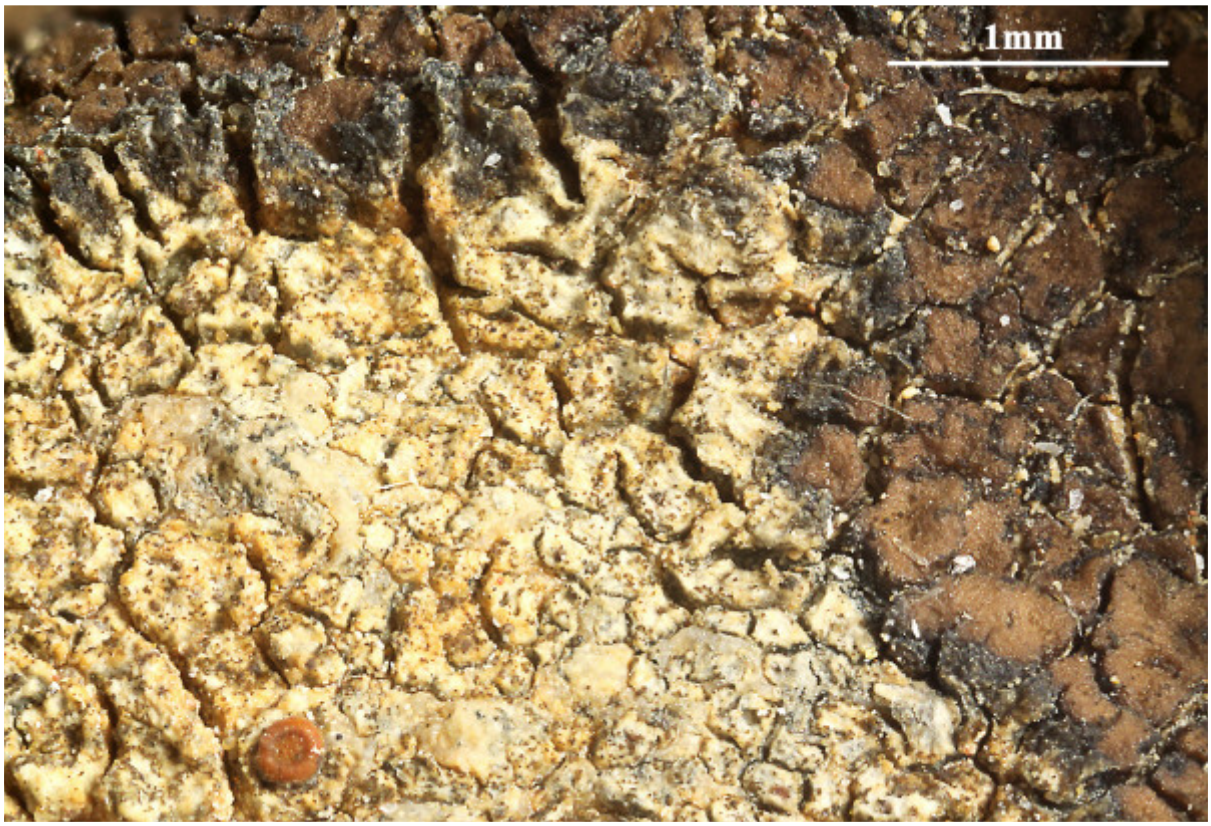
On rocks. Red pycnidia not visible.

[13428], 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 crenularia cfr.

Caloplaca crenulatella (Nyl.) H.Olivier
[= *Xanthocarpia crenulatella* (Nyl.) Frödén, Arup & Søchting]

Spores, polarilocular, hyaline, 8/ascus, 17-21(-26) x 8.5-9.5 µm, septum thin, 3-3.8 µm. On stones.

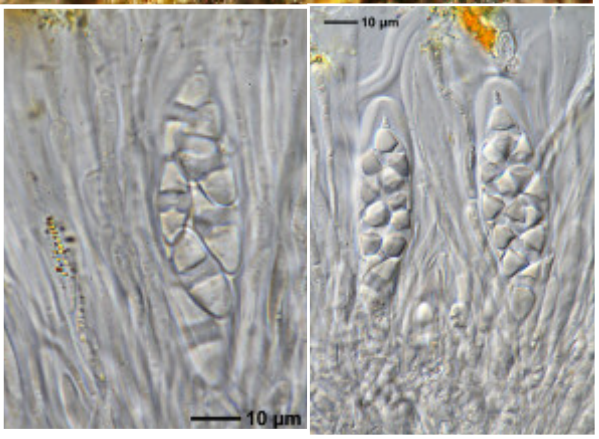
[9378], Spanien, Kanaren, La Gomera, bei Arure an der Straße nach Las Hayas, trockener Abhang mit Felsblöcken und Euphorbia, 28°07.895 N, 17°18.983 W, 870 m. Leg. F. Schumm, 14.02.2002, det. A. Aptroot 2016.









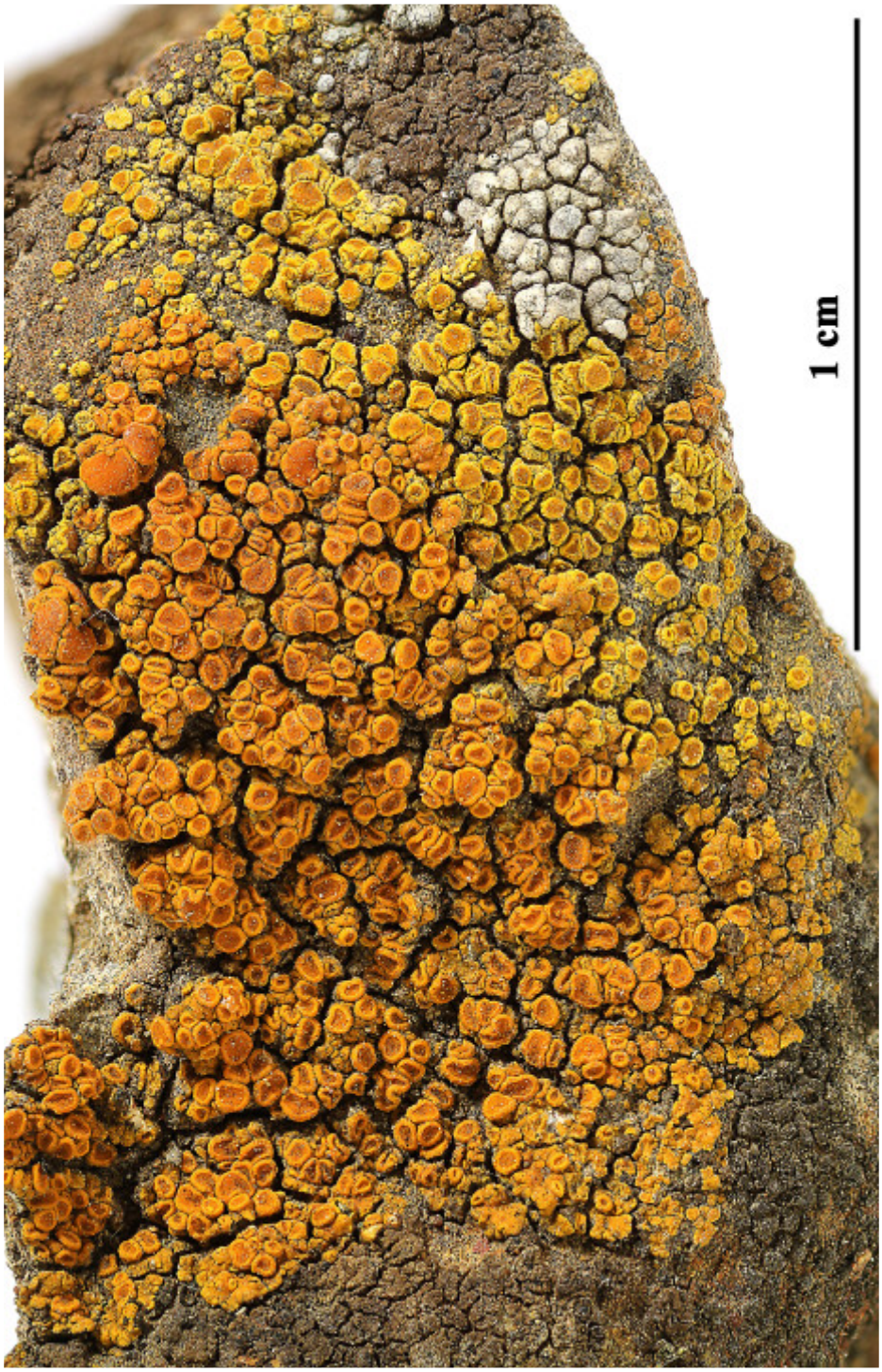


Caloplaca crenulatella

Caloplaca crenulatella (Nyl.) H.Olivier
[= *Xanthocarpia crenulatella* (Nyl.) Frödén, Arup & Søchting]

Spores polarilocular, hyaline, 8/ascus, 11.5-18 x 5.7-9.2 µm, septum thin, 3.8 µm. On stones.

[10159], Spanien, Kanaren, La Gomera: westlich von San Sebastian nicht weit vor der Abzweigung nach Playa Santiago. 28°05.744' N, 17°10.290' W, 840 m; Basaltblöcke in einem reich mit *Kleinia* bewachsenen SO-Abhanges; licht-, wind-, nebeloffen mit viel *Ramalina* und *Roccella*. Leg. F. Schumm, 17.04.2003, det. A. Aptroot 2016.







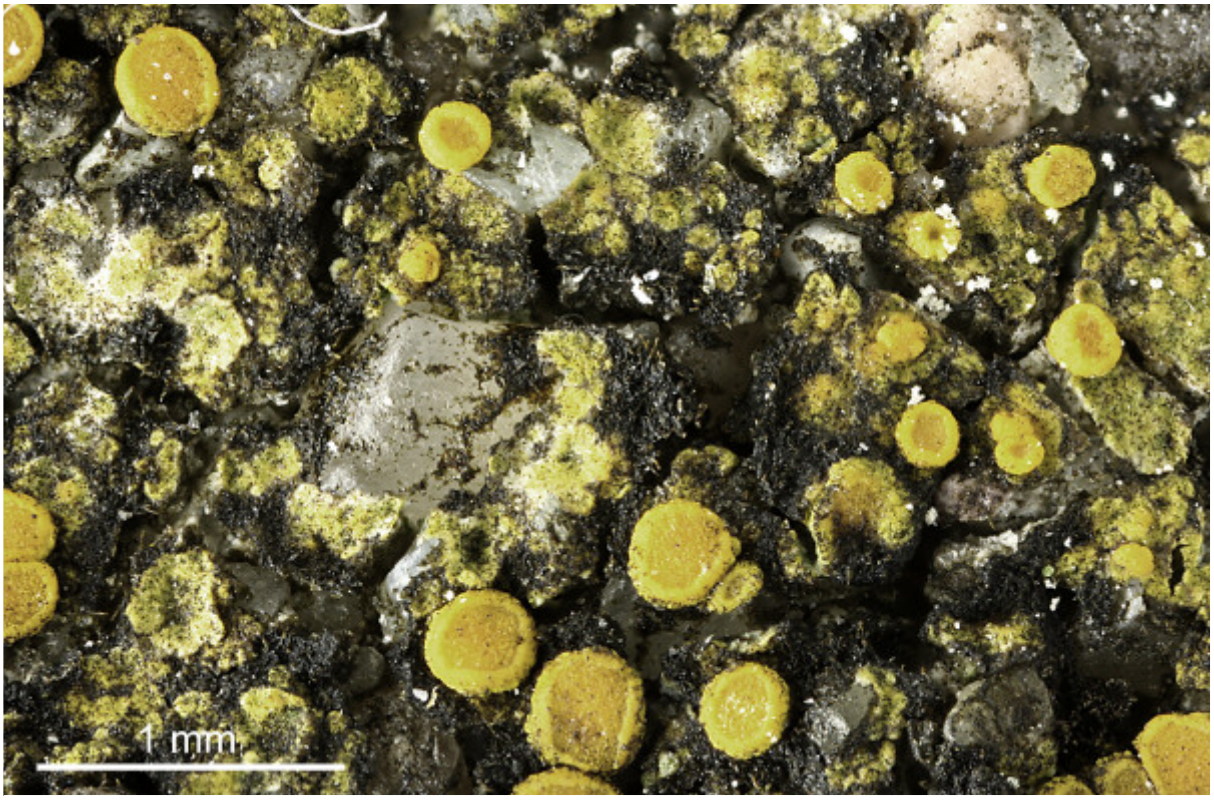


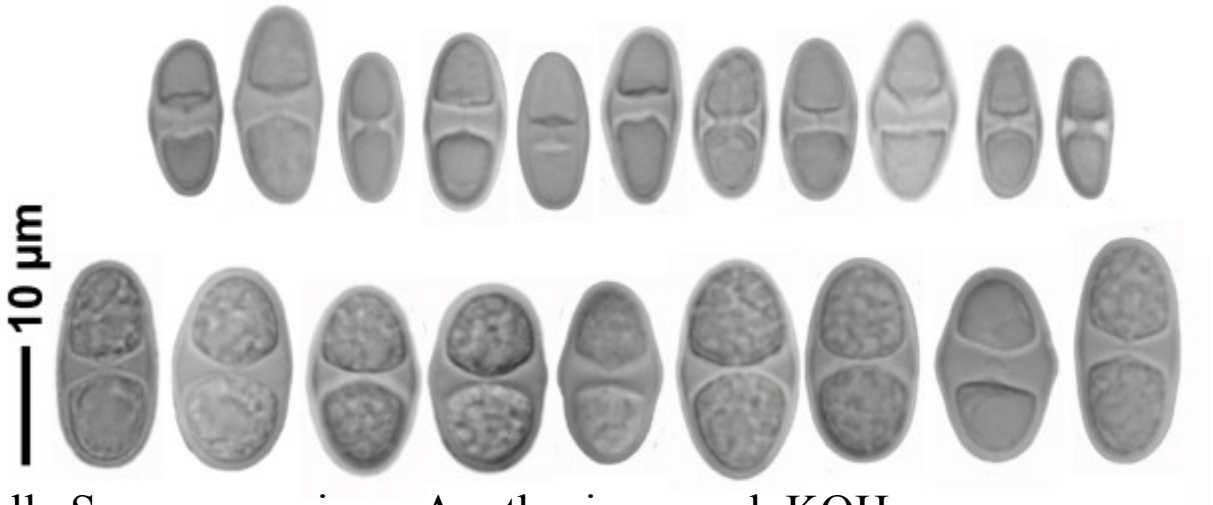
Caloplaca crenulatella

Caloplaca crenulatella (Nyl.) H.Olivier
[= *Xanthocarpia crenulatella* (Nyl.) Frödén, Arup & Søchting]

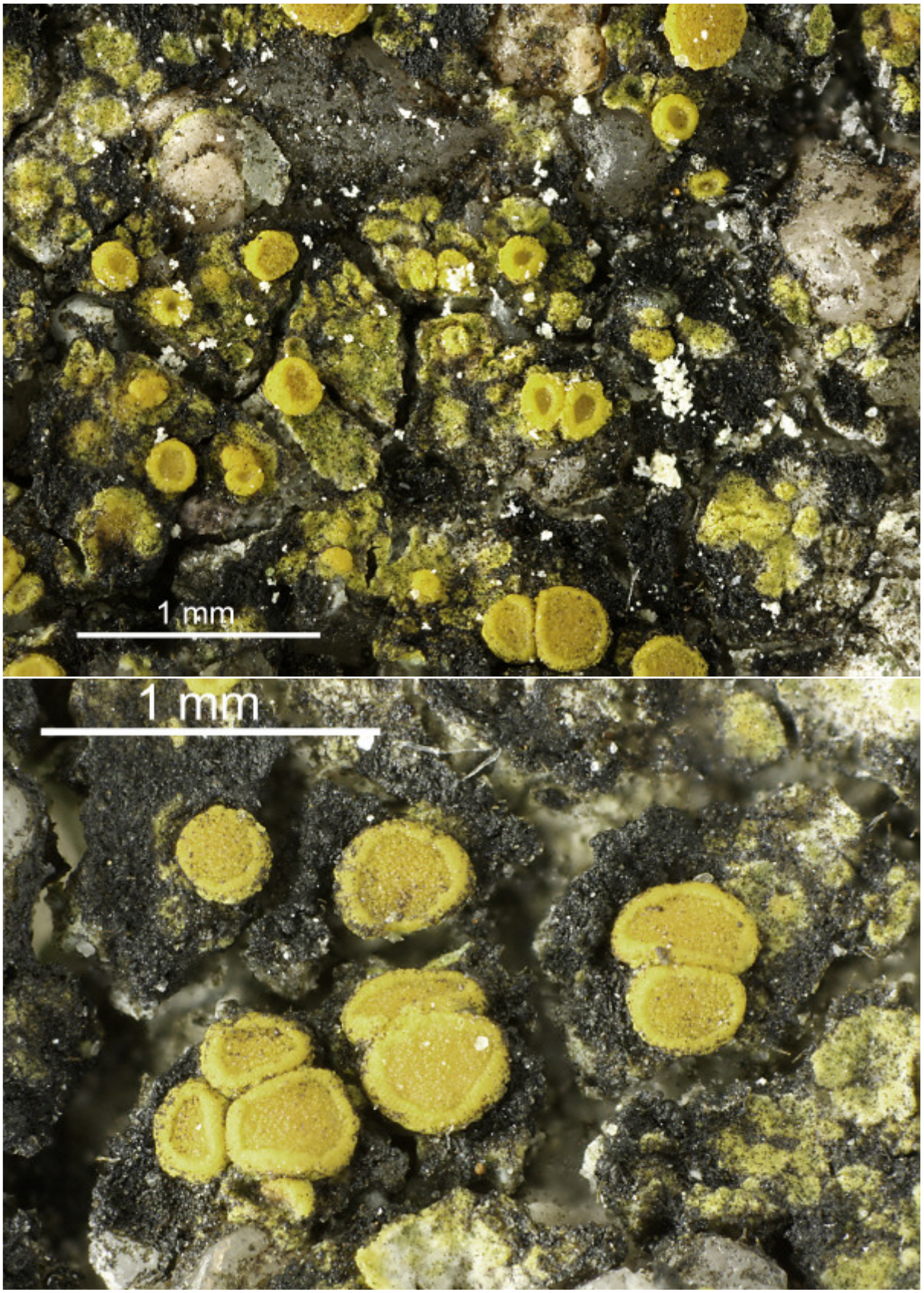
Thallus dicklich schwarze. areolierte Kruste, seltener einzelne Areolen oberseits gelblich werdend. Apothecien dottergelb, 0,17-0,33 mm breit, Eigenrand meist etwas heller als die Scheibe, ca. 0,03 mm breit. Paraphysen an den Enden spärlich verzweigt oder unverzweigt. Sporen von sehr variabler Größe, polar-2-zellig, 8/Ascus, 13-19 x 4-10 µm, Septum 1,2-3 µm. Septum/Sporenlänge = 0,07-0,2. Von *Caloplaca oasis* durch schmäleres Septum verschieden.

[16705], Germany, Baden-Württemberg, Kreis Göppingen, zwischen Wangen und Unterberken, ehemaliges Militärdepot, an Zementmauern, 48,75052° N, 9,57469° E, 480 m. Leg. et det. Schumm 10.10.2010, test.

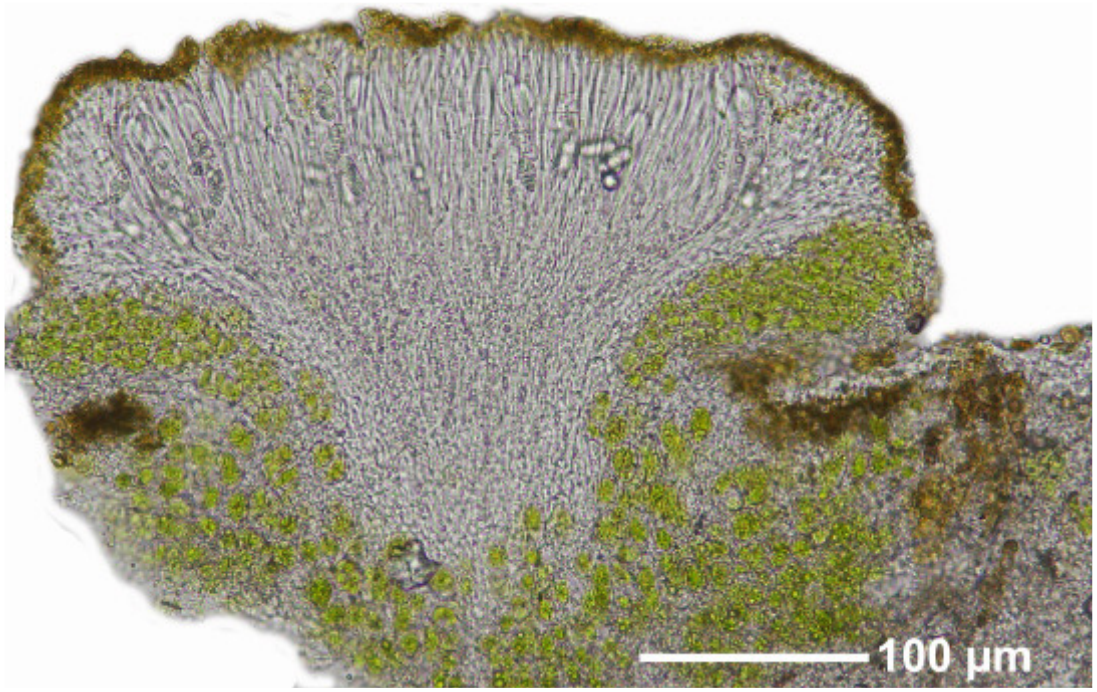


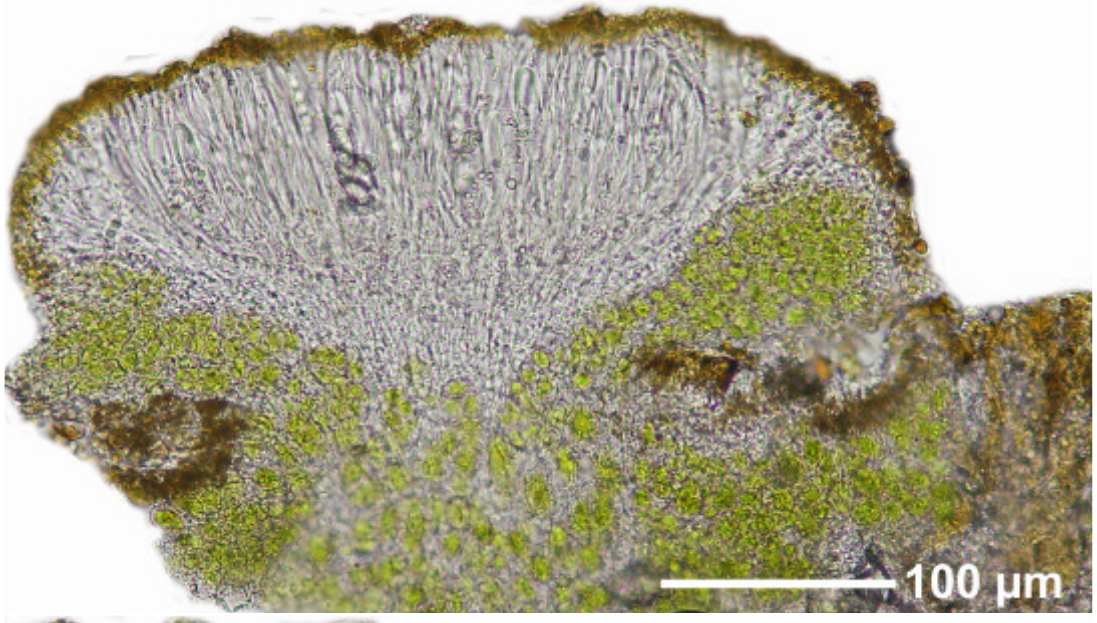


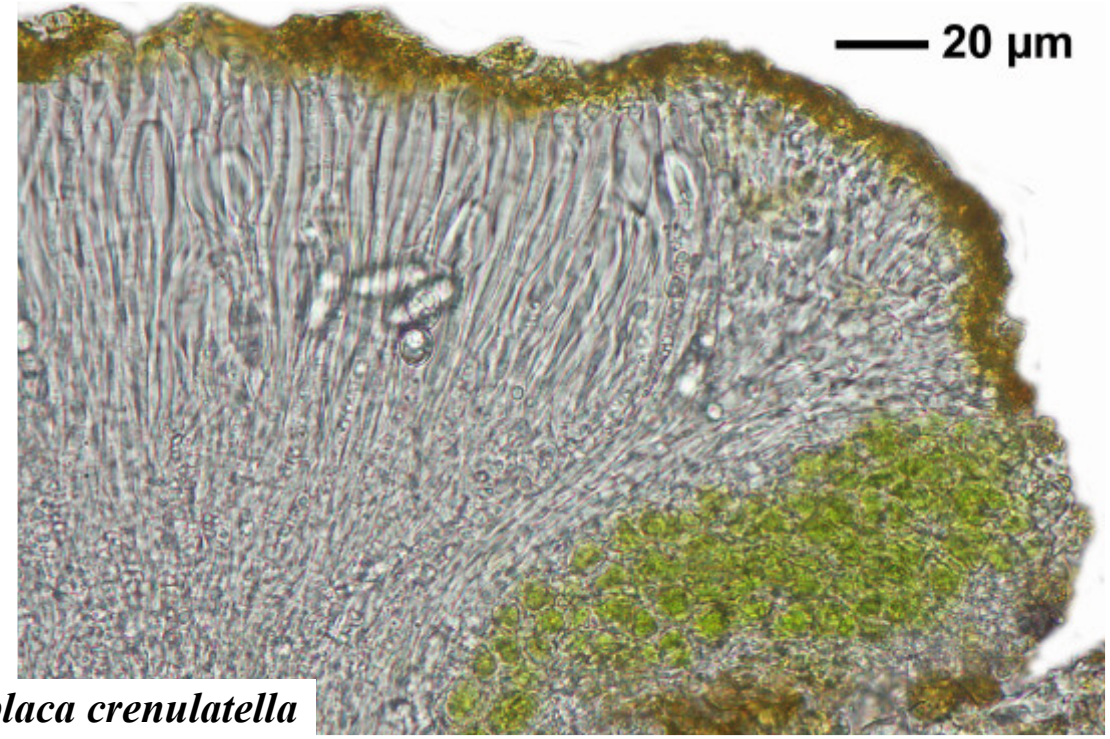
alle Sporen aus einem Apothecium, nach KOH



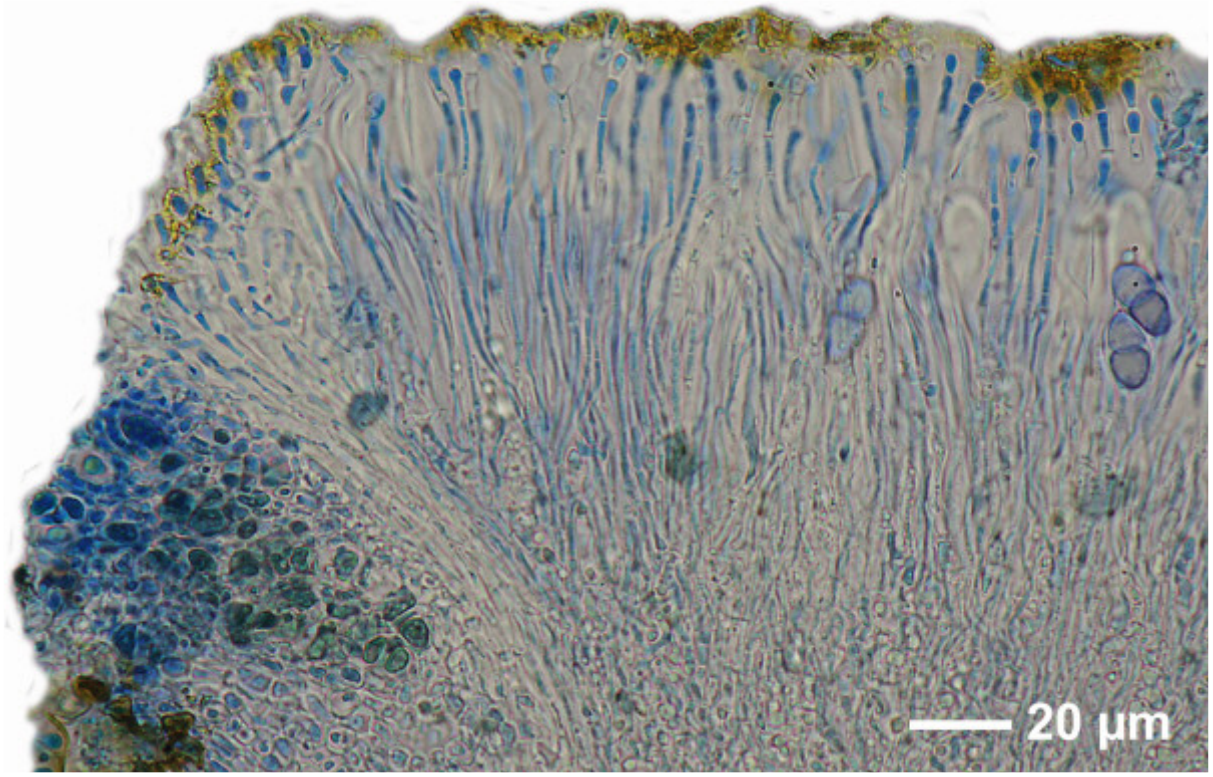
Caloplaca crenulatella

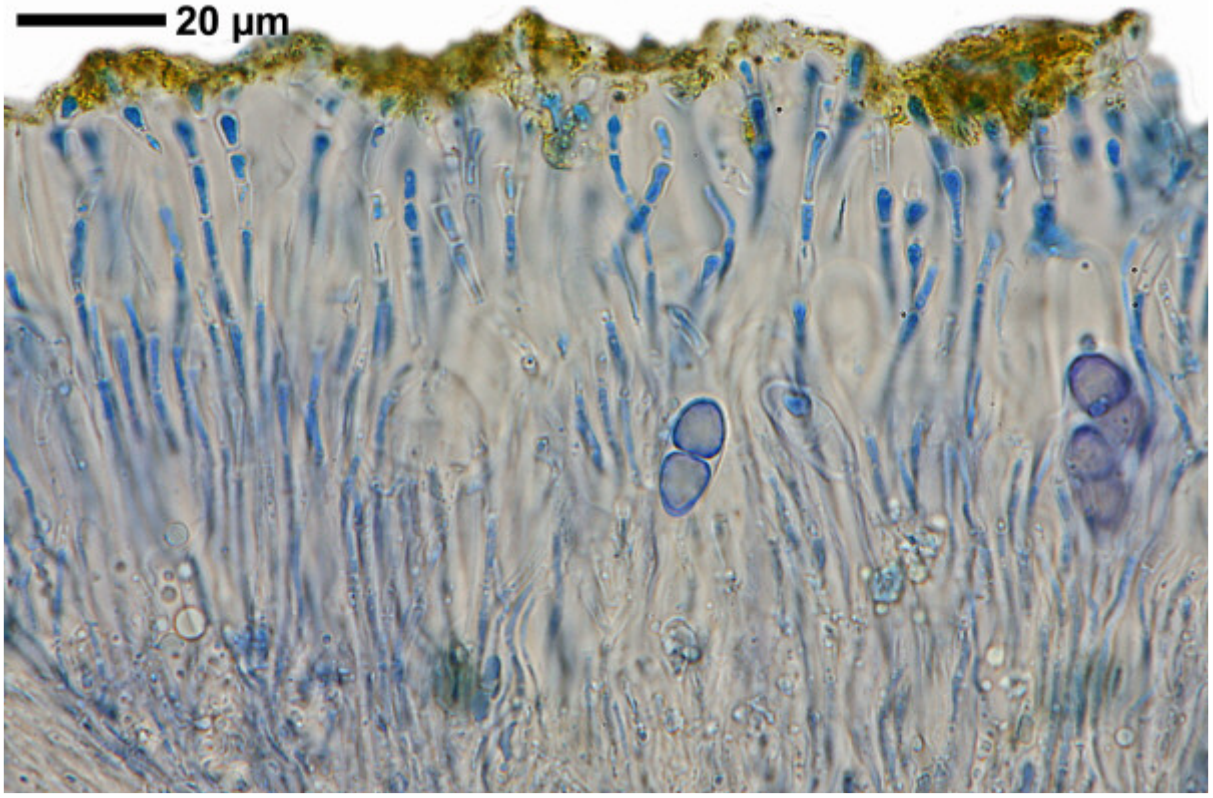




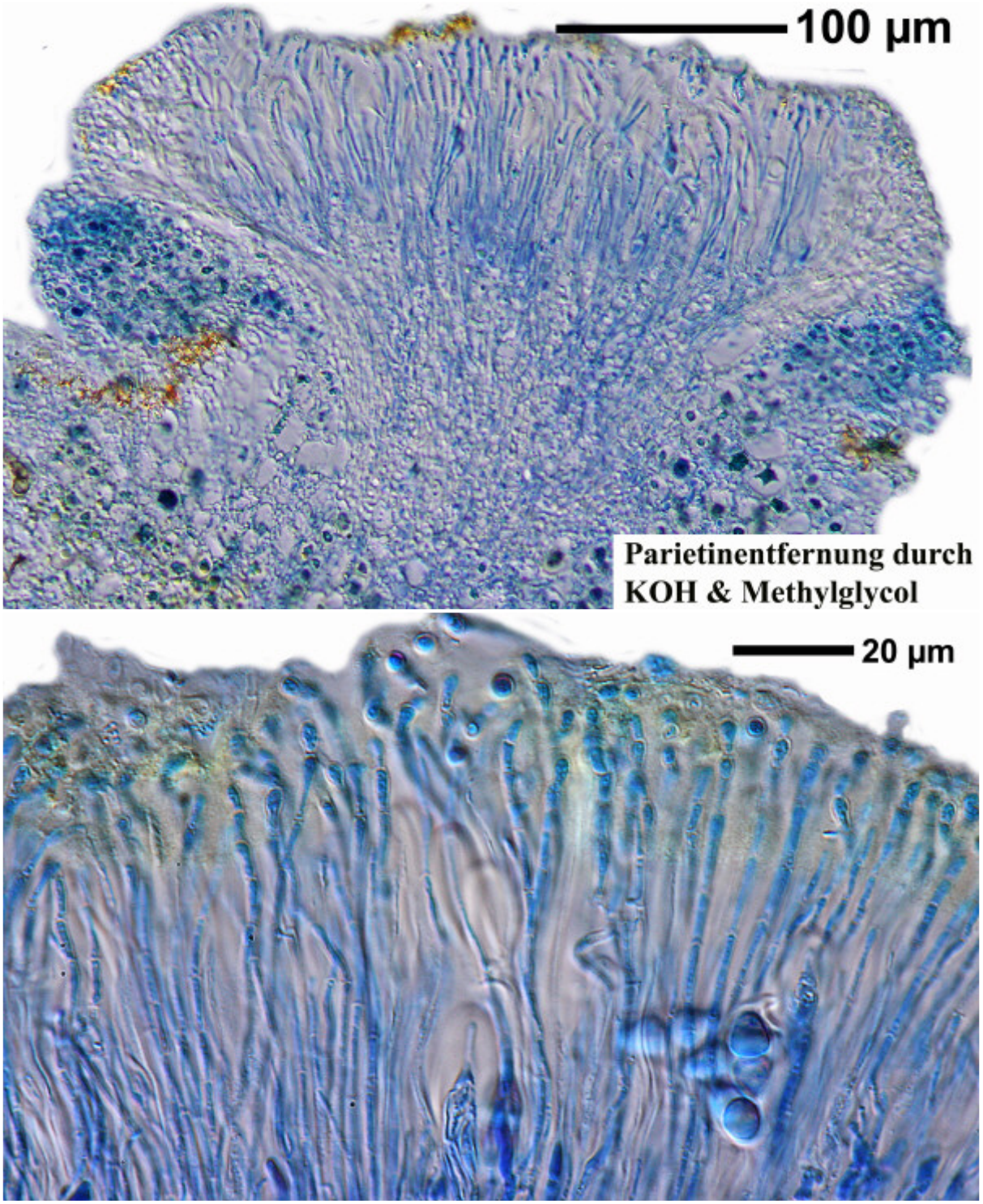


Caloplaca crenulatella

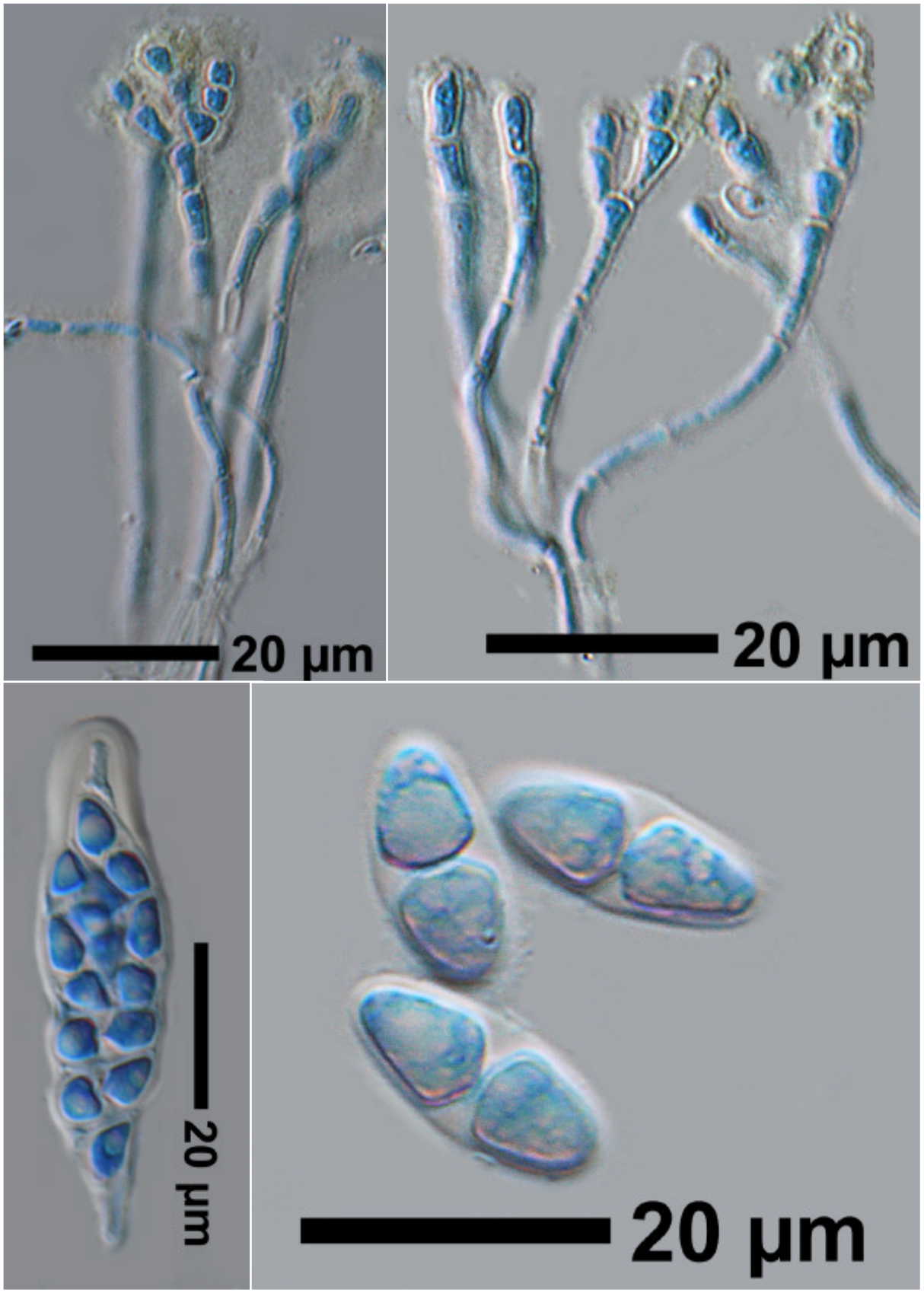




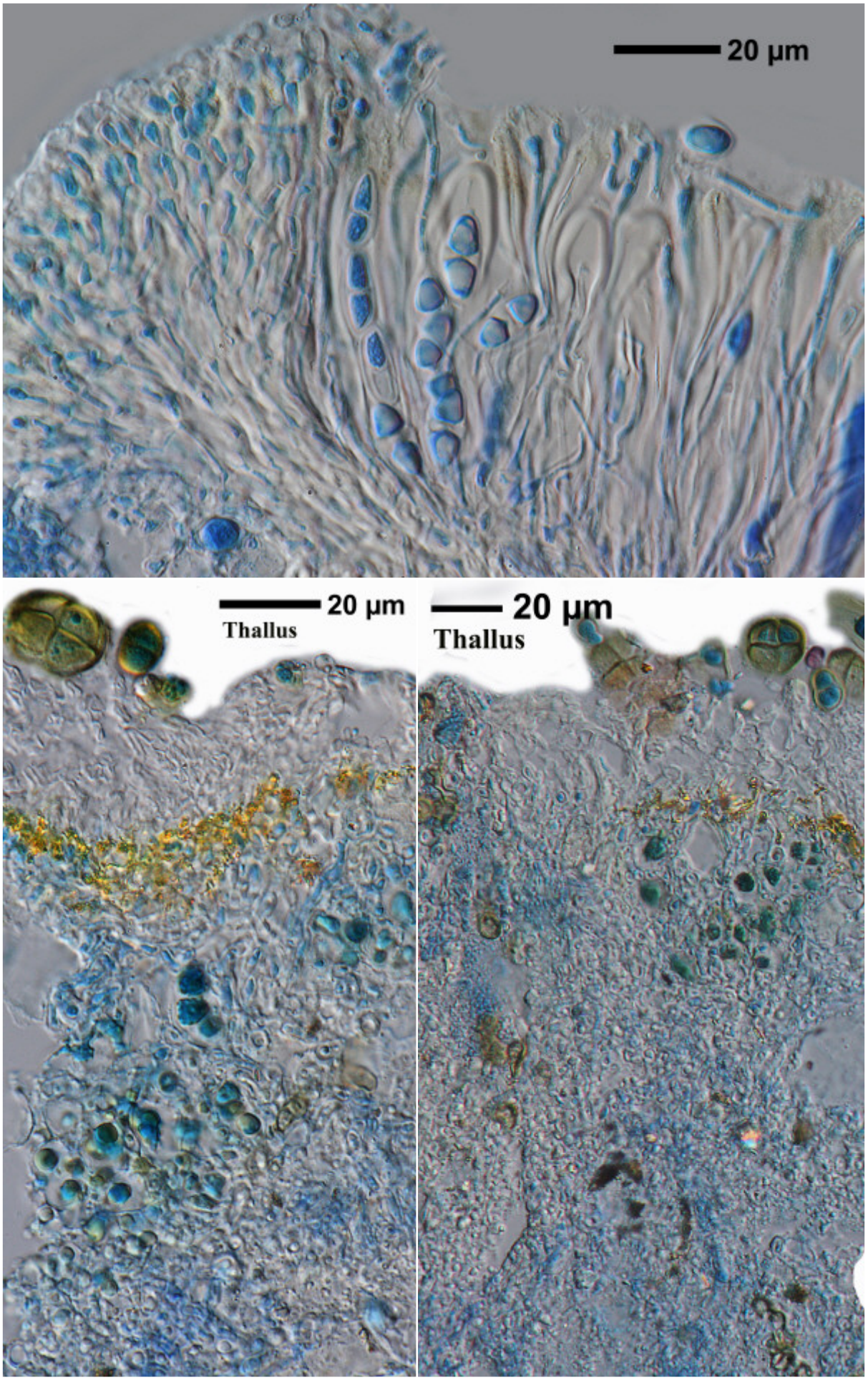
Caloplaca crenulatella



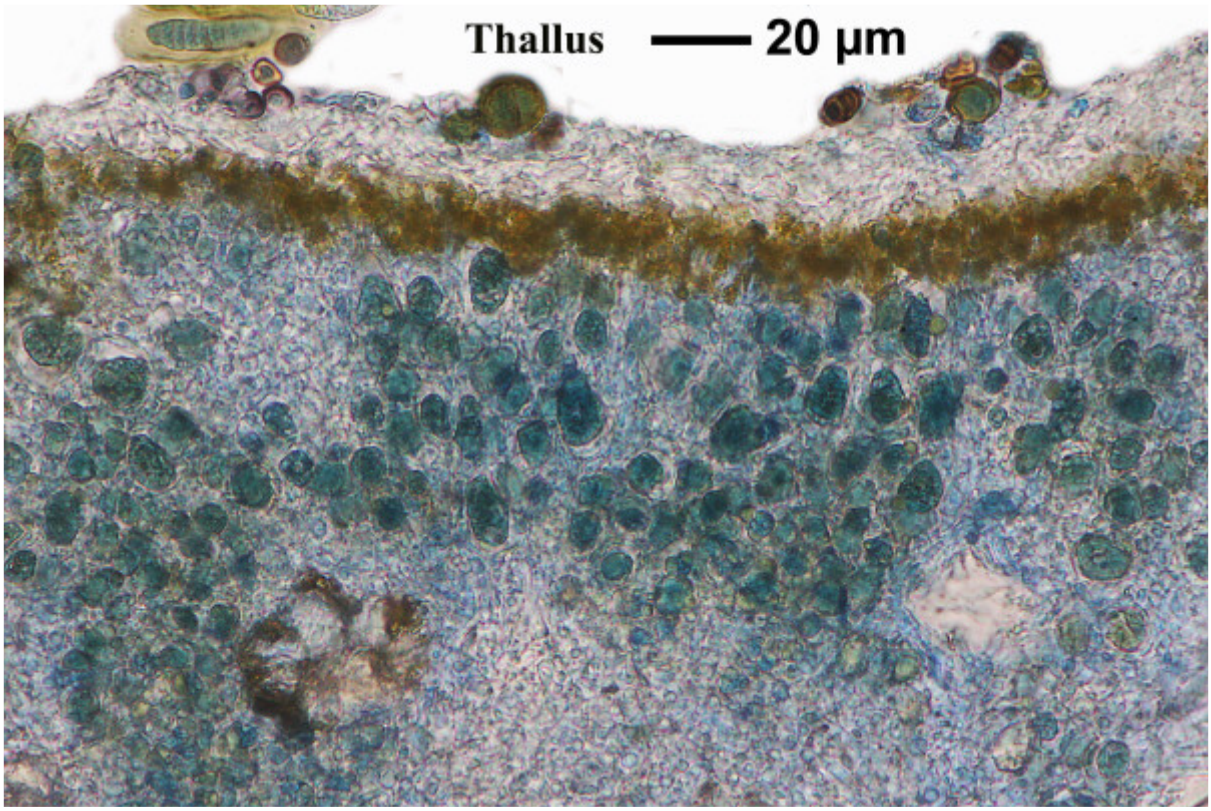
Caloplaca crenulatella



Caloplaca crenulatella



Caloplaca crenulatella

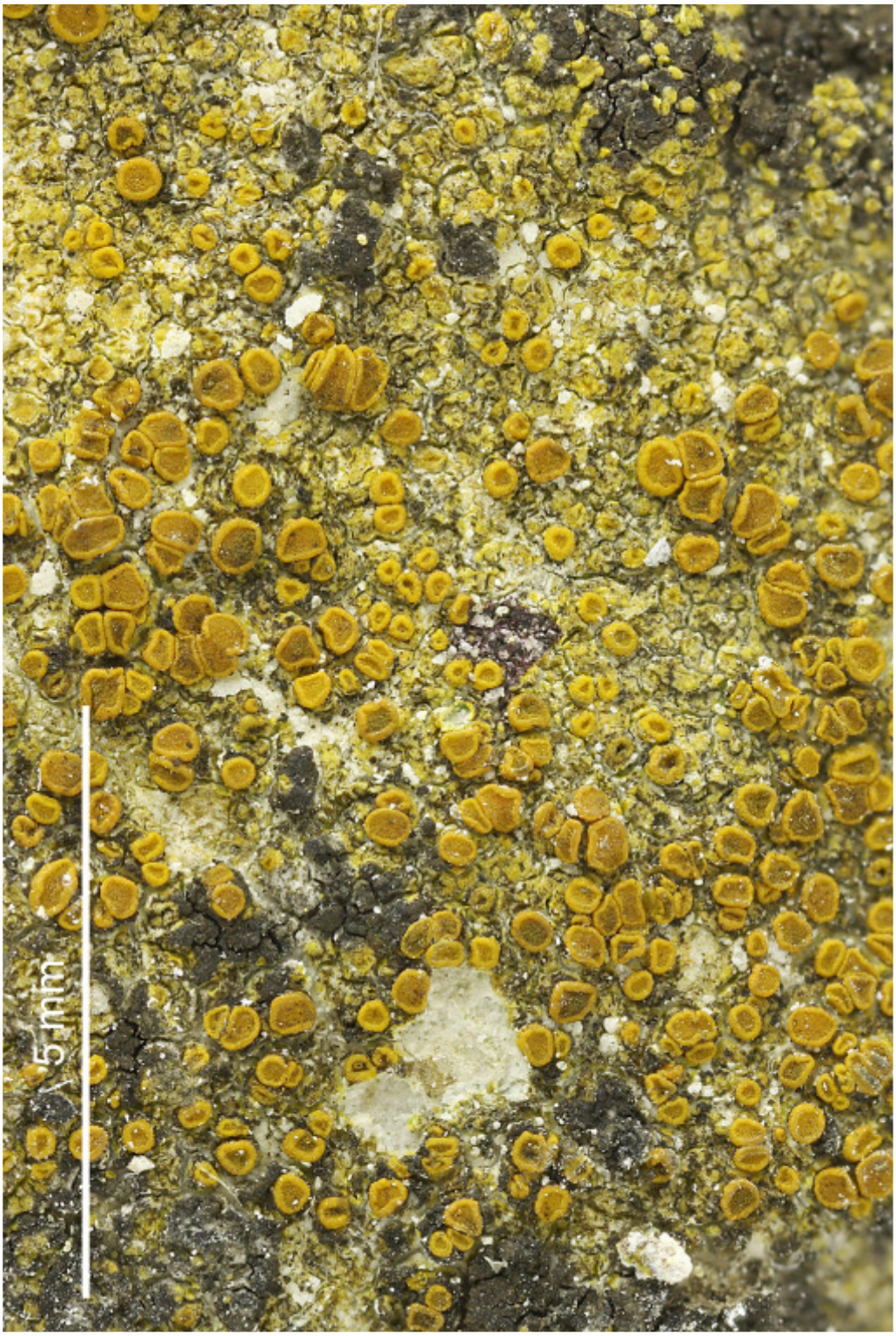


Caloplaca crenulatella

Caloplaca crenulatella (Nyl.) H.Olivier
[= *Xanthocarpia crenulatella* (Nyl.) Frödén, Arup & Søchting]

Spores polarilocular, hyaline, 8/ascus, 9-14 x 5-7 µm, septum 1.7-1.3 µm. Thallus yellow-orange, areolatus, soredia lacking.

[17257], Germany, Baden-Württemberg, Schwäbische Alb, Kreis Heidenheim, 0.7 km östlich von Dunstelkingen, sonnige Kalkfelsen. 48.718657° N, 10.426030° E, 530 m. Leg. Schumm 13.05.2011, rev. A. Aptroot 2016.





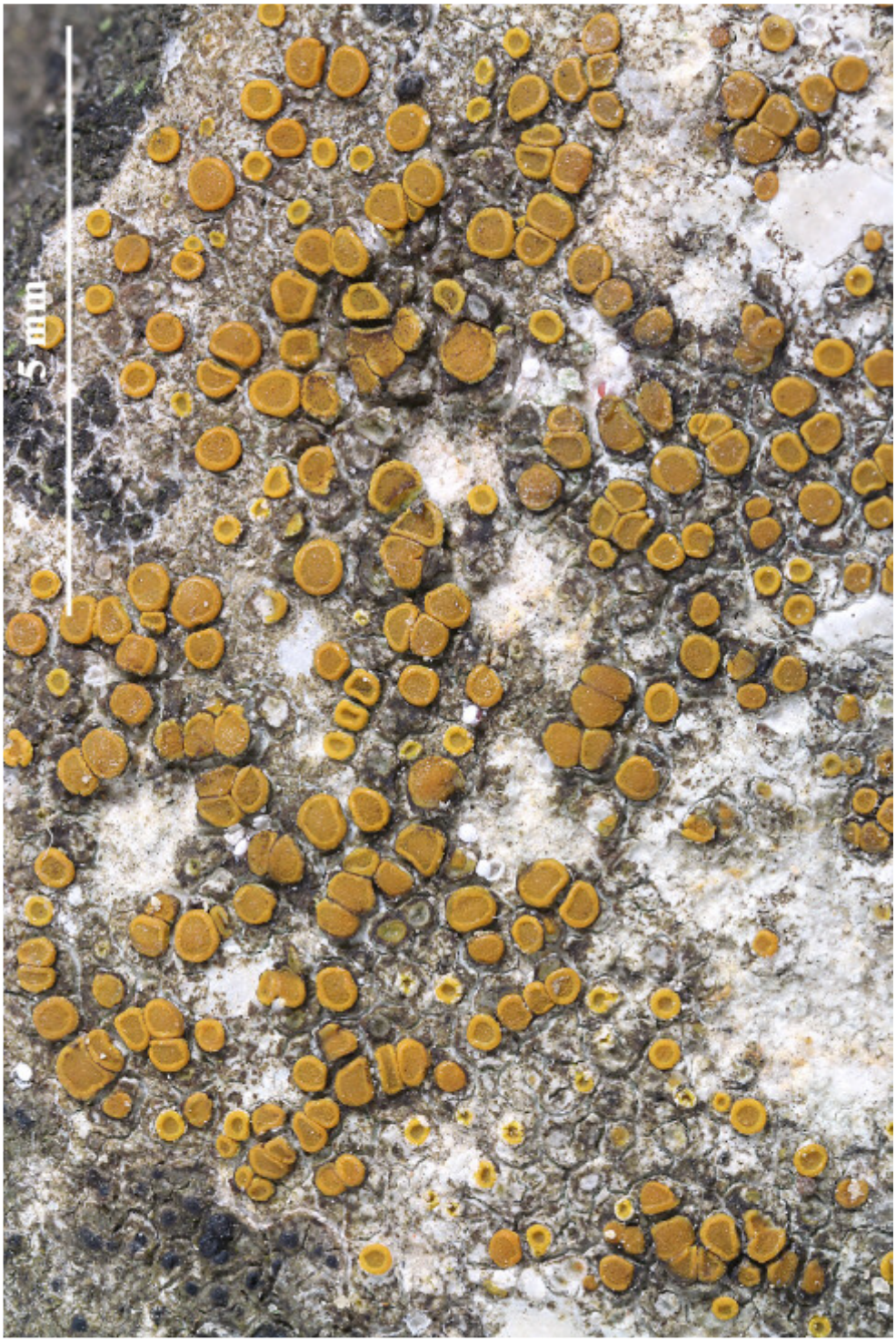


Caloplaca crenulatella

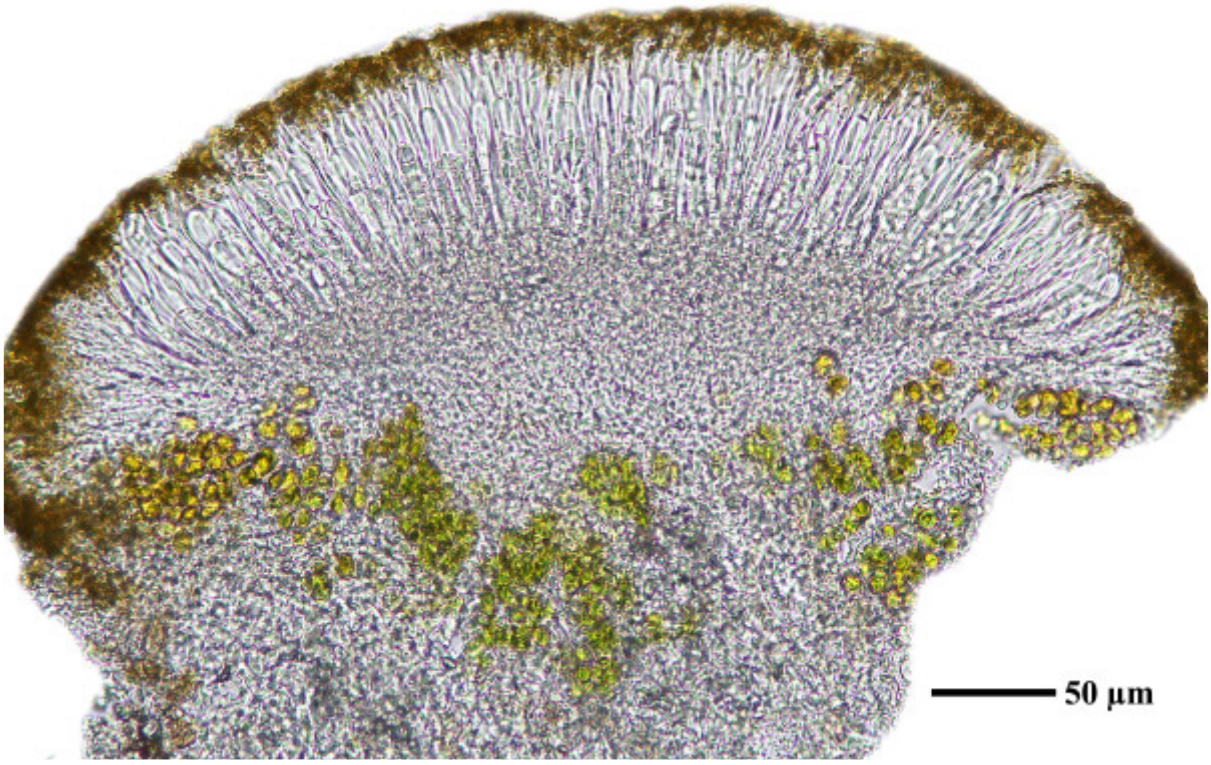
Caloplaca crenulatella (Nyl.) H.Olivier
[= *Xanthocarpia crenulatella* (Nyl.) Frödén, Arup & Søchting]

Thallus unklar mal fehlend, mal grau-schorfig areoliert. Apothecien sitzend, gelb, heller berandet, K+ rot. Sporen 2-zellig, Septen sehr dünn, ca. 15 x 3.5 µm

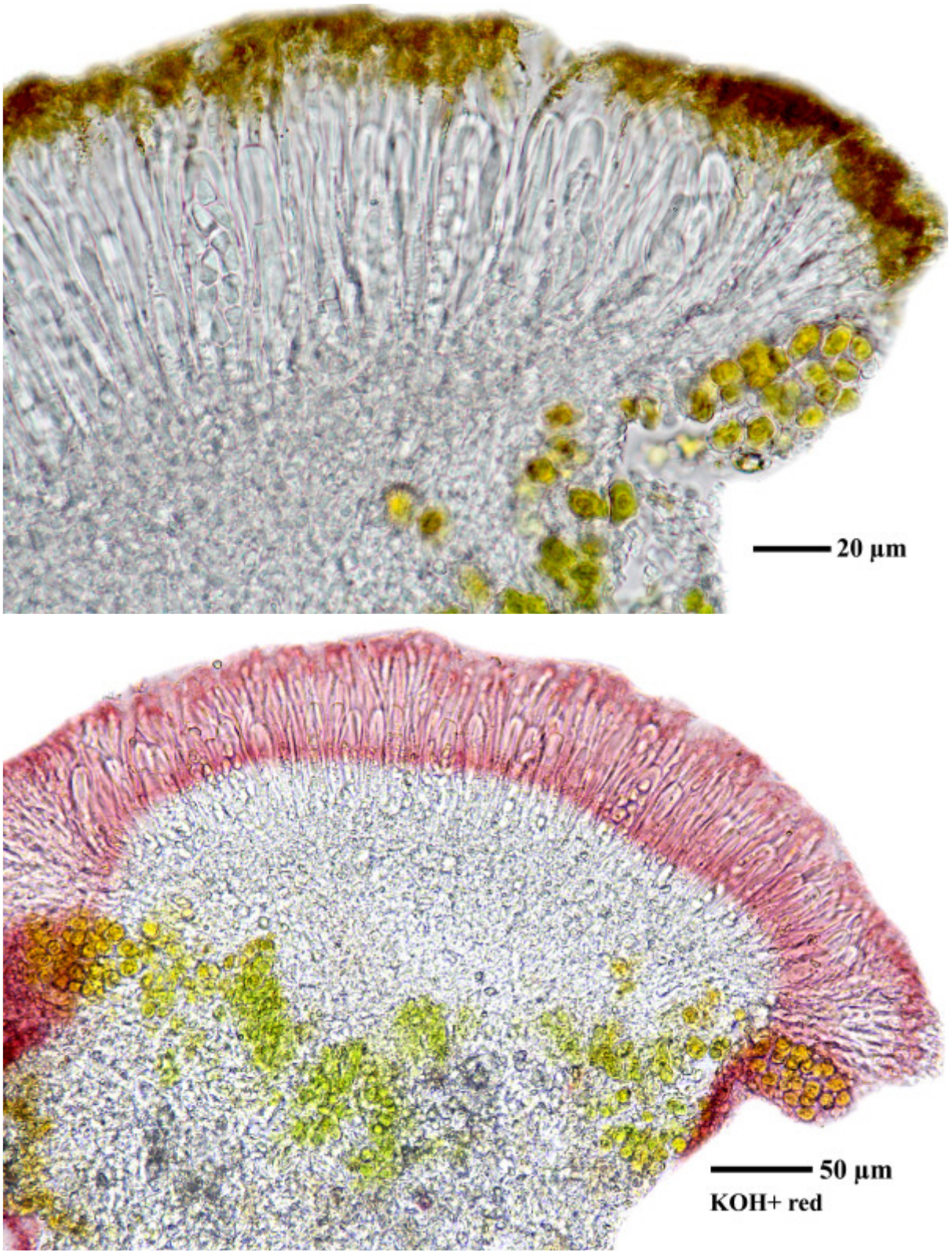
[19651], Germany, Baden-Württemberg, Ostalbkreis, auf dem Schönberg zwischen Wißgolding und Tannweiler, sonnige Wachholderheide, auf am Boden liegenden Kalksteinchen; TK 7224/4; 48°44.130’ N, 9°49.786’ E, 628 m. Leg. et det. F. Schumm 31.7.2017, conf. A. Aptroot.





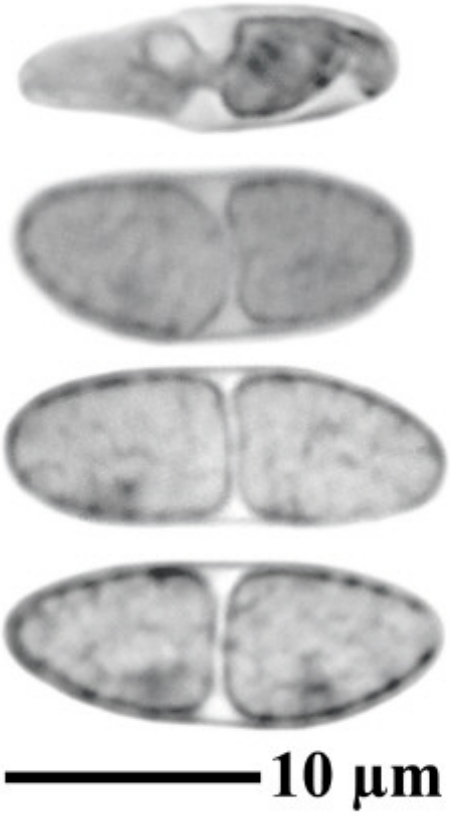


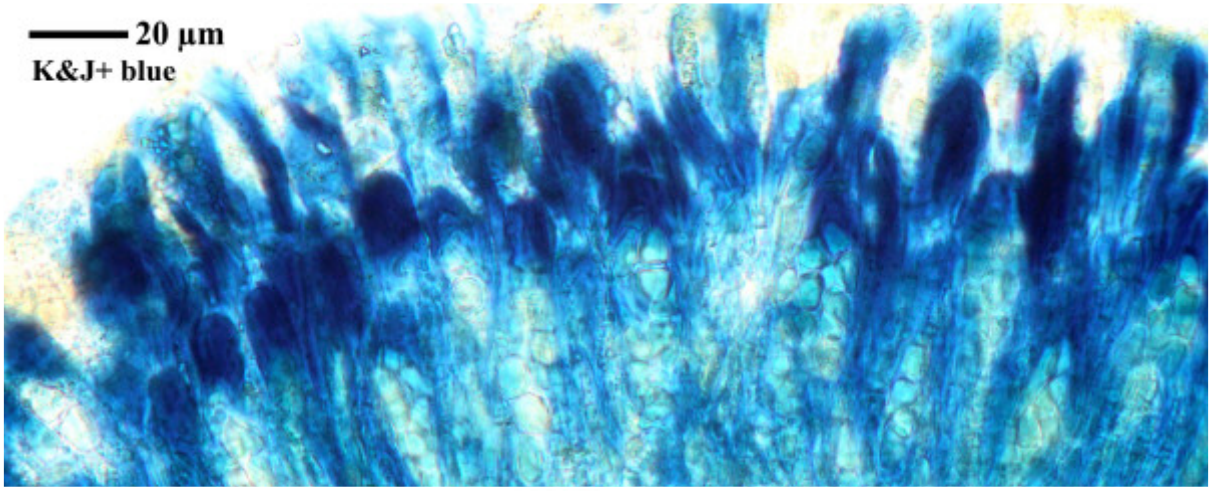
Caloplaca crenulatella

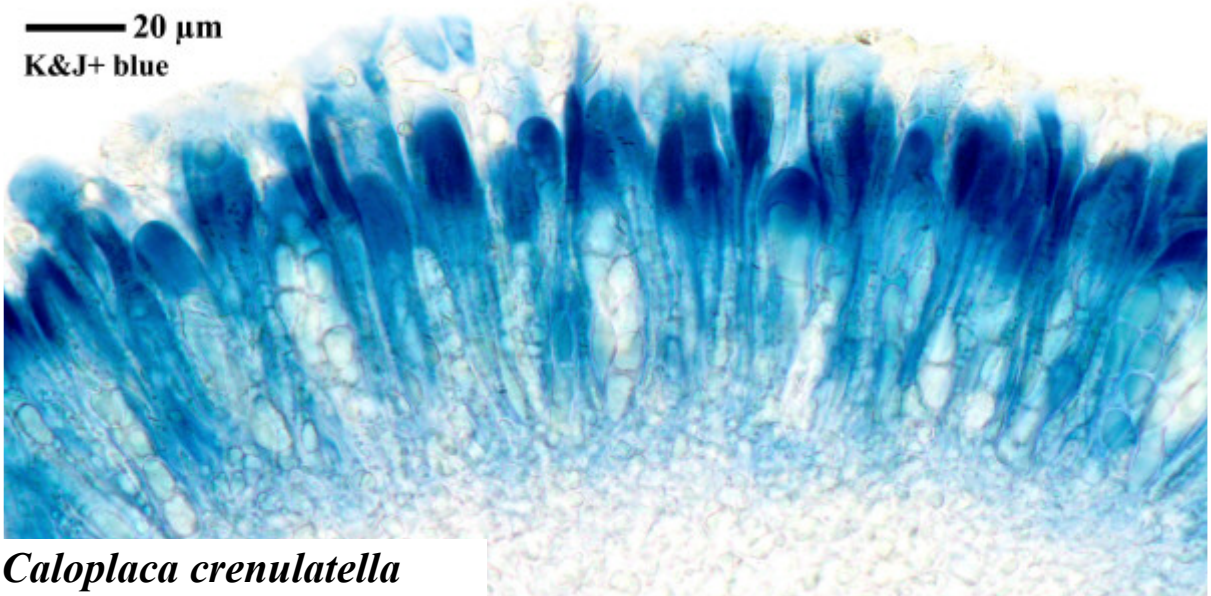


Caloplaca crenulatella







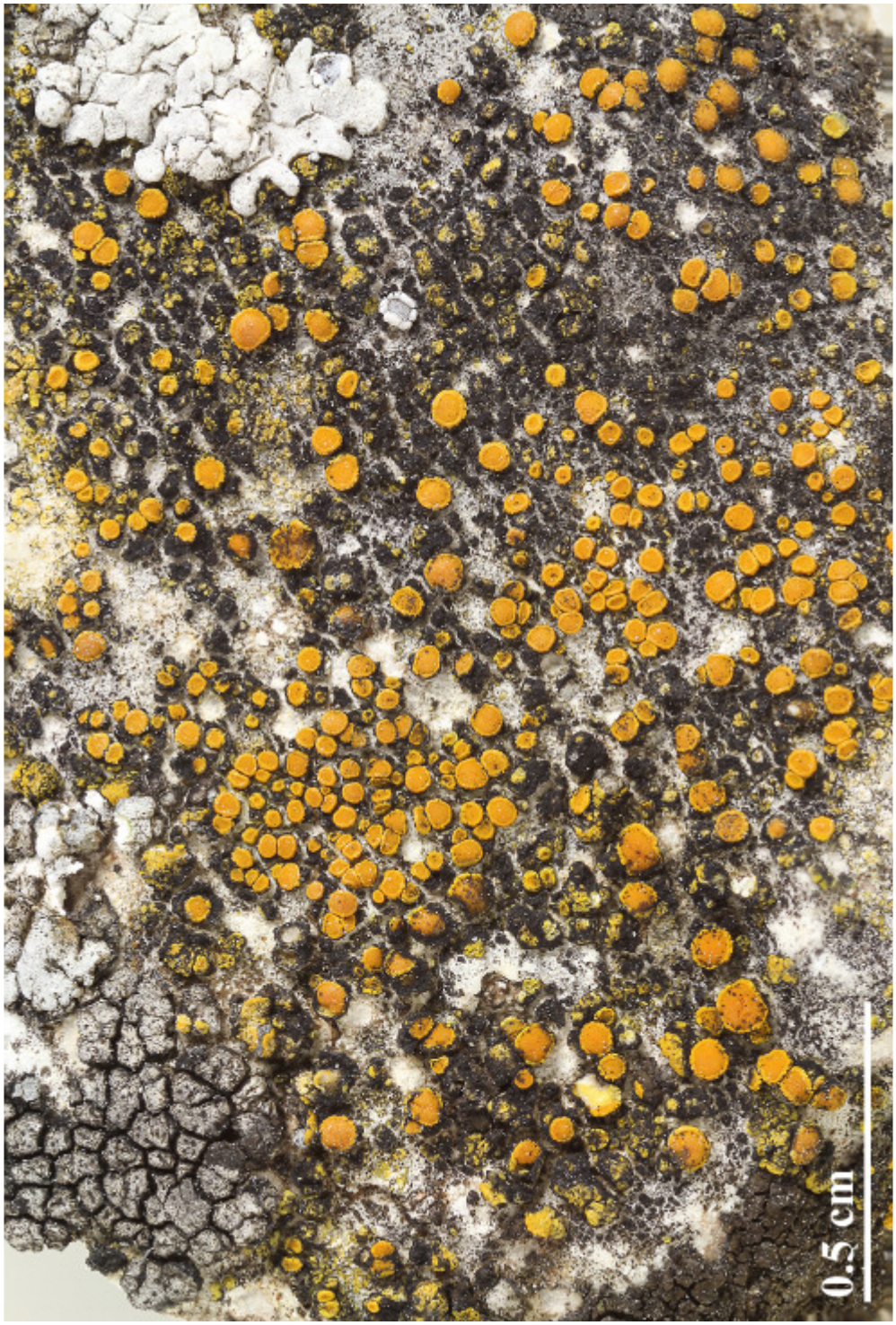


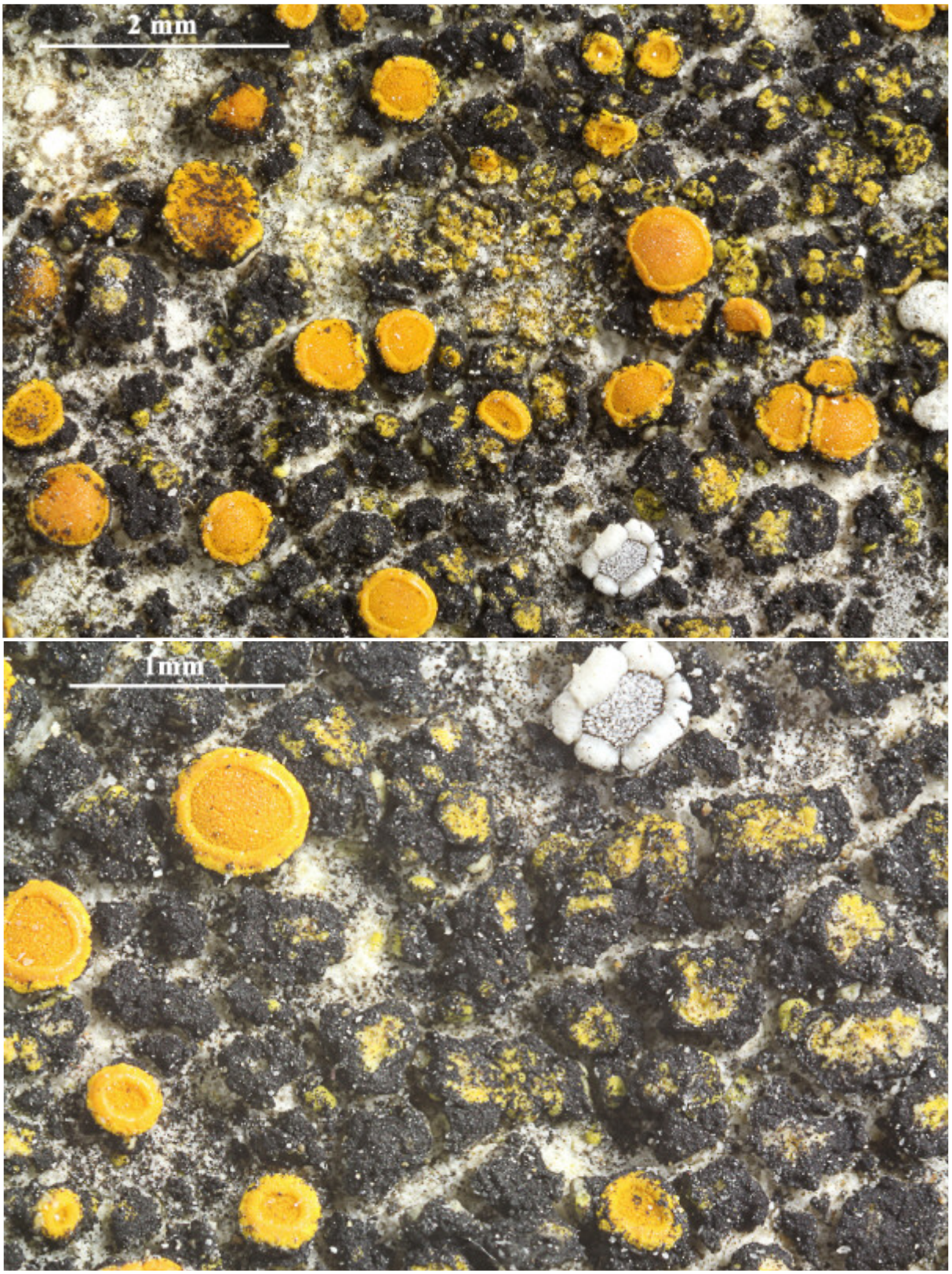
Caloplaca crenulatella

Caloplaca crenulatella (Nyl.) H.Olivier
[= *Xanthocarpia crenulatella* (Nyl.) Frödén, Arup & Søchting]

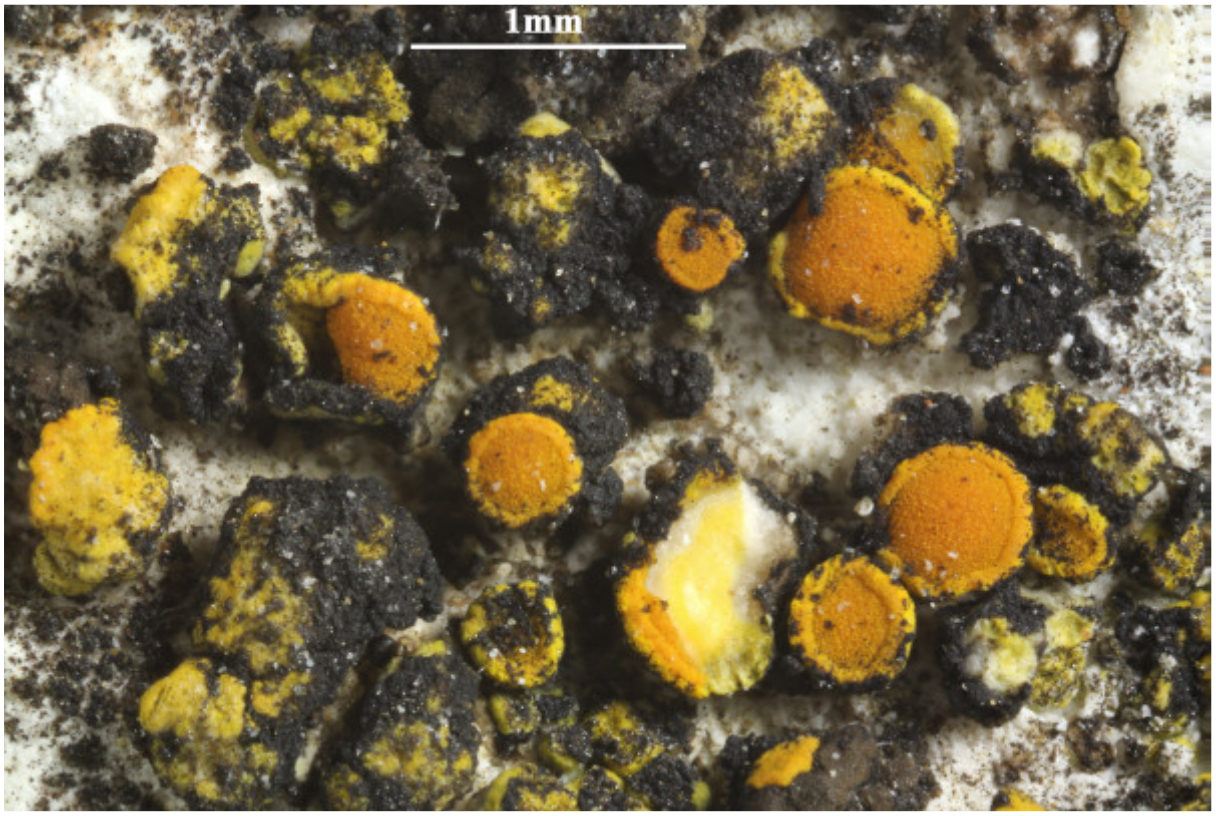
Thallus yellow, reduced, on black areoles of dead other crustose lichens. Apothecia c. 0.44 mm, yellow with same coloured margin lacking algae. Spores c. 12-15 x 5-8 µm, septum1.5-2.5 µm.

[19661], Germany, Baden-Württemberg, Kreis Heidenheim, östlich von Söhnstetten an der Abzweigung zum Dudelhof. 48.66927° N, 10.00898° E, 581 m. An Kalkblöcken in Trockenwiese. TK 7326. Leg. et det. F. Schumm, 07.08.2017, conf. A. Aptroot.





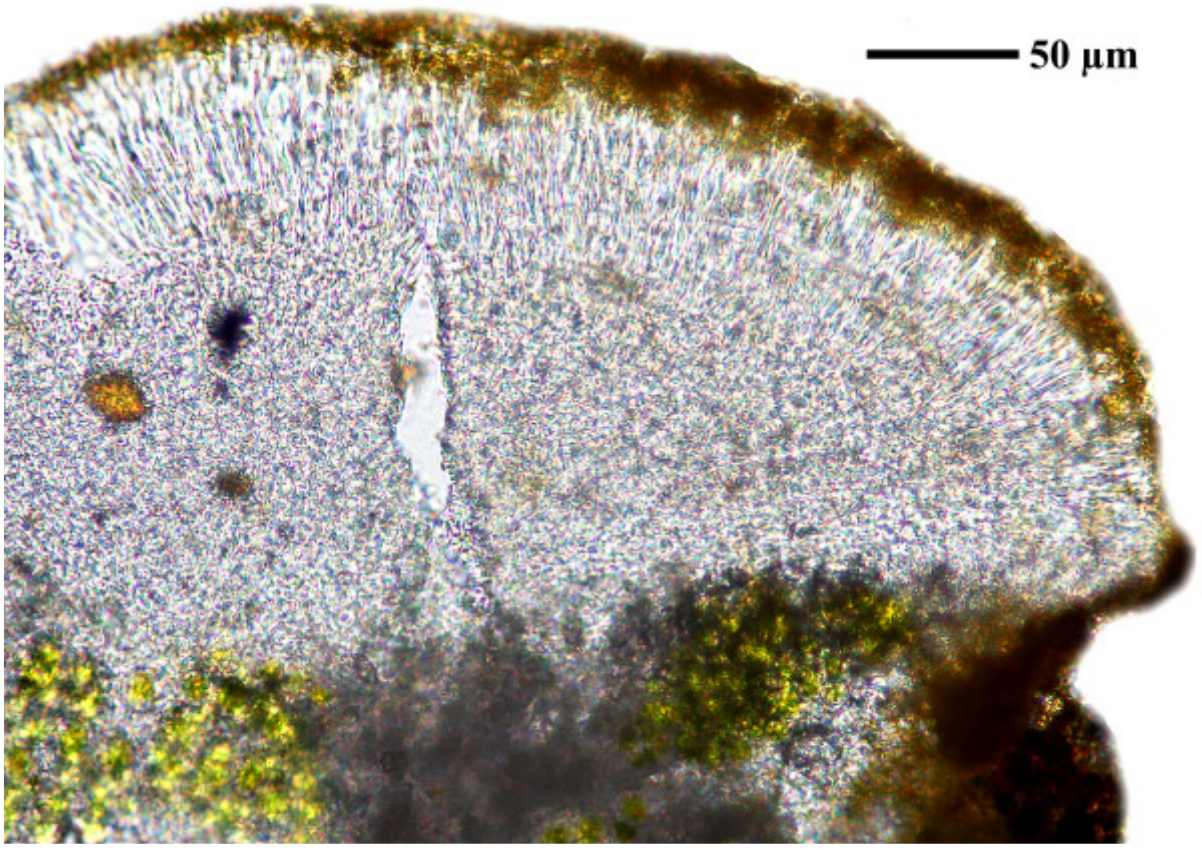
Caloplaca crenulatella



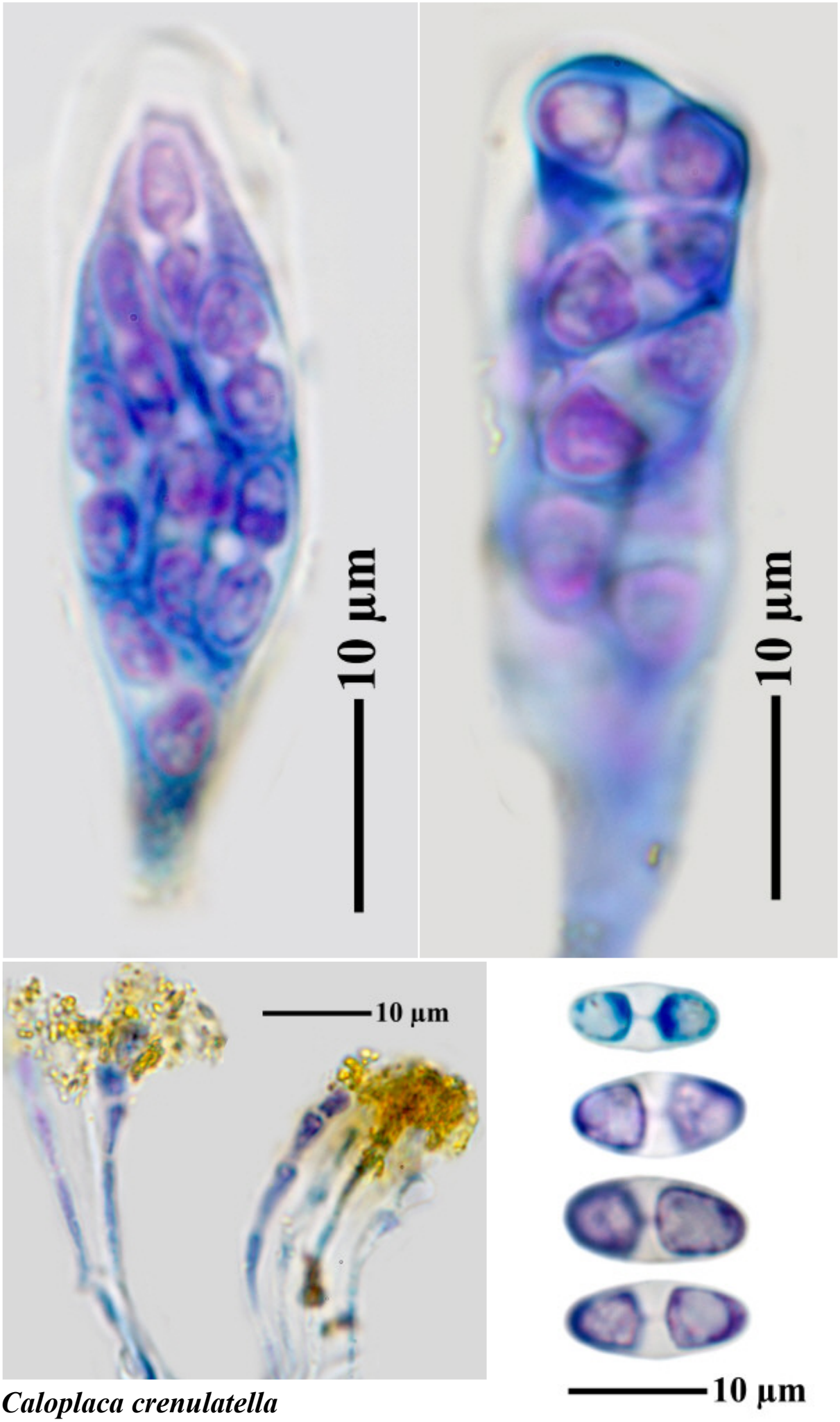


Caloplaca crenulatella

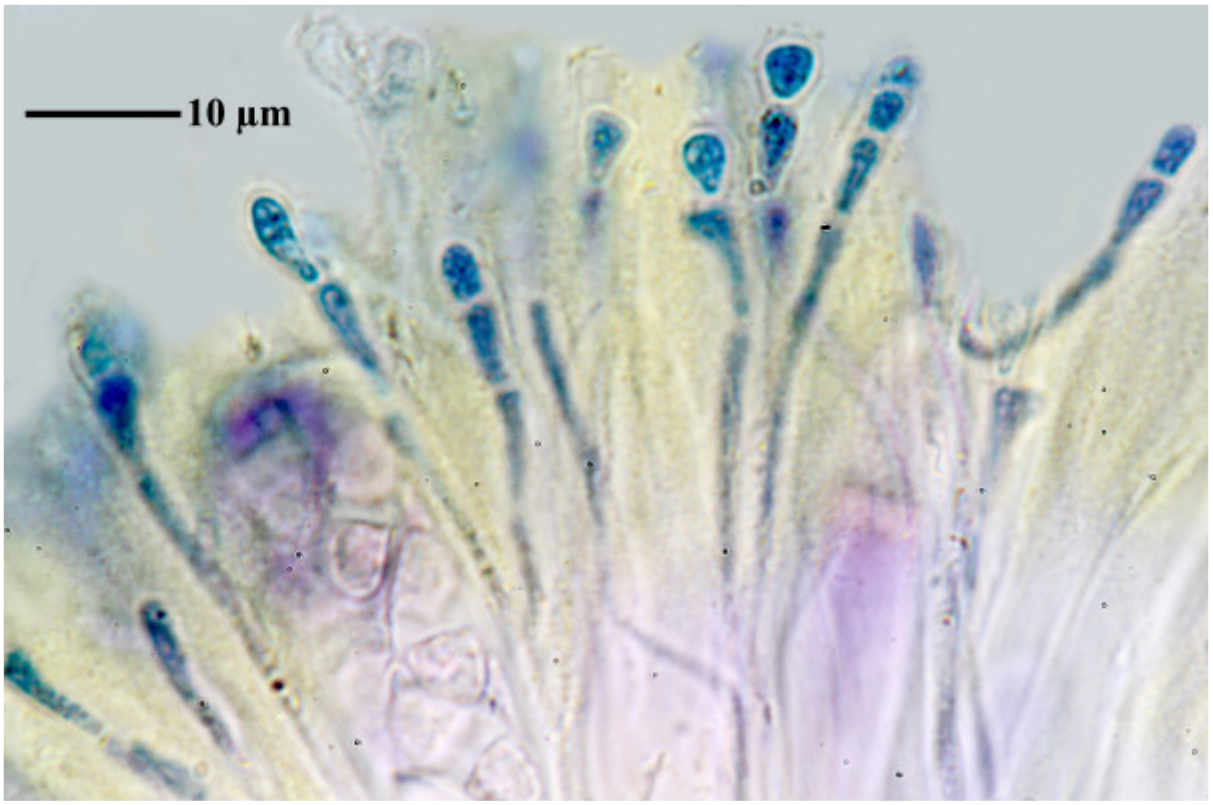


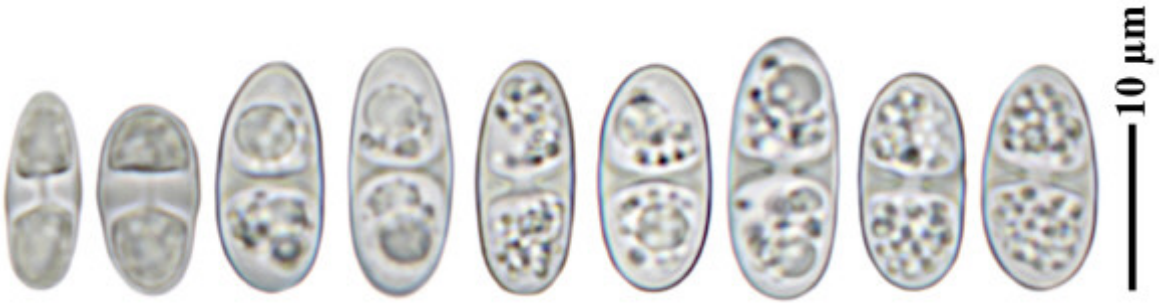


Caloplaca crenulatella



Caloplaca crenulatella





Caloplaca crenulatella

Caloplaca crenulatella (Nyl.) H.Olivier
[= *Xanthocarpia crenulatella* (Nyl.) Frödén, Arup & Søchting]

on siliceous volcanic rock.

[ABL 74015], Aragatsotn, Byurakan, Mts. Aragats, road connecting M3 to H20, 40°24’48’’ N, 44°22’03’’ E, 1800 m. on siliceous volcanic rocks. Leg. A. Aptroot, 21.06.2015, det. A. Aptroot 2015.







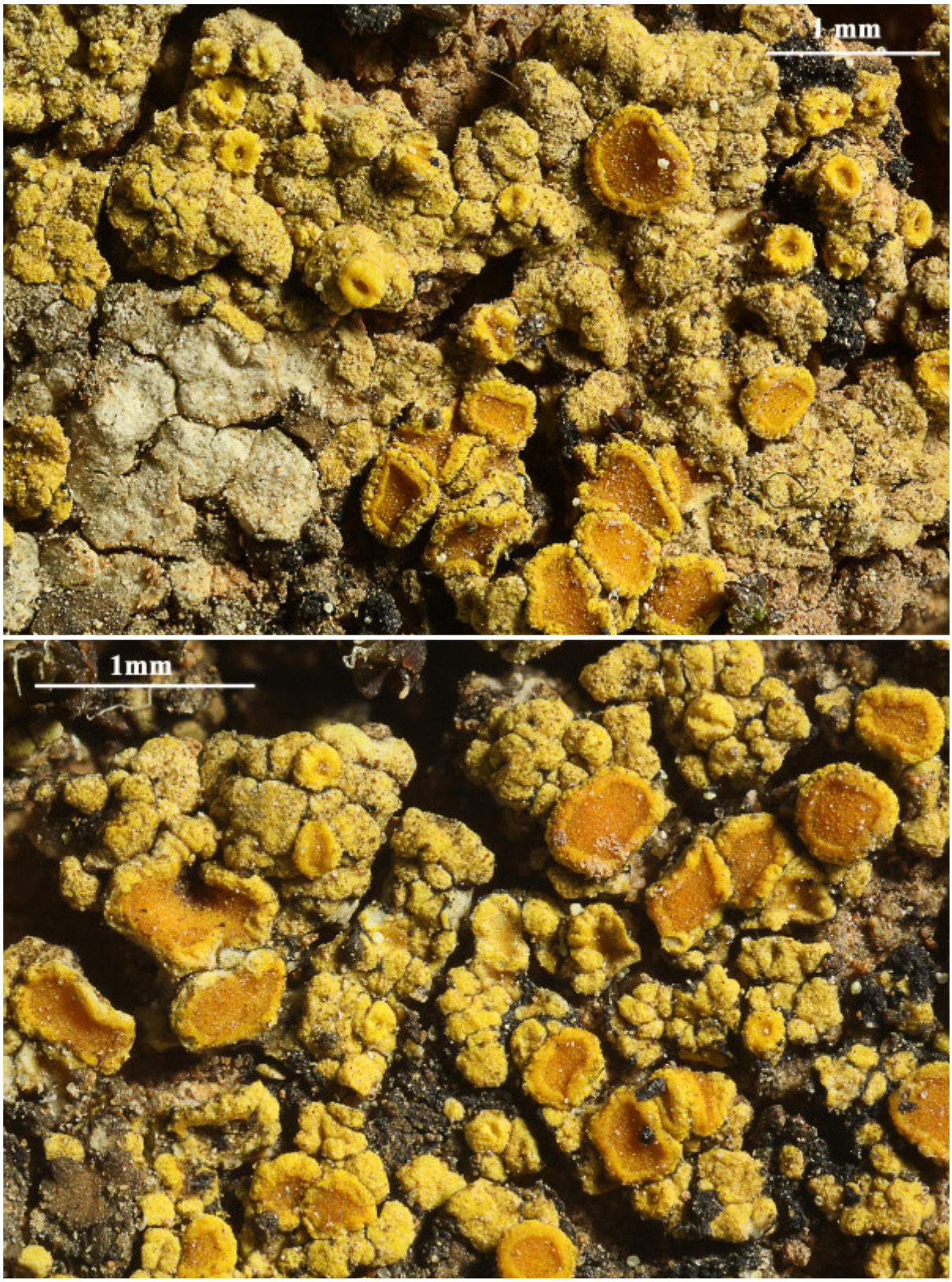
Caloplaca crenulatella

Caloplaca crenulatella (Nyl.) H.Olivier
[= *Xanthocarpia crenulatella* (Nyl.) Frödén, Arup & Søchting]

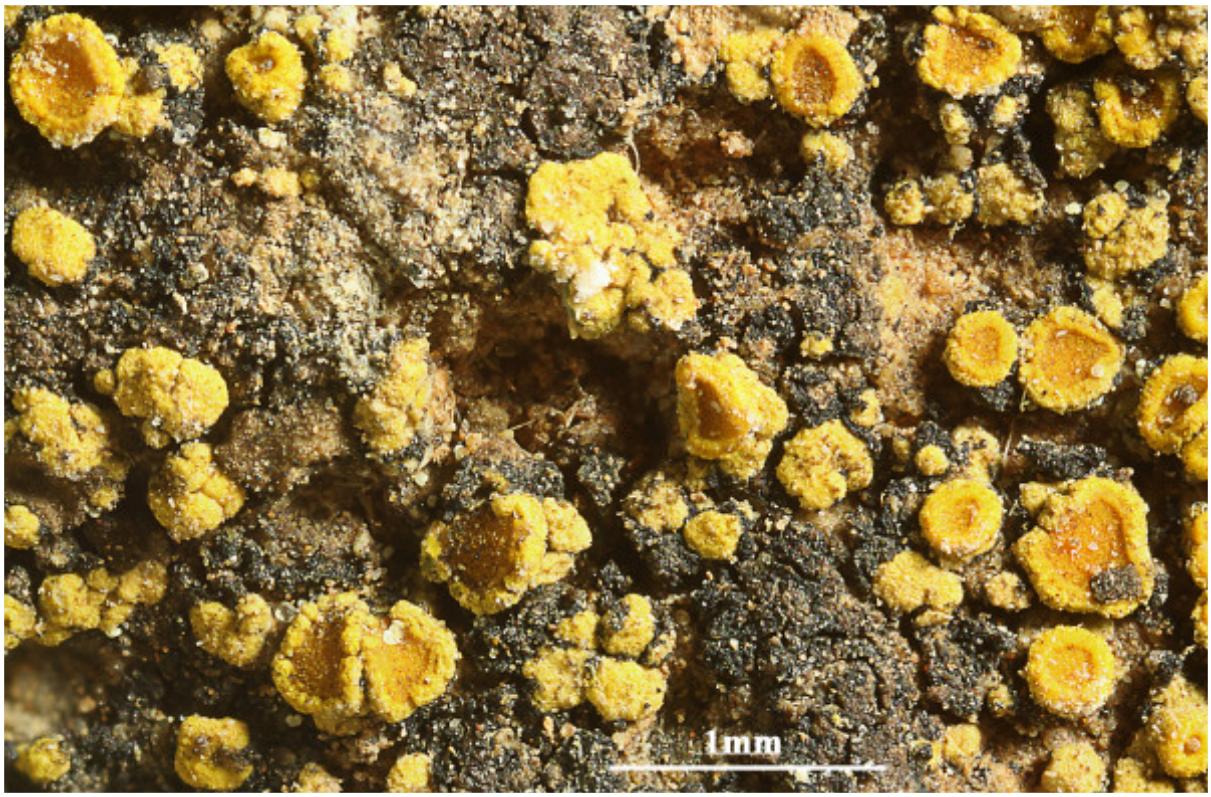
Thallus orange, indistinct to granulose or dispersed areolae/squamules, without elongated lobes; soralia and isidia absent. Apothecia adnate, 0.5-1 mm diam, margin paler than the orange disc. Ascospores 15-23 x 6-8 µm, septum to 4 µm. Chemistry: p: parietin, 1: unknown.
Lit. eg.: Wetmore, C.M. (2007): *Caloplaca* - in: Lichen Flora of the Greater Sonoran Desert Region, Vol. 3: 193.

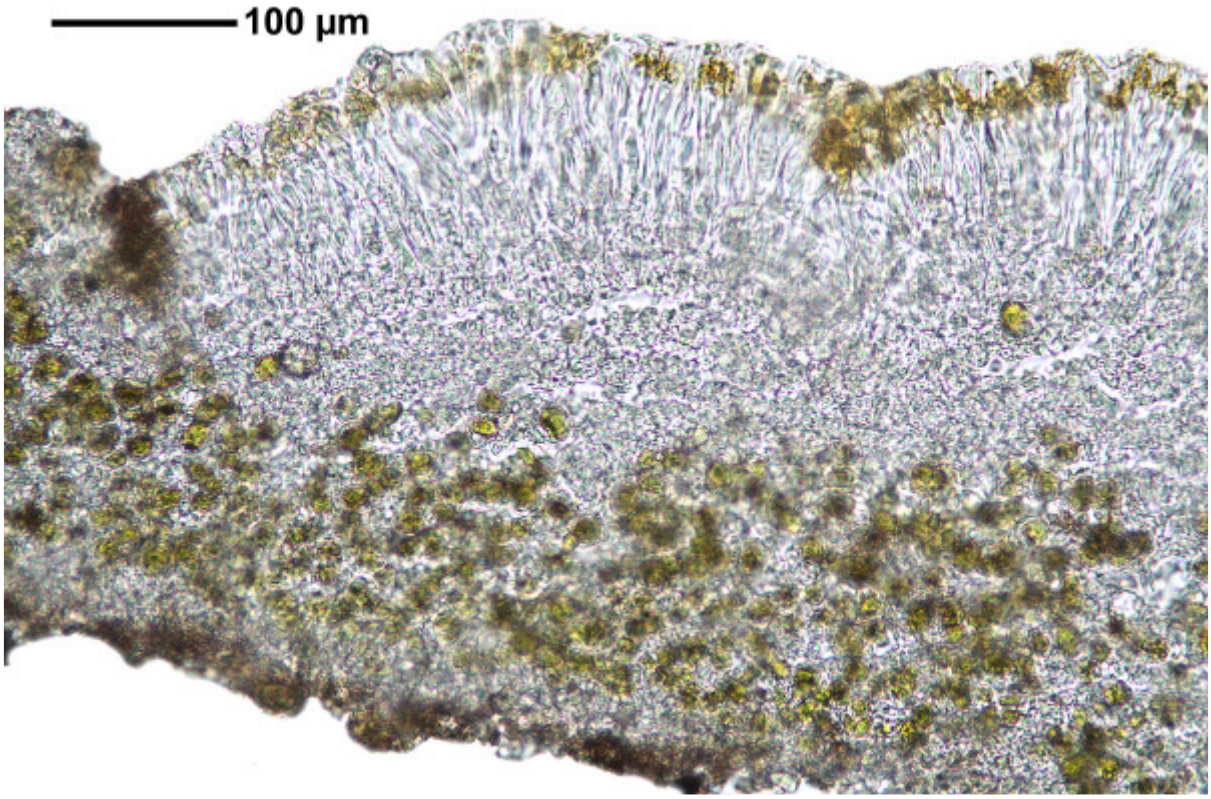
[KK29625], Australia, New South Wales, between Canberra and Wee Jasper, c. 30 km south of Wee Jasper, on calcareous rock, 375 m, 35°02’ S, 148°50’ E. leg. K. Kalb, 8.9.1995, det. S. Kondratyuk.



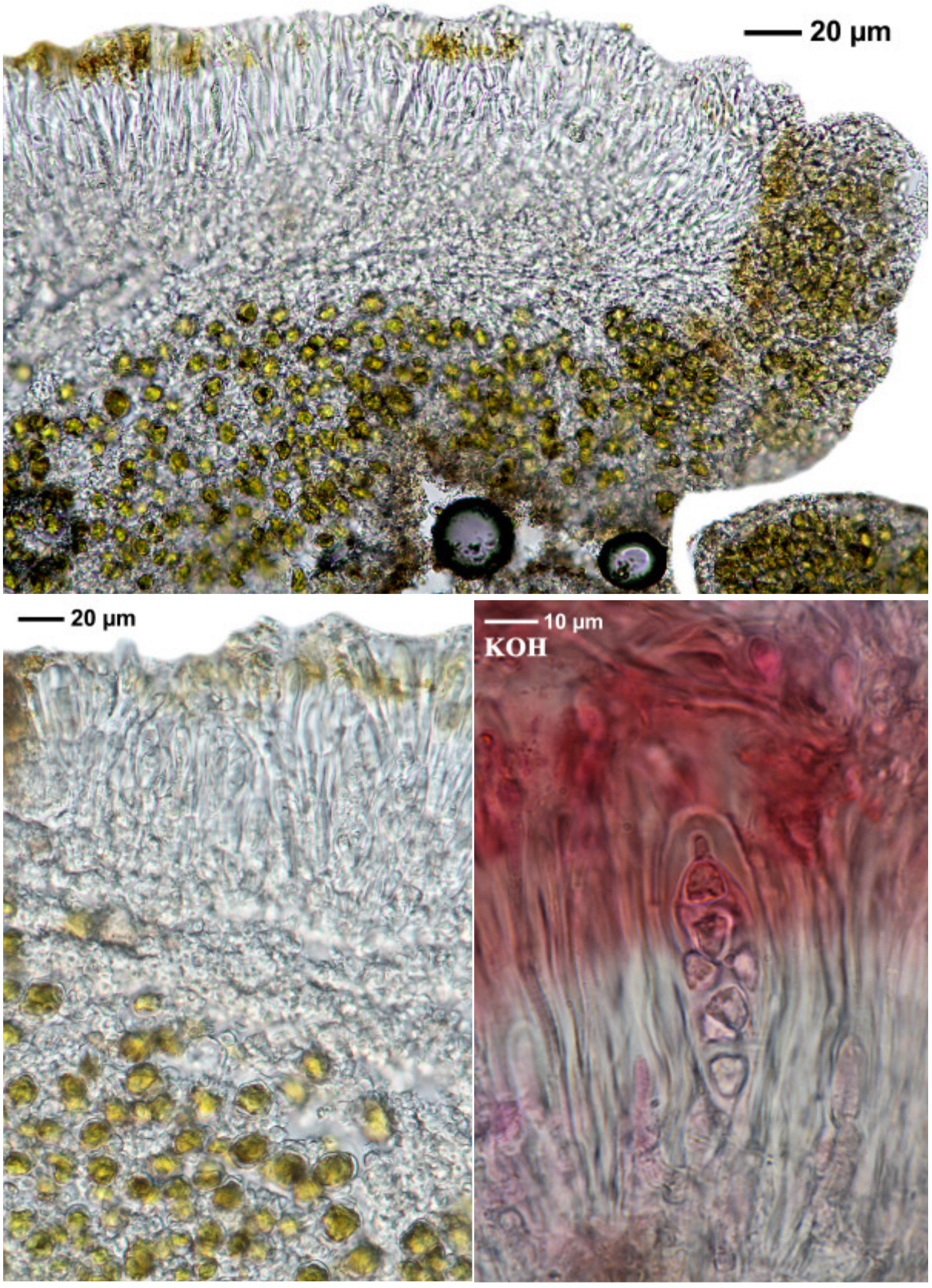


Caloplaca crenulatella

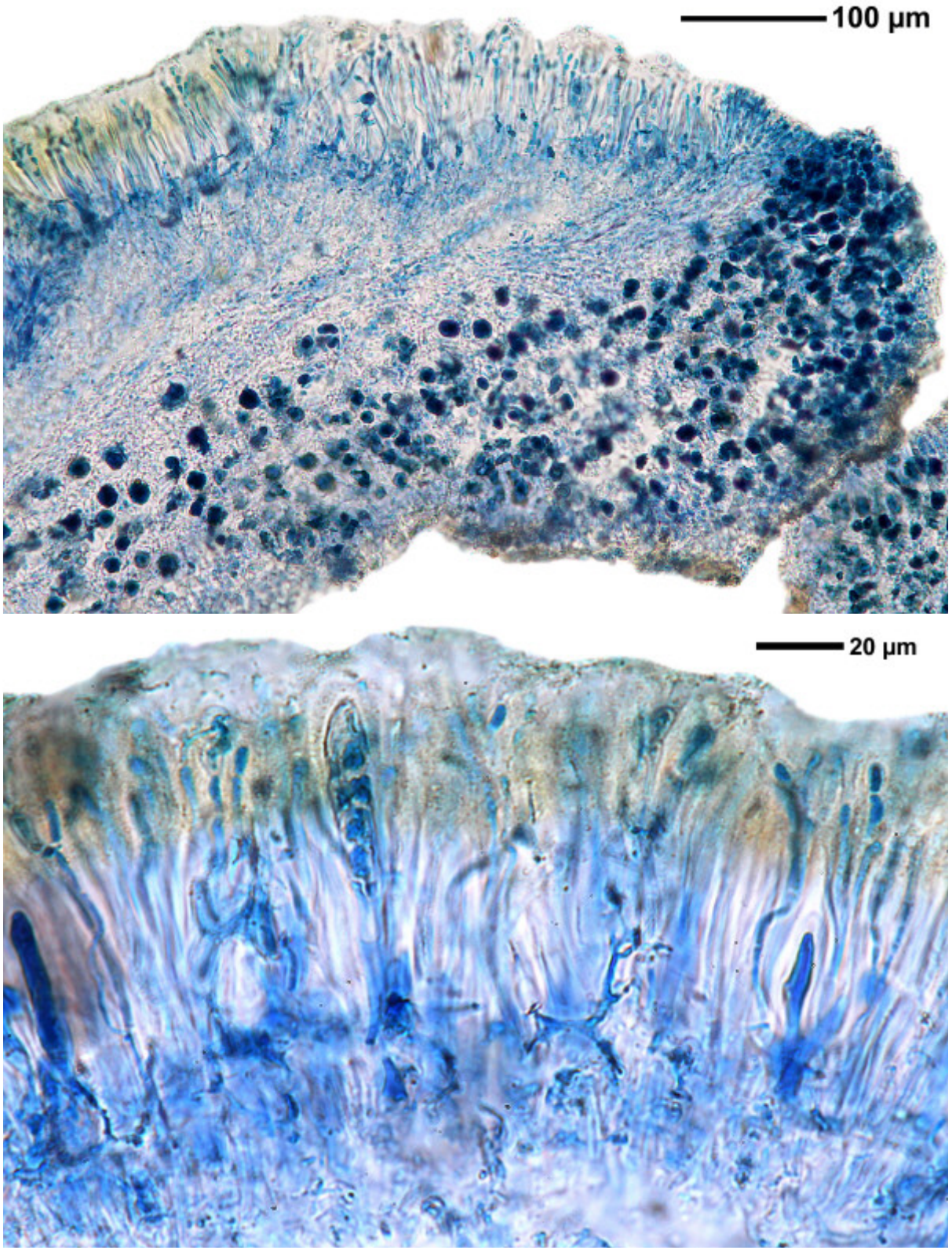




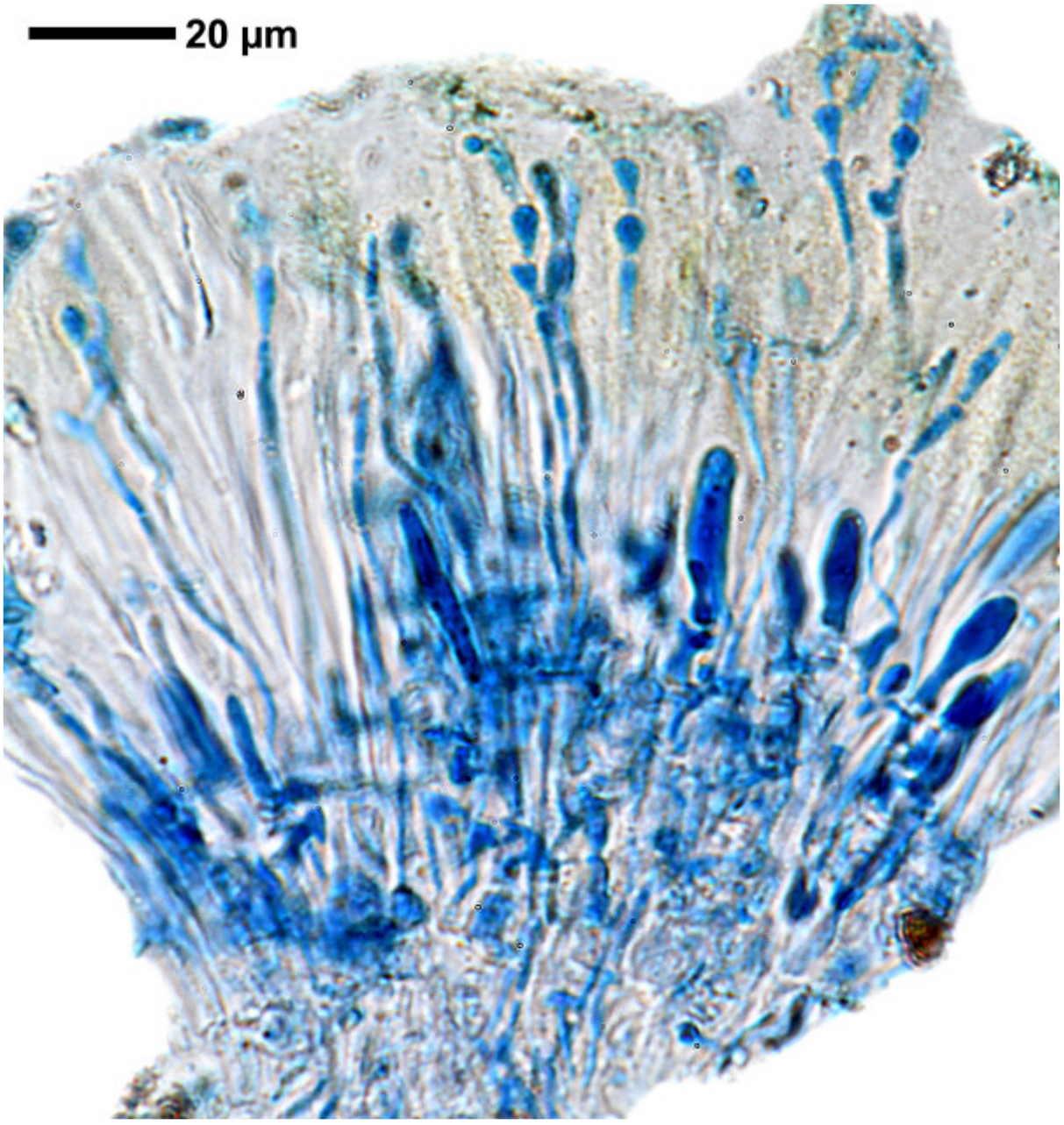
Caloplaca crenulatella

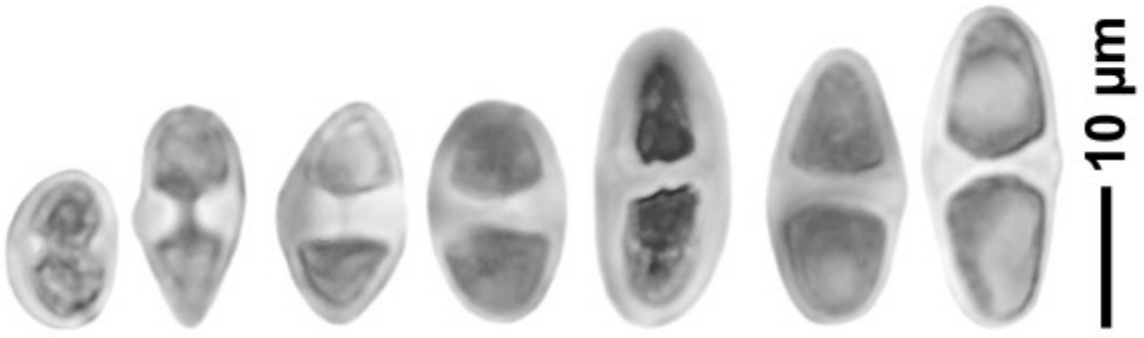


Caloplaca crenulatella

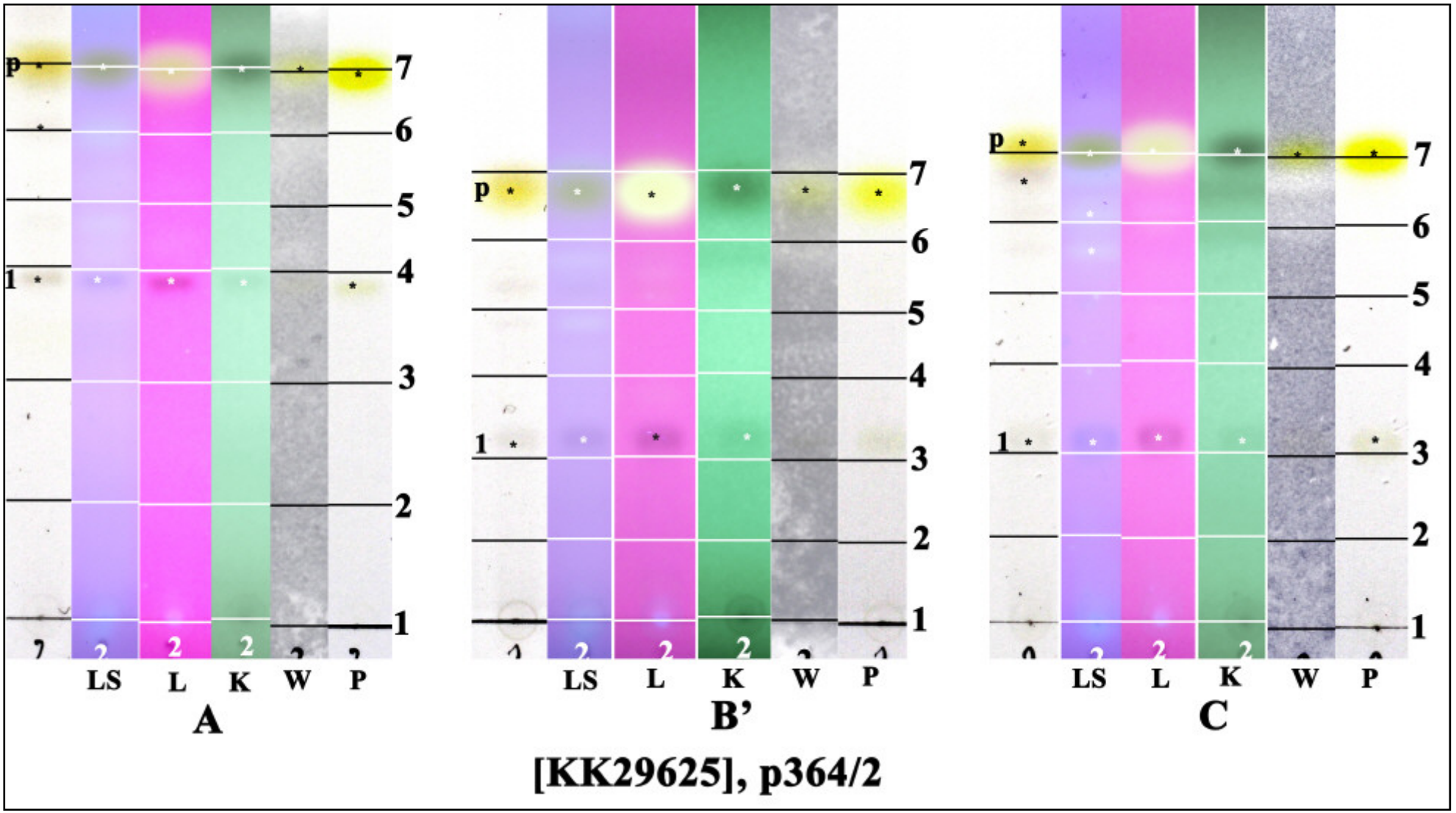


Caloplaca crenulatella





Caloplaca crenulatella

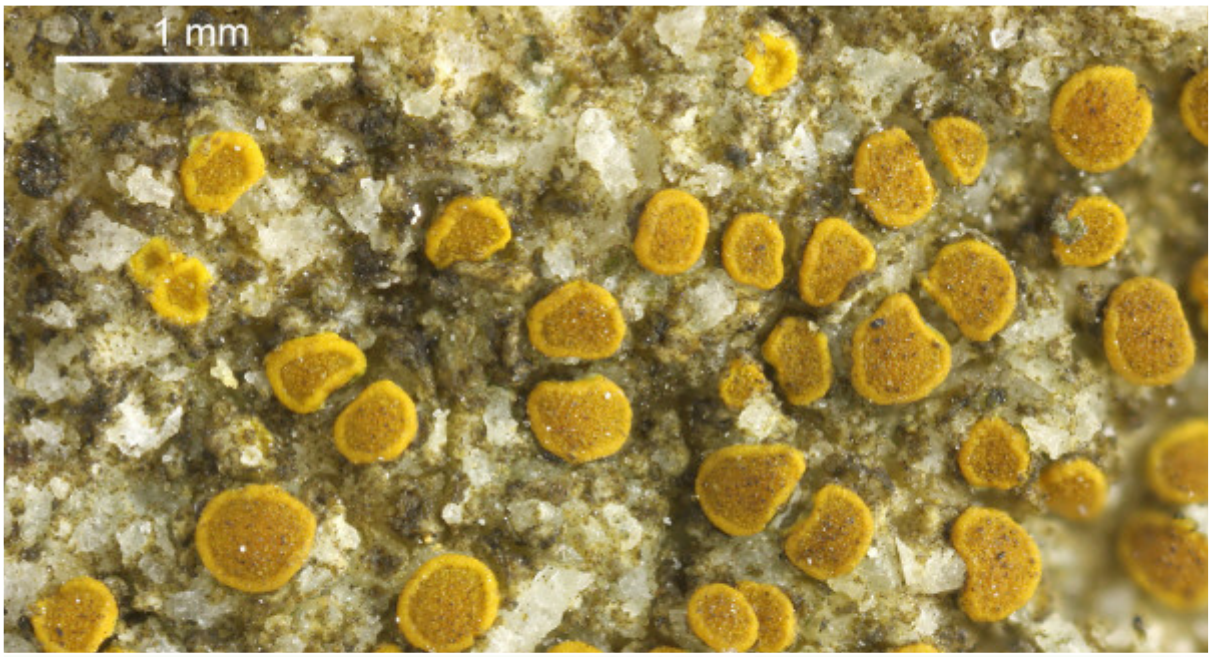


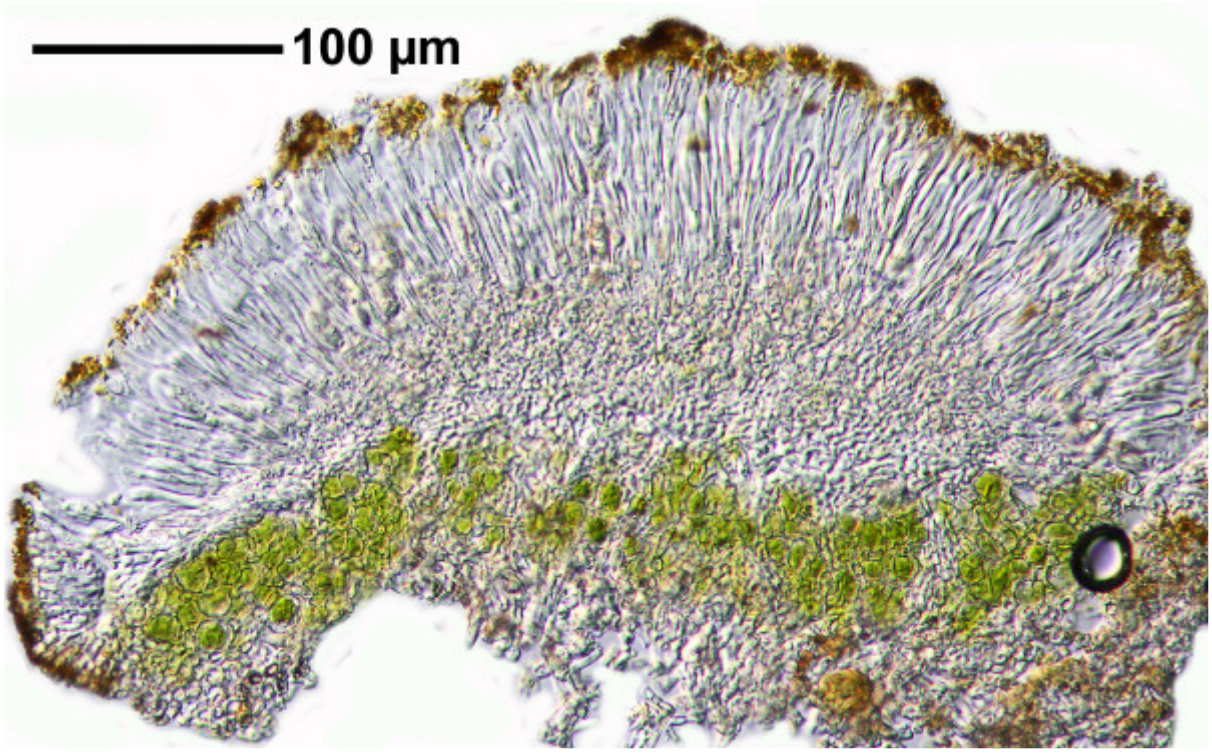
p: parietin, 1: unknown

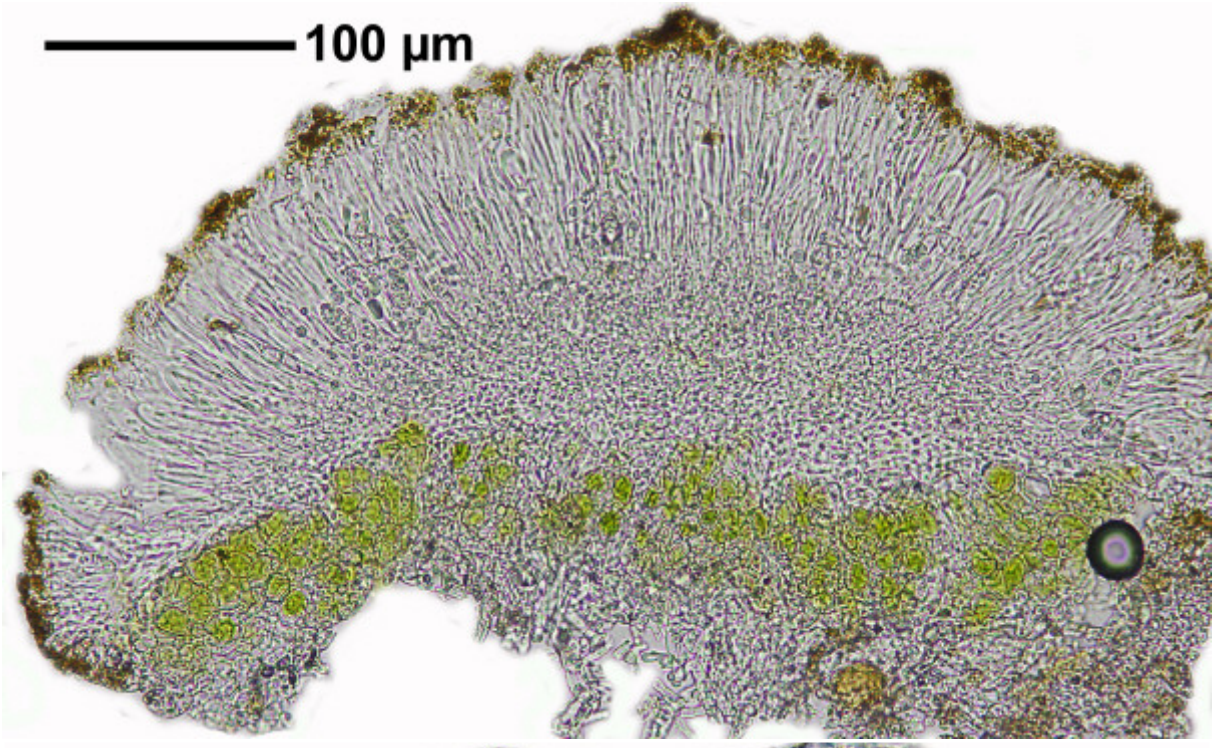
Caloplaca crenulatella (Nyl.) H.Olivier, Mém. Soc. natn. Sci. nat. Cherbourg 37: 110 (1909)
[= *Xanthocarpia crenulatella* (Nyl.) Frödén, Arup & Søchting, Nordic Jl Bot. 31(1): 57 (2013)]

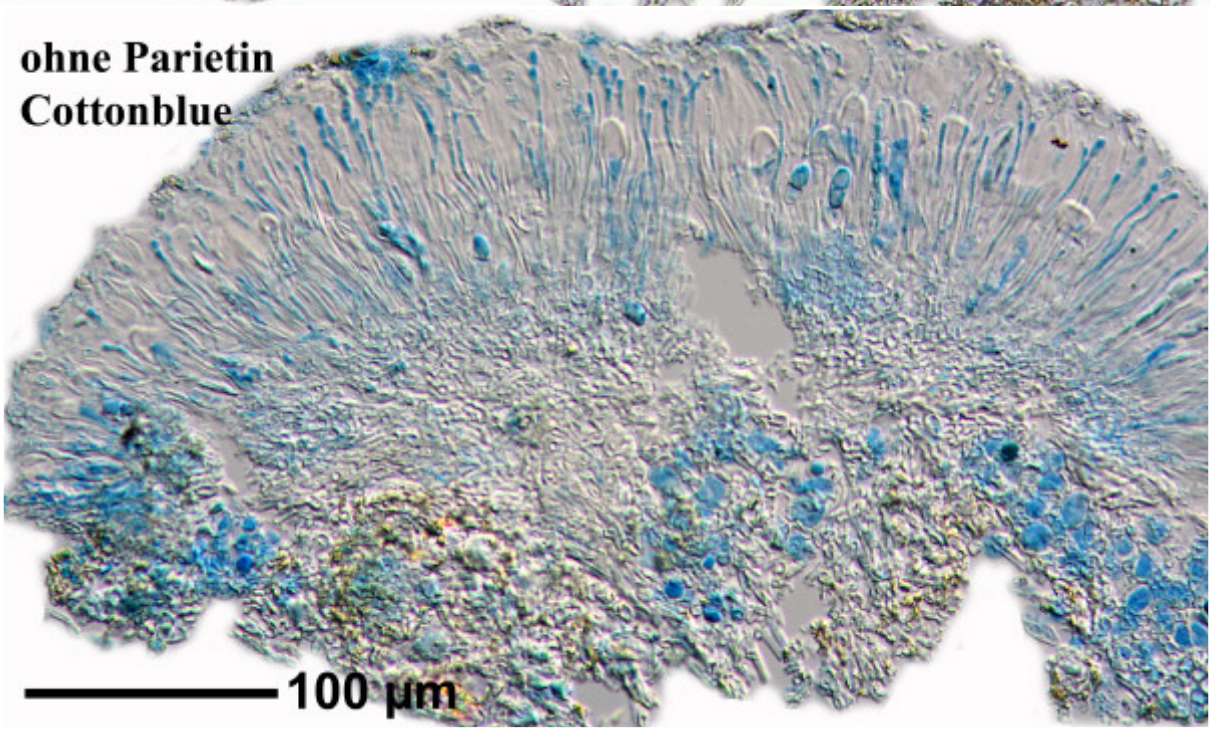
Thallus fehlend oder nur ein dünner, weißlicher Fleck, K-. Apothecien gelbrot, K+ rot. Sporen polar-2-zellig, 8/Ascus, hyalin, 14-17 x 5.5-7.7 µm, Septum ca. 1,1 µm dünn.

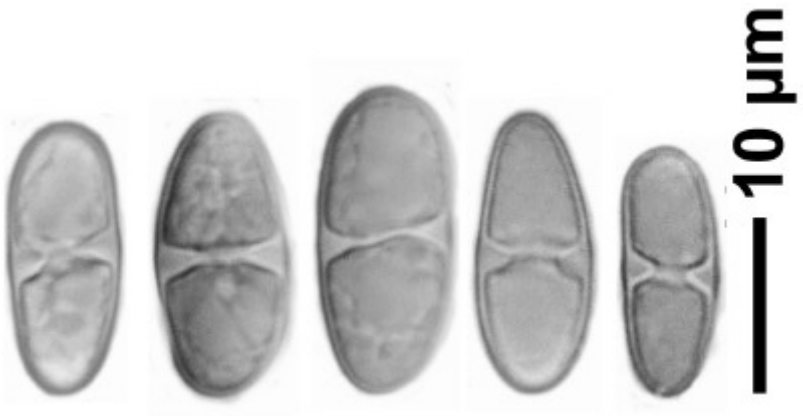
[16636], Germany, Baden-Württemberg, Kreis Göppingen, 2.5 km östl. von Geislingen zwischen Weiler ob Helfenstein und Linsenhof, auf Kalksteinblock, 48,61839° N, 9,86216° E, 664 m. Leg. F. Schumm 25.08.2012, det. A. Aptroot 2019.



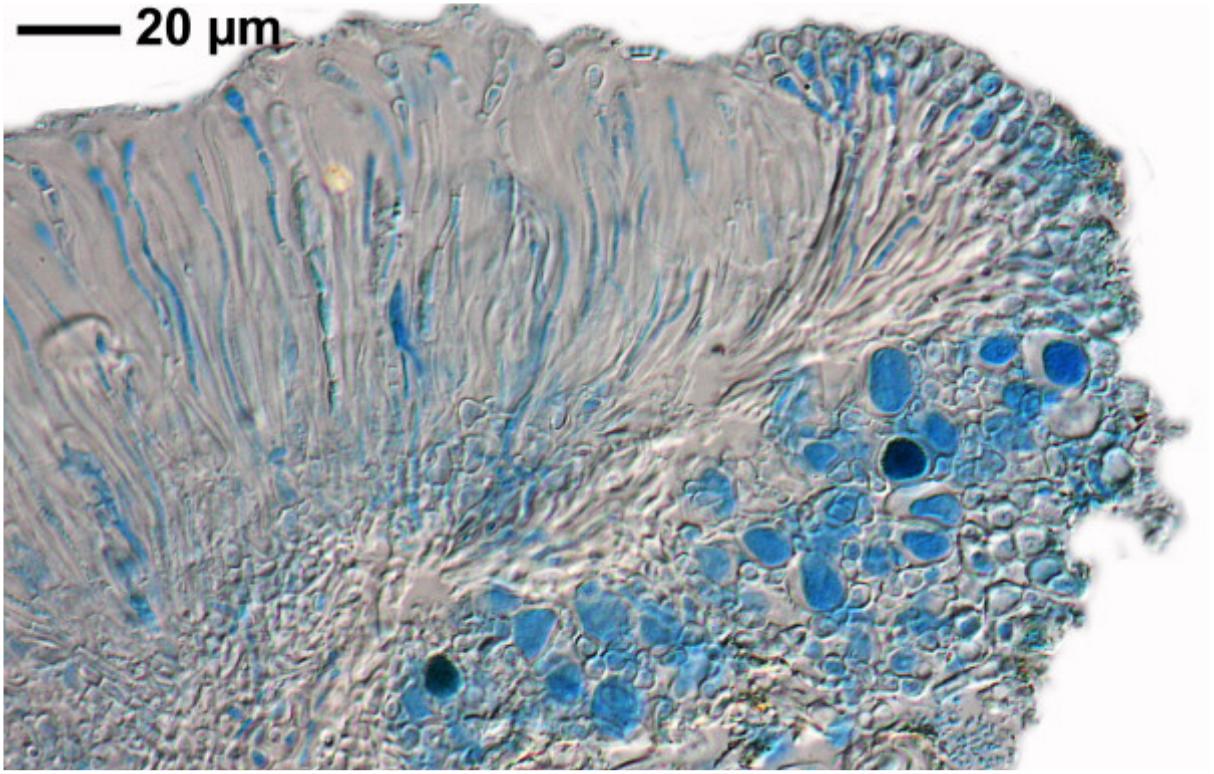


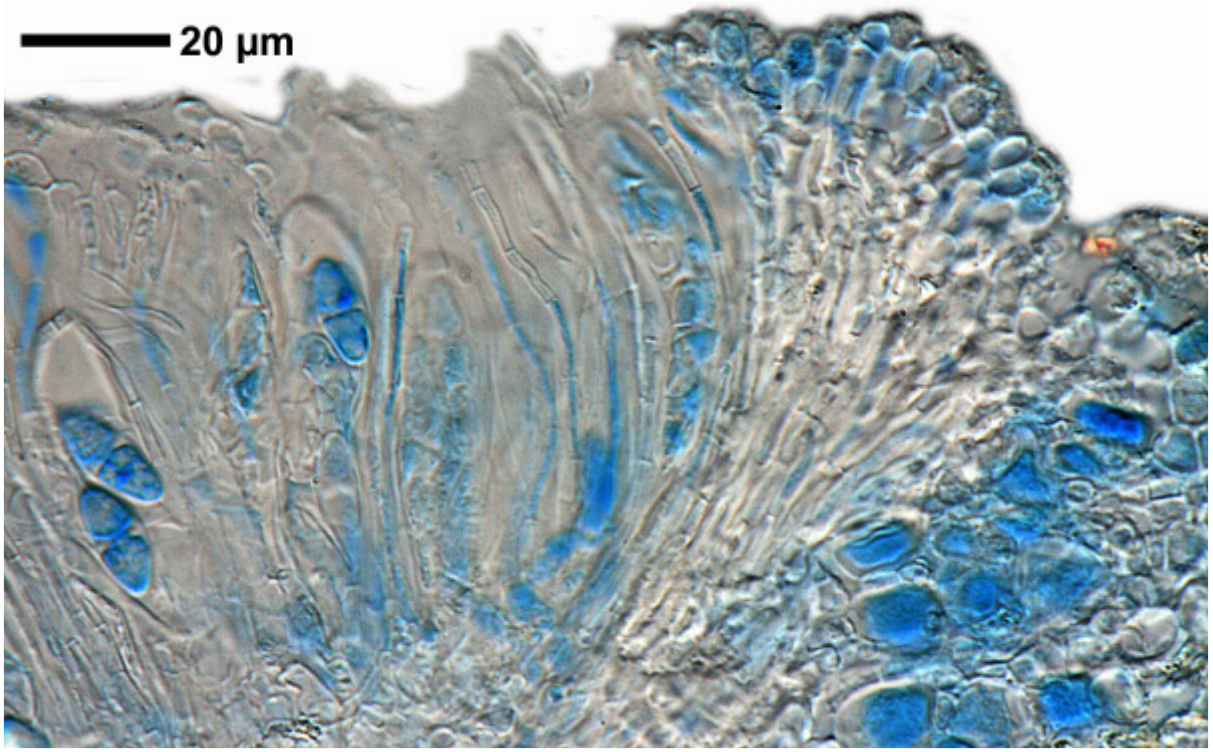




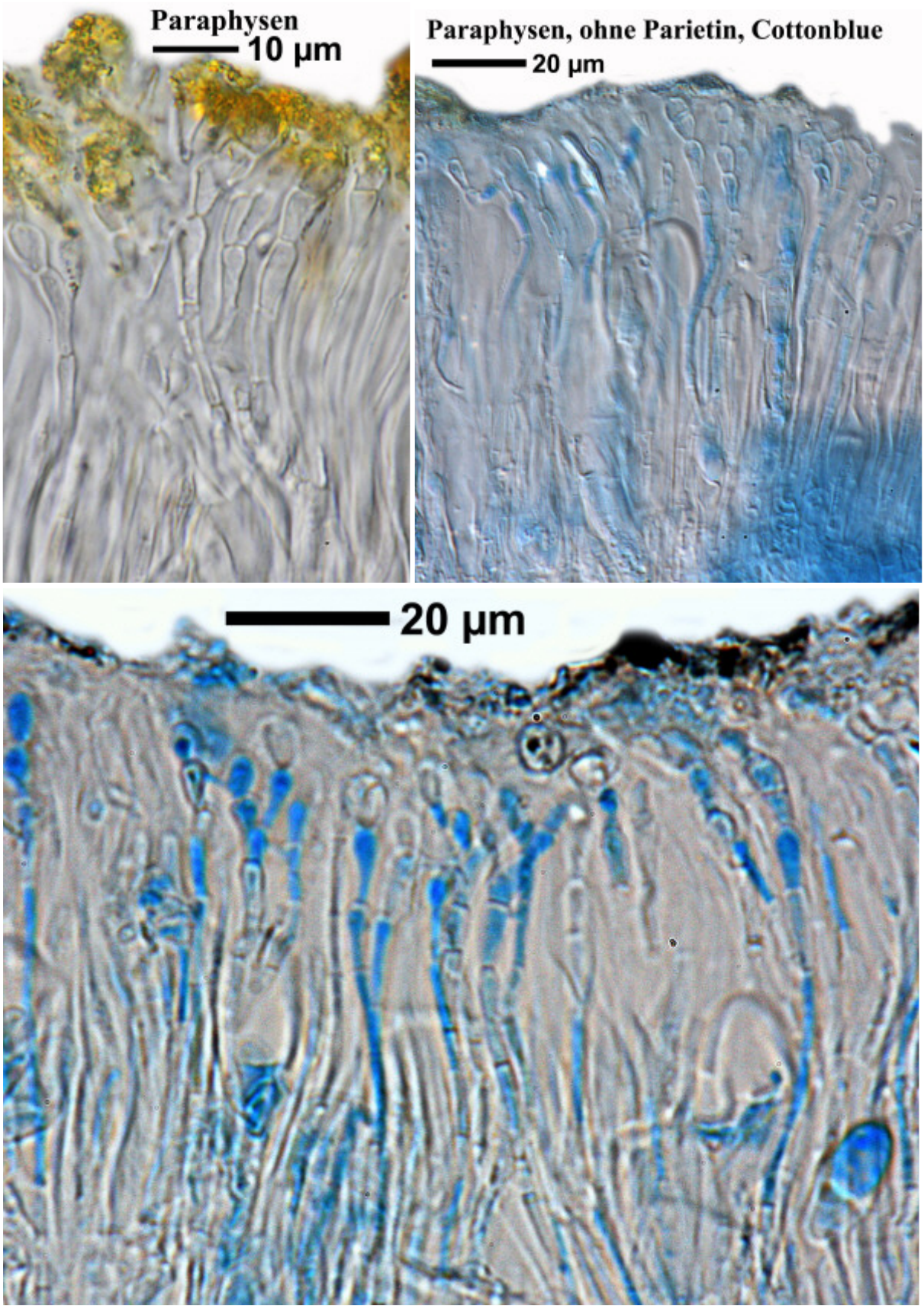


Caloplaca crenulatella





Caloplaca crenulatella



Caloplaca crenulatella

Caloplaca cretensis (Zahlbr.) Wunder

Hymenium 60 µm, clear, epithacium pale violetgrey. Spores ca. 14 x 7.5, septum ca. 2.5 µm. (Sipm.). Spores 10.5-14.5 x 5.6-7.1 µm, septum 2.3-2.6 µm

[B 60 0135247], Greece, W Aegean, Nomos Evvias, Eparchia Chalkidos, Dimos Steni Dirfios, Central Evvia, Chiliadou beach at E coast, N of Stropones, limestone rocks and cliffs in phrygana near the coast, accomp. Caloplaca gardhiana. 38°40.3' N, 23°55.2' E, 10 m. Leg. H. Sipman (54439) & Th. Raus, 3. October 2005, det. H. Sipman, 2006.

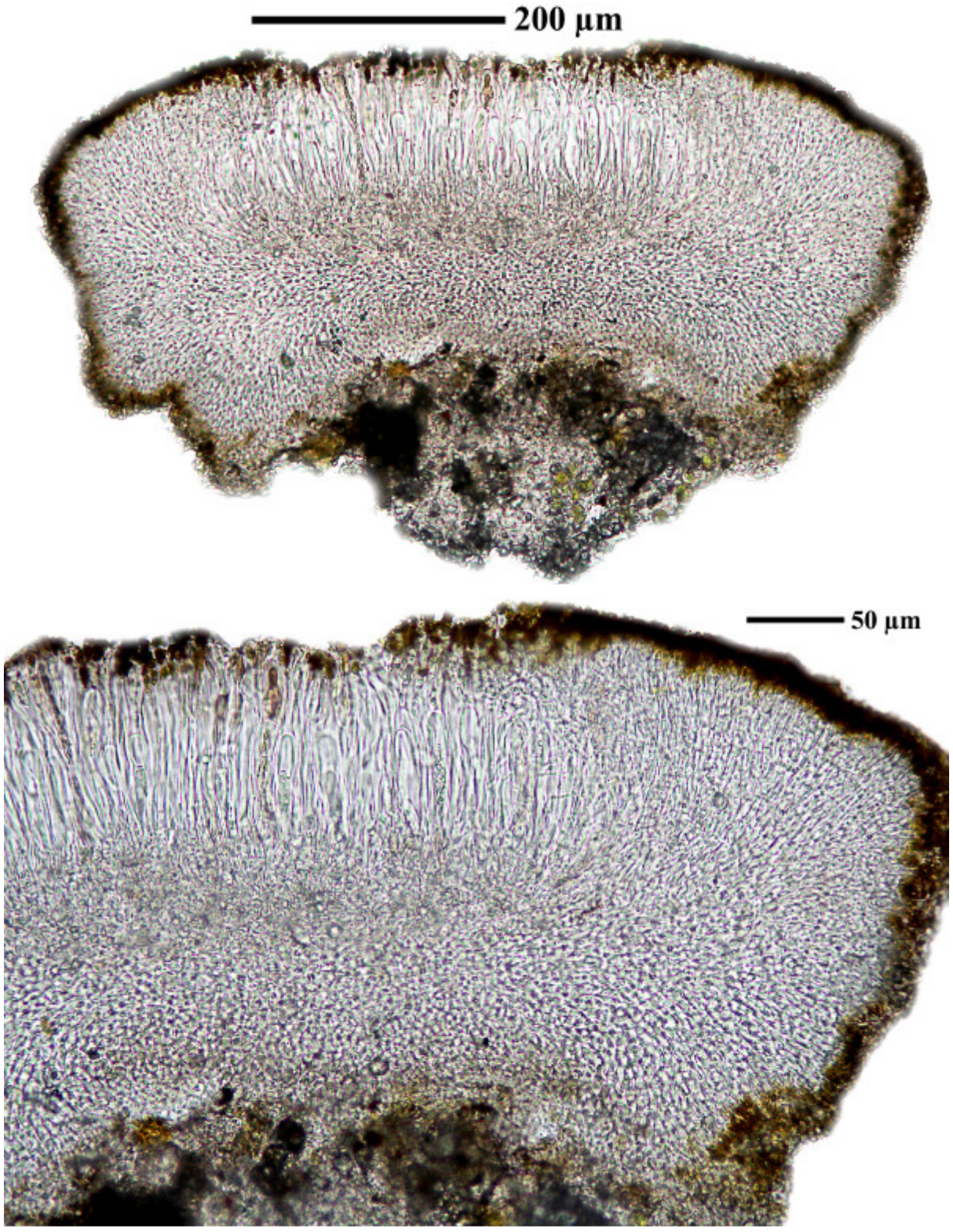




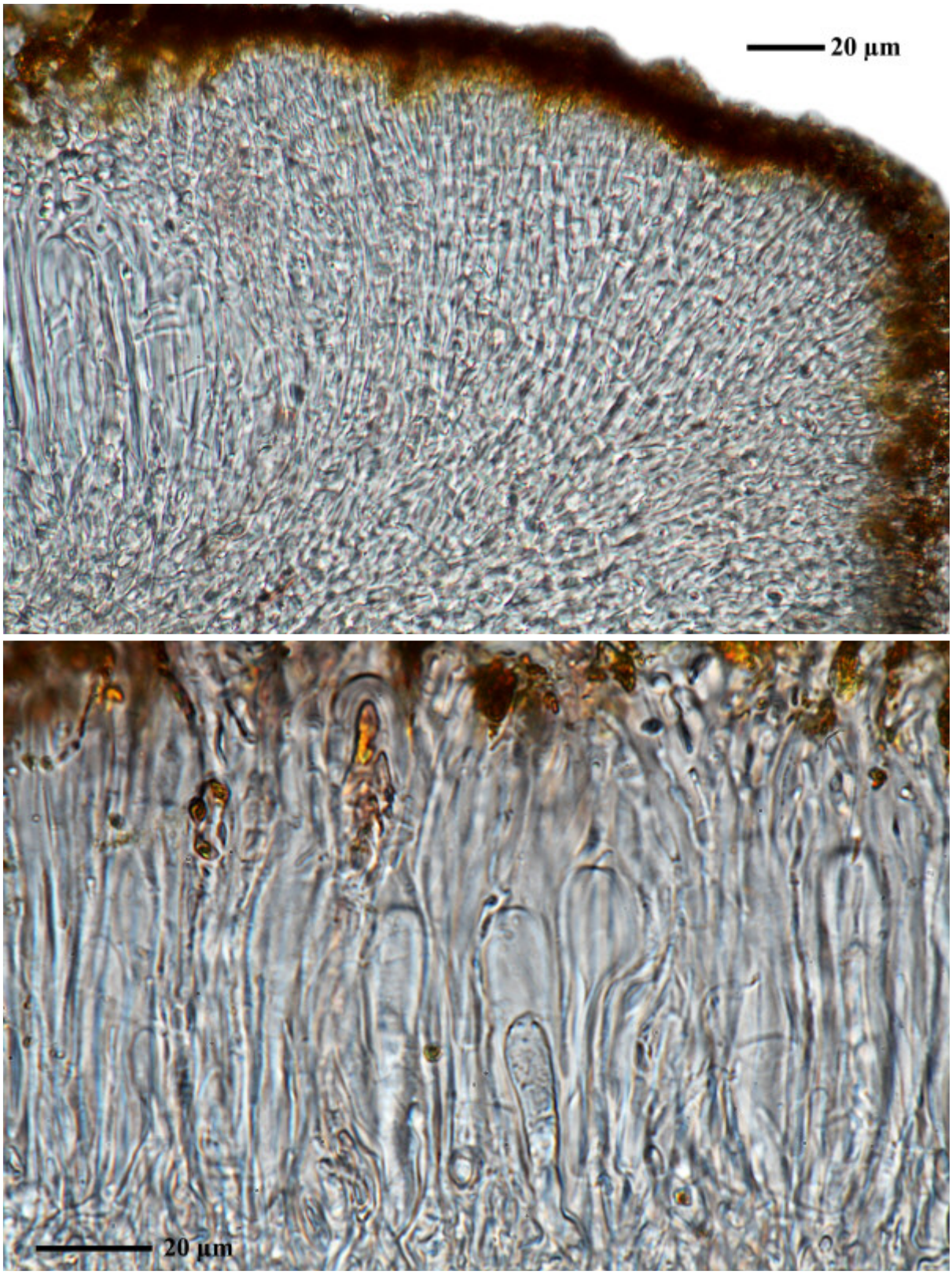
Caloplaca cretensis



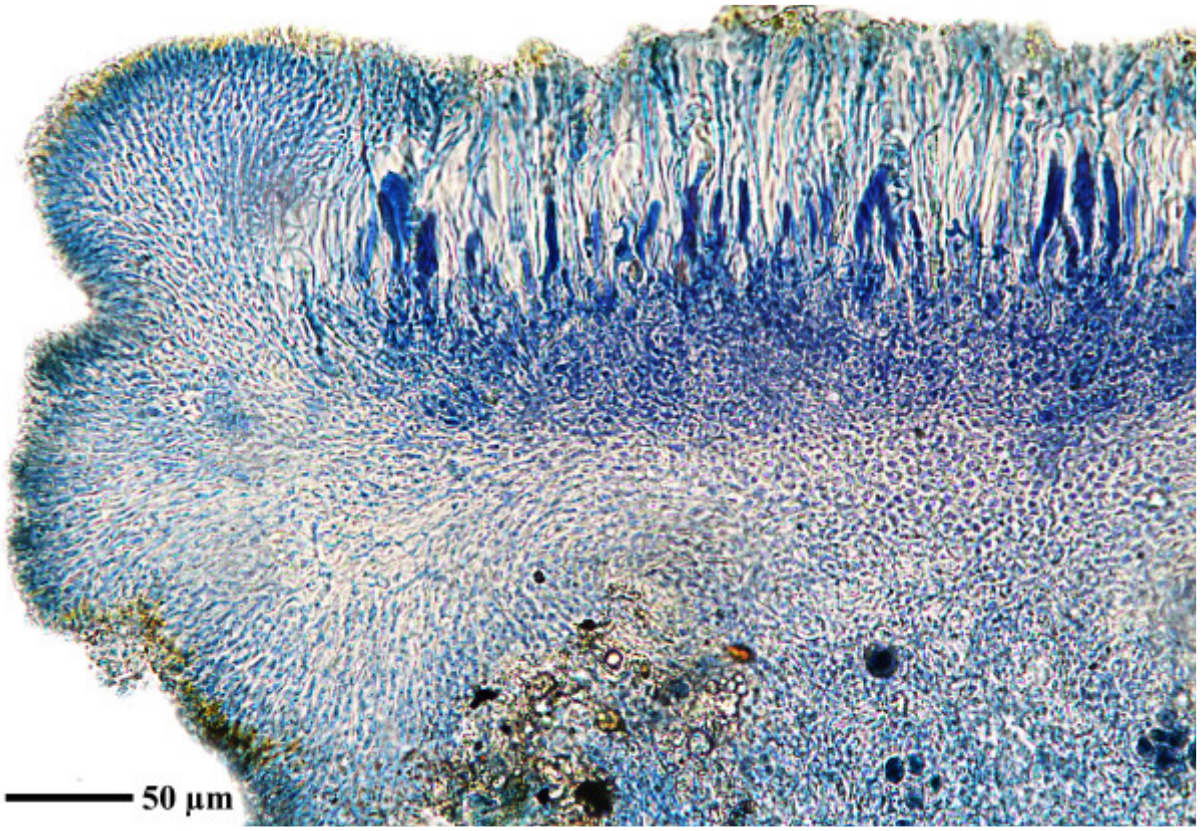
Caloplaca cretensis

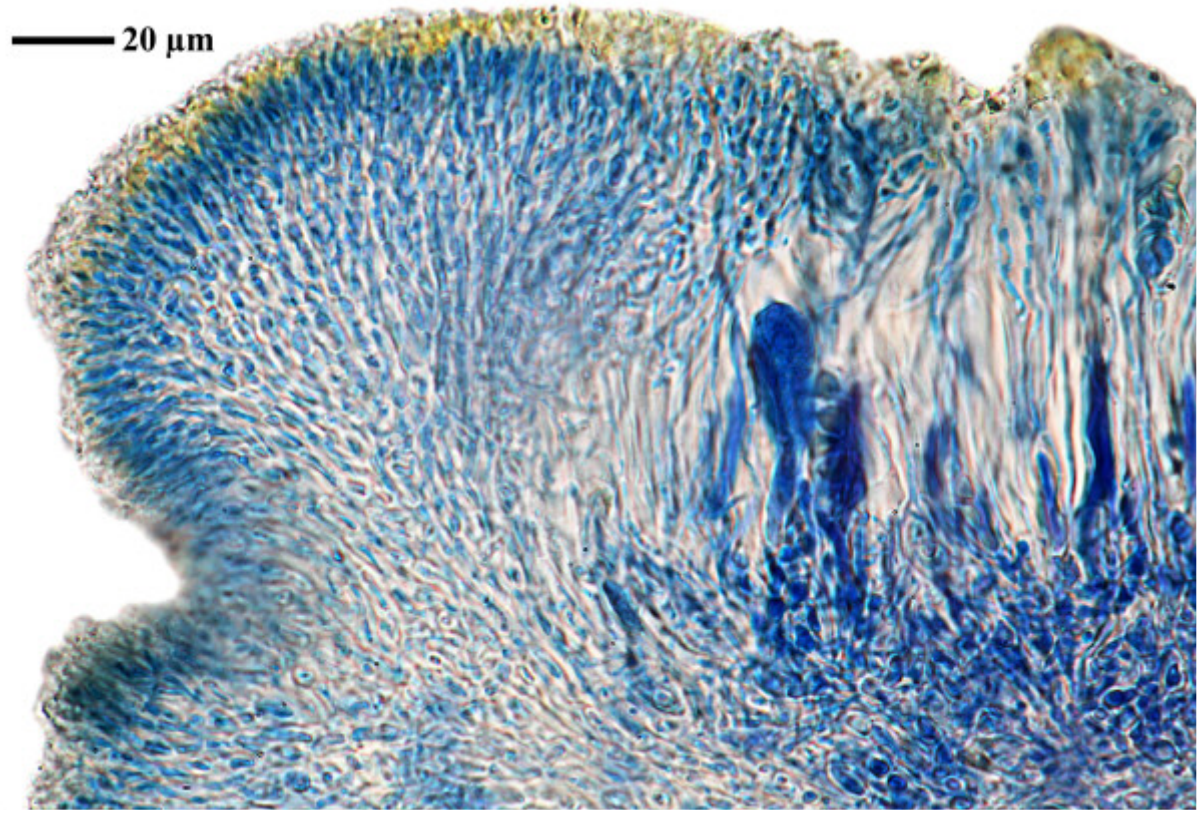


Caloplaca cretensis

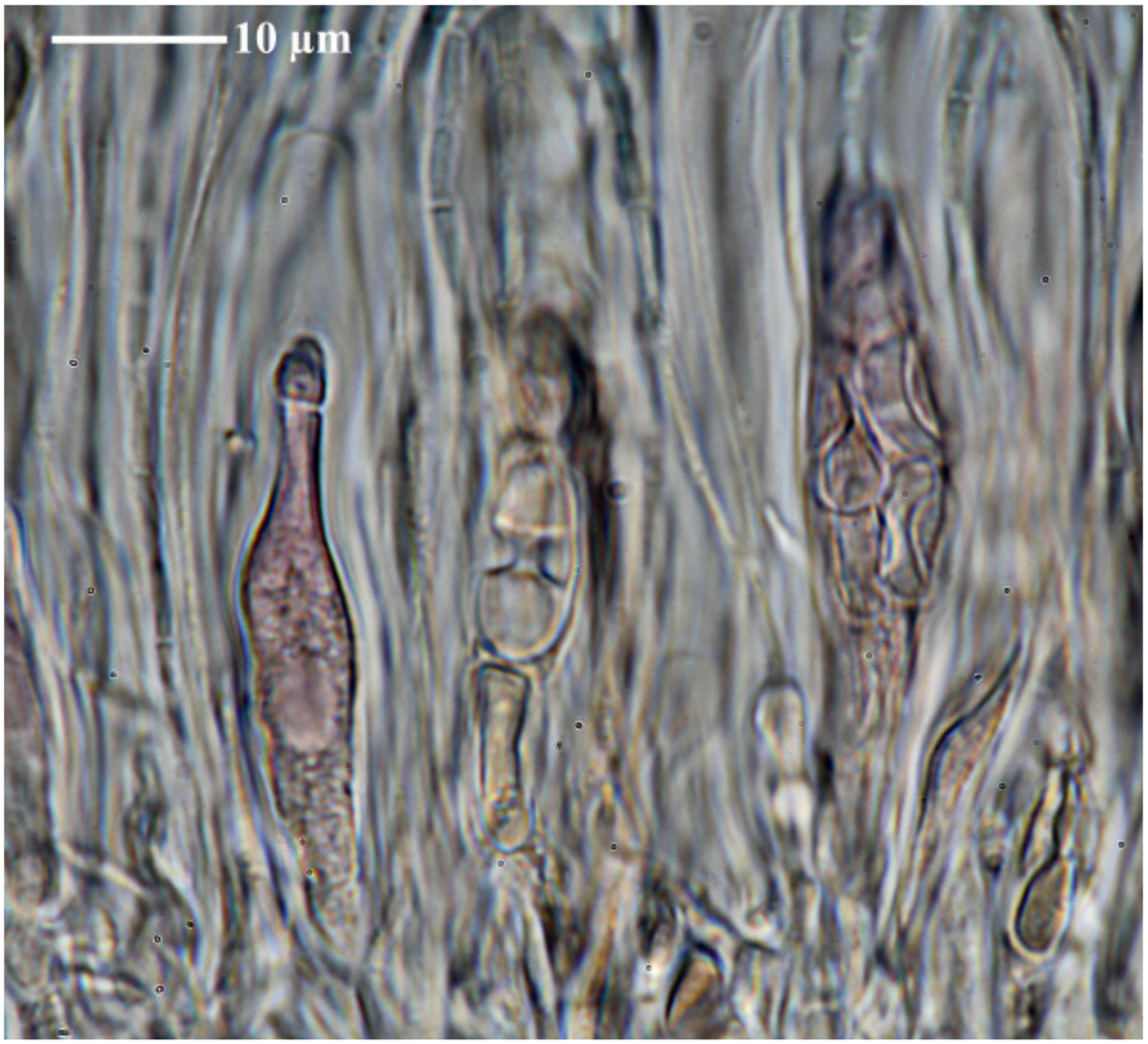


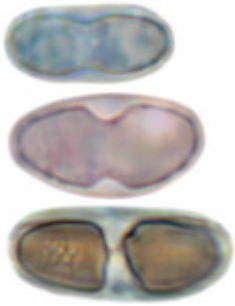
Caloplaca cretensis

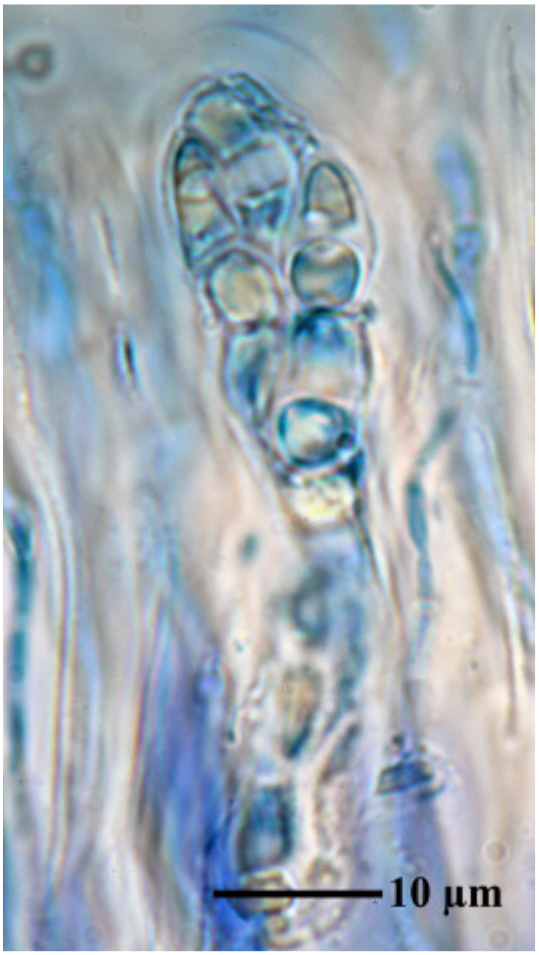


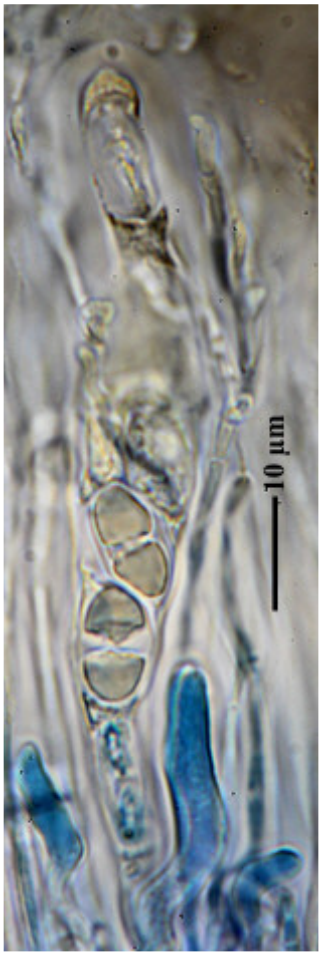


Caloplaca cretensis









Caloplaca cretensis

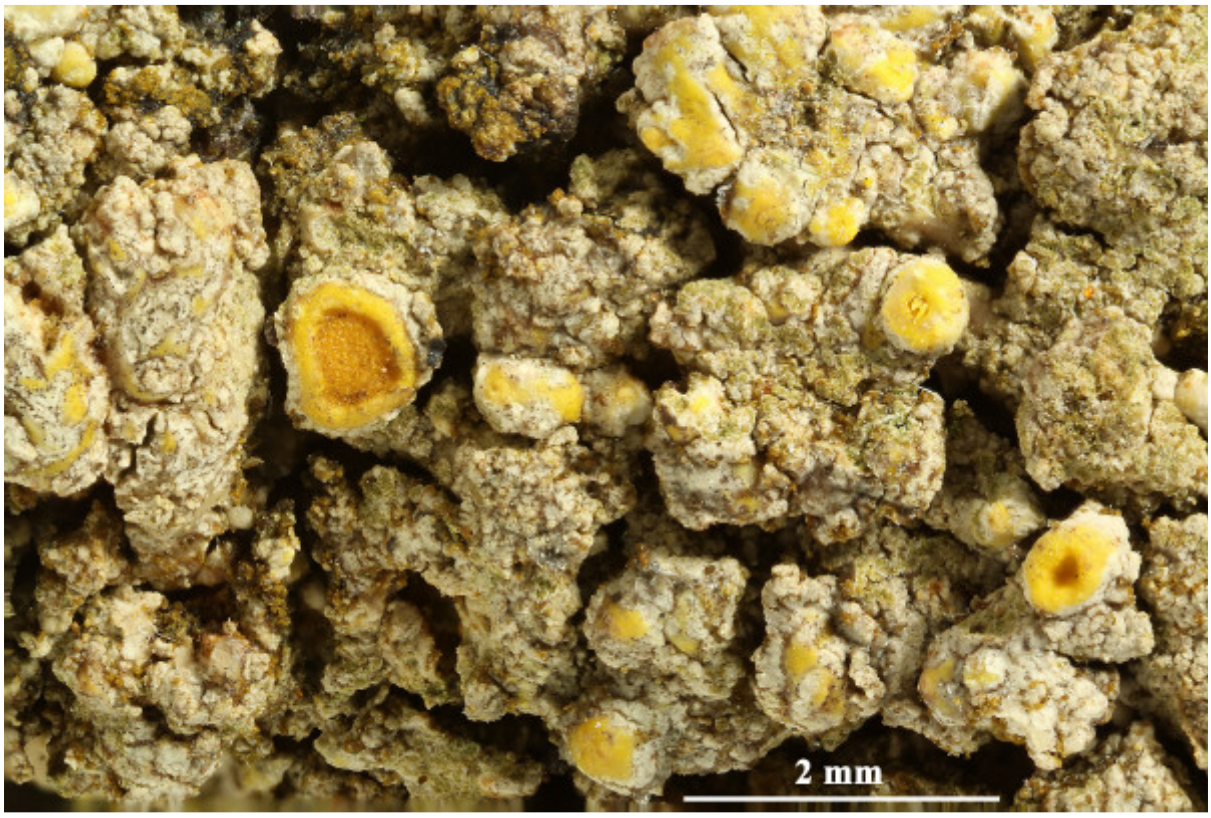
Caloplaca cribrosa (Hue) Zahlbr.
[= *Gondwania cribrosa* (Hue) Søchting, Frödén & Arup]

On rock.

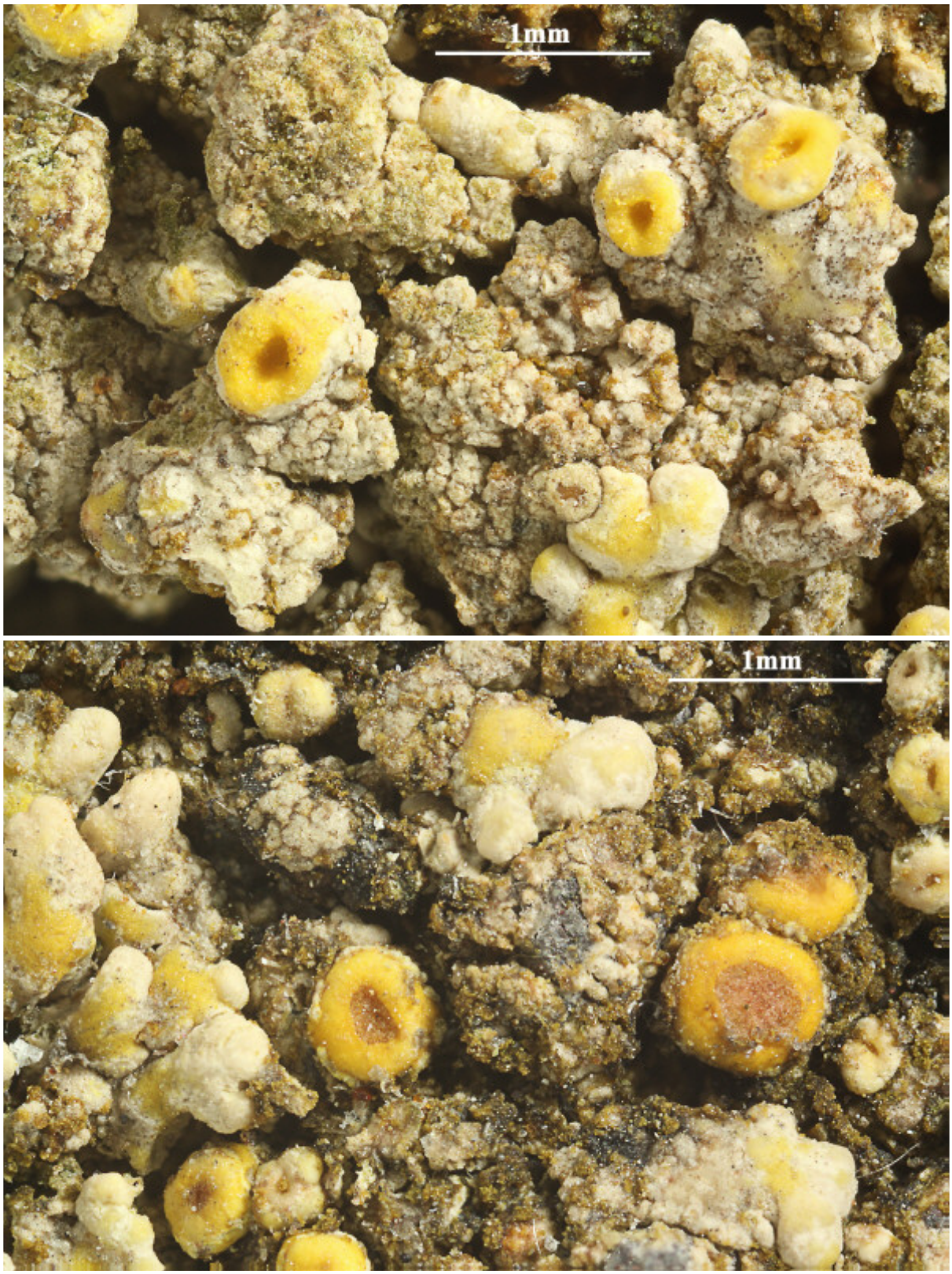
[ABL M2013-291], NJM Gremmen - Marion Island Relief Expedition 2013. Prince Edward Islands, Marion Island, Trypot Beach, rock near the trypot in middle of beach, 46°53'05.2" S, 37°52'05.8" E, 16 m, growing on rock, in coastal rock. Leg. NJM Gremmen (M2013-138), 6.05.2014, det. D. O. Øvstedal.







Caloplaca cribrosa



Caloplaca cribrosa

Caloplaca cribrosa (Hue) Zahlbr.
[= *Gondwania cribrosa* (Hue) Søchting, Frödén & Arup]

Spores 11-13.3 x 5.5-7.7 µm, septum 3-5.5 µm.

[BR5030040289344], Australia, Tasmania, Pensioners Bay near Gordon, 45 km S of Hobart, maritime siliceous rock. 43°17’ S, 147°14’ E, o m. Leg. A. & M. Aptroot (23000), March 1988, det. A. Aptroot 1988.

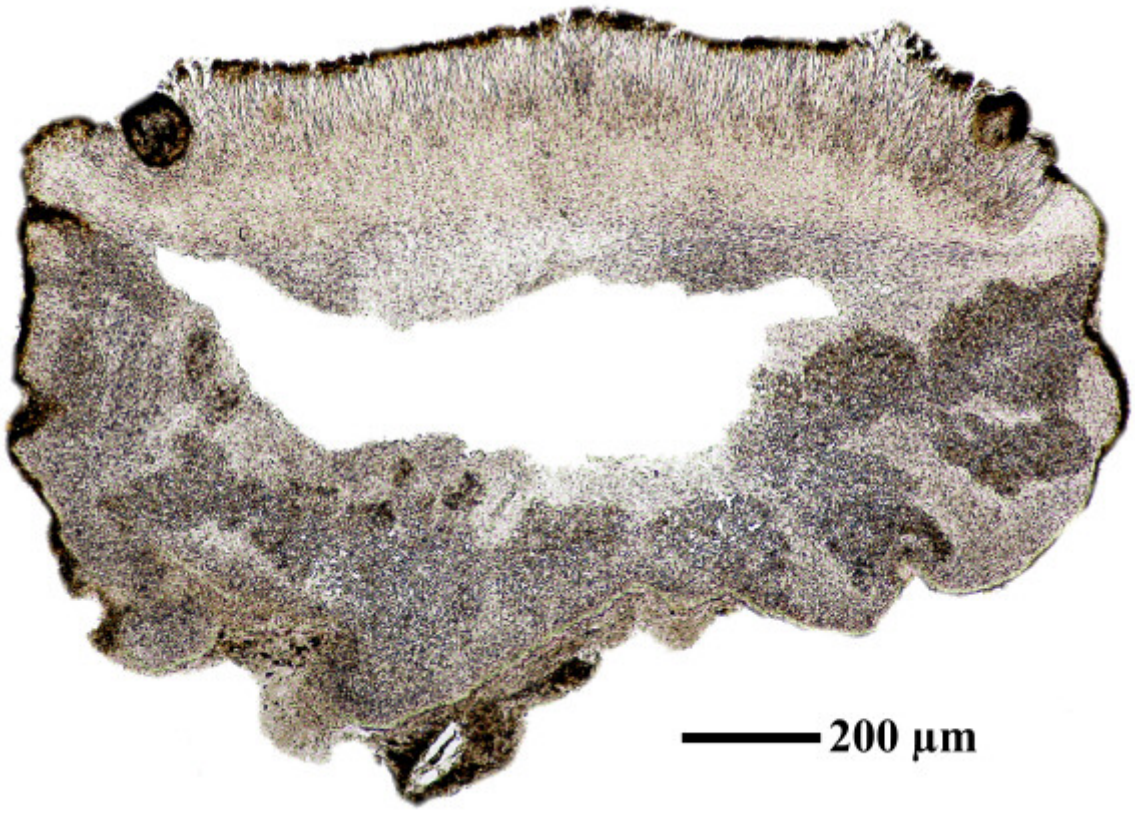




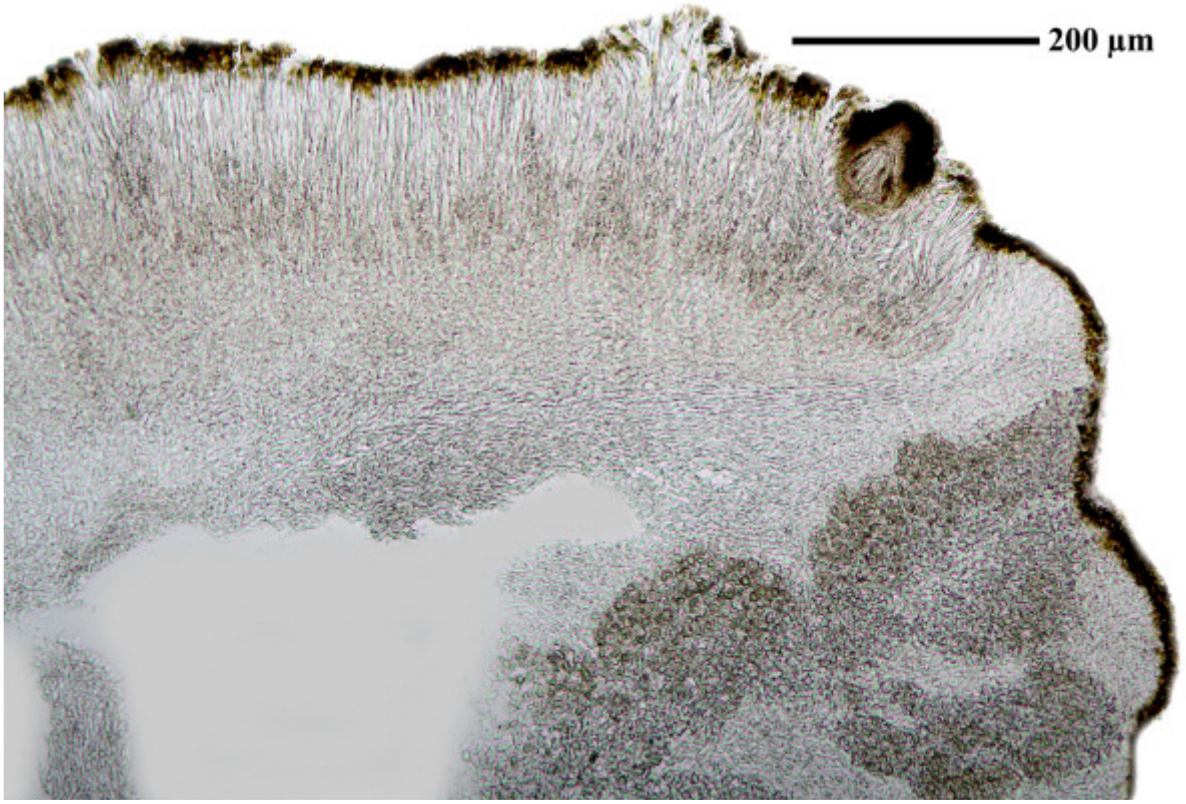


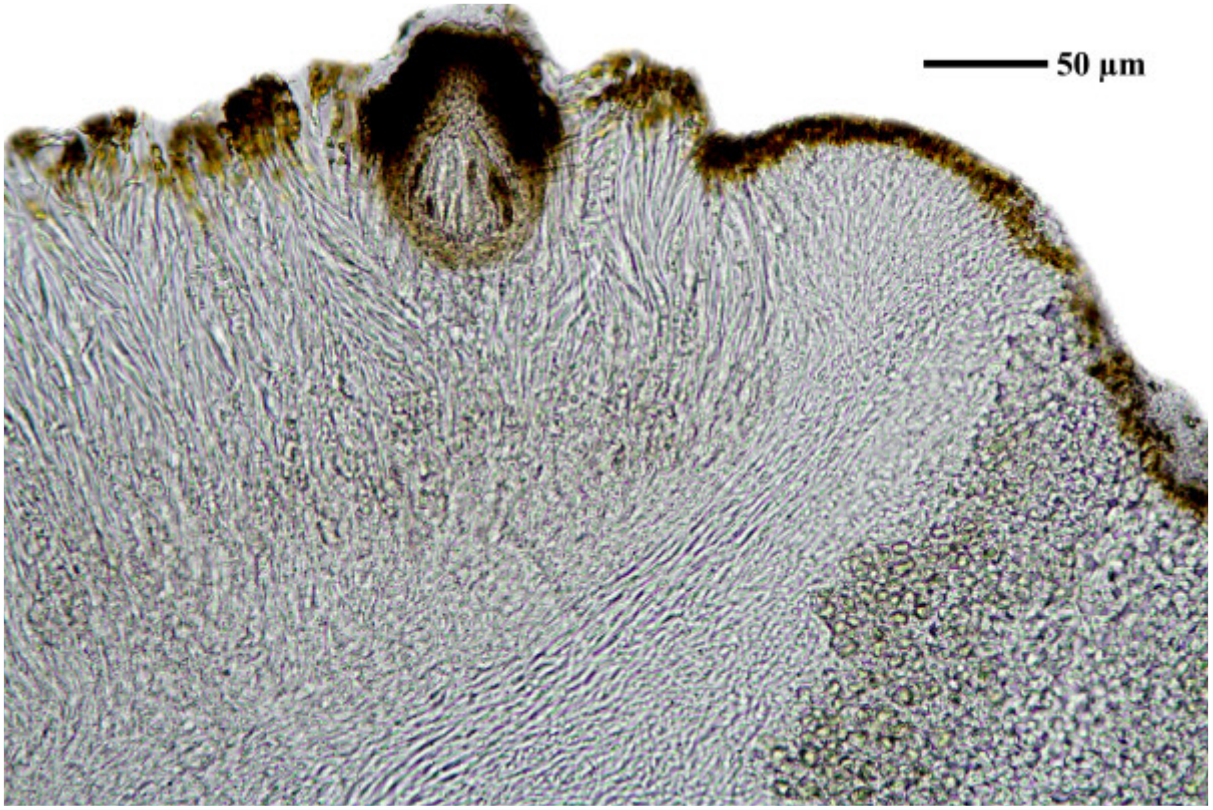
Caloplaca cribrosa



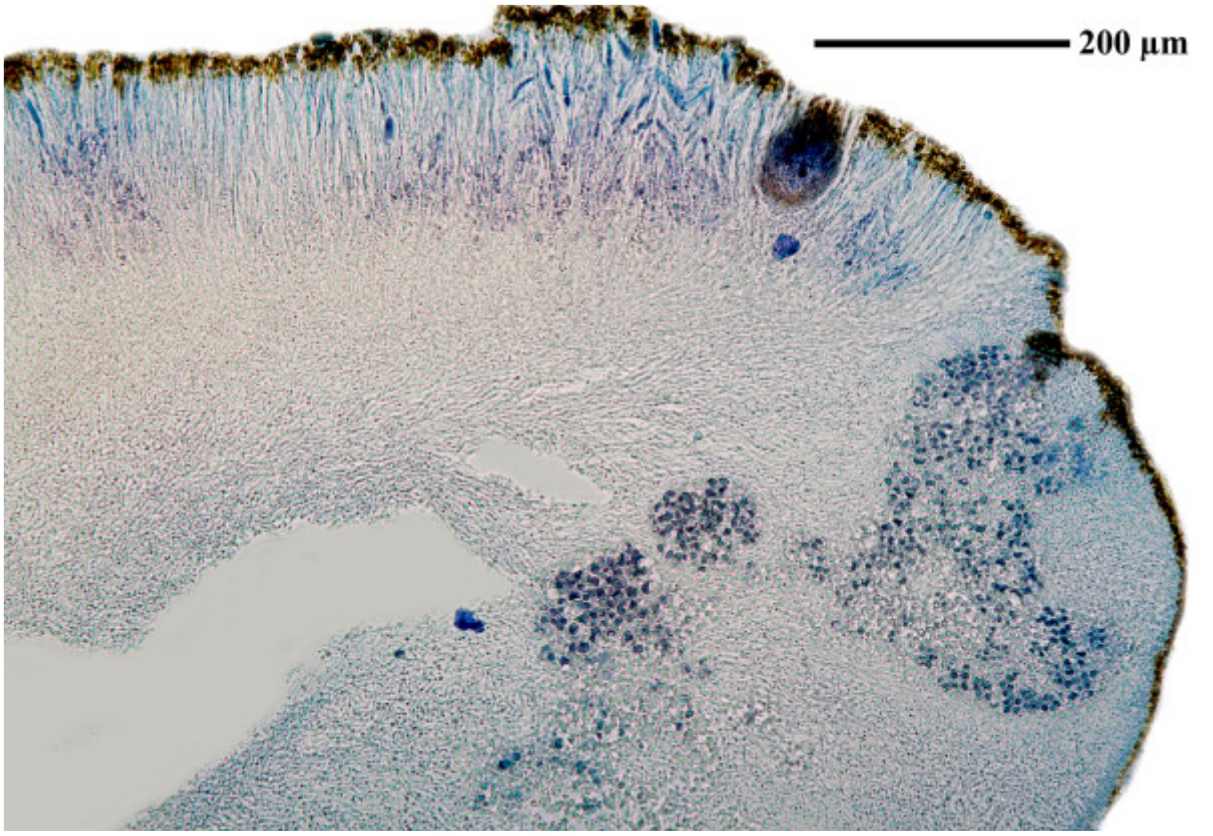


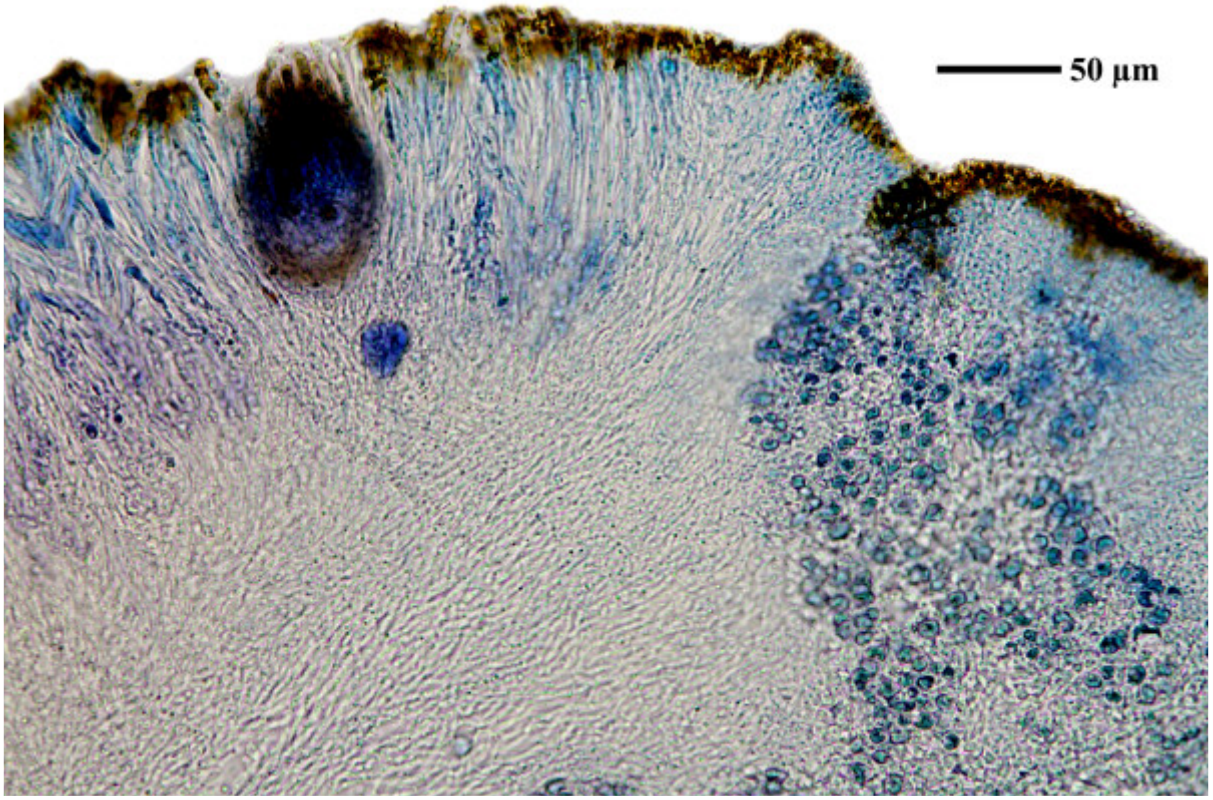
Caloplaca cribrosa



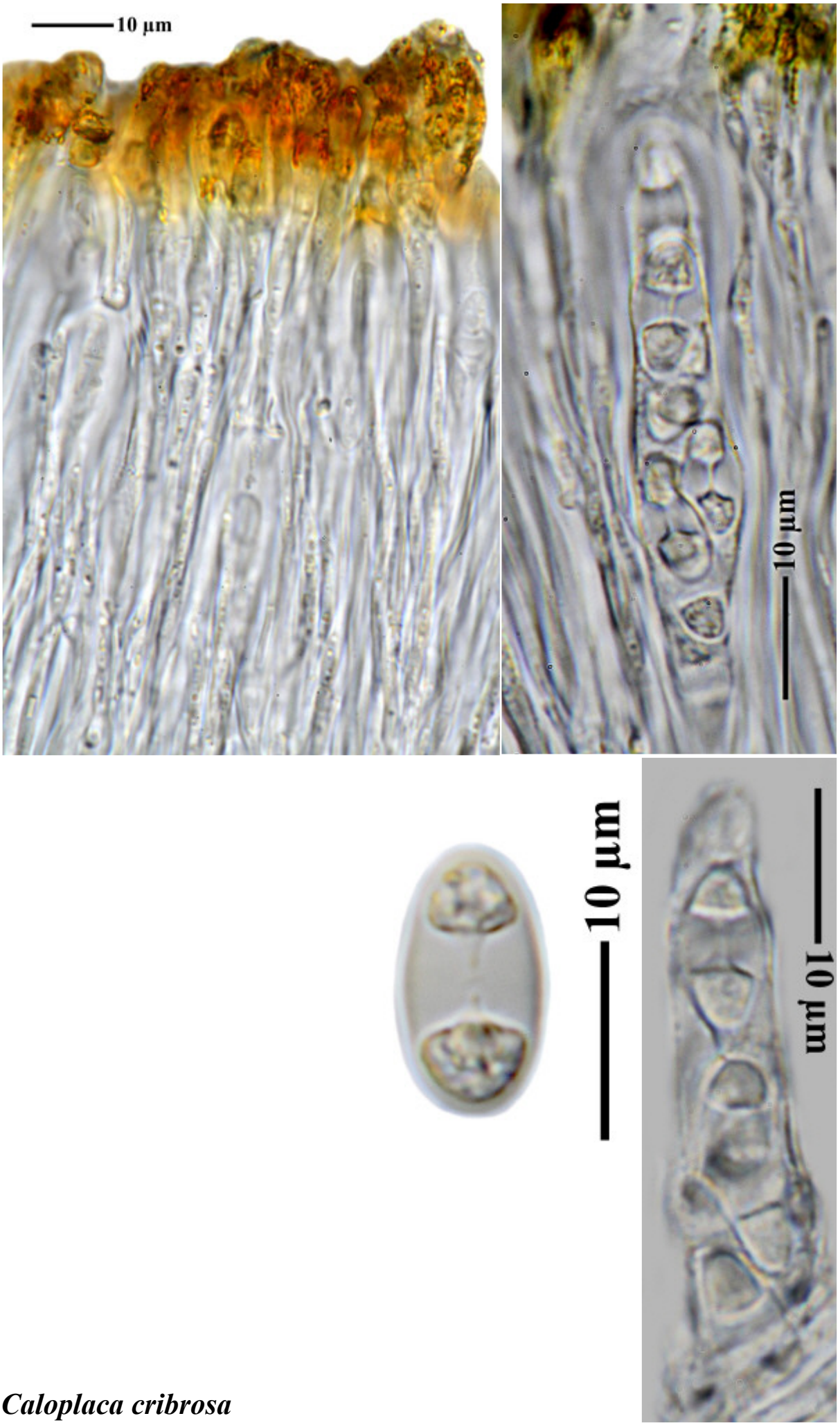


Caloplaca cribrosa

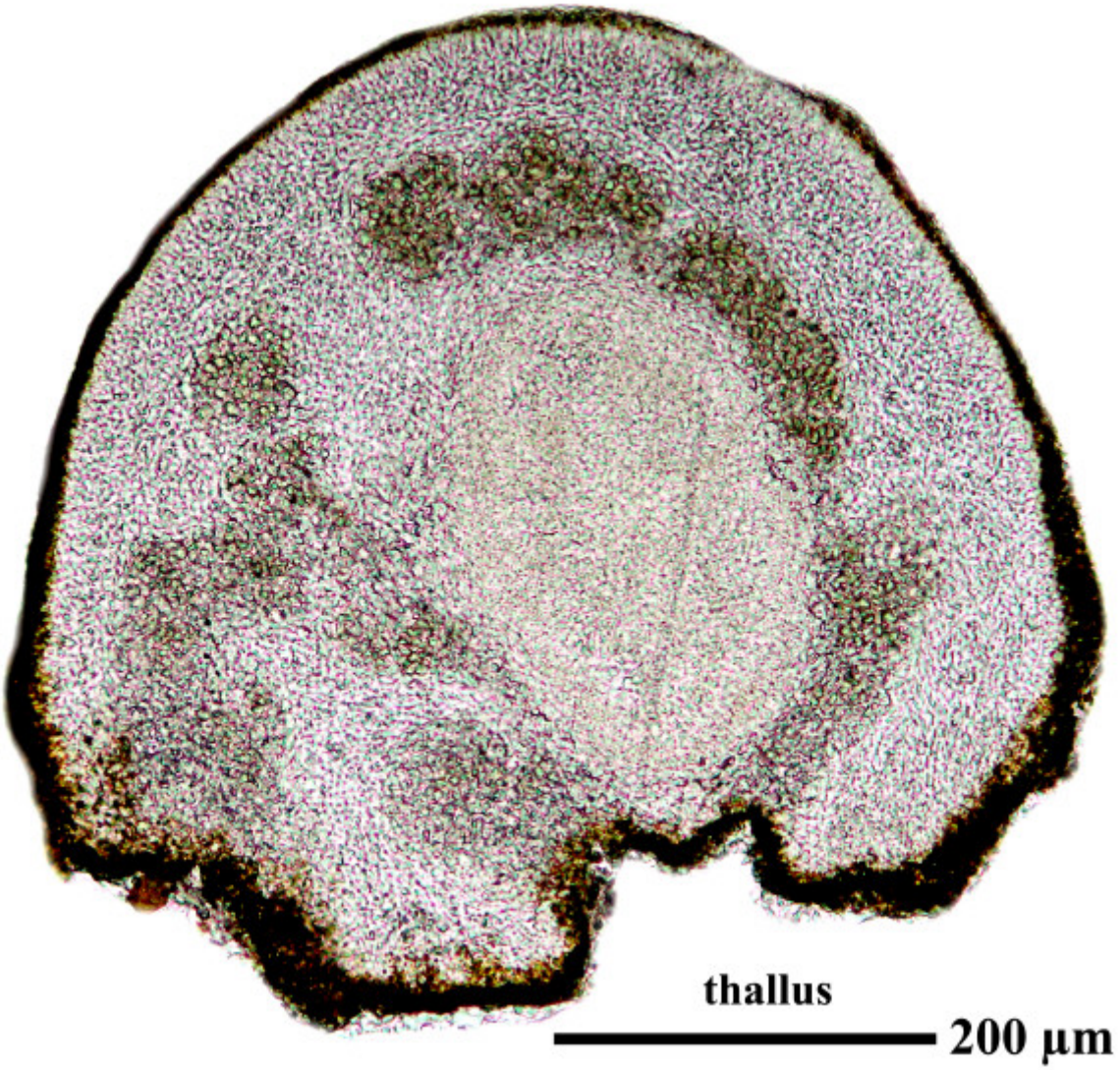


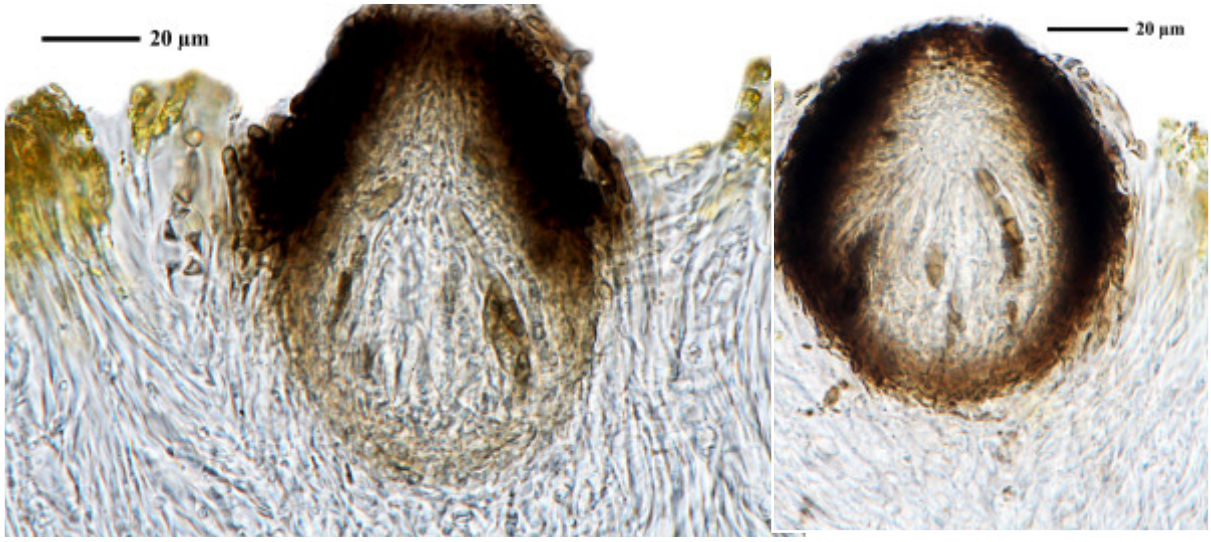


Caloplaca cribrosa



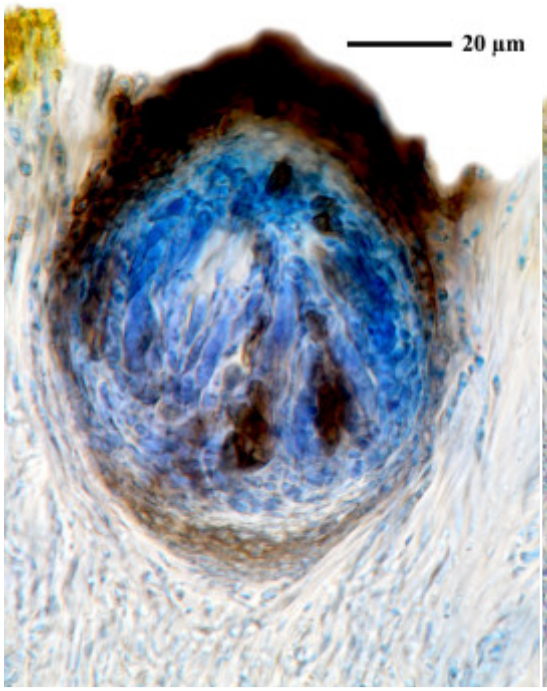
Caloplaca cribrosa

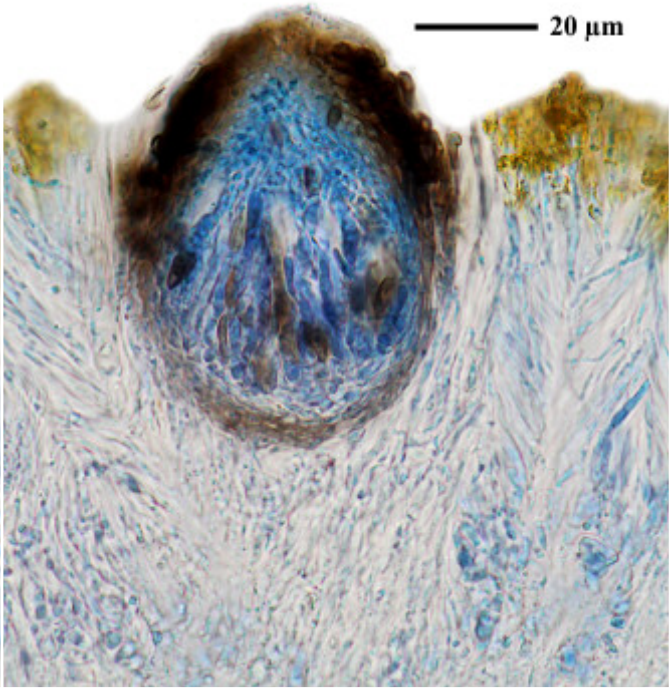




The parasit may be ***Polycoccum rugolusarium*** (Linds.) D.Hawskw.; spores brown, 1-septate, 13.3 x 4.6 µm.

Caloplaca cribrosa





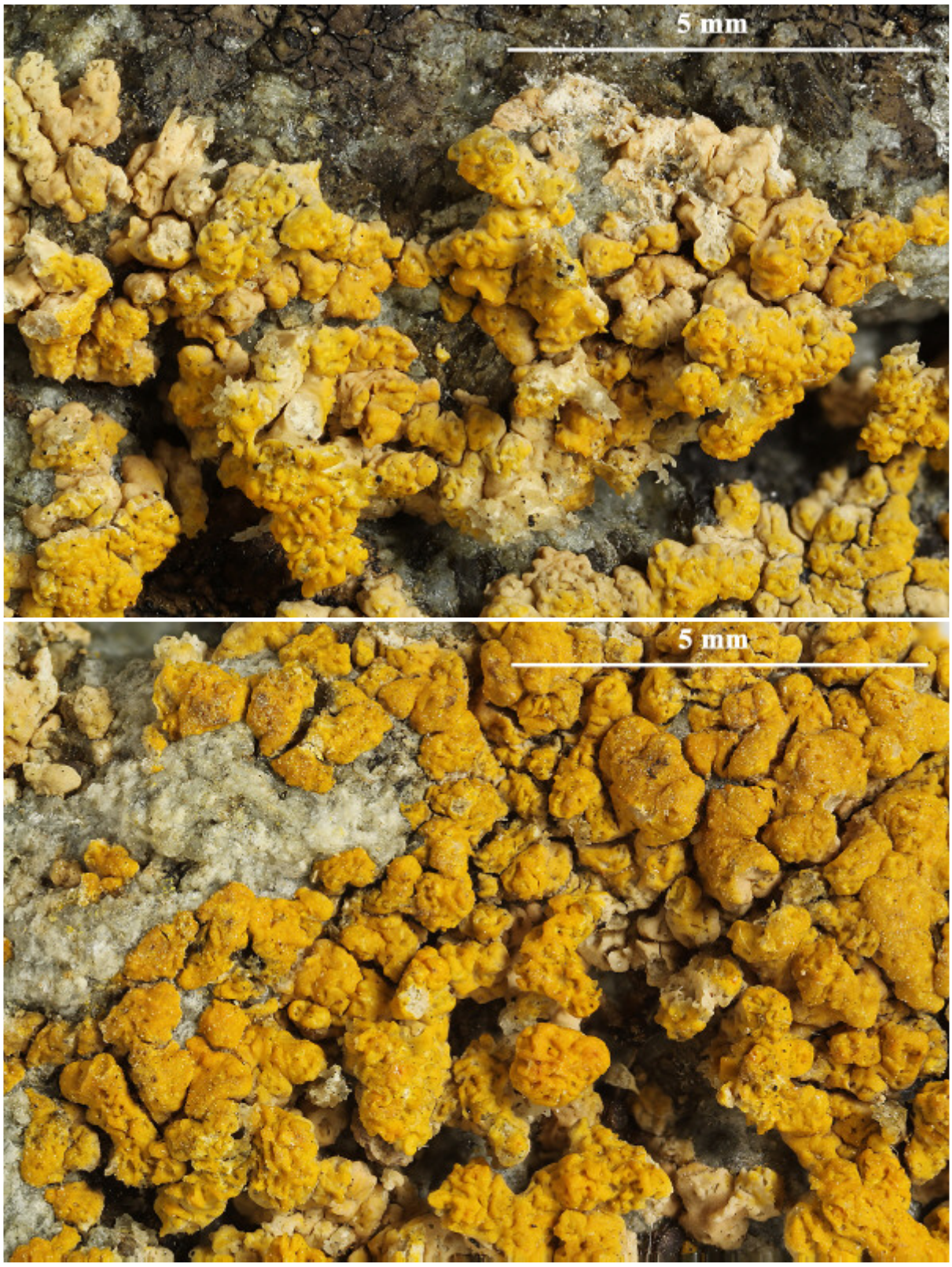


Caloplaca cribrosa

Caloplaca cribrosa (Hue) Zahlbr.
[= *Gondwania cribrosa* (Hue) Søchting, Frödén & Arup]

[BR5030040290357], Australia, Tasmania, Pensioners Bay near Gordon, 45 kmn S of Hobart, maritime siliceous rock, 0 m. 43°17’ S, 147°14’ E.. Leg. A. & M. Aptroot (22998), March 1988, det. A. Aptroot, 1988.





Caloplaca cribrosa



Caloplaca cribrosa

Caloplaca crocea (Kremp.) Hafellner & Poelt

Disk K+ rot. Sporen hyalin, 8/Ascus, 3-locular. Paraphysen am Ende verzweigt und nicht verdickt. On bark.

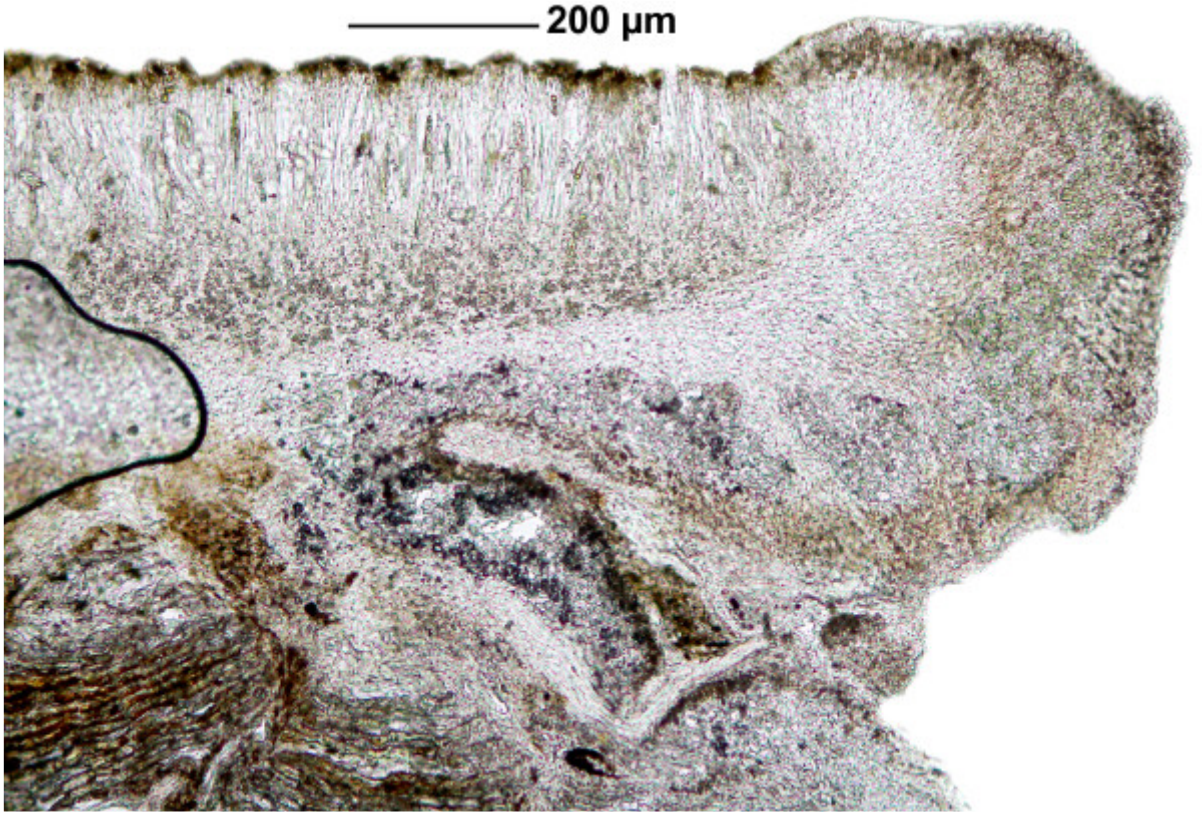
[18159], Brasilien, São Paulo, zwischen Osasco und Cabreúva, etwa 40 km westnordwestlich von São Paulo, an einem freistehenden Alleebaum, alt. 750 m, 23°20' S, 47° W. Leg. K. Kalb & G. Plöbst, 20.07.1979. KALB: LICHENES NEOTROPICI 054.

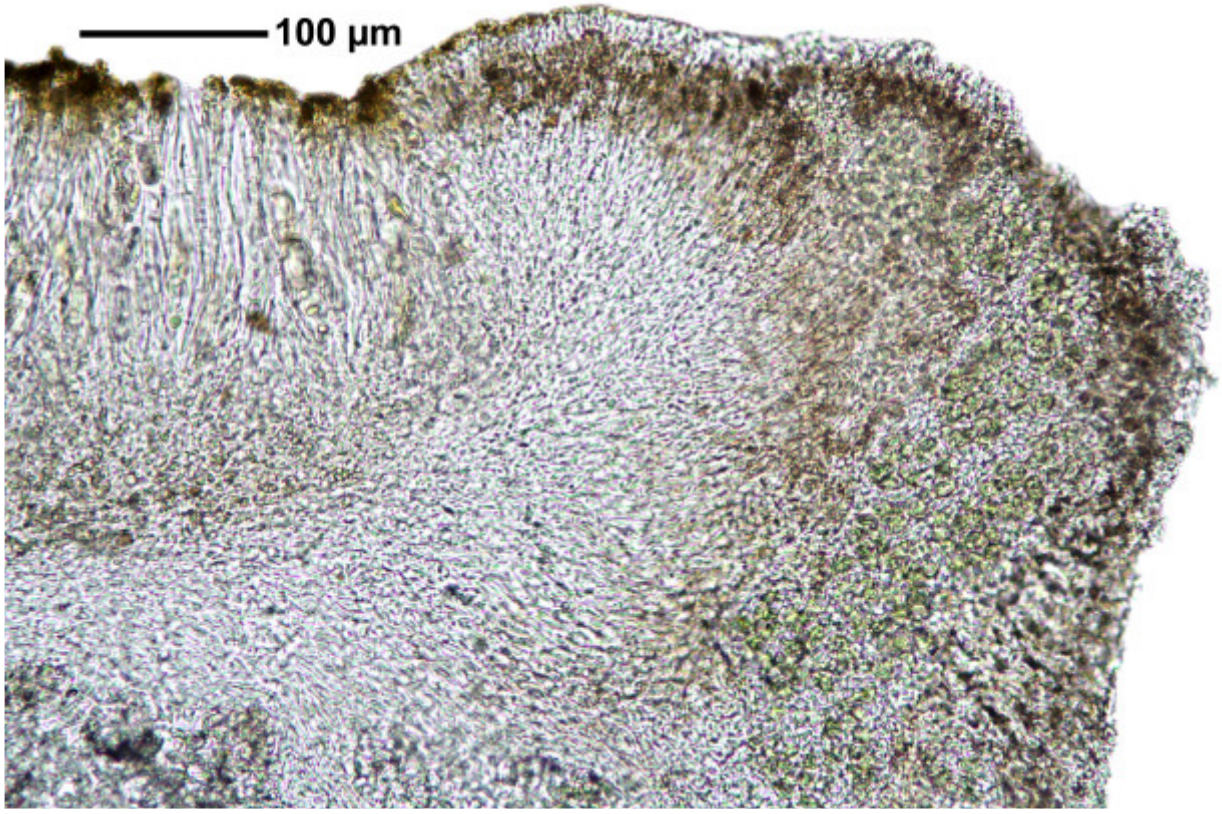




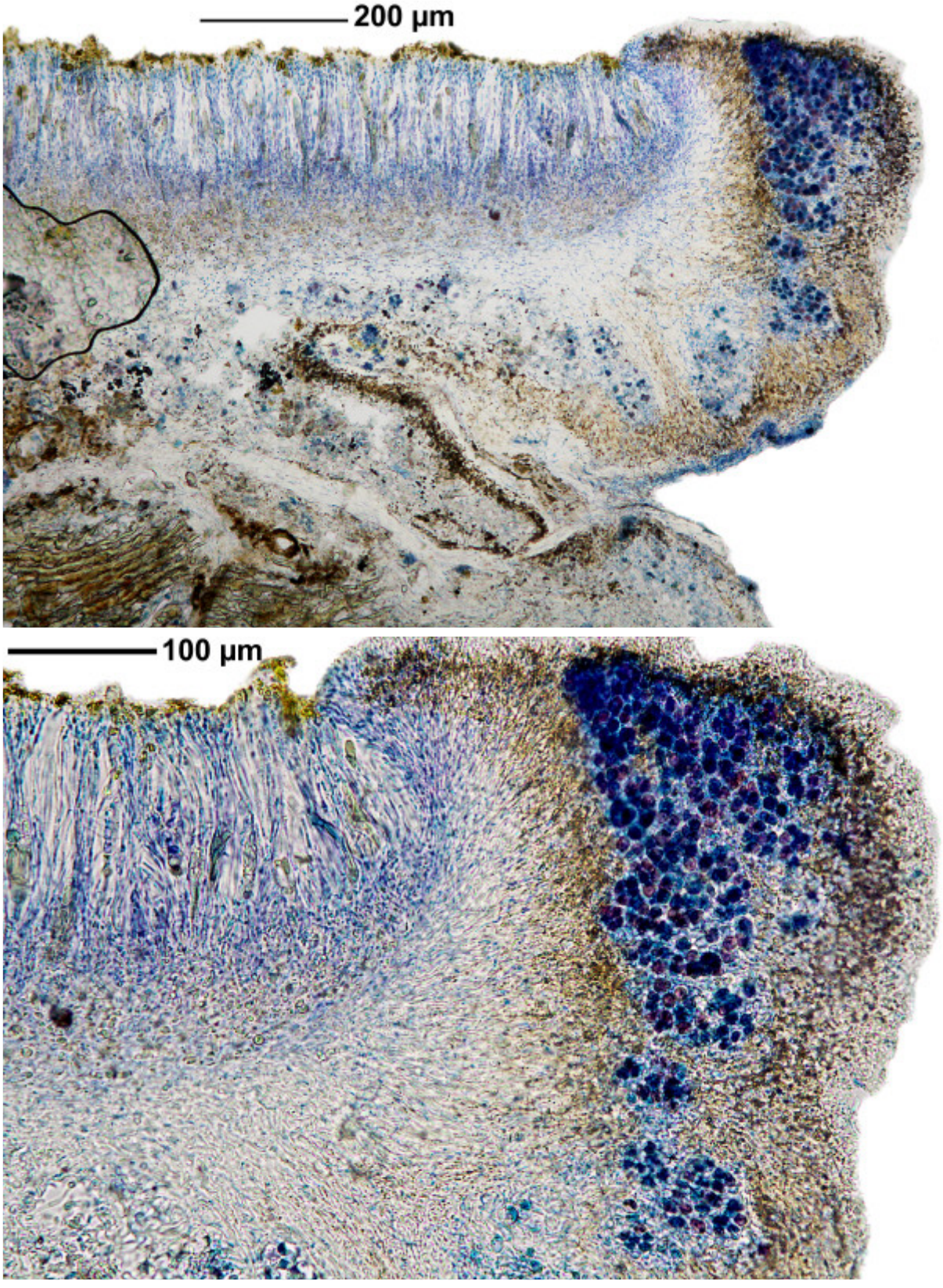


Caloplaca crocea

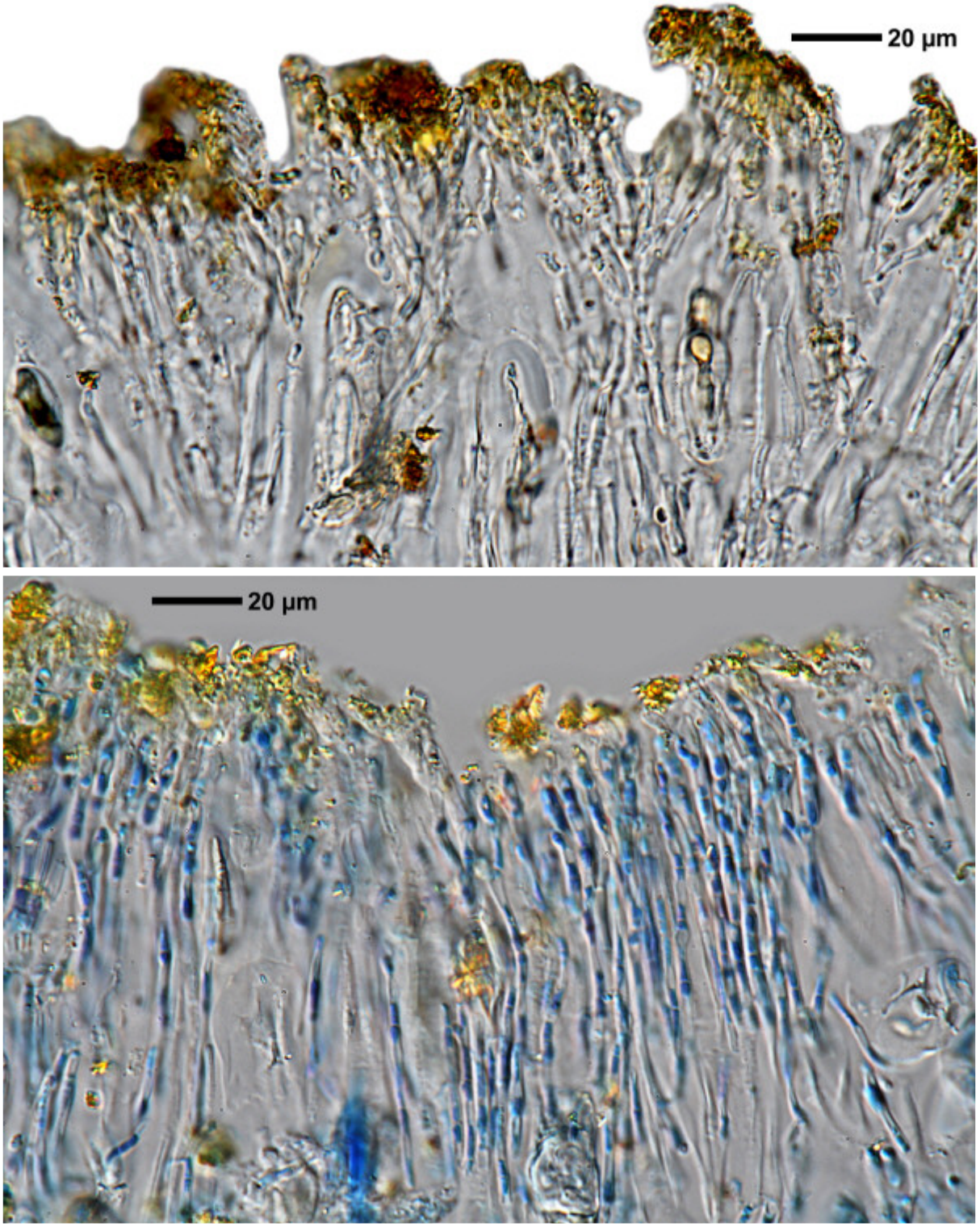




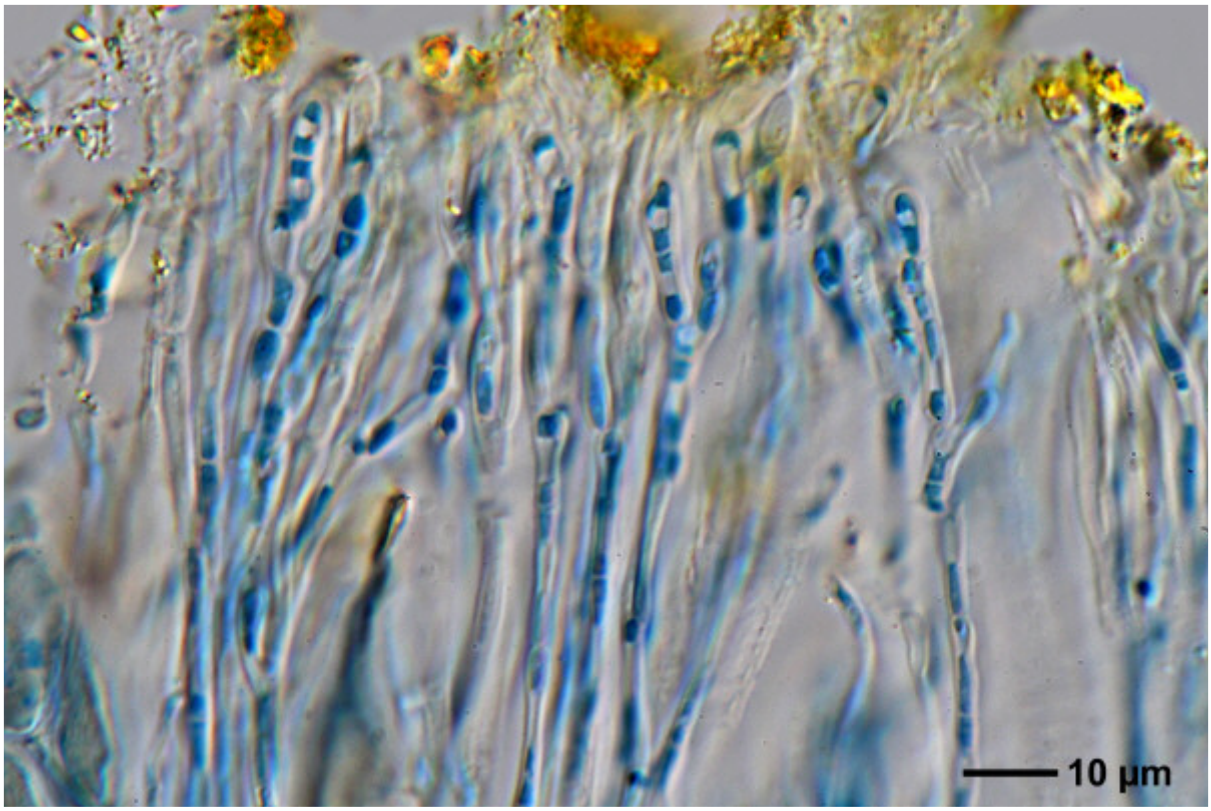
Caloplaca crocea



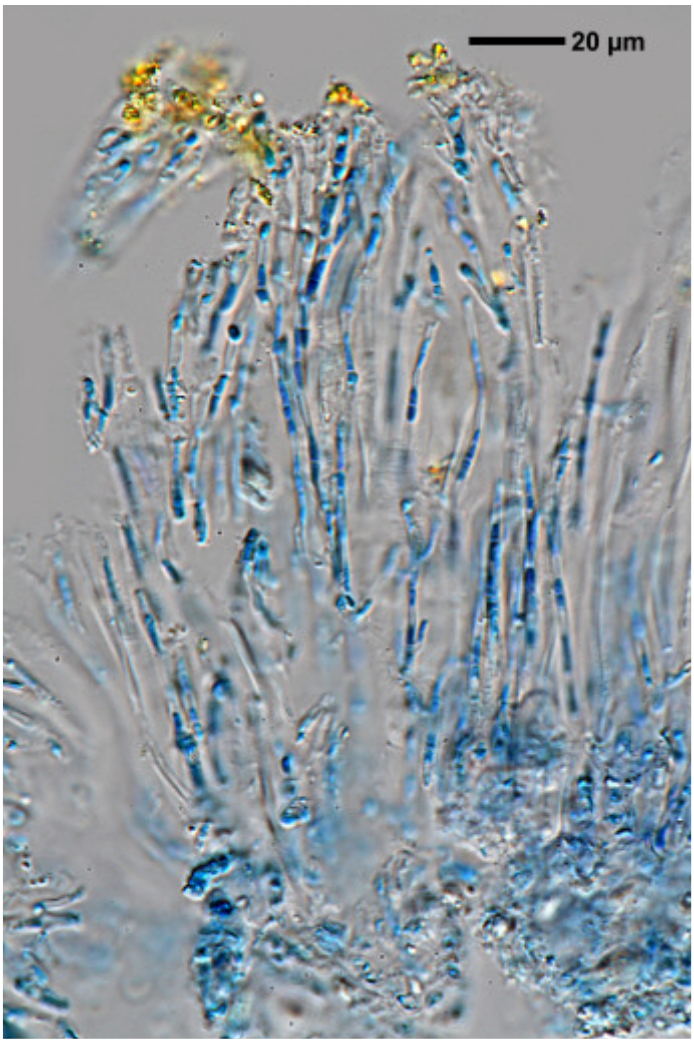
Caloplaca crocea



Caloplaca crocea







Caloplaca crocea

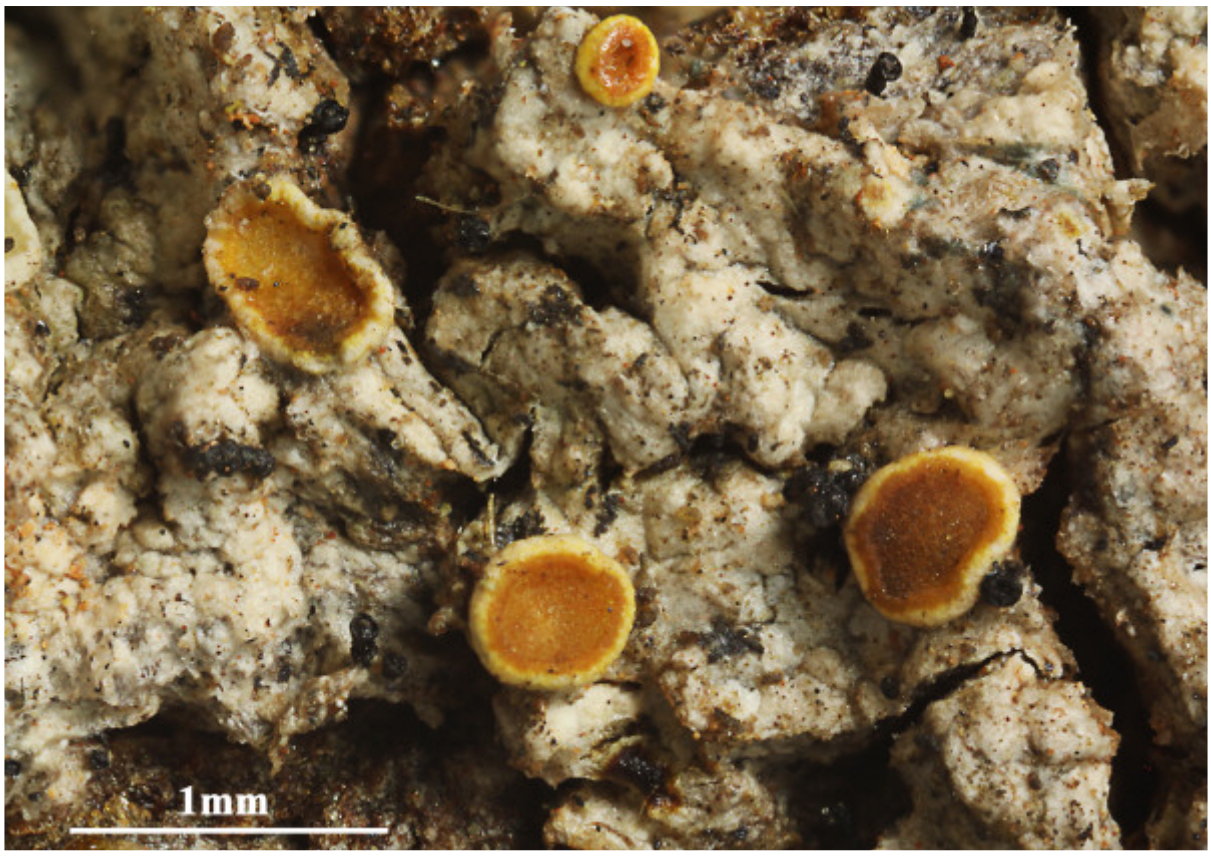
Caloplaca crocina (Kremp.) Marcolli

On bark. Asospores 12 x 6 µm, septum long.

[ABL 13590], Brazil, São Paulo, Botucatu, near Pousada Mandala on SP-254, 22°52’45” S, 48°29’16” W, 850 m, on bark in cerrado forest. Leg. M. Cáceres & A. Aptroot, 9.09.2012, det. A. Aptroot 2012.







Caloplaca crocina

Caloplaca crocina (Kremp.) Marcolli

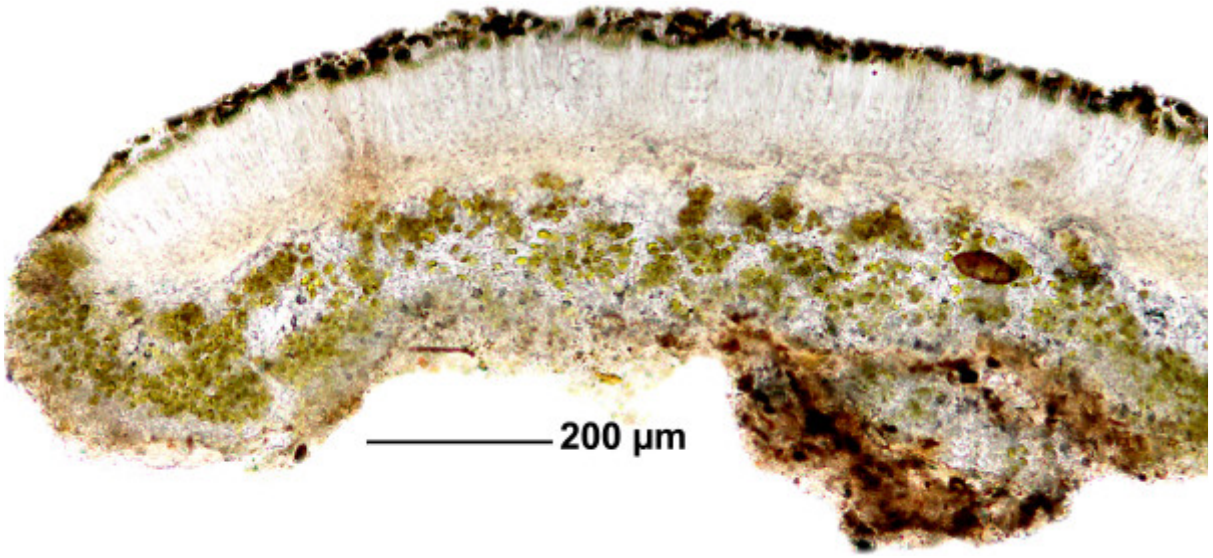
On bark. Spores polarilocular, hyaline, 8/ascus, 18.5-20 x 10-12 µm, septum 7.5-10.5 µm.

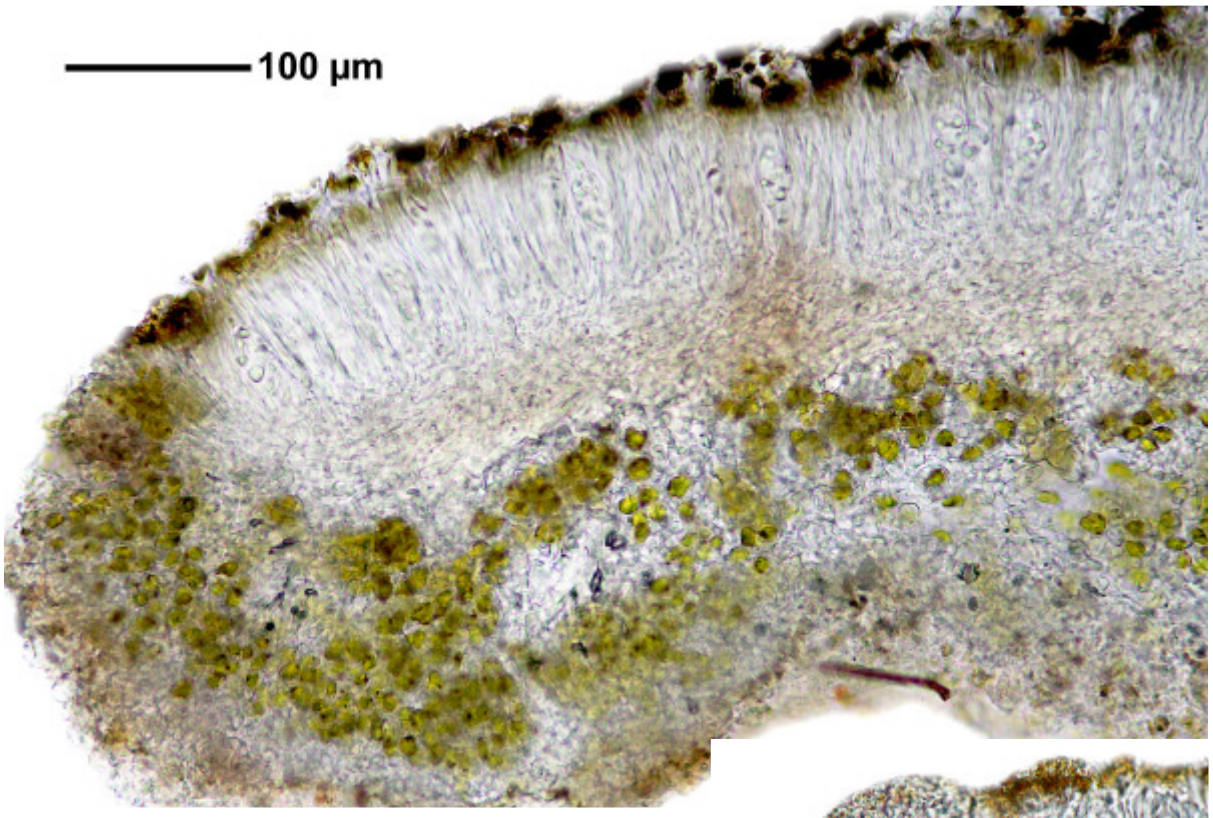
[ABL 13661], Brazil, São Paulo, Botucatu, Botanical garden on campus, 22°53'09'' S, 48°29'56'' W, 850 m, on bark in park. Leg. M. Cáceres & A. Aptroot, 13.09.2012, det. A. Aptroot 2012.

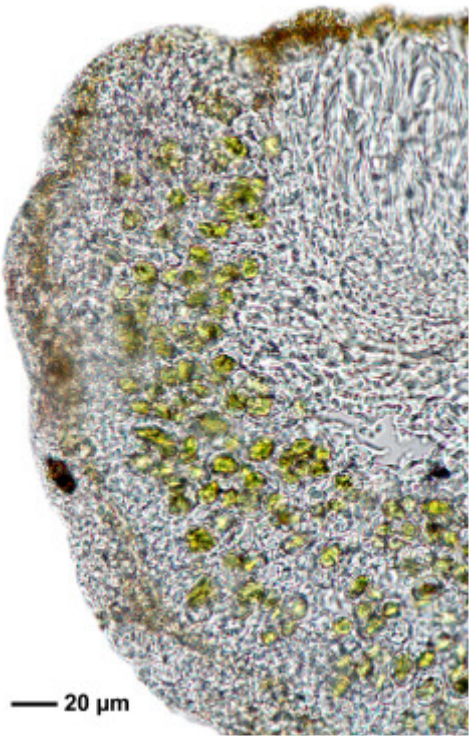




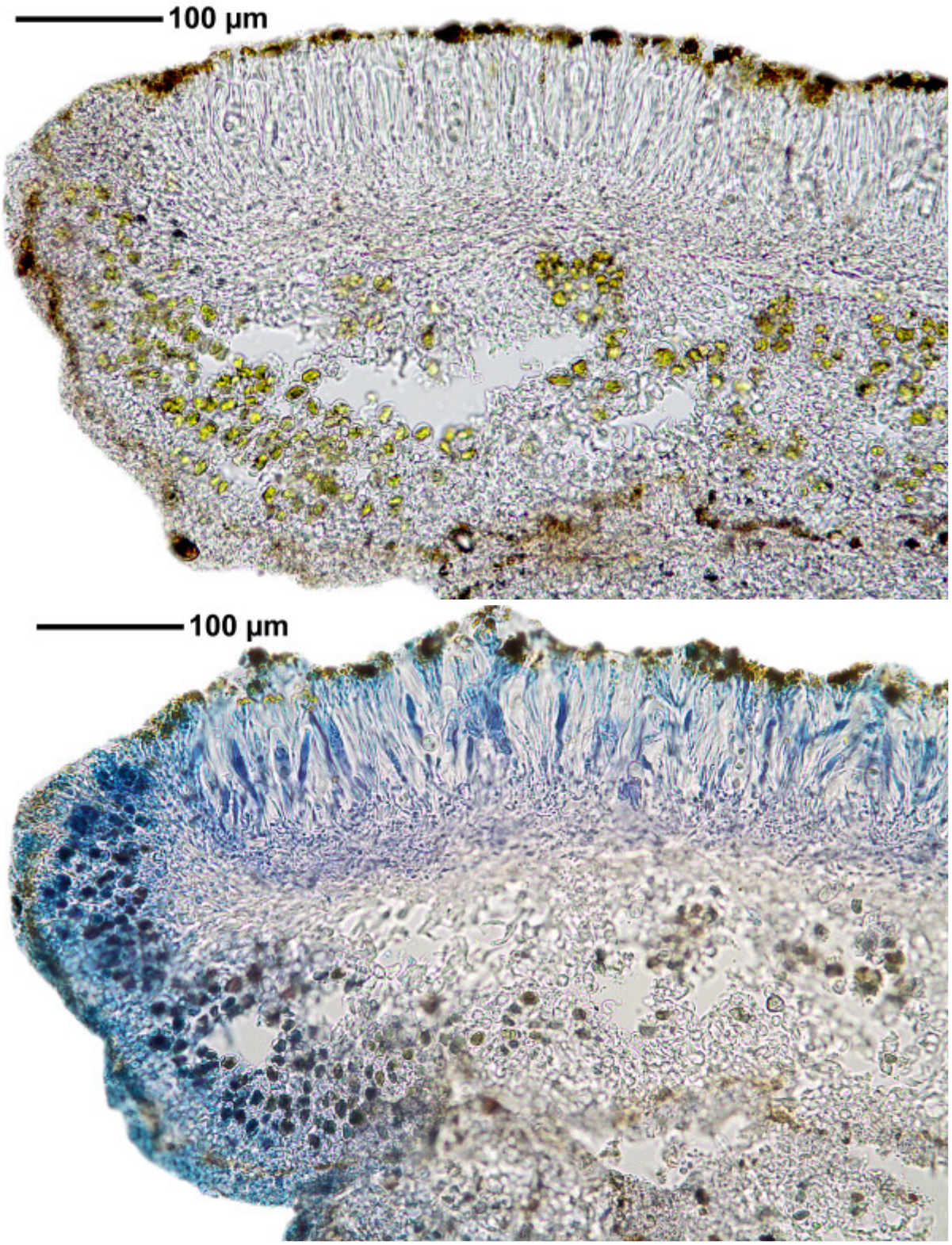
Caloplaca crocina



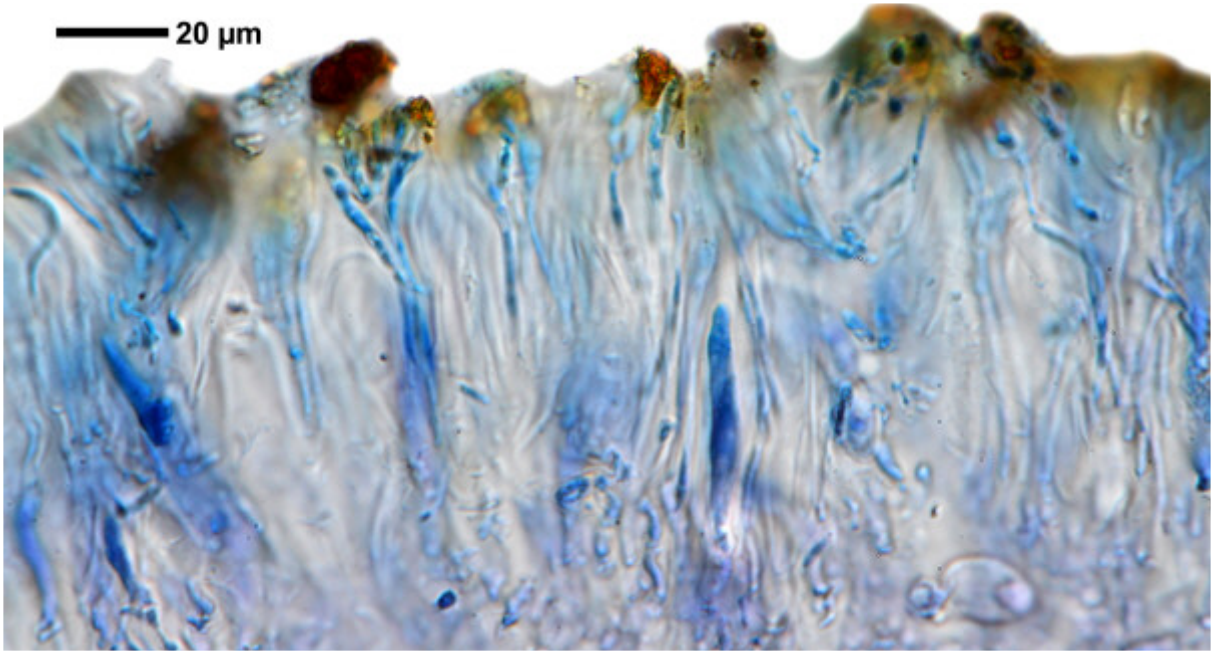


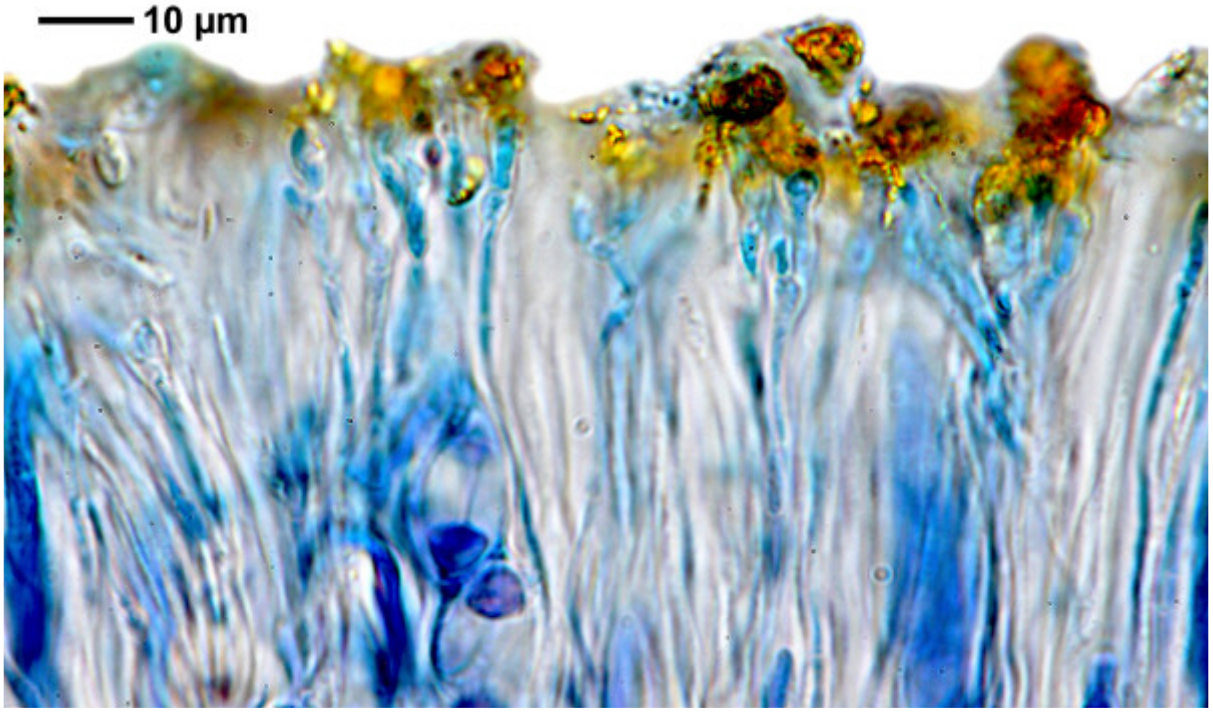


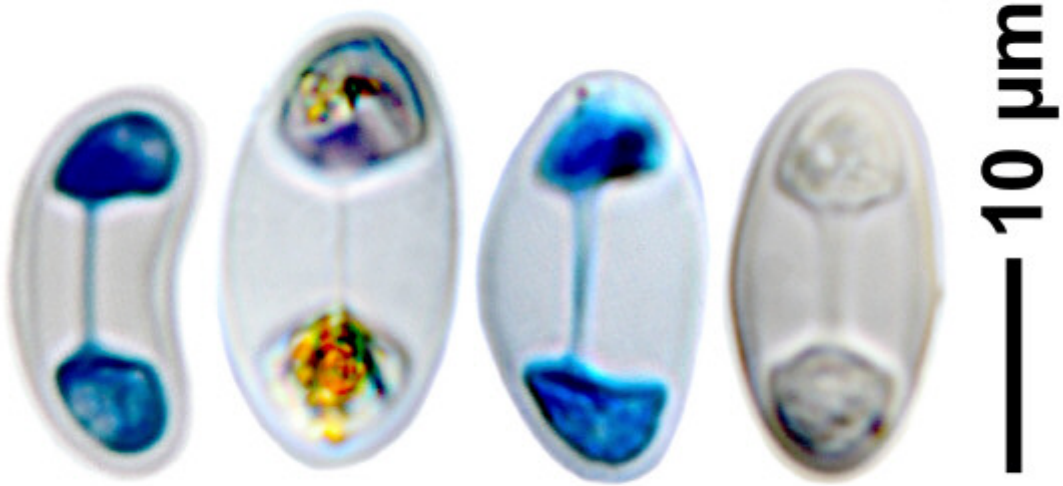
Caloplaca crocina



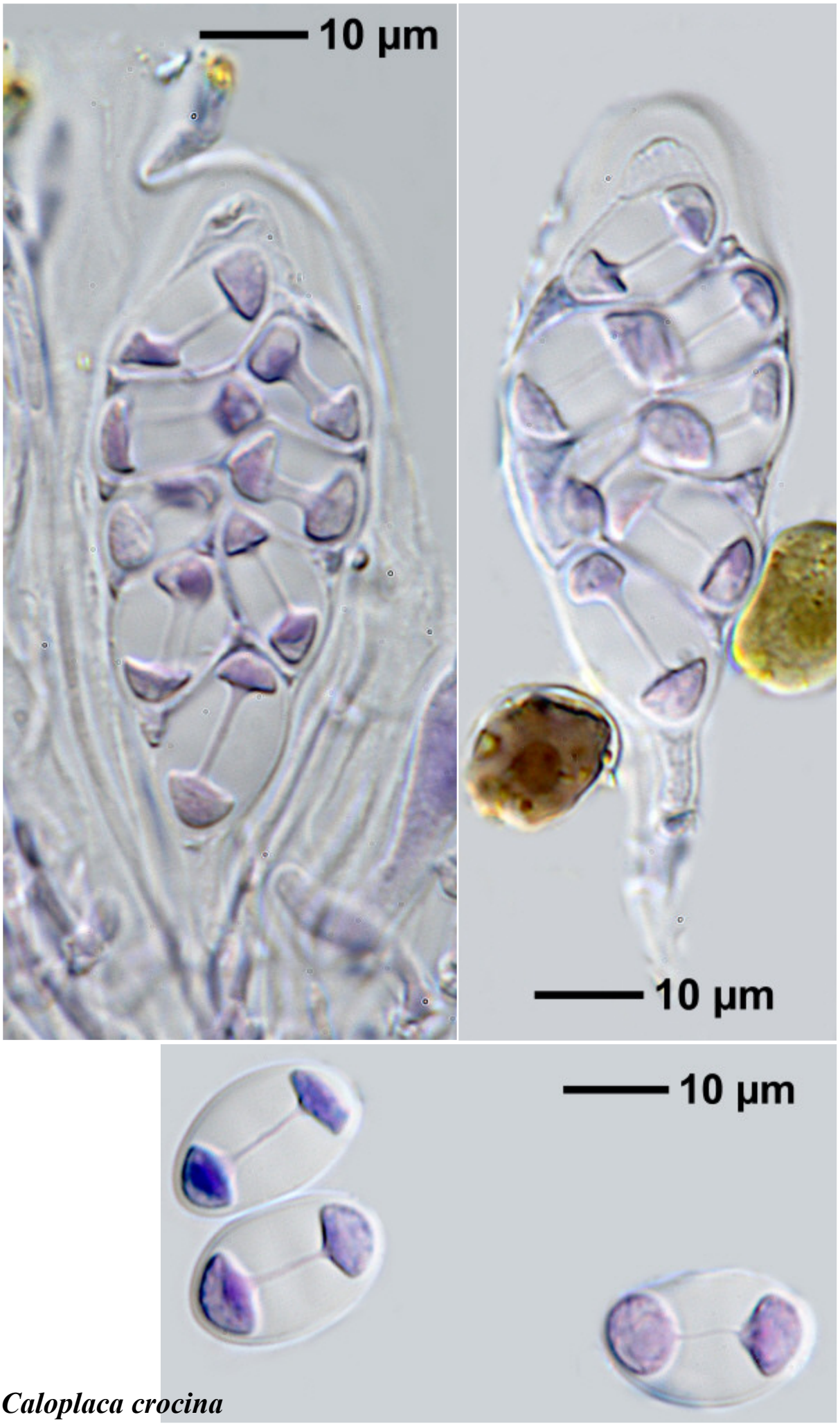
Caloplaca crocina







Caloplaca crocina



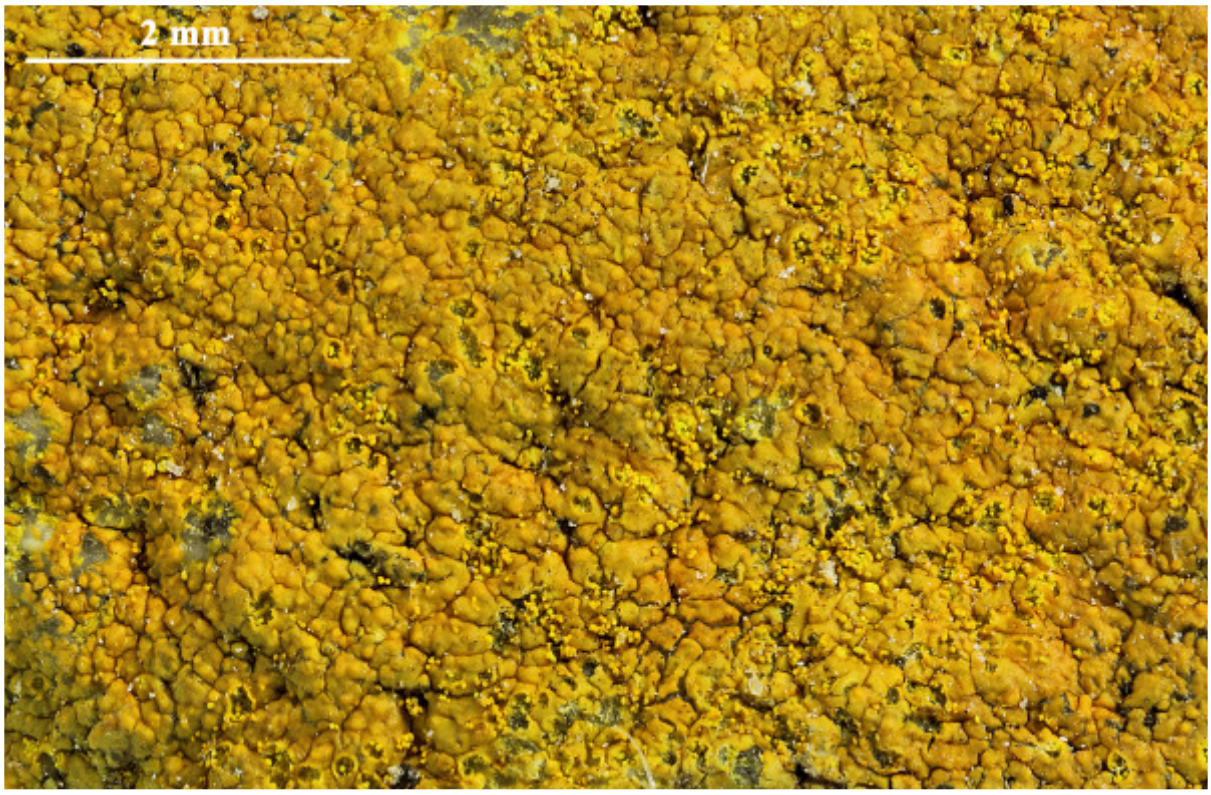
Caloplaca crocina

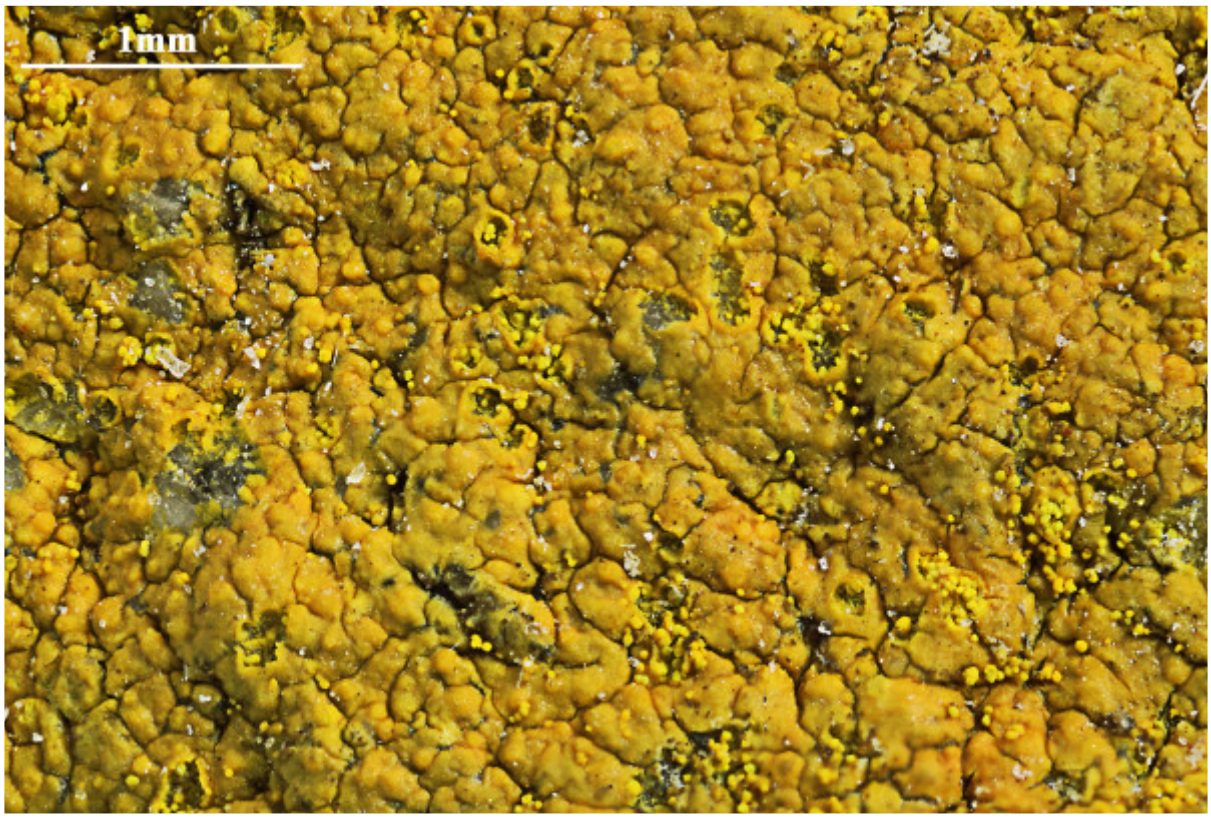
Caloplaca cupulifera (Vain.) Zahlbr.

On non-calcareous rocks.

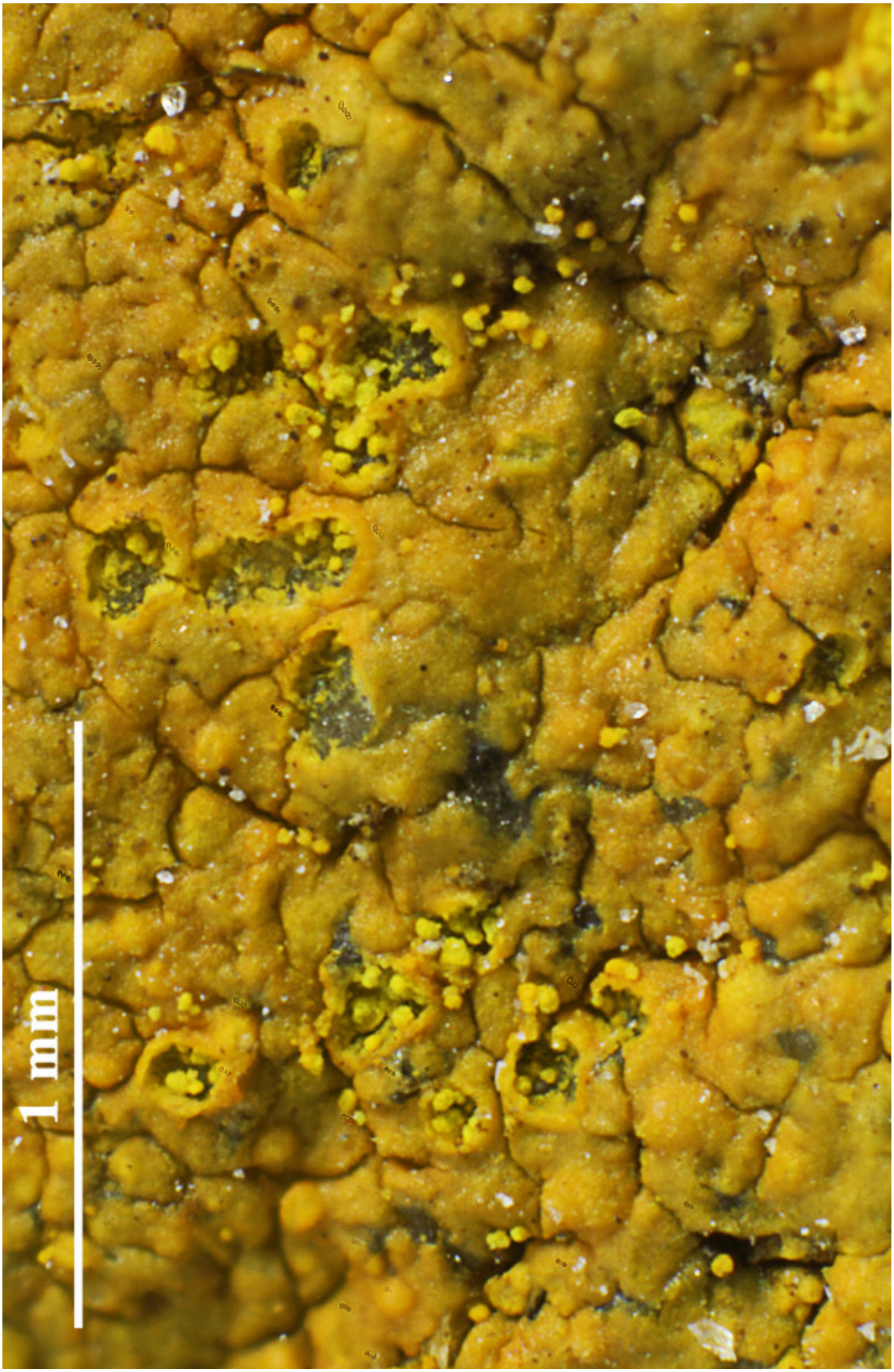
[ABL 21392], Brazil, Ceará, Quixadá, Açude Cedró, trilha da Galinha, 04°58’ S, 39°03’ W, 250 m, on gneiss in Caatinga. Leg. M. Cáceres & A. Aptroot, 31.03.2014, det. A. Aptroot 2014.







Caloplaca cupulifera



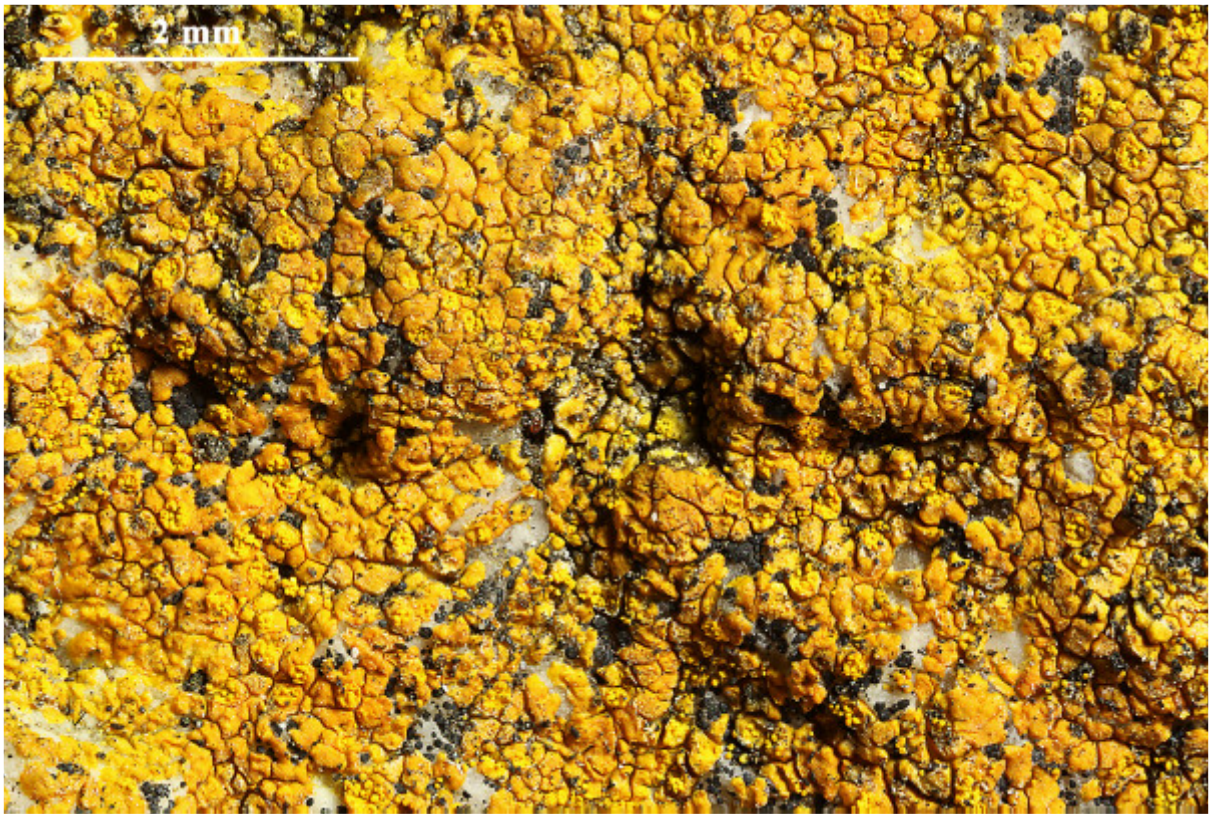
Caloplaca cupulifera

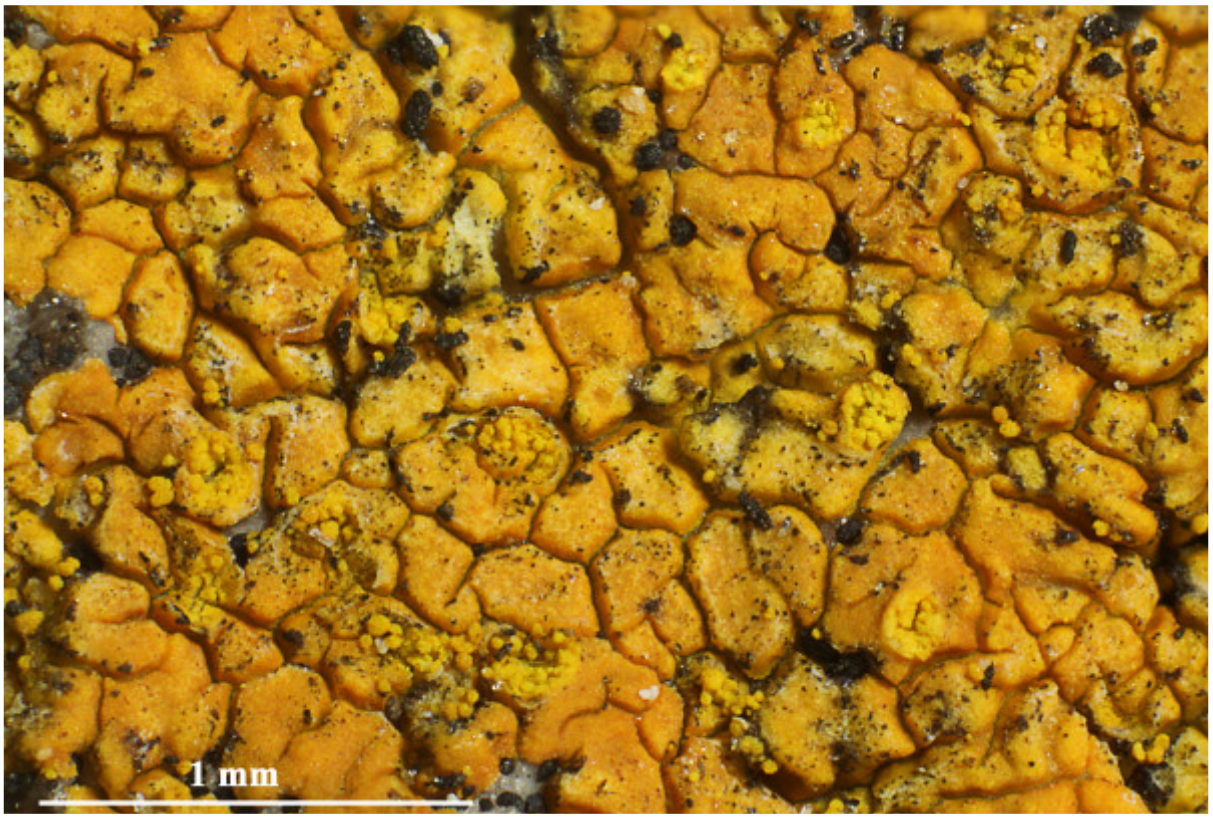
Caloplaca cupulifera (Vain.) Zahlbr.

Thallus orange, areolate, marginal lobes absent or small and indistinct, with soralia; soralia yellow, lighter than the thallus, crateriform, punctiform or concave; soredia 17-34 µm. Apothecia unknown. Chemistry: thallus K+ red; fragilin, 7-chloroparietinic acid. Lit. Wetmore & Kärnefelt, Bryologist 101: 230-255 (1998)

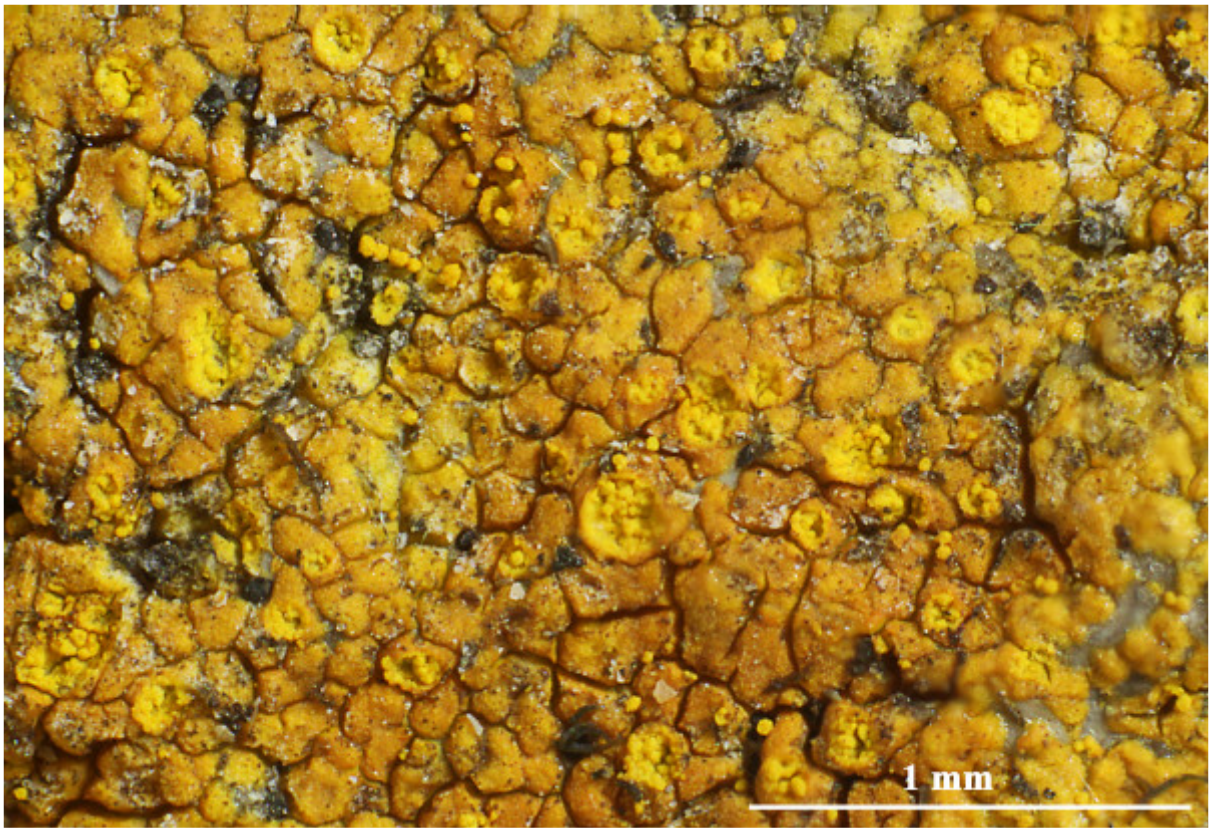
[KK35826], Australia, Queensland, a few km south-east of Townsville, basalt outcrops in an *Eucalyptus* forest effected by frequent bush-fires, 30 m, 19°23’45” S, 125°59’42” E. Leg. K. & J. Kalb, 22.08.2002, det. S. Kondratyuk 2007.

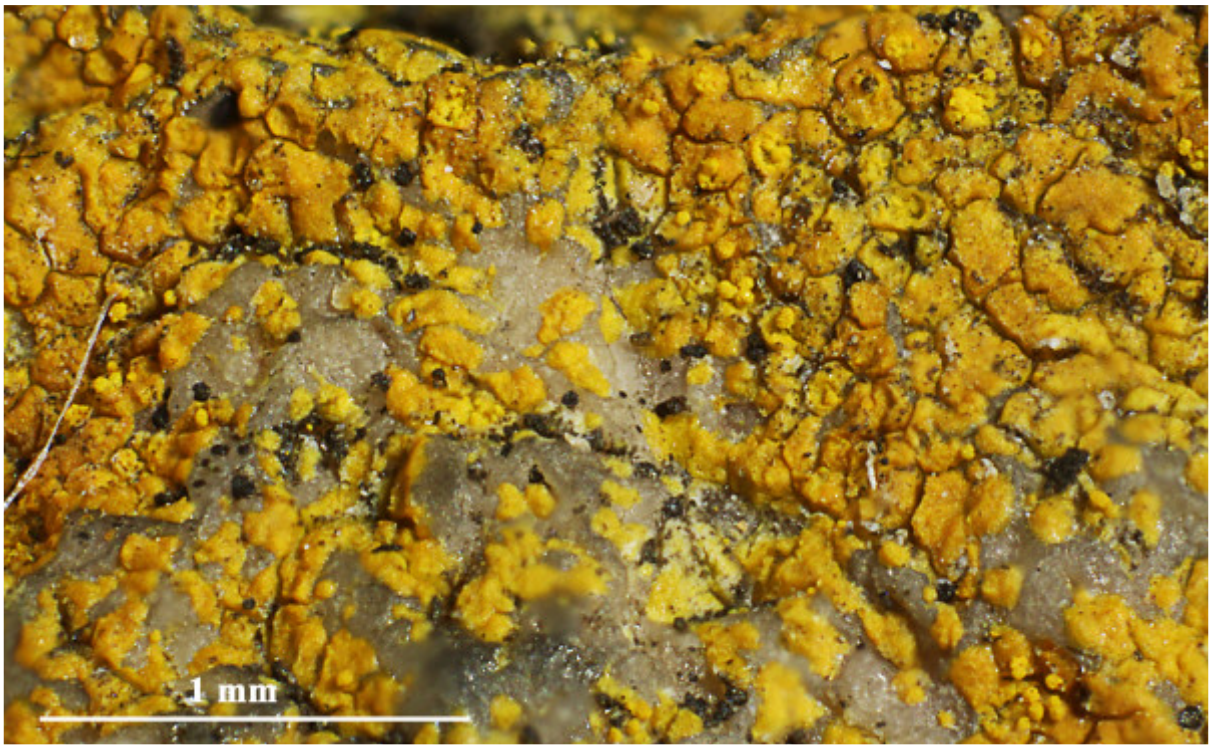




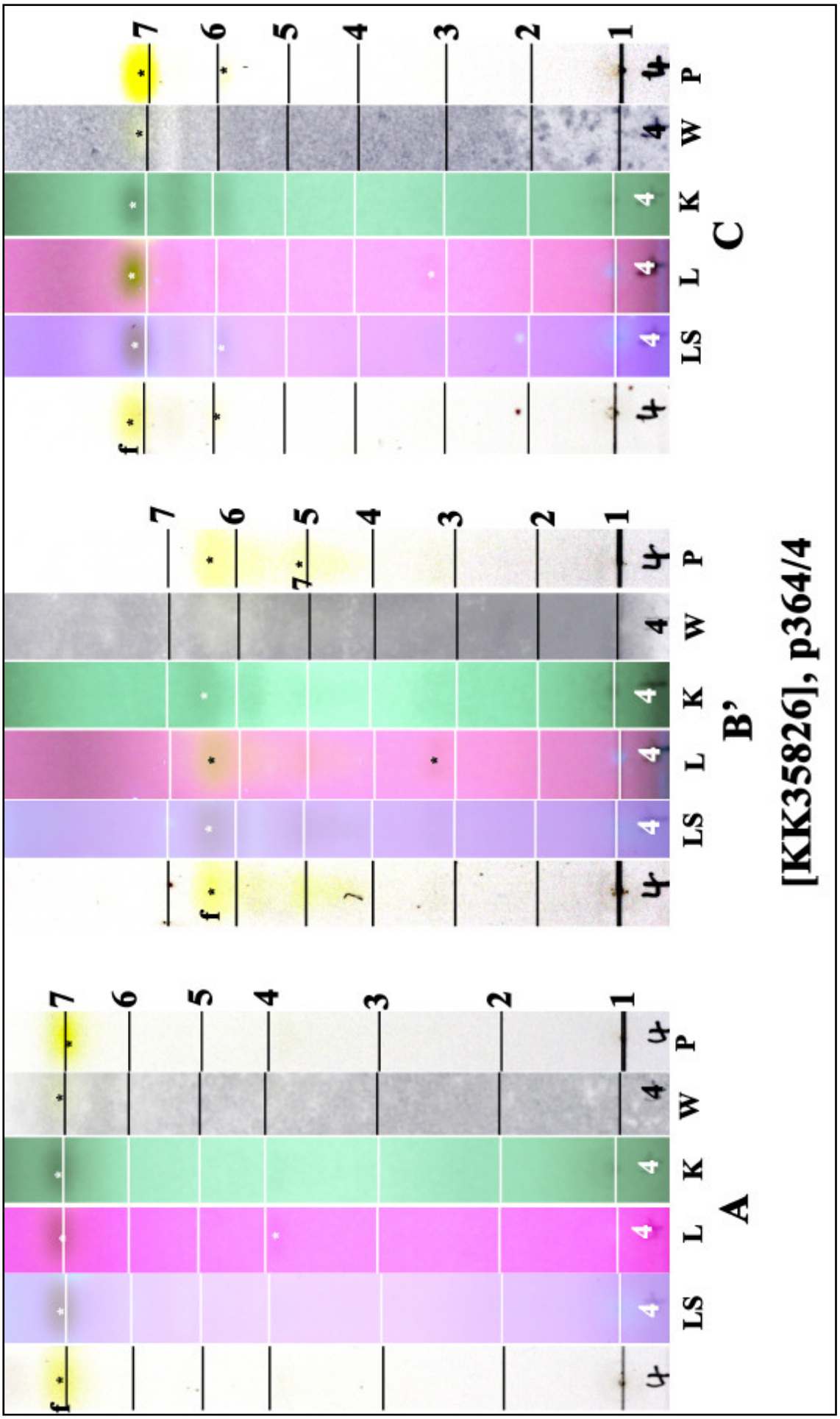


Caloplaca cupulifera





Caloplaca cupulifera



f: fragilin (NOT parietin), 7: 7-chloroparietinic acid; conf. J.A. Elix

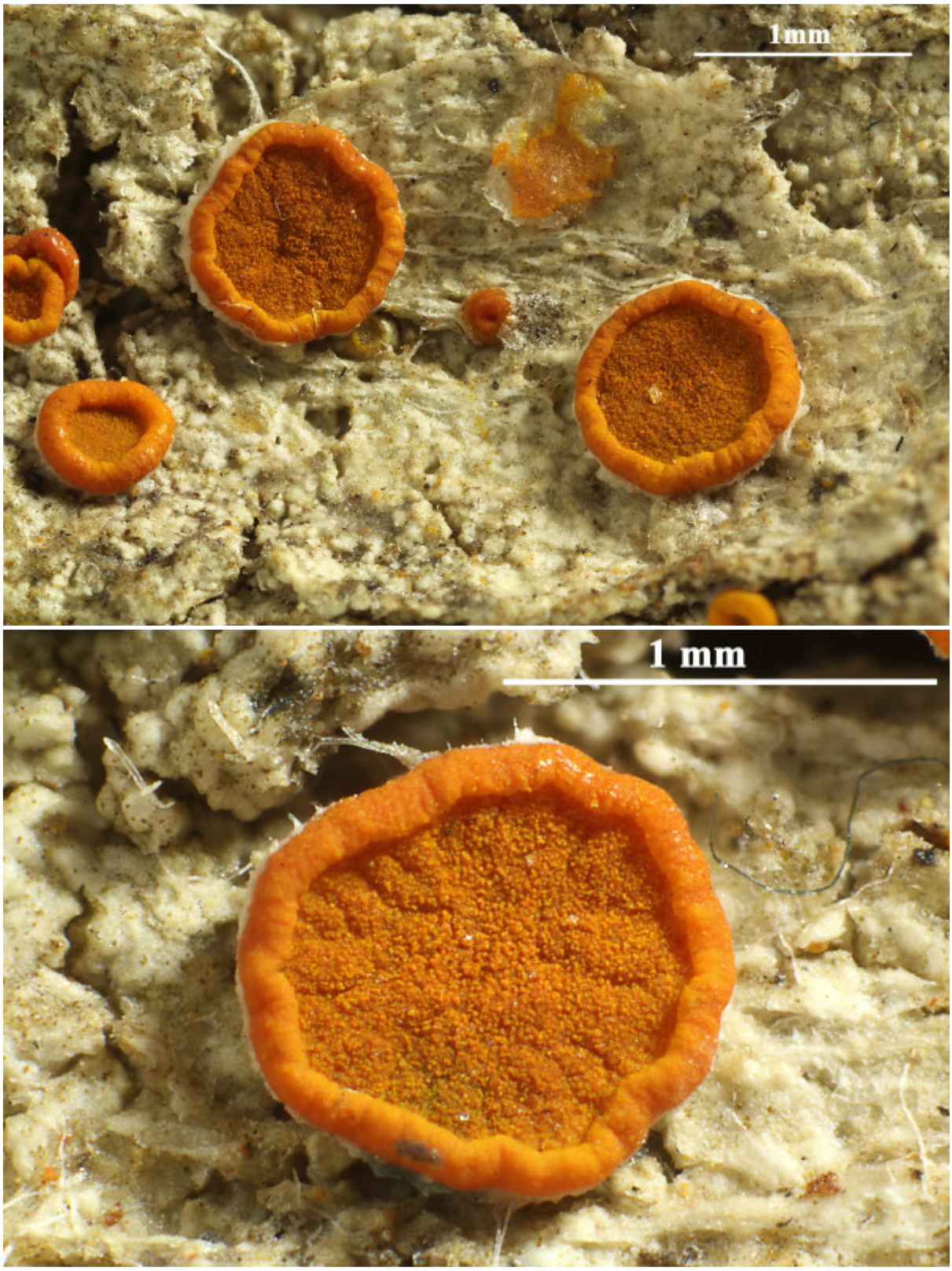
Caloplaca cupulifera

Caloplaca dahlii cfr. Elix, S.Y. Kondr. & Kärnefelt
[= *Eilifdahlia dahlii* cfr. (Elix, S.Y. Kondr. & Kärnefelt) S.Y. Kondr., Kärnefelt, Elix, A. Thell, J. Kim, A.S. Kondr. & J.S. Hur]

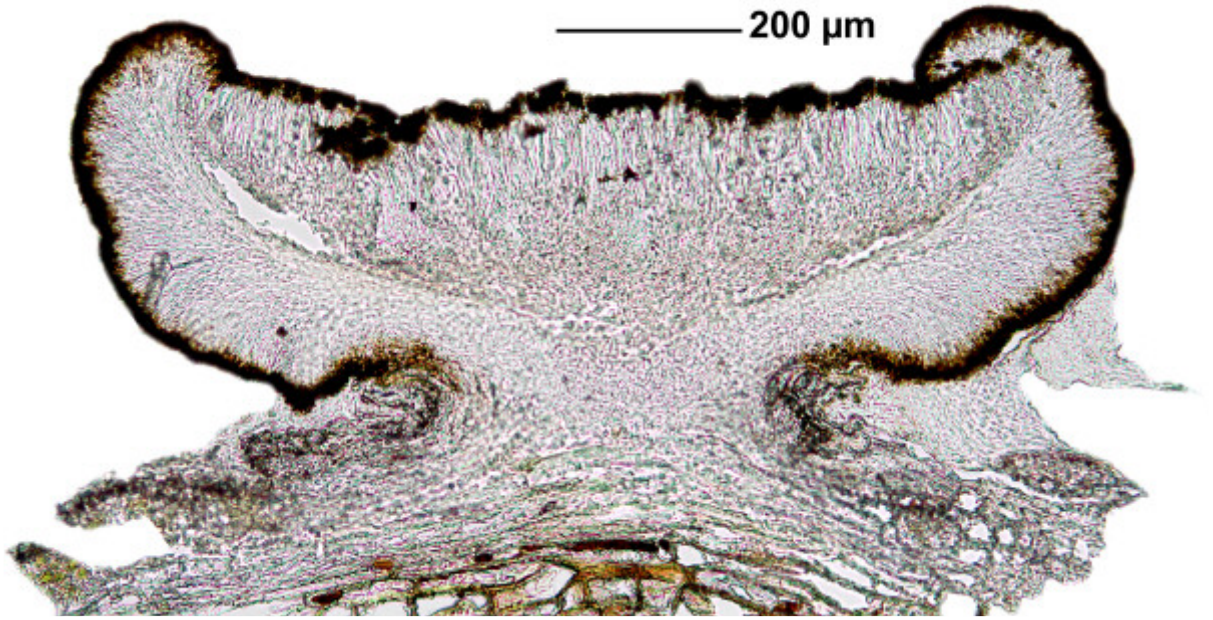
Thallus grey-white, continuous, granulose-warty, without soralia and isidia, UV+ yellow-orange. Excipulum without algae. Ascospores hyaline, 8/ascus, in water 20-23 x 10-13 µm, septum 9-10 µm (in K 17-22 x 11-17 µm, septum 7-8 µm).

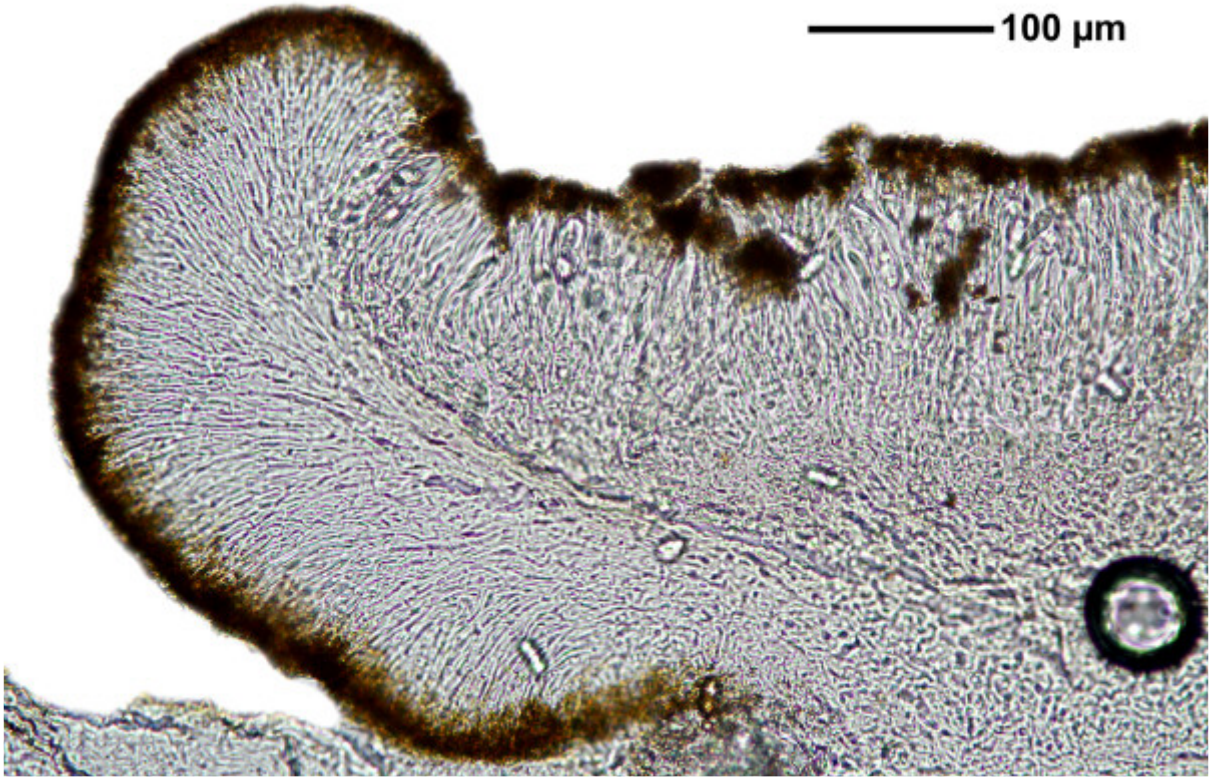
[15920], Australia, Western Australia, Two Peoples Bay east of Albany. 34,96967° S, 118,17900° E, 6 m. Leg. F. Schumm & E. Stocker-Wörgötter, 27.10.2009, det. S. Kondratyuk 03.2016.



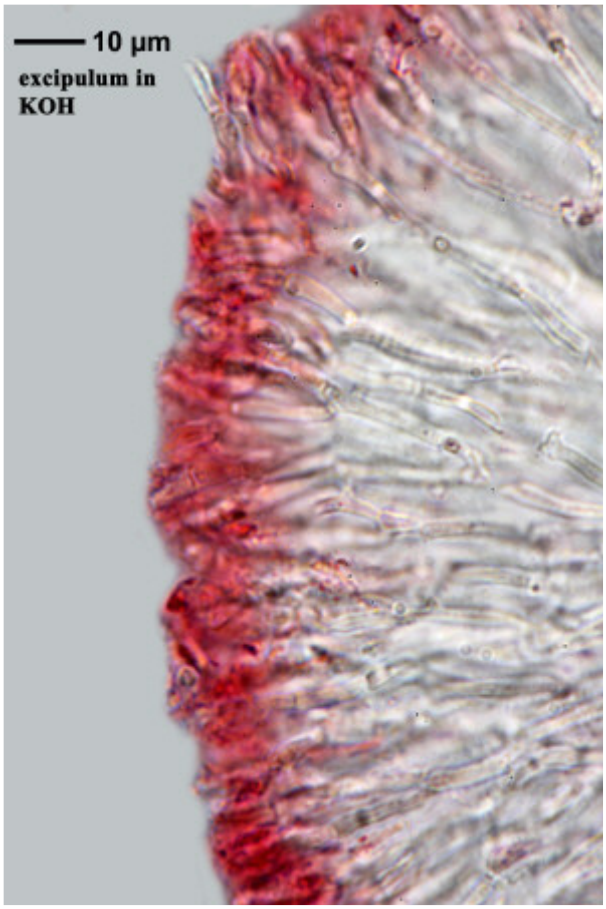


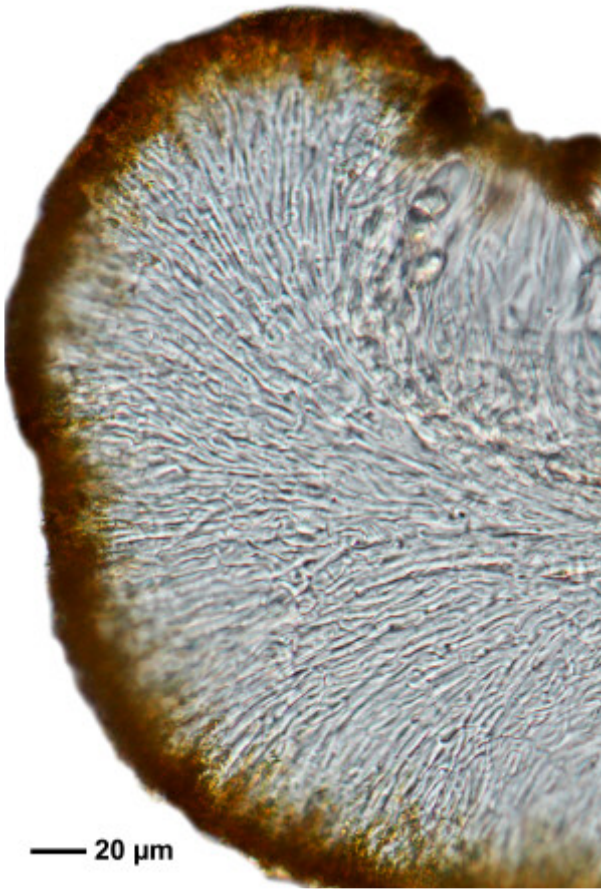
Caloplaca cf. dahlii

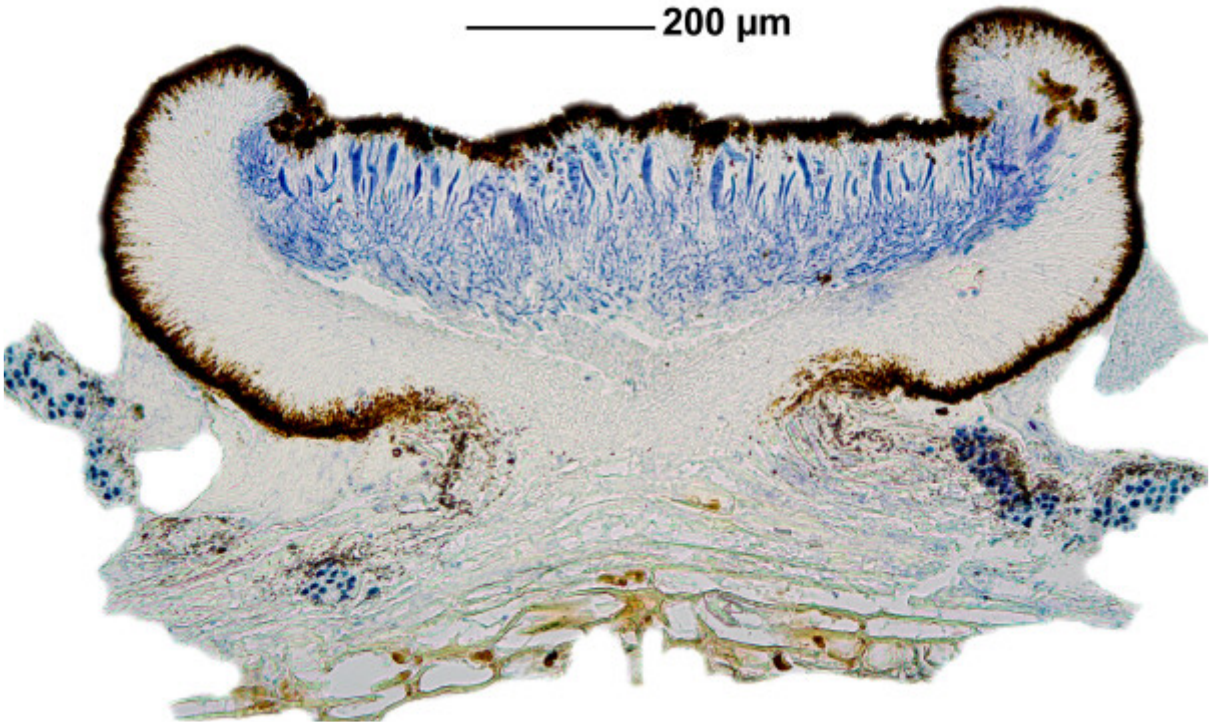




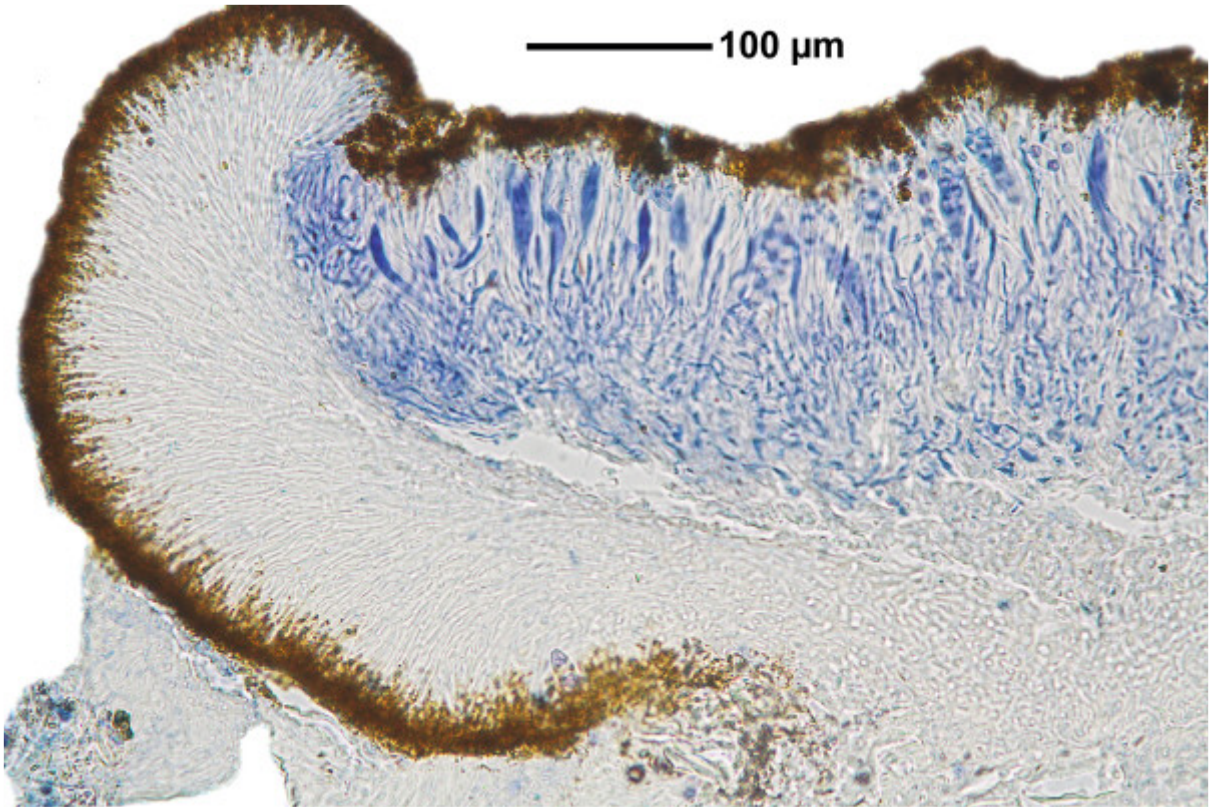
Caloplaca cf. dahlii

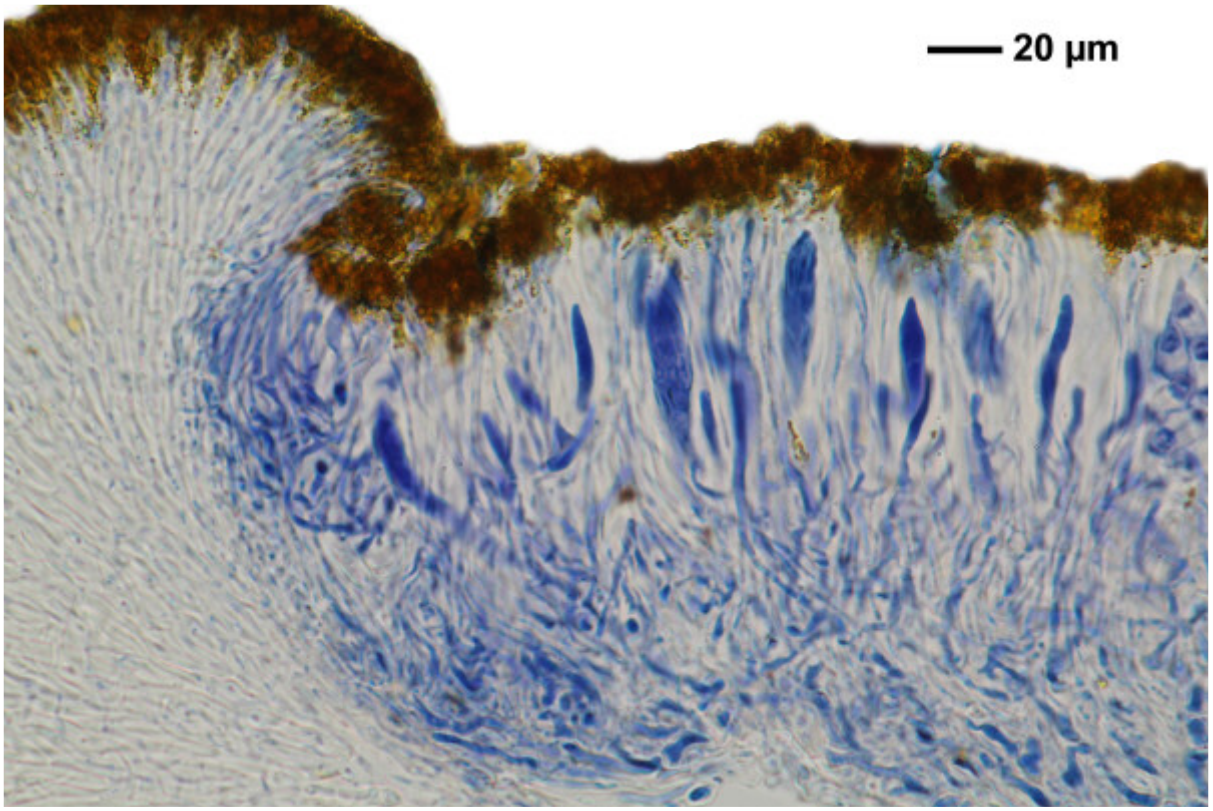




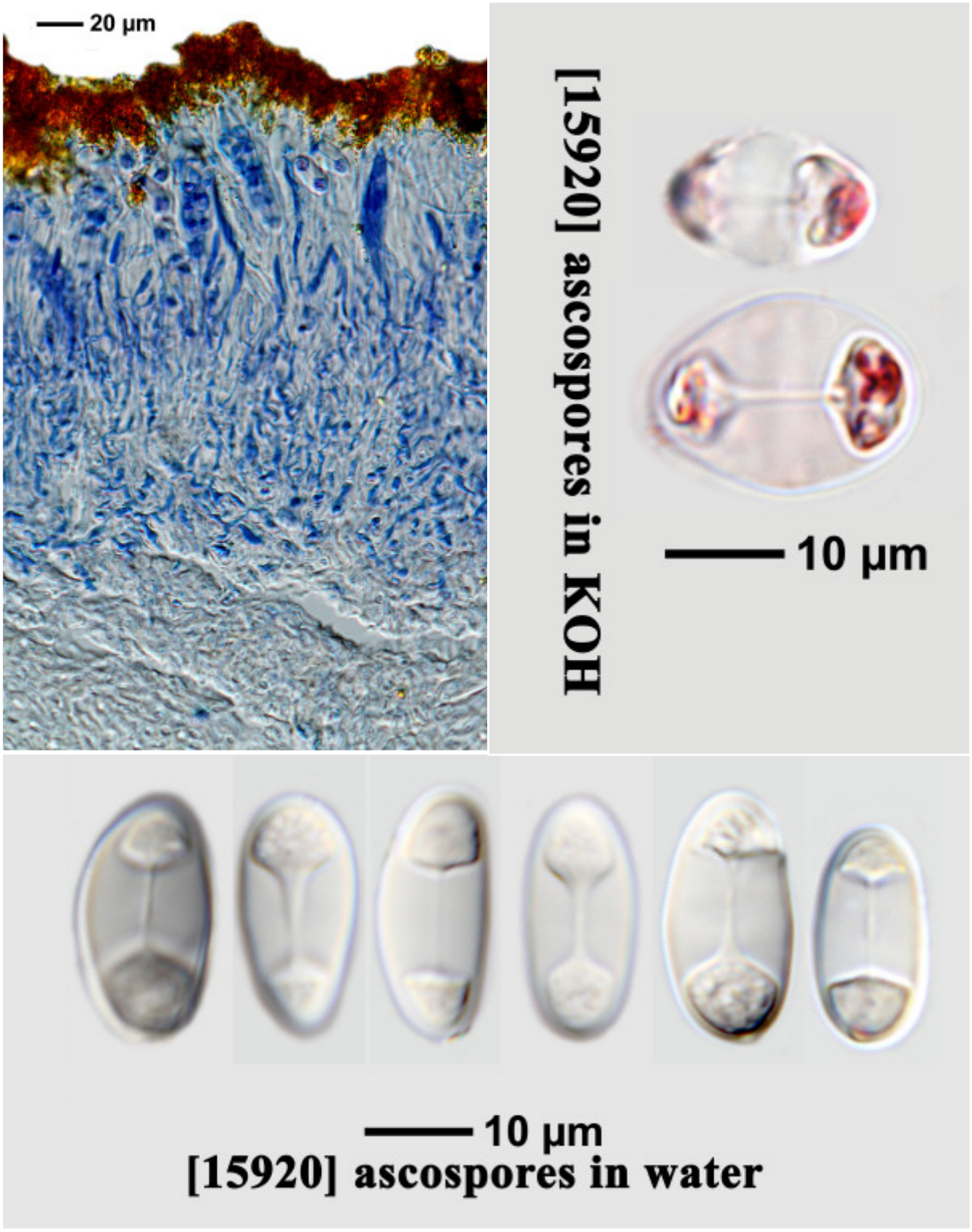


Caloplaca cf. dahlii



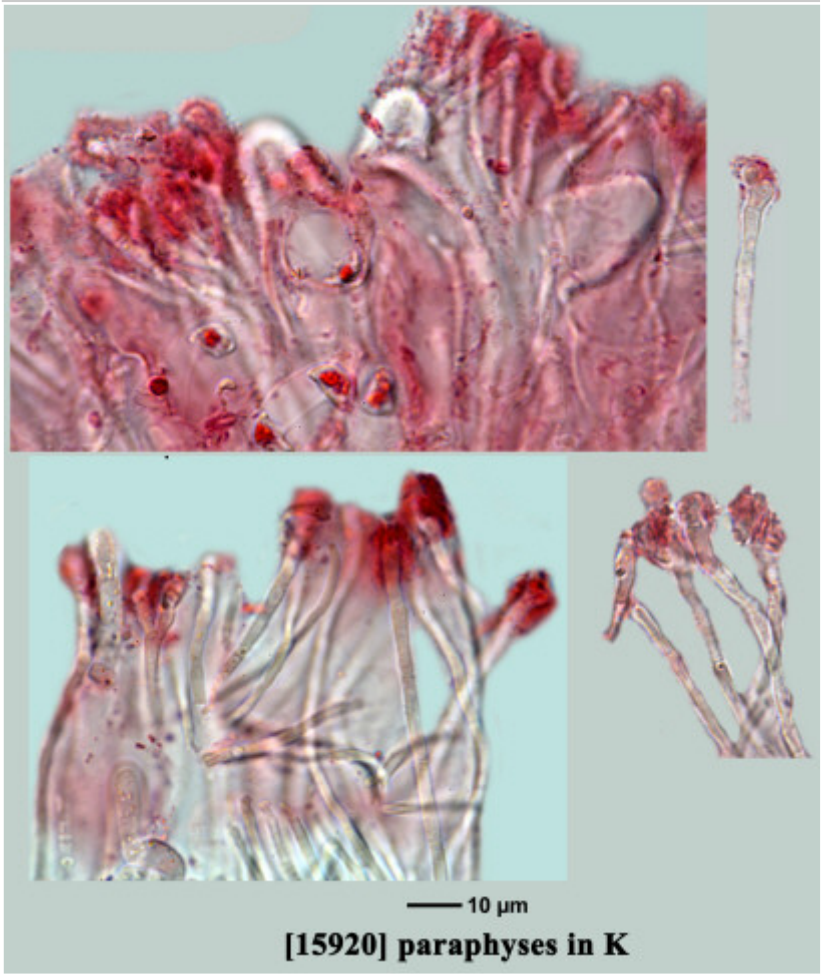


Caloplaca cf. dahlii



Caloplaca cf. dahlii



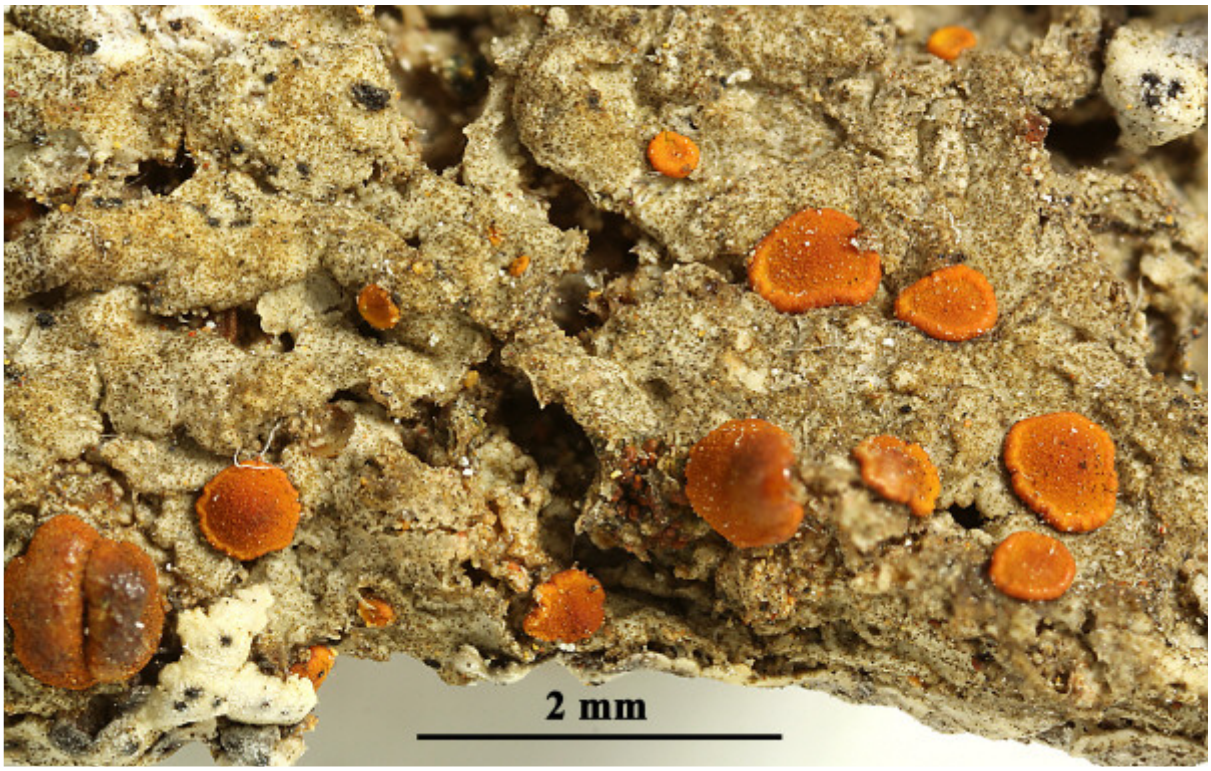


Caloplaca cf. dahlii

Caloplaca dahlii Elix, S.Y. Kondr. & Kärnefelt
[= *Eilifdahlia dahlii* (Elix, S.Y. Kondr. & Kärnefelt) S.Y. Kondr., Kärnefelt, Elix, A.Thell, J. Kim, A.S. Kondr. & J.S. Hur, in Kondratyuk, Lőkös, Tschabanenko, Skirina, Galanina, Oh & Hur, Acta bot. hung. 56(1-2): 110 (2014)]

Thallus greyish-white to brownish-grey, immersed and indistinct to thick, continuous, micro warted and cracked, lacking isidia and soredia . Apothecia 0.4-0.9(-2.5) diam, biatorine, disc brownish orange. Ascospores 2-4-6-8/ascus, (12-)13-16(-19) x (6-)7-9(-10) µm, septum (5-)8-19(-12) in K. Chemistry: lichexanthone (major), parietin (major), emodin (minor), fallacinal (minor) teloschistin (minor). Similar to *Caloplaca ferruginea* but contains lichexanthone, variable number of spores/ascus, no algae in the apothecia. Lit.: Kondratyuk, Kärnefelt, Elix & Thell, Bibliotheca Lichenol. 99: 267 (2009)

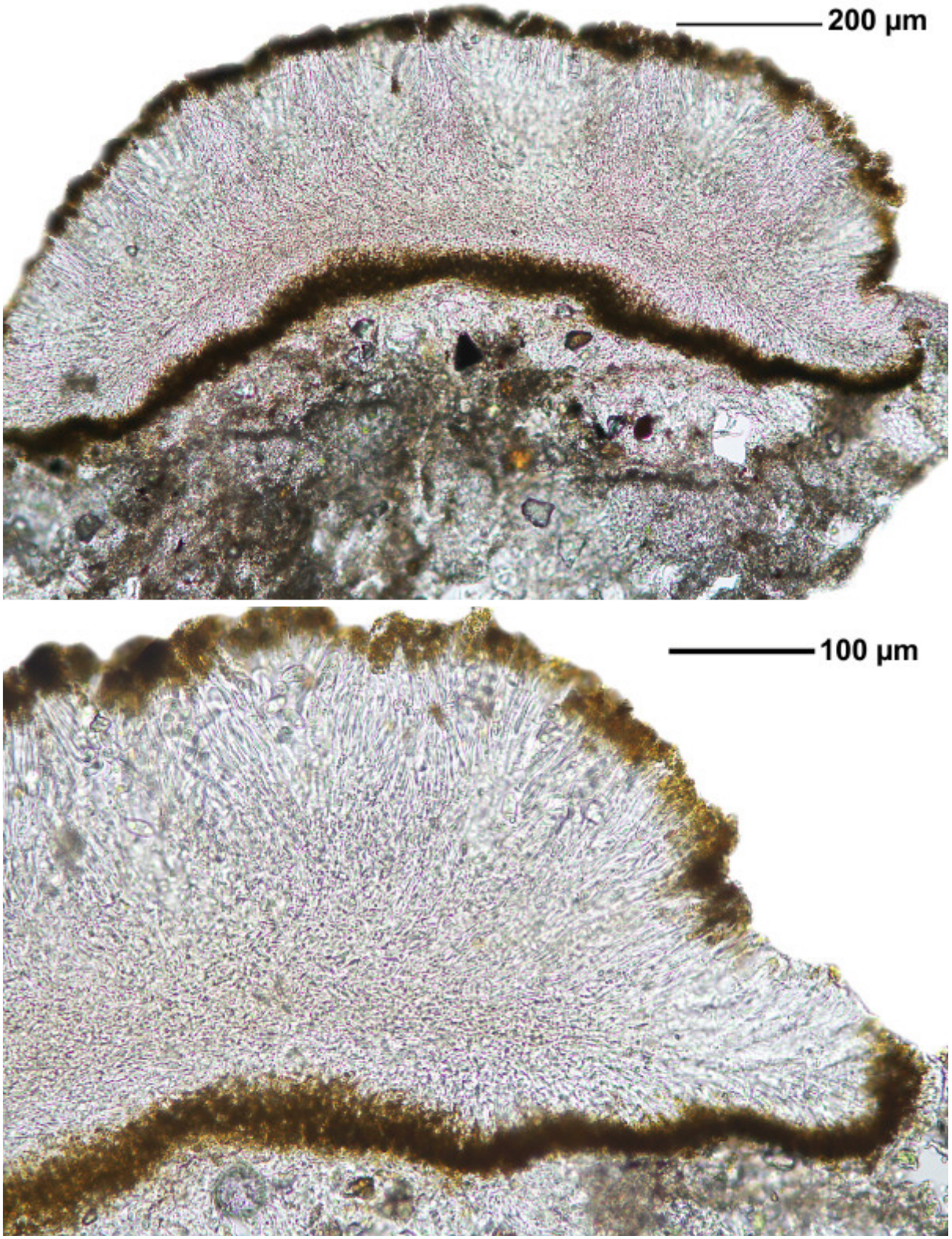
[KK35258], Australia, Western Australia, c. 30 km west of Hyden and c. 30 km east of Kondinin, 300 m, 32°26’ S, 118°30’ E. Leg. K. & A. Kalb, 18.8.1994, det. S.Y. Kondratyuk 2008.



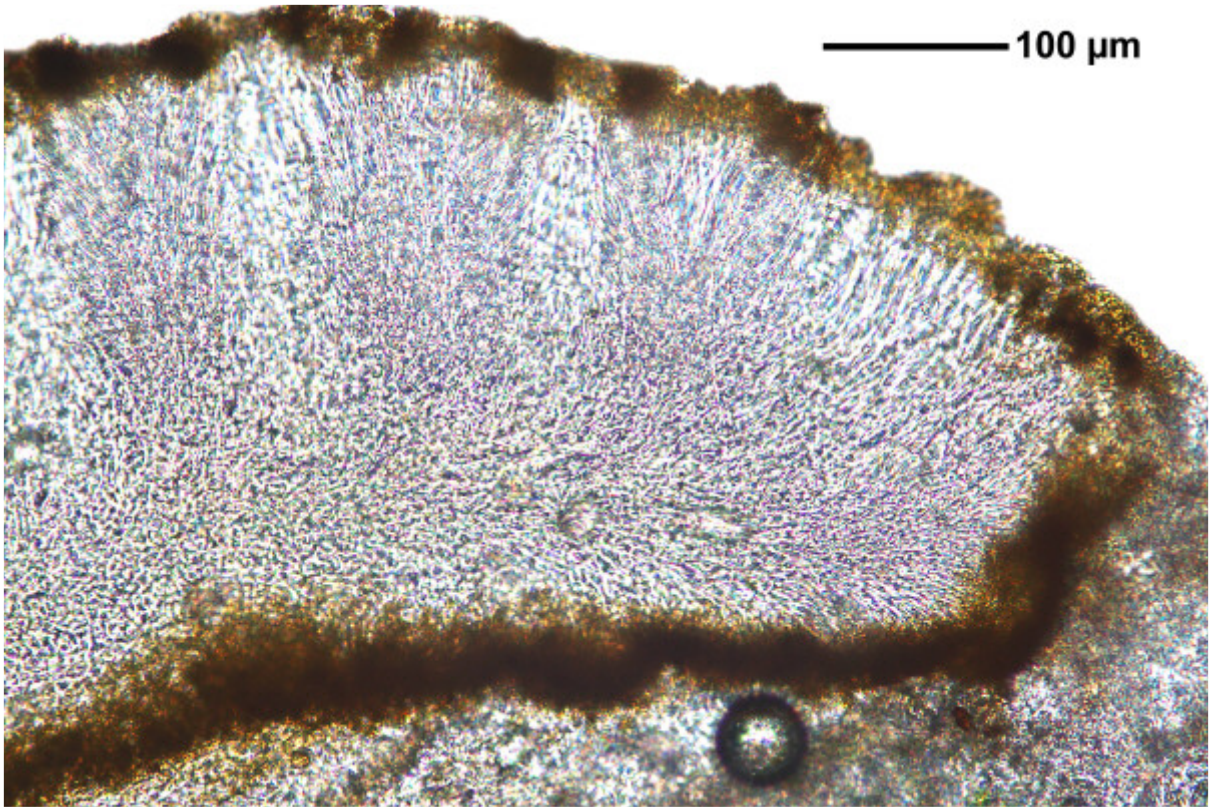


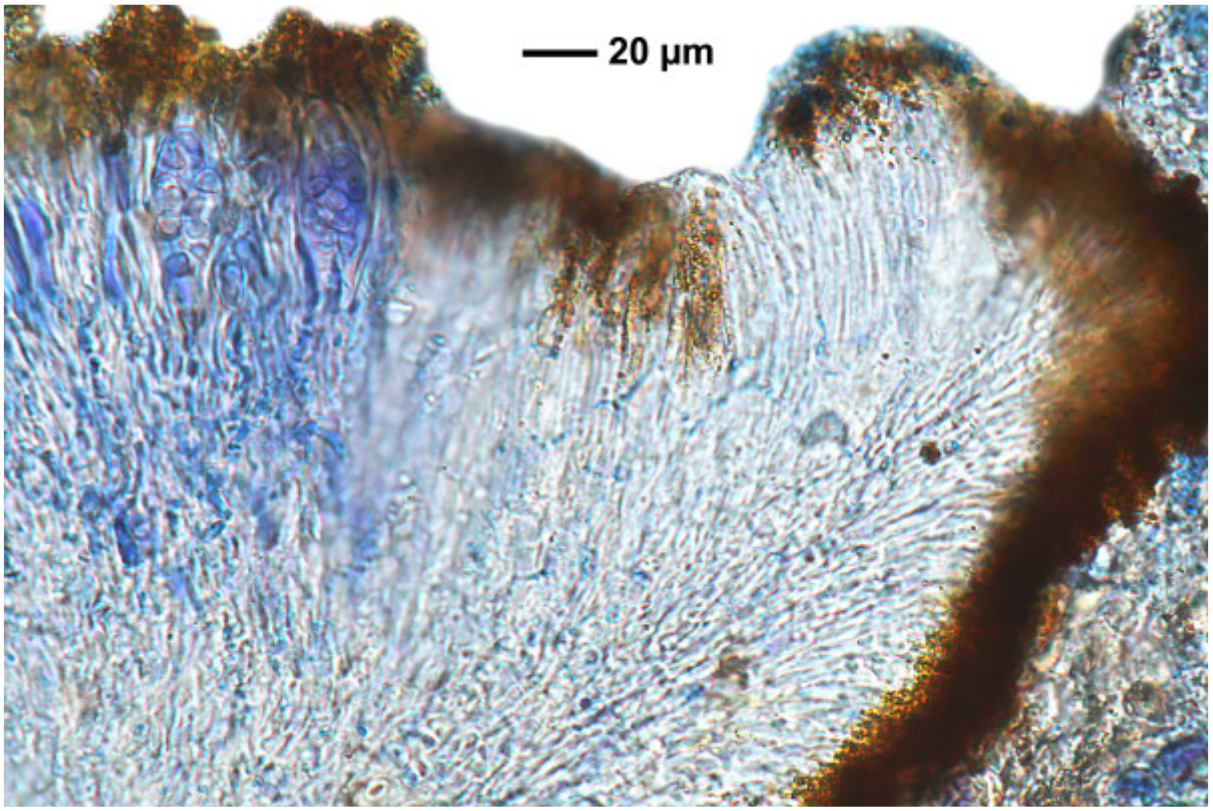


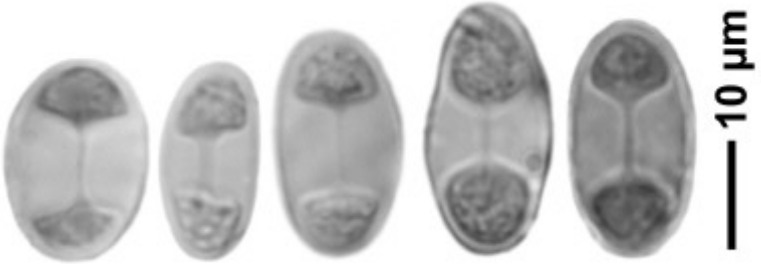
Caloplaca dahlii



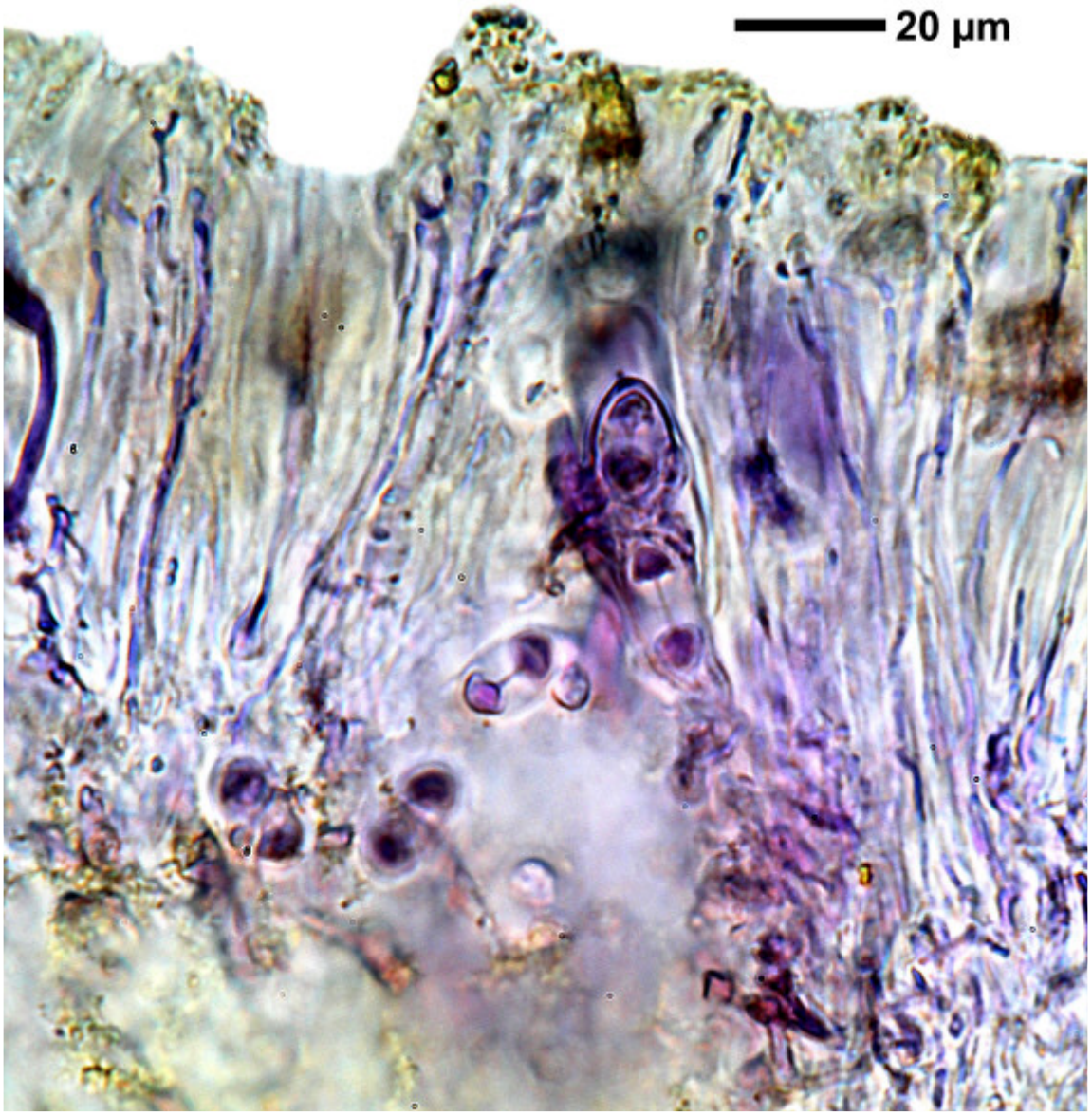
Caloplaca dahlii

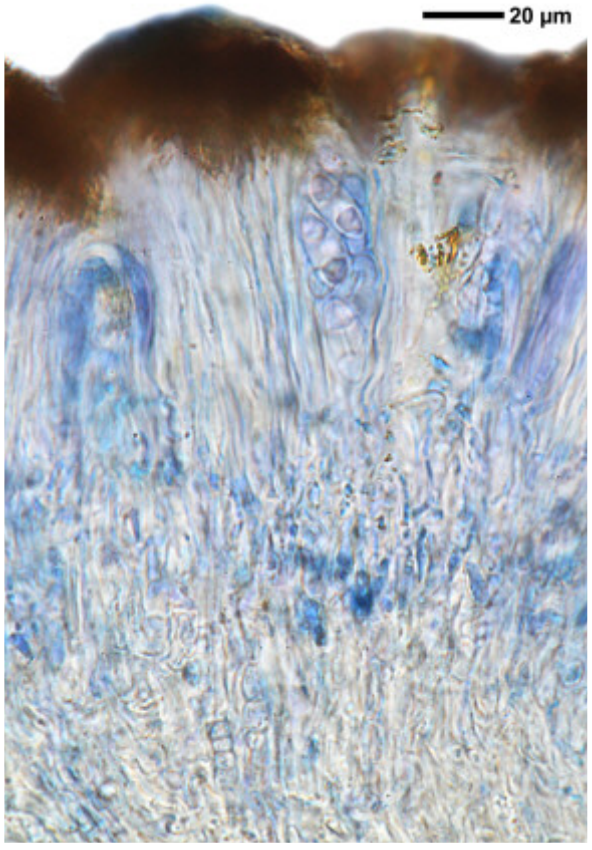




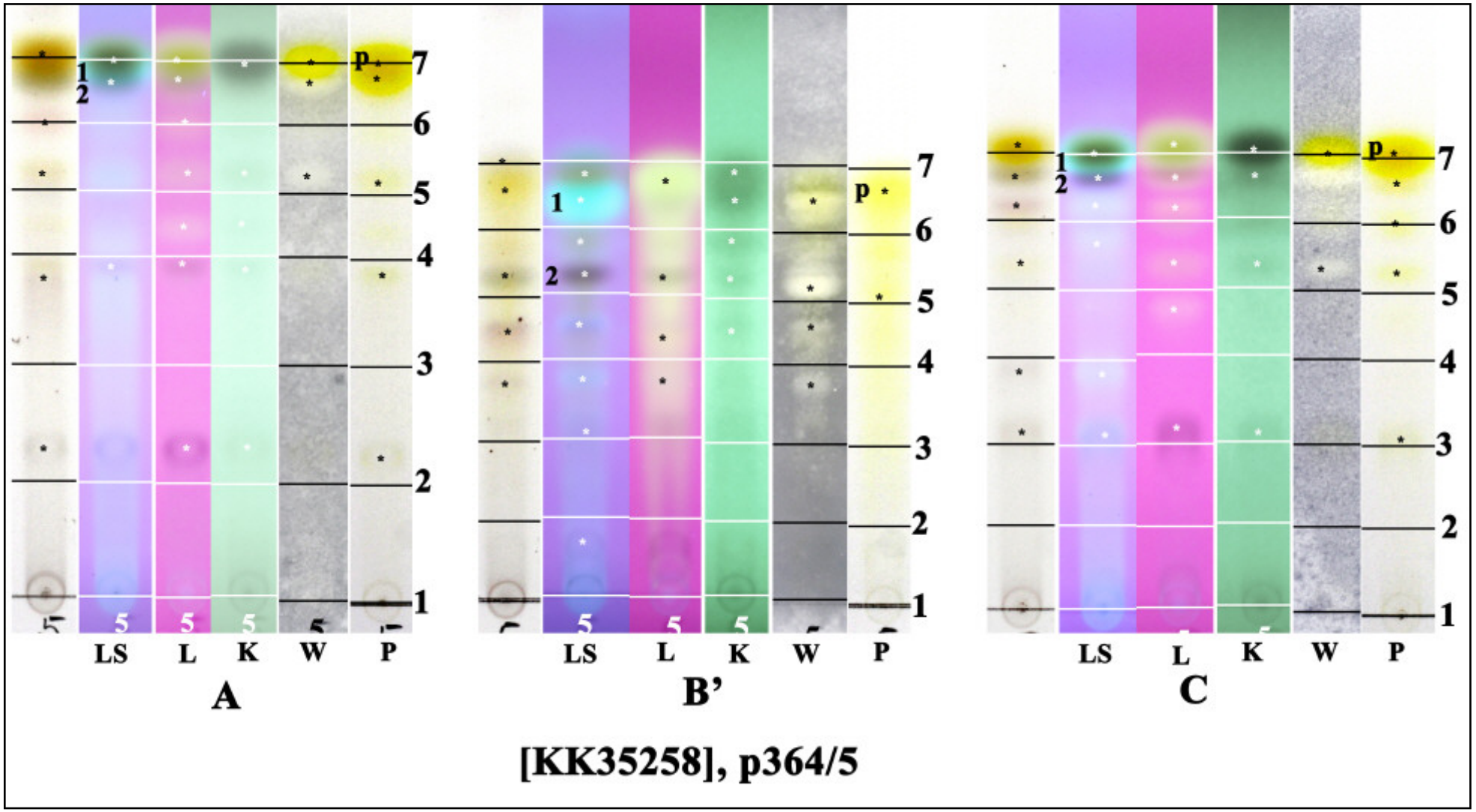


Caloplaca dahlii





Caloplaca dahlii

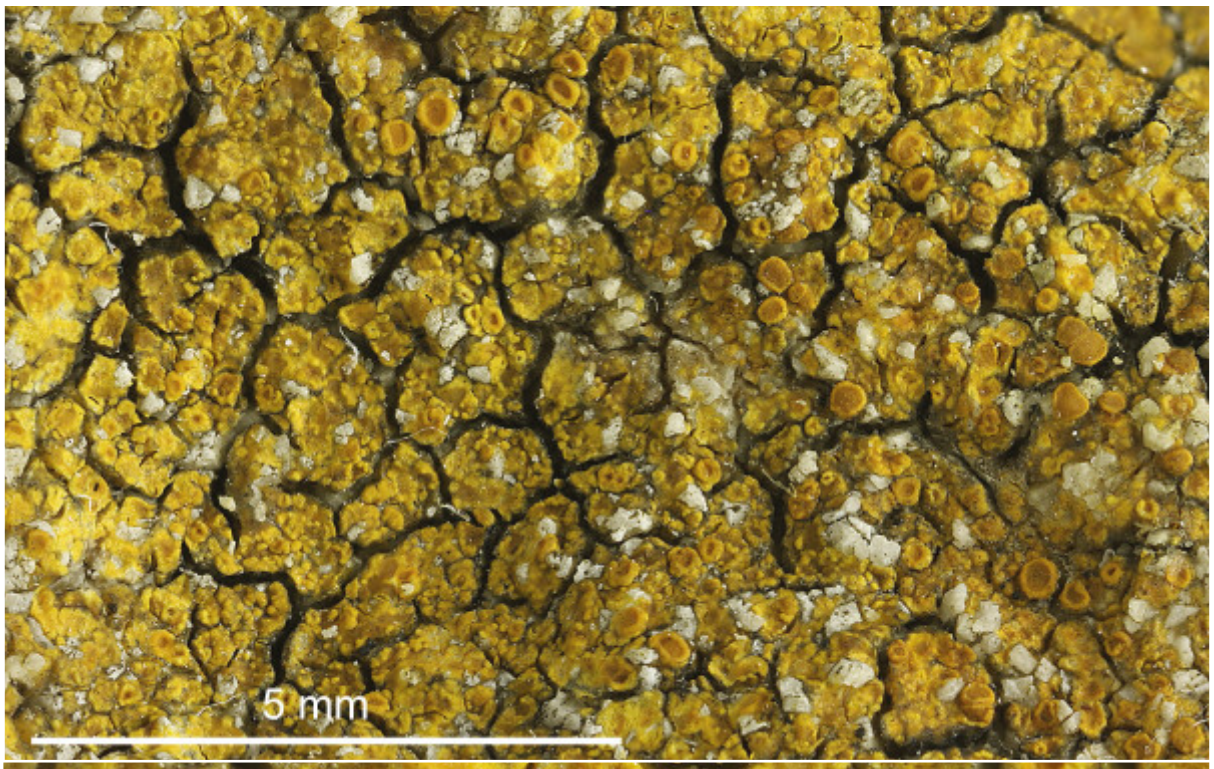


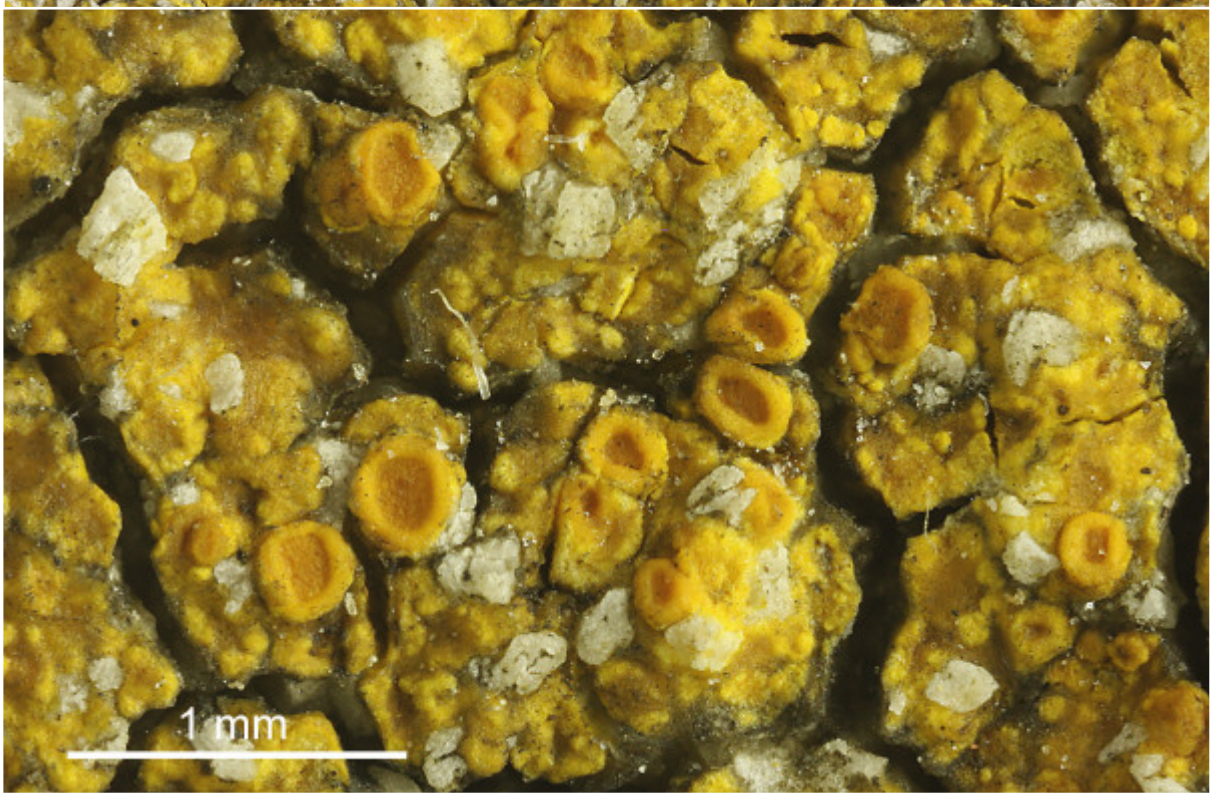
p: parietin, 1: lichexanthone, 2: unknown from the bark?; conf. J.A. Elix

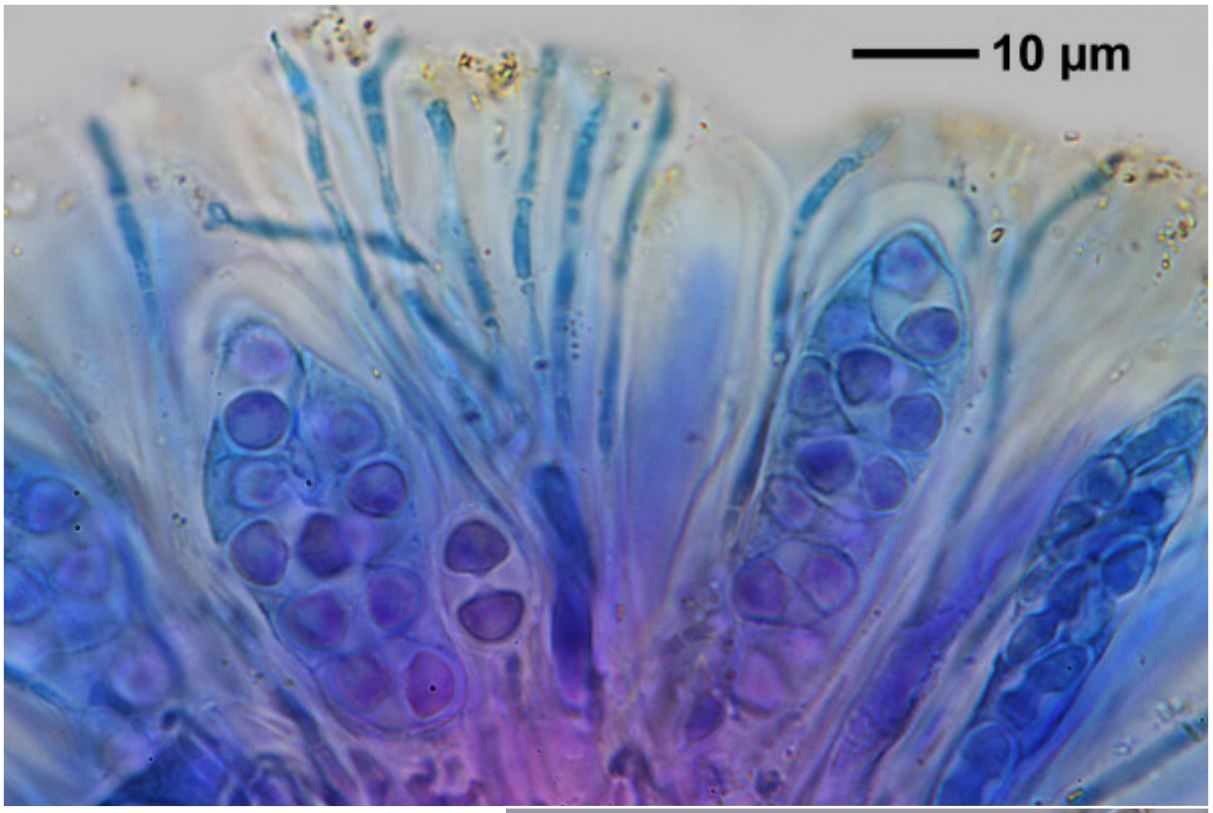
Caloplaca dalmatica (A. Massal.) H. Olivier (1909)
[= *Caloplaca dolomiticola* (Hue) Zahlbr. (1931)]
[= *Caloplaca velana* (A. Massal.) Du Rietz (1925)]
[= *Variospora dolomiticola* (Hue) Arup, Søchting & Frödén]

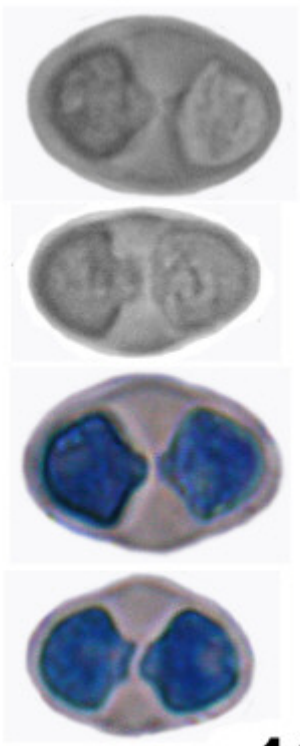
Sporen 10,5-12,5 x 6-8,5 µm, Septum/Sporenlänge = ca. 0,2-0,3

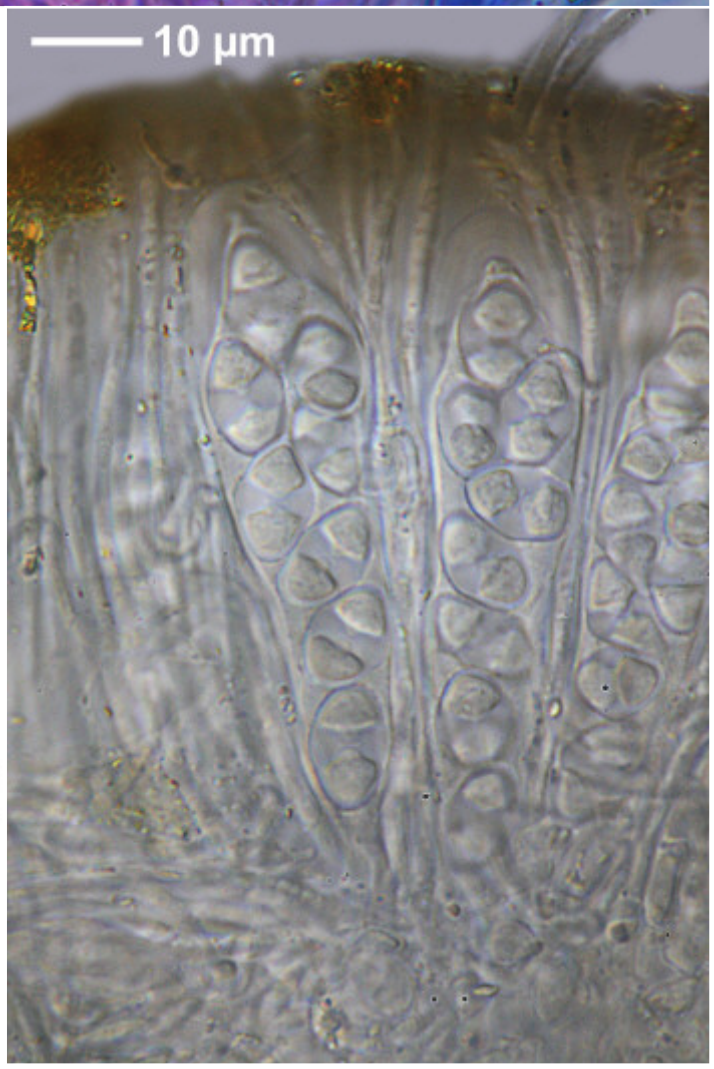
[872], Germany, Baden-Württemberg, Schwäbische Alb, nahe Steinheim im Wental beim Felsenmeer, auf Kalkfelsen, ca 620 m. Leg. Schumm 29.09.1970. det. V. Wirth 1987 als *C. velana.*









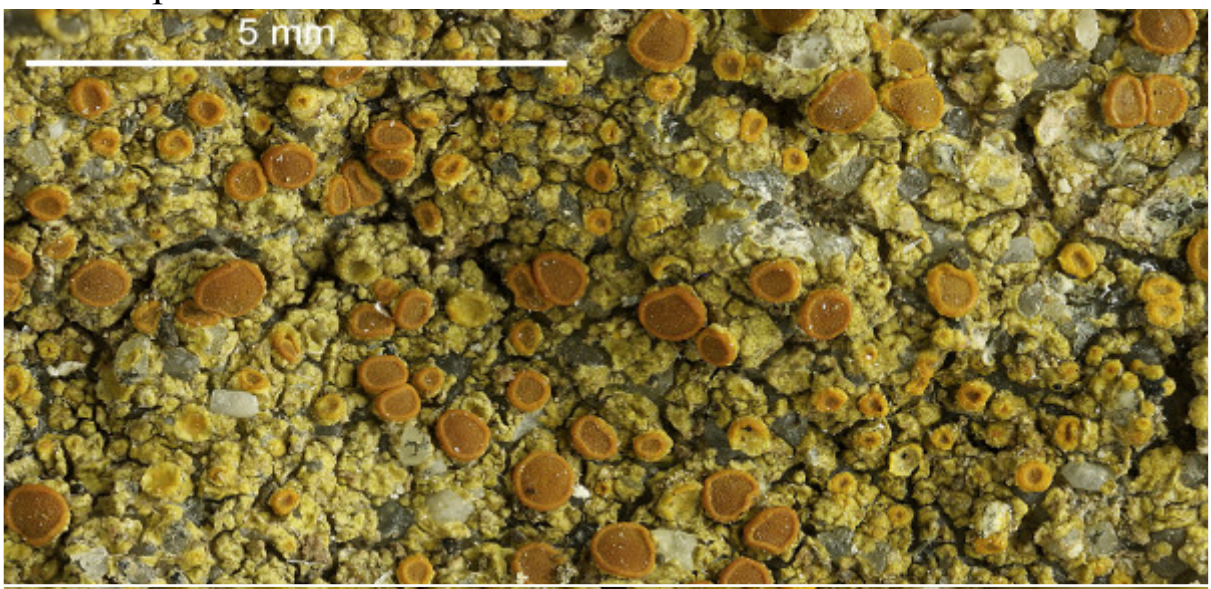


Caloplaca dalmatica

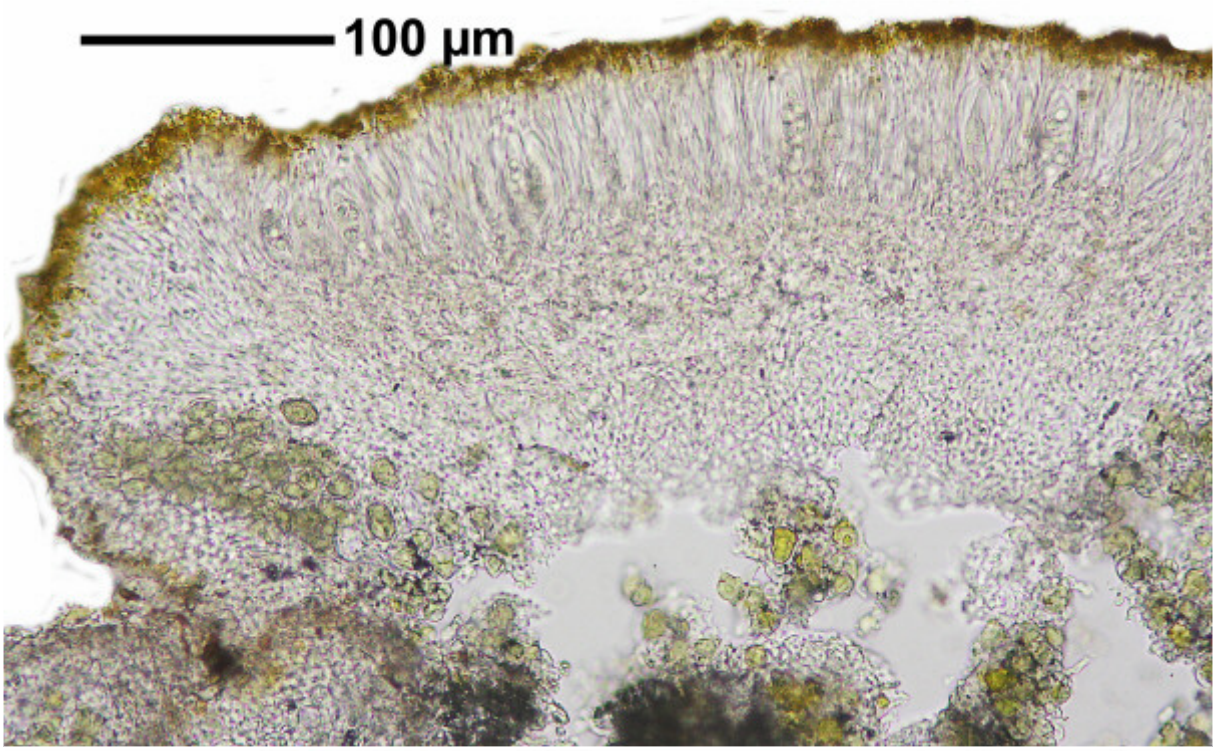
Caloplaca dalmatica (A. Massal.) H. Olivier, (1909)
[= *Caloplaca dolomiticola* (Hue) Zahlbr., (1931)]
[= *Caloplaca velana* (A. Massal.) Du Rietz, (1925)]
[= *Variospora dolomiticola* (Hue) Arup, Søchting & Frödén]

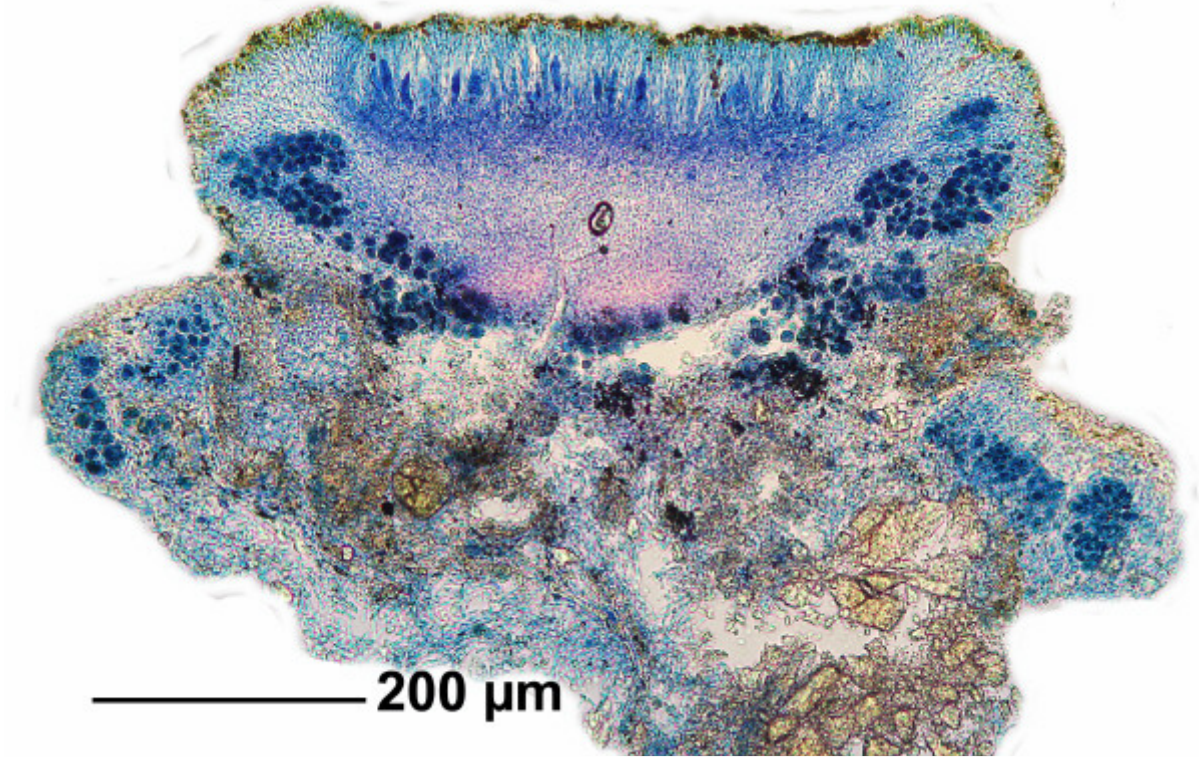
Sporen 10-15 x (6,5-)7(-11) µm, Septum/Sporenlänge = (0,2-) 0,3 – 0,4. Sporen kleiner als bei *Caloplaca flavovirescens*.

[4421], Germany, Baden-Württemberg, Rems-Murr-Kreis, Schorndorf, Eichenbachhang mit Viehweide, sonnige warme Streuobstwiesen, ca. 340 m, an kalkhaltigen Sandsteinmauern. Leg. Schumm 25.03.1990, det. A. Aptroot 2011.

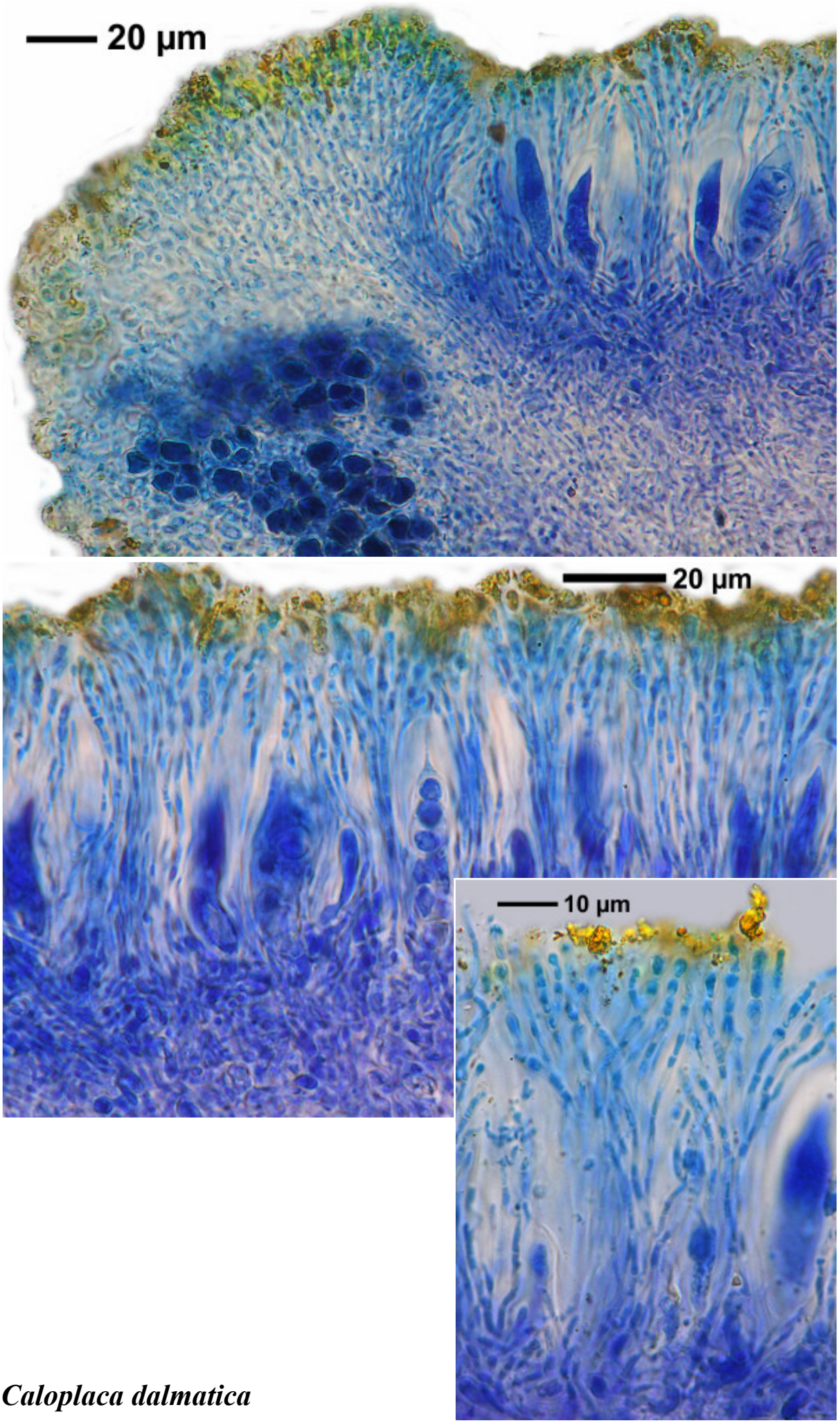




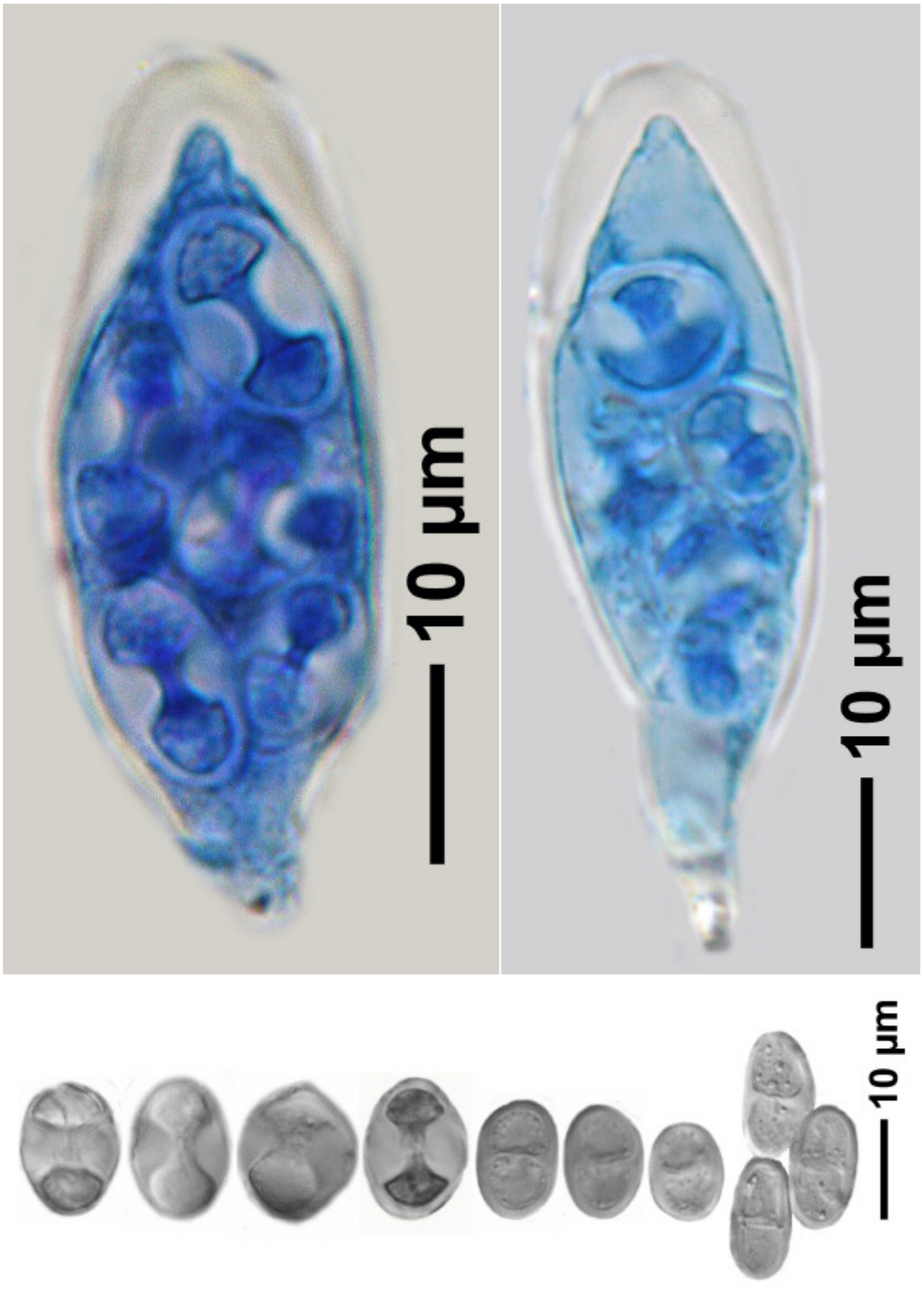




Caloplaca dalmatica



Caloplaca dalmatica



Caloplaca dalmatica

Caloplaca dalmatica (A. Massal.) H. Olivier, (1909)
[= *Caloplaca dolomiticola* (Hue) Zahlbr., (1931)]
[= *Caloplaca velana* (A. Massal.) Du Rietz, (1925)]
[= *Variospora dolomiticola* (Hue) Arup, Søchting & Frödén]

Thallus gelb, randlich nicht gelappt, oft fein bereift, im Zentrum rissig-areoliert. Sporen 12-13 x 6-8 µm, ellipsoidisch, Septum ca. 3-4 µm, etwas mehr als 1/3 der Sporenlänge.

[16518], Germany, Baden-Württemberg, Kreis Göppingen, Gosbach - Bad Ditzenbach, Tierstein, 48,57461° N, 9,68471° E, 737 m. auf Kalkfelsen am Albrand. Leg. Schumm 20.06.2010.



Caloplaca dalmatica (A. Massal.) H. Olivier, Mém. Soc. natn. Sci. nat. Cherbourg 37: 112 (1909)

[= *Variospora dolomiticola* (Hue) Arup, Søchting & Frödén, Nordic Jl Bot. 31(1): 76 (2013)]

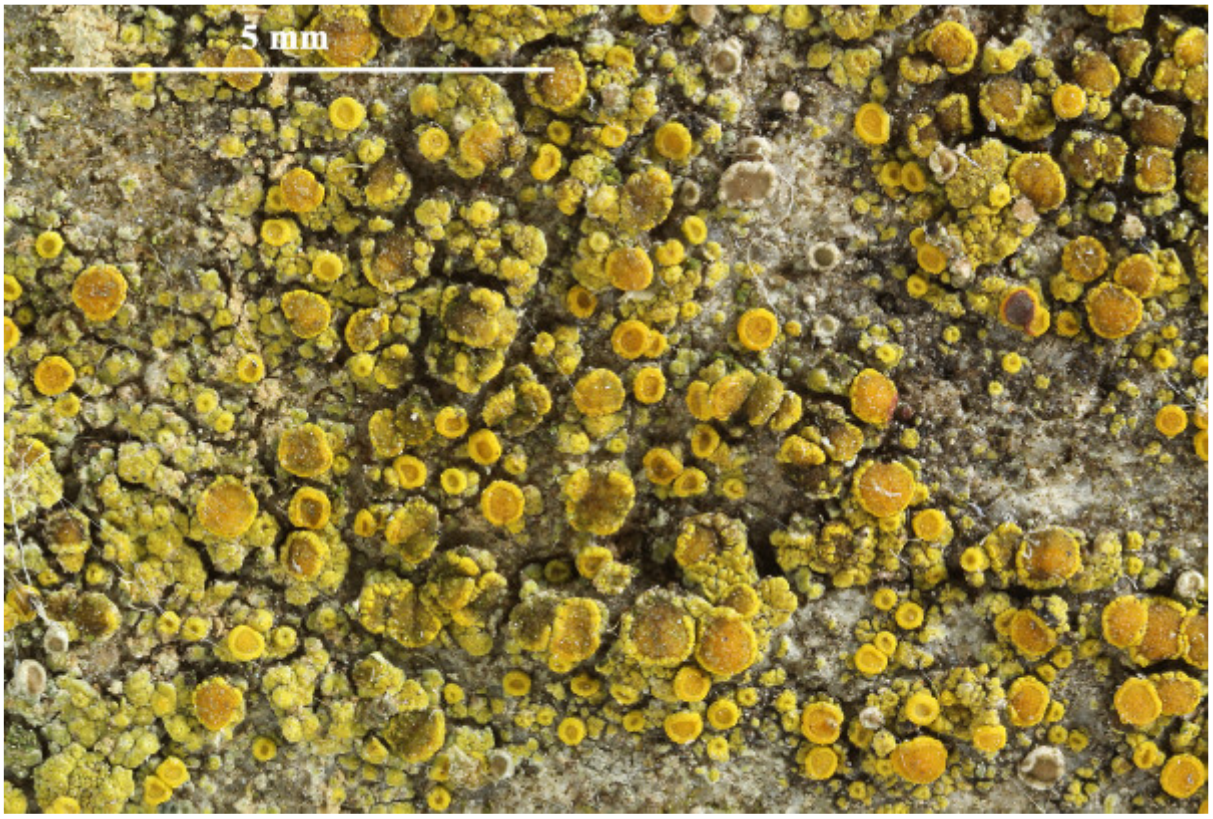
[= *Caloplaca dolomiticola* (Hue) Zahlbr., Cat. Lich. Univers. 7: 115 (1930)]

[= *Caloplaca velana* var. *dalmatica* (A. Massal.) Clauzade & Cl. Roux , Bull. Soc. bot. Centre-Ouest, Nouv. sér., num. spec. 7: 825 (1985)]

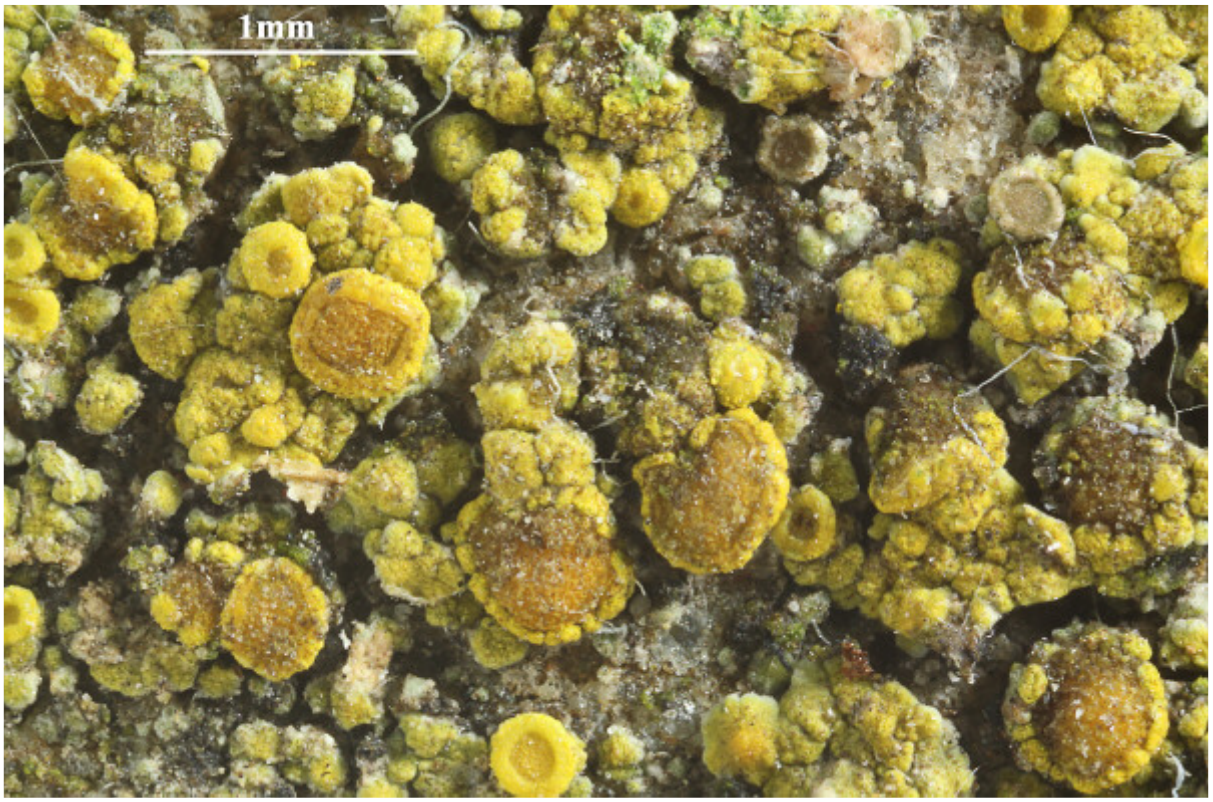
[= *Caloplaca velana* var. *dolomiticola* (Hue) Clauzade & Cl. Roux, Bull. Soc. bot. Centre-Ouest, Nouv. sér., num. spec. 7: 825 (1985)]

Thallus gelb, nicht lobat, getrennte Areolen. Sporen sehr variabel, ca. 13-14 x 7-8 µm, Septum 2.7 µm.

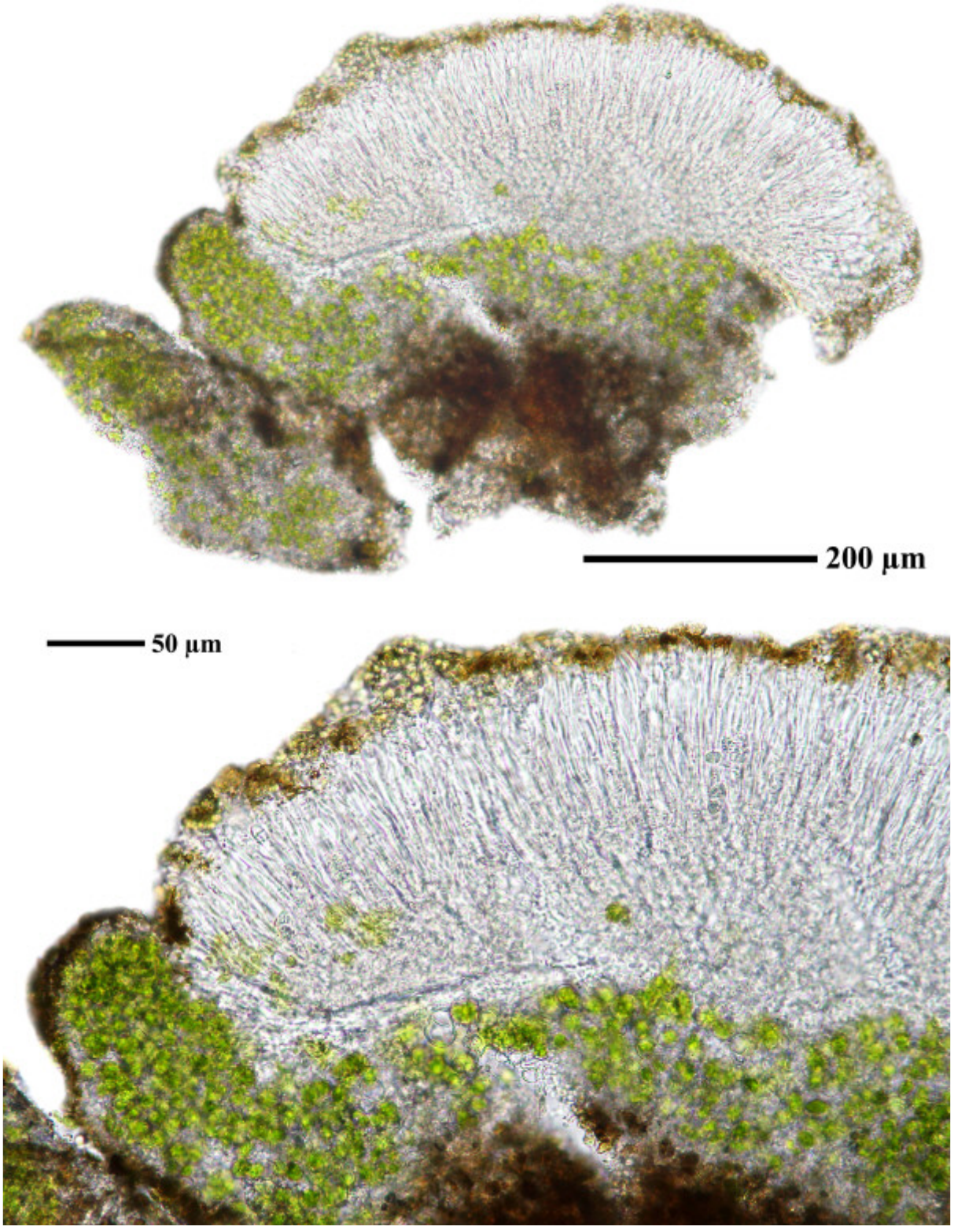
[19687], Germany, Baden-Württemberg, Stuttgart-Hohenheim, beim Botanischen Institut, 48.71081° N, 9.20847° E, 394 m, auf kalkhaltigen (HCL+), am Boden liegenden Sandsteinchen, TK 7221/3. Leg. et det. F. Schumm, 12.08.2017, conf. A. Aptroot.



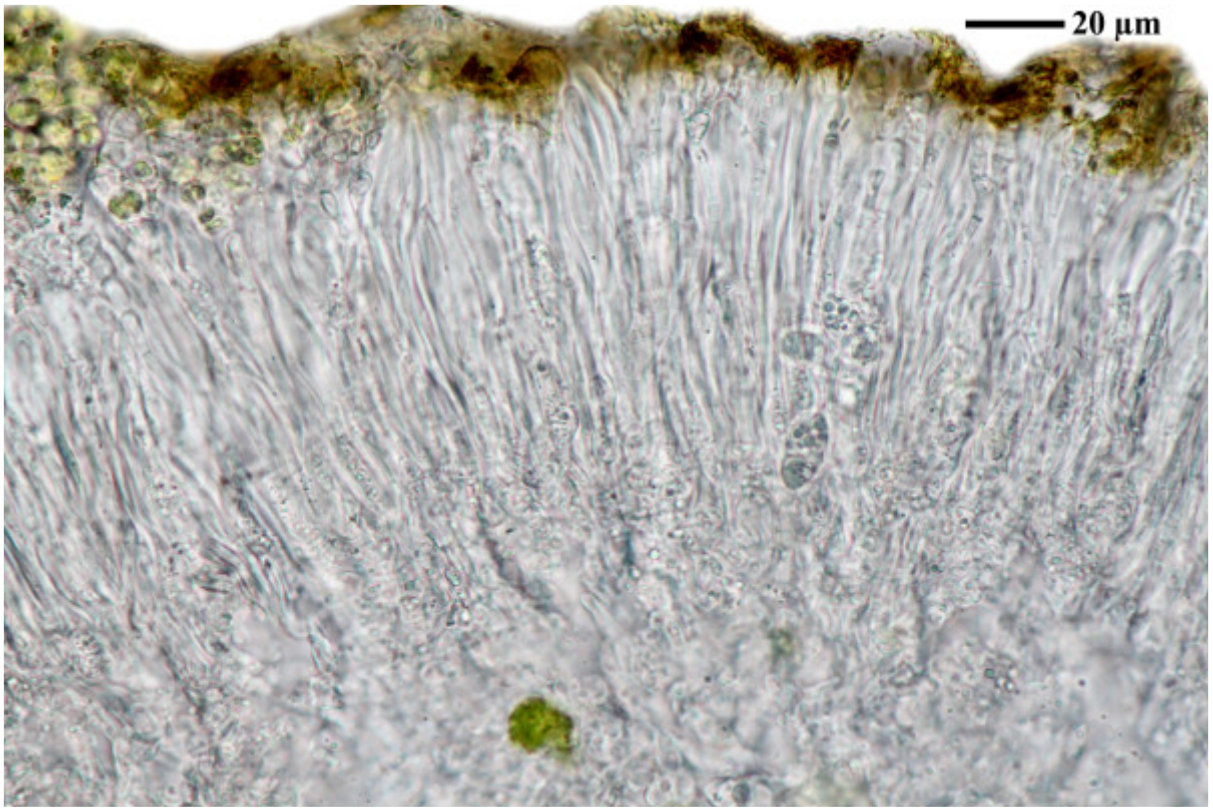


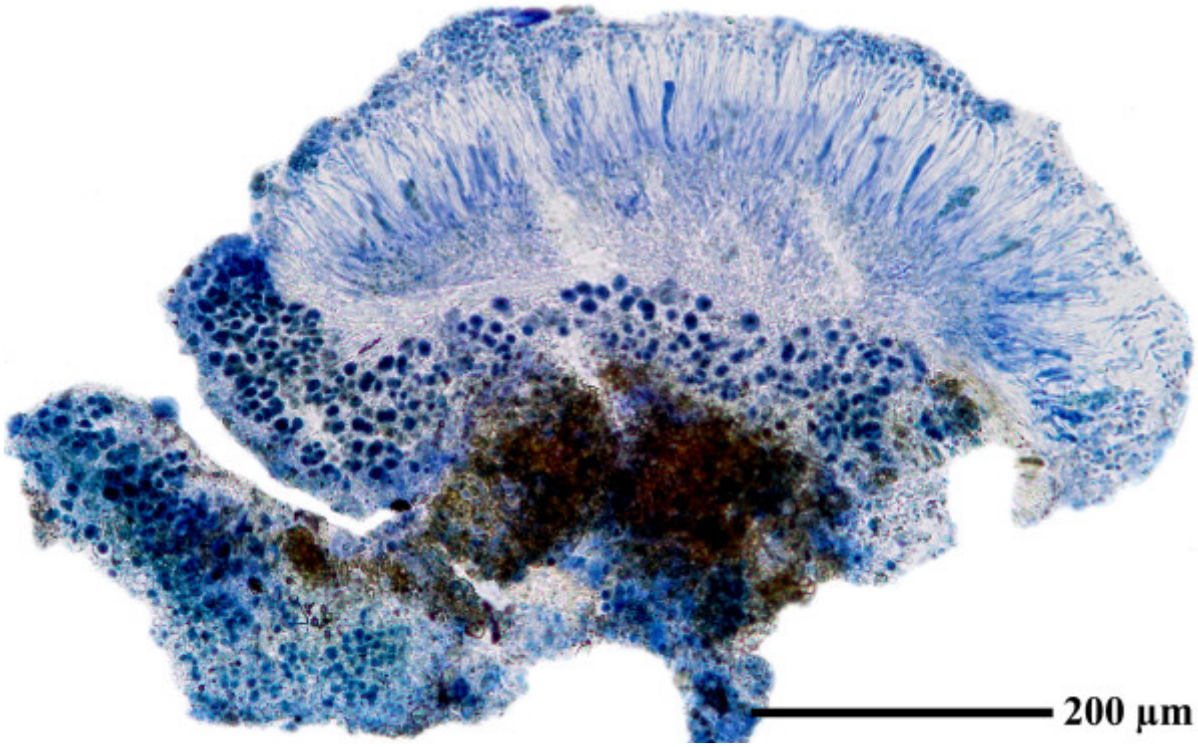


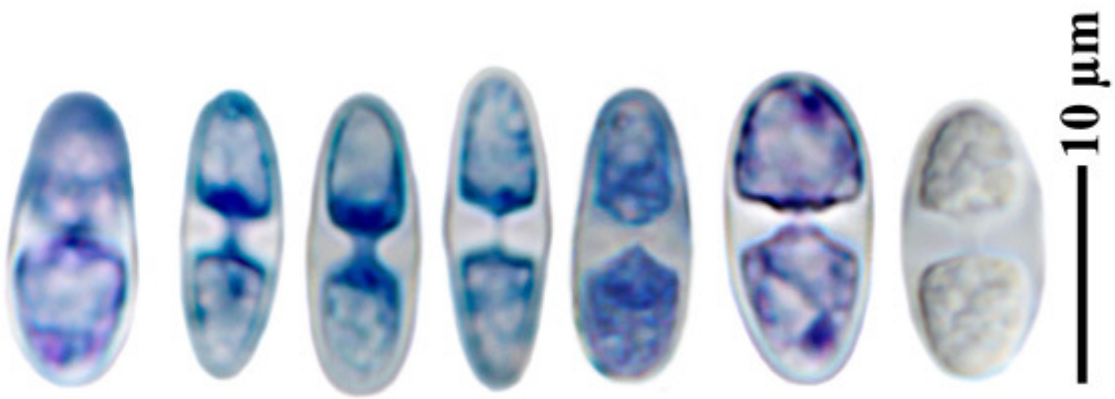
Caloplaca dalmatica



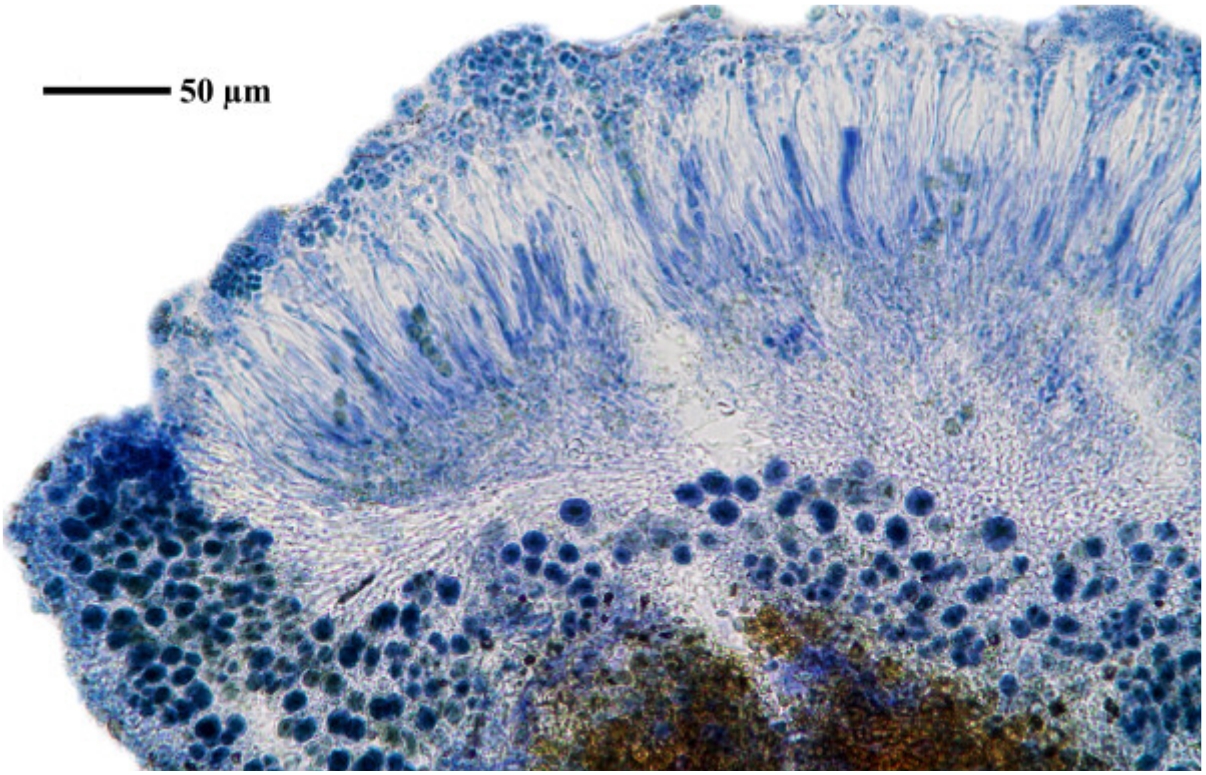
Caloplaca dalmatica

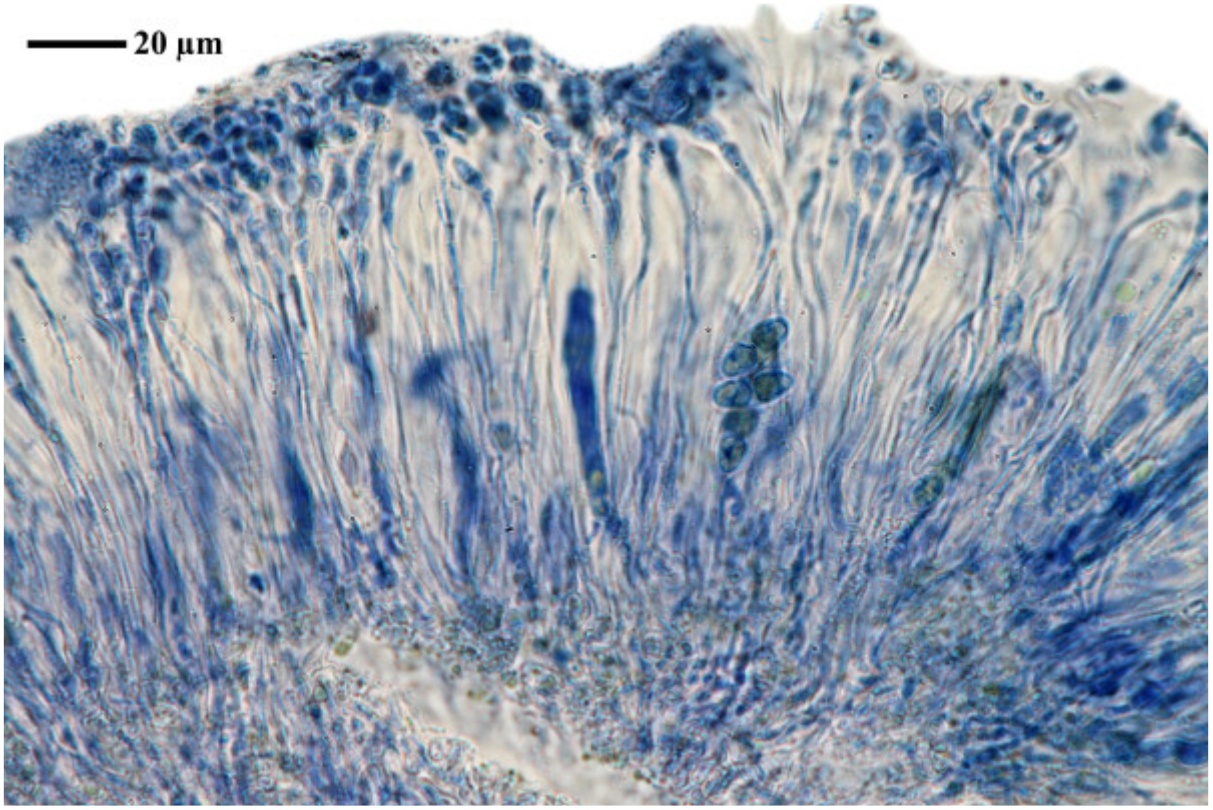




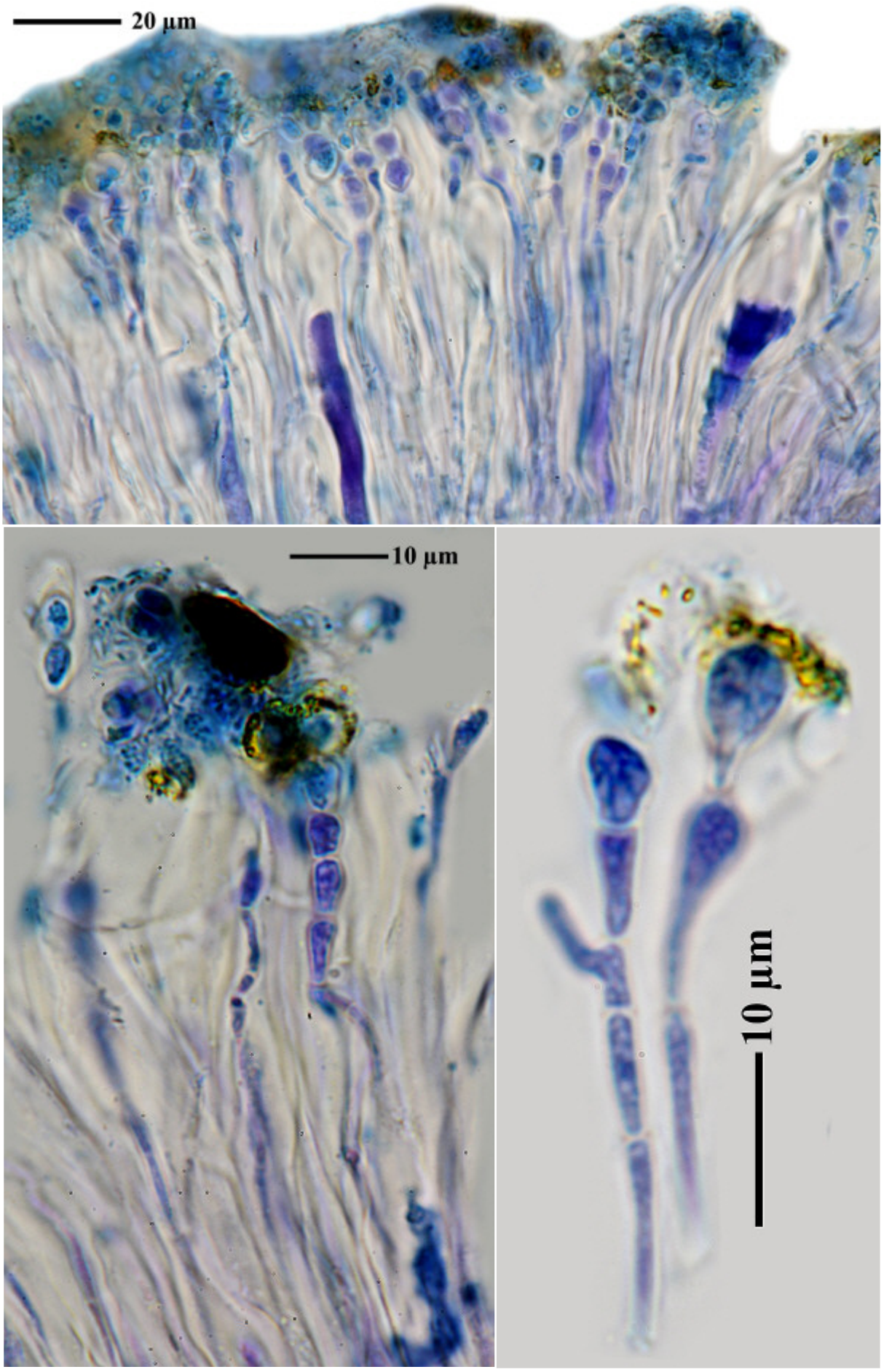


Caloplaca dalmatica





Caloplaca dalmatica



Caloplaca dalmatica

Caloplaca dalmatica cfr. (A. Massal.) H. Olivier, Mém. Soc. natn. Sci. nat. Cherbourg 37: 112 (1909)

[= *Variospora dolomiticola* cfr. (Hue) Arup, Søchting & Frödén, Nordic Jl Bot. 31(1): 76 (2013)]

[= *Caloplaca dolomiticola* cfr. (Hue) Zahlbr., Cat. Lich. Univers. 7: 115 (1930)]

[= *Caloplaca velana* var. *dalmatica* cfr. (A. Massal.) Clauzade & Cl. Roux, Bull. Soc. bot. Centre-Ouest, Nouv. sér., num. spec. 7: 825 (1985)]

[= *Caloplaca velana* var. *dolomiticola* cfr. (Hue) Clauzade & Cl. Roux , Bull. Soc. bot. Centre-Ouest, Nouv. sér., num. spec. 7: 825 (1985)]

On calcareous rocks.

[13468], Griechenland, S-Kreta, Prov. Heraklion, 1-2 km vor Platanos, Kalkfelsen in N-exponiertem Oleahain, 35°08.400' N, 24°46.081' E, 510 m. Leg. F. Schumm & R. Düll, 17.10.2007, det. A. Aptroot 2016.





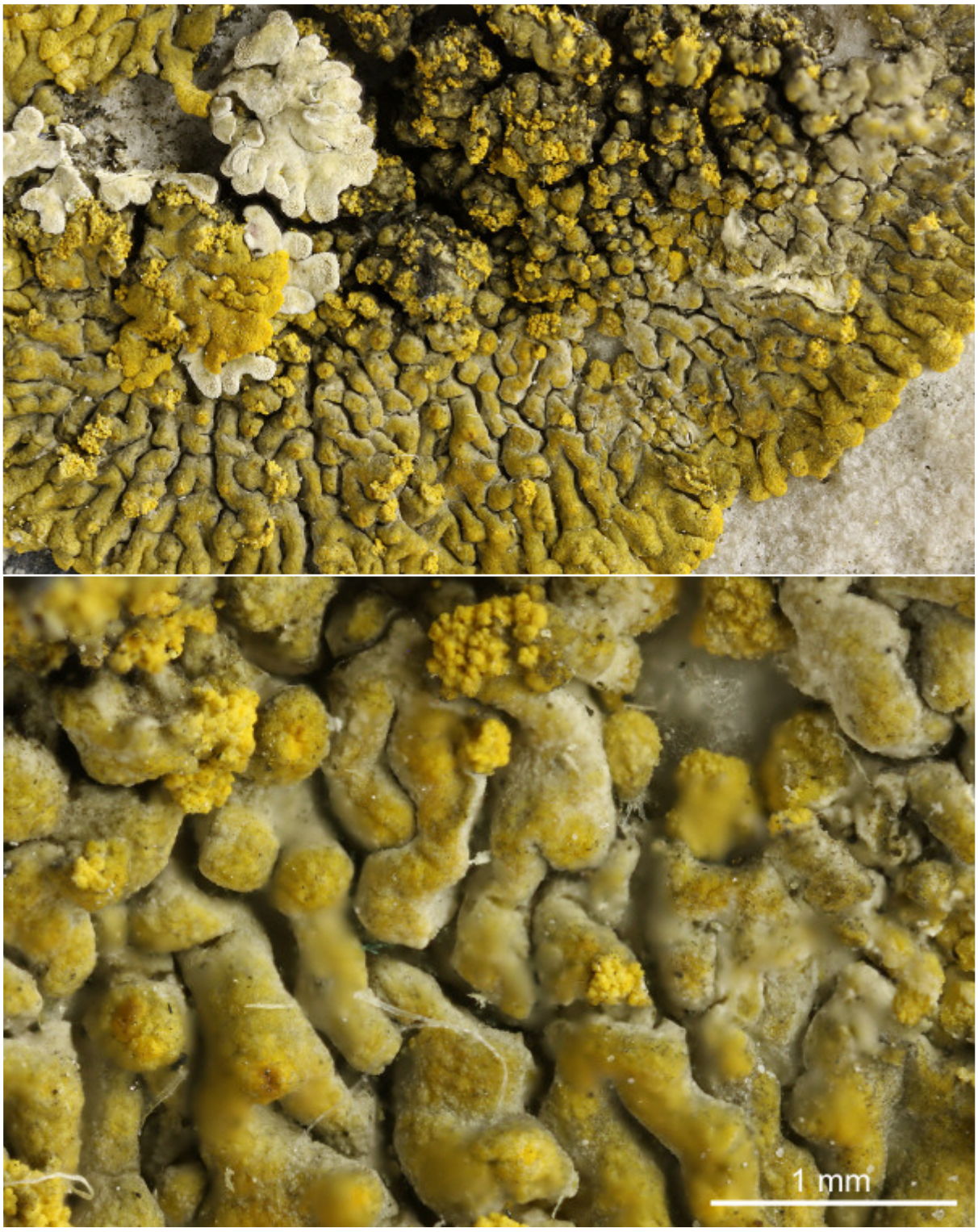


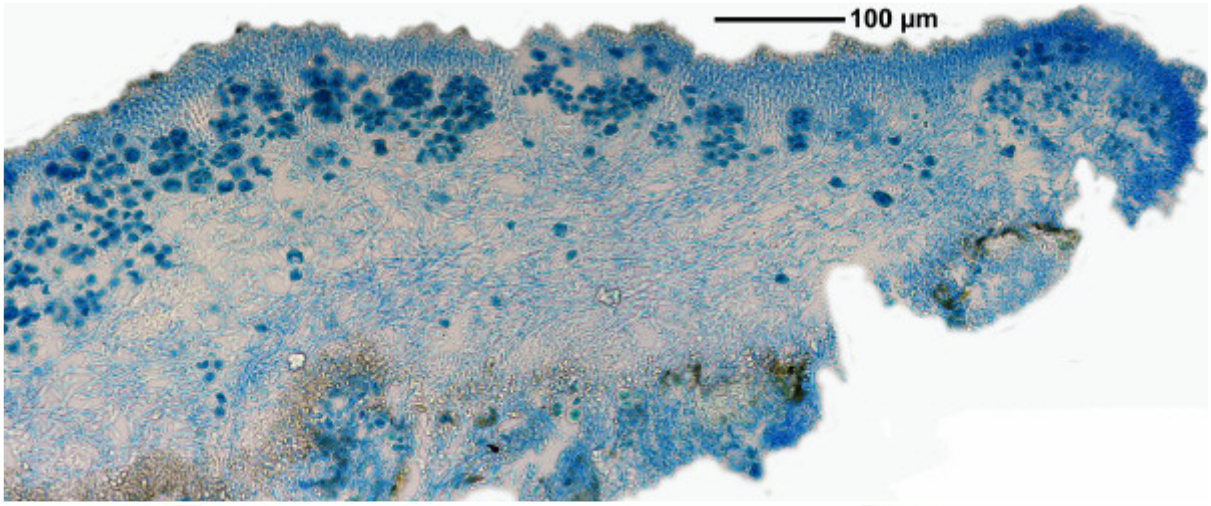
Caloplaca dalmatica cfr.

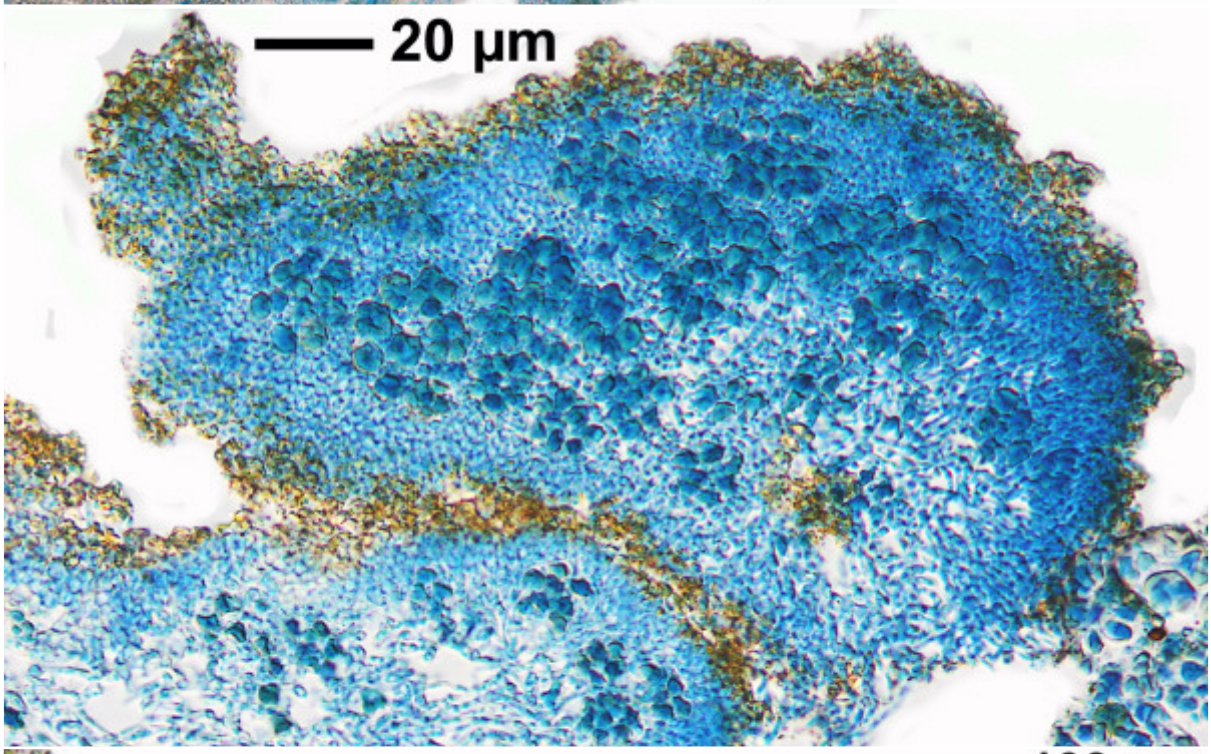
Caloplaca decipiens (Arnold) Blomb. & Forssell
[= *Calogaya decipiens* (Arnold) Arup, Frödén & Søchting]

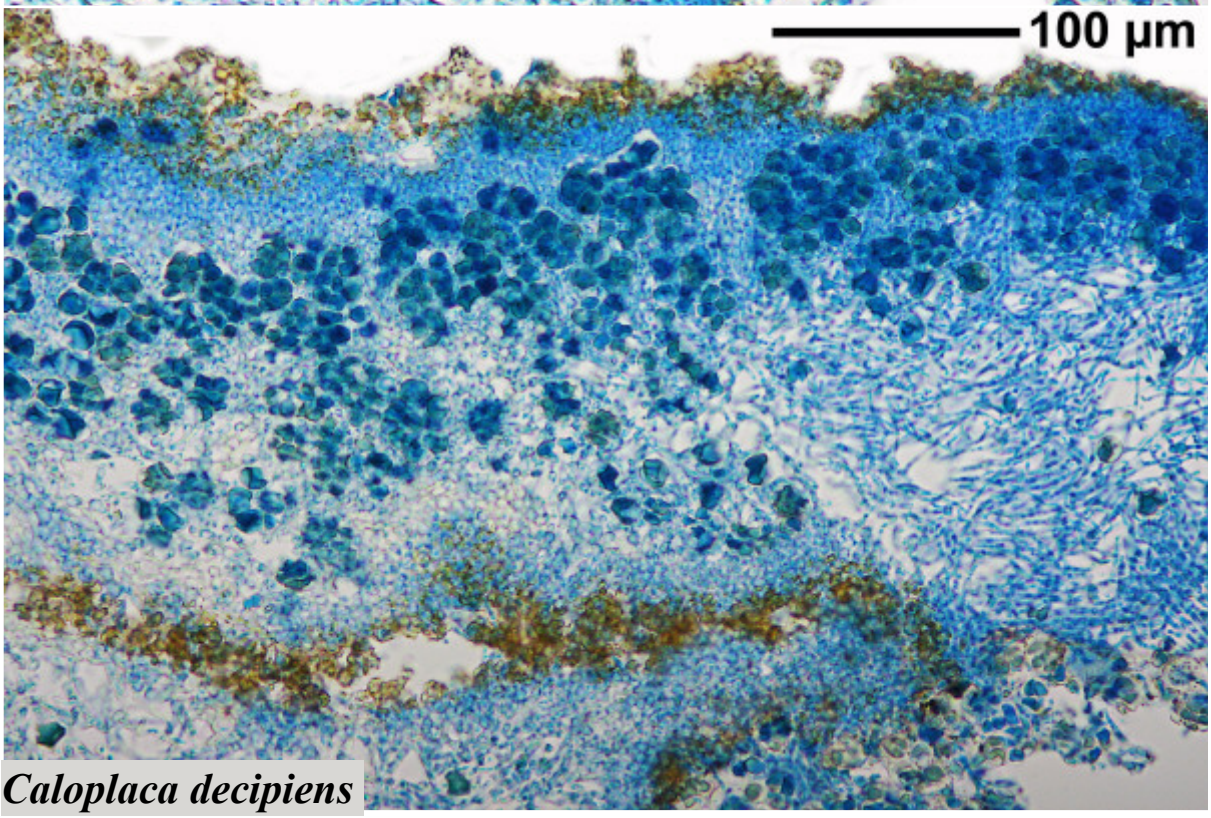
Thallus am Rand gelappt. Endlappen bis 1 mm breit, oft bereift. Mit Kopf- und Lippensoralen. Th. K+ rot. Apothecien selten. Sporen hyalin, polar-2-zellig, 8/Ascus, 10-15 x 5-8 µm, Septum 1/4-1/3 der Sporenlänge.

[149], Germany, Baden-Württemberg, Kreis Göppingen, Hohenstaufen, Spielburg, ca. 570 m, an südexponierten Kalkfelsen. Leg. et det. Schumm 27.09.1968, test. Klement 1970.

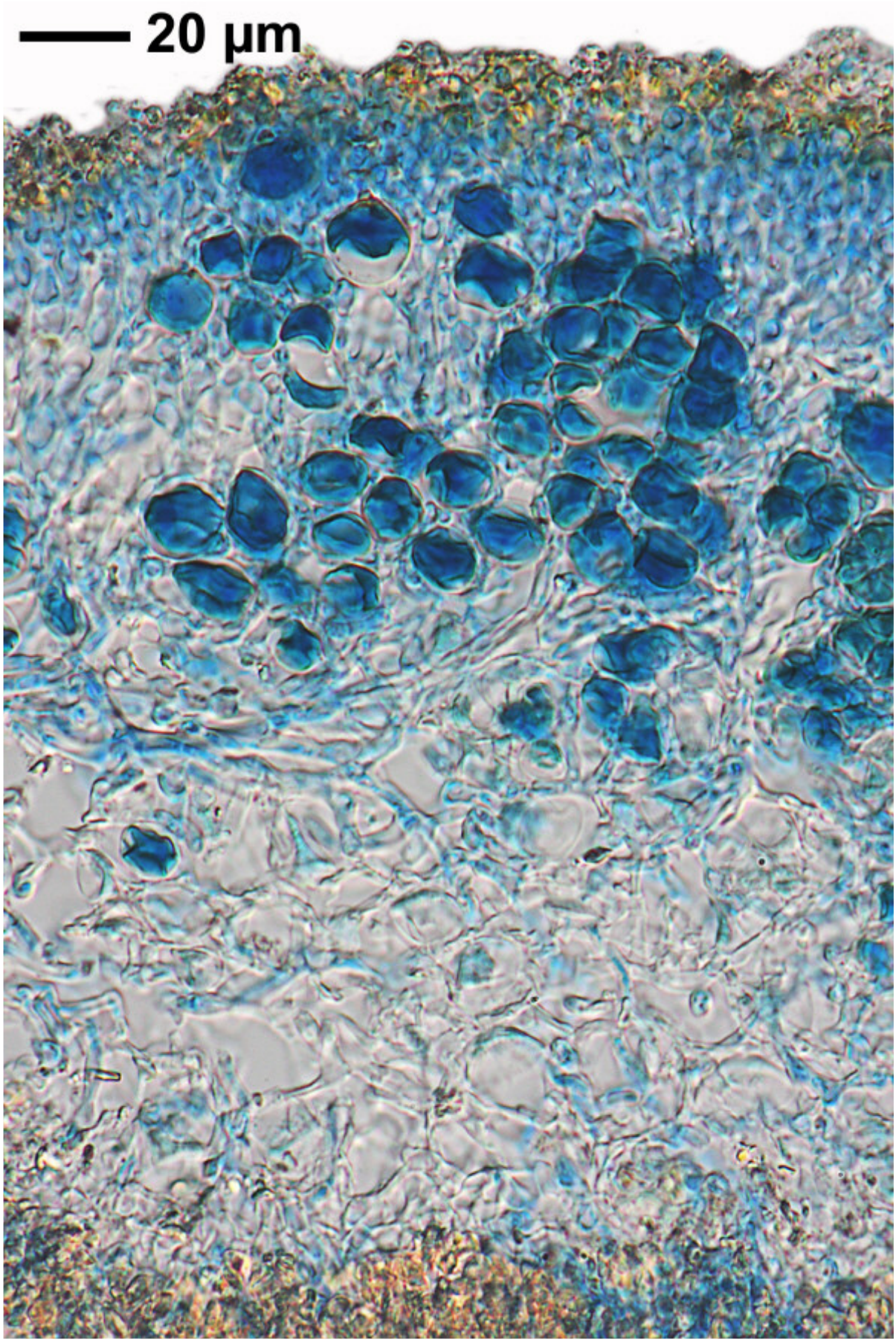




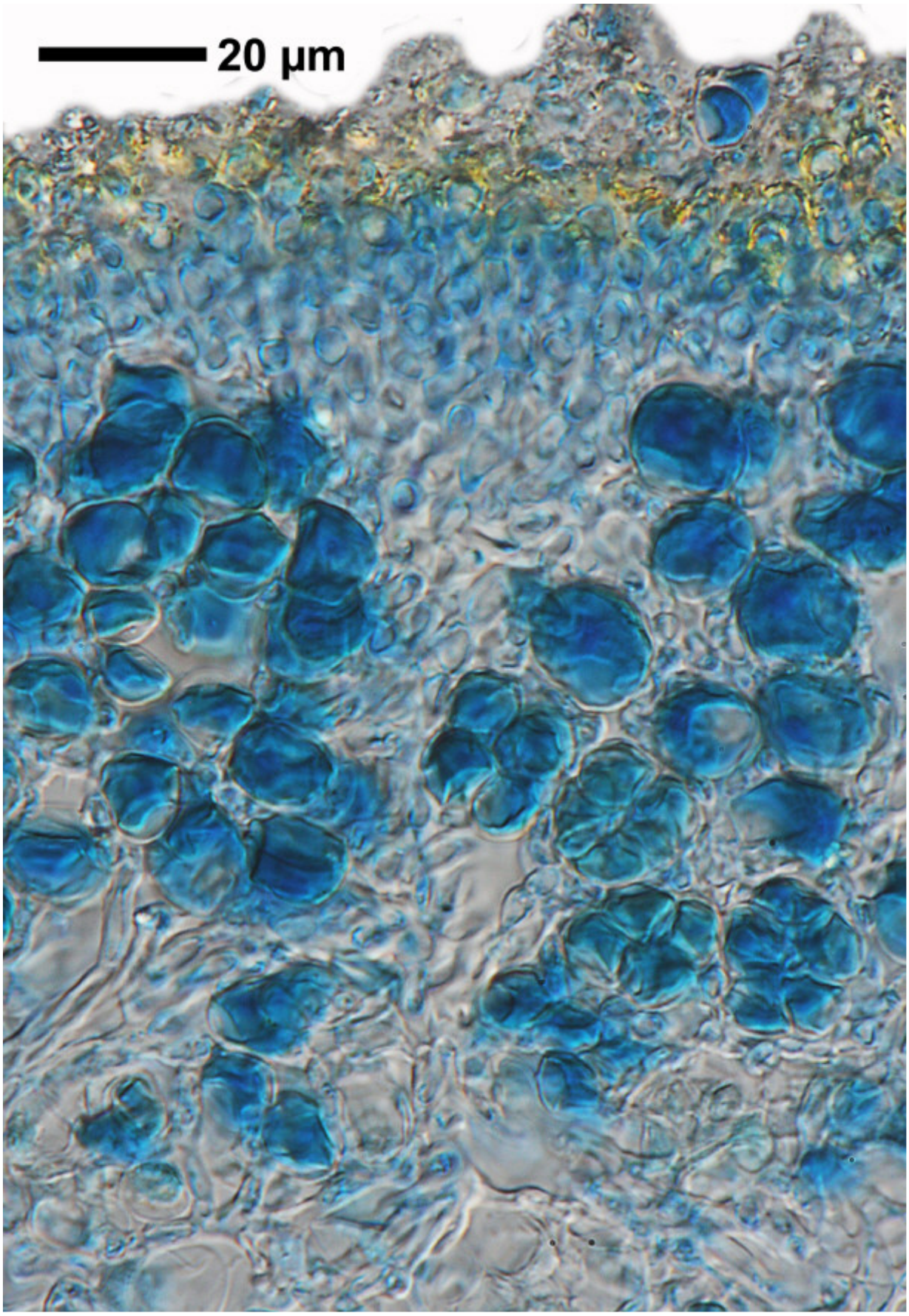




Caloplaca decipiens



Caloplaca decipiens



Caloplaca decipiens

Caloplaca decipiens (Arnold) Blomb. & Forssell
[= *Calogaya decipiens* (Arnold) Arup, Frödén & Søchting]

On stone walls.

[2148], Tunesien, an Mauern und Mörtel in Cheninin. Leg. F. Schumm, 20.03.1973, det. H. Sipmann.





Caloplaca decipiens

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

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





Caloplaca decipiens

Caloplaca demissa (Körb.) Arup & Grube

On non-calcareous rock.

[ABL 72943], Korea, Gangwon-do, Samcheok city, Gundeok-myeoun, Hamaengbang-ri, Maengbang 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 2014.







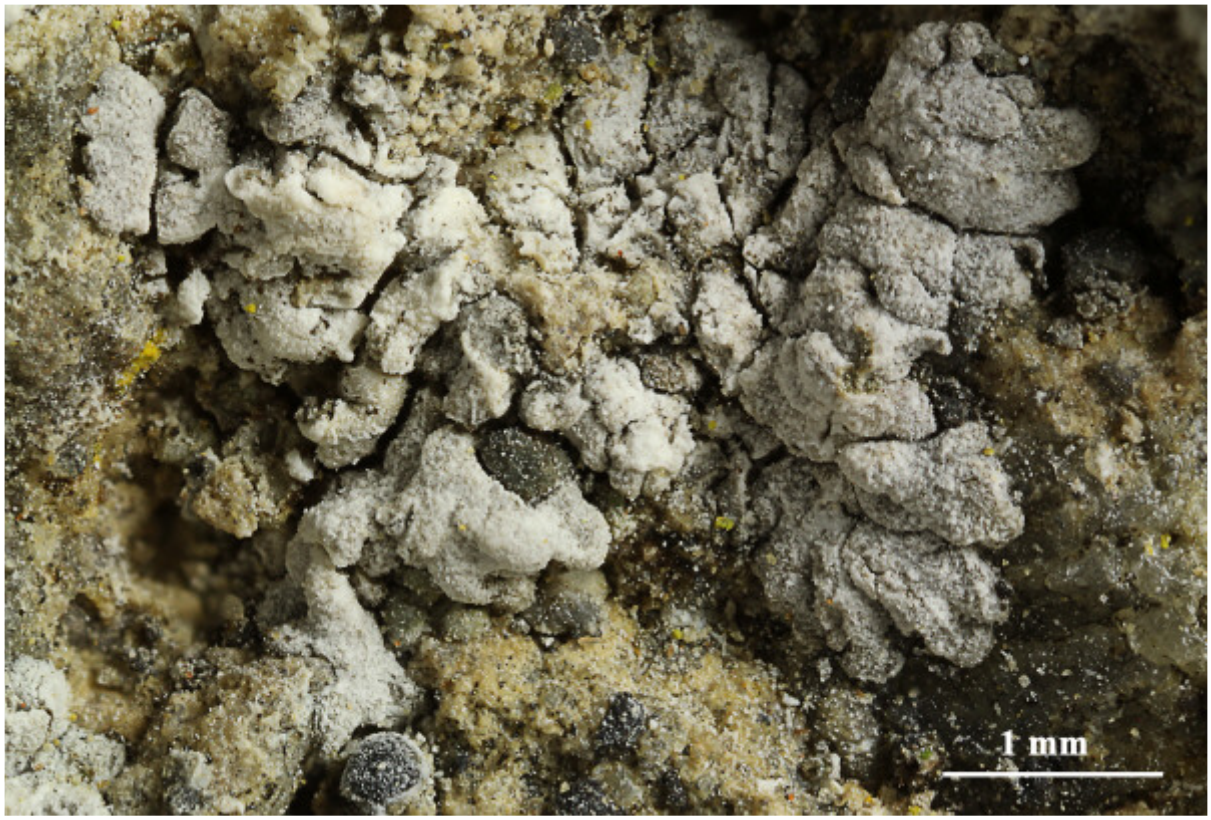
Caloplaca demissa

Caloplaca demissa (Körb.) Arup & Grube

on non-calcareous rock.

[ABL 73886], Armenia, Ararat, Vedi, Urtsadzor, Khosrov Forest State Reserve, around a stream, 40°01’14” N, 22°55’00” E, 1700 m. on siliceaous volcanic rock. Leg. A. Aptroot, 1706.2015, det. A. Aptroot 2015.







Caloplaca demissa



Caloplaca demissa

Caloplaca demissa (Körb.) Arup & Grube

On non-calcareous rock.

[ABL Moon14694], Korea, Prov. Gangwon-do, beside Maengbang beach, around Mt. Deokbong-san, Hamaengbang-ri, Gundeok-myeoun, Samcheok city, 37°23’19.57’’ N, 129°14’21.23’’ E, 4-10 m, on rocks. Leg. K.H. Moon (14694) and H. Kashiwadani.







Caloplaca demissa

Caloplaca diphyodes (Nyl.) Jatta

On volcanbic rock. Ascospores 13 x 8 µm, septum 5 µ or bad developed.

[ABL 74815], Portugal, Madeira Islands, Porto Santo, SW part, SW face of Pico de Ana Ferreira, c. 225 m, 33°02’32” N, 16°22’14 W, on volcanic rock. Leg. A. Aptroot 04.03.2016, det. A. Aptroot 2016.







Caloplaca diphyodes

Caloplaca diplacia (Ach.) Riddle

On non-calcareous rocks.

[18153], Brasilien, São Paulo. Serra do Mar, Canto Moreira bei Maresias, etwa 30 km westlich von São Sebastião, an vom Meerwasser beeinflußten, niederen, stark besonnten Granitblöcken. Leg. K. Kalb 16.02.1980. KALB: LICHENES NEOTROPICI 87.





Caloplaca diplacia



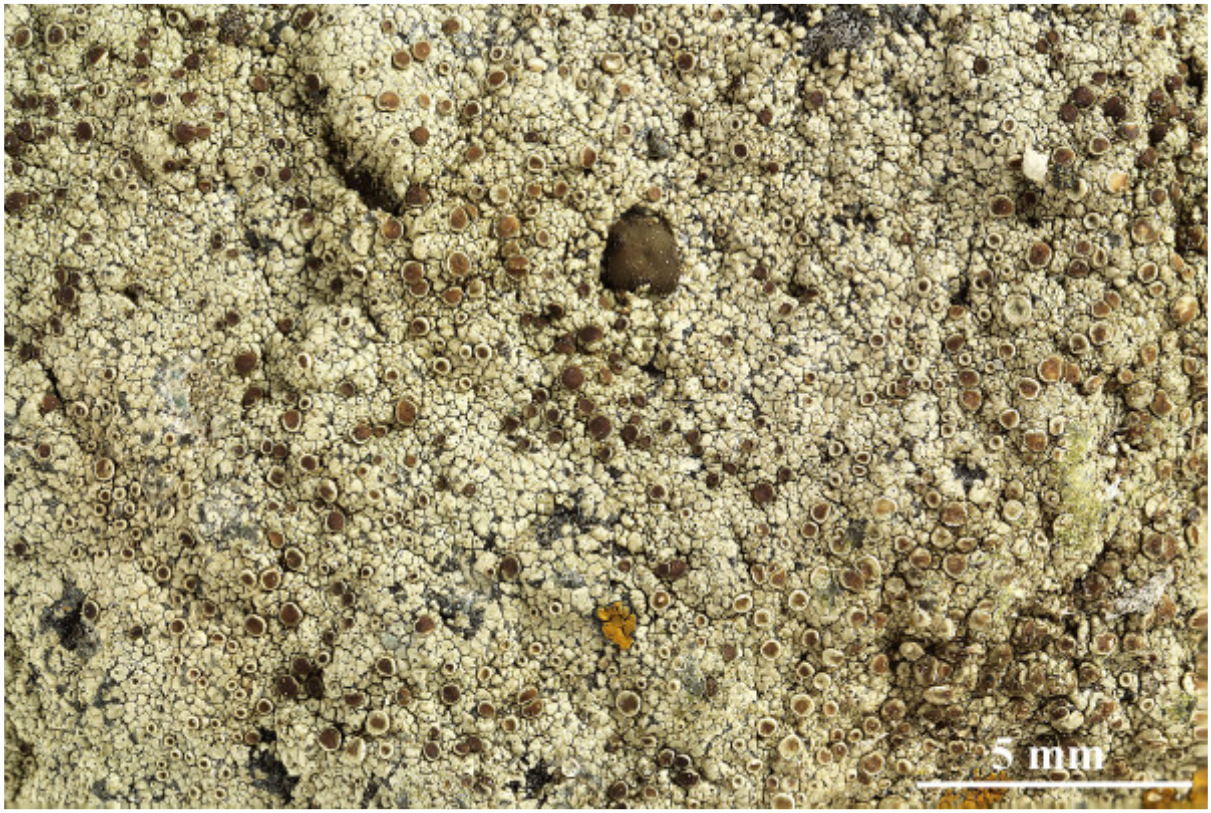


Caloplaca diplacia

Caloplaca diplacia (Ach.) Riddle

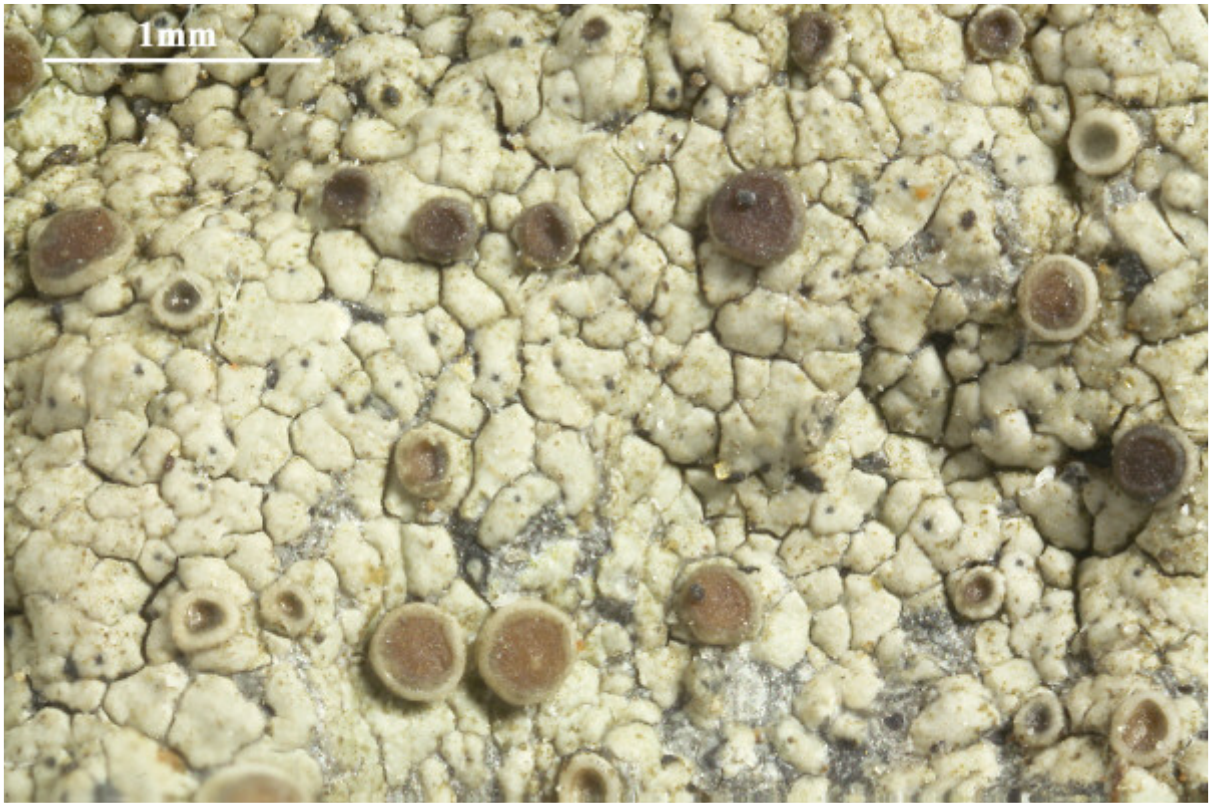
On non calcareous-rocks. Spores polarilocular, hyaline, 8/ascus, 10-11.5 x 5.5-6 µm, septum 5.7-7.1 µm.

[ABL 21369], 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.

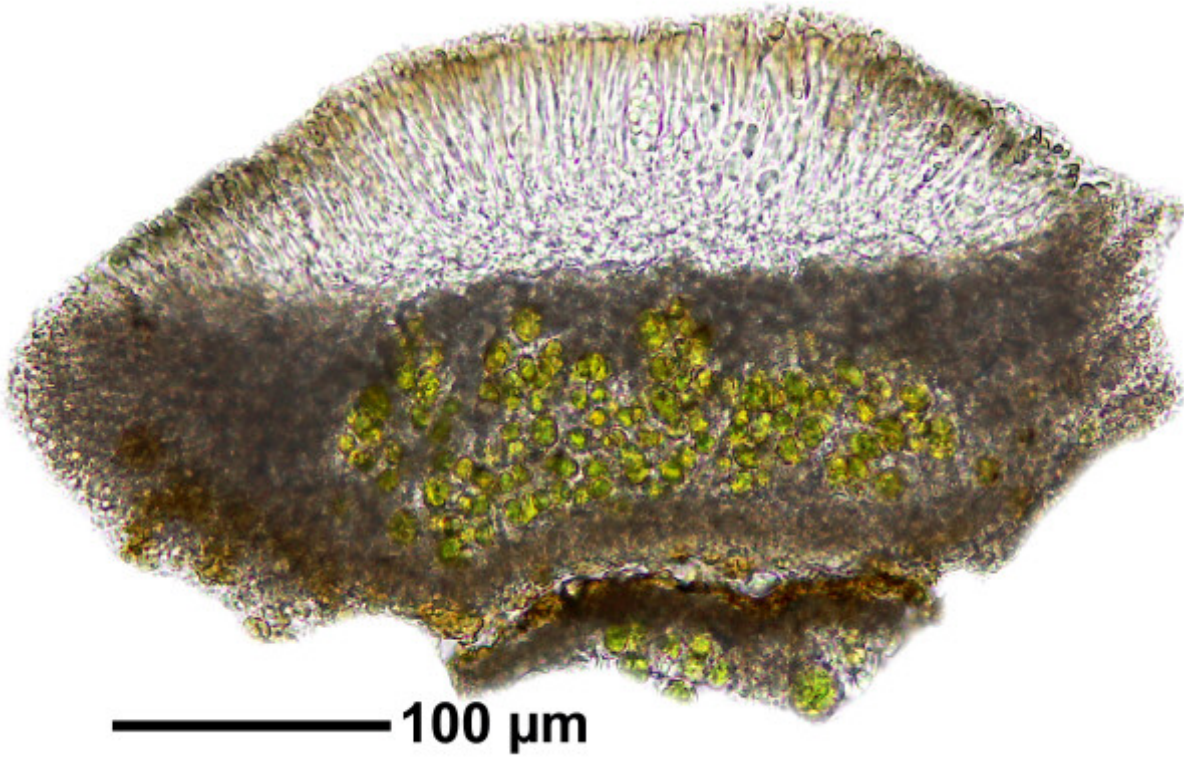


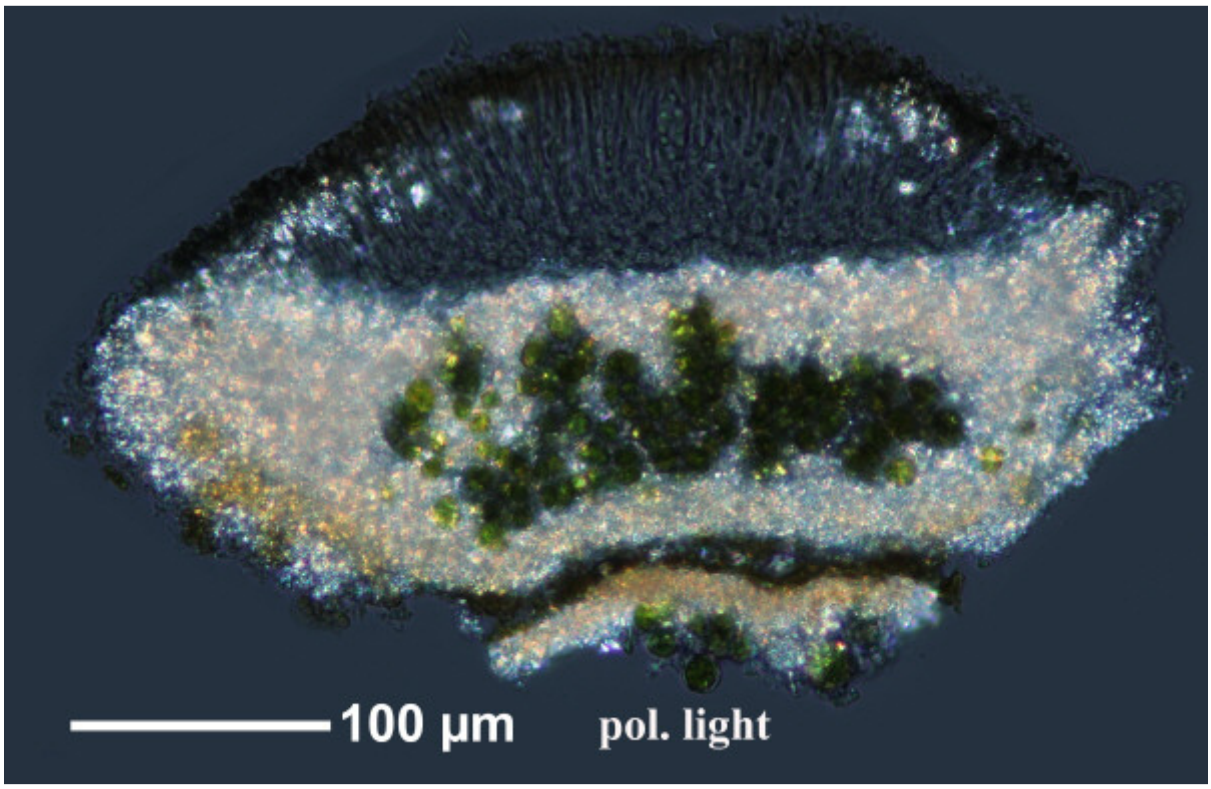




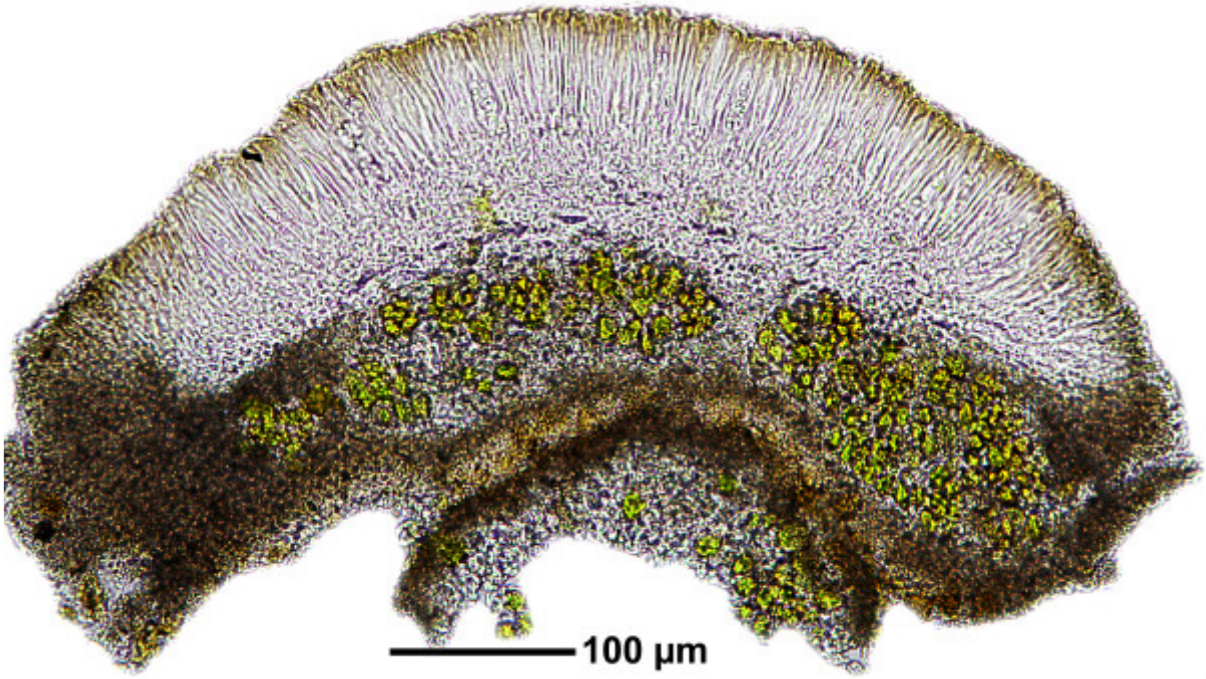


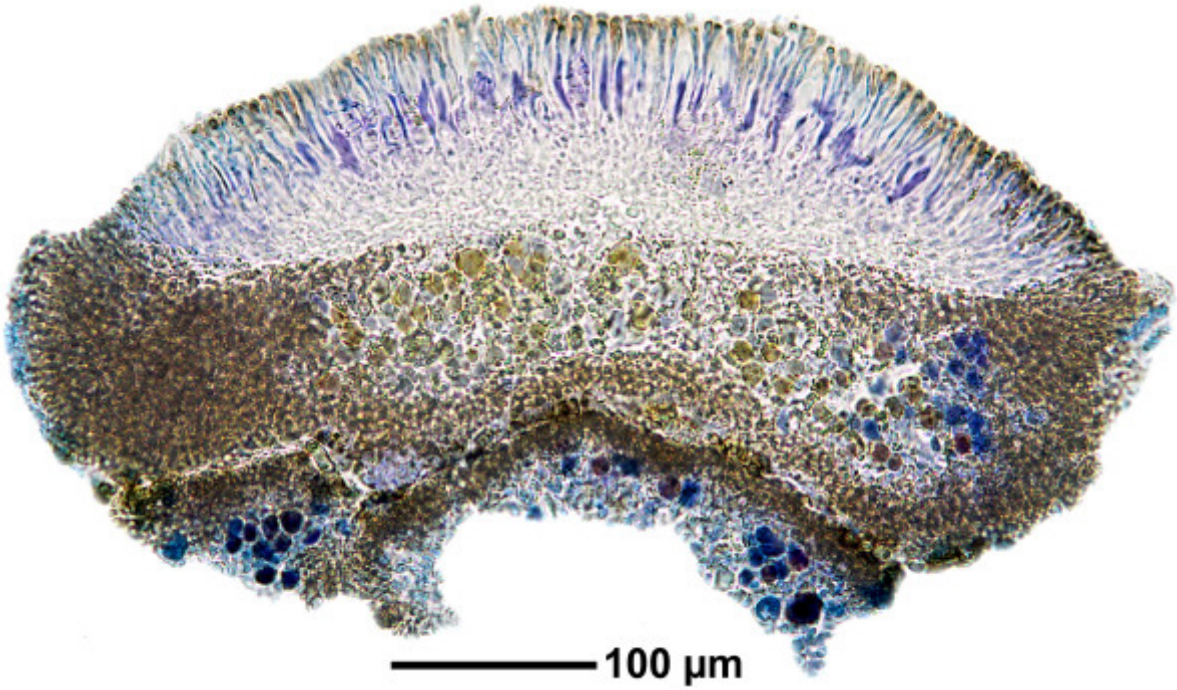
Caloplaca diplacia



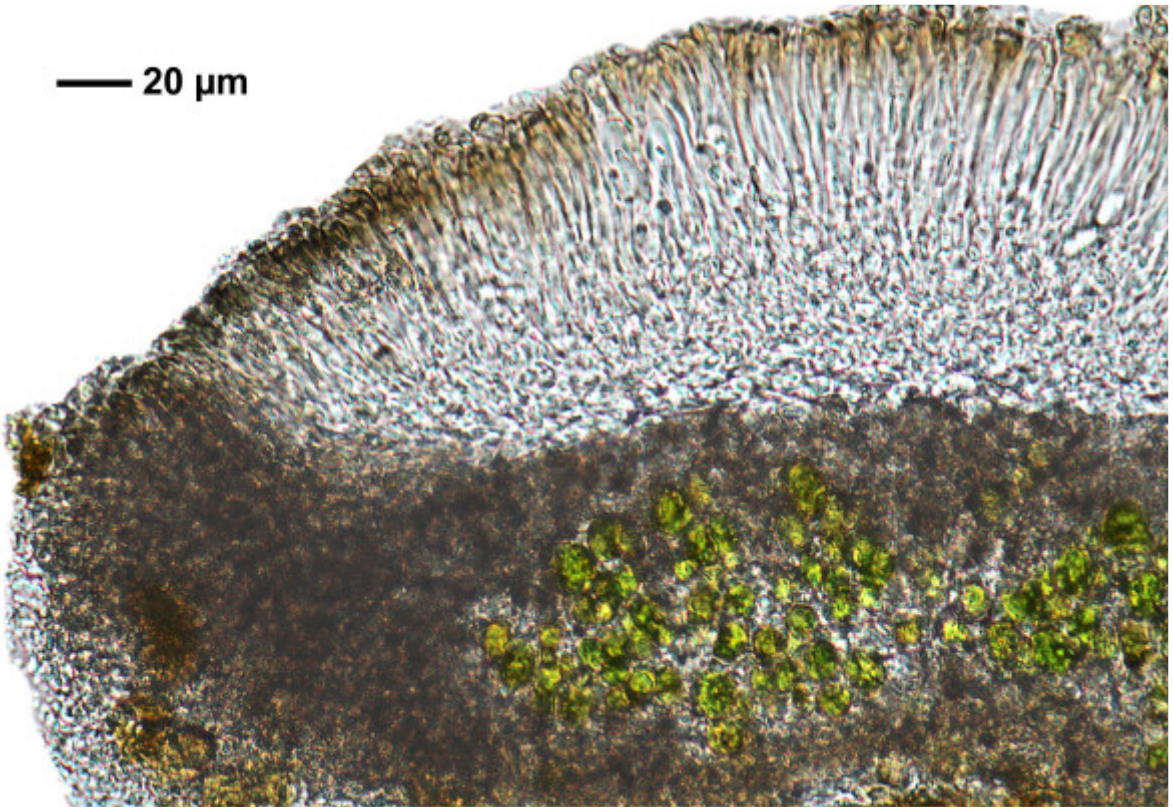


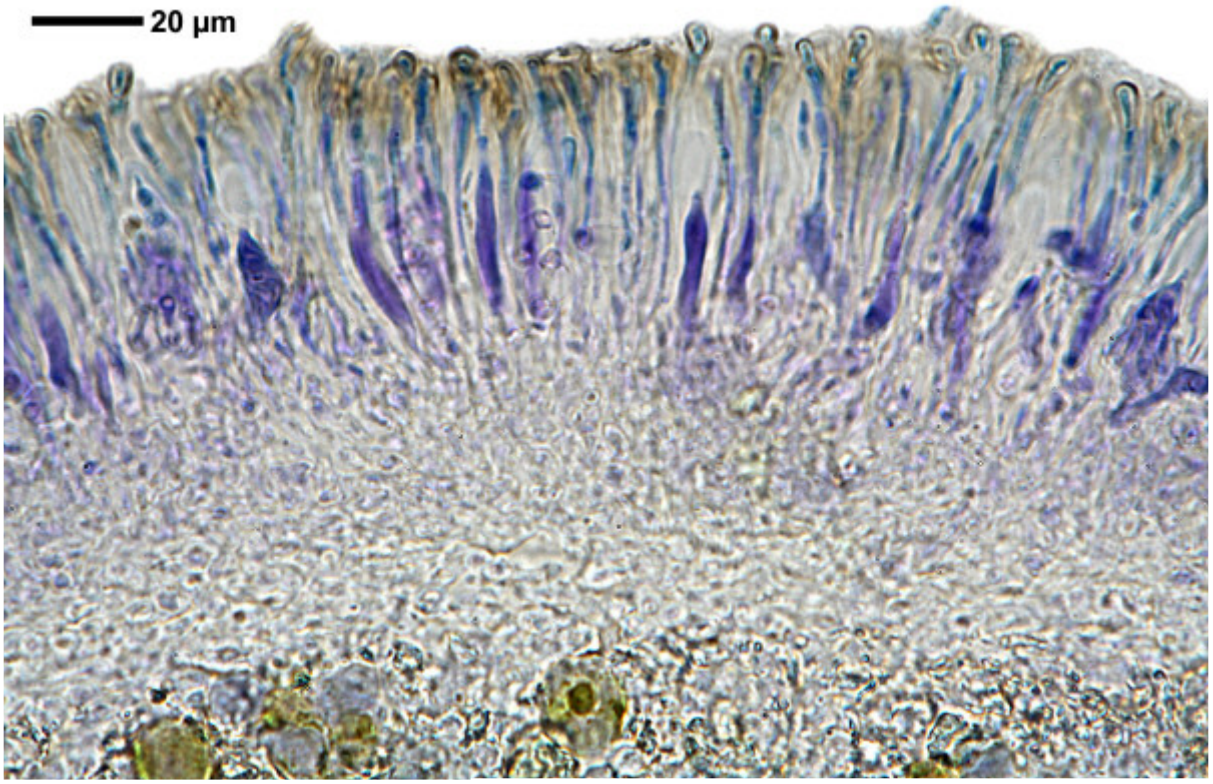
Caloplaca diplacia





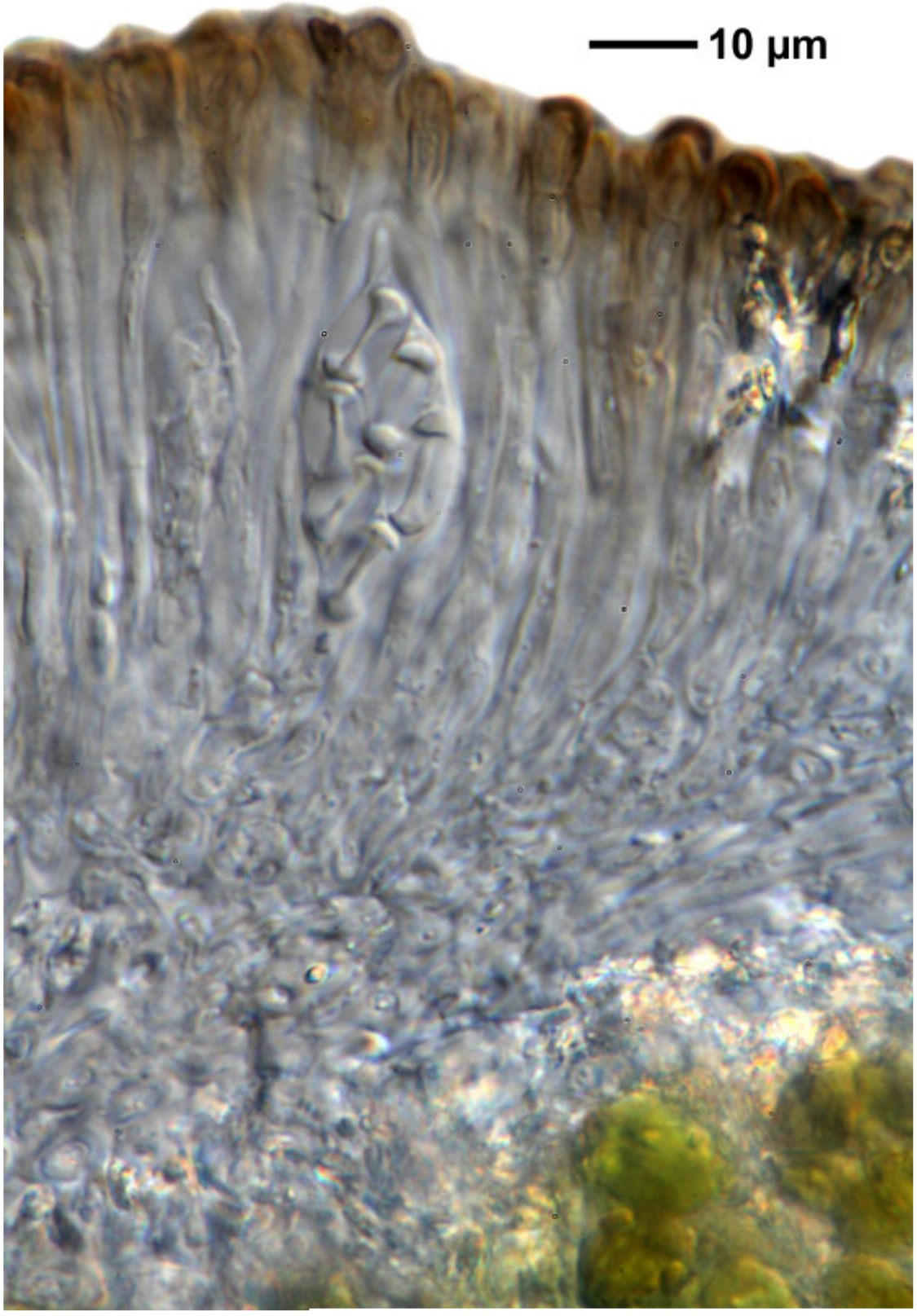
Caloplaca diplacia







Caloplaca diplacia



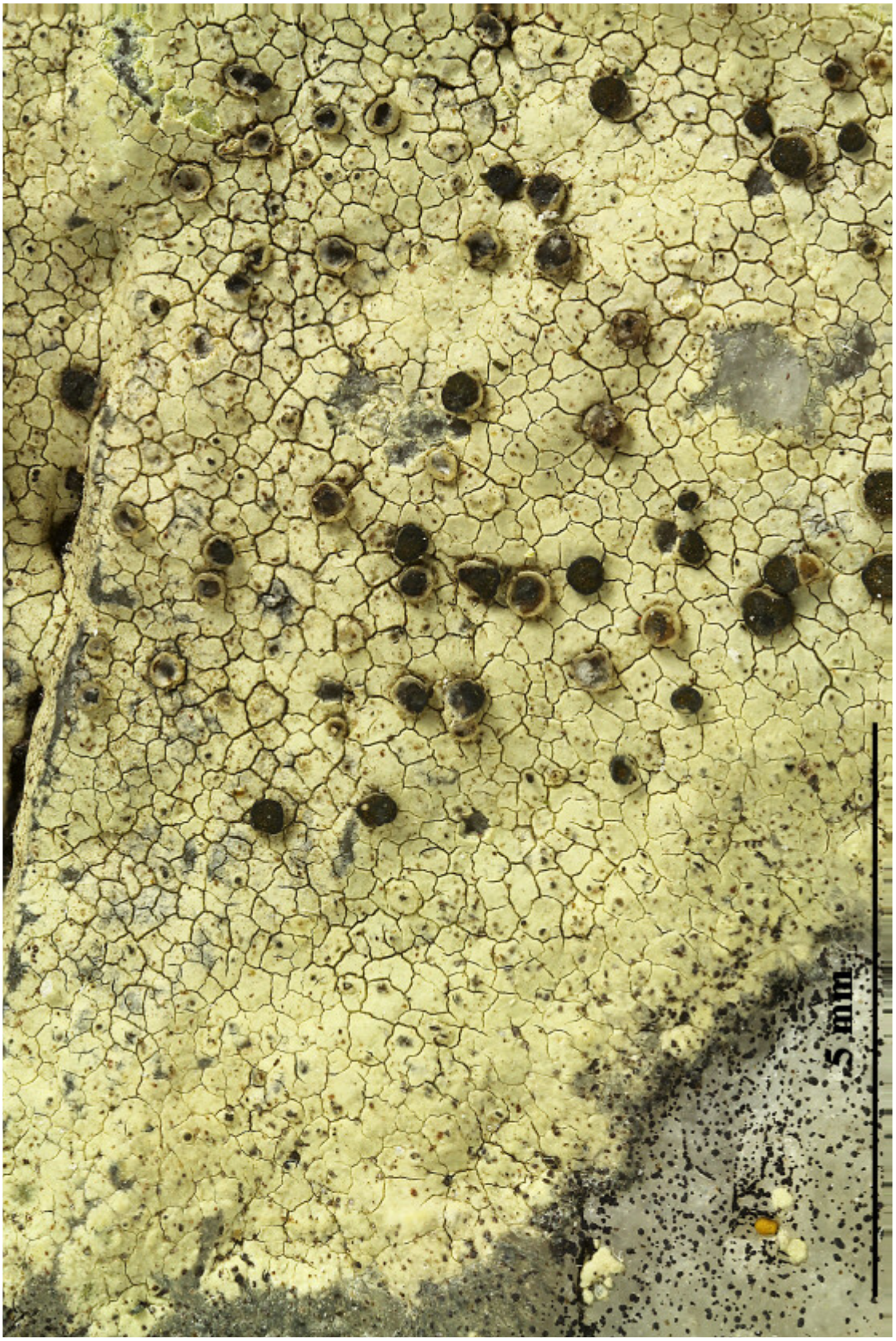


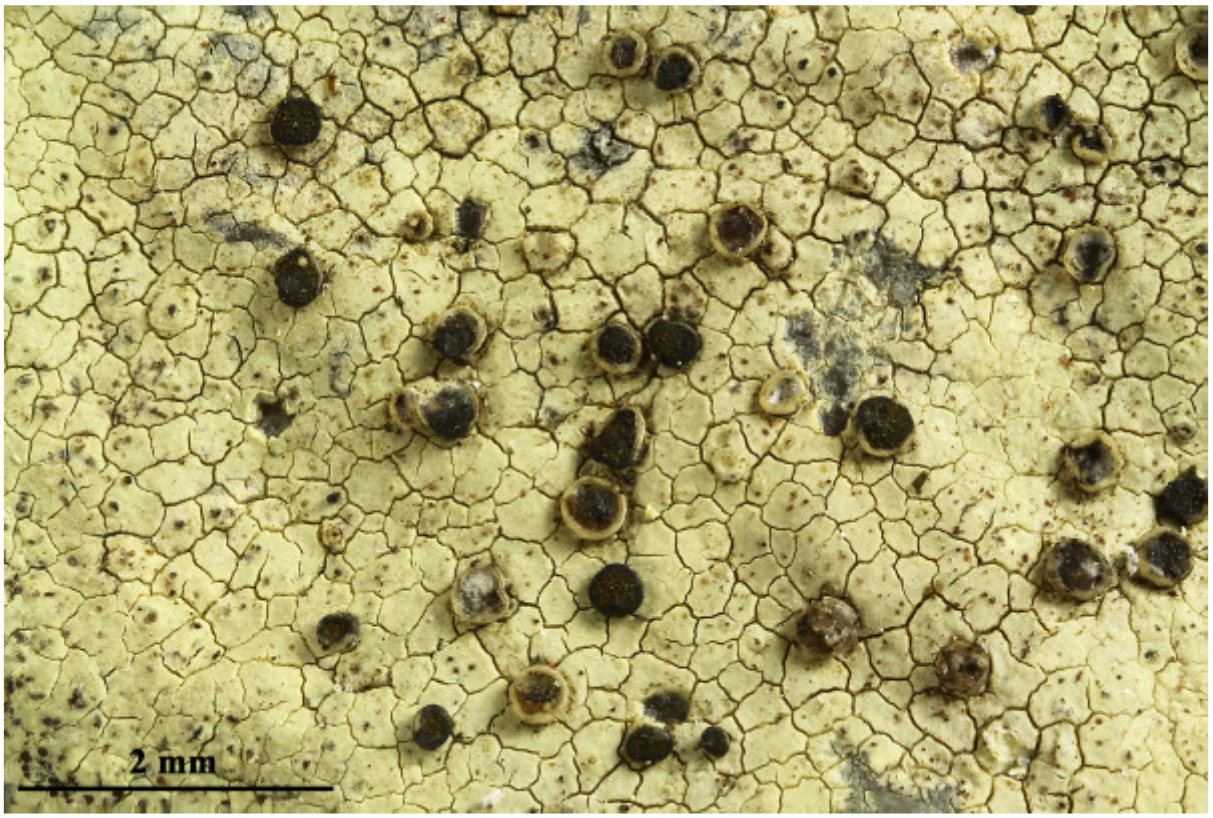
Caloplaca diplacia

Caloplaca diplacia (Ach.) Riddle

On non calcareous-rocks. Thallus pale yellow-greenish.

[ABL 21385], 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.





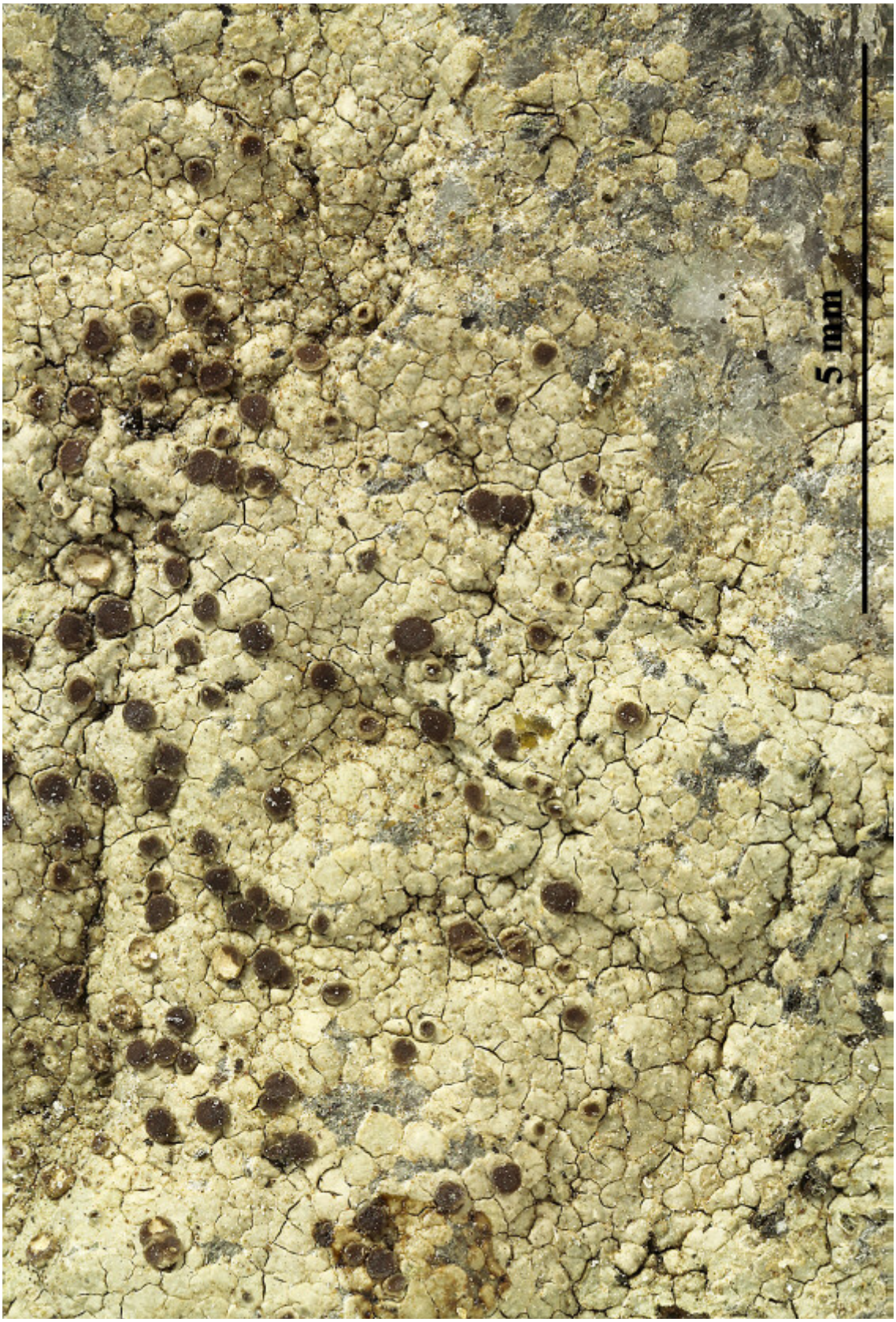


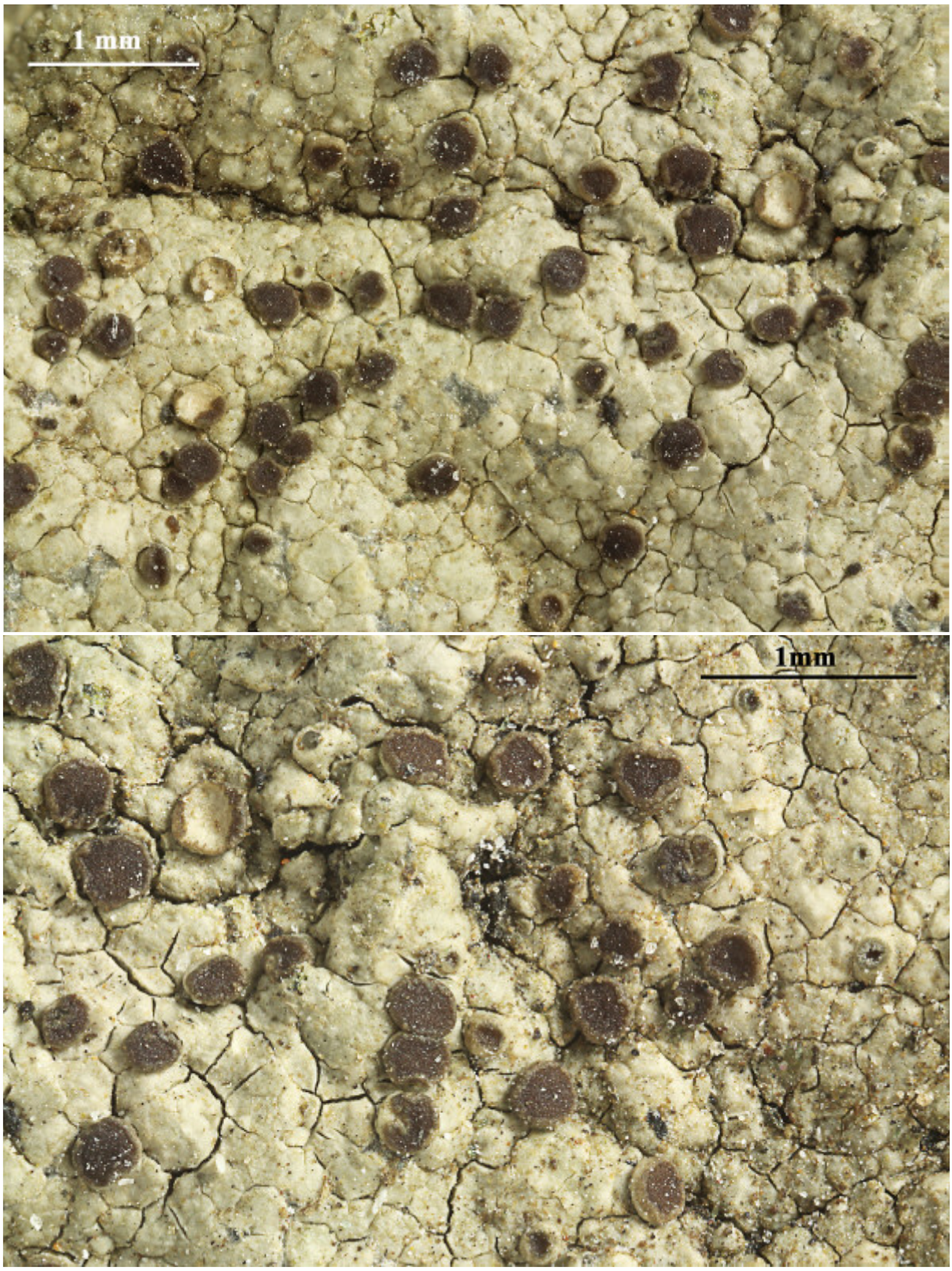
Caloplaca diplacia

Caloplaca diplacia (Ach.) Riddle

On non calcareous-rocks.

[ABL 21393], 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.



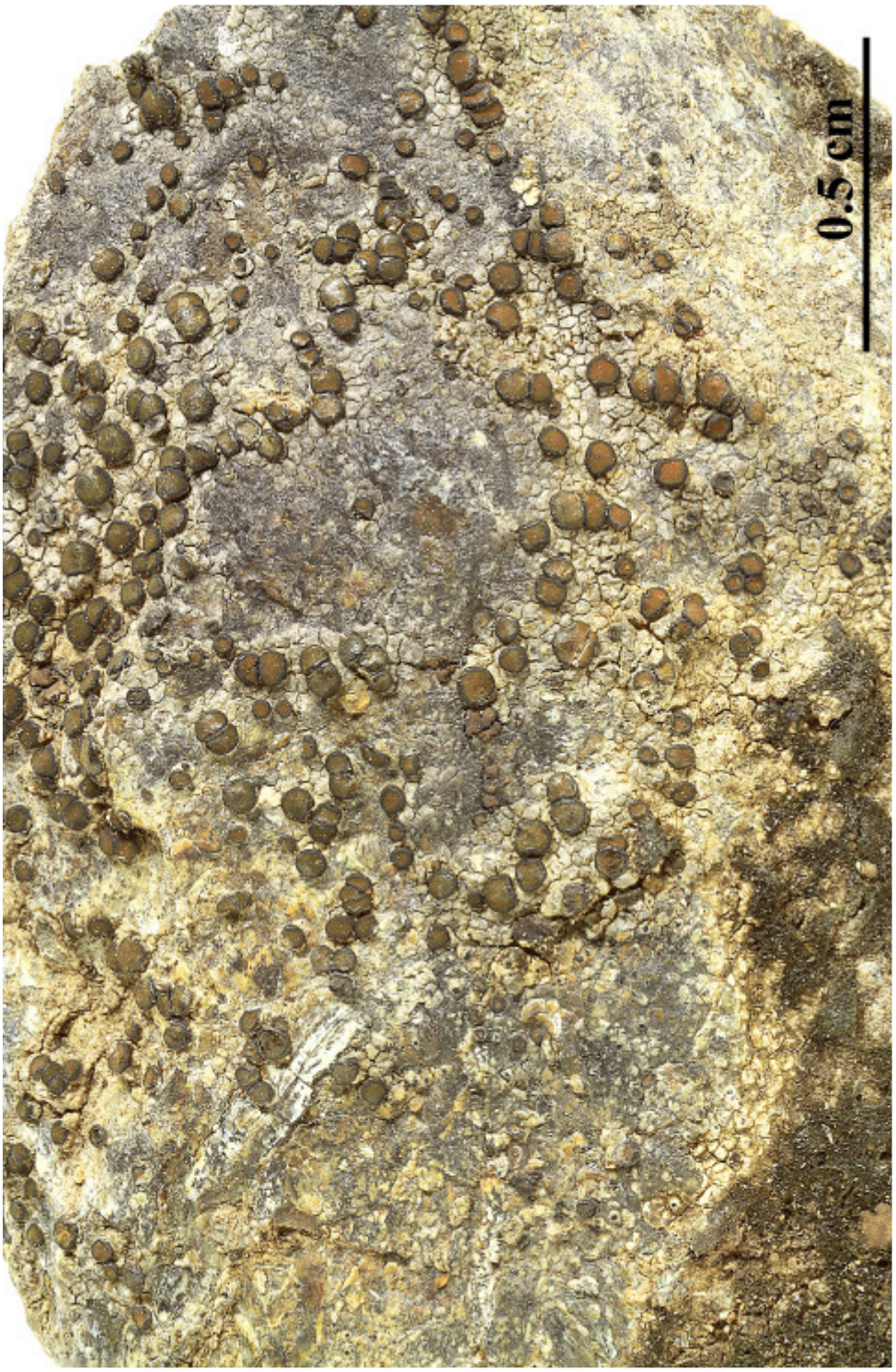


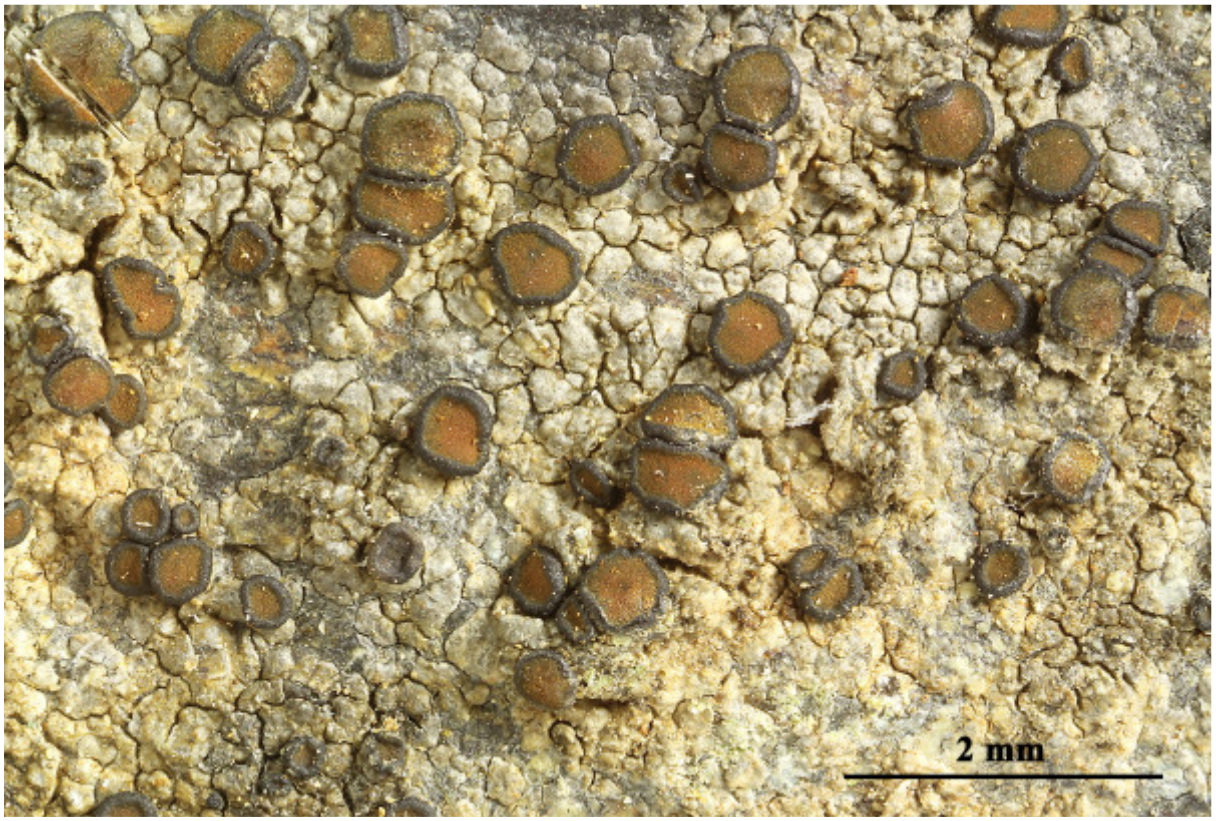
Caloplaca diplacia

Caloplaca diplacia (Ach.) Riddle, 1918

Hymenium c. 60 µm, clear; epithecium brown, K+ reddish, dissolv.; excipulum with crystals; spores polarilocular, c. 12 x 6 µm, septum large. (Sipman). Spores 10-12.8 x 4.8-7.2 µm, septum 6-6.4 µm (FS).

[B 60 0078966], USA, Puerto Rico, Distr. Mayagüez, Reserva Forestal Susúa, along road from Almácigo Alto, Barrio Los Cruceros (km 4.7 on road 371), Mnpio. Yáuco; along road through fields in valley with forest remnants, on roadbank, 18°04' N, 66°54' W, 100 m. Leg. H. Sipman (nr. 26233-b), 29.05.1989, det. A. Aptroot 2019.

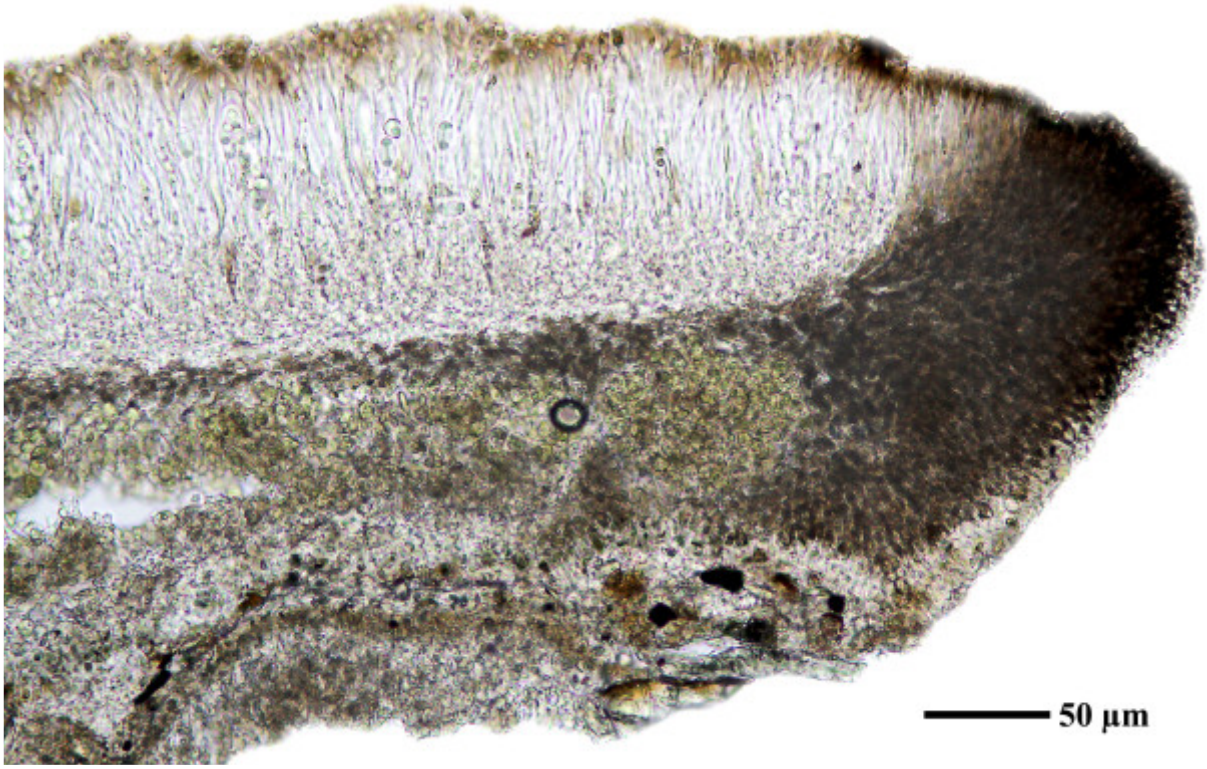




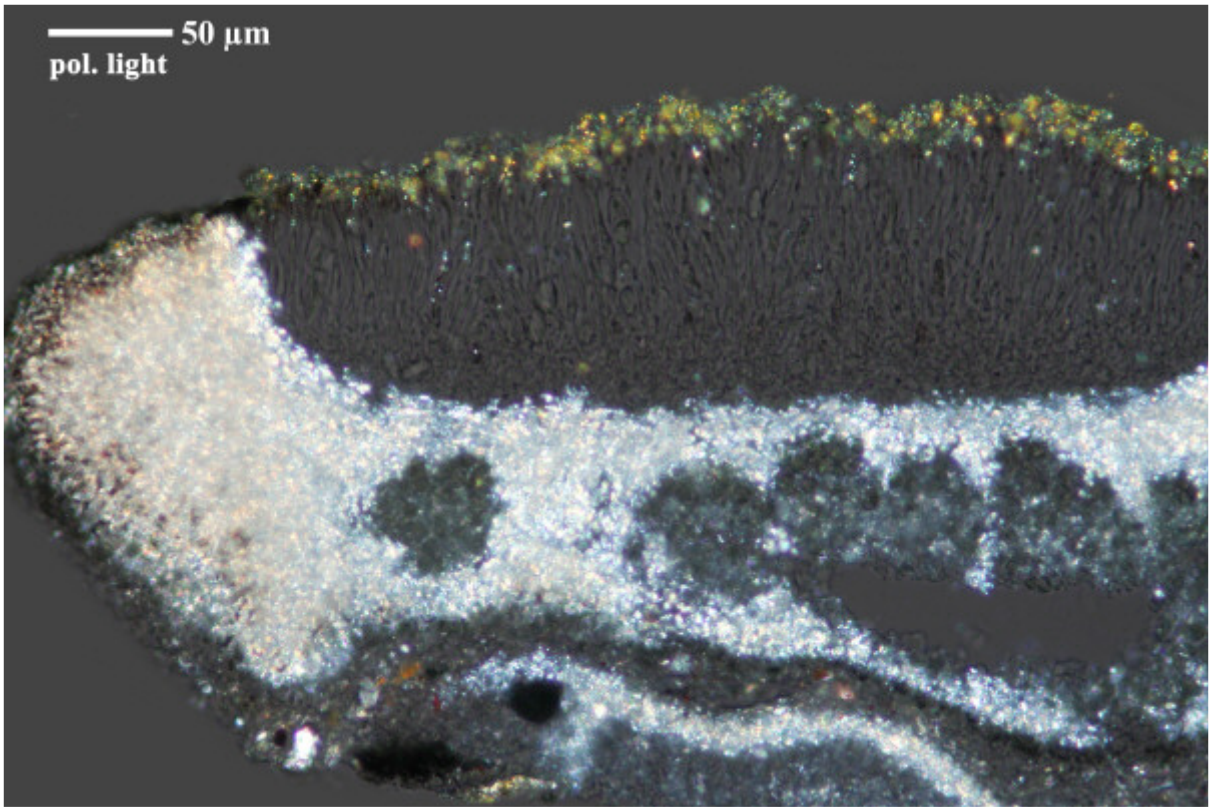


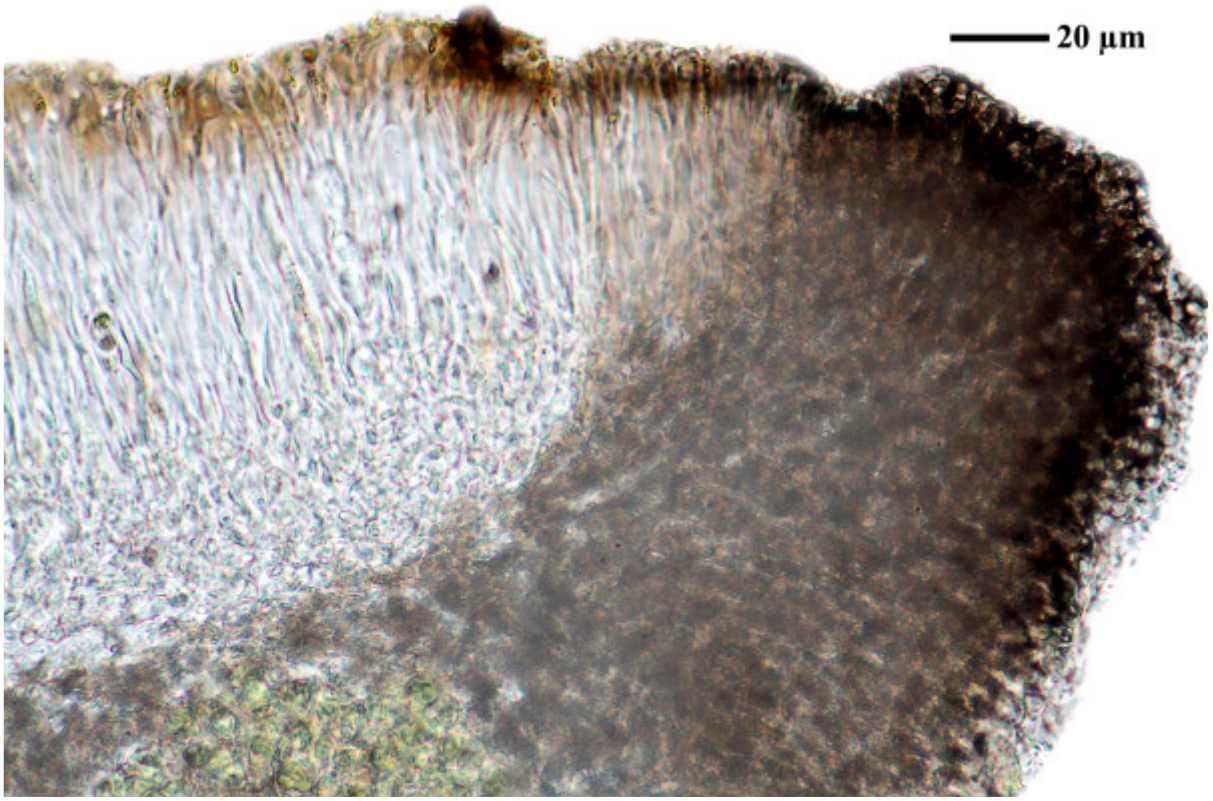
Caloplaca diplacia





Caloplaca diplacia





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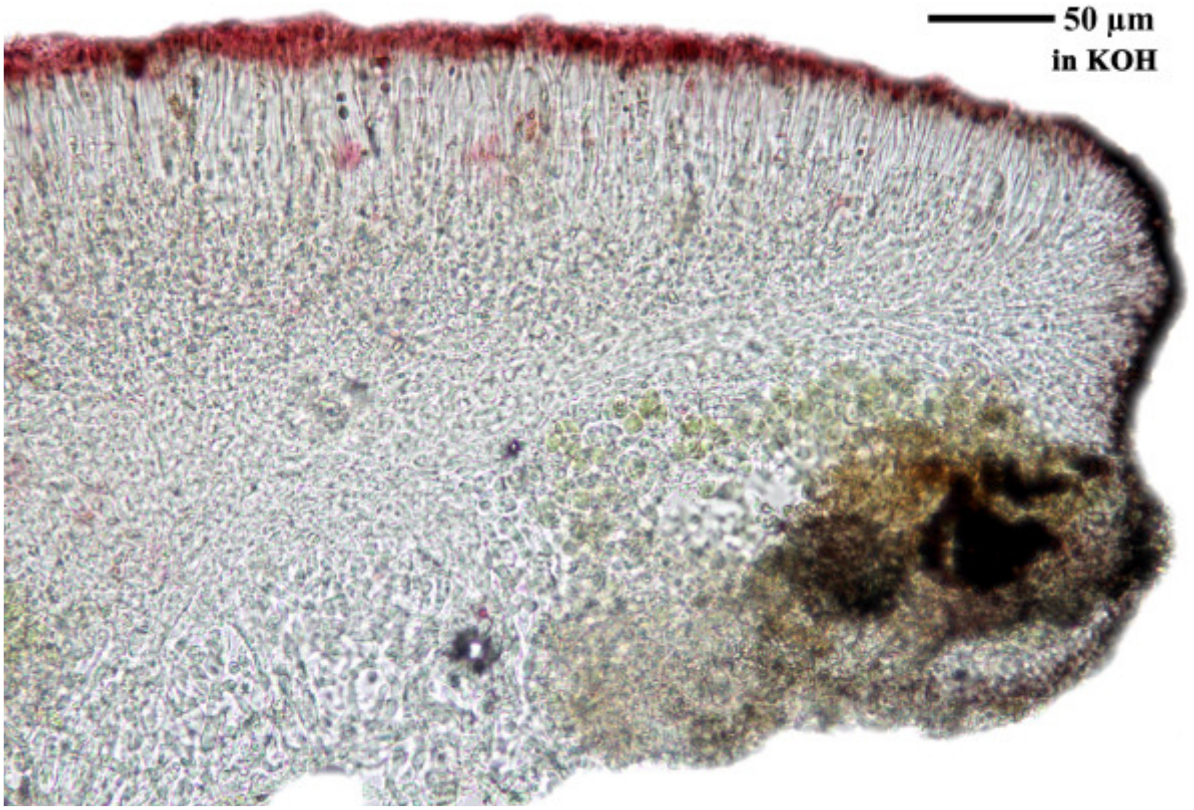
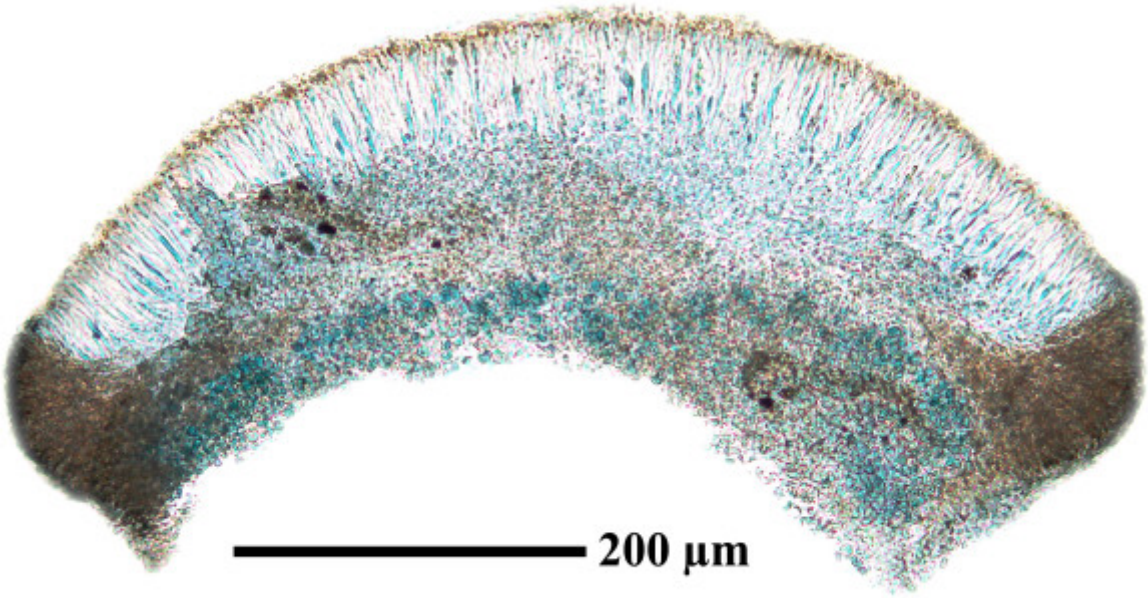
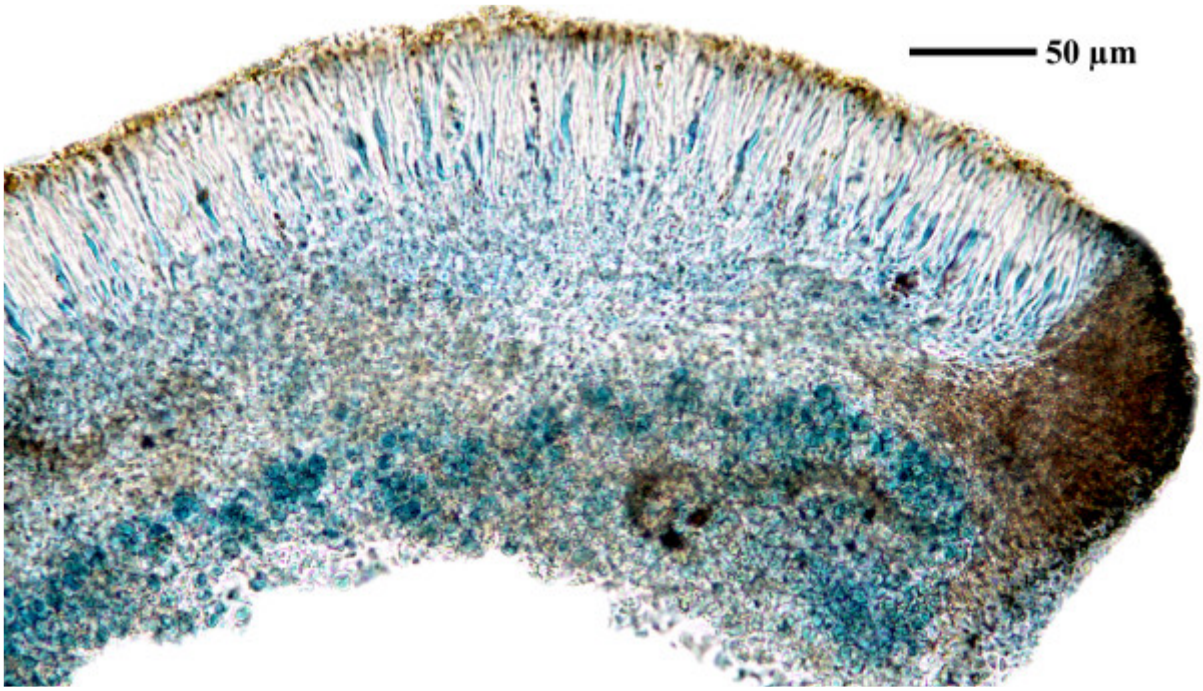
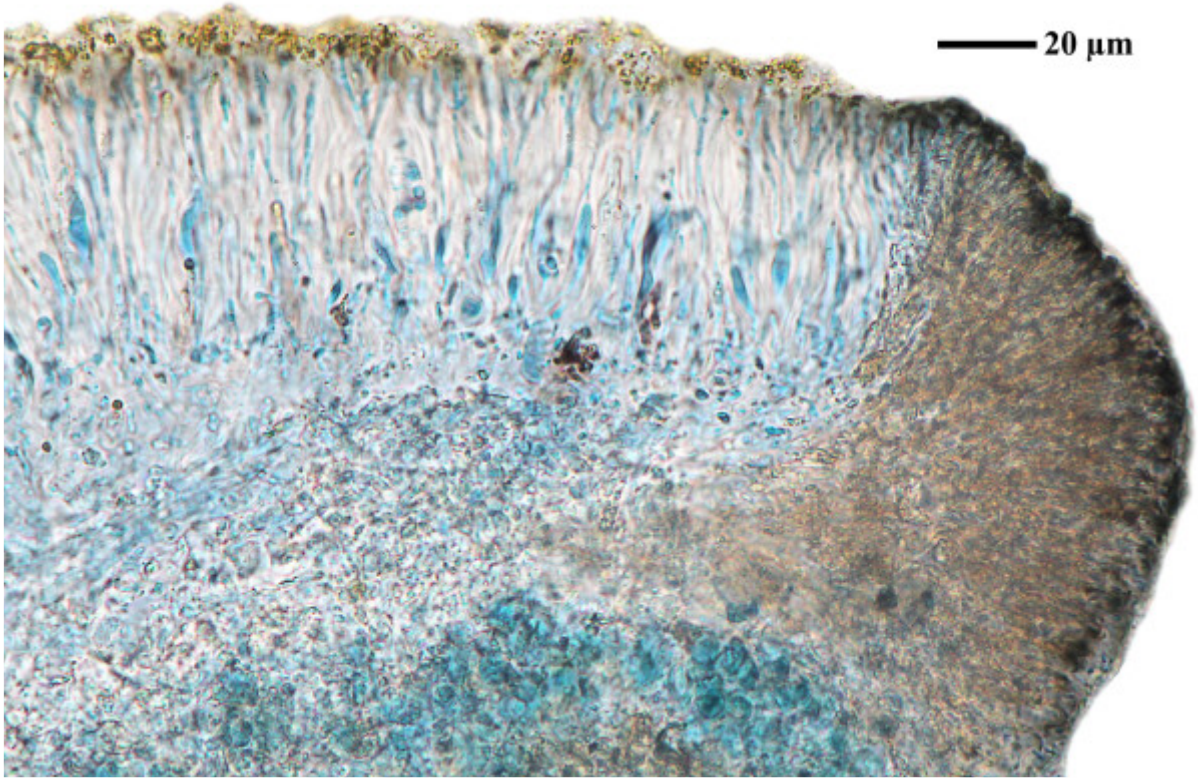




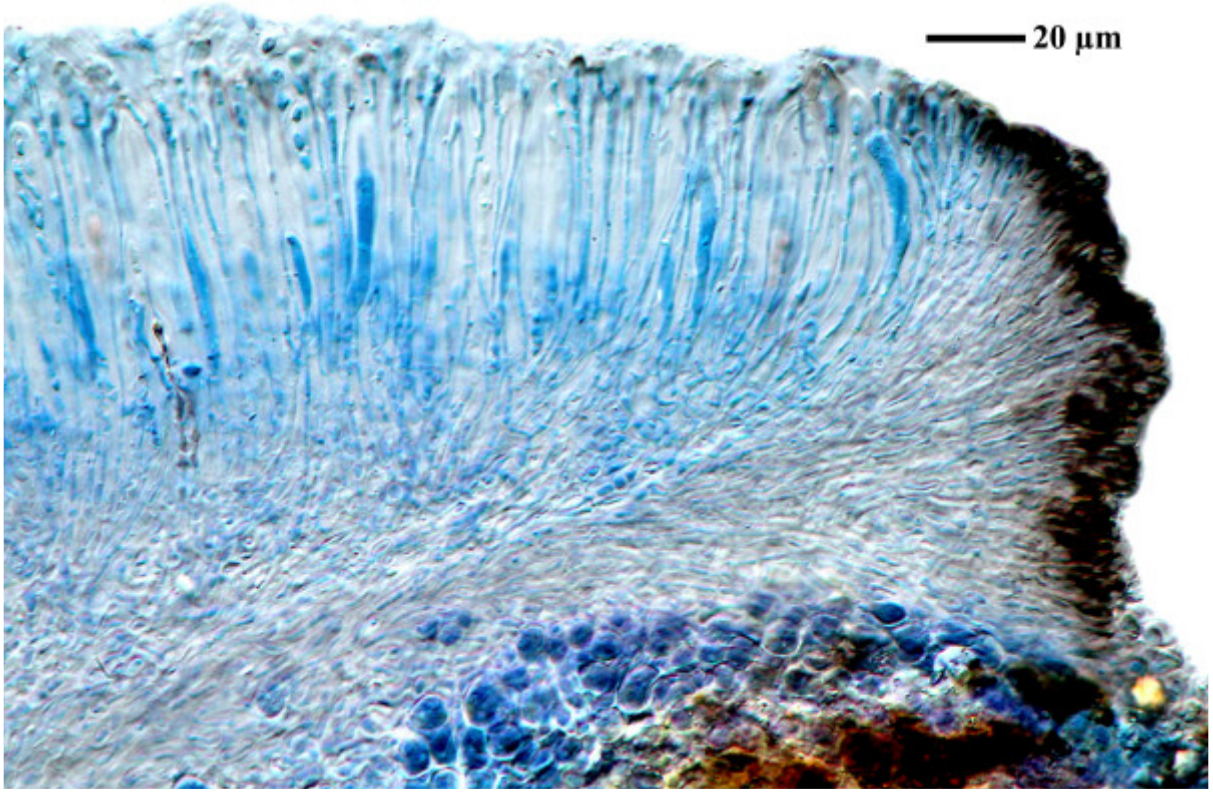


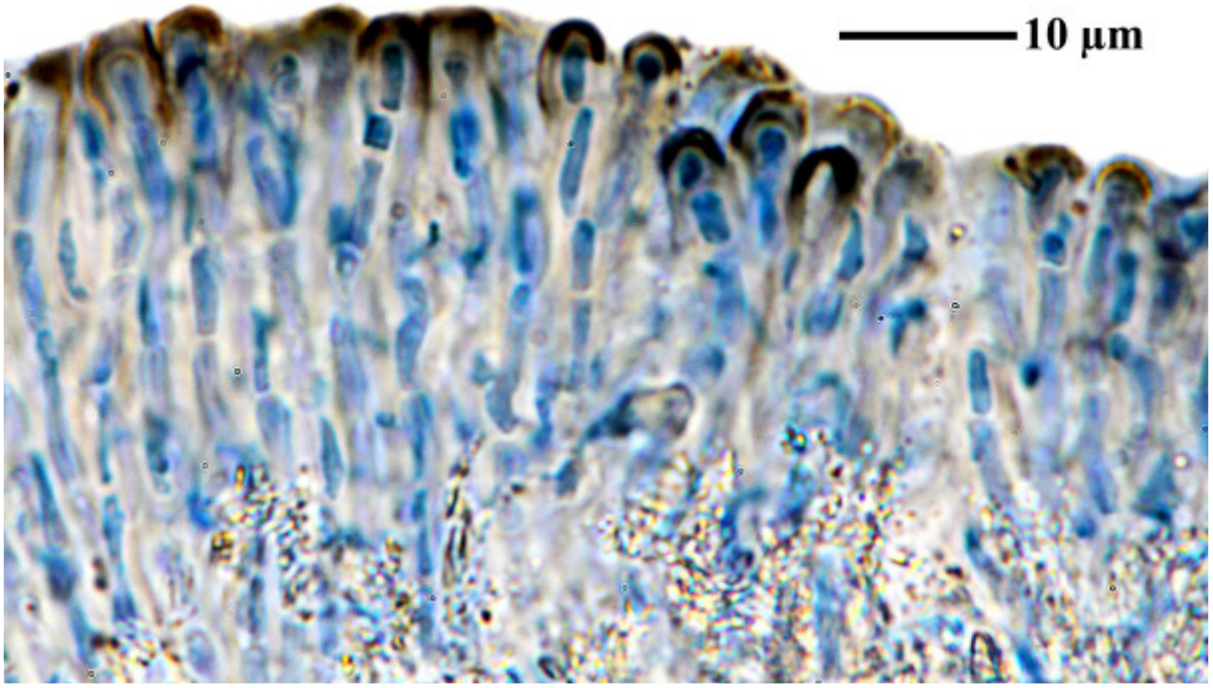
Caloplaca diplacia





Caloplaca diplacia



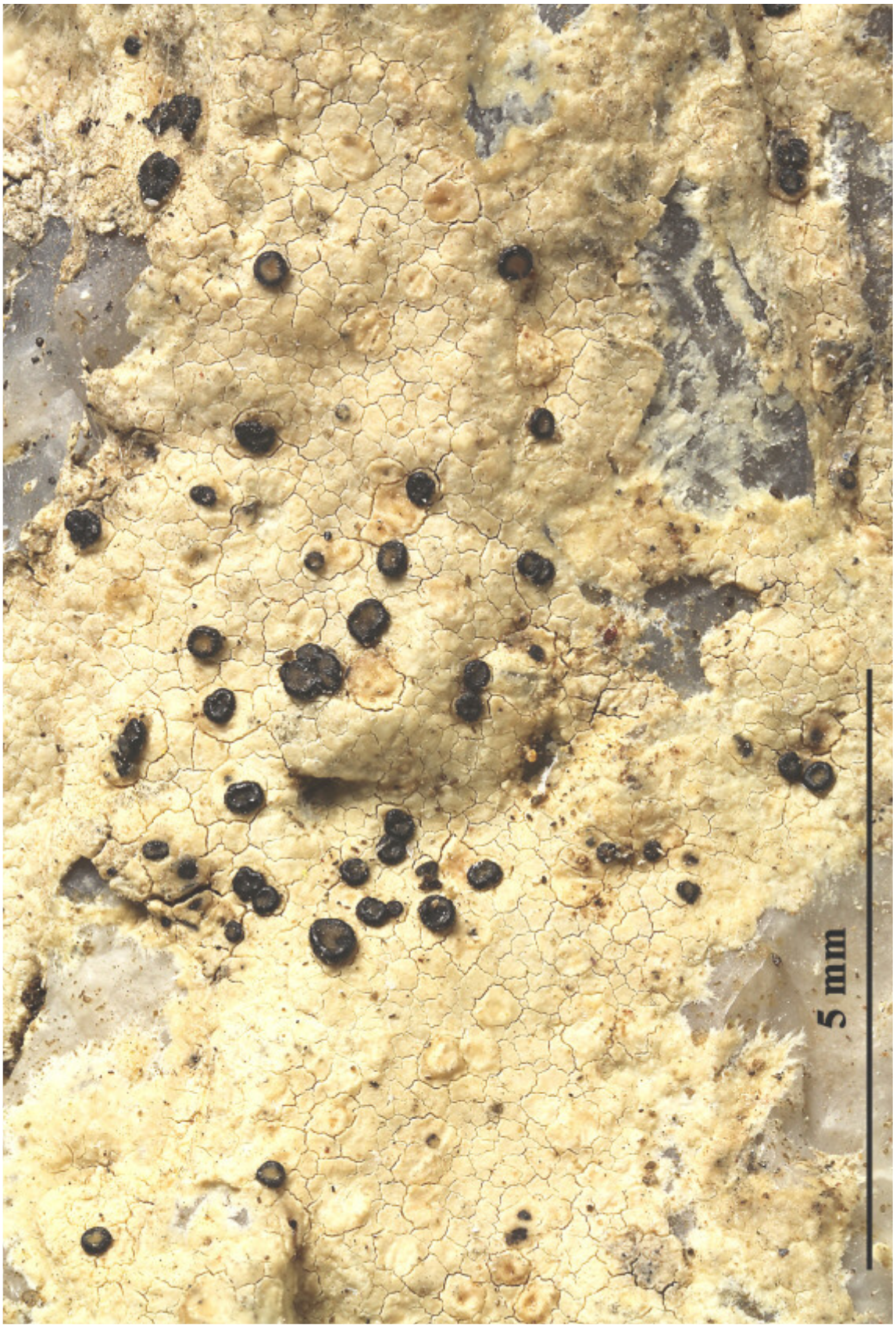


Caloplaca diplacia

Caloplaca diplacia (Ach.) Riddle, 1918

Spores 6.5-10 x 3-4.5 µm, septum small, 0.5-1.5 µm (FS)

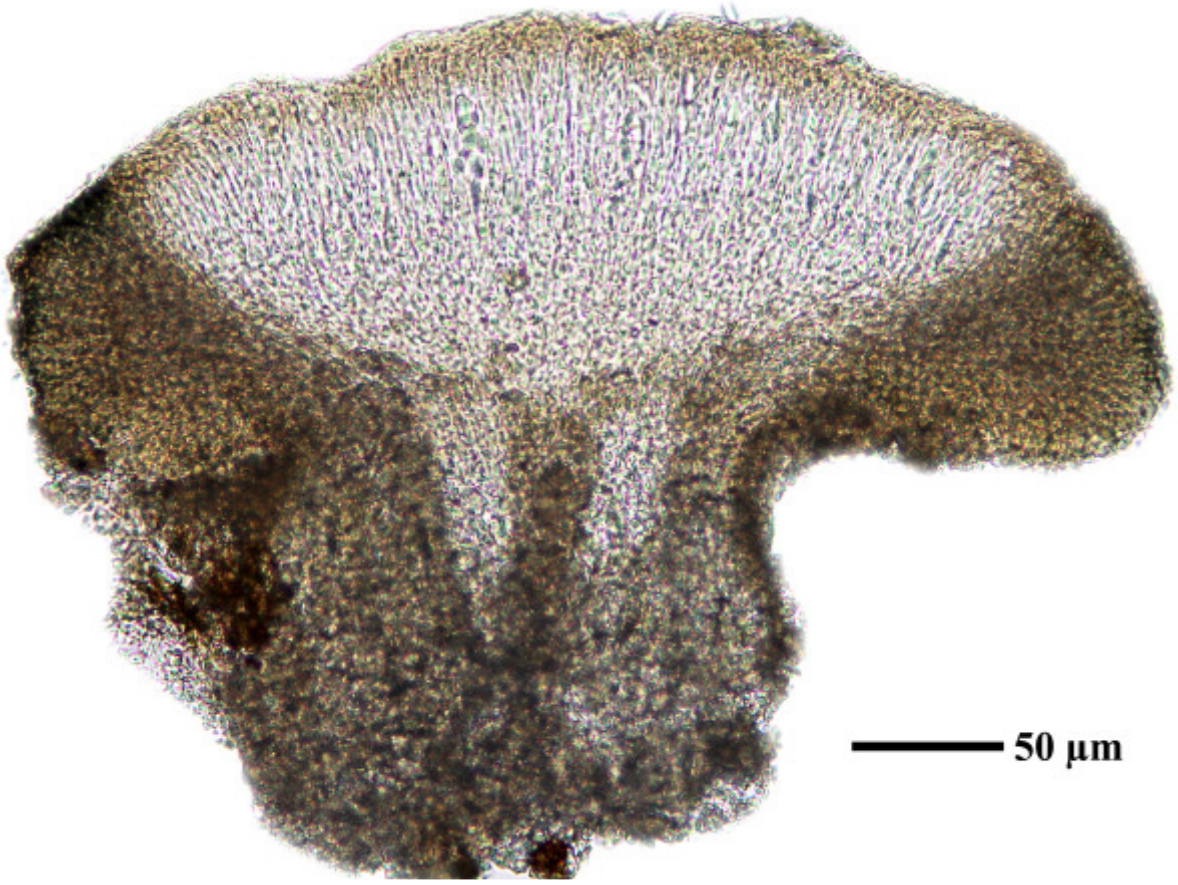
[BR5030038252343], Netherlands Antilles, Curacao, on slope of Christoffelberg, on rock. Leg. M. v. Slageren (8169), Jan.. 1977, det. A. Aptroot, 2019.

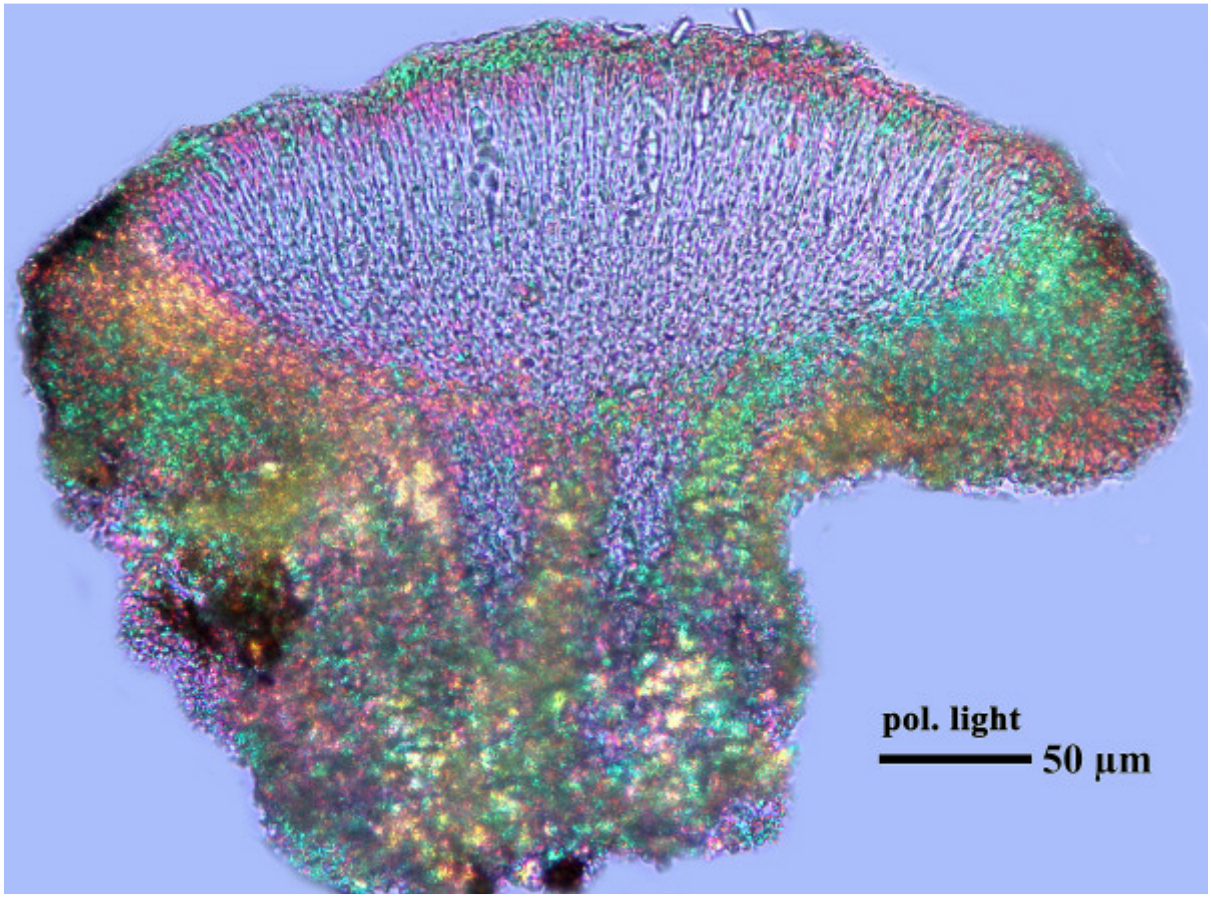




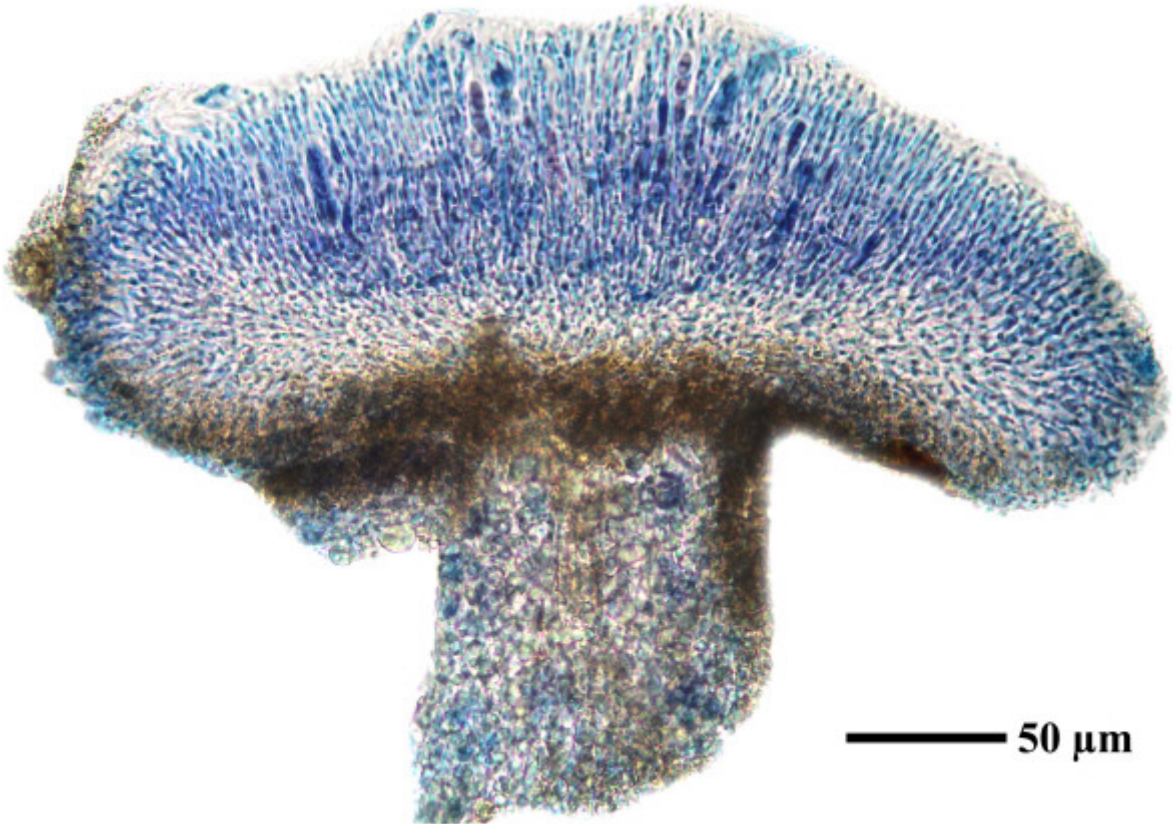


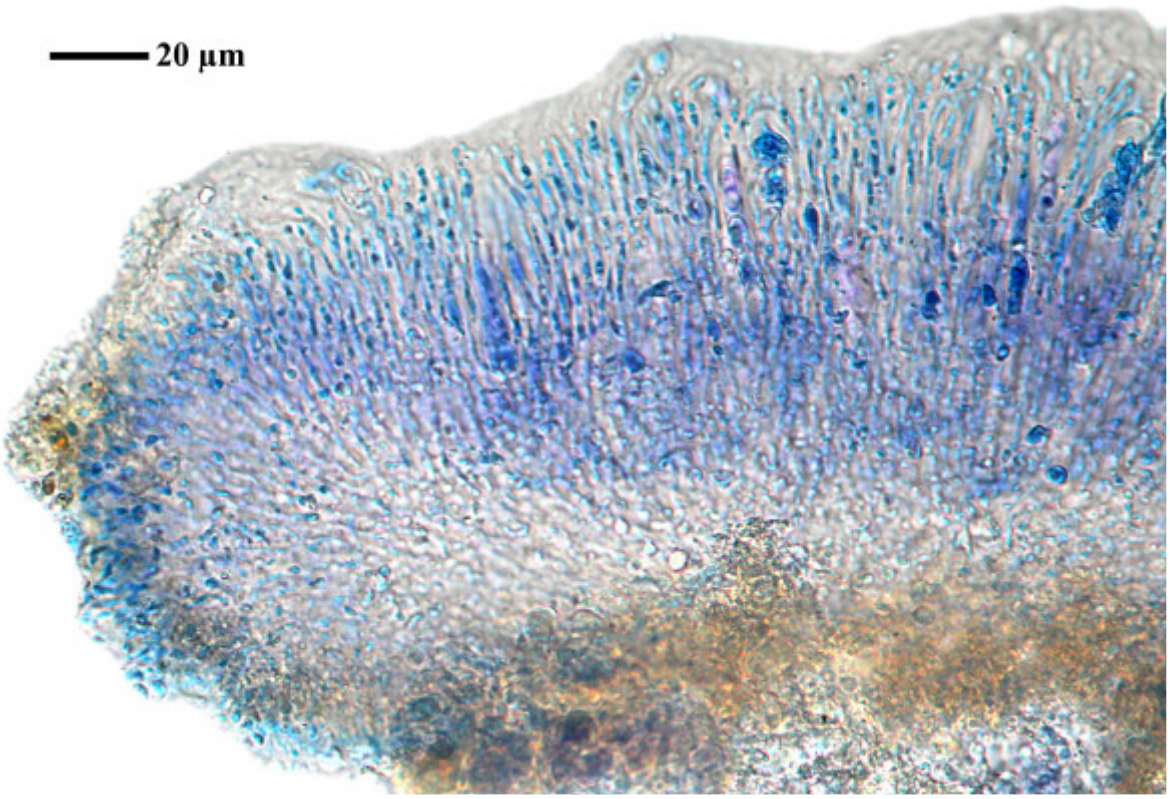
Caloplaca diplacia



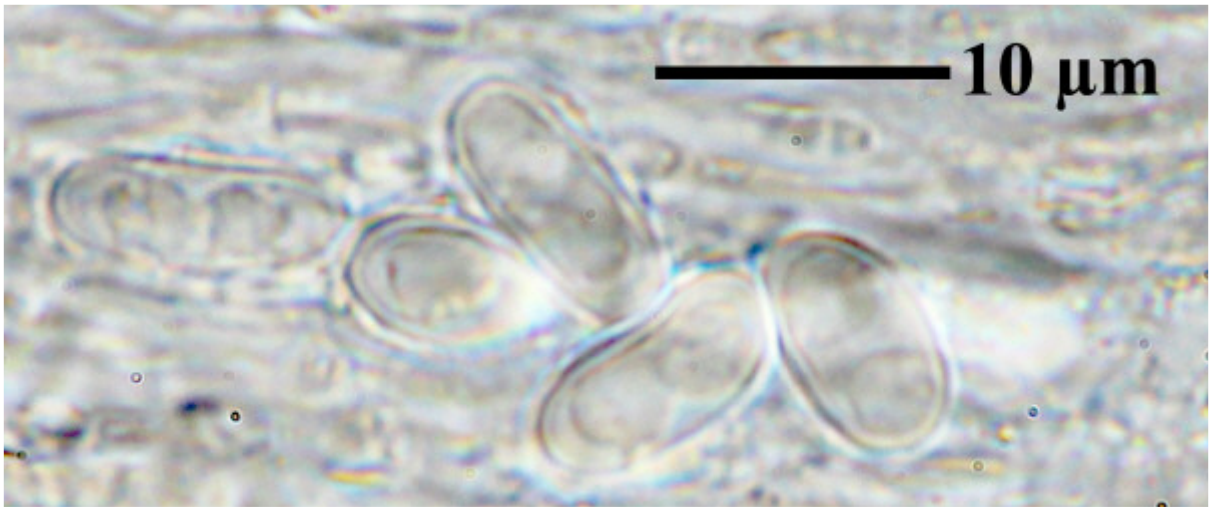


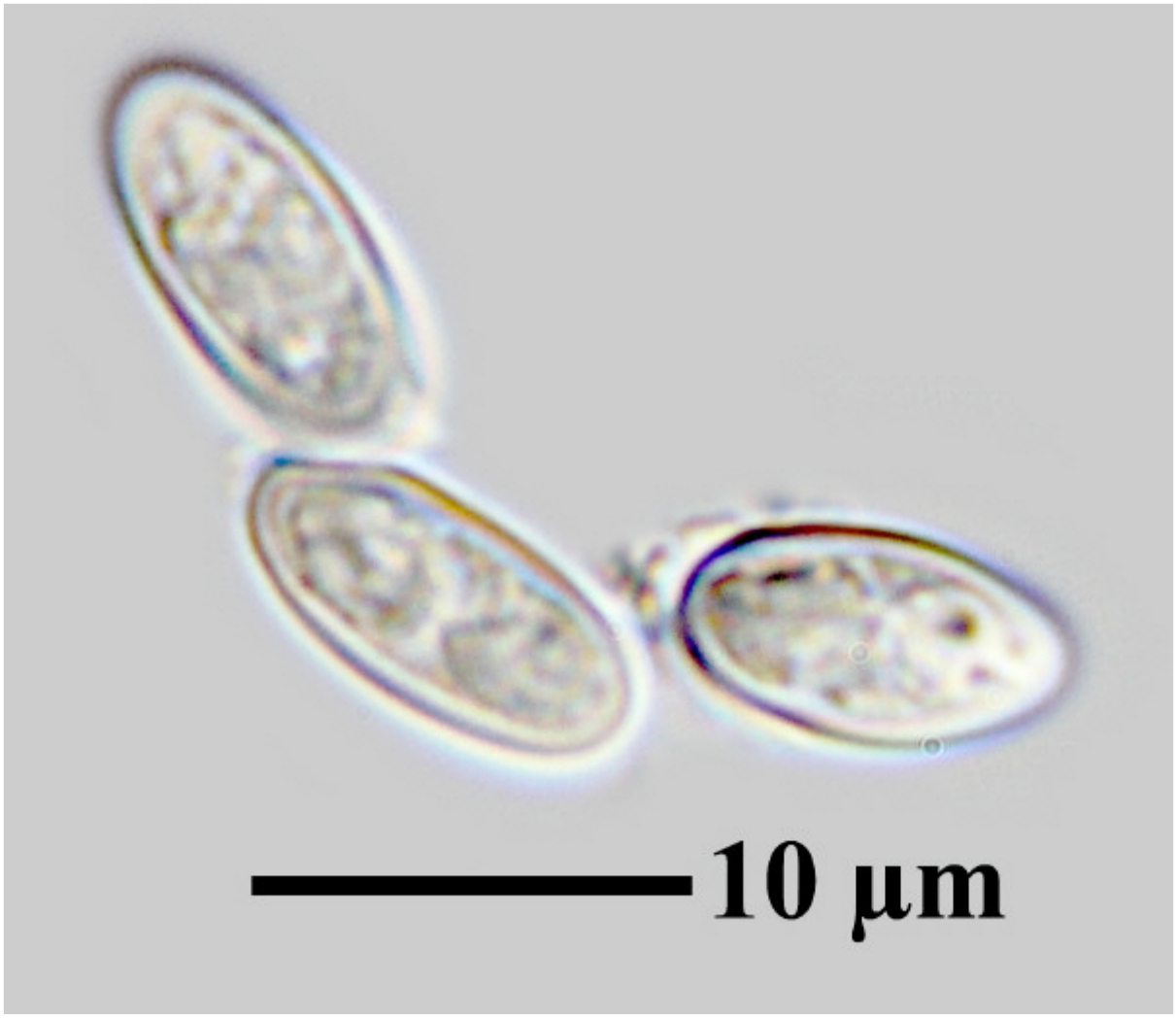
Caloplaca diplacia



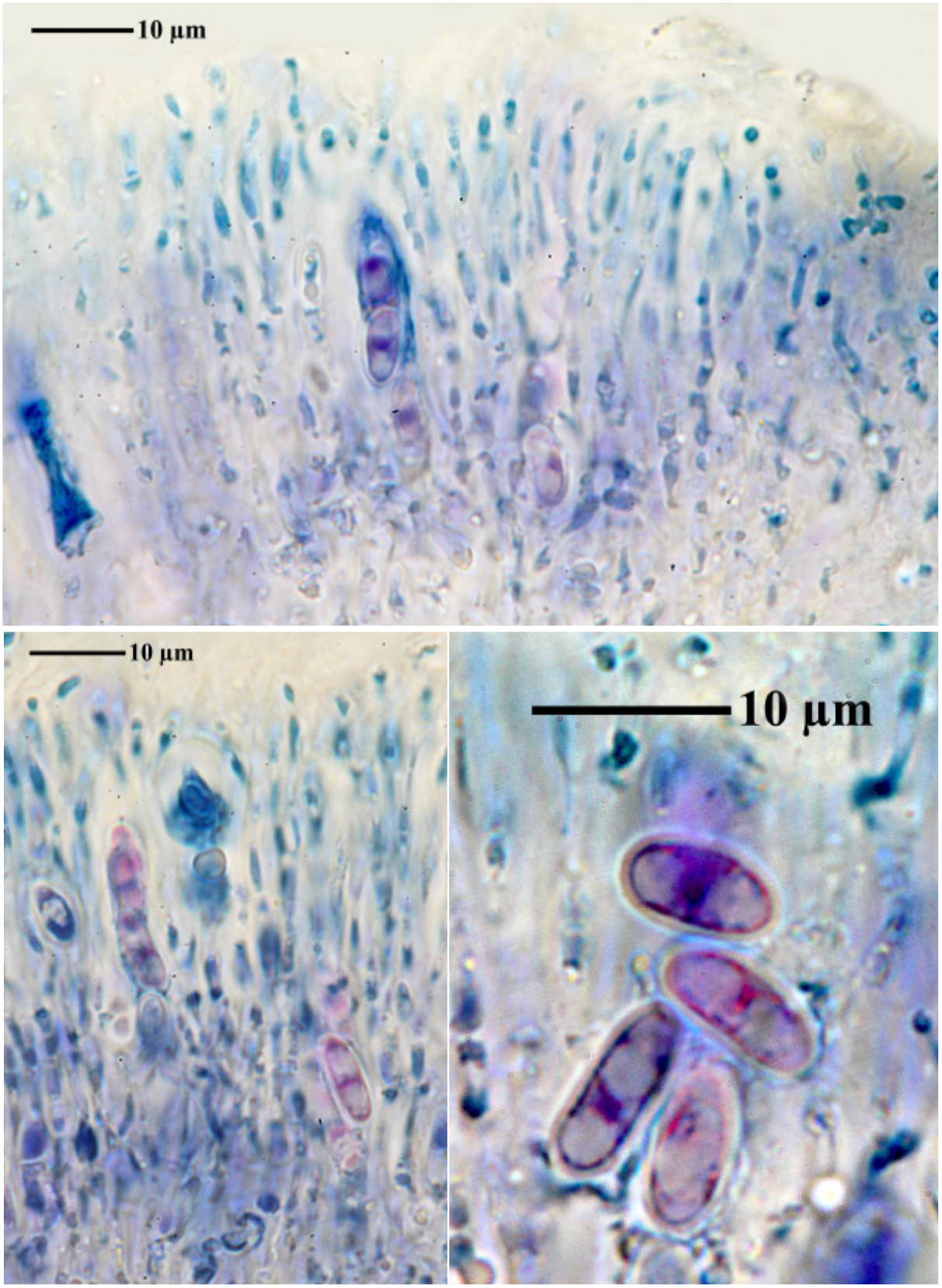


Caloplaca diplacia





Caloplaca diplacia



Caloplaca diplacia

Caloplaca diplacia (Ach.) Riddle, 1918

Epithecium yellow/green, hypothecium colourless, hymenium not insperse. Spores 8/ascus, 5-7 x 2-3 µm, septum long (AA). Spores 9.4-11.2 x 5-5.3 µm, septum 4.7-5.8 µm (FS)

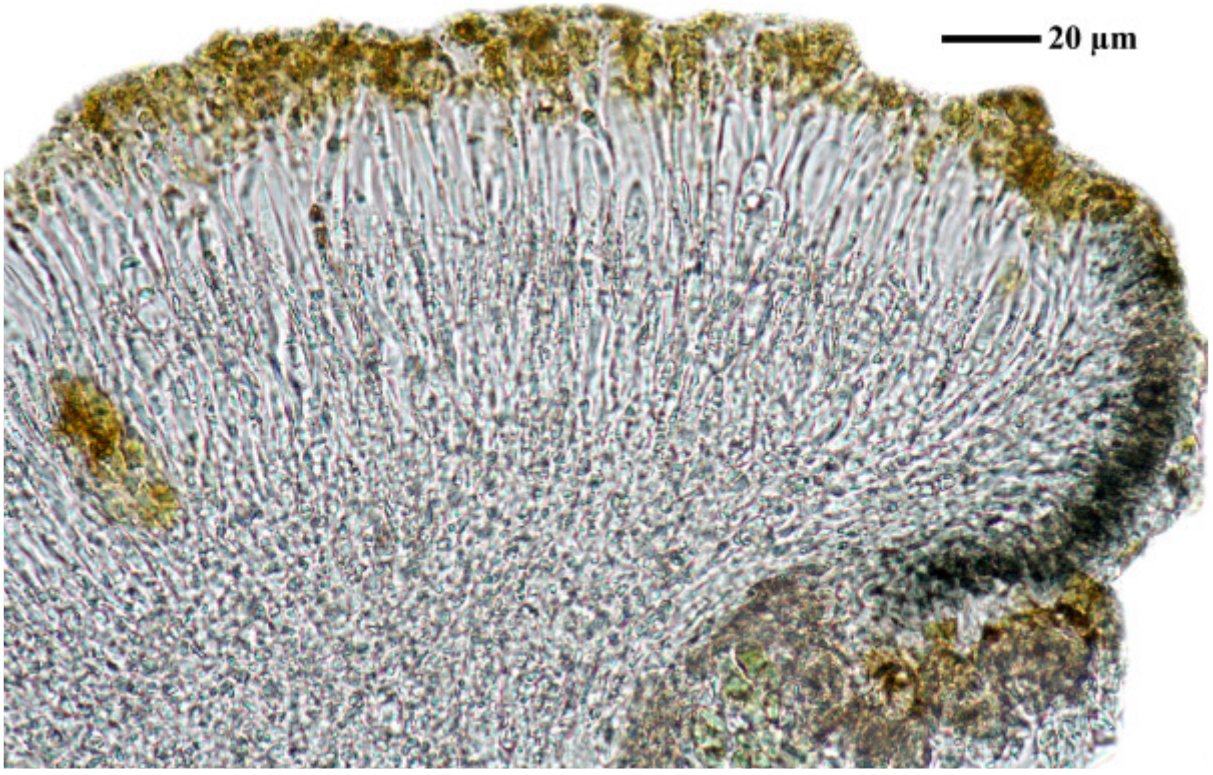
[BR5030038254361], Netherlands Antilles, Bonaire, on slope of the Brandaris, on porphyrite. Leg. M. v. Slageren (8364), Jan. 1977, det. A. Aptroot, 1990.

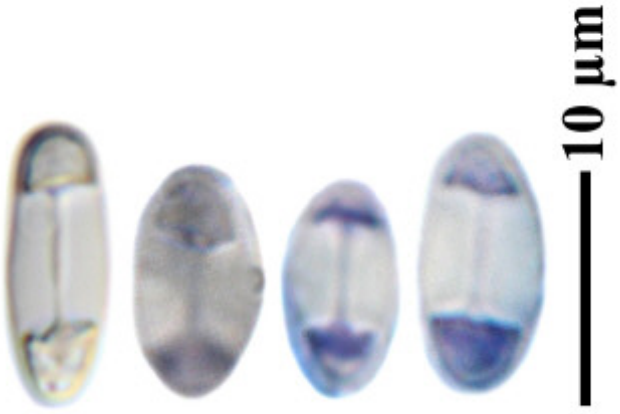




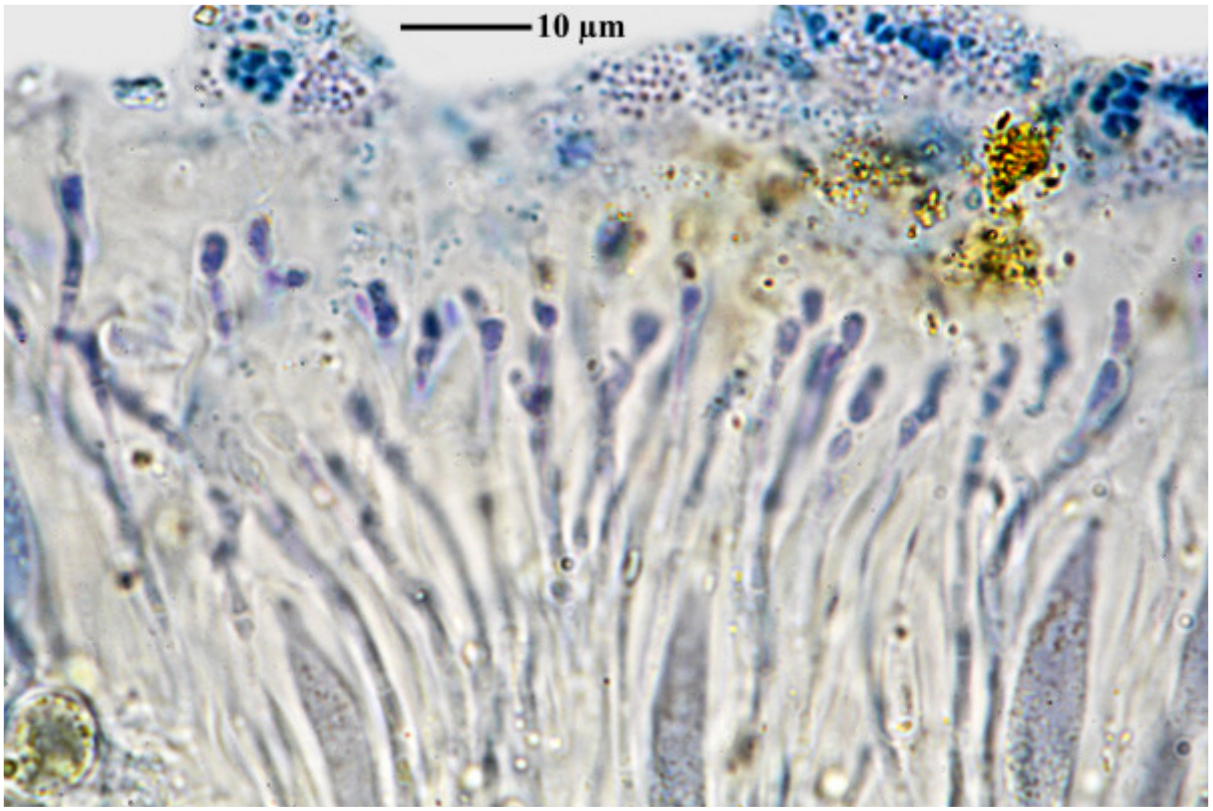
Caloplaca diplacia

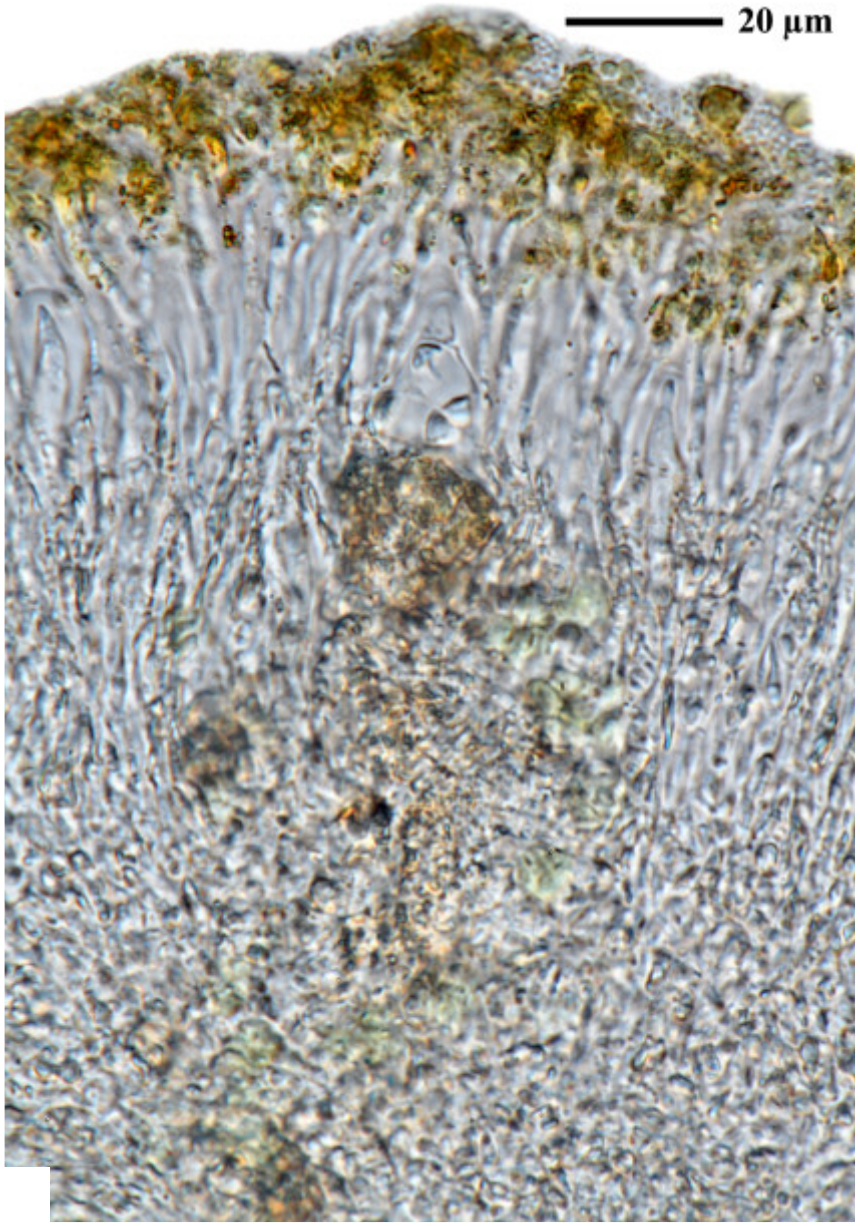






Caloplaca diplacia





Caloplaca diplacia

Caloplaca elegantissima (Nyl.) Zahlbr.
[= *Stellarangia elegantissima* (Nyl.) Frödén, Arup & Søchting]
[= *Caloplaca indurata* V. Wirth & Vězda]

On non-calcareous rocks.

[19610], Africa Austro-Occidentalis, Swakopmund, 15 km in septentr. oriente a urbe Swakopmund, ad saxa silicea perdura in vicinitate maris. Leg. O. Volk, 27.08.1974. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1346. Distributed as ***Caloplaca indurata*** V. Wirth & Vězda ISOTYPUS, in Stuttgarter Beitr. Naturk., Ser. A, Nr.284 (1975)







Caloplaca elegantissima



Caloplaca elegantissima

Caloplaca eos S.Y. Kondr. & Kärnefelt
[= *Sirenophila eos* (S.Y. Kondr. & Kärnefelt) Arup, Frödén & Søchting]

Thallus saxicolous, orange, lobate, without isidia and sorediea.

[16182], Australia, New South Wales, Mystery Bay south of Narooma, Pool Beach. 36,30516° S, 150,13614° E, 0 m. Leg. F. Schumm & E. Stocker-Wörgötter, 11.11.2009, det. S. Kondratyuk.







Caloplaca eos



Caloplaca eos

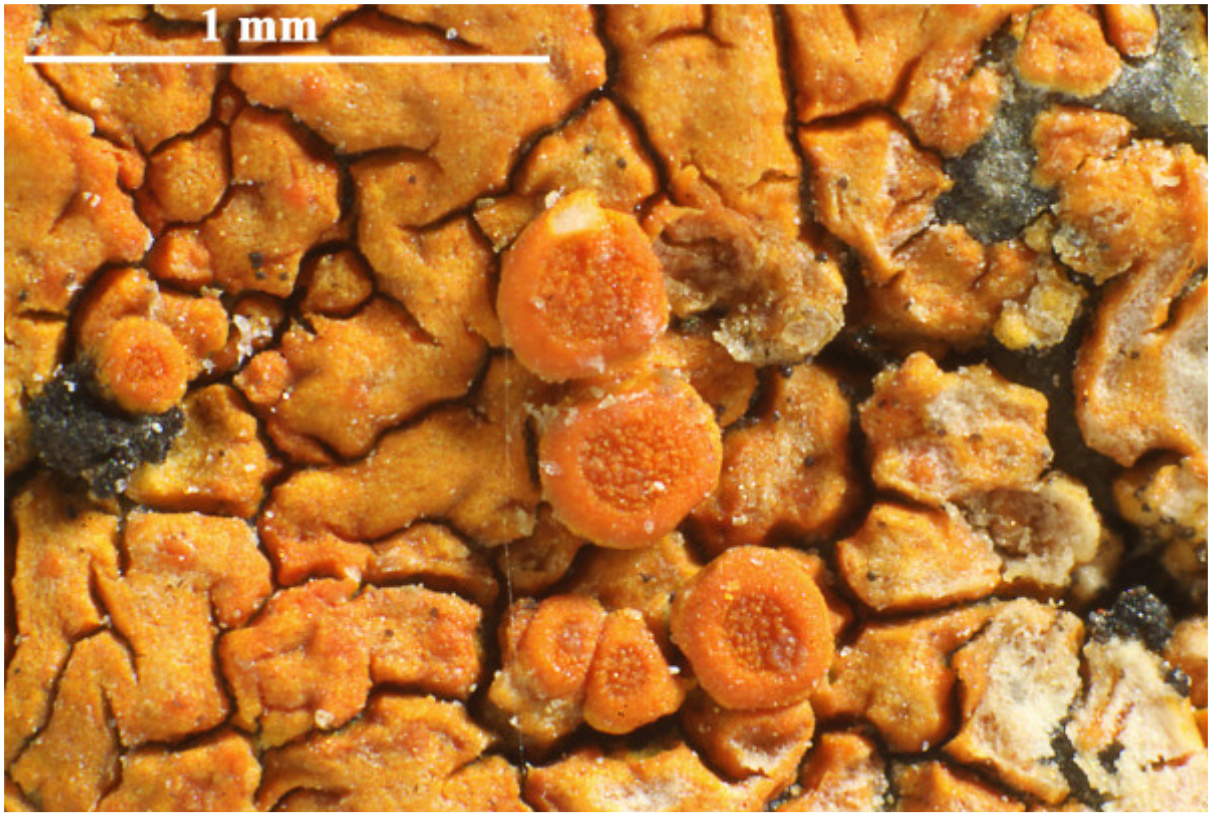
Caloplaca eos S.Y. Kondr. & Kärnefelt
[= *Sirenophila eos* (S.Y. Kondr. & Kärnefelt) Arup, Frödén & Søchting]

Thallus saxicolous, orange, lobate, lacking isidia and soredia.

[16191], Australia, New South Wales, Mystery Bay südlich Narooma, Pool Beach. 36,30516° S, 150,13614° E, 0 m. Leg. F. Schumm & E. Stocker-Wörgötter, 11.11.2009, det. S. Kondratyuk 03.2016.







Caloplaca eos



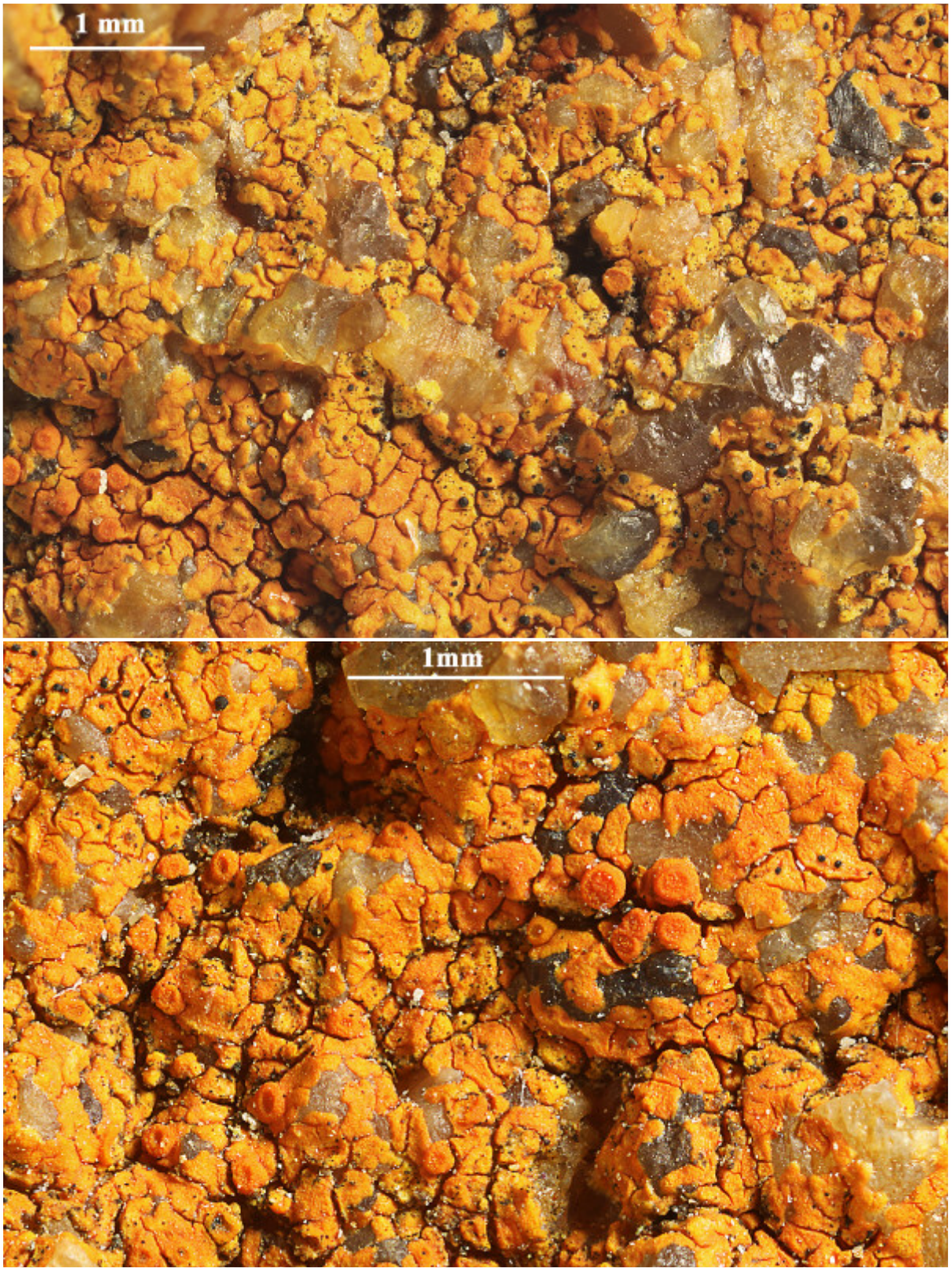
Caloplaca eos

Caloplaca eos S.Y. Kondr. & Kärnefelt
[= *Sirenophila eos* (S.Y. Kondr. & Kärnefelt) Arup, Frödén & Søchting , Nordic Jl. Bot. 31(1): 63 (2013)]

Thallus pink, dull pink to yellowish or browenish pink, areolate, lacking isidia and soredia. Apothecia zeorine or becoming biatorine, 0.4-0.7 mm diam, disc bright red-orange or reddish orange brown. Ascospores 8-6-4(-2)/ascus, (8-)9-13(-15) x (4-)5-6(-7.5) µm, septum (2.5-)5-6(-7) µm. Thallus and apothecia K+ red. On coastal rocks.
Lit.: Kondratyuk, Kärnefelt, Elix & Thell, Bibliotheca Lichenol. 95: 355 (2007)

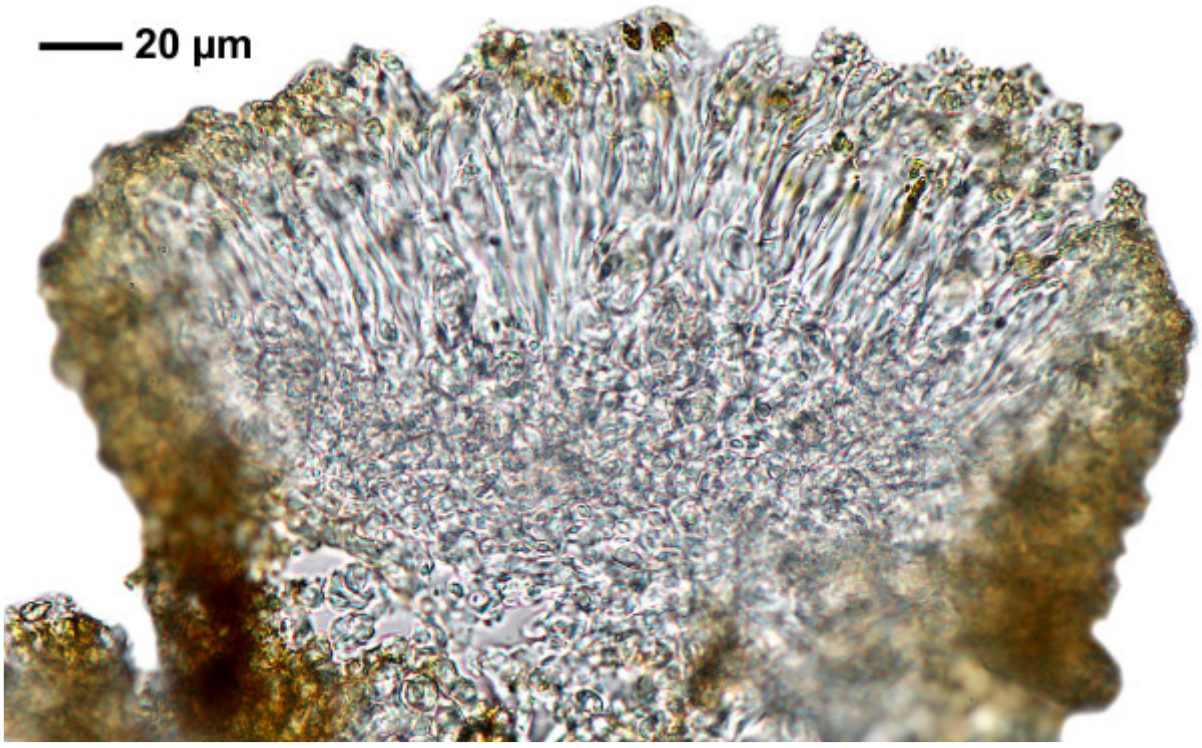
[KK35840], Australia, Western Australia, Canal Rock near Yallingup, along Cave Road, 10 m, 33°40’ S, 114°58’ E. Leg. K. Kalb 10.8.1995, det. S. Kondratyuk 2008.



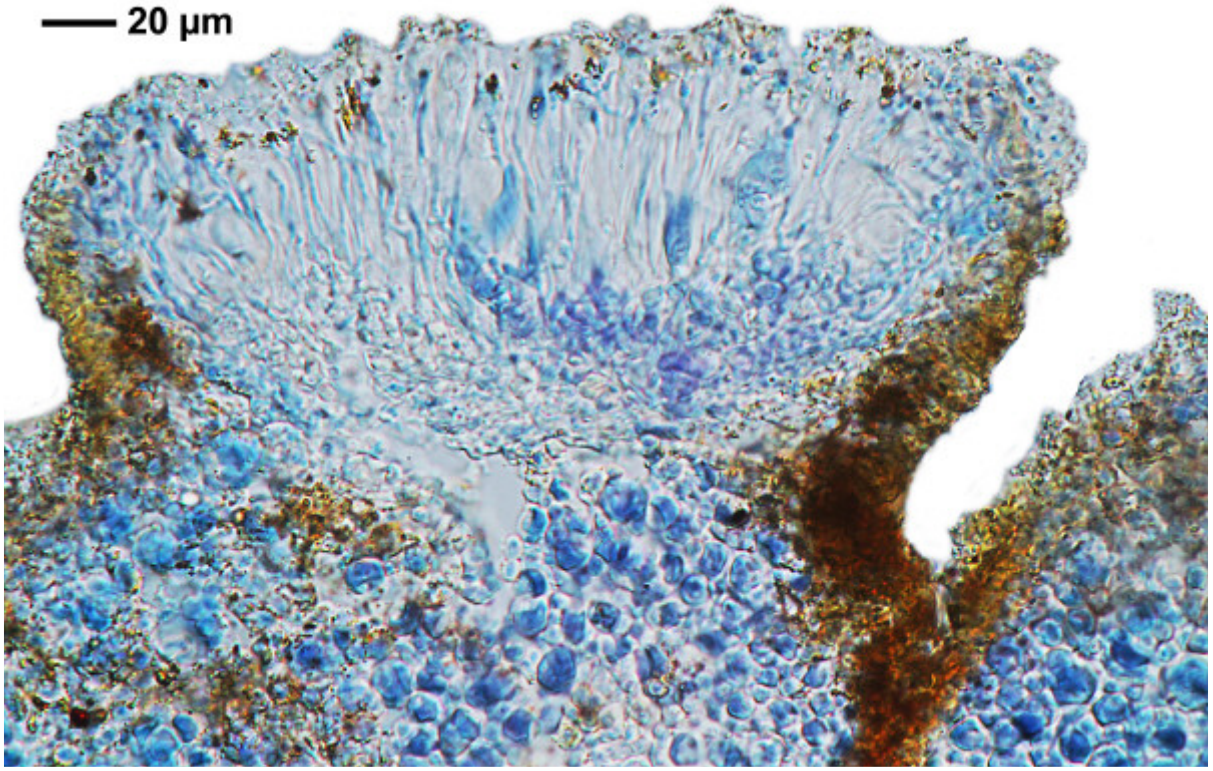


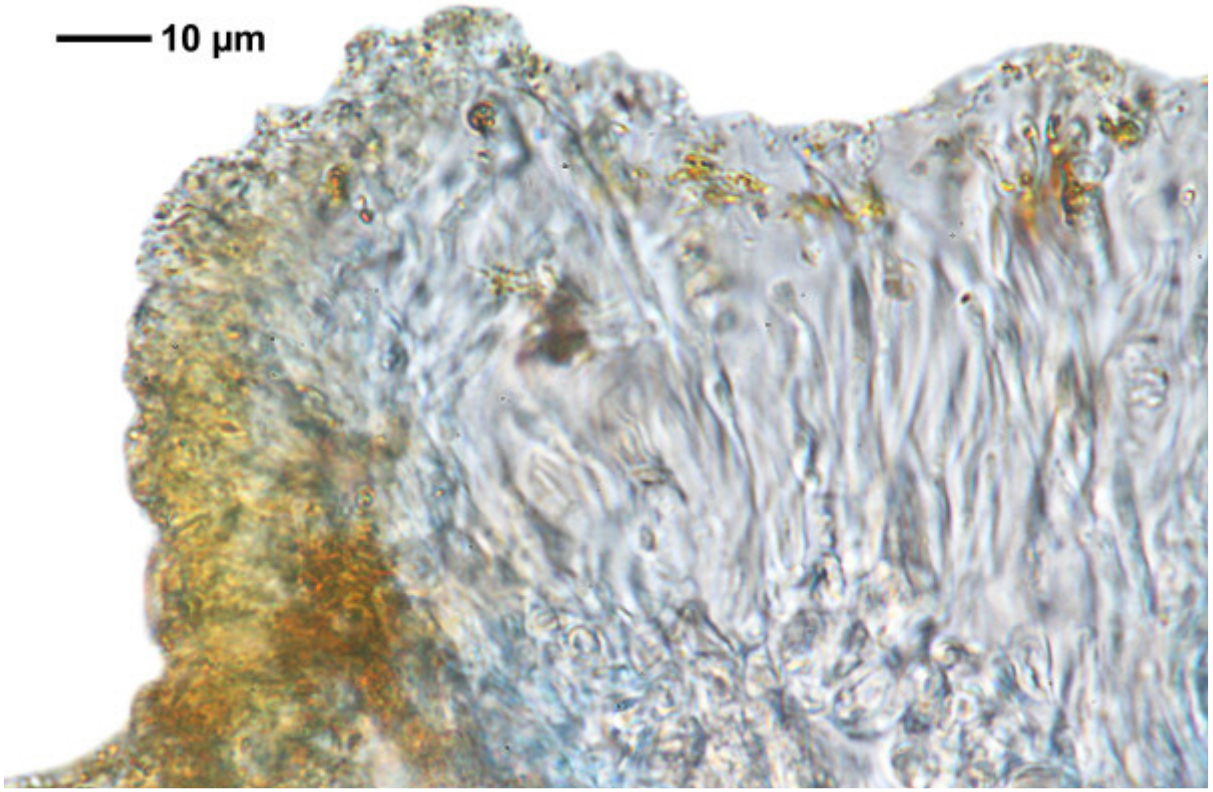
Caloplaca eos

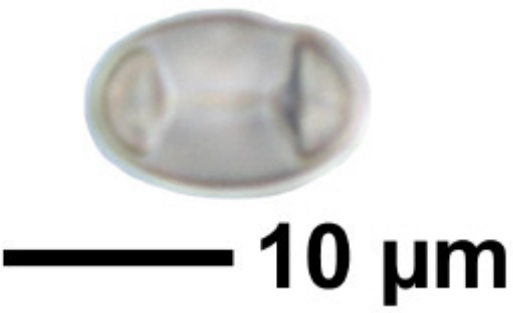




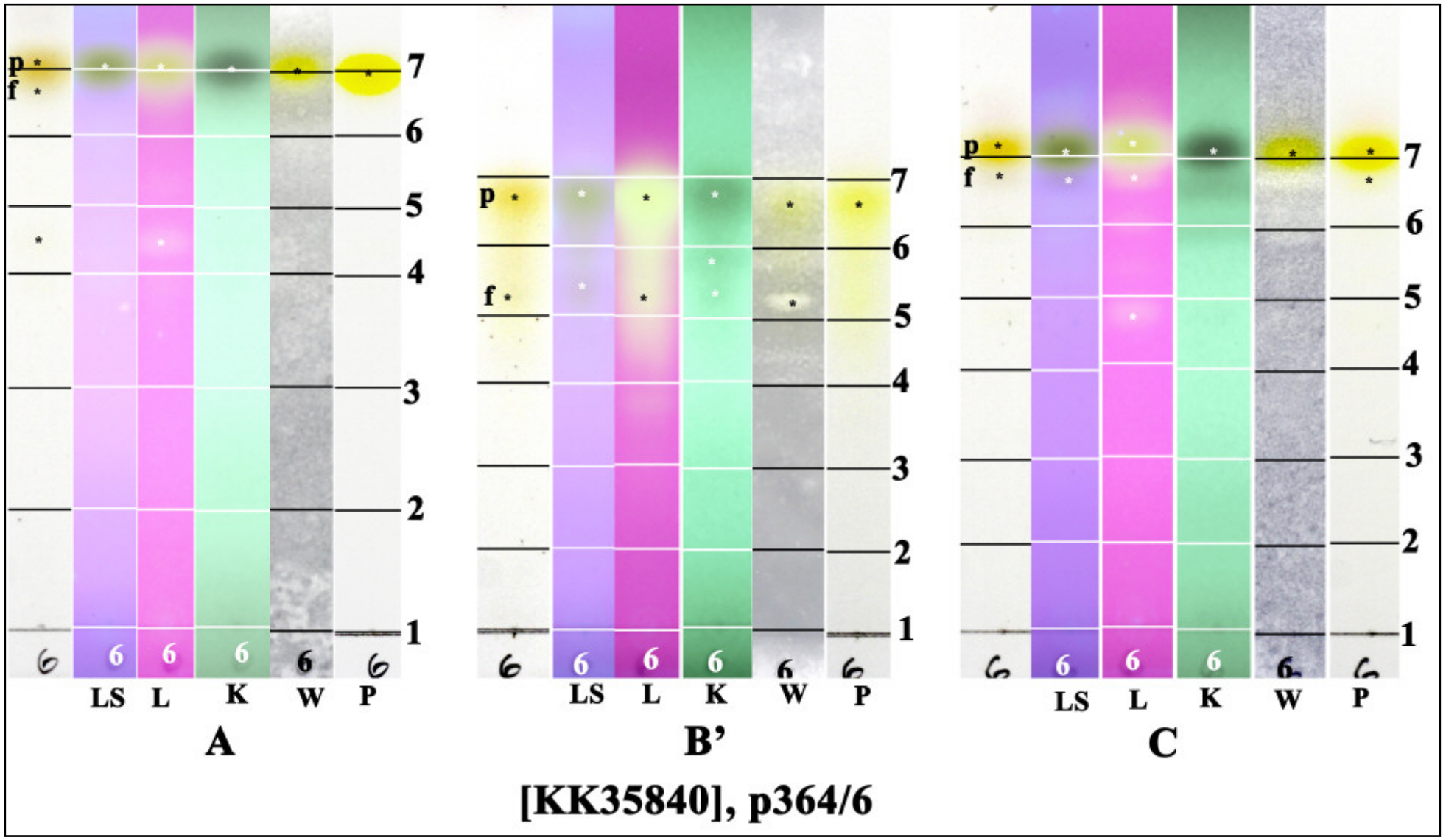
Caloplaca eos







Caloplaca eos



p: parietin, f: fallacinal; conf. J.A. Elix

Caloplaca epiphora (Taylor) C.W. Dodge

On bark. Thallus yellow with coralline isidia. Spores polarilocular, hyaline, 8/ascus, 18.5-22.5 x 9.5-9.8 µm, septum 10.5-13 µm.

[ABL 64755], Ecuador, Galápagos Islands, Isabela Island, Cerro Alcedo, in the crater transition zone, mostly Bursera graveolens and dense scrub on uneven lava on Bursera, 0°27'9'' S, 91°6'41'' W, 780 m. Leg. et det. A. Aptroot 07.03.2006.



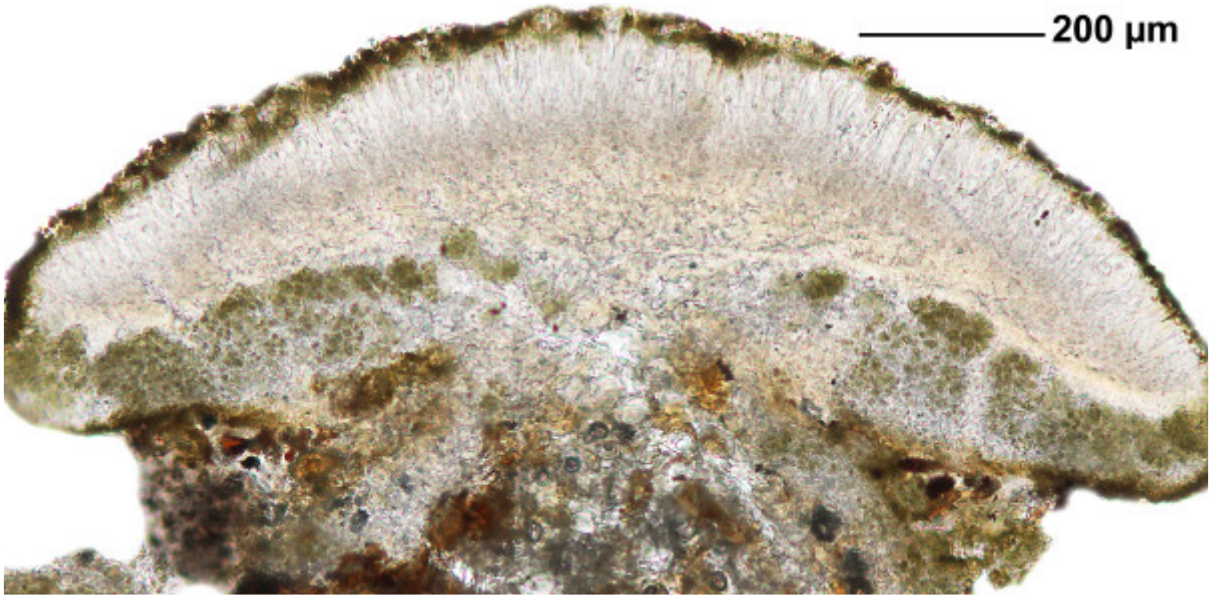


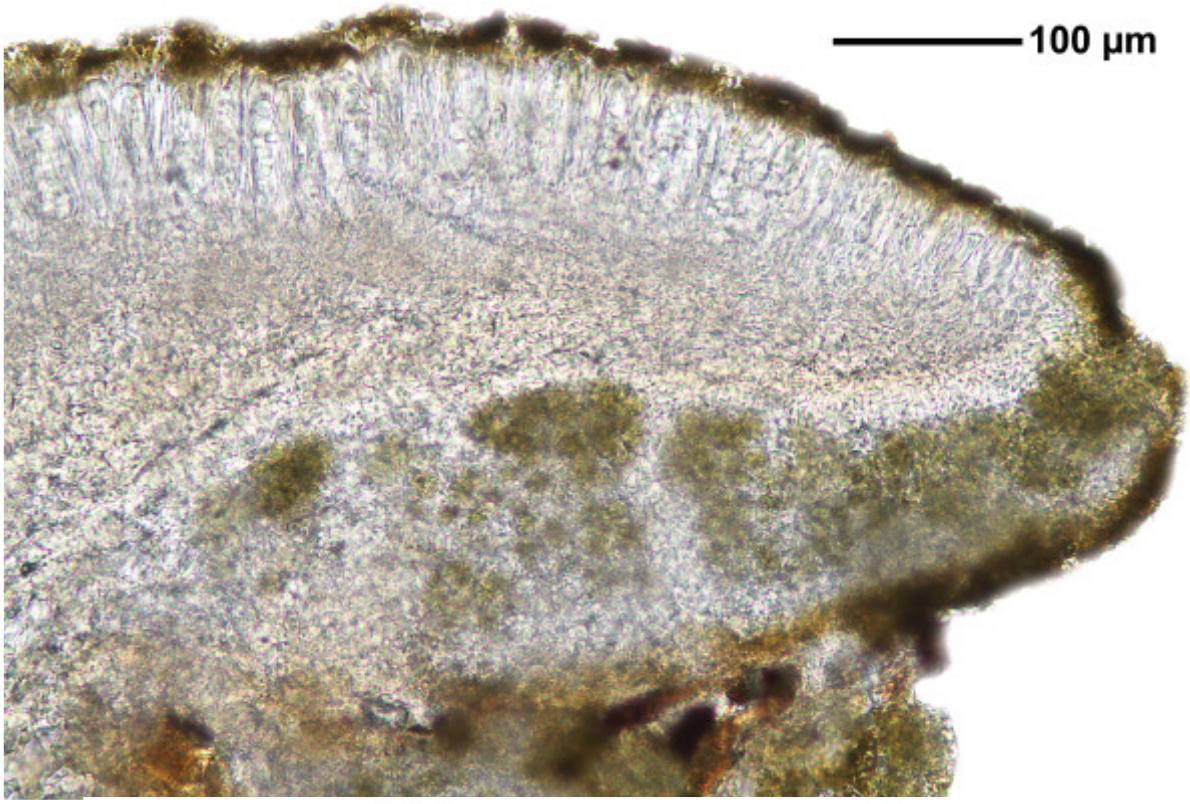


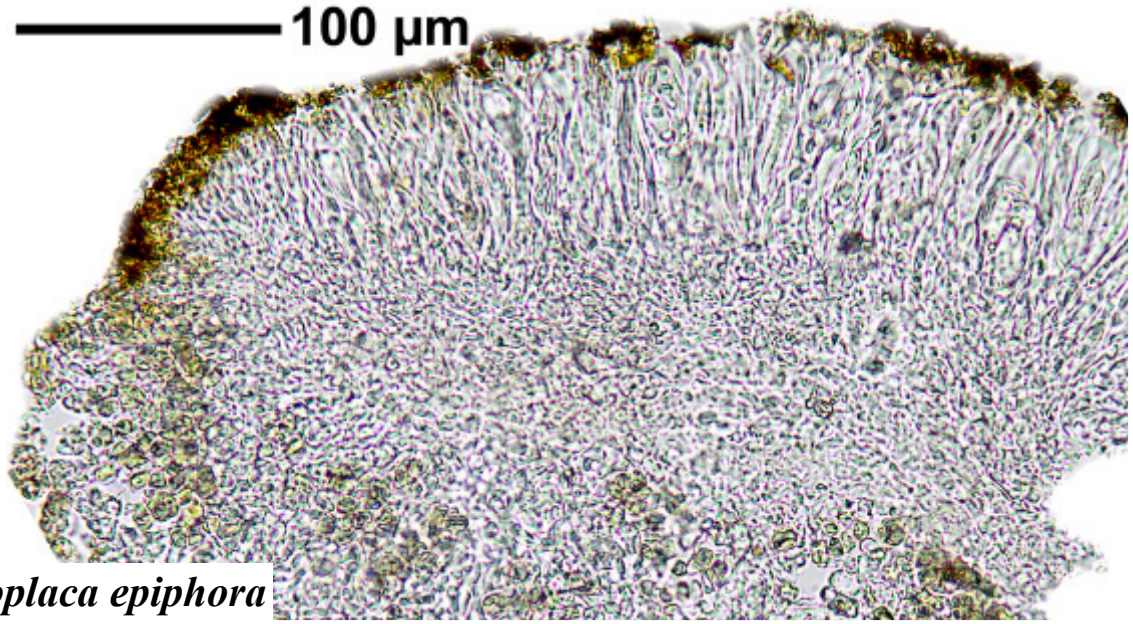
Caloplaca epiphora



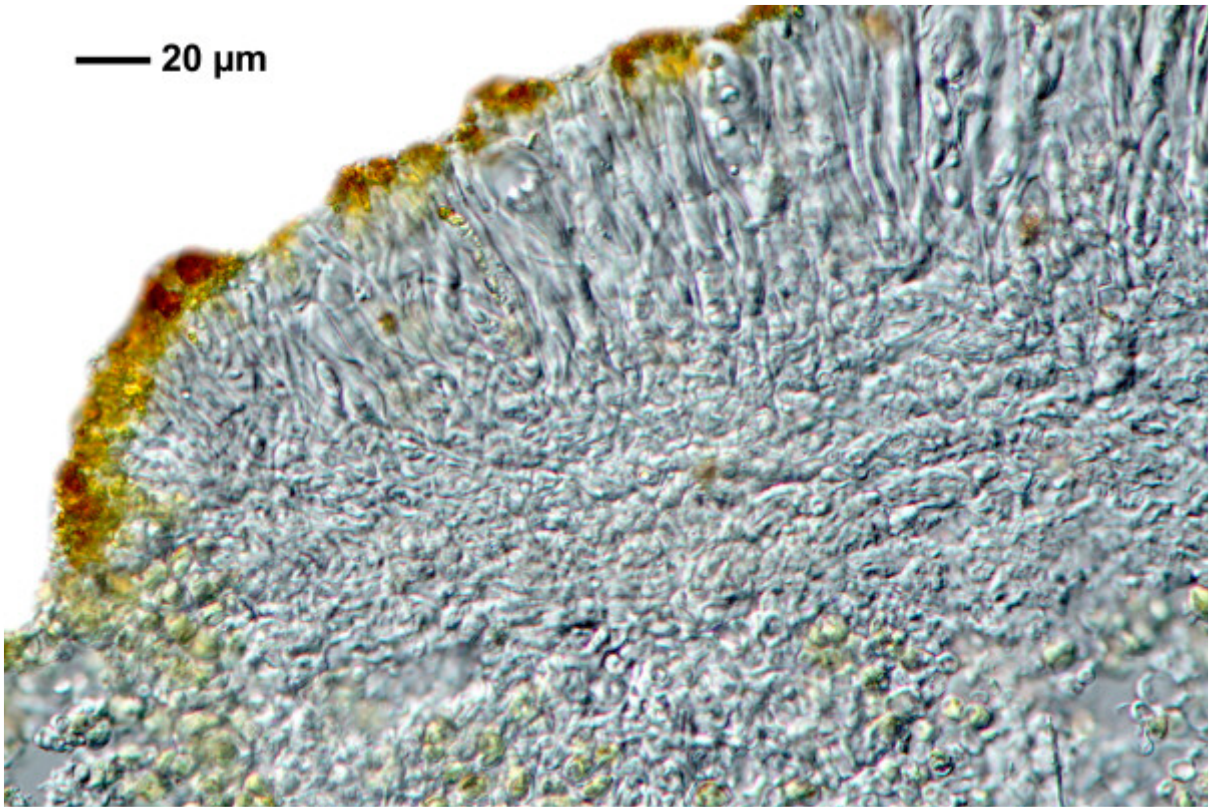
Caloplaca epiphora

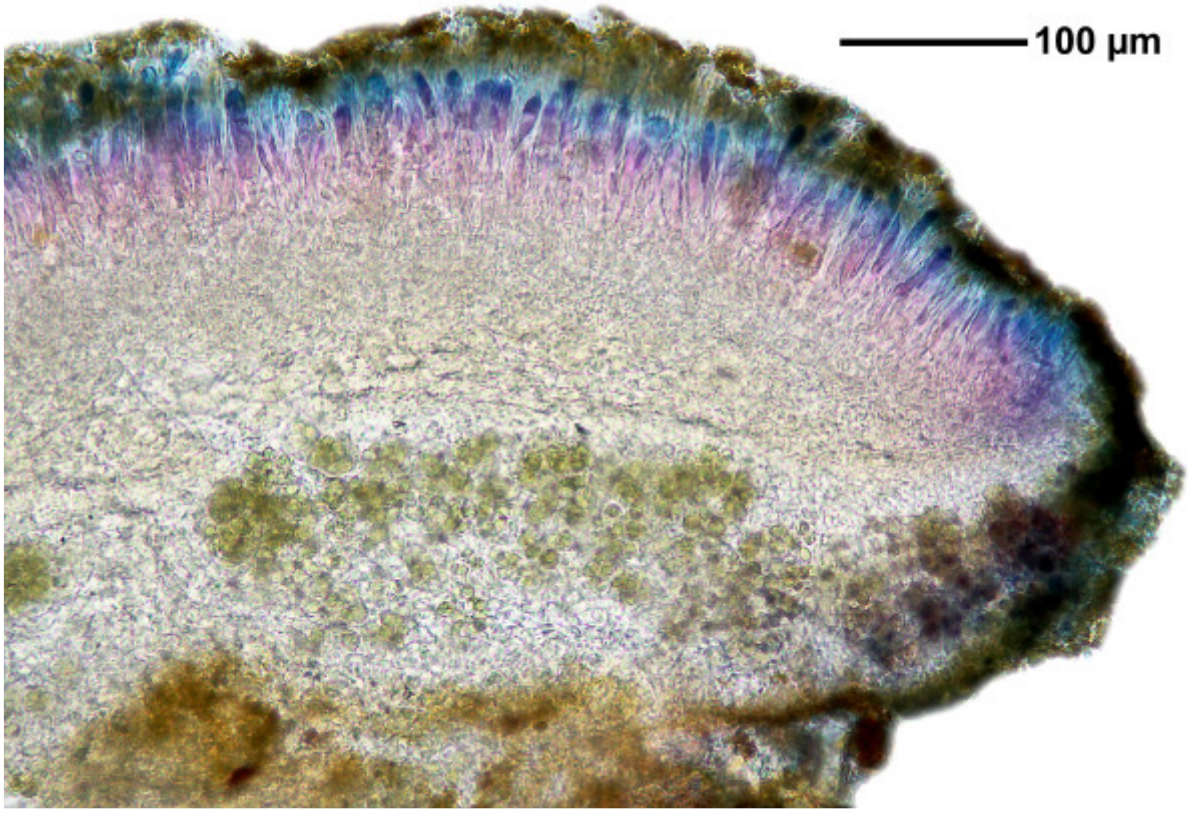






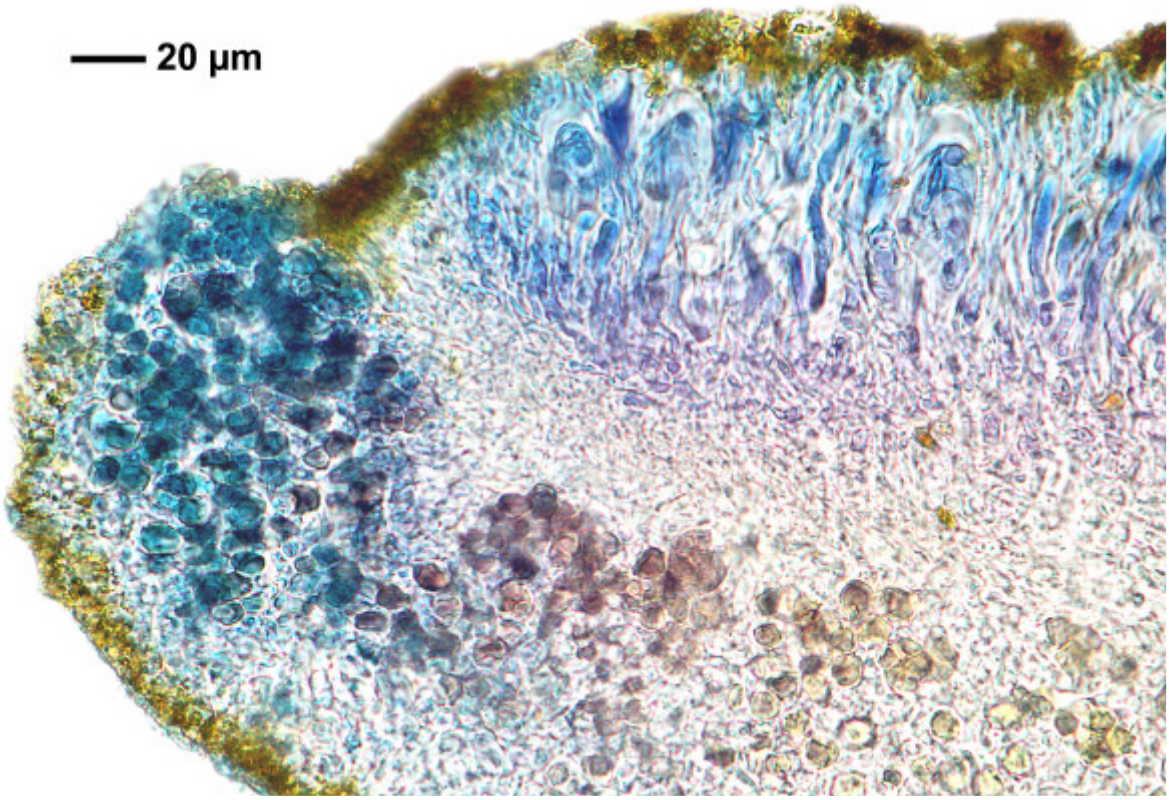
Caloplaca epiphora

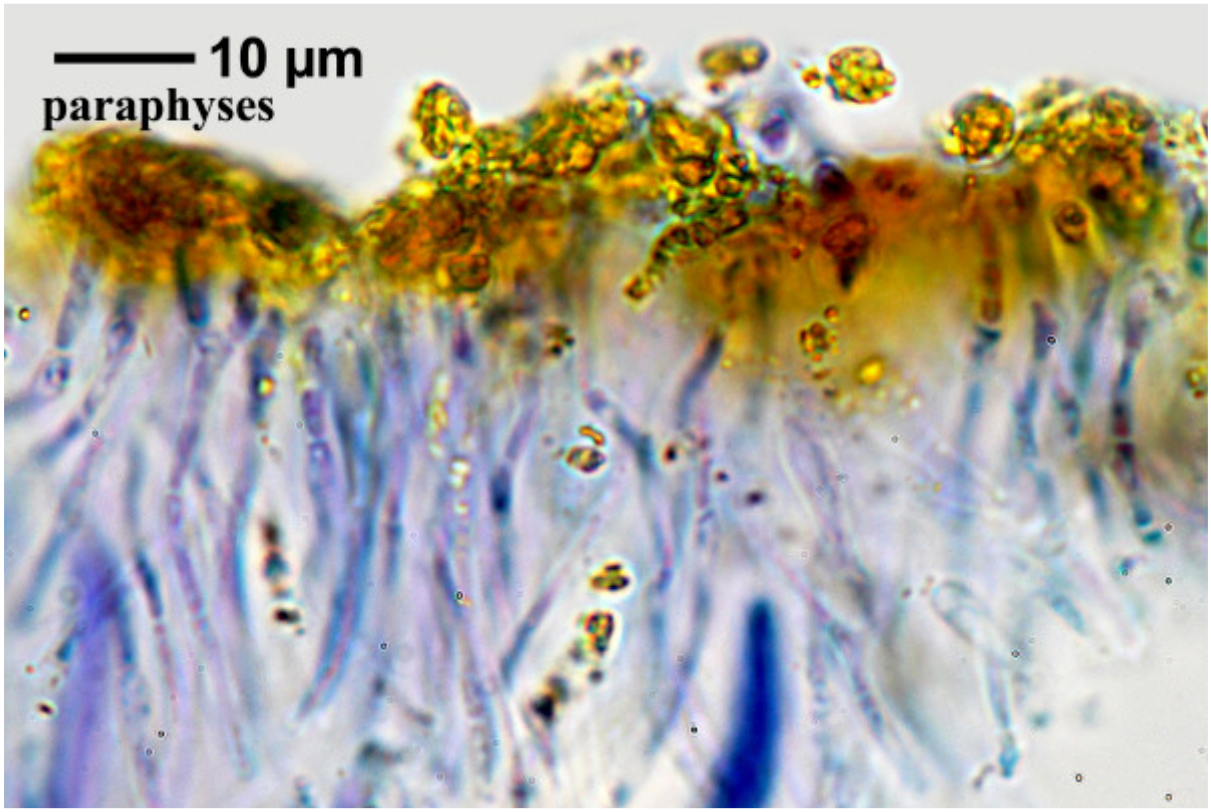






Caloplaca epiphora





Caloplaca epiphora

Caloplaca epithallina Lynge

On non-calcareous rocks, parasitic.

[19394], U.S.A. Wyoming, Park Co., Yellowstone National Park, west end of Lamar Canyon, 9.6 km E of Tower Junction, on south facing hillside with granitic glacial erratics and scattered *Pseudotsuga menziesii*, 256 m, 44°55'13" N, 110°18'07" W. Leg. Clifford M. Wetmore (Nr. 81233), 25. July 1998det. C. Wetmore. TELOSCHISTACEAE EXSICCATI NR. 105 DISTRIBUTED BY C. WETMORE.





Caloplaca epithallina

Caloplaca epithallina Lynge

Spores 8.2-10.6 x 5.3-6.6 µm, septum 1.8-3.3 µm (FS). Parasitic. Lit. Lynge in Skrift. Svalb. o. Ishav. 31:113 (1940)

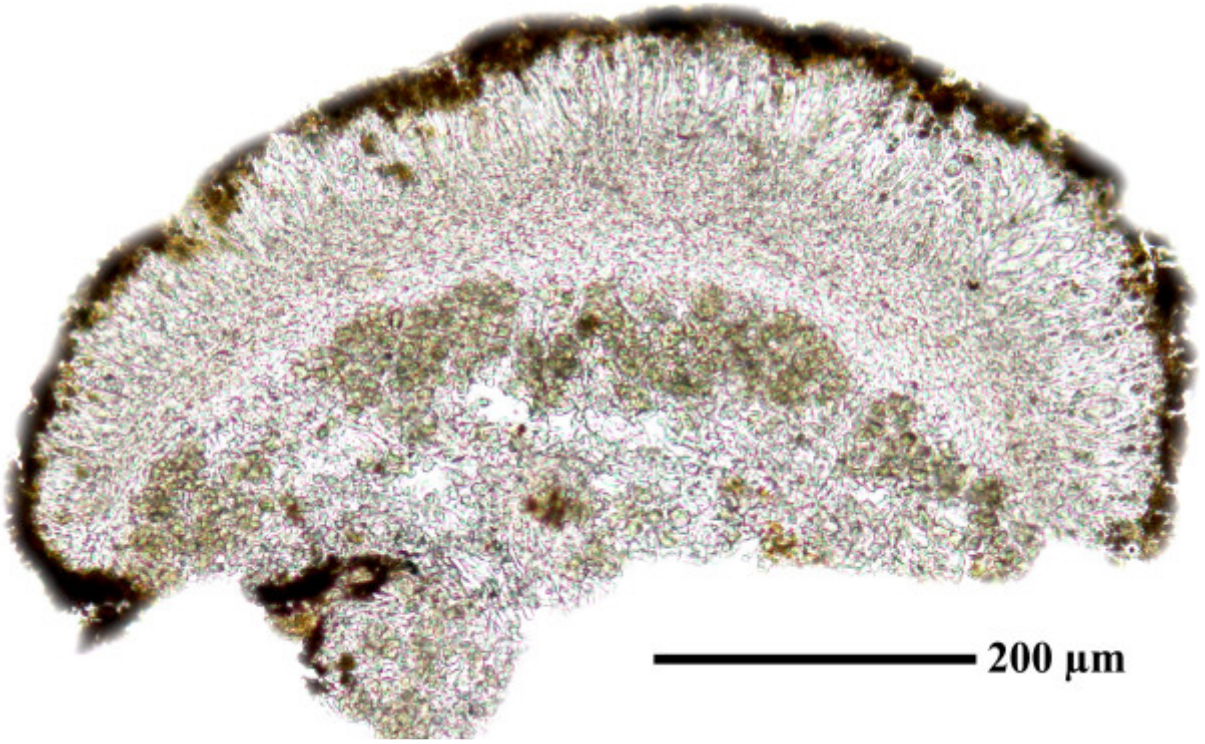
[19576], Jugoslavia, Macedonia, Bitola, montes Baba, regio montis Pelister, in rupibus Jorgov kamen dictis, alt. 1800 m, ad saxa schistosa, in thallo lichenis sp. div. vigens. Leg. A. Vězda, 12.07.1975. Vězda. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1344.

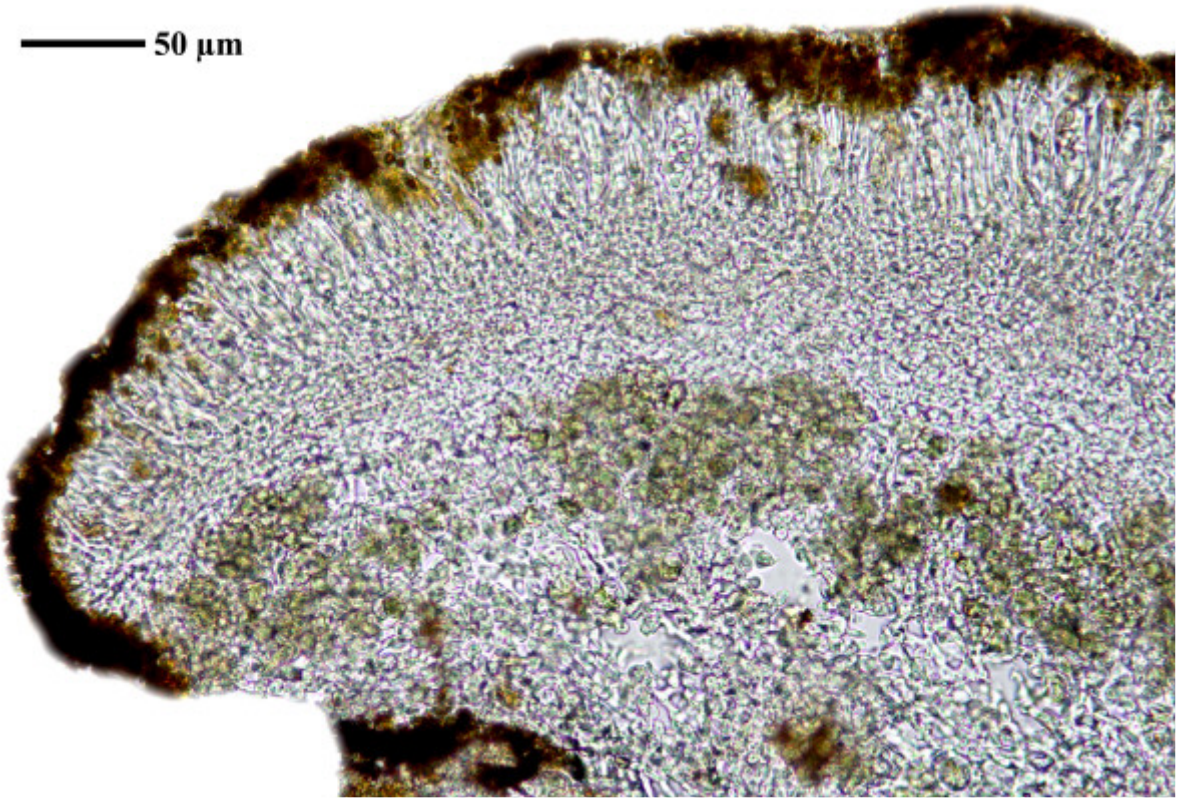




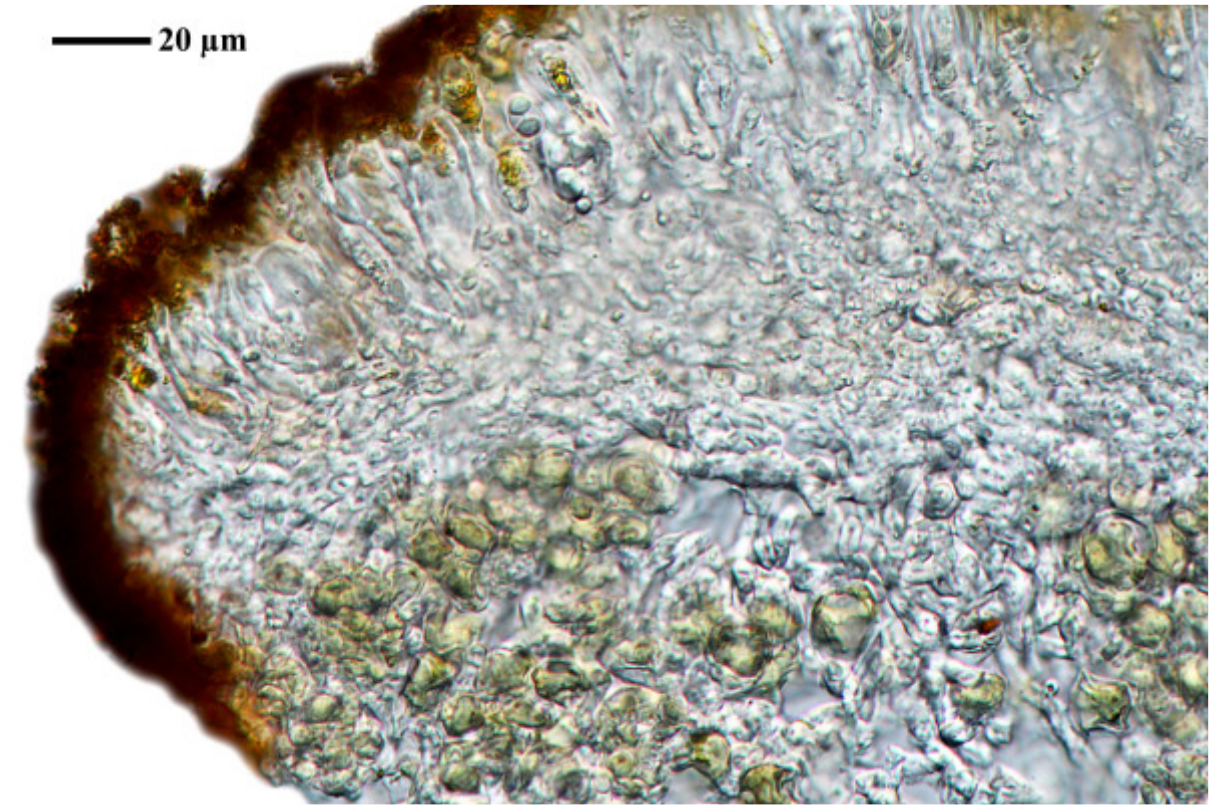


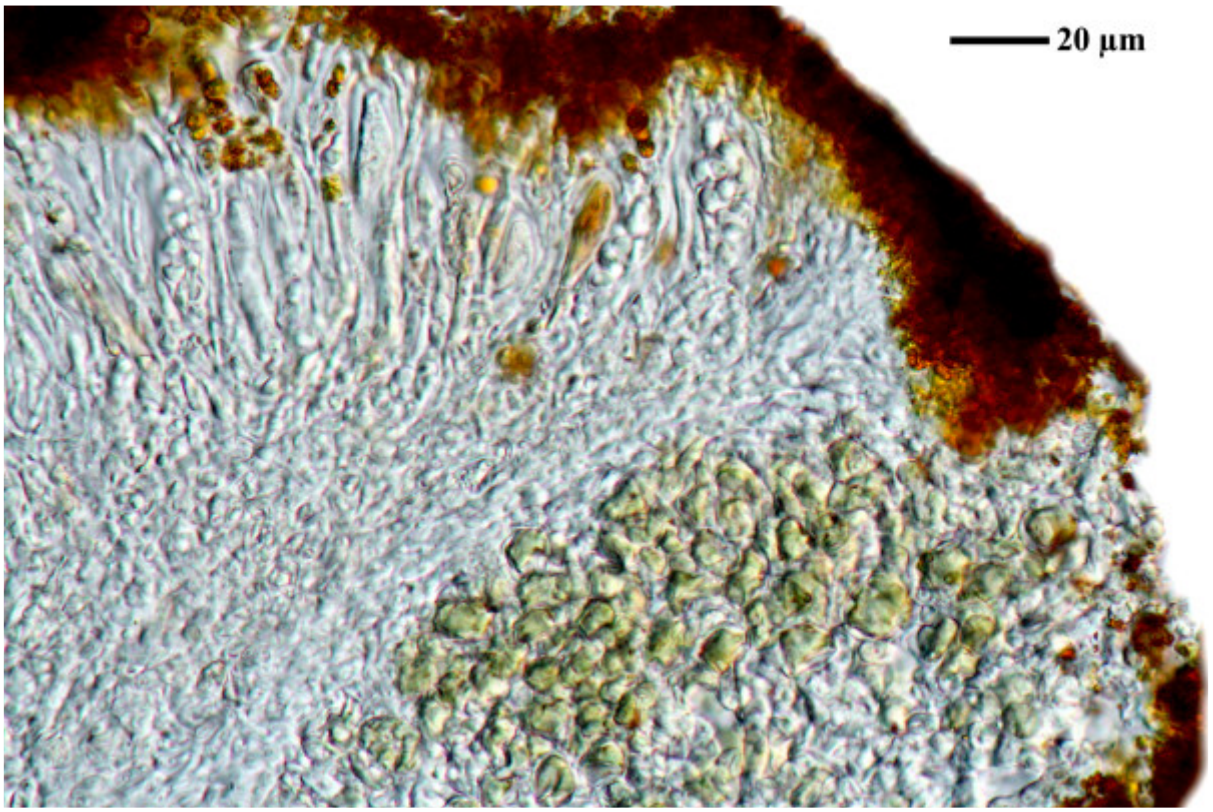
Caloplaca epithallina



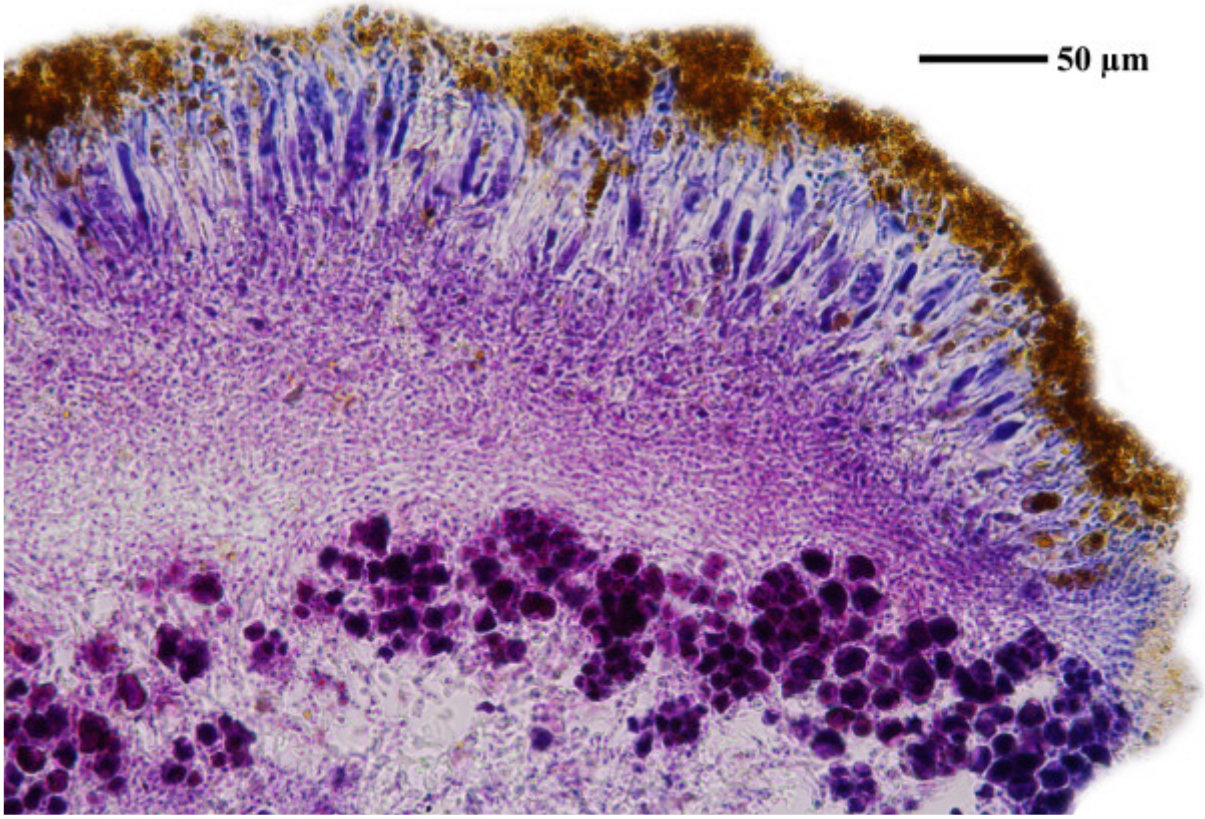


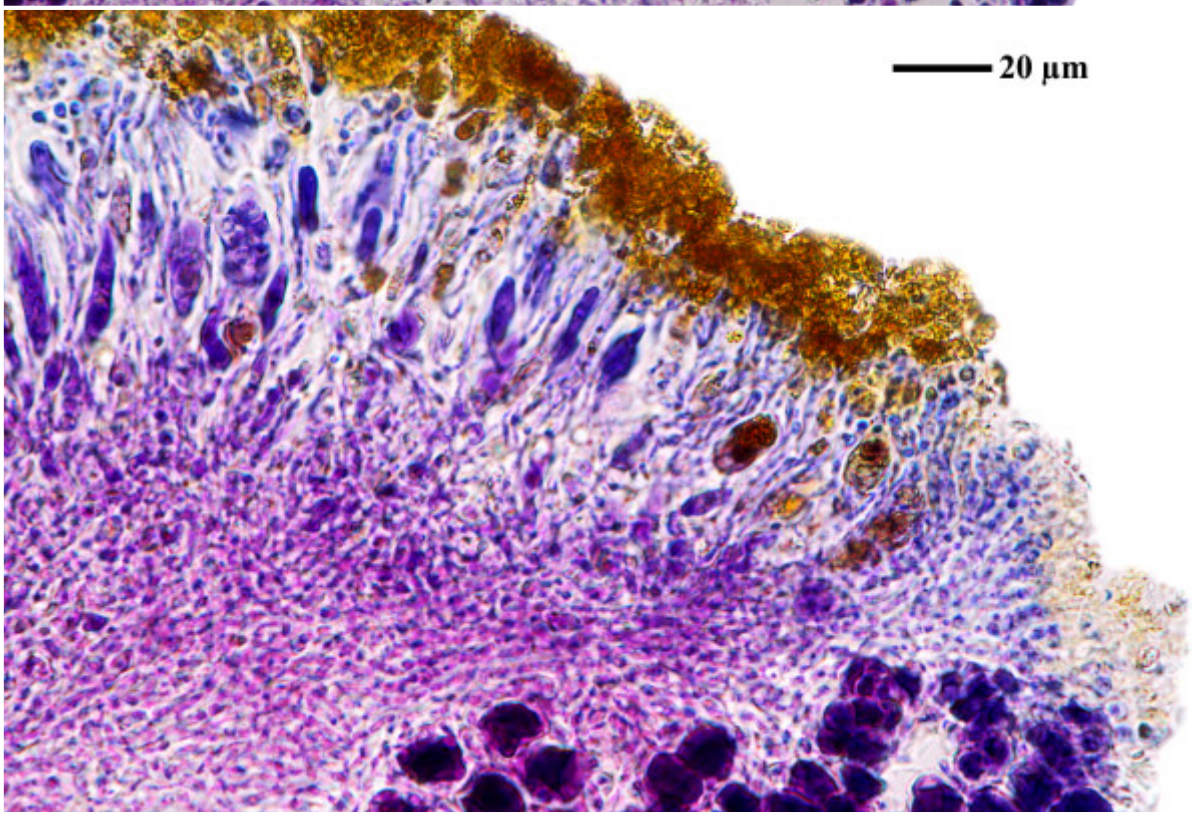
Caloplaca epithallina



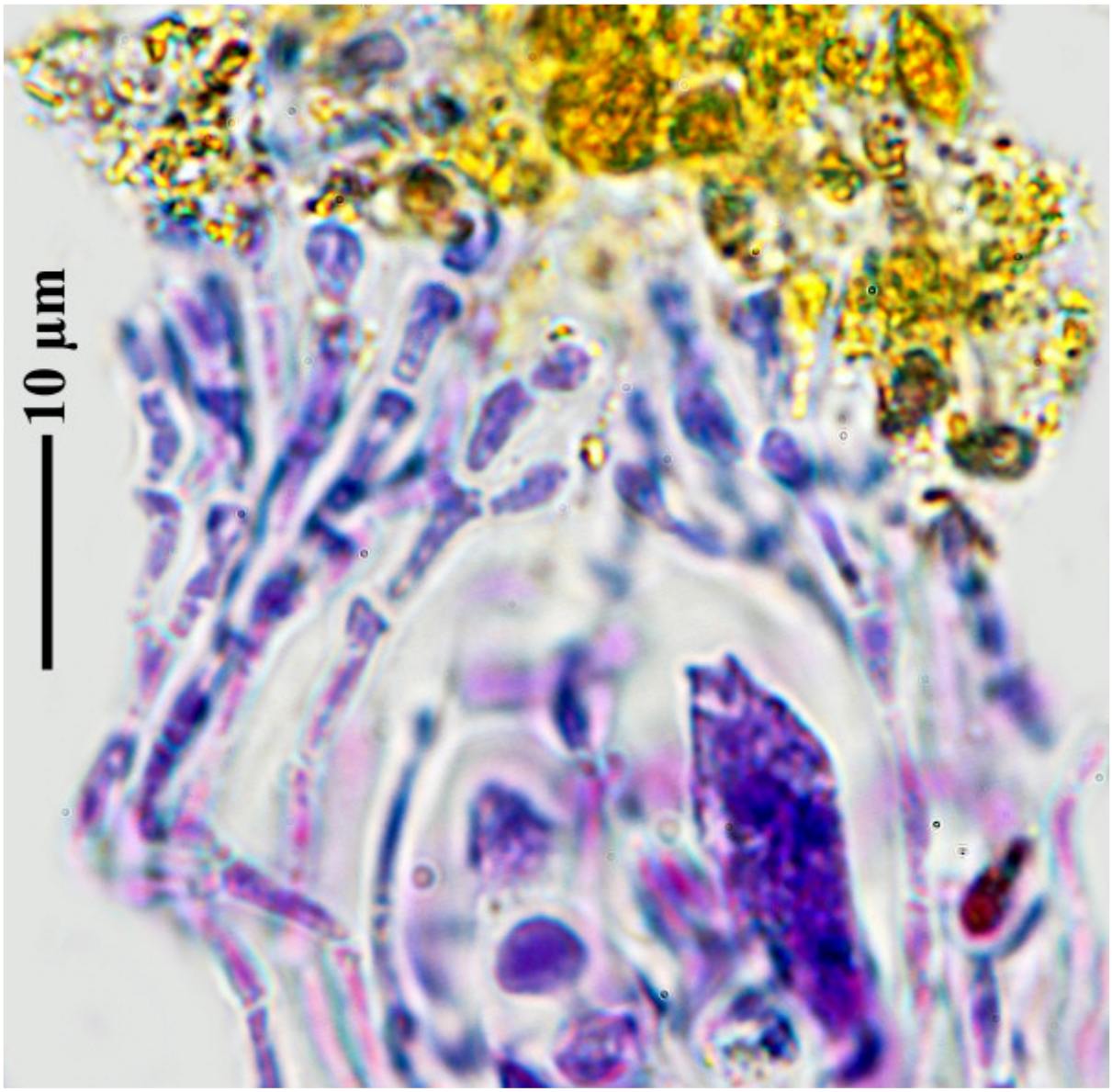


Caloplaca epithallina

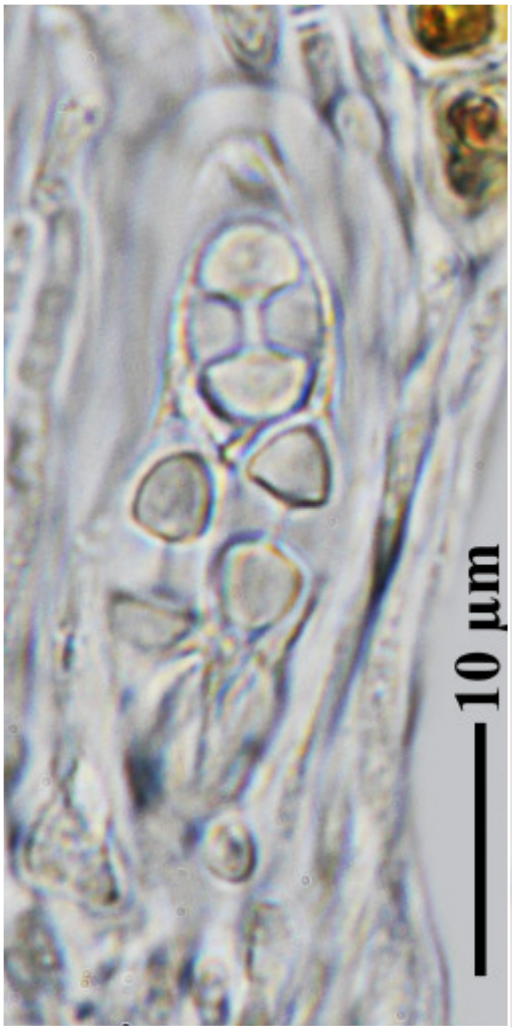


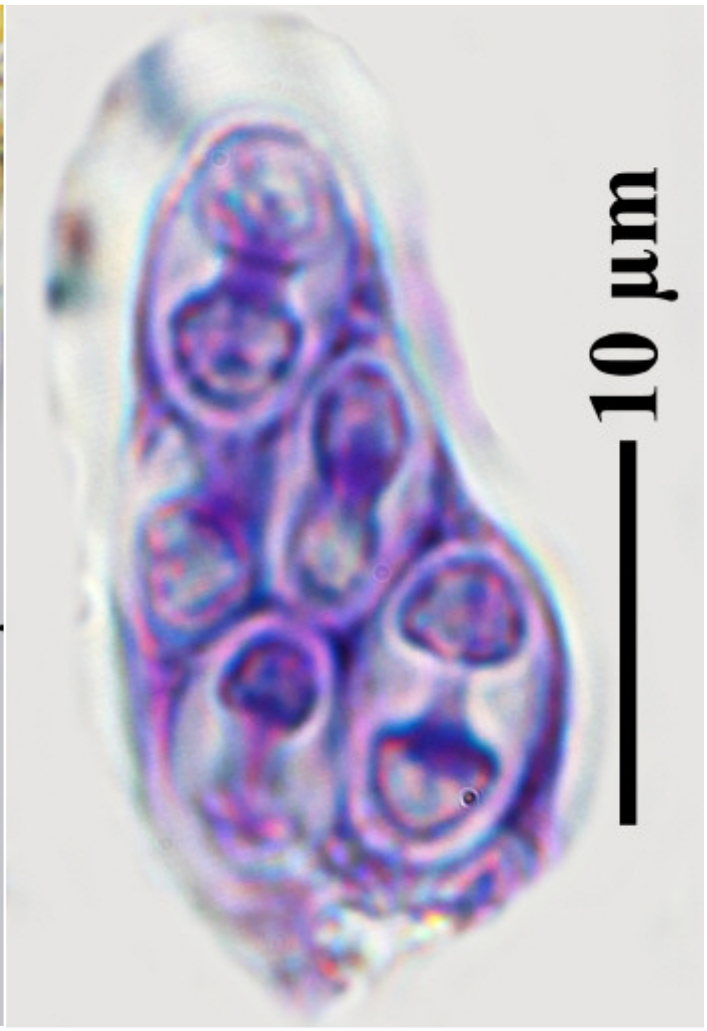


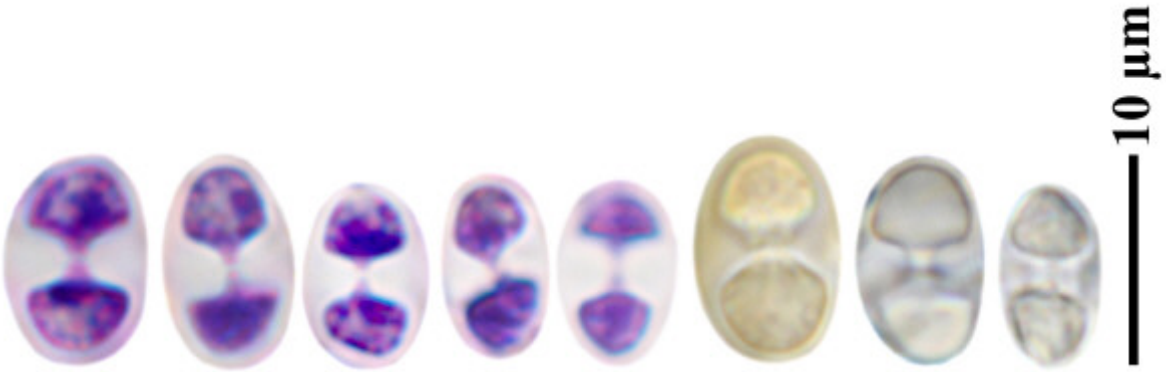
Caloplaca epithallina



Caloplaca epithallina







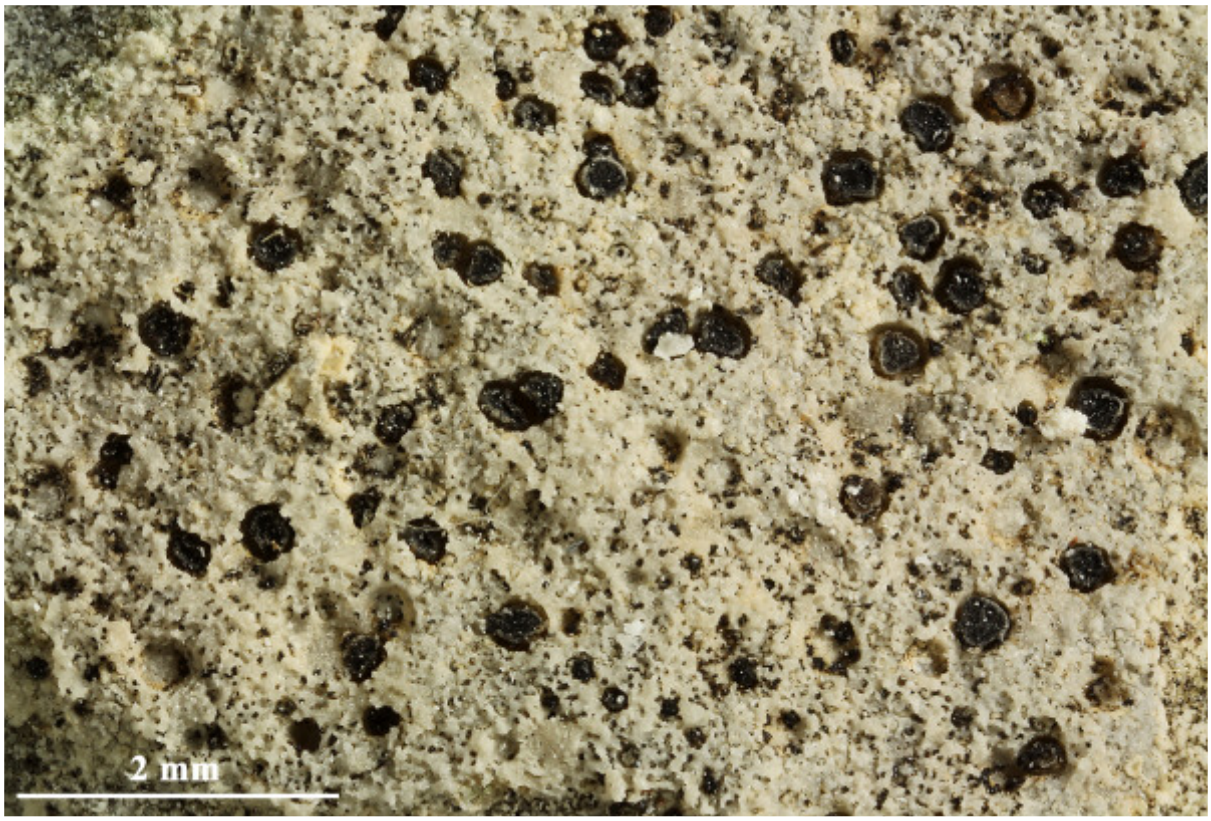
Caloplaca epithallina

Caloplaca erodens Tretiach, Pinna & Grube, HOLOTYPUS. Mycol. Progr. 2(2): 129 (2003)
[= *Pyrenodesmia erodens* (Tretiach, Pinna & Grube) Søchting, Arup & Frödén, Nordic J. Bot. 31(1): 73 (2013)]

On calcareous rocks. Lit. Tretiach, Pinna & Grube, Mycol Progress 2: 127-136 (2003)

[19553], Italia, Abruzzo, prov. L'Aquila, loco Rovere, prope ruinam arcis, 1440 m, ad saxa calcarea. Leg. M. Tretiach & D. Pinna (TSB 34131, Holotypus), 23.6.2003. VĚZDA: LICHENES RARIORES EXSICCATI NR. 499, ISOTYPUS.







Caloplaca erodens

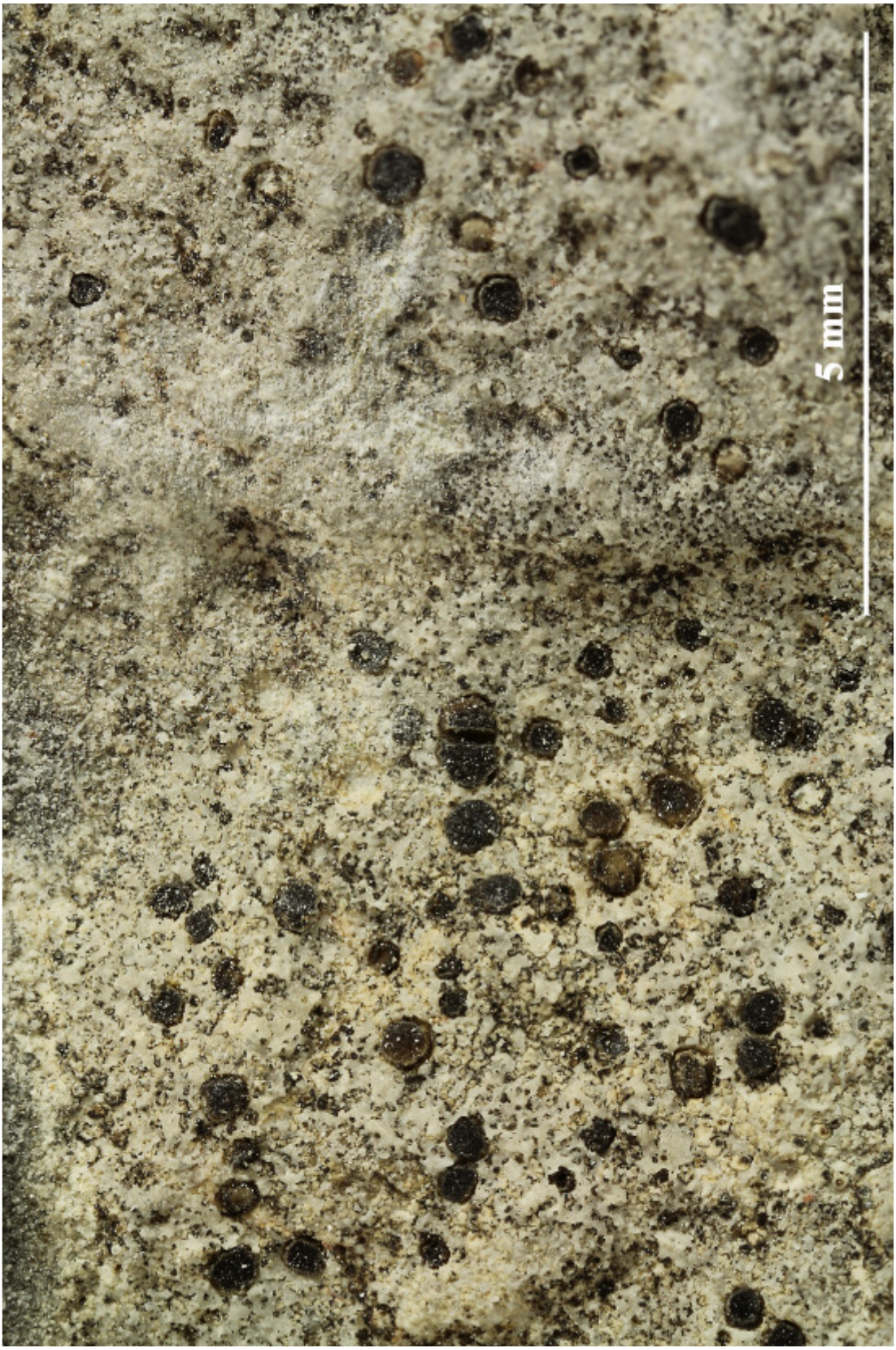


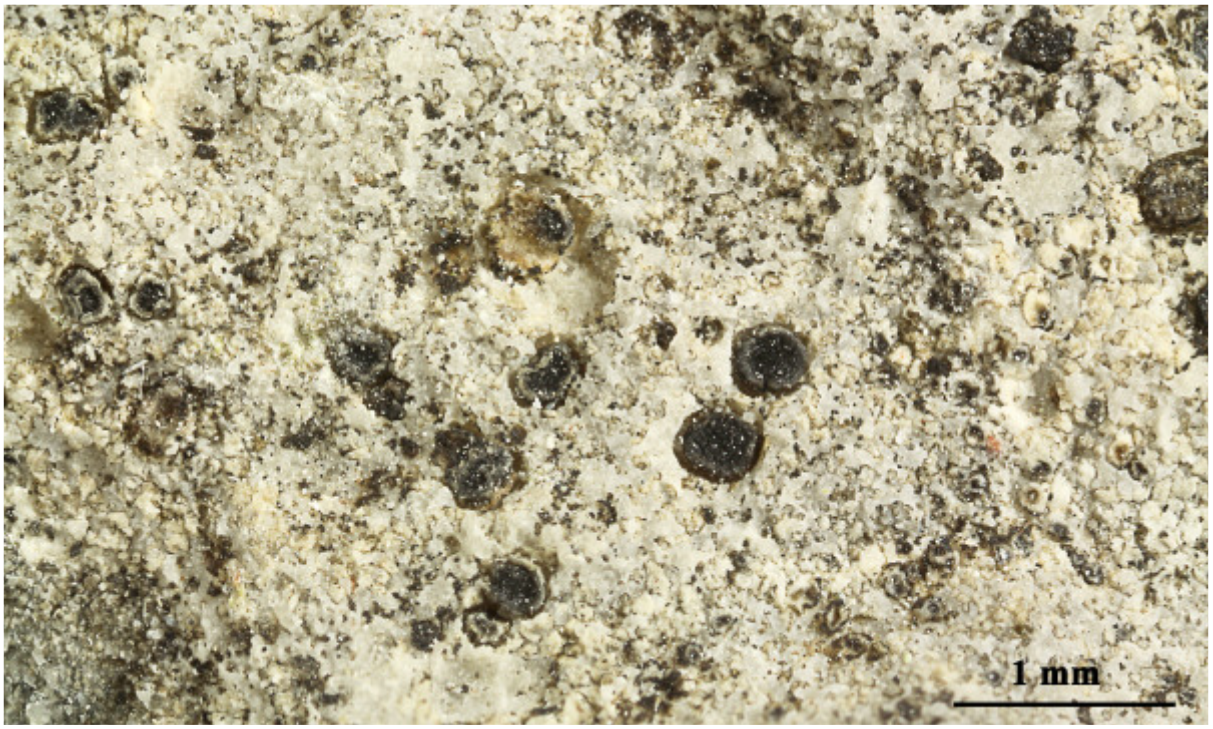
Caloplaca erodens

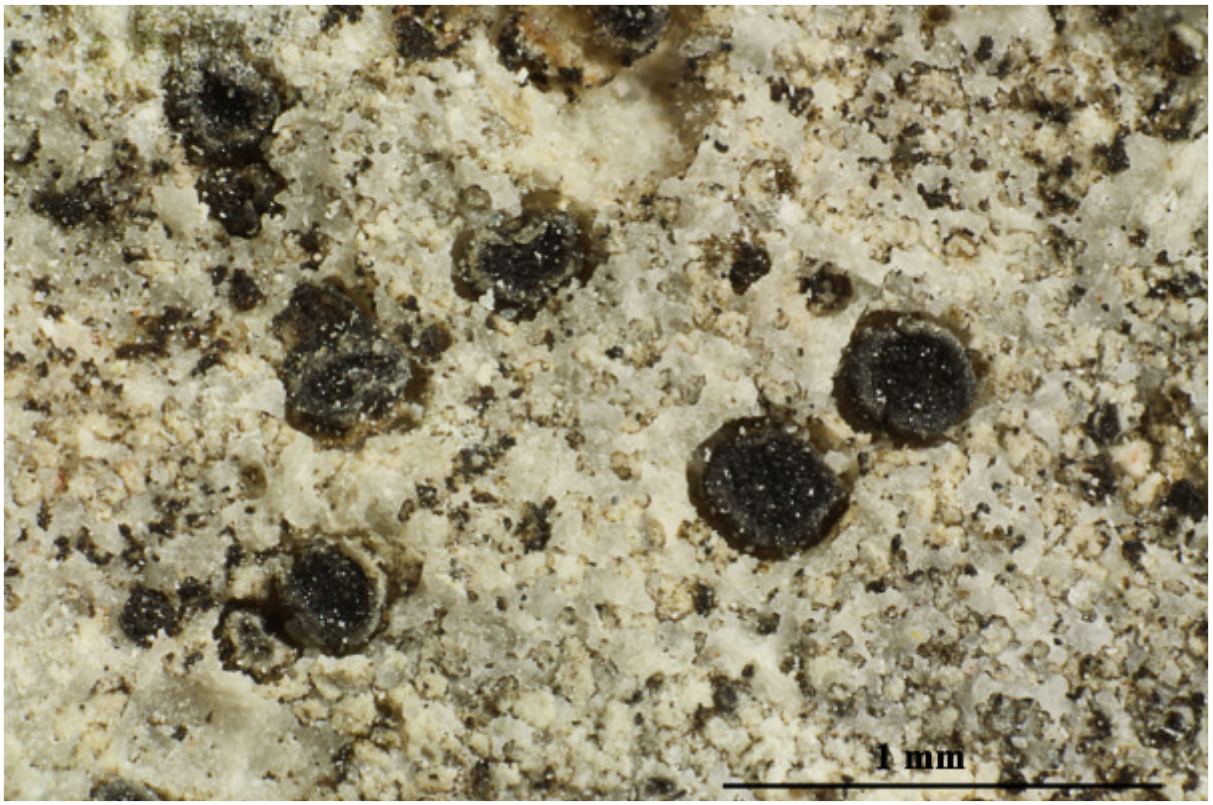
Caloplaca erodens Tretiach, Pinna & Grube, HOLOTYPUS. Mycol. Progr. 2(2): 129 (2003)

[= *Pyrenodesmia erodens* (Tretiach, Pinna & Grube) Søchting, Arup & Frödén, Nordic Jl Bot. 31(1): 73 (2013)]

[TSB_34131], Italia, Abruzzo, Prov. L'Aquila, loc. Rovere, 1440 m, on limestone. Leg. M. Tretiach & D. Pinna, 23.06.2001.







Caloplaca erodens



Caloplaca erodens

Caloplaca erythrantha (Tuck.) Zahlbr.

On bark.

[18158], Brasilien, São Paulo, zwischen São José do Barreiro und Boccaina da Serra, an freistehenden, alten Alleebäumen, 800 m. Leg. K. Kalb und G. Plöbst, 03.11.1978. KALB: LICHENES NEOTROPICI 055.







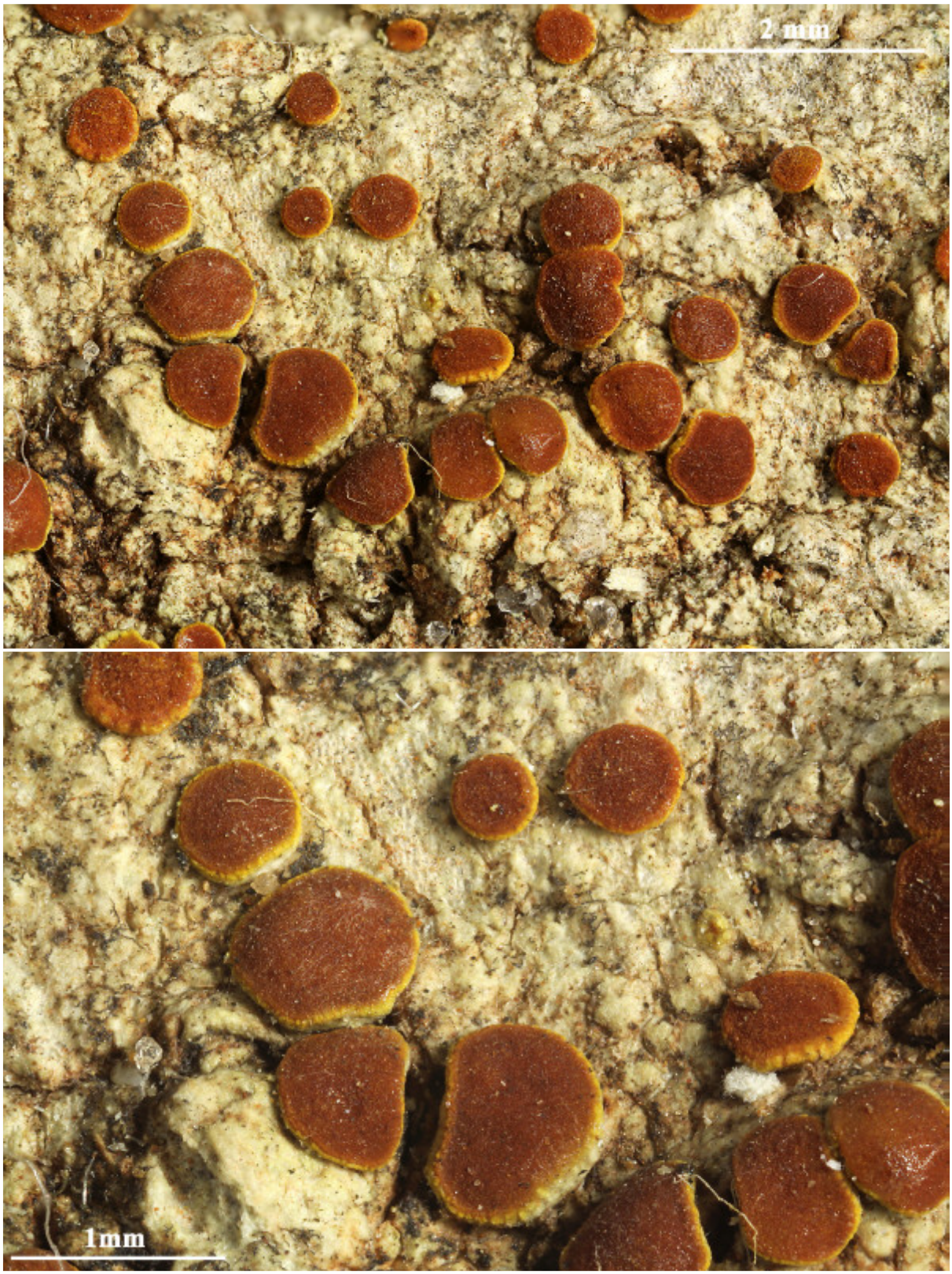
Caloplaca erythrantha

Caloplaca erythrantha (Tuck.) Zahlbr.

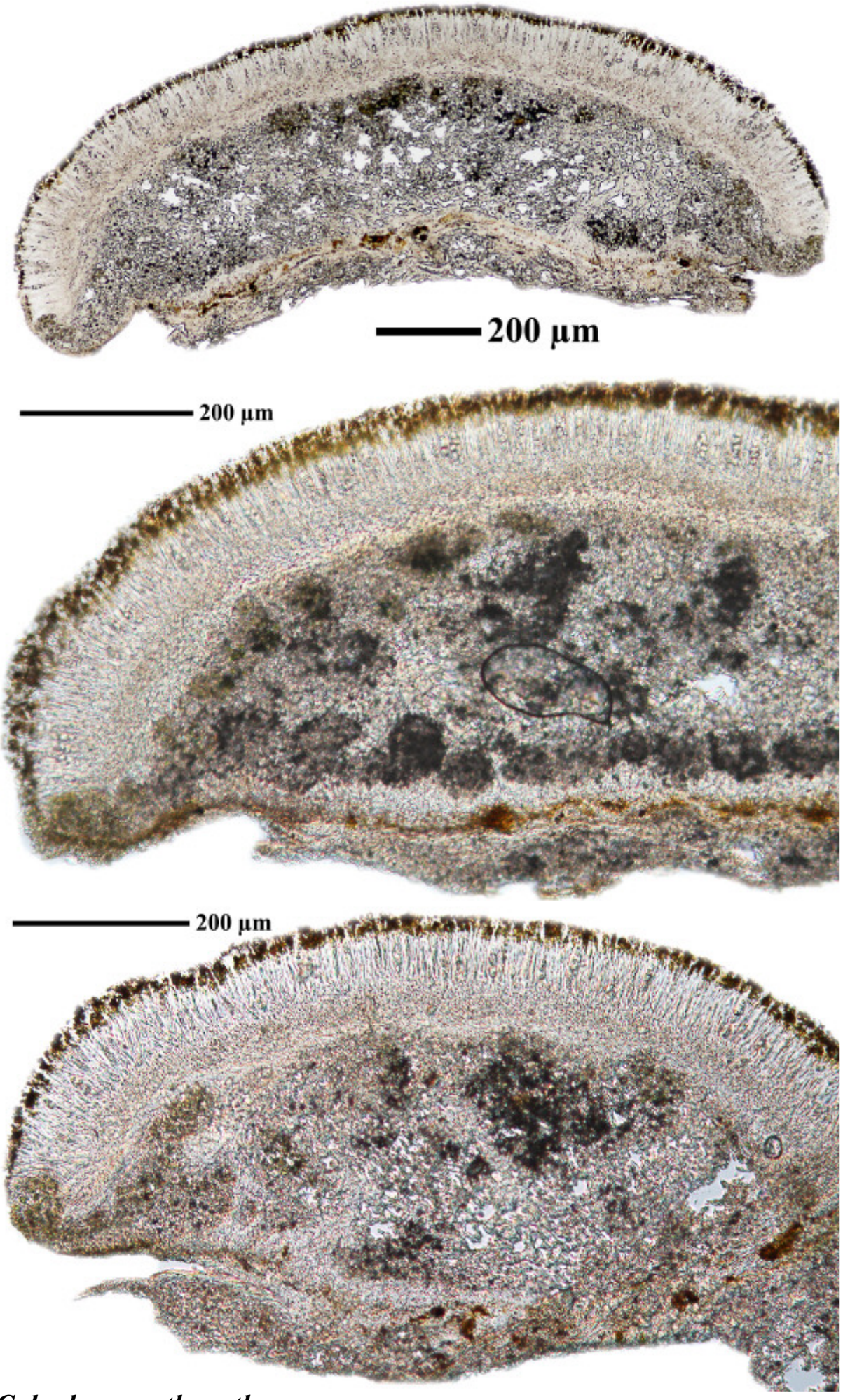
Spores hyalin, 8/ascus, polariulocular, 14-16 x 7.5-8.5 µm, septum 7.1-8.6 µm.

[BR5030035894041], Argentina-Corrientes, Prov. Misiones-Depto. Candelaria, Santa Ana, sobre Sapium haematospermum. Leg. A. Schnini (25484),22.08.1987.

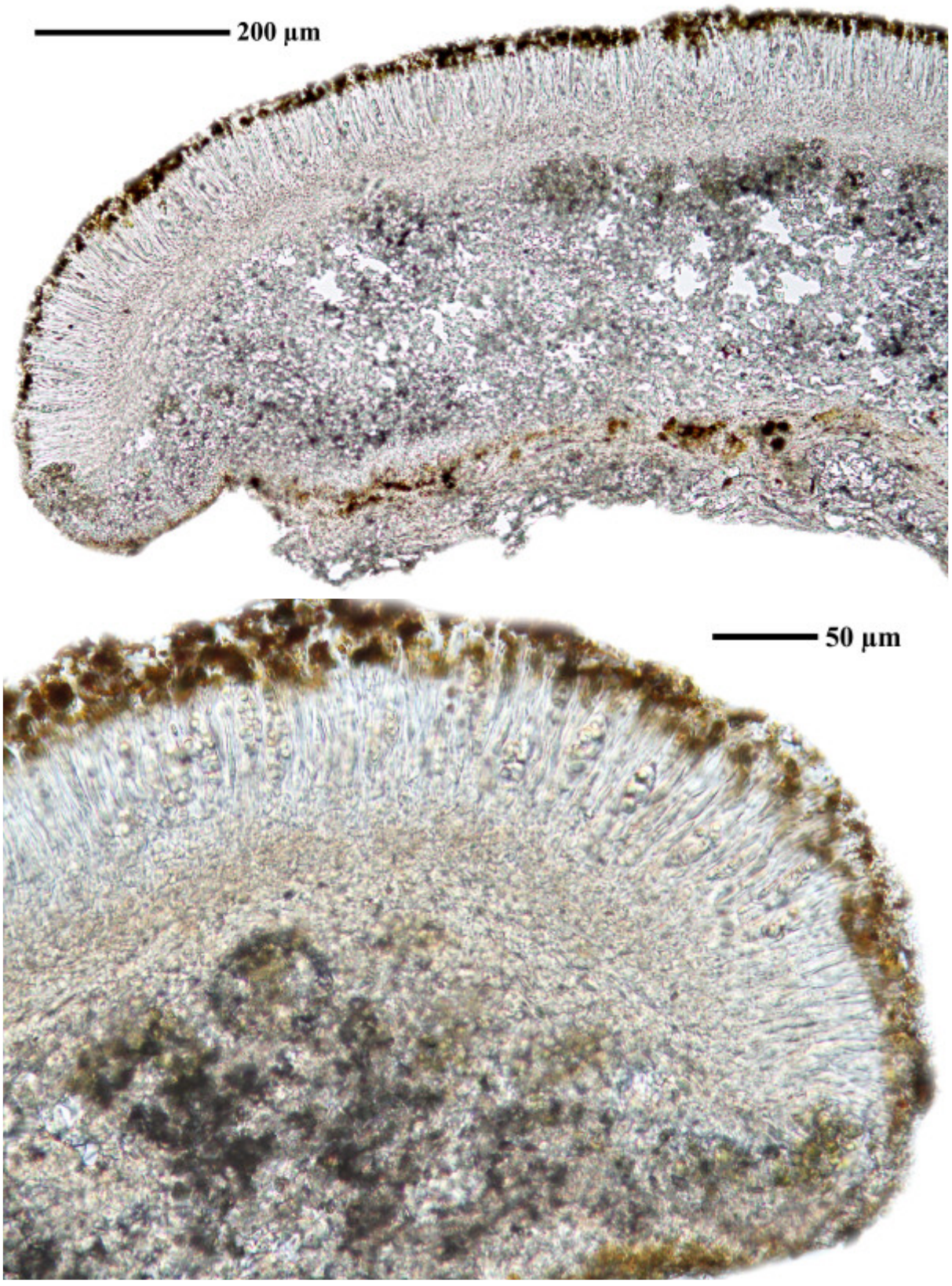




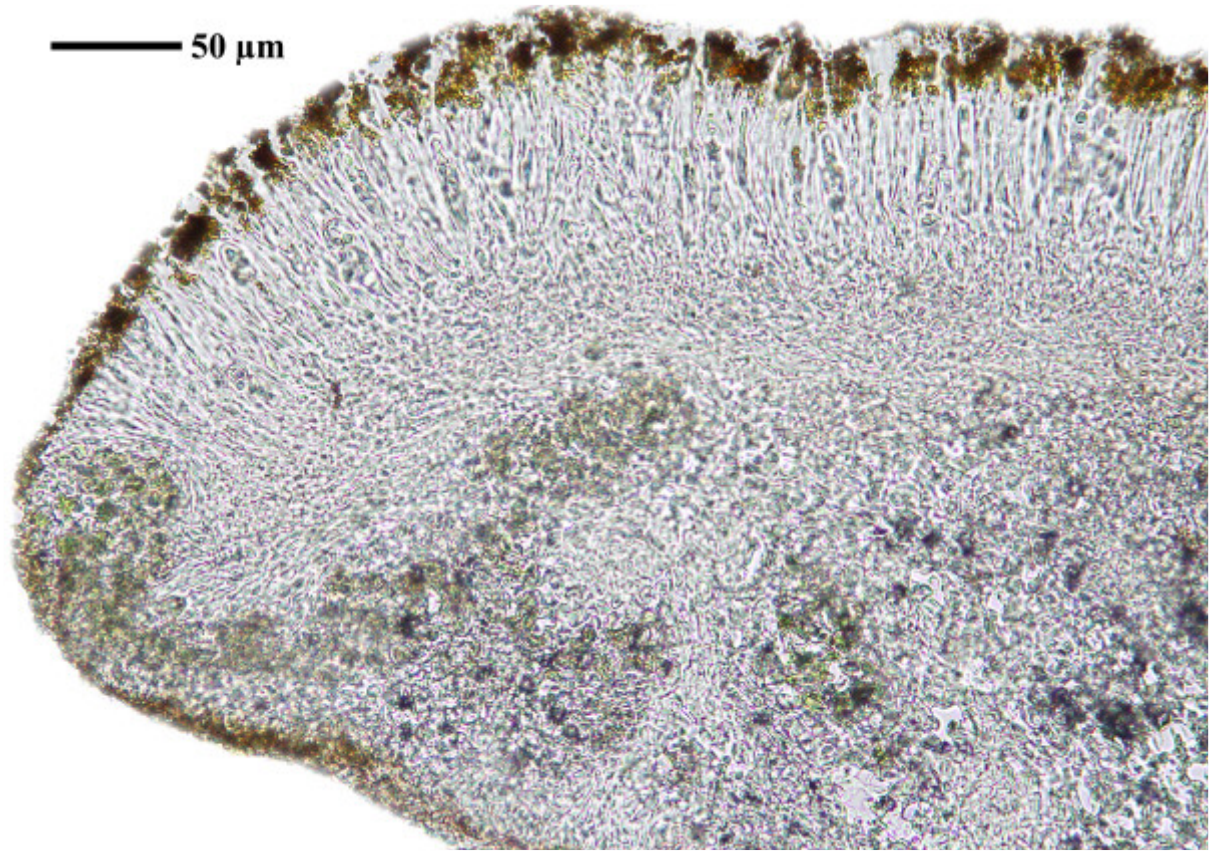
Caloplaca erythrantha

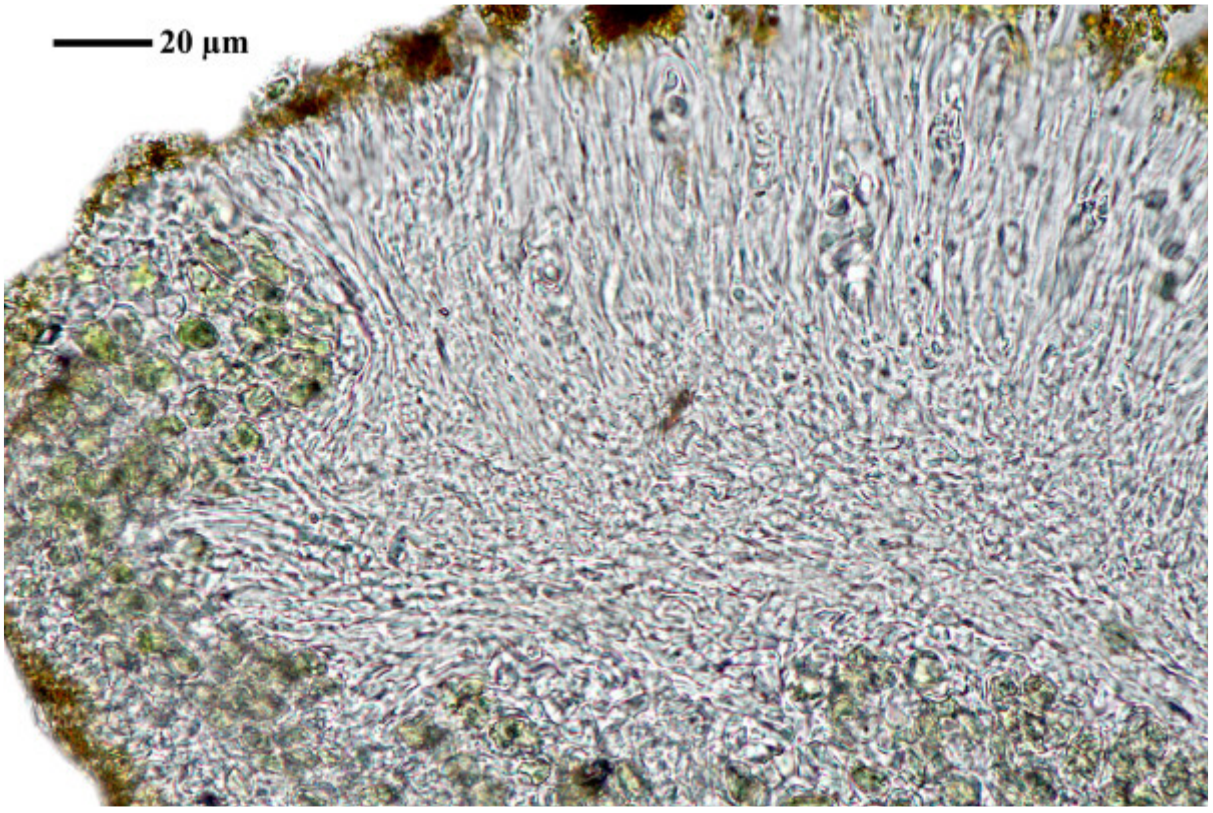


Caloplaca erythrantha

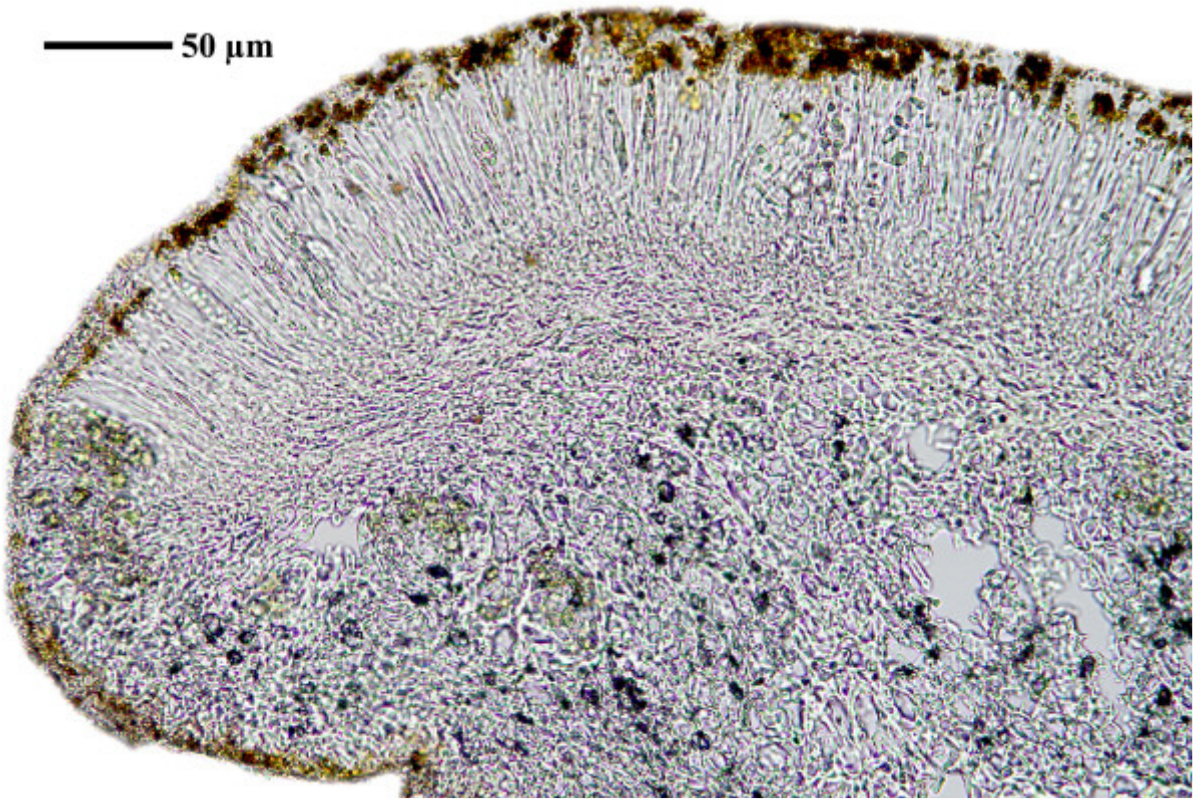


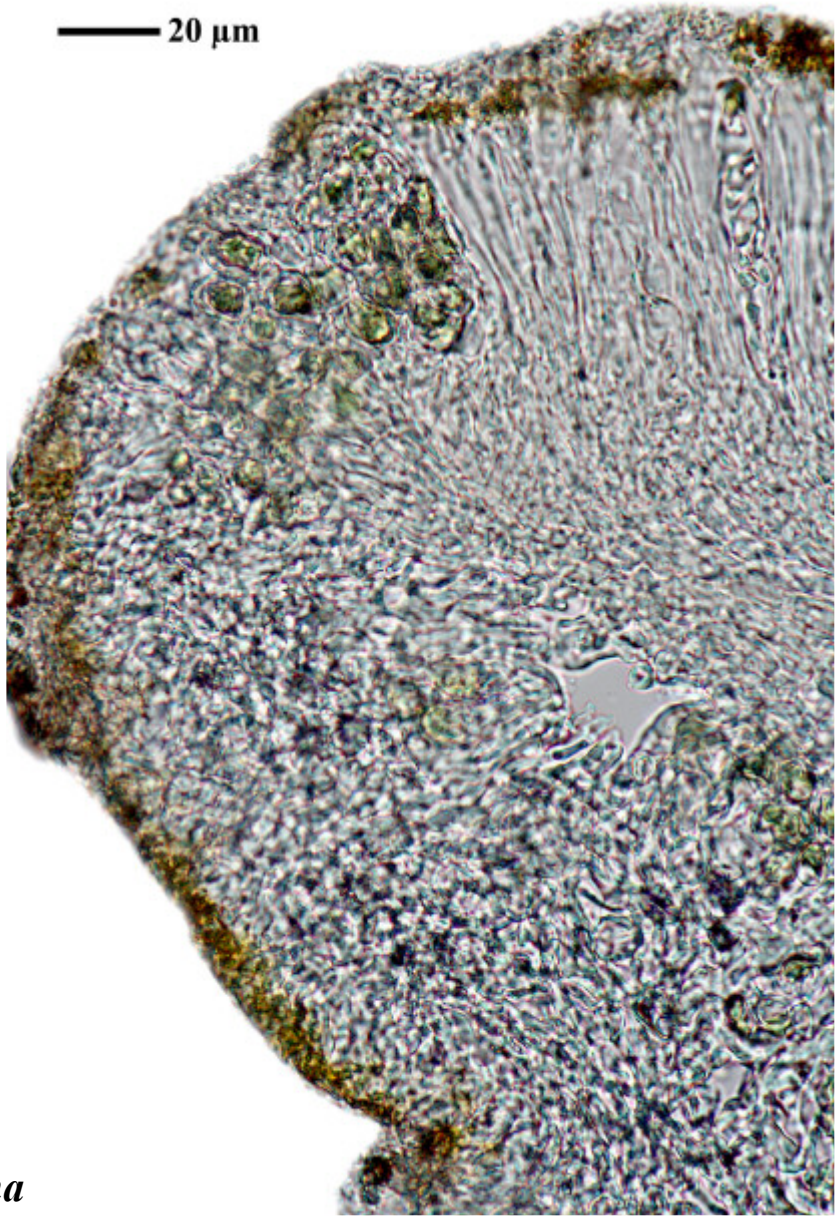
Caloplaca erythrantha



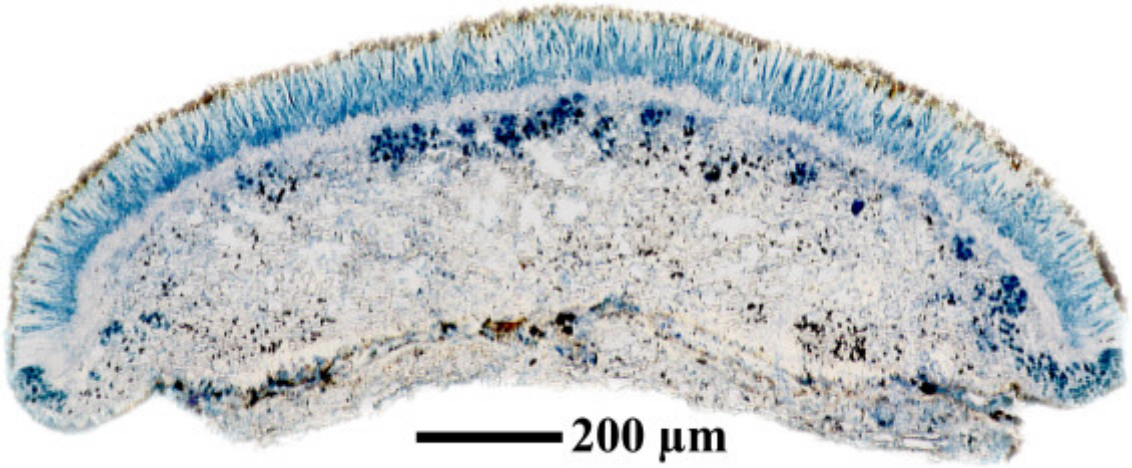


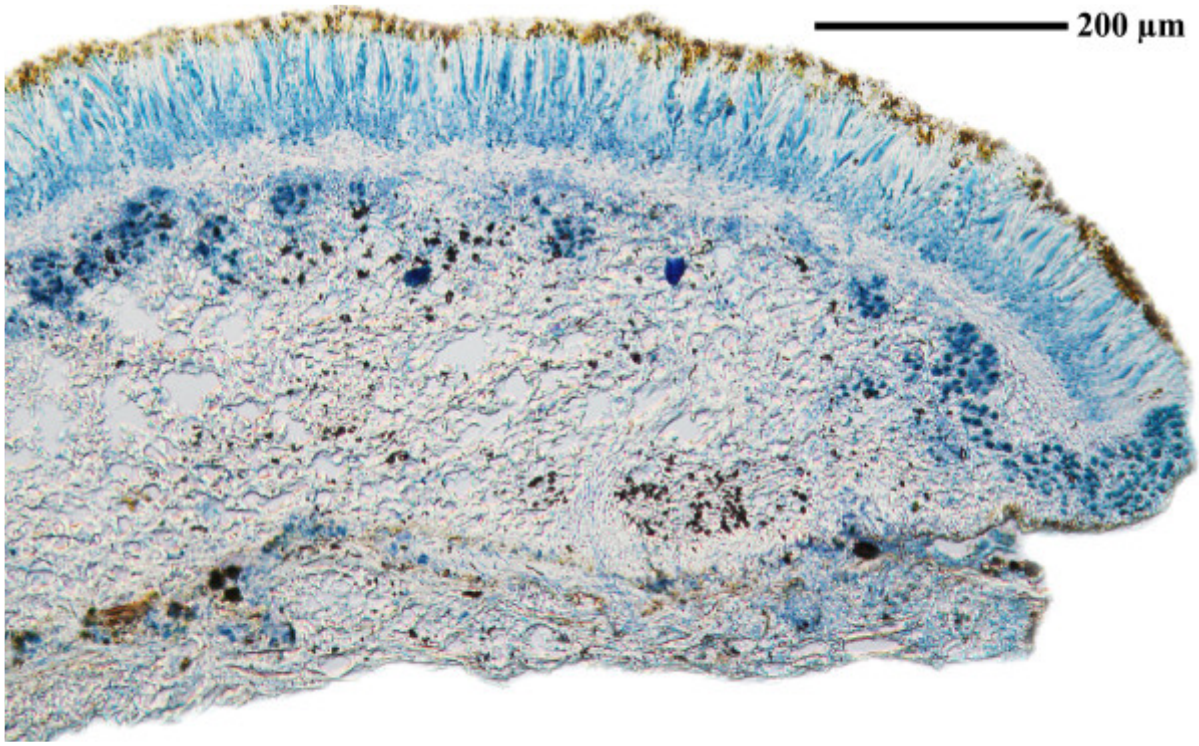
Caloplaca erythrantha

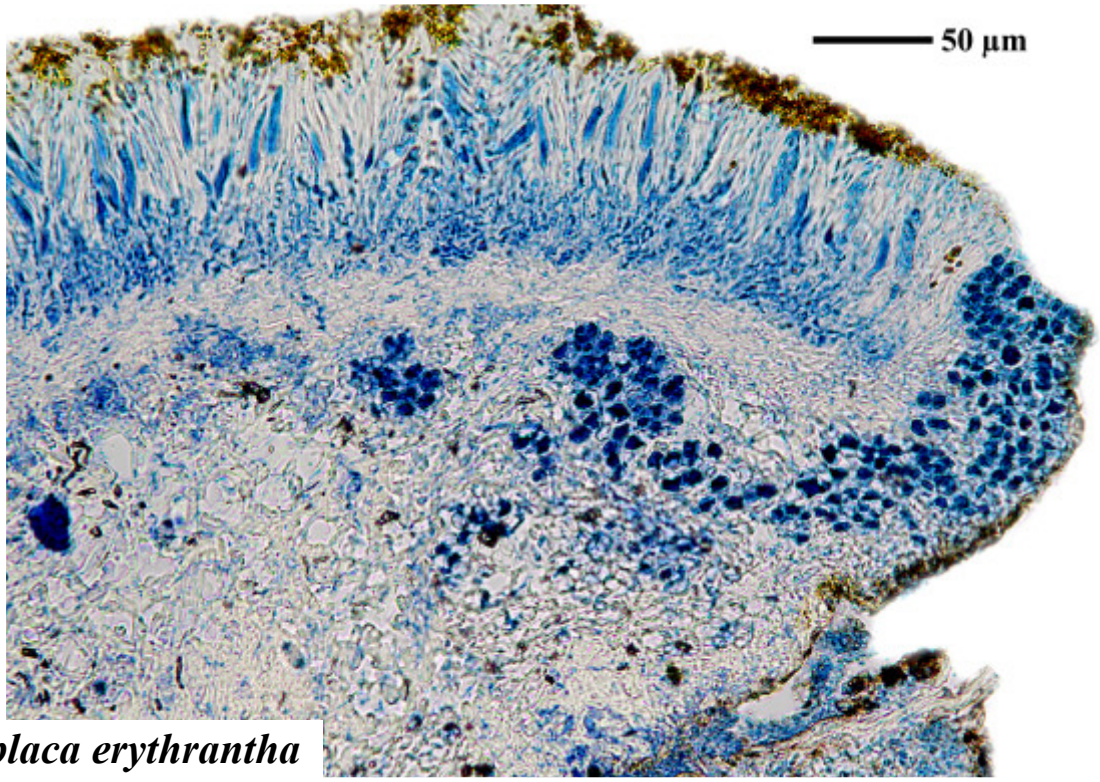




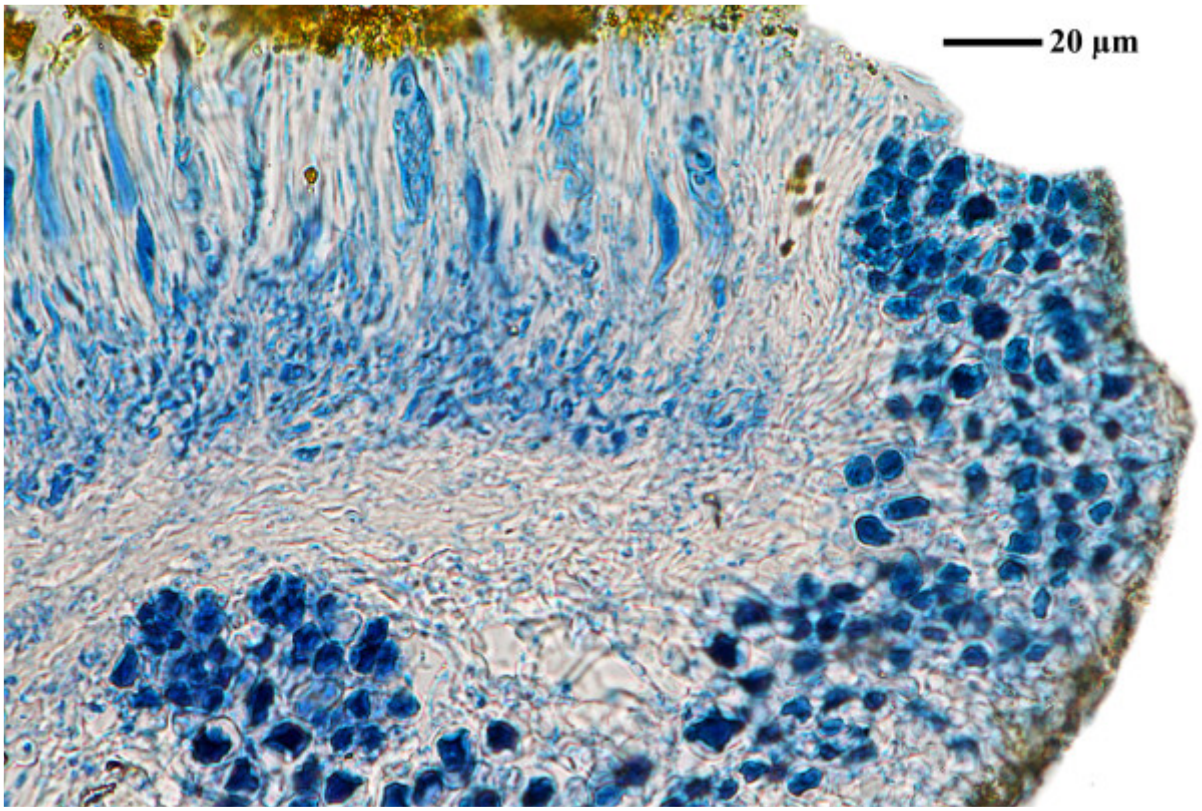
Caloplaca erythrantha

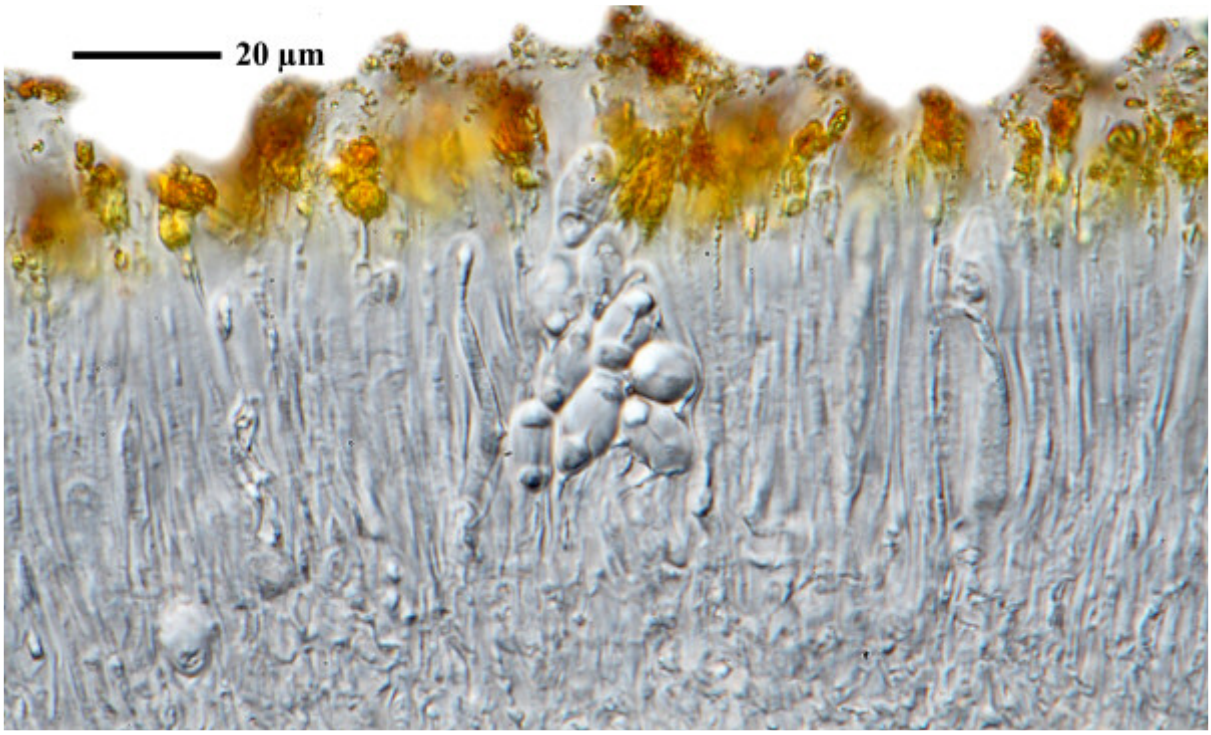




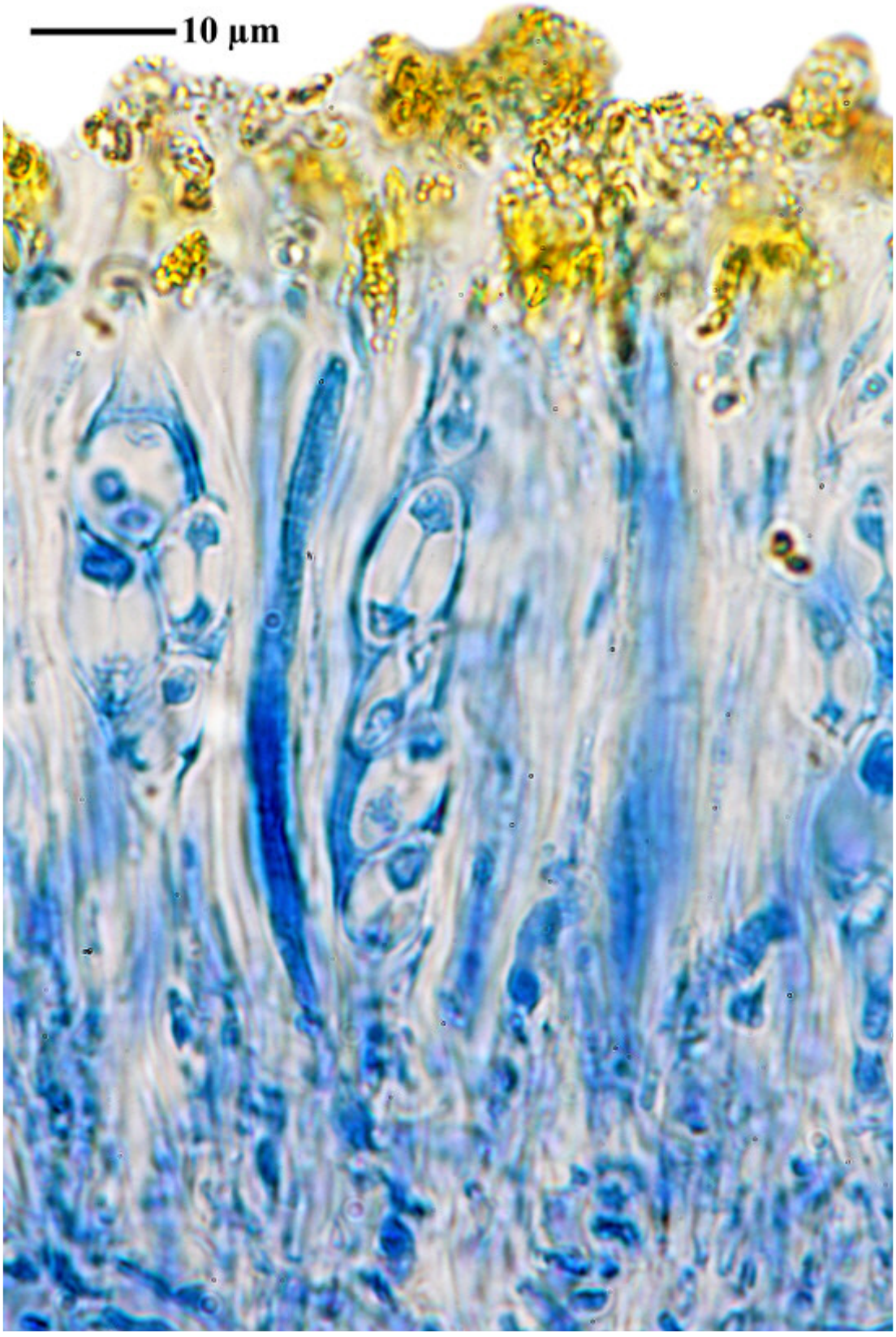


Caloplaca erythrantha





Caloplaca erythrantha





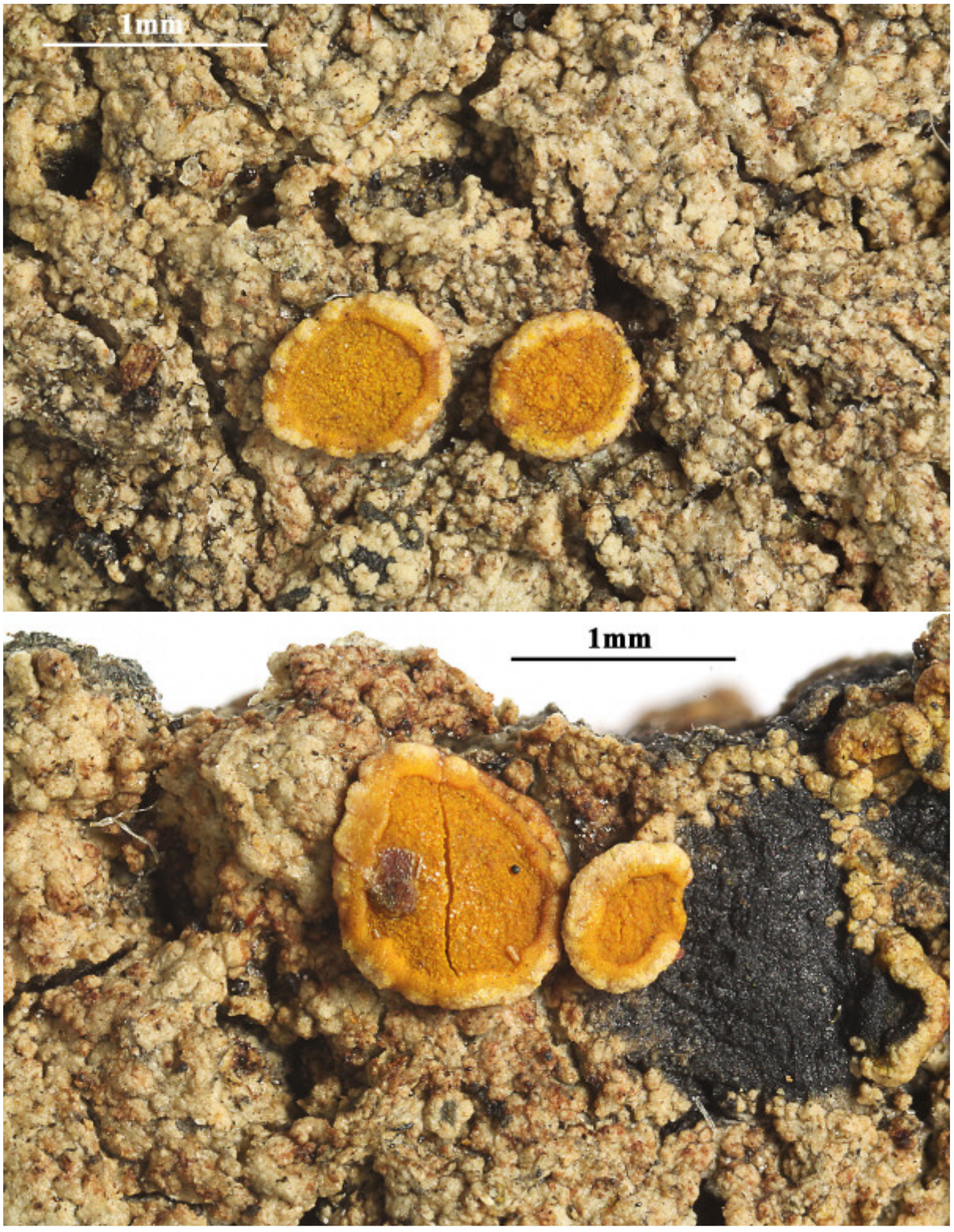
Caloplaca erythrantha

Caloplaca erythrantha (Tuck.) Zahlbr.

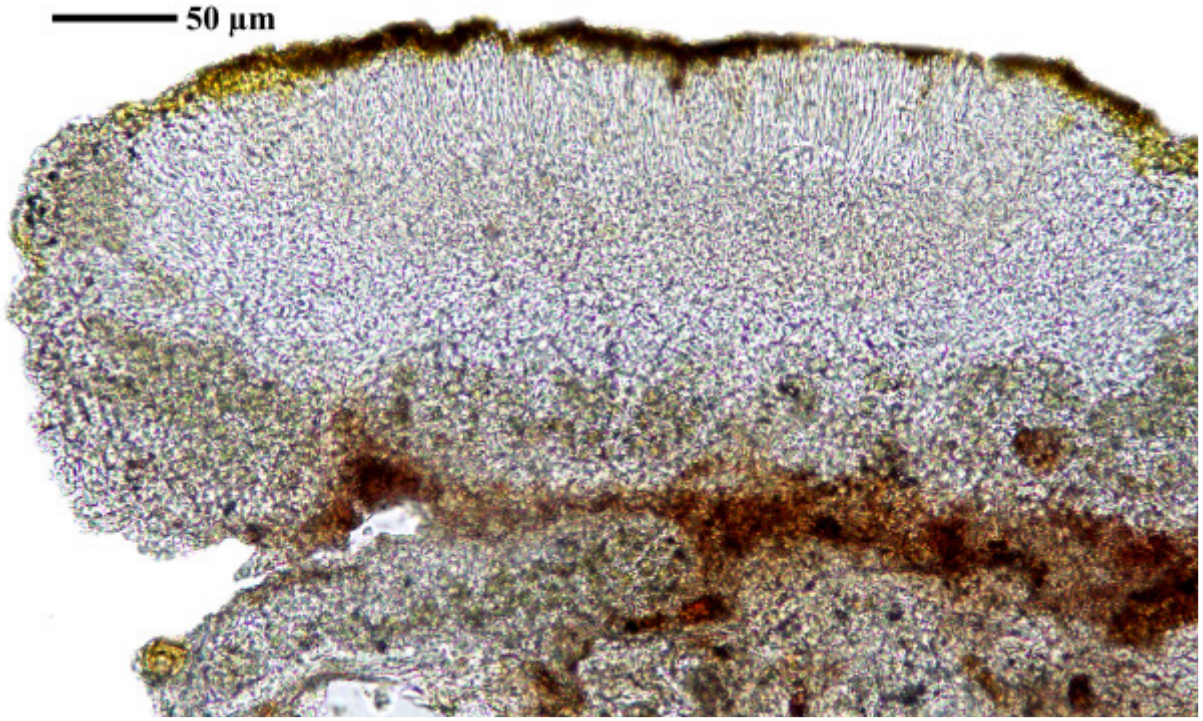
Sample without spores (FS)

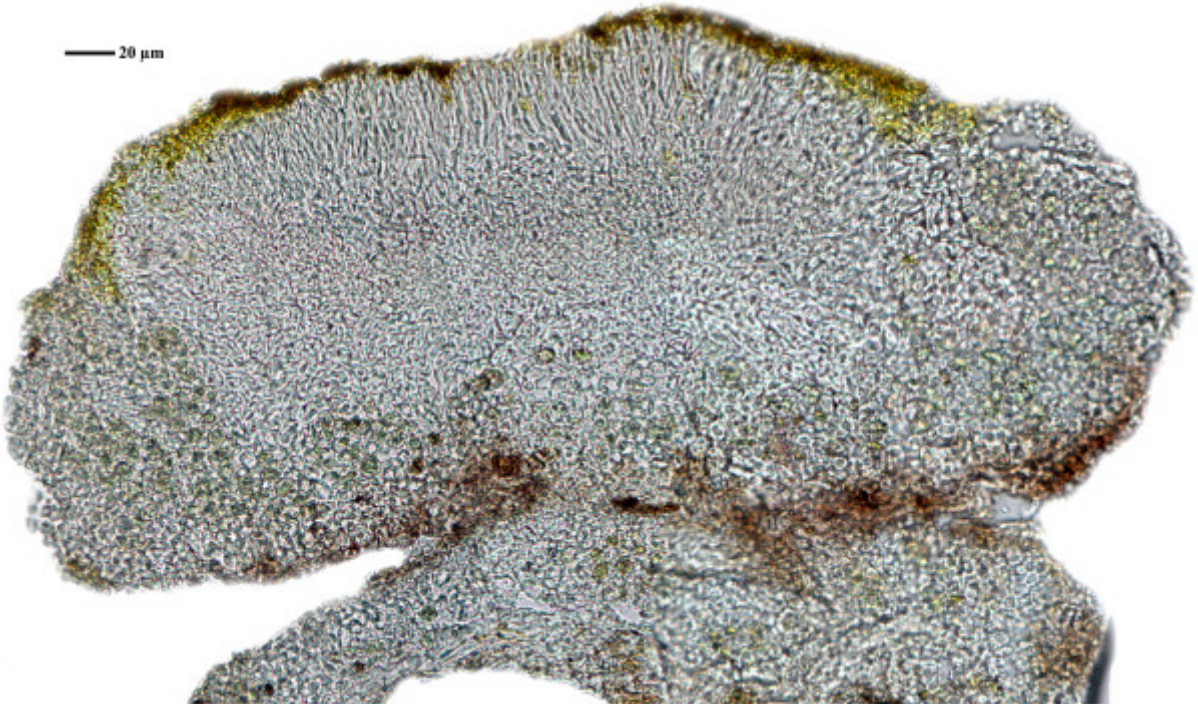
[BR50300358950555], Brasil, Edo. São Paulo, between Mogi das Cruzes and Bertioga, Serra do Garrãozinho, S of Manuel Ferreira along road SP-39, c. 15 m tall forest in valley, 850 m. Leg. H. Sipman (12726), 30. June 1979, det. H. Sipman, rev. Hafellner, 1981.



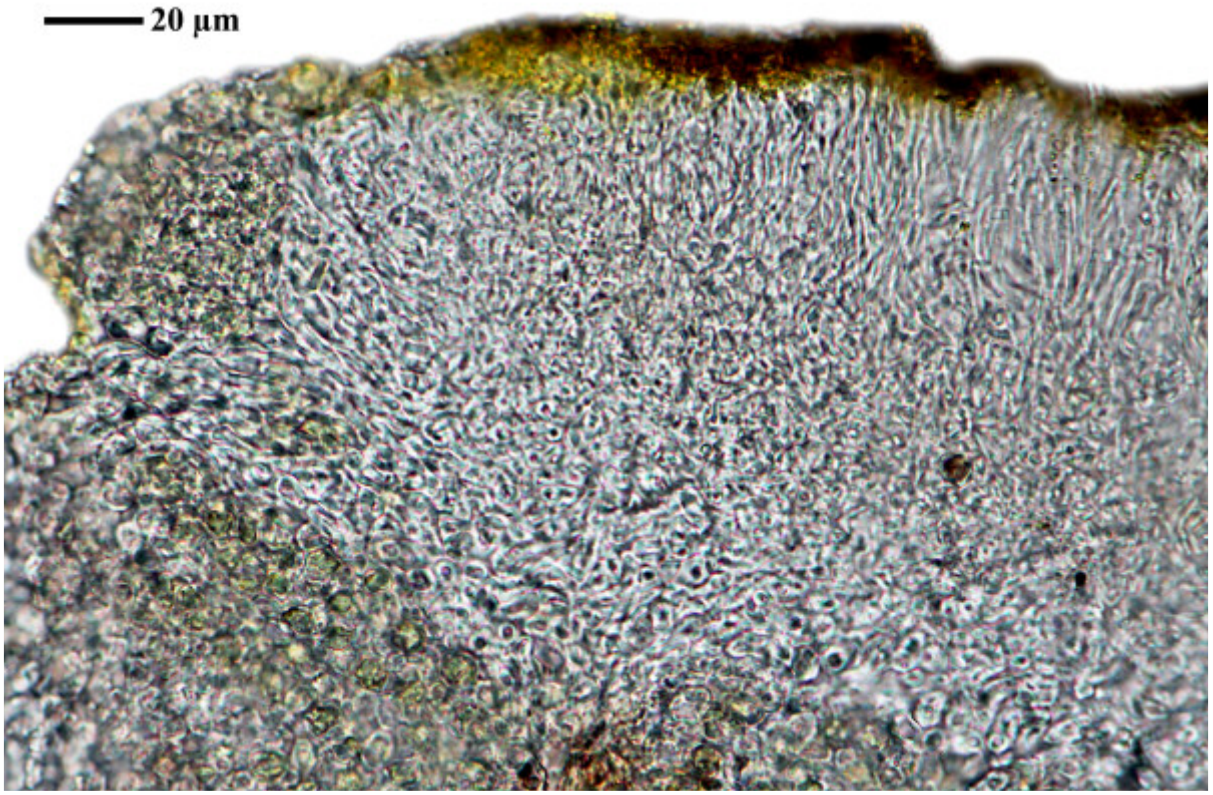


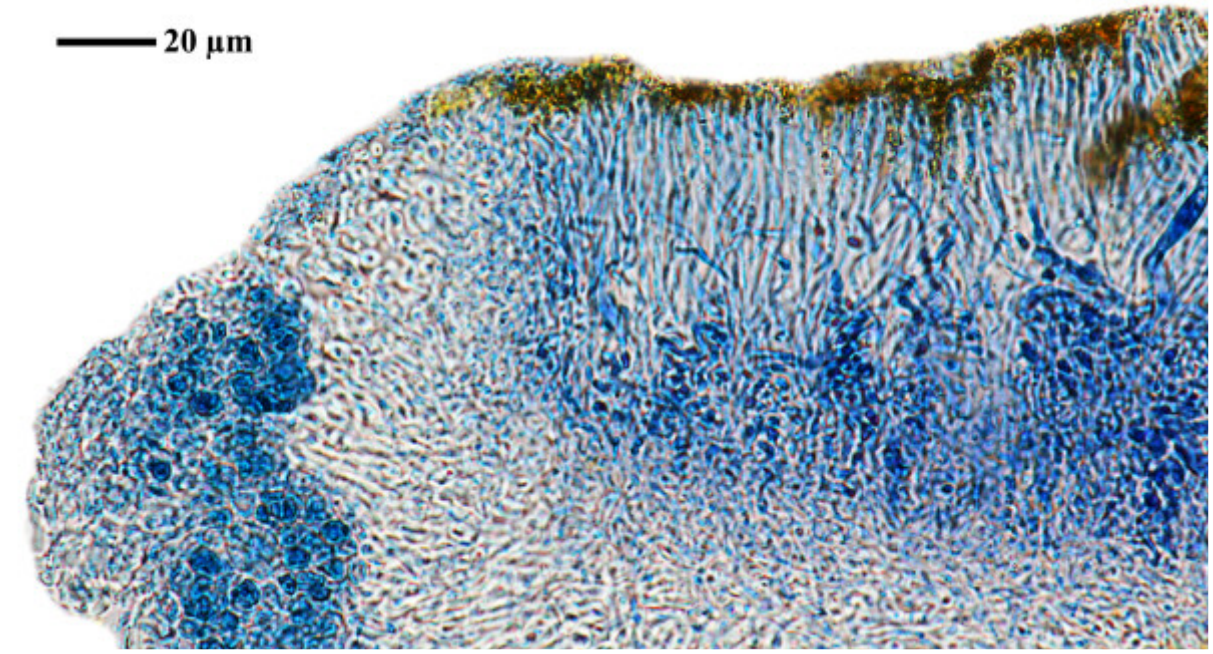
Caloplaca erythrantha



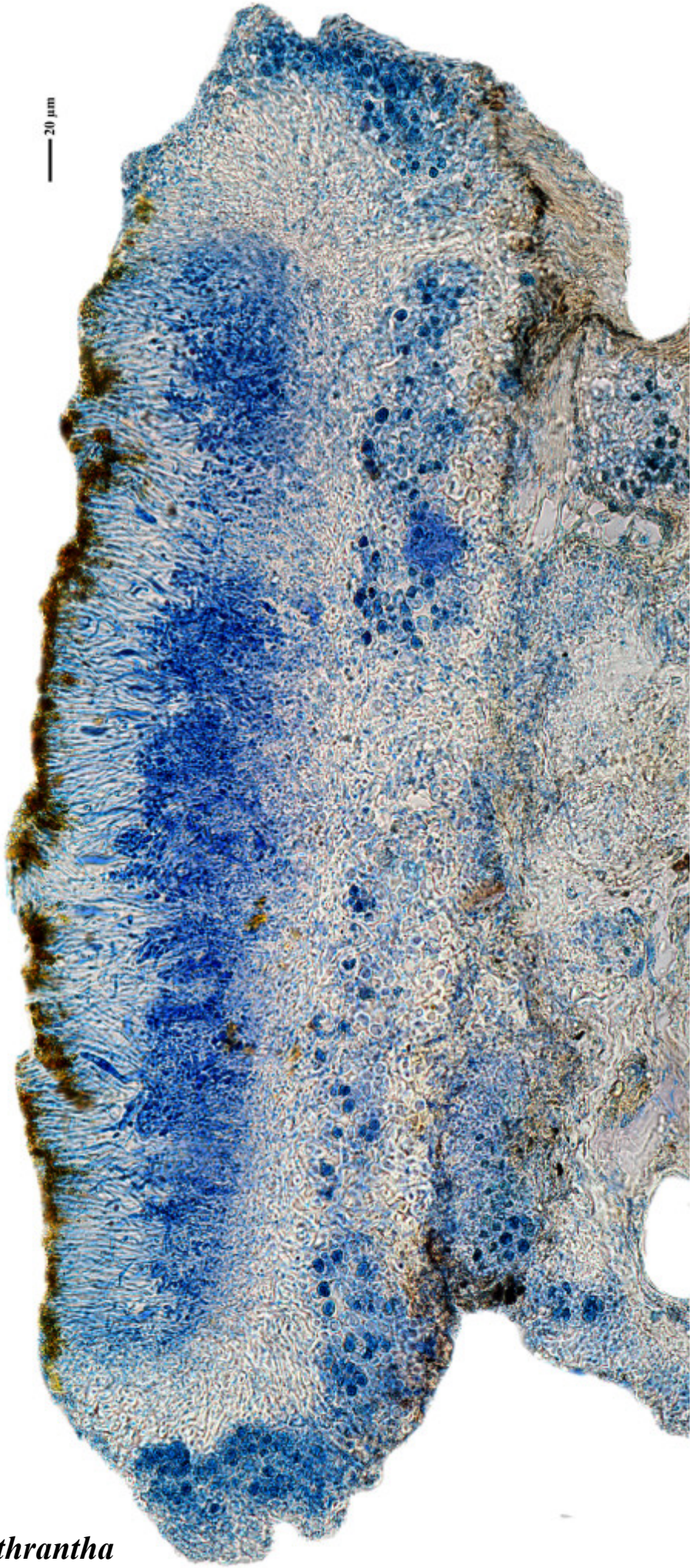


Caloplaca erythrantha





Caloplaca erythrantha



Caloplaca erythrantha

Caloplaca erythrocarpa (Pers.) Zwackh
[= *Rufoplaca arenaria* (Pers.) Arup, Søchting & Frödén, Nordic Jl Bot. 31(1): 74 (2013)]

On non-calcareous rocks.

[5364], Spanien, Kanarische Inseln, Gran Canaria, Nordhänge am Stausee Embalse del Mulato; lückige Gebüschvegetation mit offenerdigen Stellen und vereinzelten *Pinus canariensis* Gruppen; 27°54.905' N, 15°41.596' W, Höhe 760 m. Leg. F. Schumm & U. Schwarz 31.12.1998, det. A. Aptroot 2016.





Caloplaca erythrocarpa

Caloplaca erythrocarpa (Pers.) Zwackh

On rocks.

[5383], Spanien, Kanarische Inseln, Gran Canaria, Nordhänge am Stausee Embalse del Mulato; lückige Gebüschvegetation mit offenerdigen Stellen und vereinzelten Pinus-canariensis-Gruppen; 27°54.905’ N, 15°41.596’ W, Höhe 760 m. F. Schumm & U. Schwarz 31.12.1998, det. A. Aptroot 2016.





Caloplaca erythrocarpa

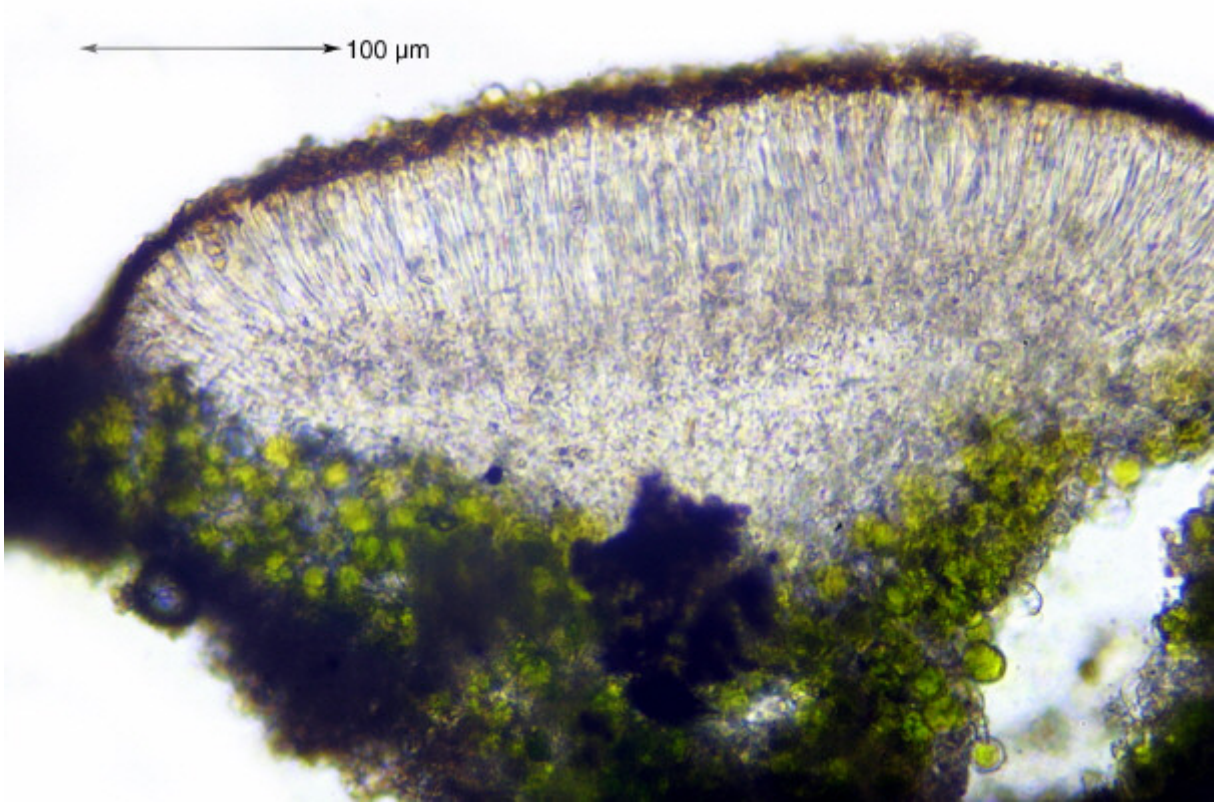
Caloplaca erythrocarpa (Pers.) Zwackh

Thallus weißlich, dick, am Rand undeutlich effiguriert bis gelappt, bis 3 cm. Isidien fehlen. Sorale fehlen. Apothecien bis 0,5 mm, gedrängt stehend, tiefrot, mit Eigen- und Lagerrand; Epithecium K+ rot. Sporen polar-2-zellig, (11)16-18 x 4-7 µm. Chemie: Th. K-, C-, P-; Epithecium K+ rot. Saxicol, auf Kalk, Terrassenmauern.

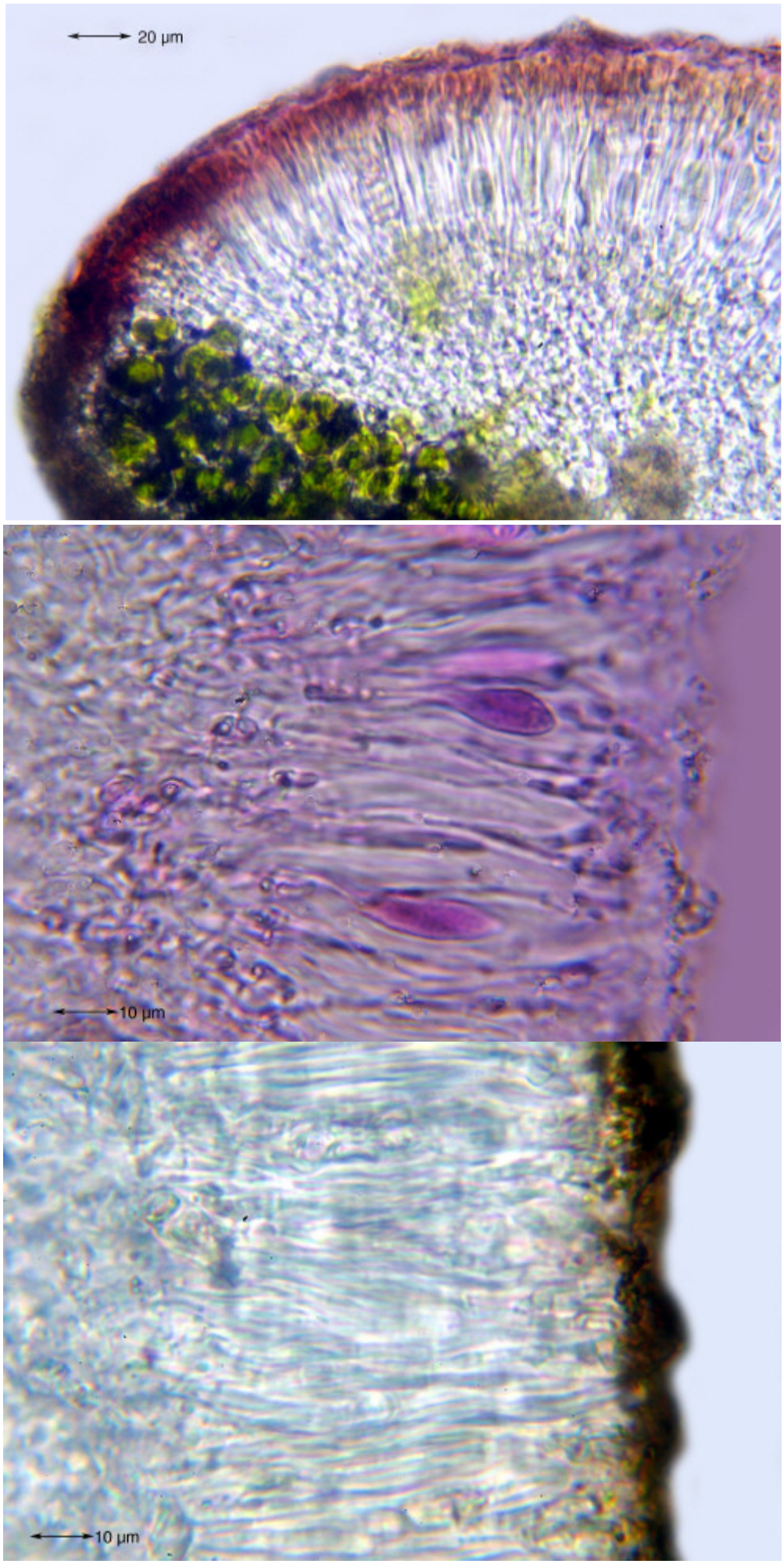
[12291], Griechenland, N-Samos, bei Manolates südlich von Agios Konstandinos, 37°47.185'N, 26°49.533'E, 341 m; halbschattige bis besonnte Terrassenmauern. Leg Schumm 02.05.2006, det. Schumm 2006.







Caloplaca erythrocarpa



Caloplaca erythrocarpa

Caloplaca erythrocarpa (Pers.) Zwackh

Thallus weißlich, dick, am Rand undeutlich effiguriert bis gelappt, bis 3 cm. **Isidien** fehlen. **Sorale** fehlen. **Apothecien** bis 0,5 mm, gedrängt stehend, tiefrot, mit Eigen- und Lagerrand; Epithecium K+ rot. **Sporen** polar-2-zellig, (11)16-18 x 4-7 µm. **Chemie**: Th. K-, C-, P-; Epithecium K+ rot. Saxicol, auf Kalk, Terrassenmauern.

[12291], Griechenland, N-Samos, bei Manolates südlich von Agios Konstandinos, 37°47.185' N, 26°49.533' E, 341 m, halbschattige bis besonnte Terrassenmauern. Leg Schumm 02.05.2006, det. Schumm 2006.

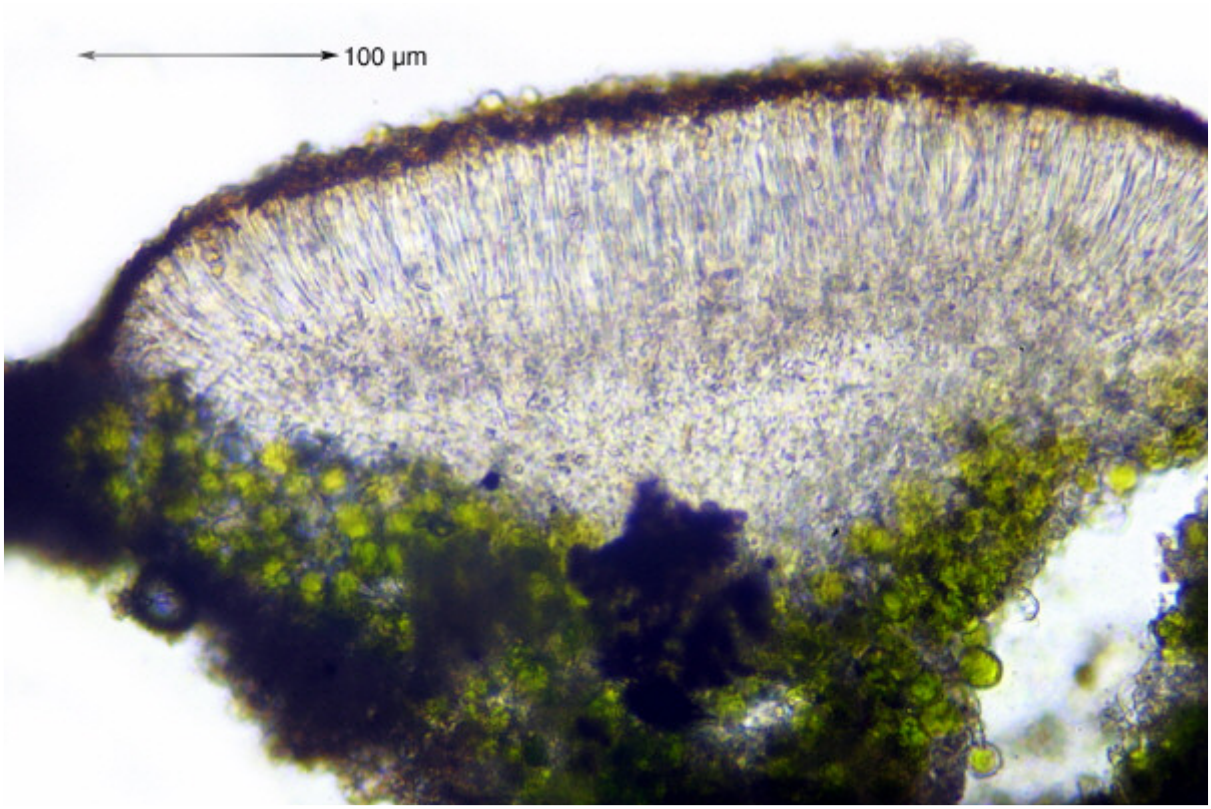




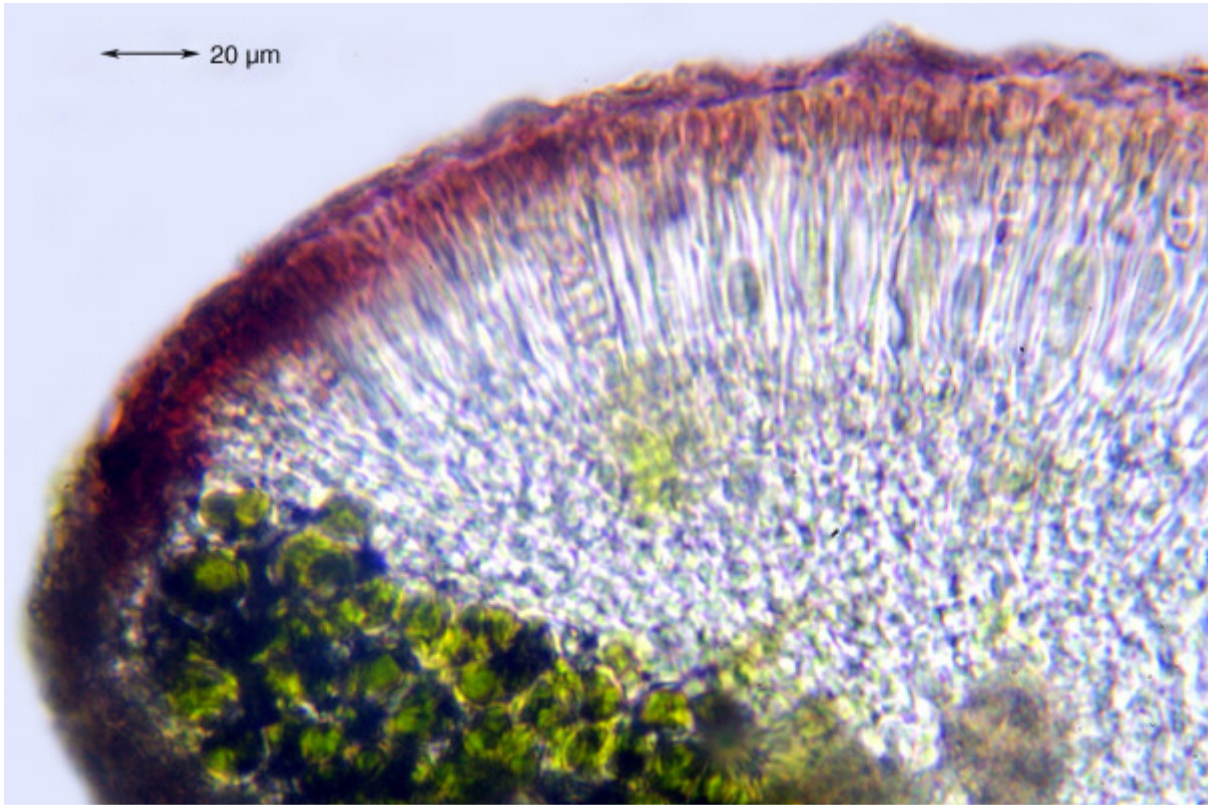


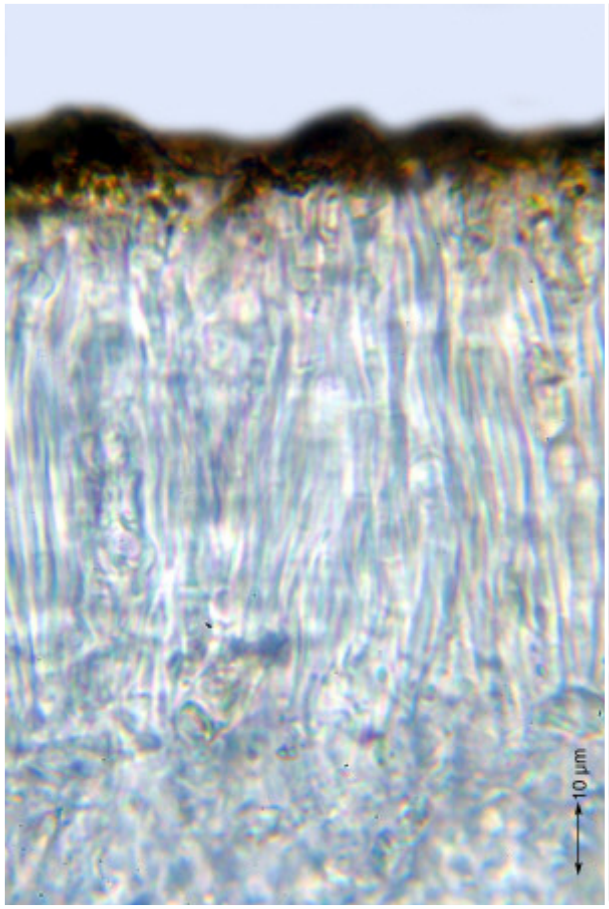
Caloplaca erythrocarpa

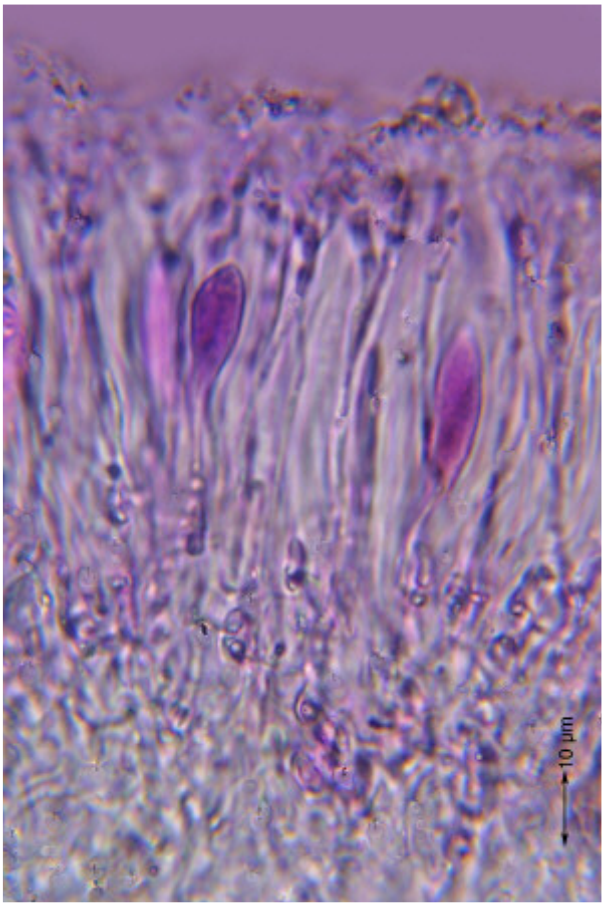




Caloplaca erythrocarpa







Caloplaca erythrocarpa

Caloplaca erythrocarpa (Pers.) Zwackh

On non-calcareous rocks.

[12459], Griechenland, W-Samos, an der Straße südlich von Kastania, N-exponierte schattige Blockhalde, Glimmerschiefer, 37°44.519' N, 26°41.761' E, 340 m. Leg. F. Schumm, 08.05.2006, det. A. Aptroot 2016.





Caloplaca erythrocarpa

Caloplaca erythrocarpa (Pers.) Zwackh
[= *Rufoplaca arenaria* (Pers.) Arup, Søchting & Frödén, Nordic Jl Bot. 31(1): 74 (2013)]

On calcareous rocks.

[13404], 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.







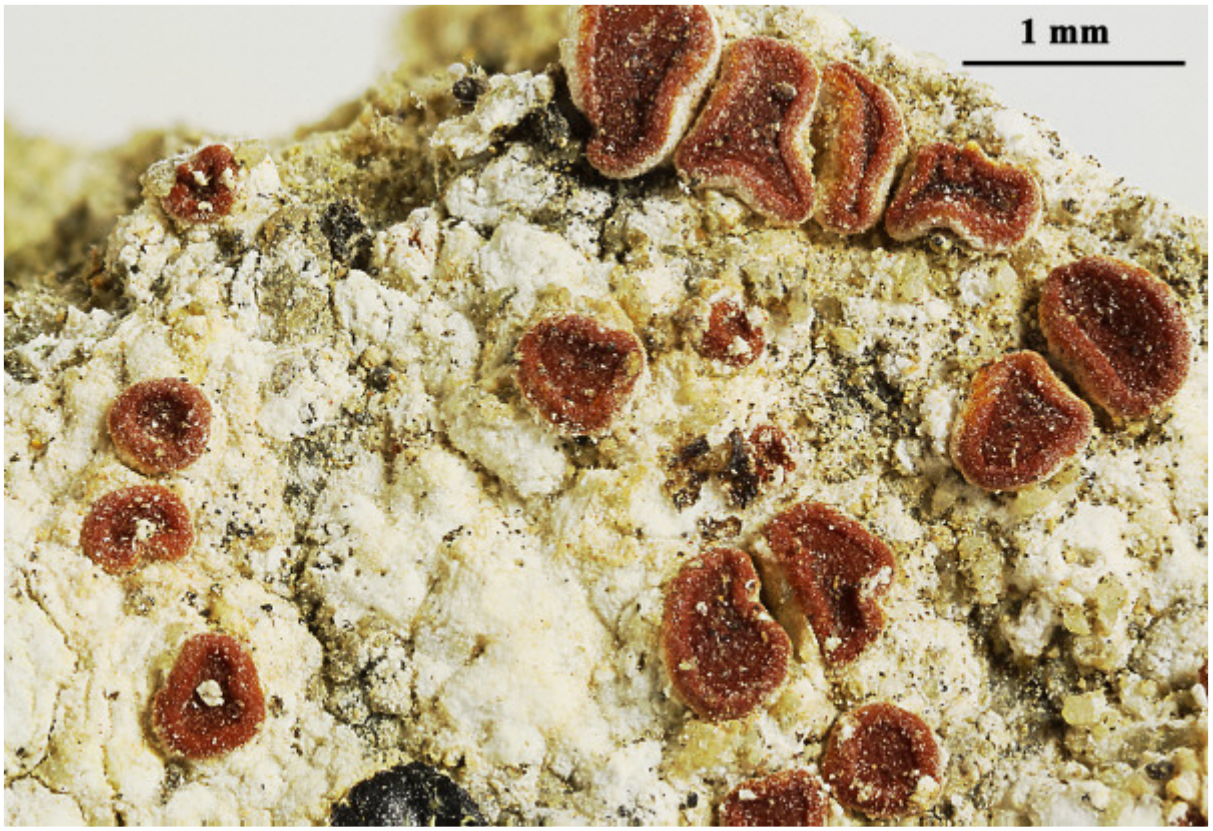
Caloplaca erythrocarpa

Caloplaca erythrocarpa (Pers.) Zwackh

On rocks.

[13432], Griechenland, S-Kreta, nordwestlich von Timbaki, 1 km vor Vathiako, schattige N-exponierte Felswand, 35°08.695' N, 24°44.332' E, 330 m. Leg. F. Schumm & R. Düll, 17.10.2007, det. A. Aptroot 2016.







Caloplaca erythrocarpa

Caloplaca erythrocarpa (Pers.) Zwackh

On calcareous rocks.

[13572], Griechenland, S-Kreta, Asteroussia Berge, Blockhalde nordöstlich von Ethia in Richtung Keraies, 34°59.526' N, 25°12.693' E, 830 m. Leg. F. Schumm & R. Düll, 25.10.2007, det. A. Aptroot 2016.





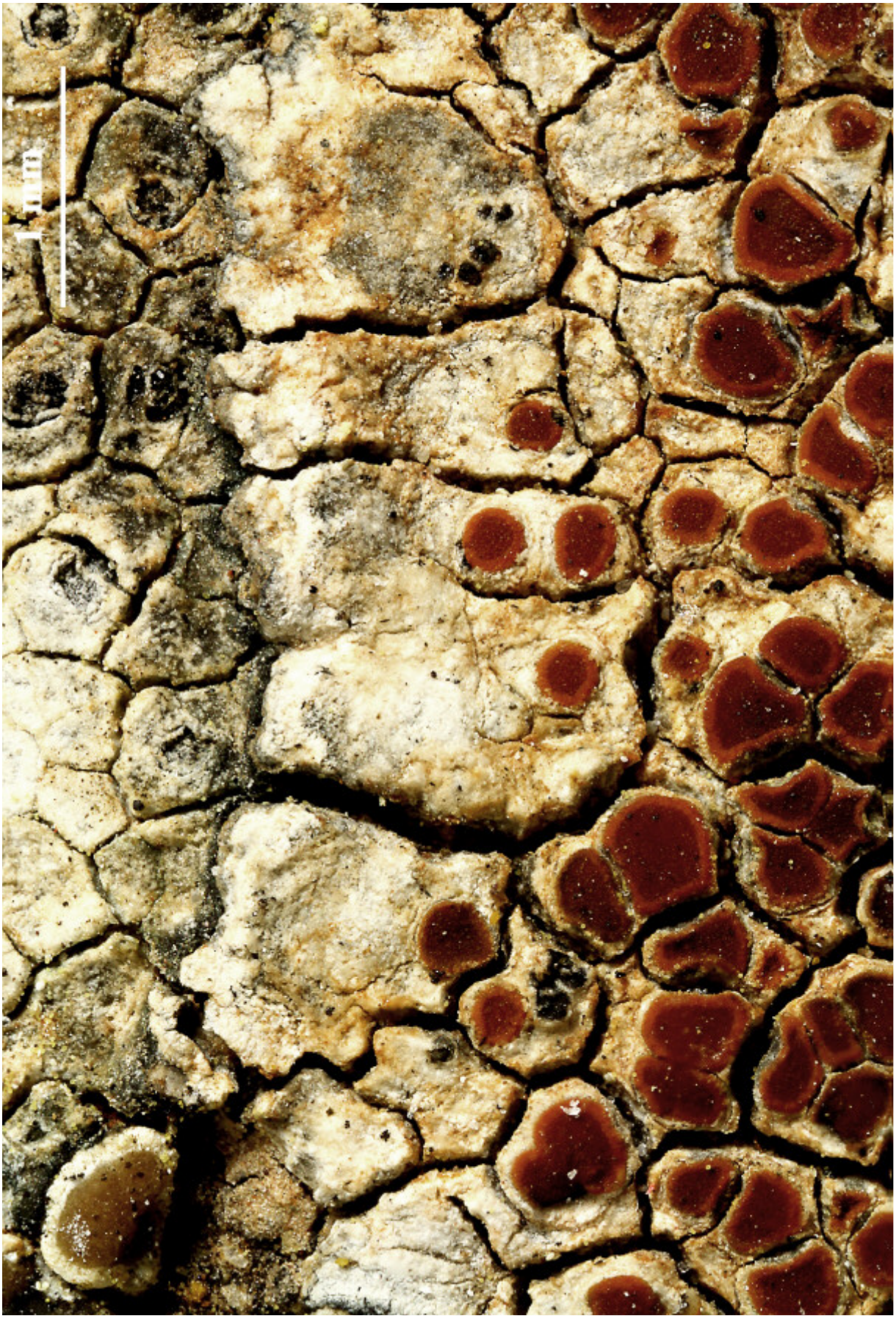
Caloplaca erythrocarpa

Caloplaca erythrocarpa (Pers.) Zwackh

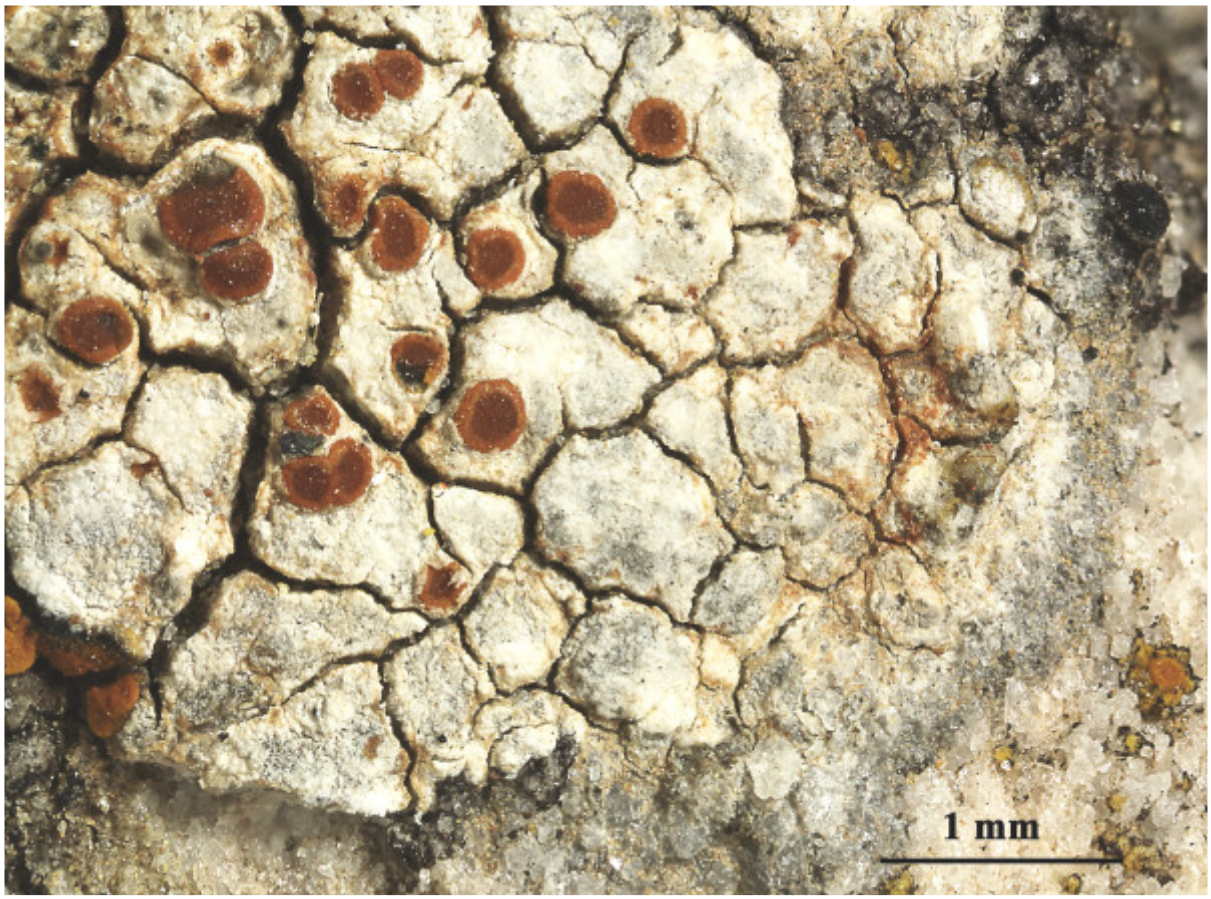
On rocks.

[13857],Griechenland, N-Samos, zwischen Kambos und Vourliotes, sonnige Ölbaumplantagen, 37°47.928' N, 26°50.967' E, 100 m. Leg. F. Schumm, 13.05.2008, det. A. Aptroot 2016.





Caloplaca erythrocarpa





Caloplaca erythrocarpa

Caloplaca erythrocarpa (Pers.) Zwackh

On non calcareous rocks.

[13939], 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. A. Aptroot 2016.





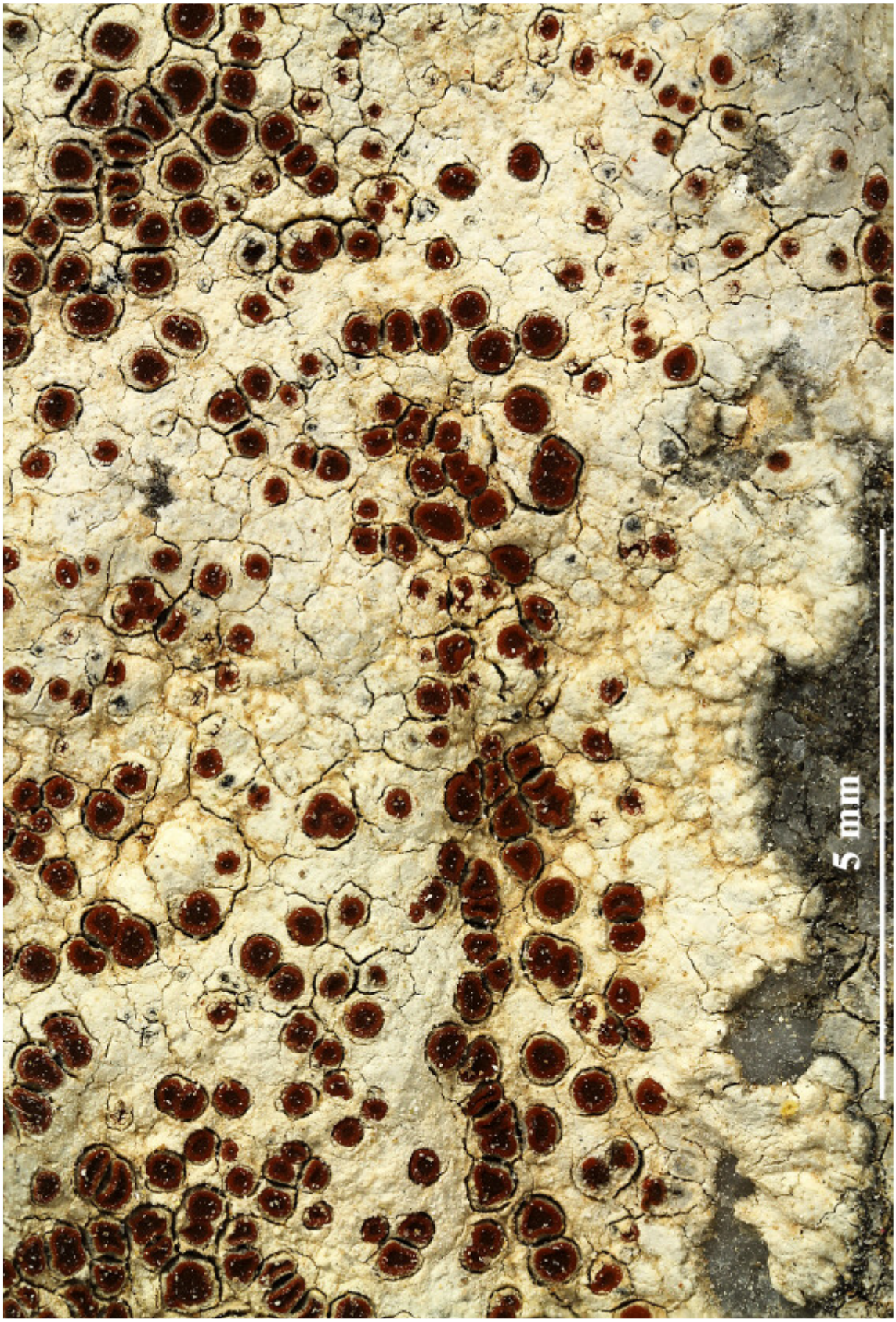


Caloplaca erythrocarpa

Caloplaca erythrocarpa (Pers.) Zwackh

On rocks.

[13961], 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. A. Aptroot 2016.





Caloplaca erythrocarpa

Caloplaca erythrocarpa (Pers.) Zwackh

On rocks.

[14860], Zypern, zwischen Moniatis und Trimiklini, 34°51.639' N, 32°54.764' E, 580 m. Leg. F. Schumm & J.-P. Frahm, 21.02.2009, det. A. Aptroot 2016.









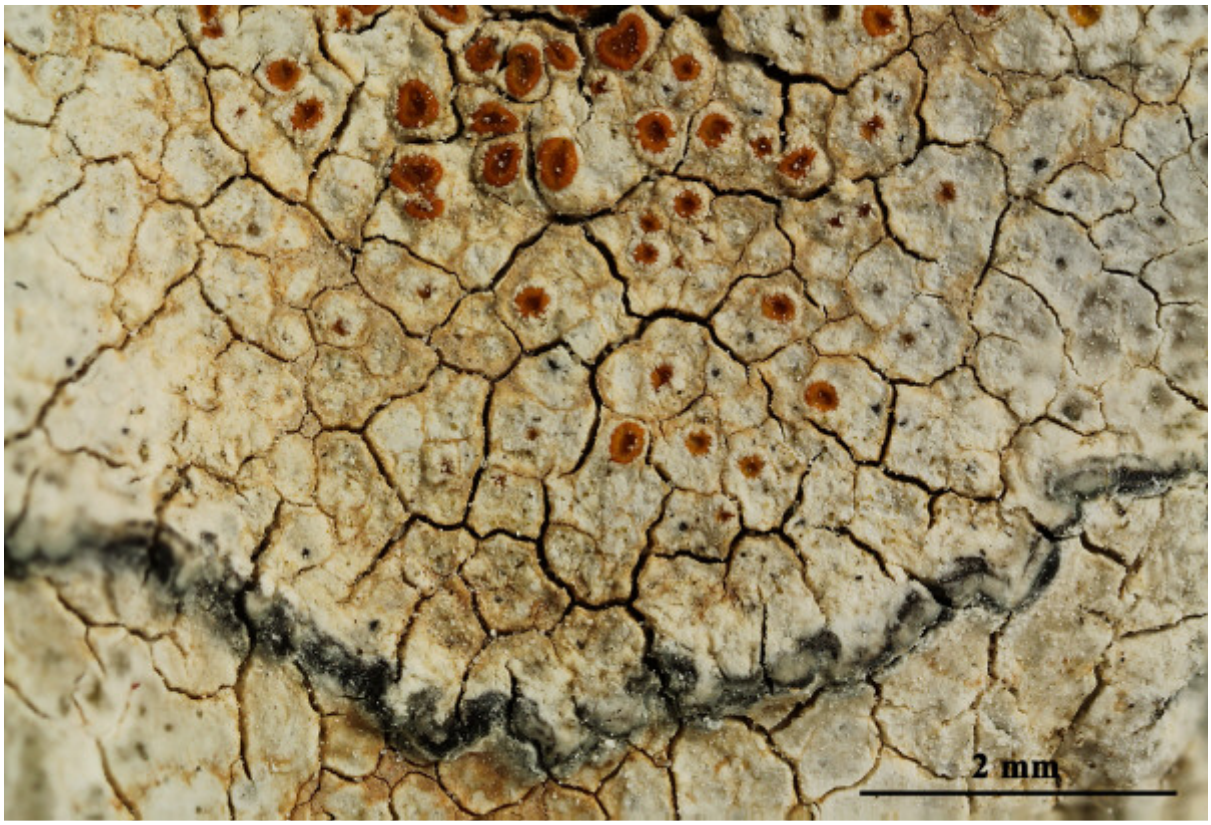
Caloplaca erythrocarpa

Caloplaca erythrocarpa (Pers.) Zwackh

On rocks.

[16398], Mallorca (Nord): Alaro, Weg zum Castillo Alaró; 39,72940° N, 2,78692° E, 525 m. Leg. F. Schumm, J.-P. Frahm & M. Lüth, 13.03.2010, det.A. Aptroot 2016.







Caloplaca erythrocarpa

Caloplaca erythrocarpa (Pers.) Zwackh

On rocks.

[16426], 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.





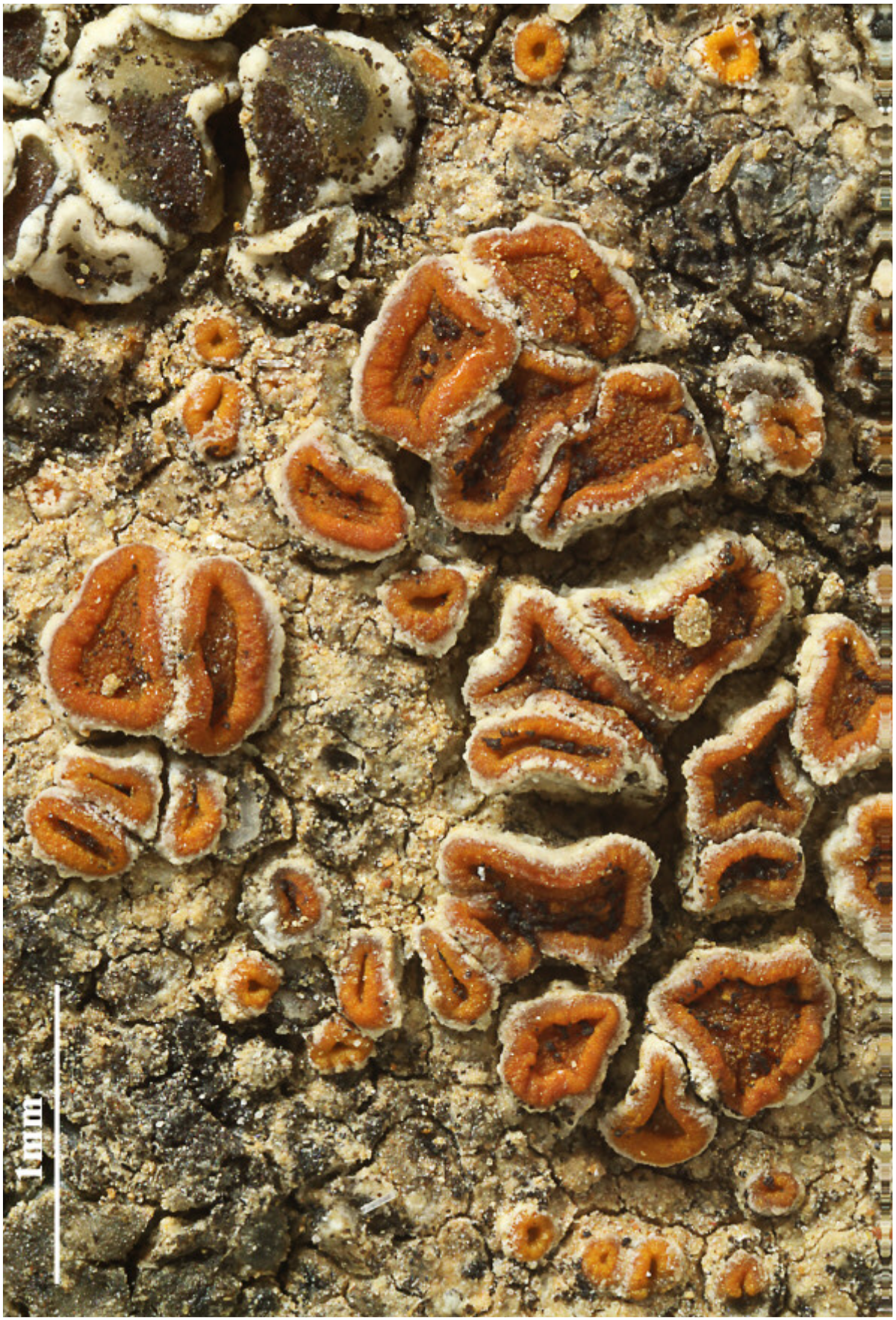
Caloplaca erythrocarpa

Caloplaca erythrocarpa (Pers.) Zwackh

On rocks.

[19547], Zypern, Macheras Monastery; 34.94107° N, 33.18799° E, 874 m. Leg. F. Schumm & J.-P. Frahm, 21.02.2009, det. A. Aptroot 2016.



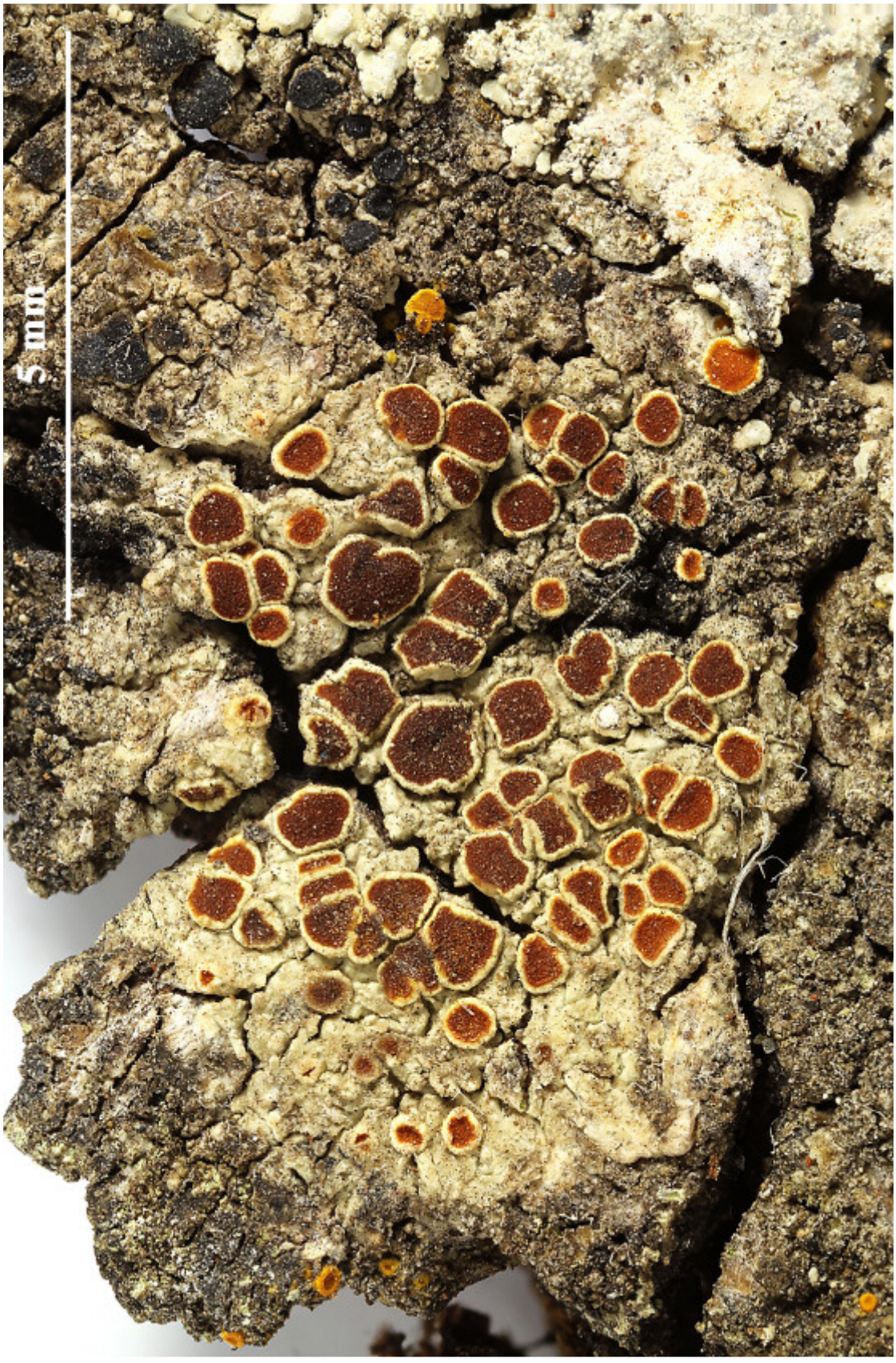


Caloplaca erythrocarpa

Caloplaca erythroleuca (Nyl.) Zahlbr.

Spores hyalin, 8/ascus, trilocular, 16.5-10 x 7.5-10.6 µm (FS)

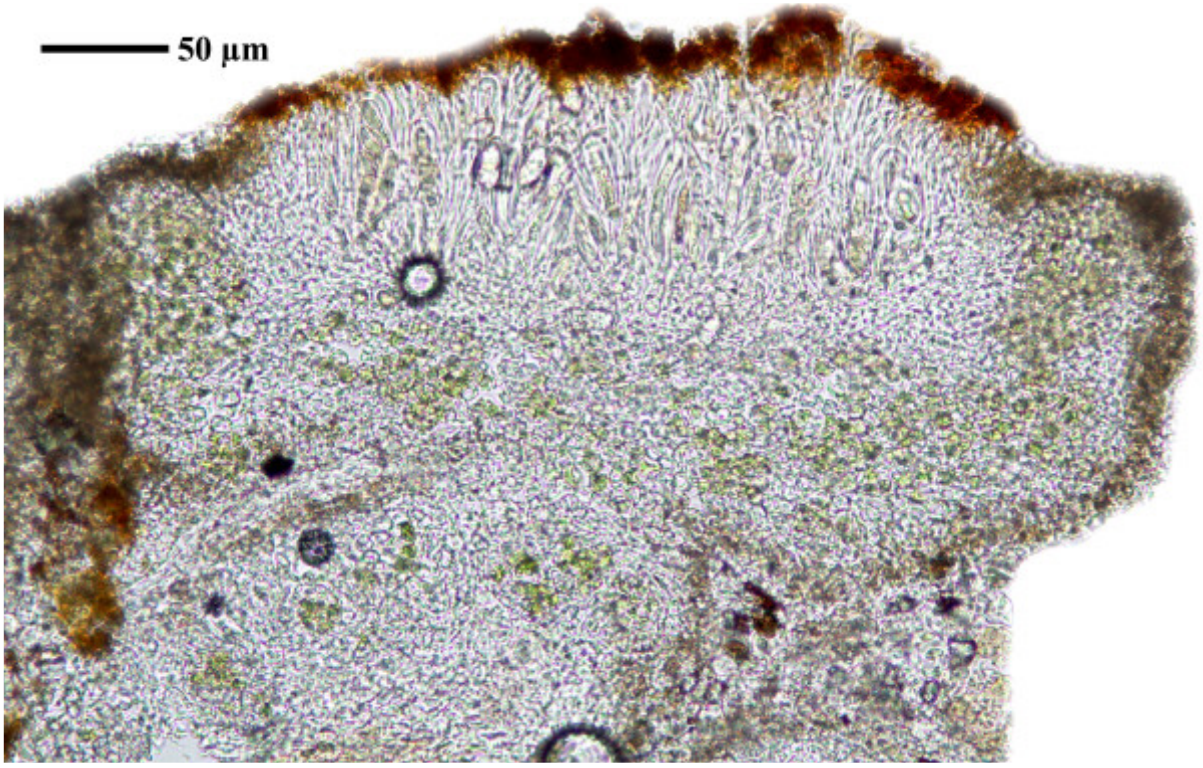
[BR5030035905150], Ecuador, prov. Imbabura, Otavalo, Quichinche Quebrada-veg., on *Mimosa*, 2700 m. Leg A. Aptroot & R. Hensen, 8.07.1982.



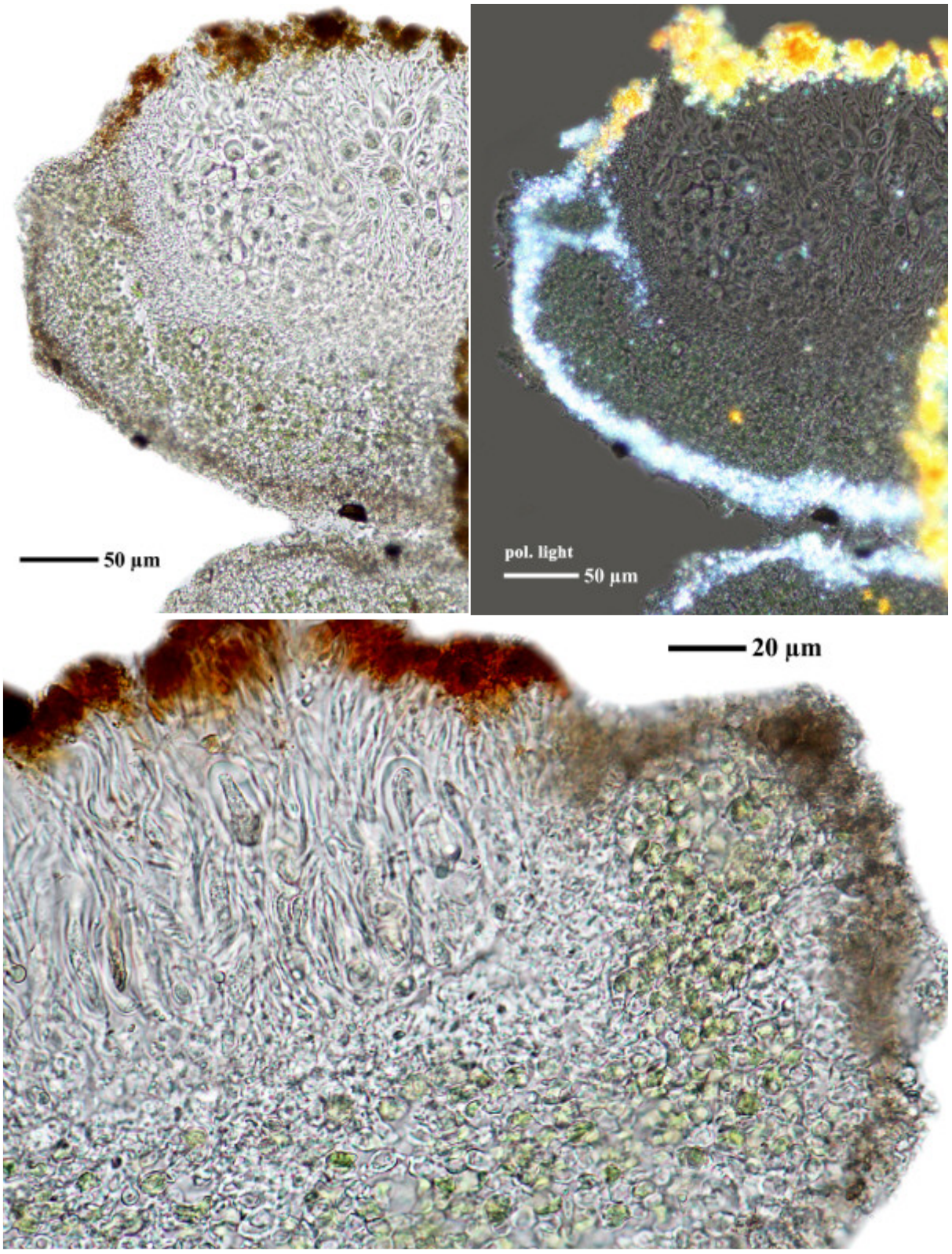


Caloplaca erythroleuca





Caloplaca erythroleuca



Caloplaca erythroleuca





Caloplaca erythroleuca

Caloplaca erythroleuca (Nyl.) Zahlbr.

Epithecium K+ red (magenta). Spores trilocular, 8/ascus, 15-18 x 7-9 µm (AA). Spores trilocular 17-19 x 8.5-9 µm (FS)

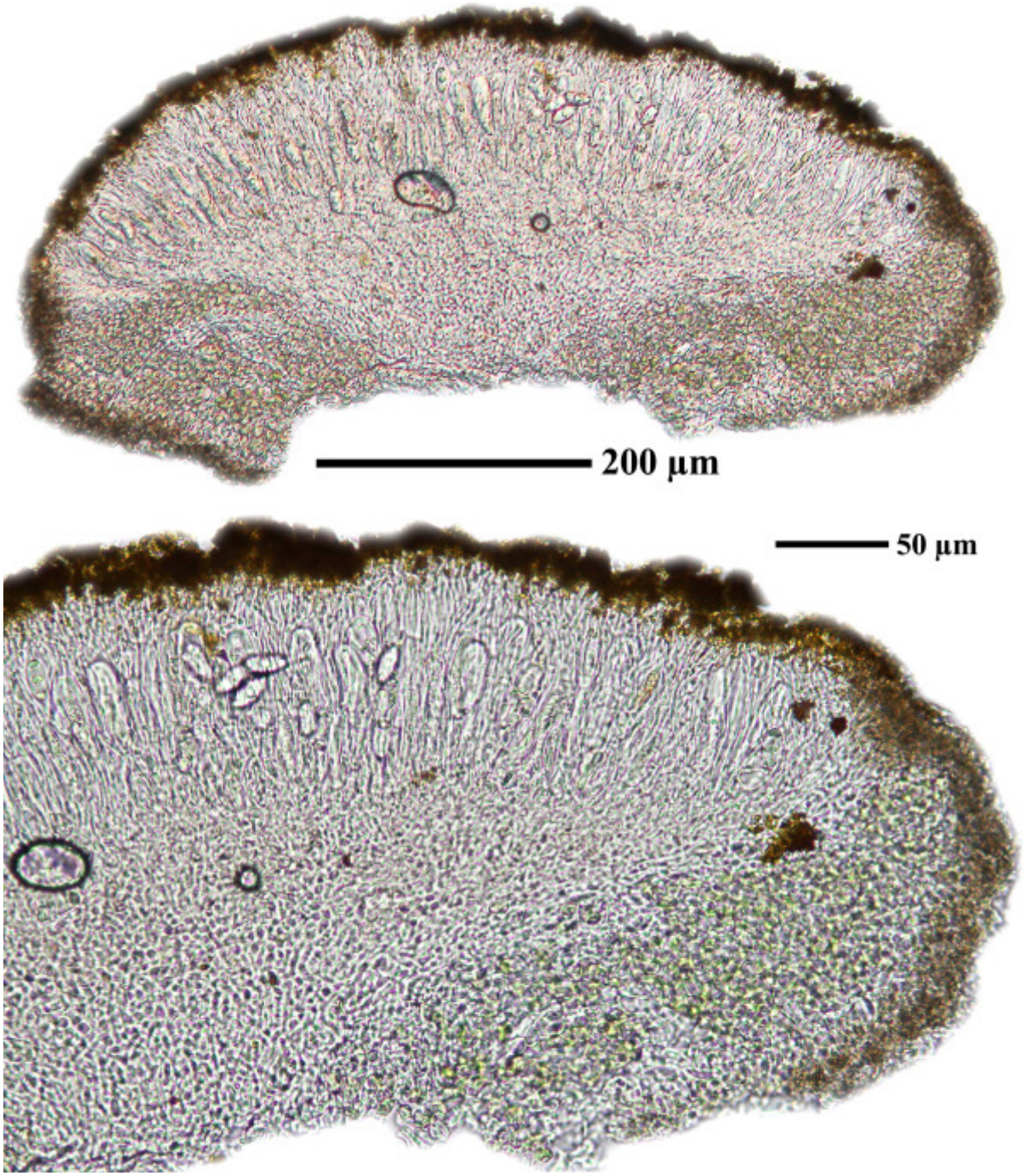
[BR5030035906164], Ecuador, prov. Imbabura, Otavalo, Quichinche Quebrada-veg., on *Mimosa*, 2700 m. Leg A. Aptroot & R. Hensen, 8.07.1982.



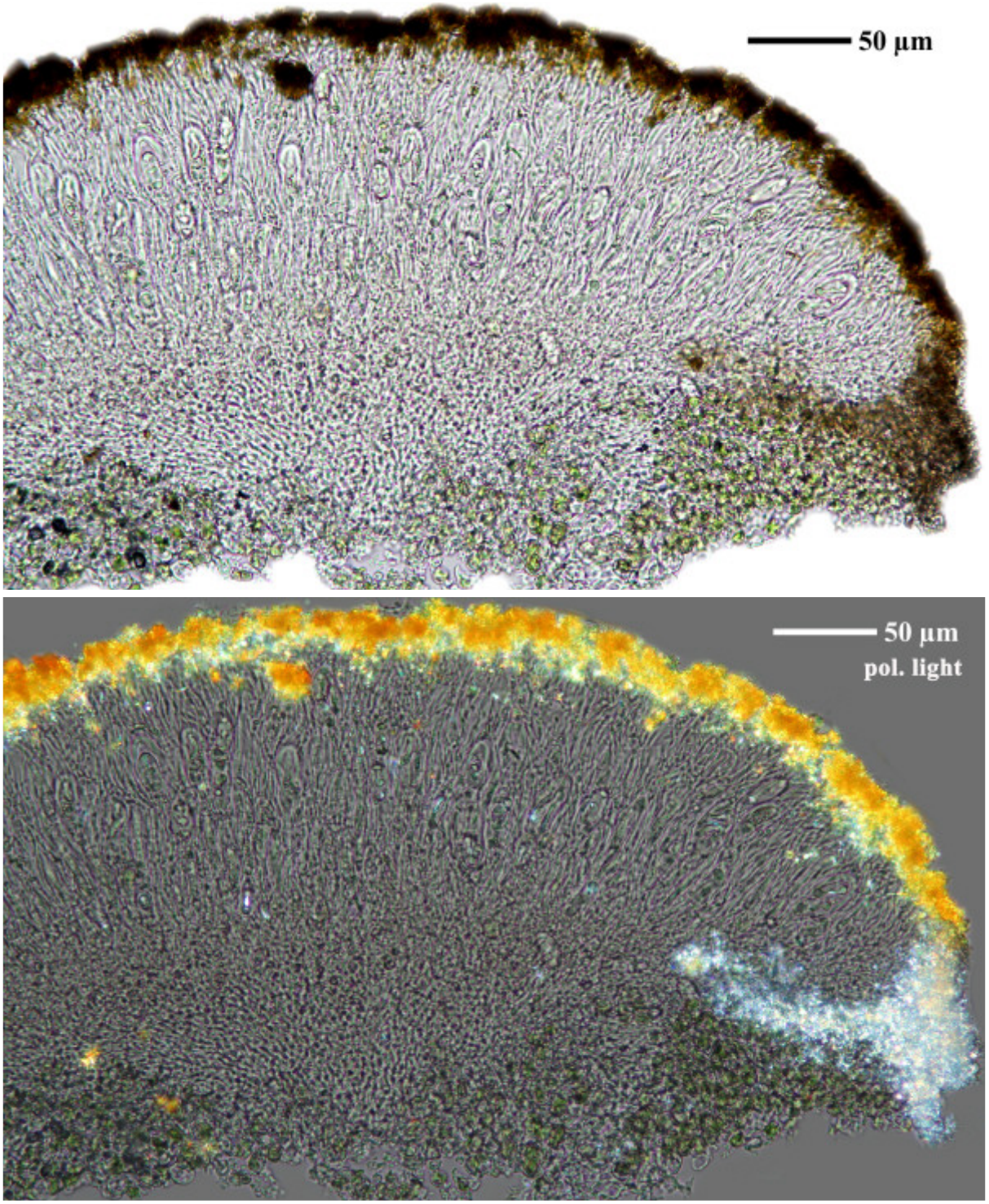




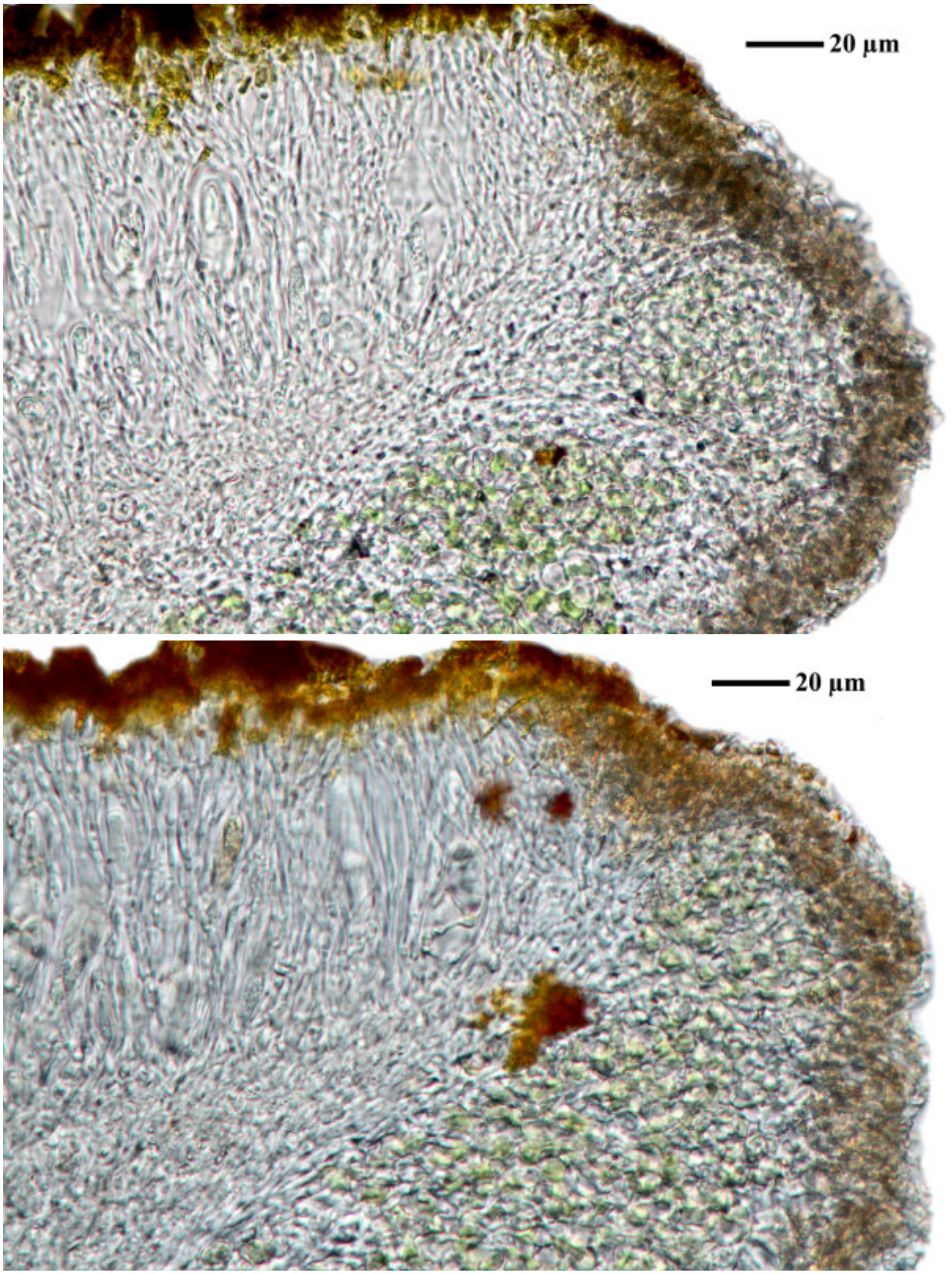
Caloplaca erythroleuca



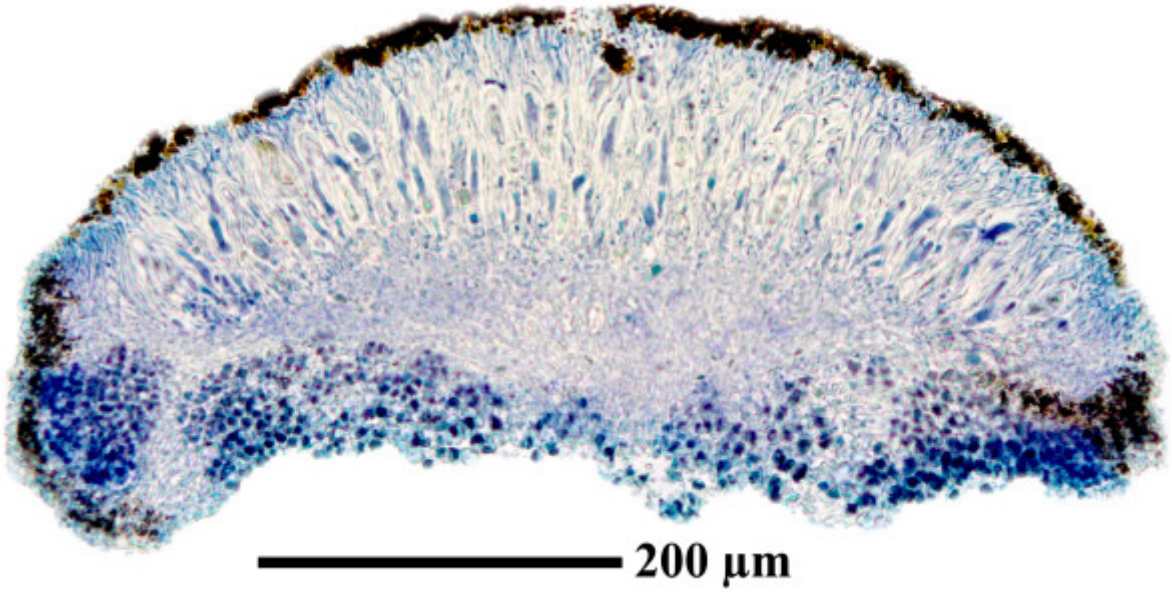
Caloplaca erythroleuca

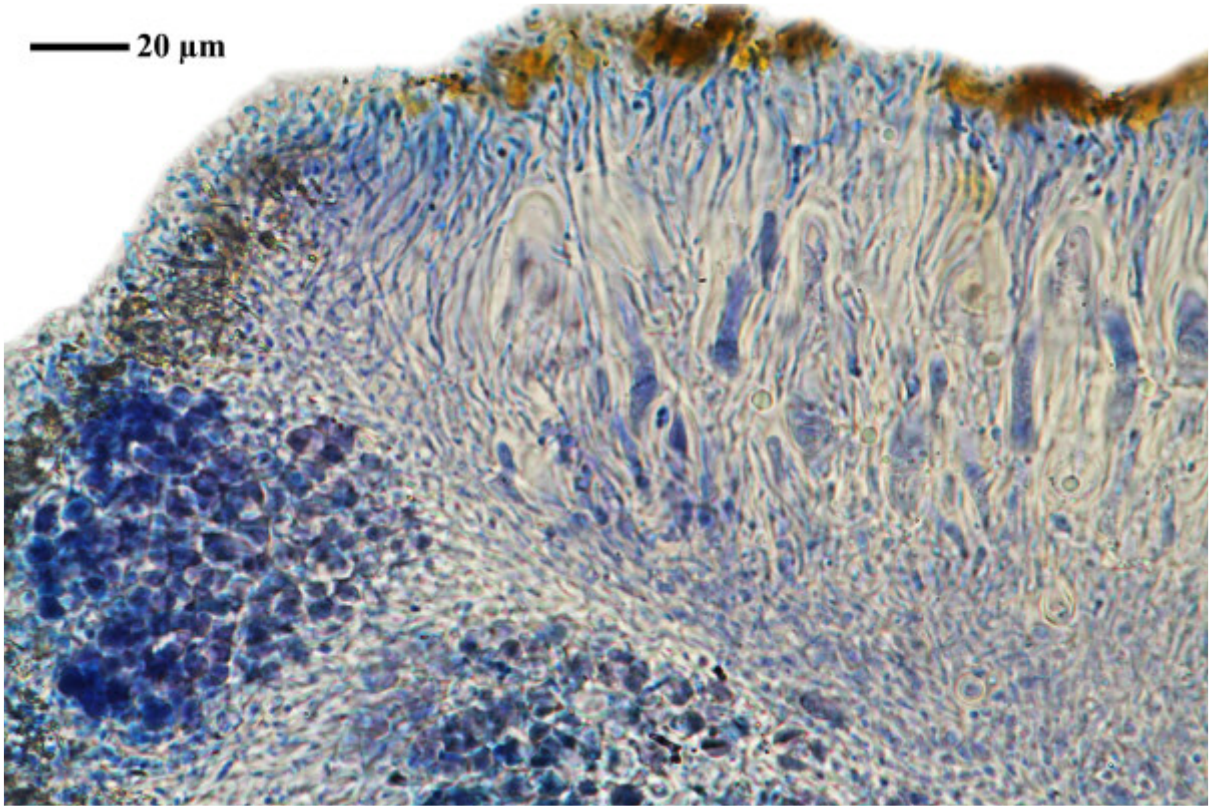


Caloplaca erythroleuca



Caloplaca erythroleuca







Caloplaca erythroleuca

Caloplaca erythrosticta (Taylor) Zahlbr.

Thallus corticolous, yellow-orange, covered with corticate, globular isidia, soralia mostly absent. Apothecia sessile, zeorine, 0.3-0.6(-1.5) mm diam; disc darker orange, margin yellow, partly granular. Hymenium (60-)70-75(-80) µm. Ascosporens long and narrow (11-)13-15(-16) x (5-)6-7(-8) µm, septum (4-)5-6(7) µm.
Lit.: Kärnefelt, I. & Kondratyuk, S.Y. (2004): Contributions to the lichen genus Caloplaca (Teloschistaceae) from Australia. - Bibliotheca Lichenologica 88: 255-265.

[35835], Australia, Western Australia, Dryandra Forest, some km northwest of Narrogin, 300 m, 32°45’ S, 116°56’ E. Leg. K. & A. Kalb, 17.08.1994, det. S. Kondratyuk 2009.



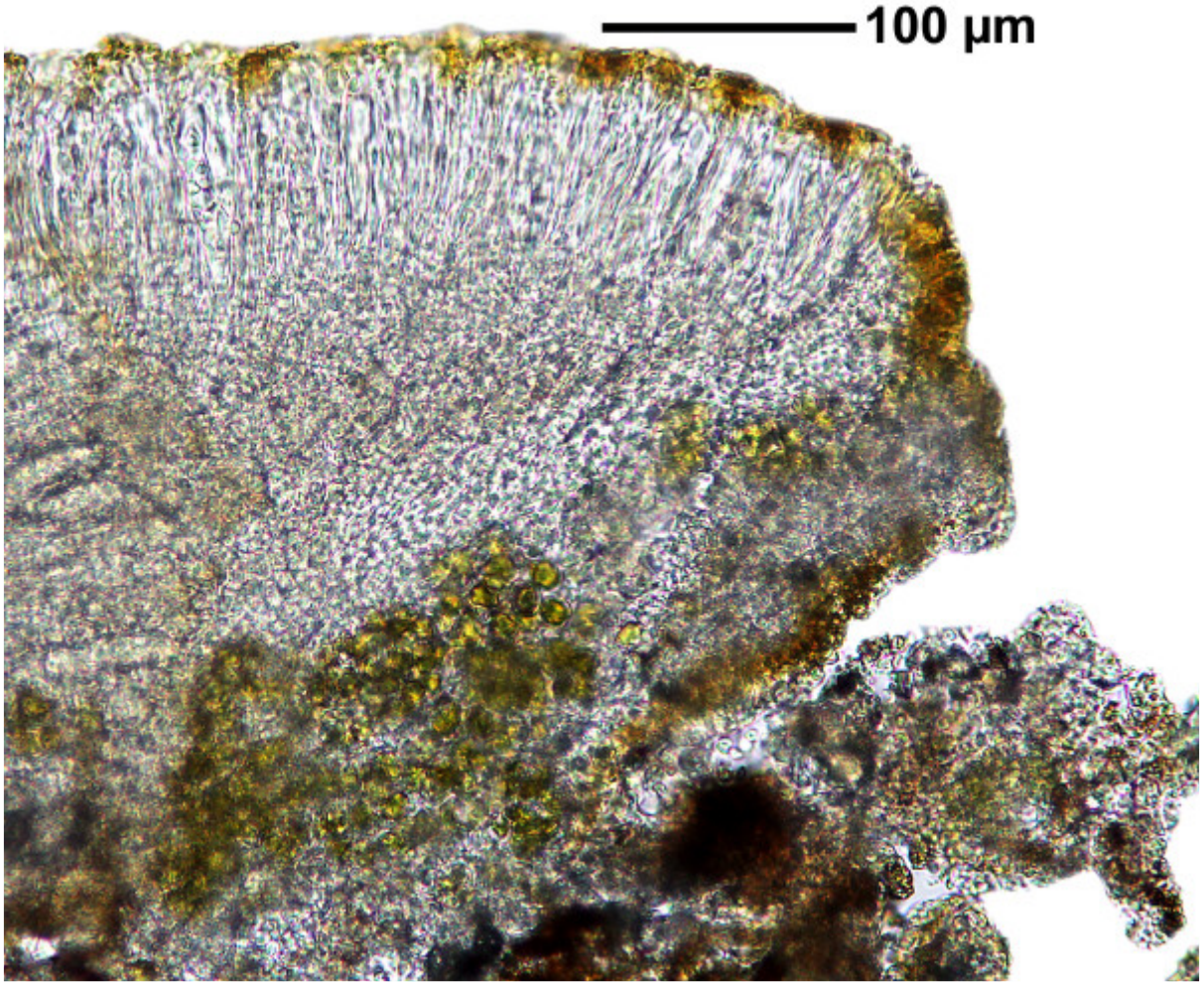




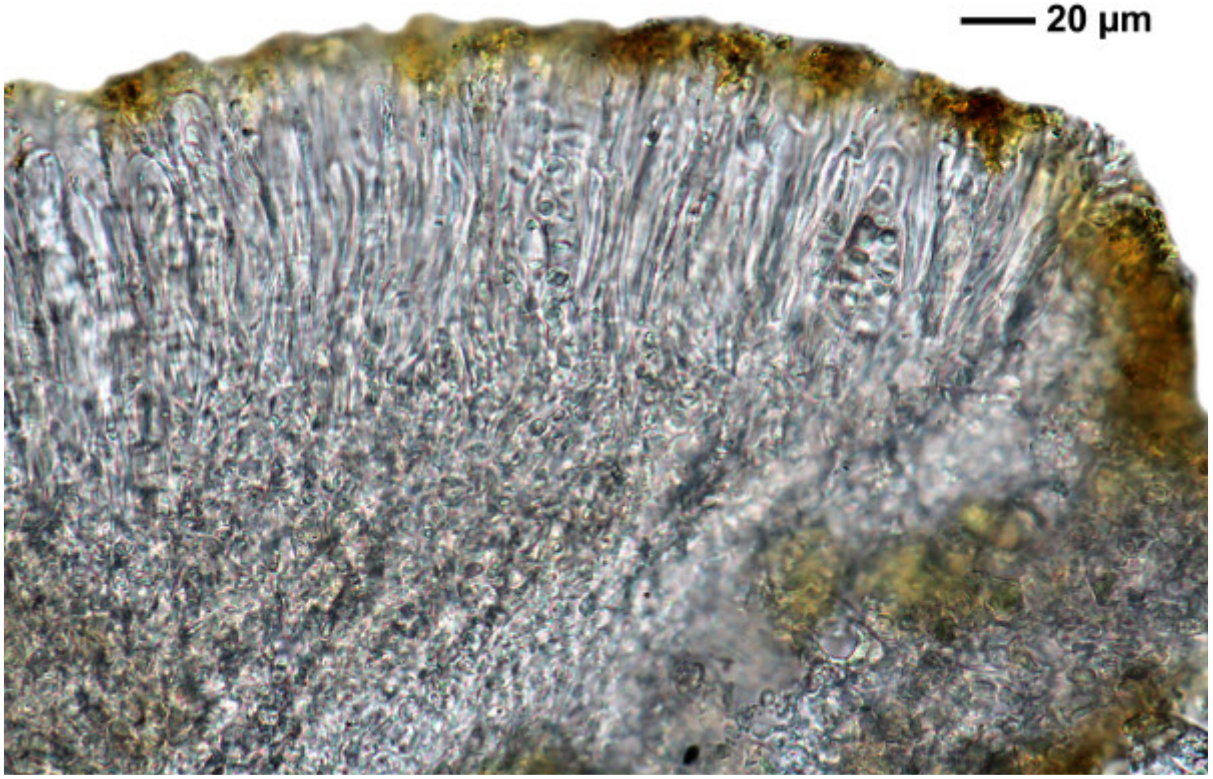


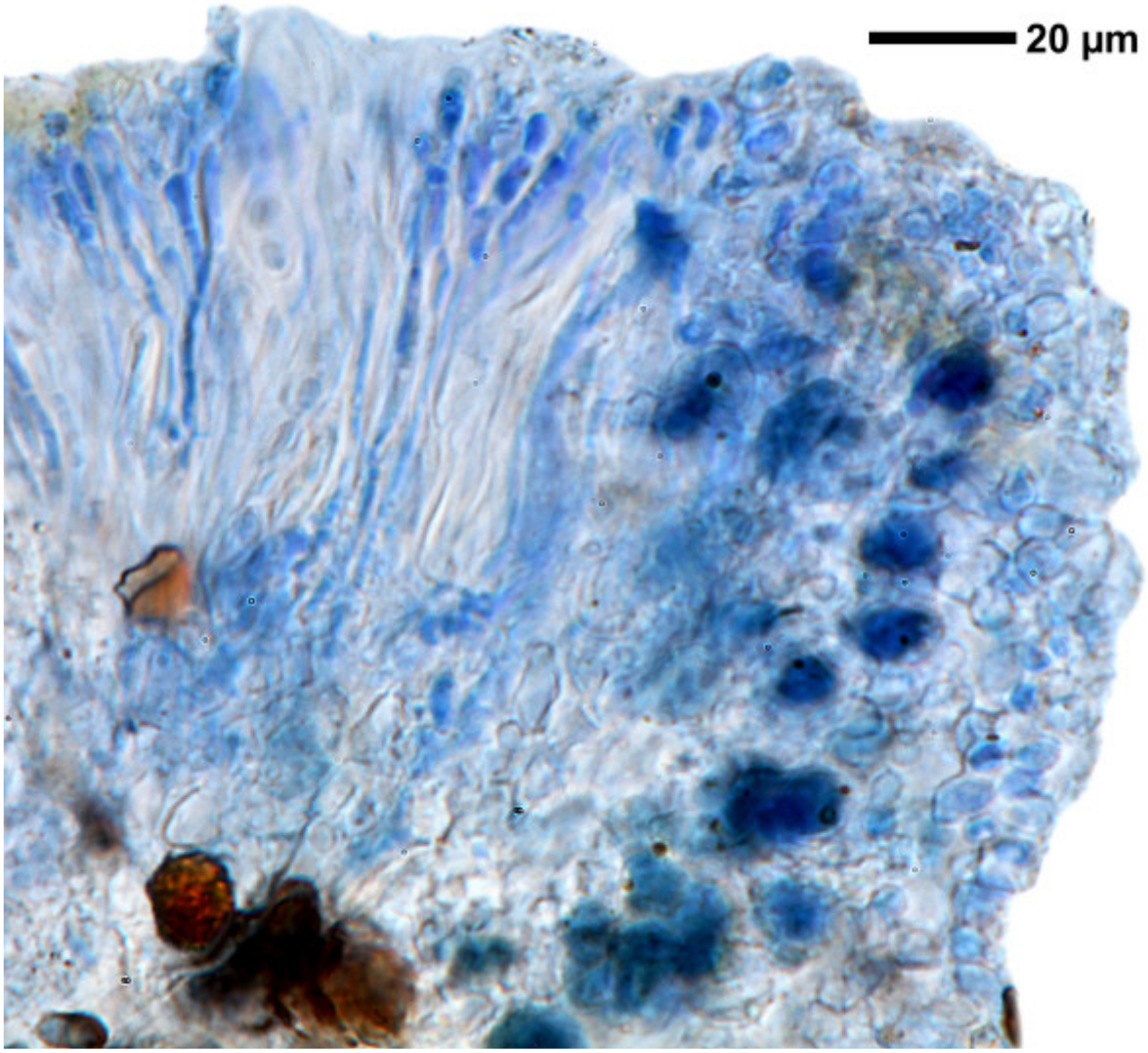
Caloplaca erythrosticta



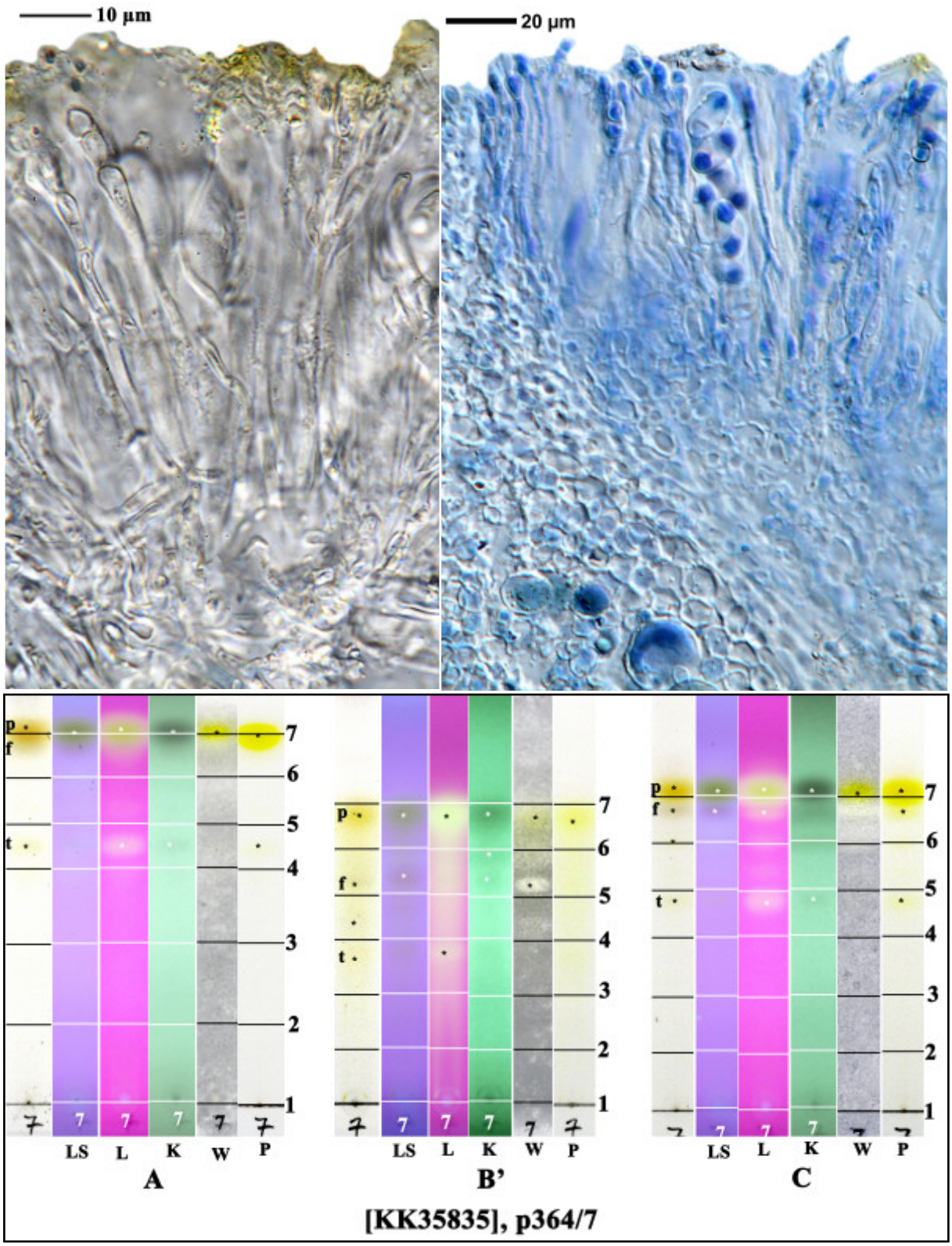


Caloplaca erythrosticta





Caloplaca erythrosticta



p: parietin, f: fallacinal, t: teloschistin; conf. J.A. Elix

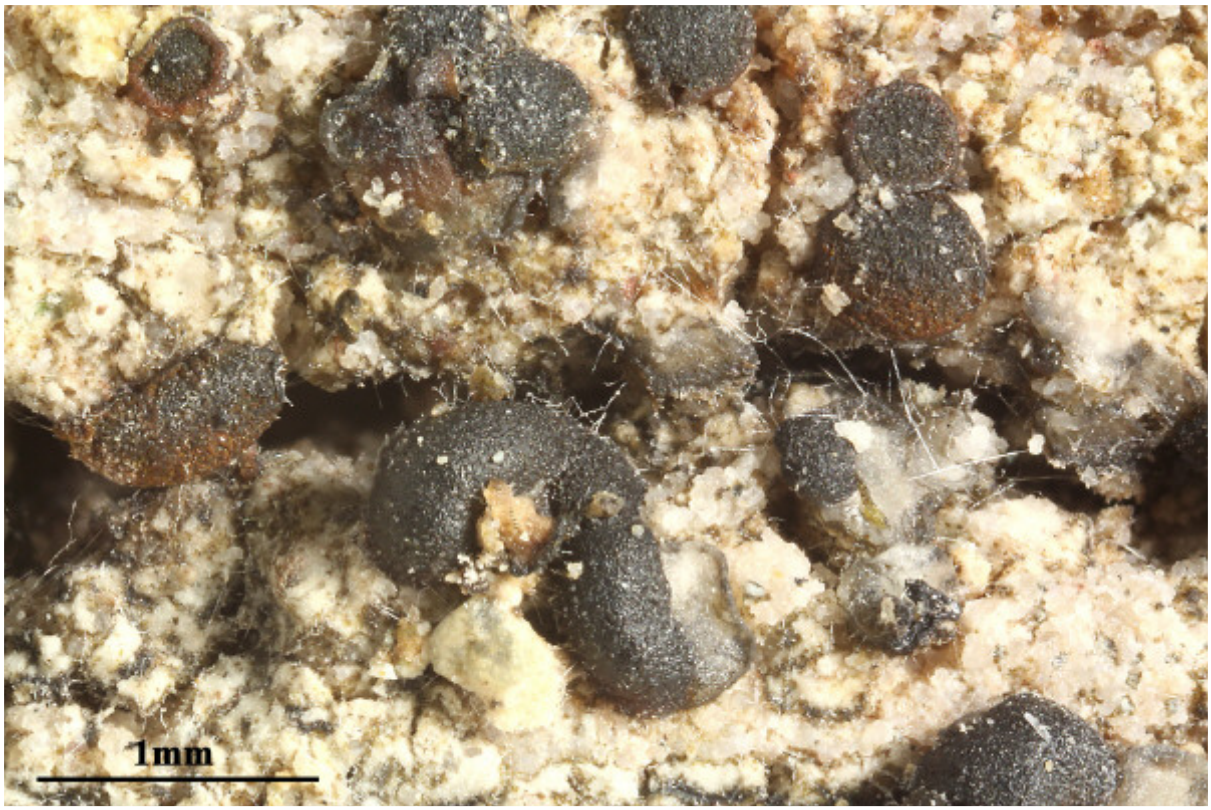
Caloplaca erythrosticta

Caloplaca exsecuta (Nyl.) Dalla Torre & Sarnth.

Hymenium not insperse. Spores 15 x 8 µm, septum 7 µm (AA); spores 14.5-15.5 x 8-9.2 µm, septum 5.5-6 µm (FS).

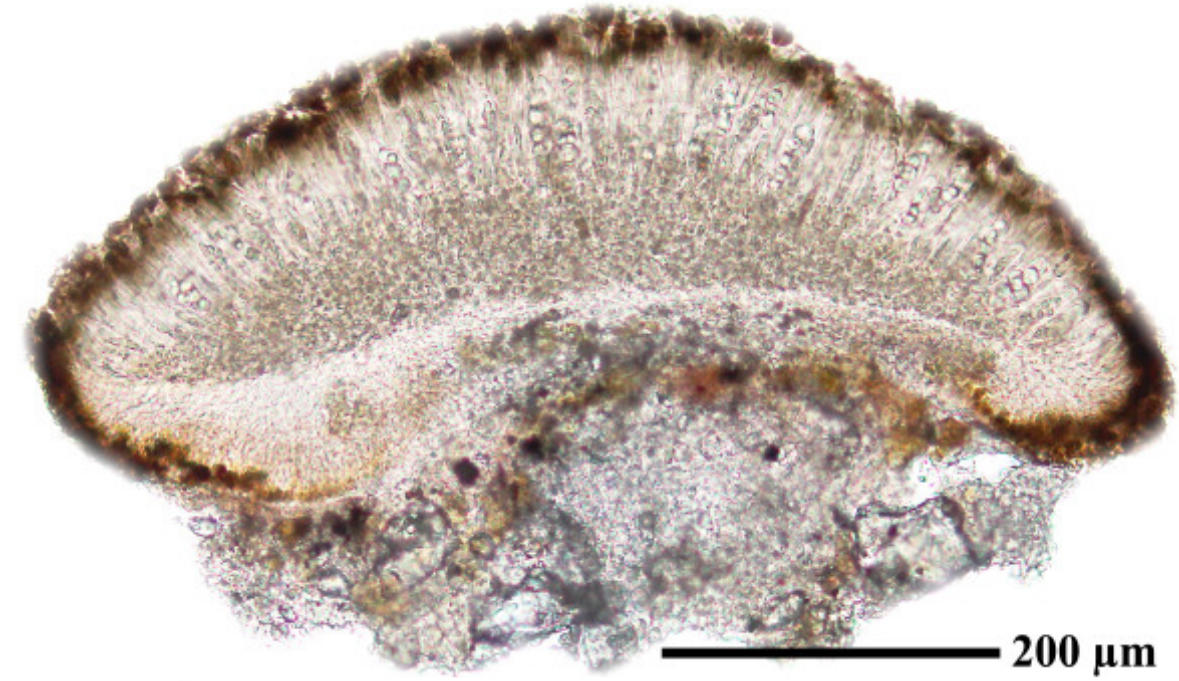
[BR5030035907178], Norway, Svalbard, Longgyrenhyen, inland. Leg. N. Gunde-Zimerman (II-6), June-August 2001, det. A. Aptroot, 2002.

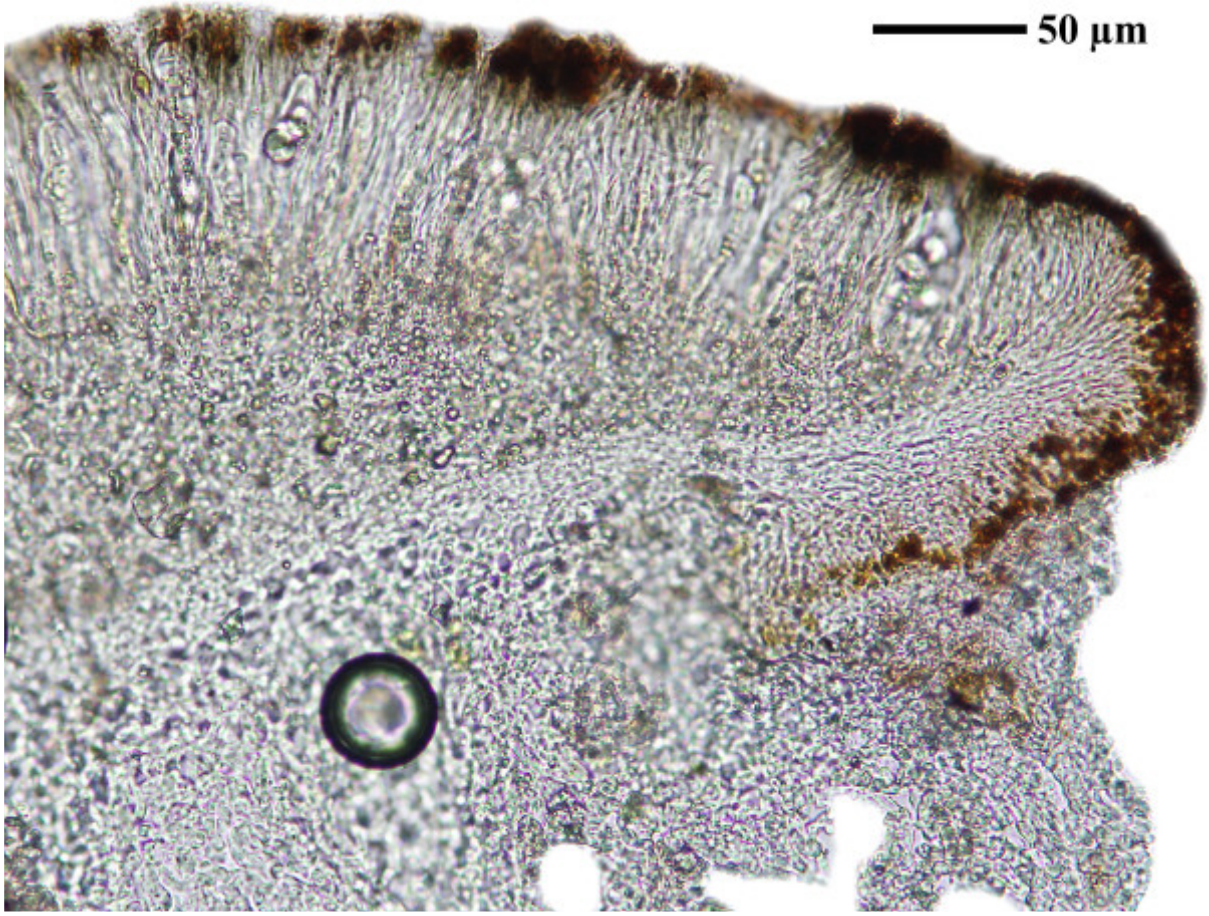






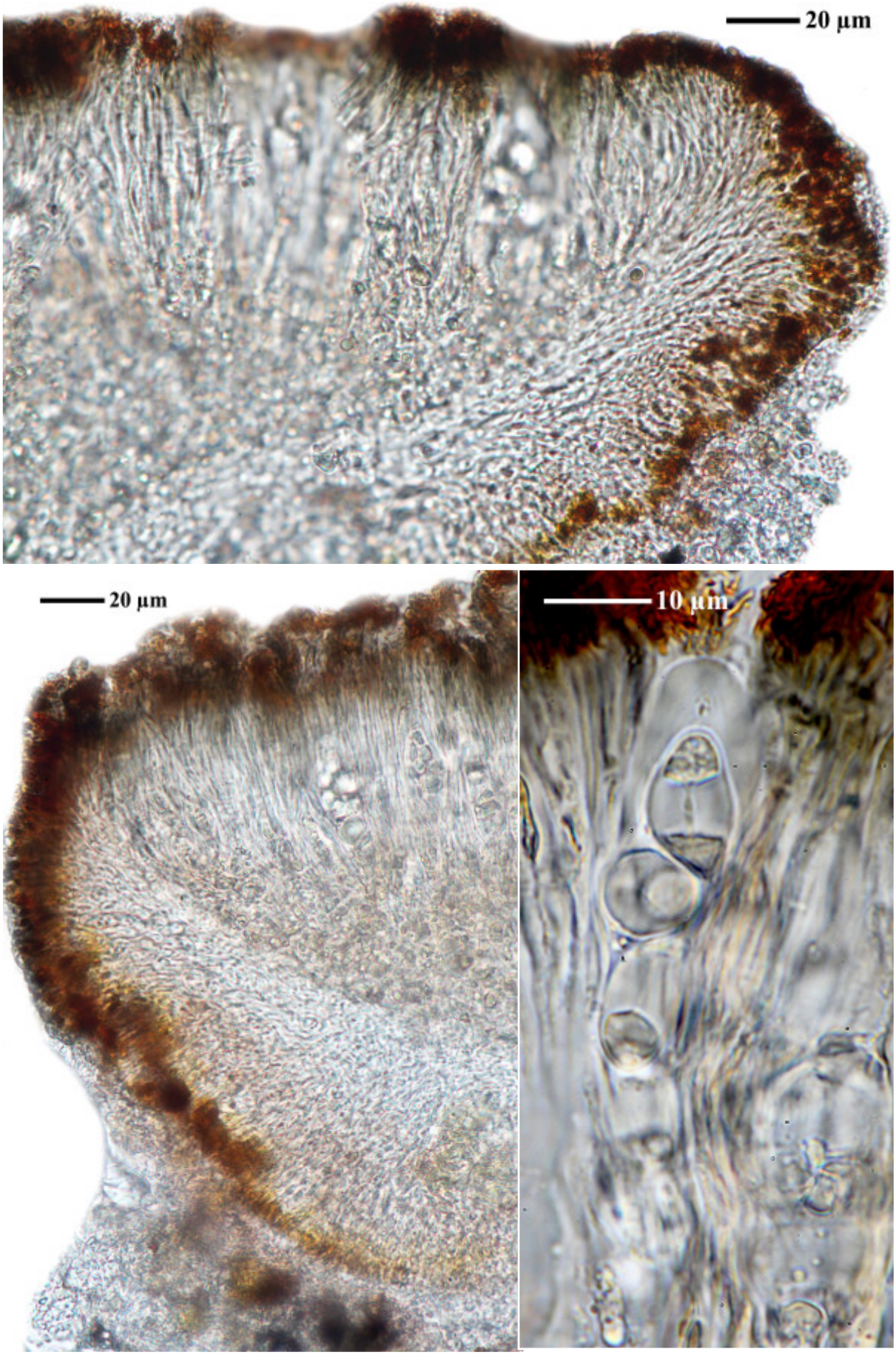
Caloplaca exsecuta







Caloplaca exsecuta



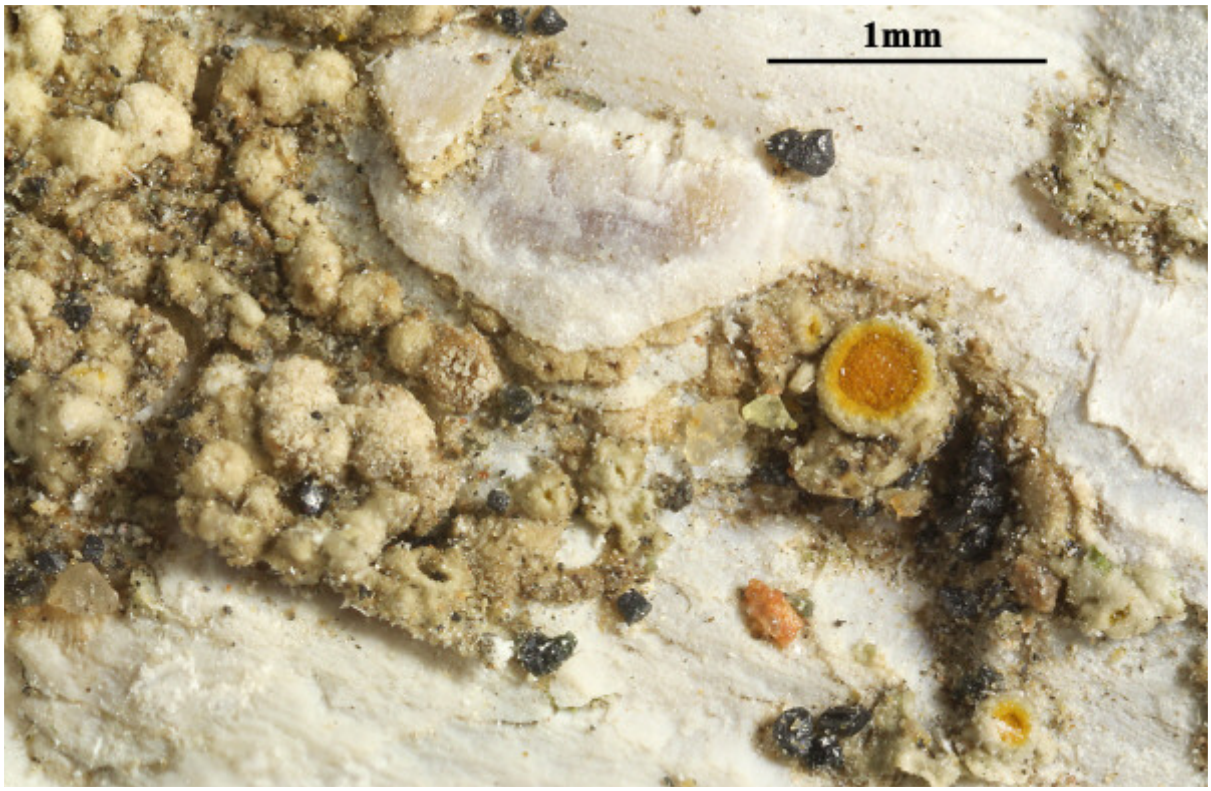
Caloplaca exsecuta

Caloplaca feracissima H. Magn.
[= *Xanthocarpia feracissima* (H. Magn.) Frödén, Arup & Søchting]

Spores hyalin, 8/ascus, polarilocular, 10.5-12.5 x 4.5-5.5 µm; septum 2.8-3.7 µm.

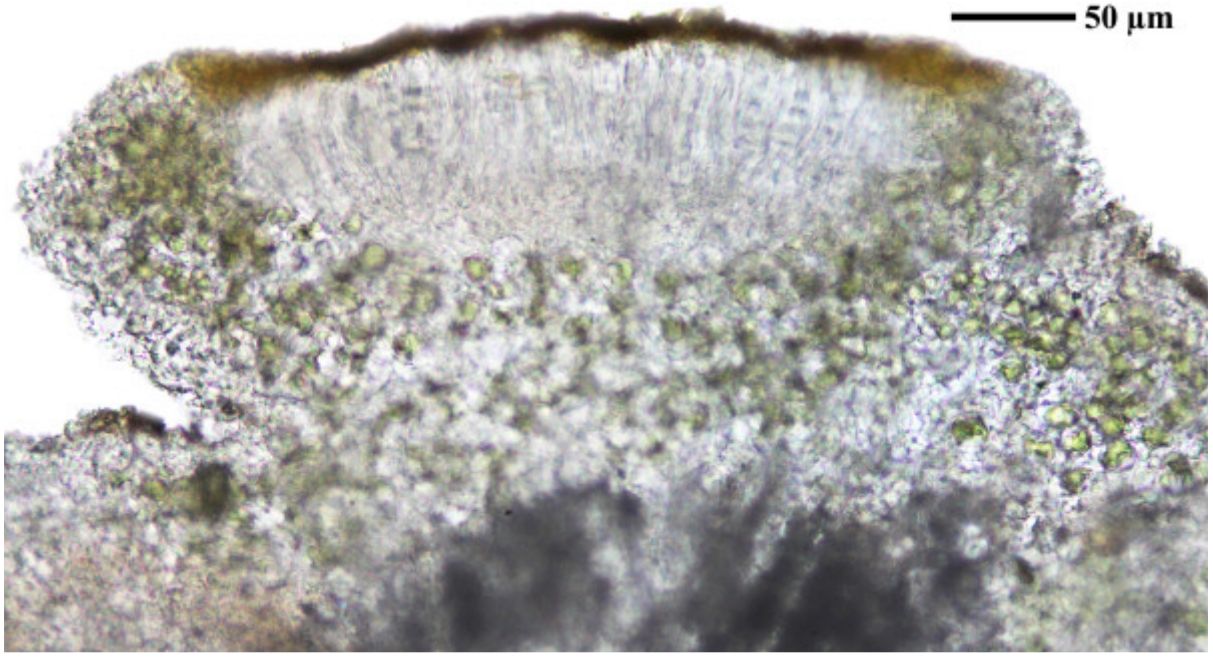
[BR5030040353014], Mexico, Baja California, 100 m strip along Pacific Ocean freont NW of Bahia Falsa & W of San Quintin, coastal scrub community (Euphorbia, Jatropha, etc.), basalt area, 30°28' N, 116°02' W, 0-15 m, on shells in dune area. Leg. A. & M. Aptroot (24491), 4.01.1989, det A. Aptroot, 1989.

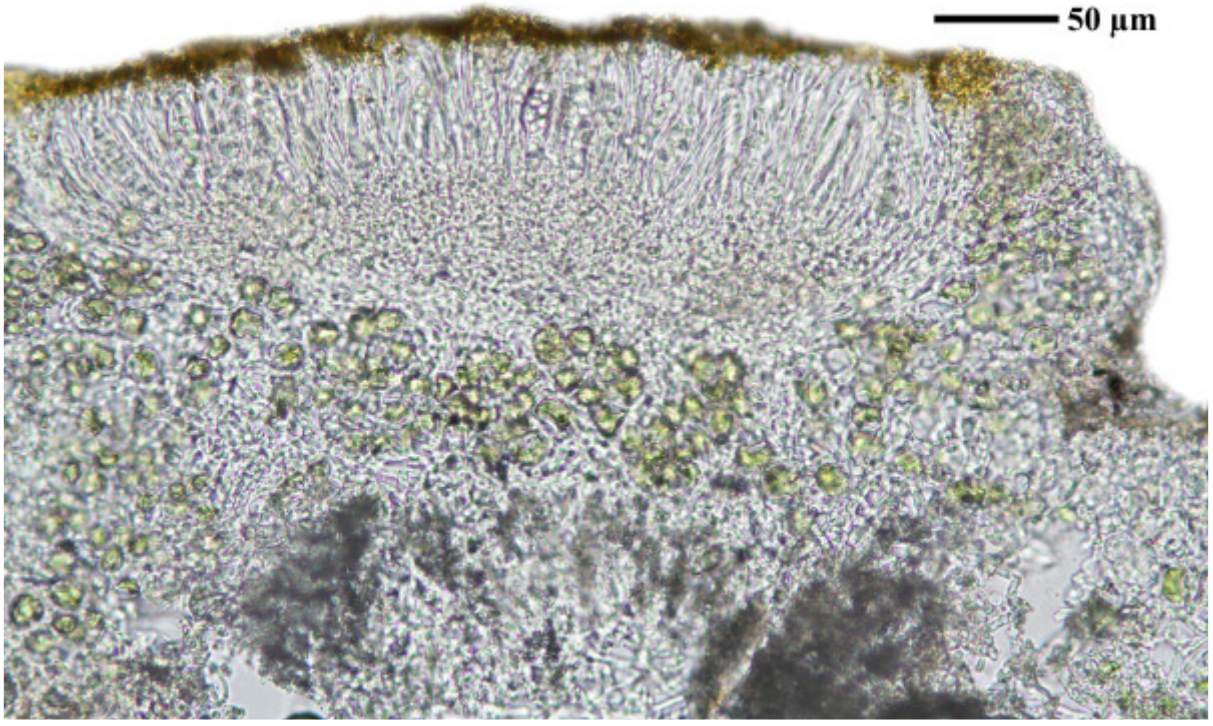




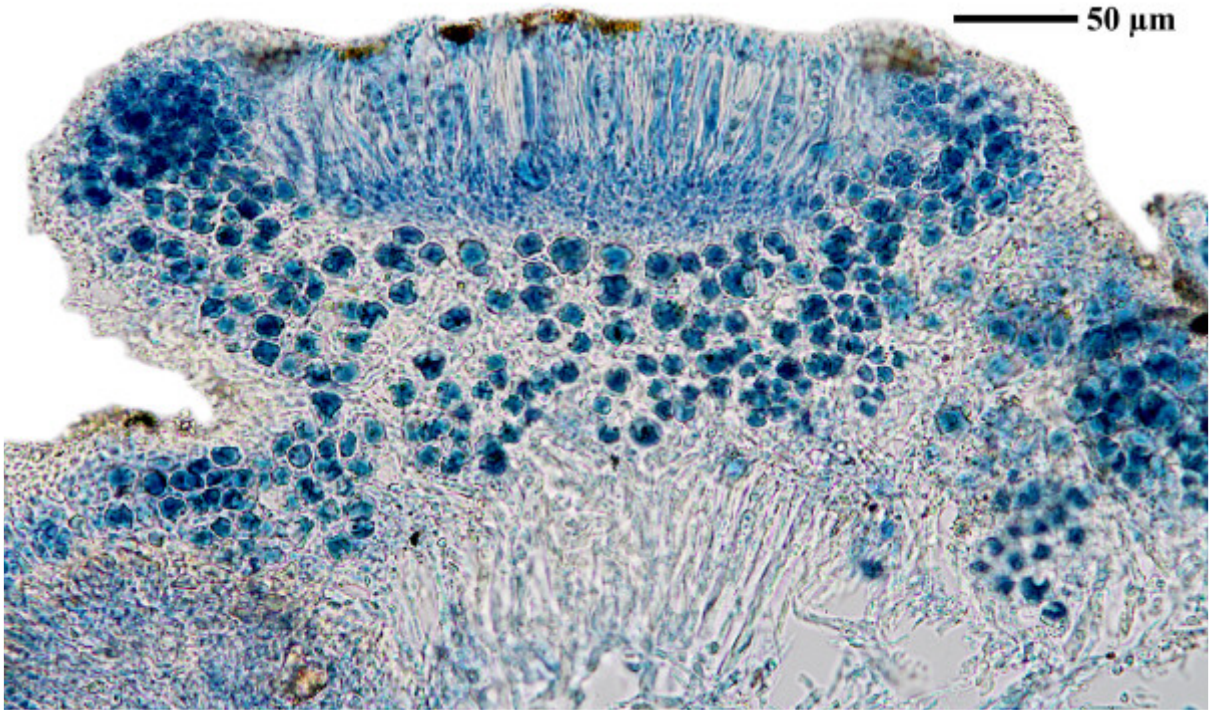


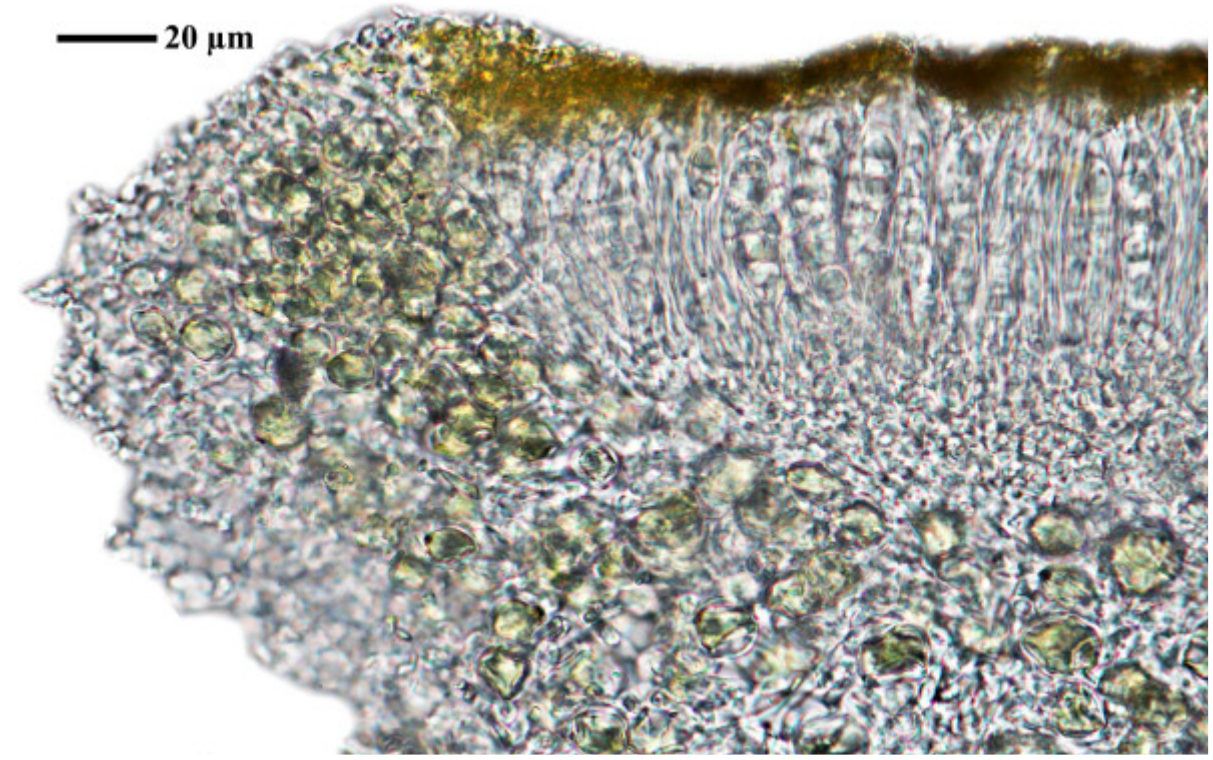
Caloplaca feracissima



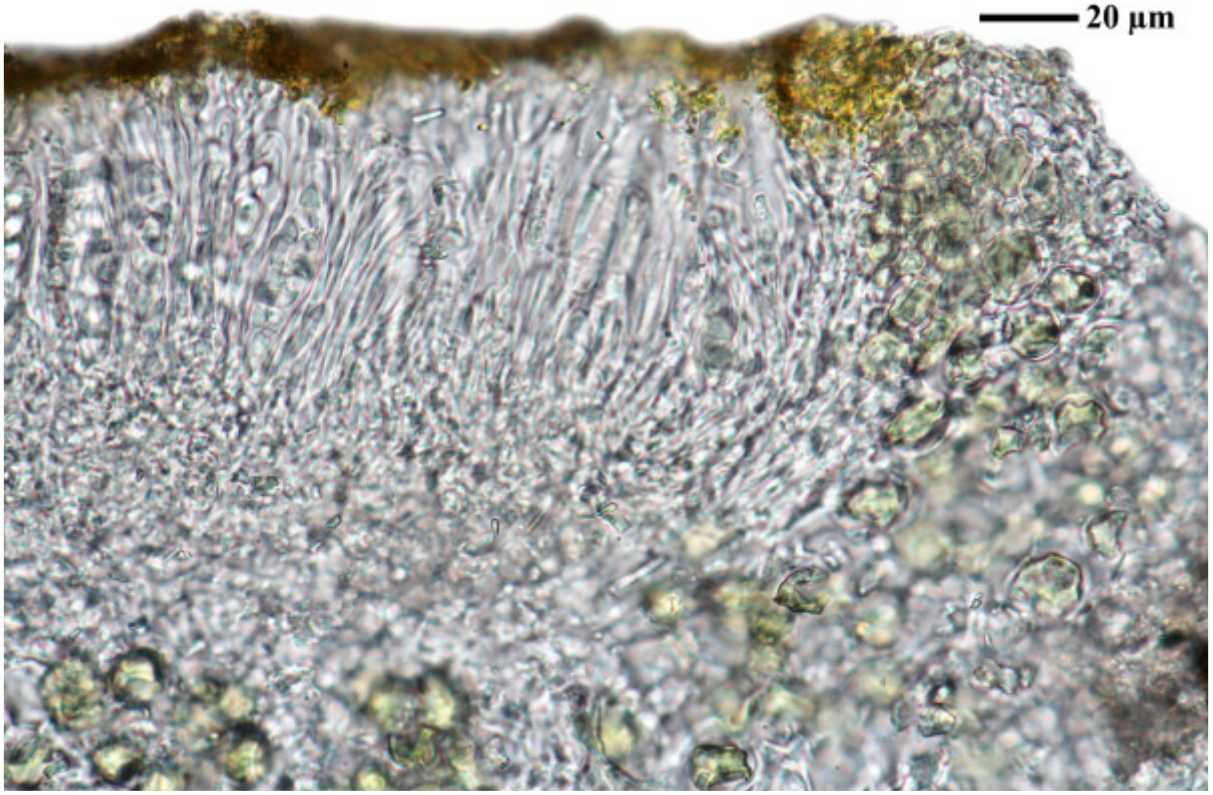


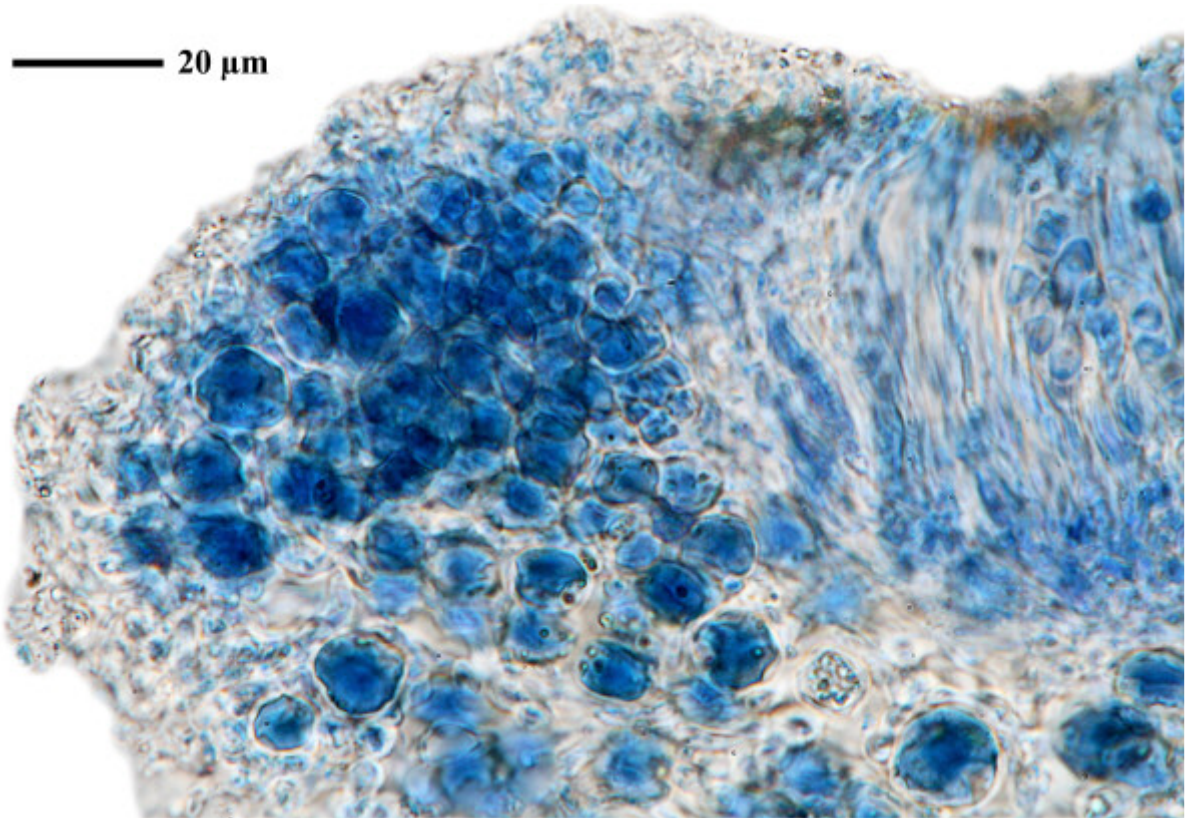
Caloplaca feracissima



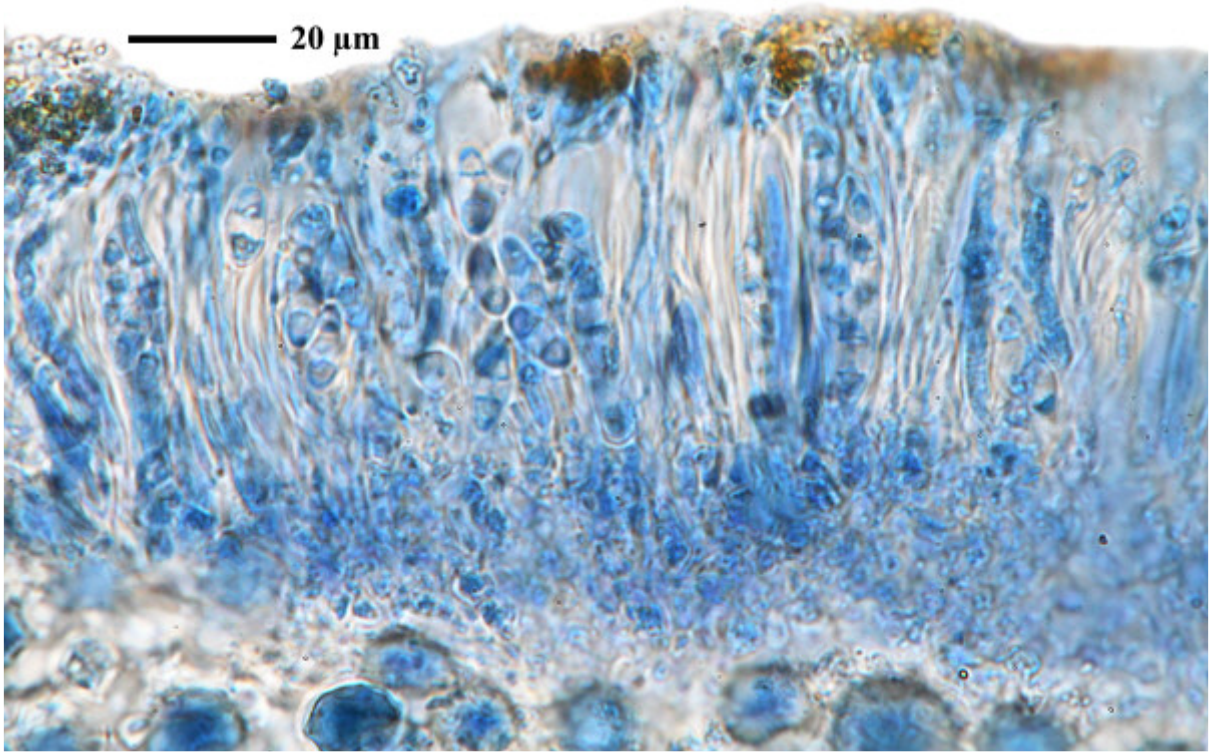


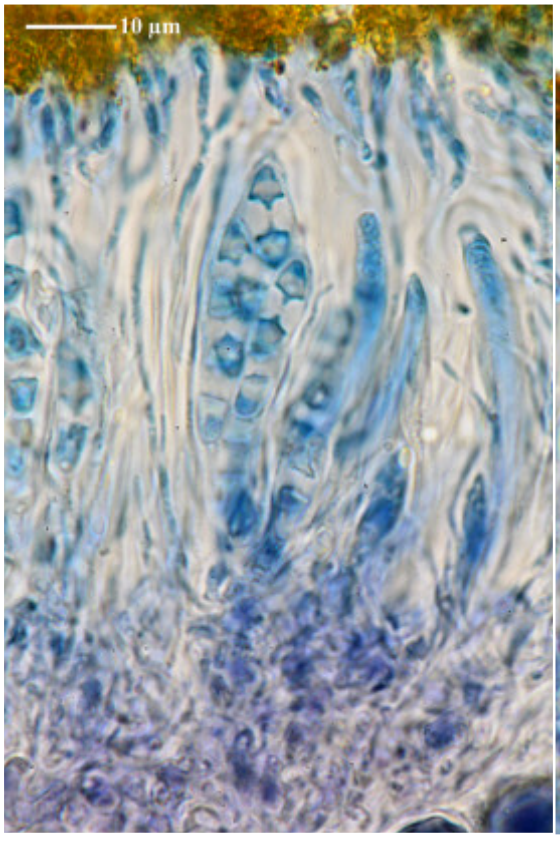
Caloplaca feracissima

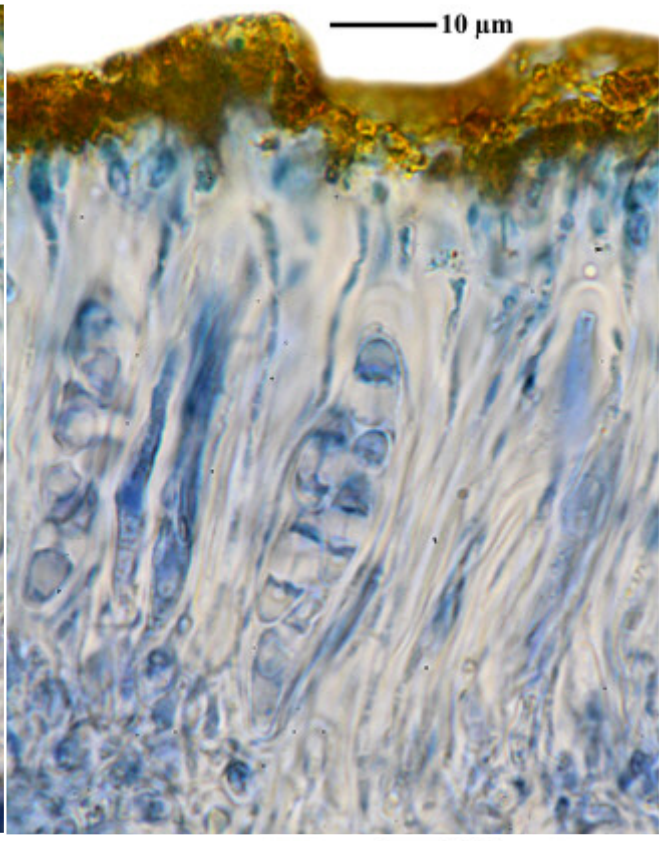




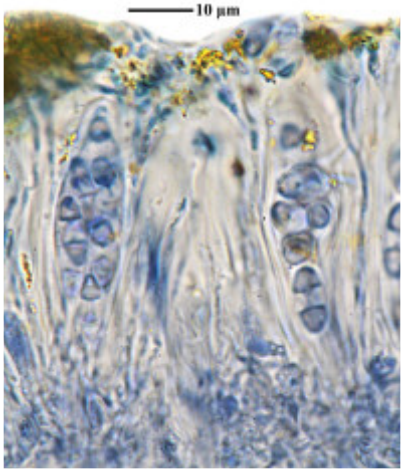
Caloplaca feracissima











Caloplaca feracissima

Caloplaca feracissima H. Magn.
[= *Xanthocarpia feracissima* (H. Magn.) Frödén, Arup & Søchting]

Spores 15 x 6 µm (AA); hyalin, 8/ascus, 8-9 x 3.8-5 µm; septum2.8-3.8 µm (FS)

[BR5030069130412], Costa Rica, Prov. San José, Santa Rosa de Domingo, 4 km N of San José, in Bioparque, on concrete of sidewalks in park. 9°59' N, 84°05' W, 1150 m. Leg. A. Aptroot (60685), 14.03.2004, det. A. Aptroot, 2004.



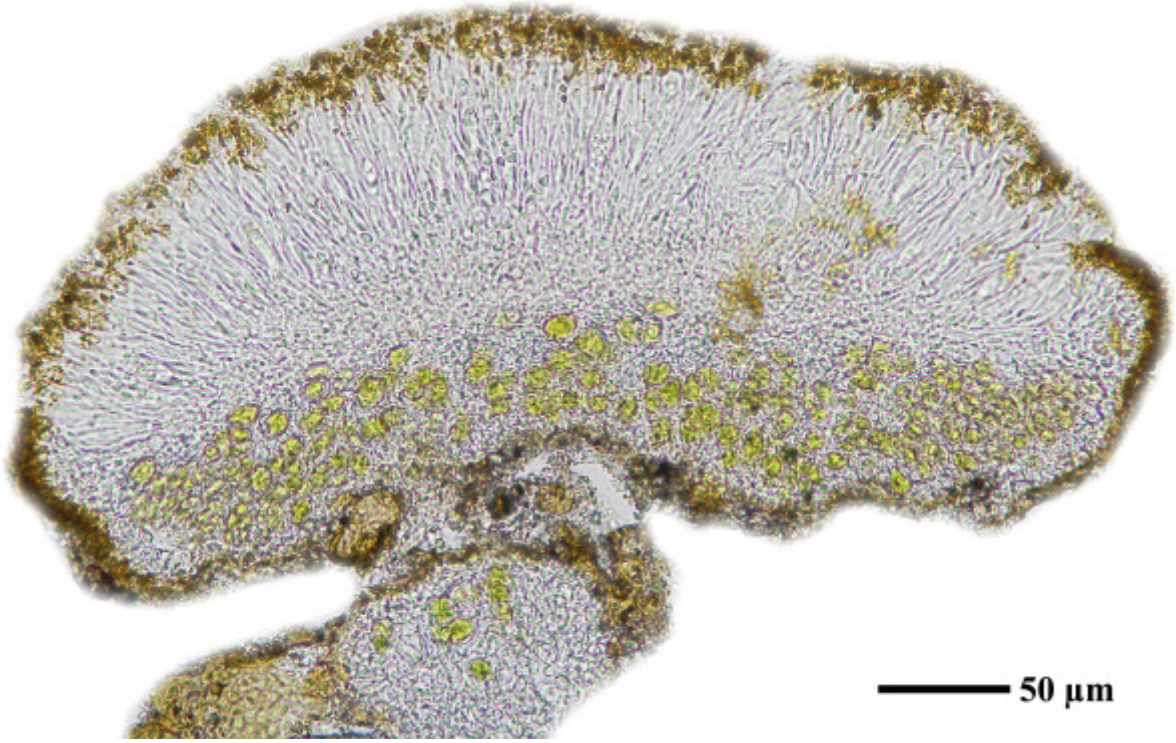




Caloplaca feracissima

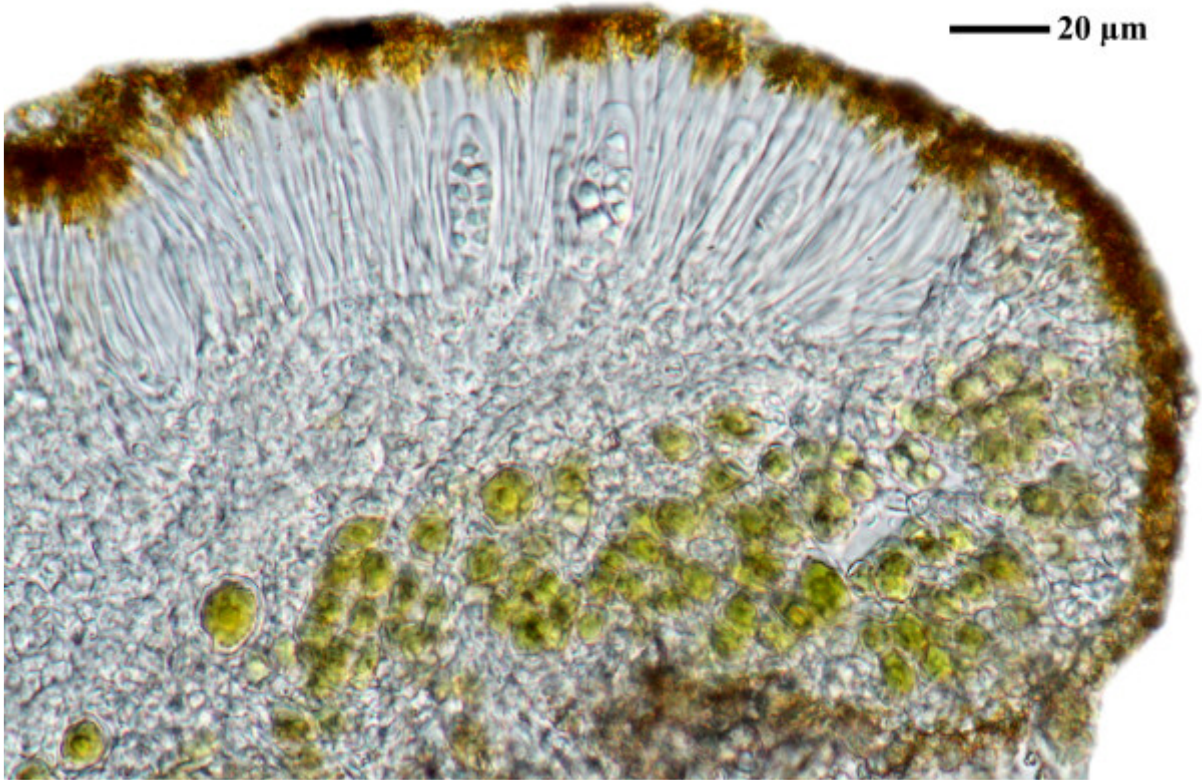


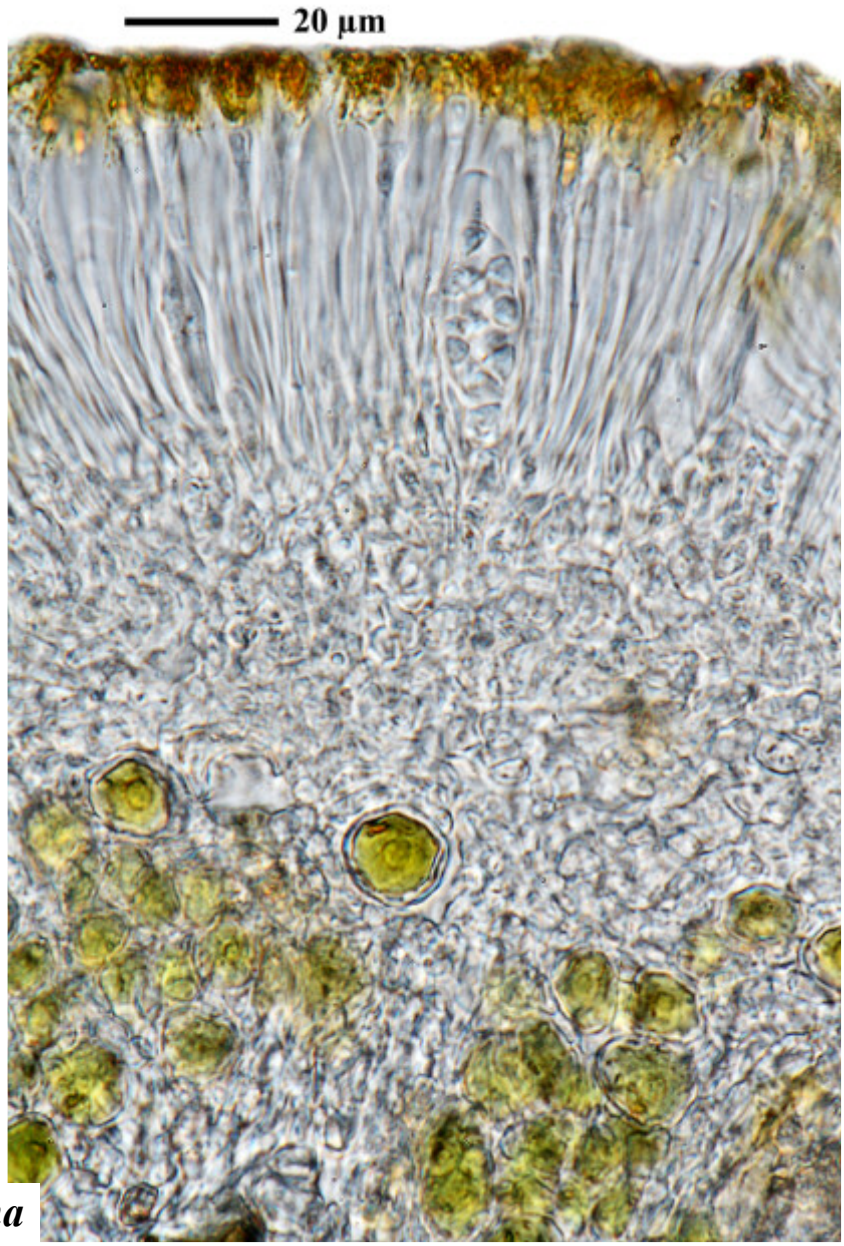
Caloplaca feracissima



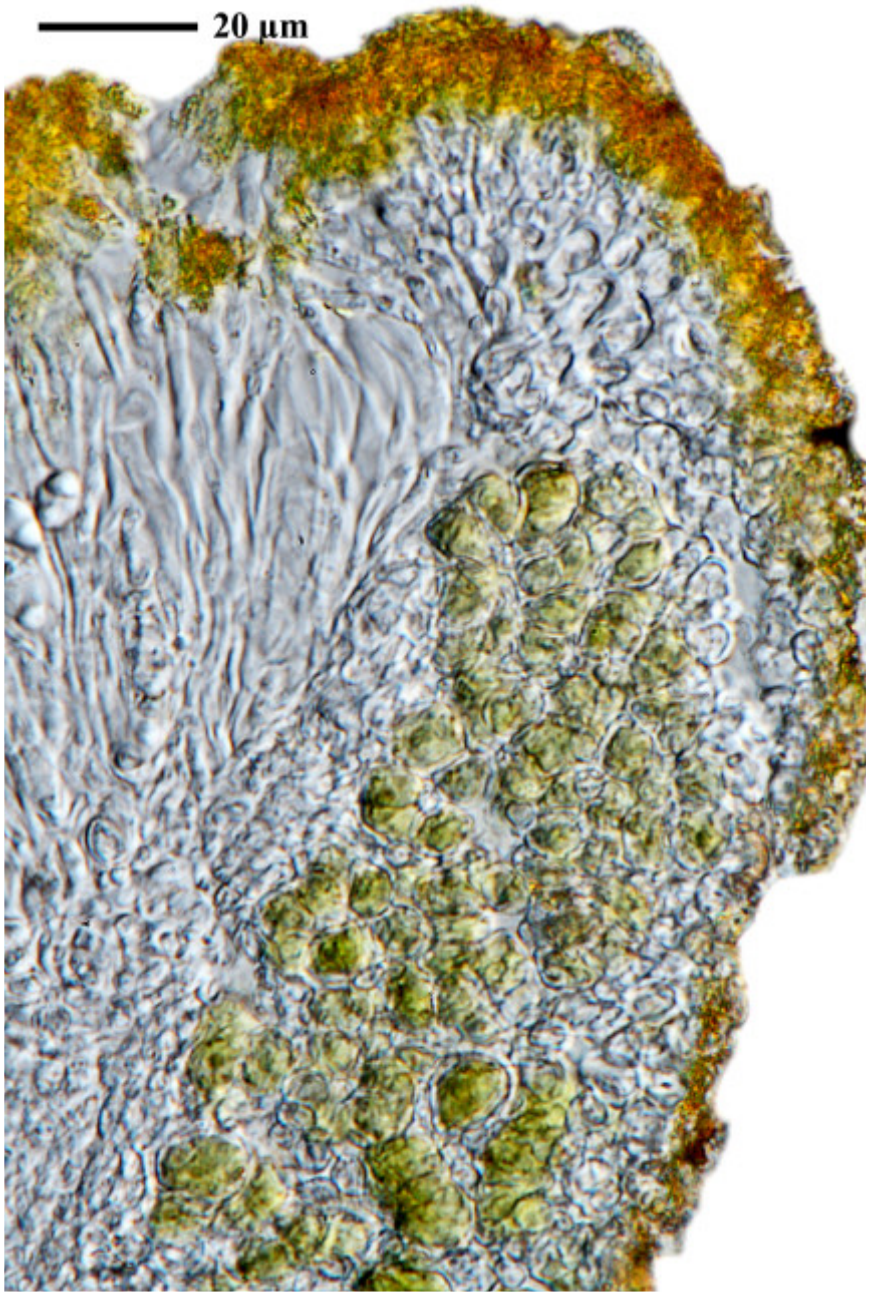


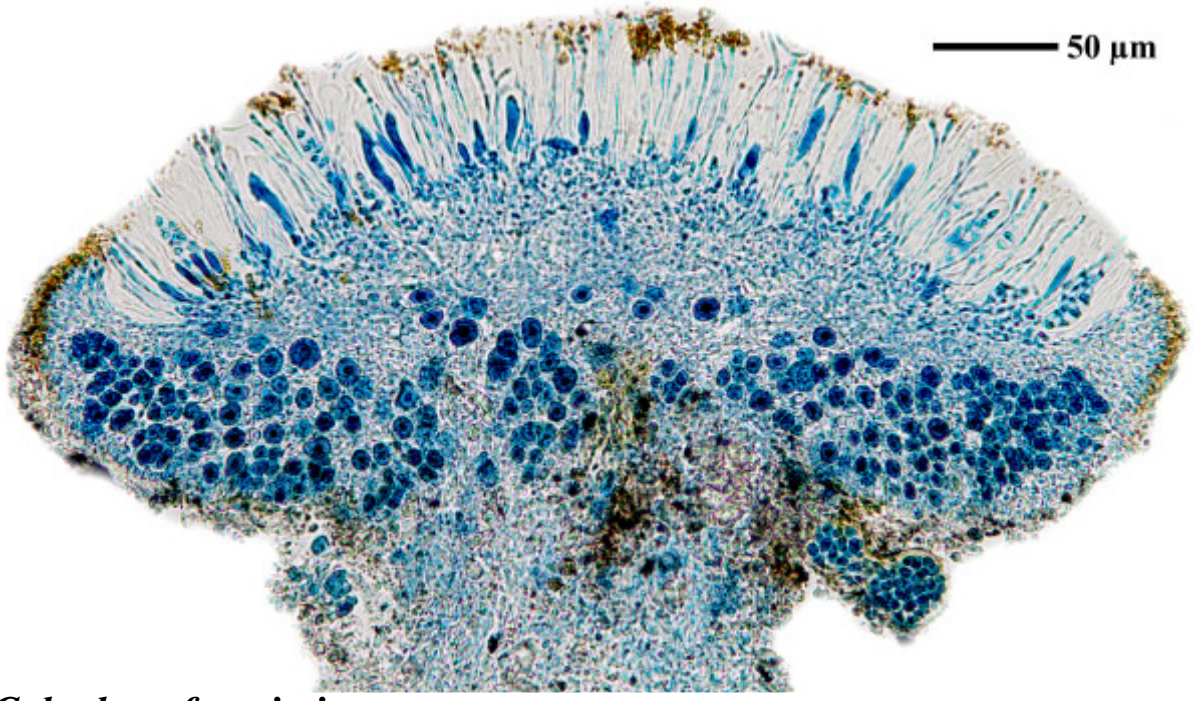
Caloplaca feracissima



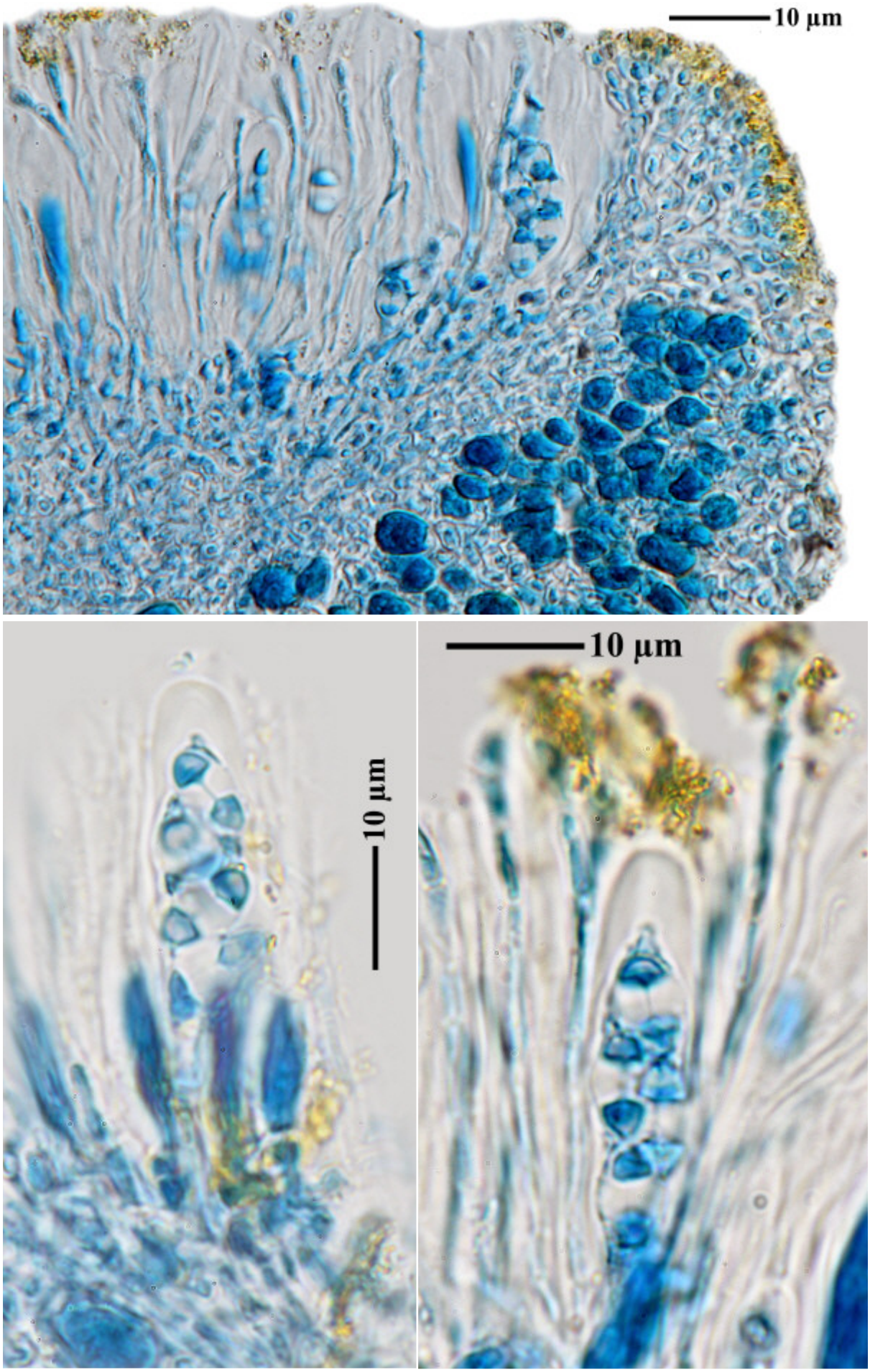


Caloplaca feracissima

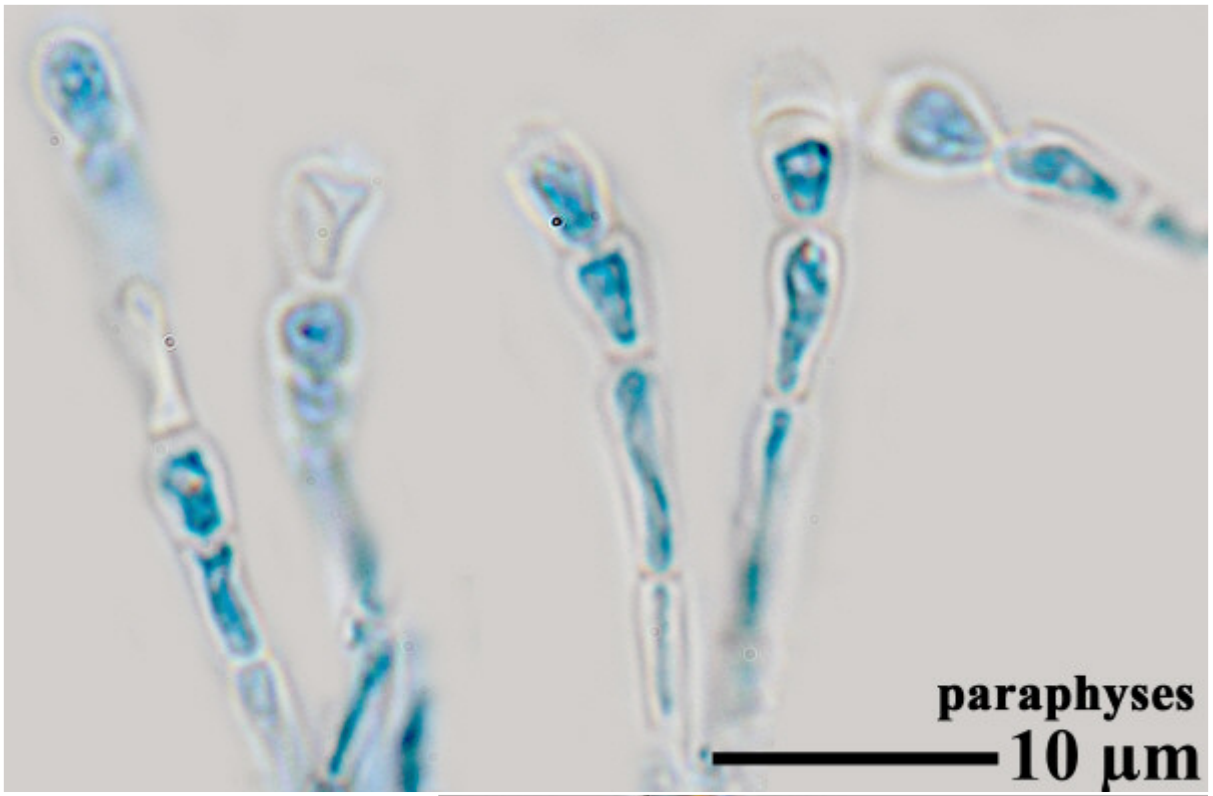


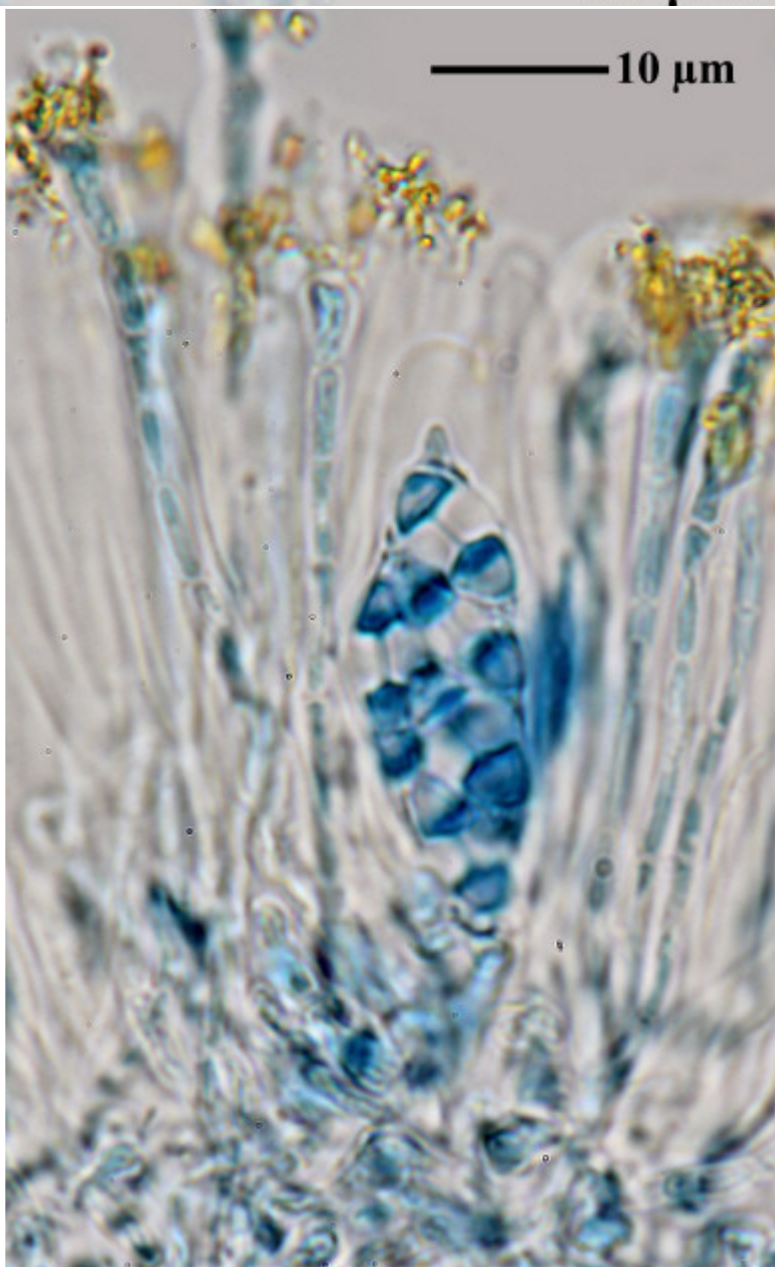


Caloplaca feracissima



Caloplaca feracissima





Caloplaca feracissima

Caloplaca fernandeziana (Zahlbr.) Follmann & Redón

Spores 12.5-15.5 x 6.4-6.8 µm, septum 4.5-6.8 µm (FS).

[B 60 0000137], Chile, Province Coquimbo, Pichidangui, coastal headlands just N of the village, on boulders lying at the foot of a rocky tor, 10 m, abundant and co-dominant with *Buellia flavoareolata*. Leg. W.A. Weber & Barry Johnson, 14.11.1976. WEBER: LICHENES EXSICCATI NO. 547.





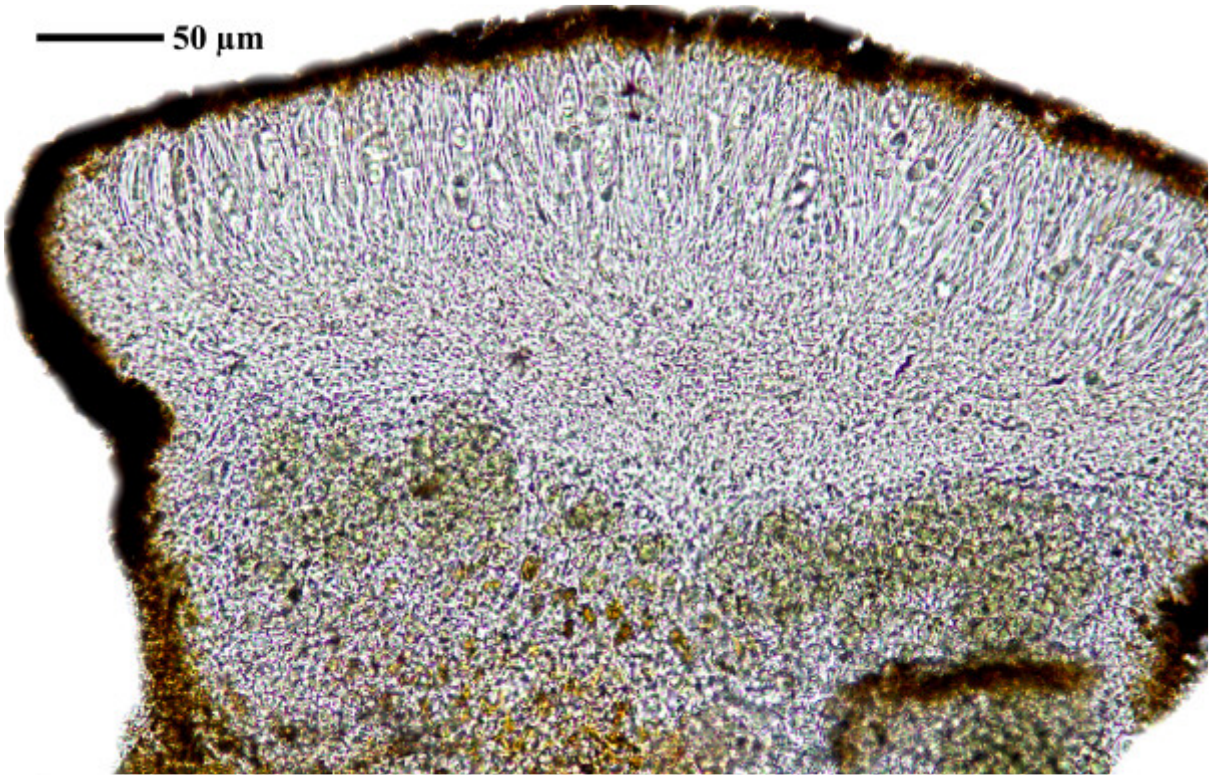


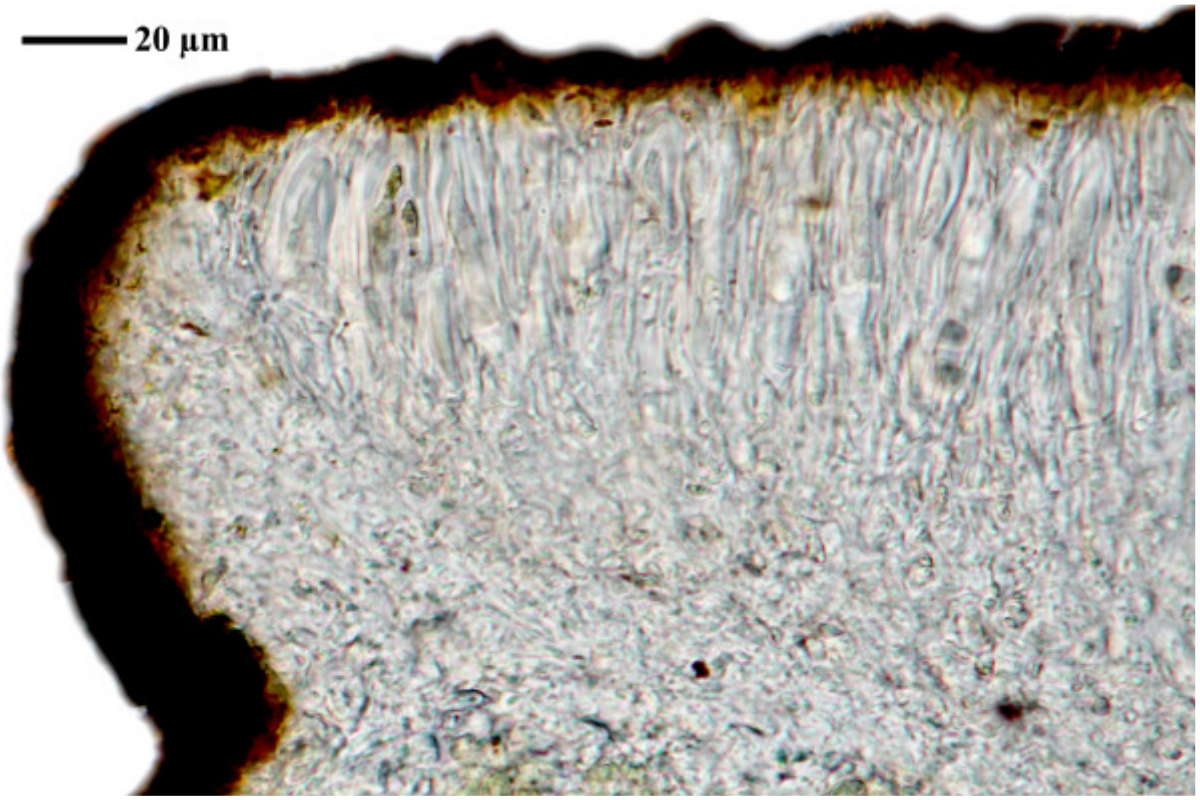
Caloplaca fernandeziana



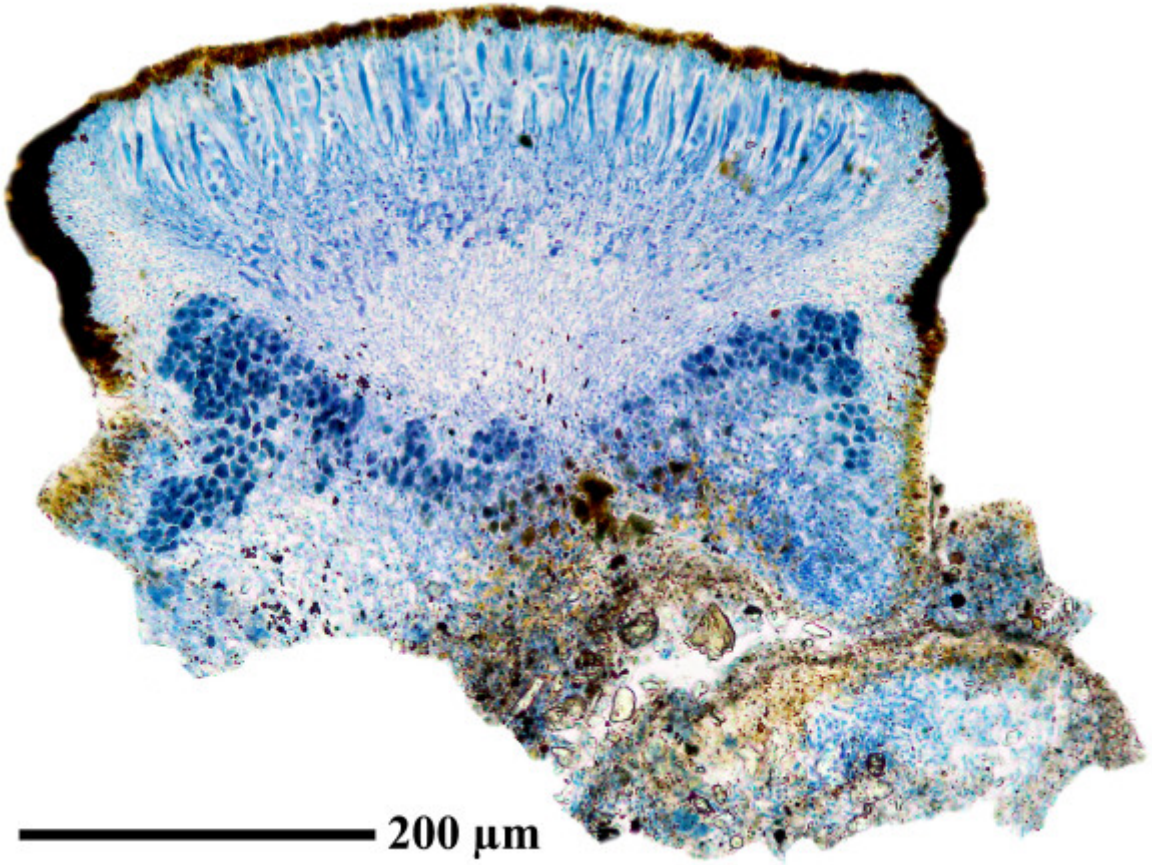


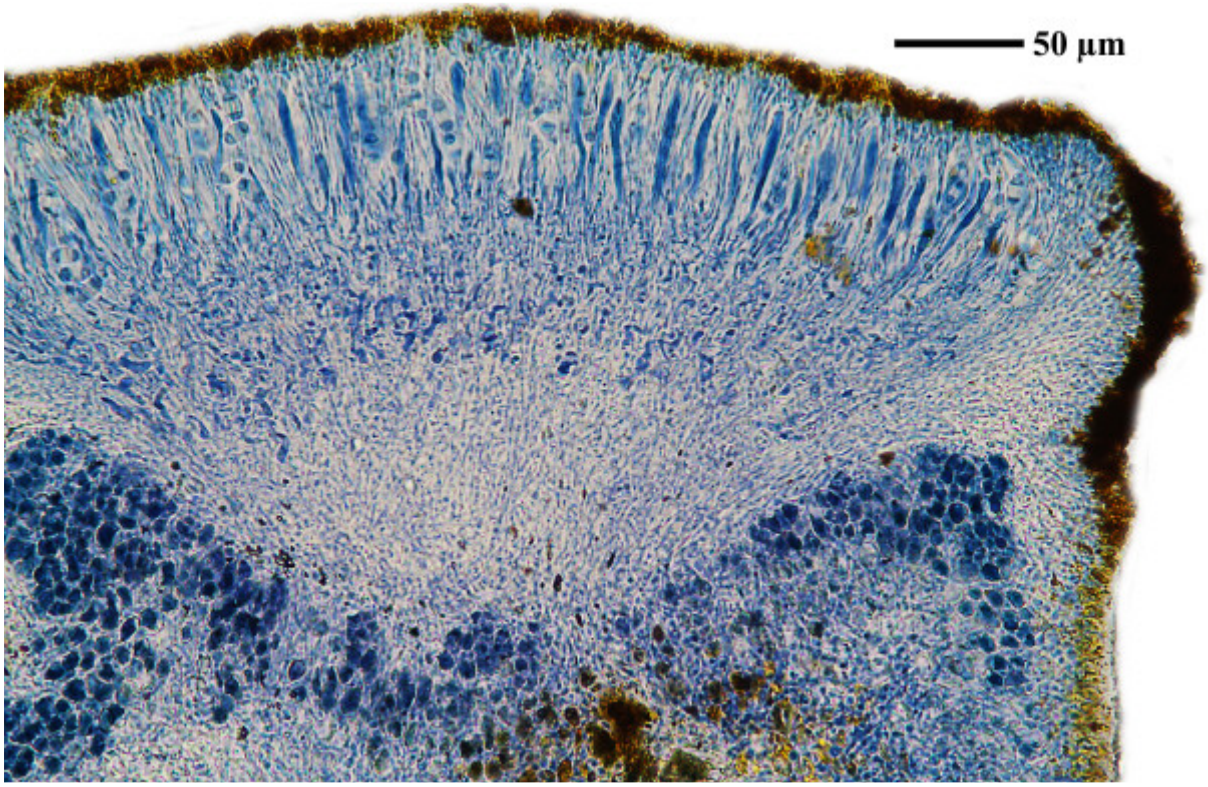
Caloplaca fernandeziana



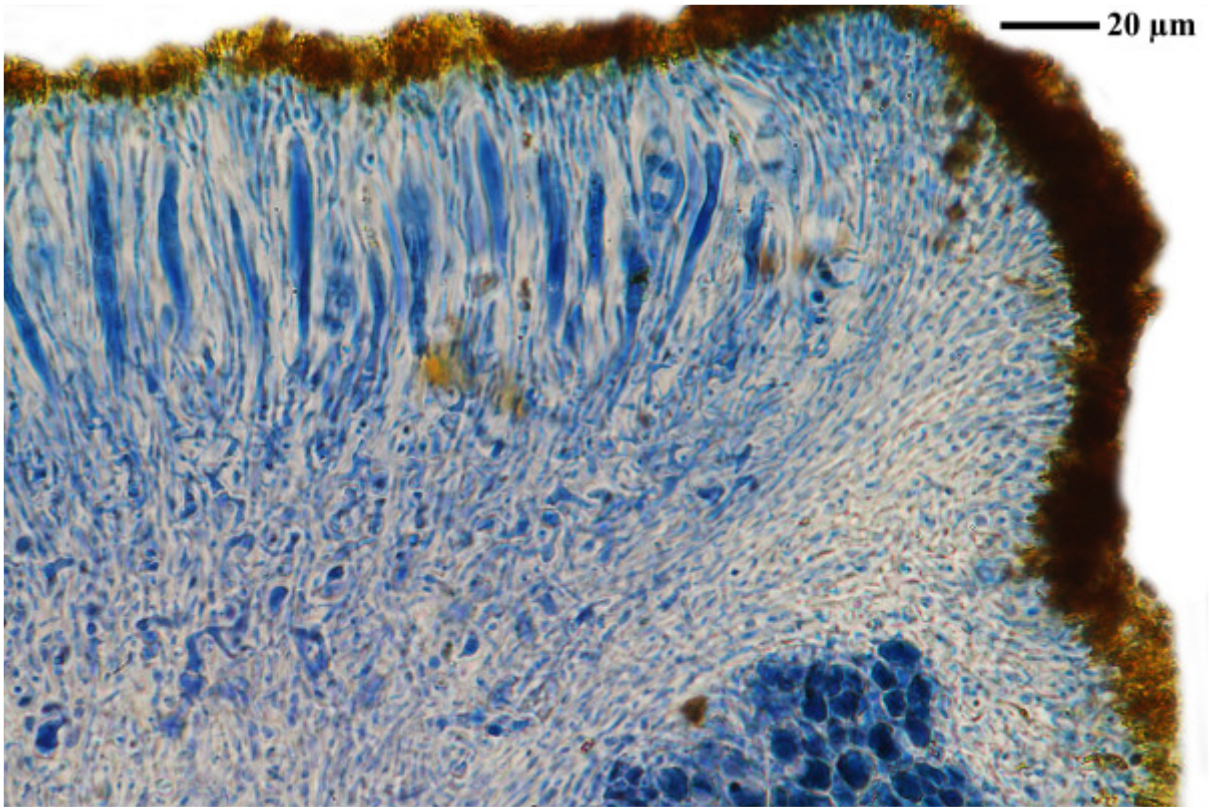


Caloplaca fernandeziana

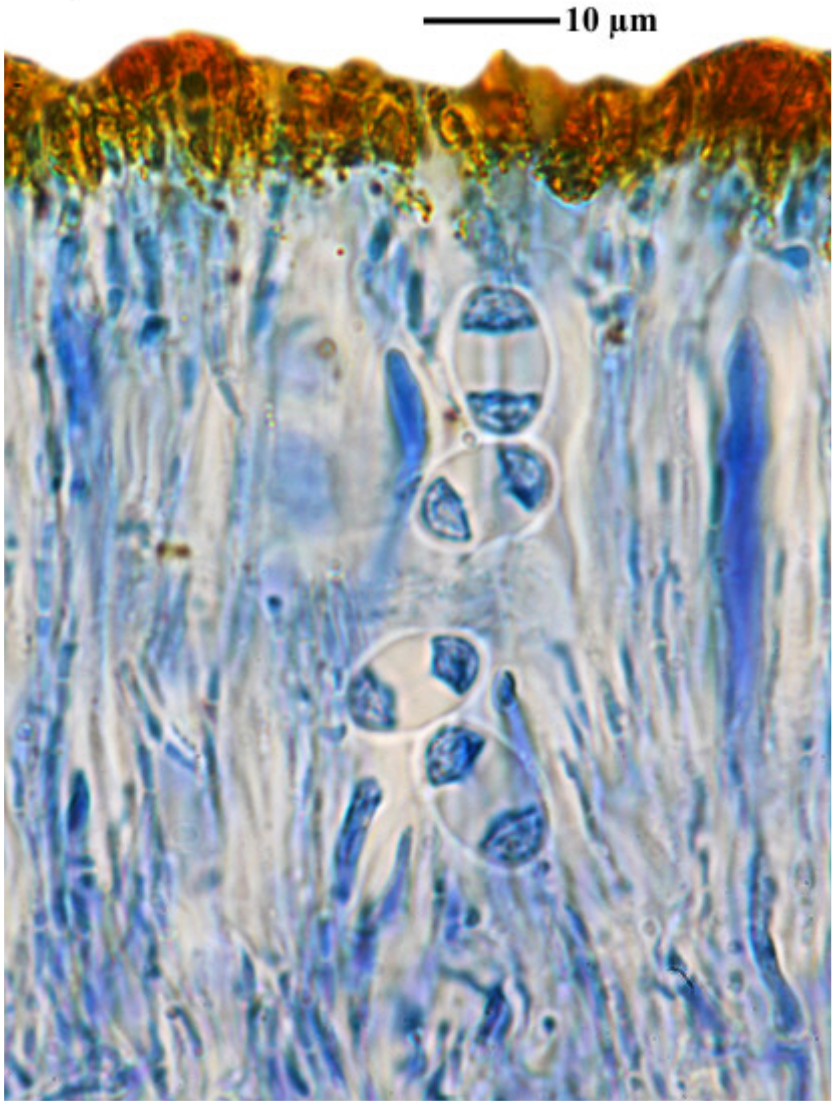




Caloplaca fernandeziana





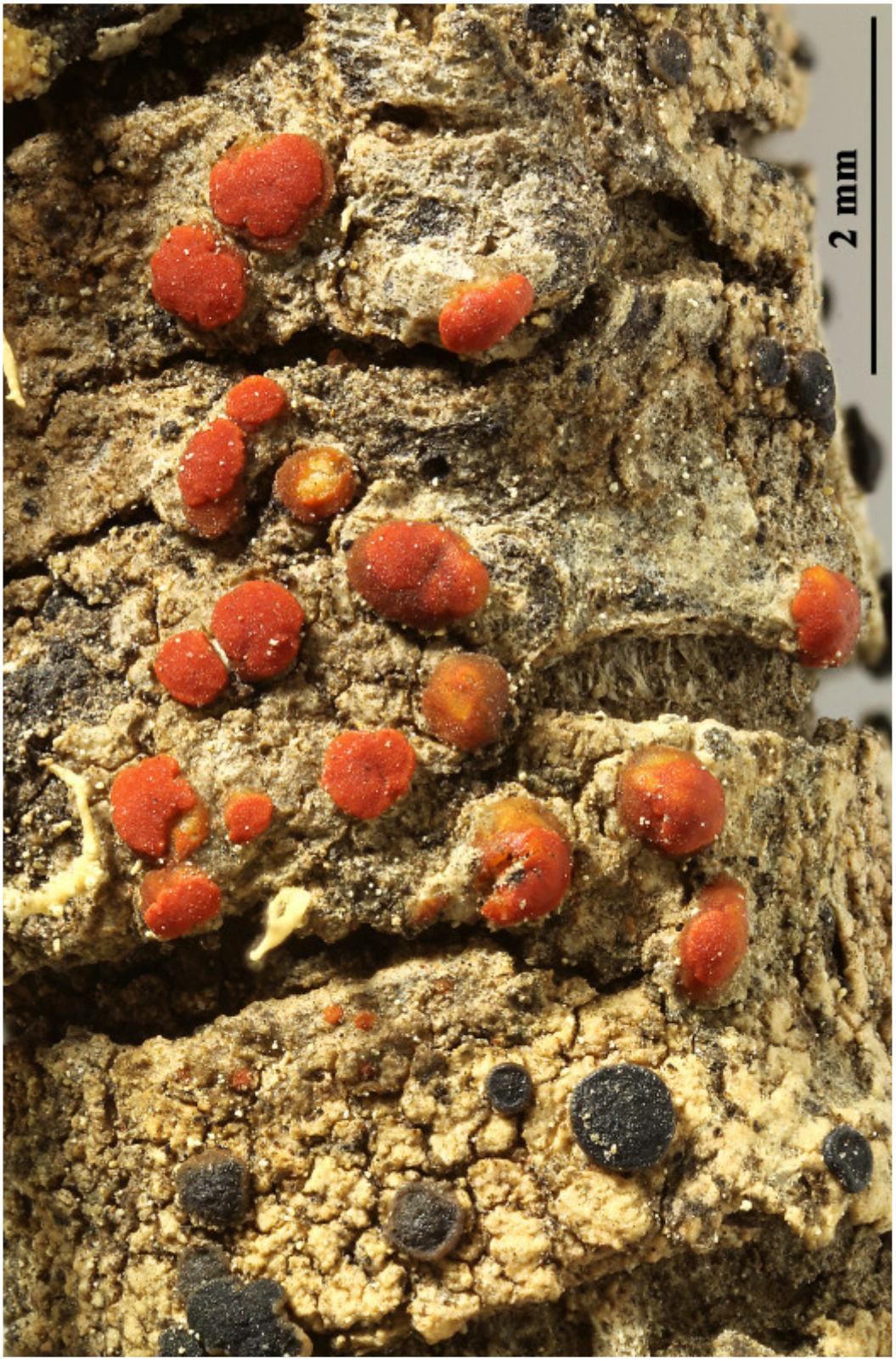


Caloplaca fernandeziana

Caloplaca ferruginea (Huds.) Th.Fr.
[= *Blastenia ferruginea* (Huds.) A. Massal.]

On bark.

[8124], Spanien, Kanarische Inseln, Gran Canaria, im Usnea-reichen *Pinus canariensis* Wald des Pinar de Tamadaba westlich von Artenara, 28°01.852' N, 15°40.853' W, 1094 m, an Ästchen. Leg. F. Schumm 28.12.2000, det. A. Aptroot 2016.



Caloplaca ferruginea (Huds.) Th.Fr.
[= *Blastenia ferruginea* (Huds.) A. Massal.]

On bark.

[12509], Griechenland, W-Samos, beim Mt. Kerketeas, 37°44.279' N, 26°40.224' E, 725 m, an *Crataegus*. Leg. F. Schumm & R. Düll, 13.05.2006, det. H. Sipman 2016.





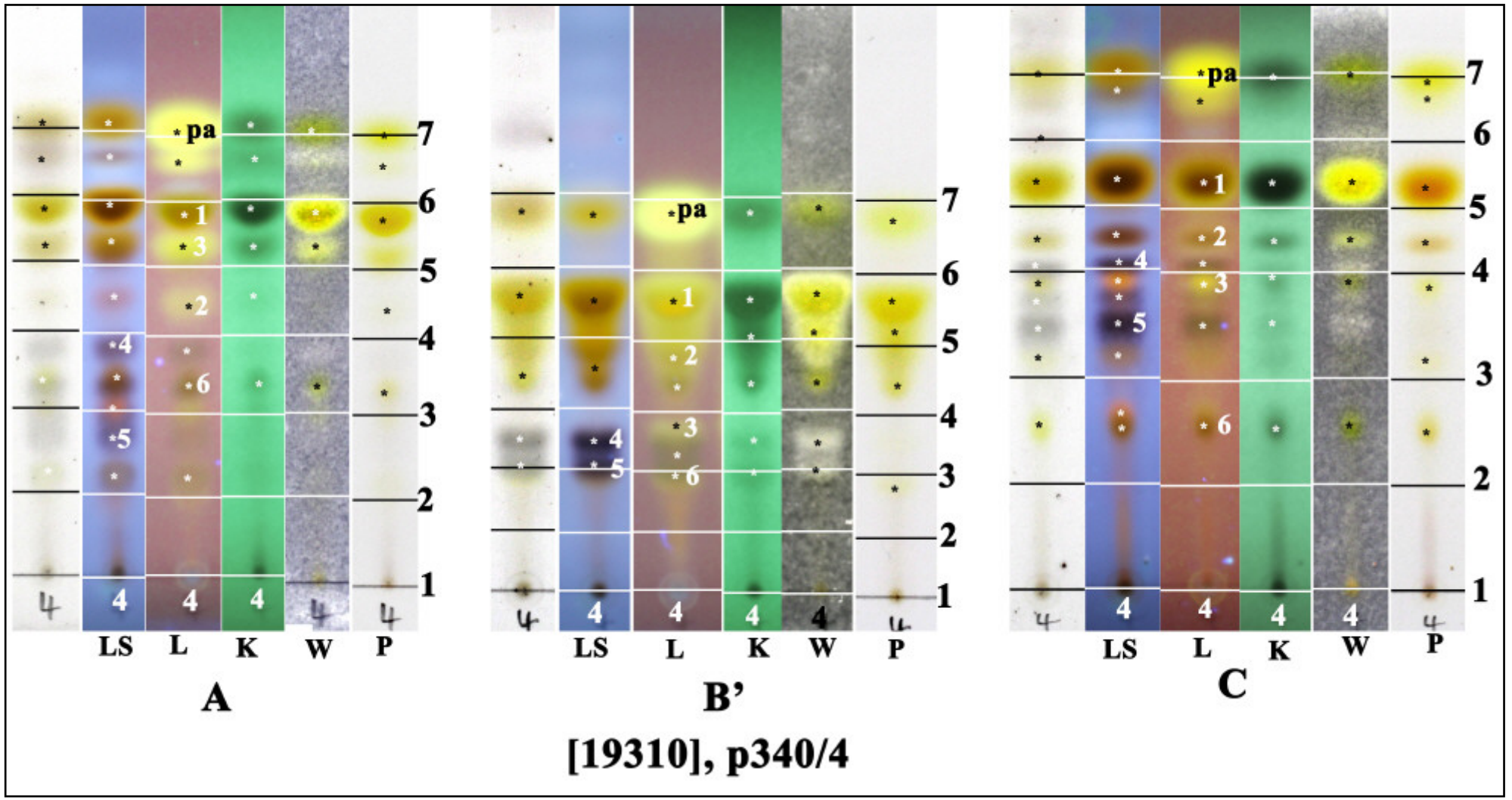
Caloplaca ferruginea

Caloplaca ferruginea (Huds.) Th.Fr.
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

On bark. Chemitry (TLC p340/4): parietin, fallacinal, parietinic acid, teloschistin.
Lit. Arup, Søchting & Frödén, Nordic Jl Bot. 31(1): 67 (2013)

[19310], Suecia, Härjedalen, Tännäs Paroecia, Ramundberget, prope Kvarnbäckstjärn, 800 m, ad cortem Salicis capreae. Leg. R. Santesson (24433), 19.07.1973. VěZDA: LICHENES SELECTI EXSICCATI NR. 1220.





pa: parietin, 1: fallacinal, 2: parietinic acid, 3: teloschistin, 4,5,6: ??

Caloplaca ferruginea (Huds.) Th.Fr.
[= *Blastenia crenularia* (With.) Arup, Søchting & Frödén]

Spores 11-13 x 6.2-6.7 µm, septum 4.4-5.9 µm (FS). On bark.

[19577], Jugoslavia, Serbia, Zlatibor, in monte Tornik, secus viam inter Kokin Brod et Titova Užice, alt. 750 m, ad truncum *Pini silvestris*. Leg. A. Vězda, 10.06.1967. VěZDA: LICHENES SELECTI EXSICCATI NR. 1818.



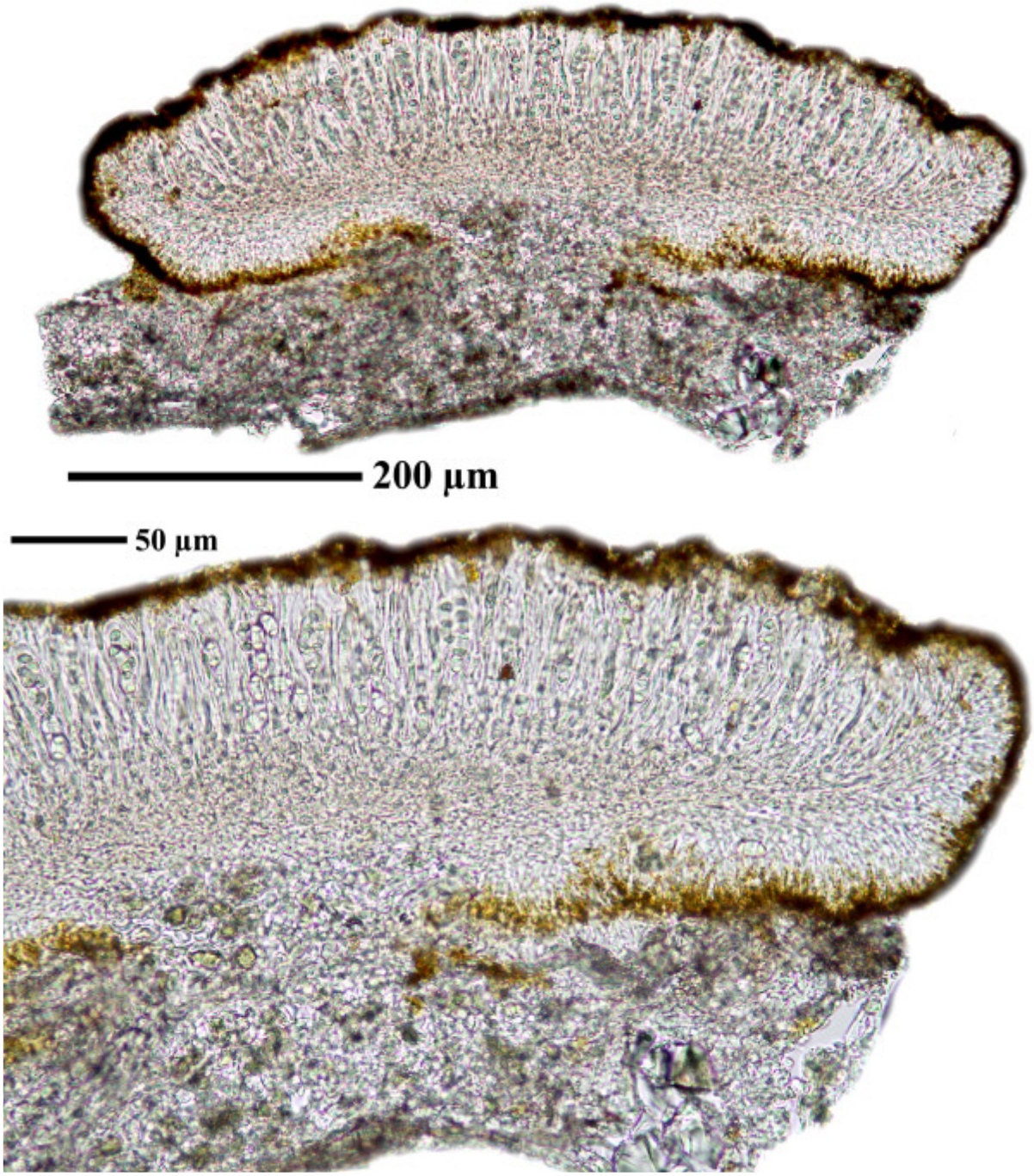




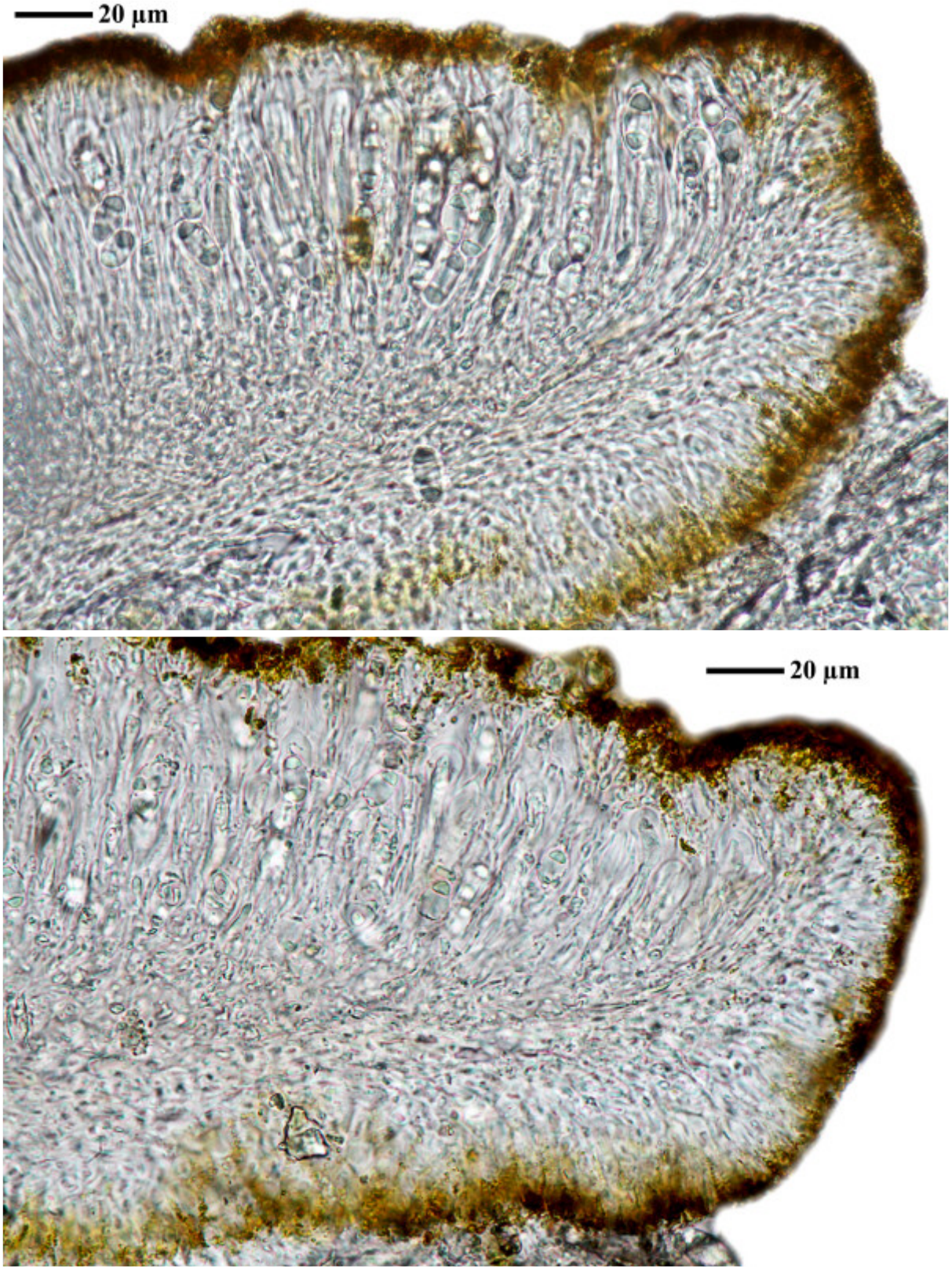
Caloplaca ferruginea



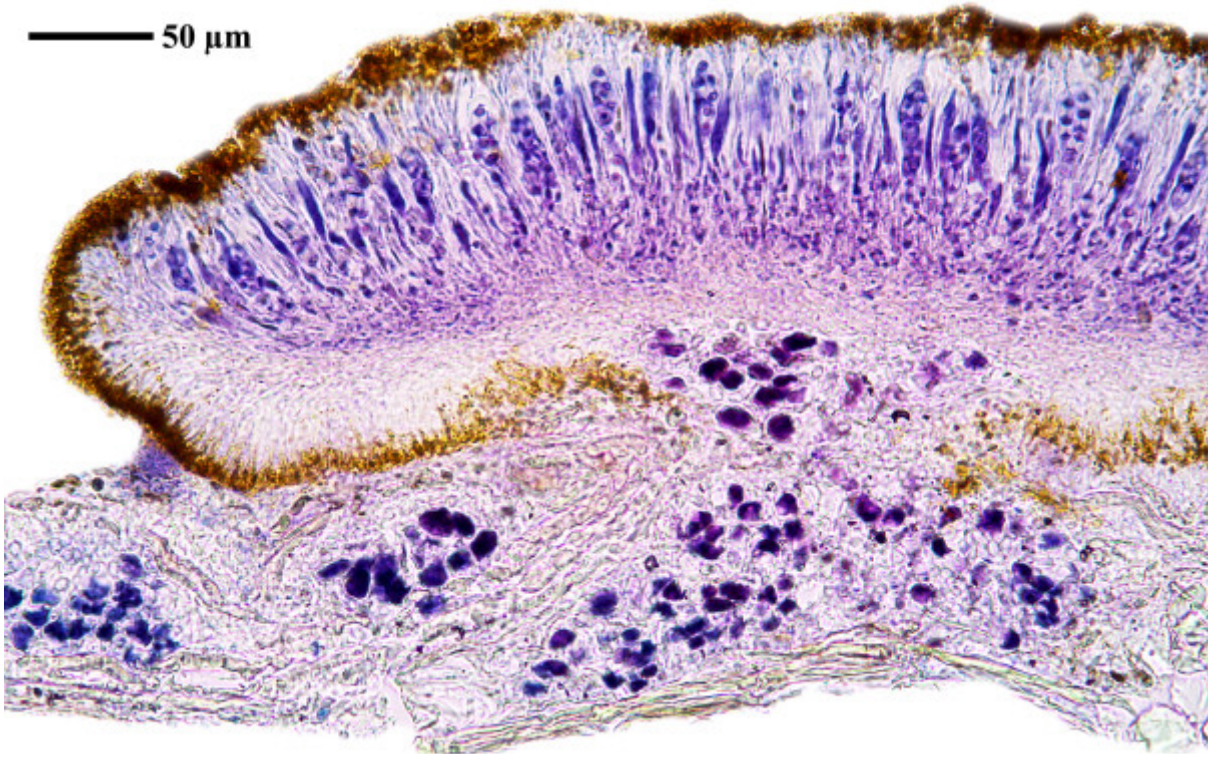
Caloplaca ferruginea

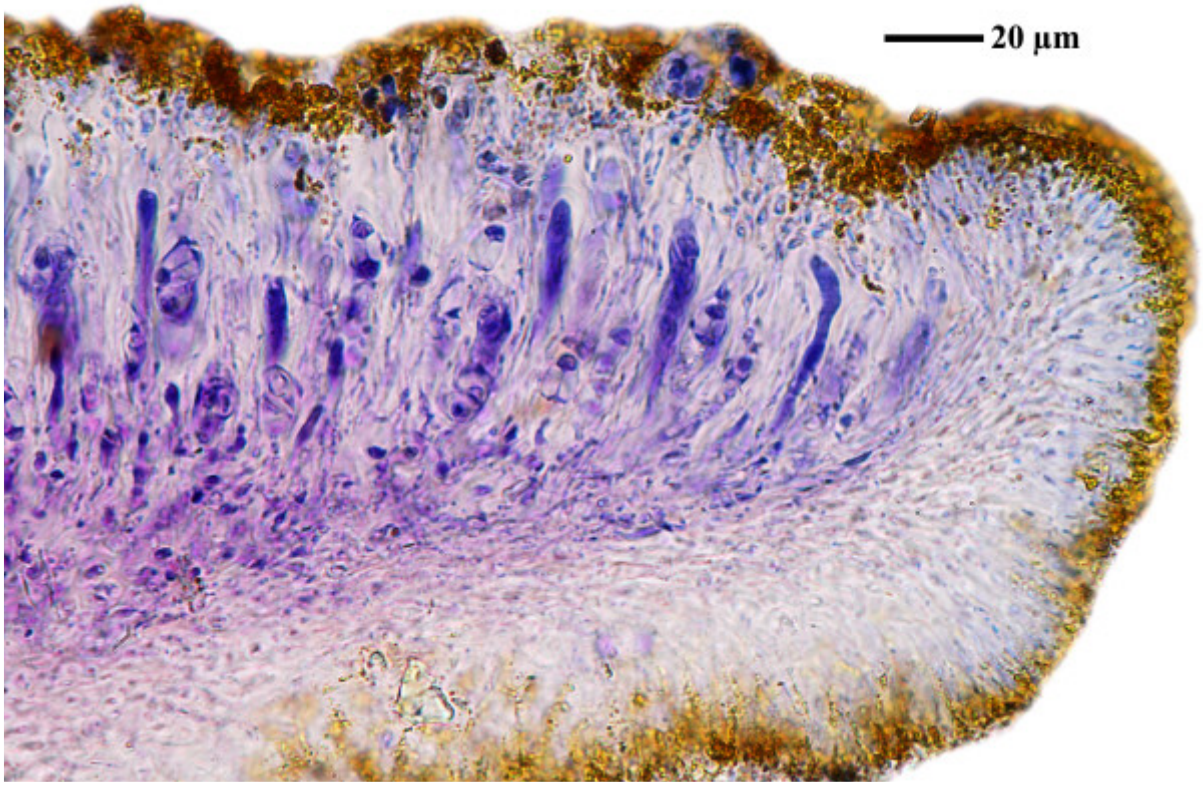


Caloplaca ferruginea



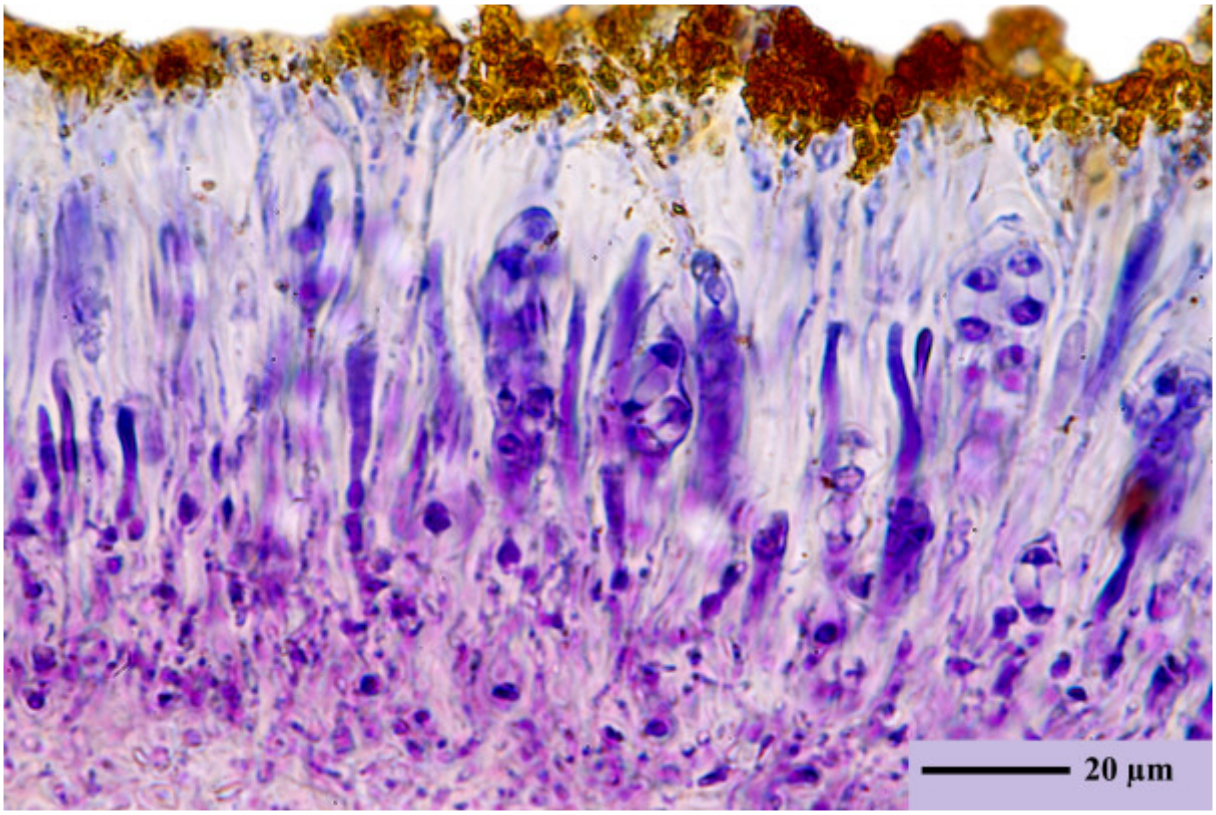
Caloplaca ferruginea

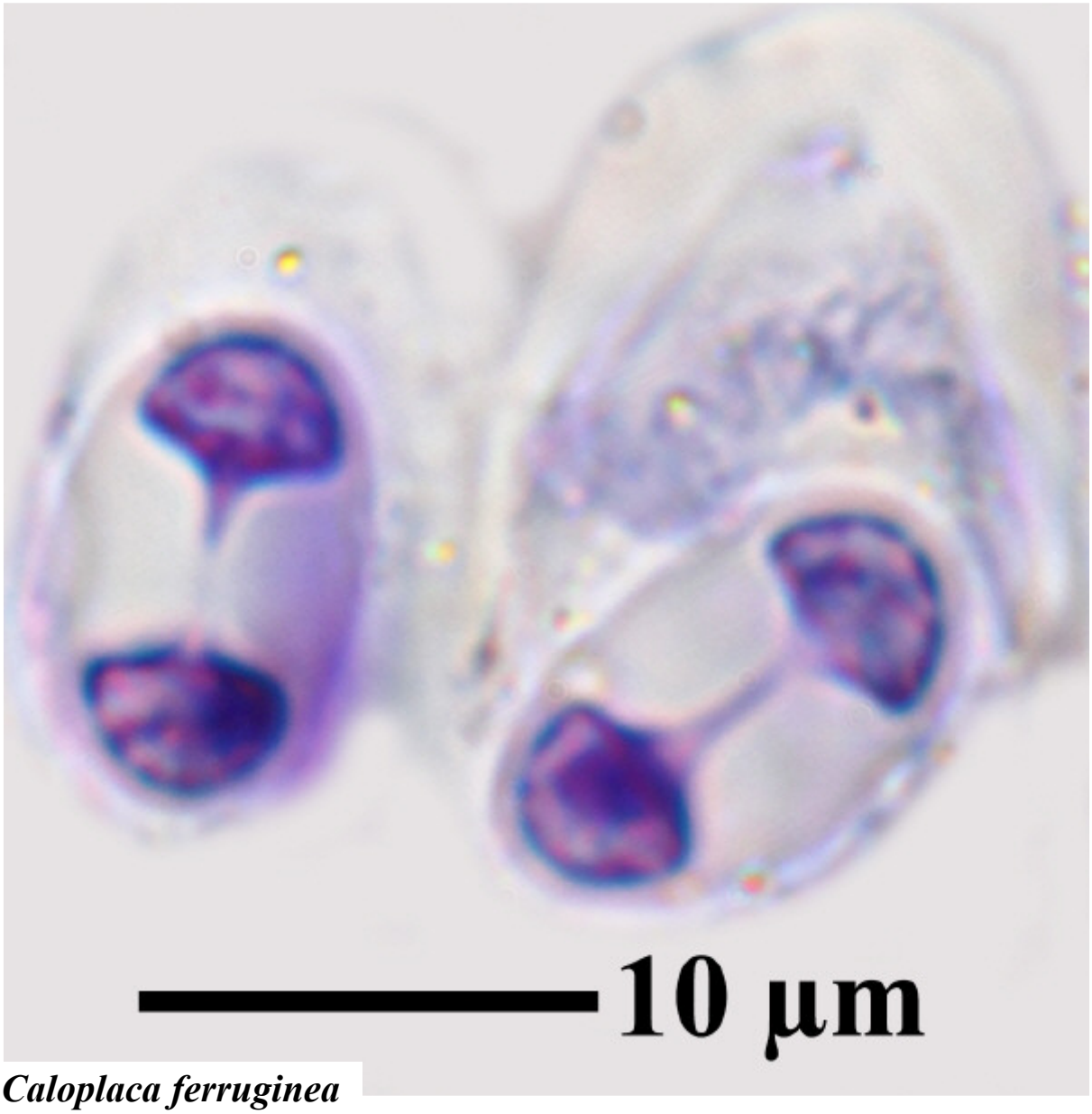






Caloplaca ferruginea





Caloplaca ferruginea

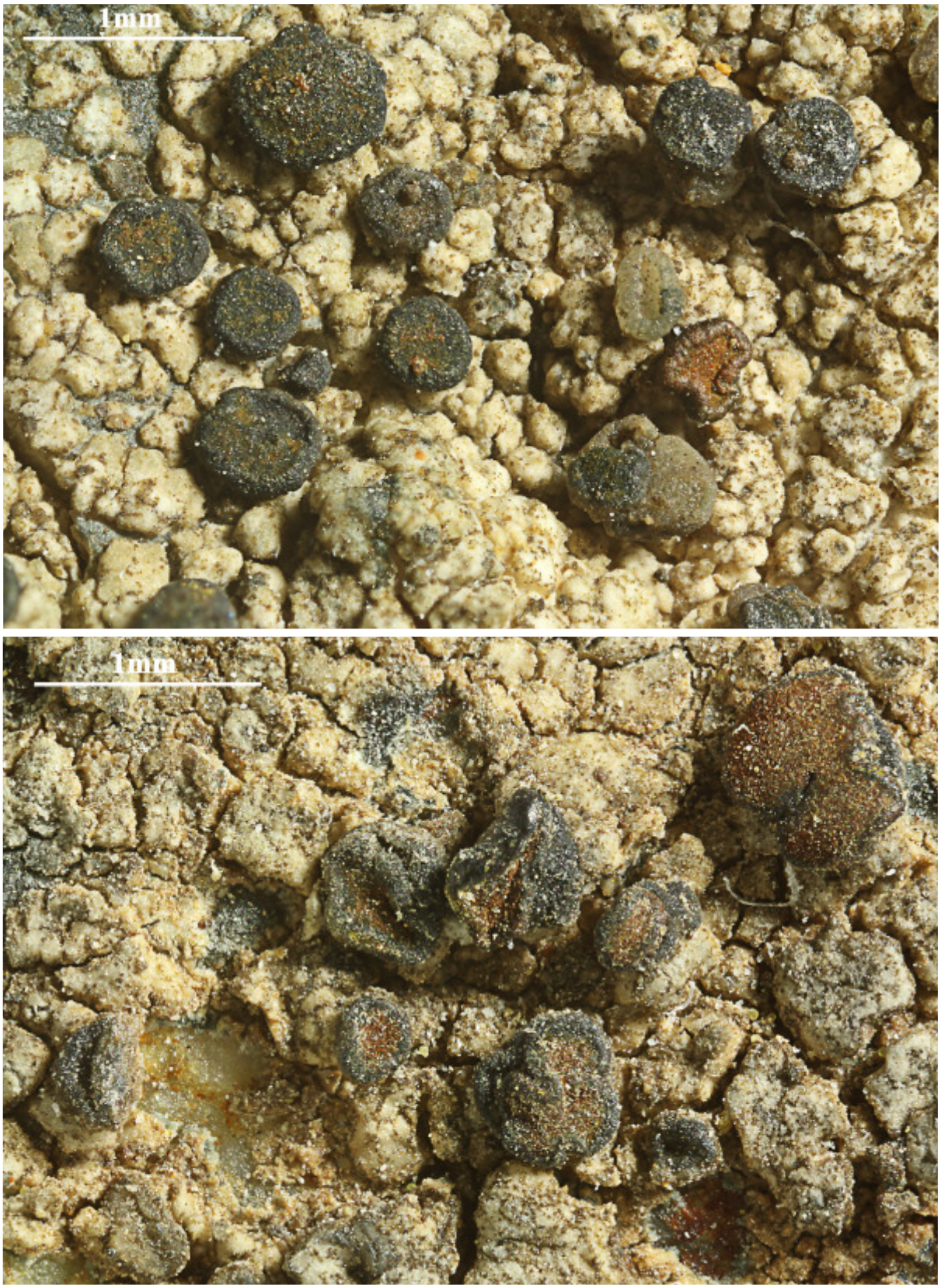
Caloplaca festivella (Nyl.) Kieff.

Spores 19.7-13.5 x 6.2-7.6 µm, septum 4.2-6.2 µm. On non-calcareous rocks. Lit. Kieffer J.J. in Bull. Soc. Hist. Natur. Metz (1896): 66.

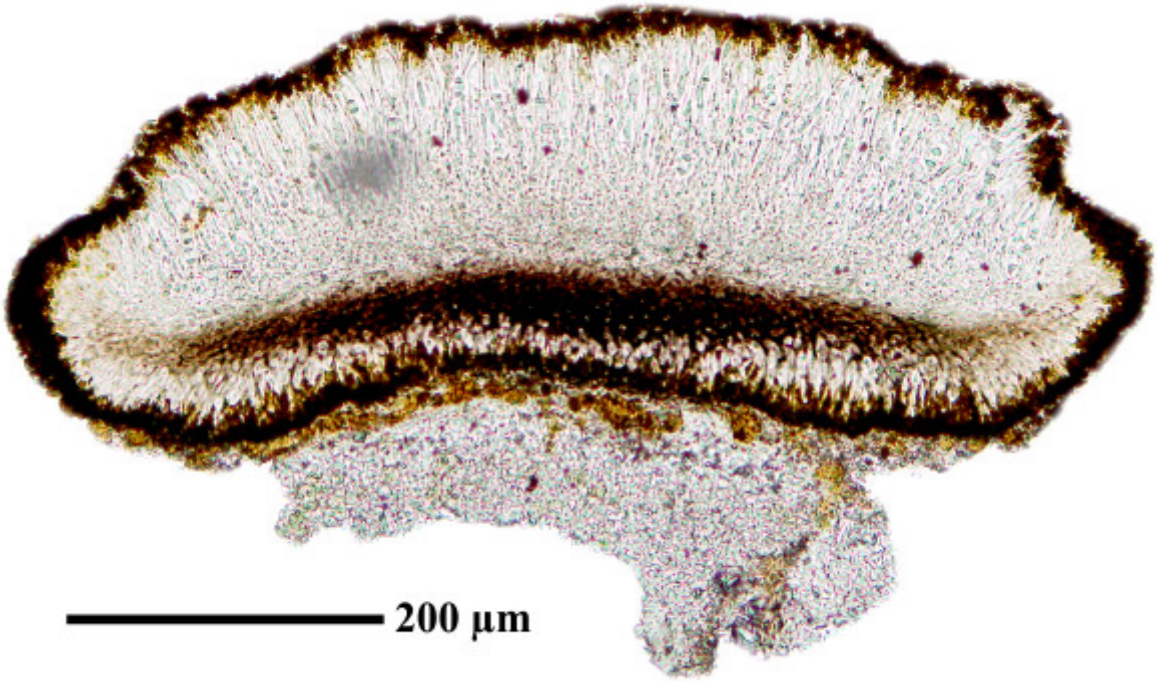
[19578], Italia, Calabria, Aspromonte, (FS). Pietra Impliccata, alt. 1700 m, in rupibus siliceis duris ad latera septentriones versus specantia. Leg. P.L. Nimis & M. Tretiach, det. J. Poelt. VĚZDA: LICHENES SELECTI EXSICCATI NR. 2320.

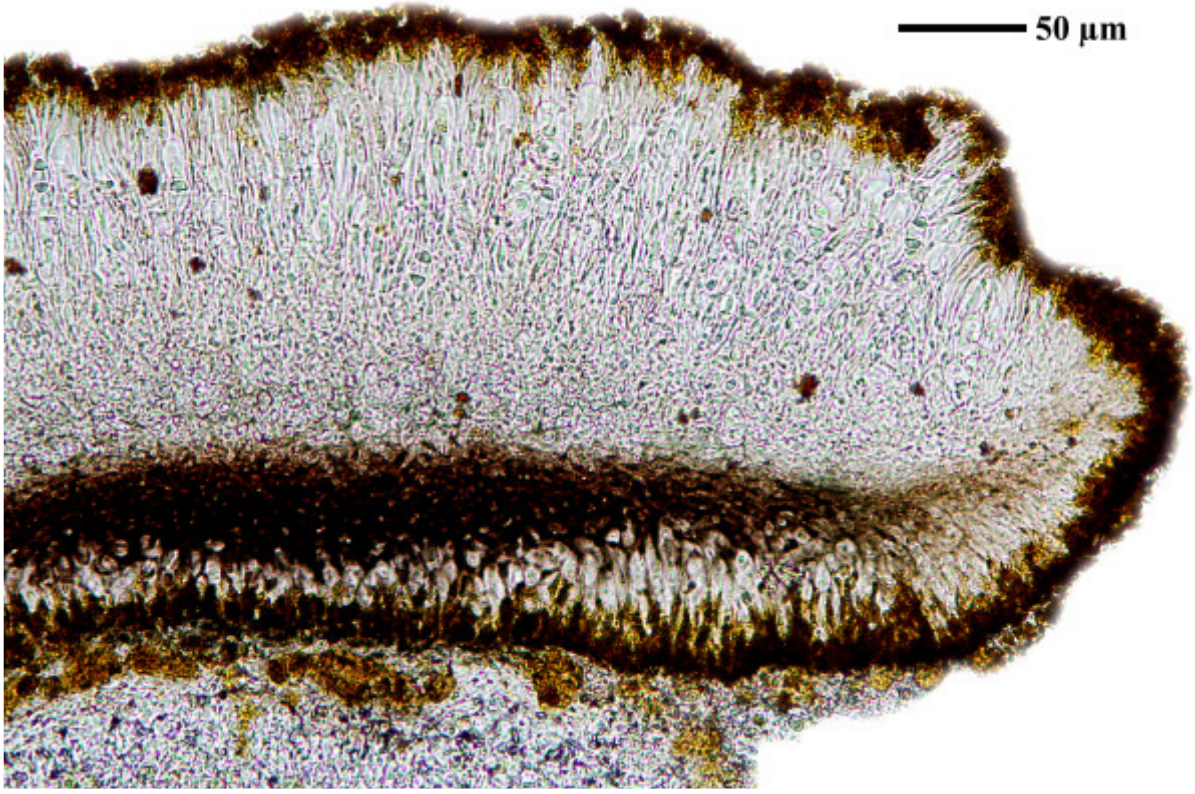




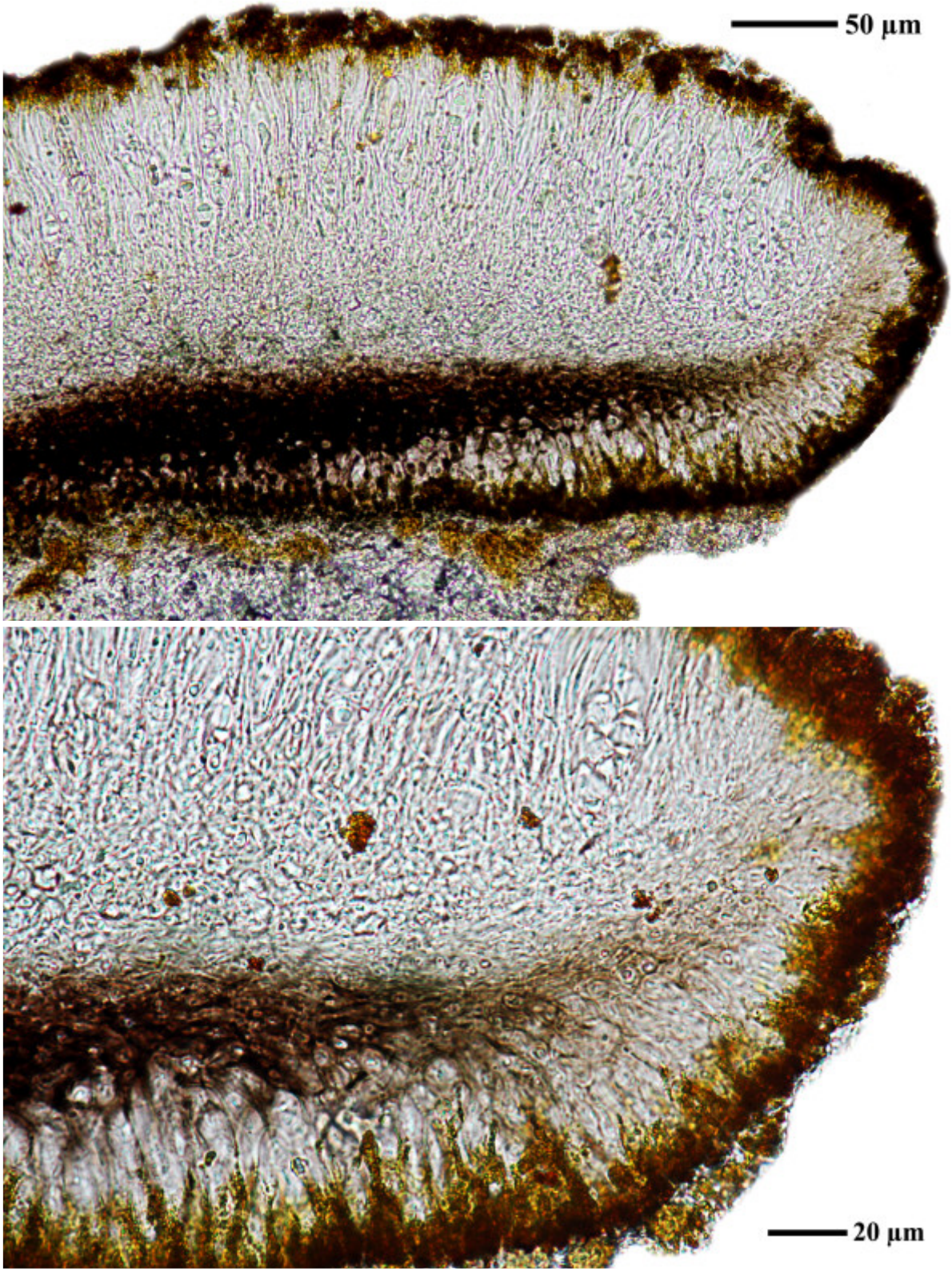


Caloplaca festivella

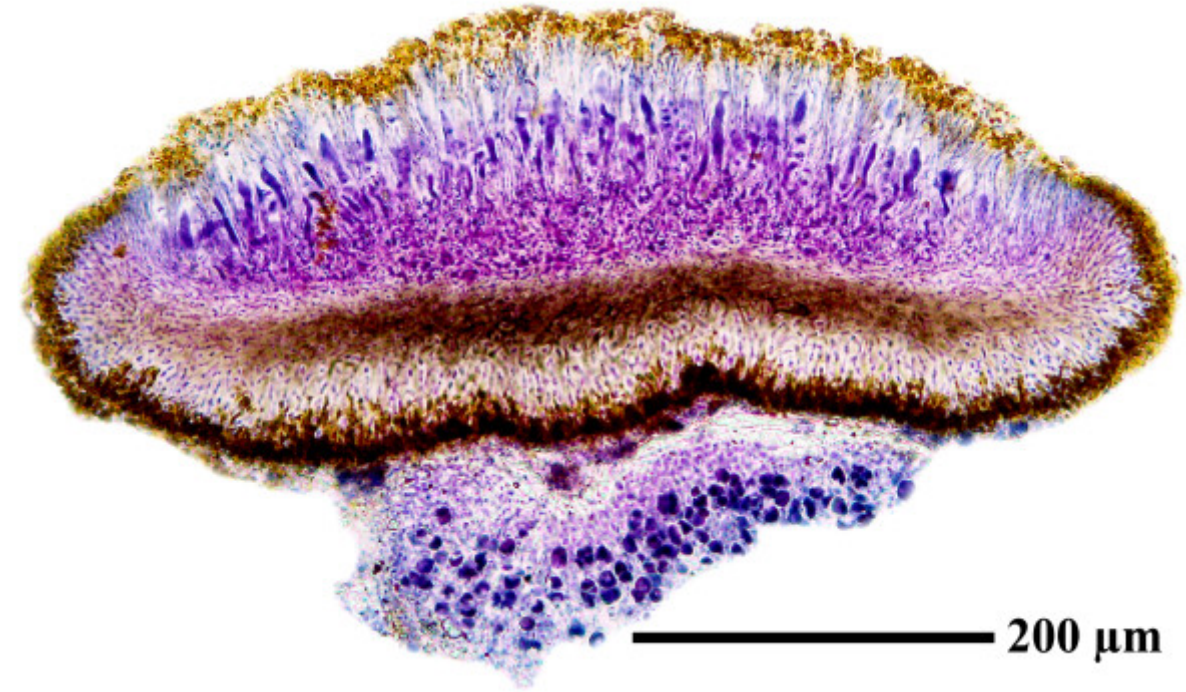


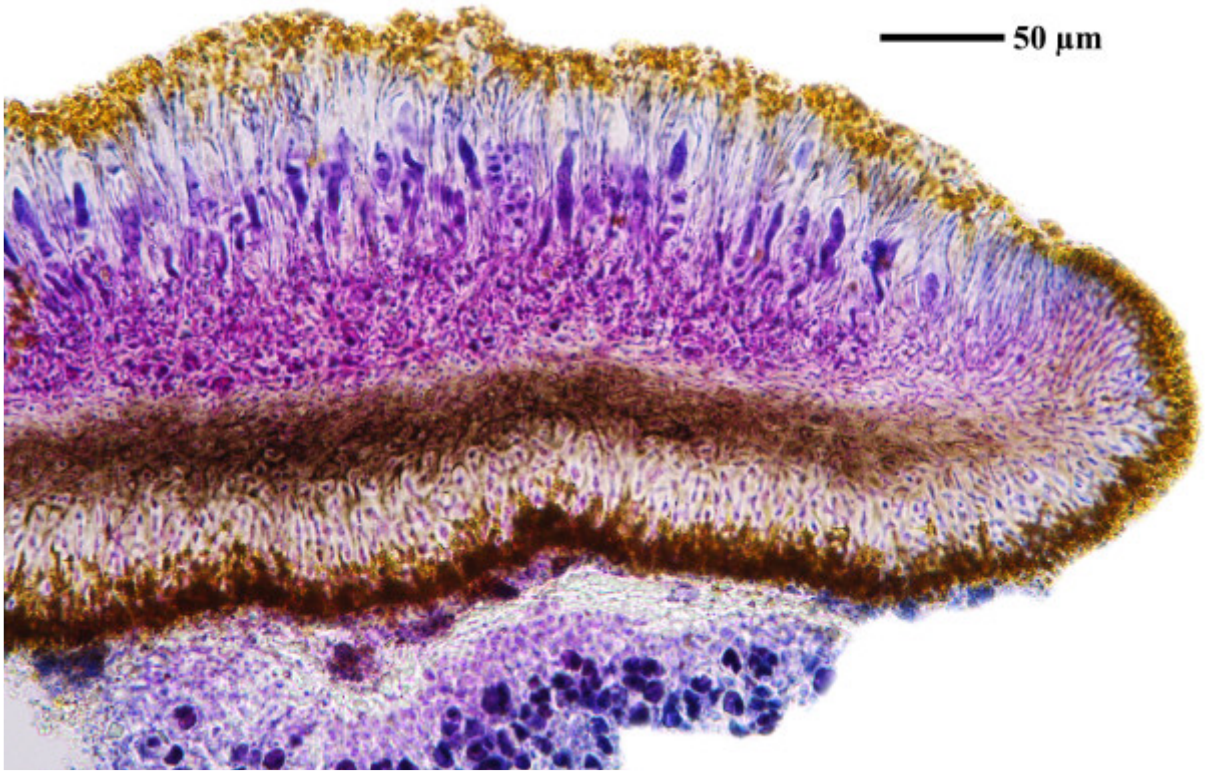


Caloplaca festivella

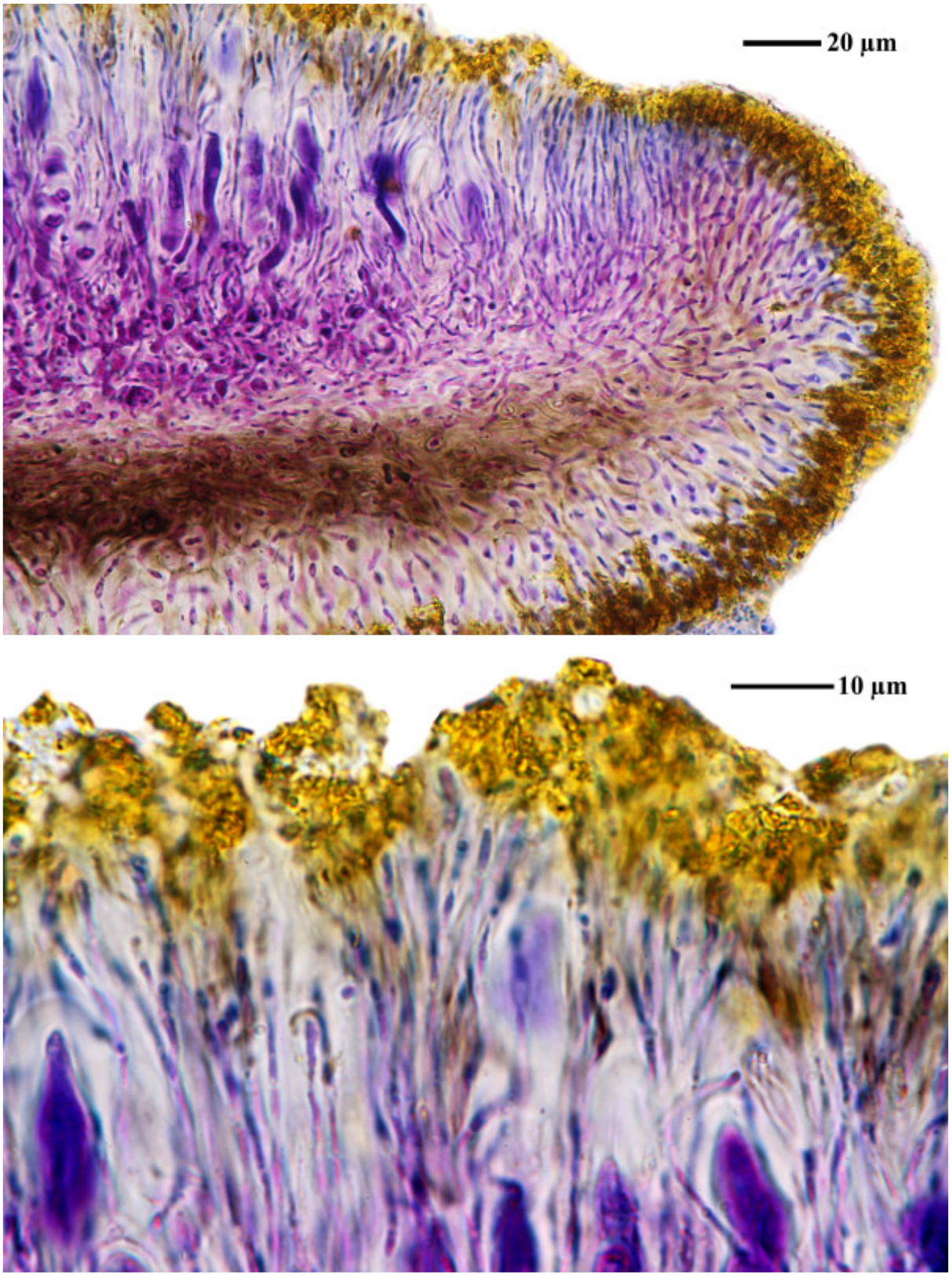


Caloplaca festivella

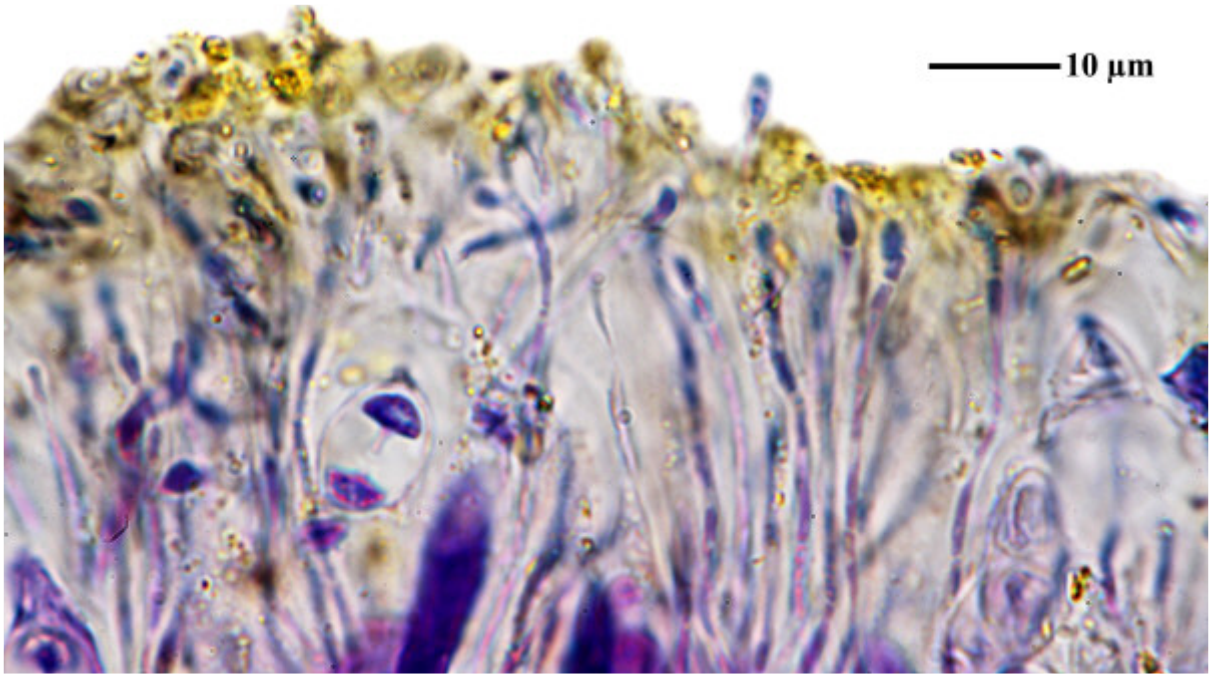


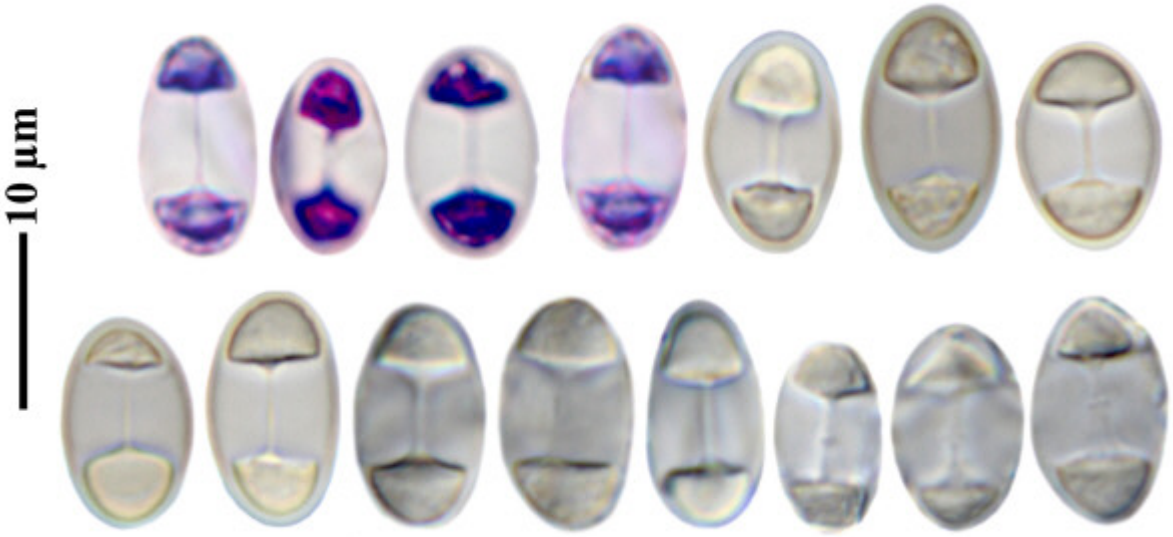


Caloplaca festivella



Caloplaca festivella





Caloplaca festivella

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

Thallus pink sorediate crust

[BR5030028206769], Papua New Guinea, Northern Province, Owen Stanley Range, Myola, c. 0.5 km along trail from guesthouse to Maduri, in primary montane forest, fallentree with persistent bark, exhaustively sampled, on branches. 9°09’ S, 147°46’ E, 2100 m. Leg. A. Aptroot (37885), 17. Oct. 1995, det. A. Aptroot 1996.





Caloplaca filsoniorum

Caloplaca flavescens (Huds.) J.R.Laundon, Lichenologist 16(1): 53 (1984)
[= *Variospora flavescens* (Huds.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 76 (2013)]
[= *Caloplaca heppiana* (Müll.Arg.) Zahlbr., Annln K. K. naturh. Hofmus. Wien 5: 27 (1890)]
[= *Caloplaca aurantia* var. *heppiana* (Müll.Arg.) Poelt, Mitt. bot. StSamml., Münch. 1: 22 (1954)]

Thallus nicht oder kaum bereift. Randlappen im Querschnitt etwas rundlich oder unregelmäßig und nicht so verflacht und angepreßt wie bei *Caloplaca aurantia*. Sporen 14,1-14,8 x 7,8-9,2 µm, zitronenförmig, Septum vorstehend.

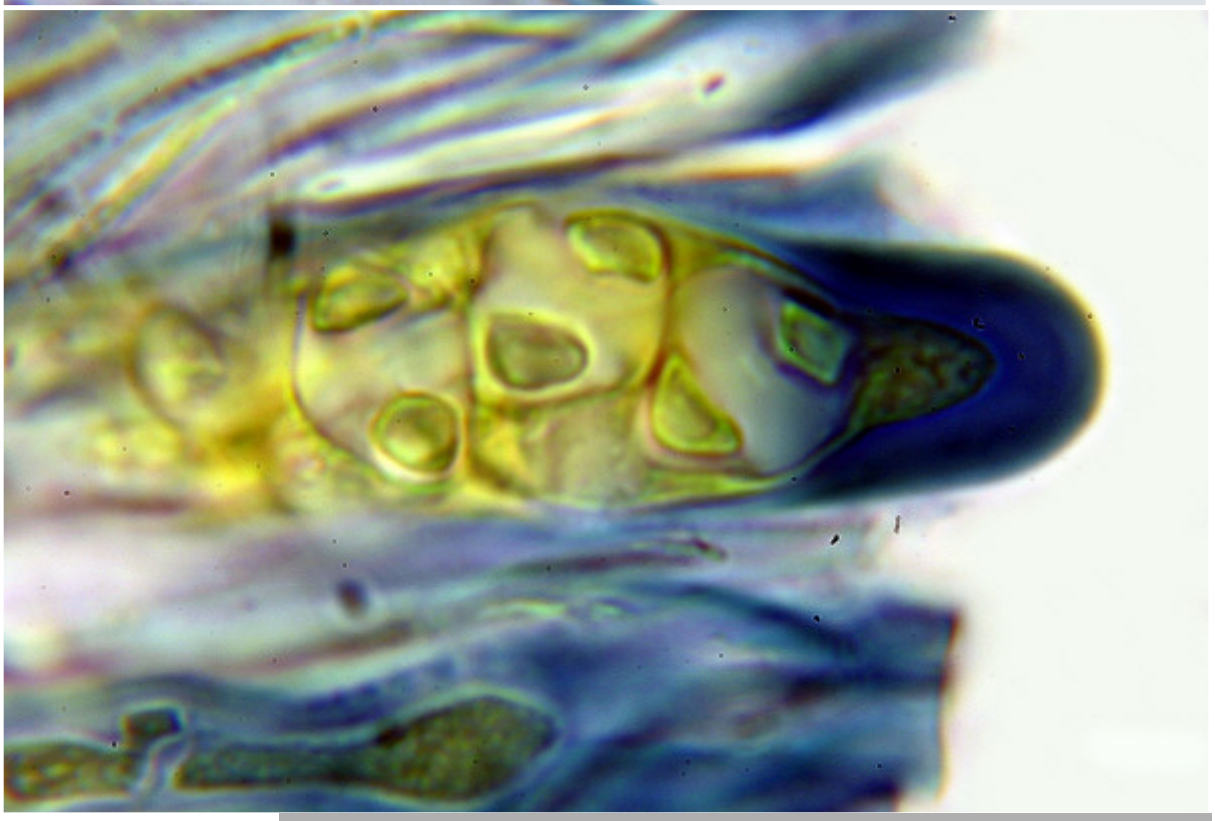
[11694], Germany, Baden-Württemberg, Schwäbische Alb, Blaubeuren, an Kalkfelsen im Hangbuchenwald bei der Brillenhöhle, schattig, 48°24,289’ N, 9°46,687’ E, 600 m. Leg. et det. Schumm 26.5.2004.

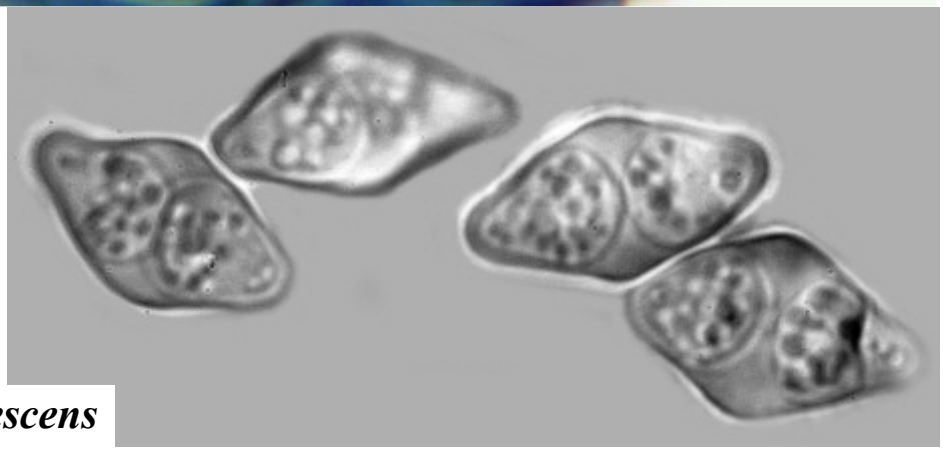




Caloplaca flavescens







Caloplaca flavescens

Caloplaca flavescens (Huds.) J.R.Laundon, Lichenologist 16(1): 53 (1984)
[= *Variospora flavescens* (Huds.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 76 (2013)]
[= *Caloplaca heppiana* (Müll.Arg.) Zahlbr., Annln K. K. naturh. Hofmus. Wien 5: 27 (1890)]
[= *Caloplaca aurantia* var. *heppiana* (Müll.Arg.) Poelt, Mitt. bot. StSamml., Münch. 1: 22 (1954)]

On rocks.

[12455], Griechenland, N-Samos, westlich von Karlovasi, Felsen an der Küstenstraße, 37°47.326' N, 26°39.694' E, 108 m. Leg. F. Schumm & R. Düll, 07.05.2006, det. A.Aptroot.

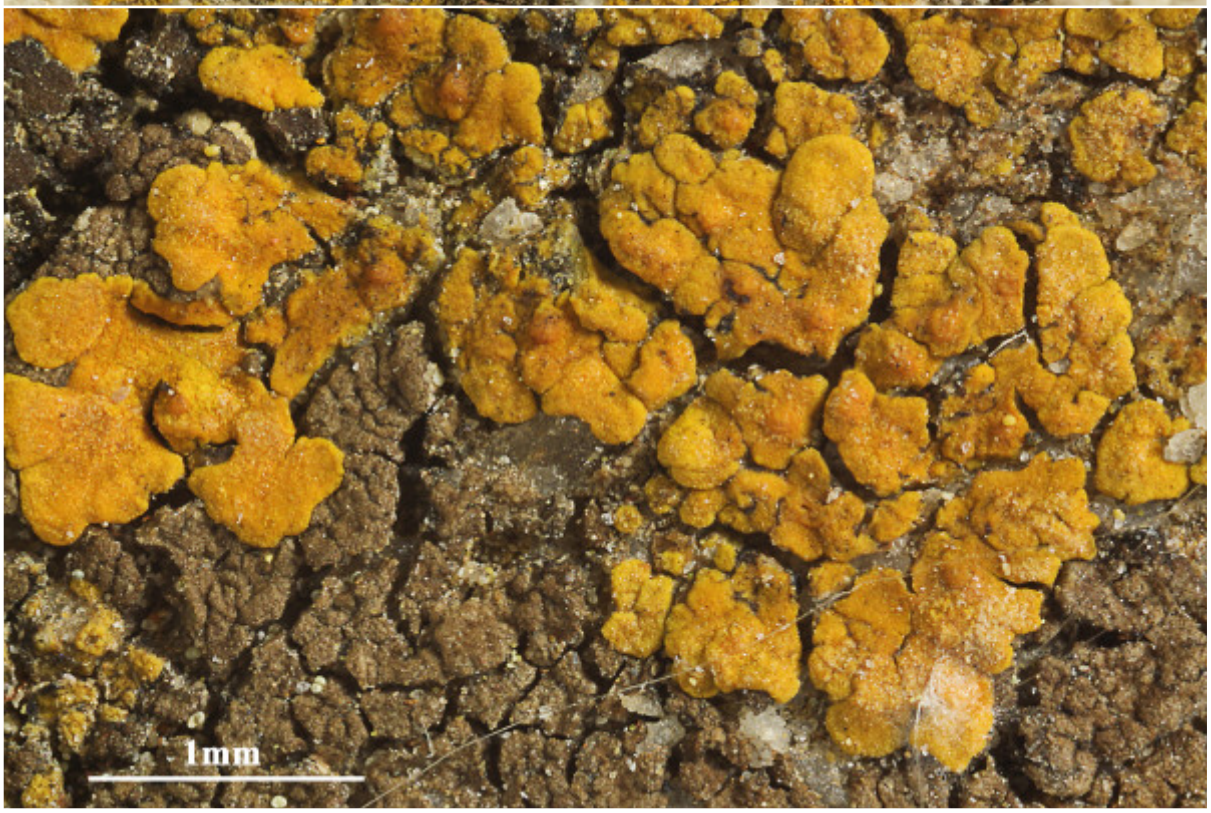


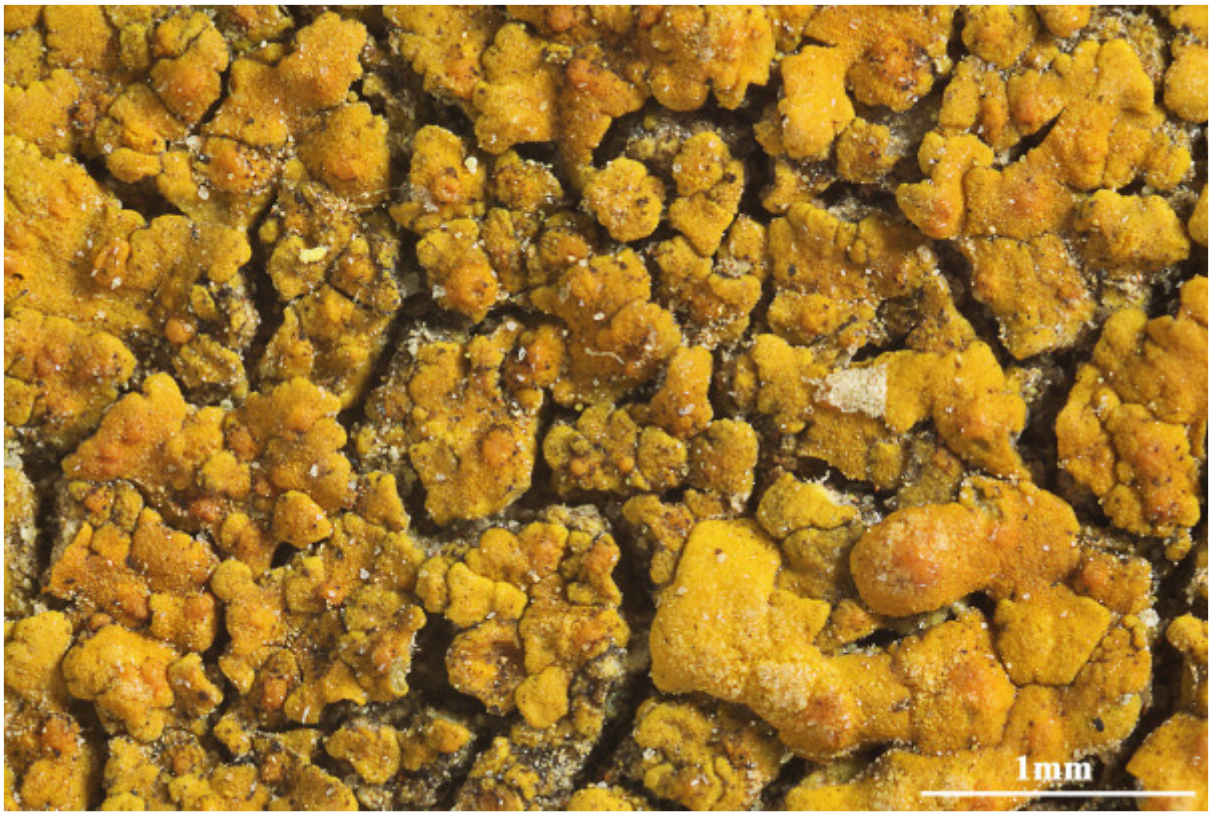
Caloplaca flavescens (Huds.) J.R.Laundon
[= *Variospora flavescens* (Huds.) Arup, Frödén & Søchting]

On rocks.

[13864], Griechenland, N-Samos, zwischen Kambos und Vourliotes, sonnige Ölbaumplantagen, 37°47.928' N, 26°50.967' E, 100 m. Leg. F. Schumm, 13.05.2008, det. A. Aptroot 2016.









Caloplaca flavescens

Caloplaca flavescens (Huds.) J.R.Laundon
[= *Variospora flavescens* (Huds.) Arup, Frödén & Søchting]

On rocks.

[14000], Griechenland, Samos, Ambelosgebirge, nahe dem Prof. Ilias, 37°44.559' N, 26°50.753' E, 1050 m. Leg. F. Schumm & R. Düll, 20.05.2008, det. H. Sipman







Caloplaca flavescens

Caloplaca flavescens (Huds.) J.R.Laundon, Lichenologist 16(1): 53 (1984)
[= *Variospora flavescens* (Huds.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 76 (2013)]
[= *Caloplaca heppiana* (Müll.Arg.) Zahlbr., Annln K. K. naturh. Hofmus. Wien 5: 27 (1890)]
[= *Caloplaca aurantia* var. *heppiana* (Müll.Arg.) Poelt, Mitt. bot. StSamml., Münch. 1: 22 (1954)]

[16379], 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 H. Sipman 2016.







Caloplaca flavescens

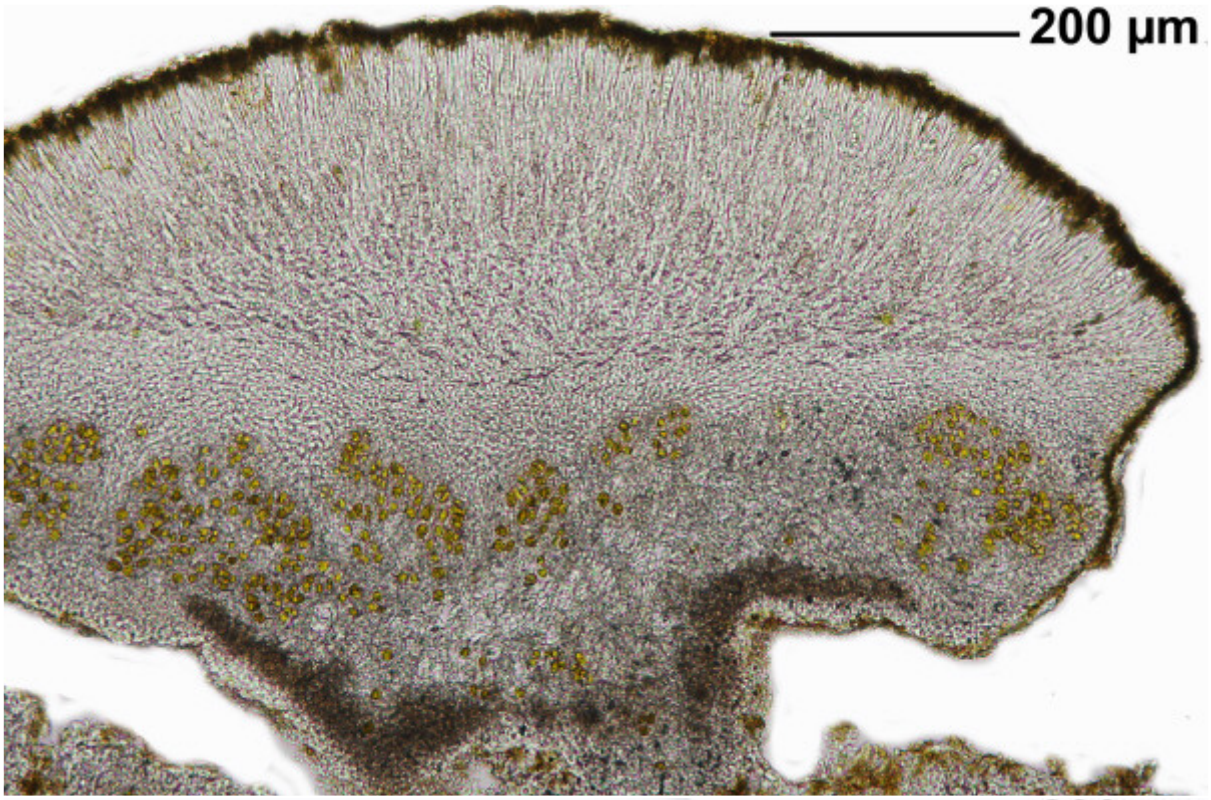
Caloplaca flavescens (Huds.) J.R.Laundon
[= *Variospora flavescens* (Huds.) Arup, Frödén & Søchting]

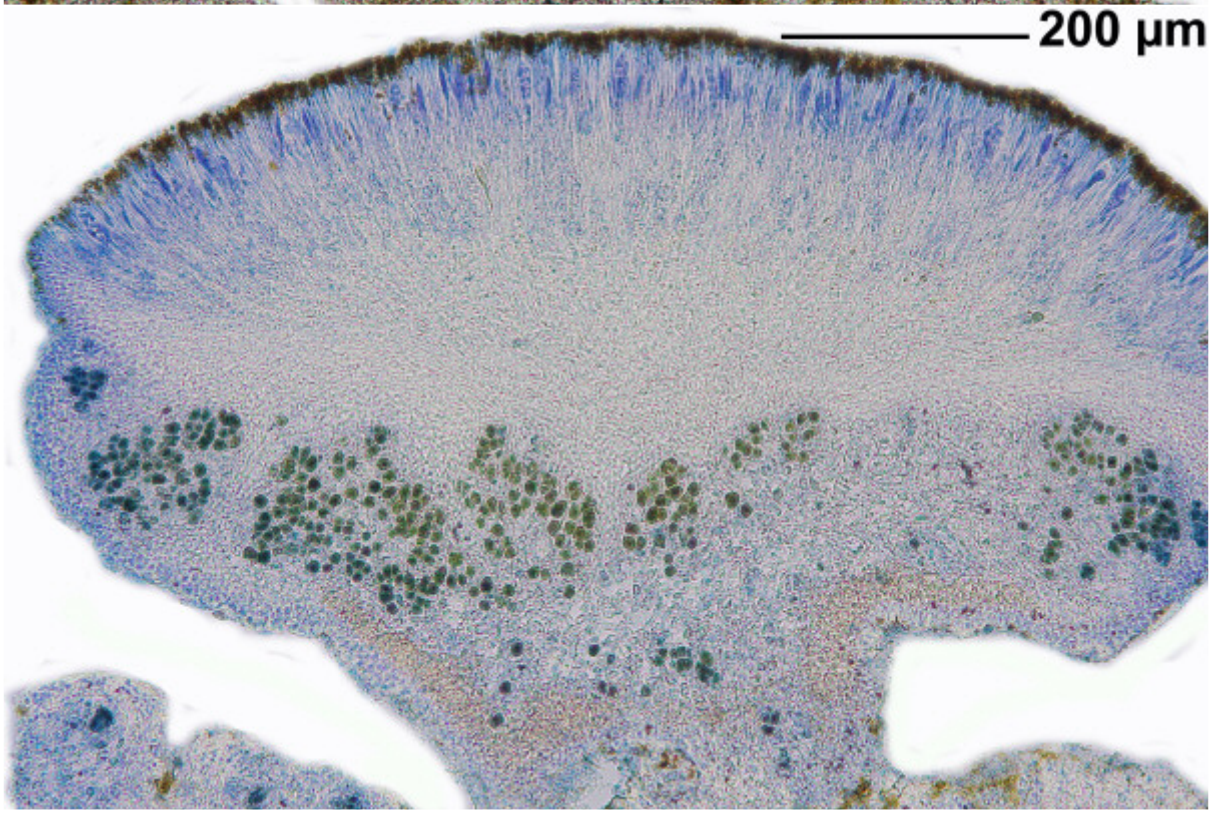
Thallus nicht oder kaum bereift. Randlappen im Querschnitt etwas rundlich oder unregelmäßig und nicht so verflacht und angepreßt wie bei *Caloplaca aurantia*. Sporen 11-14,8 x 8-13 µm, zitronen- bis breit rautenförmig, Septum vorstehend, bis aufgedunsen (in K).

[16676], Germany, Baden-Württemberg, Schwäbische Alb, Kreis Reutlingen, Gundelfingen, auf sonnigen Kalkfelsen, 48,322731° N, 9,50123° E, 610 m. Leg Schumm 10.09.2010.

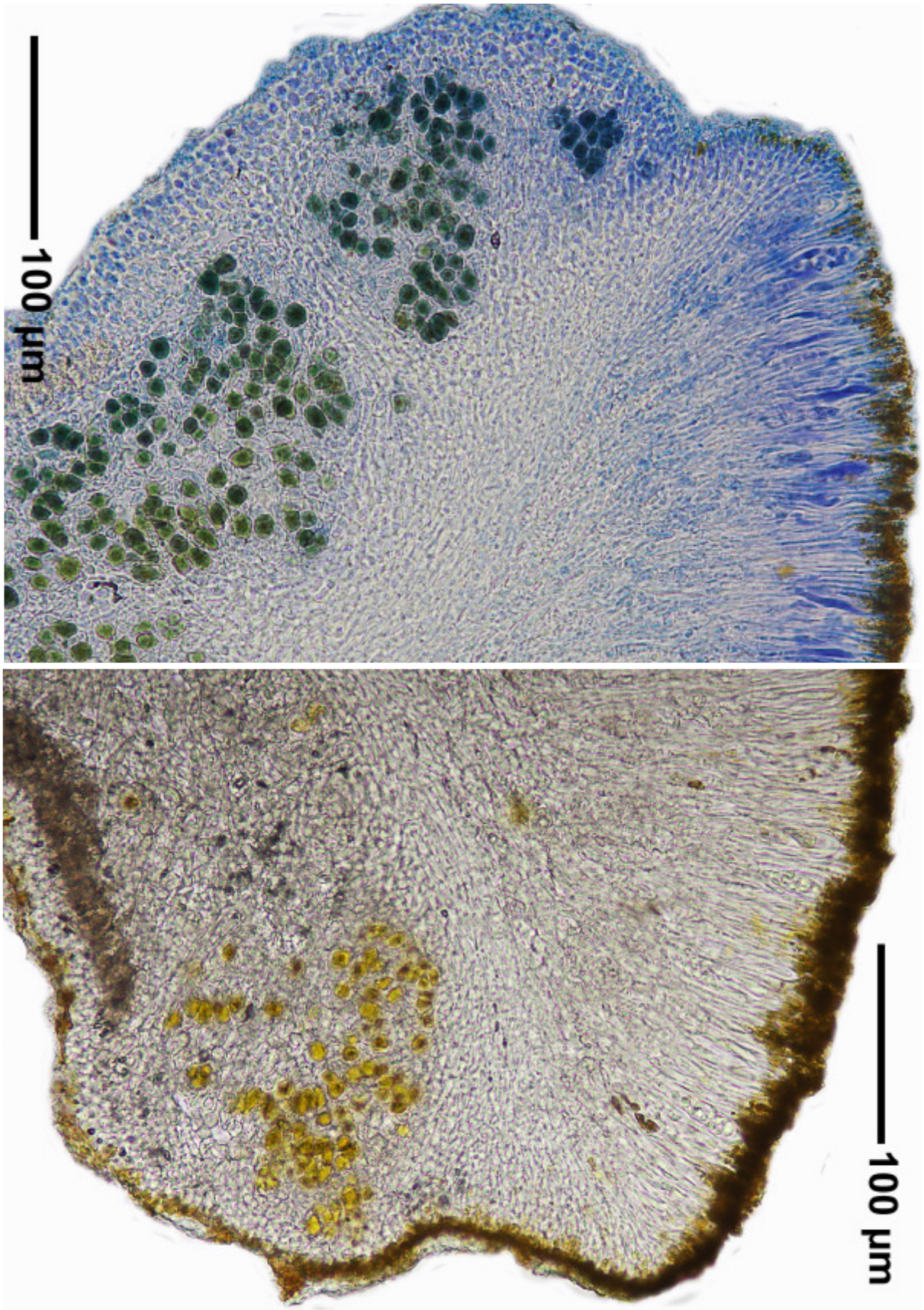




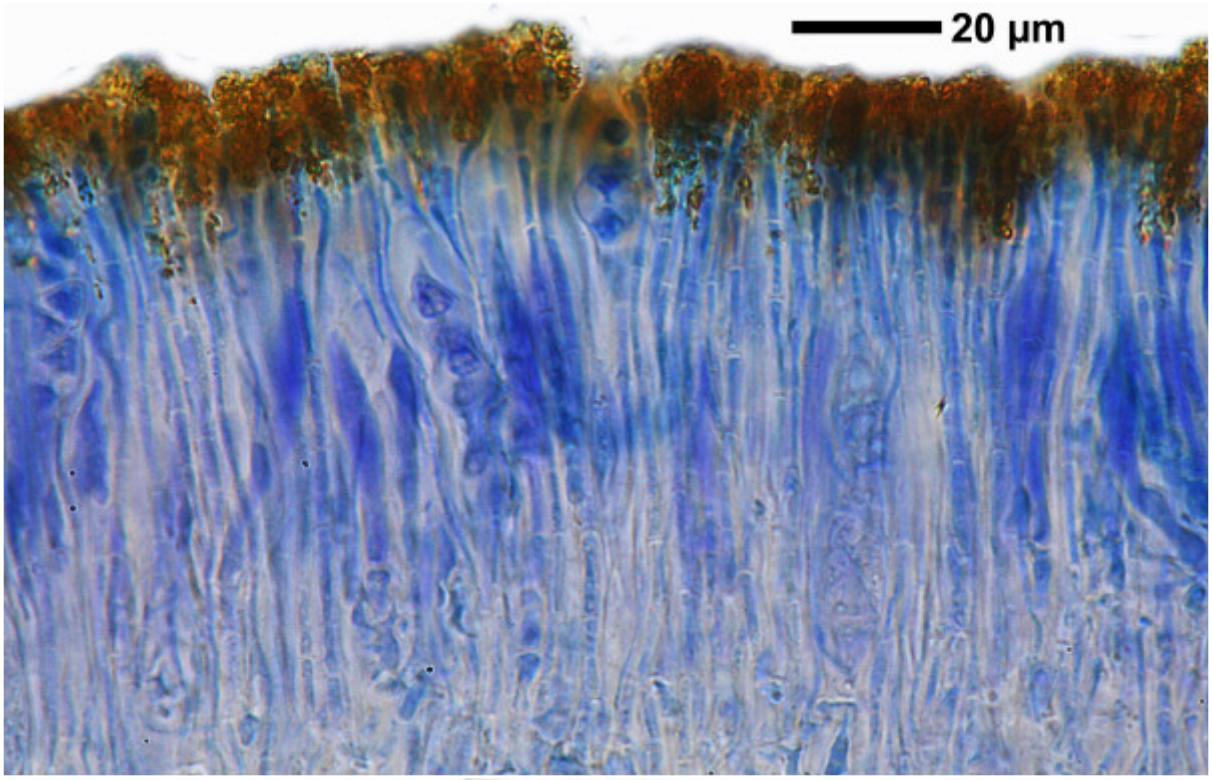


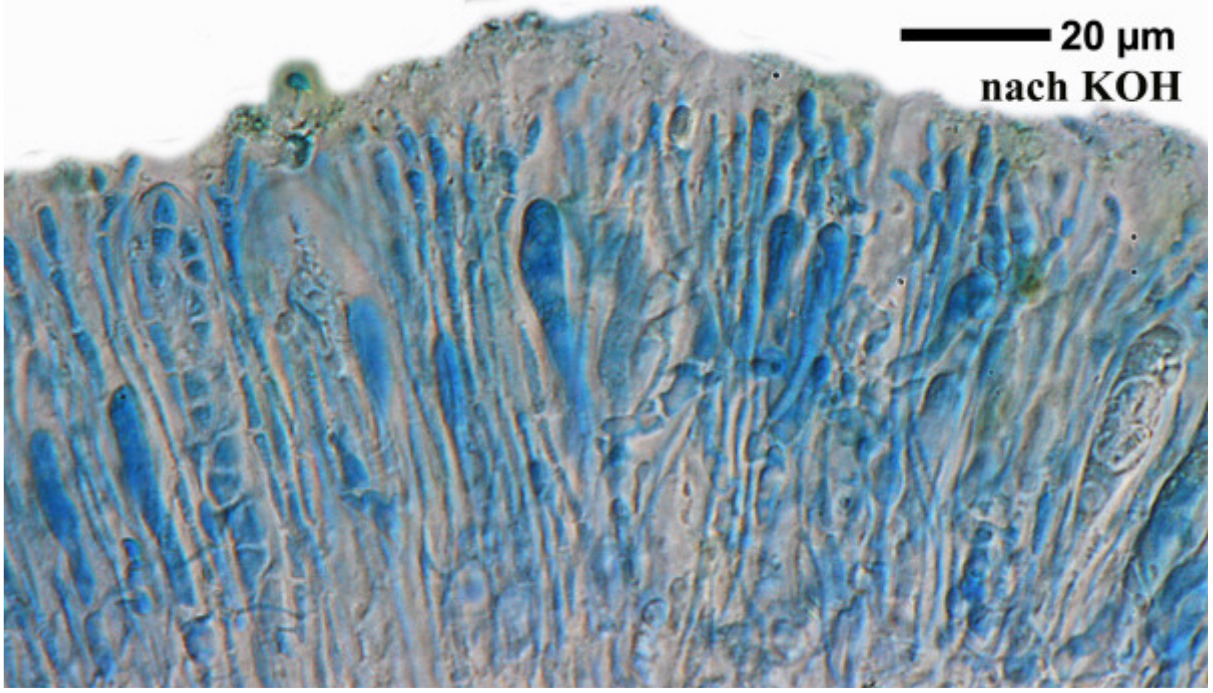


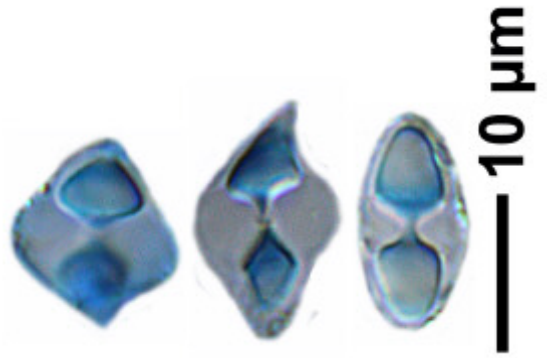
Caloplaca flavescens



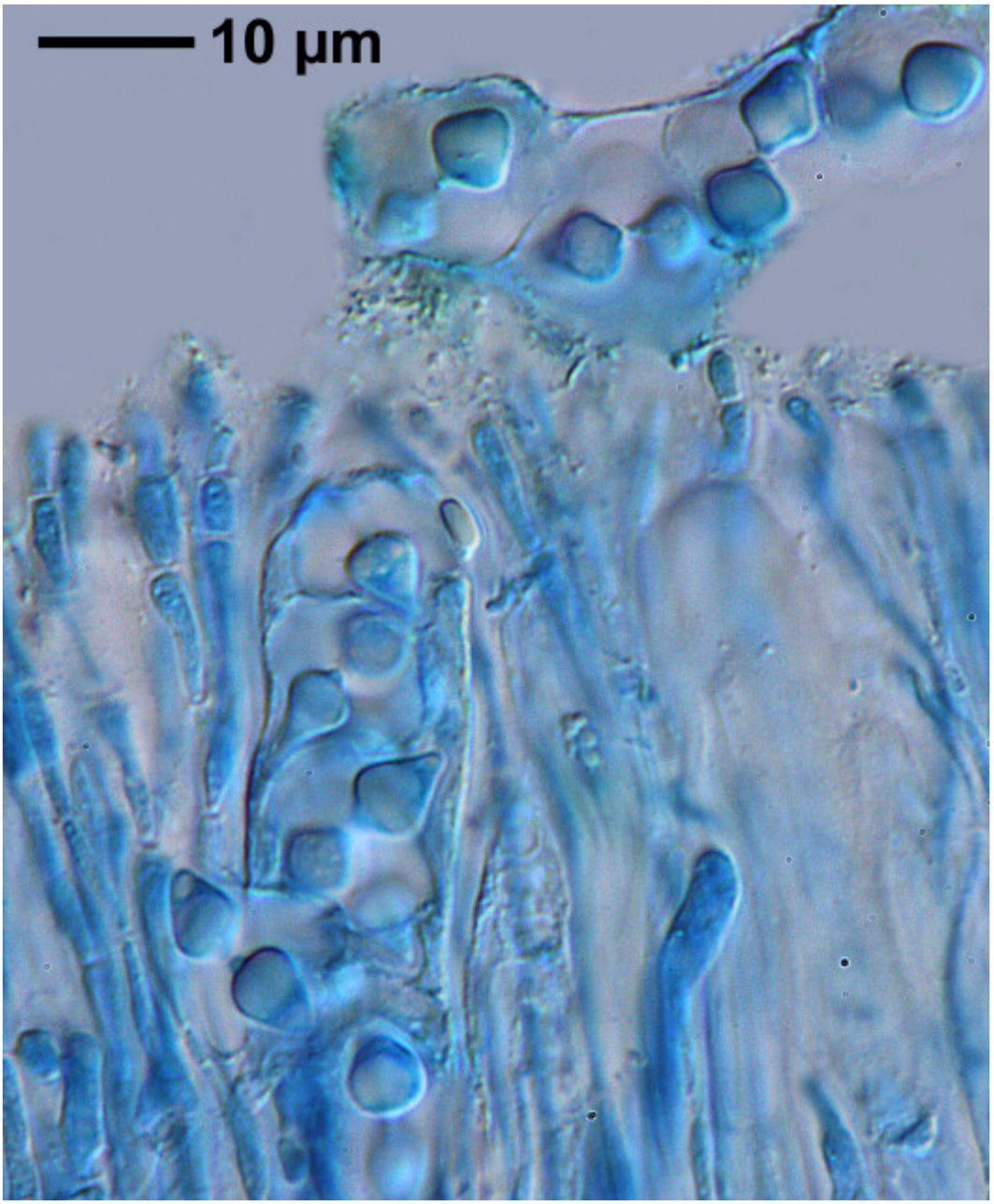
Caloplaca flavescens

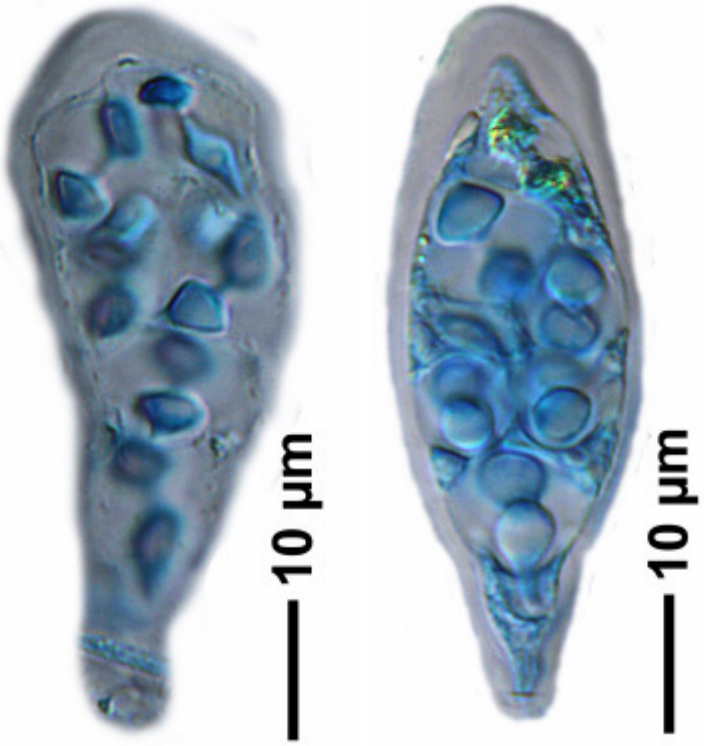






Caloplaca flavescens





Caloplaca flavescens

Caloplaca flavescens (Huds.) J.R.Laundon
[= *Variospora flavescens* (Huds.) Arup, Frödén & Søchting]

Pycnospores c. 5.1 x1.3 µm

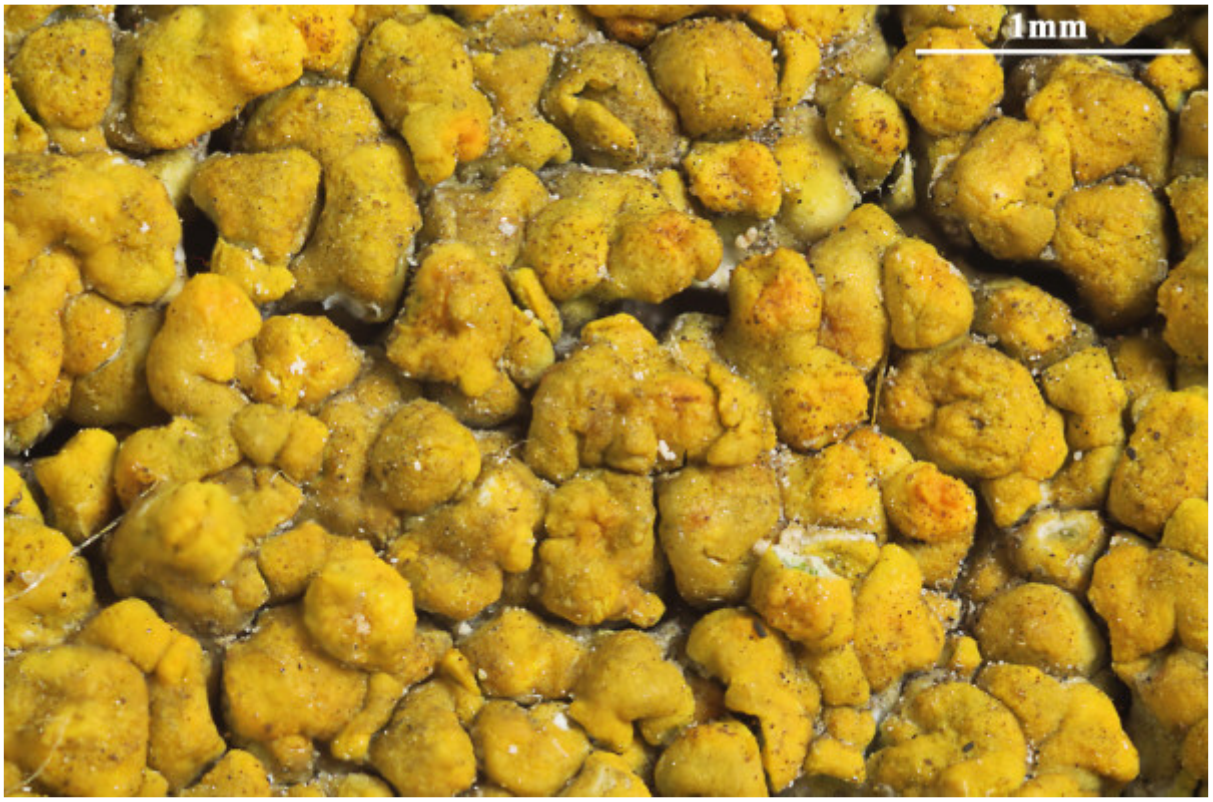
[19660], Germany, Baden-Württemberg, Kreis Heidenheim, östlich von Söhnstetten an der Abzweigung zum Dudelhof. 48.66927° N, 10.00898° E, 581 m. An Kalkblöcken in Trockenwiese. TK 7326. Leg. et det. F. Schumm, 07.08.2017, conf. A. Aptroot.



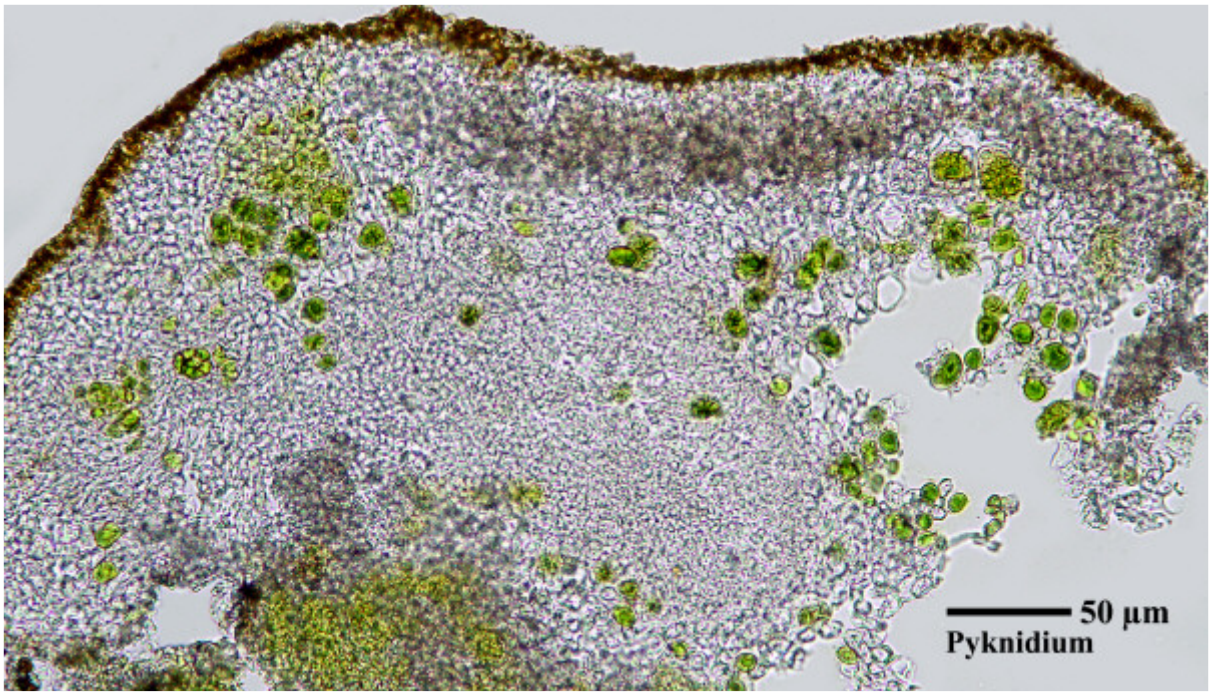


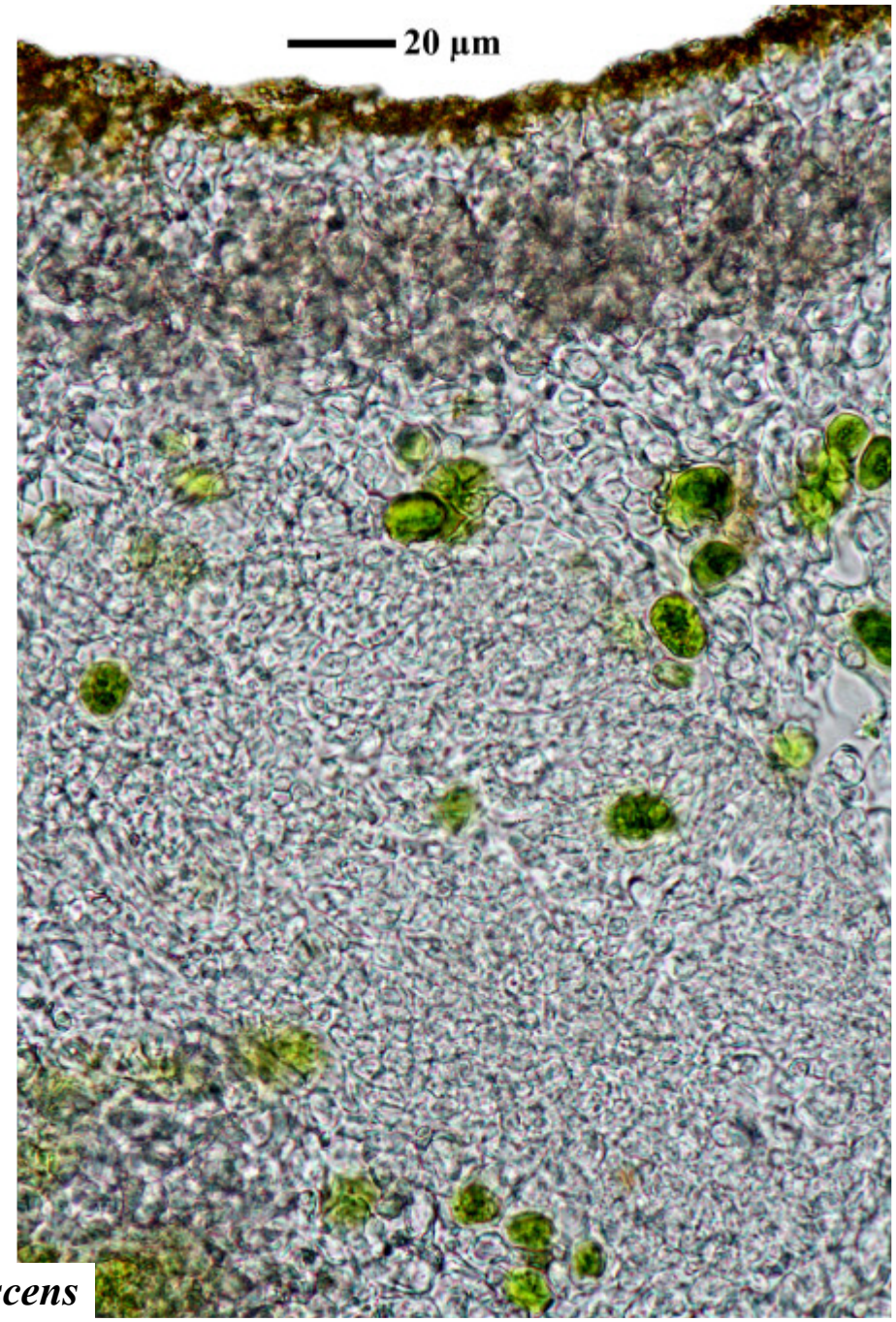
Caloplaca flavescens



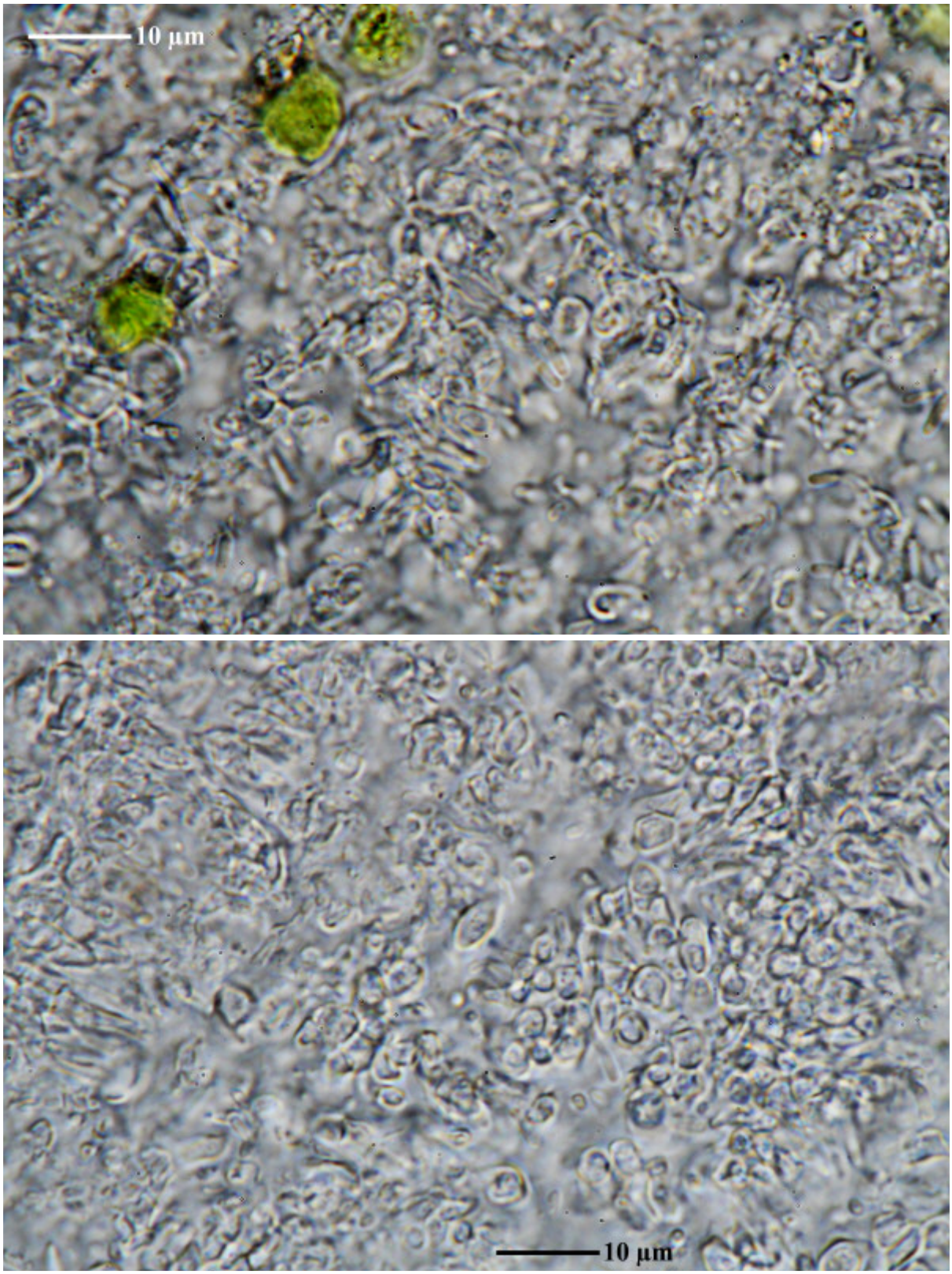


Caloplaca flavescens

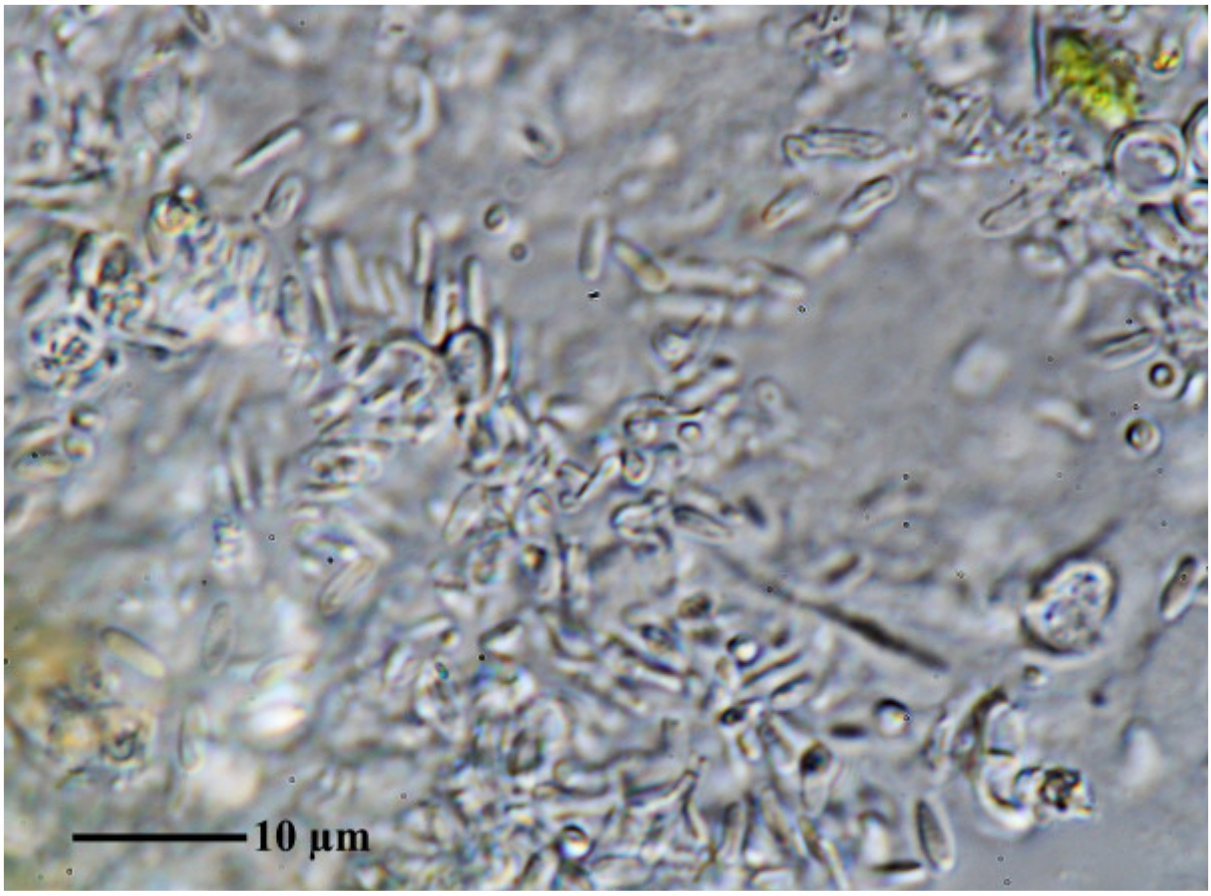


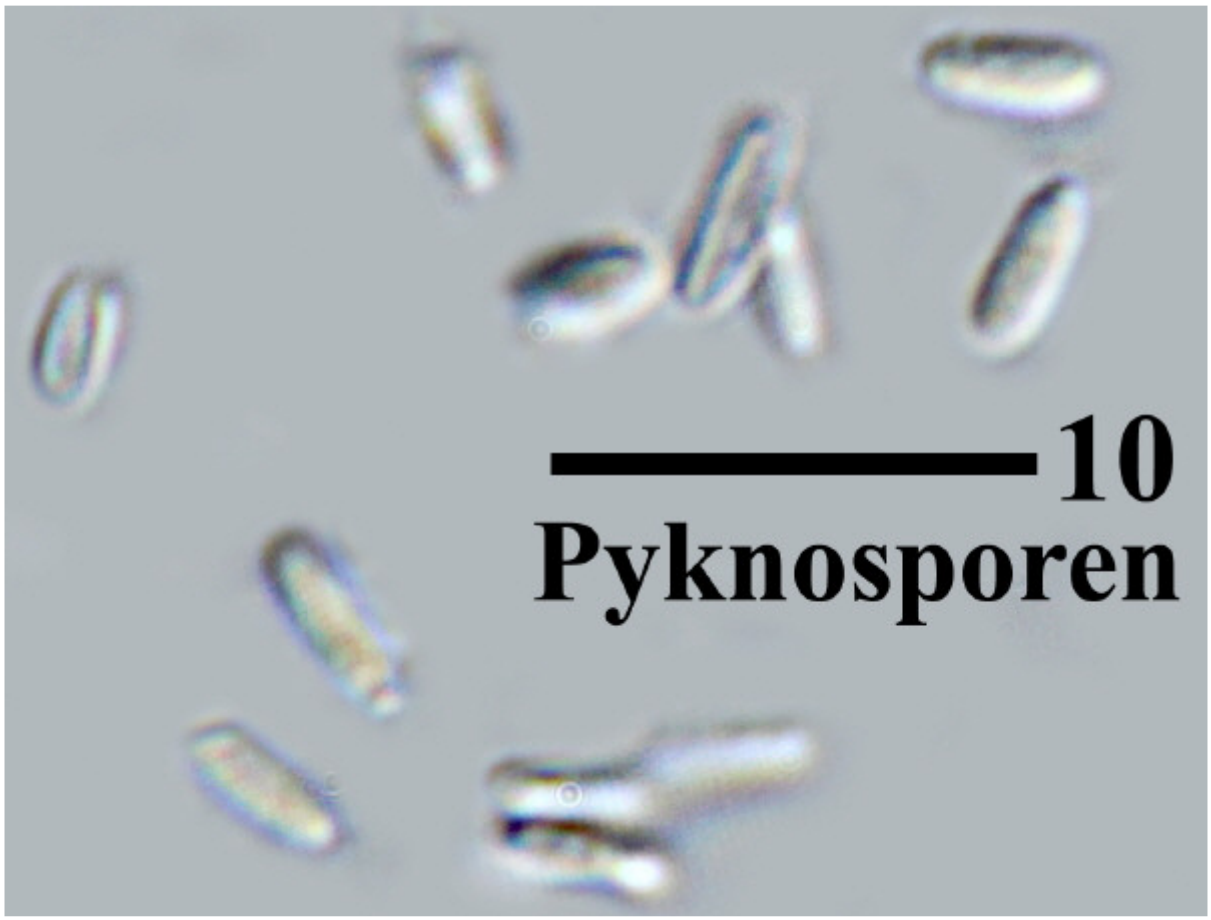


Caloplaca flavescens



Caloplaca flavescens





Caloplaca flavescens

Caloplaca flavescens (Huds.) J.R.Laundon
[= *Variospora flavescens* (Huds.) Arup, Frödén & Søchting]
[= *Caloplaca heppiana* (Müll.Arg.) Zahlbr.]
[= *Caloplaca aurantia* var. *heppiana* (Müll.Arg.) Poelt]

[19679], Germany, Baden-Württemberg, Schwäbische Alb, westlich von Ochsenwang, auf Kalkfelsen im Randecker Maar, 48.57156° N, 9.52611° E, 708 m, TK 7423. Leg. F. Schumm, 18.08.2017, det. A.Aptroot.







Caloplaca flavescens



Caloplaca flavescens

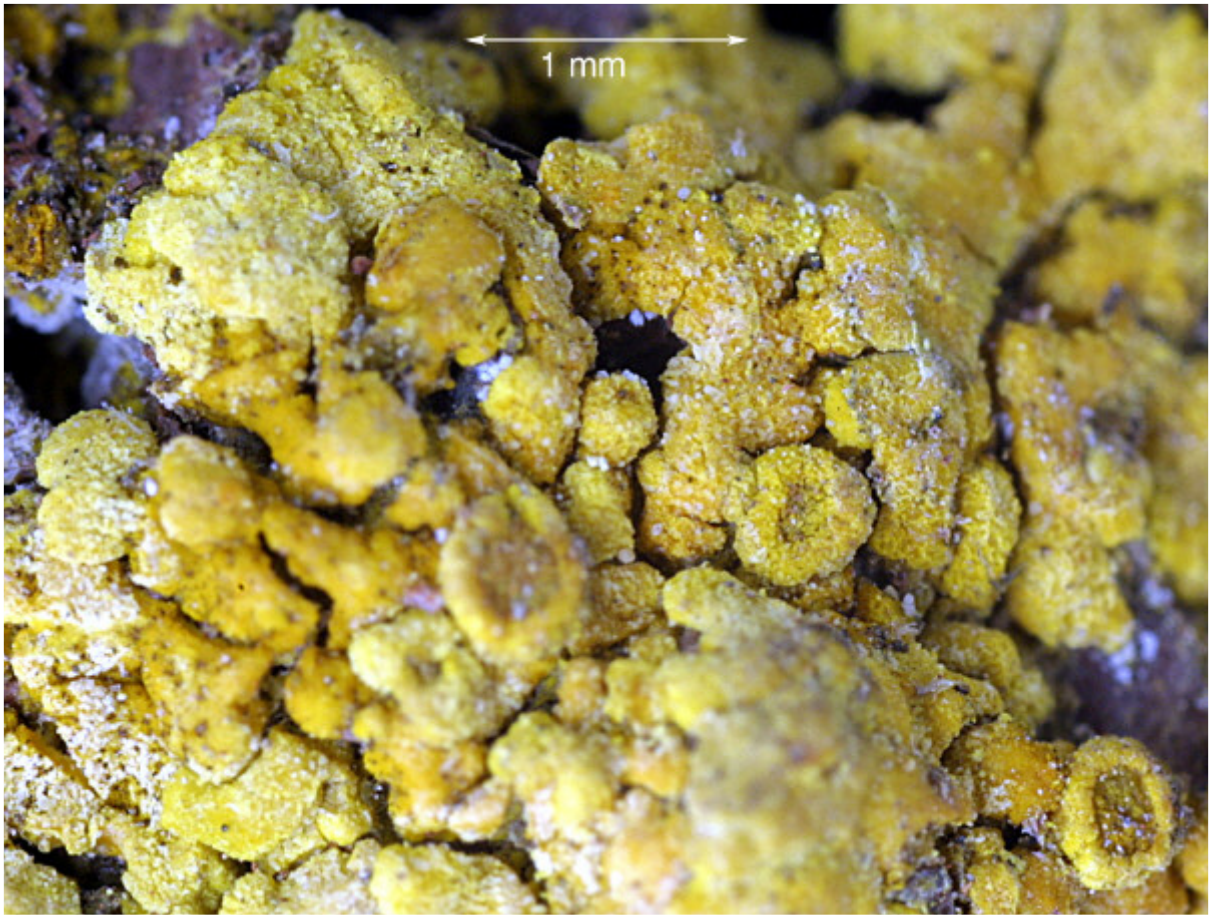
Caloplaca flavescens cfr. (Huds.) J.R.Laundon
[= *Variospora flavescens* cfr. (Huds.) Arup, Frödén & Søchting]

On rocks.
Th. gelb, teils weißlich bereift, Randlappen 4,5 x 0,9 mm, im Zentrum schuppig körnig-warzig. Apoth. 1-2,3 mm. Sporen polar-2-zellig, 17,4 x 7,6 µm, am Septum stark aufgetrieben; keine Fulgensia!. Very old pictures. Notes of Aptroot: sp. and morph. ok., colour pale.

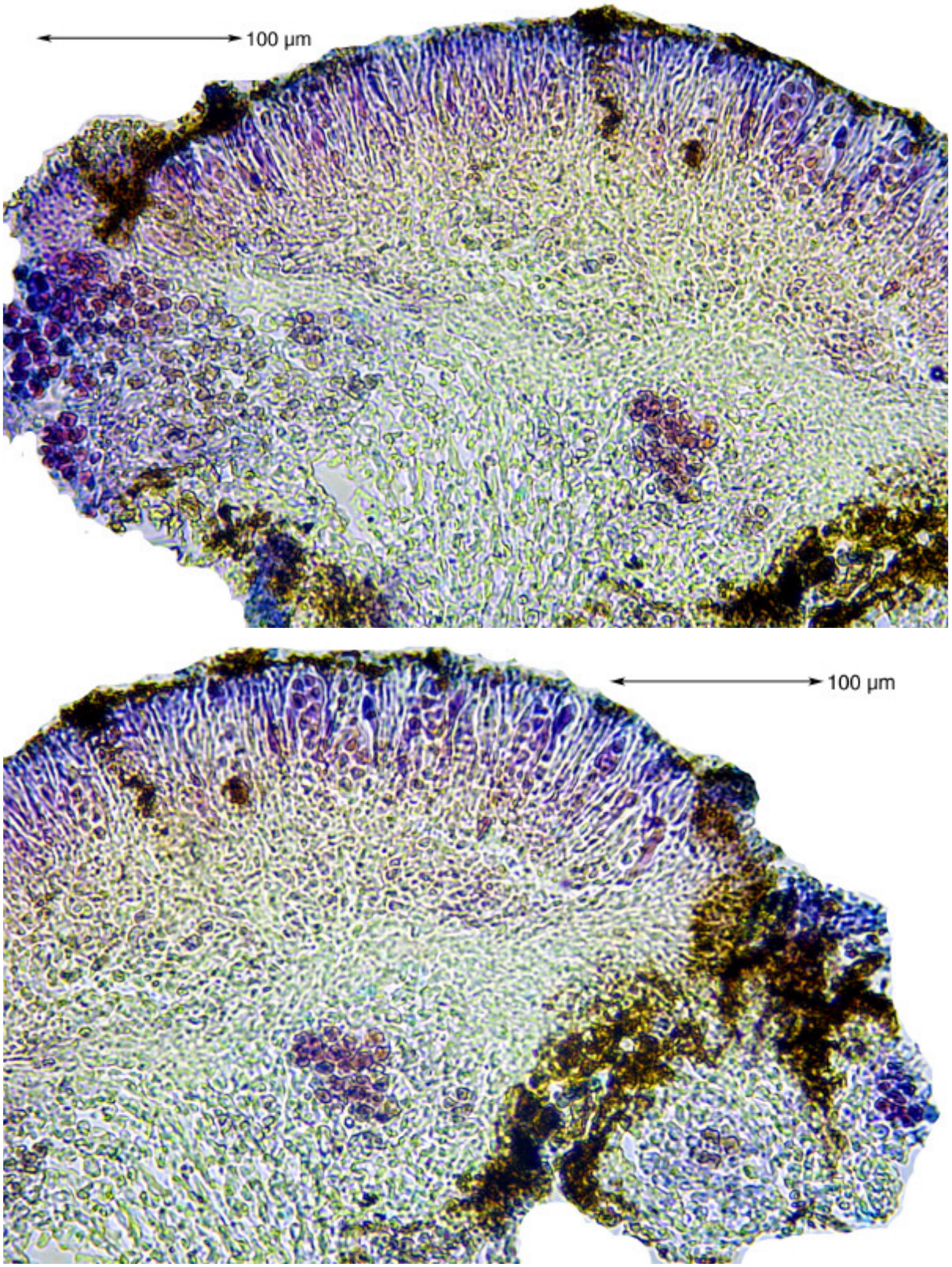
[7227], Spanien, Kanarische Inseln, Teneriffa, Barranco vom Arboretum bei Agua Mansa Richtung Lomo de Pedro Gil, ca. 1060 m. Leg. F. Schumm 17.03.1978, det. A. Aptroot



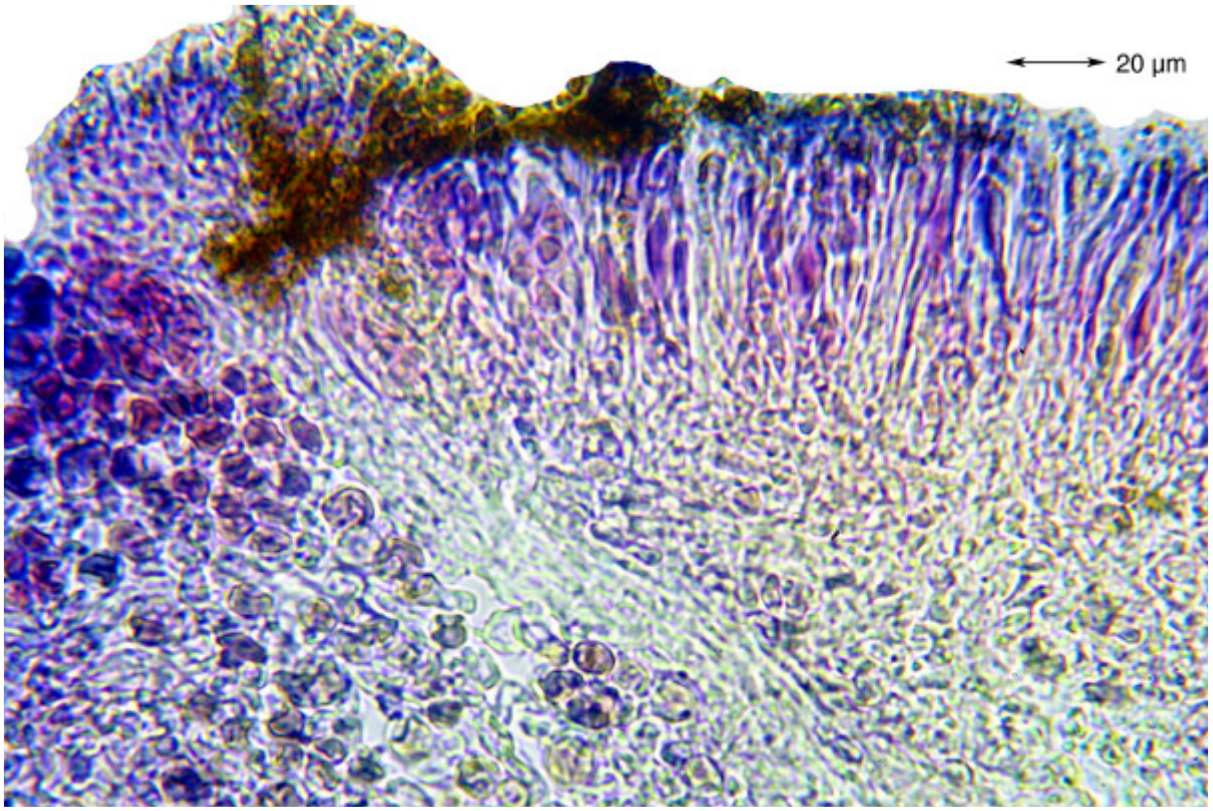


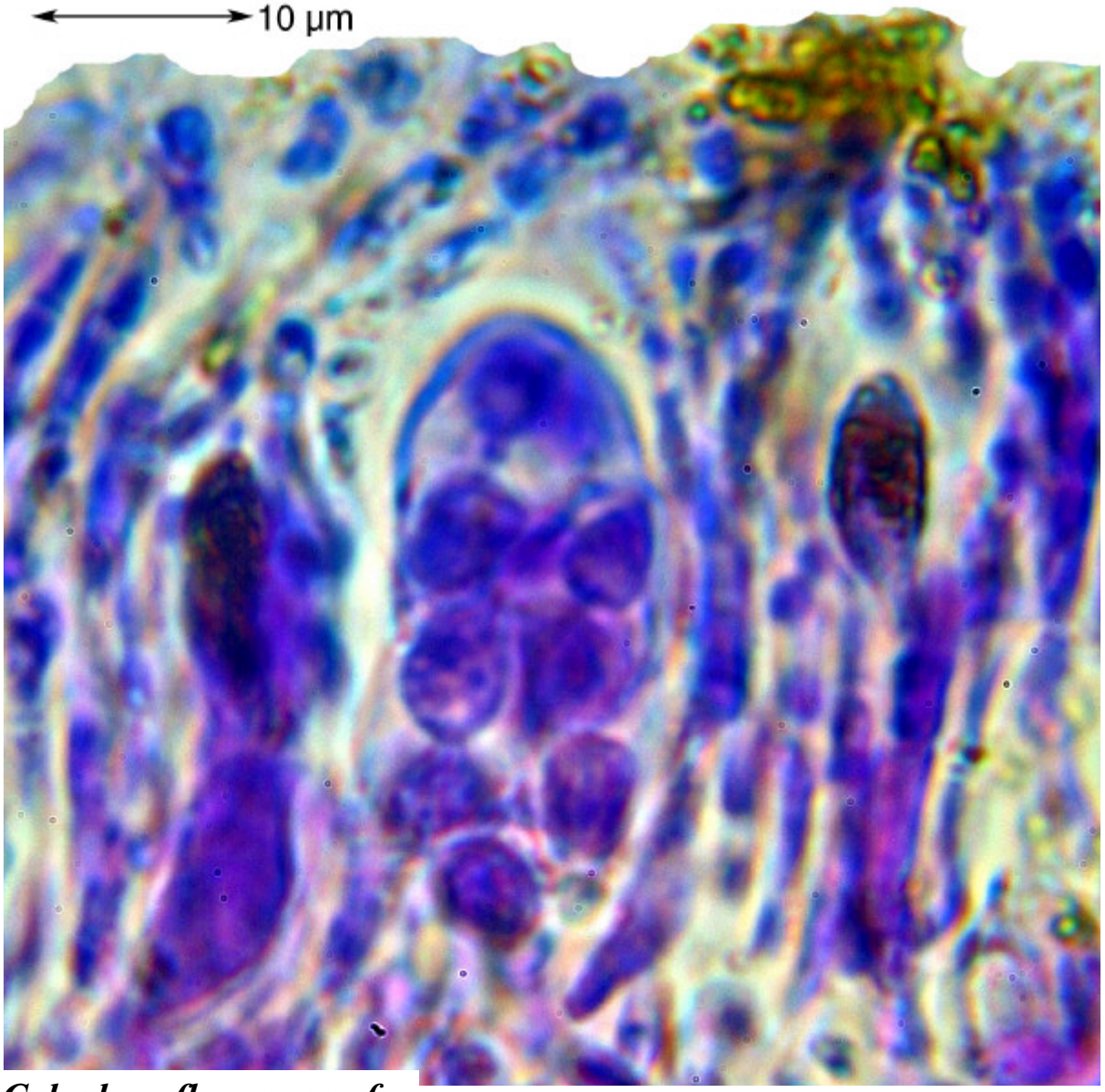


Caloplaca flavescens cfr.

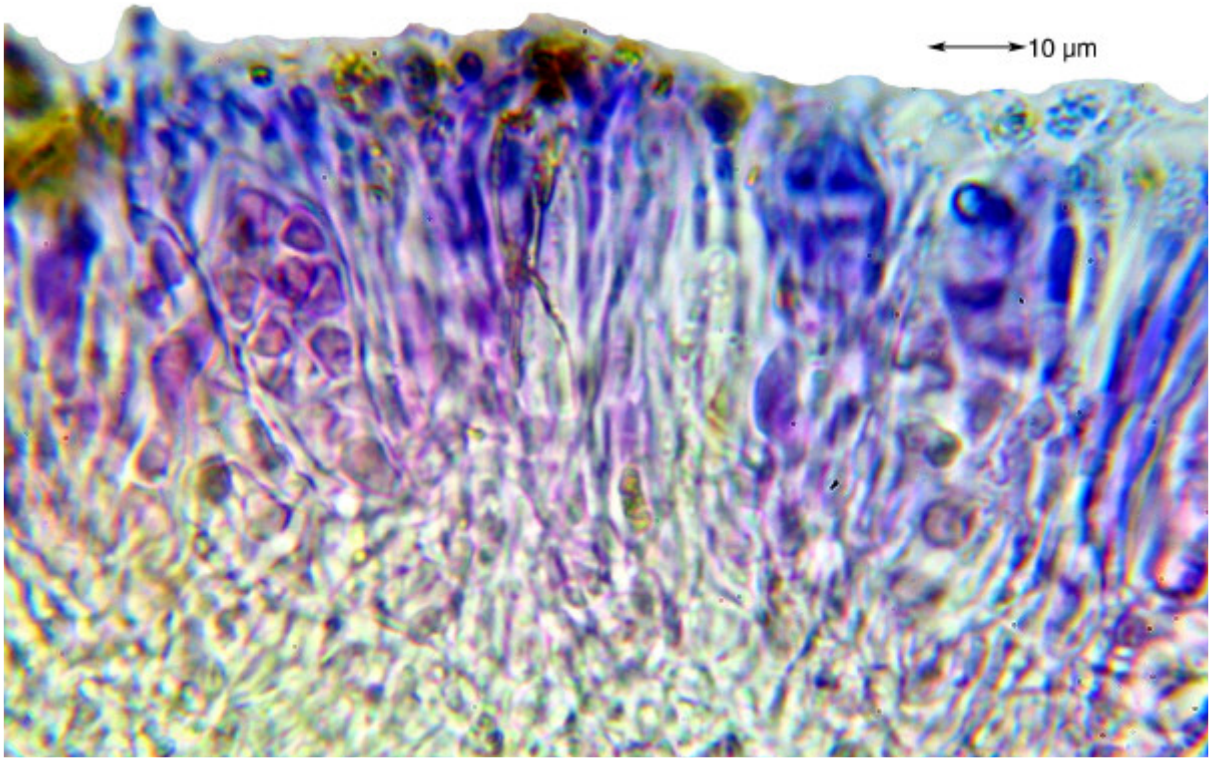


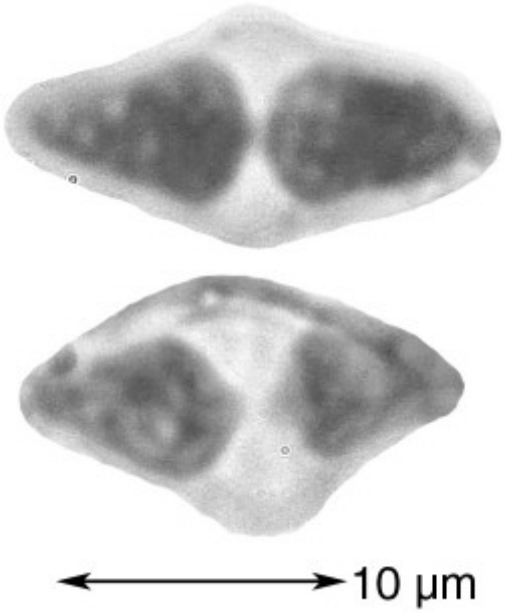
Caloplaca flavescens cfr.

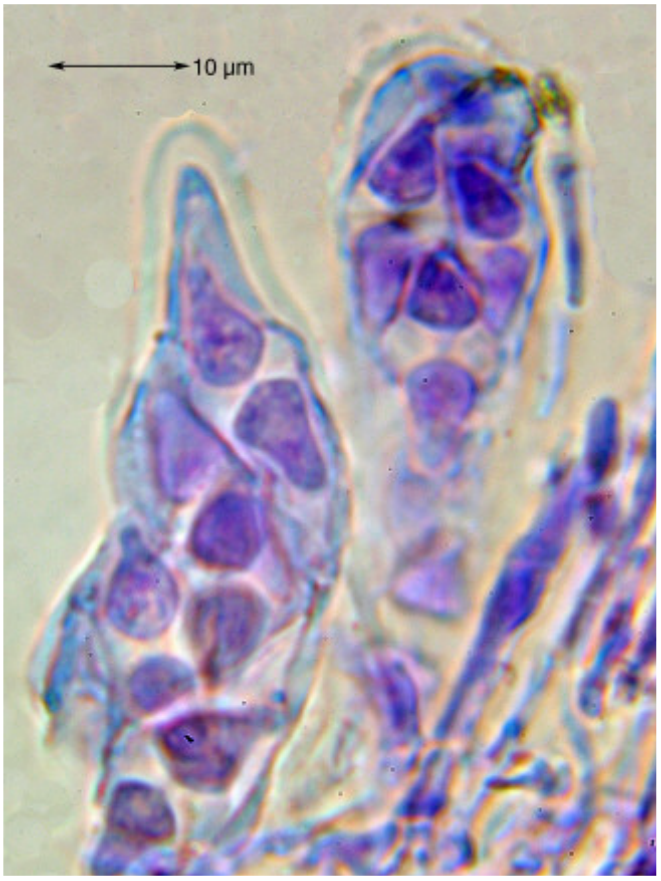




Caloplaca flavescens cfr.







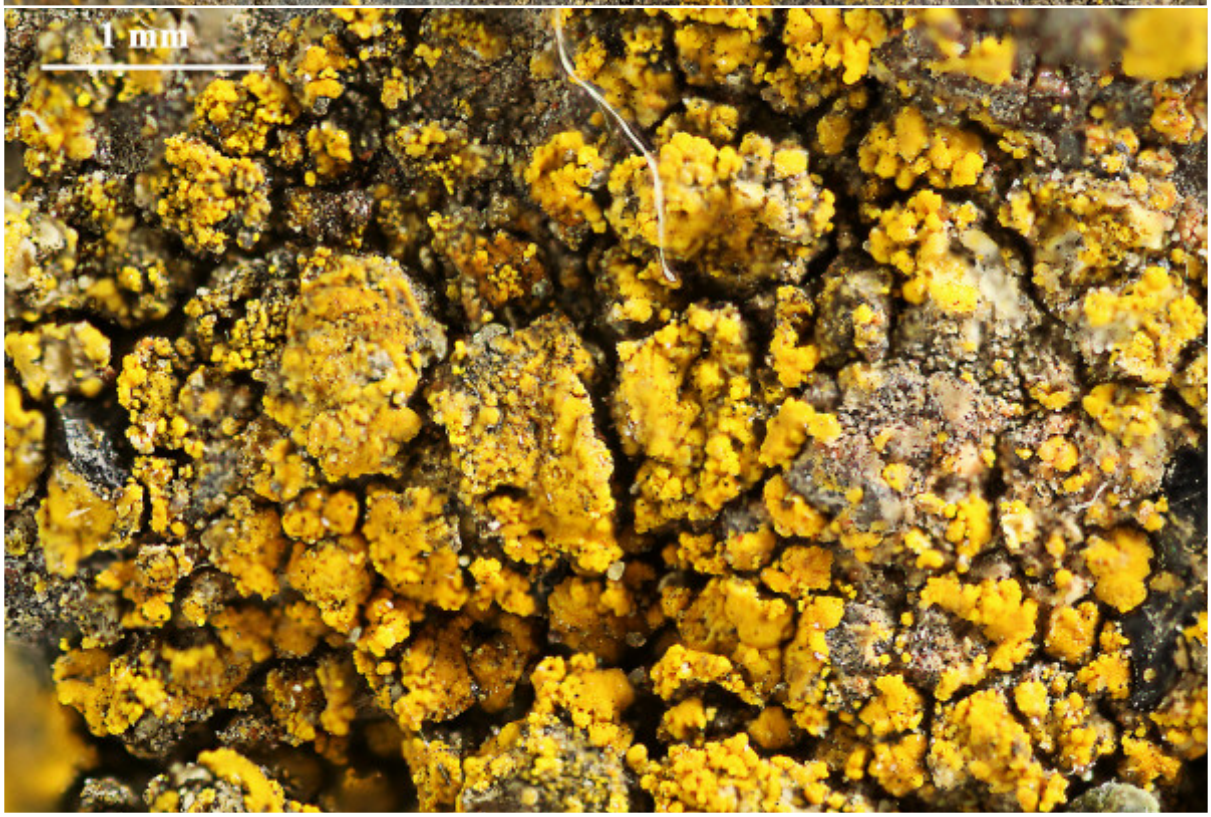
Caloplaca flavescens cfr.

Caloplaca flavocitrina (Nyl.) H. Olivier
[= *Flavoplaca flavocitrina* (Nyl.) Arup, Frödén & Søchting]

On non-calcareous rocks.

[10258], Spanien, Kanaren, La Gomera: SO-Rand des Nationalparks Garajonay nahe dem Aussichtspunkt Roque Agando, 28°06.544' N, 17°12.887' W, 1136 m; *Erica-Myrica* Zone. Leg. F. Schumm, 16.04.2003, det. A. Aptroot 2016.







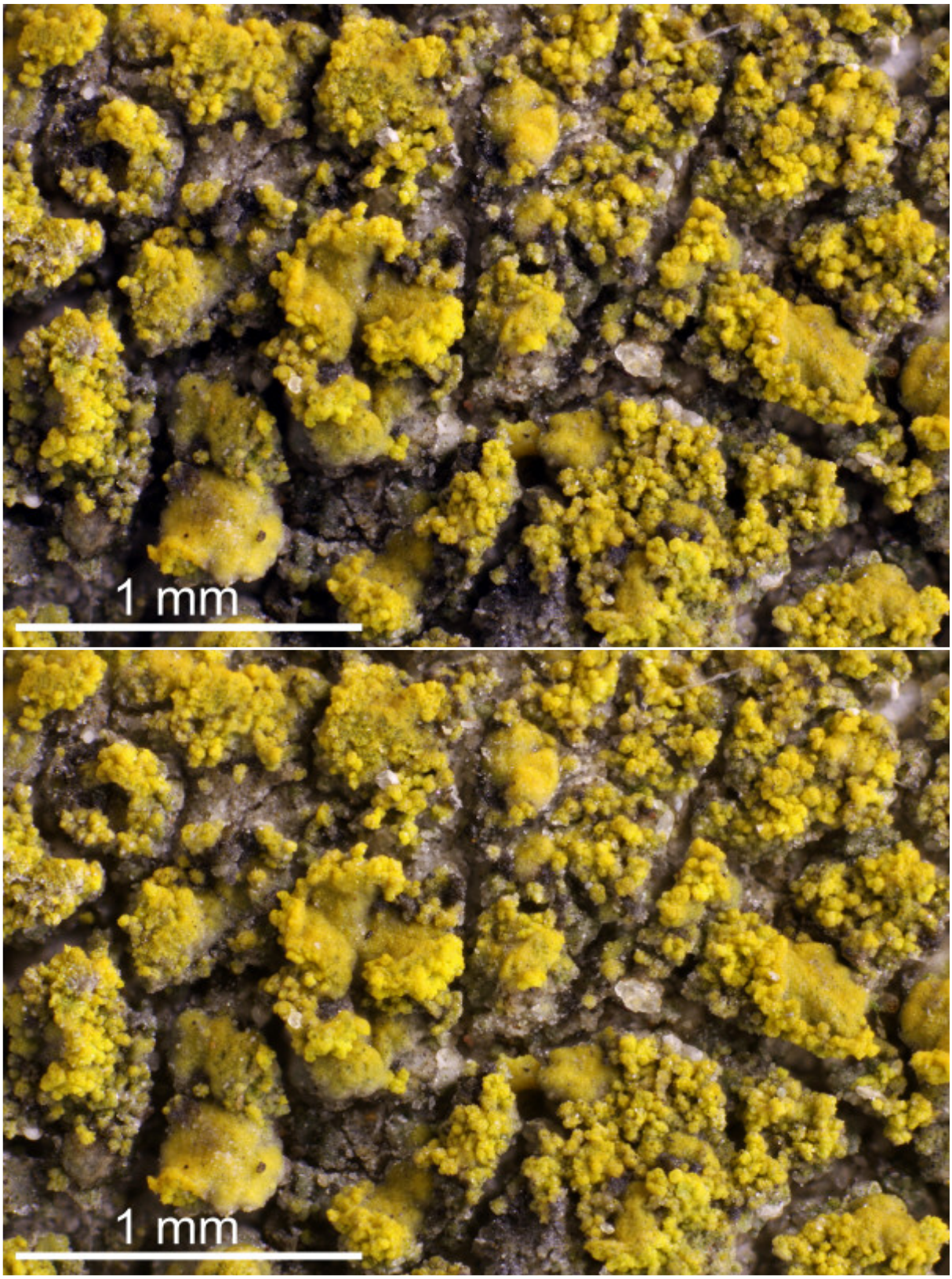


Caloplaca flavocitrina

Caloplaca flavocitrina (Nyl.) H. Olivier
[= *Flavoplaca flavocitrina* (Nyl.) Arup, Frödén & Søchting]

Thallus yellow, K+ red, tiny squamulose, soredia marginal and laminal.

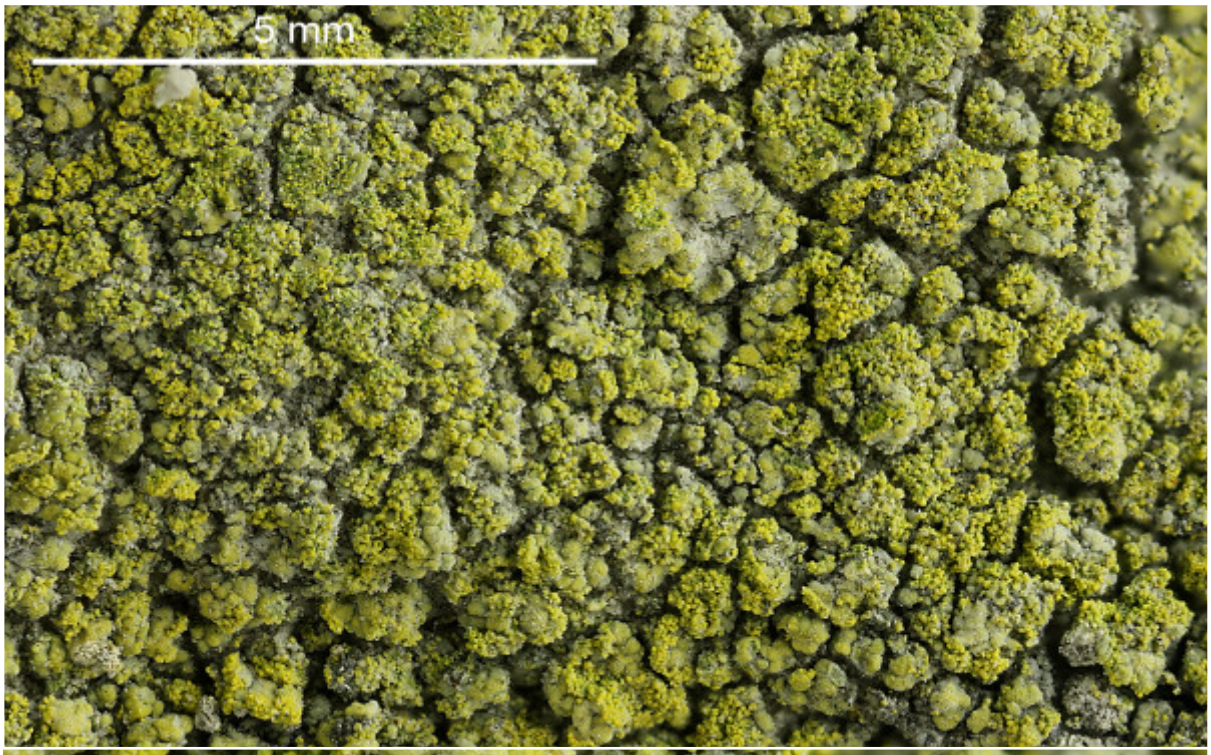
[14943], Germany, Baden-Württemberg, Kreis Esslingen, Weilheim, auf Weinbergsmauern unterhalb des Gipfels der Limburg, ca. 500 m. Leg. F. Schumm, 12.07.2009, rev. A. Aptroot 2016.

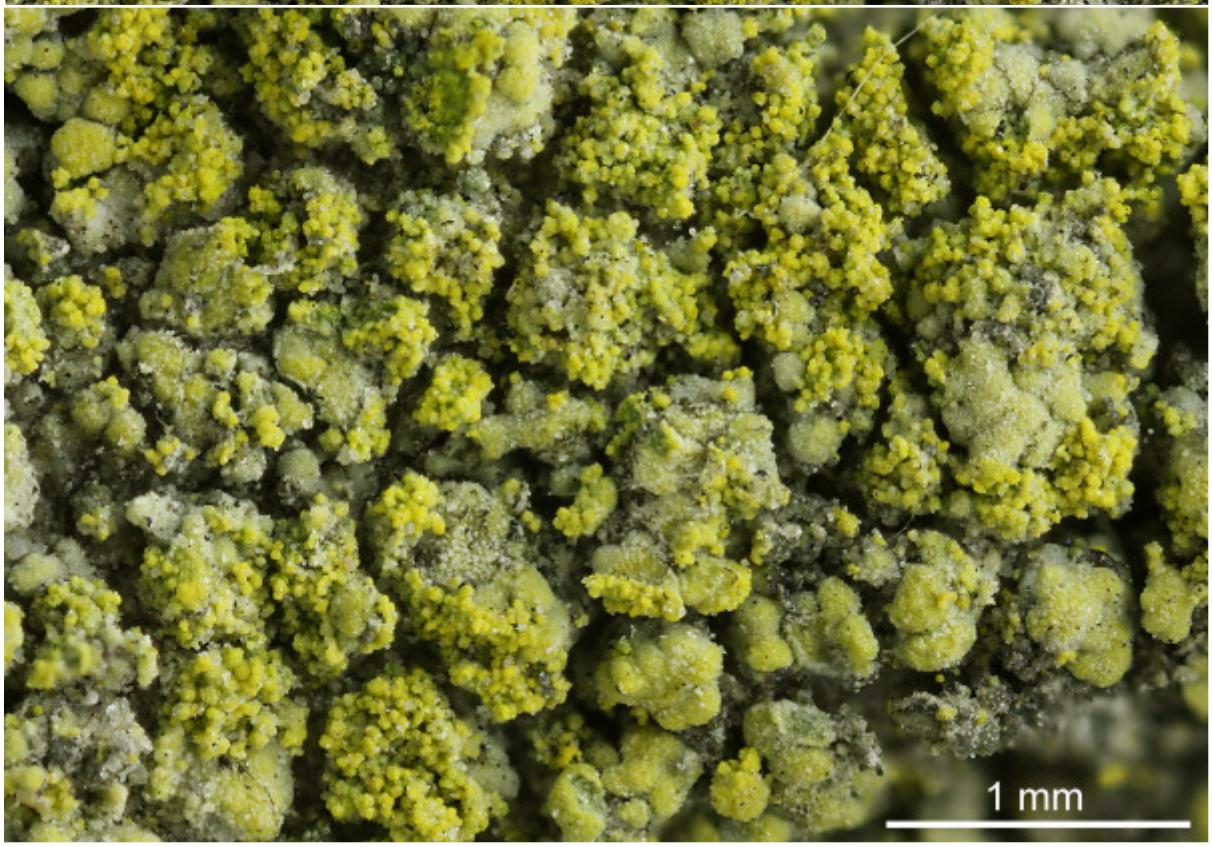


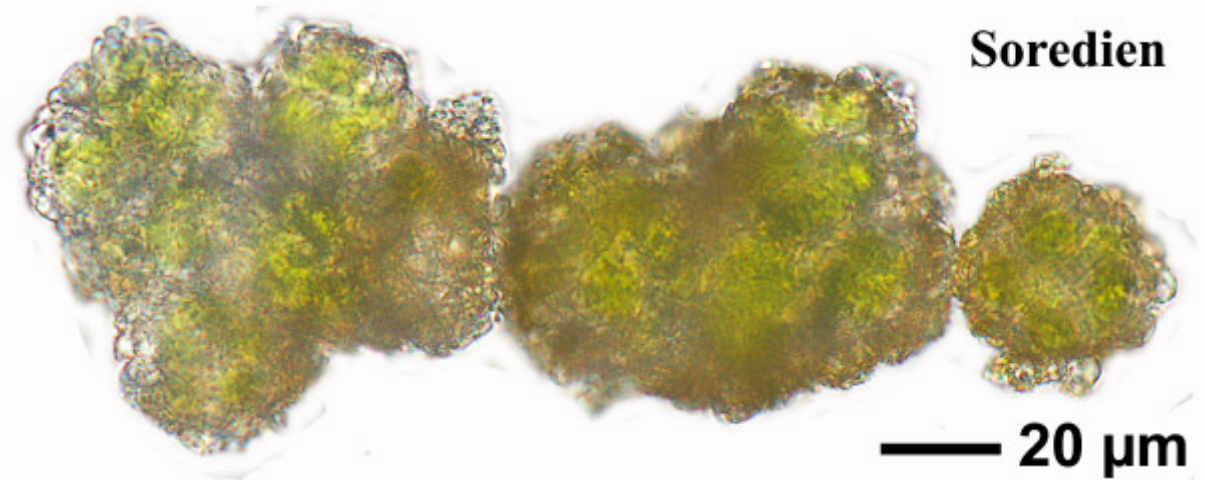
Caloplaca flavocitrina (Nyl.) H. Olivier
[= *Flavoplaca flavocitrina* (Nyl.) Arup, Frödén & Søchting]

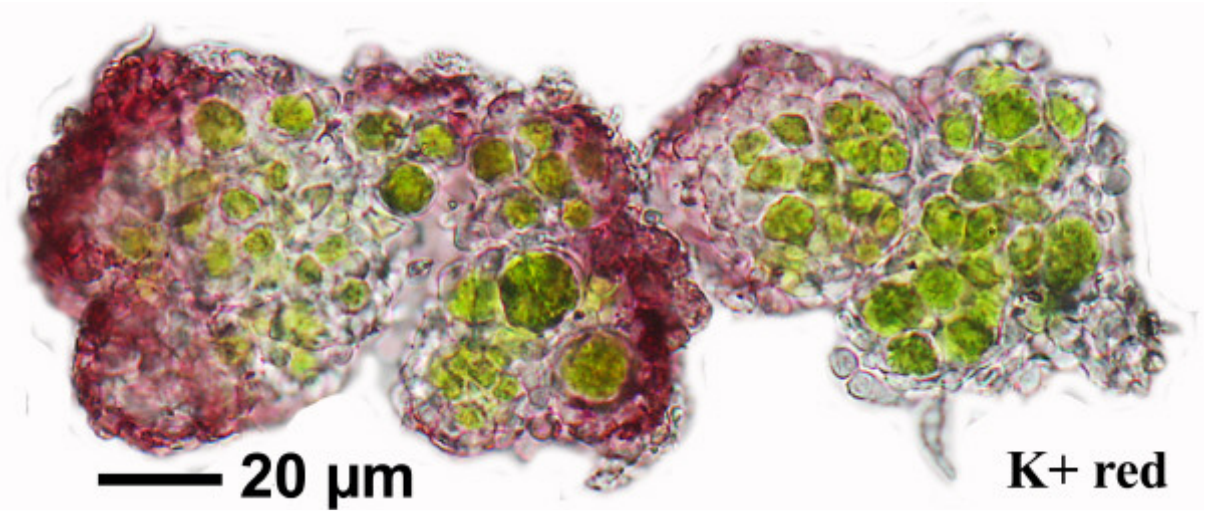
Thallus und Soredien K+ rot. Soredien weitgehend marginal an berindeten kleinen Thallusschuppen. Apothecienränder ohne oder nur wenigen Soredien. Früher meist als unbedeutende var. von *Caloplaca citrina* behandelt.

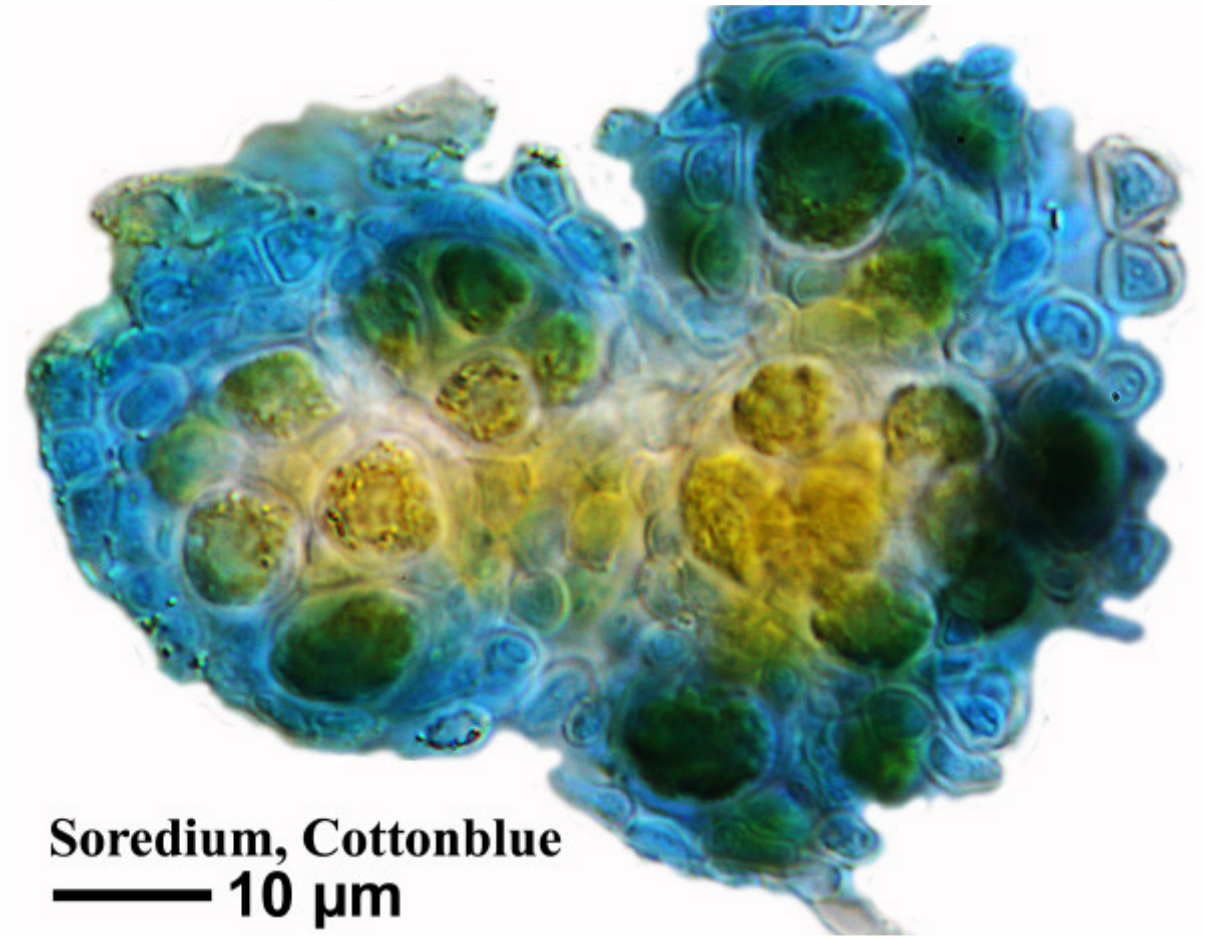
[16701], Germany, Baden-Württemberg, Kreis Ludwigsburg, zwischen Pleidelsheim und Mundelsheim beim Schotterwerk Karl Epple, 48.97790° N, 9.21620° E, 200 m, an Kalksteinen. Leg. et det. Schumm 03.10.2010.



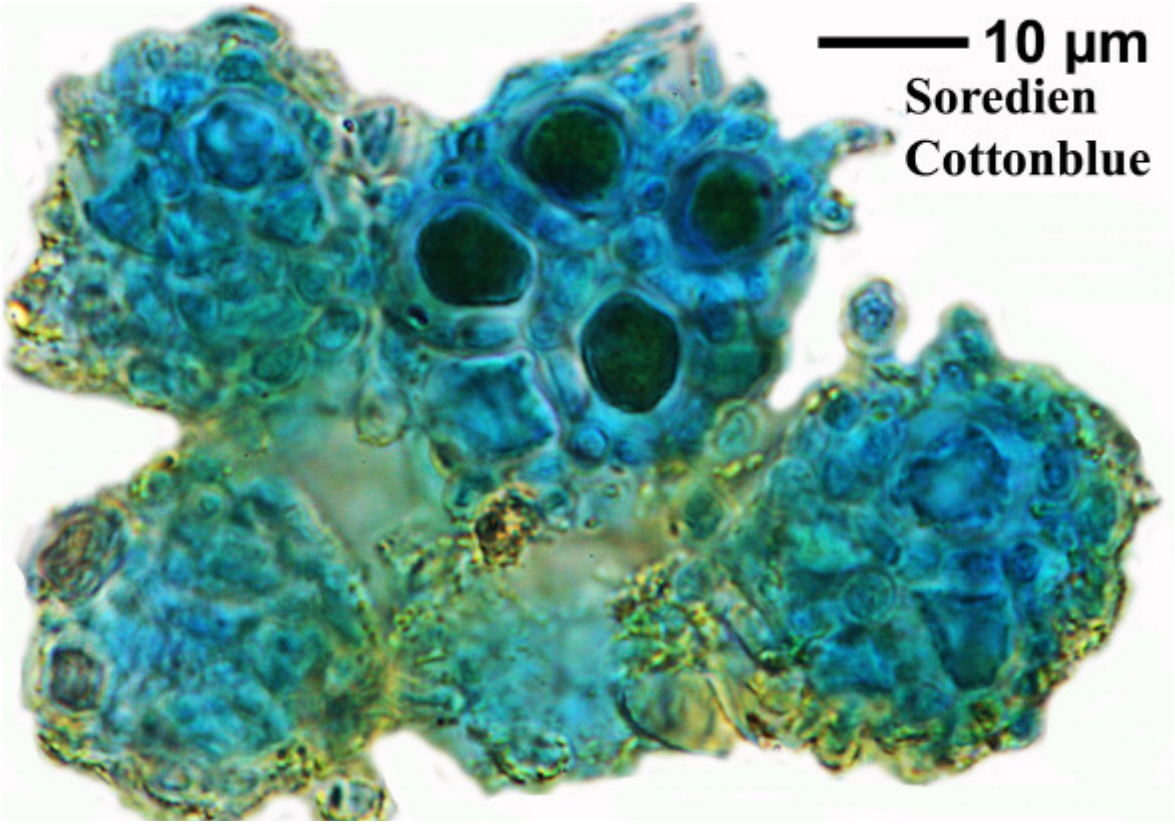








Caloplaca flavocitrina

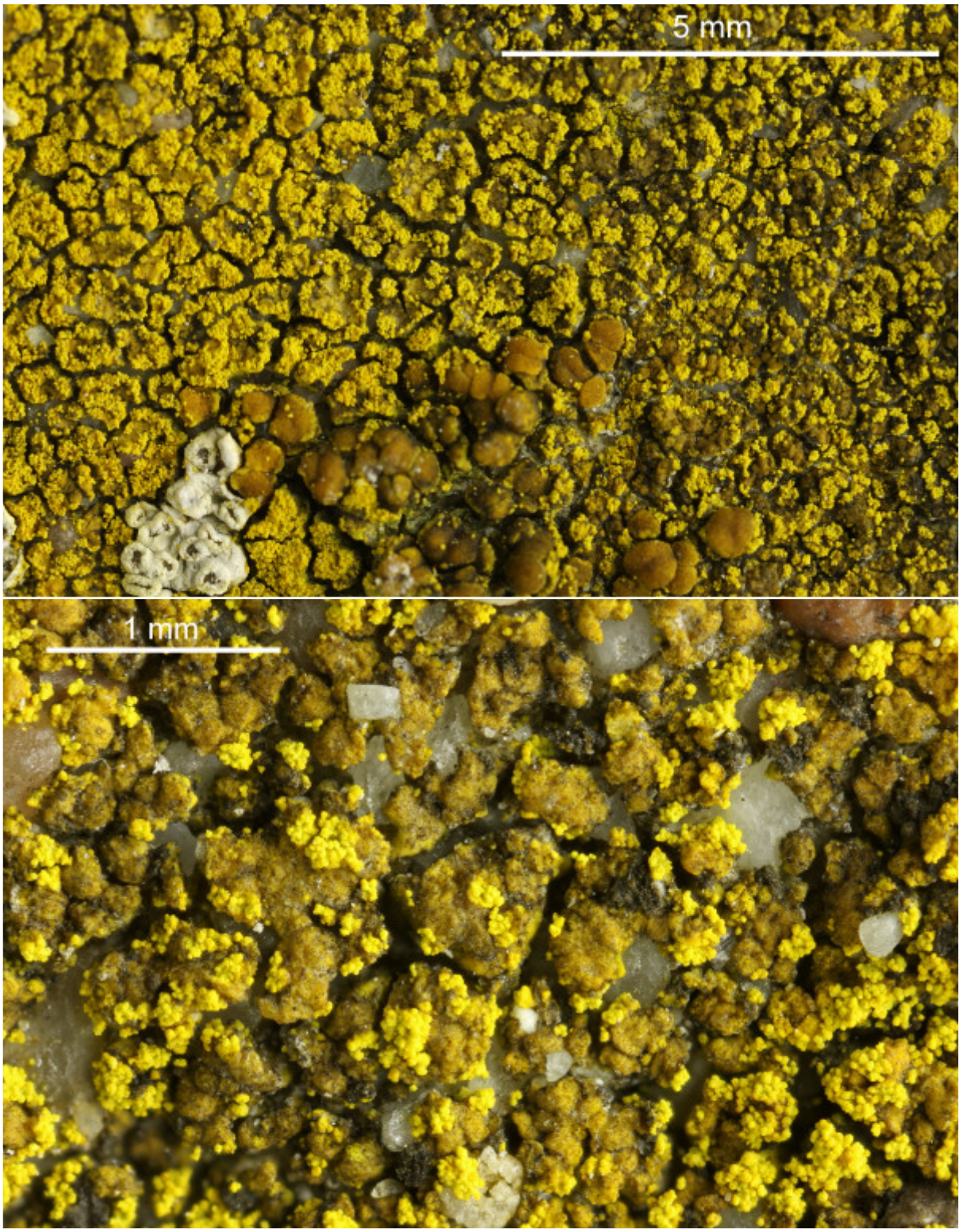


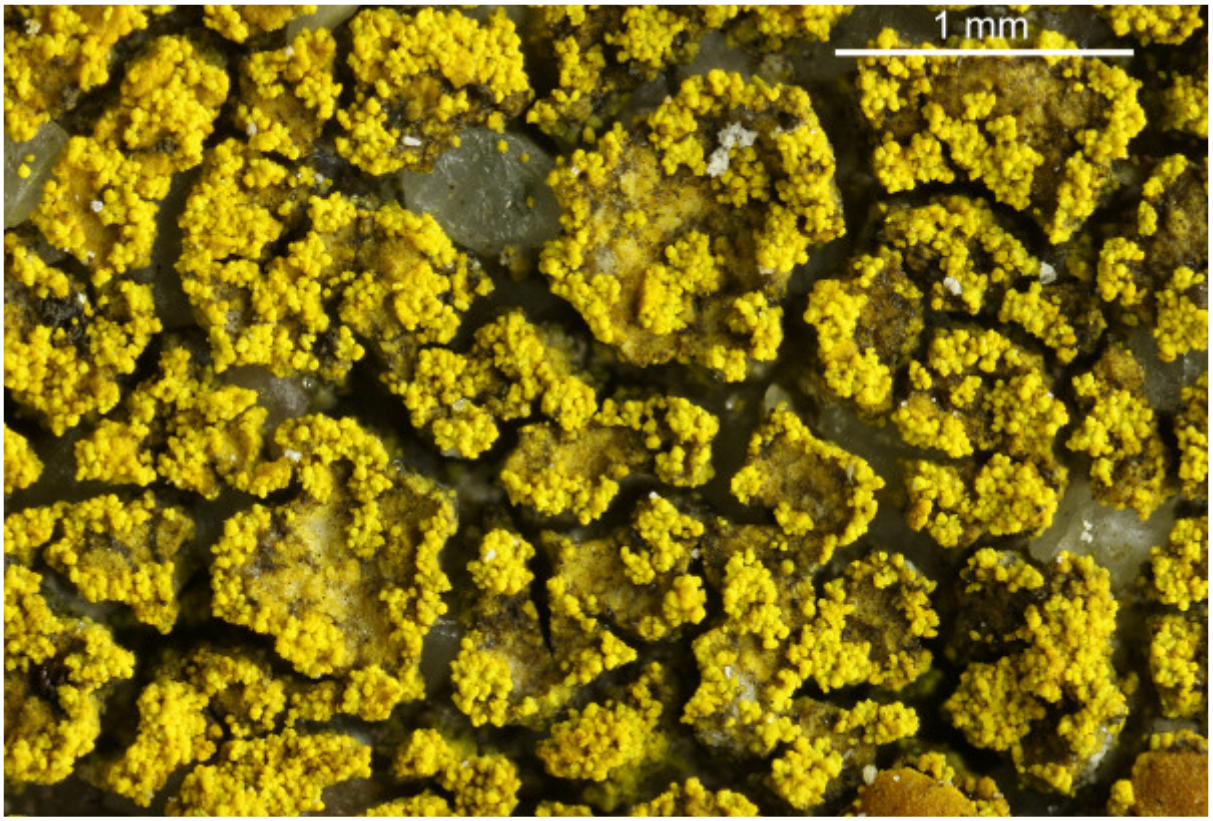
Caloplaca flavocitrina

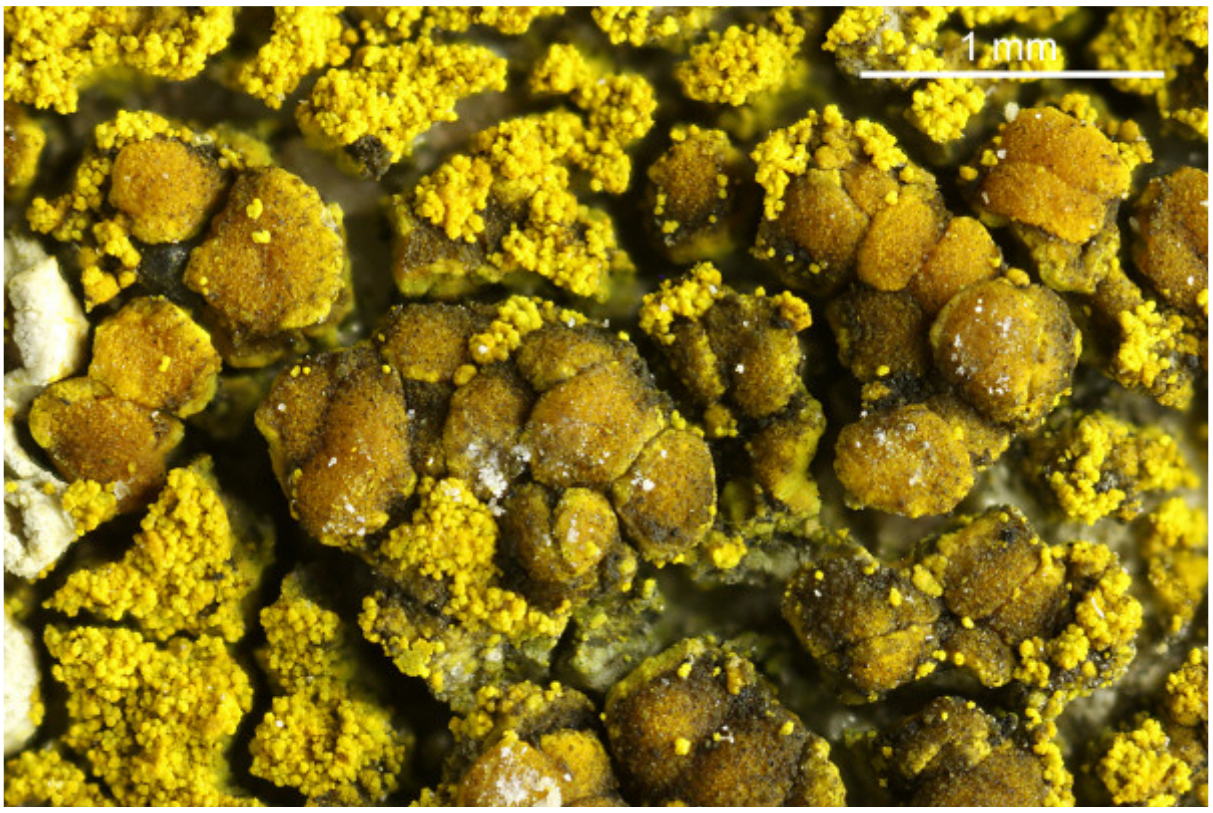
Caloplaca flavocitrina (Nyl.) H. Olivier
[= *Flavoplaca flavocitrina* (Nyl.) Arup, Frödén & Søchting]

Thallus und Soredien K+ rot. Soredien weitgehend marginal an berindeten kleinen Thallusschuppen. Früher von *Caloplaca citrina*, welche durchgehend sorediös sein soll, nicht oder nur als var. unterschieden.

[16707], Germany, Baden-Württemberg, Kreis Göppingen, zwischen Wangen und Unterberken, ehemaliges Militärdepot, an Betonmauern, 48,75052° N, 9,57469° E, 480 m. Leg. et det. Schumm 10.10.2010.





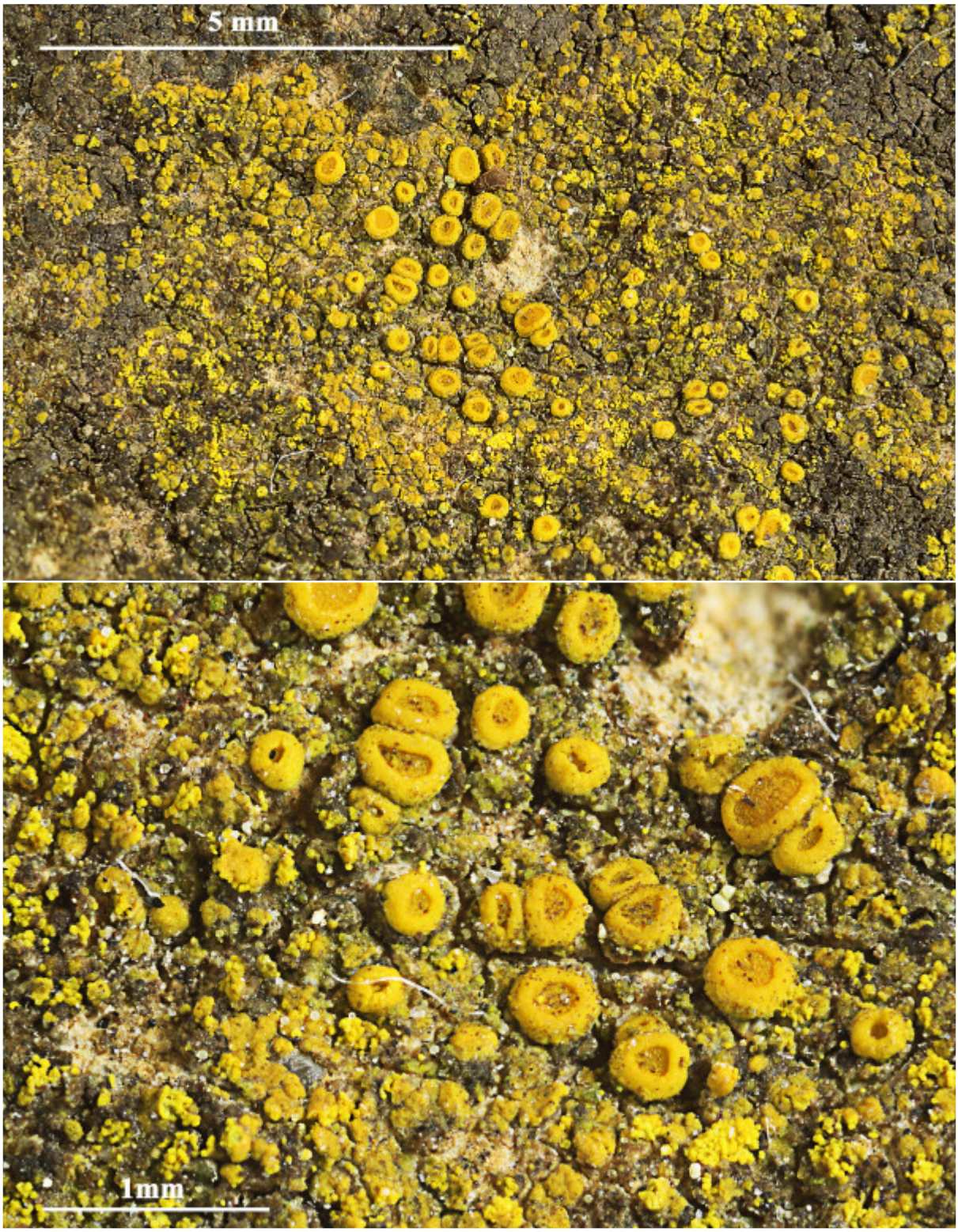


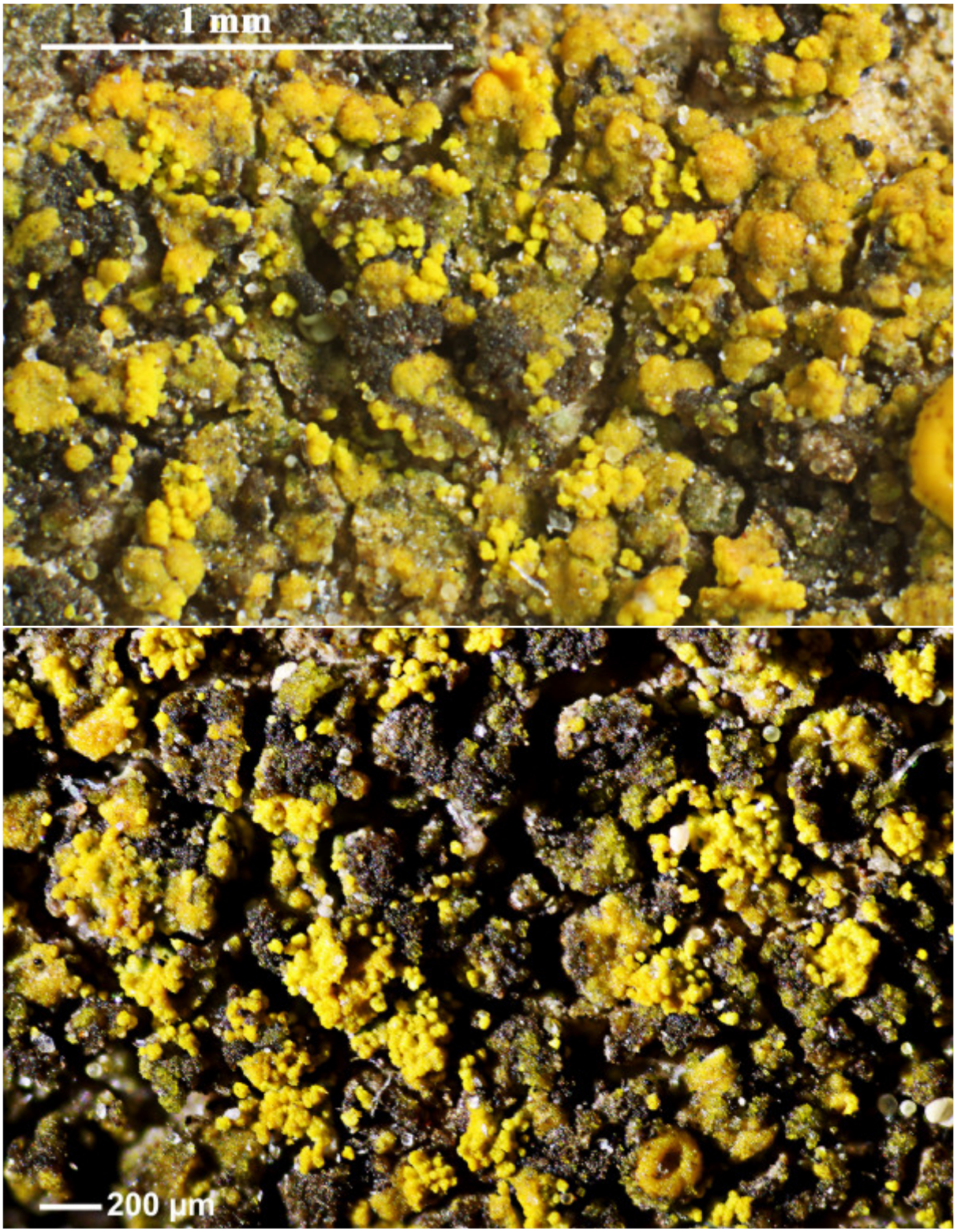
Caloplaca flavocitrina

Caloplaca flavocitrina (Nyl.) H. Olivier
[= *Flavoplaca flavocitrina* (Nyl.) Arup, Frödén & Søchting]

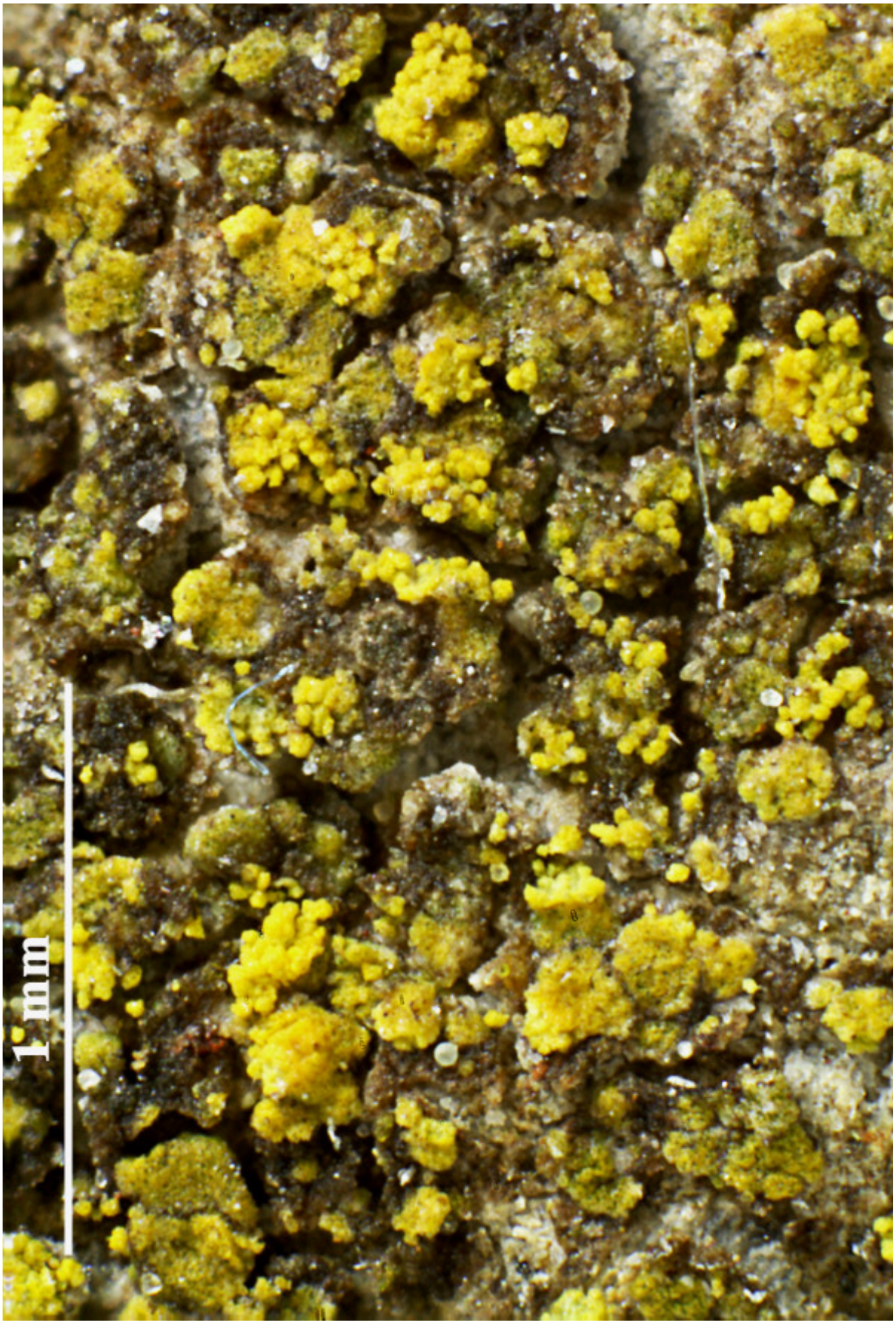
Spores polarilocular, hyaline, 8/ascus, 17.5-18 x 7.5-11 µm, septum 5.5-9 µm.

[19454], Germany, Baden-Württemberg, Kreis Göppingen, Wangen, bodennah auf senkrechter Sandsteinmauer bei der Mozartstr. 9, 48.72439° N, 9.60366° E, 360 m. Leg. F. Schumm, 17.06.2016, rev. A. Aptroot 2017.

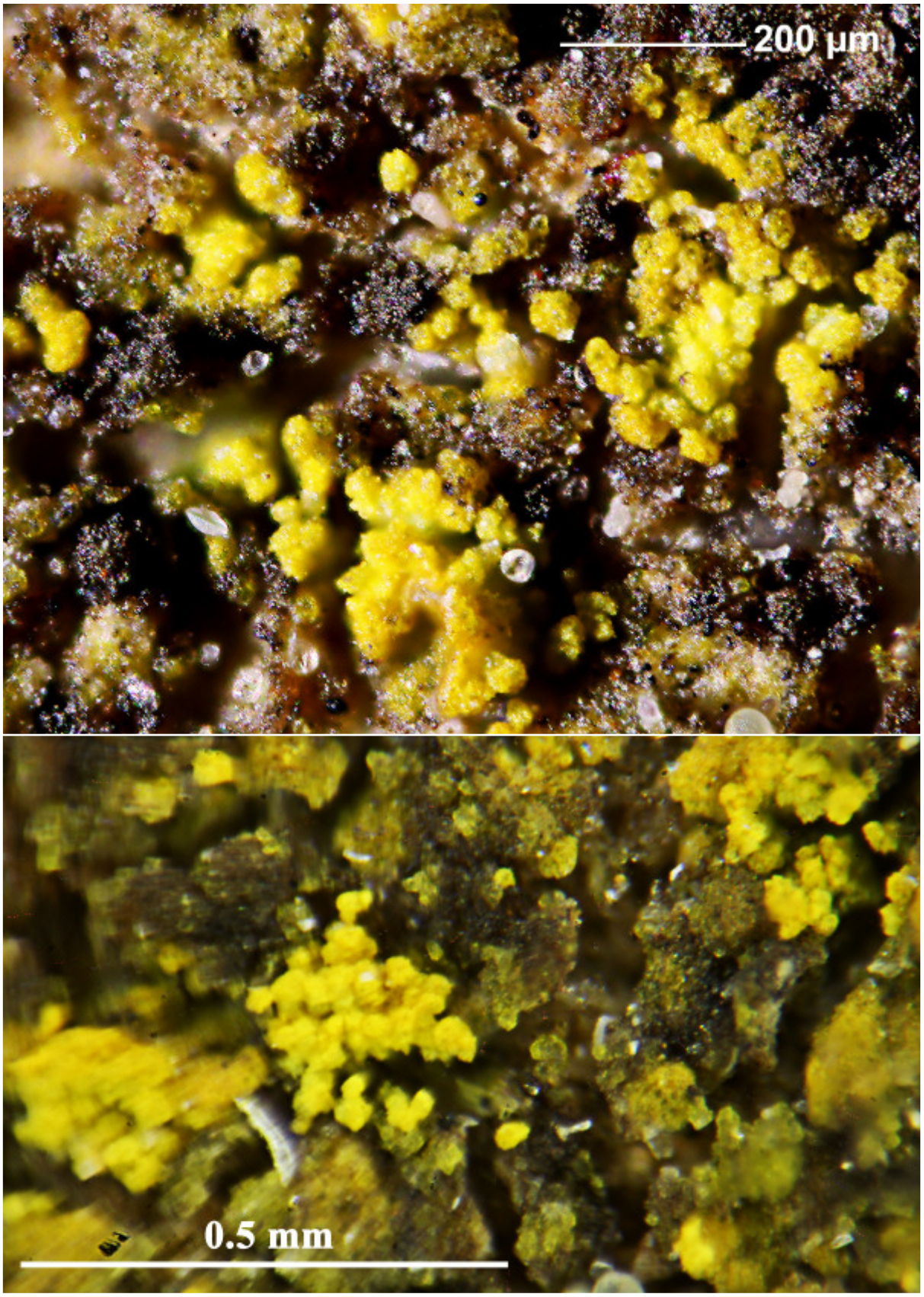




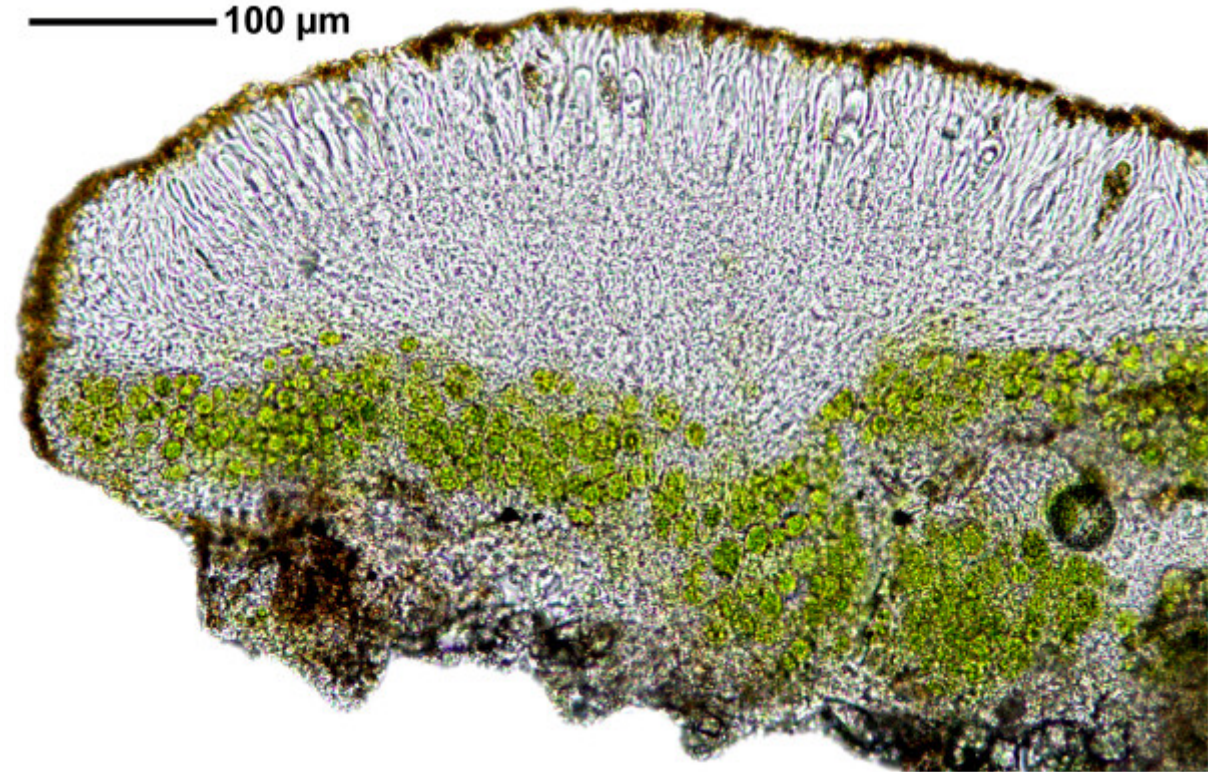
Caloplaca flavocitrina

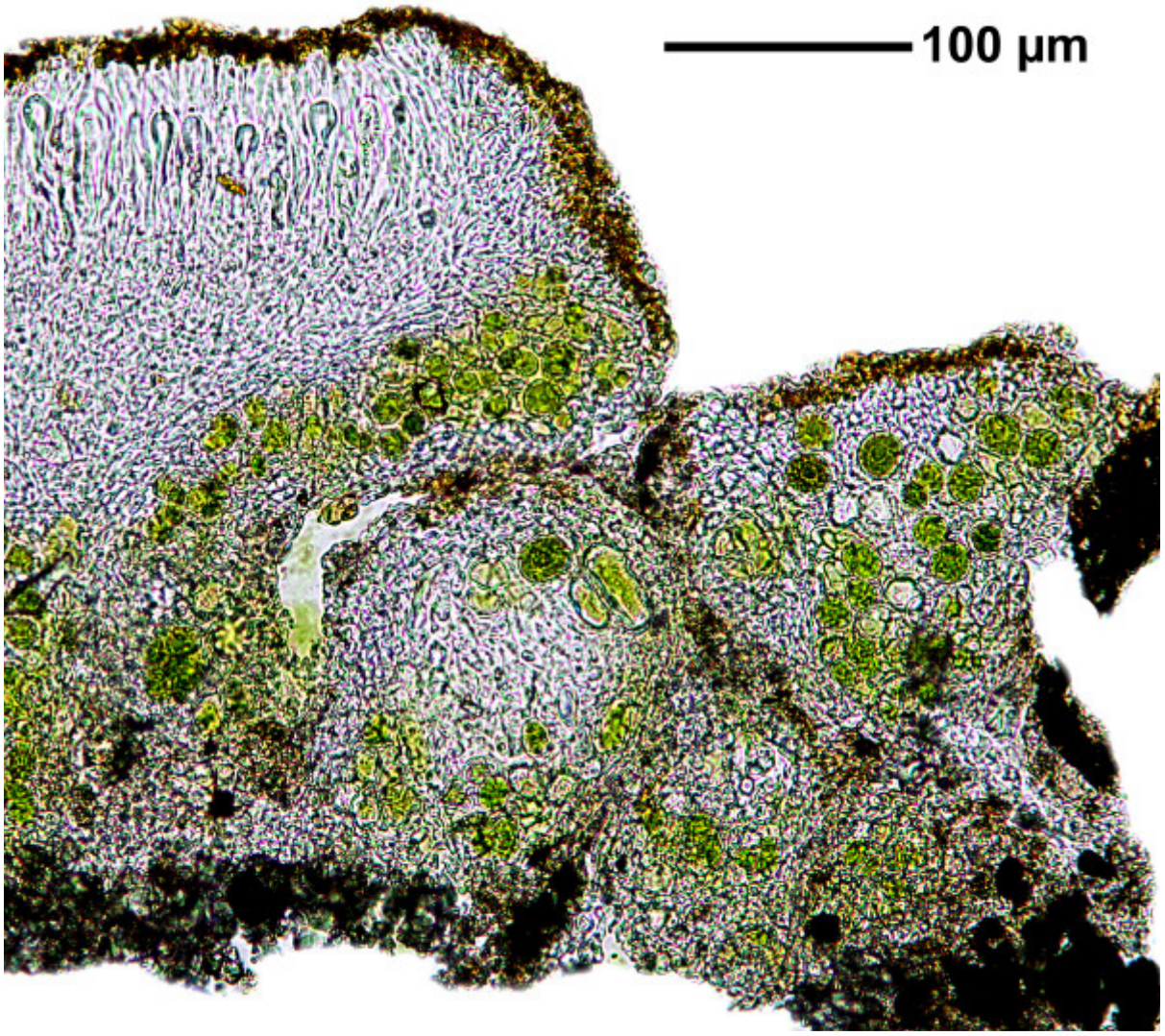


Caloplaca flavocitrina

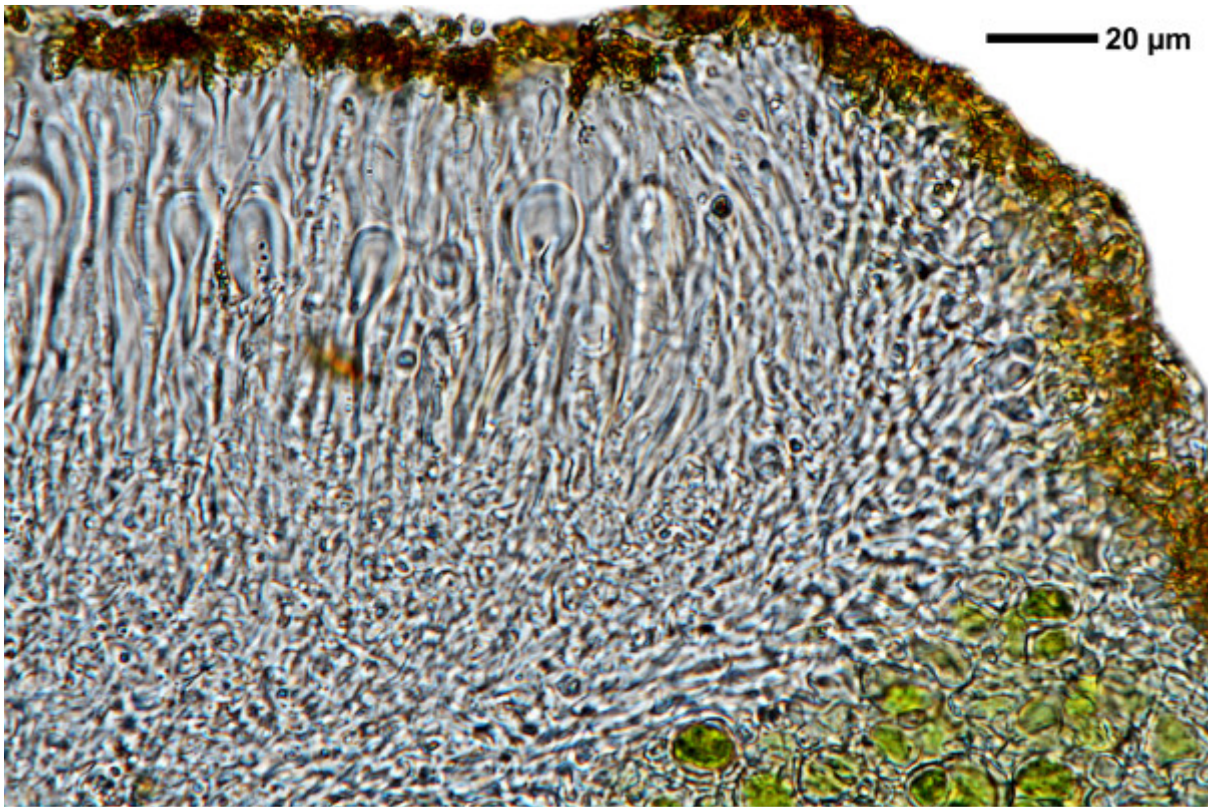


Caloplaca flavocitrina

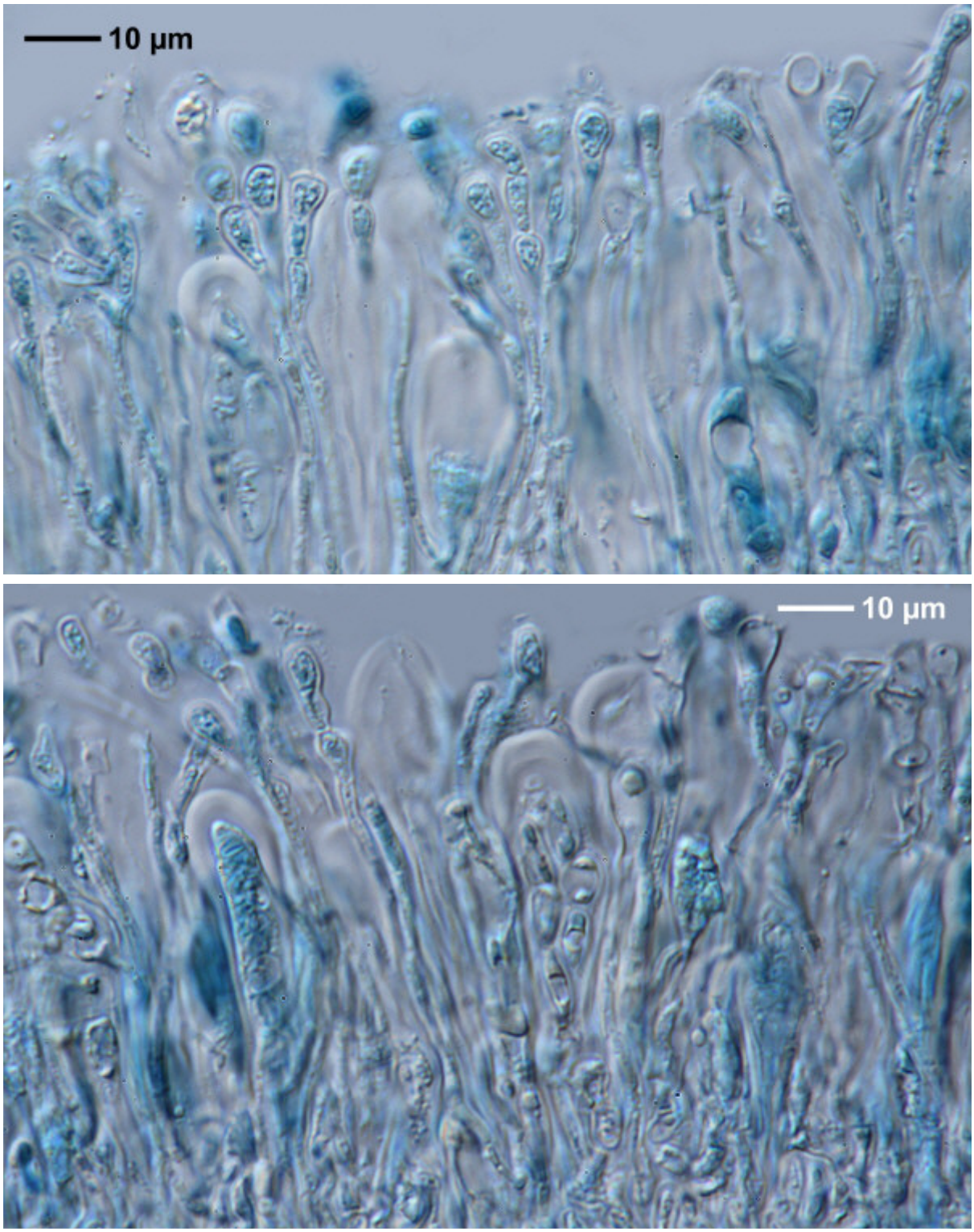




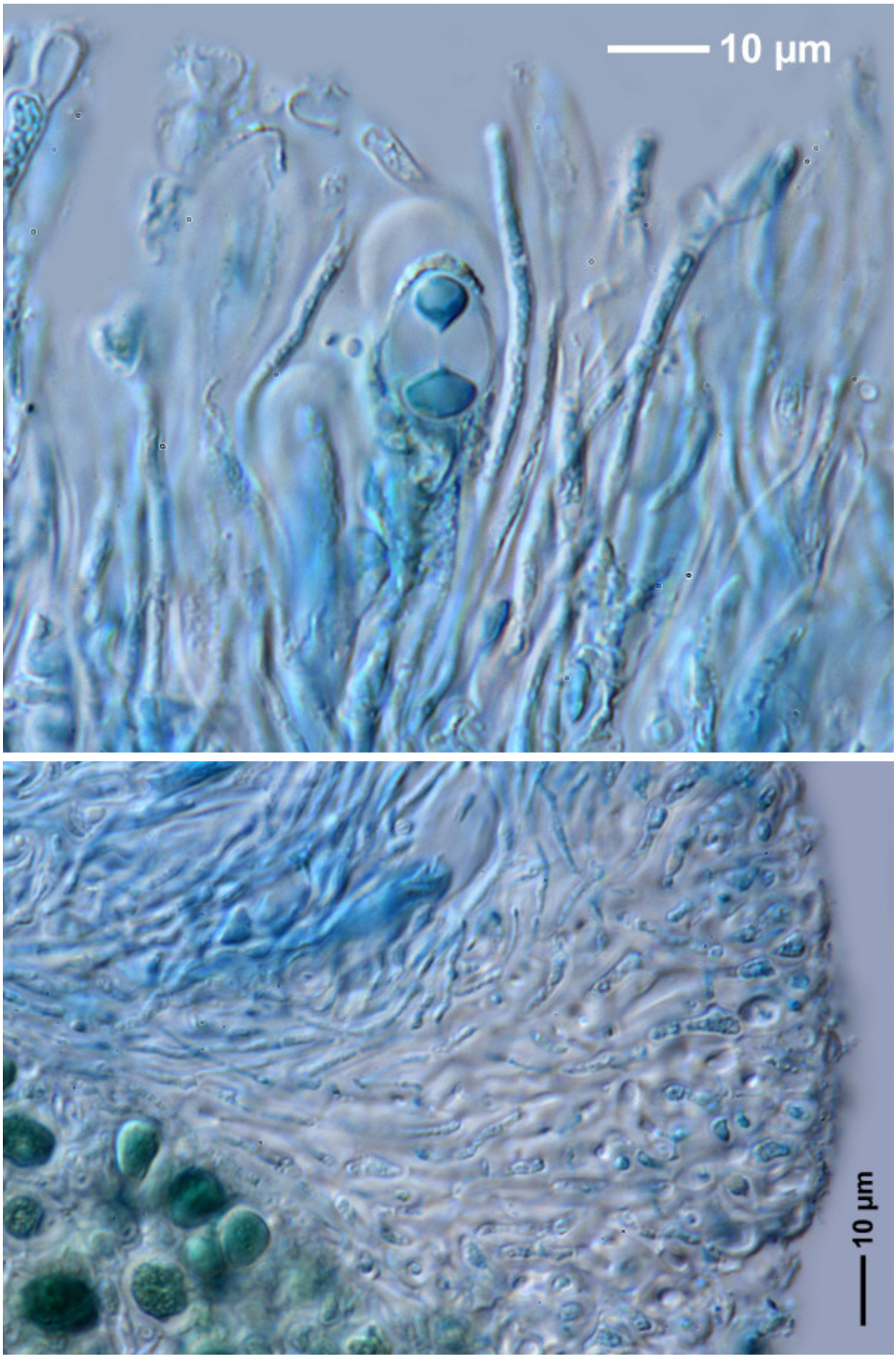
Caloplaca flavocitrina



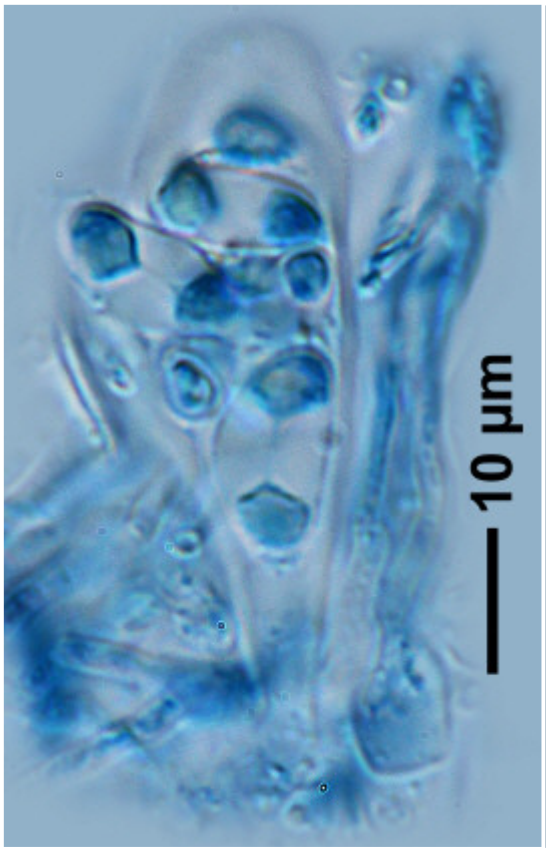
Caloplaca flavocitrina

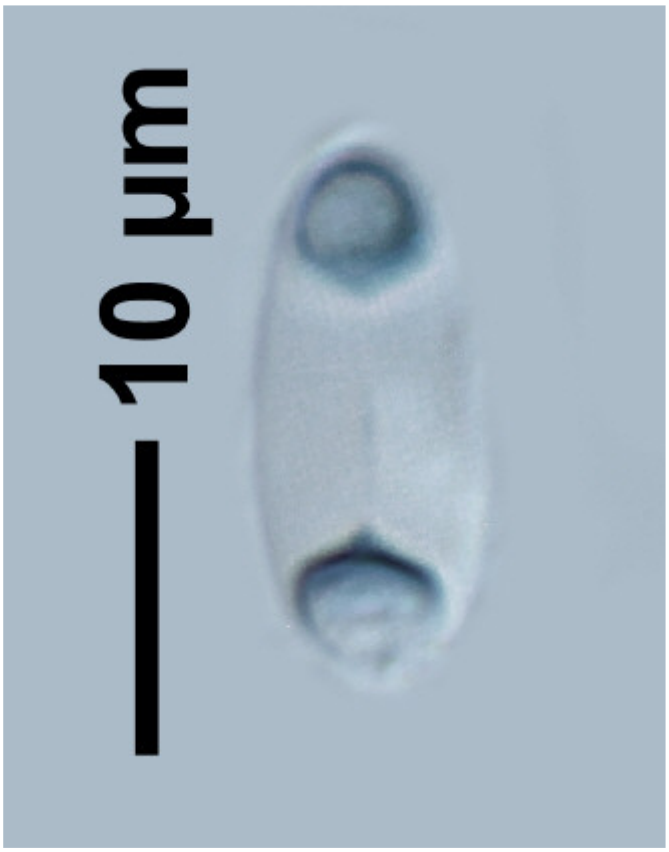


Caloplaca flavocitrina



Caloplaca flavocitrina







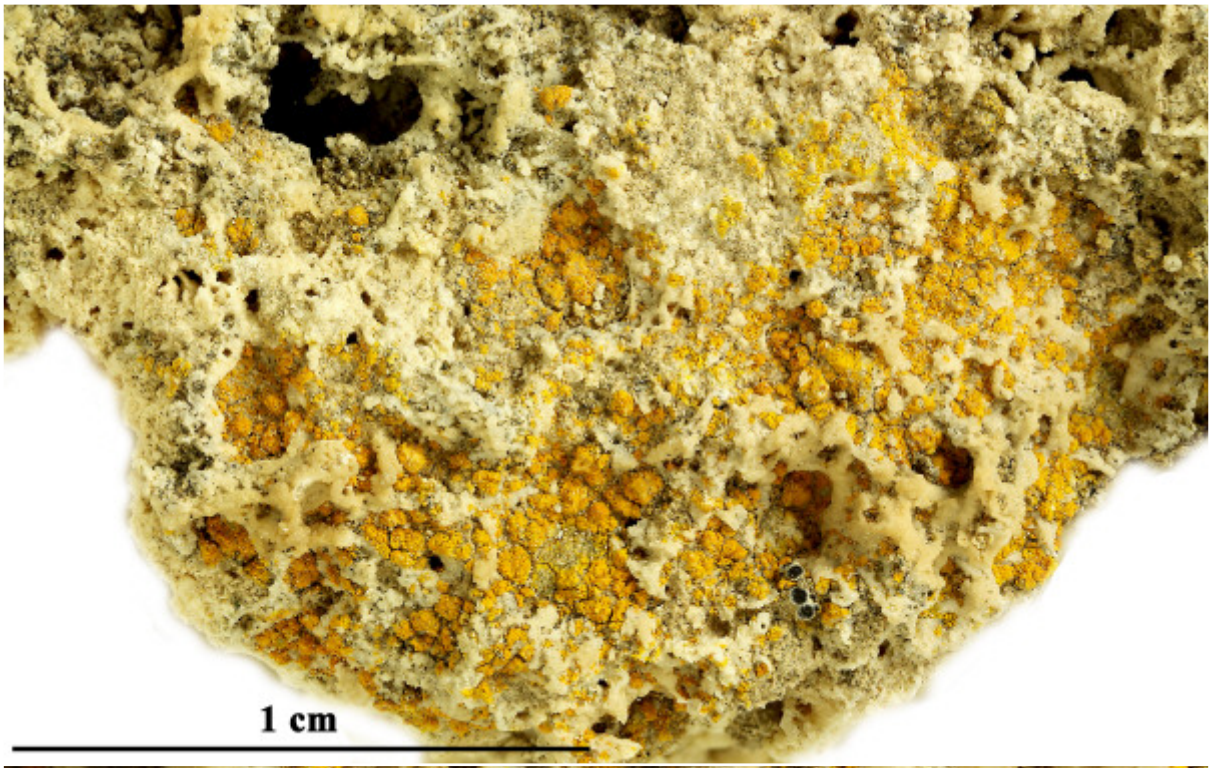
Caloplaca flavocitrina

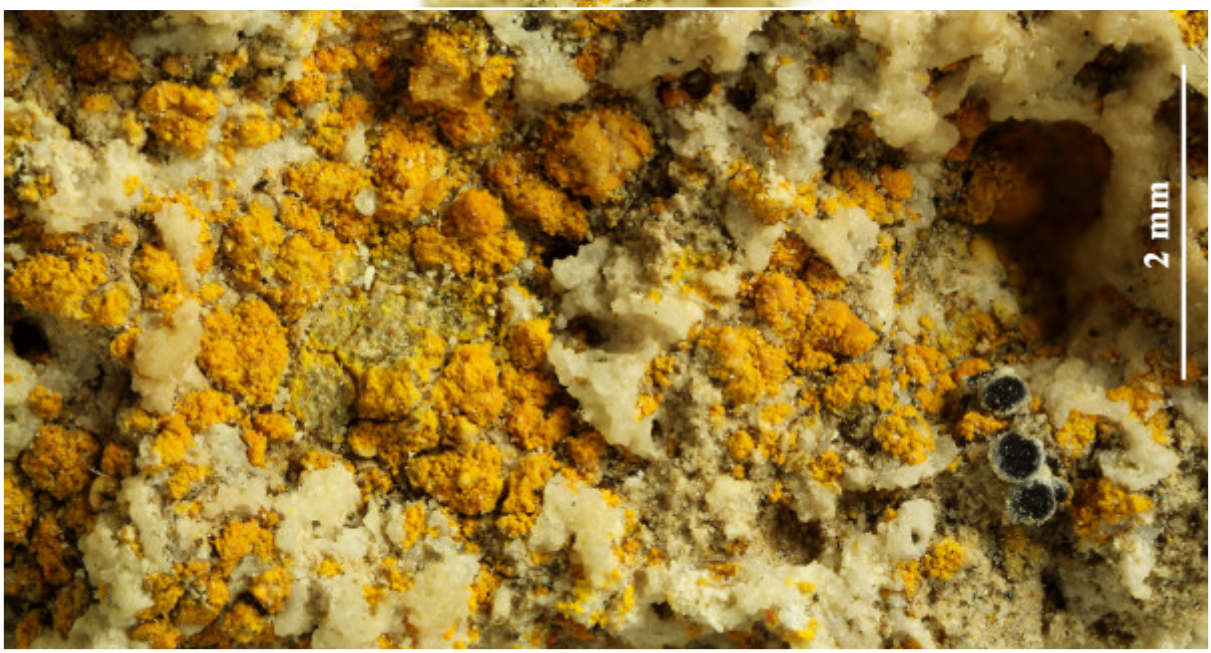
Caloplaca flavocitrina cfr. (Nyl.) H. Olivier, Mém. Soc. natn. Sci. nat. Cherbourg 37: 110 (1909)

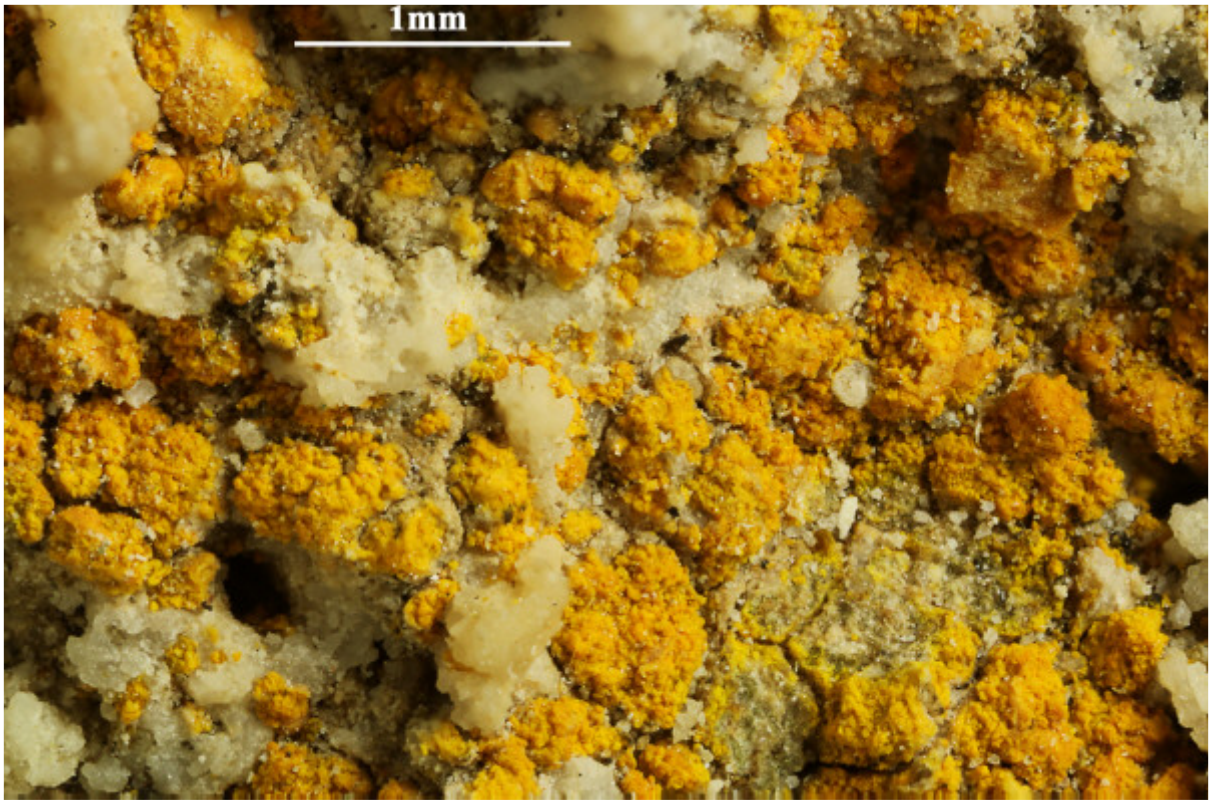
[= *Flavoplaca flavocitrina* cfr. (Nyl.) Arup, Frödén & Søchting, Nordic Jl Bot. 31(1): 45 (2013)]

[= *Caloplaca citrina* var. *flavocitrina* cfr. (Nyl.) Walt.Watson, Trans. R. Soc. Edinb. 34: 238 (1945)]

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









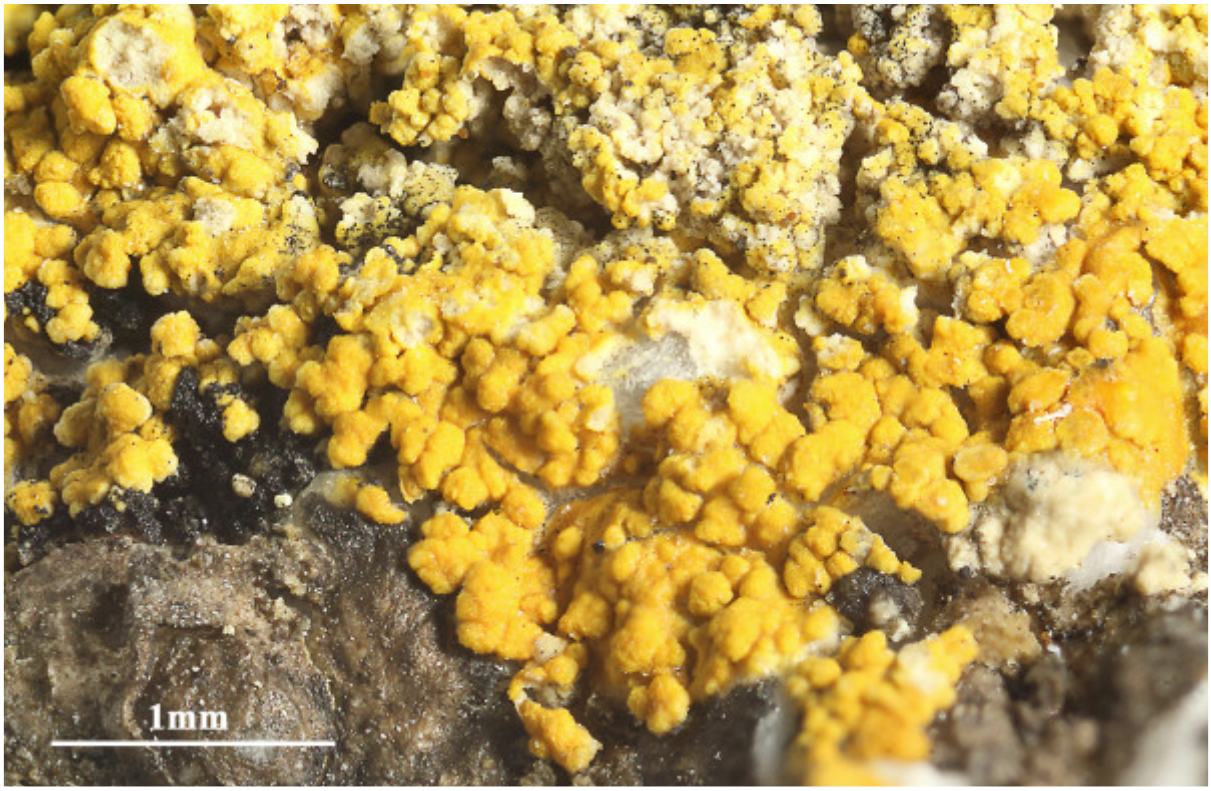
Caloplaca cf. flavocitrina

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

[BR5030040355032], Canada, British Columbia, Vancouver, Lighthouse Park, on maritime granite, 49°10’ N, 123°15’ W, 0-50 m. Leg. A. Aptroot (34537), 19. Aug. 1994, det. A. Aptroot 1994.







Caloplaca flavogranulosa



Caloplaca flavogranulosa

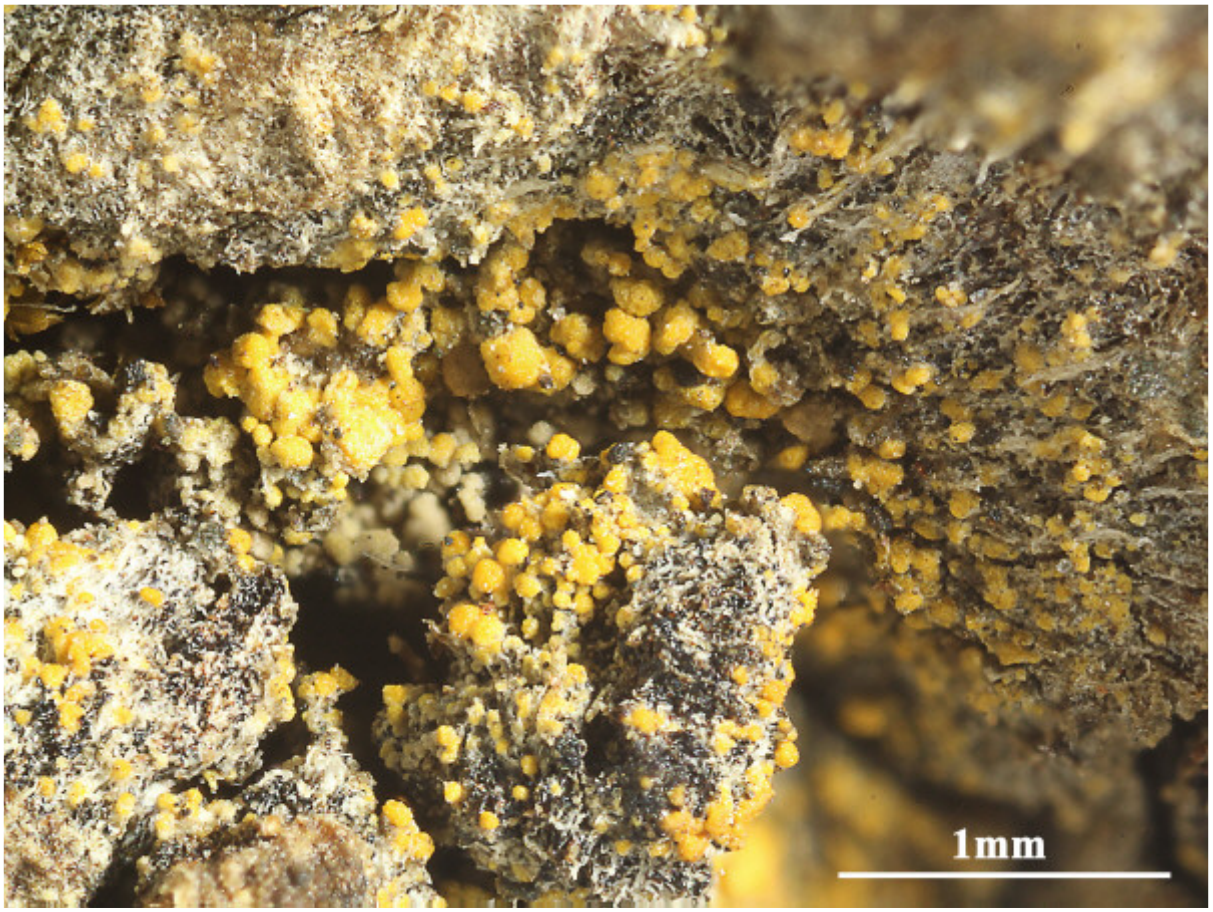
Caloplaca flavogranulosa Arup
[= *Polycauliona flavogranulosa* (Arup) Arup, Frödén & Søchting]

Spores hyalin. 8/ascus, polarilocular, 9-10-15 x 4.3-5.3 µm, septum 4.3-5.2 µm.

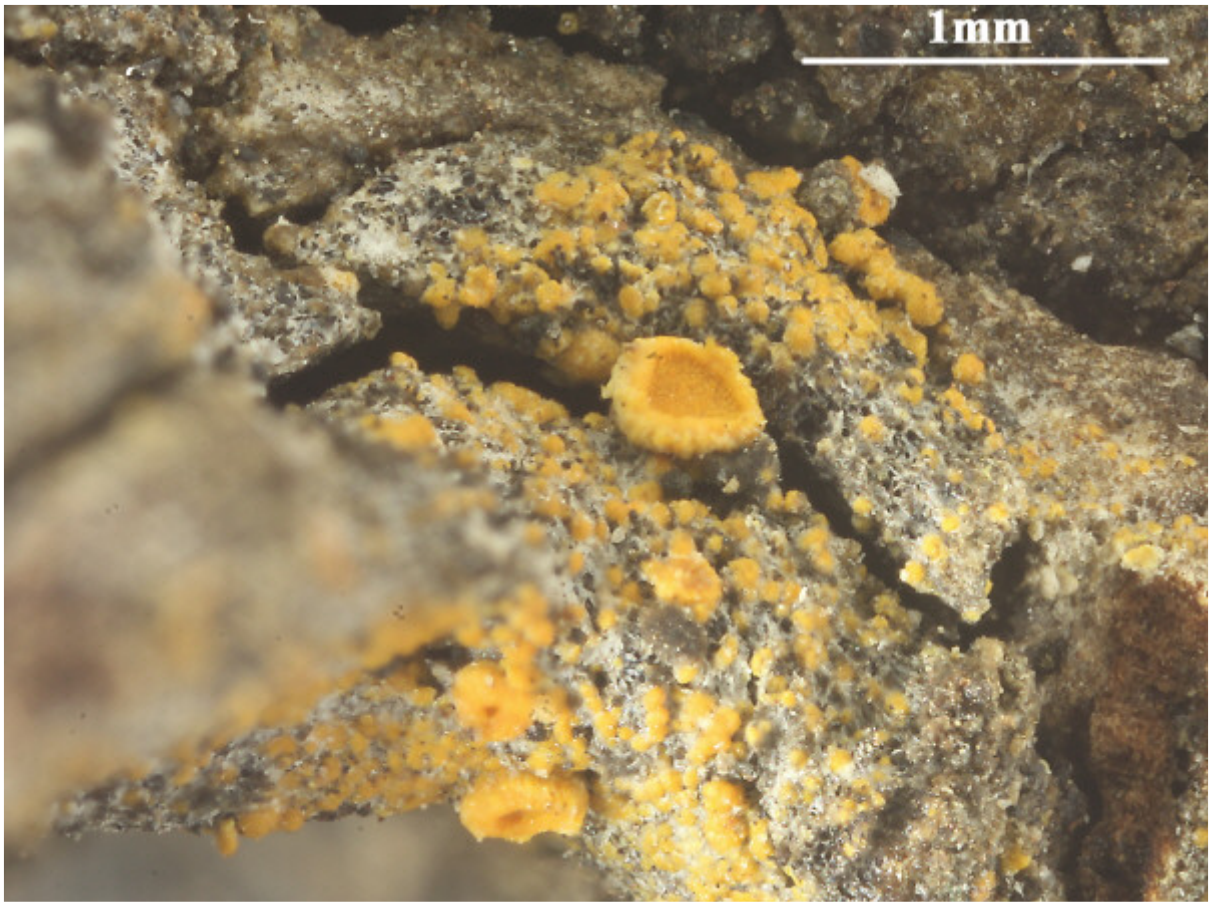
[BR5030070000292], Canada, British Columbia,Vancouver Island, Sidney, on Pseudotsuga, 48°33' N, 123°30' W, 0-10 m. Leg. A. Aptroot (35152), 22-23. Aug. 1994, det. A. Aptroot 1994.

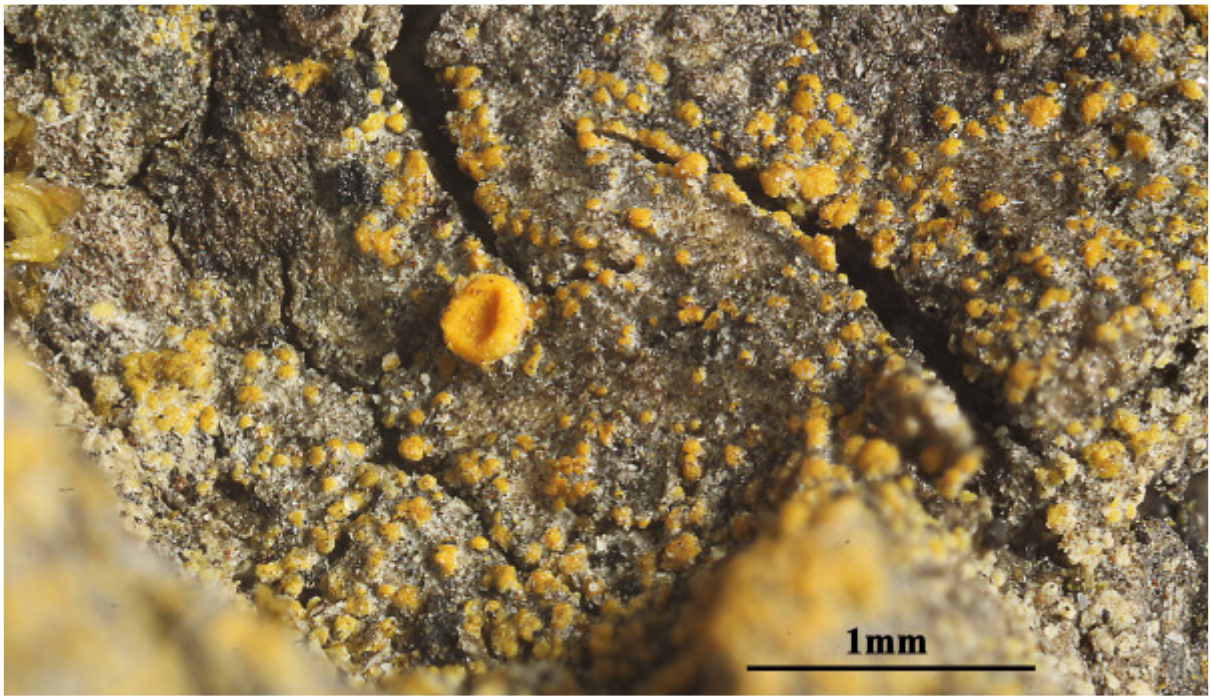




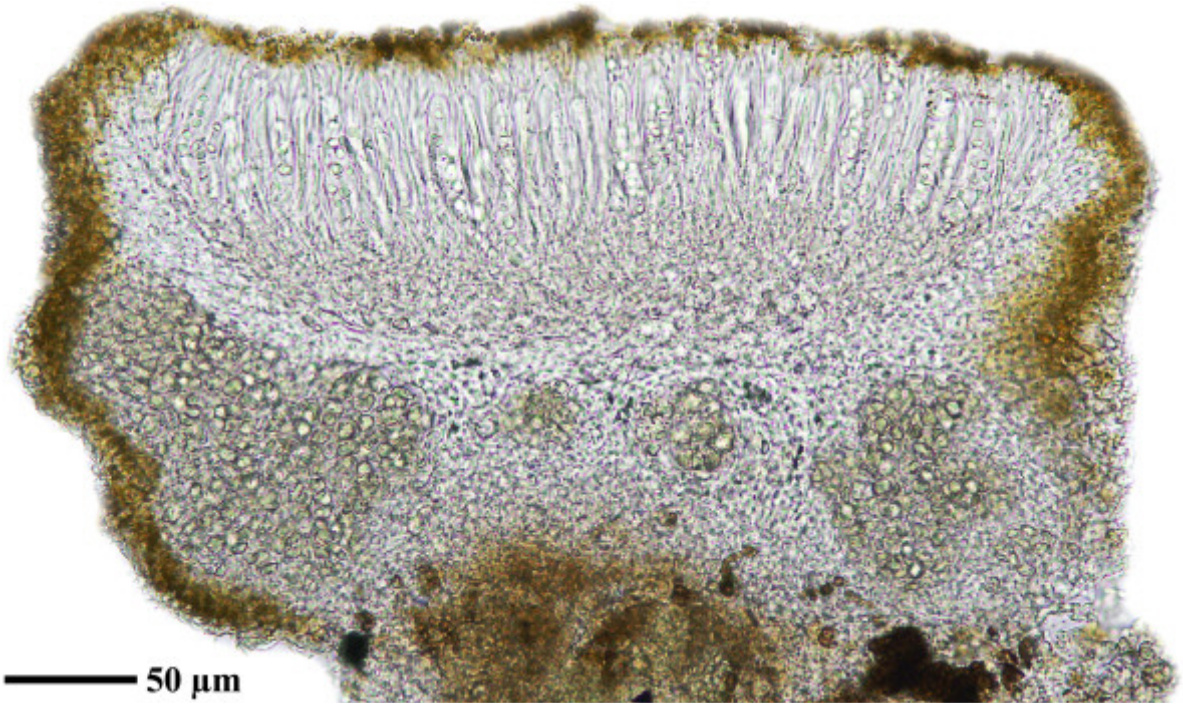


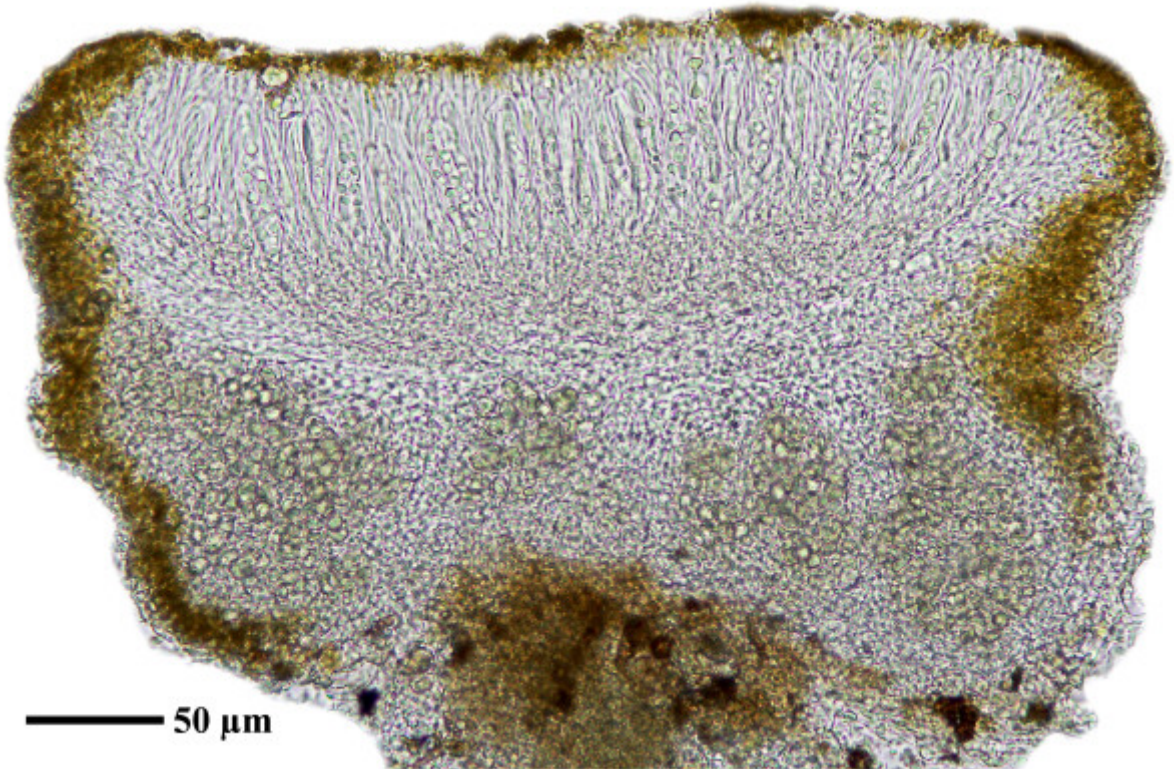
Caloplaca flavogranulosa



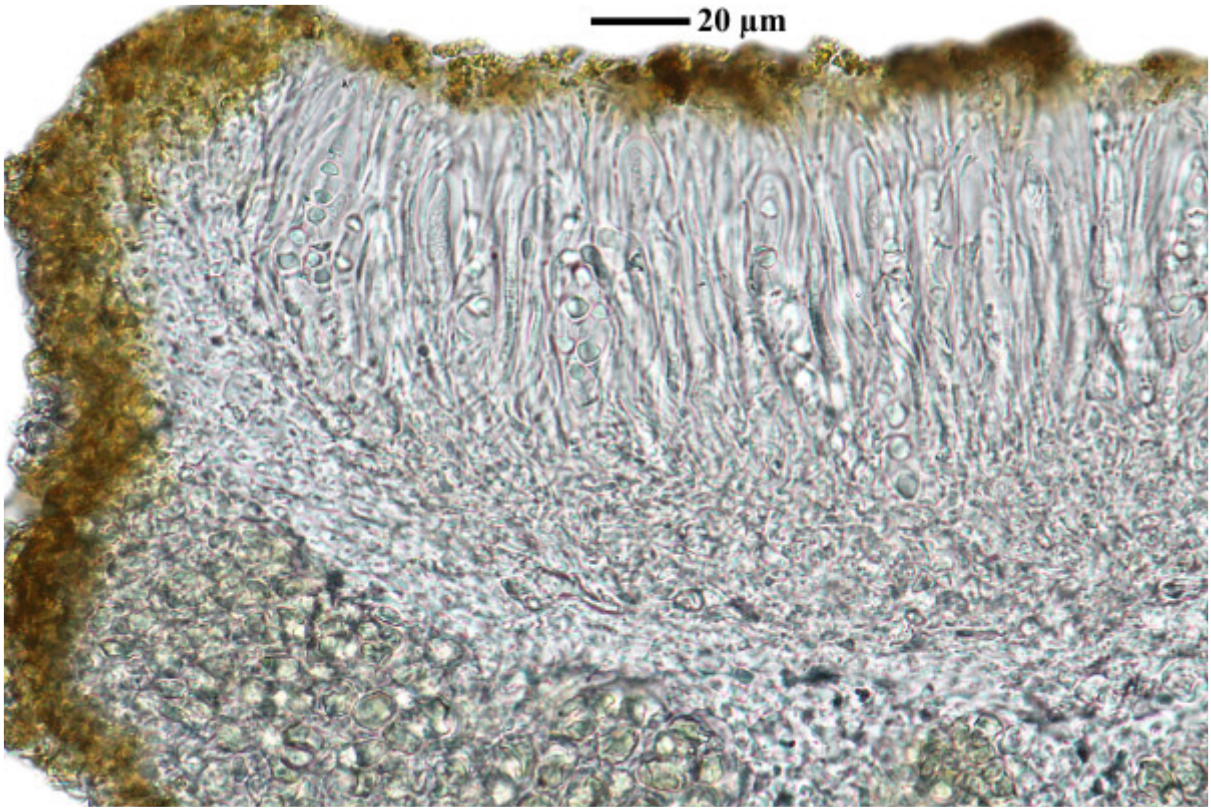


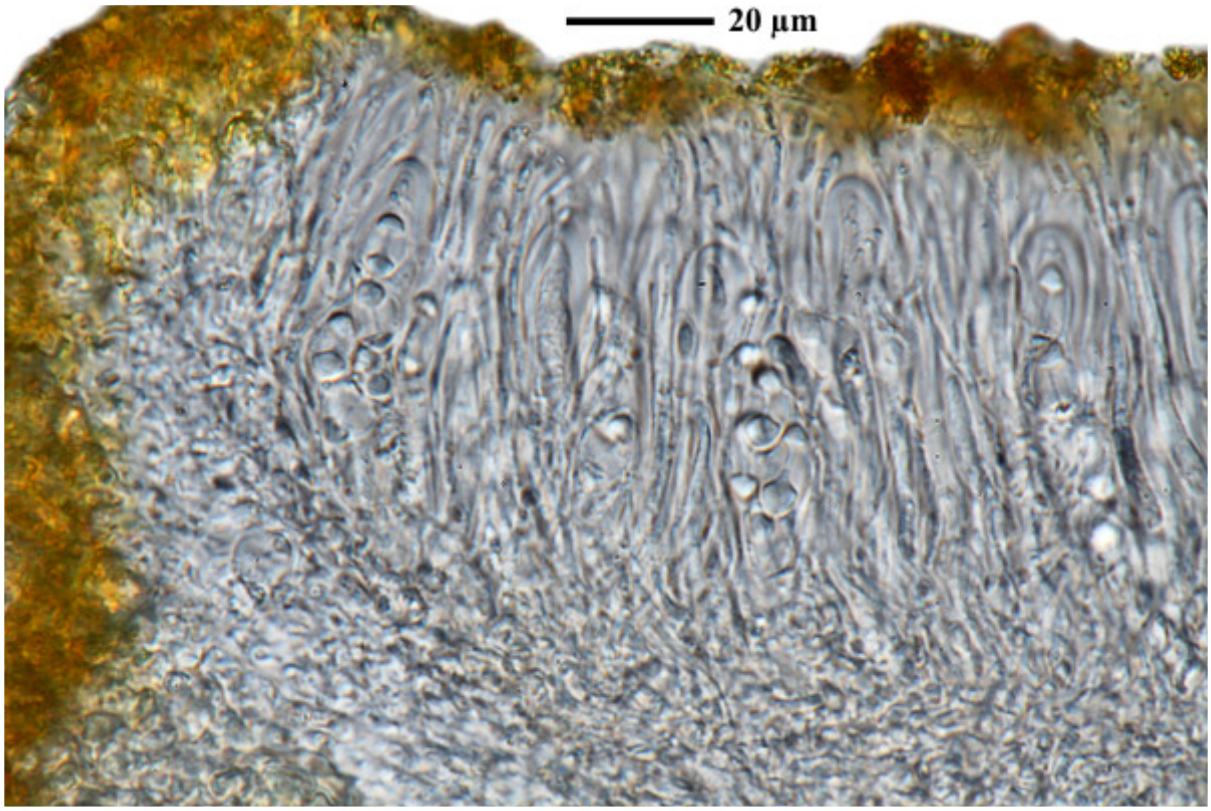
Caloplaca flavogranulosa



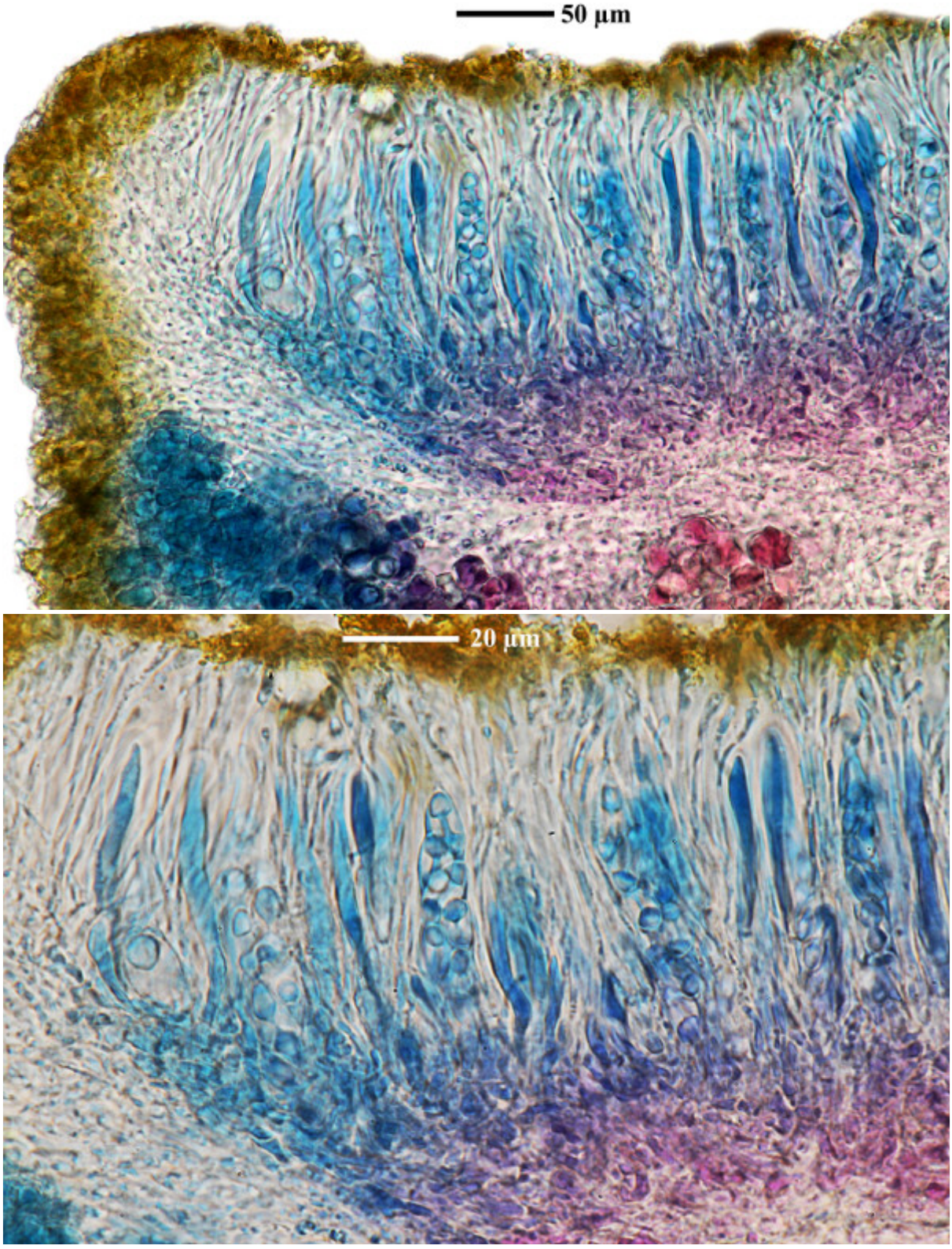


Caloplaca flavogranulosa

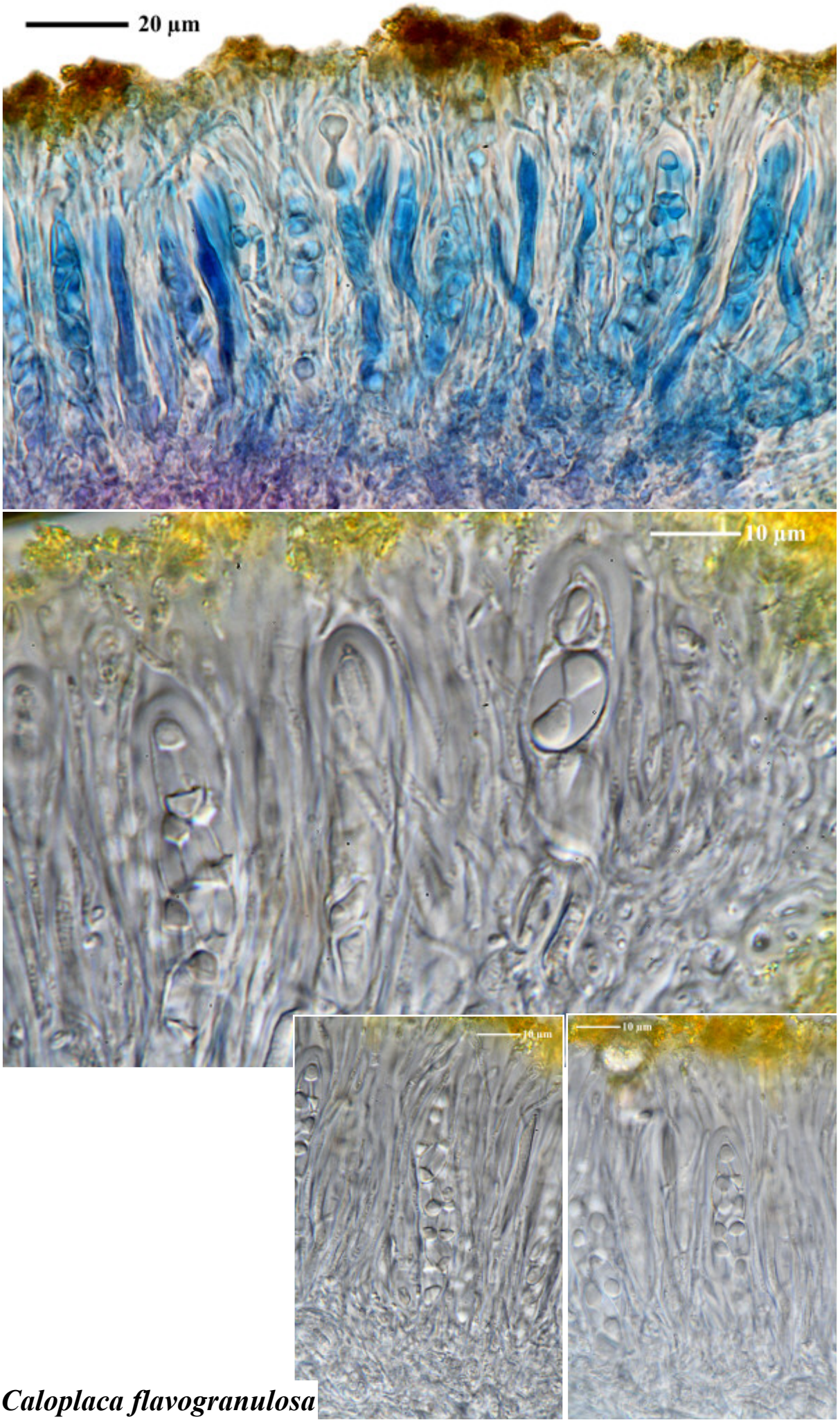




Caloplaca flavogranulosa



Caloplaca flavogranulosa



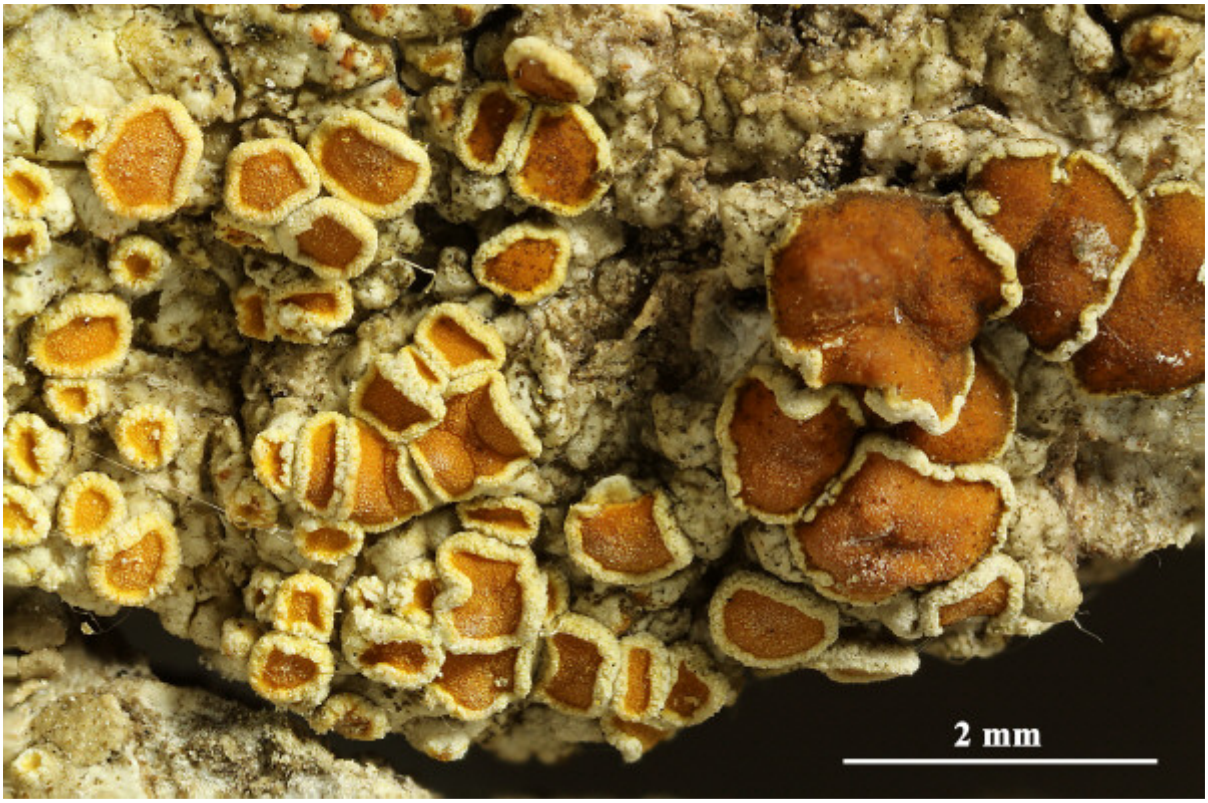
Caloplaca flavogranulosa

Caloplaca flavorubescens (Huds.) J.R.Laundon
[= *Gyalolechia flavorubescens* (Huds.) Søchting, Frödén & Arup]

On bark.

[11538], USA, Nebraska, Brown County, Niobrara Valley Preserve just E of Fairfield Camp on the south side of the Niobrara River, 1.5 miles (2,5 km) W of the Norden Bridge, N-facing slope with birch-oak and juniper, 42°47'06" N, 100°03'39" W, 650 m. Leg. Sara Morgan (337) & R. Egan 23.05.2000, ver. C. Wetmore 03.2001. EX UNIVERSITY OF NEBRASKA AT OMAHA HERBARIUM (OMA).







Caloplaca flavorubescens

Caloplaca flavorubescens (Huds.) J.R.Laundon
[= *Gyalolechia flavorubescens* (Huds.) Søchting, Frödén & Arup]

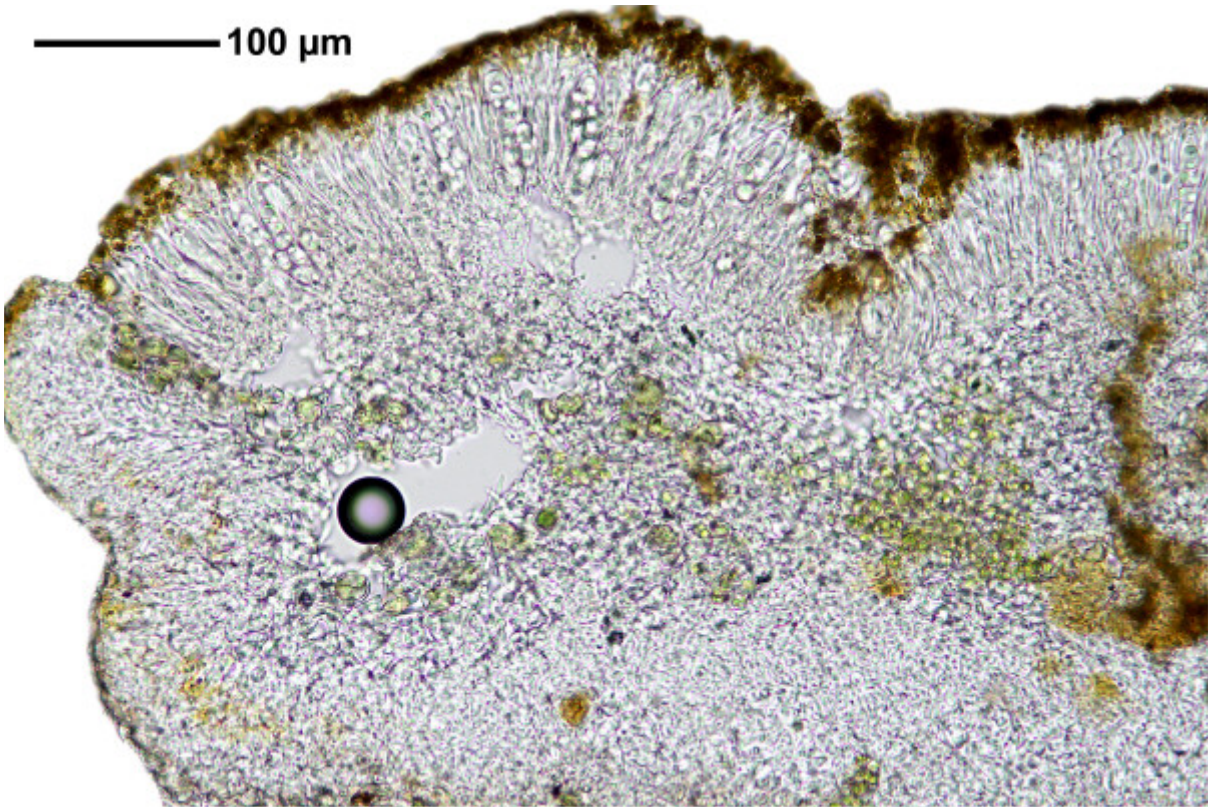
On bark. Spores polarilocular, hyaline, 8/ascus, 14-16 x 8.5-9.5 µm, septum 5.7-6.2 µm.

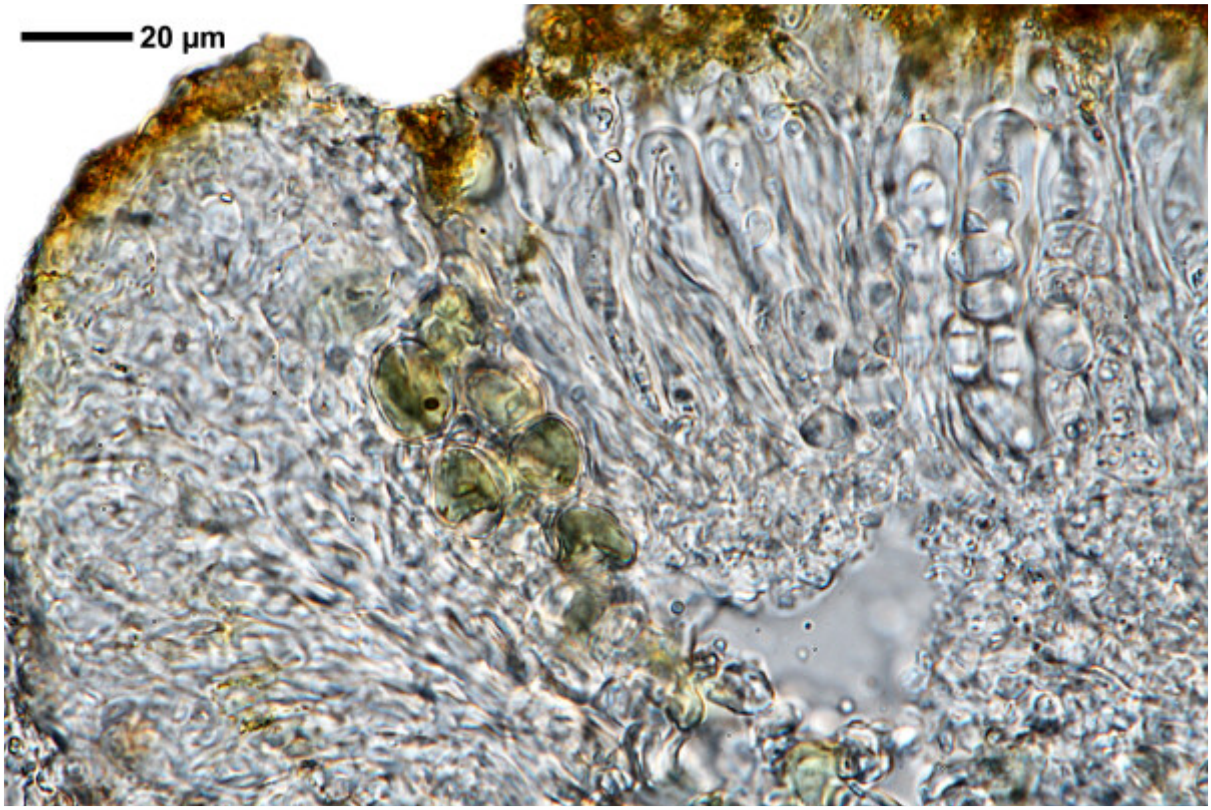
[14796], Zypern, NW Pano Platres und SW Trodos, bei den Kalidonia Falls; 34°53.762' N, 32°52.105' E, 1190 m. Leg. F. Schumm & J.-P. Frahm, 18.02.2009, det. A. Aptroot 2016.

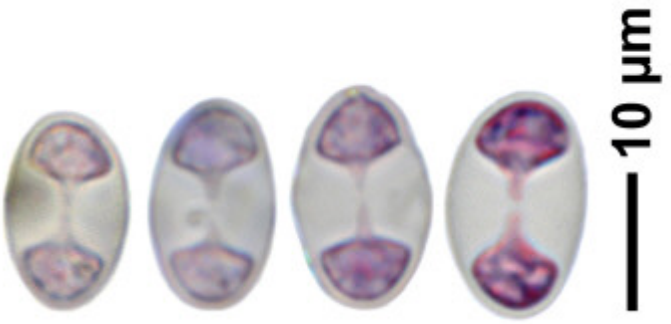




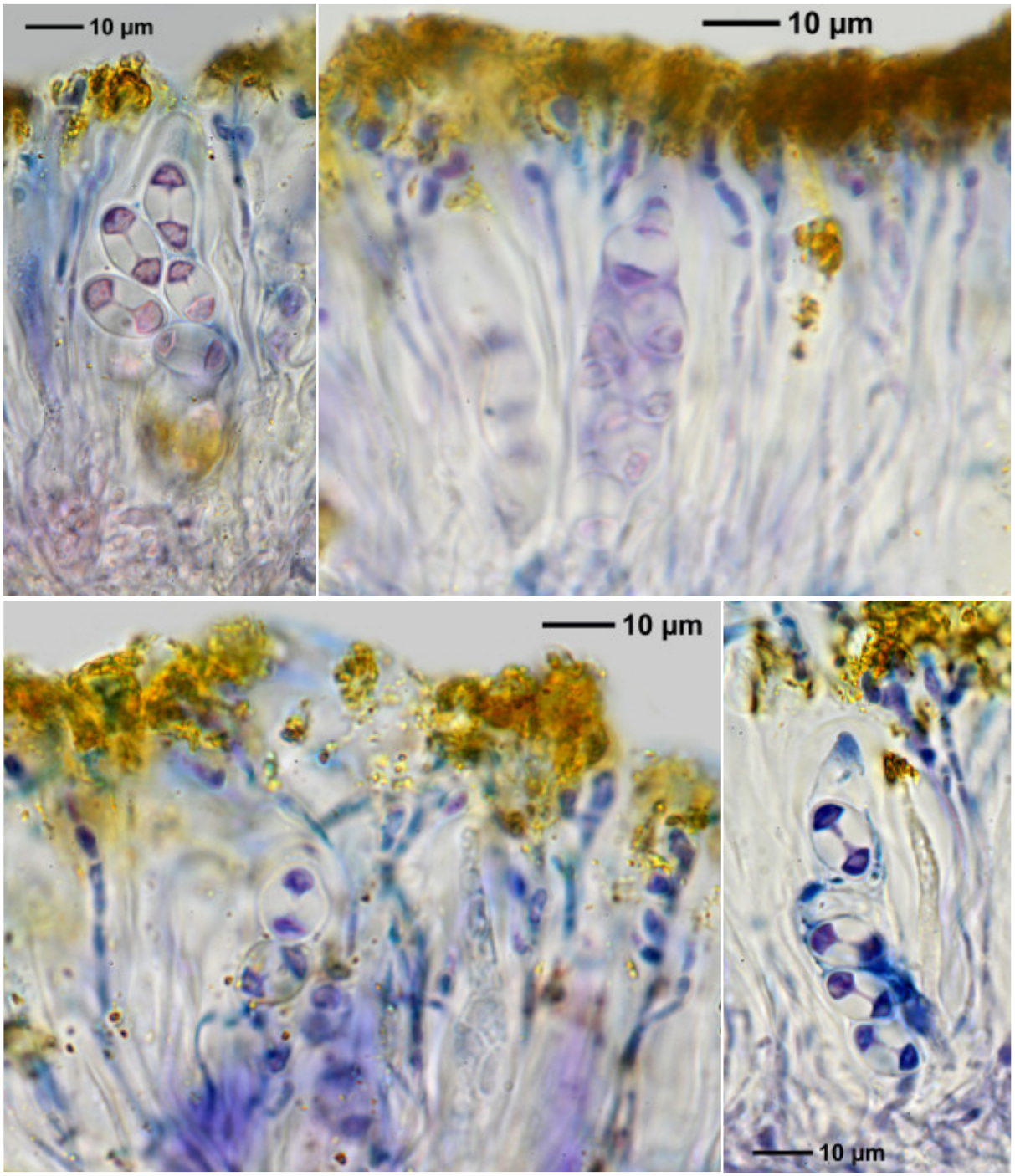
Caloplaca flavorubescens

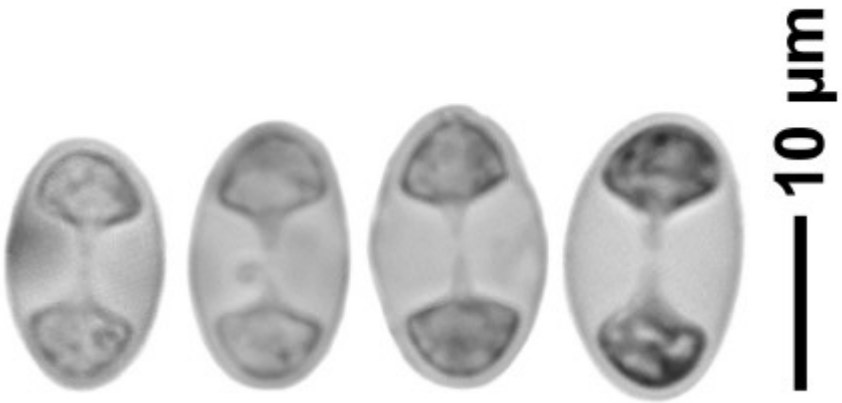






Caloplaca flavorubescens





Caloplaca flavorubescens

Caloplaca flavorubescens (Huds.) J.R.Laundon
[= *Gyalolechia flavorubescens* (Huds.) Søchting, Frödén & Arup]

On bark.

[19395], U.S.A. North Dakota, McHenry Co. Nelson Bridge, 17.6 km NNW of Towner. Flood plain forest along Souris River with *Ulmus americana* (american elm) and *Fraxinus pennsylvanica* (green ash), near river, 439 m, 48°30'21" N, 100°27'05" W. Leg. Thomas D. Trana (No. 7000), 9. Sept.1978, det. C. Wetmore. TELOSCHISTACEAE EXSICCATI NO. 106 distributed by C. Wetmore.



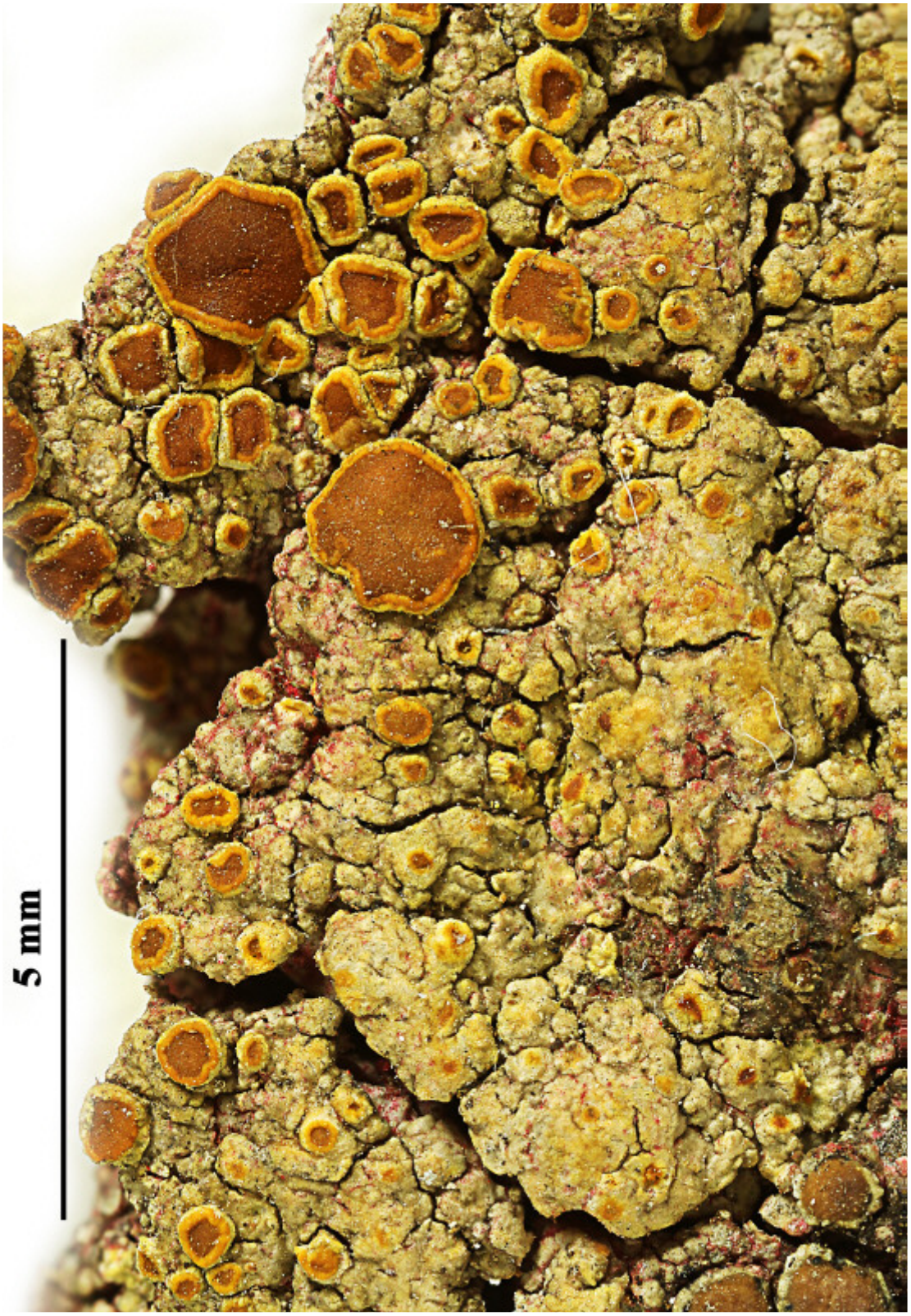


Caloplaca flavorubescens

Caloplaca flavorubescens (Huds.) J.R.Laundon
[= *Gyalolechia flavorubescens* (Huds.) Søchting, Frödén & Arup]

Spores 14-16 x 7.5-8.5 µm, septum 8-9 µm (FS). On bark. Lit. Laundon in Lichenologist 8: 147 (1976)

[19579], Gallia, Lozère, Cévennes, Finiels, secus viam inter Bleymard et Pont-de-Montvert, ad truncum *Fraxini*.Leg. E. Sérusiaux, 07.1983, det. E. Sérusiaux. VĚZDA: LICHENES SELECTI EXSICCATI NR. 1941.



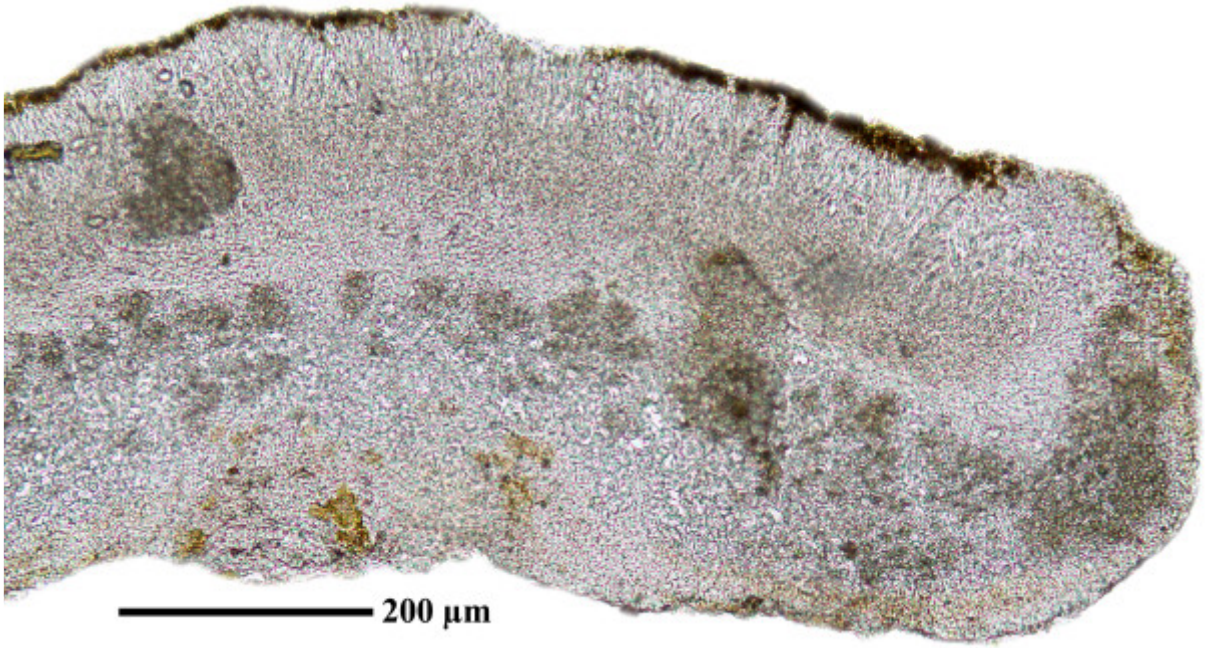


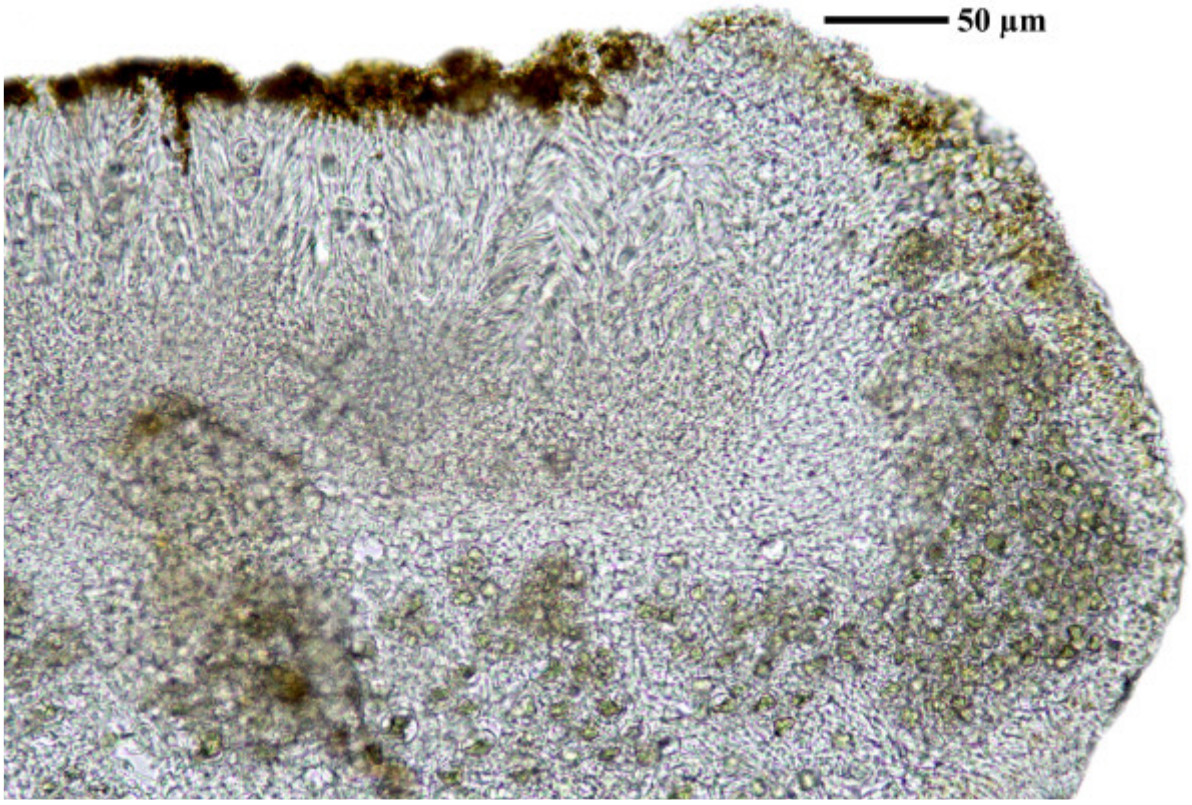


Caloplaca flavorubescens

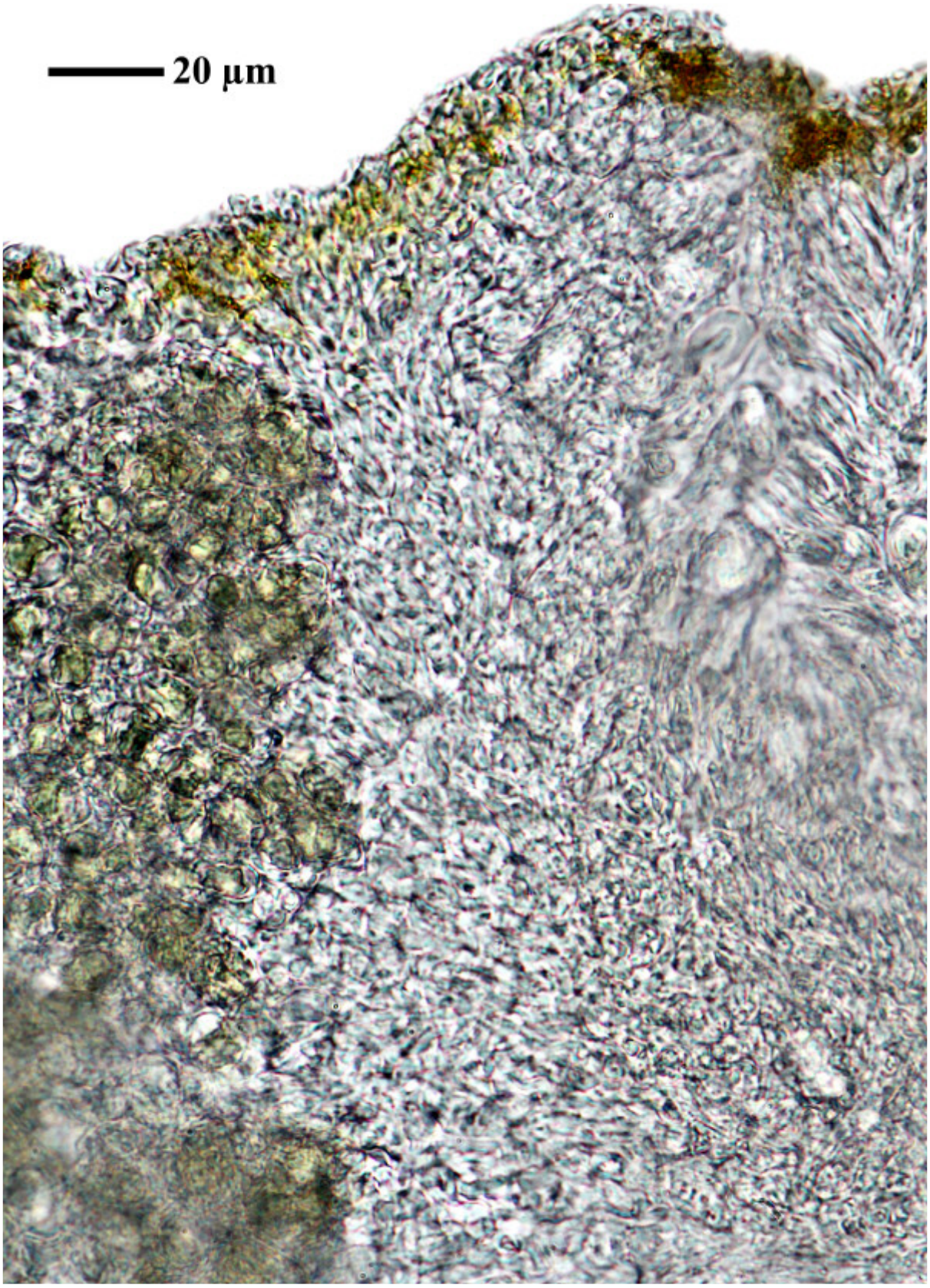


Caloplaca flavorubescens

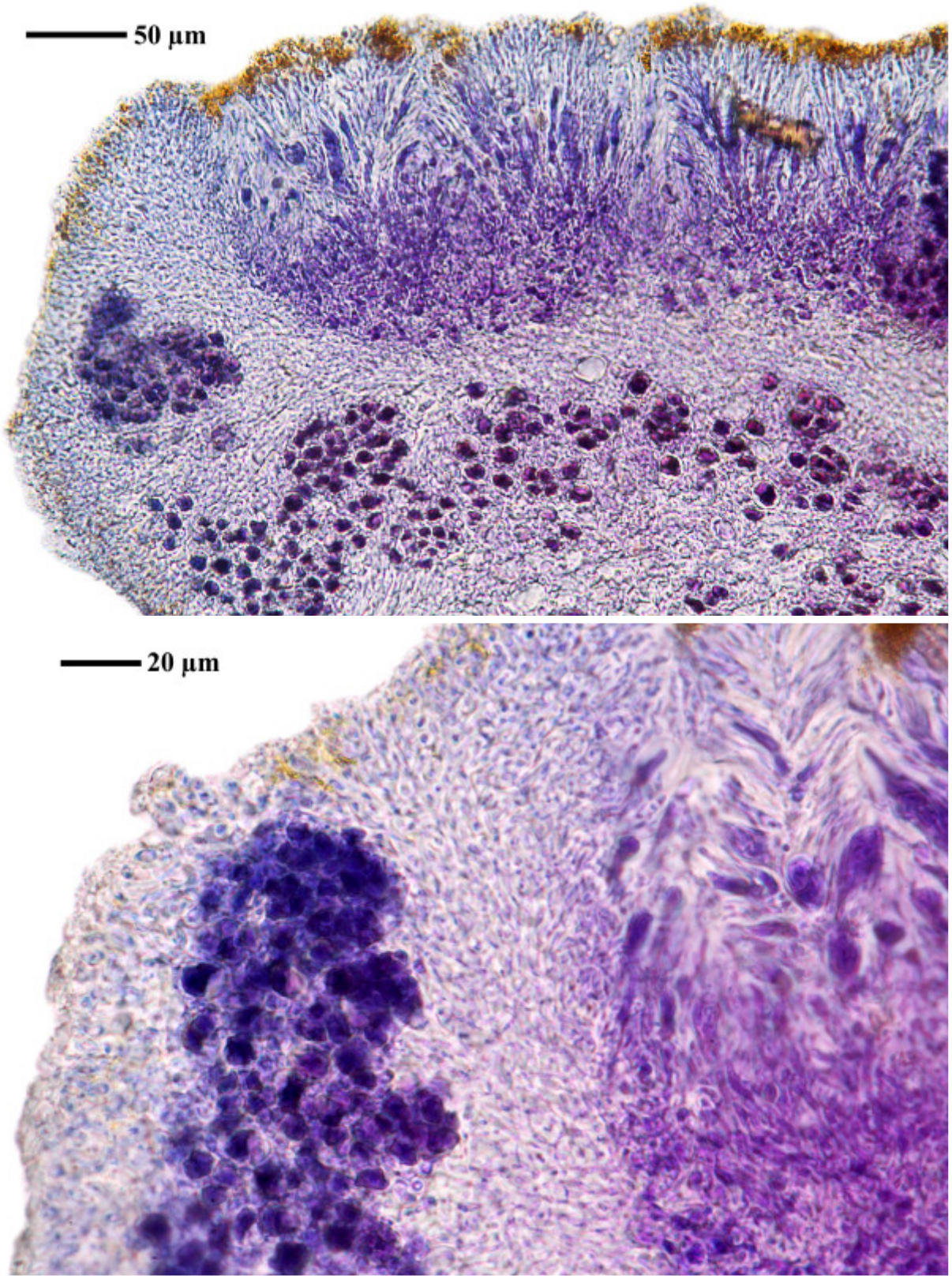




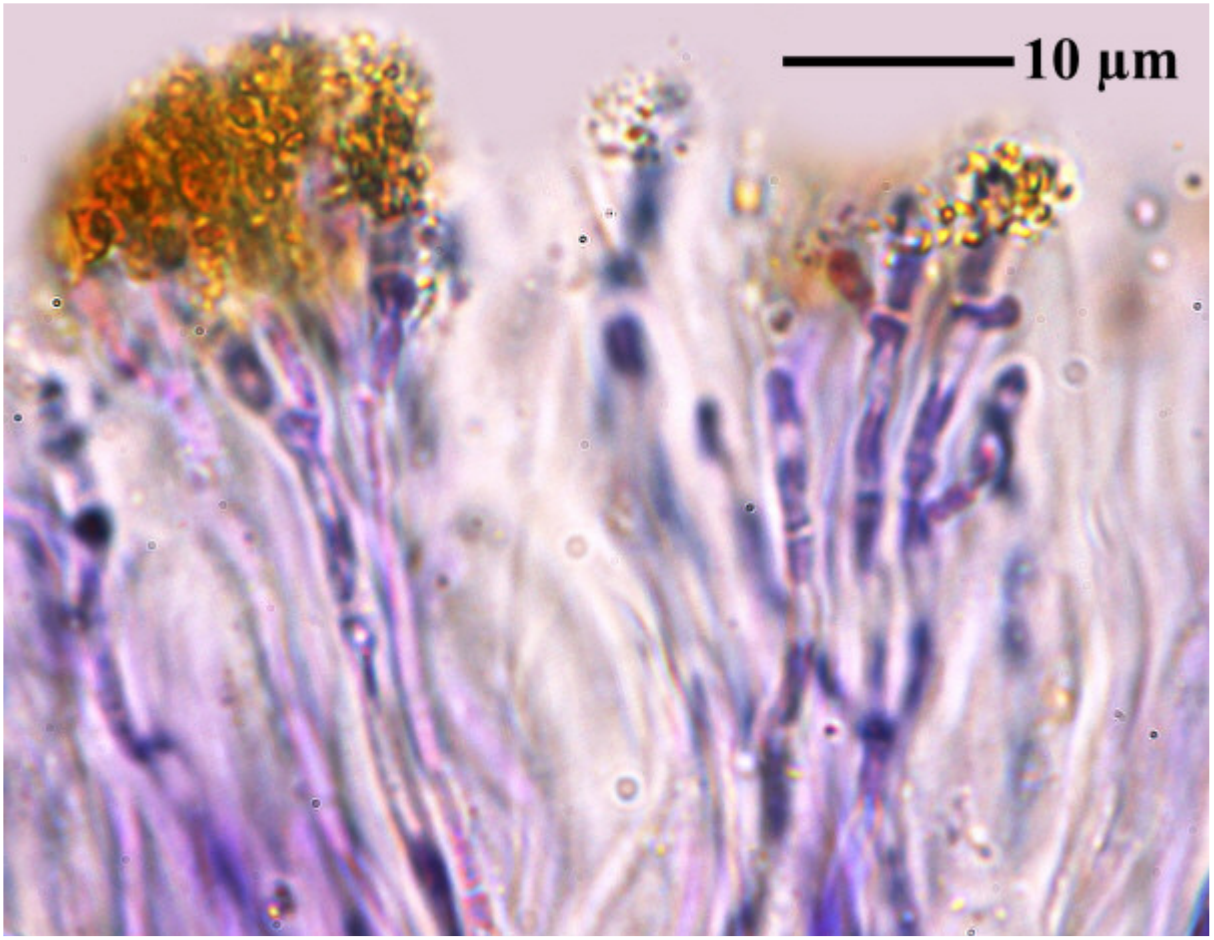
Caloplaca flavorubescens



Caloplaca flavorubescens



Caloplaca flavorubescens





Caloplaca flavorubescens

Caloplaca flavorubescens (Huds.) J.R.Laundon
[= *Gyalolechia flavorubescens* (Huds.) Søchting, Frödén & Arup]

On bark.

[19617], Sri Lanka, Central Province, Pidurutalagala Mountain, Nuwara Eliya, 7°00' N, 80°46' E, 2525 m, montane forest. Leg.G. Weerakoon, P. Wolseley & A. Aptroot, 9.03.2015, det. A. Aptroot.





Caloplaca flavorubescens

Caloplaca flavorubescens (Huds.) J.R.Laundon
[= *Gyalolechia flavorubescens* (Huds.) Søchting, Frödén & Arup]

On bark.

[ABL 72634], Korea, Gangwon-do, Gangrung city, Yeongok-myeoun, Samsan-ri, Mt. Odae, Odaesan National Park, along Cheonghak stream, c. 37°49’ N, c. 128°42’ E, c. 240 m, on salix. Leg. A. Aptroot 14.10.2014, det. A. Aptroot 2014.







Caloplaca flavorubescens

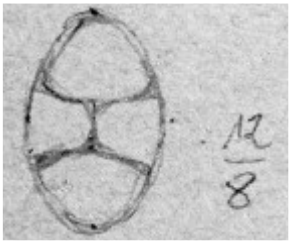
Caloplaca flavovirescens (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens* (Wulfen) Søchting, Frödén & Arup]

On stone walls. Ascospores 12 x 8 µm

[2147], Tunesien, an Mauern und Mörtel in Cheninin, trocken. Leg. F.







Caloplaca flavovirescens

Caloplaca flavovirescens (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens* (Wulfen) Søchting, Frödén & Arup]

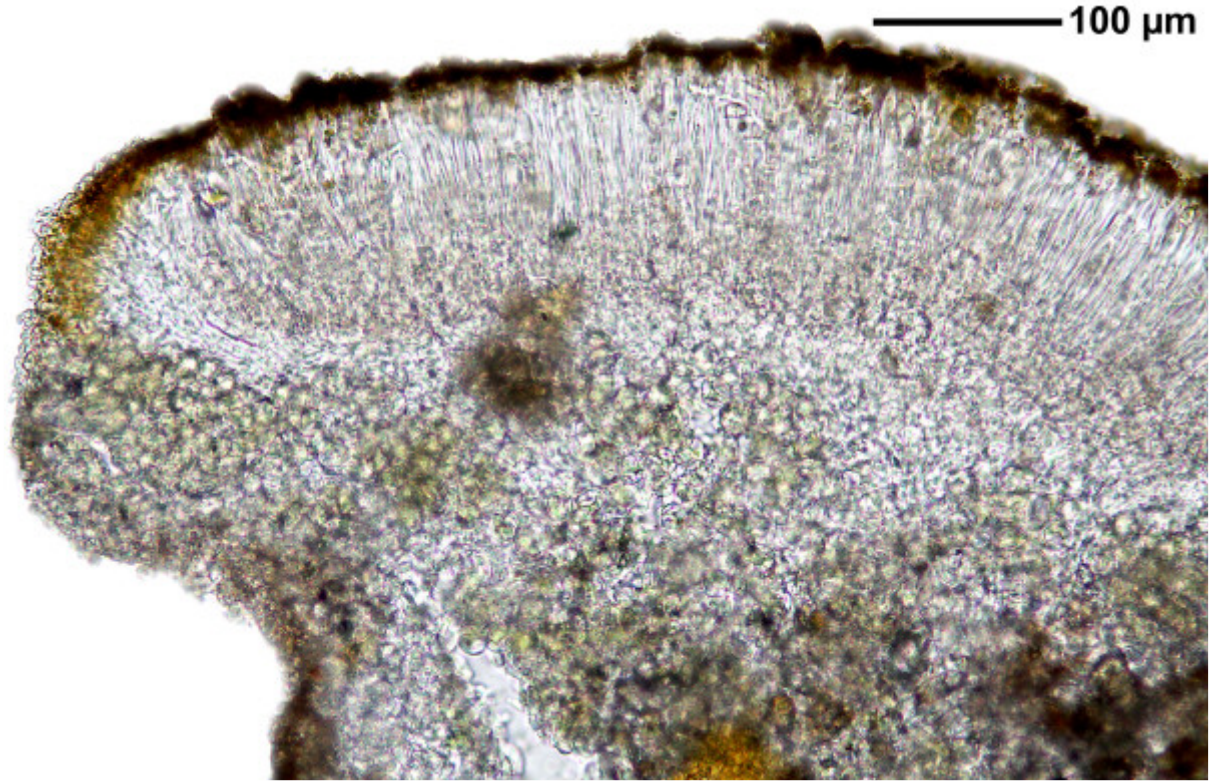
Spores polarilocular, 8/ascus, hyaline, 14.5-17 x 6-7.5 µm, septum thick, 3.5-5.5 µm. On stones.

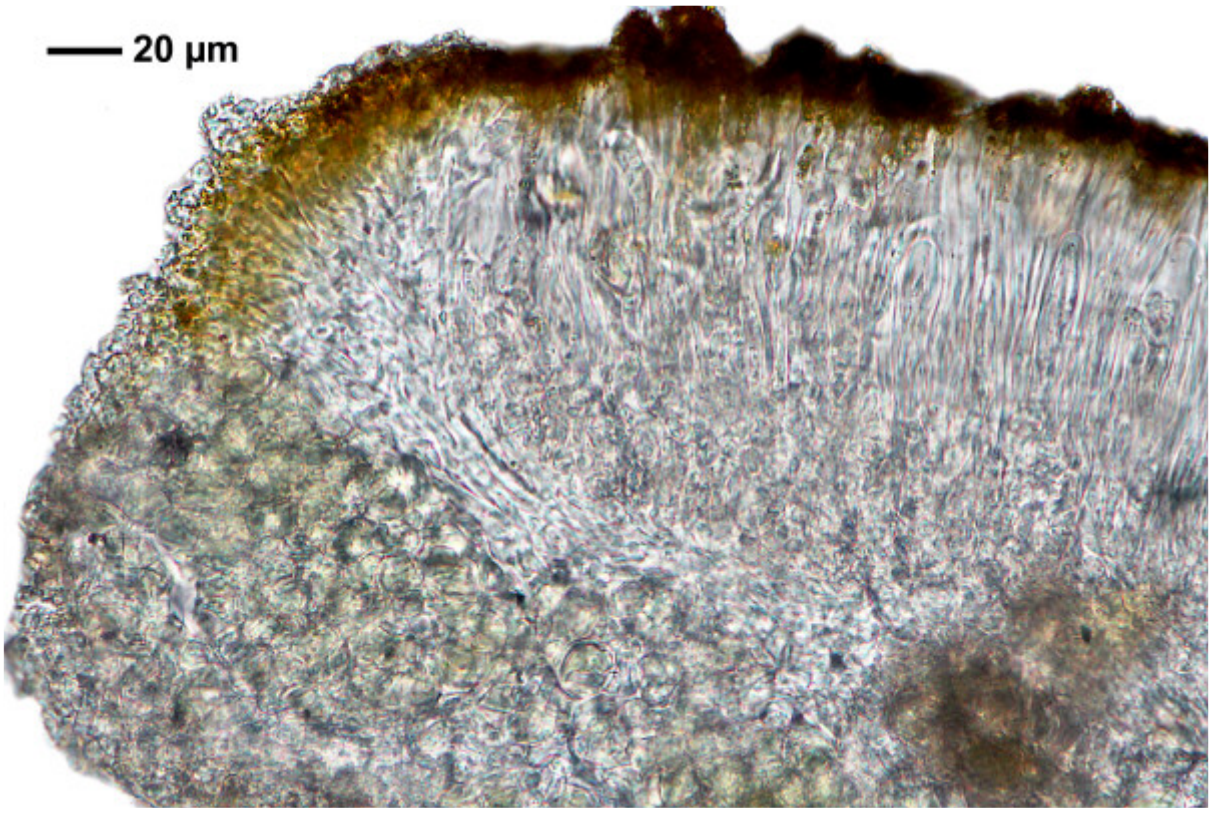
[7115], Spanien, Kanarische Inseln, Tenøeriffa, 1 km südöstlich von Los Cristianos an einem Ausläufer des Mont Guaze, ca. 220 m, auf vulkanischem Gestein in Sukkulenten-Steppe. Leg. F. Schumm, 27.12.1975, det. A. Aptroot 2016.

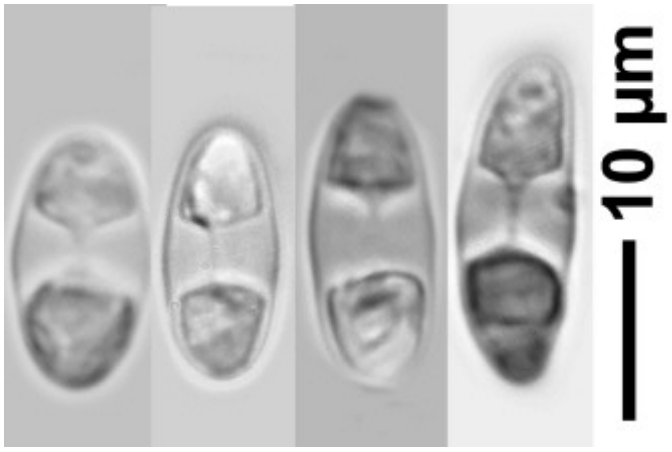




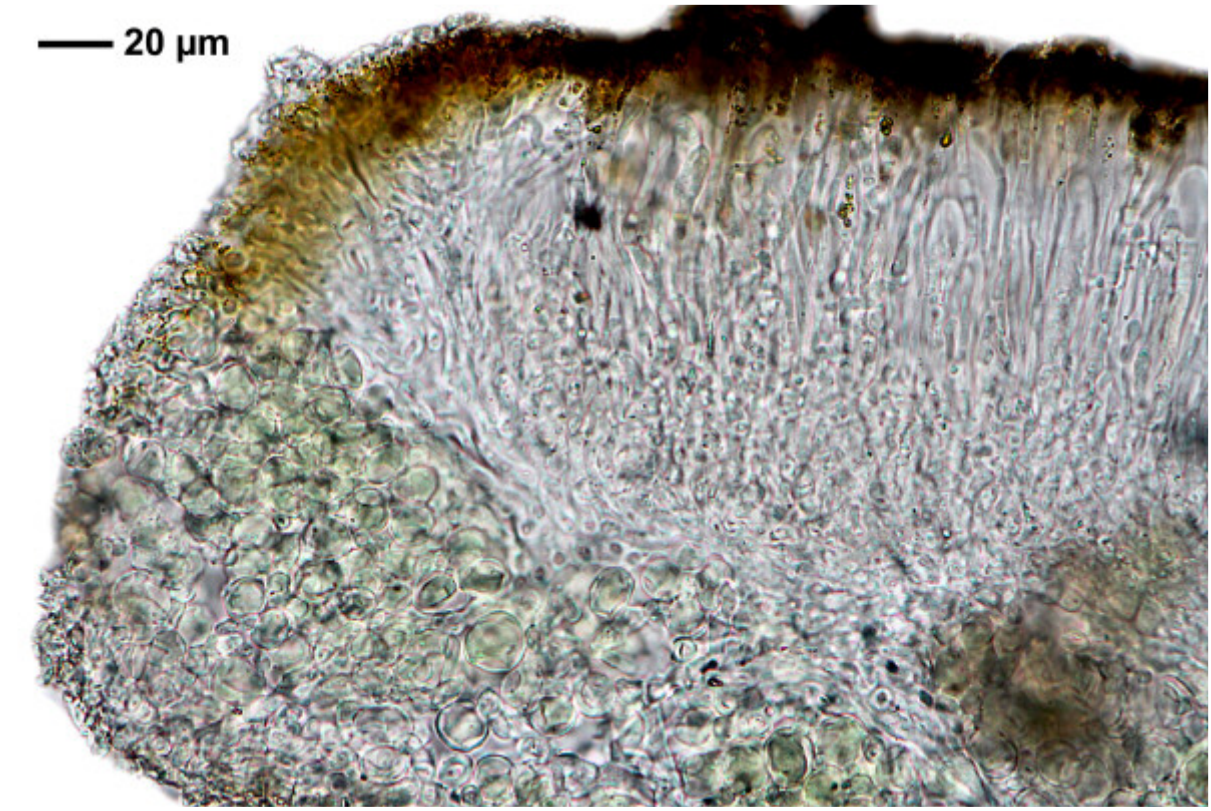
Caloplaca flavovirescens

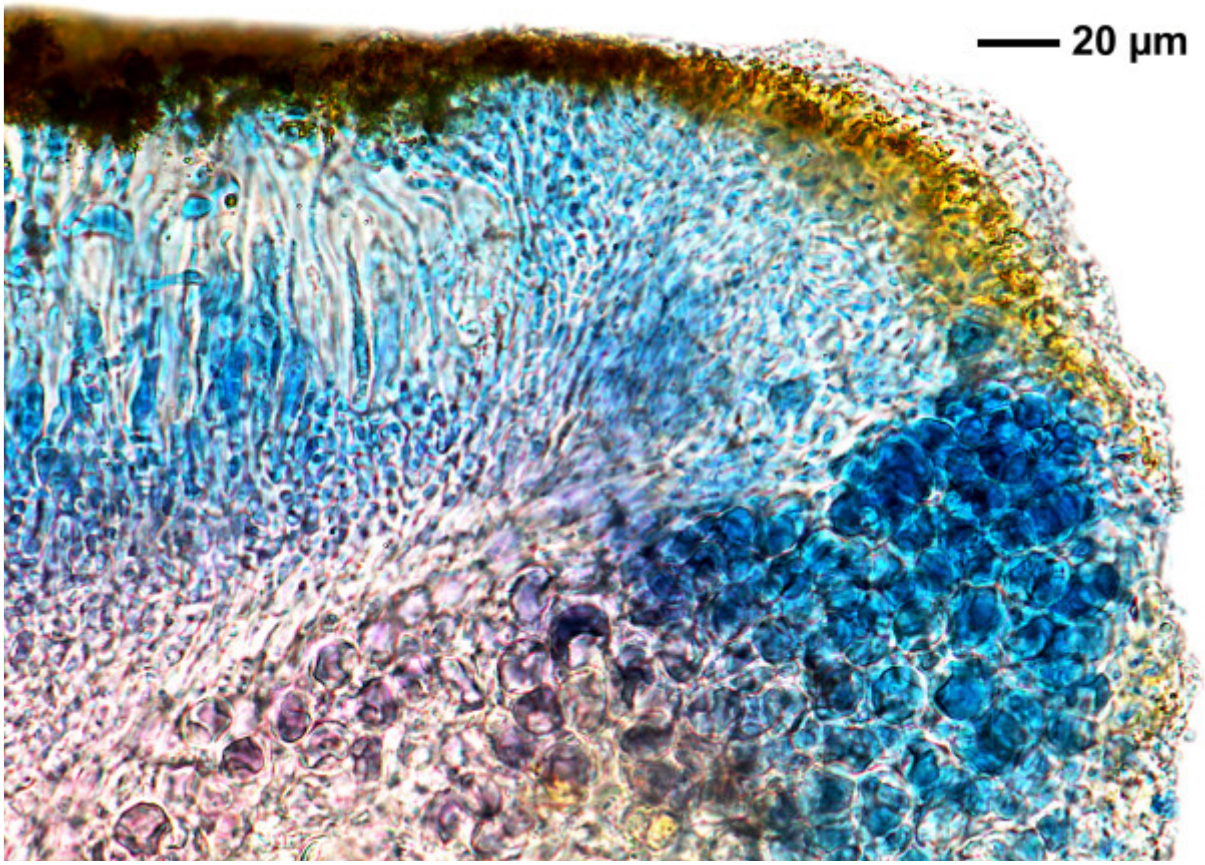






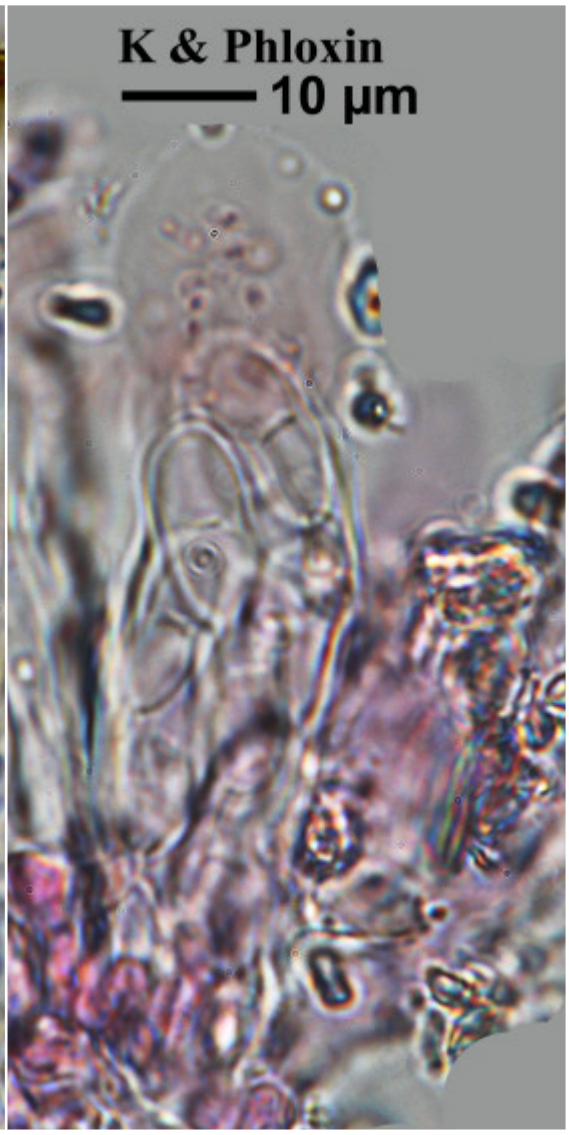
Caloplaca flavovirescens

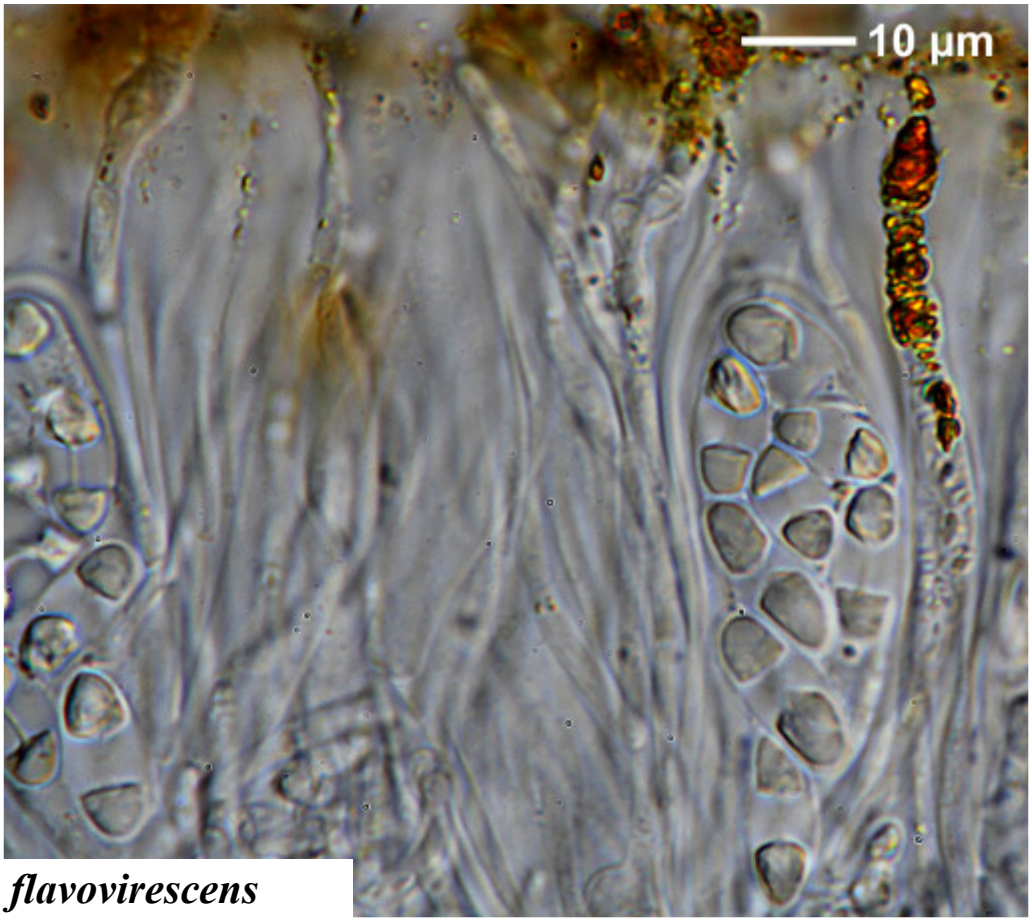




Caloplaca flavovirescens







Caloplaca flavovirescens

Caloplaca flavovirescens (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens* (Wulfen) Søchting, Frödén & Arup]

Spores polarilocular, hyaline, 8/ascus, 17-19 x 9-10 µm, septum thick, 7-8 µm. On stones.

[9174], Spanien, Kanaren, La Gomera: Chorros de Epina, zwischen Arure und Vallehermoso, im Lorbeer-Erica Wald, 28°09.830' N, 17°17.852 W, 750-850 m.Leg. F. Schumm, 10.02.2002, det. A. Aptroot 2016.







Caloplaca flavovirescens

Caloplaca flavovirescens (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens* (Wulfen) Søchting, Frödén & Arup]

On rocks.

[11889], Spanien, Kanarische Inseln, Teneriffa, Los Cristianos, Südausläufer des Mua Guaza; Geologie: Serie Traquiticia y Traquibasaltica Traquitas Y Traquibasaltos; Trockenhang mit *Euphorbia regis-jubae*, *canariensis*, *Zollikoferia spinosa*. Leg. F. & D. Schumm, 27.12.1976, det. A. Aptroot 2016.





Caloplaca flavovirescens

Caloplaca flavovirescens (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens* (Wulfen) Søchting, Frödén & Arup]

On rocks.

[11891], Spanien, Kanarische Inseln, Teneriffa, Los Cristianos, Südausläufer des Mua Guaza; Geologie: Serie Traquiticia y Traquibasaltica Traquitas Y Traquibasaltos; Trockenhang mit *Euphorbia regis-jubae*, *canariensis*, *Zollikoferia spinosa*. Leg. F. & D. Schumm 27.12.1976, det. A. Aptroot 2016.





Caloplaca flavovirescens

Caloplaca flavovirescens (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens* (Wulfen) Søchting, Frödén & Arup]

On rocks.

[12835], Spanien, Kanaren, La Palma (SE), zwischen Malpaises und Tiguero, sonnige Straßenböschung mit Euphorbia und Aeonium. 28°33.762' N, 17°47.331' W, ca. 500m. Leg. F. Schumm, 13.01.2007, det. A. Aptroot 2016.





Caloplaca flavovirescens

Caloplaca flavovirescens (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens* (Wulfen) Søchting, Frödén & Arup]

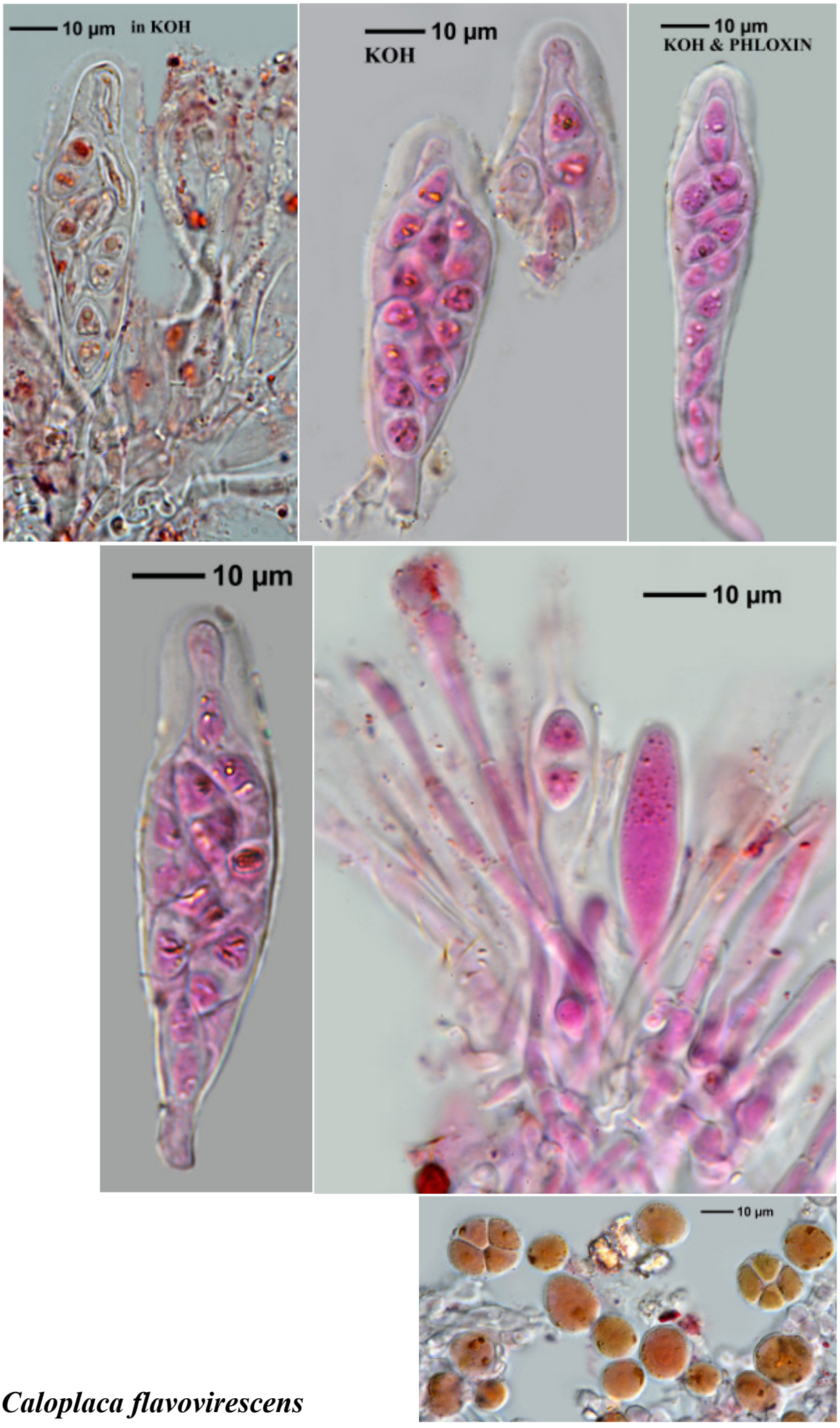
Spores polarilocular, hyaline, 8/ascus, 15-17 x 4.5-7.5(-9) µm, septum 2.5 µm. On calcareous rocks.

[13411], 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 flavovirescens



Caloplaca flavovirescens

Caloplaca flavovirescens (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens* (Wulfen) Søchting, Frödén & Arup]

On rocks.

[13500], Griechenland, S-Kreta, Asteroussia Berge, 2 km oberhalb Lentas, ca. 190 m, on calcareous stones. Leg. F. Schumm & R. Düll, 23.10.2007, det. A. Aptroot 2016.







Caloplaca flavovirescens

Caloplaca flavovirescens (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens* (Wulfen) Søchting, Frödén & Arup]

On rocks.

[13792], 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 flavovirescens

Caloplaca flavovirescens (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens* (Wulfen) Søchting, Frödén & Arup]

On calcareous rocks.

[13794], 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.



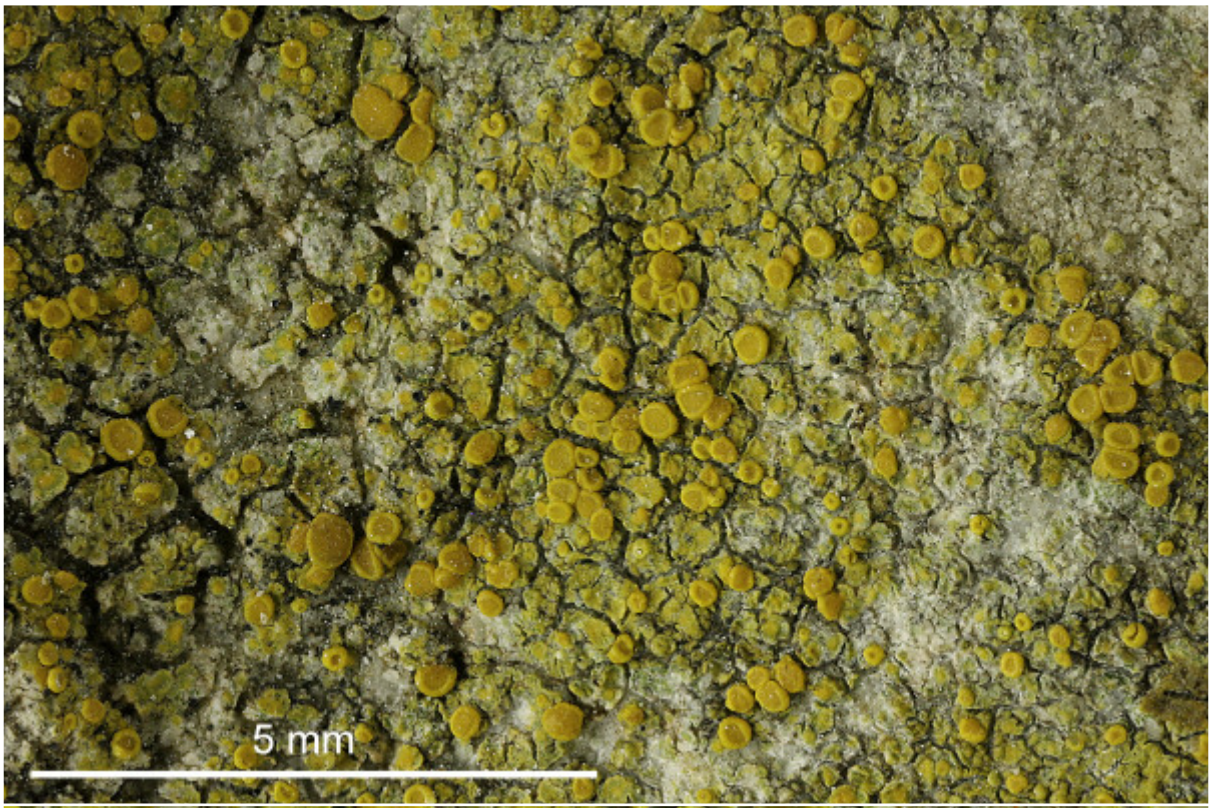


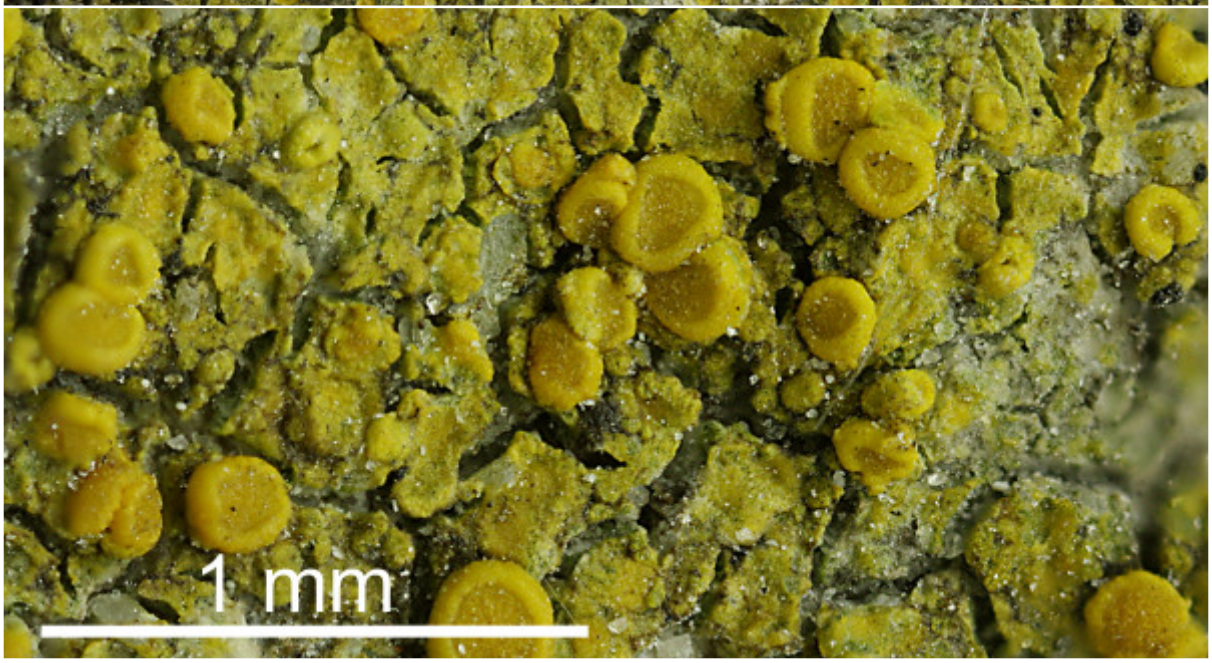
Caloplaca flavovirescens

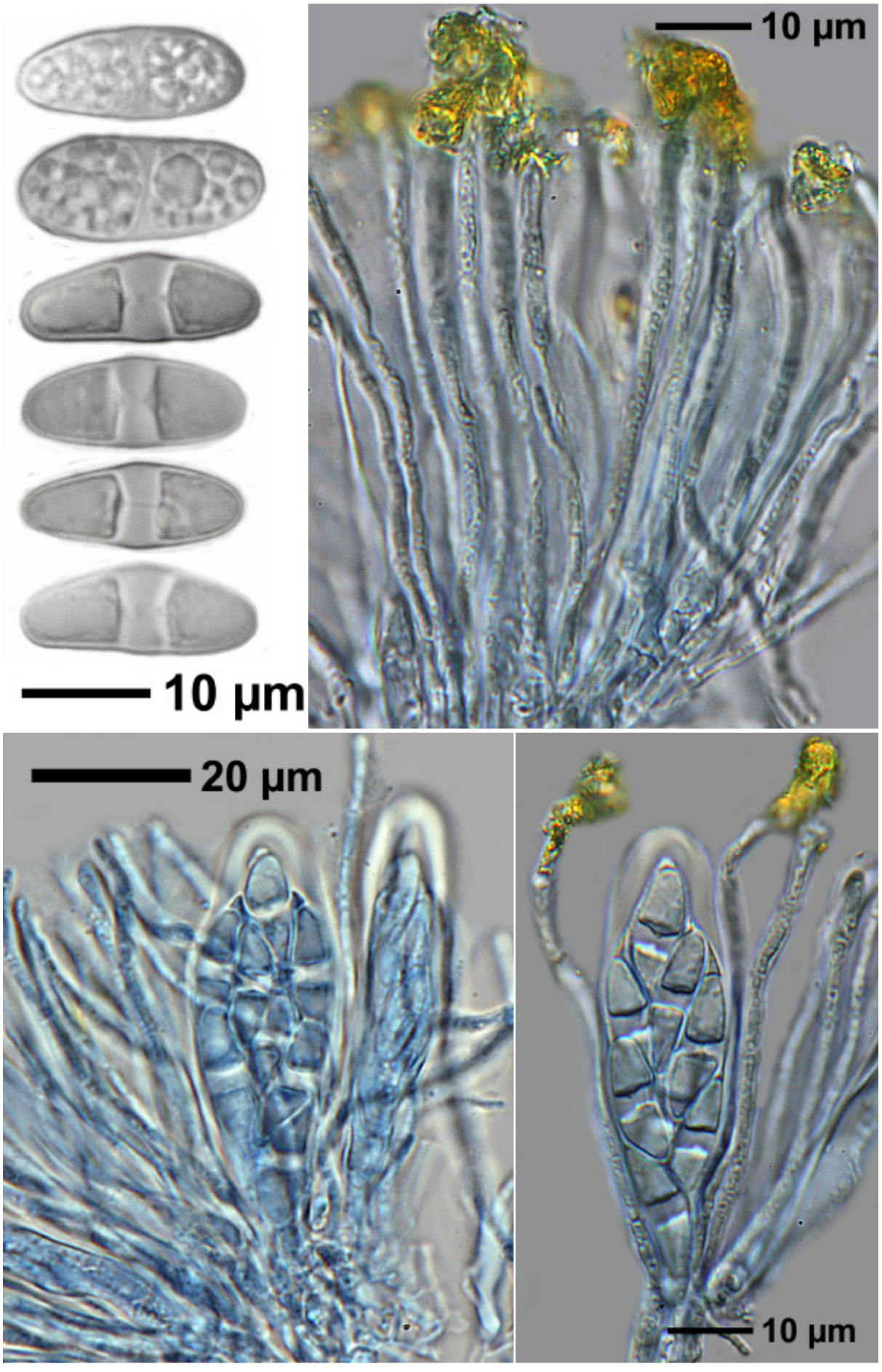
Caloplaca flavovirescens (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens* (Wulfen) Søchting, Frödén & Arup]

Thallus gelb, stellenweise auch ausbleichend, im Zentrum rissig-areoliert, oft durch Schneckenfraß´geschädigt. Sporen ca 18-19 x 5 µm, Septum/Sporenlänge ca. 0,2. Sporen größer als bei *Caloplaca dalmatica*.

[16663], Germany, Baden-Württemberg, Schwäbische Alb, Kreis Reutlingen, 0,5 km SW Apfelstetten, im Lautertal, 48,37408° N, 9,48480° E, 700 m, an sonnigen, trockenen Kalkfelsen in steilem Kalkmagerrasen. Leg. Schumm 10.09.2010. det. A. Aptroot 2011.





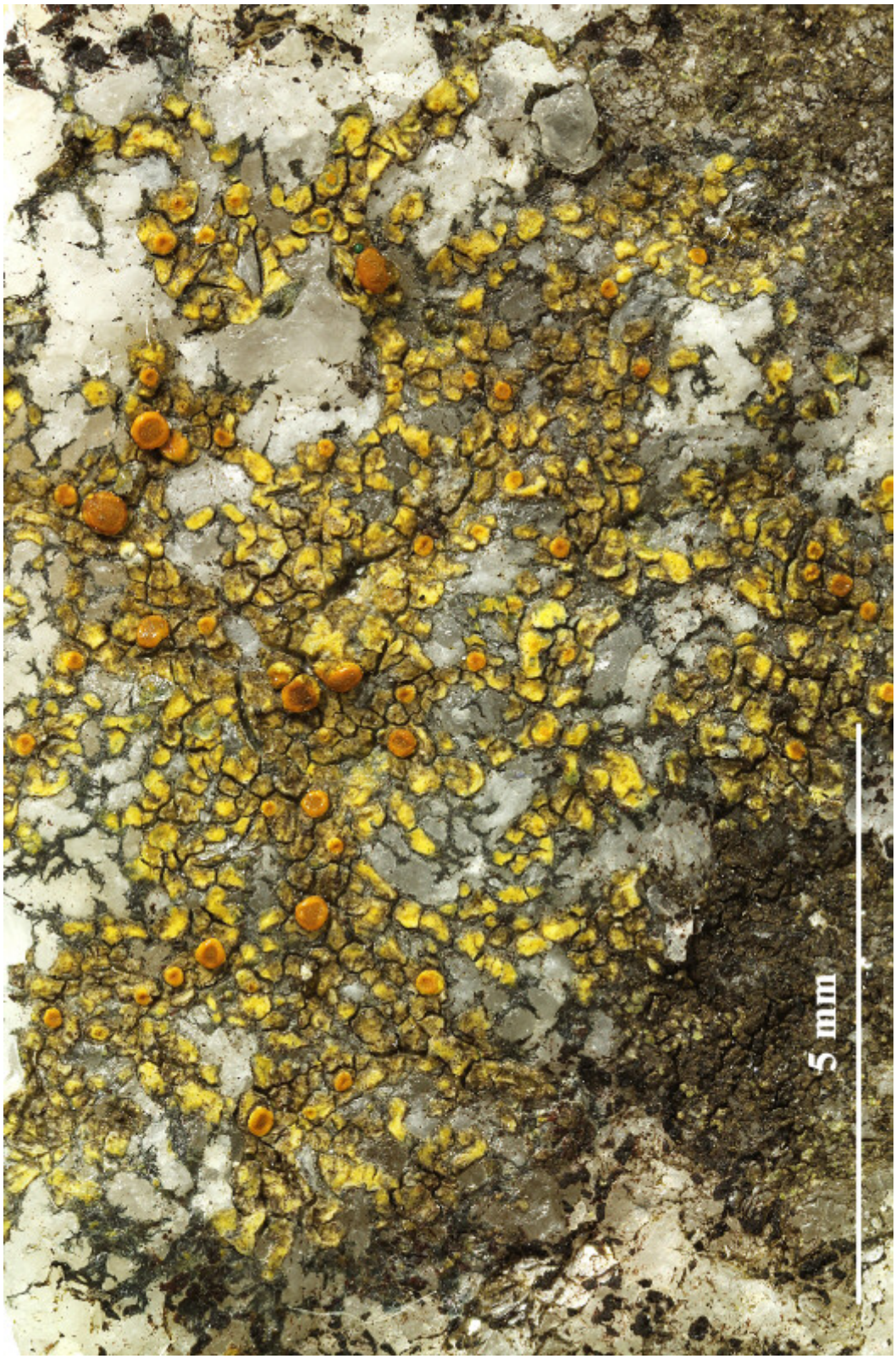


Caloplaca flavovirescens

Caloplaca flavovirescens (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens* (Wulfen) Søchting, Frödén & Arup]

On non-calcareous rock.

[ABL 72679], Korea, Gangwon-do, Gangrung city, Yeongok-myeoun, Samsan-ri, Mt. Odae, Odaesan National Park, along Cheonghak stream, c. 37°49’ N, c. 128°42’ E, c. 240 m, on siliceous rock. Leg. A. Aptroot 14.10.2014, det. A. Aptroot 2014.





Caloplaca flavovirescens

Caloplaca flavovirescens cfr. (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens* cfr. (Wulfen) Søchting, Frödén & Arup]

On rocks.

[6698], 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.





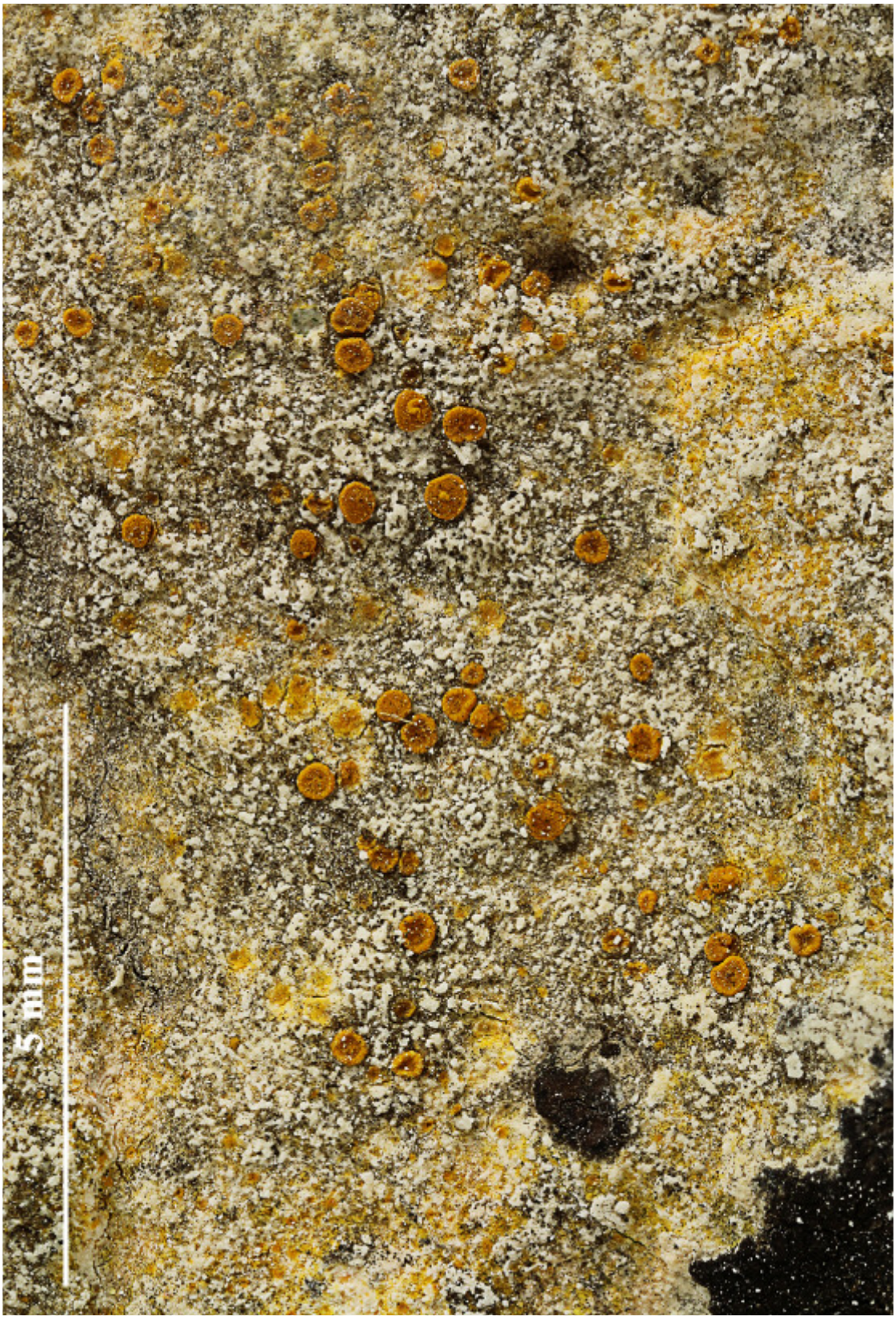


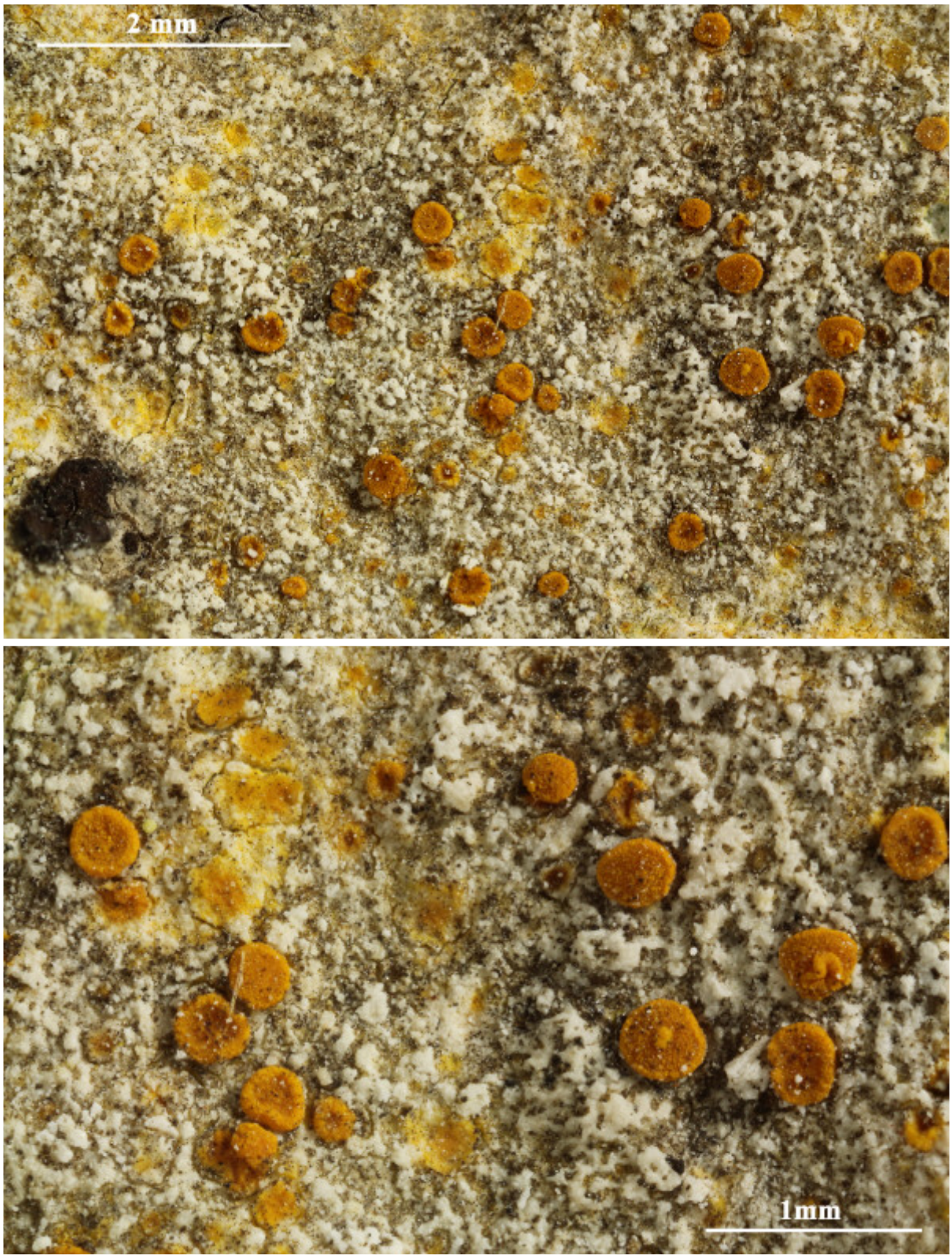
Caloplaca flavovirescens cfr

Caloplaca flavovirescens cfr. (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens cfr*. (Wulfen) Søchting, Frödén & Arup]

On calcareous rocks. In bad shape, sheltered

[13738], Malta, Höhle (Cave dwellings) östlich von Dingli, 35°51.148' N, 14°23E.342' E, 211 m. Leg. F. Schumm & J.-P. Frahm, 13.03.2008, det. A. Aptroot 2016.





Caloplaca flavovirescens cfr.

Caloplaca flavovirescens cfr. (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens cfr*. (Wulfen) Søchting, Frödén & Arup

On stones. In bad shape.

[13776], 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 flavovirescens cfr.

Caloplaca flavovirescens cfr. (Wulfen) Dalla Torre & Sarnth.
[= *Gyalolechia flavovirescens* cfr. (Wulfen) Søchting, Frödén & Arup]

On calcareous rocks. In bad shape

[13801], 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.



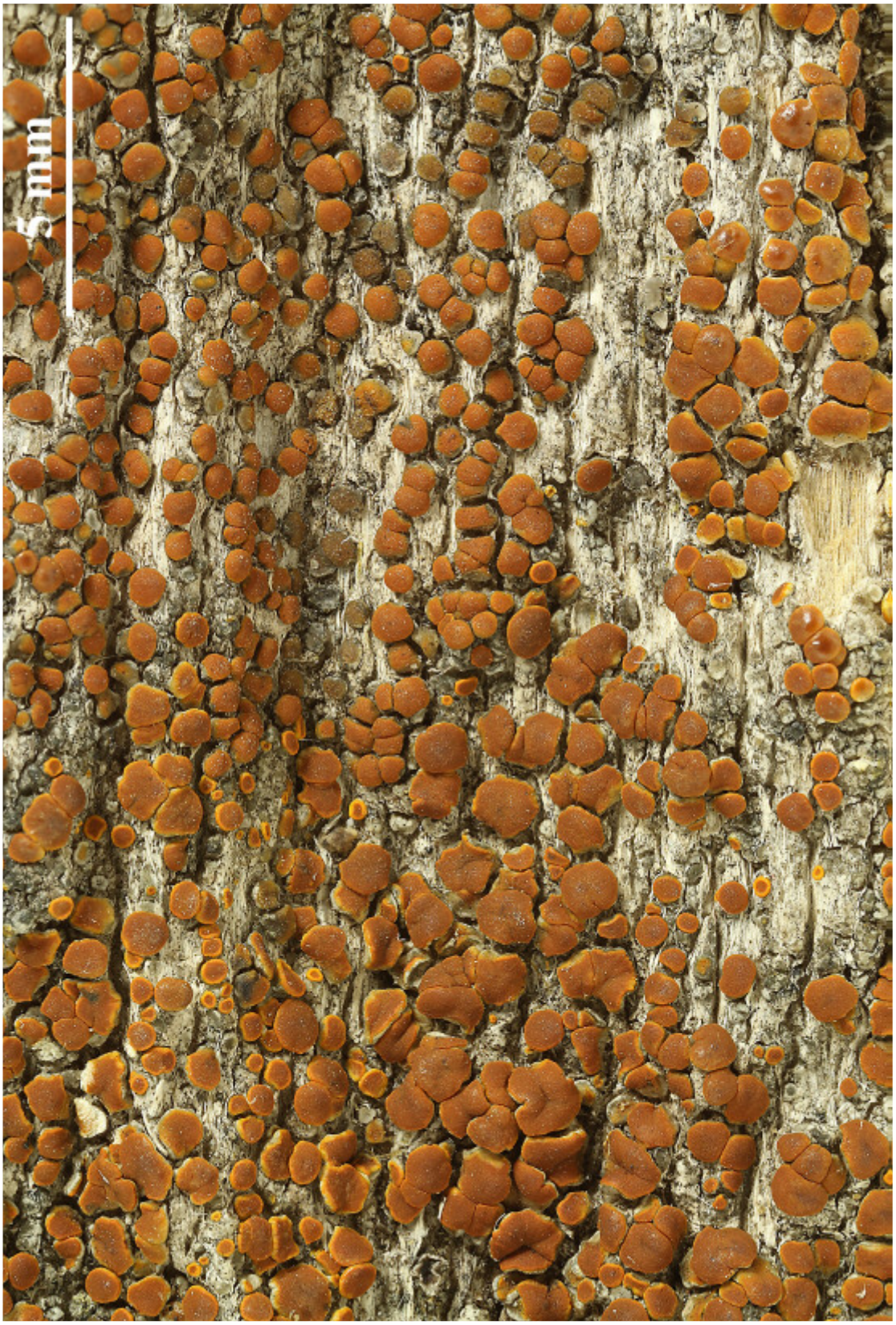


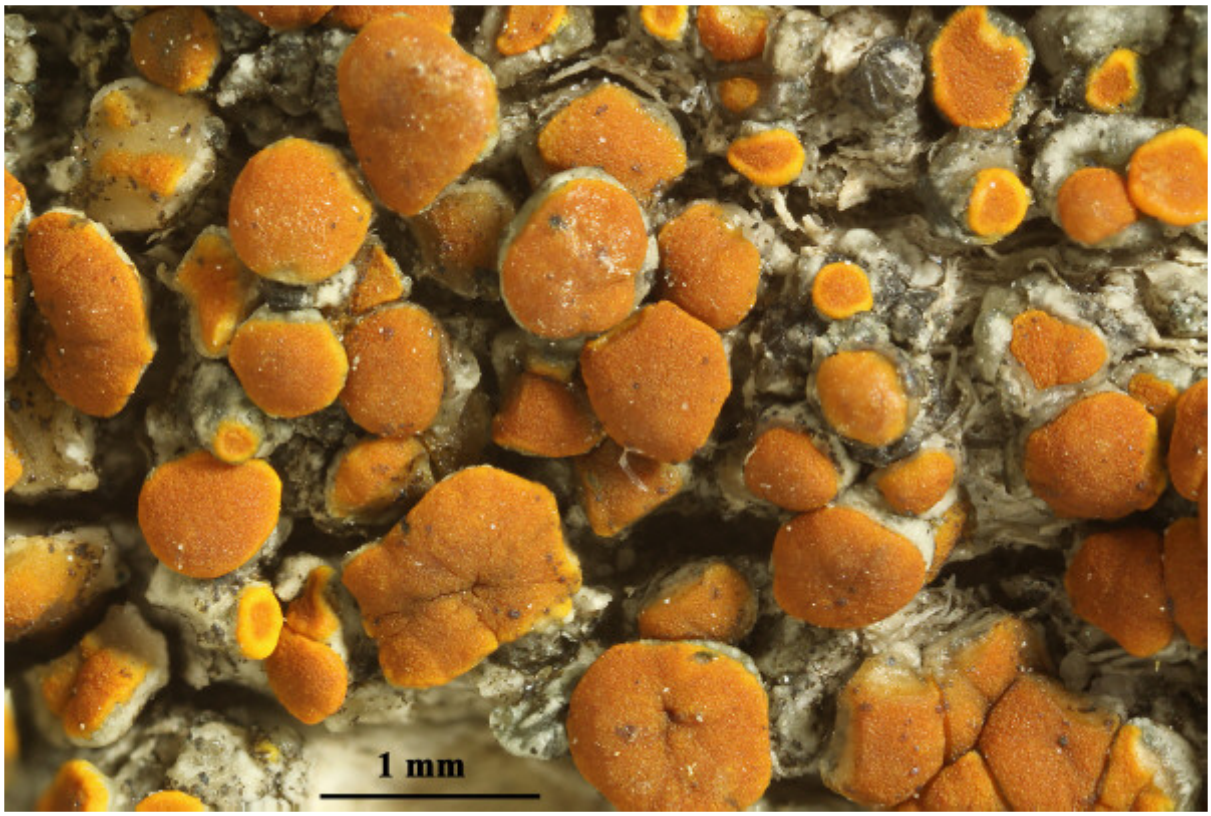
Caloplaca flavovirescens cfr.

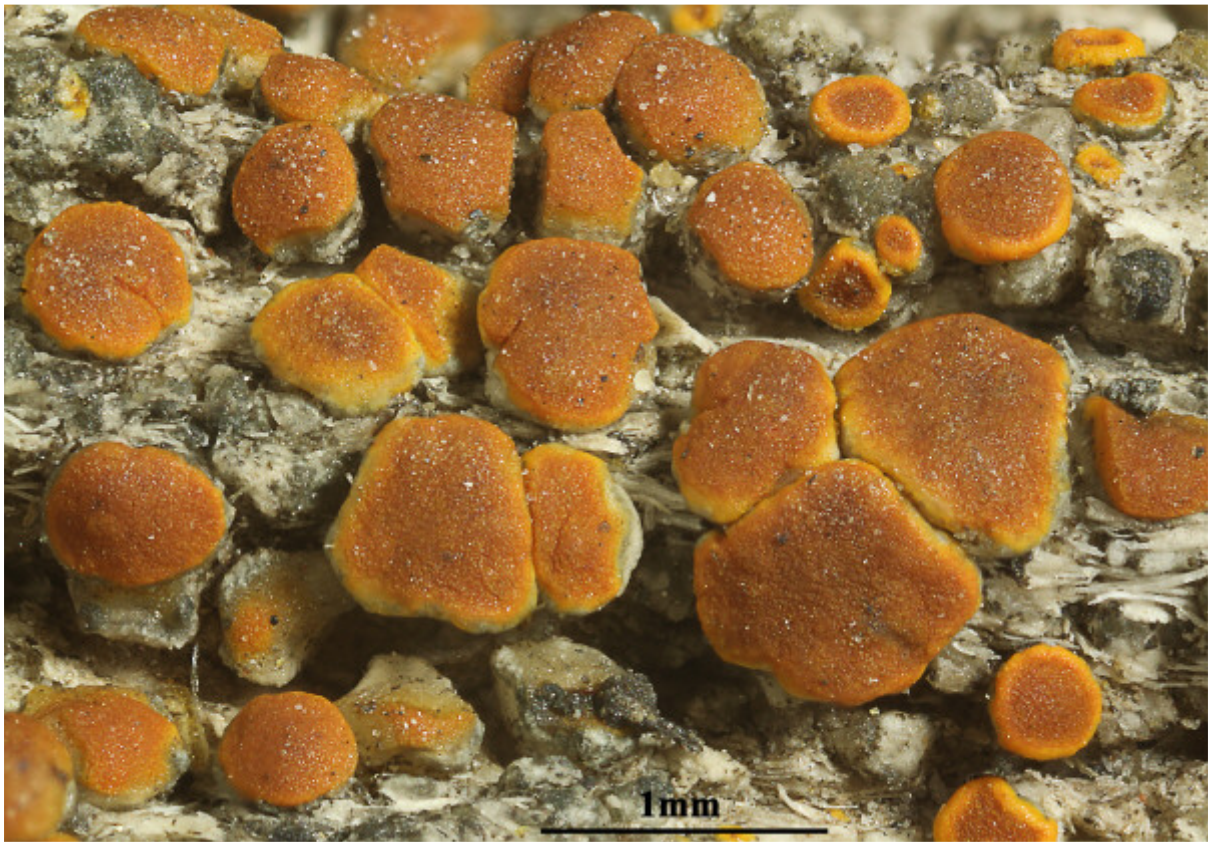
Caloplaca fraudans (Th.Fr.) Oliv.

Spores 11.5-15.4 x 4.6-5.8 µm, septum 2.6-3.6 µm (FS). On wood. Lit. Olivier H. in Mém. Soc. Nat. Sci. Natur. Cherbourg 37: 138 (1909)

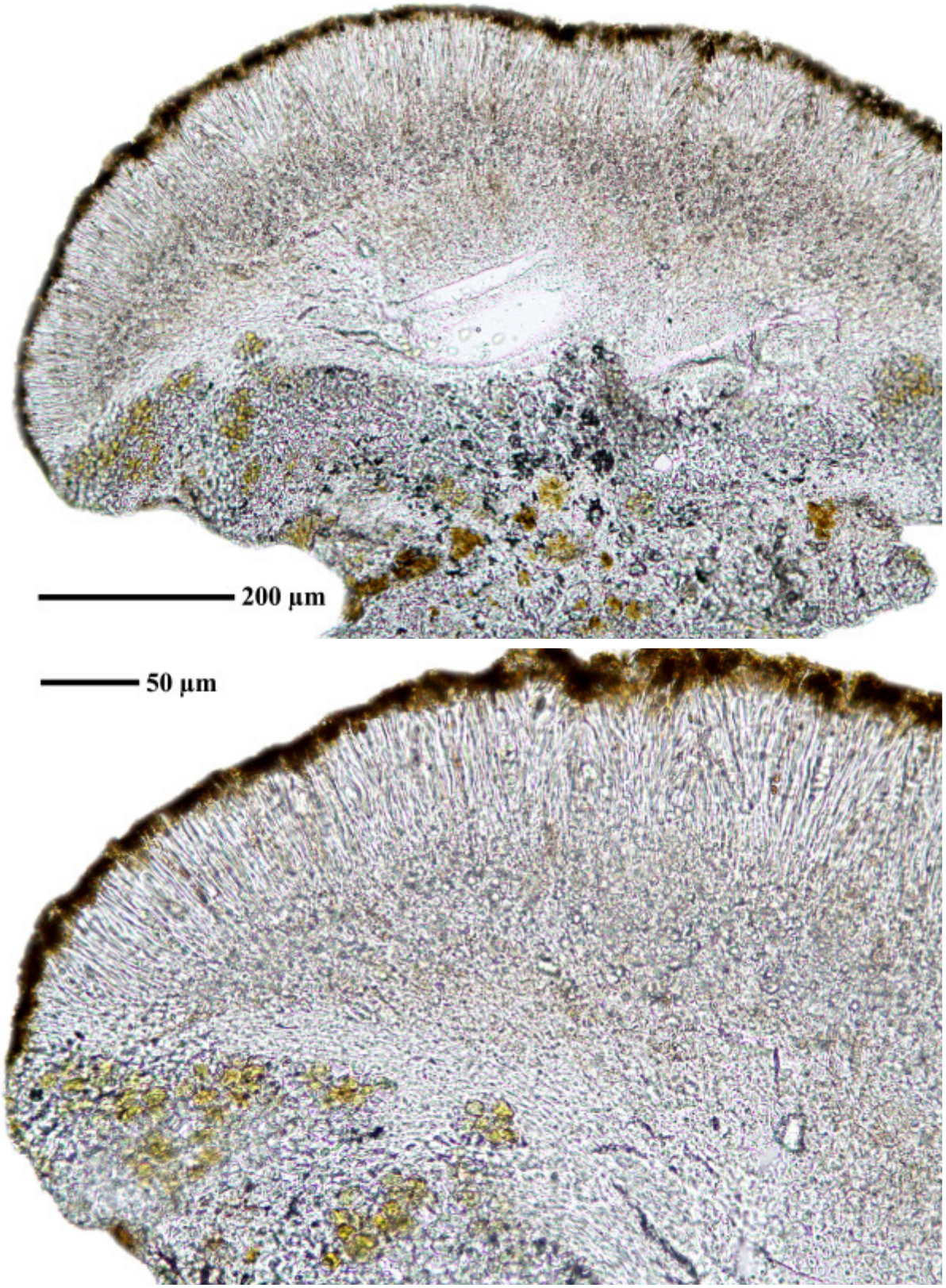
[19581], Svalbard, Isfjorden-Grönfjorden, Festningsodden, in litore, ad lignum casae vetustae. Leg. J. Liška, 4.08.1988, det. J. Poelt. VěZDA: LICHENES SELECTI EXSICCATI NR. 2404.



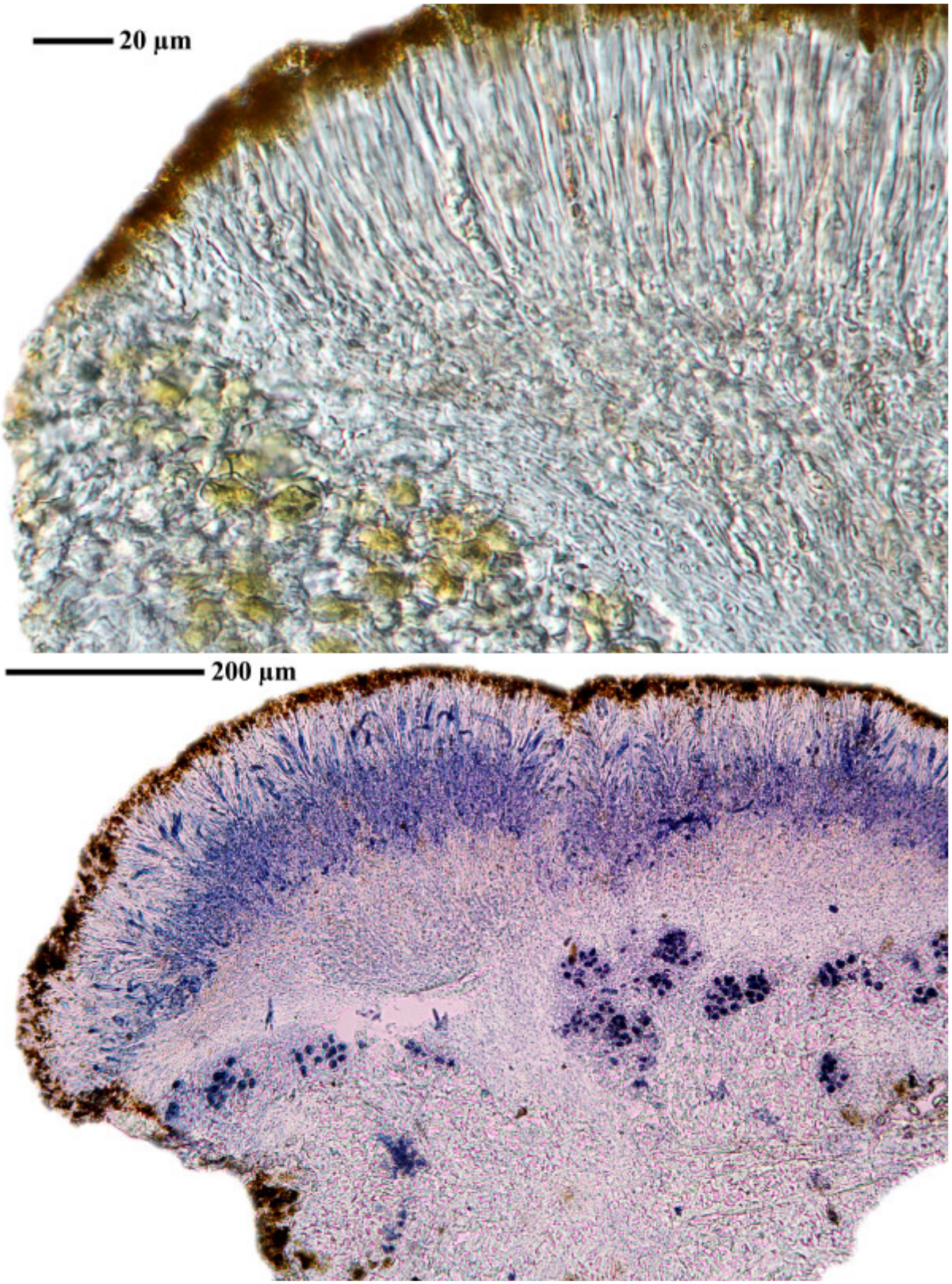




Caloplaca fraudans



Caloplaca fraudans



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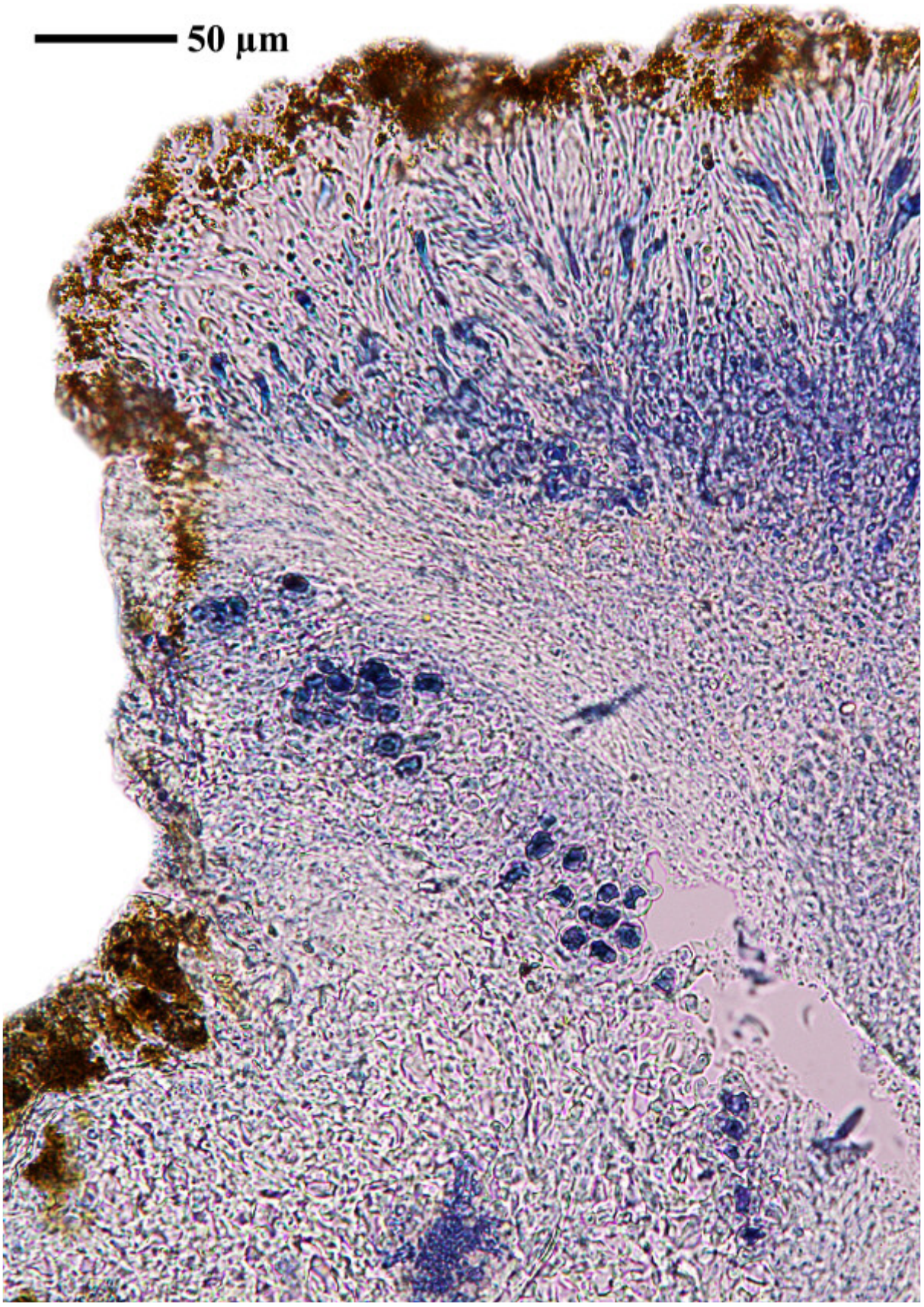

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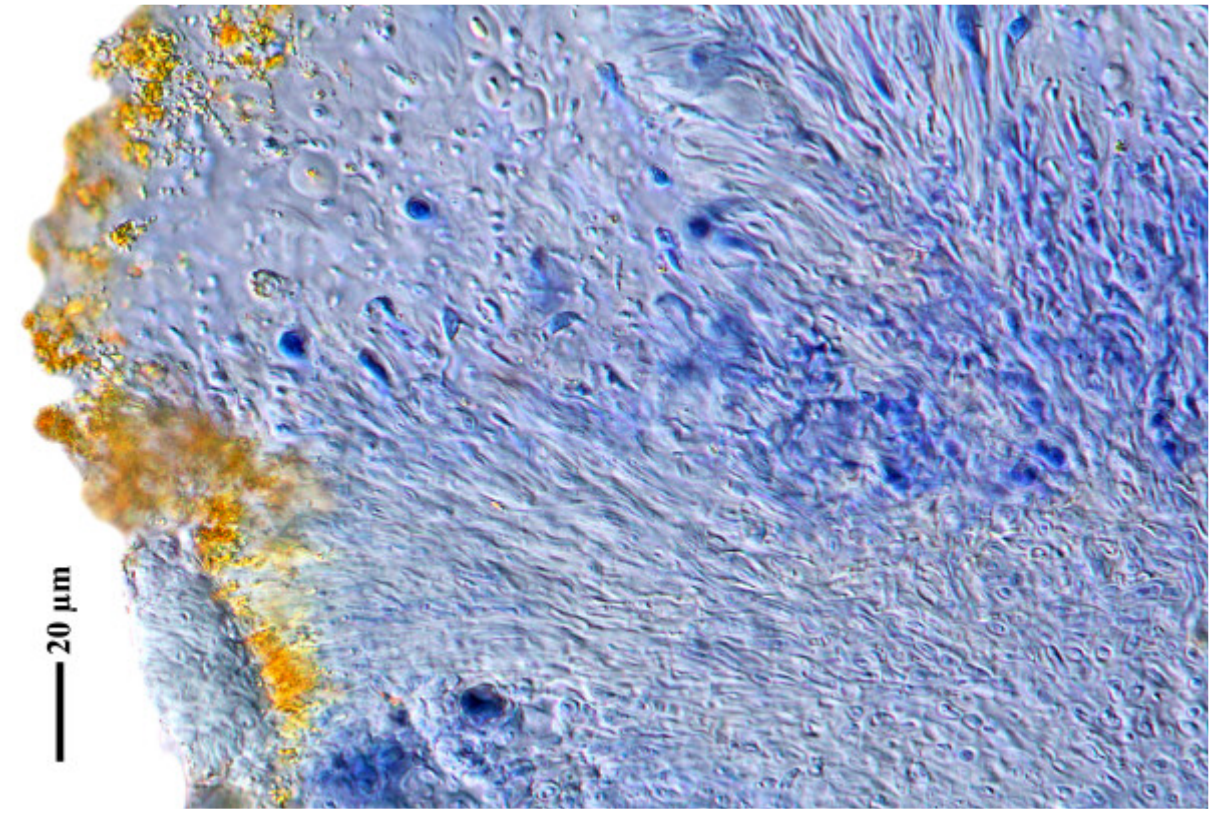
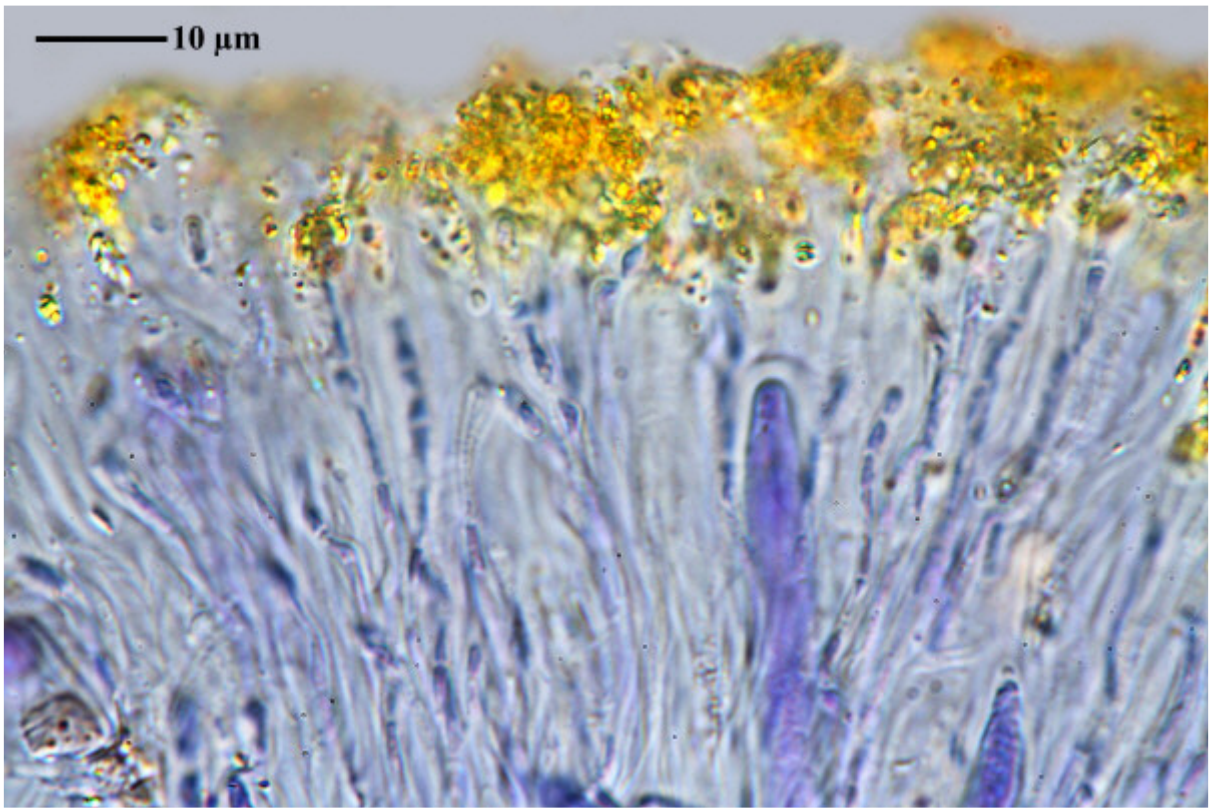
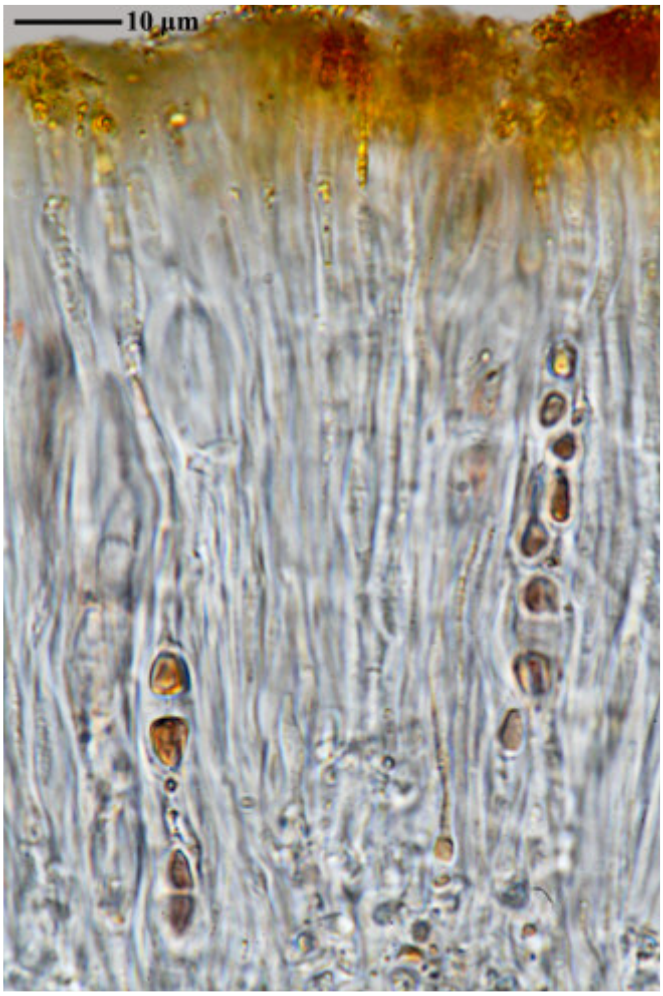




Caloplaca fraudans





Caloplaca fraudans

Caloplaca fuerteventurae cfr v.d.Boom & Etayo

On rocks.

[5365], Spanien, Kanarische Inseln, Gran Canaria, Nordhänge am Stausee Embalse del Mulato; lückige Gebüschvegetation mit offenerdigen Stellen und vereinzelten *Pinus canariensis* Gruppen; 27°54.905’ N, 15°41.596’ W, Höhe 760 m. Leg. F. Schumm & U. Schwarz 31.12.1998, det. A. Aptroot 2016.





Caloplaca fuerteventurae cfr.

Caloplaca fulvolutea (Nyl.) Jatta

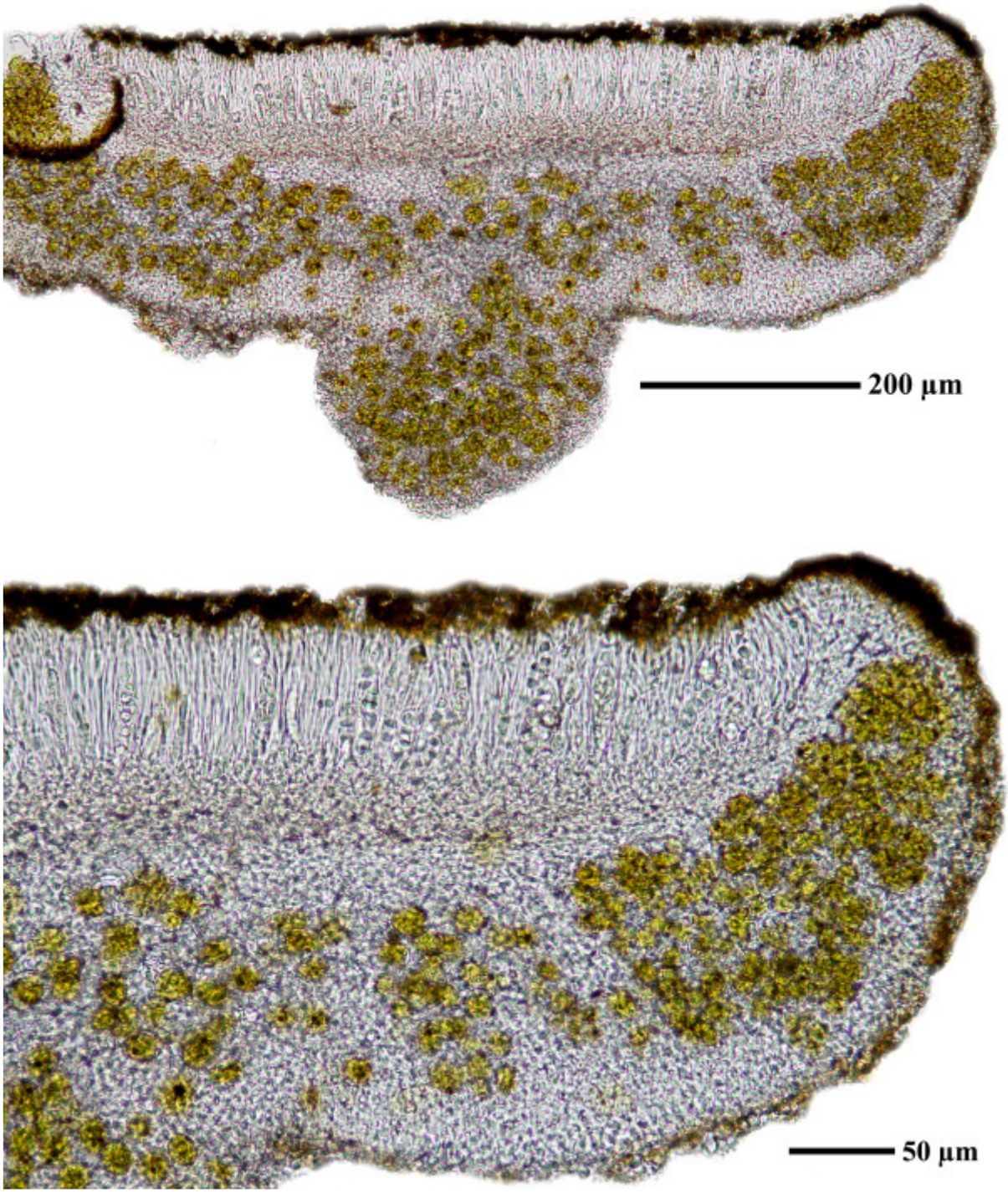
Spores 9.3-13.1 x 6.6-8.6 µm, septum 3.1-3.7 µm (FS). On bryophytes. Lit. Jatta A., Sylloge Lich. Ital (1900): 245.

[19582], Italia, Sardinia, Prov. Nuoro, montes Gennargentu, in monte Bruncu Spina, alt. 1800 m, supra pulvinos *Grimmiae sp*. in rupibus schistosis. Leg. P.L. Nimis, C. Roux, M. Tretiach & A. Vězda, 4.09.1989. VĚZDA: LICHENES SELECTI EXSICCATI NR. 2384.

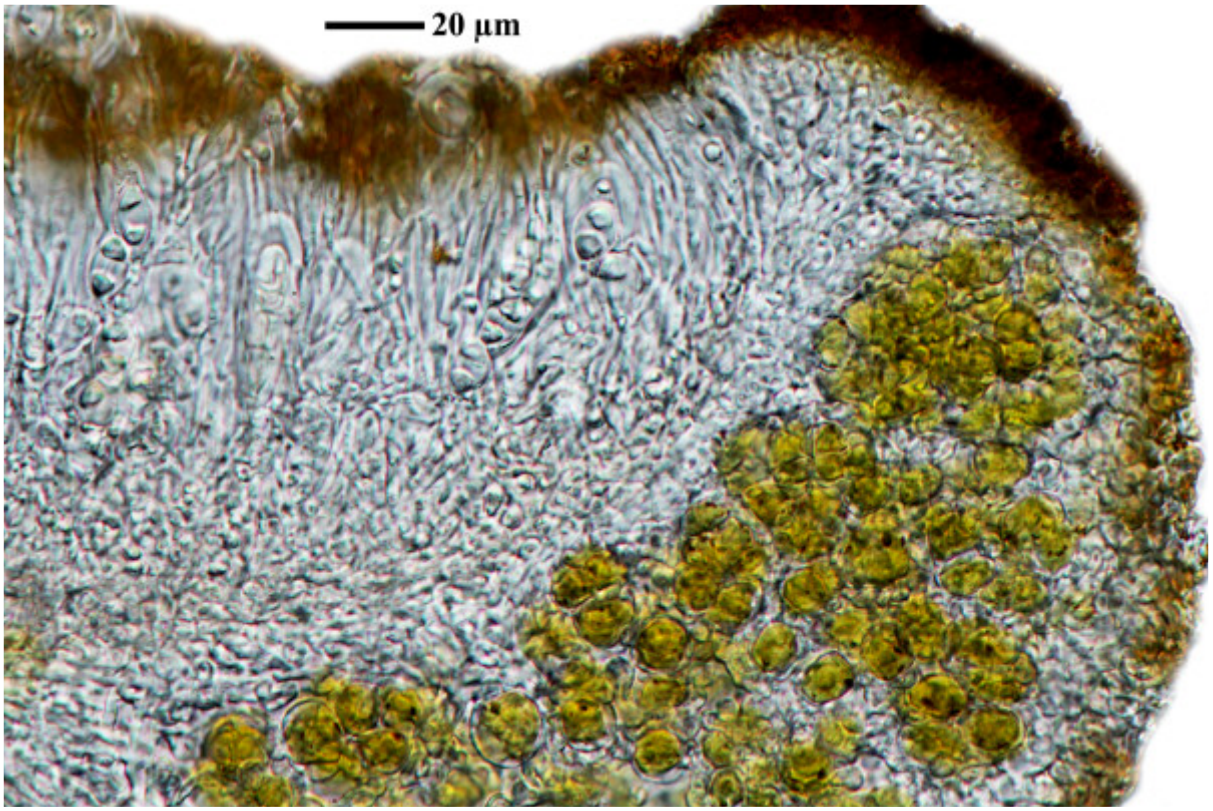


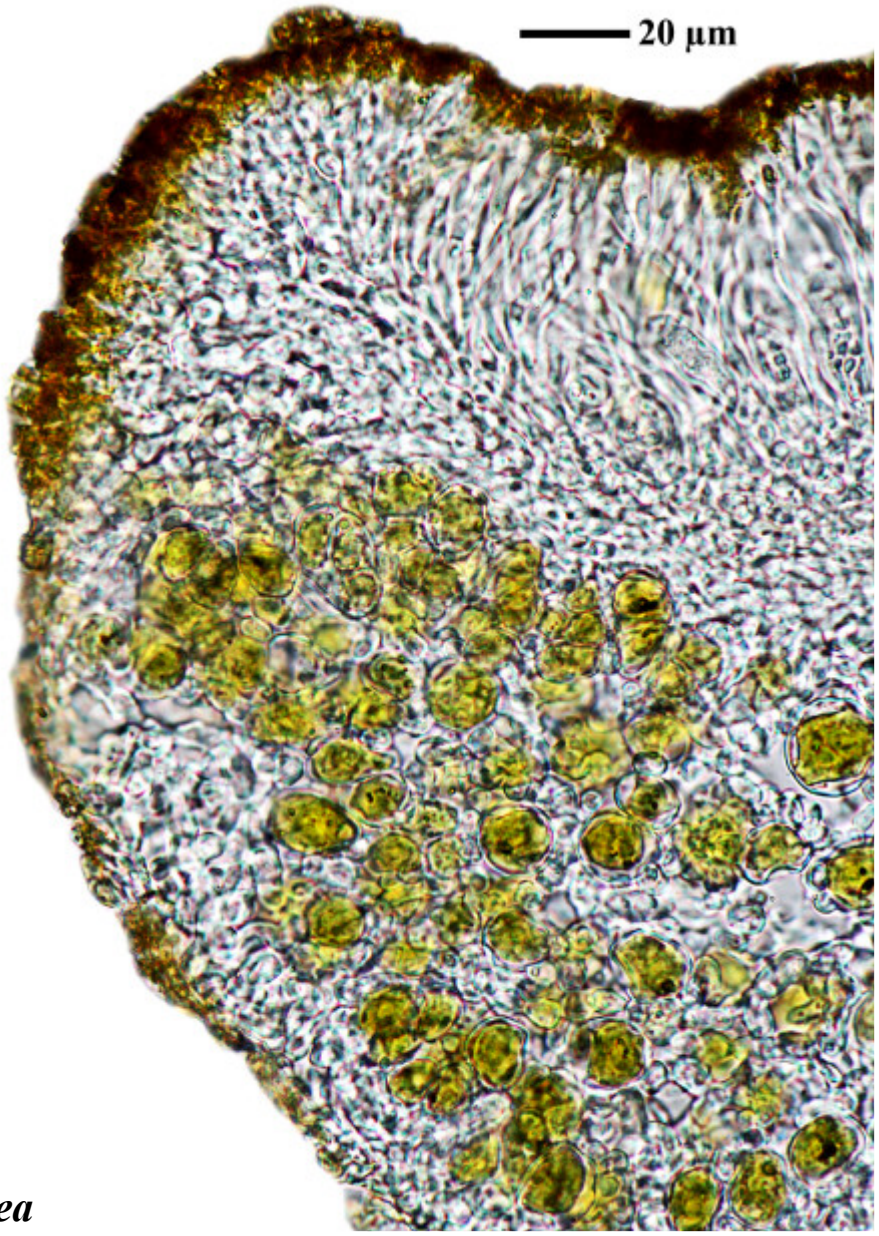


Caloplaca fulvolutea

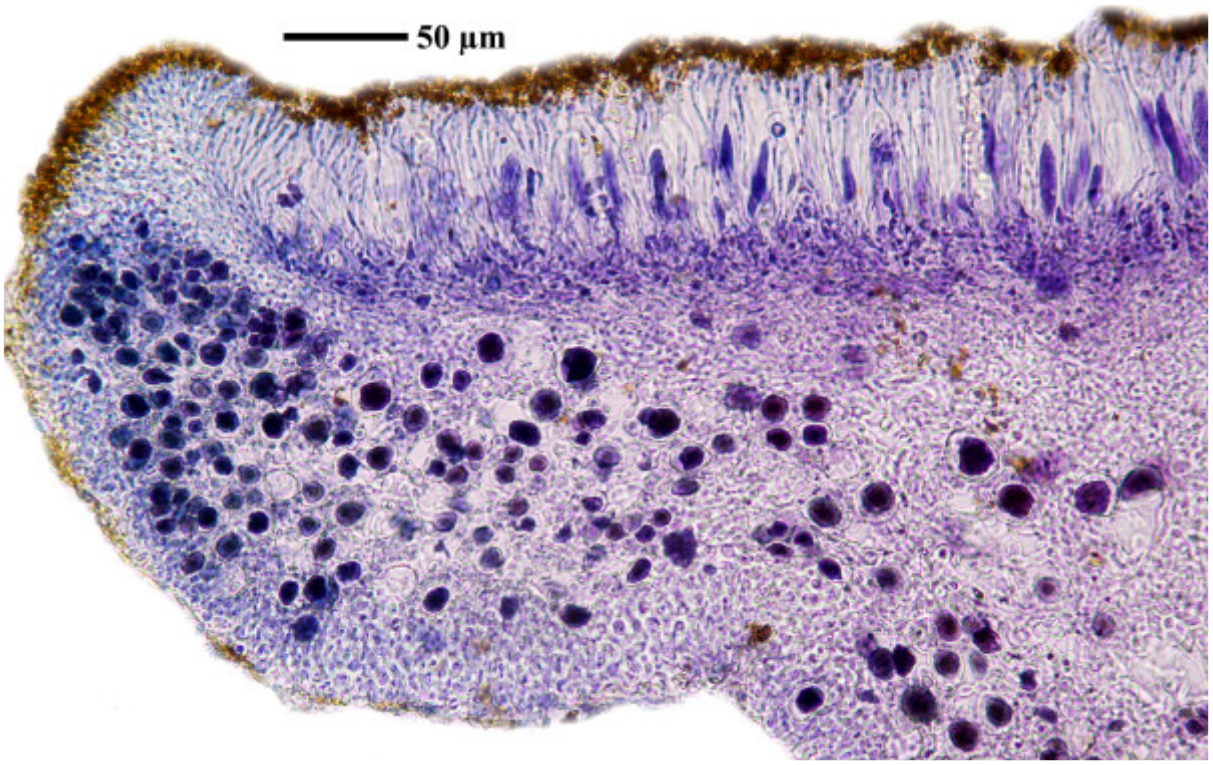


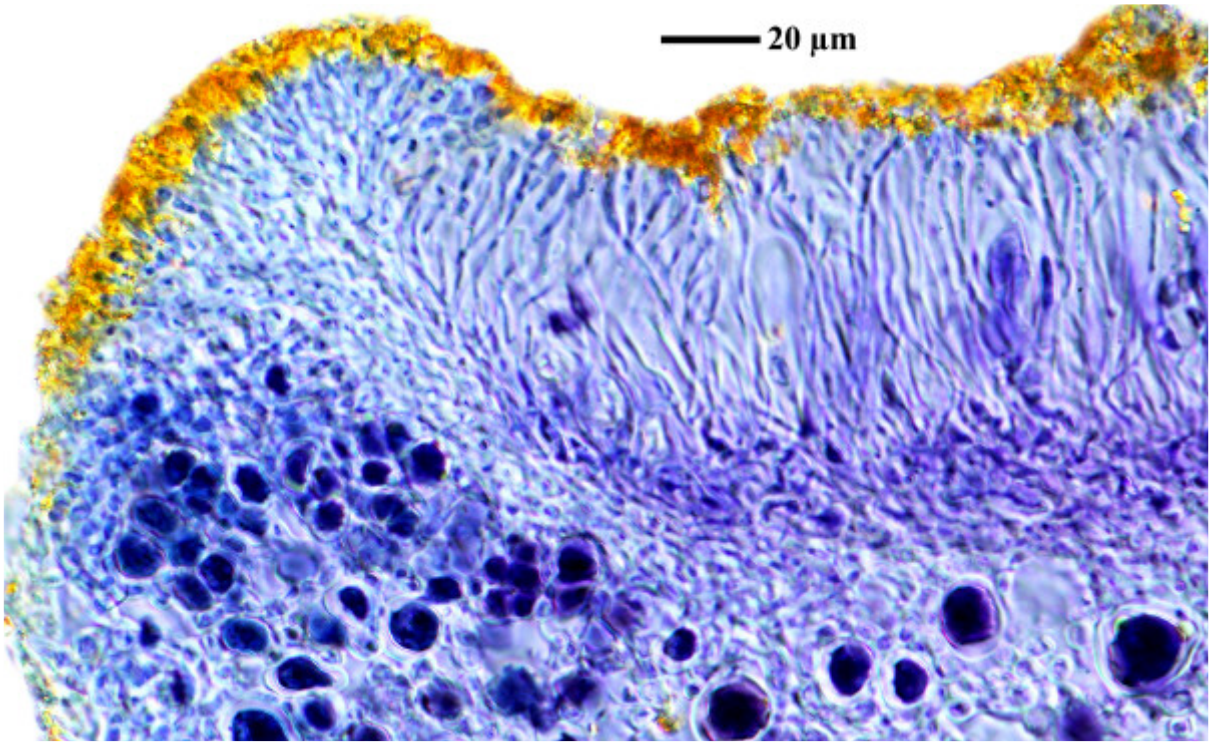
Caloplaca fulvolutea





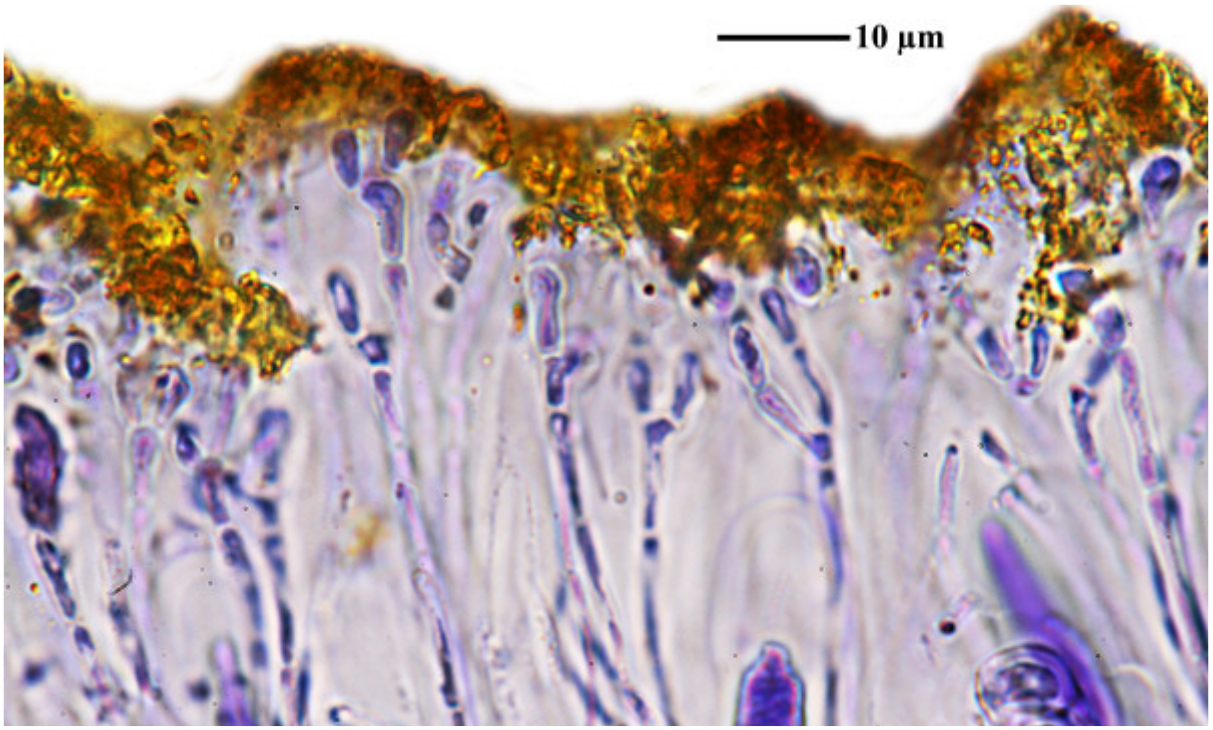
Caloplaca fulvolutea



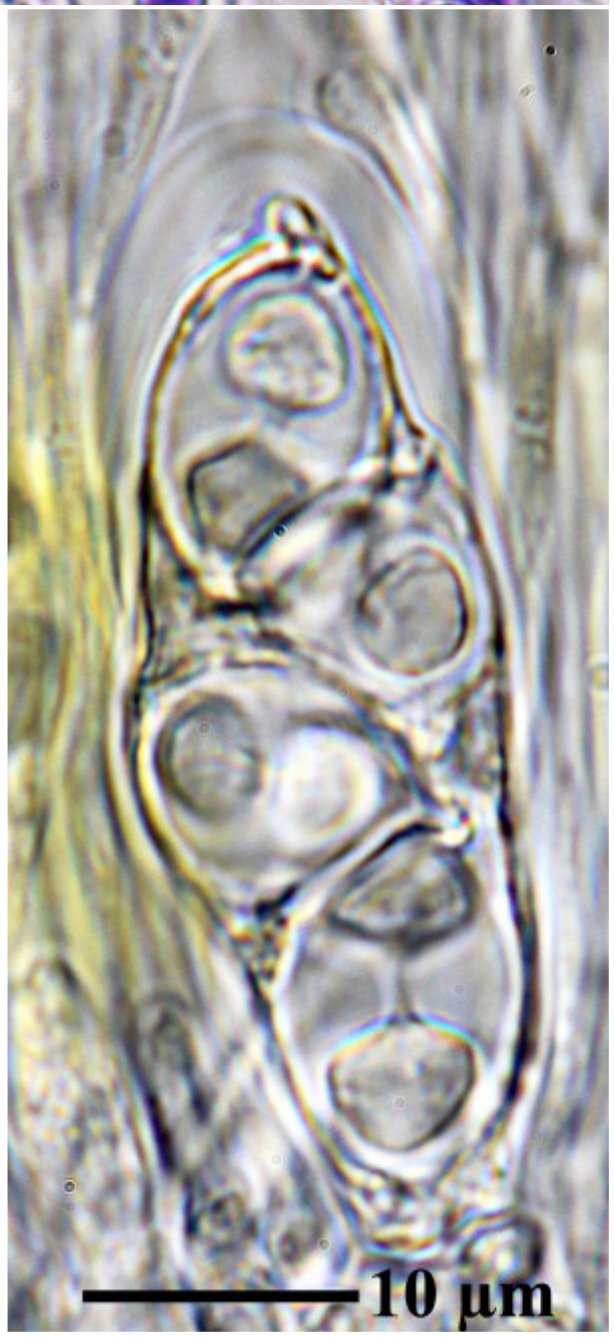




Caloplaca fulvolutea



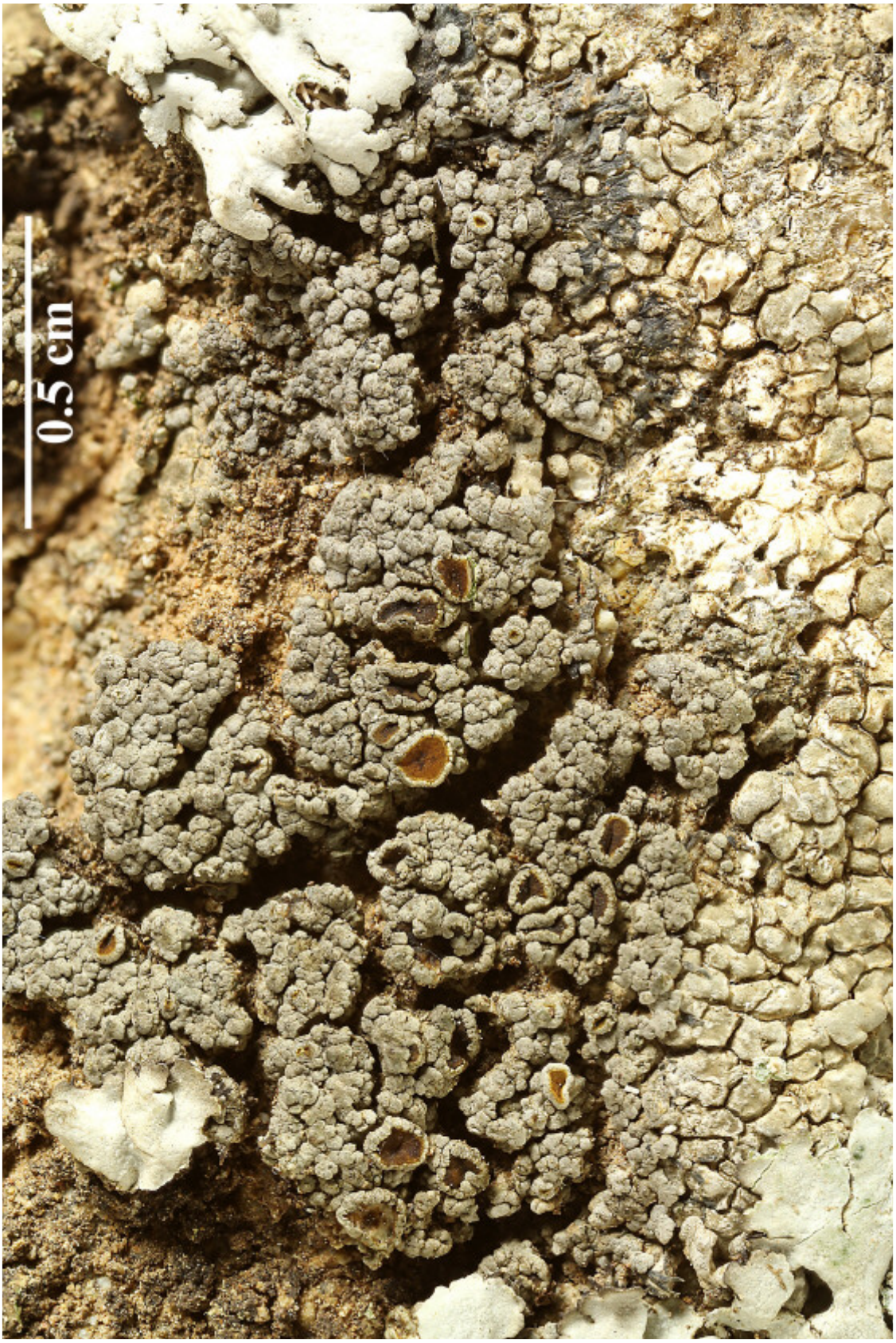




Caloplaca fulvolutea

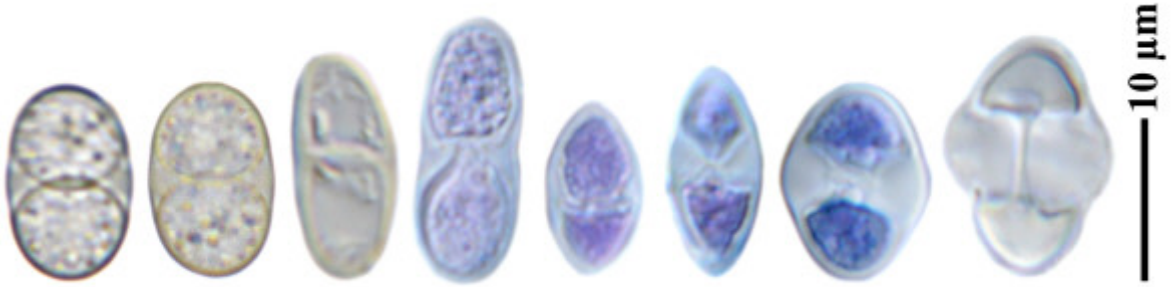
Caloplaca furax Egea & Llimona

[B 60 0194504], Greece, East Aegean islands, Chios, Hill kefala, W along road Spartouda-Kambia, S-side of middle ridge, on sandstone rock. 38°33.87' N, 25°58.5' E, 480 m. Leg. H. Sipman (61370a) & T. Raus, 28. September 2013, det. H. Sipman, 2014.





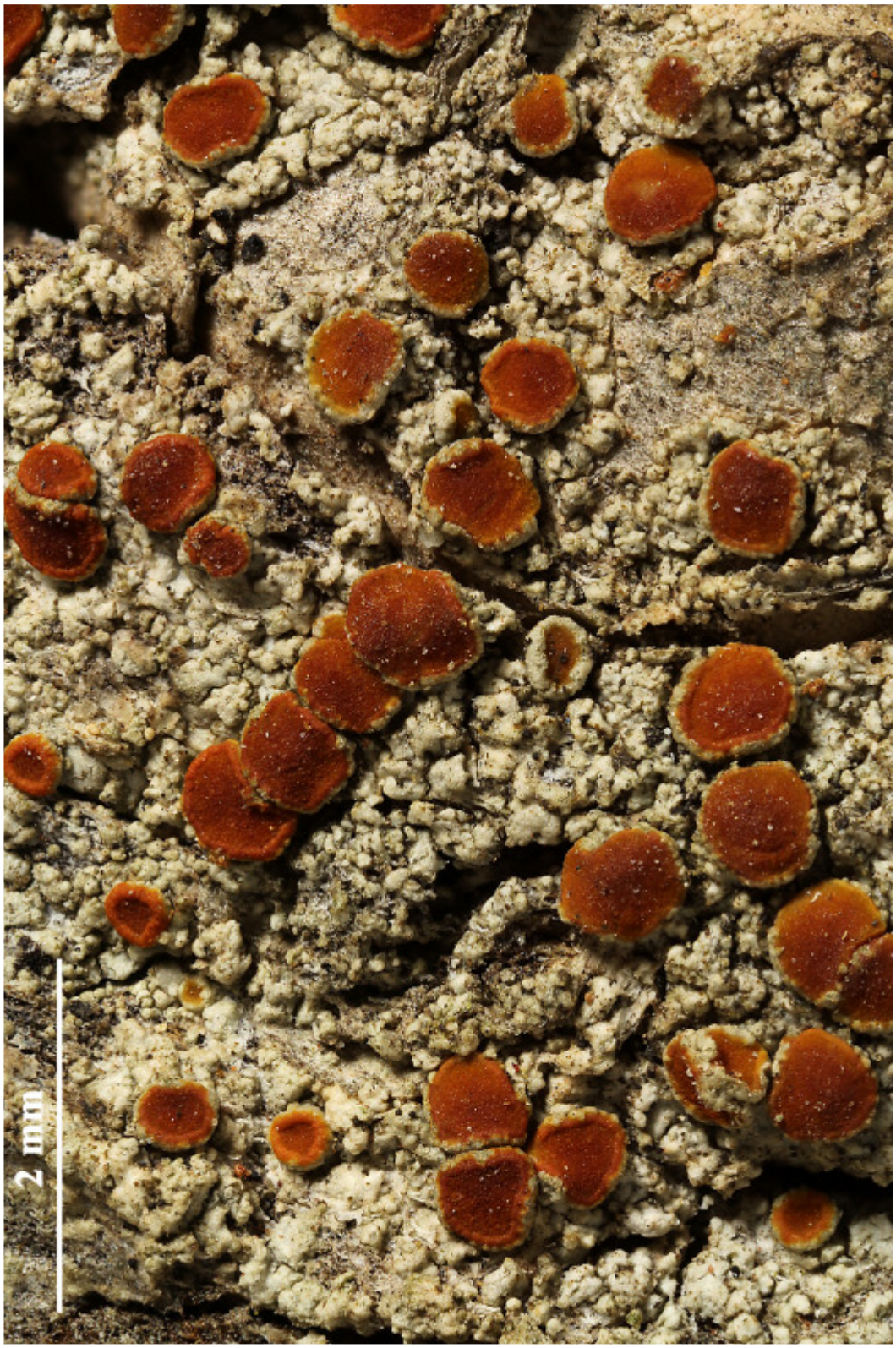




Caloplaca furax

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

[19396], U.S.A. New Mexico, Bernalillo Co. Cibola National Forest, Sandia Crest (18 km NE of Albuquerque), east side of crest with *Abies lasiocarpa* var. *americana* (cork bark fir), *Abies concolor* (white fir) and *Populus tremuloides* (quaking aspen) , 3187 m, 35°12'28" N, 106°26'50" W. Leg. et det. Clifford M. Wetmore (No. 99123), 14. June 2010. TELOSCHISTACEAE EXSICCATI NO. 107 distributed by C. Wetmore.





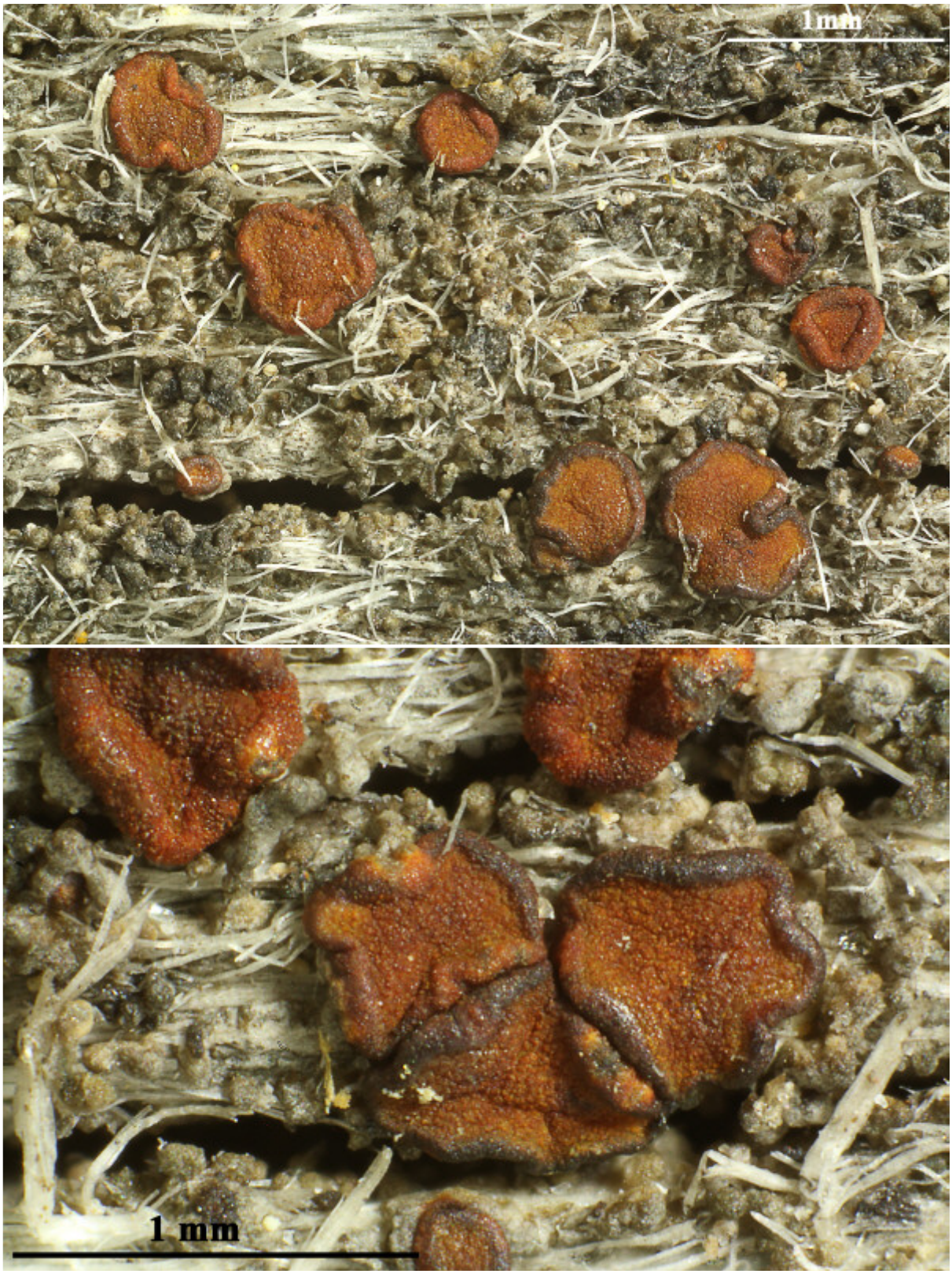
Caloplaca furfuracea

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

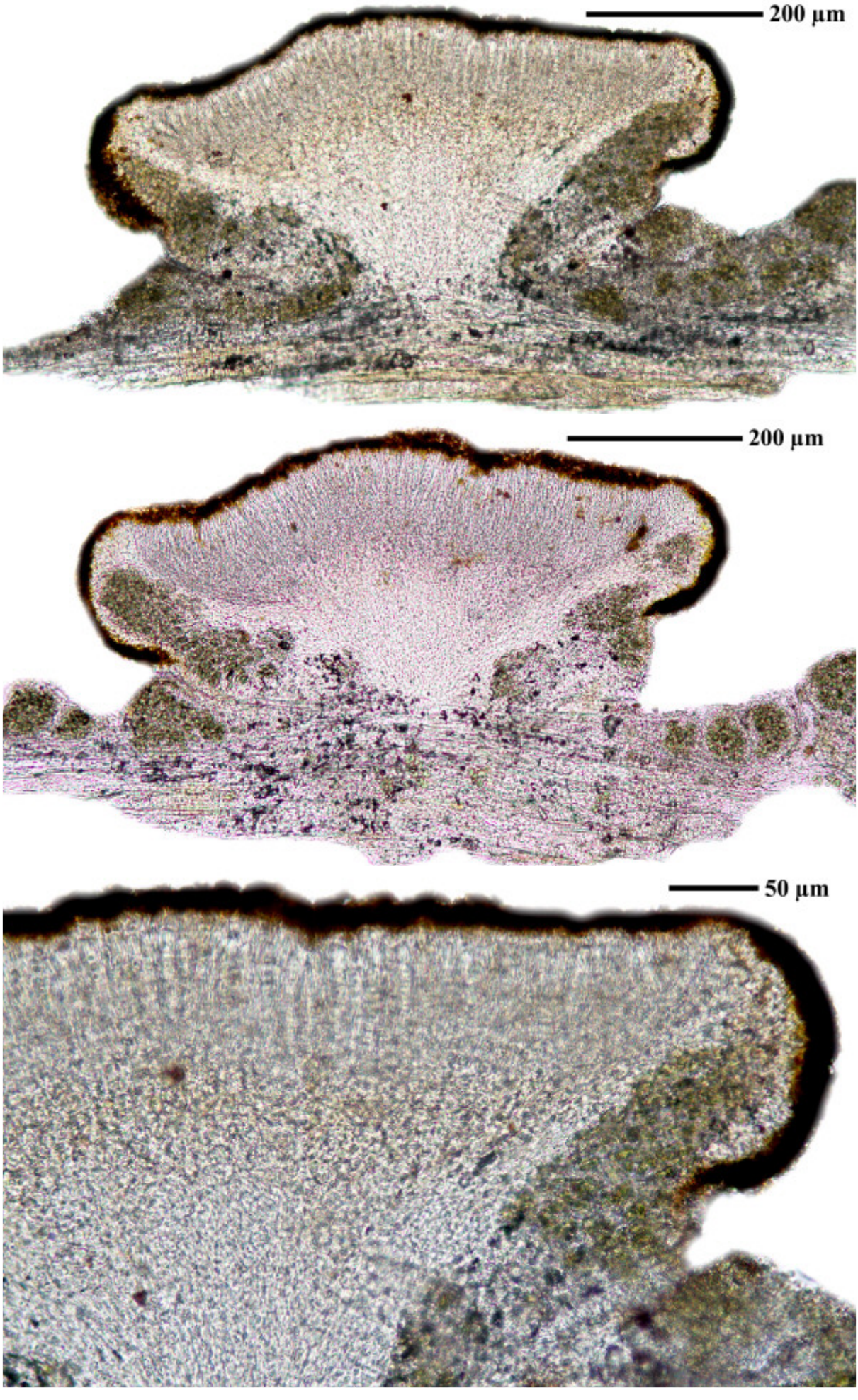
Spores 9.8-12 x 4.8-5.5 µm, septum 2.6-3.4 µm (FS).On wood. H. Magnusson in Göteborgs Kgl. Vetensk.-och Vitterh.-Samh. Handl., 6 Földjen, ser. B, 3(1): 33 (1944).

[19583], Austria, Salisburgia, Lungau, in alpibus "Schladminger Tauern" dictis, in valle Weisspriach, loco Kühbarnhütte dicto, alt. 1320 m, ad saepem ligneam vetustam. Leg. K. Kalb & A. Vězda, 8.09.1981, det. C. Wetmore, 2003. Vězda: Lichenes Selecti Exsiccati Nr. 1812.

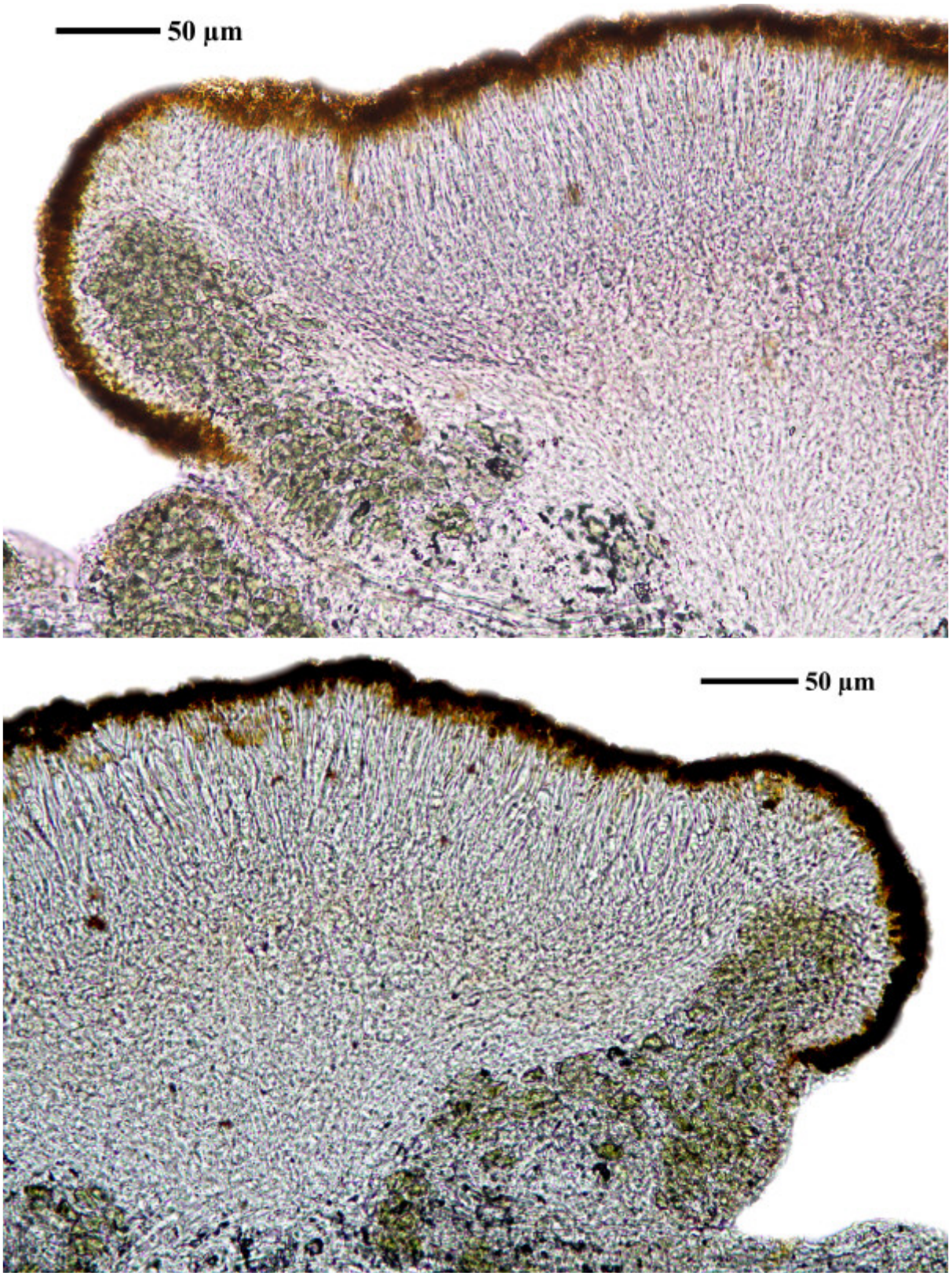




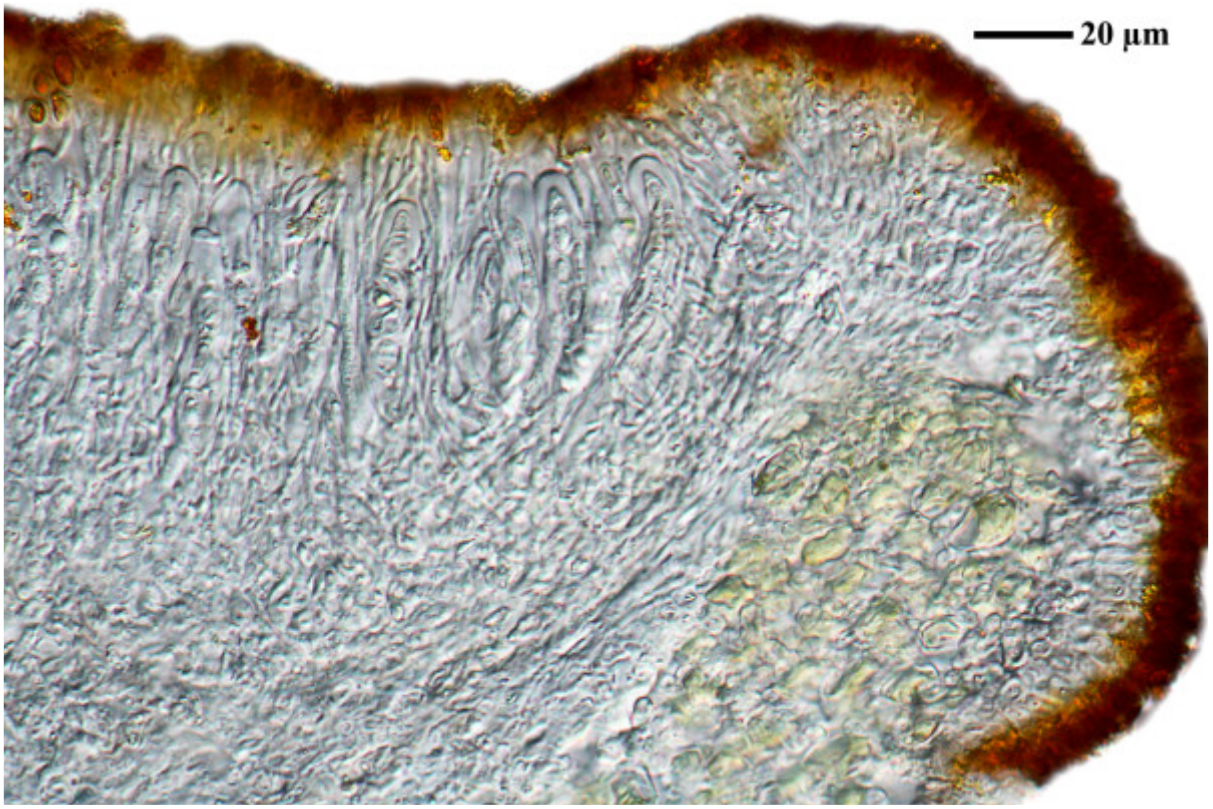
Caloplaca furfuracea

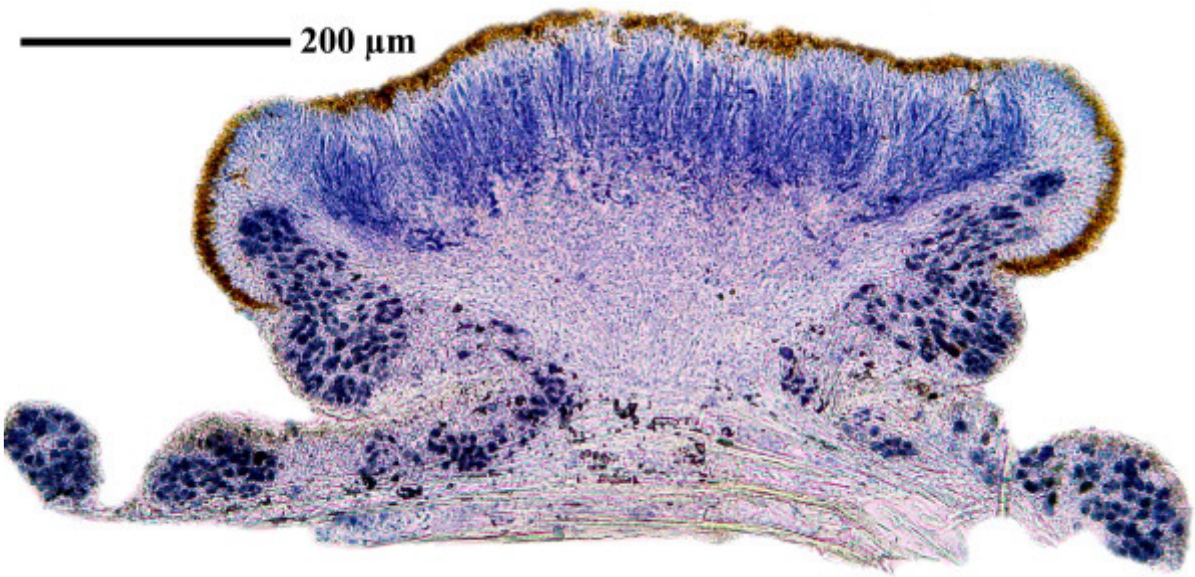


Caloplaca furfuracea

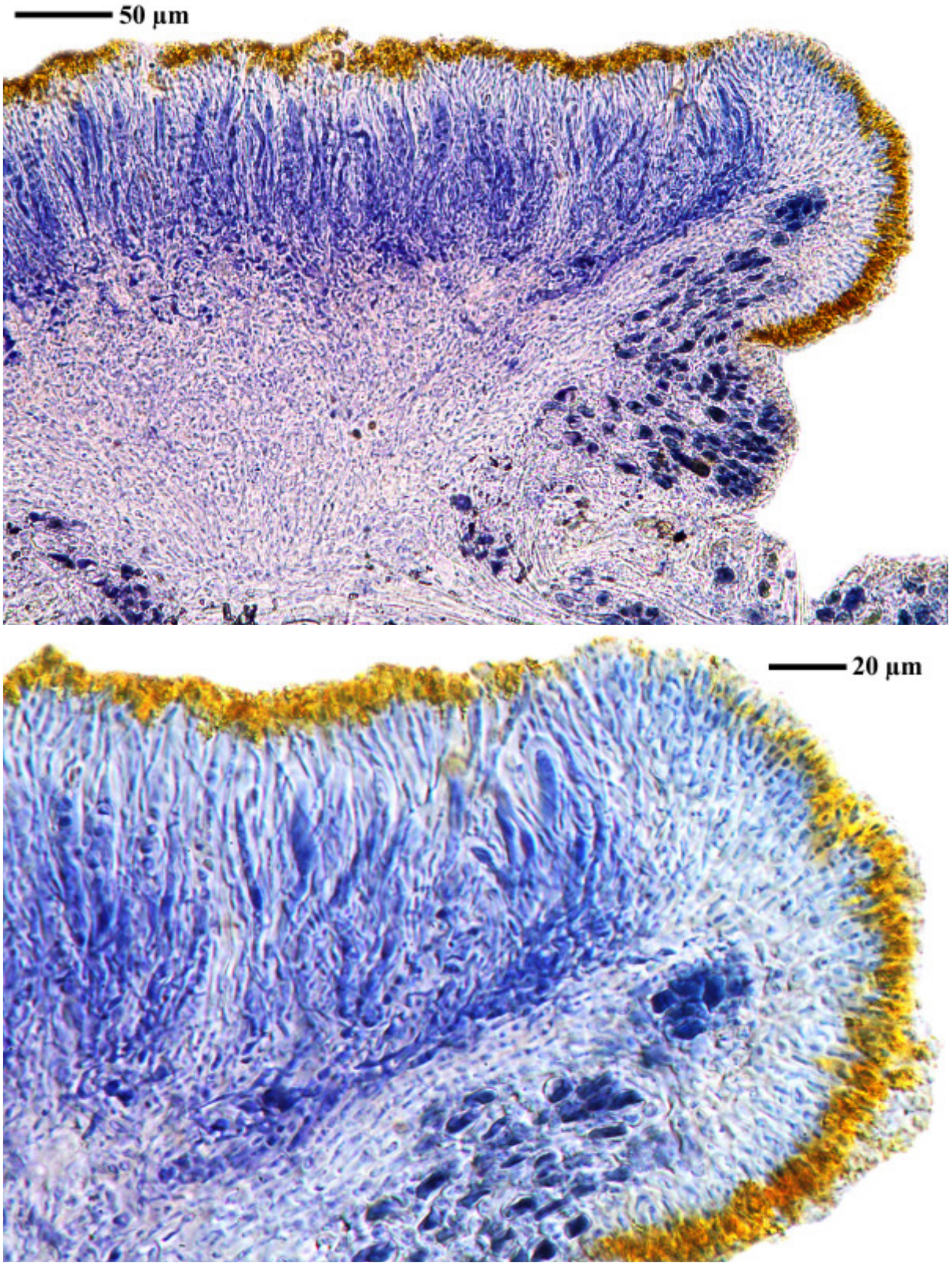


Caloplaca furfuracea

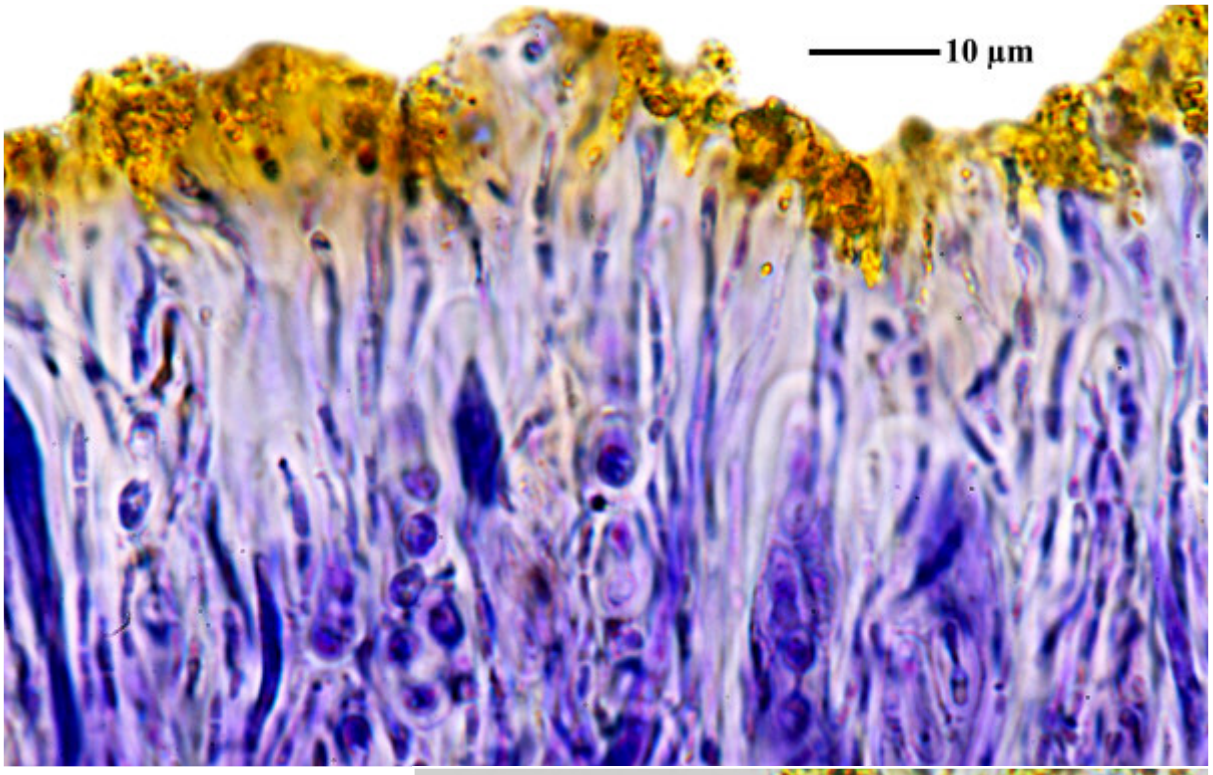




Caloplaca furfuracea

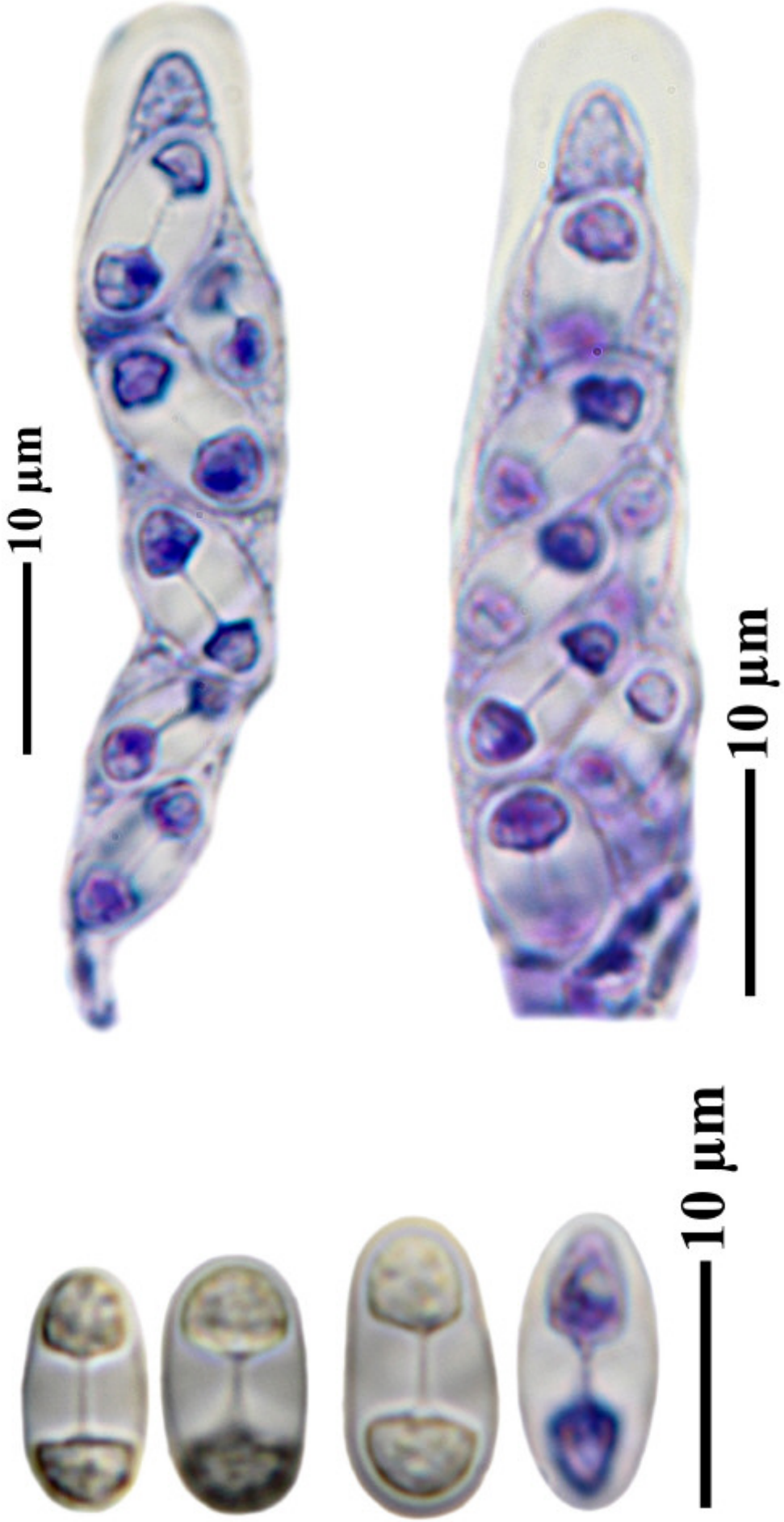


Caloplaca furfuracea





Caloplaca furfuracea



Caloplaca furfuracea

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

Spores 12.2-13.7 x 5.7-6.5 µm, septum 4.3-5 µm (FS). On wood. H. Magnusson in Göteborgs Kgl. Vetensk.-och Vitterh.-Samh. Handl., 6 Földjen, ser. B, 3(1): 33 (1944).

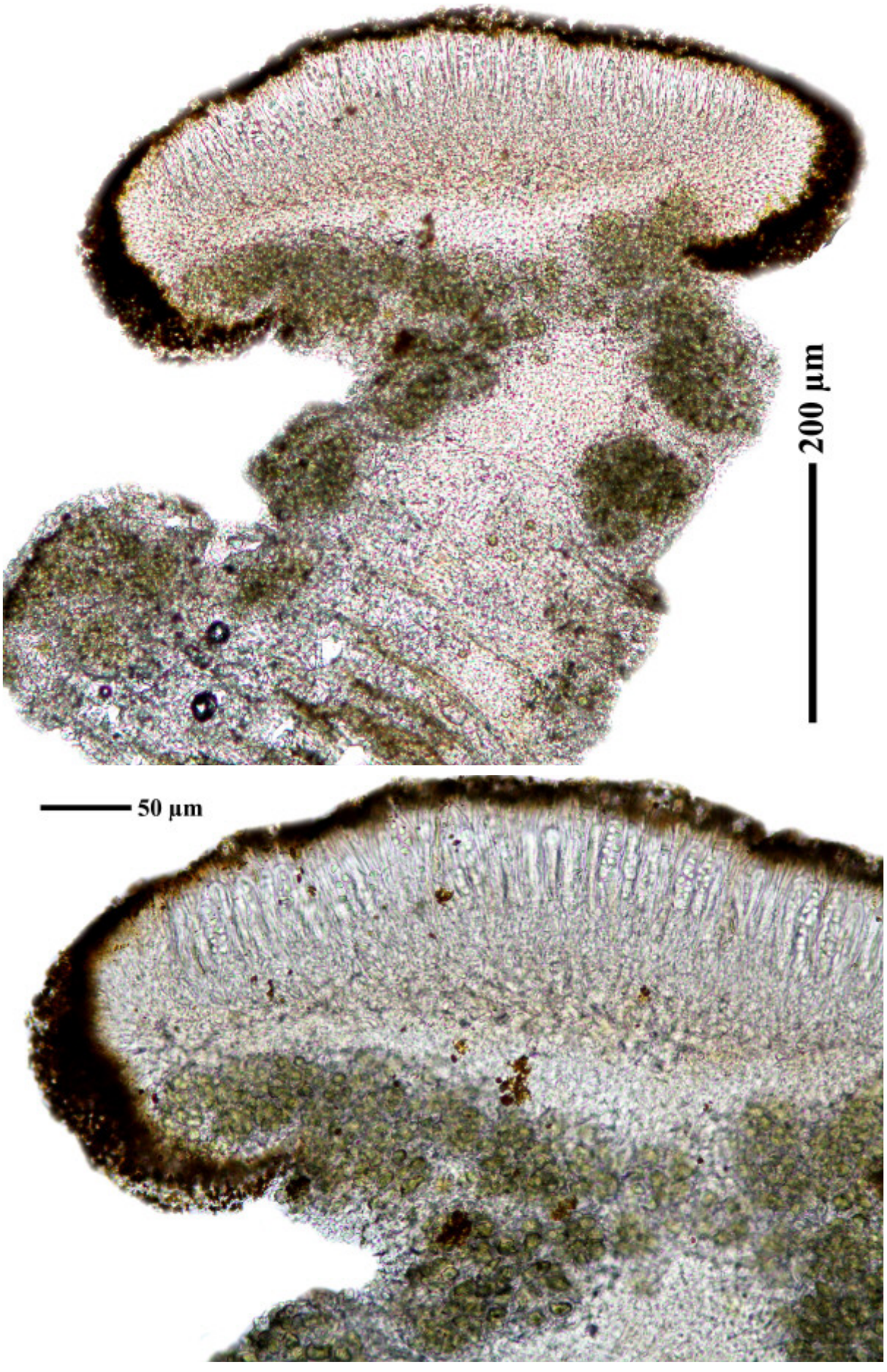
[19584], Helvetia, Wallis, Zermatt, prope Blatten, alt. 1800 m, ad scandulas vetustas. Leg. K. Kalb, 6.06.1974, det. C. Wetmore, 2003. Vězda: Lichenes Selecti Exsiccati Nr. 1273.



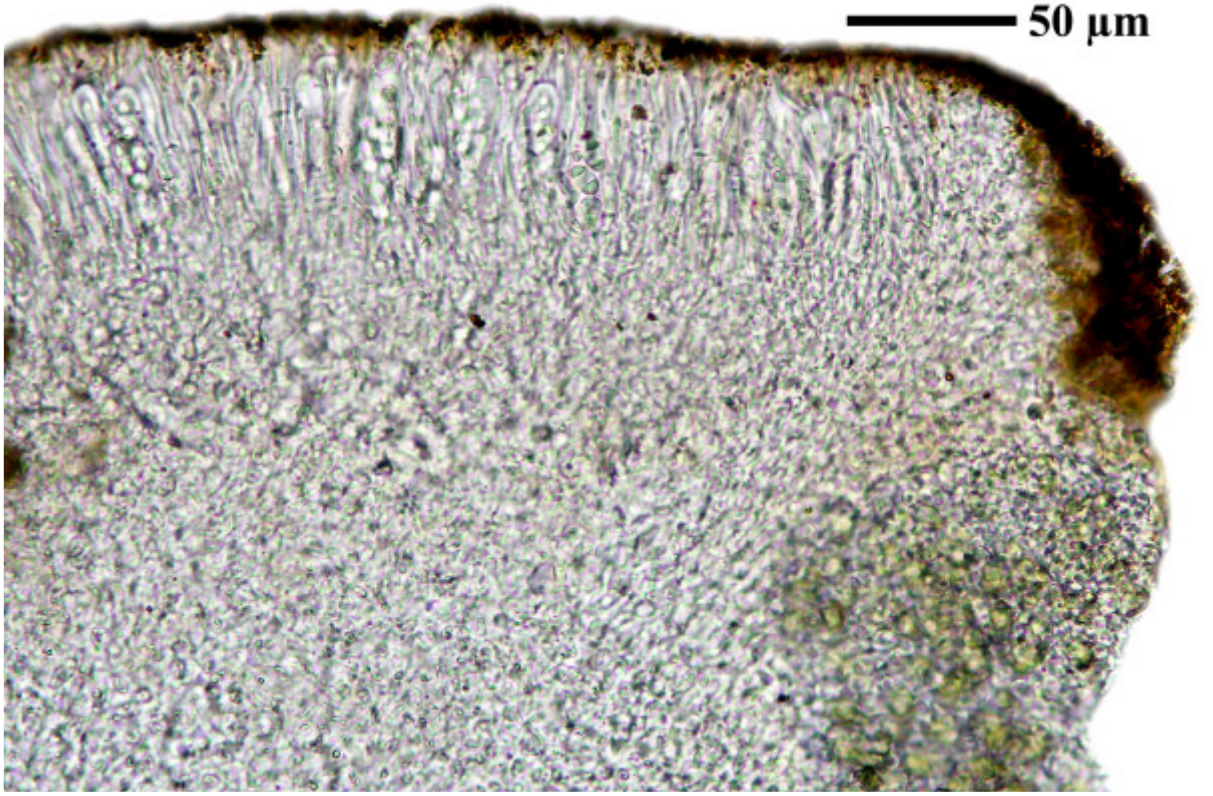


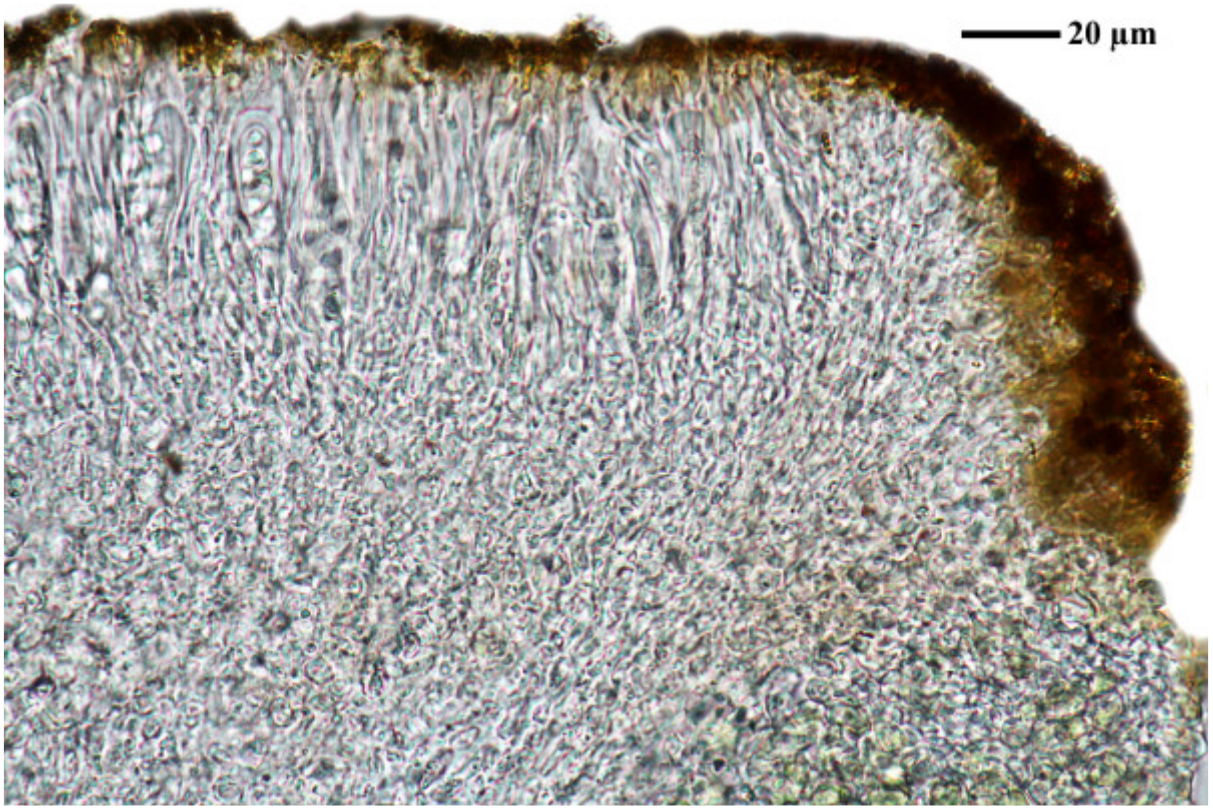


Caloplaca furfuracea

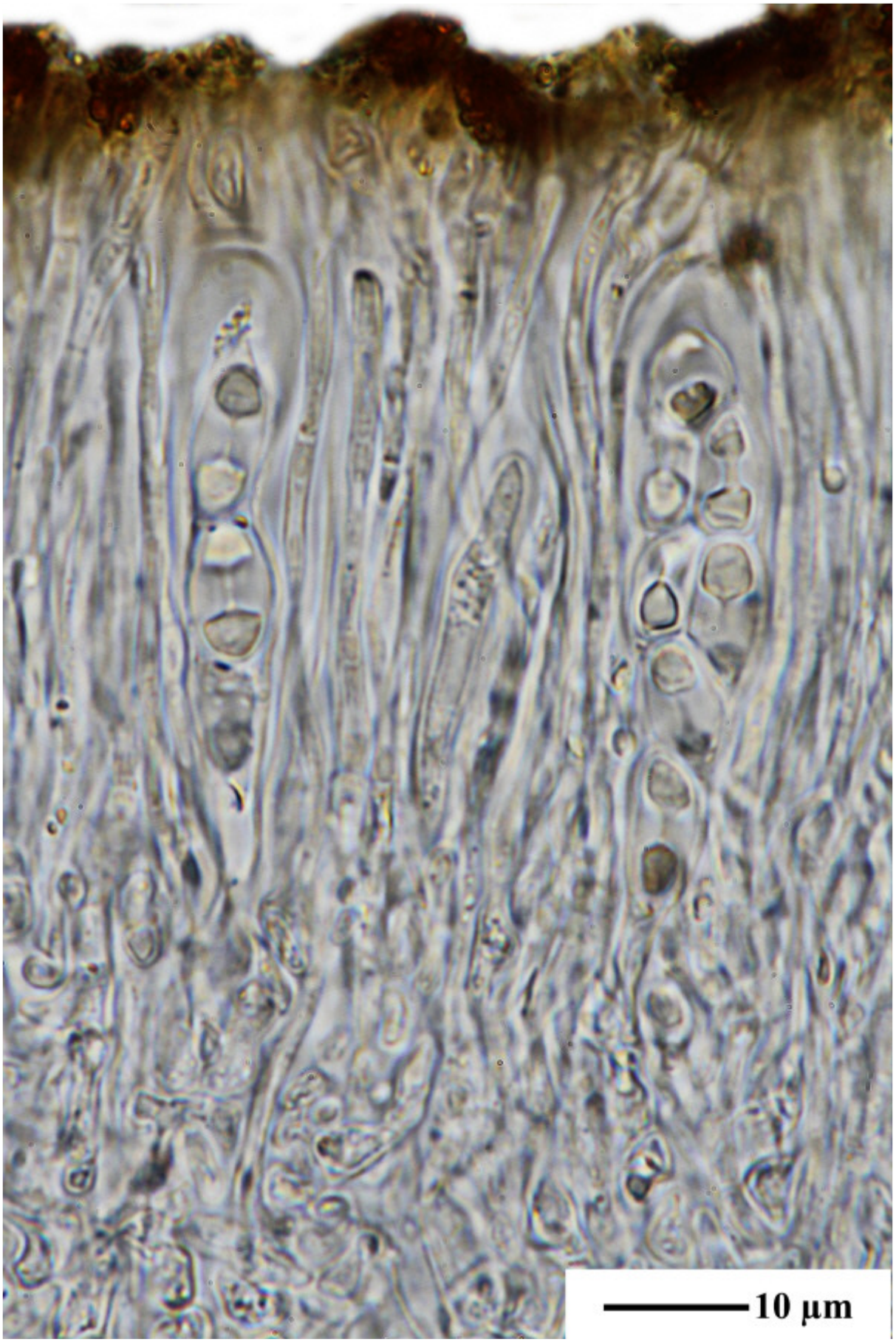


Caloplaca furfuracea

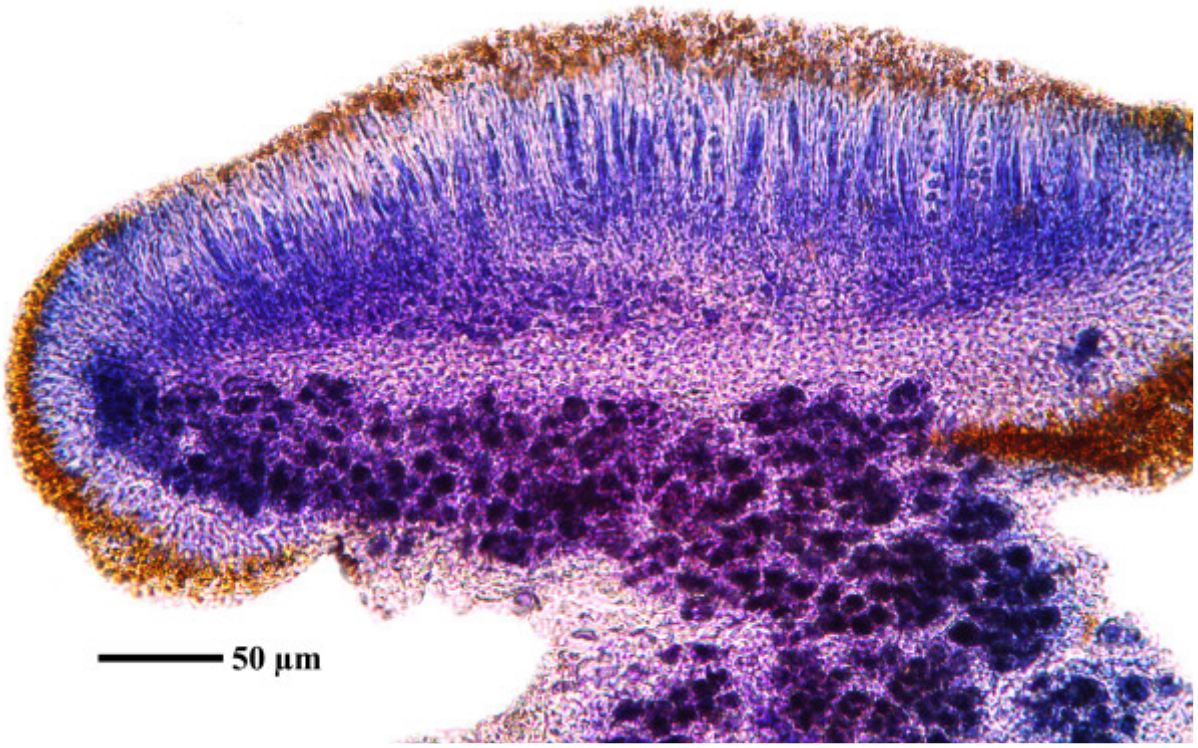


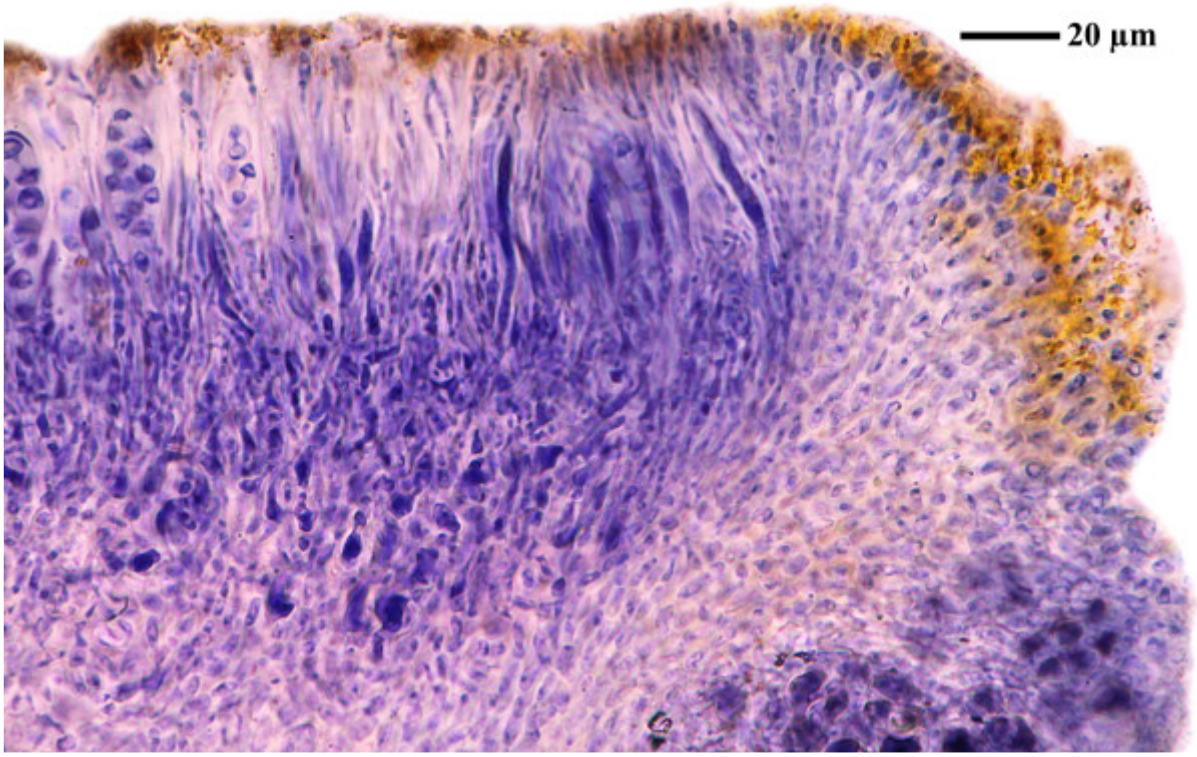


Caloplaca furfuracea



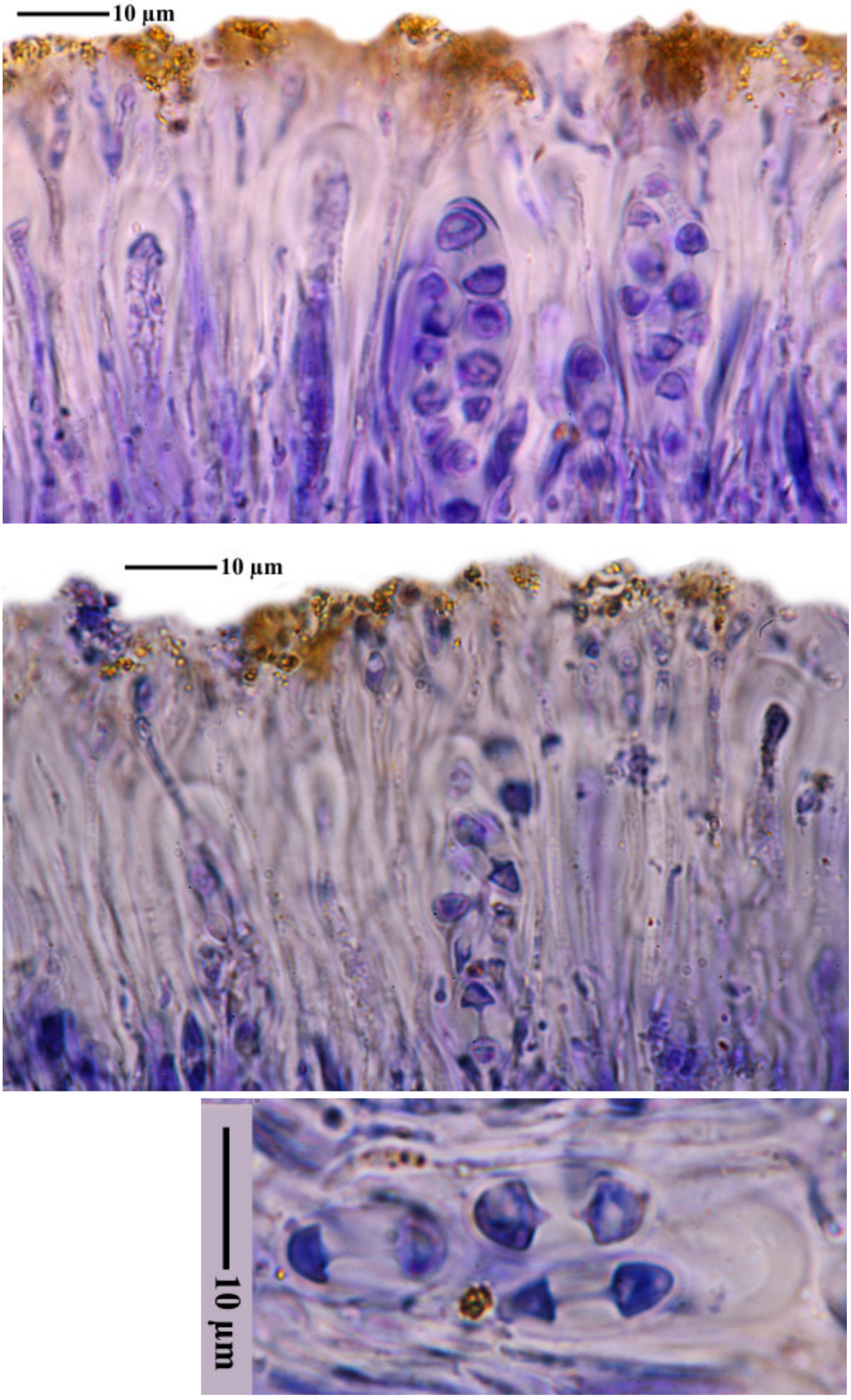
Caloplaca furfuracea



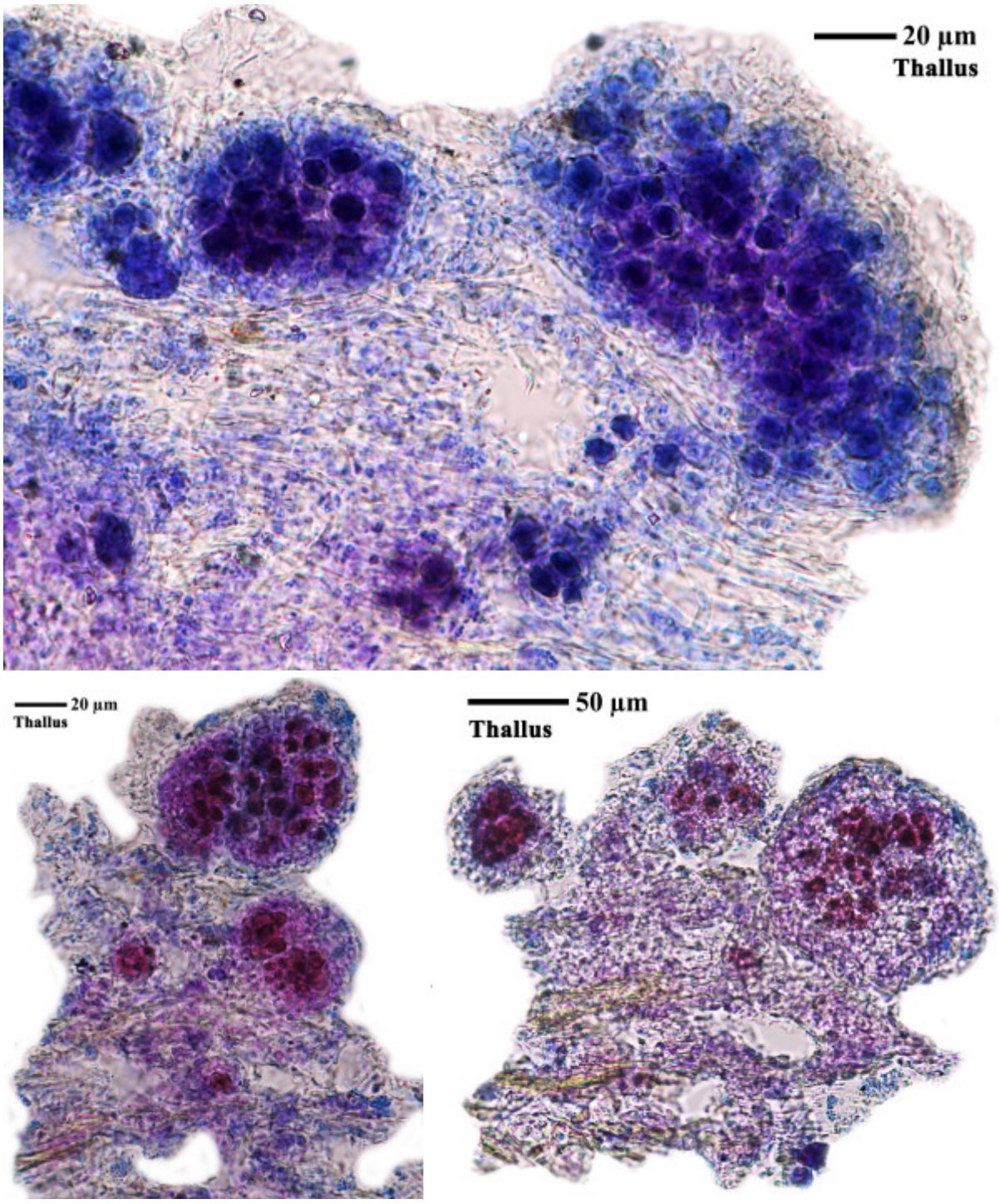




Caloplaca furfuracea



Caloplaca furfuracea



Caloplaca furfuracea

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

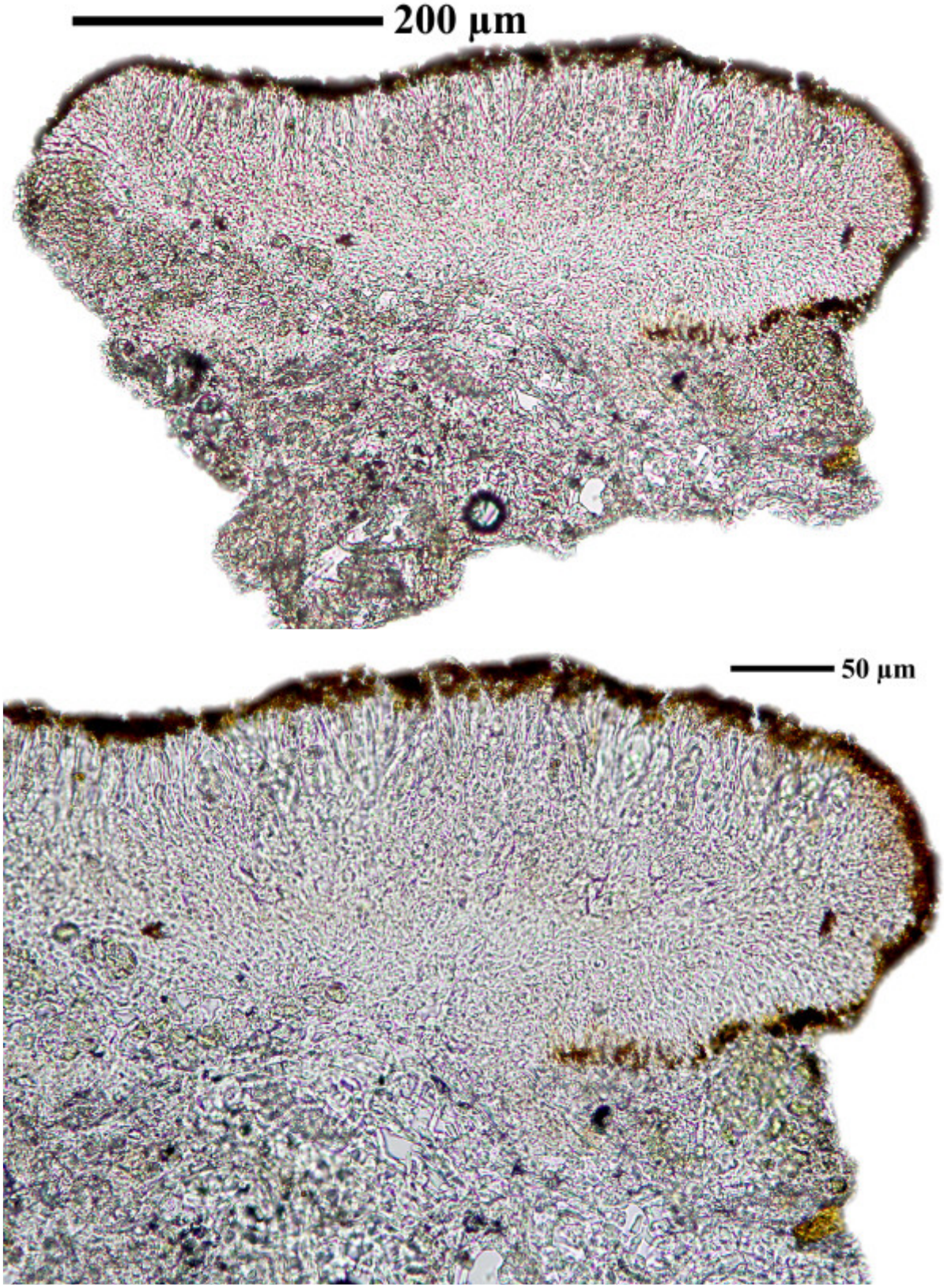
Spores 11.5-16 x 5-5.7 µm, septum 3.4-4 µm (FS)

[B 60 0010473], Switzerland, Wallis, Westalpen, Walliser Alpen, Blatten oberhalb Zermatt, an alten Weidezäunen, 1730 m. Leg. K. Kalb, 27. May 1975, vid. A. Arup 2008. PLANTAE GRAECENSISNR. 52.

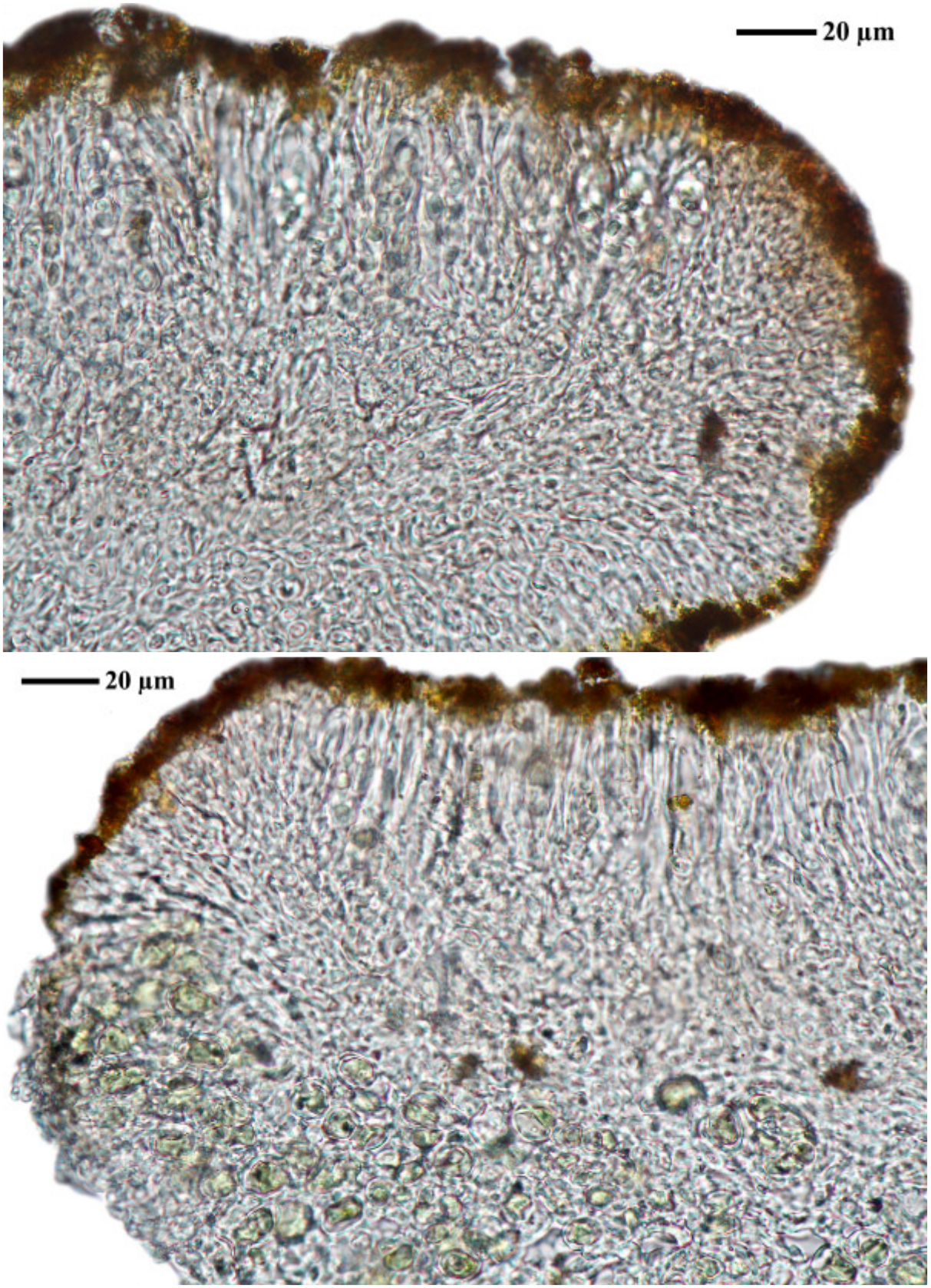




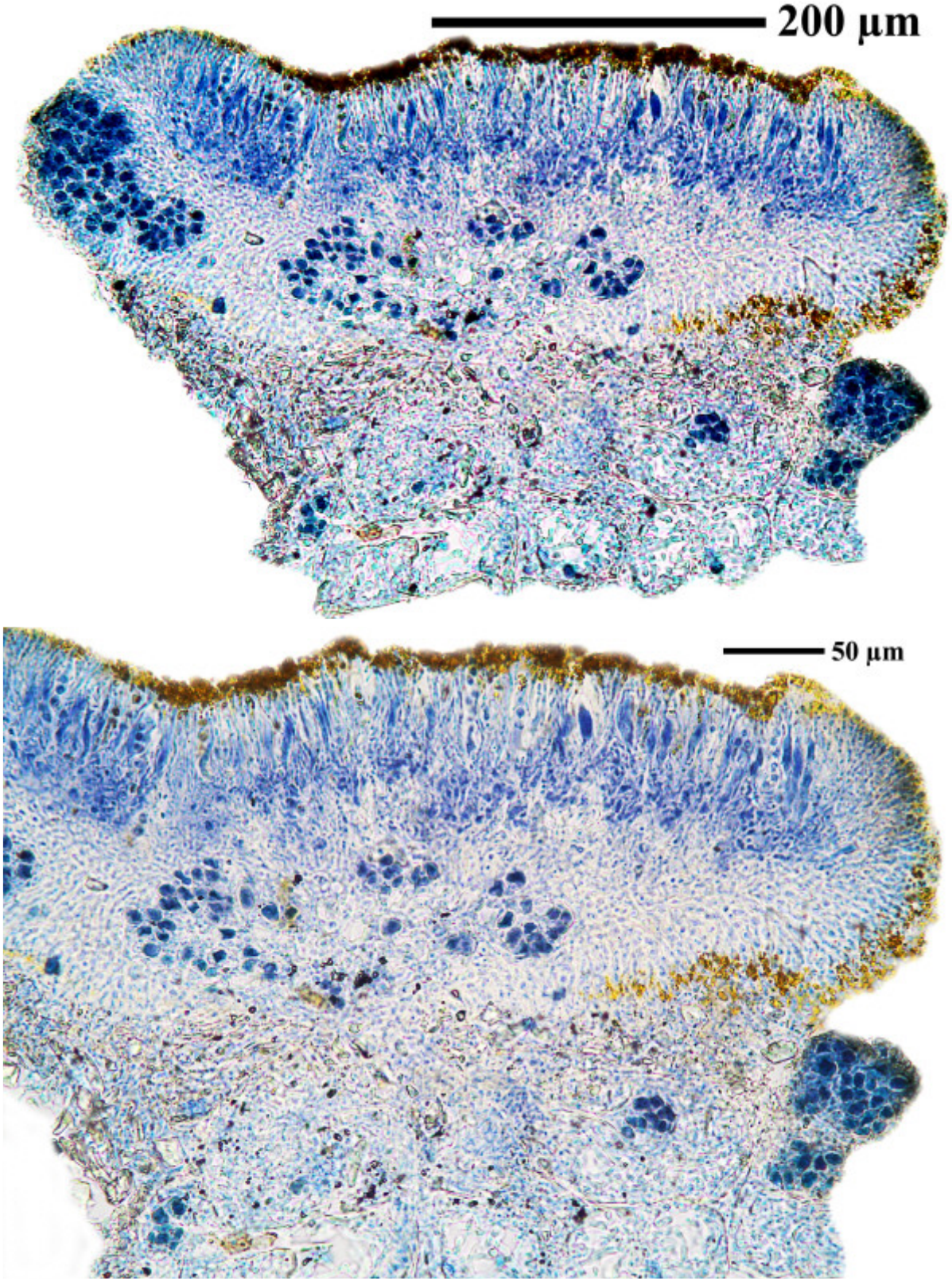
Caloplaca furfuracea



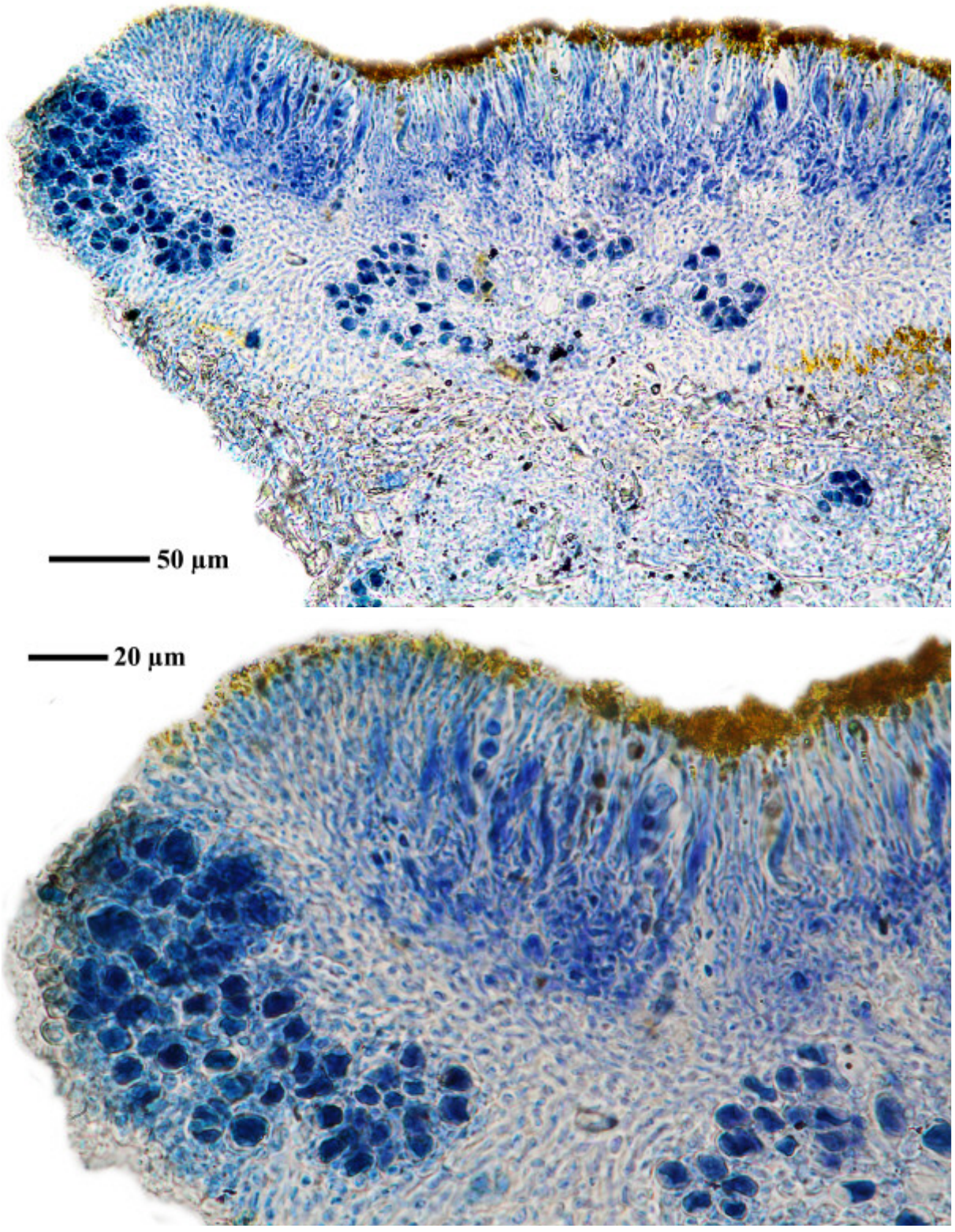
Caloplaca furfuracea



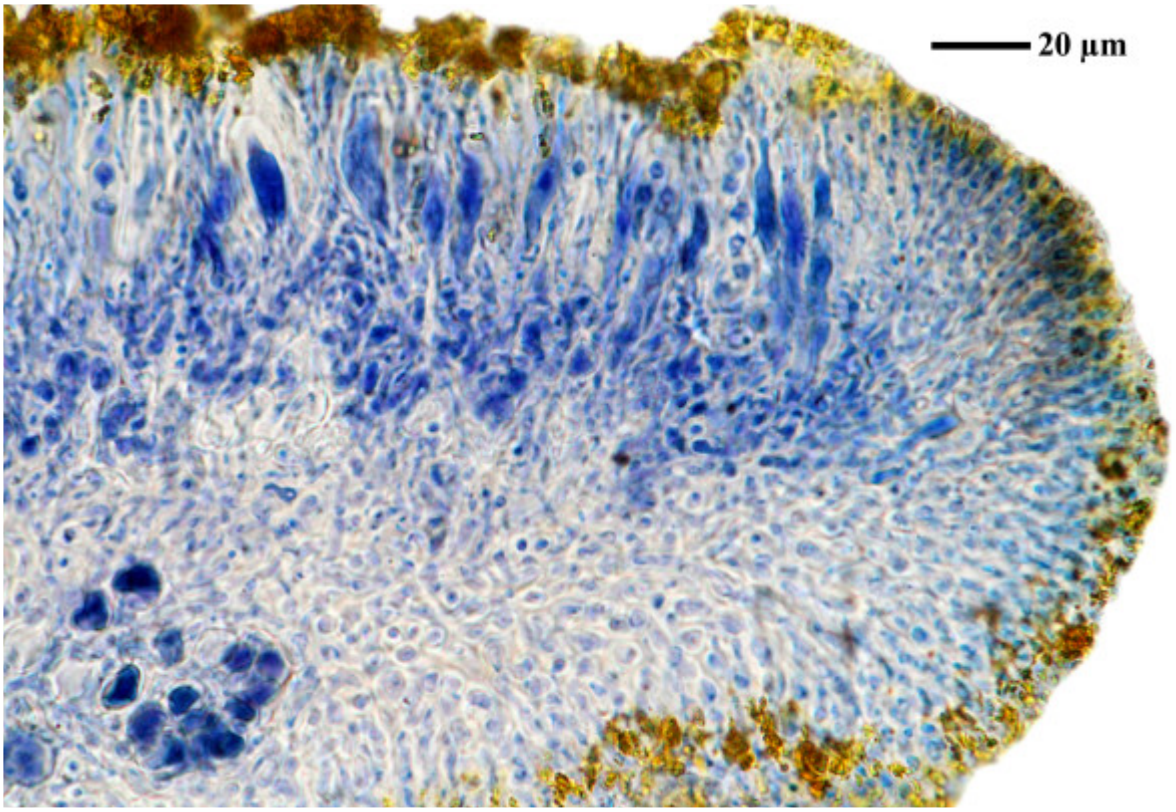
Caloplaca furfuracea

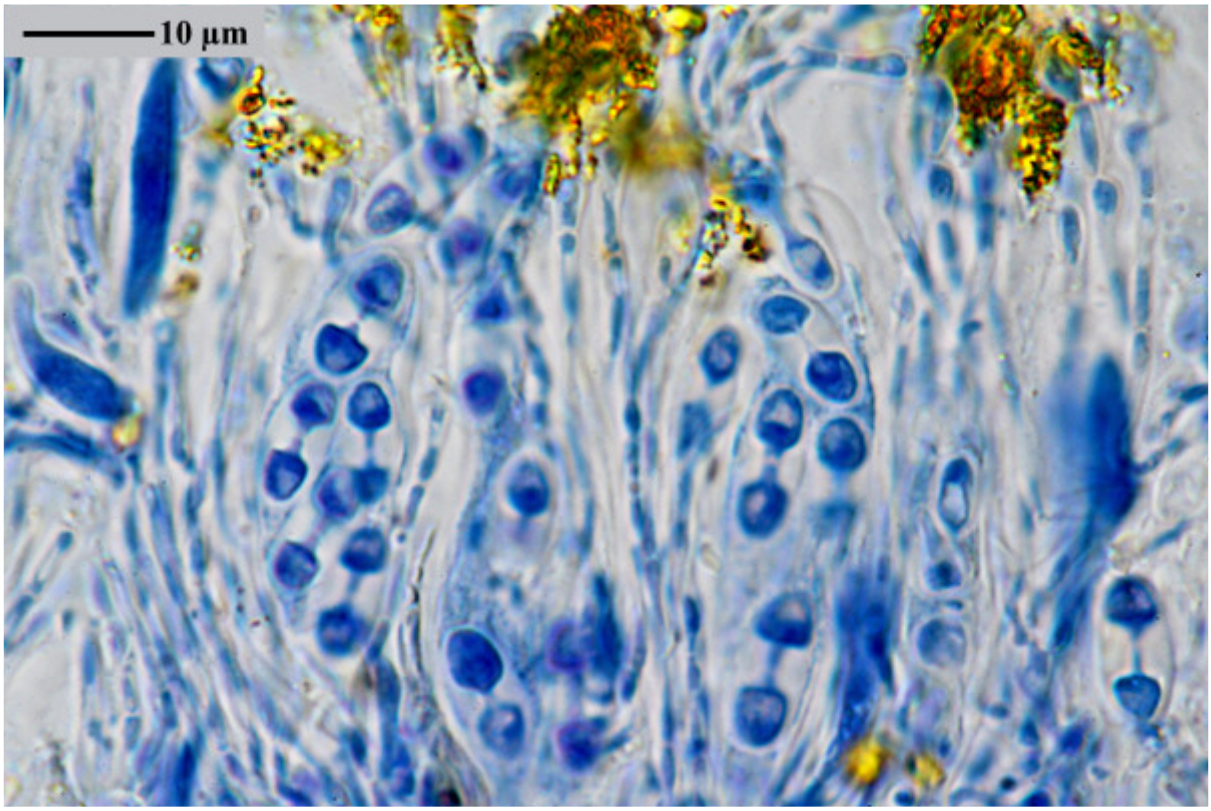


Caloplaca furfuracea

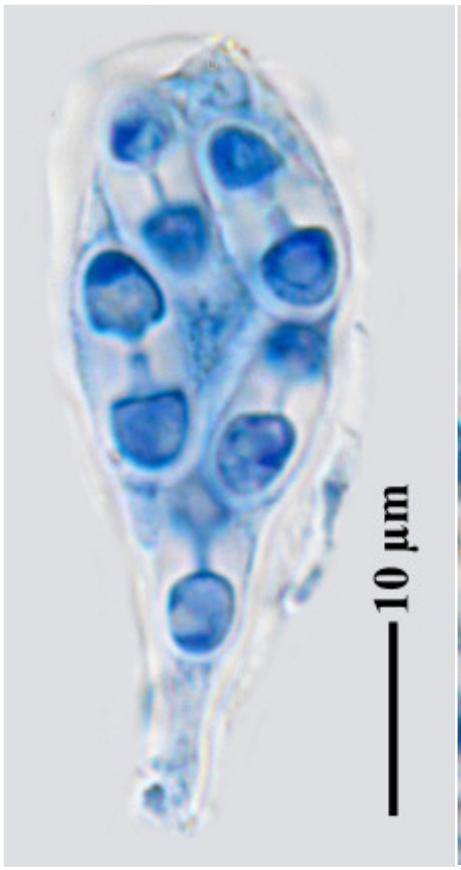


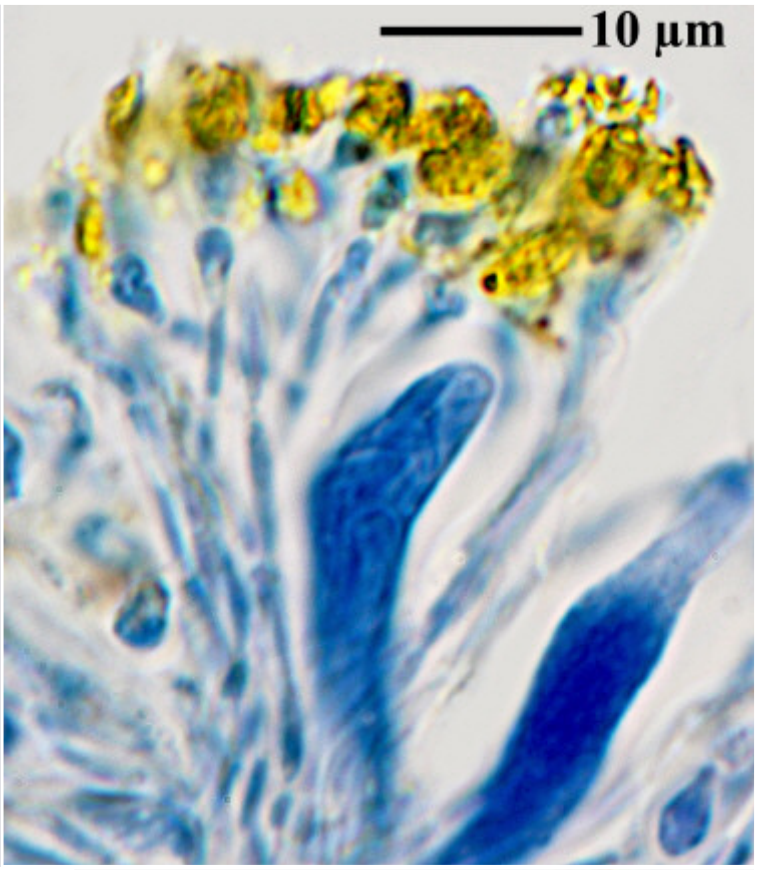
Caloplaca furfuracea

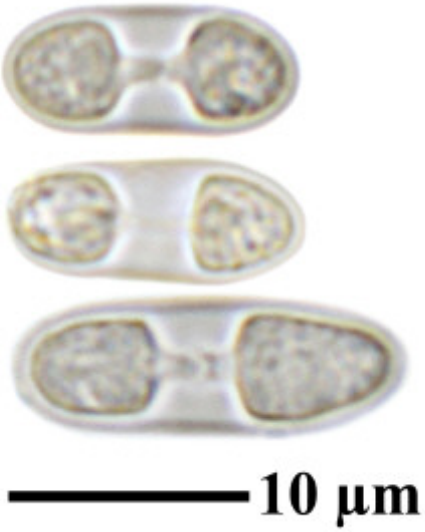


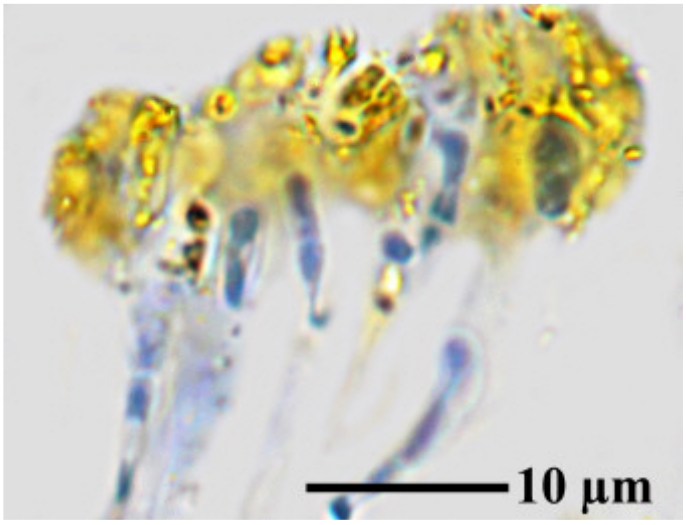


Caloplaca furfuracea







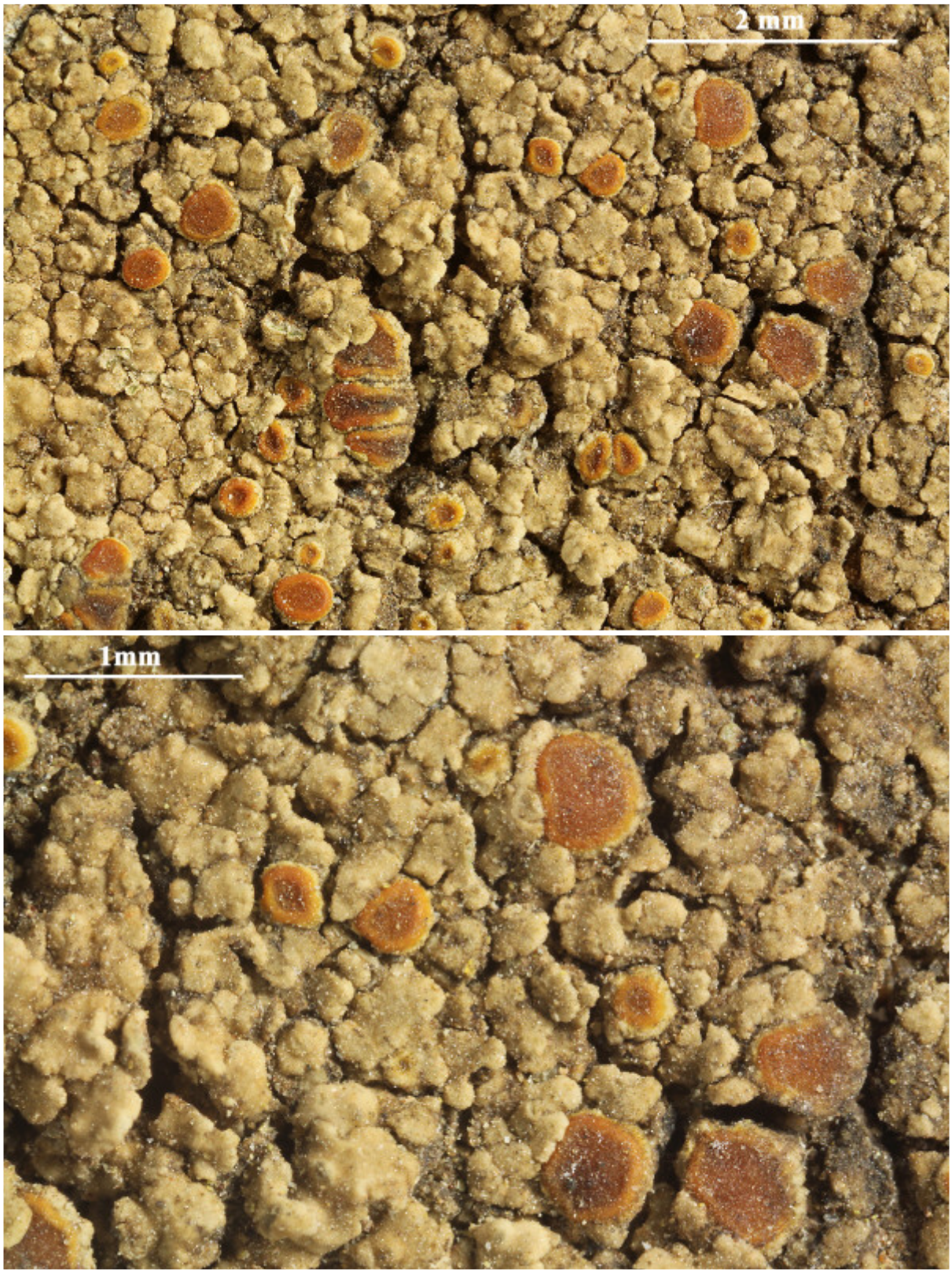


Caloplaca furfuracea

Caloplaca fuscoatroides J. Steiner

[BR5030040383318], Italy, Sardinia, prov. Cagliari, Giara di Gésturi near Gésturi, open plateau, on volcanic rock. 39°44’ N, 8°59’ Em 559 m. Leg. A. Aptroot (20600), 7.1987, det. A. Aptroot 1987.

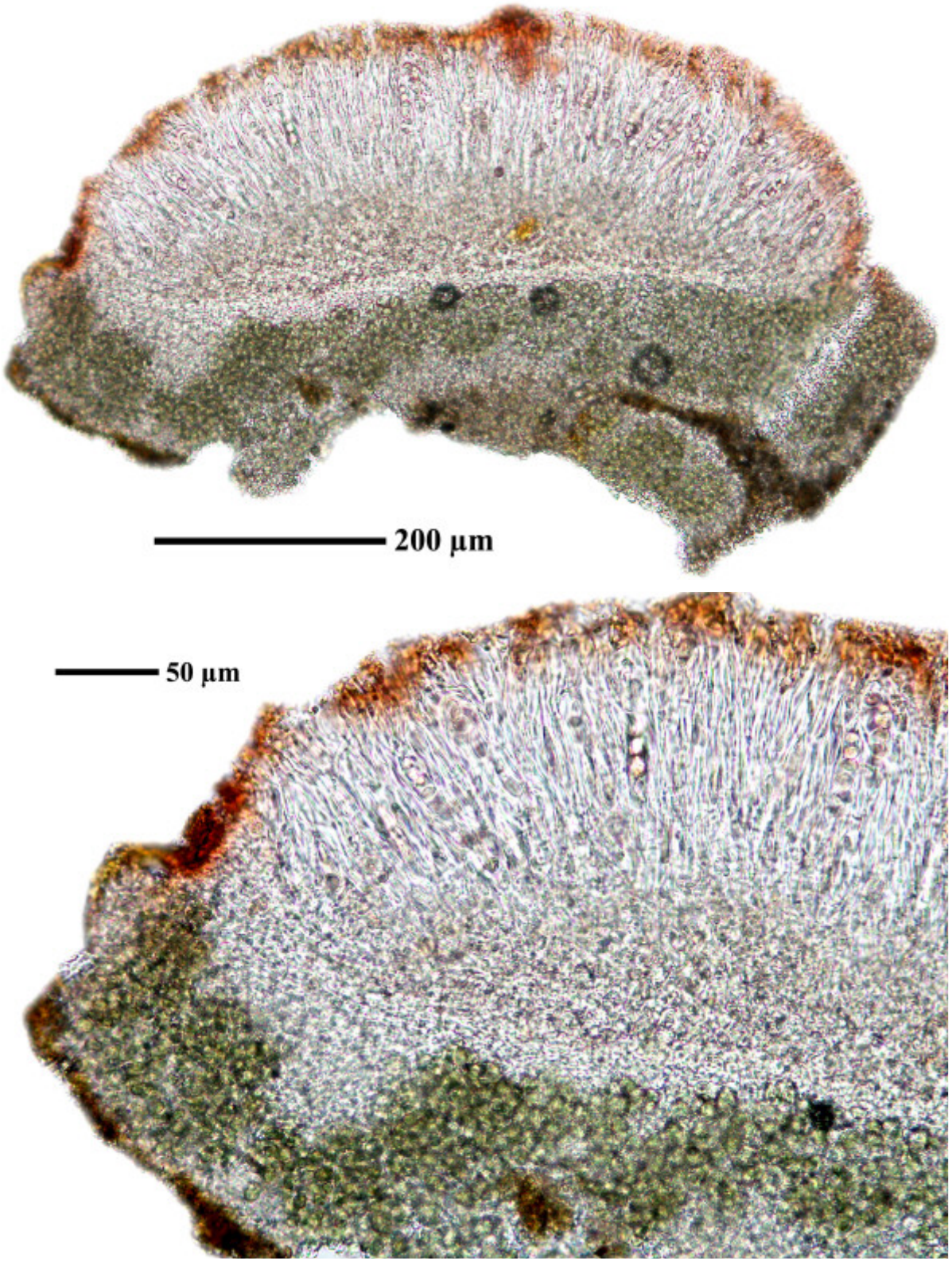




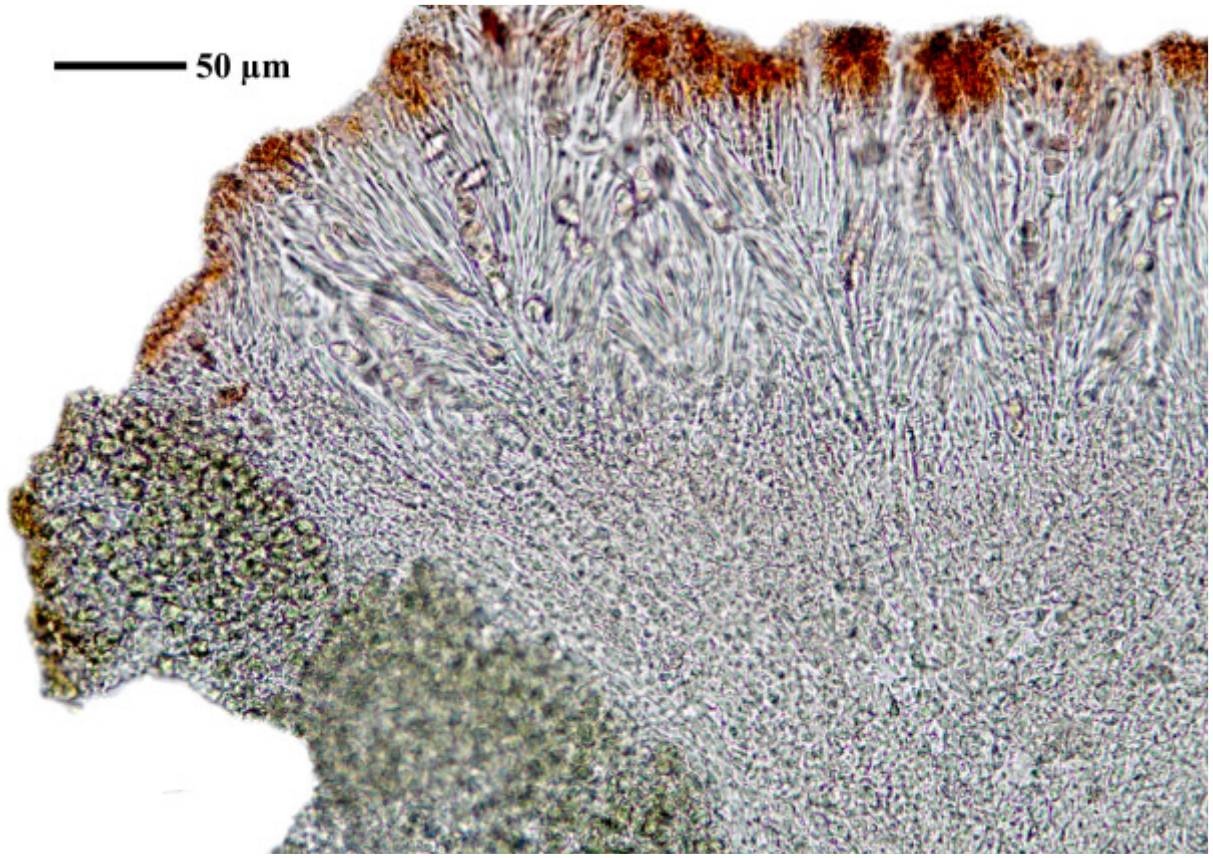
Caloplaca fuscoatroides

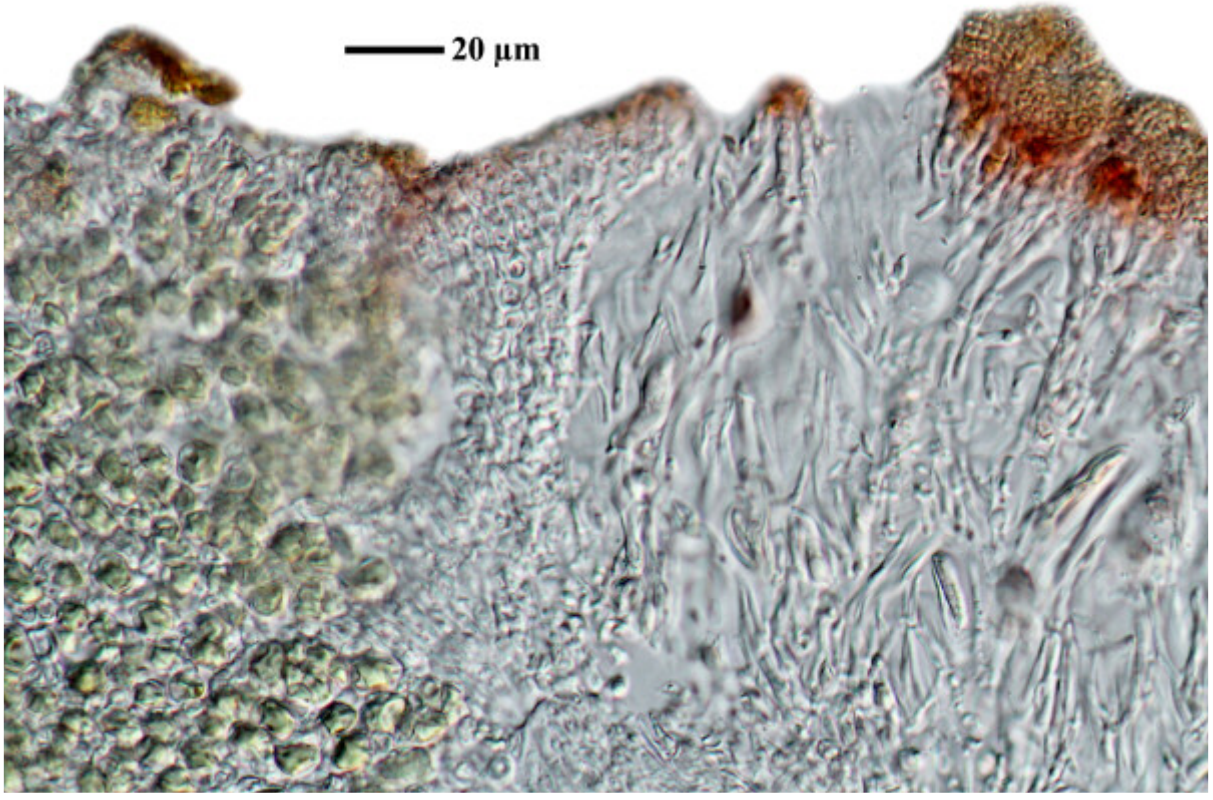


Caloplaca fuscoatroides

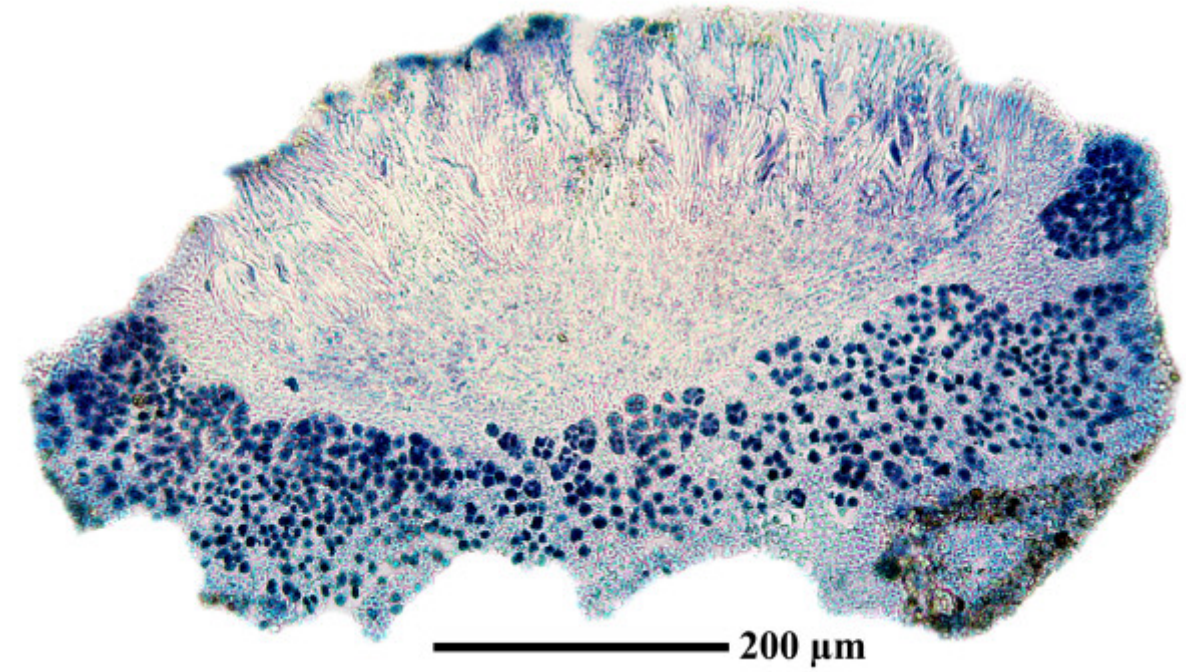


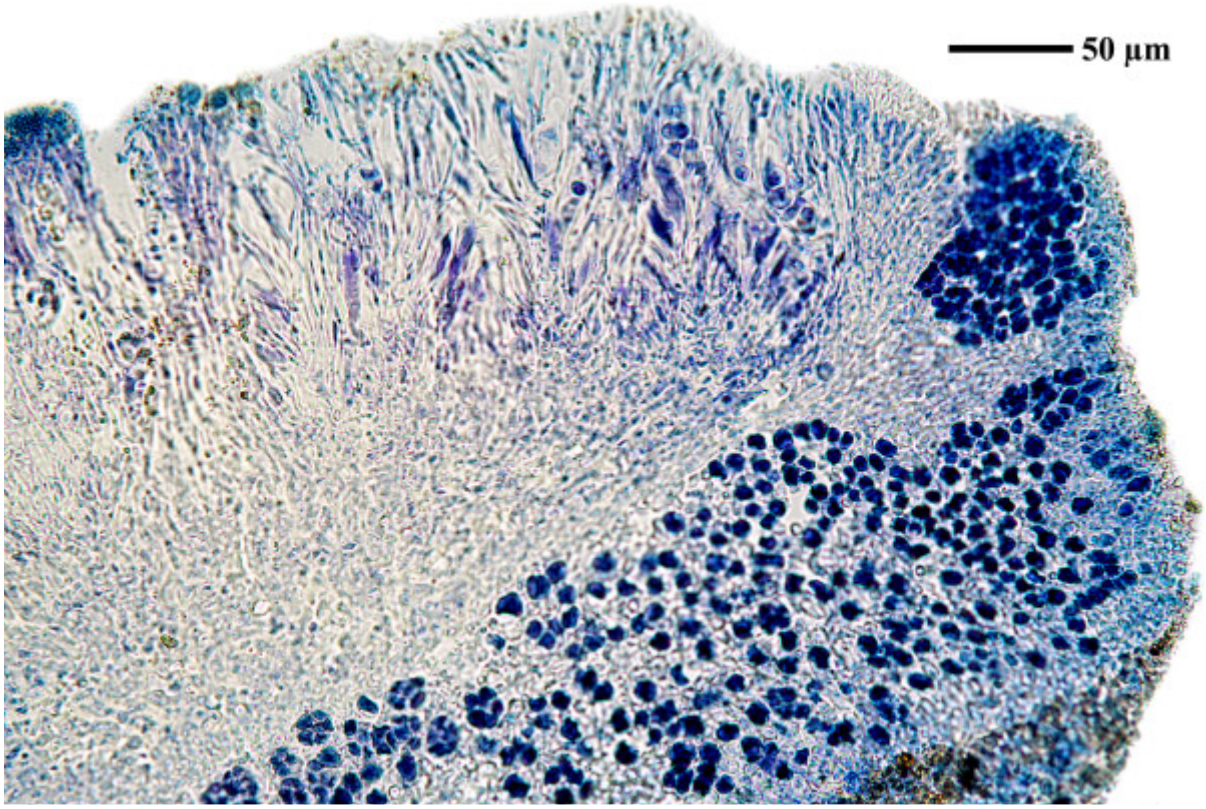
Caloplaca fuscoatroides



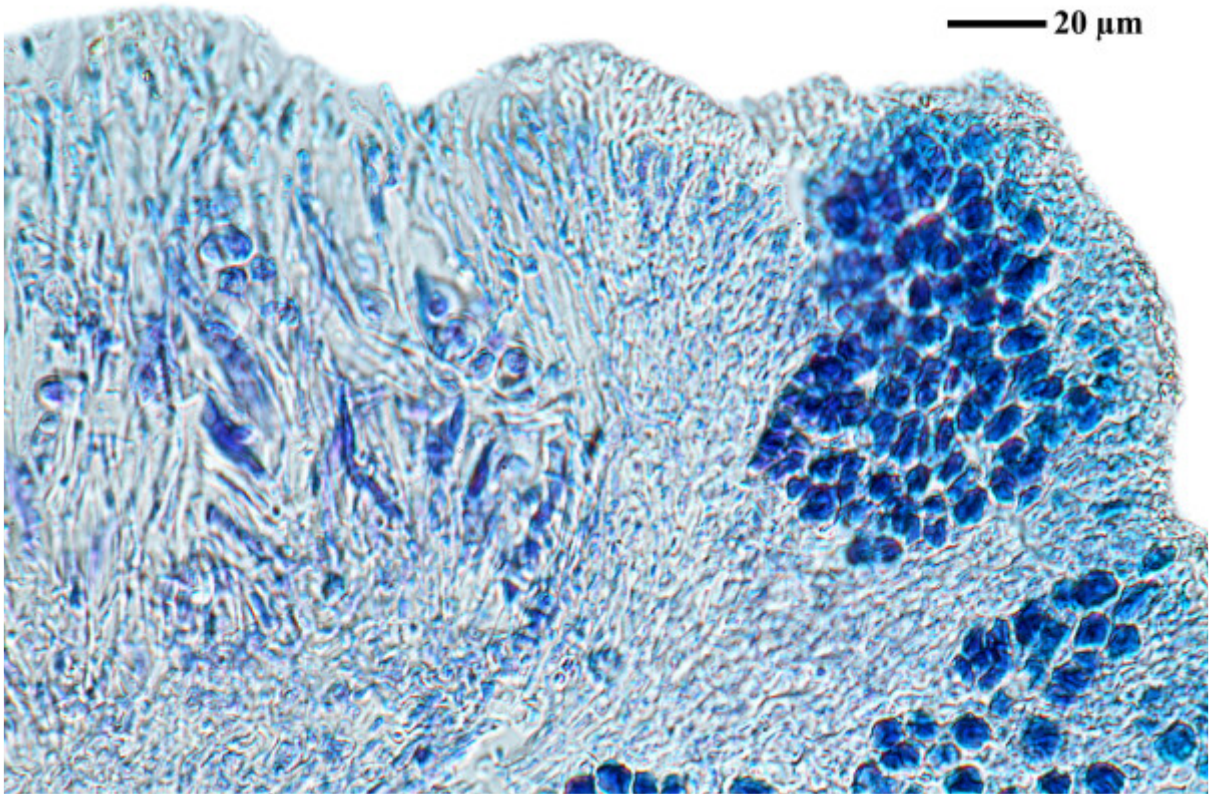


Caloplaca fuscoatroides

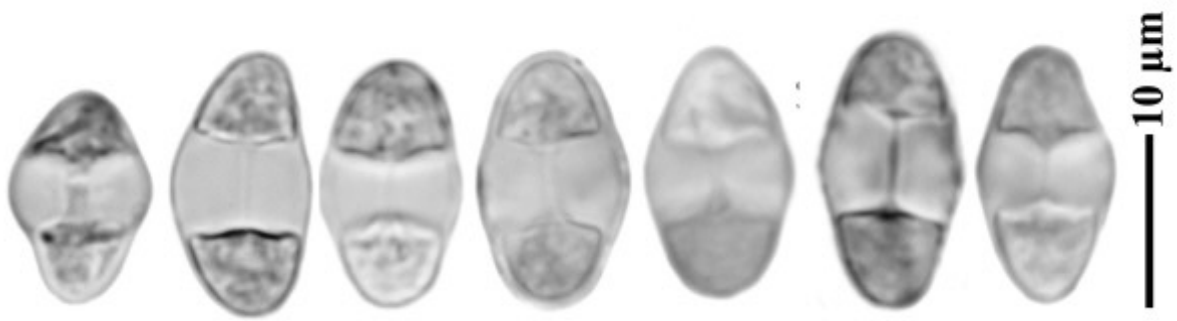




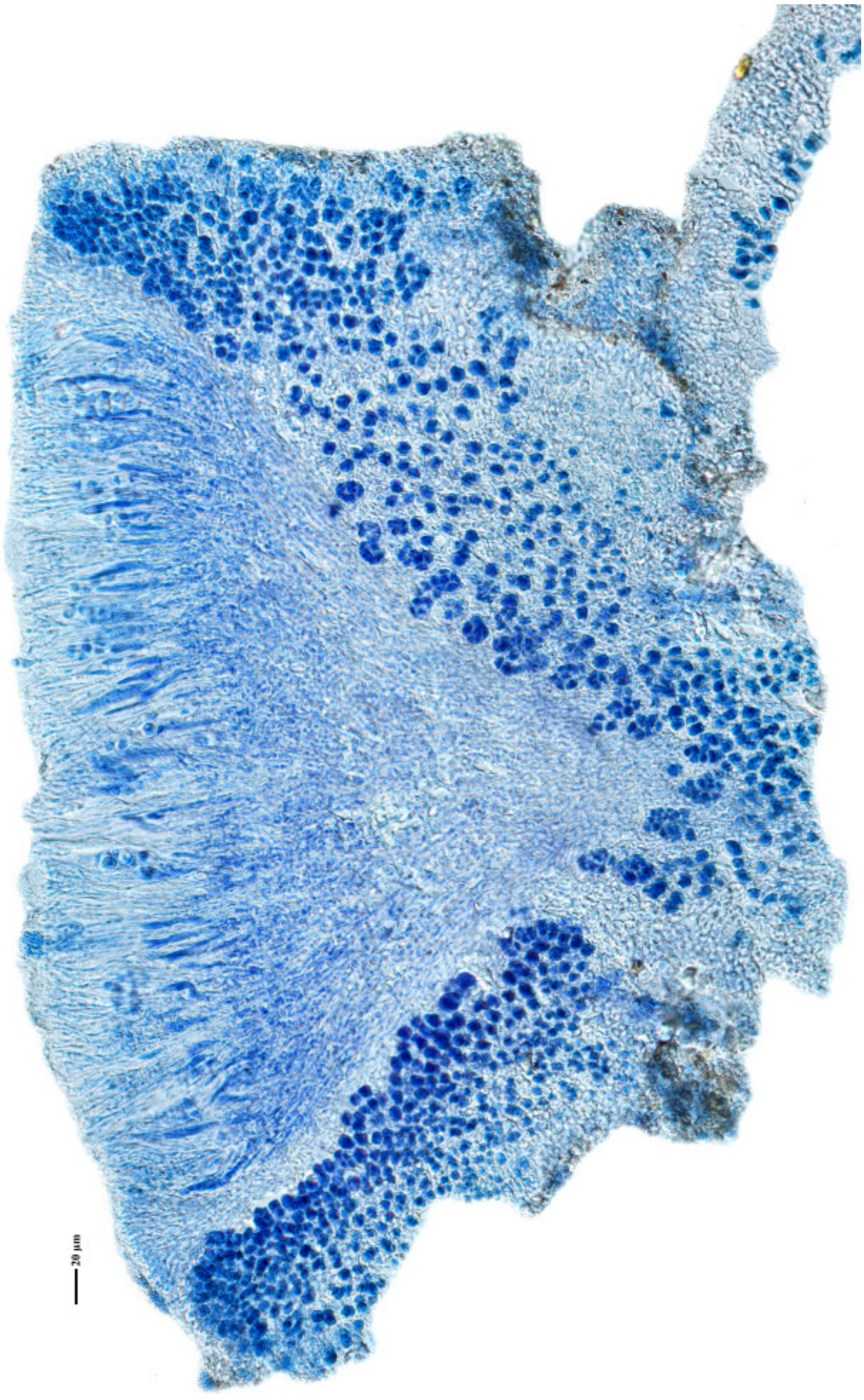
Caloplaca fuscoatroides







Caloplaca fuscoatroides



Caloplaca fuscoatroides

Caloplaca fuscoatroides J. Steiner

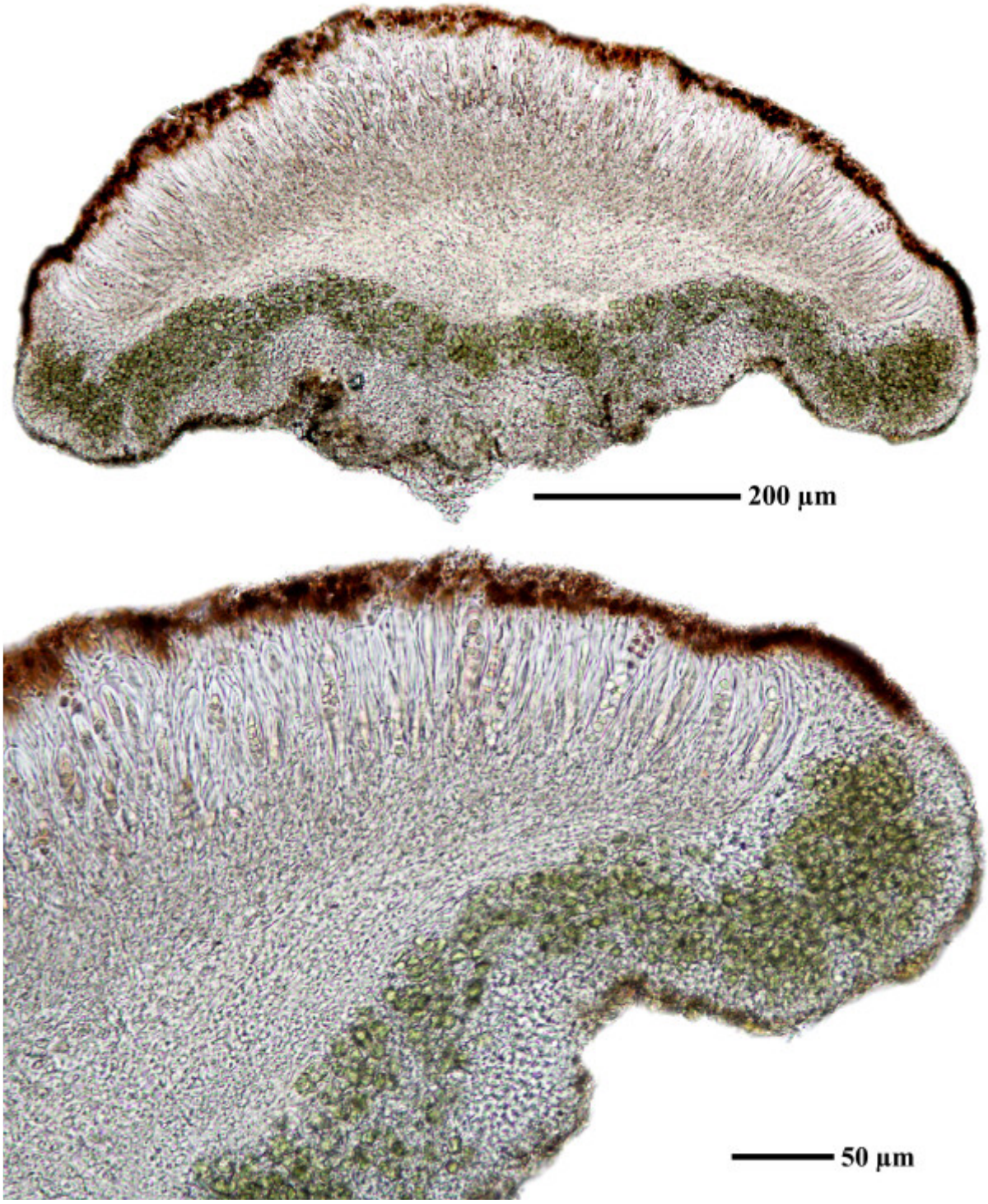
Spores c. 10-11(-13.5) x 6-7 µm, septum 6-7 µm (FS).

[BR5030040384322], Italy, Sardinia, prov. Cagliari, Giara di Gésturi near Gésturi, open plateau, on volcanic rock. 39°44’ N, 8°59’ E, 550 m. Leg. A. Aptroot (20641), 7.1987, det. A. Aptroot 1987.

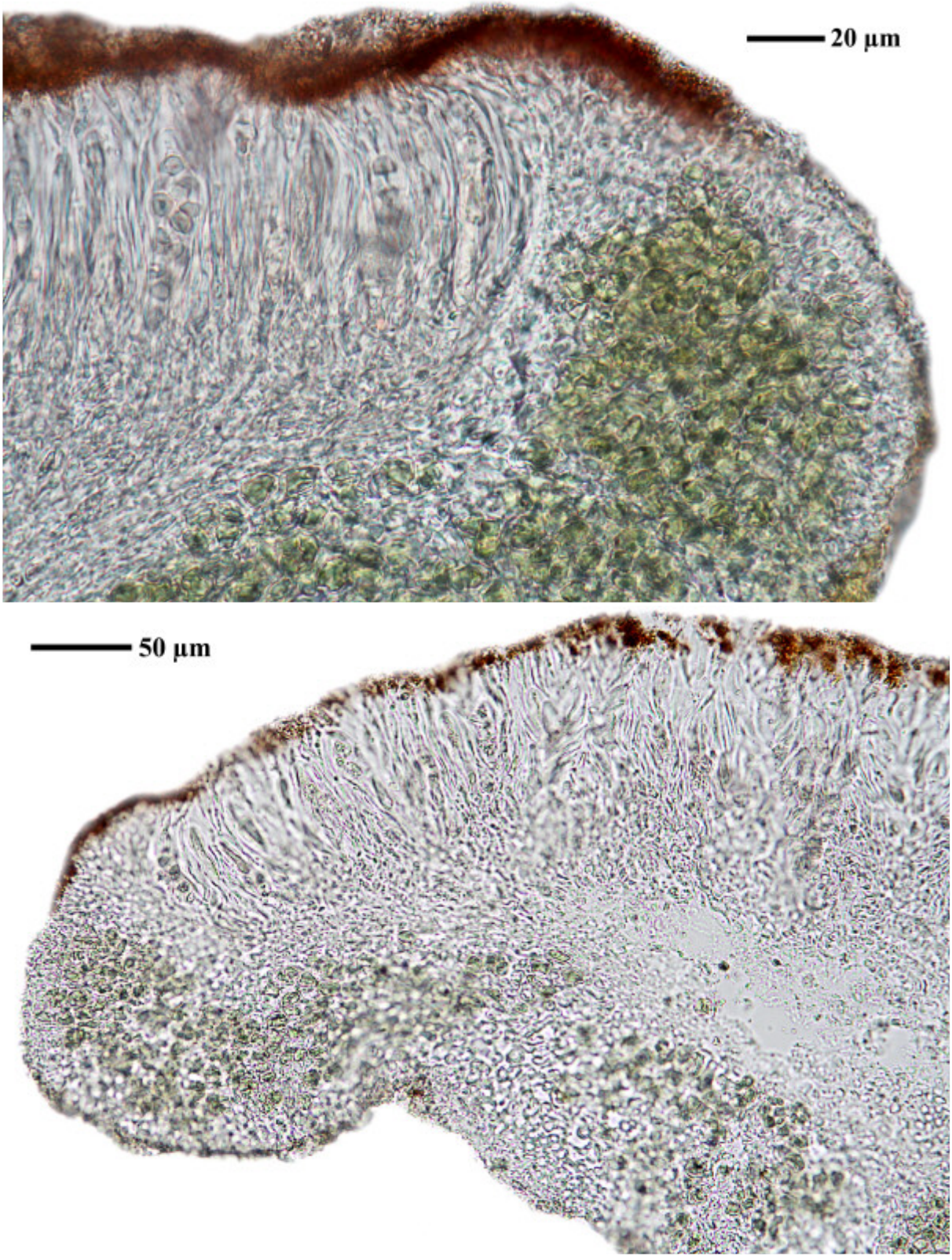




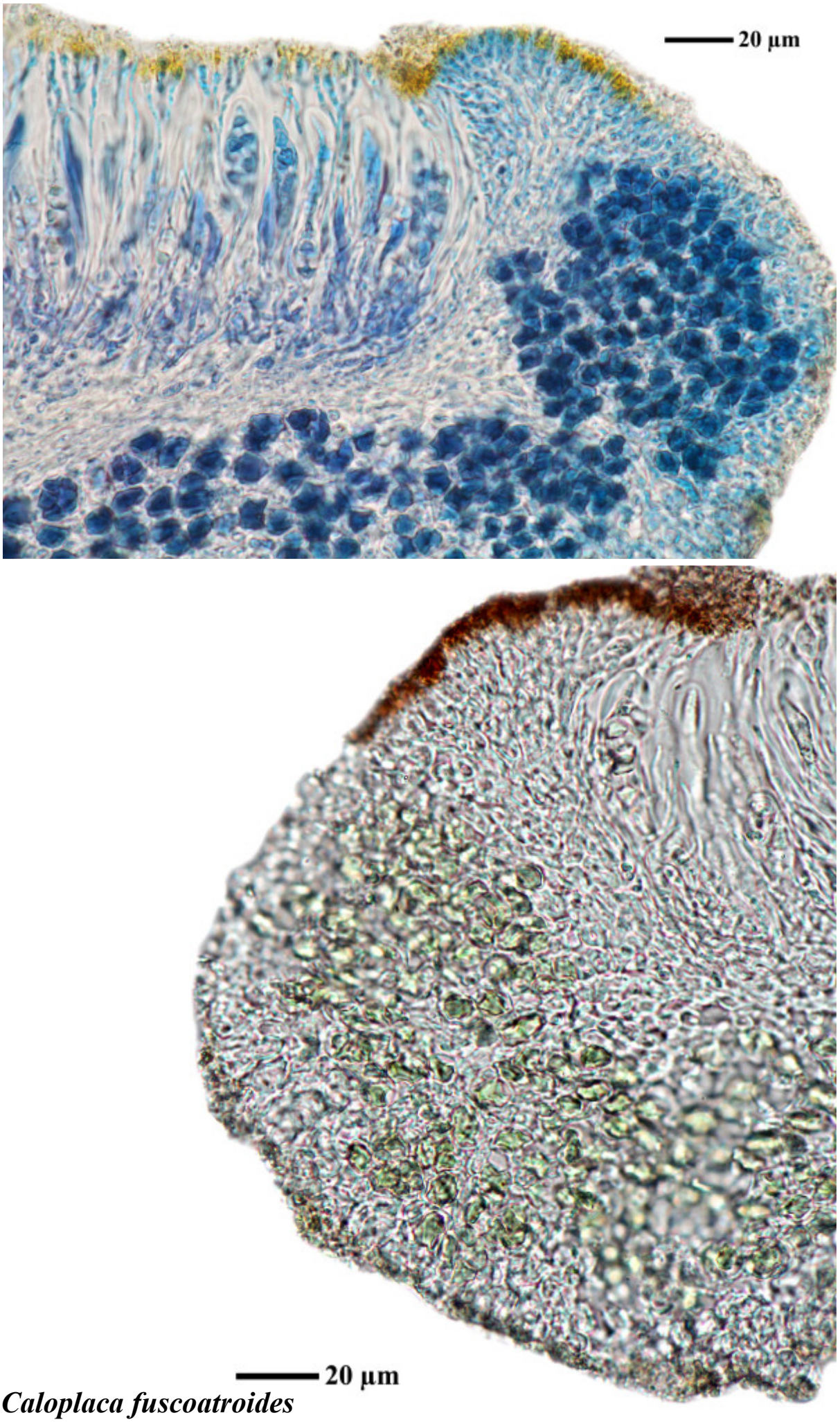
Caloplaca fuscoatroides



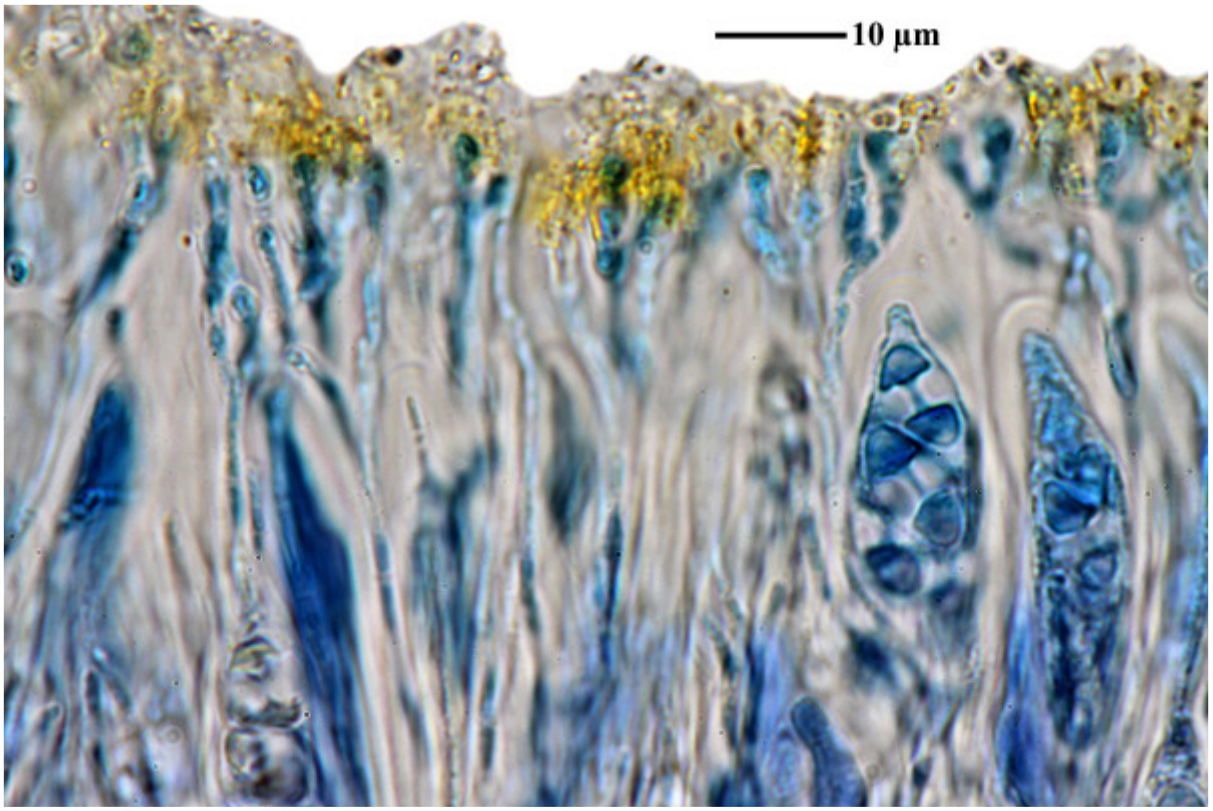
Caloplaca fuscoatroides

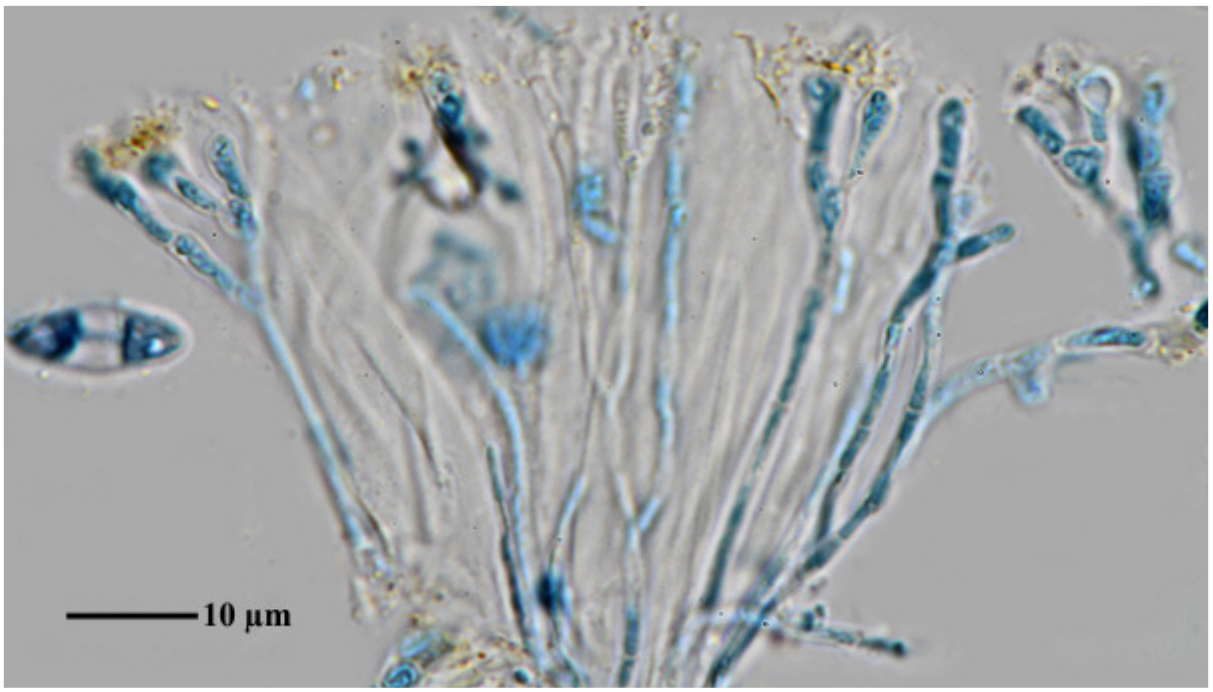


Caloplaca fuscoatroides

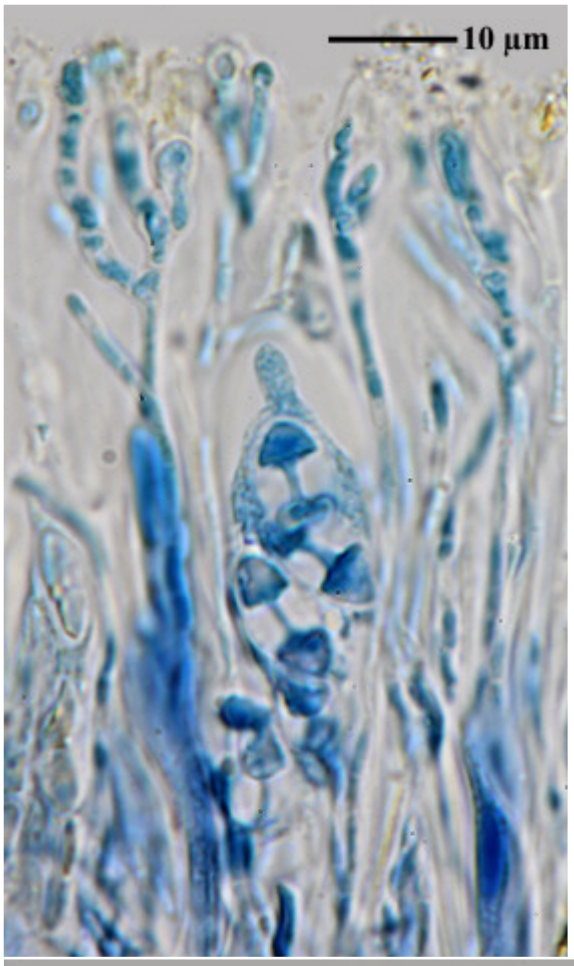


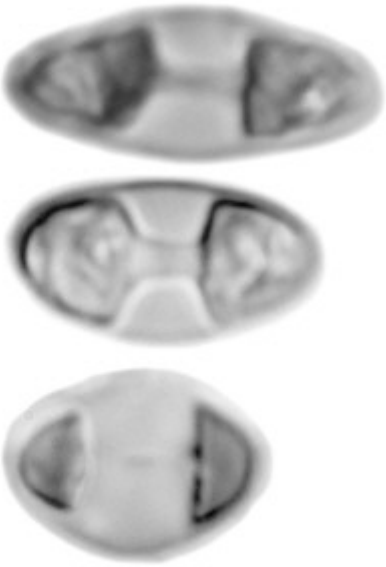
Caloplaca fuscoatroides





Caloplaca fuscoatroides







Caloplaca fuscoatroides

Caloplaca galactophylla (Tuck.) Riddle
[= *Squamulea galactophylla* (Tuck.) Arup, Søchting & Frödén]

Spores 11-13 x 5.5-7 µm, septum (2-)3-4 µm, hyalin, 8/ascus (FS).

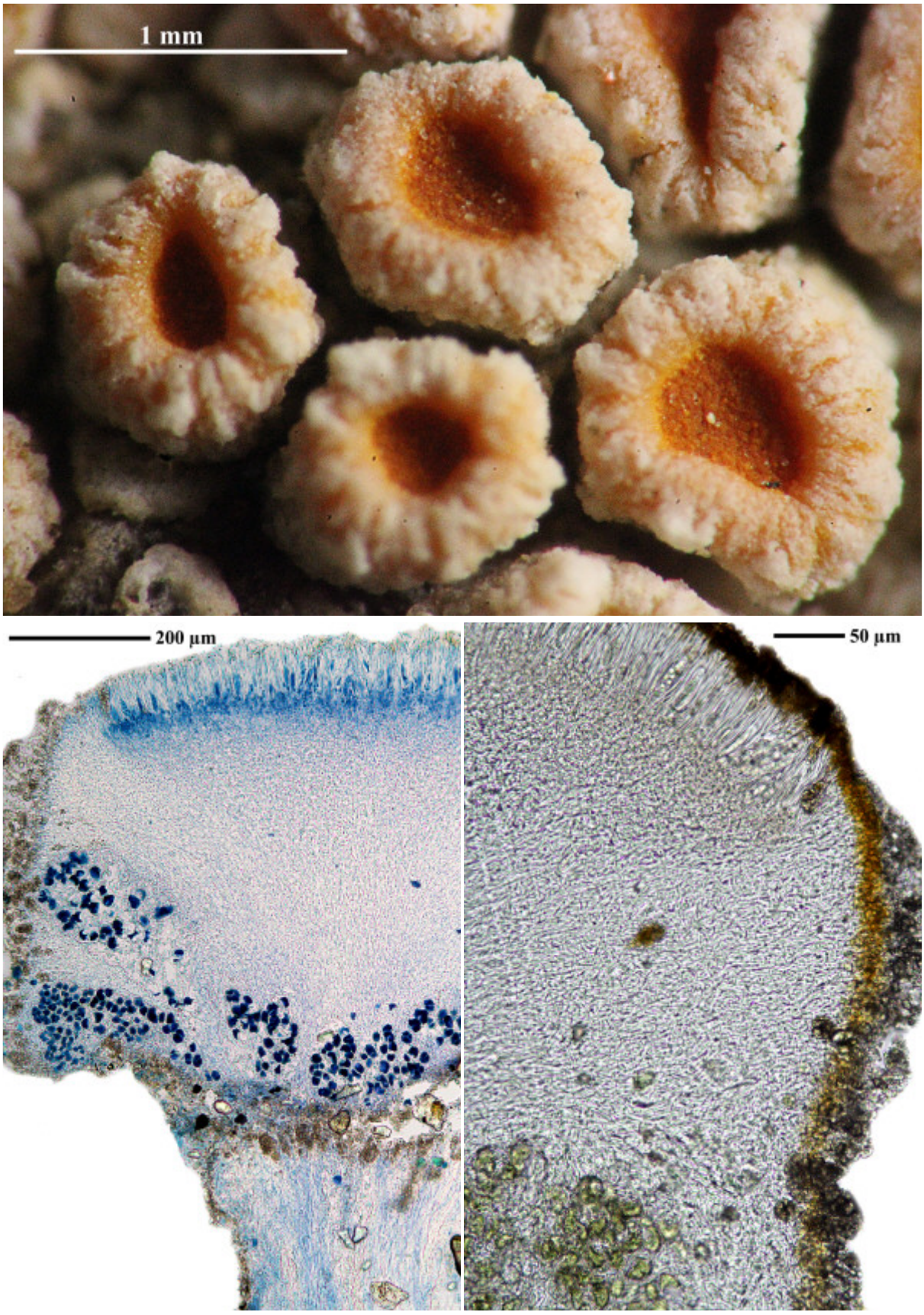
[BR5030040565196], Mexico, Baja California, between Laguna Manuela and Punta Santo Domingo, southern Vizcaino Region of the Sonoran Dessert (*Fouguieria diguetii, Jatropha, Yucca valida*, etc.), post-batholitic basalt and sand, on rock. 28°14' N, 114°06' W, 0-50 m. Leg. A. & M. Aptroot (24638), 7.1.1989, det. A. Aptroot, 1989.



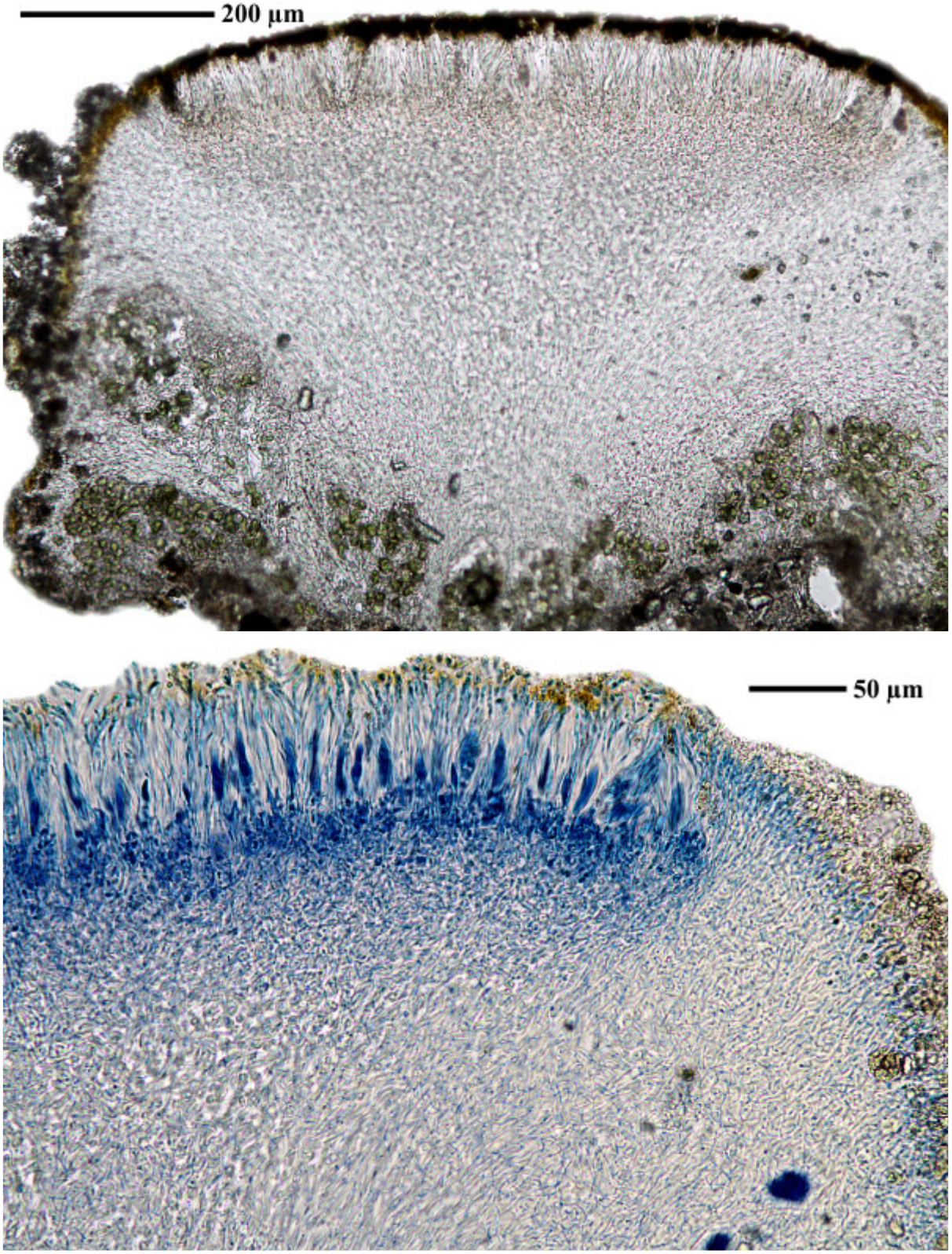




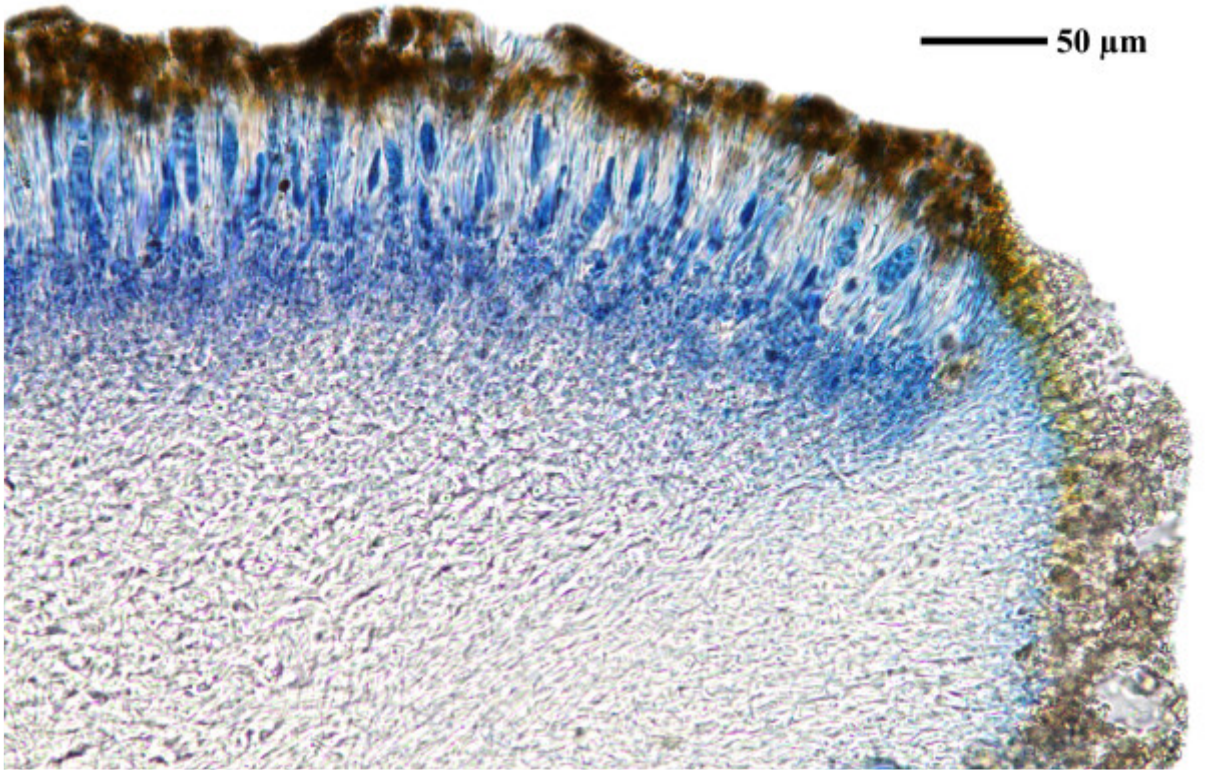
Caloplaca galactophylla

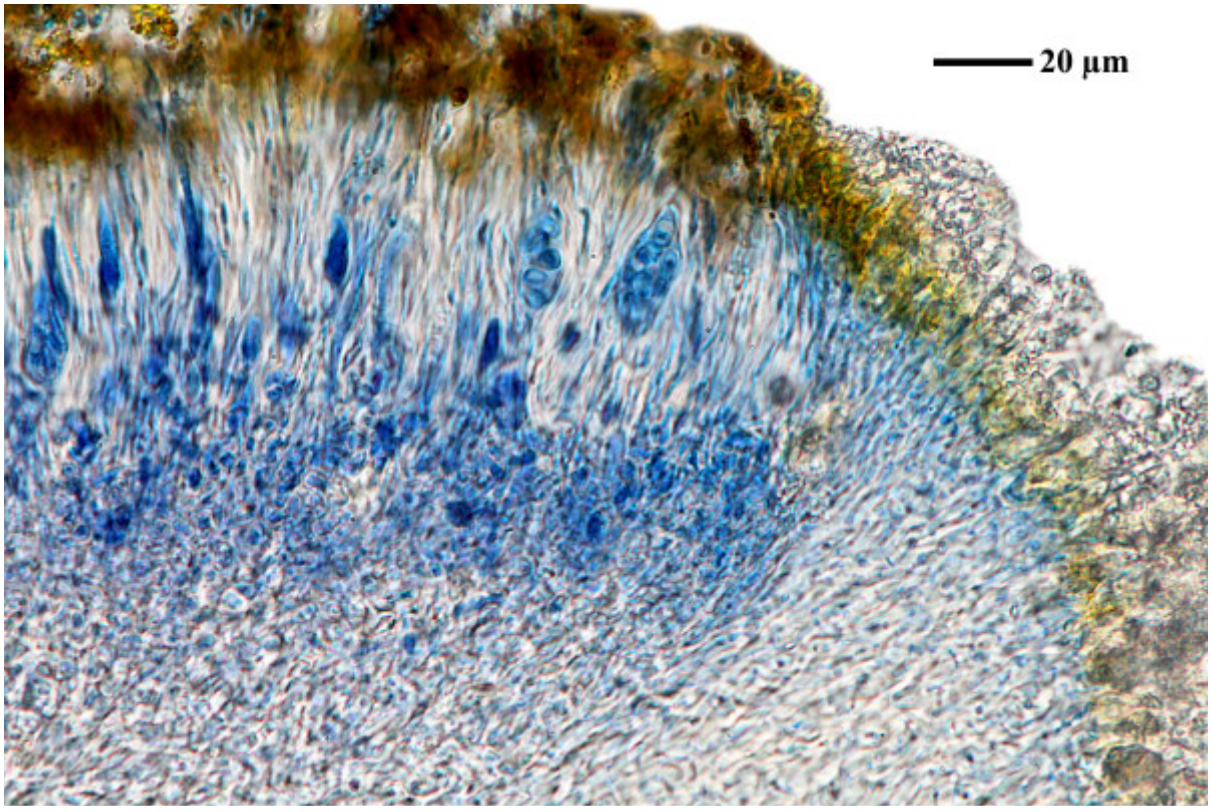


Caloplaca galactophylla

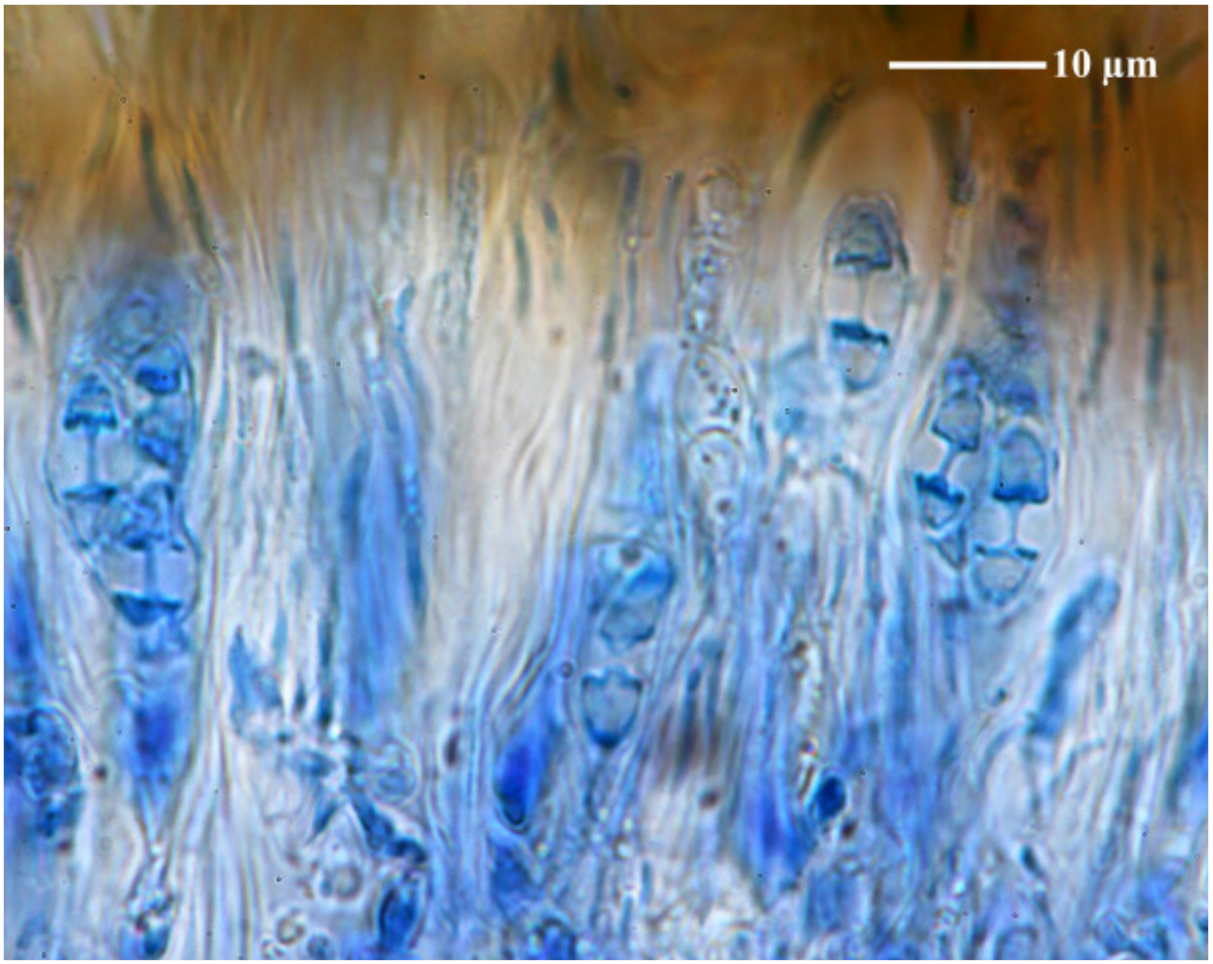


Caloplaca galactophylla

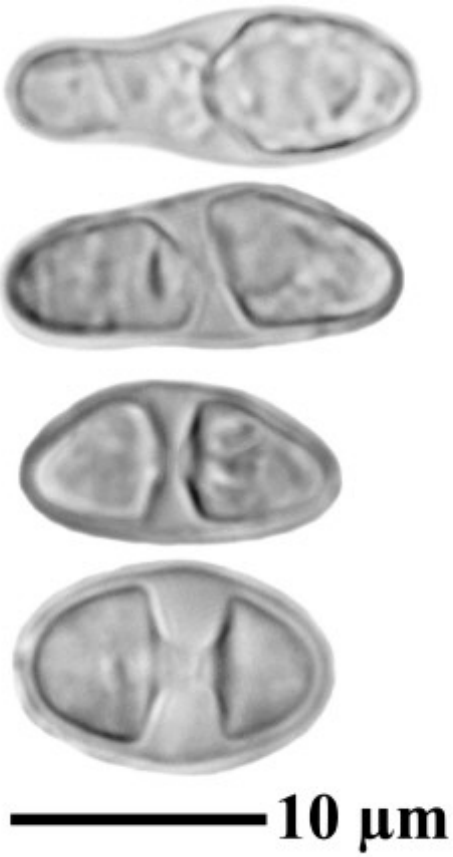




Caloplaca galactophylla







Caloplaca galactophylla

Caloplaca gallowayi S.Y. Kondr., Kärnefelt & Filson, in Kondratyuk, Kärnefelt, Elix & Thell, Biblthca Lichenol. 95: 358 (2007)

[= Sirenophila gallowayi (S.Y. Kondr., Kärnefelt & Filson) Søchting, Arup & Frödén , (as 'gallowayii'), Nordic Jl Bot. 31(1): 63 (2013)]

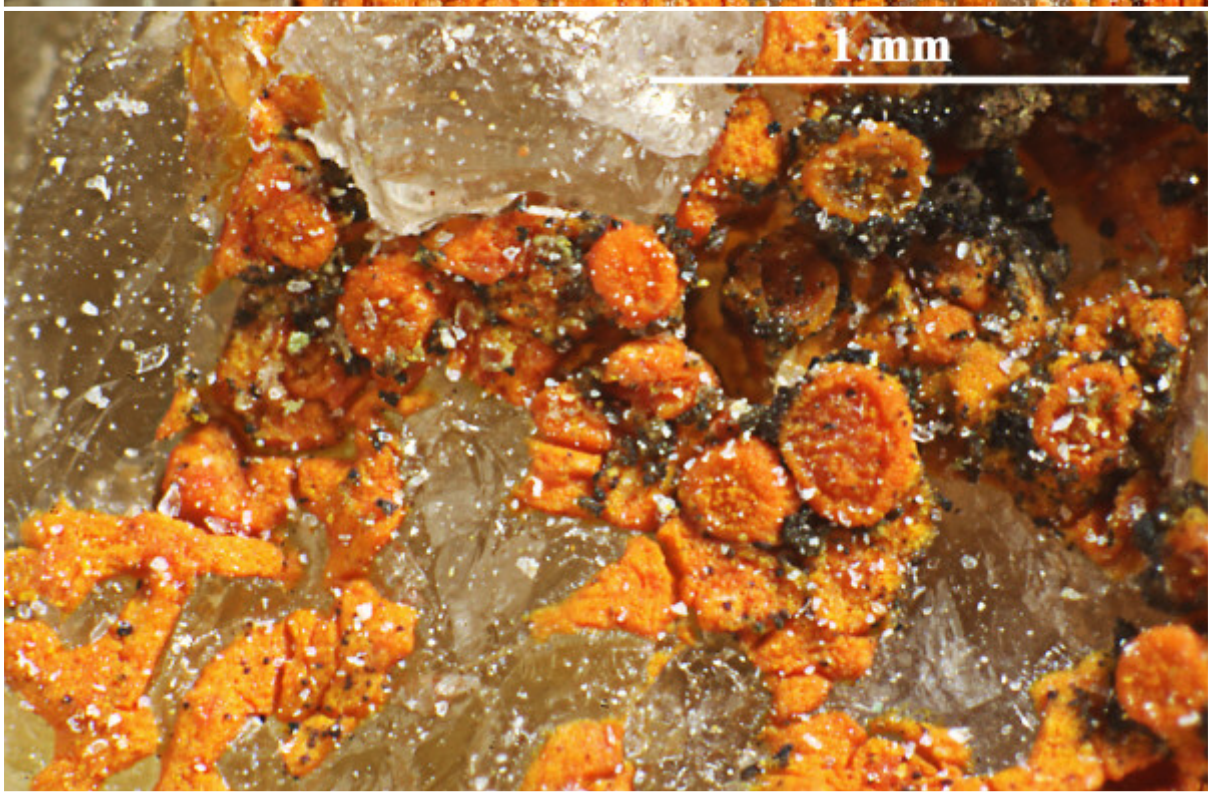
[= *Elixjohnia gallowayi* (S.Y. Kondr., Kärnefelt & Filson) S.Y. Kondr. & Hur, in Kondratyuk, Lőkös, Upreti, Nayaka, Mishra, Ravera, S; Jeong, Jang, Park & Hur, Acta bot. hung. 59(1-2): 120 (2017)]

Thallus saxicolous, orange red, without isidia and soralia.

[15906], Australia, Western Australia, Two Peoples Bay east of Albany, 34.96967° S, 118.17900° E, 6 m. F. Schumm & E. Stocker-Wörgötter, 27.10.2009, det. S. Kondratyuk 03.2016.







Caloplaca gallowayi



Caloplaca gallowayi

Caloplaca gallowayi S.Y. Kondr., Kärnefelt & Filson
[= *Sirenophila gallowayi* (S.Y. Kondr., Kärnefelt & Filson) Søchting, Arup & Frödén]

Thallus saxicolous, orange, with warty-granulous areolae in the centre and at the peripherie short plane lobate. Apothecia sessile, 0.3-0.5 mm, disc orange, margin concolourous, 0.06 mm. Ascospores hyaline, 15 x 8 µm, septum 4.5-5 µm. Chemistry (367/7): parietin. Lit. Kondratyuk et al (2009): Bibliotheca Lichenolog. 95: 381.

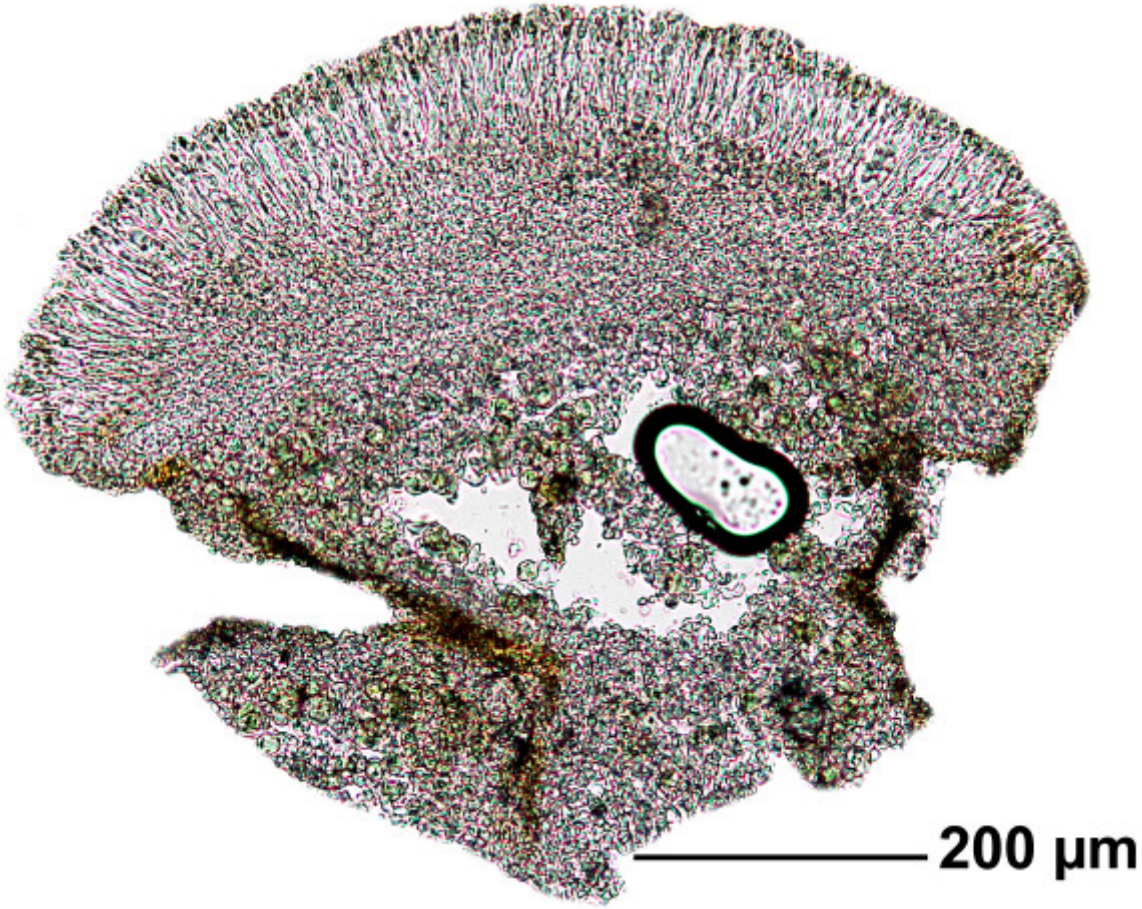
[16189], Australia, New South Wales, Mystery Bay south of Narooma, Pool Beach, 36.30516° S, 150.13614° E, 0 m. Leg. F. Schumm & E. Stocker-Wörgötter, 11.11.2009, det. S. Kondratyuk 03.2016.



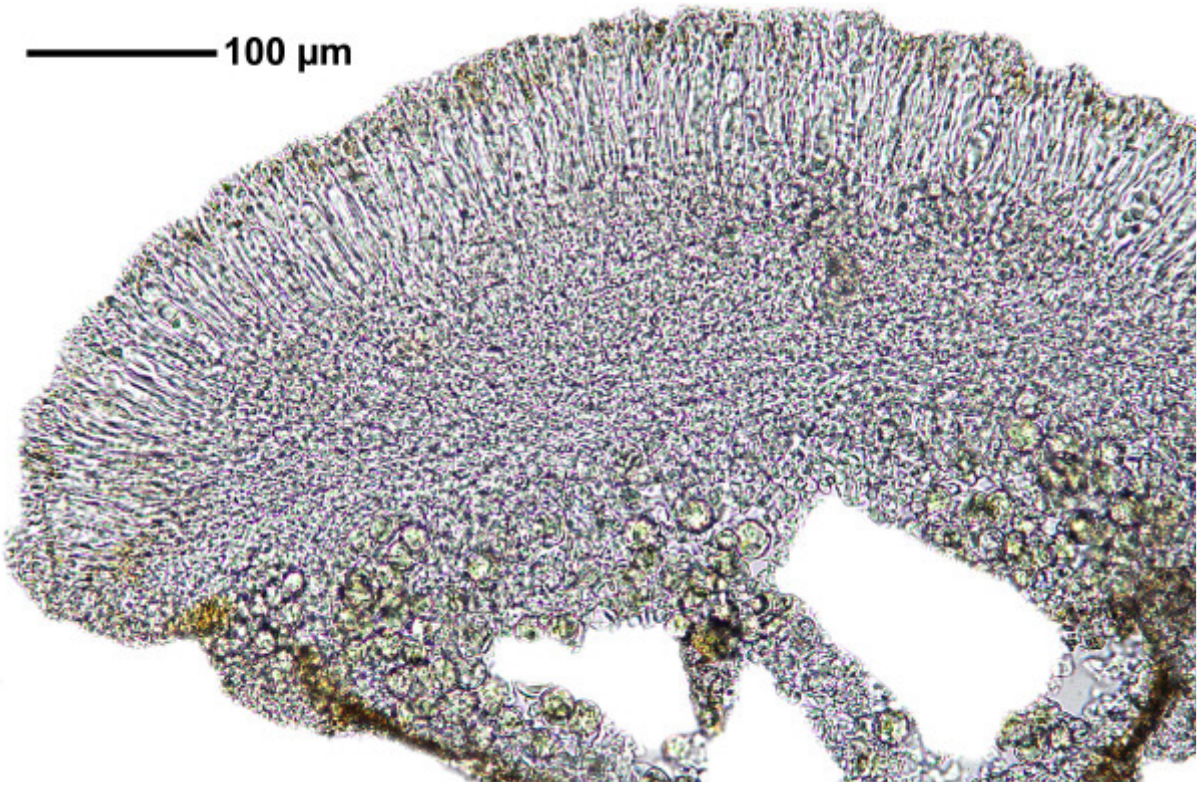


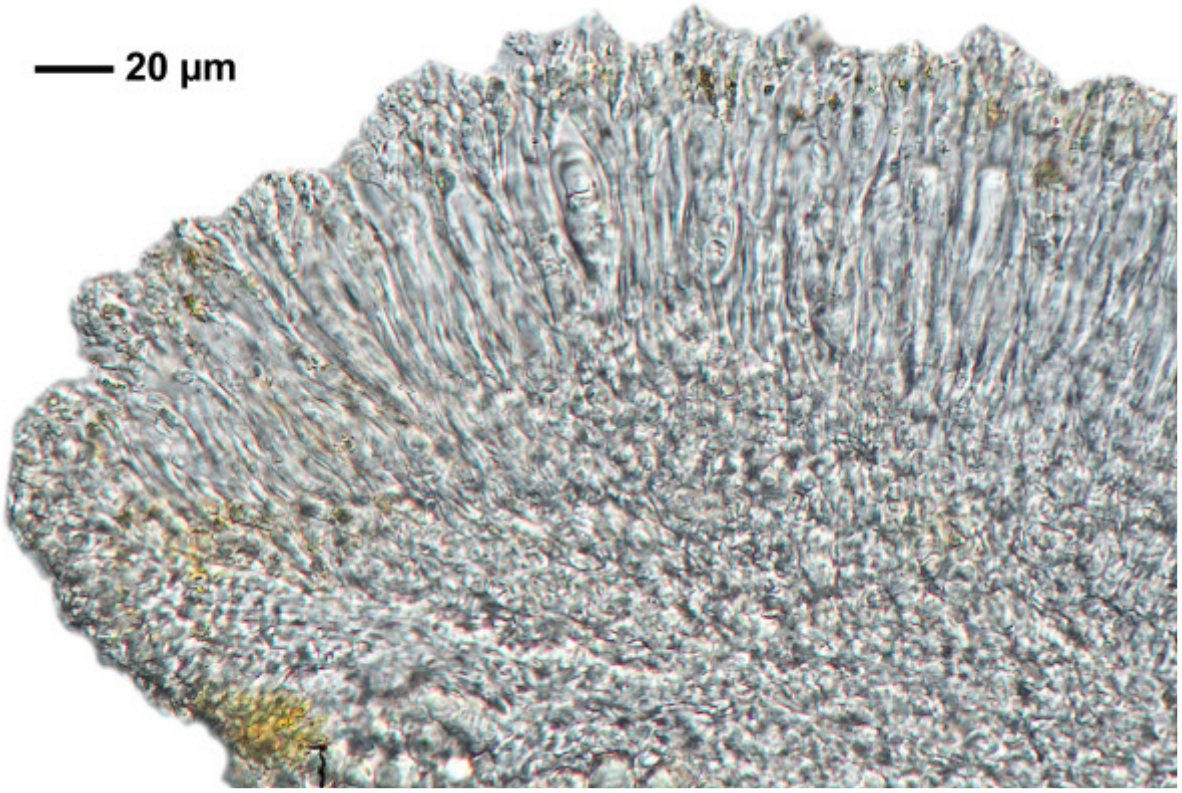
Caloplaca gallowayi



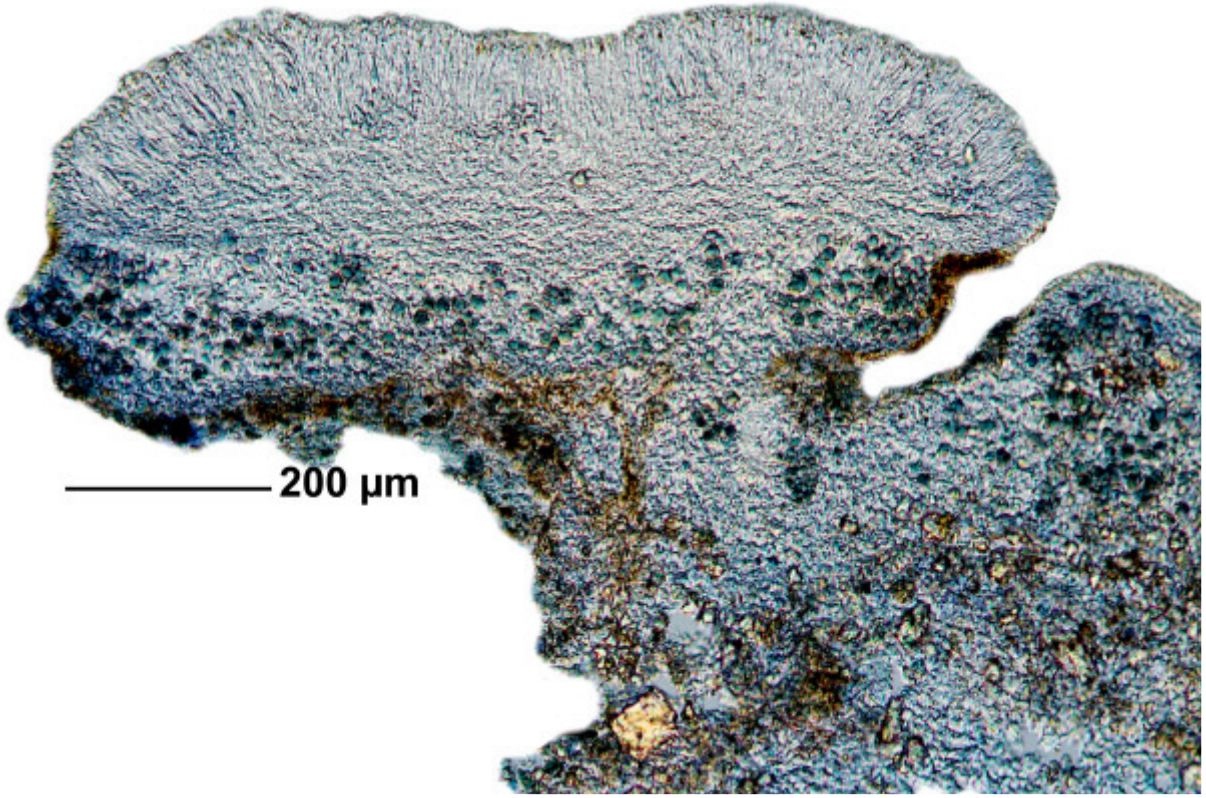


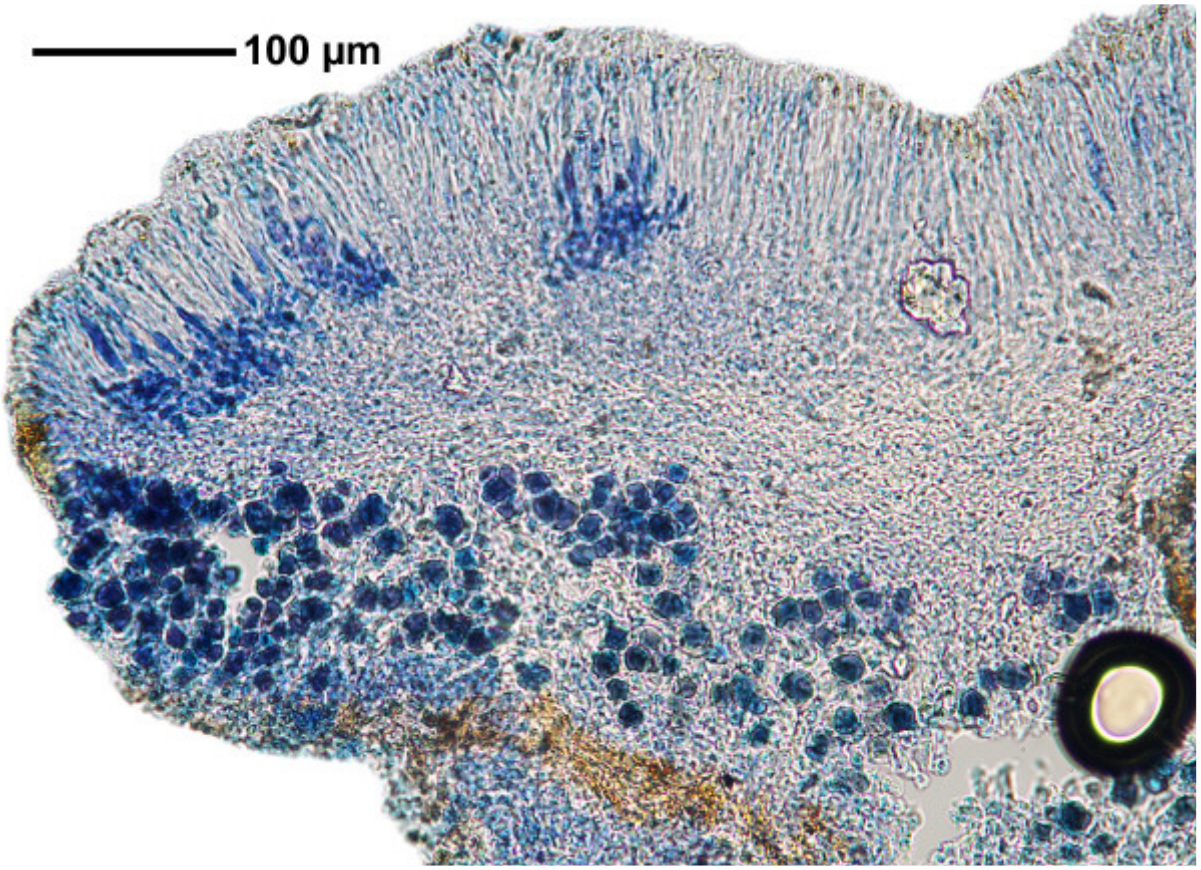
Caloplaca gallowayi



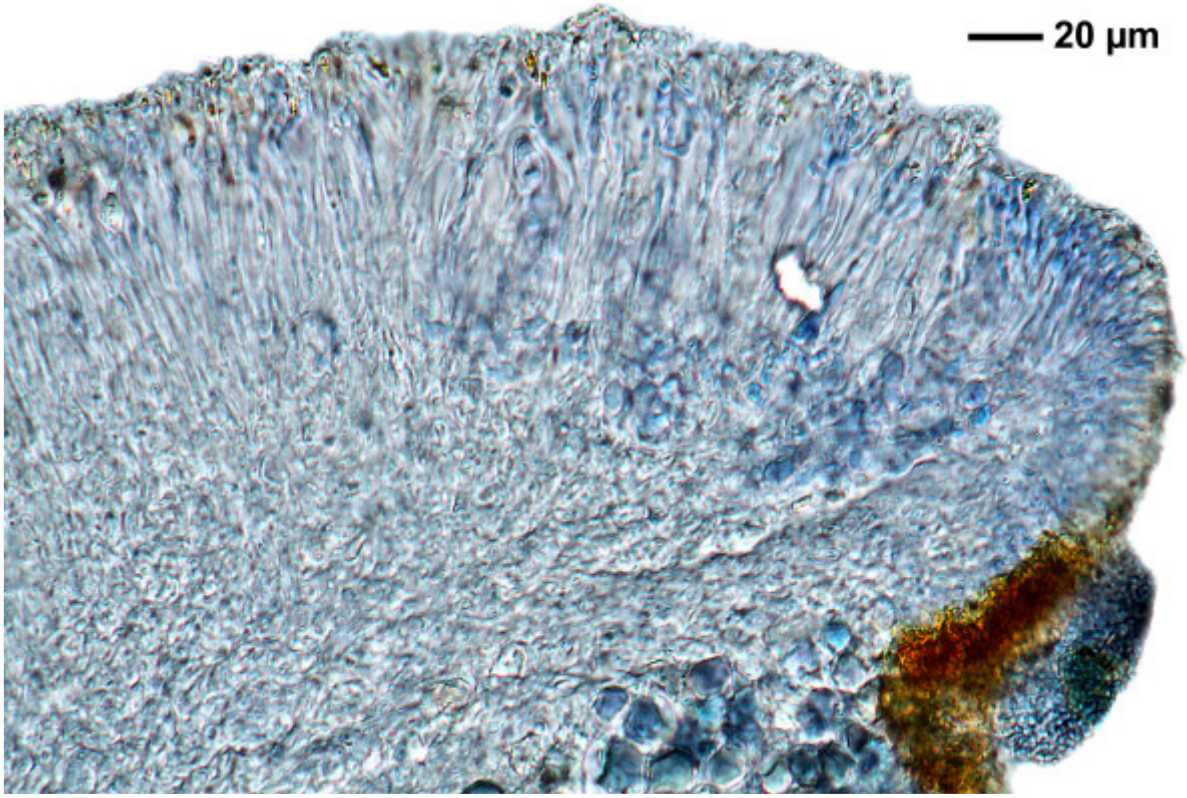


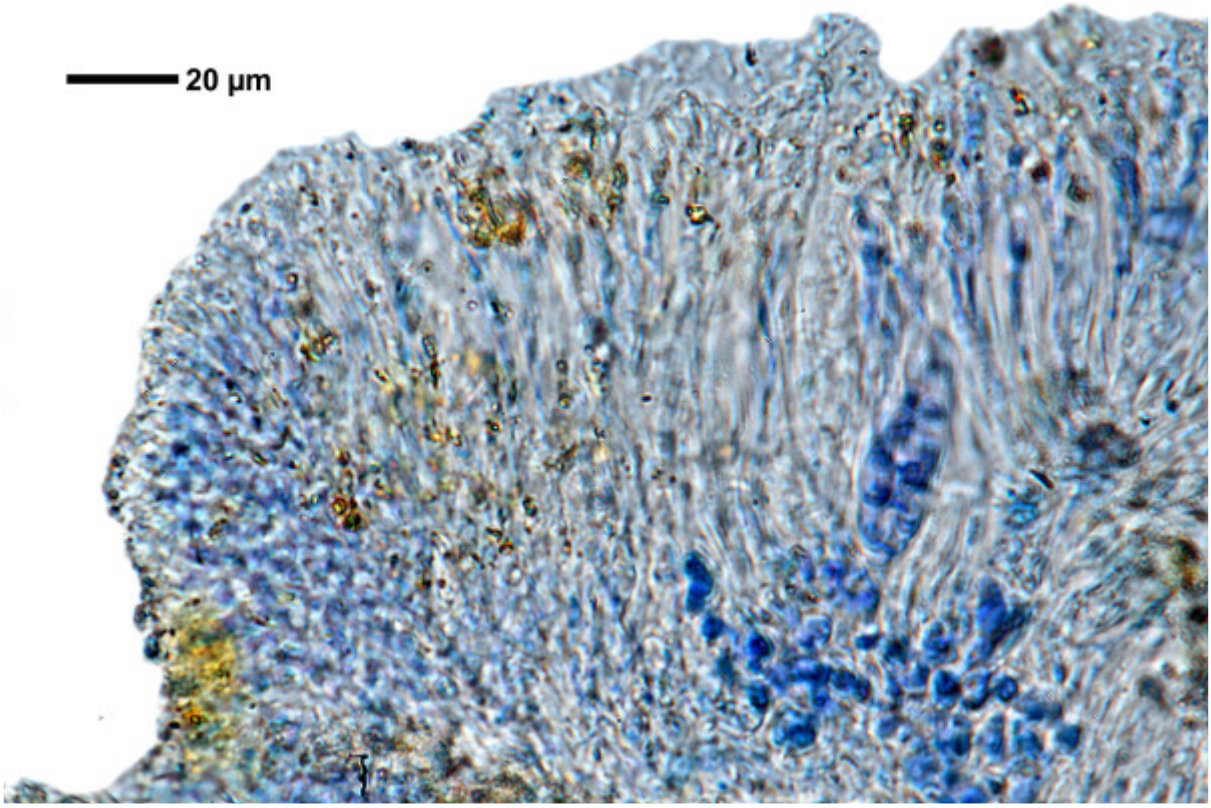
Caloplaca gallowayi



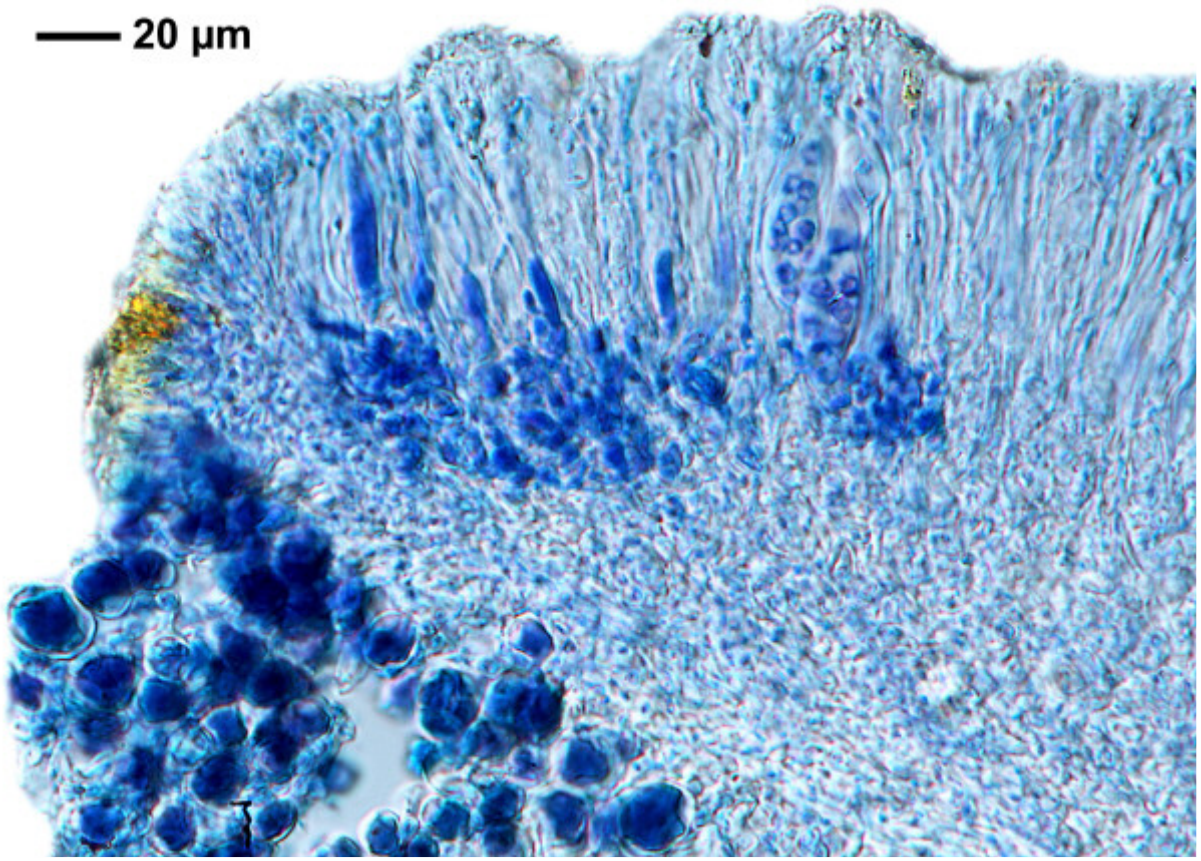


Caloplaca gallowayi

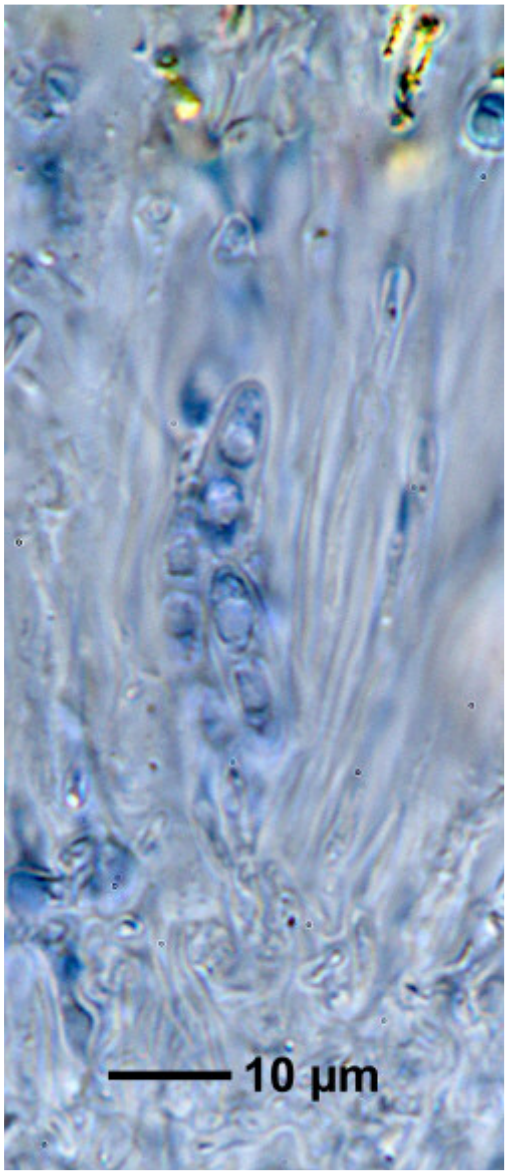




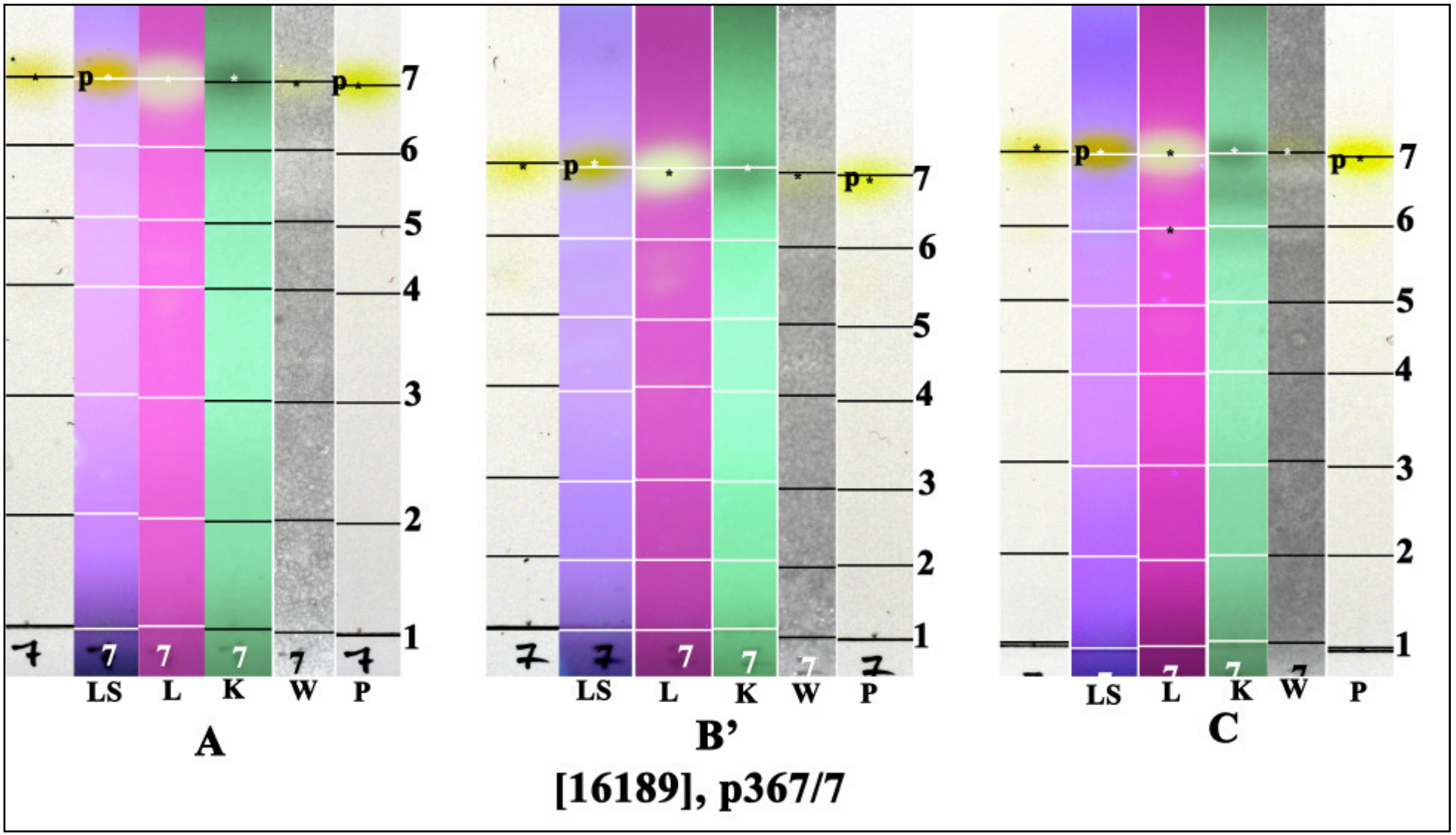
Caloplaca gallowayi







Caloplaca gallowayi



p: parietin

Caloplaca gallowayi S.Y. Kondr., Kärnefelt & Filson
[= ***Sirenophila gallowayi*** (S.Y. Kondr., Kärnefelt & Filson) Søchting, Arup & Frödén, as 'gallowayii']

Thallus saxicolous, orange, rimose-areolate (areoles c. 0.2 mm), partly squamulose to indistinct lobate. Apothecia first immerse then sessile, 0.3 mm diam., disc orange, zeorine, margin orange like the thallus, 0.08 mm. Ascospores hyaline, 15-17 x 6.5-8 µm, septum 6-7 µm. Chemistry (p367/9): parietin.

[16193], Australia, New South Wales, Mystery Bay south of Narooma, Pool Beach, 36.30516° S, 150.13614° E, 0 m. Leg. F. Schumm & E. Stocker-Wörgötter, 11.11.2009, det. F. Schumm, conf. S. Kondratyuk 03.2016.

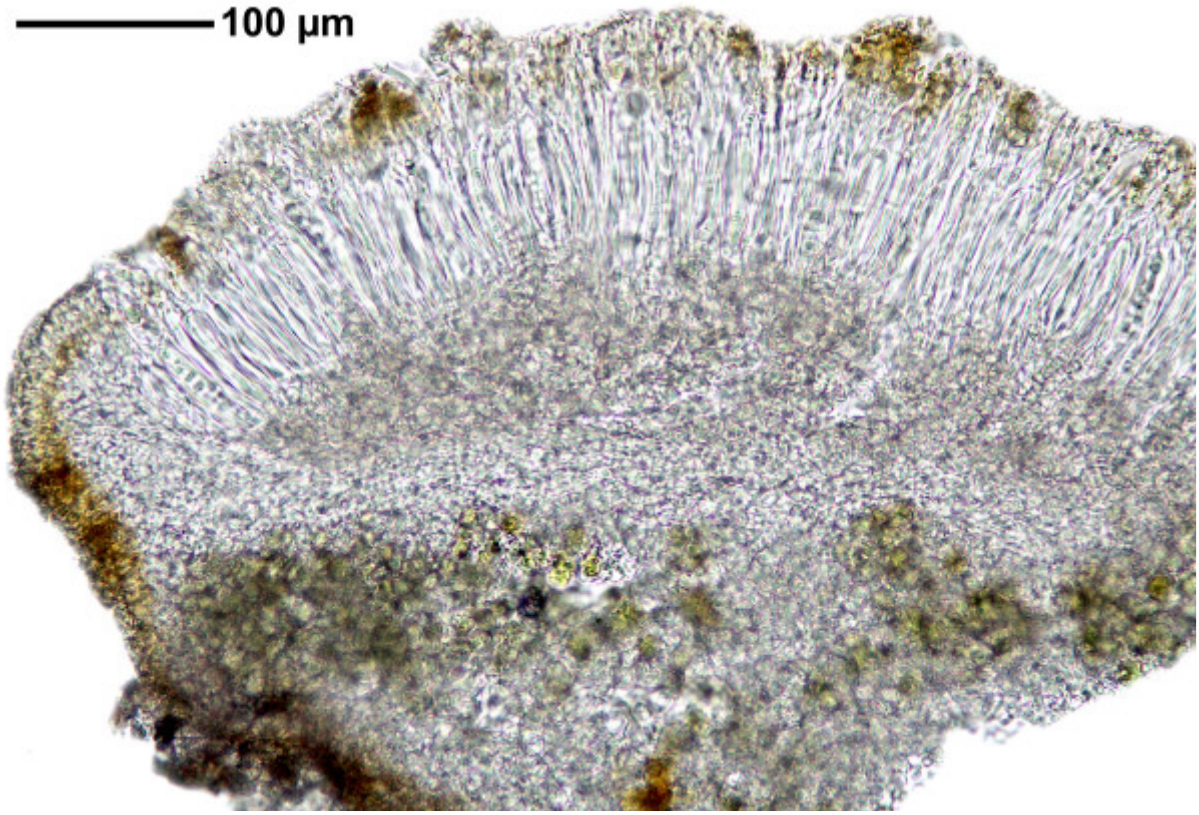




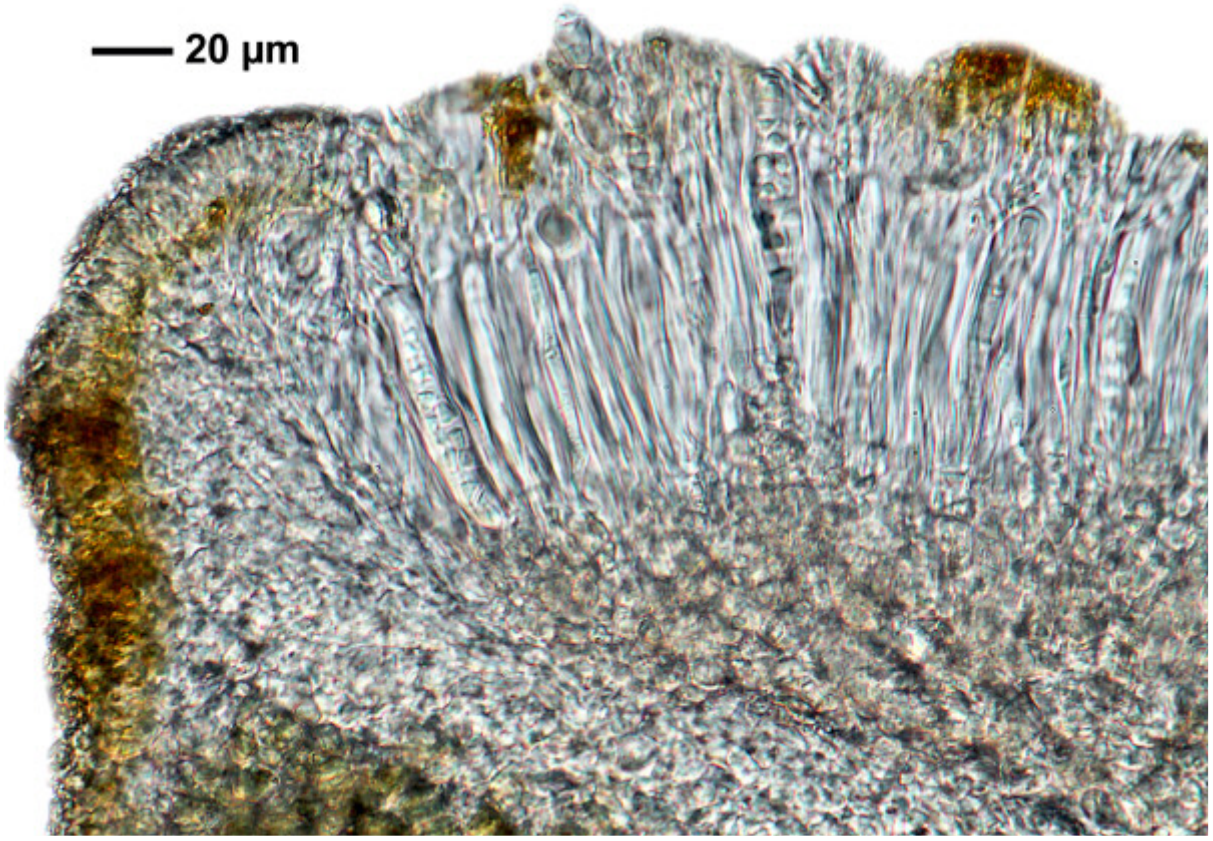


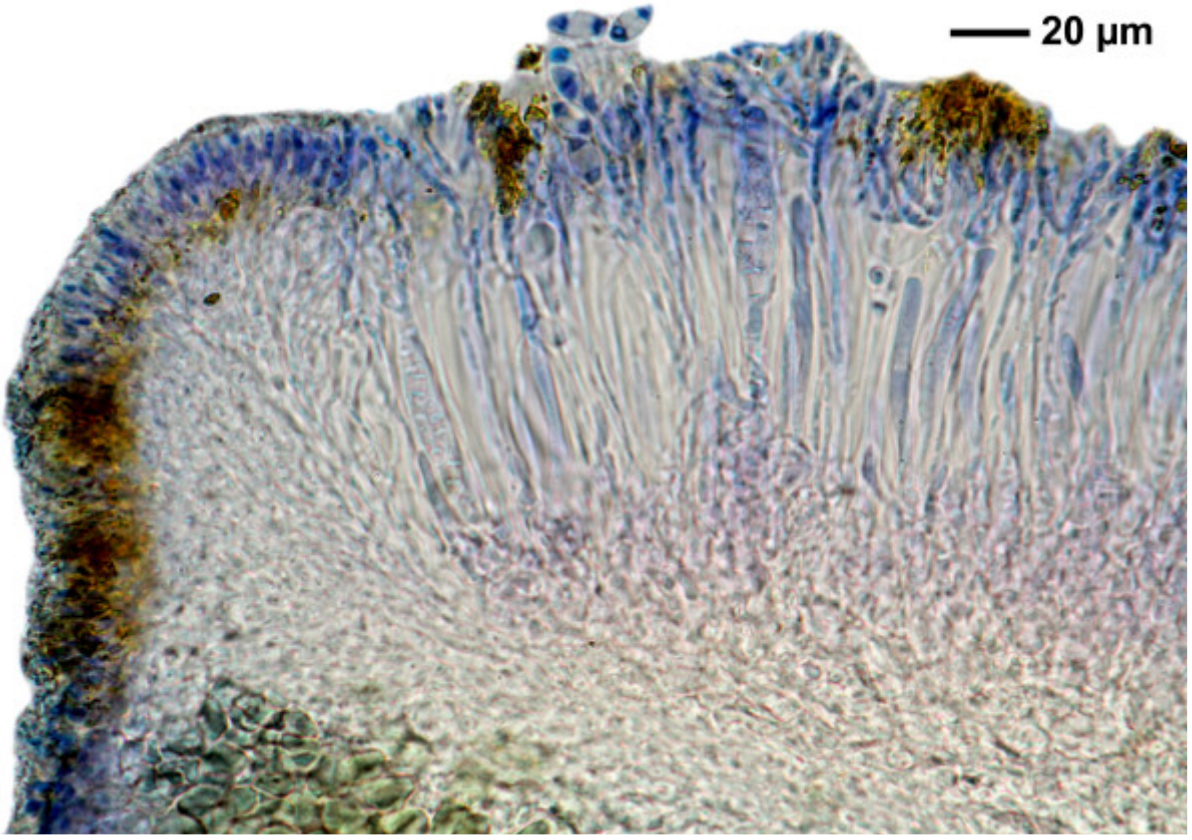
Caloplaca gallowayi



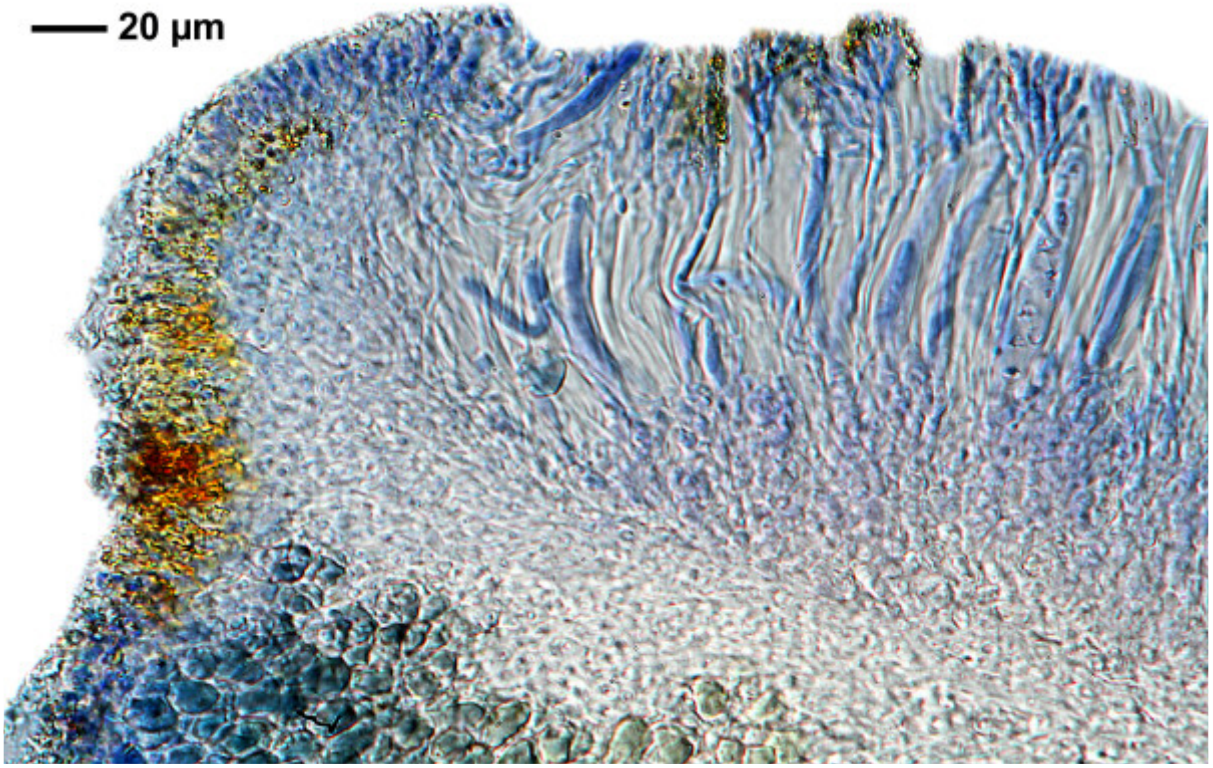


Caloplaca gallowayi

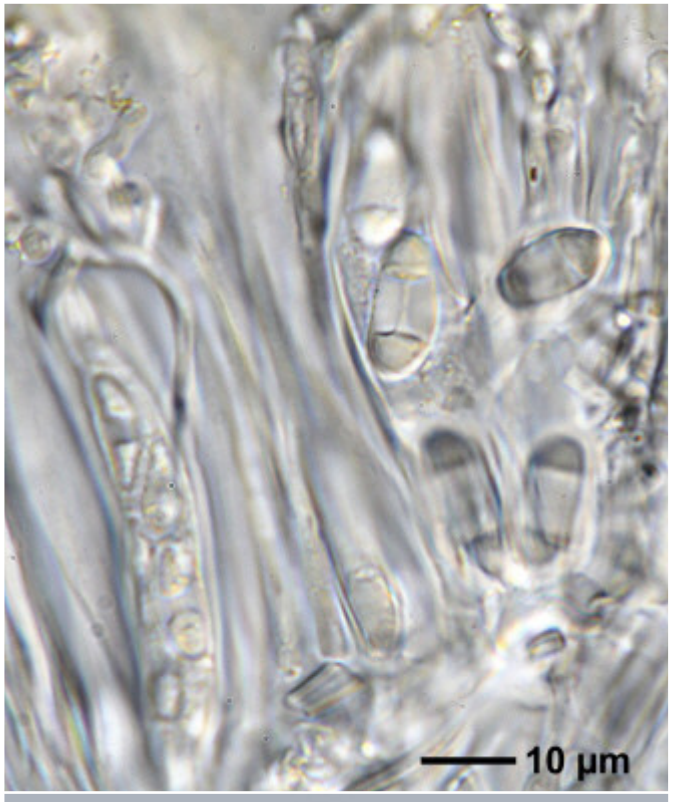


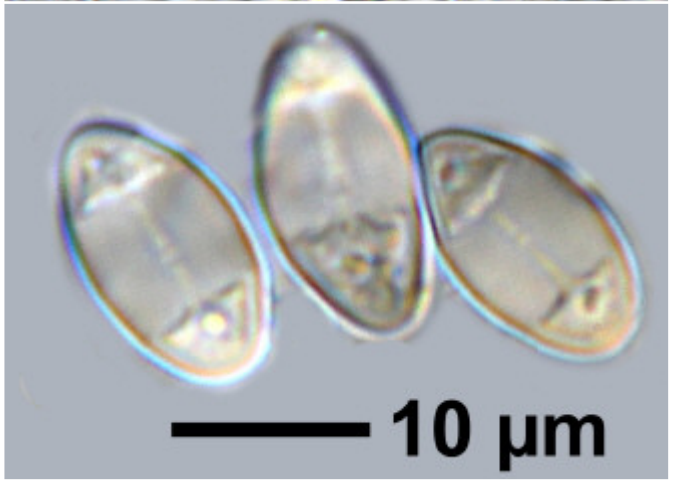


Caloplaca gallowayi

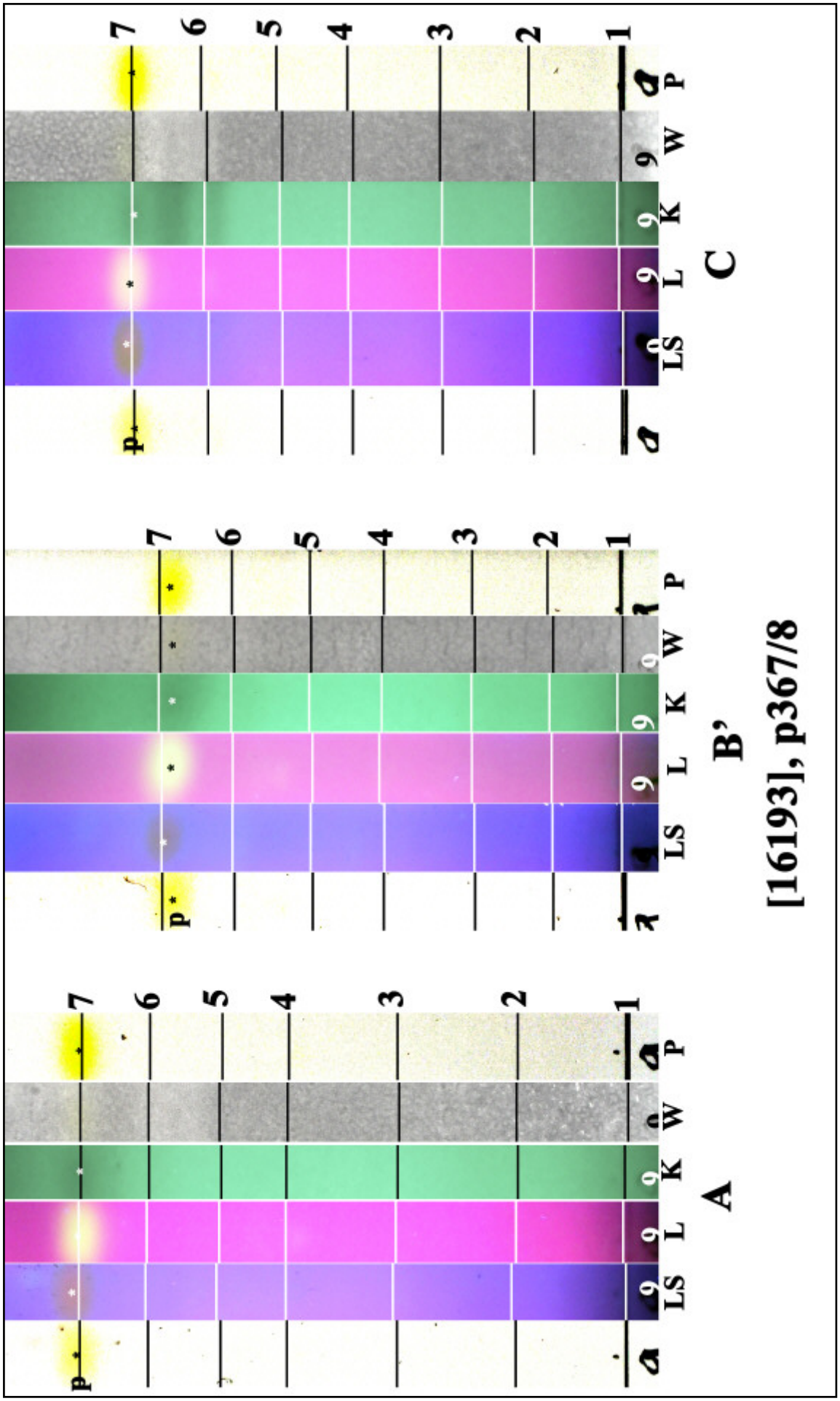








Caloplaca gallowayi



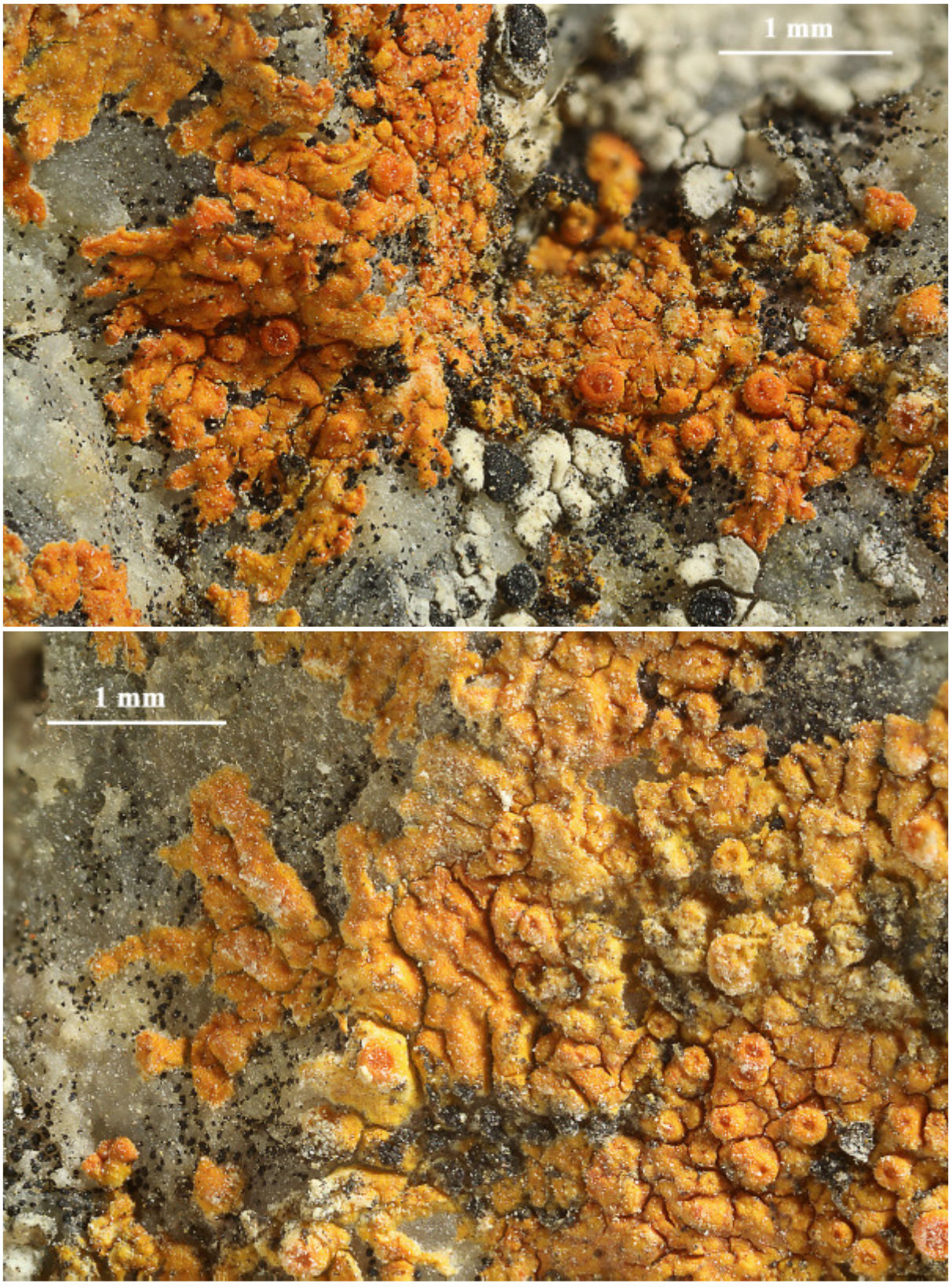
Caloplaca gallowayi

Caloplaca gallowayi S.Y. Kondr., Kärnefelt & Filson
[= *Sirenophila gallowayi* (S.Y. Kondr., Kärnefelt & Filson) Søchting, Arup & Frödén

Thallus saxicolous, yellow, fine lobate, isidia and soredia lacking

[16216], Australia, New South Wales, south of Narooma, Bega Valley, Camel Rock, 36.37820° S, 150.07706° E, 0 m. Leg. F. Schumm & E. Stocker-Wörgötter, 11.11.2009, det. S. Kondratyuk 03.2016.





Caloplaca gallowayi



Caloplaca gallowayi

Caloplaca gallowayi S.Y. Kondr., Kärnefelt & Filson, in Kondratyuk, Kärnefelt, Elix & Thell, Biblthca Lichenol. 95: 358 (2007)

[= *Sirenophila gallowayi* (S.Y. Kondr., Kärnefelt & Filson) Søchting, Arup & Frödén, (as 'gallowayii'), Nordic Jl Bot. 31(1): 63 (2013)]

[= *Elixjohnia gallowayi* (S.Y. Kondr., Kärnefelt & Filson) S.Y. Kondr. & Hur, in Kondratyuk, Lőkös, Upreti, Nayaka, Mishra, Ravera, S; Jeong, Jang, Park & Hur, Acta bot. hung. 59(1-2): 120 (2017)]

Thallus bright red to reddish orange, margins not or indisticty lobate. Apothecia 0.2-0.4 mm diam, elevated to sessile; disc dark orange-red, initially somewhat zeorine then biatorine. Ascospore 8/ascus, (9-)10-13(-14) x 5-6(-6.5) µm, septum(3-)5-6 µm. Common on coastal rocks. Lit.: Kondratyuk, Kärnefelt, Elix & Thell, Biblitheca Lichenol. 95: 358 (2007)

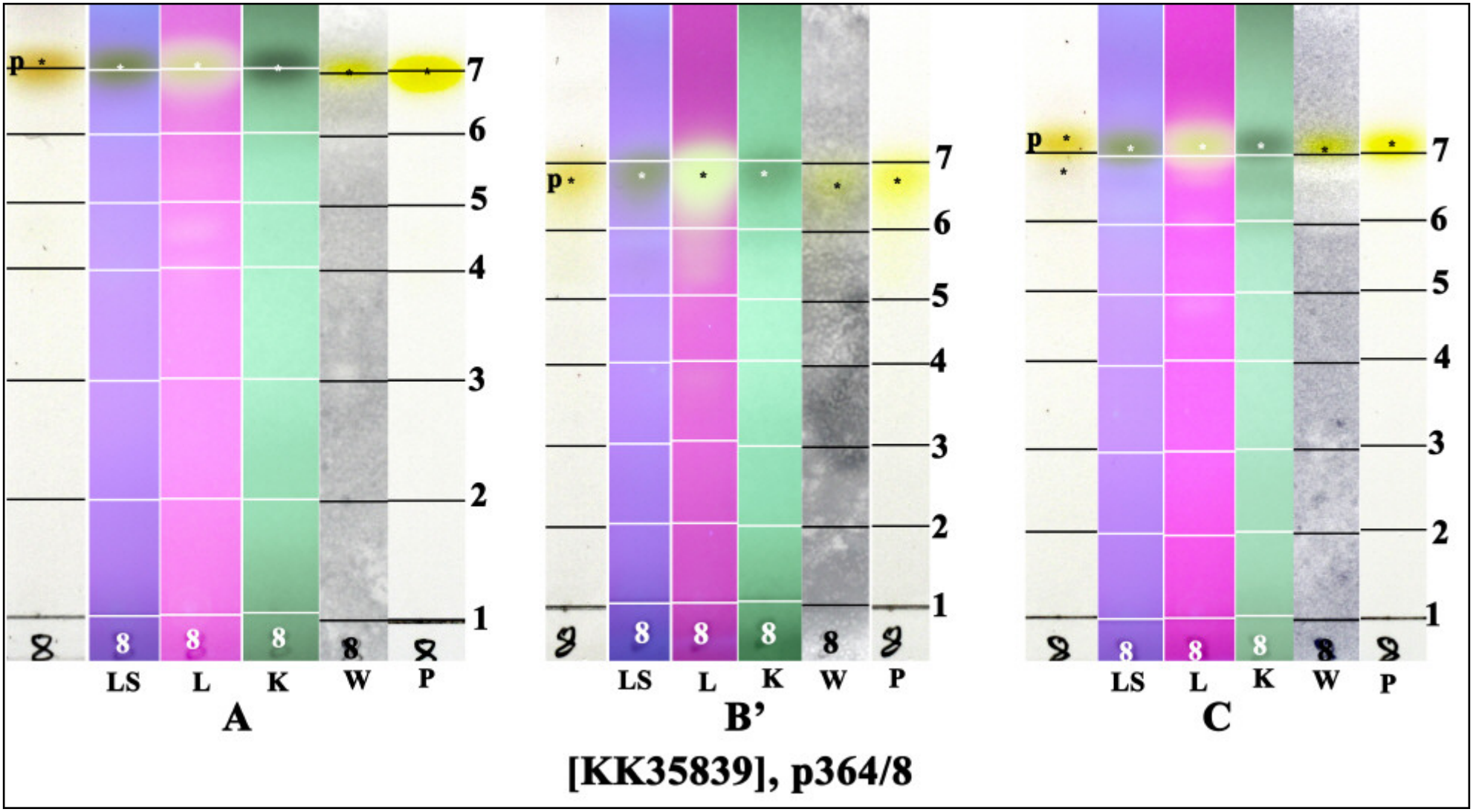
[35839], Australia, Western Australia, Canal Rock near Yallingup, along Cave Road, 10 m, 33°40’ S, 114°58’ E. Leg. K. Kalb, 10.08.1994, det. S. Kondratyuk, 2008.







Caloplaca gallowayi

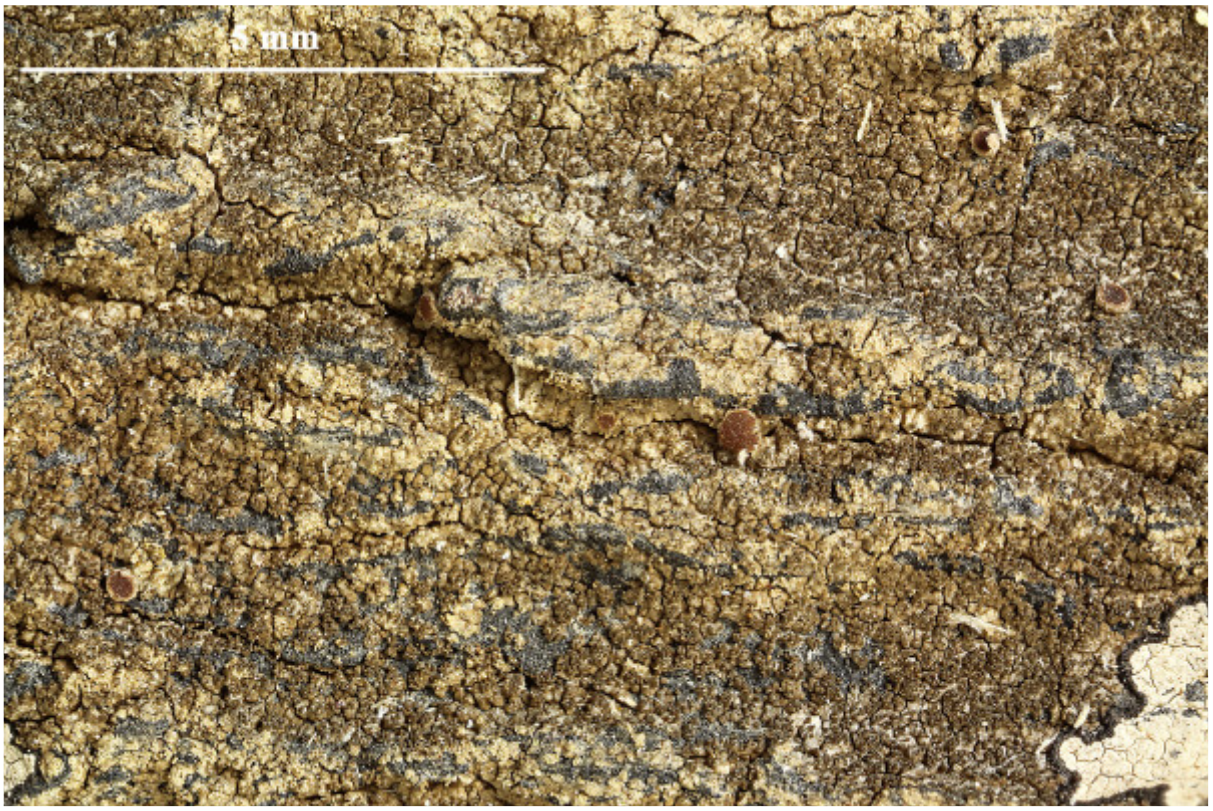


p: parietin; conf. J.A. Elix

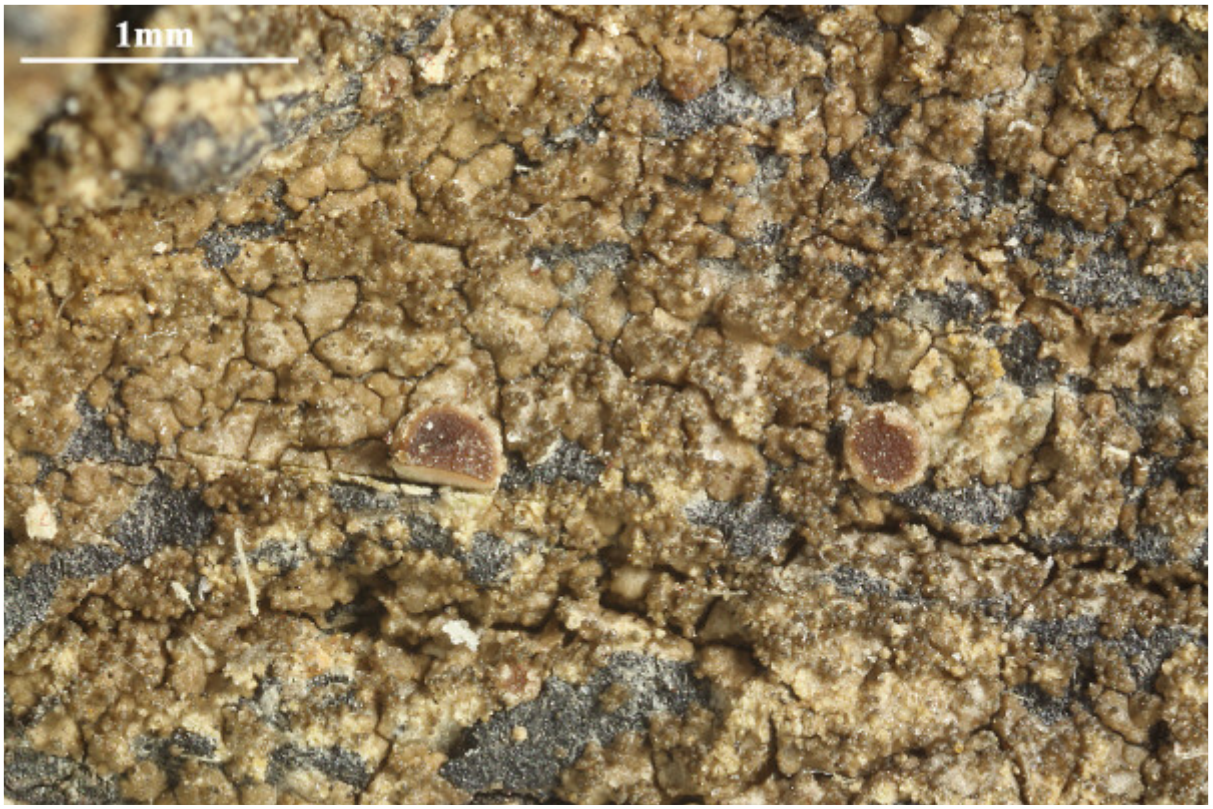
Caloplaca gambiensis Aptroot

Spores 12-14 x 6-7 µm. (AA)

[BR5030019362597], Gambia, Tendaba, 13°27’ N, 15°49’ W. Leg. M. Vervoort, Dcember 2000, det A. Aptroot, 2001. **HOLOTYPUS**.

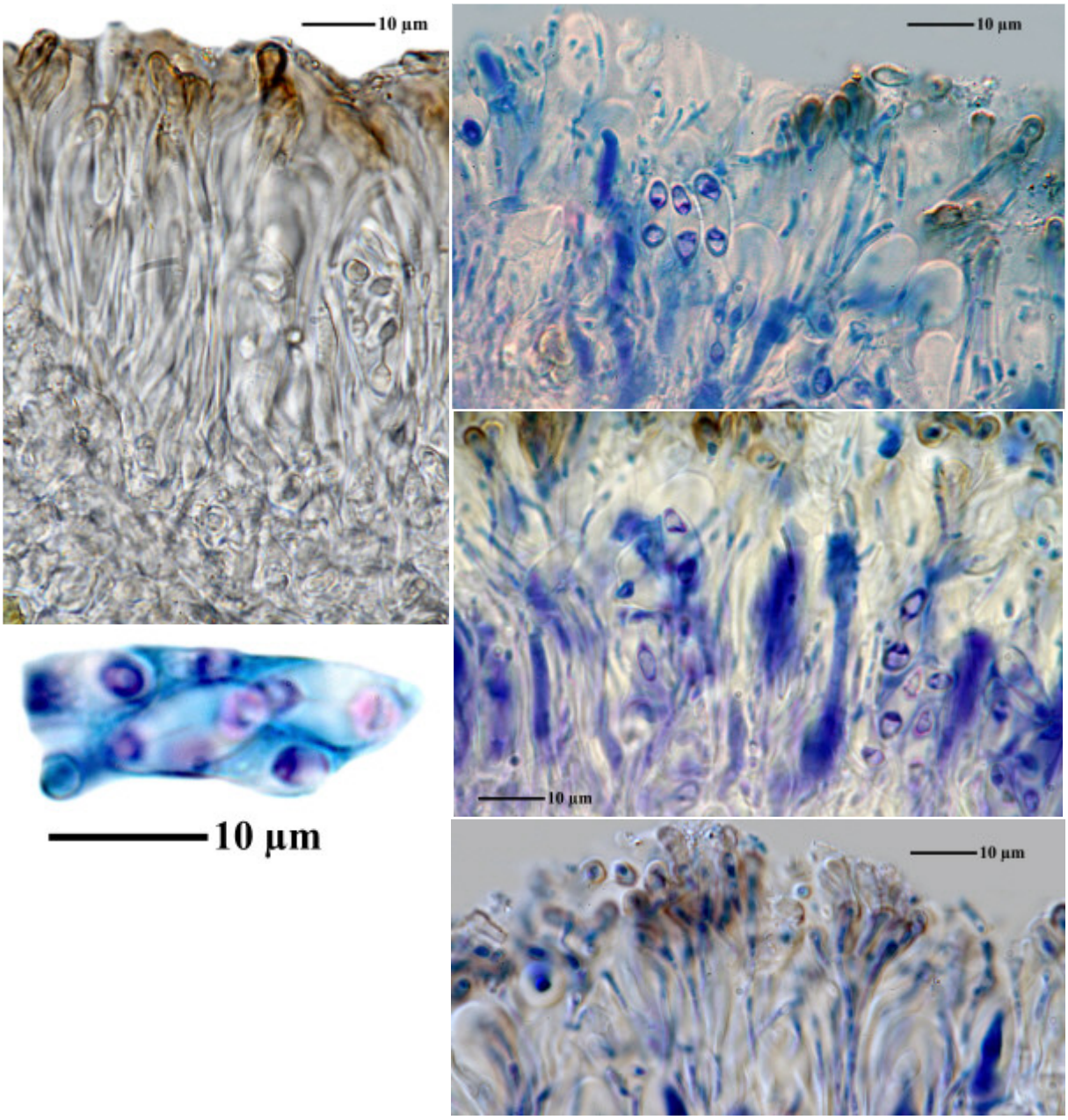








Caloplaca gambiensis





Caloplaca gambiensis

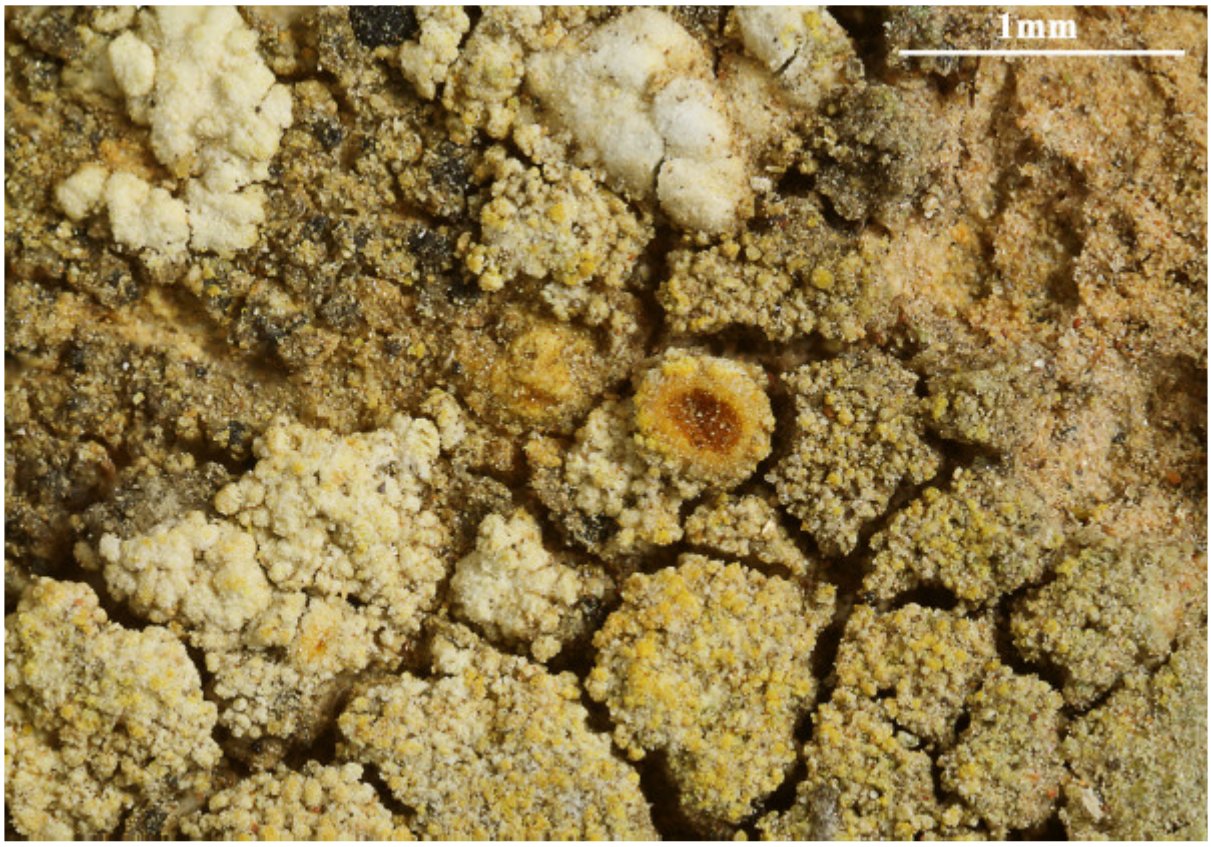
Caloplaca geleverjae Khodos. & S.Y. Kondr.
[= *Flavoplaca geleverjae* (Khodos. & S.Y. Kondr.) Arup, Frödén & Søchting]

Spores 10.3-12 x 6.5-8 µm, septum 2.5-7 µm (FS).

[B 60 0154489], Greece, South Aegean, Dodecanese, Karpathos island, Mt. Hagios Elias S of Olimbos, E-slope, rocky slope with phrygana vegetation, on sandstone rock outcrops. 35°43.8' N, 27°10.8' E, 500 m. Leg. H. Sipman (56232) & Th. Raus, T., 25. September 2007, det. H. Sipman, 2014.



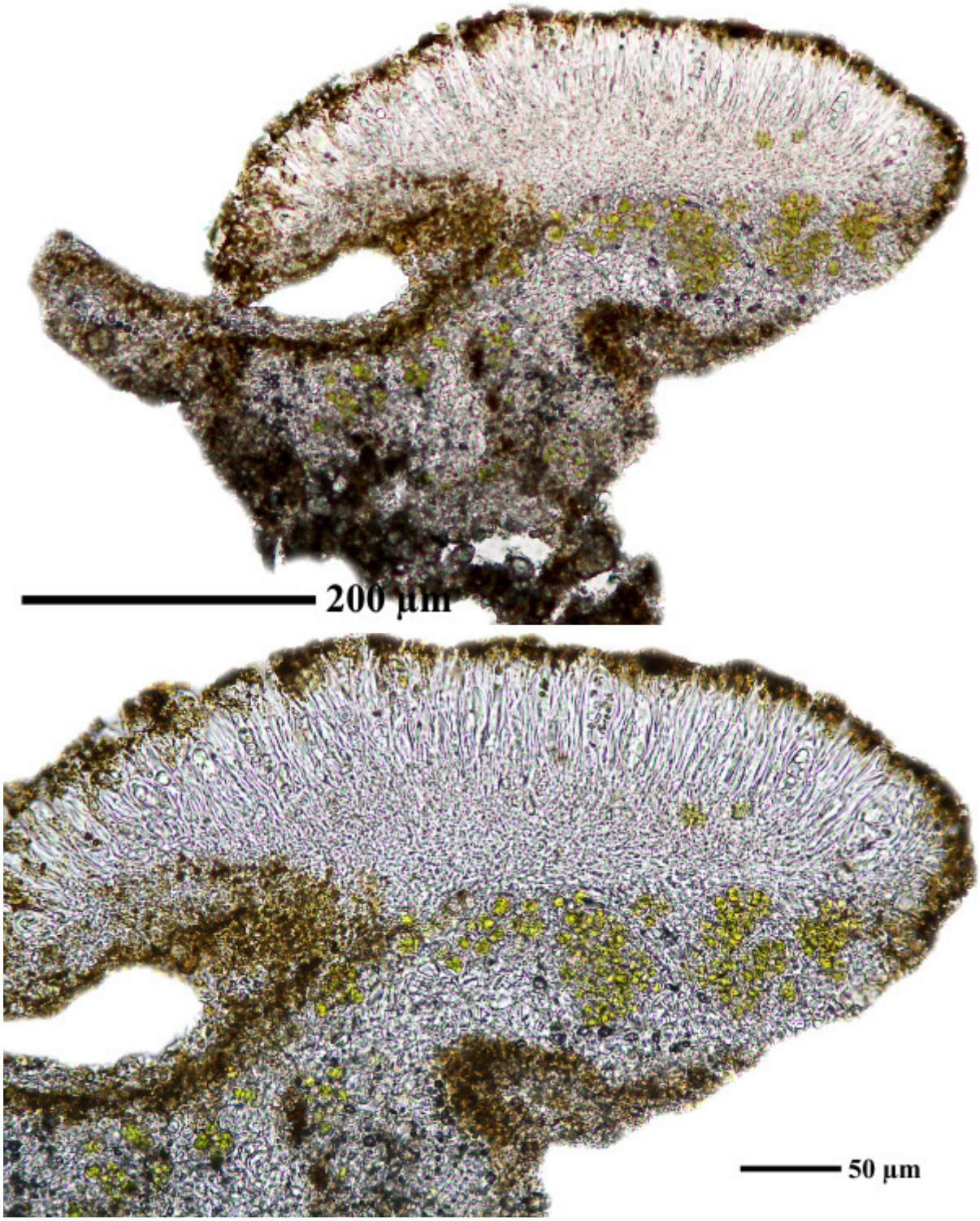




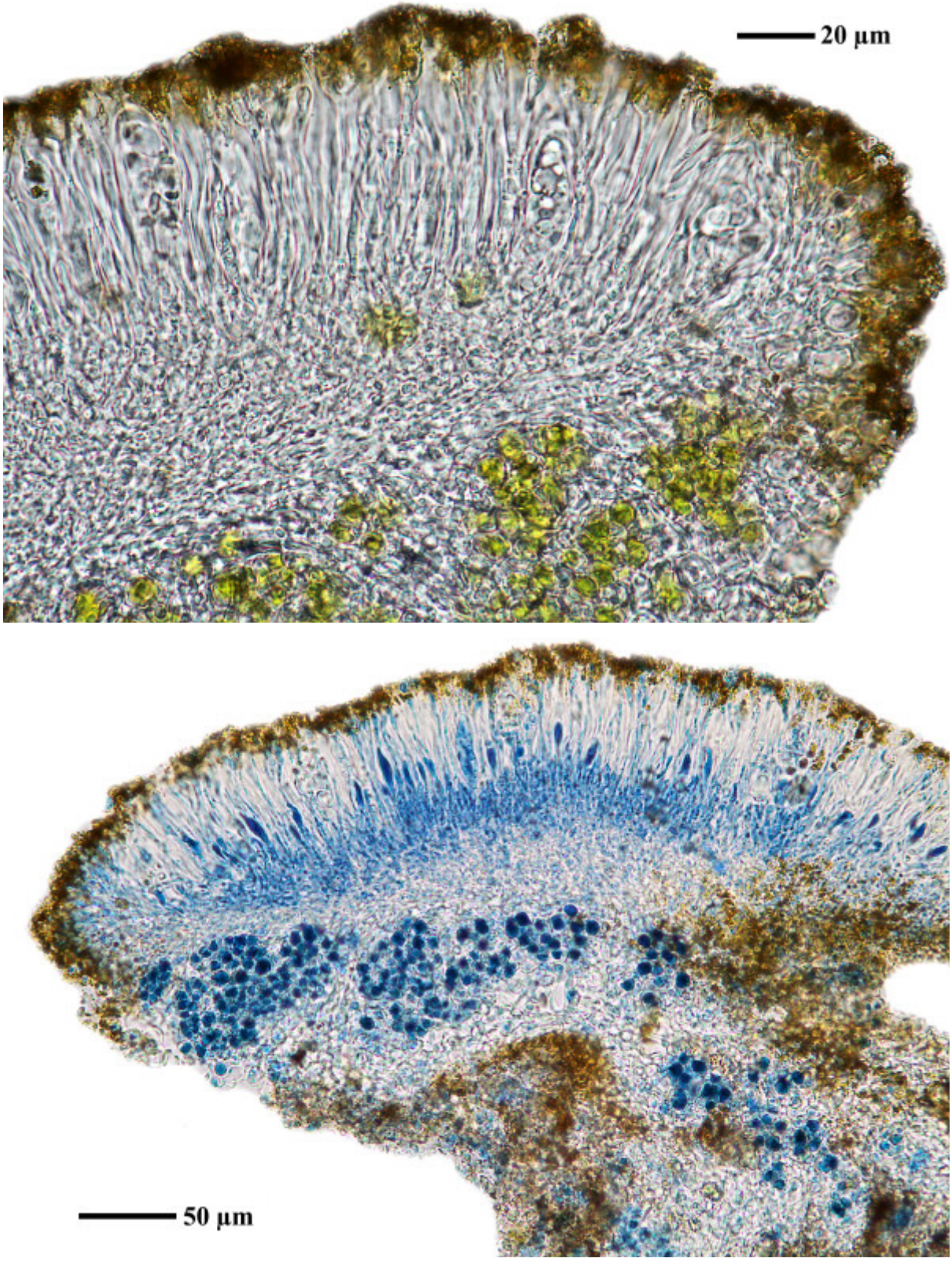
Caloplaca geleverjae



Caloplaca geleverjae



Caloplaca geleverjae



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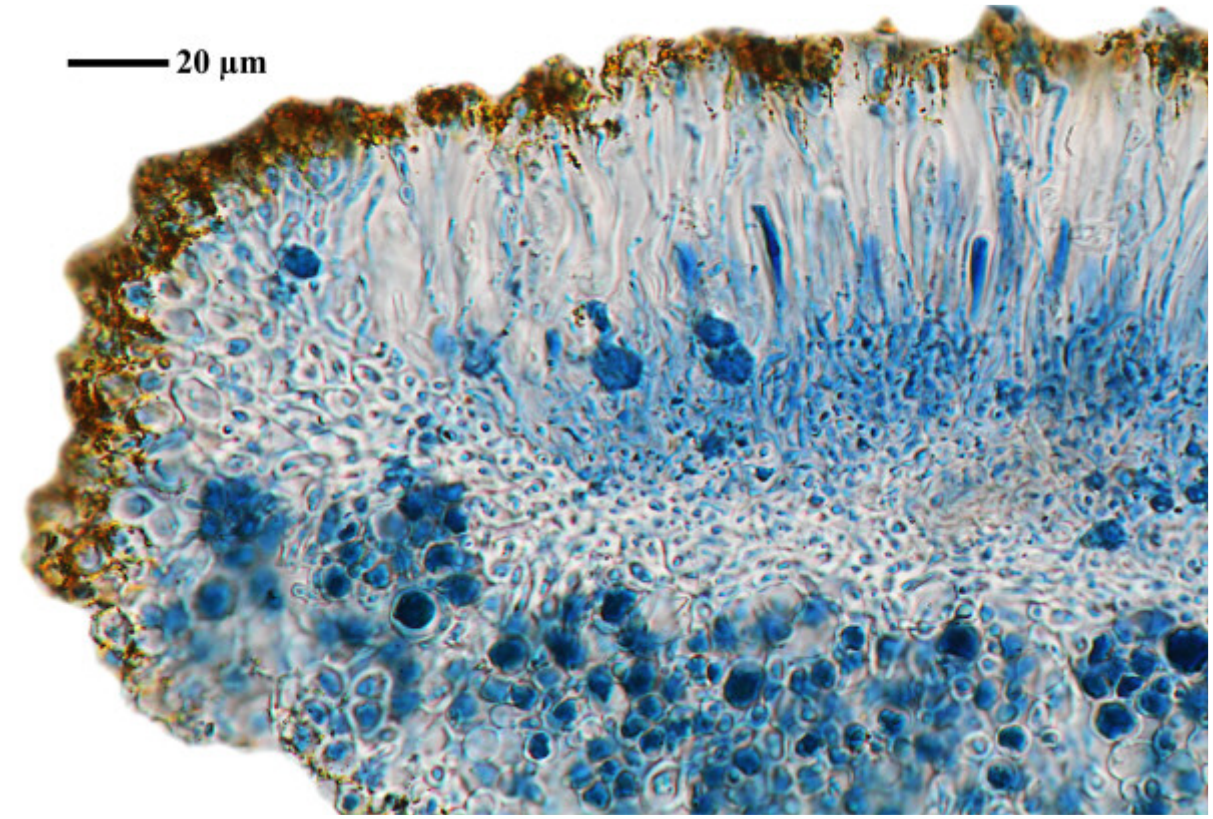
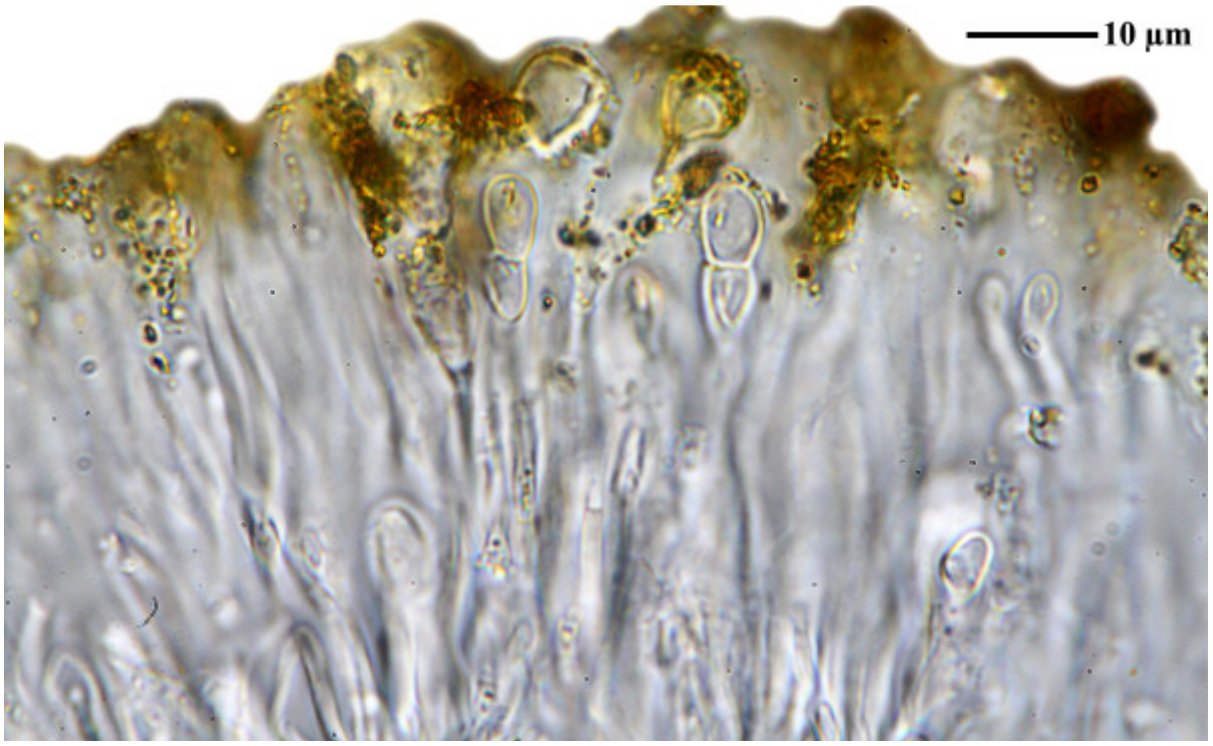
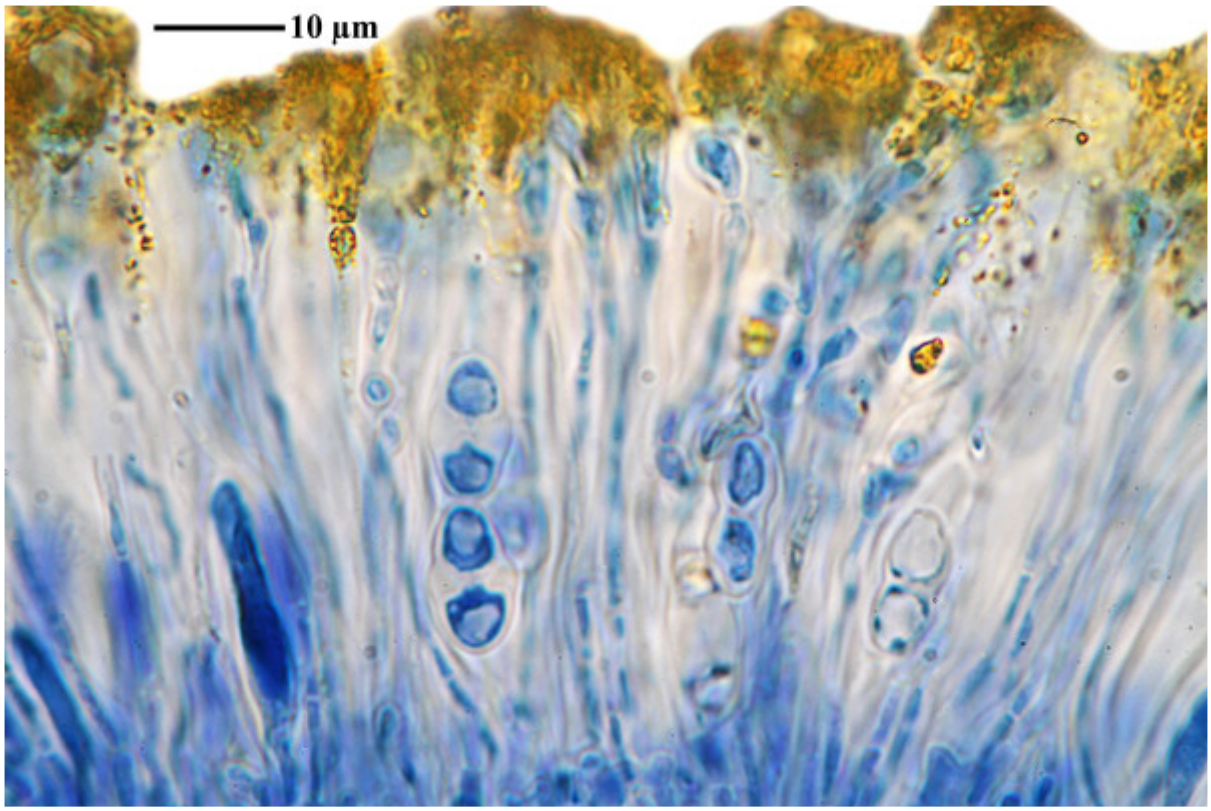
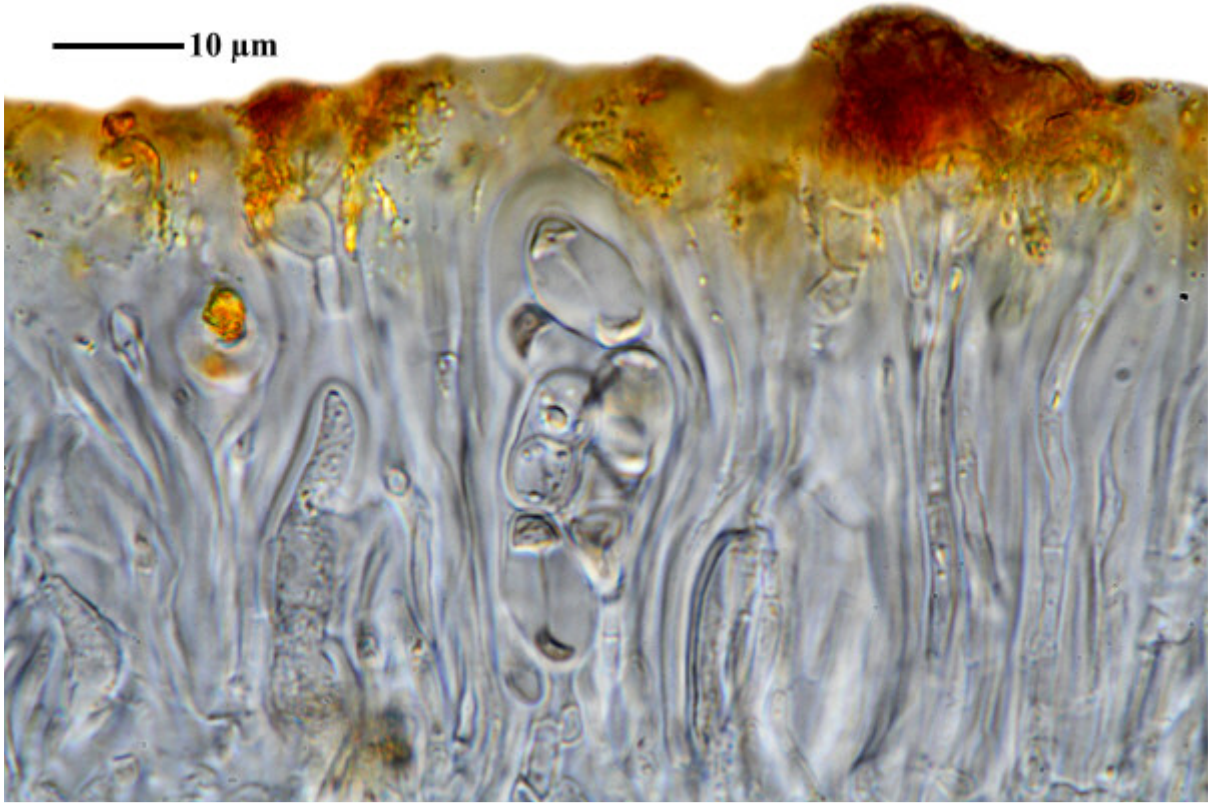


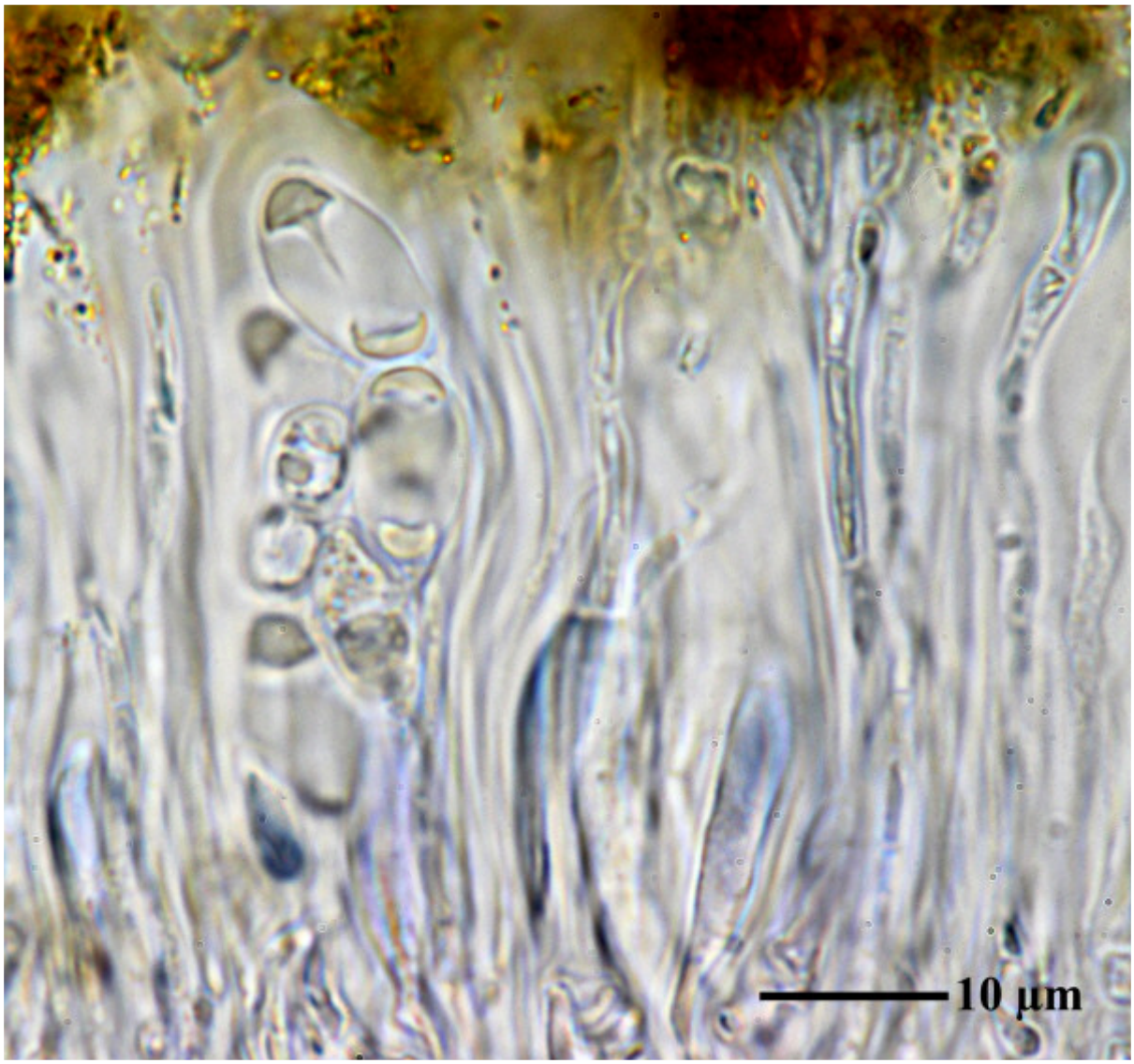


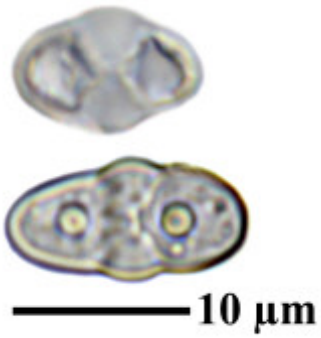
Caloplaca geleverjae





Caloplaca geleverjae







Caloplaca geleverjae

Caloplaca geophila Räsänen

On hard soil between calcareous rocks.
Sporen hyalin, 8/Ascus, 18.7 x 8.5 µm. Epirthecium braun 16 µm, Hymenium hell,88 µm, Hypothecoium hell.Algen unter dem Hypothecium durchgehend. Paraphysen an den Enden 5 µm, stark zusammengebacken.

[2123], Tunesien, Cheninin, lückige Wüstenvegetation, auf Erdritzen zwischen Kalkblöcken, ca. 460 m. Leg. F. Schumm, 21.03.1973, det. Schumm 1973.



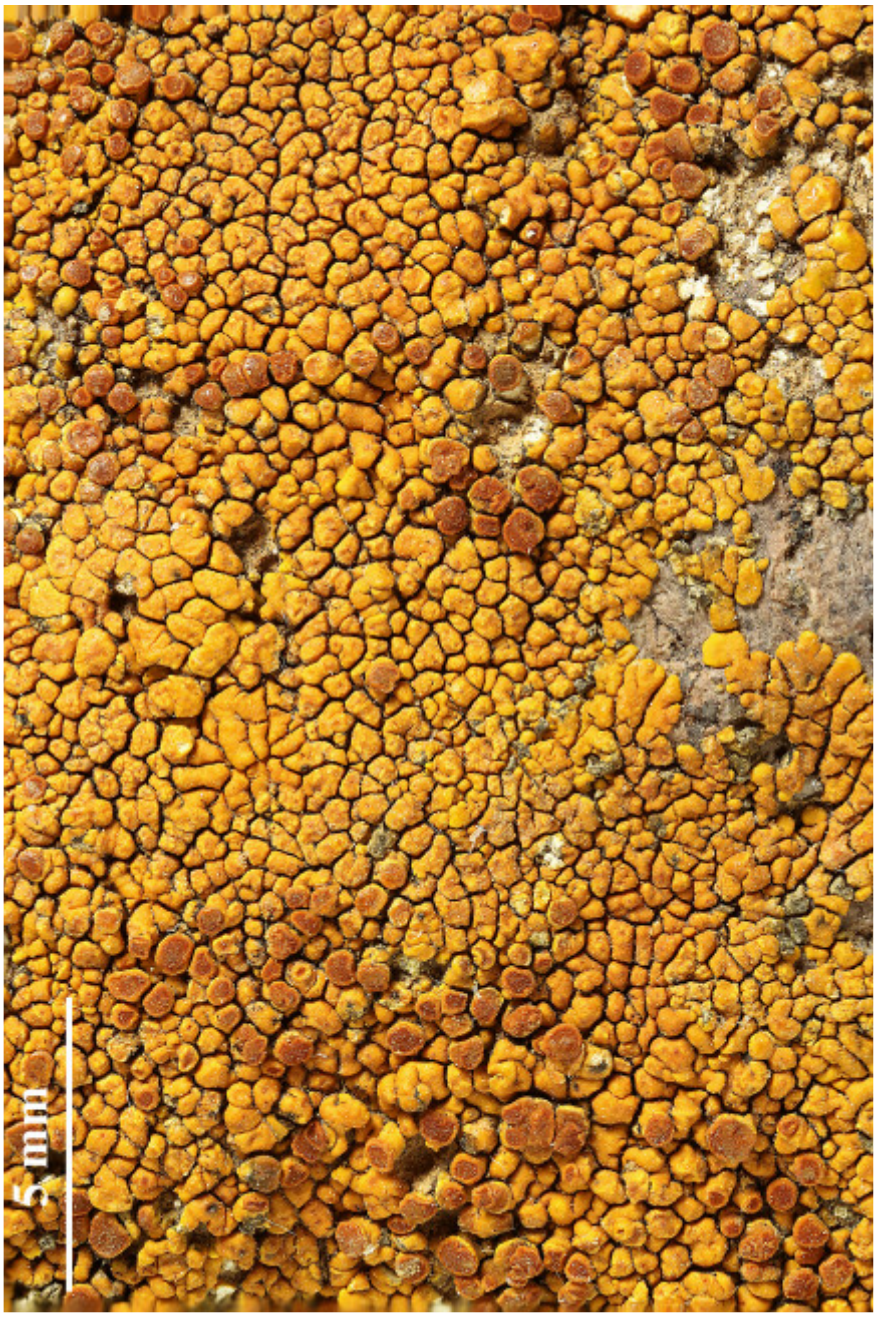


Caloplaca geophila

Caloplaca gomerana J. Steiner, Öst. bot. Z. 61: 181 (1911)
[= *Gyalolechia gomerana* (J. Steiner) Søchting, Frödén & Arup, Nordic Jl Bot. 31(1): 71 (2013)]
[= *Elenkiniana gomerana* (J. Steiner) S.Y. Kondr., Kärnefelt, Elix, A.Thell, J.Kim, A.S. Kondr. & Hur, in Kondratyuk, Jeong, Yu, Kärnefelt, Thell, Elix, Kim, Kondratiuk & Hur, Acta bot. hung. 56(1-2): 111 (2014)]
[= *Caloplaca gloriae* Llimona & Werner]

Spores 7.3-8.5 x 4.4-5.2 µm, septum 2.7-3.1 µm (FS). On non-calcareous rocks.

[19585], Hispania, Almería, Sierra del Cabo de Gata, Vela Blanca, alt. 50-100 m, ad rupes andesiticas apricas orarum maritimarum. Leg. X. Llimona & C. Gloria Morales, 22.03.1972. VěZDA: LICHENES SELECTI EXSICCATI NR. 1324. Distributed as *Caloplaca gloriae*. ISOTPUS





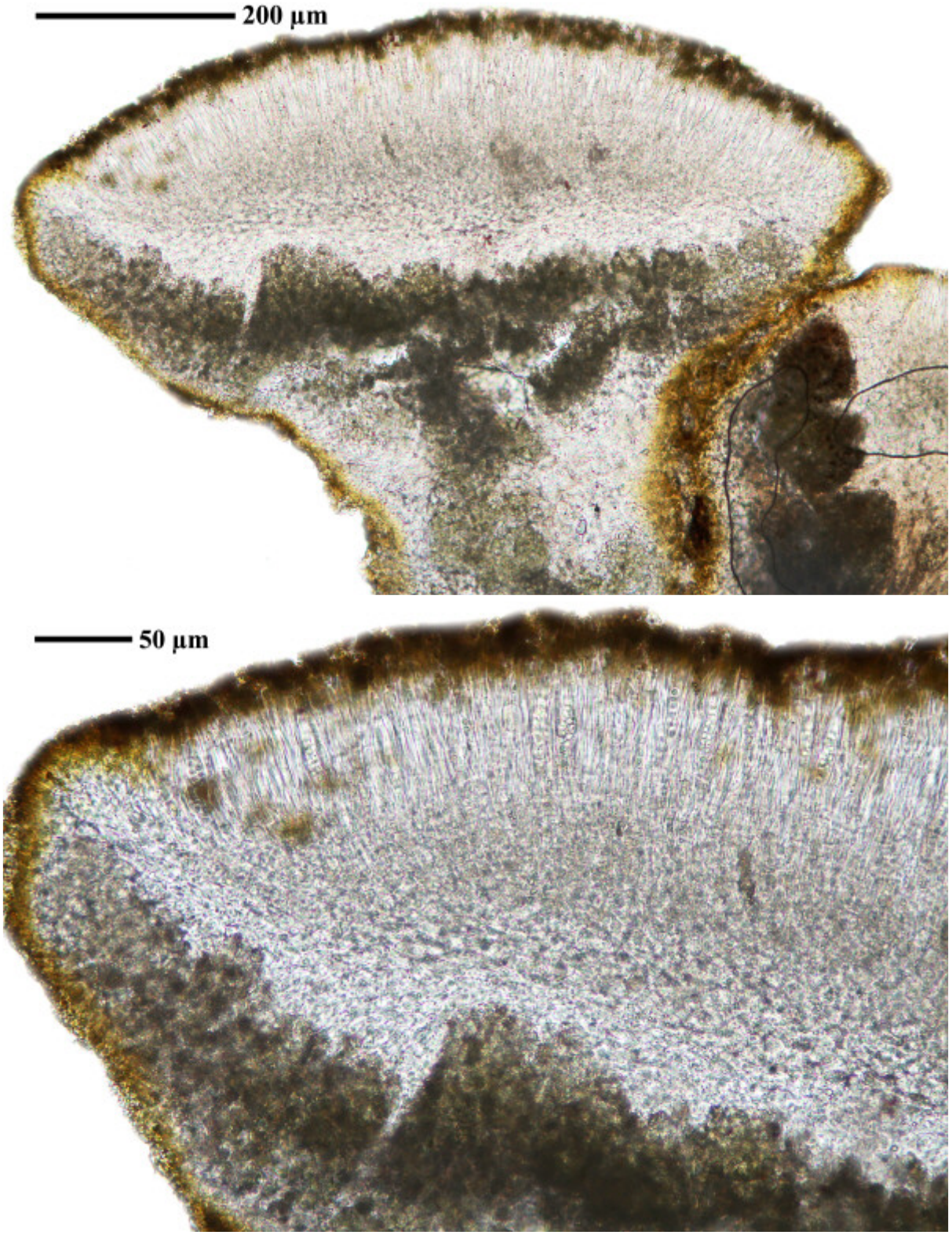


Caloplaca gomerana

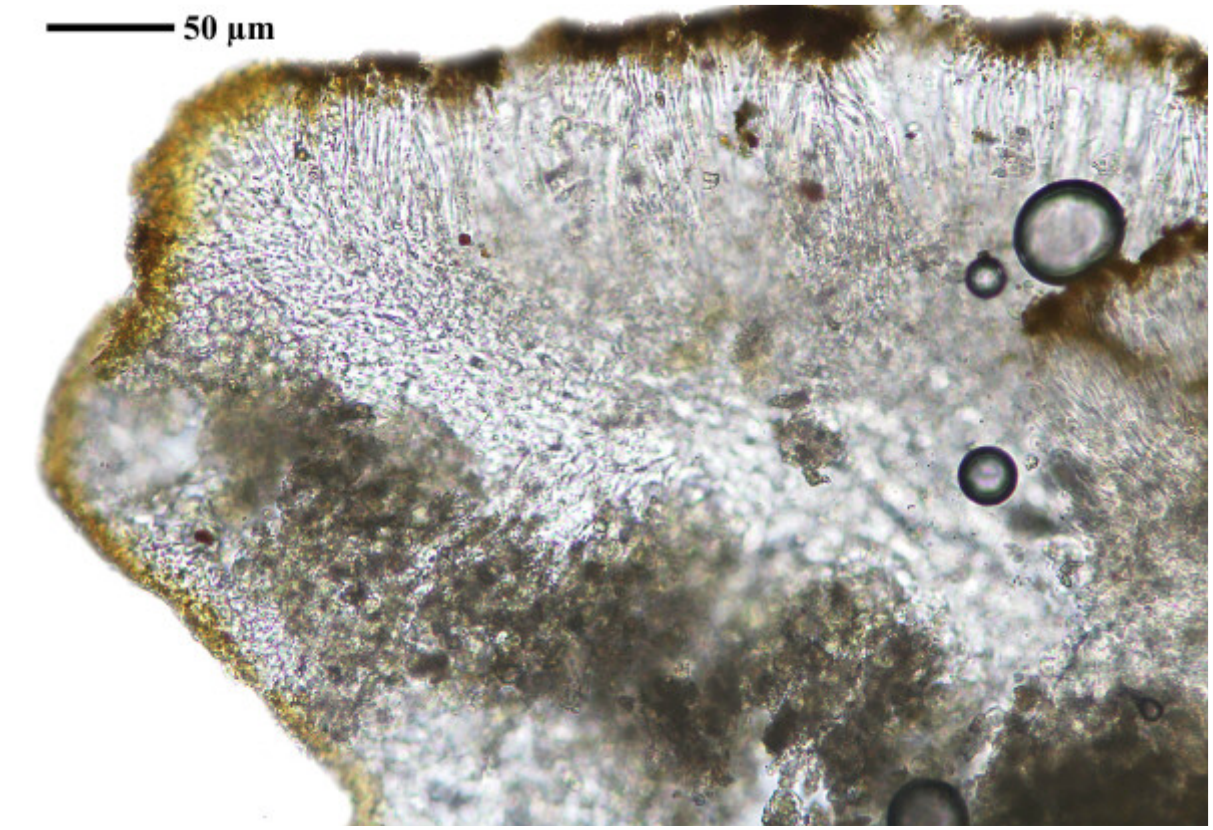


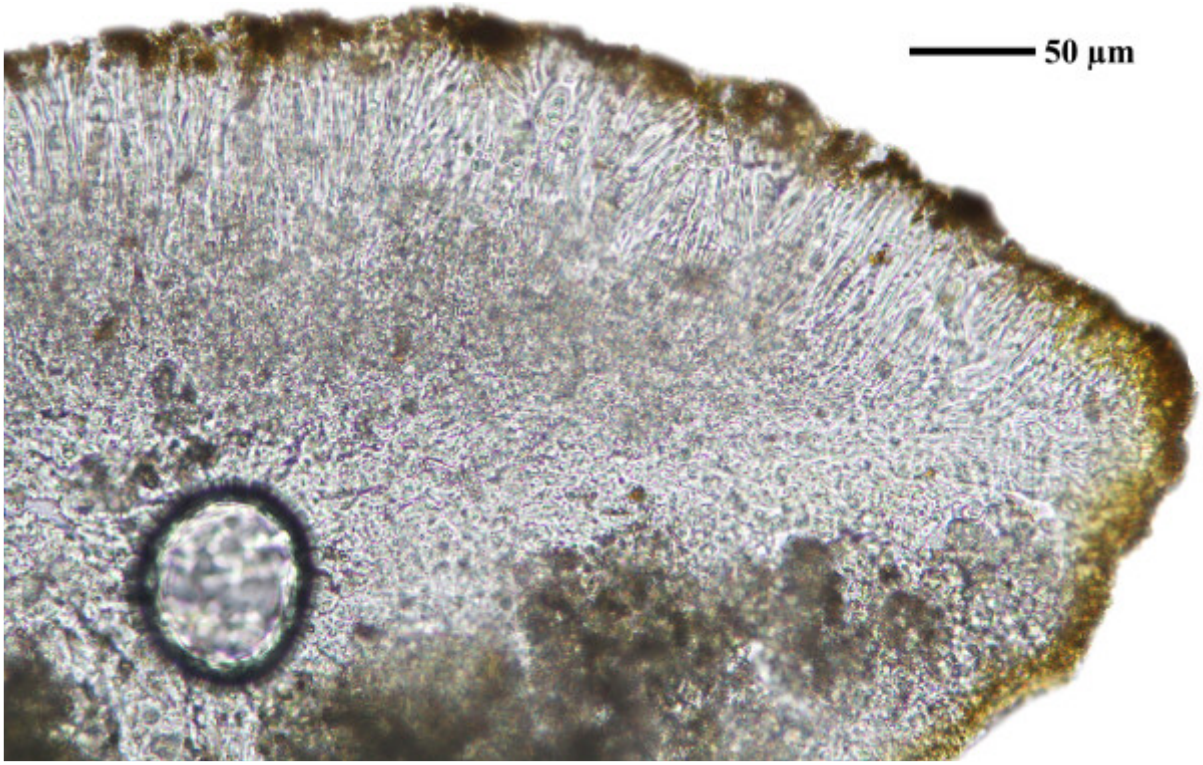


Caloplaca gomerana

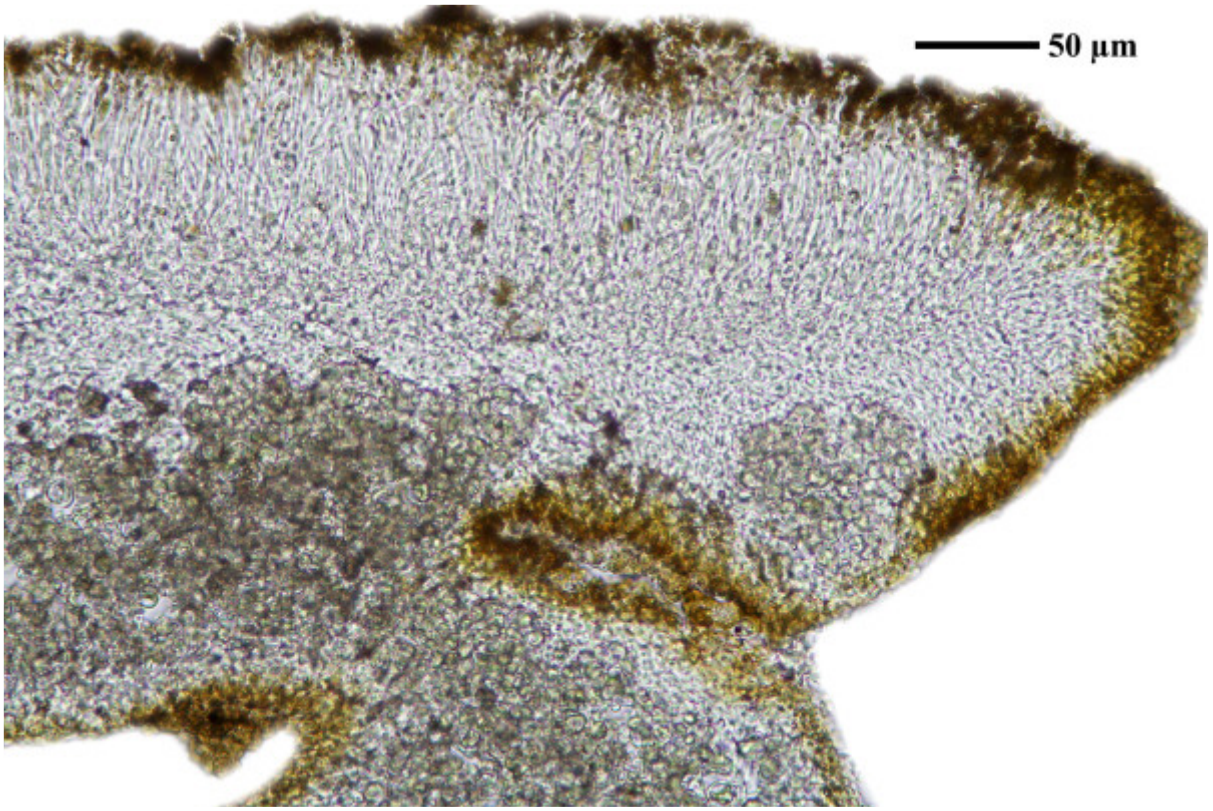


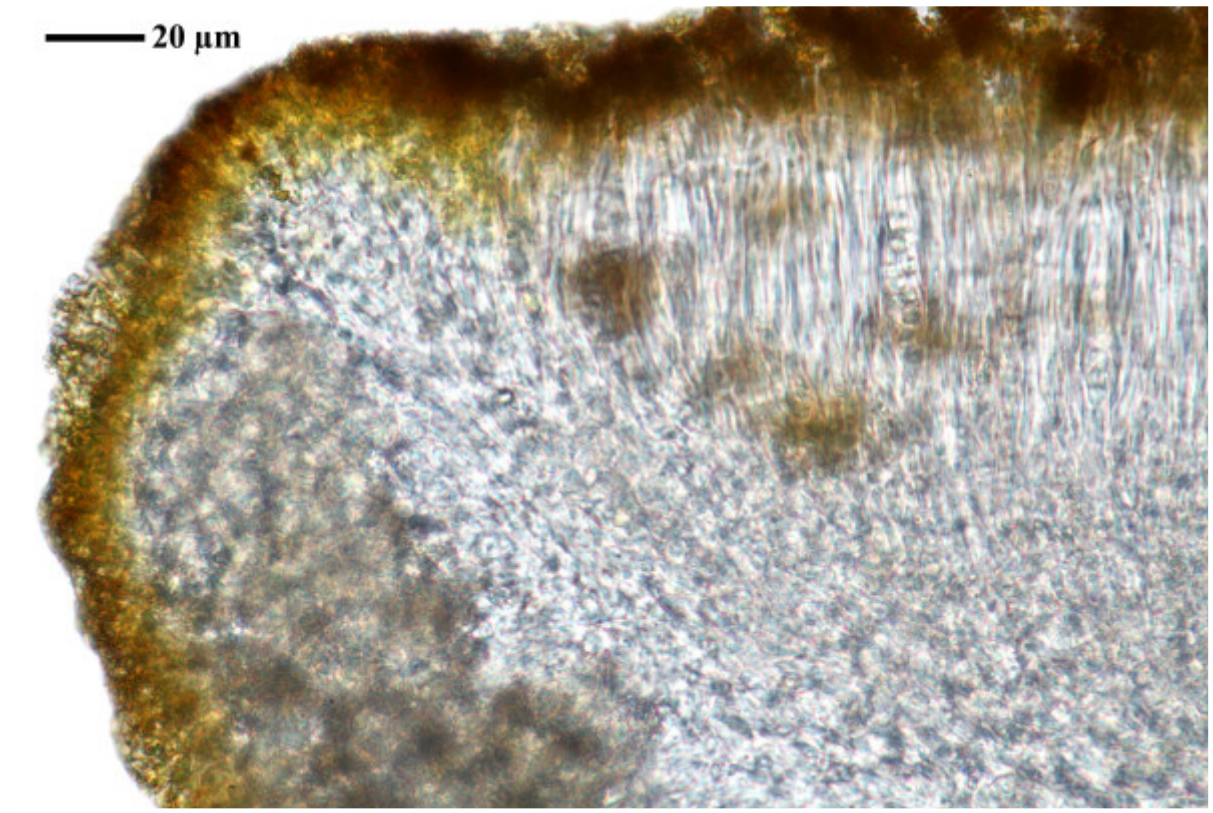
Caloplaca gomerana



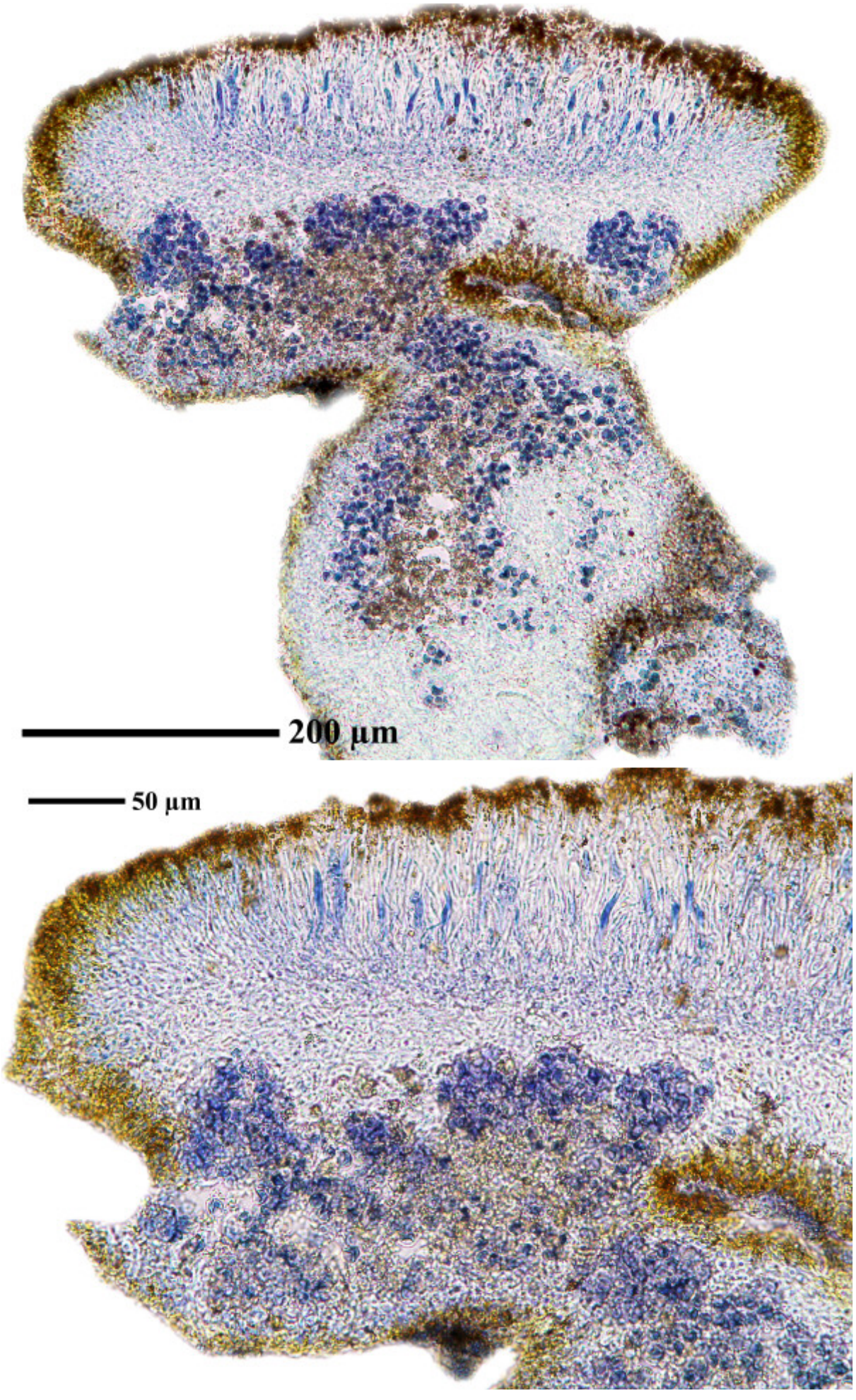


Caloplaca gomerana

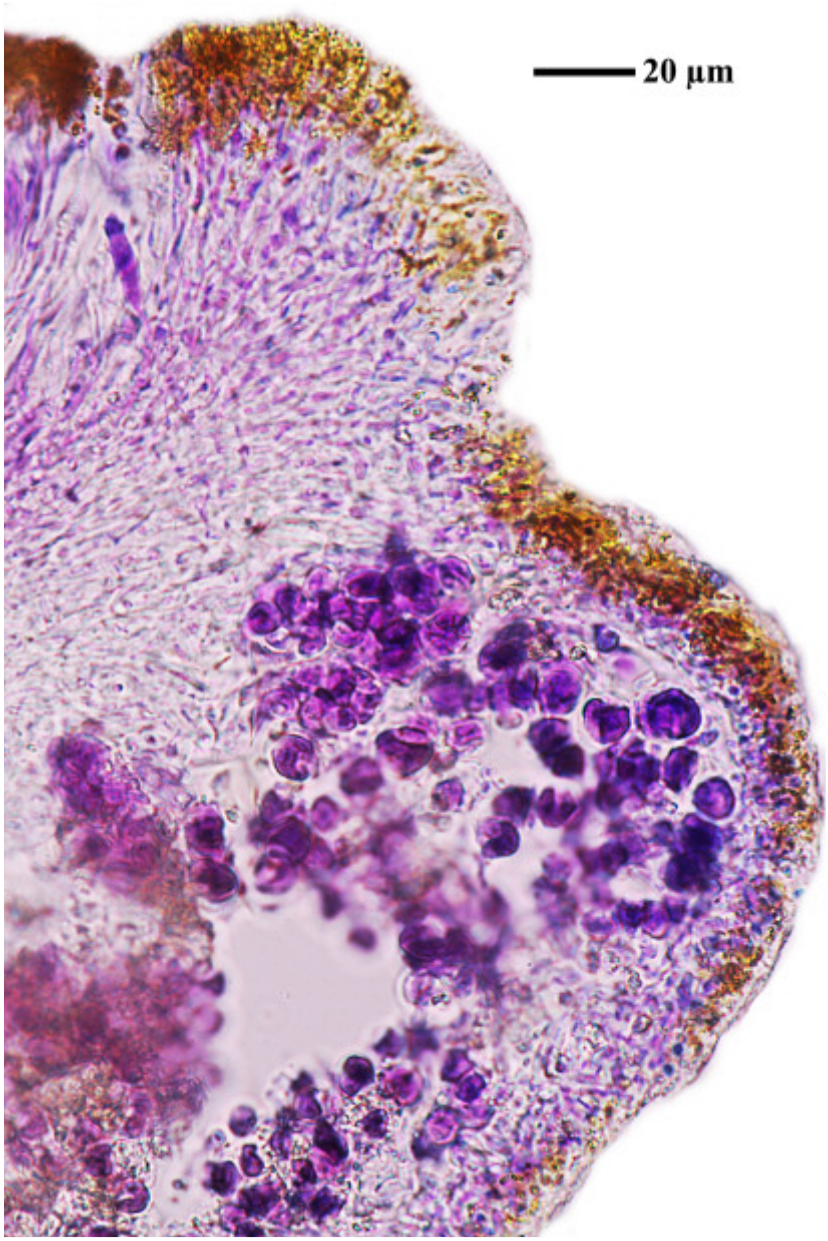


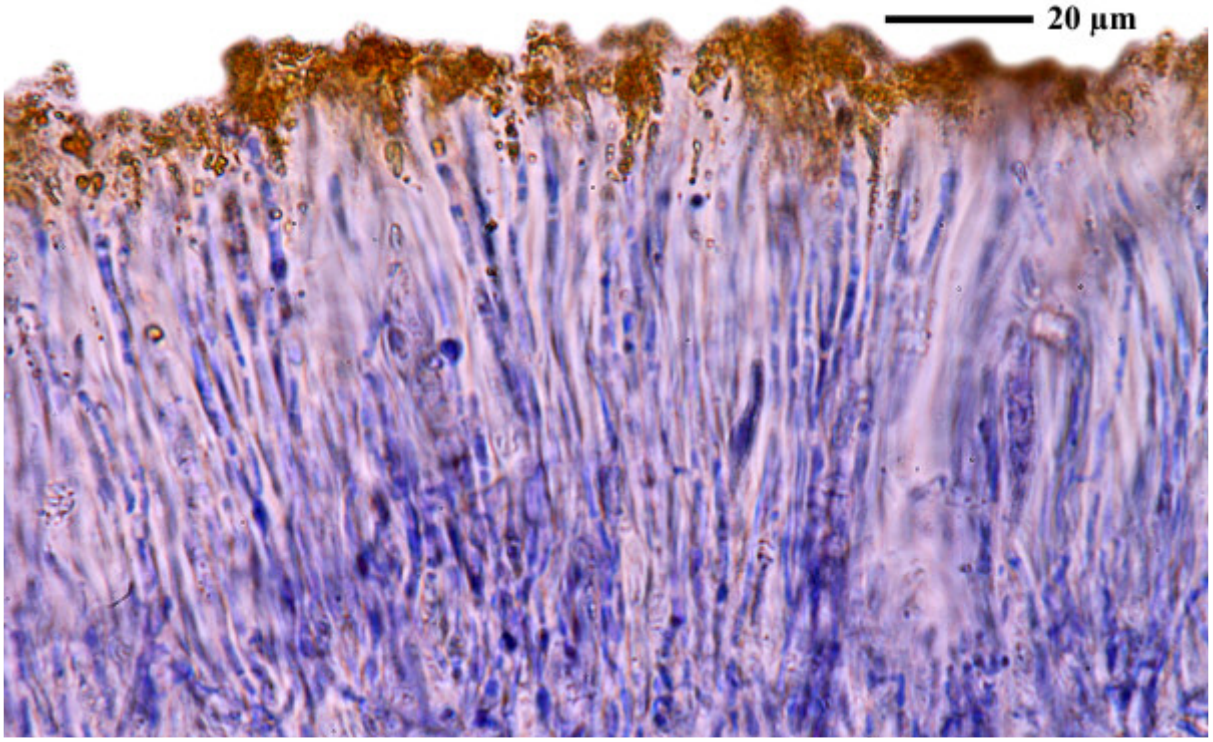


Caloplaca gomerana

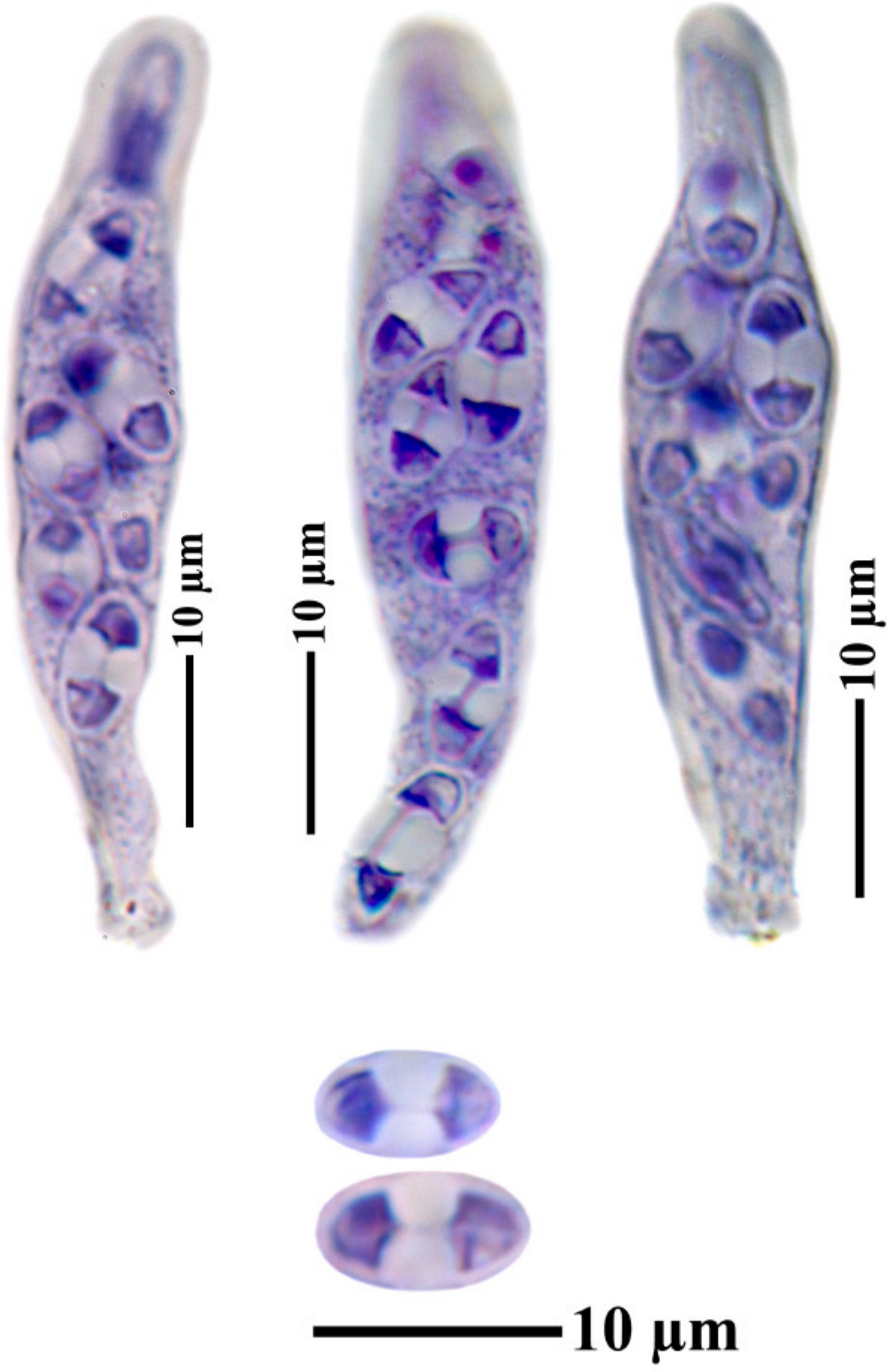


Caloplaca gomerana





Caloplaca gomerana



Caloplaca gomerana

Caloplaca gomerana J. Steiner, Öst. bot. Z. 61: 181 (1911)
[= *Gyalolechia gomerana* (J. Steiner) Søchting, Frödén & Arup, Nordic Jl Bot. 31(1): 71 (2013)]
[= *Elenkiniana gomerana* (J. Steiner) S.Y. Kondr., Kärnefelt, Elix, A.Thell, J.Kim, A.S. Kondr. & Hur, in Kondratyuk, Jeong, Yu, Kärnefelt, Thell, Elix, Kim, Kondratiuk & Hur, Acta bot. hung. 56(1-2): 111 (2014)]
[= *Caloplaca gloriae* Llimona & Werner]

Thallus 3-10 cm, goldgelb bis orange; Lappen 1-4 x 0,3-1 mm, oft konvex; Oberseite bei einem Teil der Lappen mit 0,1-0,2 mm großen, weißlichen, die Art charakterisierenden Pseudocyphellen. Apothecien meist größer als 0,5 mm; Paraphysen ± zusammenhängend, wenig anastomosierend, am Ende ± verzweigt, 1,5-2,5 µm dick. Sporen polar-2-zellig, zu 8 im Ascus, ellipsoidisch, 7-13 x 4-6 µm, Septum 2-4 µm. Chemie: Thallus K+ rot. Saxicol, calcifug.

[9900], Kanarische Inseln, Tenerife, Costa del Silencio, El Médano, in monte Roja, 150 m, ad saxa eruptiva. Leg. A. Vězda 17.03.1994, det. A. Vězda.



Caloplaca gomerana J. Steiner, Öst. bot. Z. 61: 181 (1911)
[= *Gyalolechia gomerana* (J. Steiner) Søchting, Frödén & Arup, Nordic Jl Bot. 31(1): 71 (2013)]
[= *Elenkiniana gomerana* (J. Steiner) S.Y. Kondr., Kärnefelt, Elix, A.Thell, J.Kim, A.S. Kondr. & Hur, in Kondratyuk, Jeong, Yu, Kärnefelt, Thell, Elix, Kim, Kondratiuk & Hur, Acta bot. hung. 56(1-2): 111 (2014)]
[= *Caloplaca gloriae* Llimona & Werner]

On non-calcareous rocks. Lit. Llimona & Werner, Acta phytotax. barcin. 16: 13 (1975)

[19551], Hispania, Almeria, Vala Blanca in Gata Montibus, alt. 30 m, ad rupes andesiaticas. Leg. E. Barreno & V. Calatayud, 15.03.1993. Vězda: Lichenes Rariores Exsiccati Nr. 81. Distributed as *Caloplaca gloriae.*







Caloplaca gomerana

Caloplaca gomerana J. Steiner, Öst. bot. Z. 61: 181 (1911)
[= *Gyalolechia gomerana* (J. Steiner) Søchting, Frödén & Arup, Nordic Jl Bot. 31(1): 71 (2013)]
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[= *Caloplaca gloriae* Llimona & Werner]

[19552], Insulae Canarienses, Gran Canaria, distr. Mogán, Puerto Rico, in colle supra portum, alt. 150 m, ad lavam. Leg. A. Vězda, 11.02.1993. Vězda: Lichenes Rariores Exsiccati Nr. 71. Distributed as *Caloplaca gloriae.*







Caloplaca gomerana



Caloplaca gomerana

Caloplaca gomerana J. Steiner, Öst. bot. Z. 61: 181 (1911)
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[= *Caloplaca gloriae* Llimona & Werner]

On rocks.

[11894], Spanien, Kanarische Inseln, Teneriffa, Los Cristianos, Südausläufer des Mua Guaza; Geologie: Serie Traquiticia y Traquibasaltica Traquitas Y Traquibasaltos; Trockenhang mit *Euphorbia regis-jubae*, *E. canariensis*, *Zollikoferia spinosa.* Leg. F. & D. Schumm, 27.12.1976, det. A.Aptroot 2019







Caloplaca gomerana

Caloplaca gomerana J. Steiner, Öst. bot. Z. 61: 181 (1911)
[= *Gyalolechia gomerana* (J. Steiner) Søchting, Frödén & Arup, Nordic Jl Bot. 31(1): 71 (2013)]
[= *Elenkiniana gomerana* (J. Steiner) S.Y. Kondr., Kärnefelt, Elix, A.Thell, J.Kim, A.S. Kondr. & Hur, in Kondratyuk, Jeong, Yu, Kärnefelt, Thell, Elix, Kim, Kondratiuk & Hur, Acta bot. hung. 56(1-2): 111 (2014)]
[= *Caloplaca gloriae* Llimona & Werner]

On lava rocks.

[11897], Spanien, Kanarische Inseln, Teneriffa, Los Cristianos, Südausläufer des Mua Guaza; Geologie: Serie Traquiticia y Traquibasaltica Traquitas Y Traquibasaltos; Trockenhang mit *Euphorbia regis-jubae, canariensis, Zollikoferia spinosa.* Leg. F. & D. Schumm, 27.12.1976, det. A. Aptroot 2019.







Caloplaca gomerana

Caloplaca gomerana J. Steiner, Öst. bot. Z. 61: 181 (1911)
[= *Gyalolechia gomerana* (J. Steiner) Søchting, Frödén & Arup, Nordic Jl Bot. 31(1): 71 (2013)]
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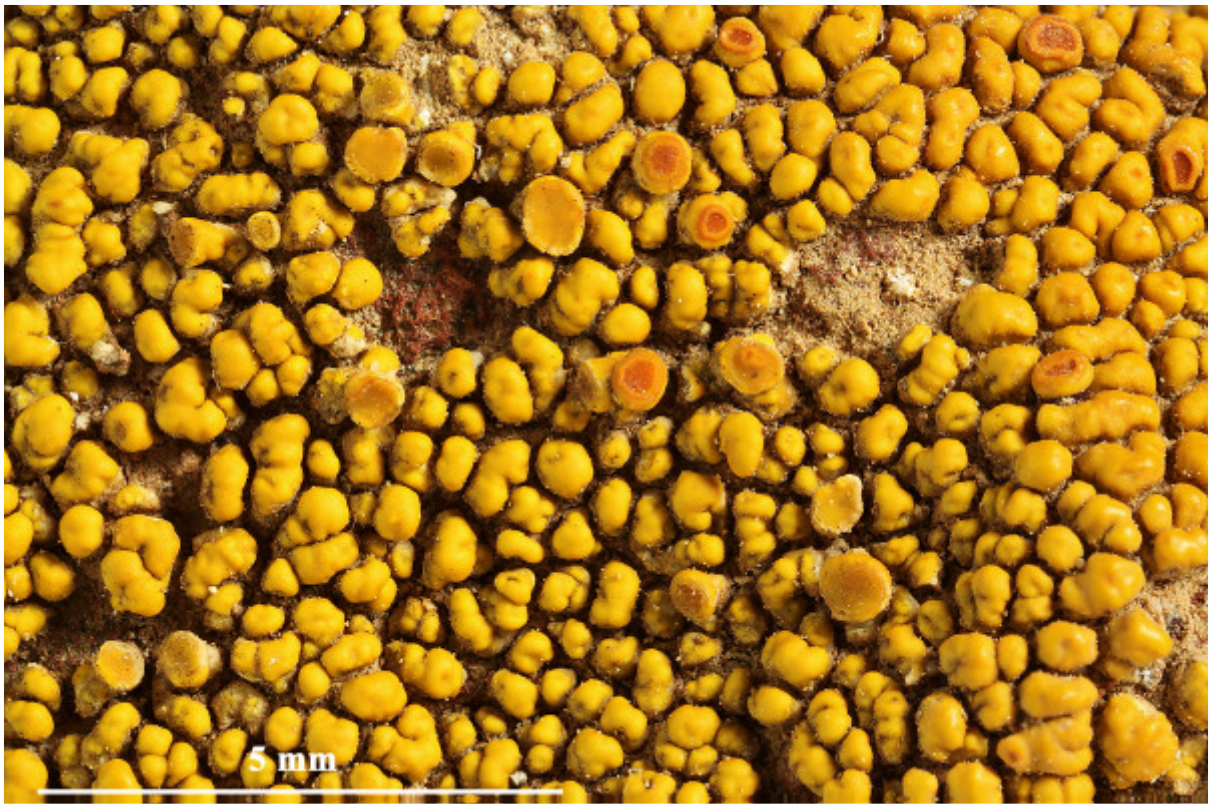
[= *Caloplaca gloriae* Llimona & Werner**]**

Spores polarilocular, hyaline, 8/ascus, 12-13 x 5.5-7 µm, septum 1.9-2.8 µm (mostly small). On rocks.

[11899], Spanien, Kanarische Inseln, Teneriffa, Los Cristianos, Südausläufer des Mua Guaza; Geologie: Serie Traquiticia y Traquibasaltica Traquitas Y Traquibasaltos; Trockenhang mit *Euphorbia regis jubae, canariensis, Zollikoferia spinosa*. Leg. F. & D. Schumm, 27.12.1976, det. A. Aptroot 2019.



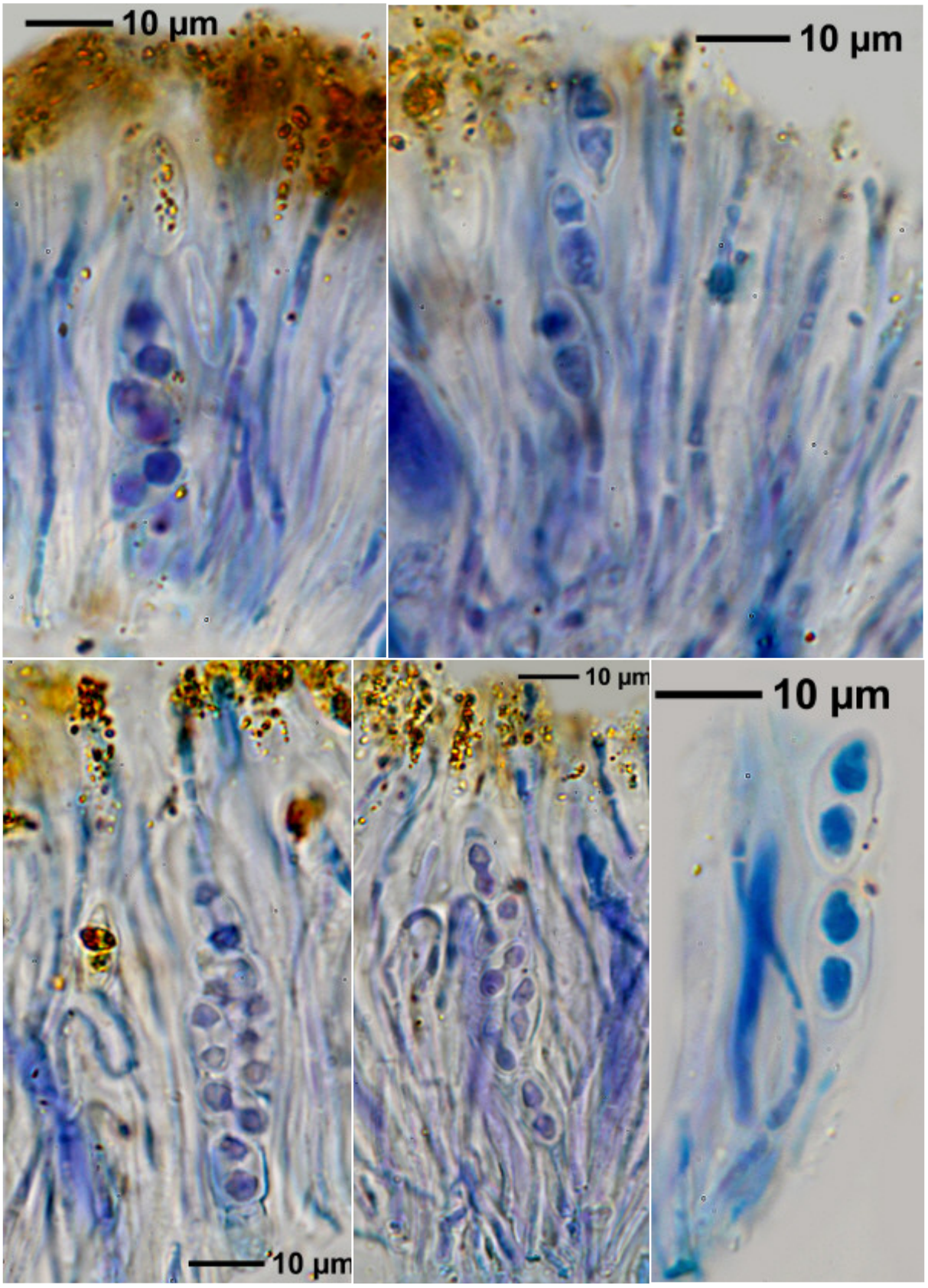


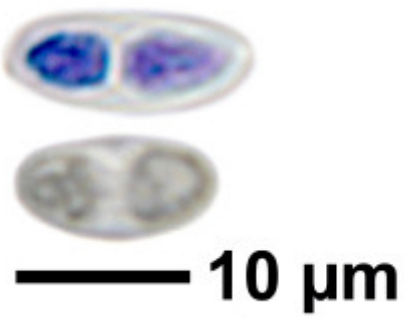


Caloplaca gomerana



Caloplaca gomerana





Caloplaca gomerana

Caloplaca gomerana J. Steiner, Öst. bot. Z. 61: 181 (1911)
[= *Gyalolechia gomerana* (J. Steiner) Søchting, Frödén & Arup, Nordic Jl Bot. 31(1): 71 (2013)]
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[= *Caloplaca gloriae* Llimona & Werner**]**

On rocks.

[11901], Spanien, Kanarische Inseln, Teneriffa, Los Cristianos, Südausläufer des Mua Guaza; Geologie: Serie Traquiticia y Traquibasaltica Traquitas Y Traquibasaltos; Trockenhang mit *Euphorbia regis jubae, canariensis, Zollikoferia spinosa*. Leg. F. & D. Schumm,27.12.1976, det. A. Aptroot 2019.







Caloplaca gomerana

Caloplaca gomerana J. Steiner, Öst. bot. Z. 61: 181 (1911)
[= *Gyalolechia gomerana* (J. Steiner) Søchting, Frödén & Arup, Nordic Jl Bot. 31(1): 71 (2013)]
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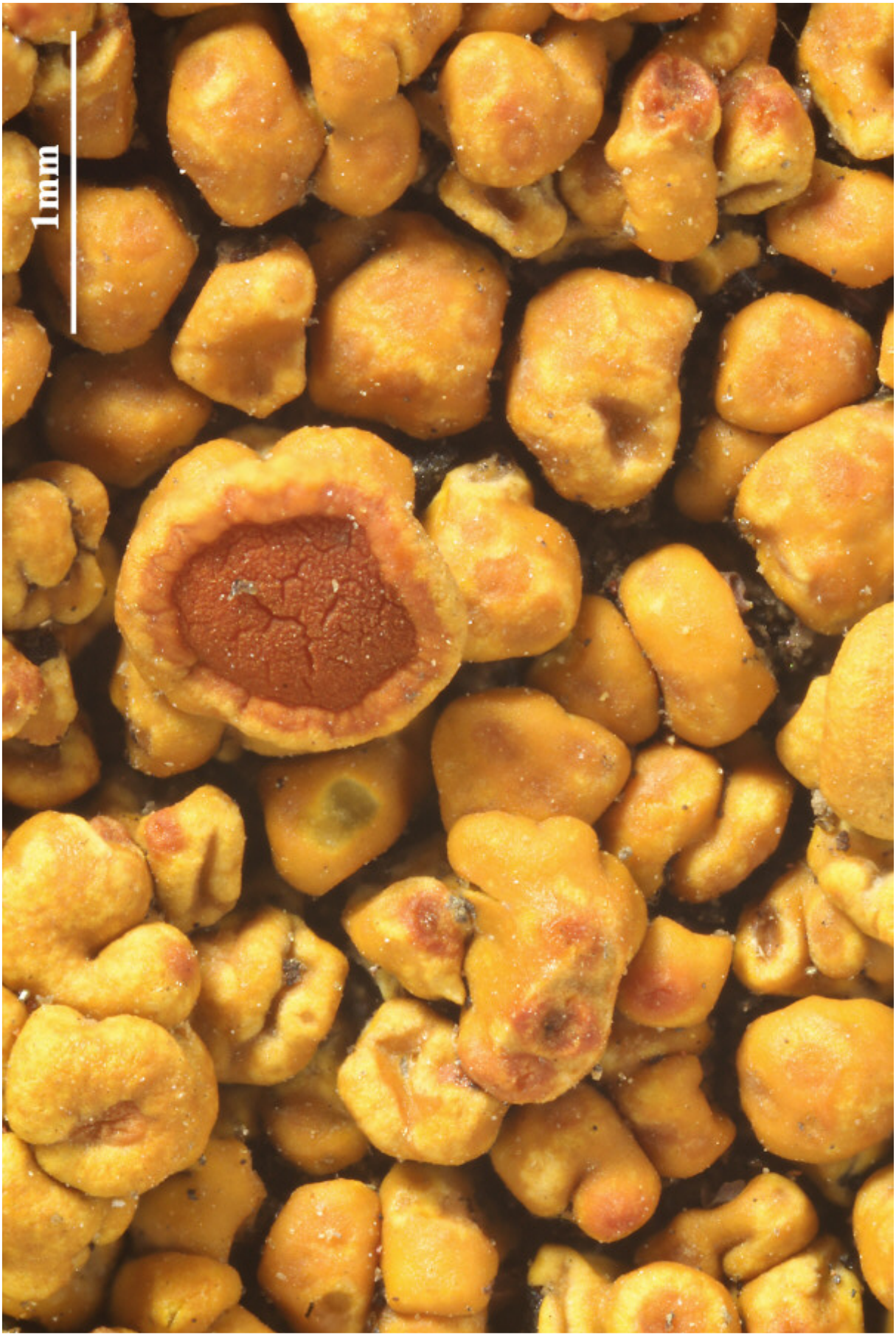
[= *Caloplaca gloriae* Llimona & Werner]

On lava rocks.

[12859], Spanien, Kanaren, La Palma (S), Lavafeld an der Südküste bei Playa del Faro, 28°28.352' N, 17°51.813' W, ca. 30-40 m. F. Schumm, 13.01.2007, det A. Aptroot 2019.





Caloplaca gomerana

Caloplaca gomerana J. Steiner, Öst. bot. Z. 61: 181 (1911)
[= *Gyalolechia gomerana* (J. Steiner) Søchting, Frödén & Arup, Nordic Jl Bot. 31(1): 71 (2013)]
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[= *Caloplaca gloriae* Llimona & Werner]

Thallus 3-10 cm, goldgelb bis orange; Lappen 1-4 x 0,3-1 mm, oft konvex; Oberseite bei einem Teil der Lappen mit 0,1-0,2 mm großen, weißlichen, die Art charakterisierenden Pseudocyphellen. Apothecien meist größer als 0,5 mm; Paraphysen ± zusammenhängend, wenig anastomosierend, am Ende ± verzweigt, 1,5-2,5 µm dick. Sporen polar-2-zellig, zu 8 im Ascus, ellipsoidisch, 7-13 x 4-6 µm, Septum 2-4 µm. Chemie: Thallus K+ rot. Saxicol, calcifug.

[9900], Kanarische Inseln, Tenerife, Costa del Silencio, El Médano, in monte Roja, 150 m, ad saxa eruptiva. Leg. A. Vězda 17.03.1994, det. A. Vězda.



Caloplaca gomerana J. Steiner, Öst. bot. Z. 61: 181 (1911)
[= *Gyalolechia gomerana* (J. Steiner) Søchting, Frödén & Arup, Nordic Jl Bot. 31(1): 71 (2013)]
[= *Elenkiniana gomerana* (J. Steiner) S.Y. Kondr., Kärnefelt, Elix, A.Thell, J.Kim, A.S. Kondr. & Hur, in Kondratyuk, Jeong, Yu, Kärnefelt, Thell, Elix, Kim, Kondratiuk & Hur, Acta bot. hung. 56(1-2): 111 (2014)]
[= *Caloplaca gloriae* Llimona & Werner]

Spores in K 10-11.5 x 5.7-7 µm, septum 3-4 µm (DE); 7.6-10.6 x 3.3 µm, septum 3.3 µm (FS)

[BR5030008229818], Spain, Canary Islands, El Hierro, NW of Sabinosa, Punta de la Dehesa, coastal area, around Playa de las Arenas, low volcanic outcrops and sandy soil; on lava rock. 27°45'58" N, 18°07'34" W, 35 m. Leg. D. Ertz (13526), 25. Aug. 2009, det. D. Ertz, 3.2010.



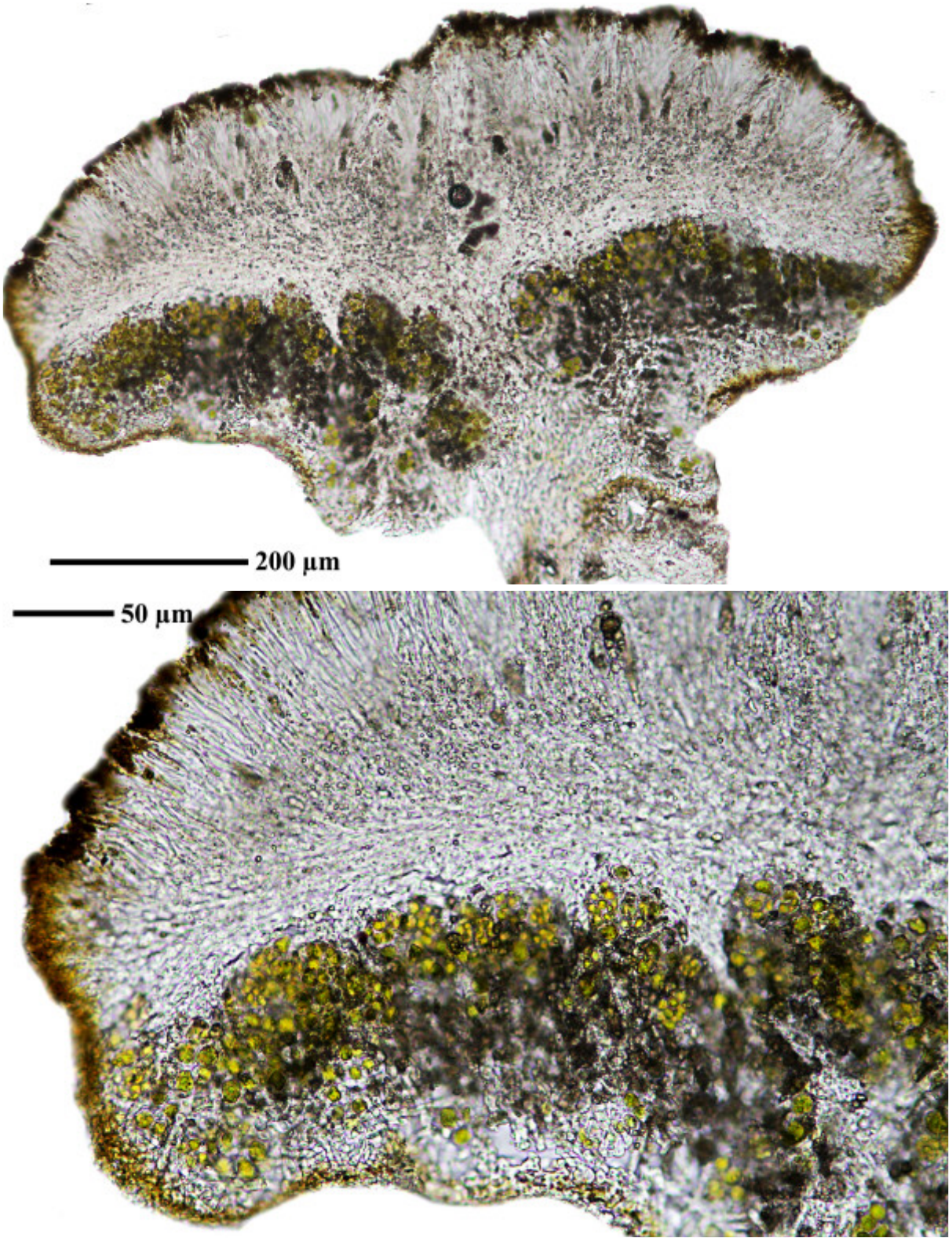




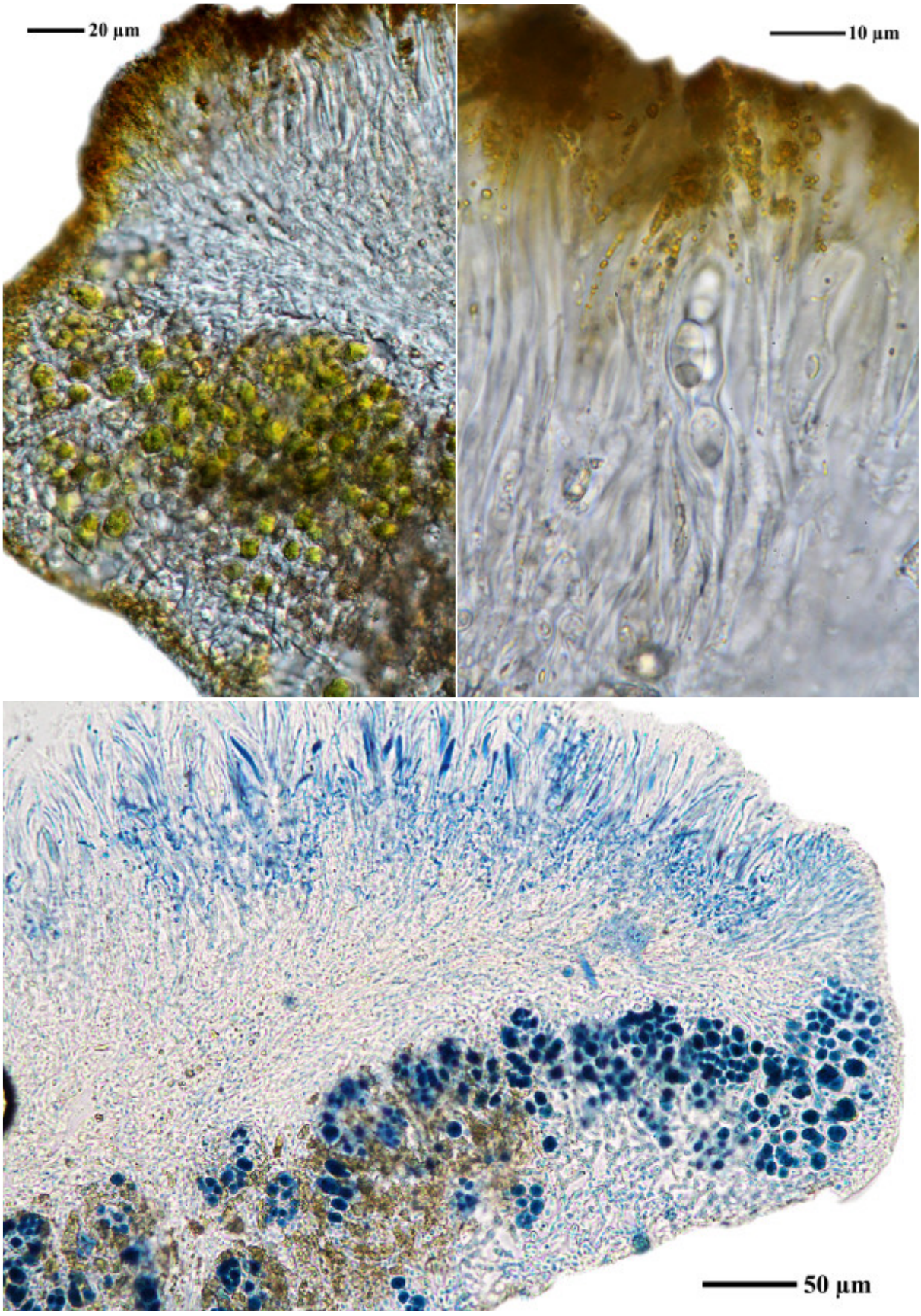
Caloplaca gomerana



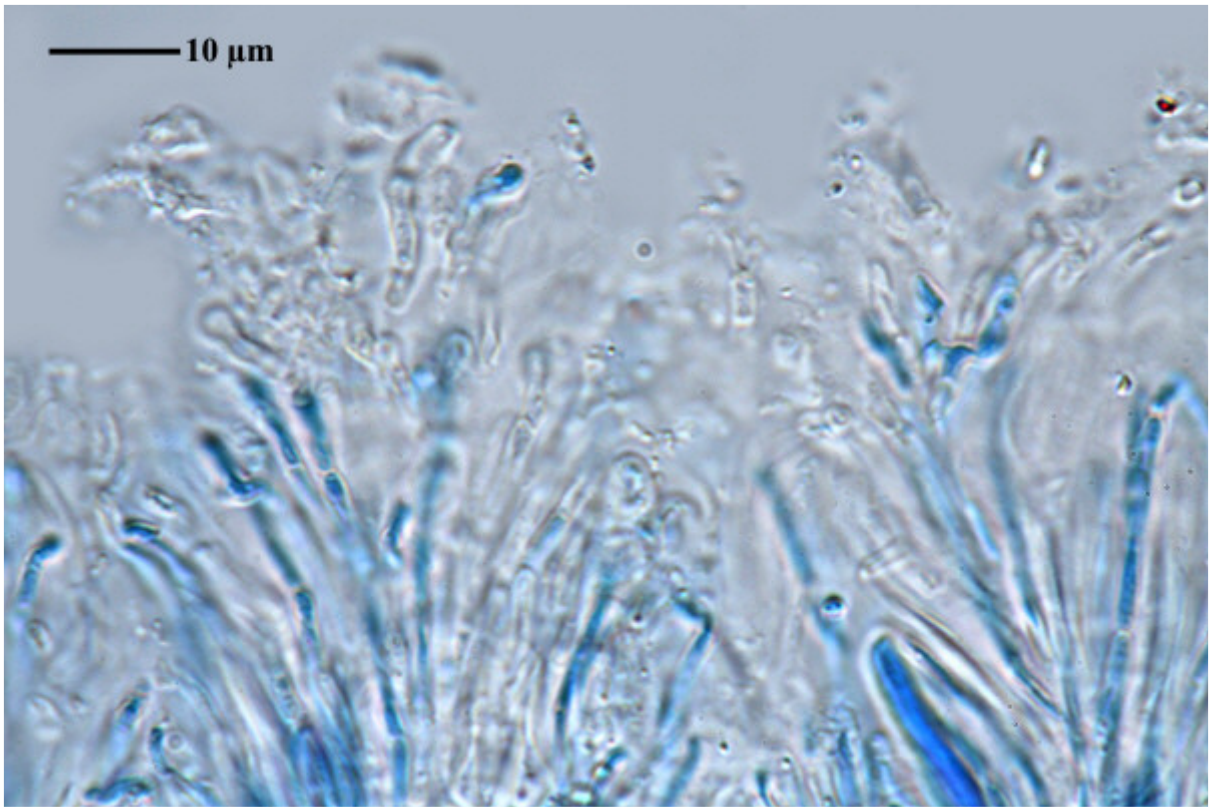
Caloplaca gomerana

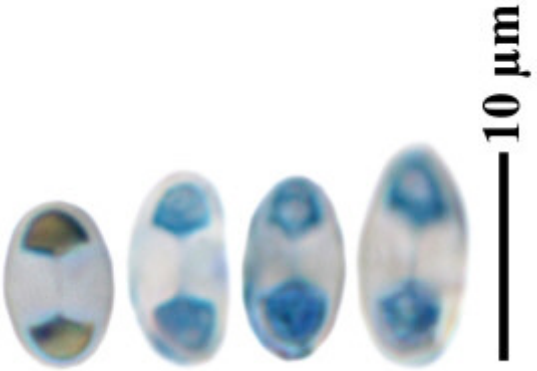


Caloplaca gomerana



Caloplaca gomerana



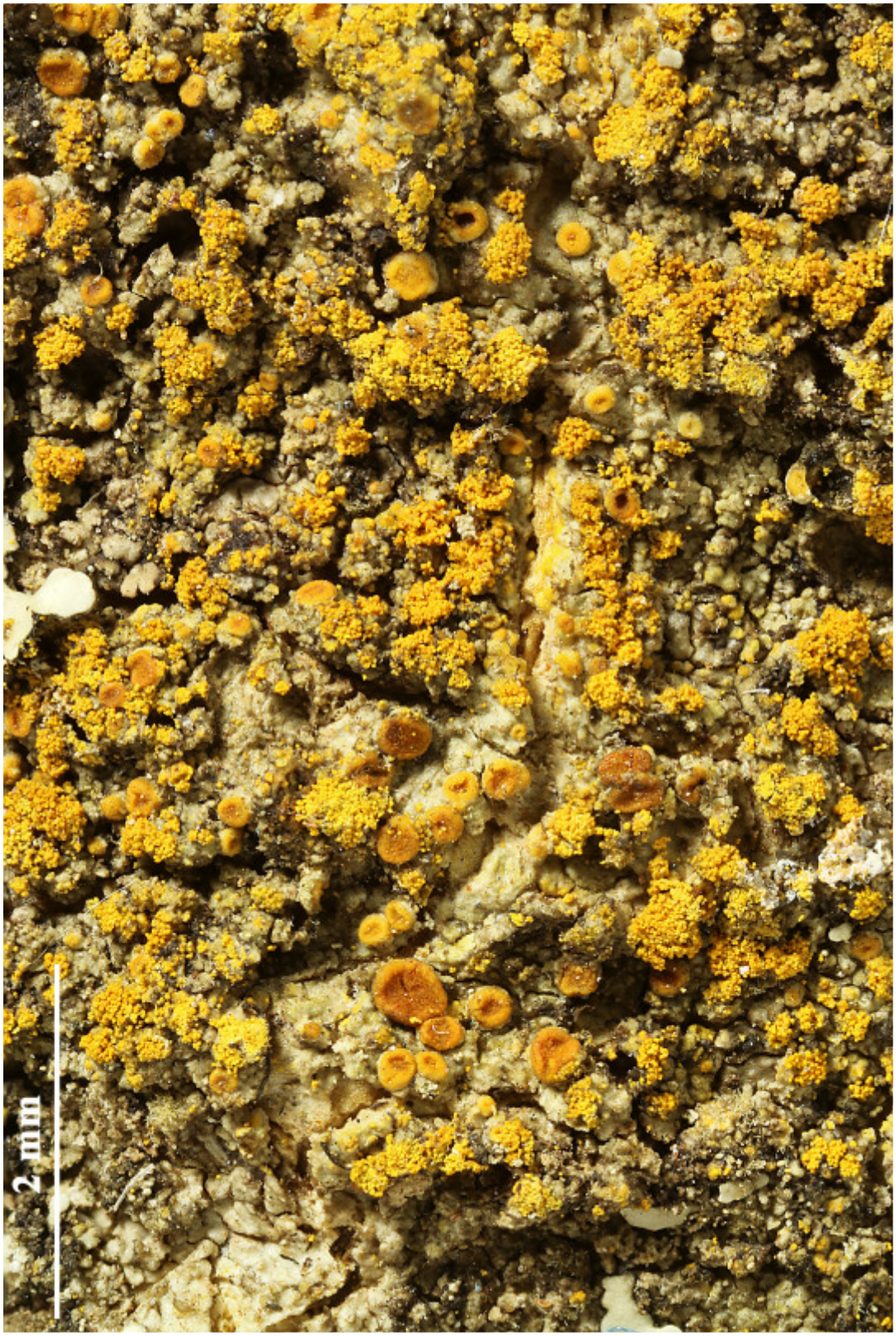


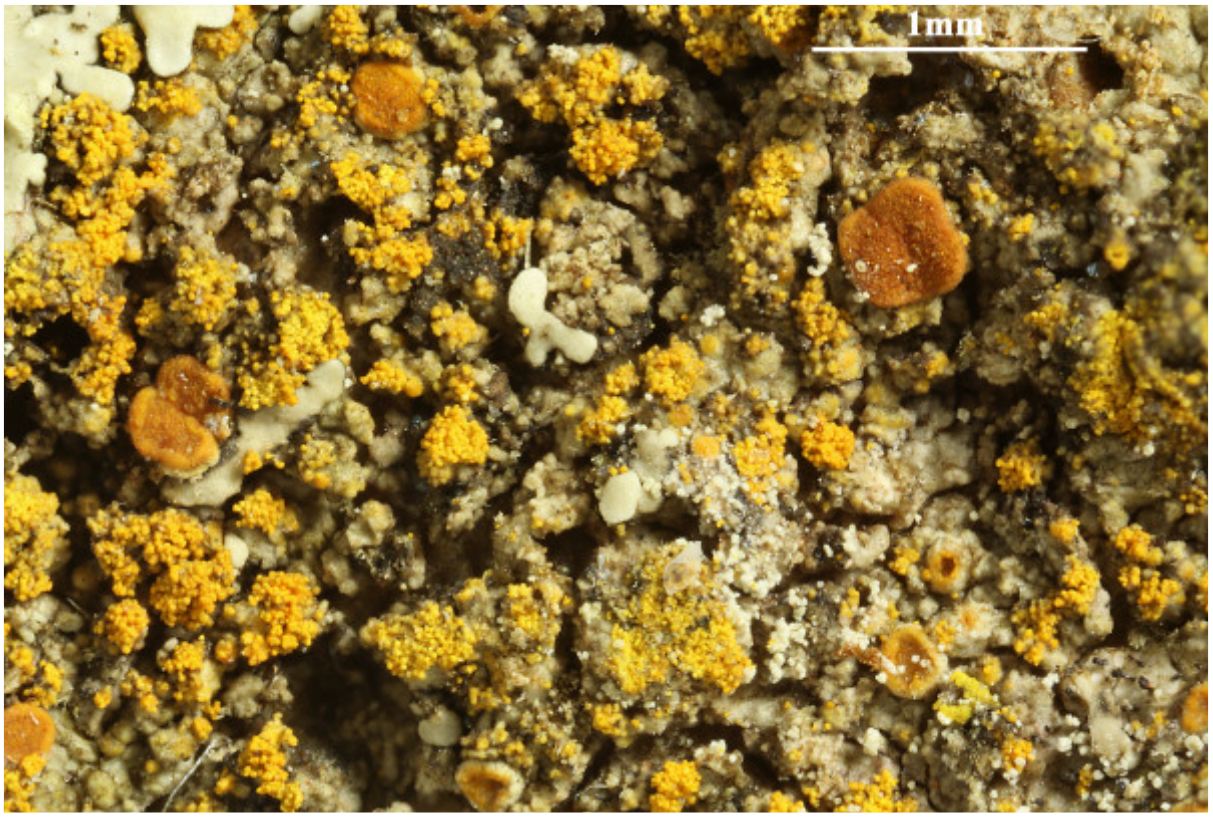
Caloplaca gomerana

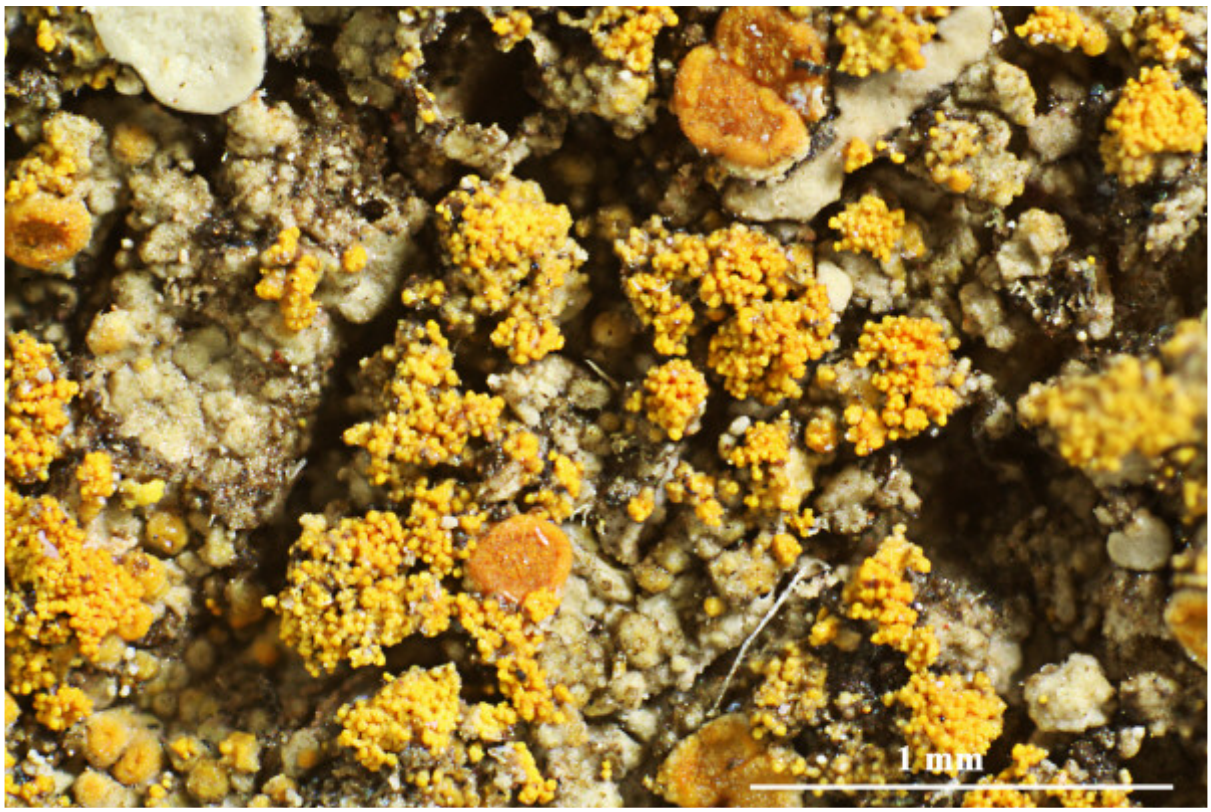
Caloplaca granularis (Müll.Arg.) Zahlbr.

On bark.

[18151], Brasilien, São Paulo, Fazenda Paredão, zwischen Rio Claro und Ipeúna, an freistehenden Weidebäumen, 900 m. Leg. K. Kalb und M. Jorge,31.05.1980, det. C. Wetmore 03.2004. KALB: LICHENES NEOTROPICI 056.







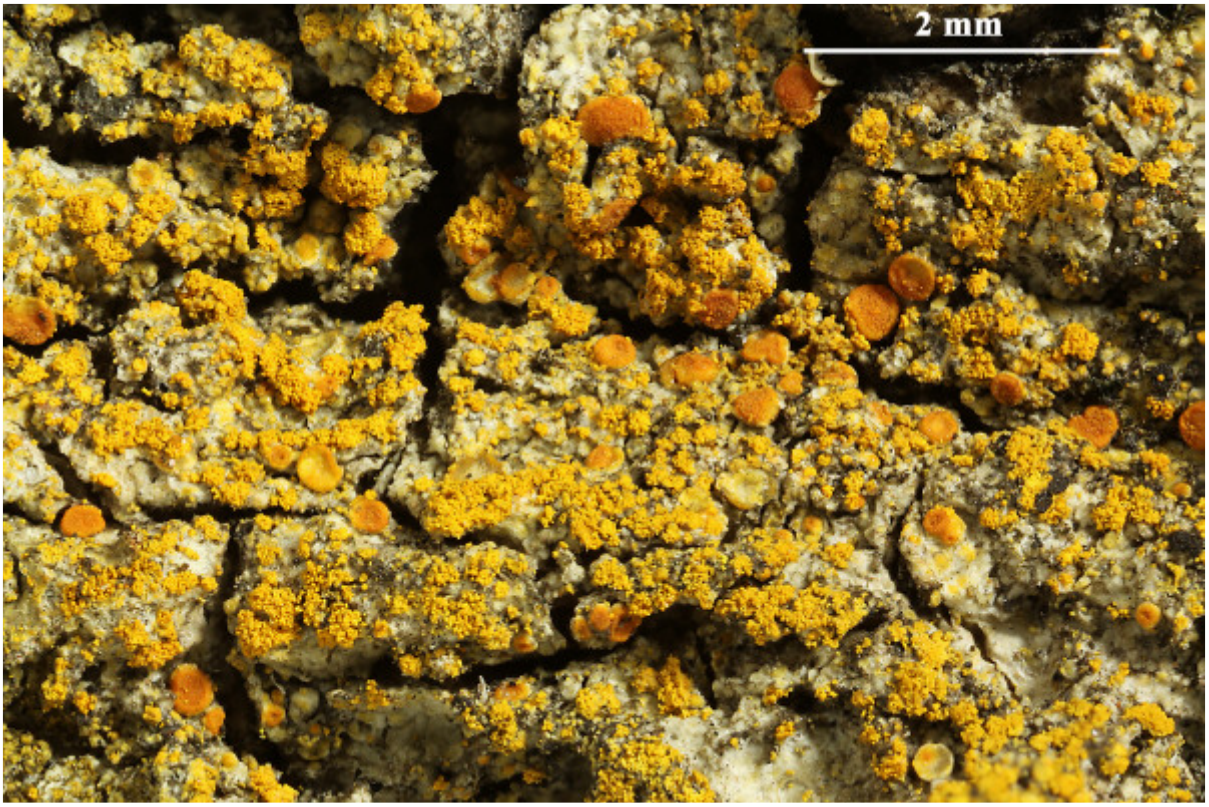
Caloplaca granularis

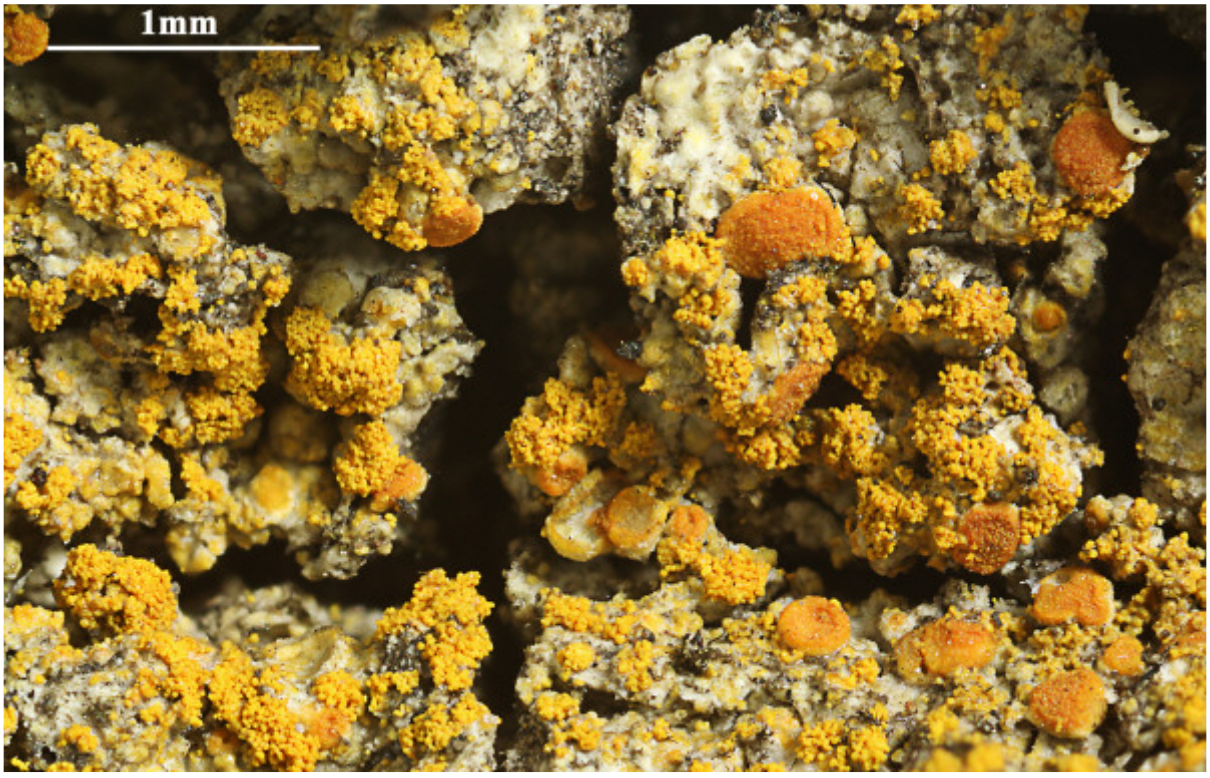
Caloplaca granularis (Müll.Arg.) Zahlbr.

On bark.

[18160], Brasilien, São Paulo. Serra do Mar, zwischen den Städten Areias und São José do Barreiro, an freistehenden Alleebäumen, 600 m. Leg. K. Kalb & G. Plöbst, 03.11.1978, det. C. Wetmore 03.2004. KALB: LICHENES NEOTROPICI 088.







Caloplaca granularis

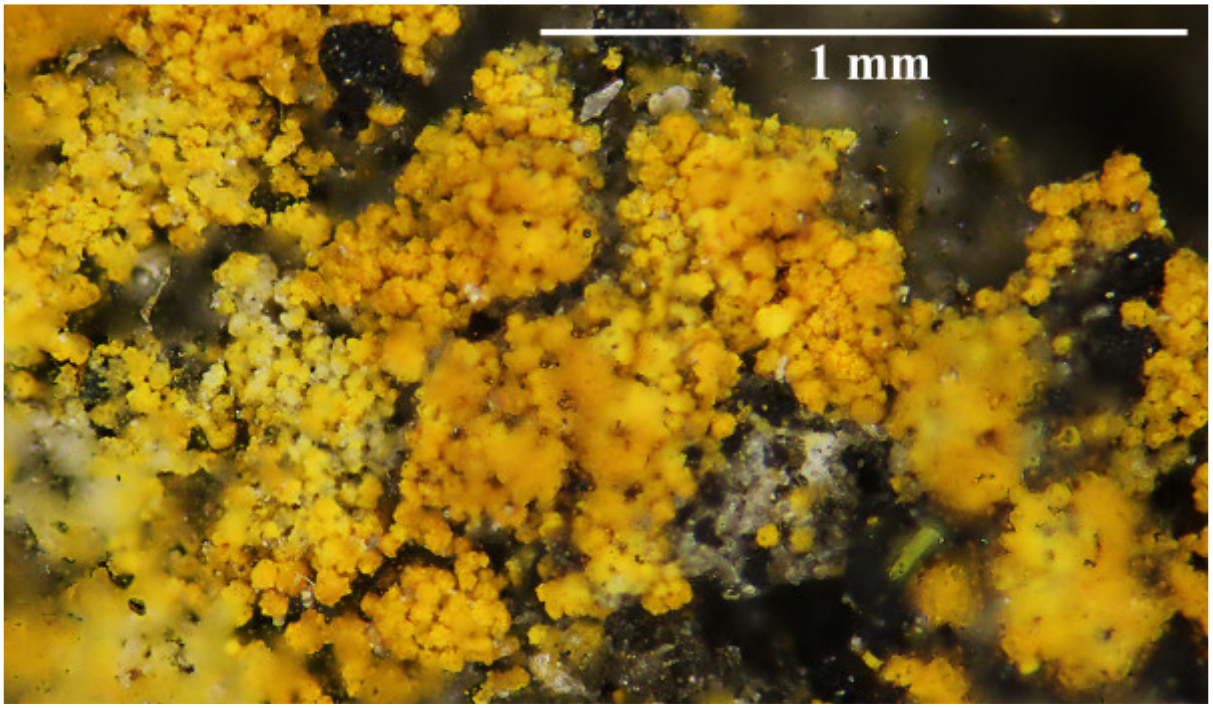
Caloplaca granularis (Müll.Arg.) Zahlbr.

Thallus K+ red.

[BR5030069401505], China, Yunnan Prov., Dali Co., near trailhead to Mt. Cangshan, sclerophyll shrub on steep mountain slopes, on shrub, 25°41’06” N, 100°06’07” E, 3150-3500 m. Leg. A. Aptroot (56755), 22. October 2002, det. C. Wetmore, March 2004.





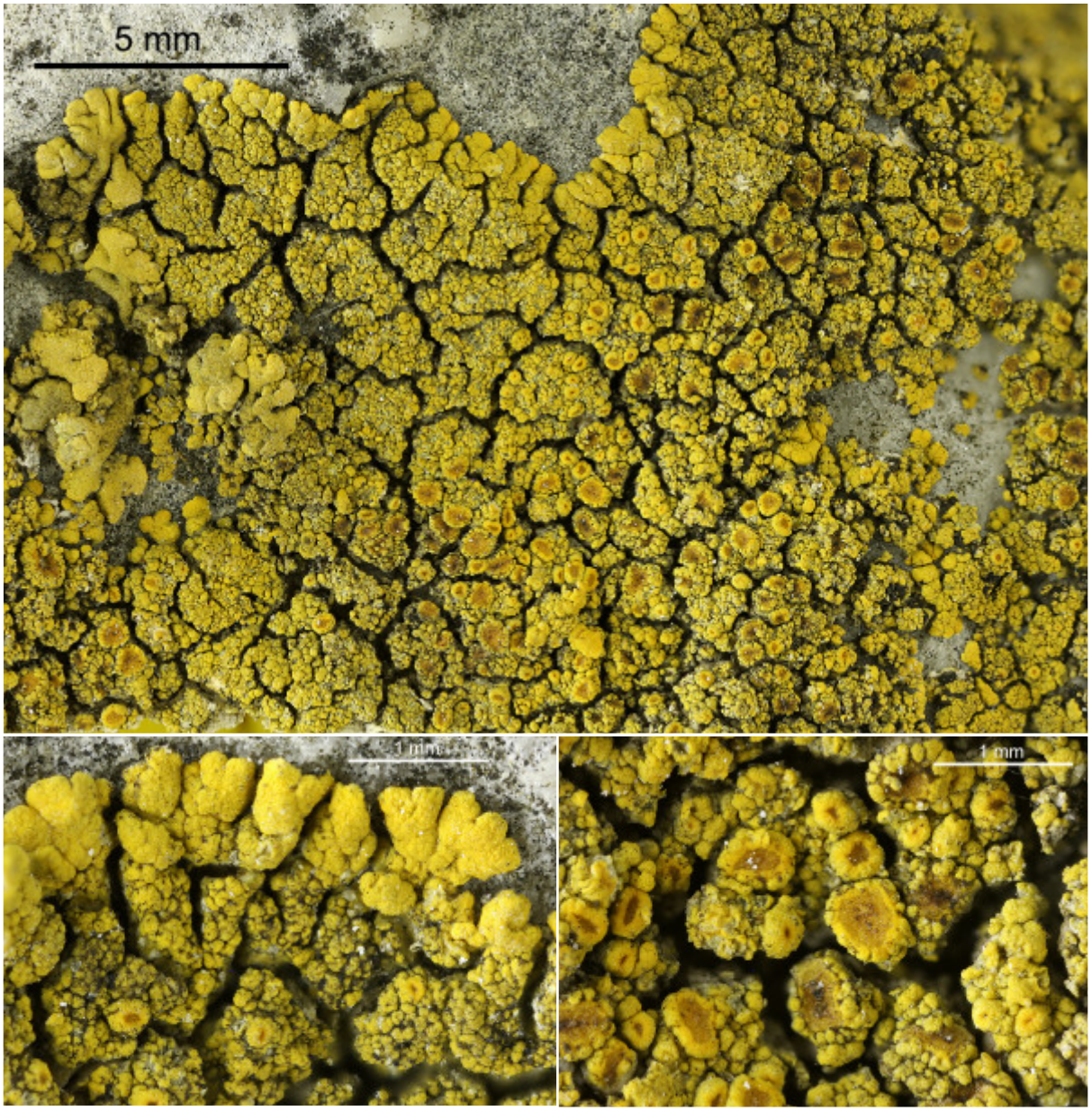


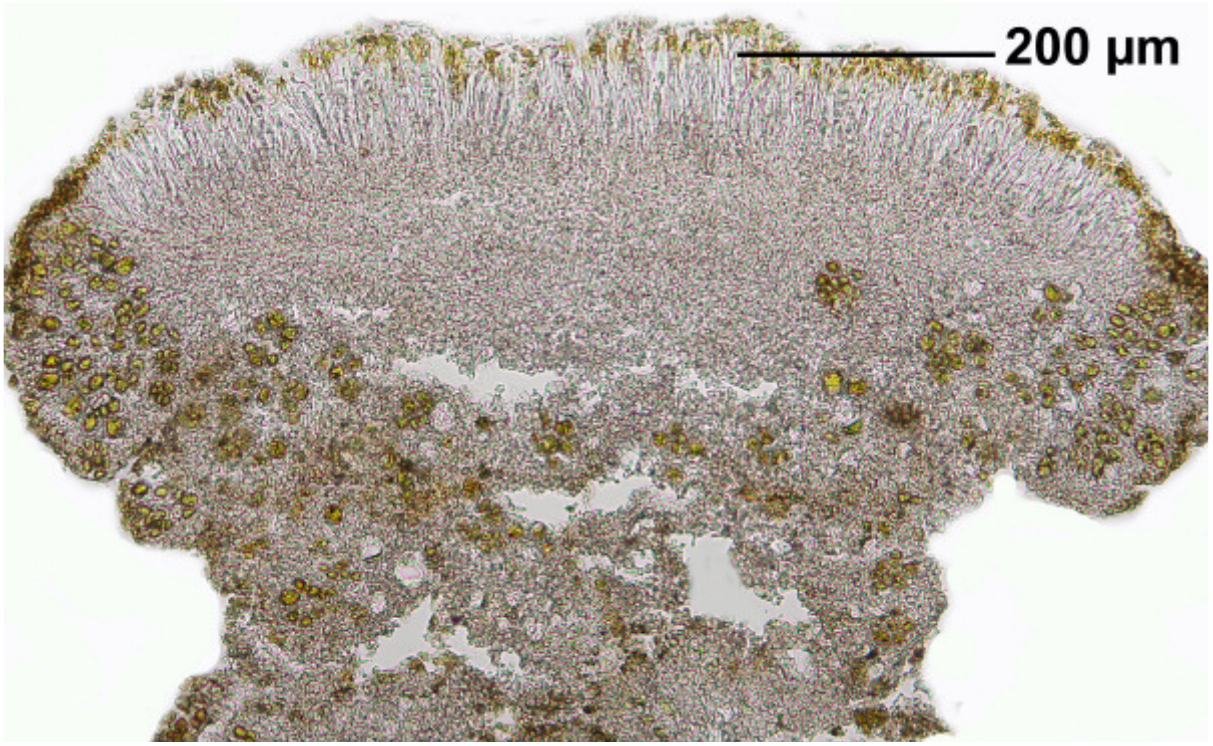
Caloplaca granularis

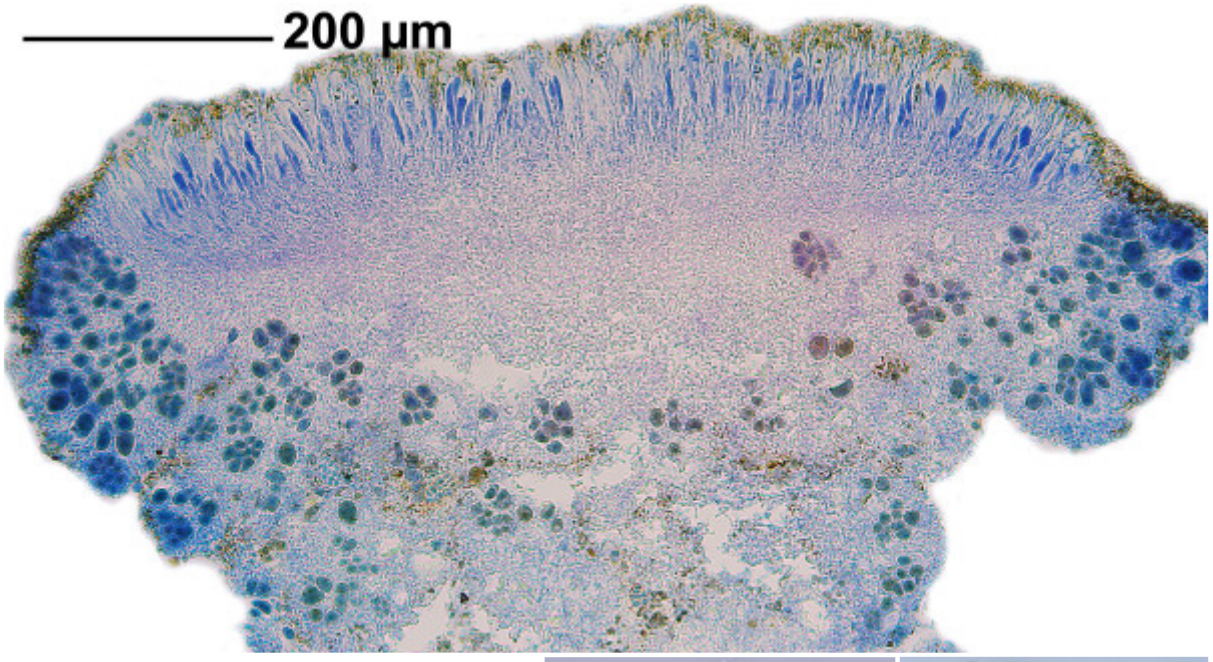
Caloplaca granulosa (Müll.Arg.) Jatta
[= *Flavoplaca granulosa* (Müll.Arg.) Arup, Frödén & Søchting]

Thallus gelb bis orange, unbereift; am Rand gelappt, Lappen 2-3 x 0,5 mm, zentral warzig-körnig isidiös. Sporen 11-13 x 7-9 µm, ellipsoidisch, Septum ½-½ der Sporenlänge

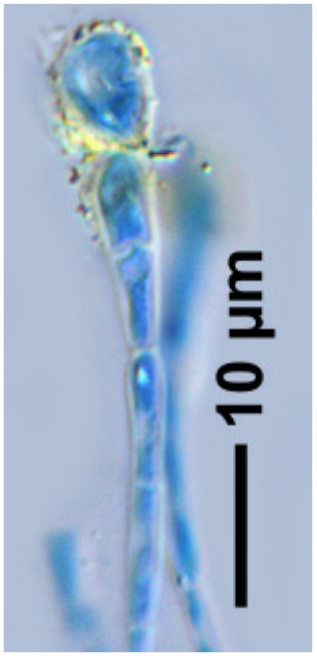
[11719], Germany, Baden-Württemberg, Kreis Esslingen, zwischen Owen und Burg Teck, am Westhang des Hohenbol, auf sonnigen Kalkblöcken, 48°35,708' N, 9°27,724' E, ca. 550 m. Leg. et det. Schumm 04.07.2004, test. A.Aptroot 2011.



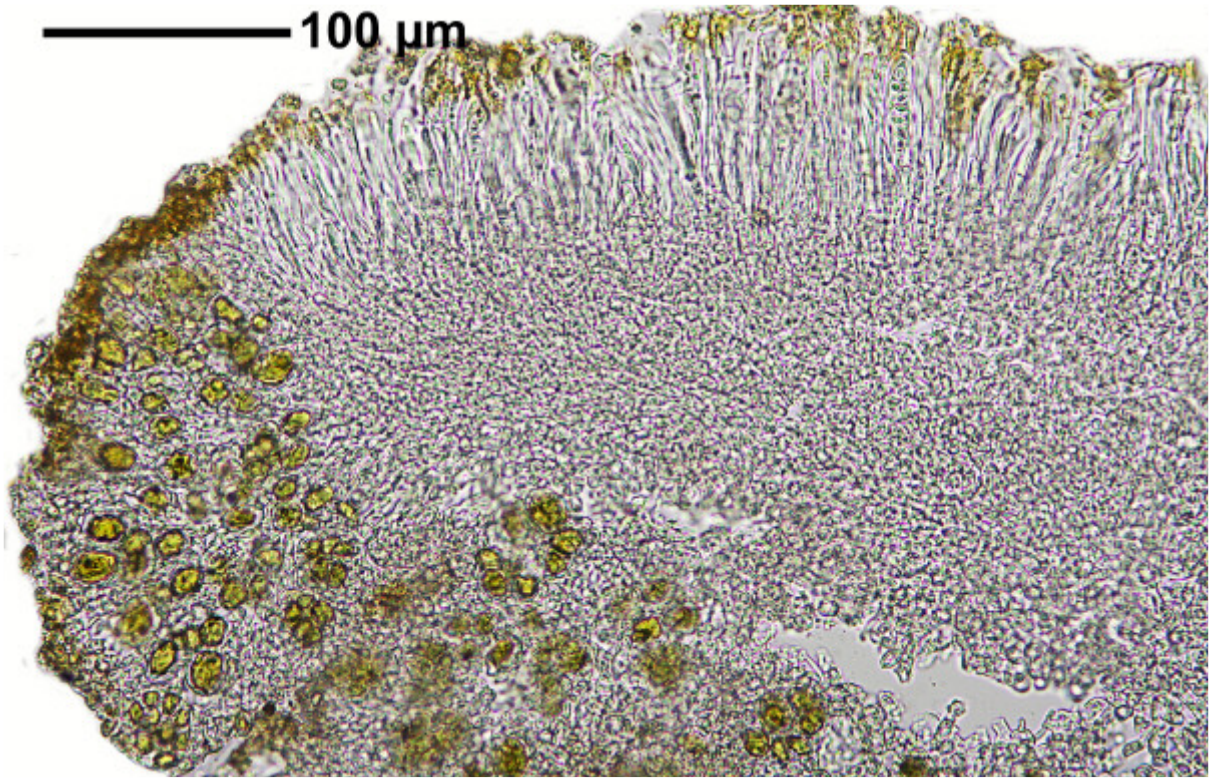


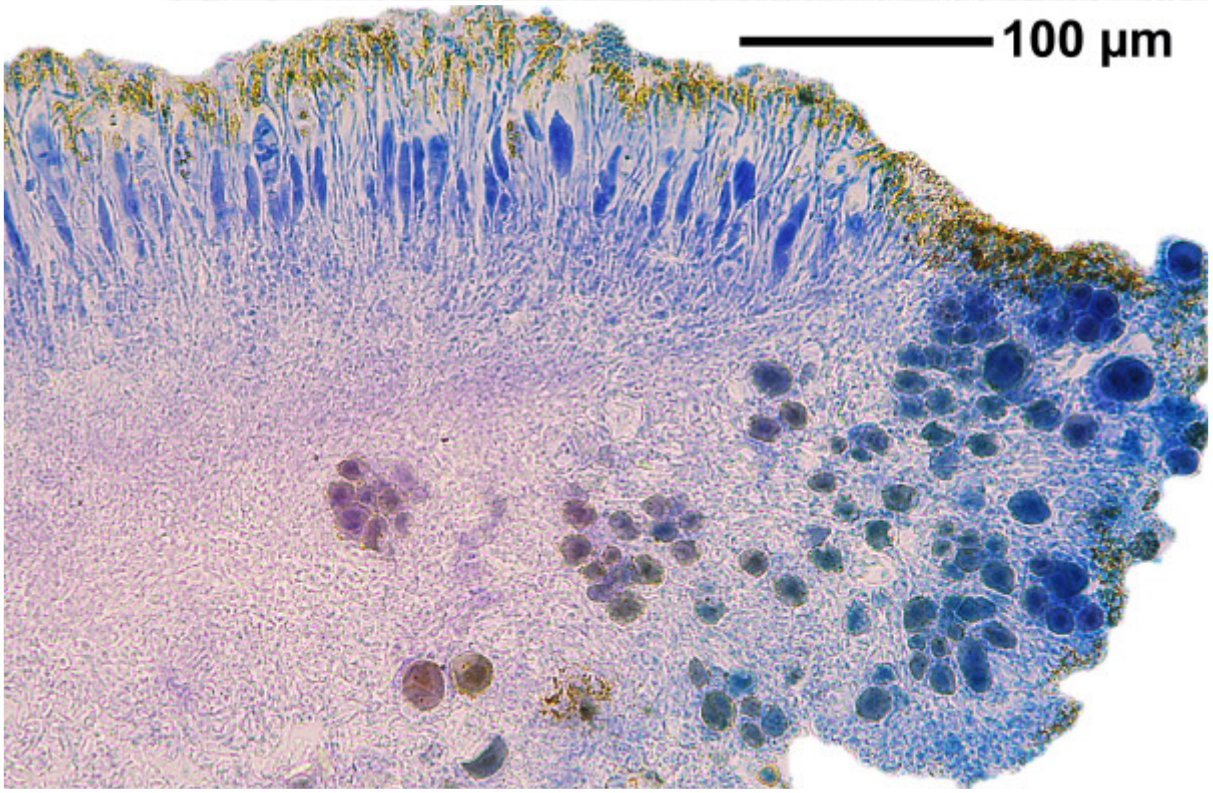


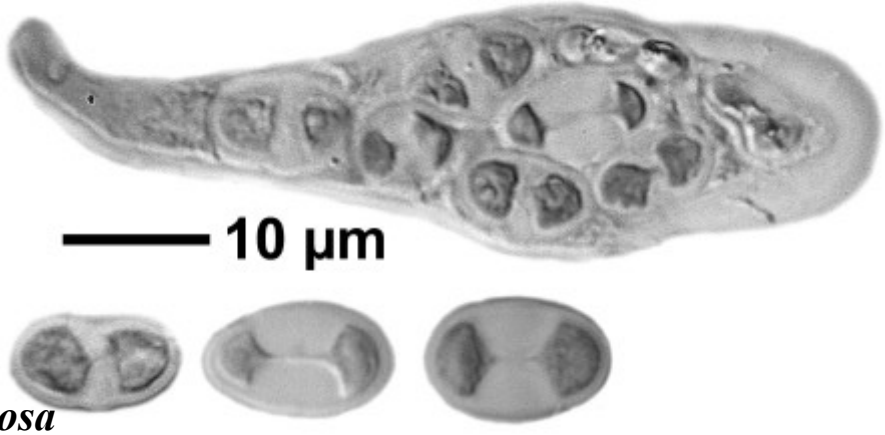




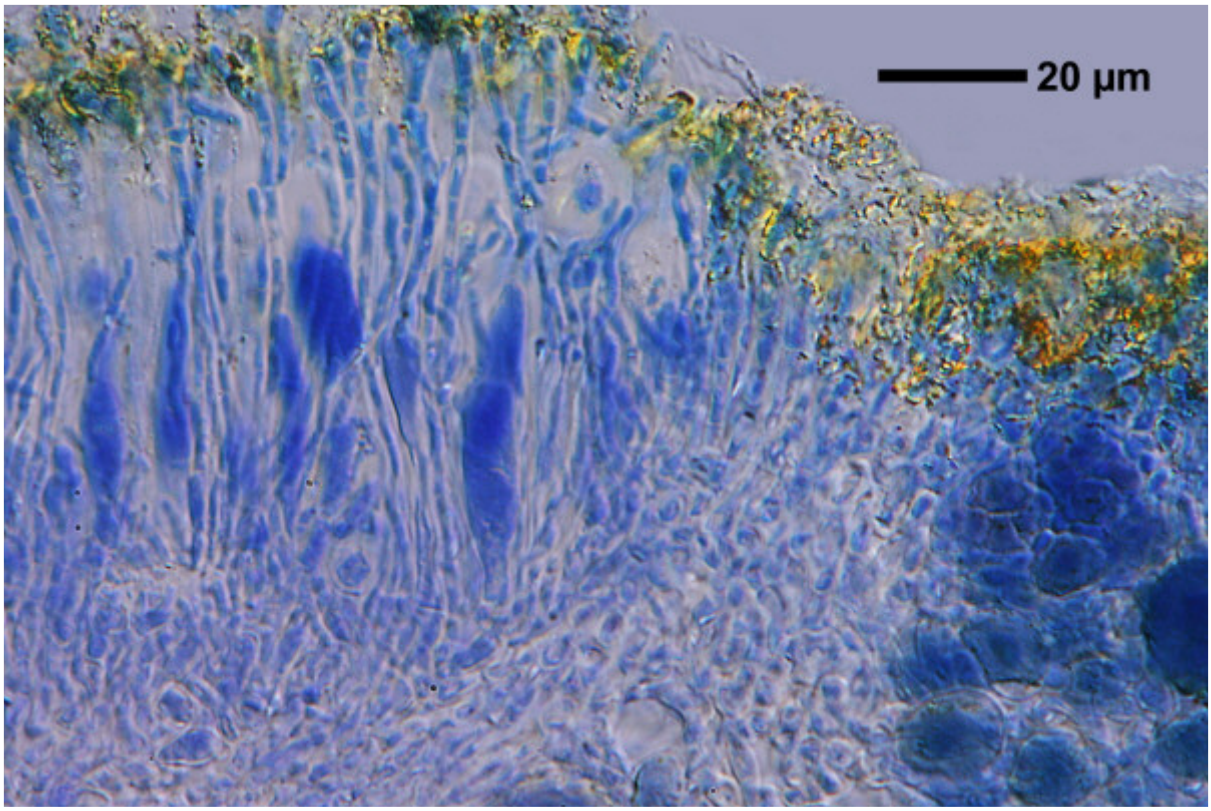
Caloplaca granulosa







Caloplaca granulosa

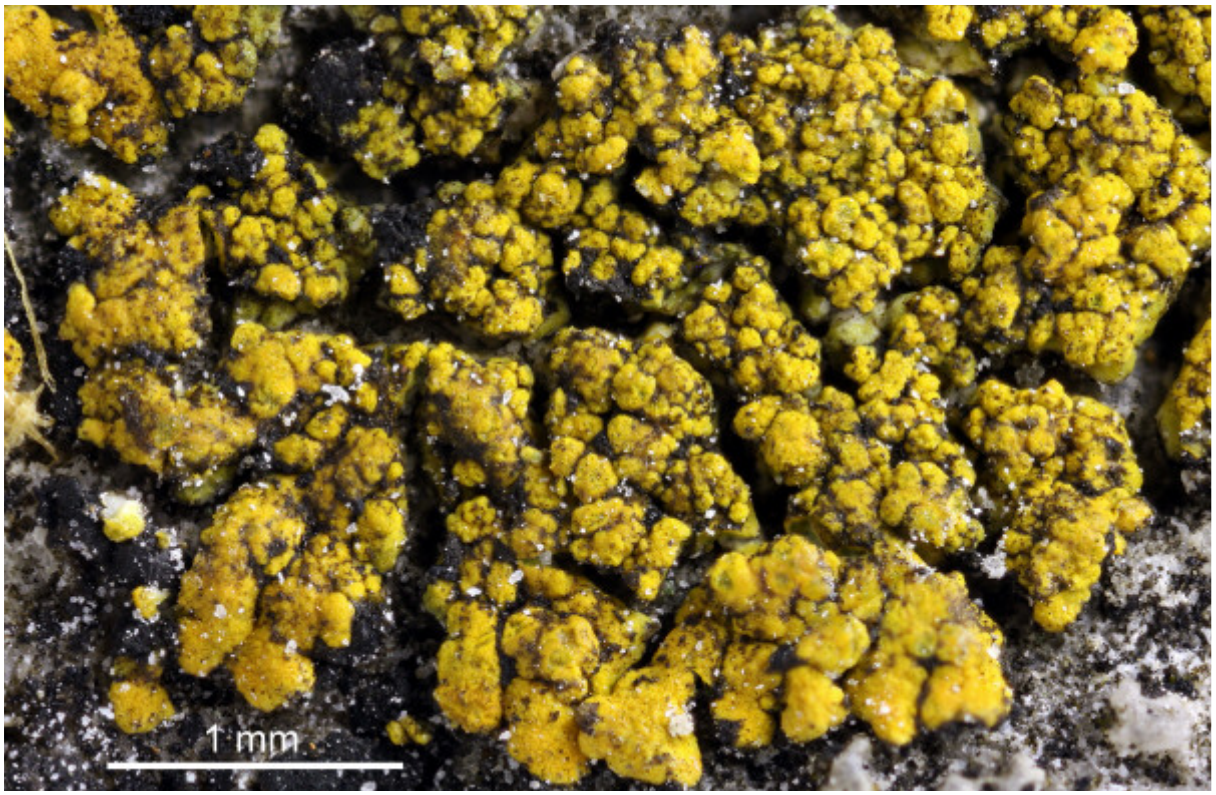


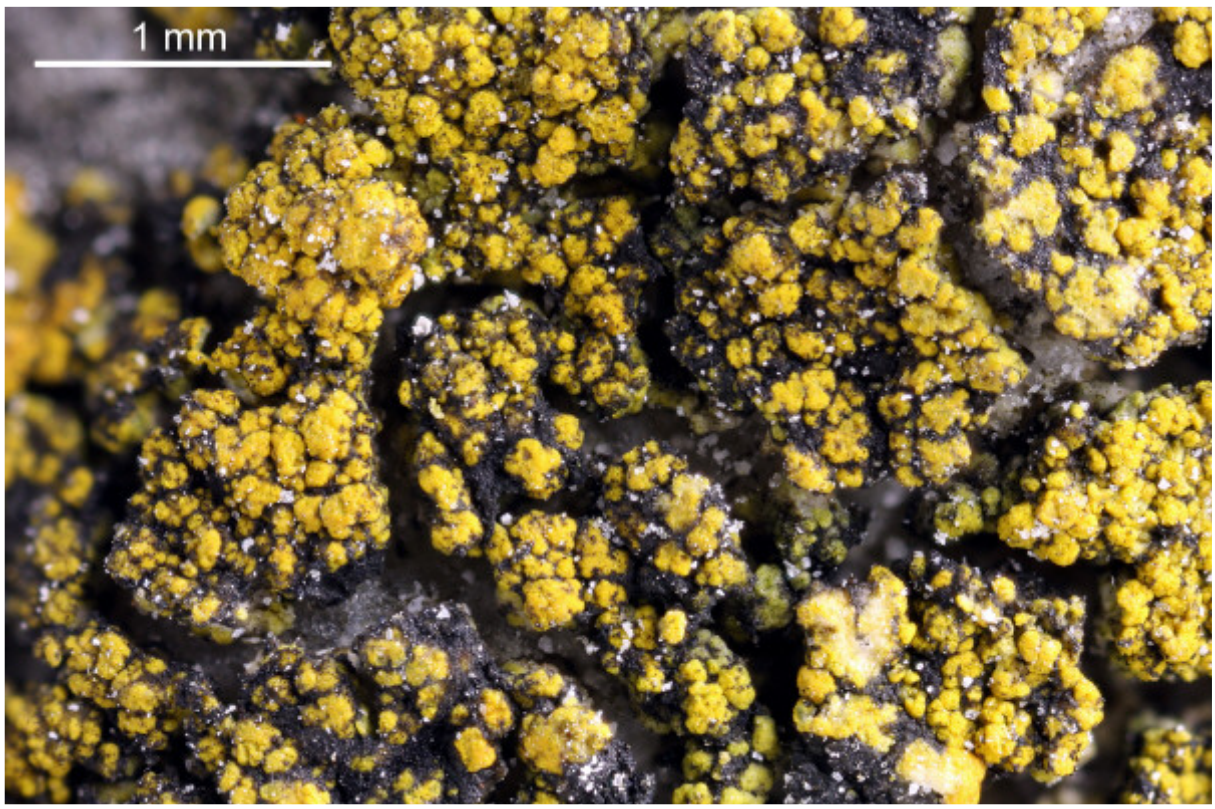
Caloplaca granulosa

Caloplaca granulosa (Müll.Arg.) Jatta
[= *Flavoplaca granulosa* (Müll.Arg.) Arup, Frödén & Søchting]

Th. orangegelb, K+ rot, areoliert, körnig, nicht sorediös. Hier eine Probe mit nur ganz undeutlichen und sehr kurzen Randlappen.

[14940], Germany, Baden-Württemberg, Kreis Esslingen, Weilheim, am Gipfel der Limburg, auf Kalksteinen, ca. 590 m. Leg. Schumm 12.07.2009, det. A. Aptroot 2011.





Caloplaca grimmiae (Nyl.) H. Olivier

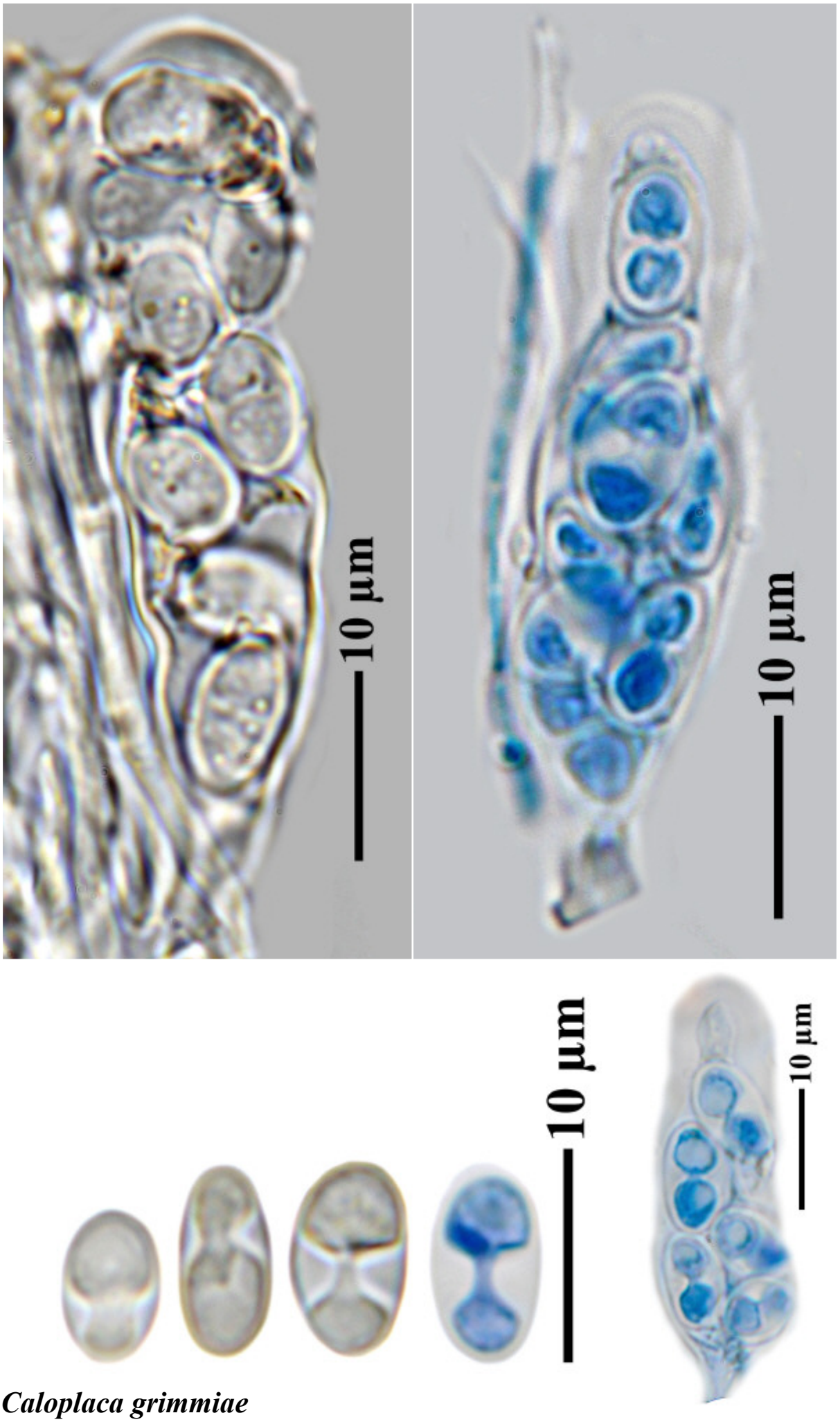
Hymenium 50 µm, clear; epithecium dark brown; hypothecium brown; spores 8/ascus, grey, 10 x 5 µm, septum small (Sipman)

[B 60 0120648], Greece, South Aegean, East Aegean Islands, Nomos Dodekanisou, Kos Island, Kefalos peninsula, c. 4 km S of Kefalos, along road to Agios Ioannis; phrygana dwarfshrub vegetation on hilltop with siliceous rock outcrops. Accomp.: paras. Buellia efimbriata on Buellia fimbriata. 36°43.5' N, 26°57.4' E, 200 m. Leg. H. Sipman (47015) & Th. Raus, 23.09.2000, det. H. Sipman 2001.

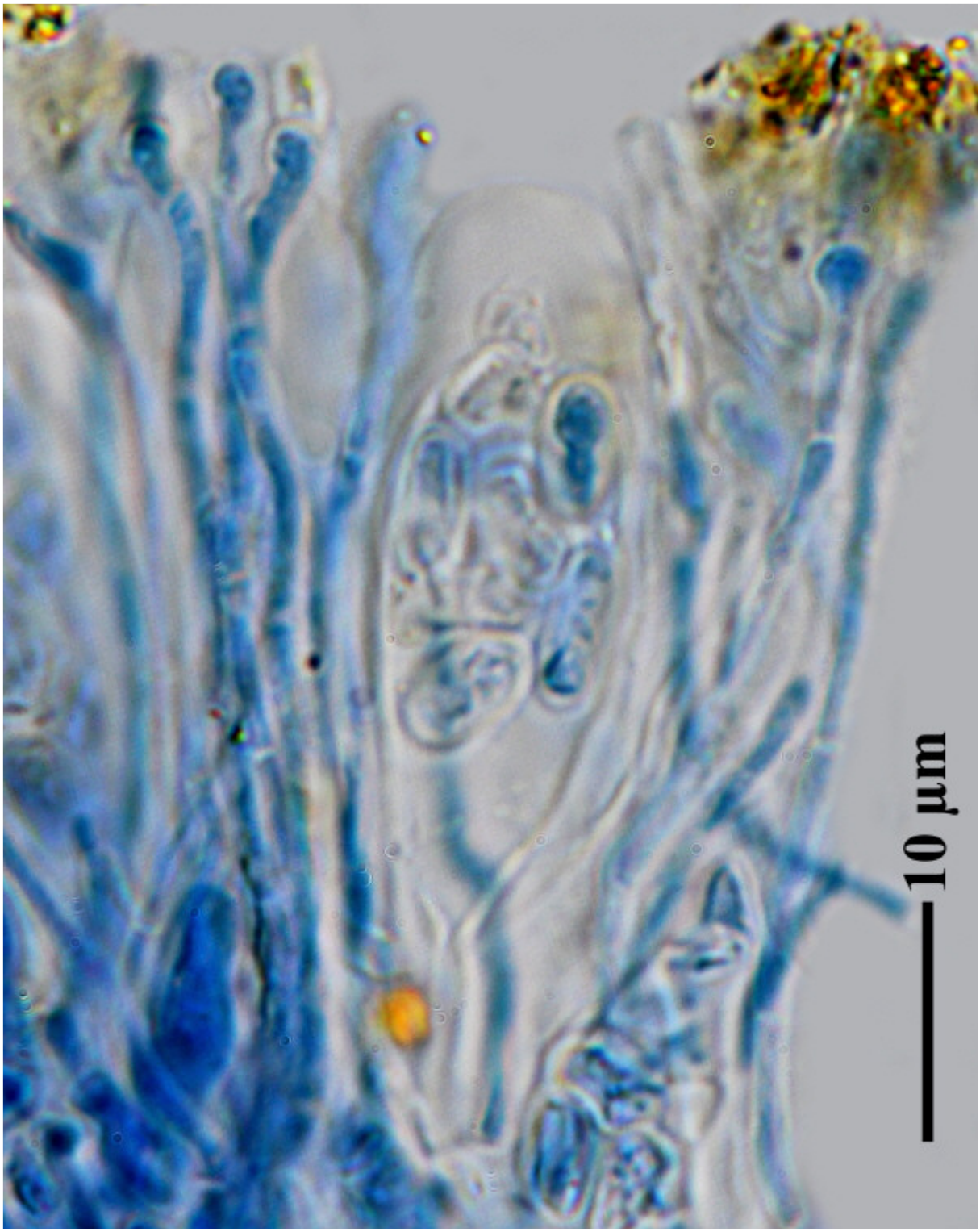




Caloplaca grimmiae



Caloplaca grimmiae



Caloplaca grimmiae

Caloplaca haematites (Chaub. ex St.-Amans) Zwackh

On bark.

[10041], Spanien, Kanaren, Gran Canaria: An der Straße von Pozzo de Las Nieves nach Vega de San Mateo nahe Cueva Grande. 27°59.018' N, 15°34.328' W, ca. 1450 m., auf Laubbaum. Leg. F. Schumm, 03.03.2003, det. H. Sipmann 2016.





Caloplaca haematites

Caloplaca haematites (Chaub. ex St.-Amans) Zwackh

On bark.

[12387], Griechenland, N-Samos, südlich Avlakia an der Straße oberhalb Vourliotes nördlich des Bergmassivs Lazarou, 37°48' N, 26°51' E, ca. 774 m, an Juglans. Leg. F. Schumm & R. Düll, 03.05.2006, det. H. Sipman 2016.





Caloplaca haematites

Caloplaca haematites (Chaub. ex St.-Amans) Zwackh

On bark.

[19543], Griechenland, N-Samos, südlich Avlakia an der Straße oberhalb Vourliotes nördlich des Bergmassivs Lazarou, 37°48' N, 26°51' E, ca. 776 m, auf Rinde. Leg. F. Schumm, R. Düll & Maier, 03.05.2006, det. H. Sipman nach Foto.





Caloplaca haematites

Caloplaca haematites (Chaub. ex St.-Amans) Zwackh

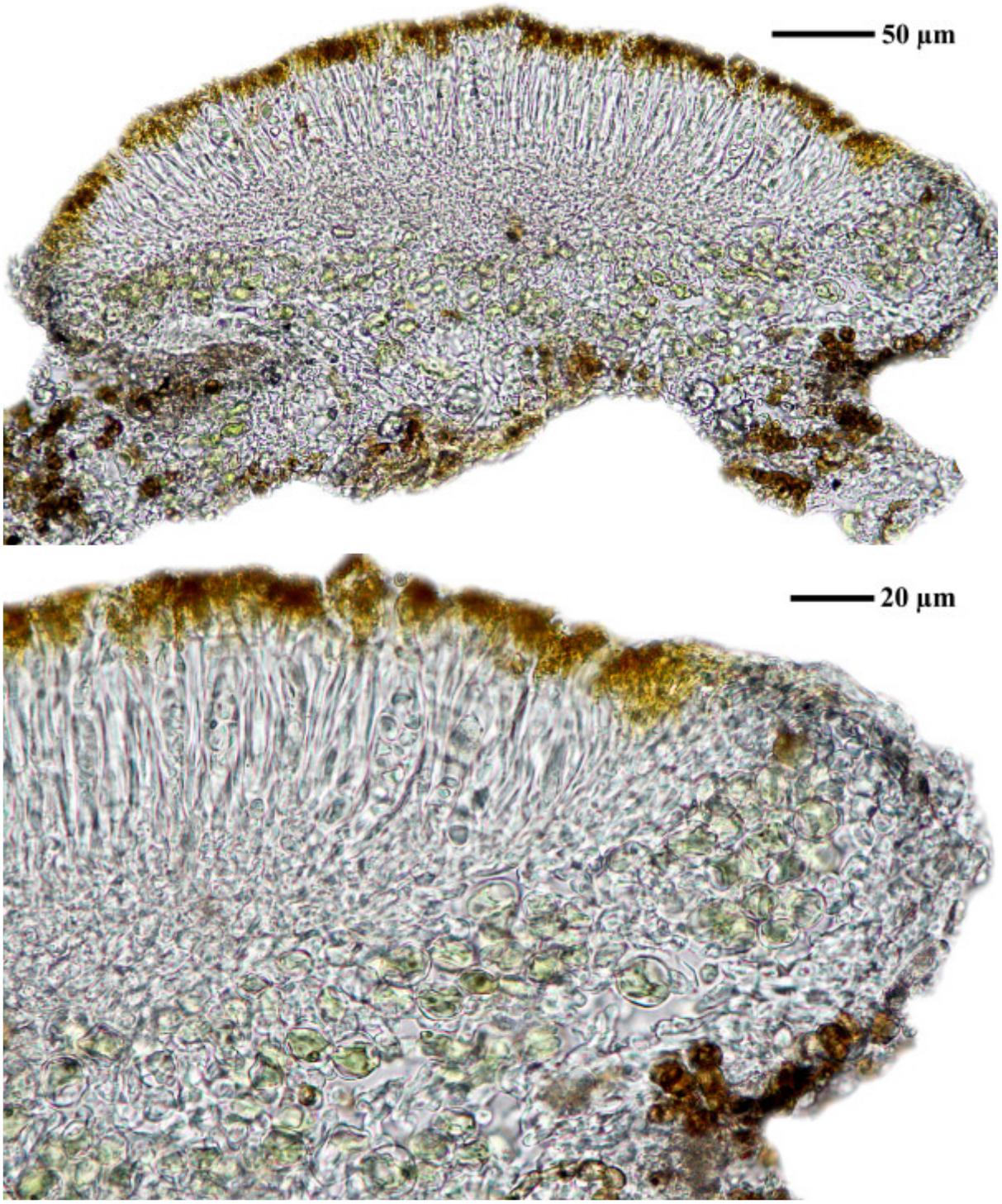
Spores 10-13.1 x 5.2-6.9 µm, septum 3.4-4.1 µm (FS). On bark. Lit. Zwackh W. in Flora, Regensburg, 45: 487 (1862).

[19586], Hispania, Prov. Madrid, Aranjuez prope Mar de Ontigola, alt. 500 m., in ramulis emotuis fruticum, in colle gysaceo. Leg. A. Crespo & J. Hafellner (8594), 12.09.1980. VěZDA: LICHENES SELECTI EXSICCATI NR. 2113.

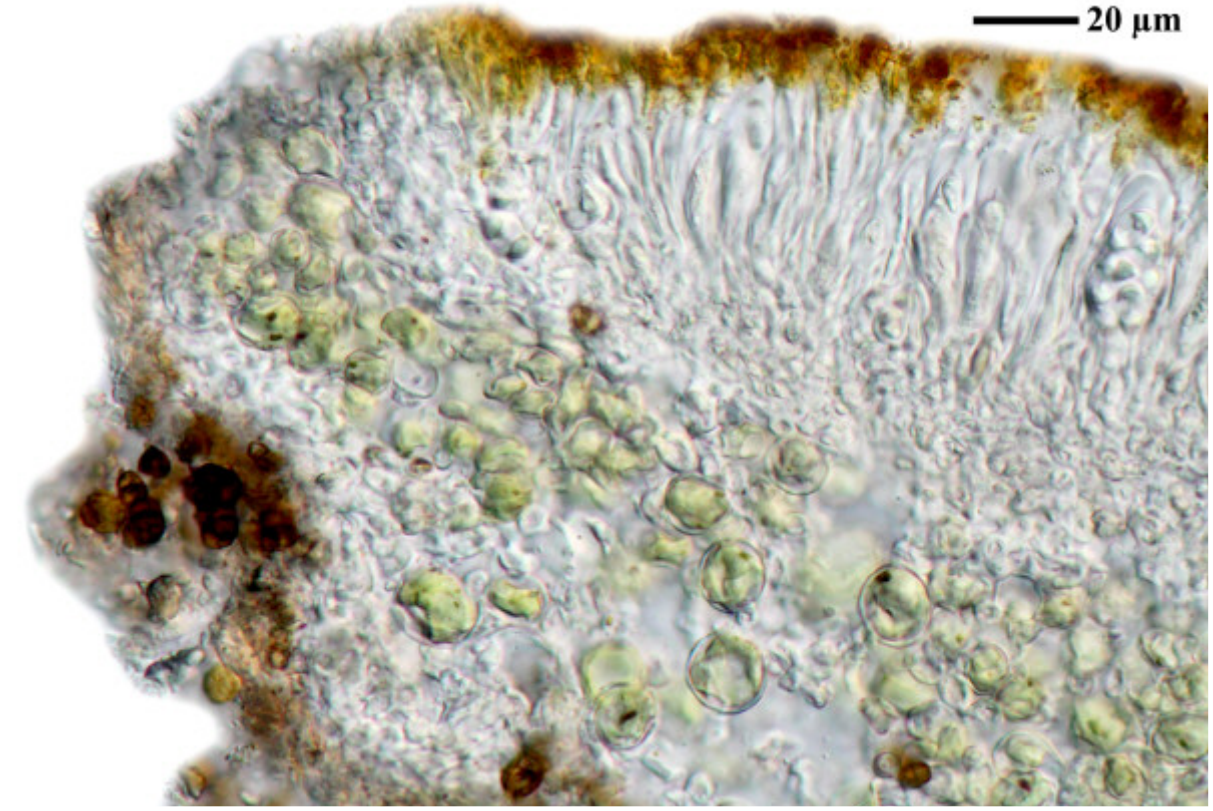


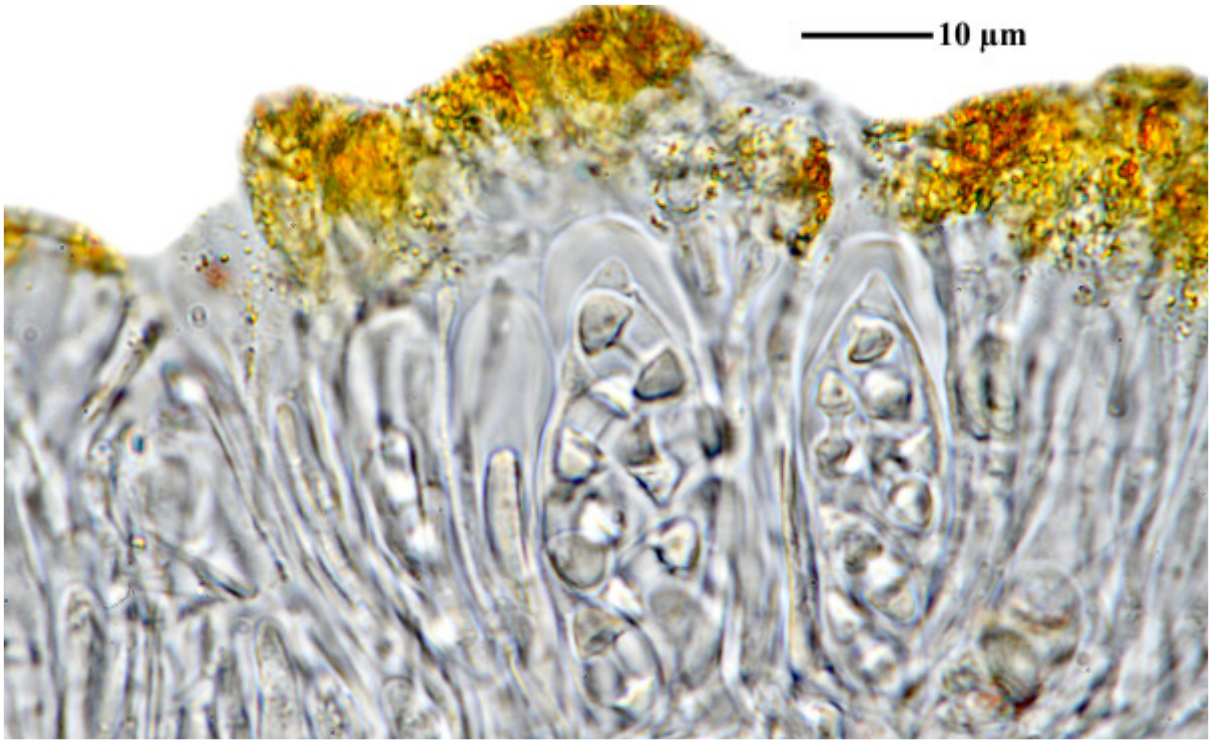


Caloplaca haematites

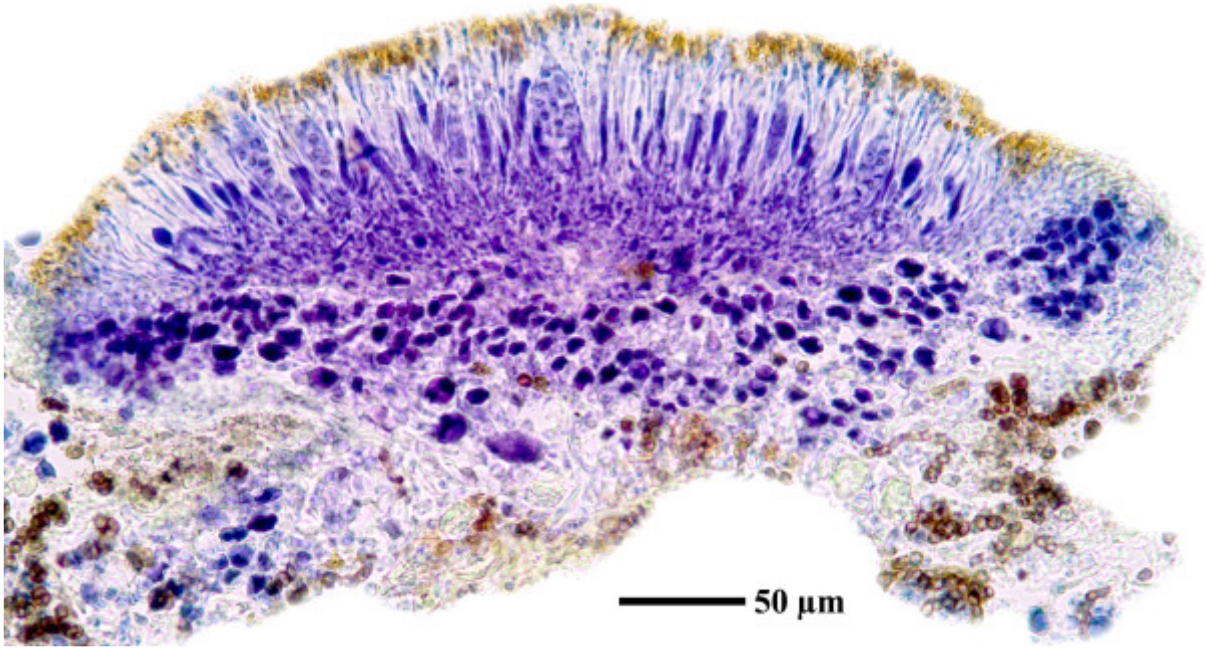


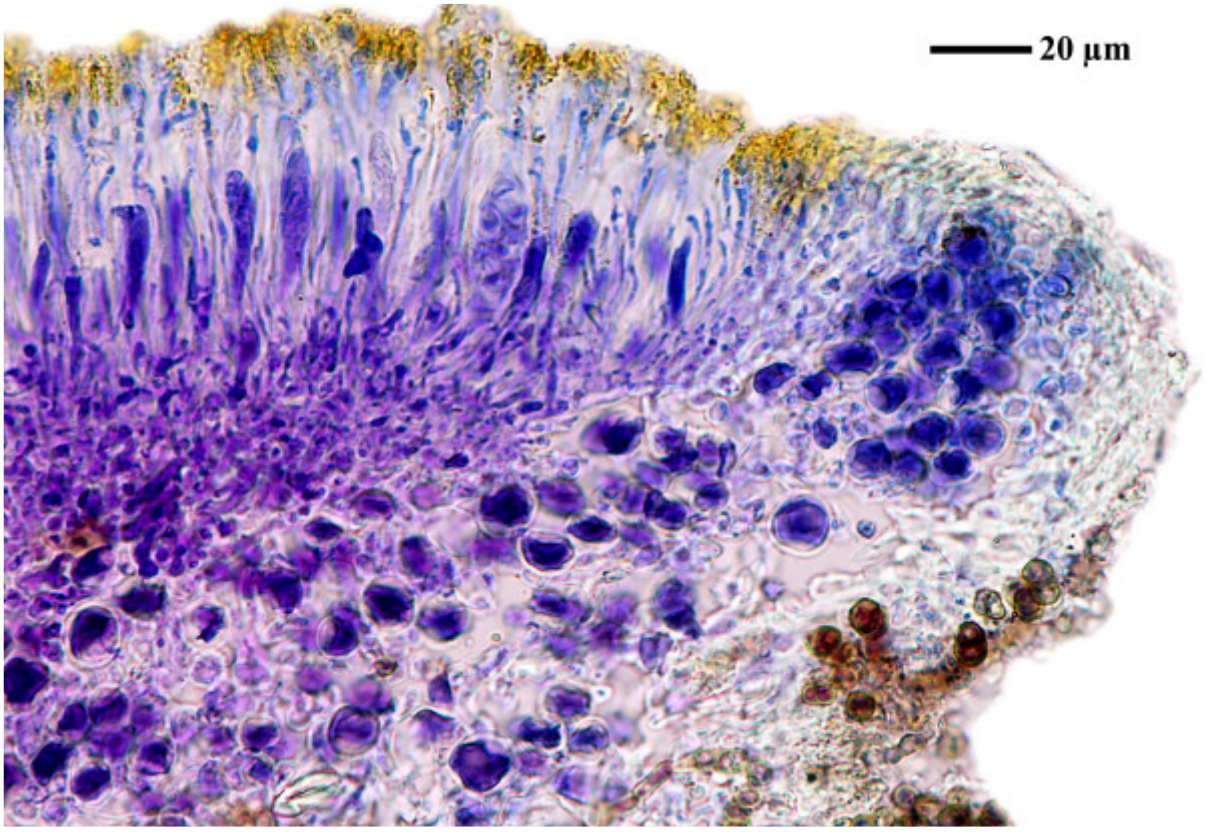
Caloplaca haematites



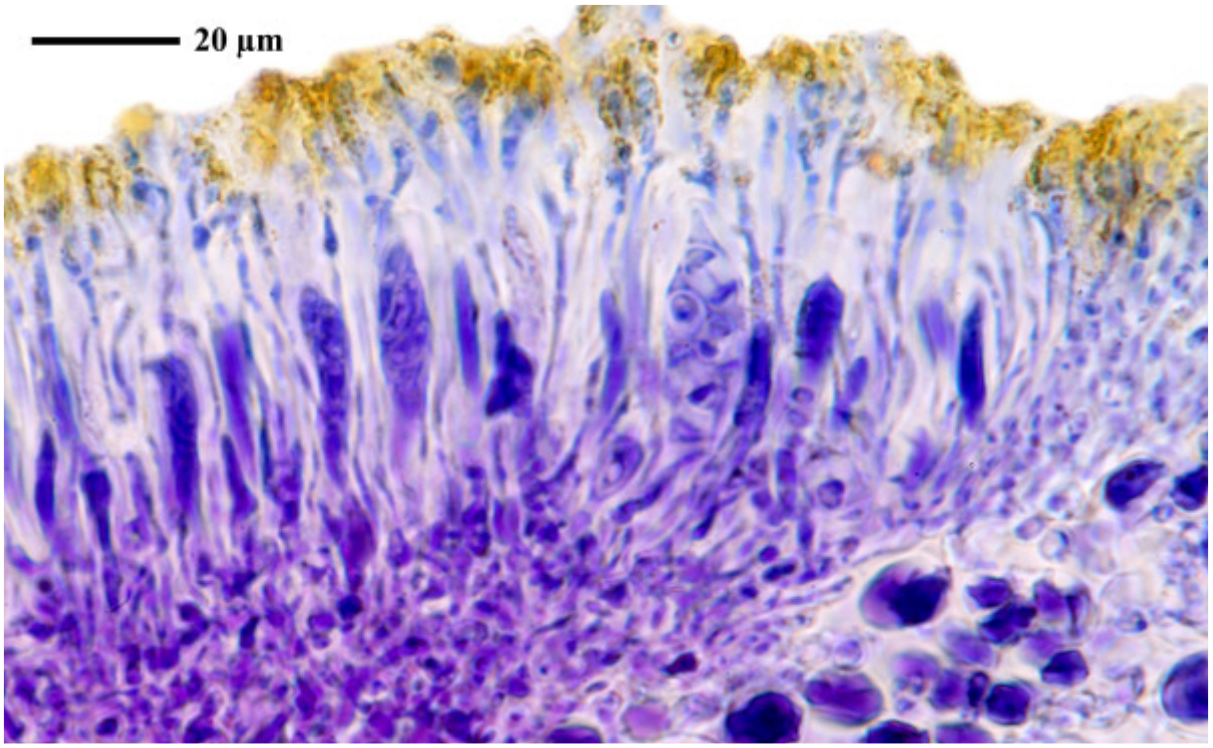


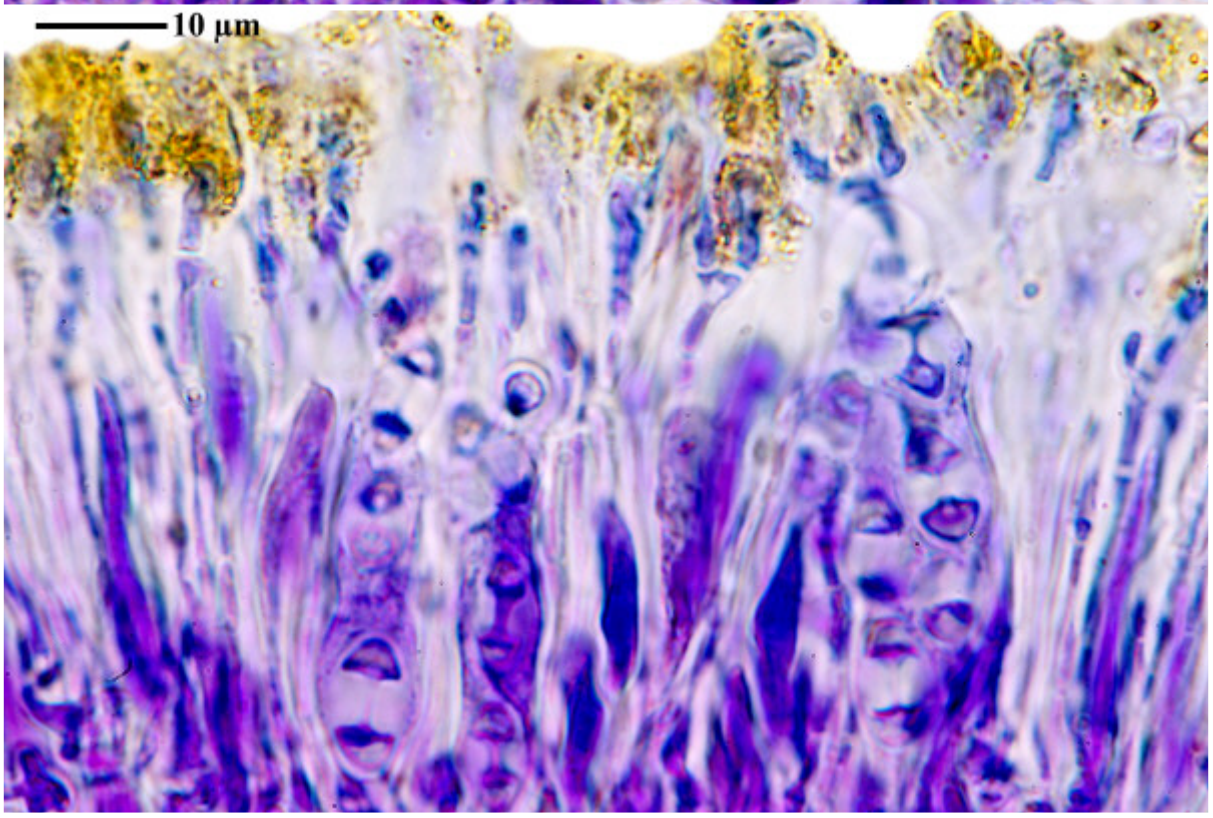
Caloplaca haematites





Caloplaca haematites







Caloplaca haematites

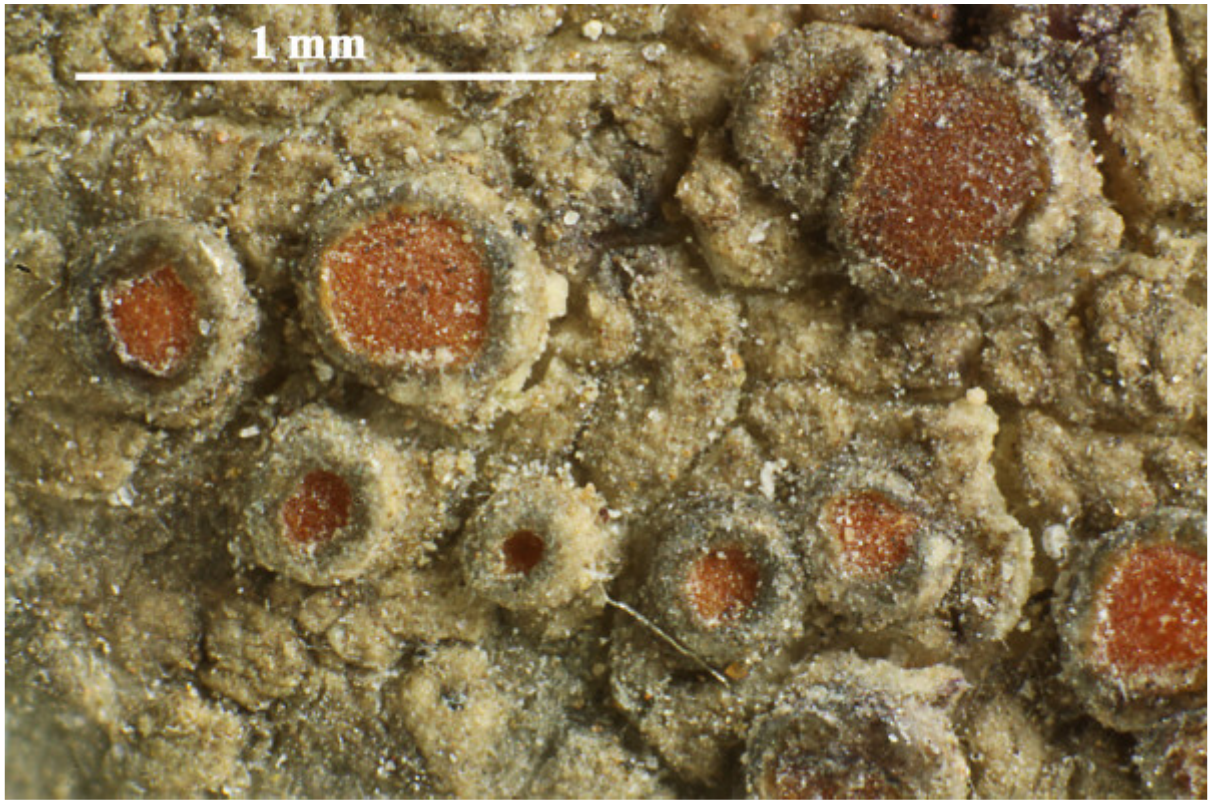
Caloplaca haematites (Chaub. ex St.-Amans) Zwackh

Spores 10.3-13.7 x 6.2-8.3 µm, septum 5.2-6.9 (FS). On bark. Lit. Zwackh in Flora, Regensburg, 45: 487 (1862)

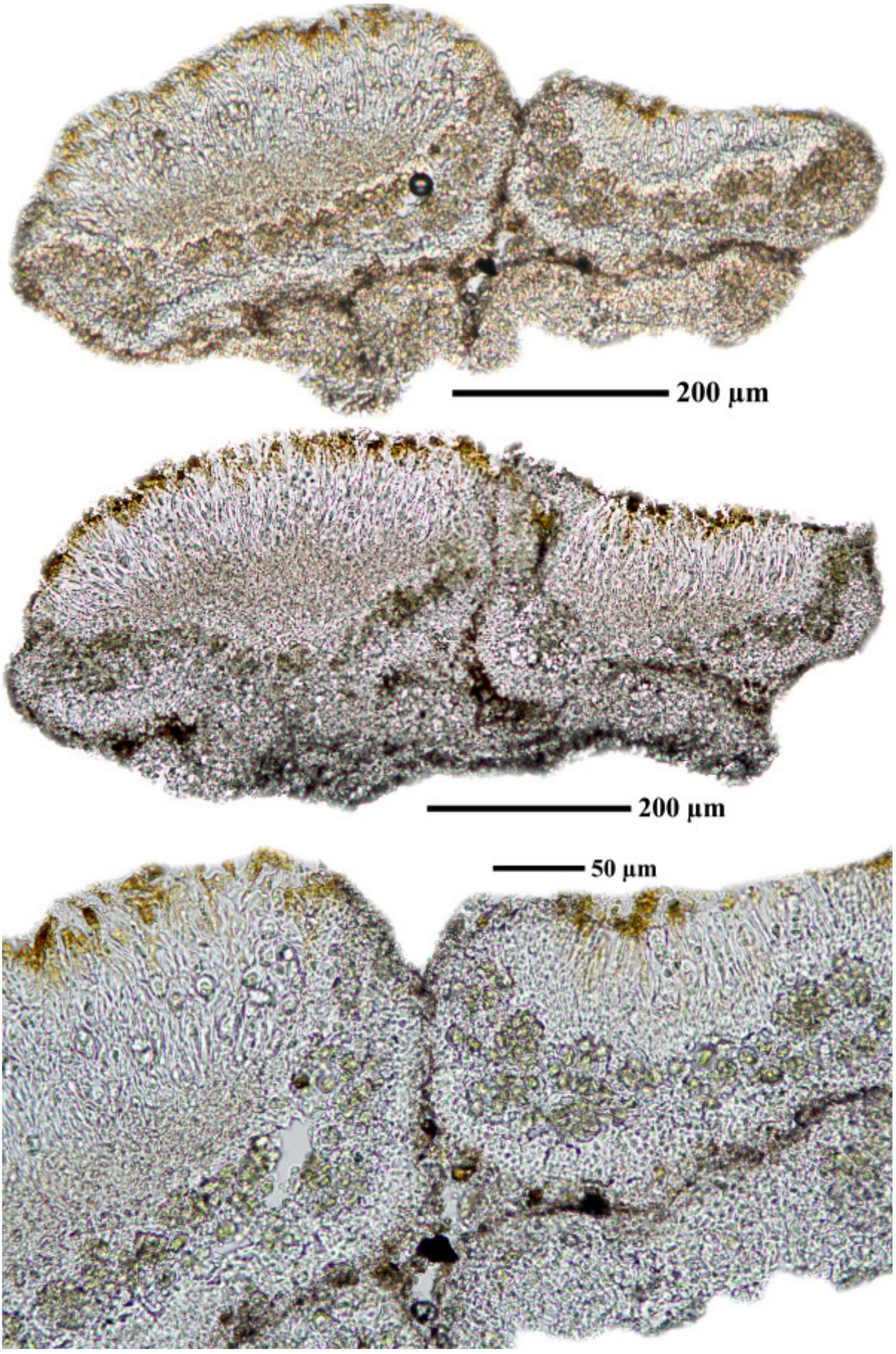
[19587], Italia, Sicilia, Aetna, in valle San Giacomo, alt. 1180 m, ad corticem arboris (*Juglans regia*). Leg. M. Steiner, 28.04.1961. VěZDA: LICHENES SELECTI EXSICCATI NR. 1889.



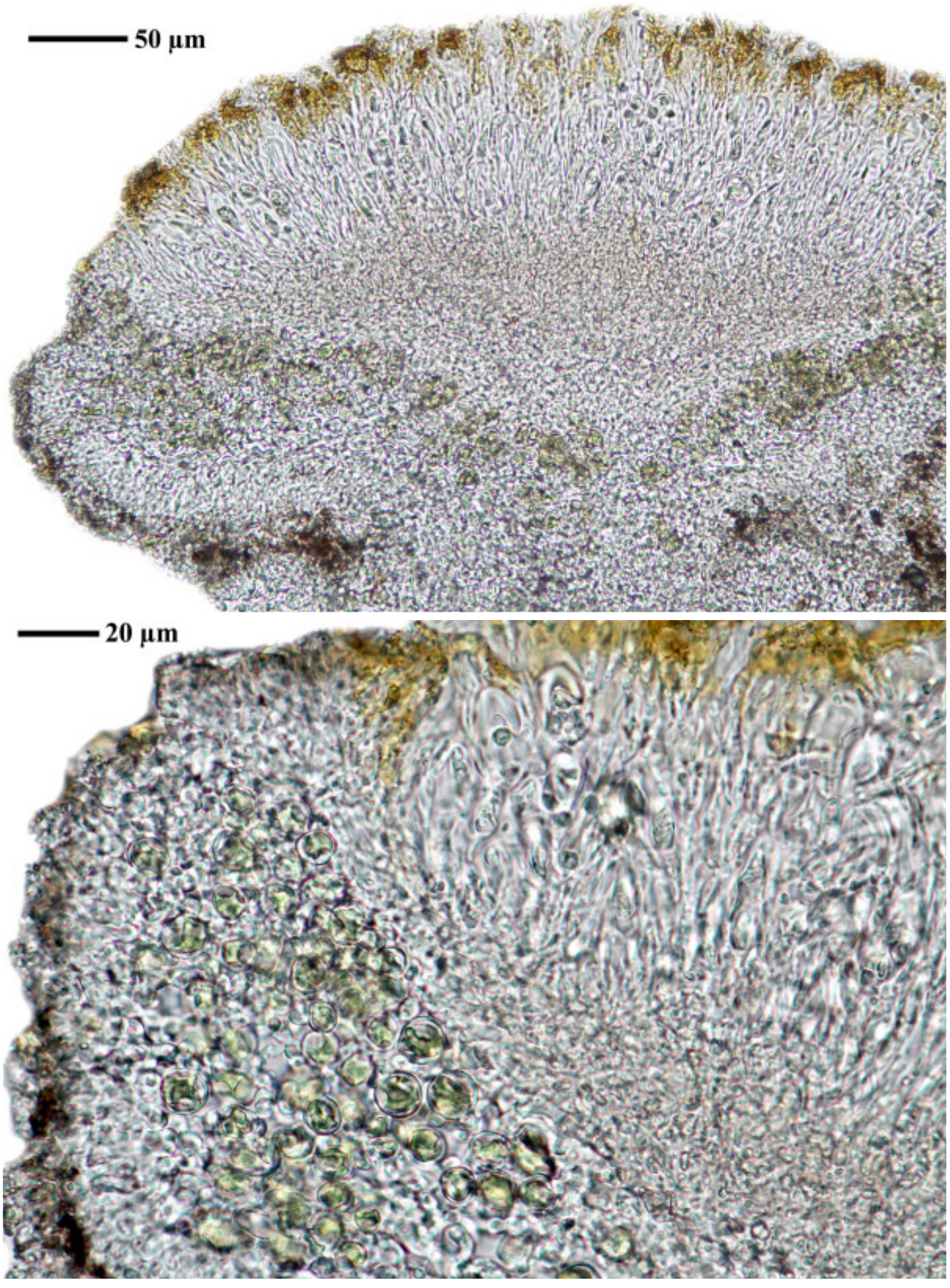




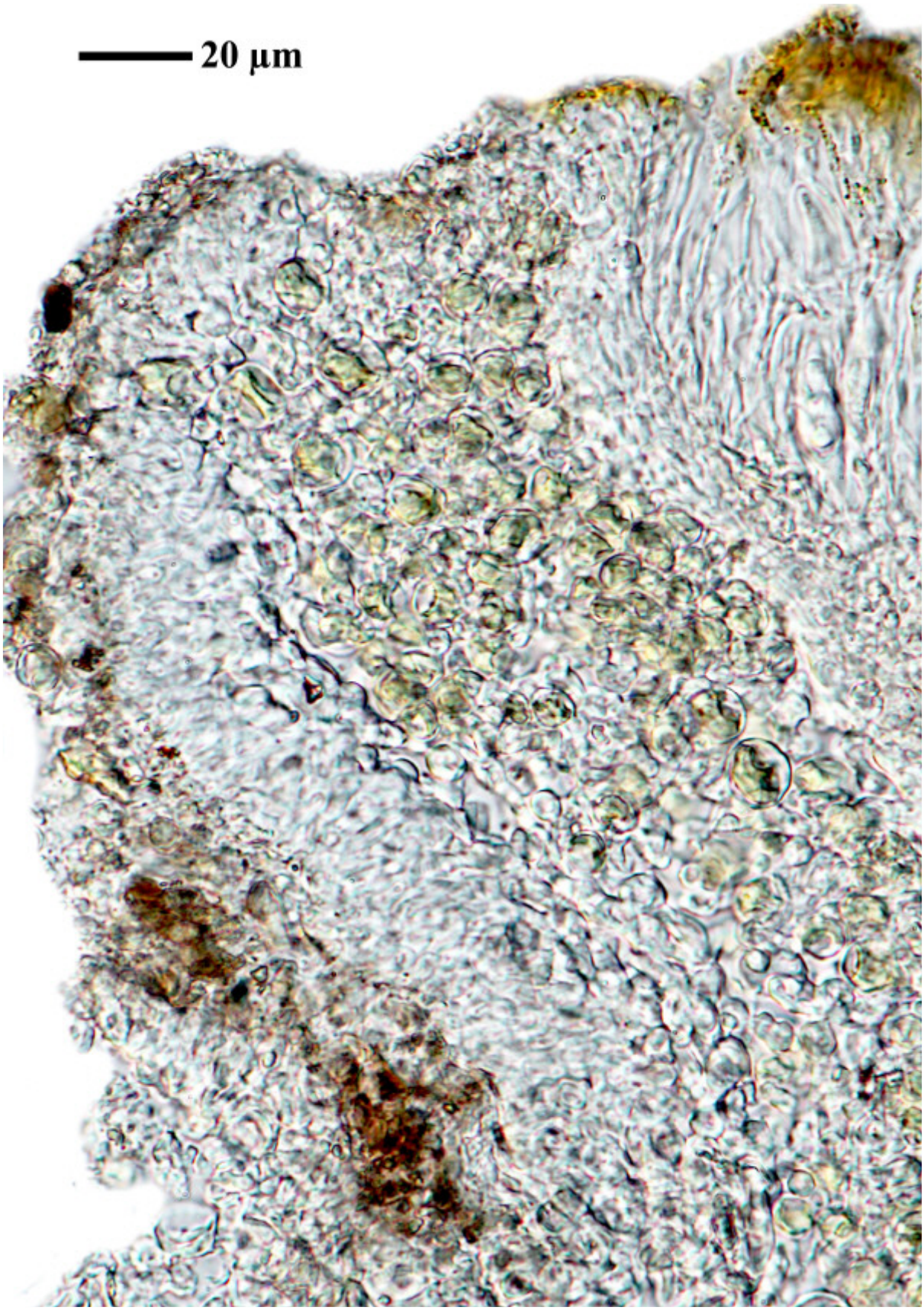
Caloplaca haematites



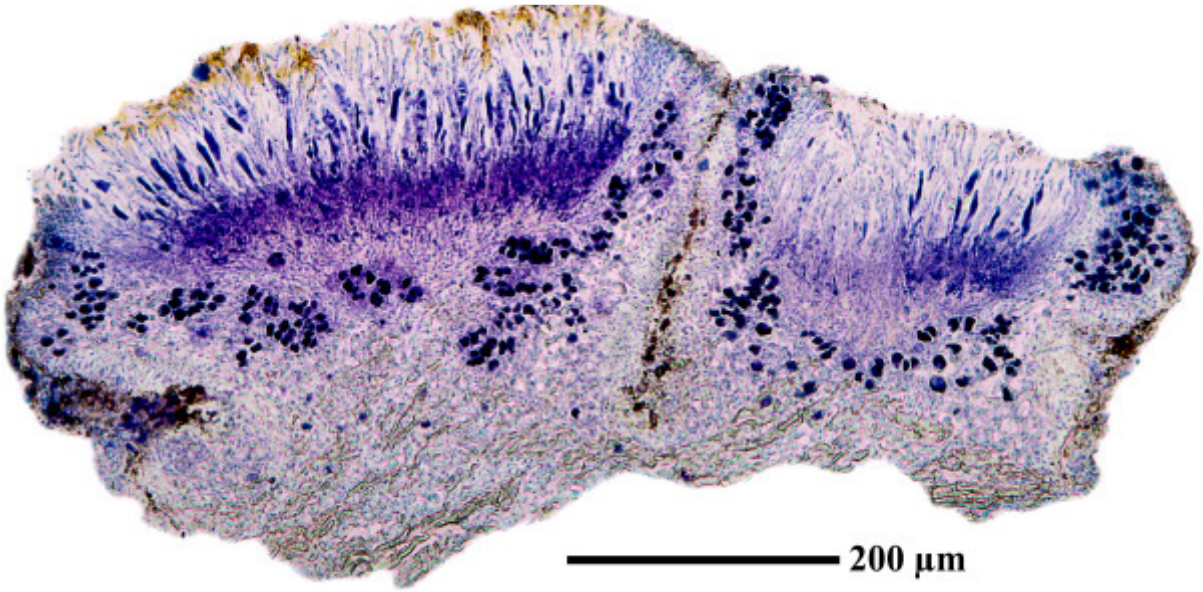
Caloplaca haematites

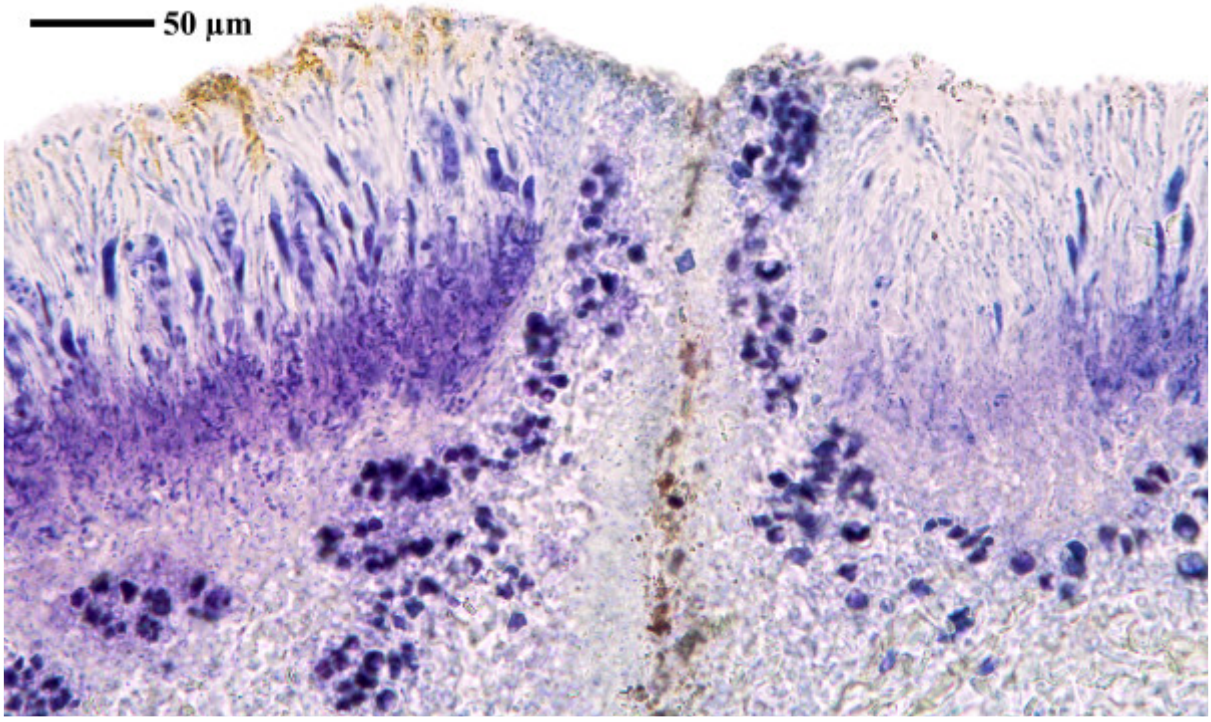


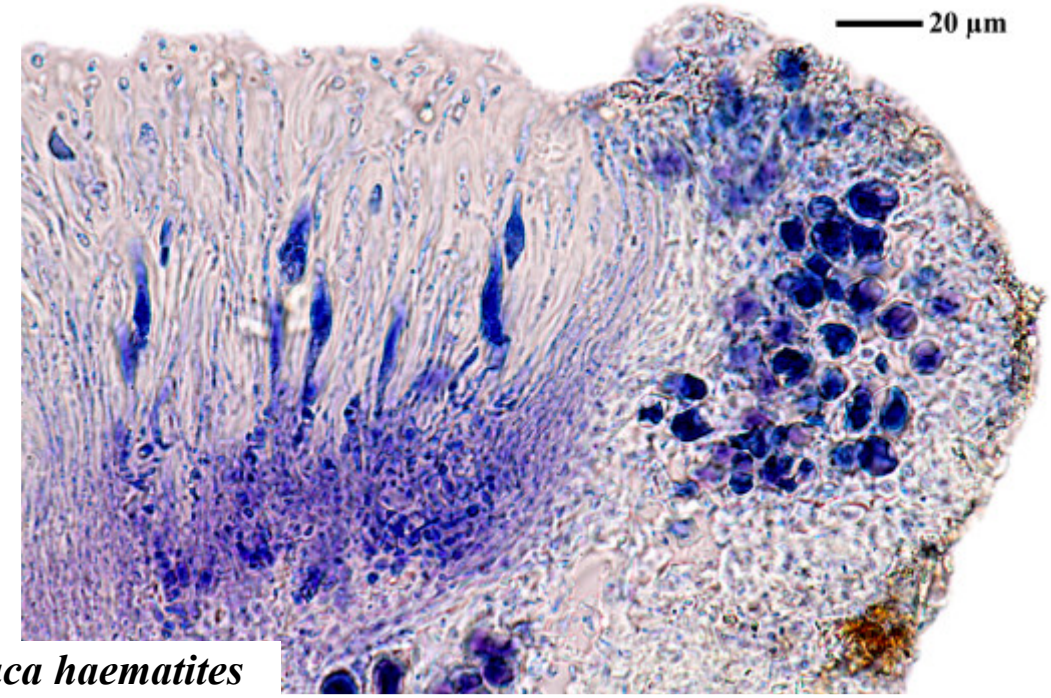
Caloplaca haematites



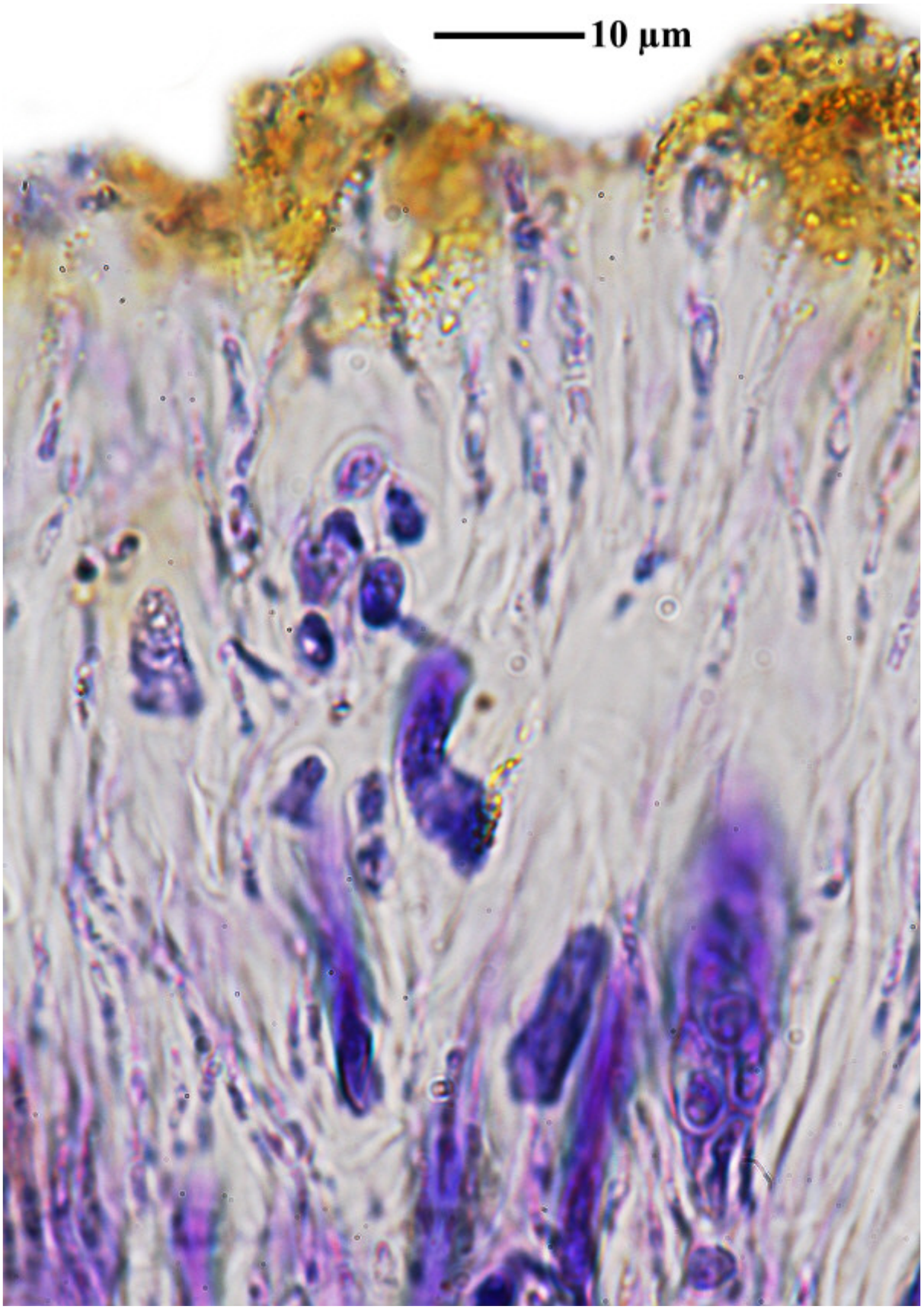
Caloplaca haematites







Caloplaca haematites



Caloplaca haematites





Caloplaca haematites

Caloplaca haematodes (A. Massal.) Zahlbr.

Spores 8.5-10 x 5.5-6 µm, septum 4-4.4 µm.

[BR5030036096123], South Africa, Western Cape Prov., Bontebok National Park near Swellendam,170 km of Kaapstad, on rock along river. Leg. C.M. van Herk 3. Okt. 1997, det. A. Aptroot 1997.





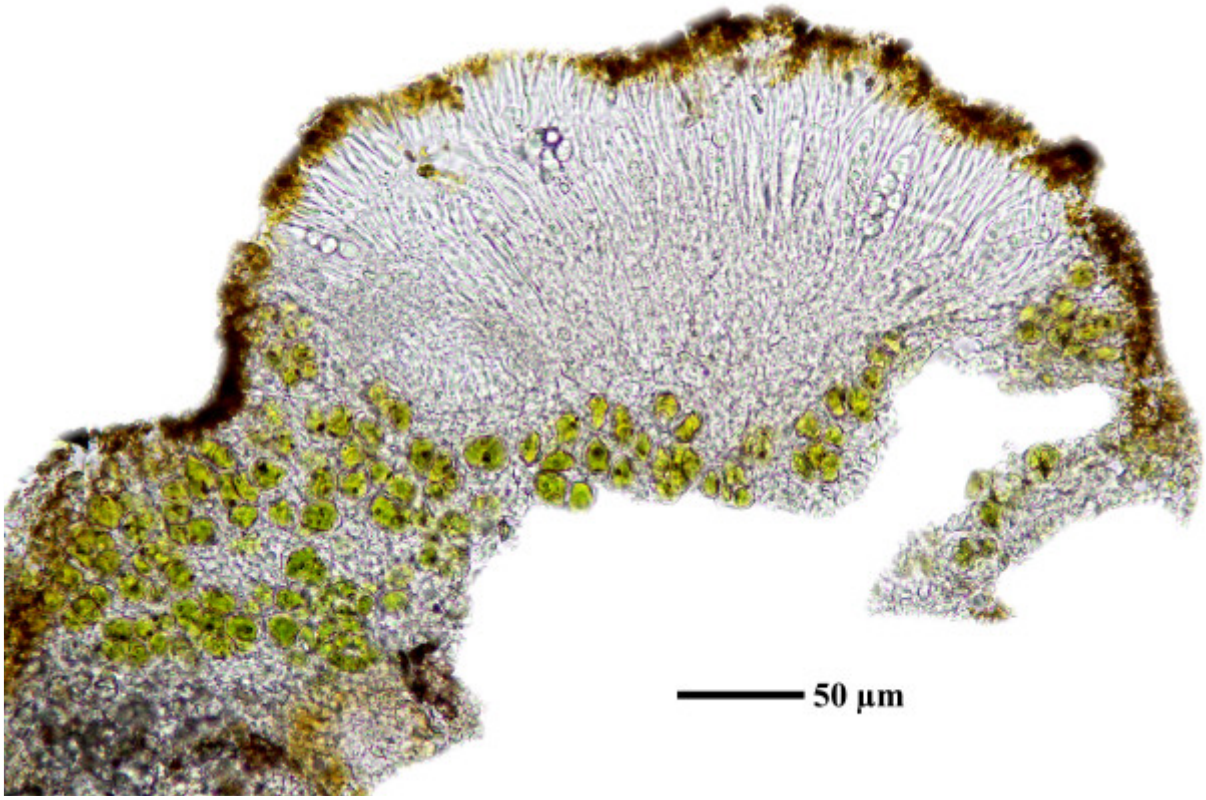


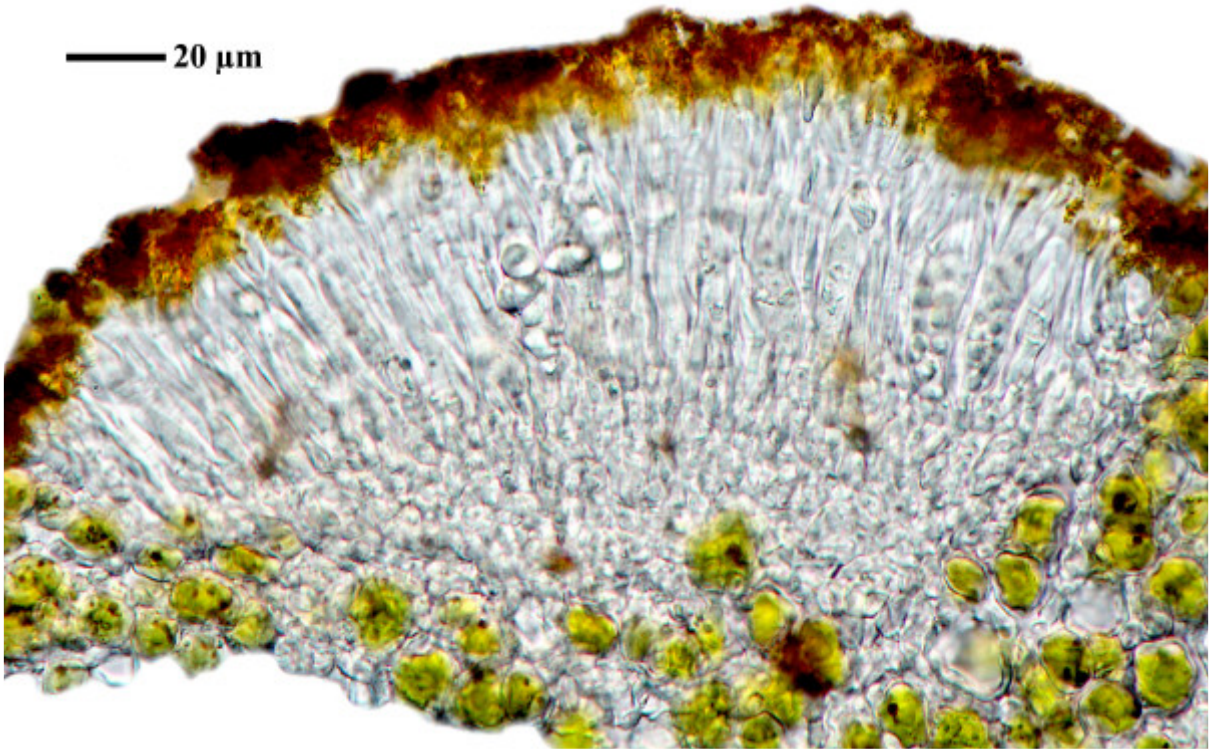
Caloplaca haematodes



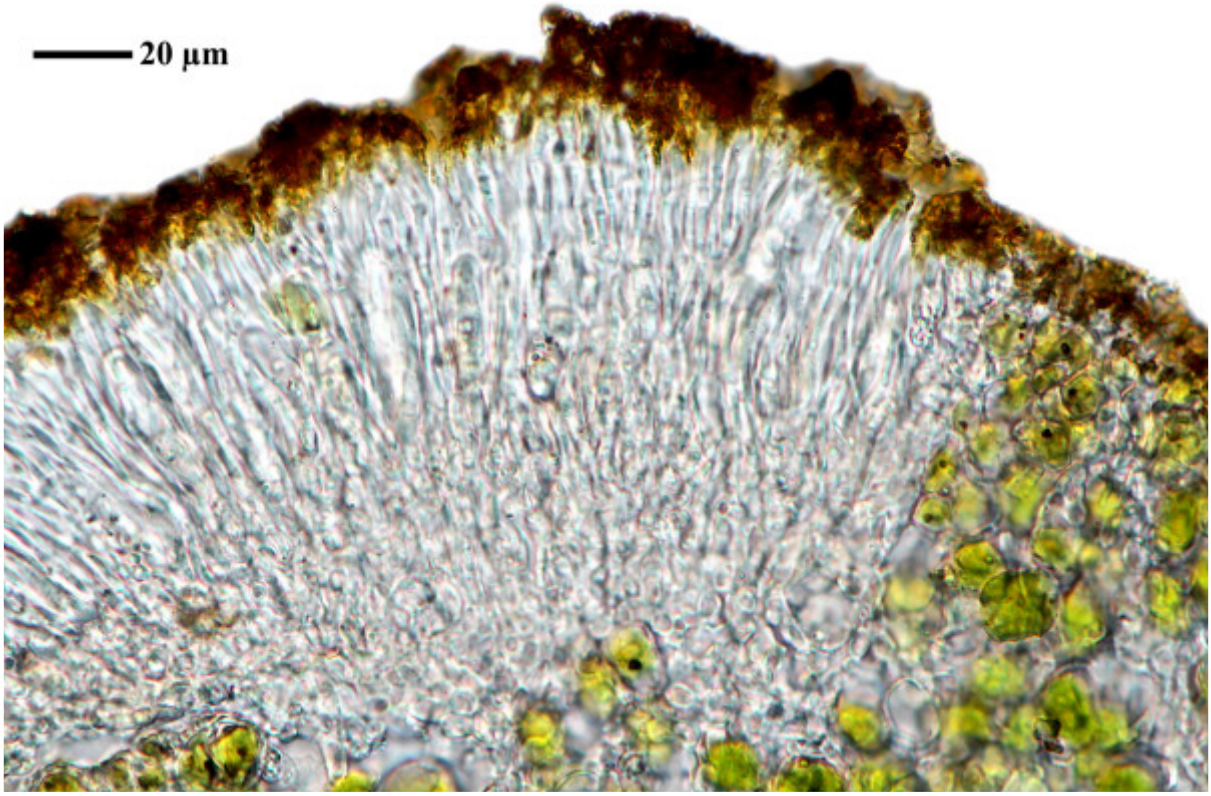


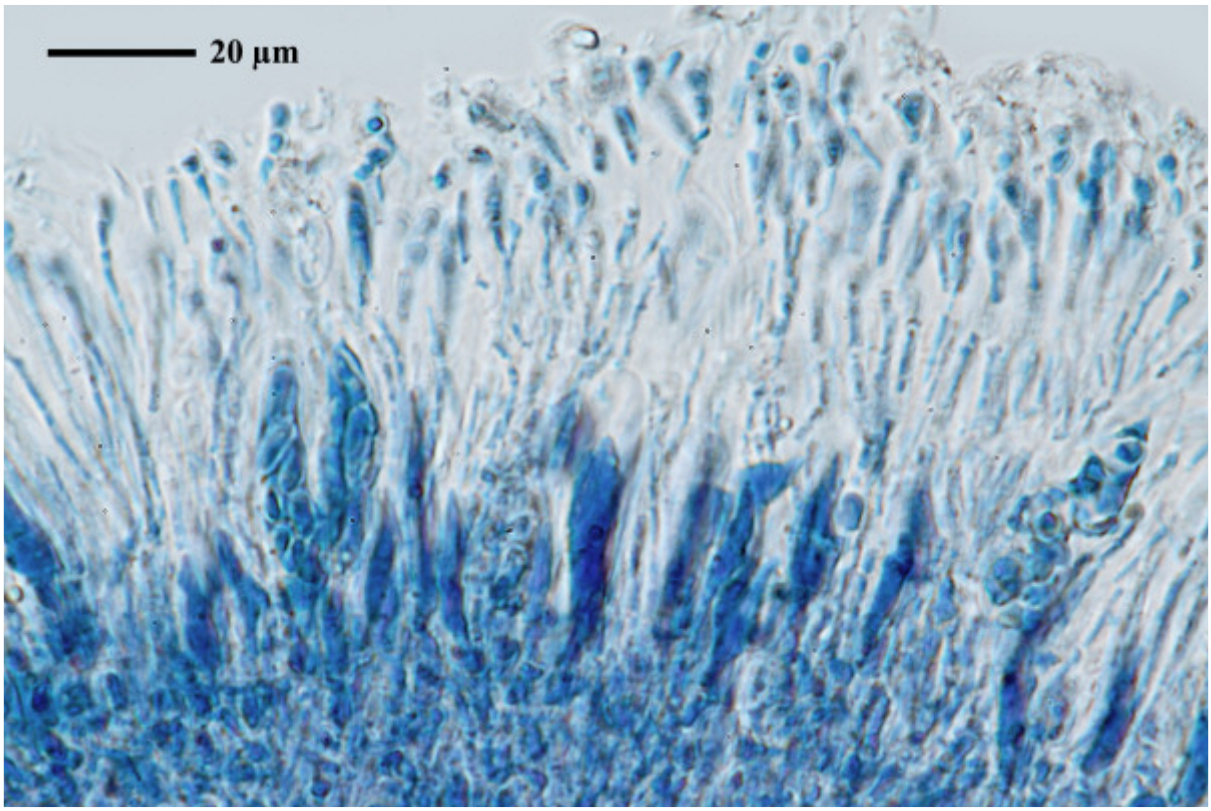
Caloplaca haematodes



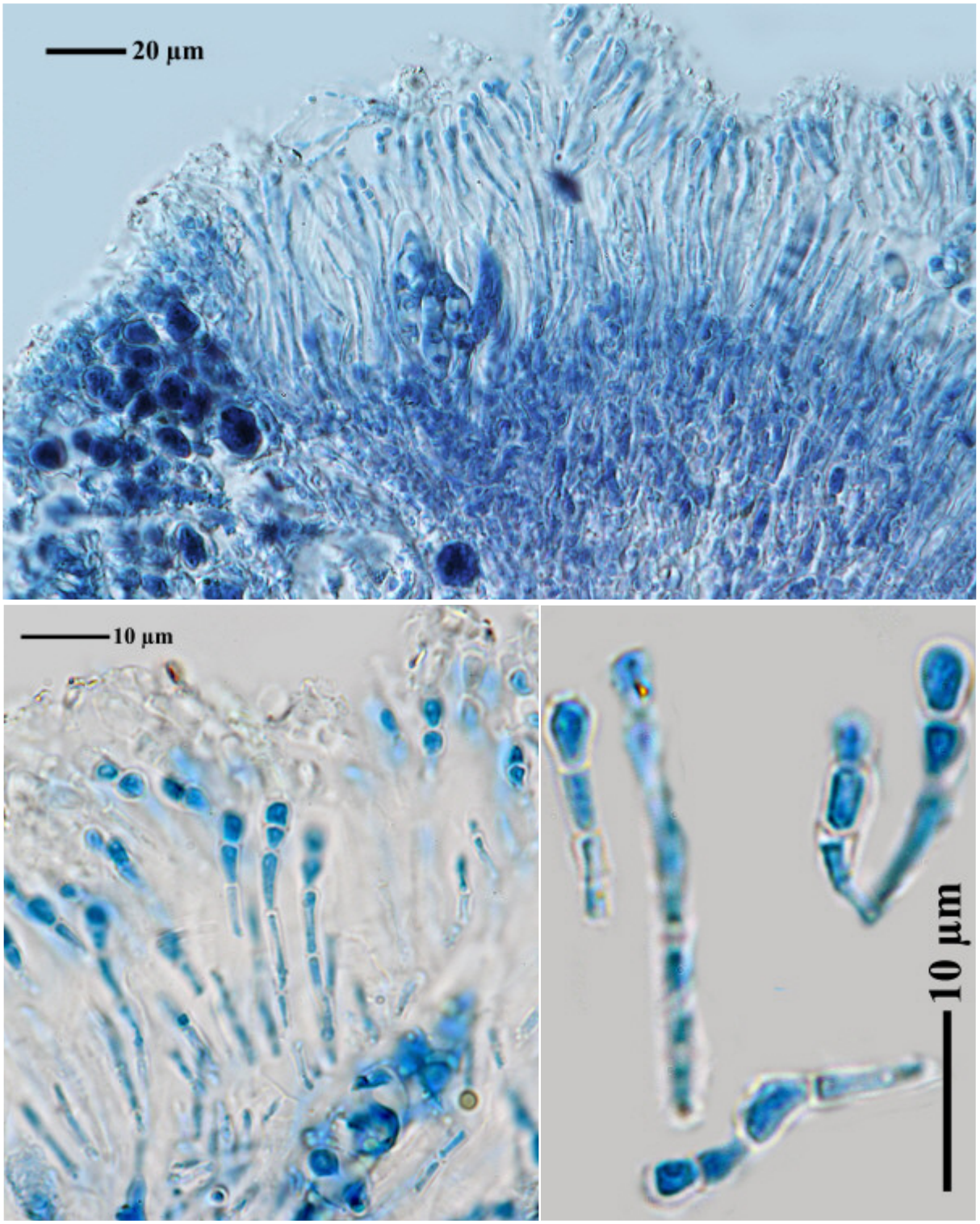


Caloplaca haematodes





Caloplaca haematodes



Caloplaca haematodes

Caloplaca haematommona Elix & S.Y. Kondr.

Thallus corticolous, whitish, continuous, thin to almost absent. Apothecia 0.2-0.8 mm diam, biatorine or rarely zeorine, disc brownish orange. Ascospores with rather thick cell wall at the poles, c. 1 µm thick, (9-)10-13(-14) x 5-7- µm, septum 4-6 µm. Chemistry: atranorin (major), haematommone (major); exciple and epithecium K+ reddish violet and remaining bluish violet on standing. Lit.: Kondratyuk, Kärnefelt, Elix & Thell, Bibliotheca Lichenol. 95: 361 (2007)

[KK19800], Australia, Queensland, Kuranda Range, some km south-east of Kuranda north-east of Cairns, at the margin of a tropical rain forest, 250 m, 16°49’ S, 145°40’ E. Leg. K. Kalb 23.08.1988, det. S.Y. Kondratyuk 2009.



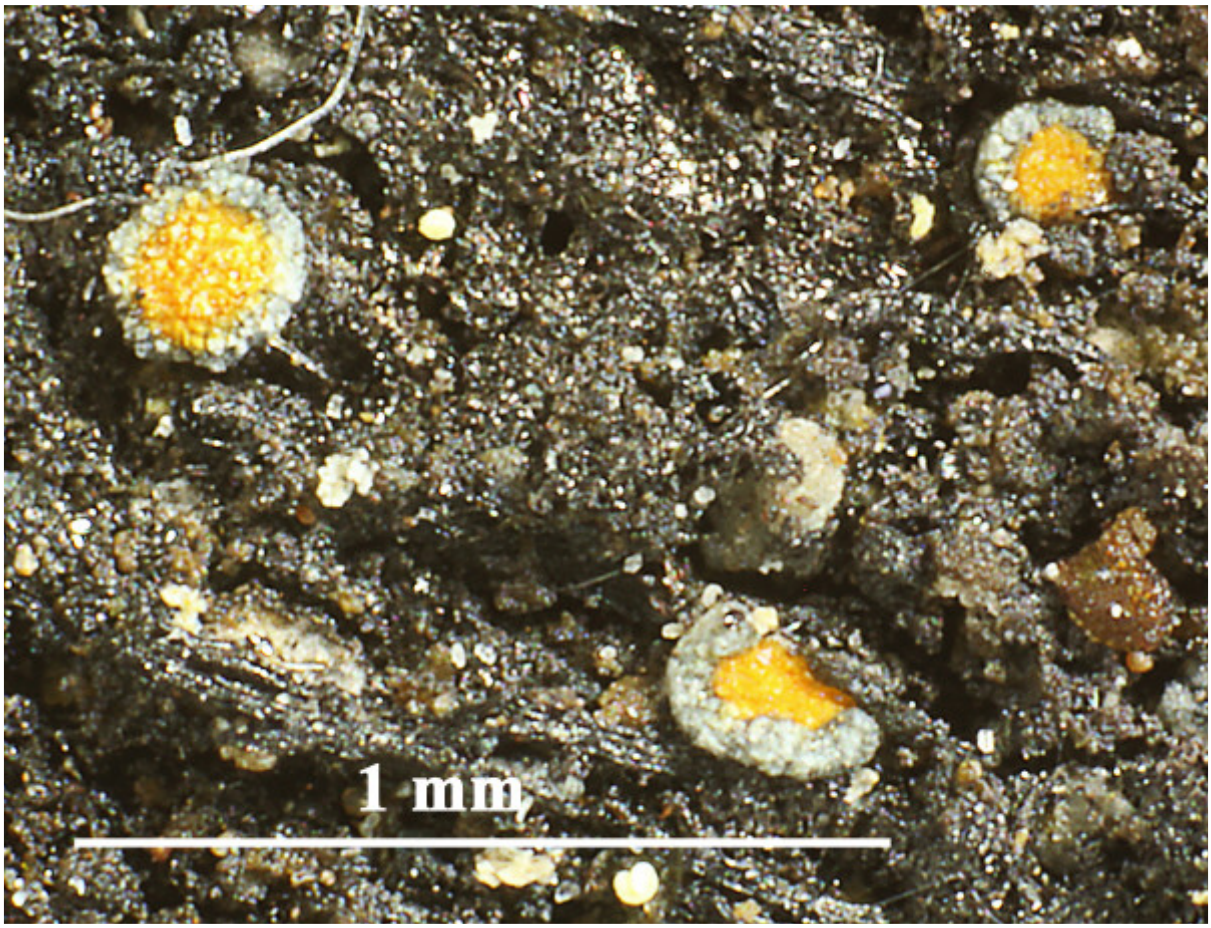


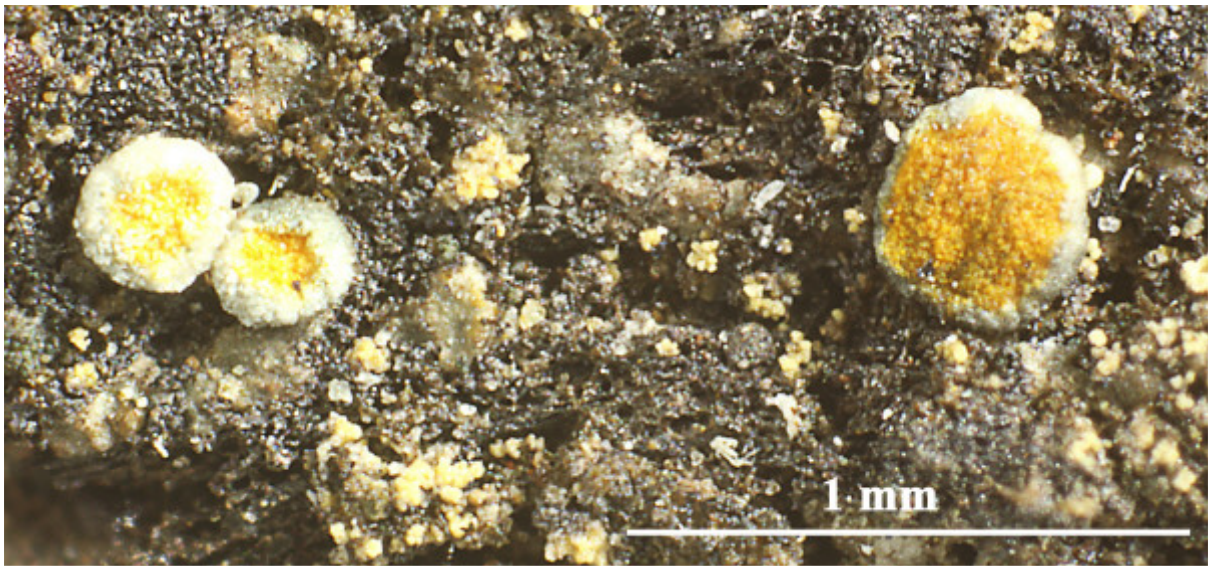
Caloplaca haematommona

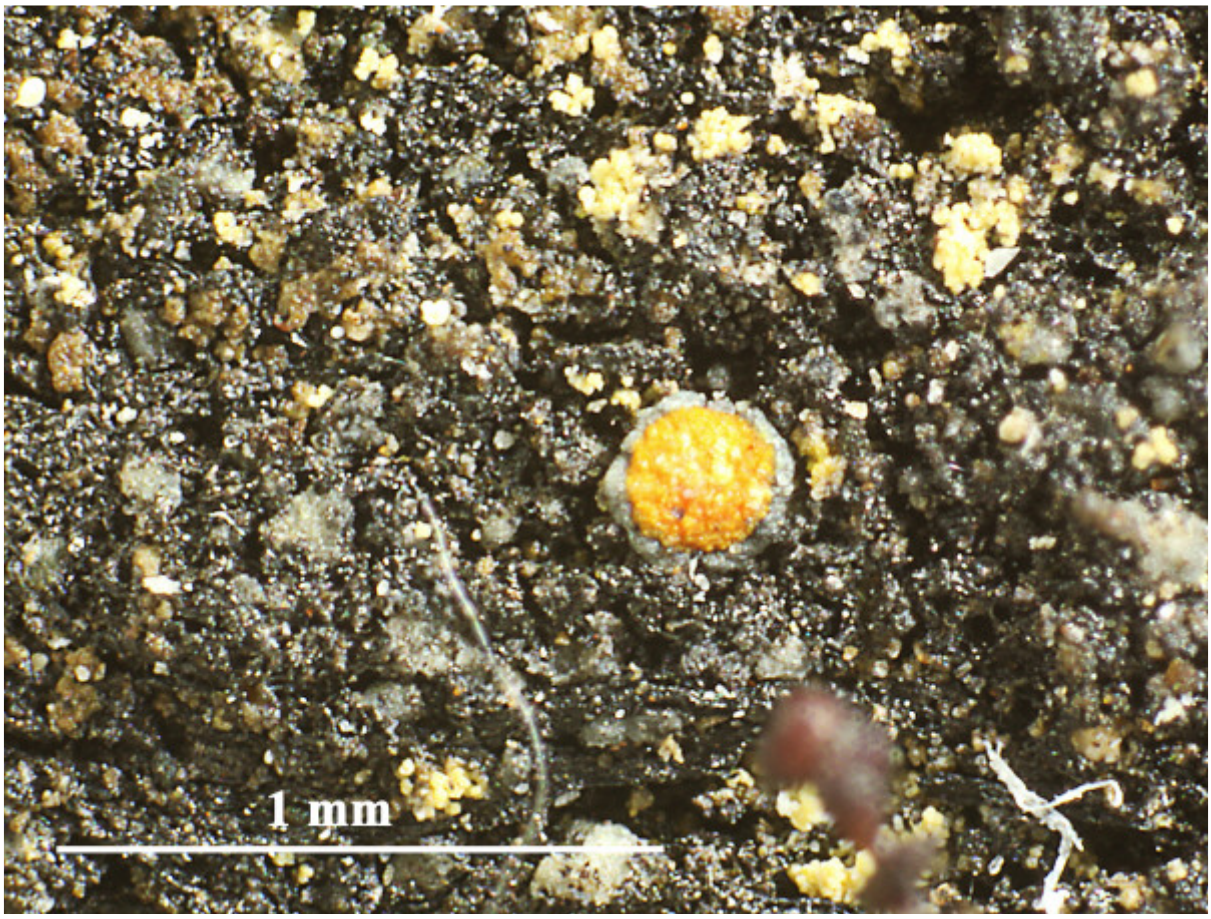
Caloplaca hanneshertelii S.Y. Kondr. & Kärnefelt

Thallus corticolous, scattered whitish-grey areoles, becoming convex and forming pustule-like, powdery, dark green soredia. Apothecia 0.2-0.5(-0.8) mm diam., lecanorine, thalline margin thick, greyish. Ascospores 10-13 x 5-6(-8) µm, septum (3-)5-6(-7) µm. Chemistry: epihymenium K+ violet. Differs from Caloplaca cerina by the smaller apothecia and the slightly smaller ascospores. Lit.: Kärnefelt & Kondratyuk, Bibliotheca Lichenol. 88: 262 (2004).

[KK30666], Australia, ACT, Molongo Gorge Reserve, c. 16 km east of Canberra, in a dry forest with Acacia, Eucalyptus macrorhyncha, Callitris endlicheri, 35°20’ S, 149°16’ E. Leg. K. Kalb, J. Elix & G. Kantvilas, 7.9.1995, det. S. Kondratyuk 2008.





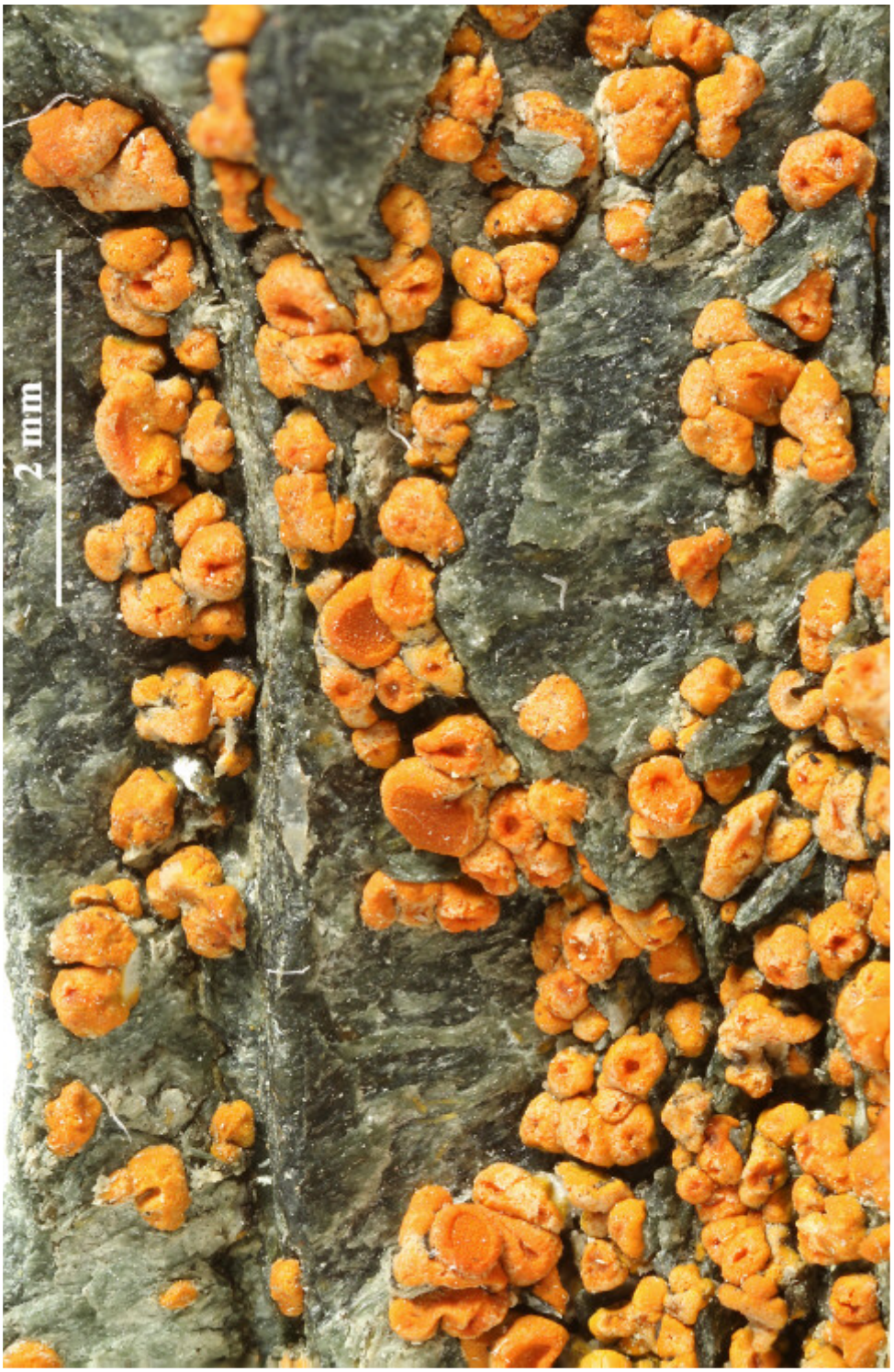


Caloplaca hanneshertelii

Caloplaca havaasii H. Magn.
[= *Flavoplaca havaasii* (H. Magn.) Arup, Frödén & Søchting]

On non-calcareous rocks. Lit. H. Magnusson, in Havaas, Univ. Bergen. Årbok, Naturvitensrekke no. 12: 16, 19 (1954)

[19549], Austria, Carithia, pars Alpium "Kreuzeckgruppe" dicta, in pede montis Schwarzstein, alt. 2000 m, ad saxa schistosa. Leg. P.P.G. van den Boom, O. Breuss & A. Vězda, 25.08.1994, det. J. Poelt. VěZDA: LICHENES RARIORES EXSICCATI NR. 142.







Caloplaca havaasii





Caloplaca havaasii

Caloplaca havaasii H. Magn.
[= *Flavoplaca havaasii* (H. Magn.) Arup, Frödén & Søchting]

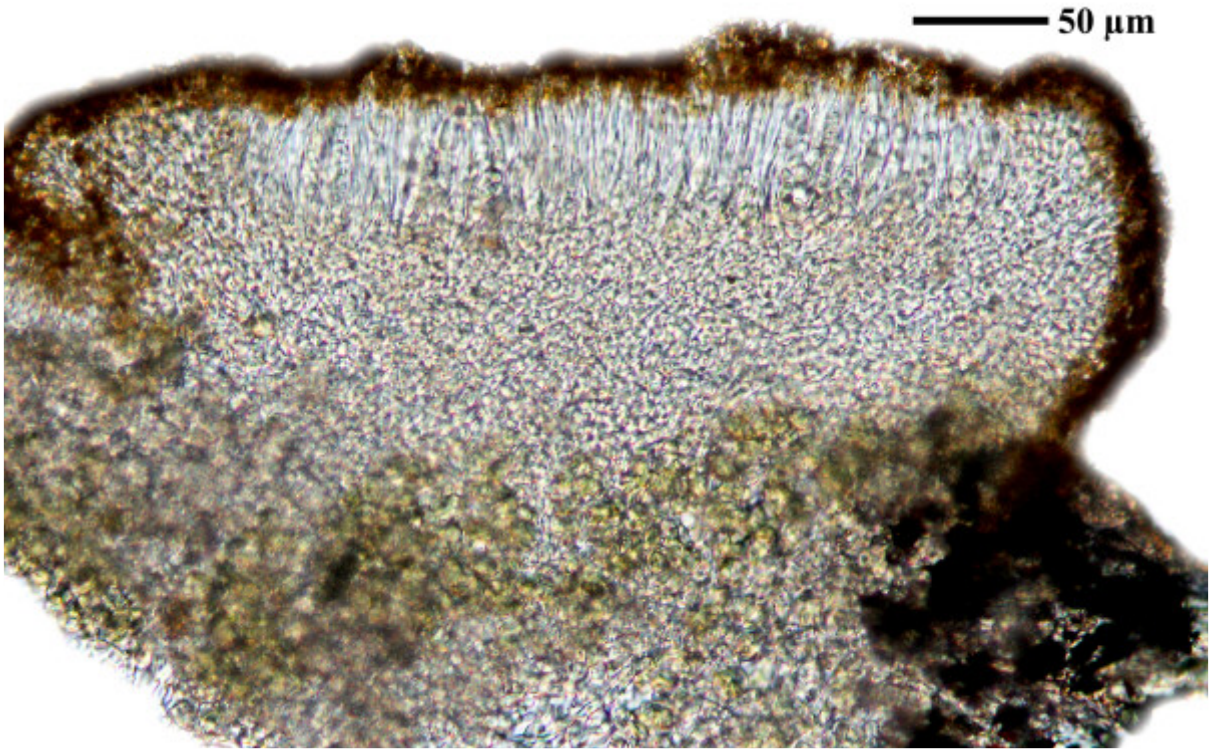
Spores 8.8-9.6 x 4-4.8 µm, septum 1.9-2.8 µm (FS). On rocks. Lit. Magnusson H. in Univ. Bergen Arbok. Naturvidensk, rekke no 12: 16 (1954)

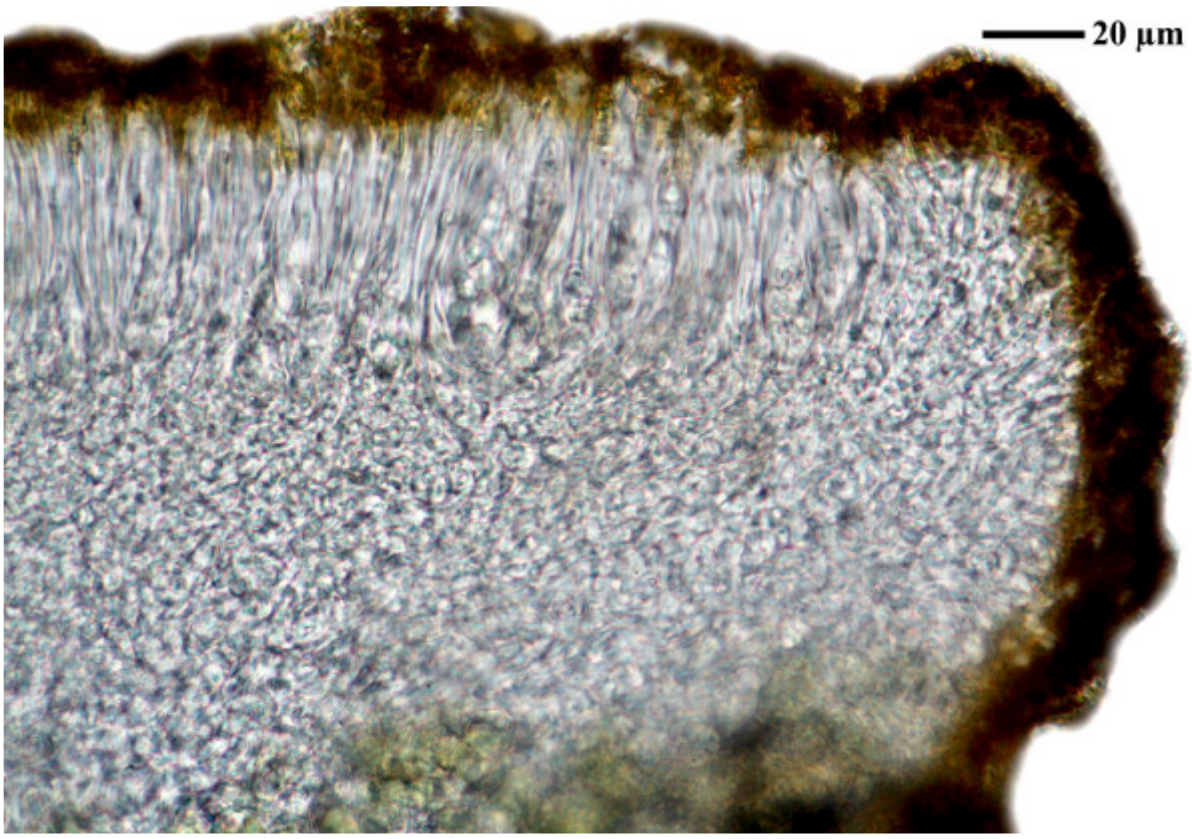
[19588], Austria, Styria, Gurktaler Alpen, Murau, inter Oberberg et Frauenalm, 1700-1900 m, ad saxa schistosa calcem continentia. Leg. J. Poelt & J. Hafellner, 24.05.1981. VĚZDA: LICHENES SELECTI EXSICCATI NR. 2405.



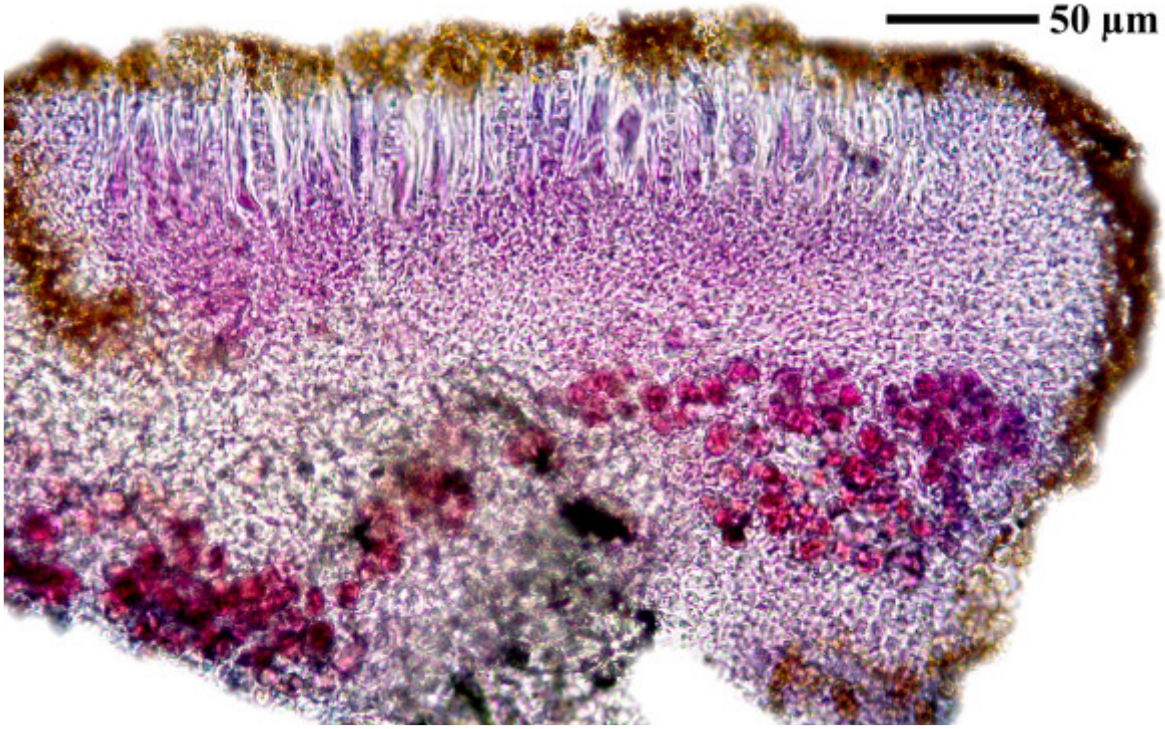


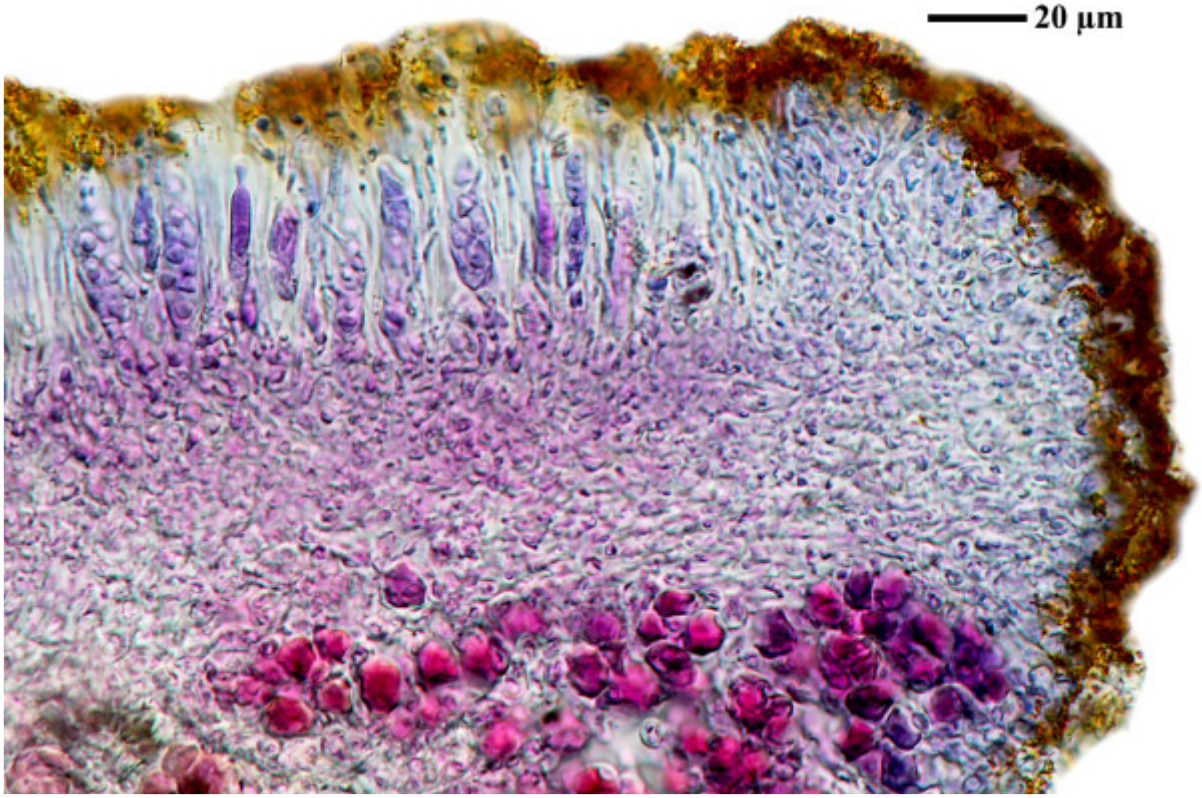
Caloplaca havaasii



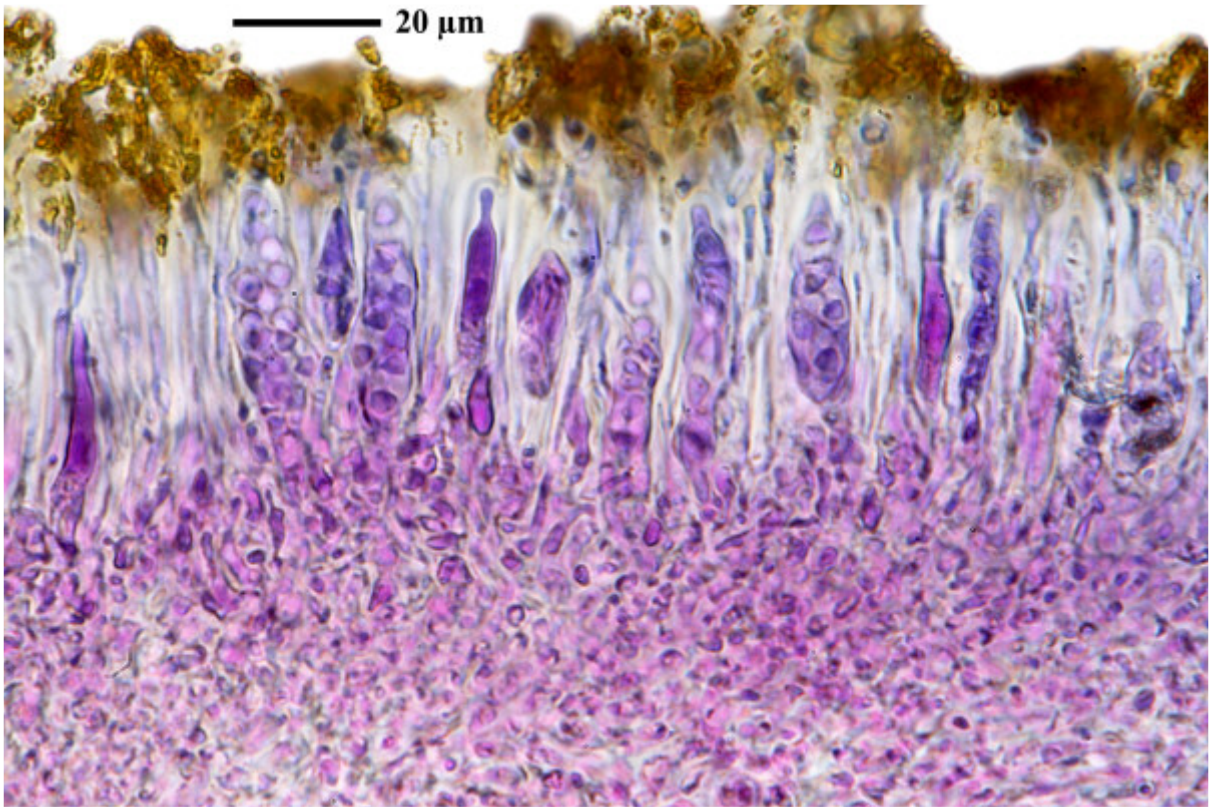


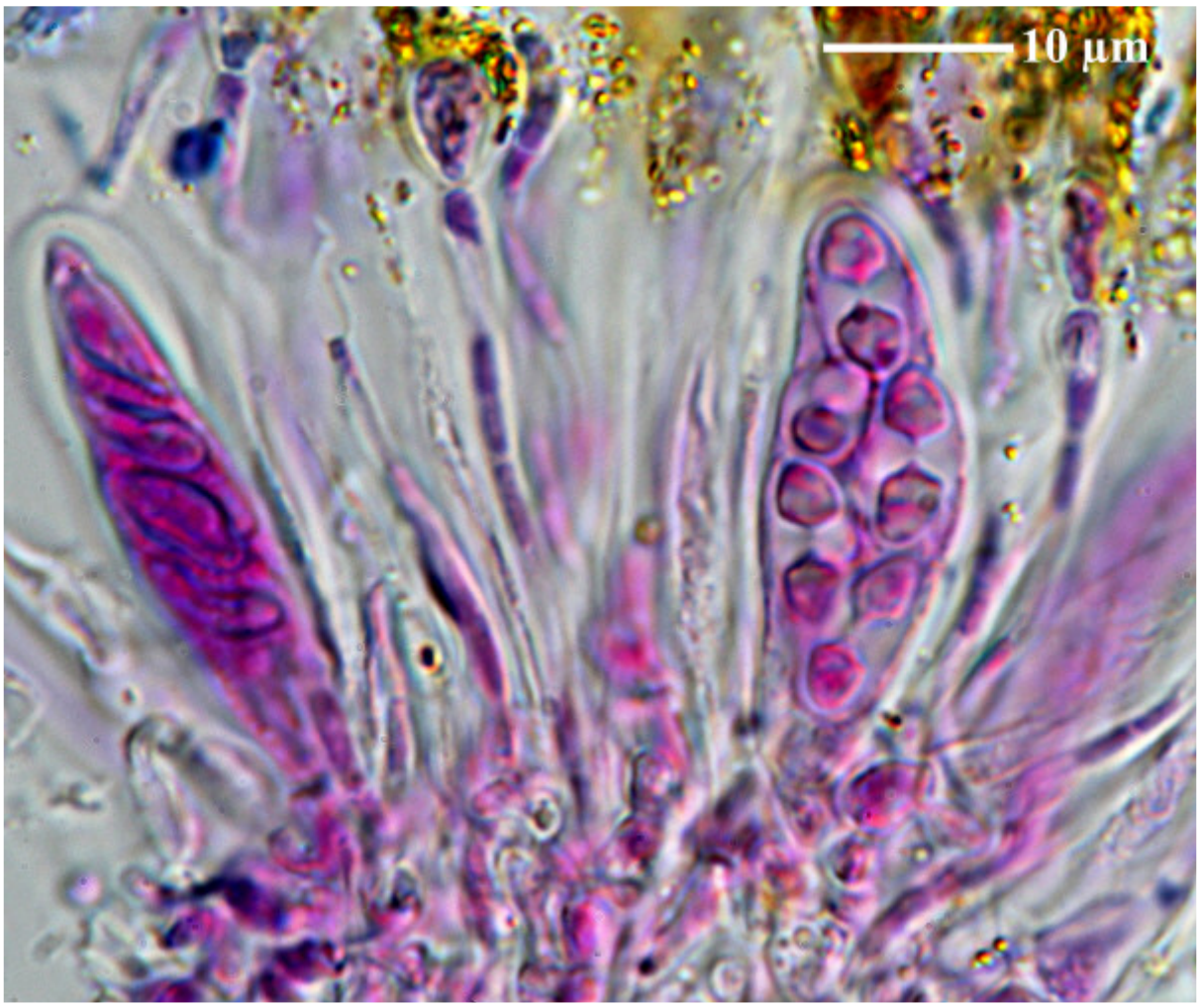
Caloplaca havaasii





Caloplaca havaasii

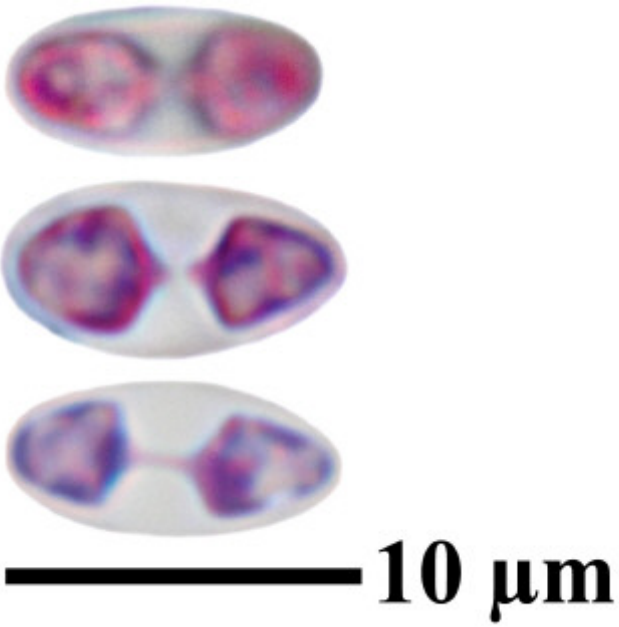


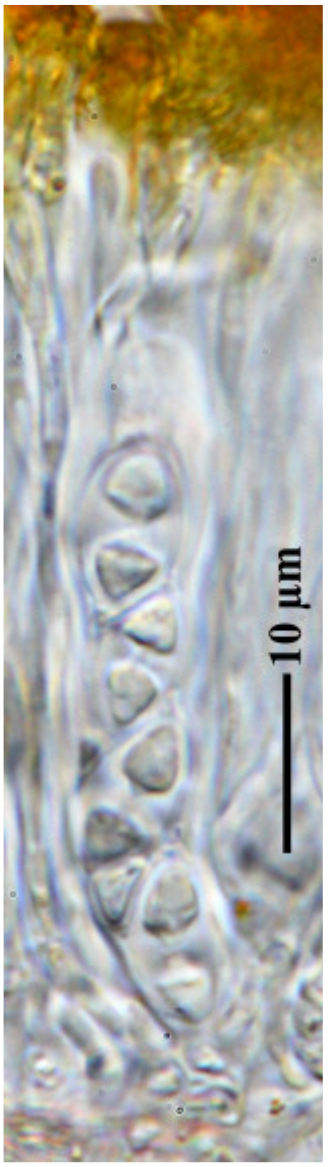


Caloplaca havaasii







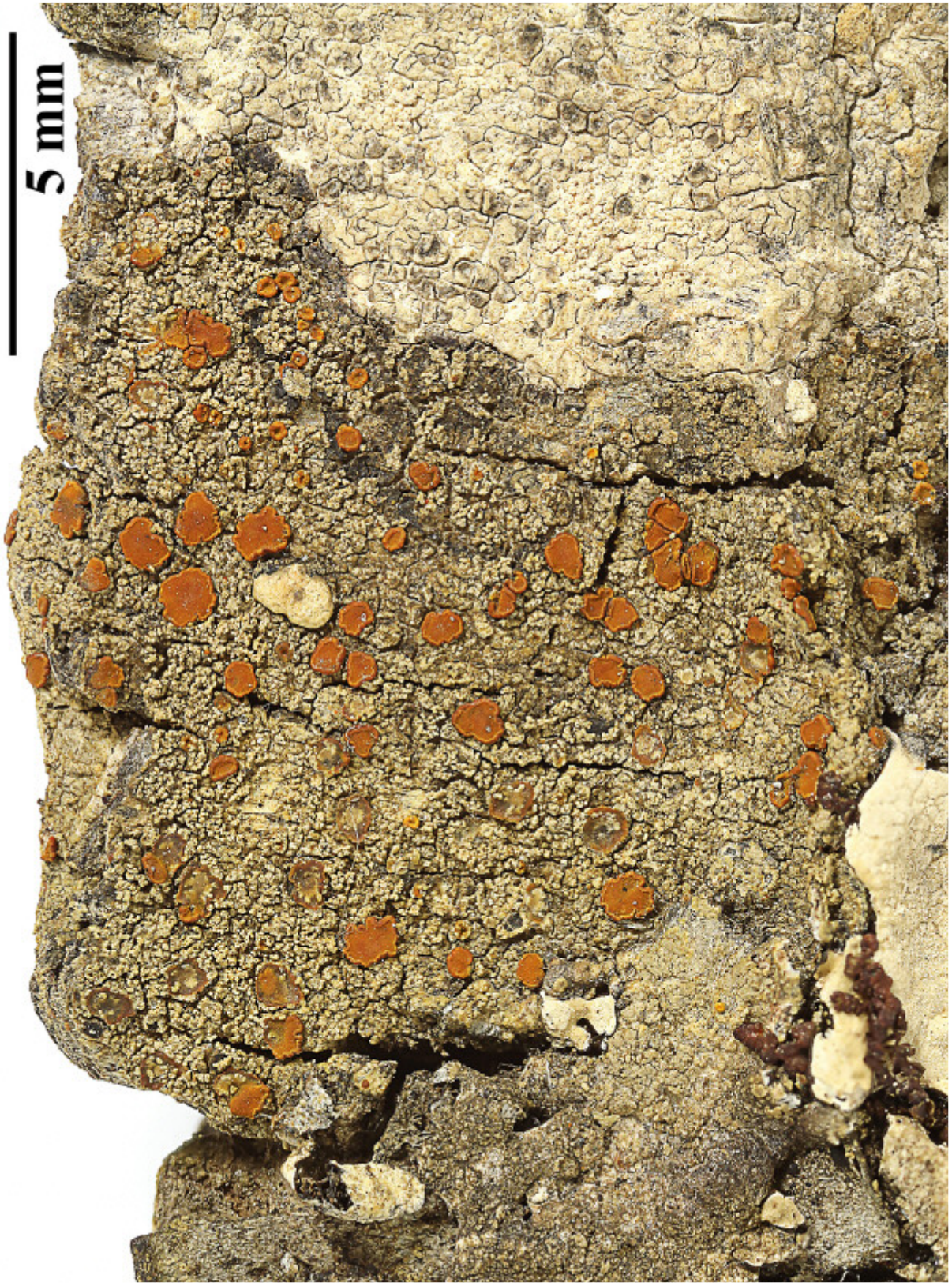


Caloplaca havaasii

Caloplaca herbidella (Arnold) H. Magn.

On bark.

[12374], Griechenland, N-Samos, südlich Avlakia an der Straße oberhalb Vourliotes nördlich des Bergmassivs Lazarou, 37°48' N, 26°51' E, ca. 843 m. Leg. F. Schumm & R. Düll, 03.05.2006, det. A. Aptroot 2016.



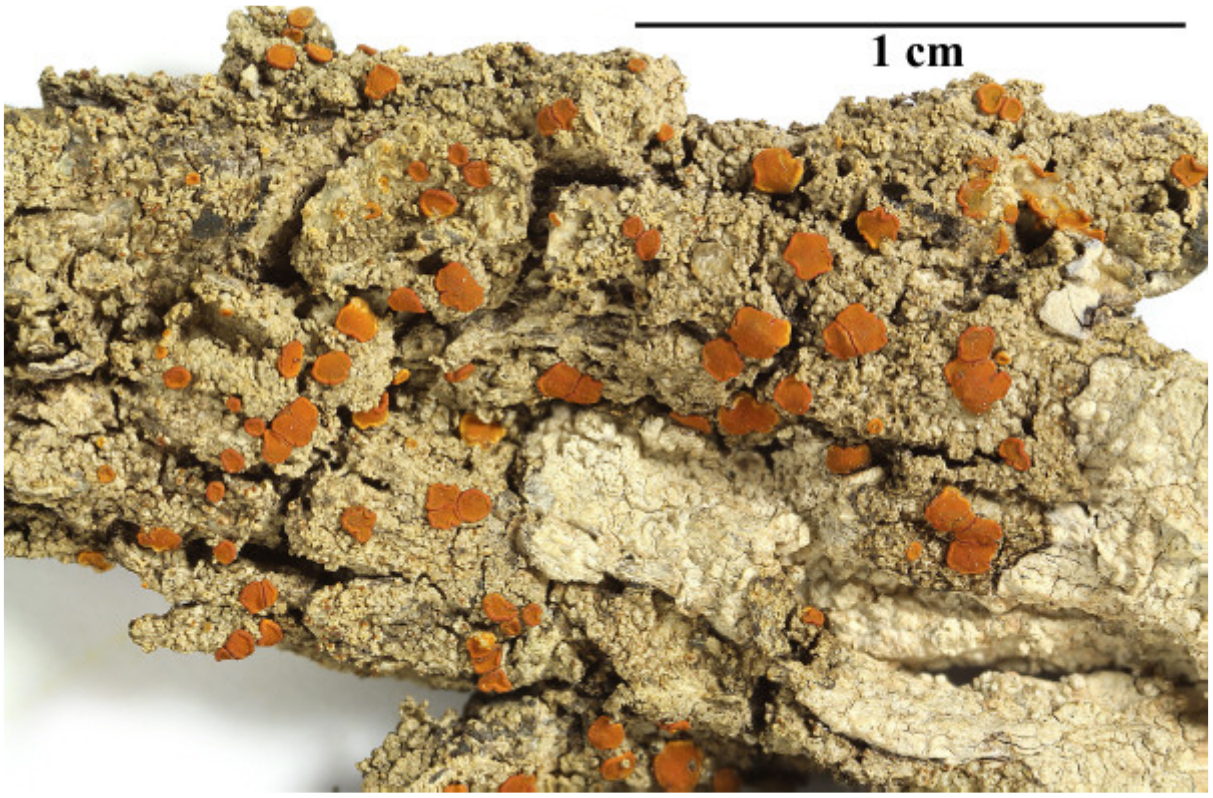


Caloplaca herbidella

Caloplaca herbidella (Arnold) H. Magn.

On bark.

[14001], Griechenland, Samos, Ambelosgebirge, nahe dem Prof. Ilias, 37°44.559' N, 26°50.753' E, 1050 m. Leg. F. Schumm & R. Düll, 20.05.2008, det. A. Aptroot 2016.







Caloplaca herbidella

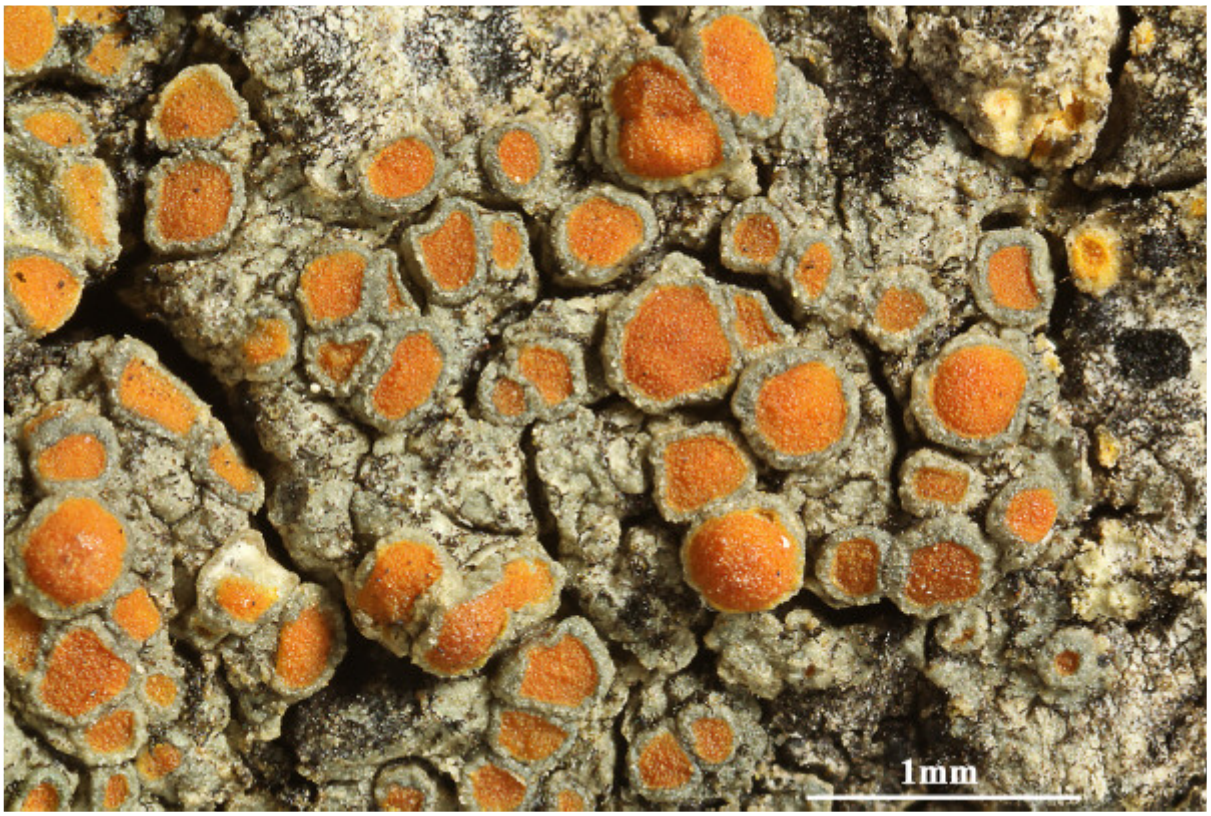
Caloplaca herbidella (Arnold) H. Magn.

On bark.

[14785], Zypern (S), nördlich von Pissouri bei Prastio; 34°43.441' N, 32°46.675' E, 300 m. Leg. F. Schumm & J.-P. Frahm, 17.02.2009, det. A. Aptroot 2016.







Caloplaca herbidella

Caloplaca herbidella (Arnold) H. Magn.

Spores 10.5-15.3 x 5.3 µm, septum 2.8-3.9 µm (FS). On bark. Lit. H. Magusson in Bot. Not. (1932): 430

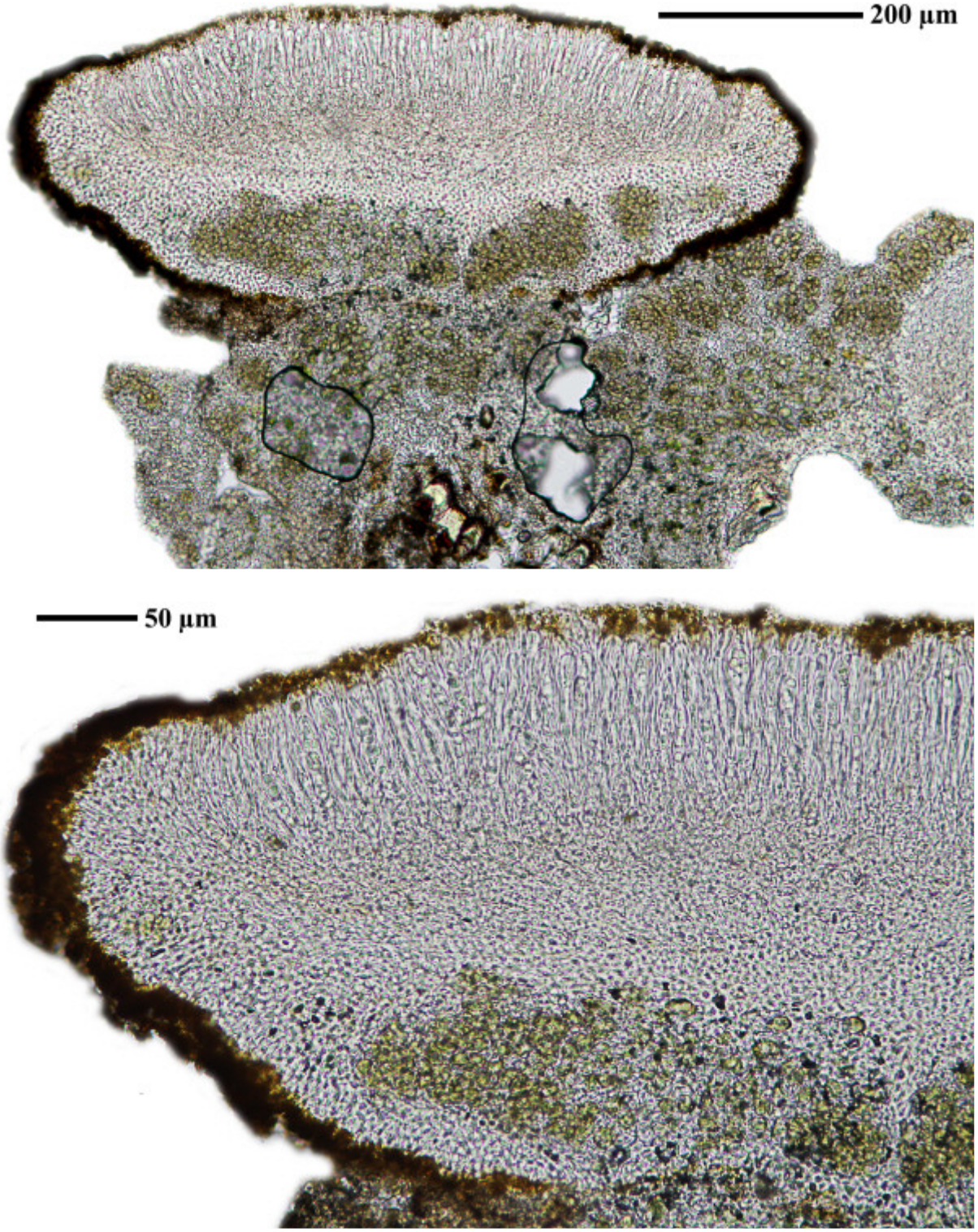
[19589], U.R.S.S. Transcaucasica, Georgia, Distr. Chokhautari, montes Meskhedsi khrebet, in declivibus septentr. montis Sacornia, alt. 2000-2400 m, ad corticem *Abies*. Leg. V. Vašák, 20.07.1980, det. A. Vězda. Vězda: Lichenes Selecti Exsiccati Nr. 1813.



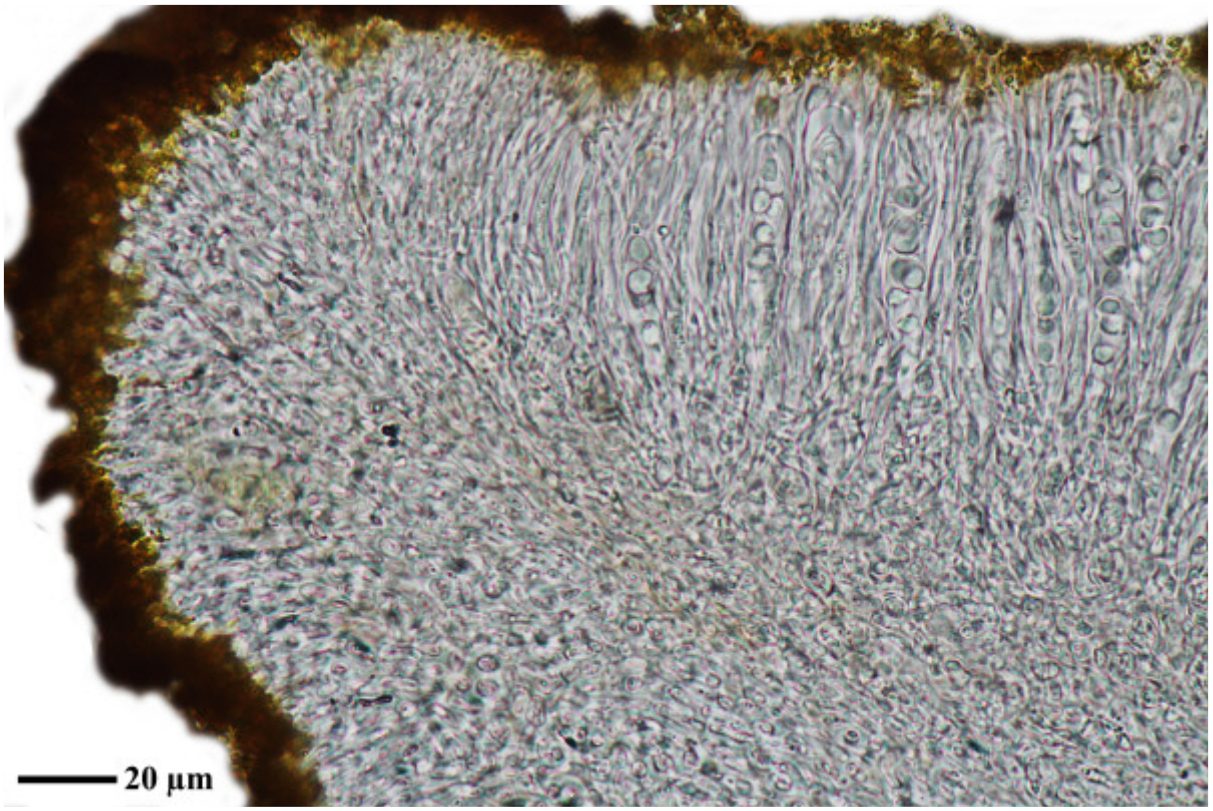


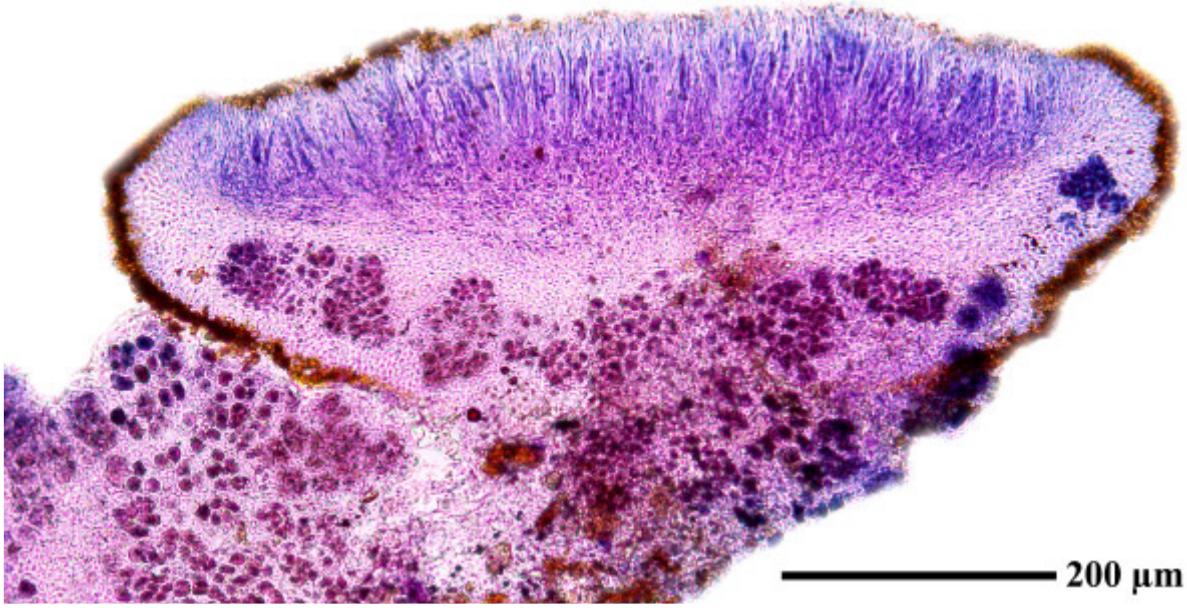


Caloplaca herbidella

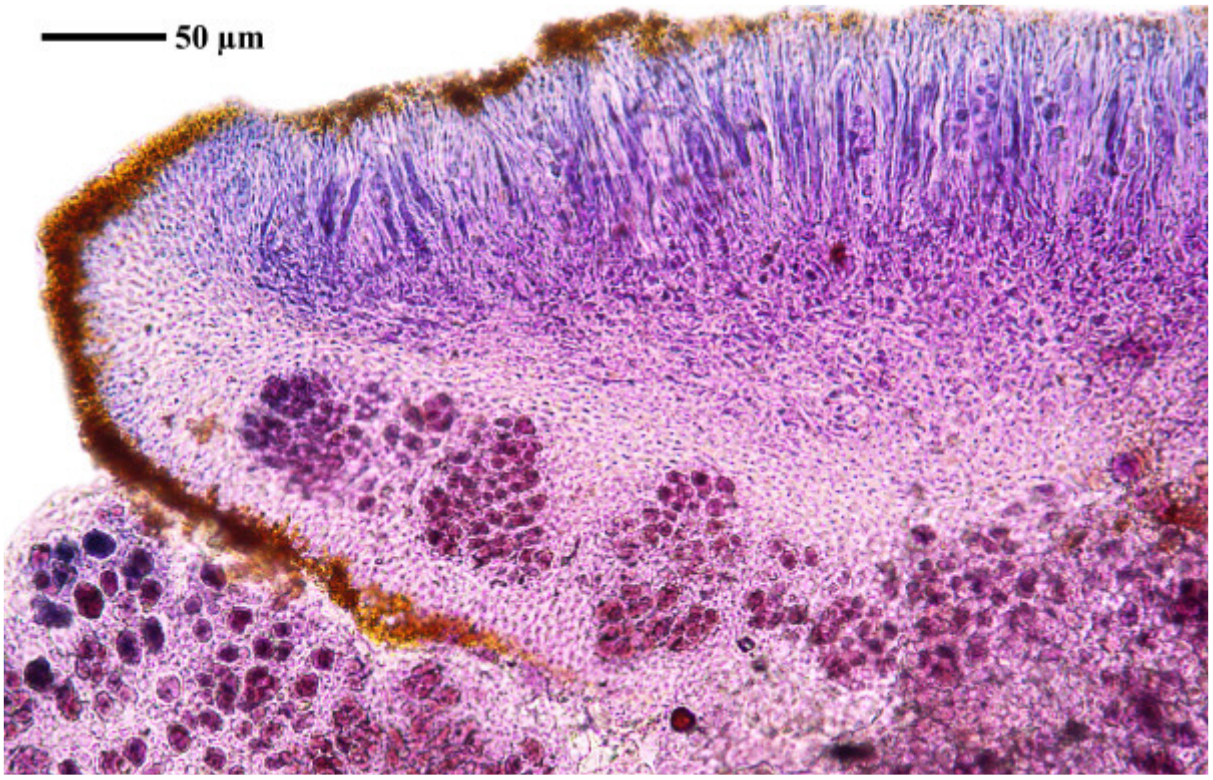


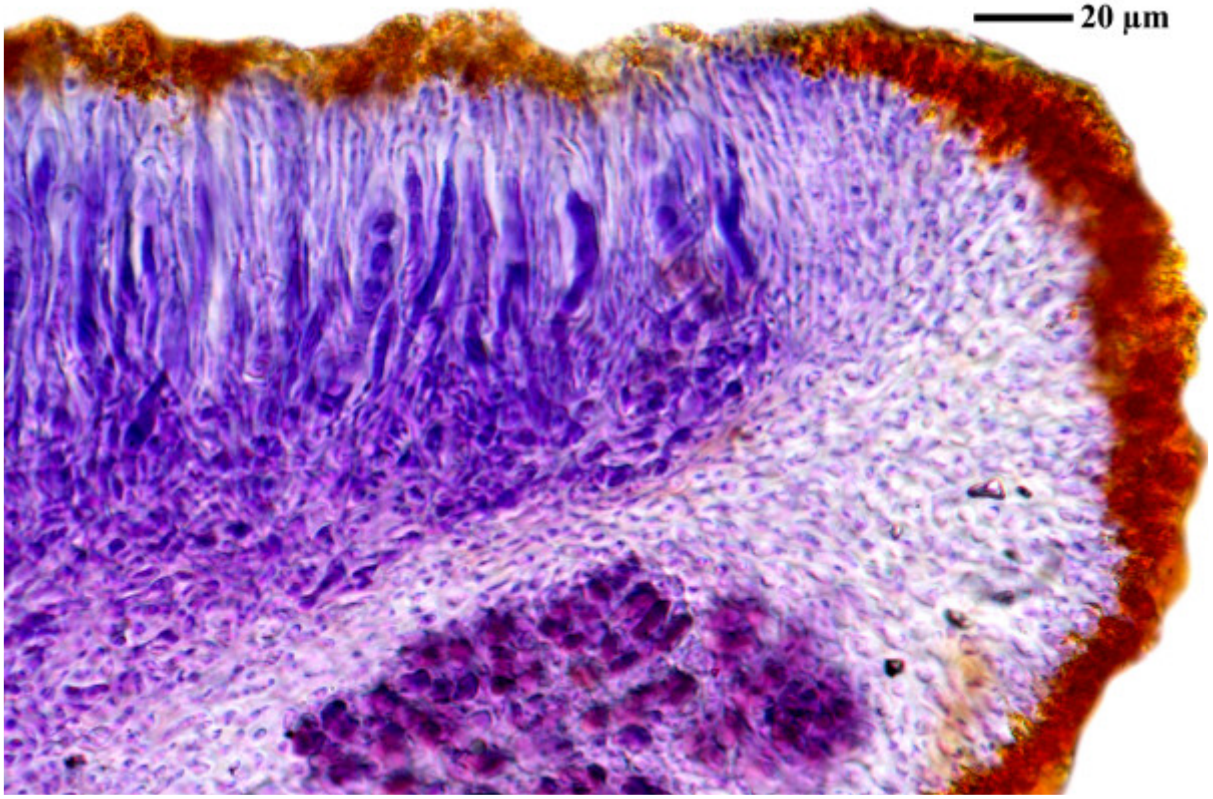
Caloplaca herbidella



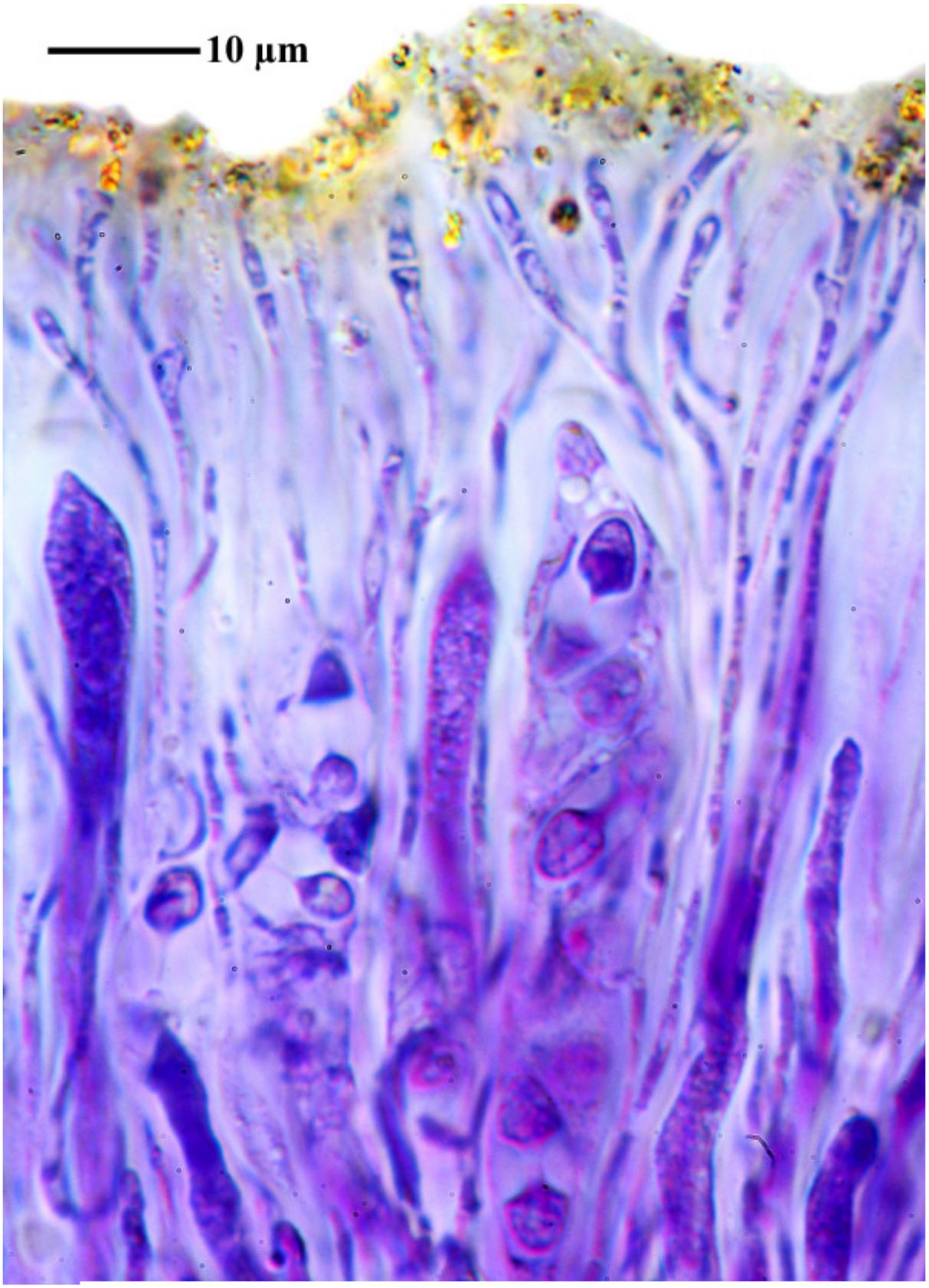


Caloplaca herbidella



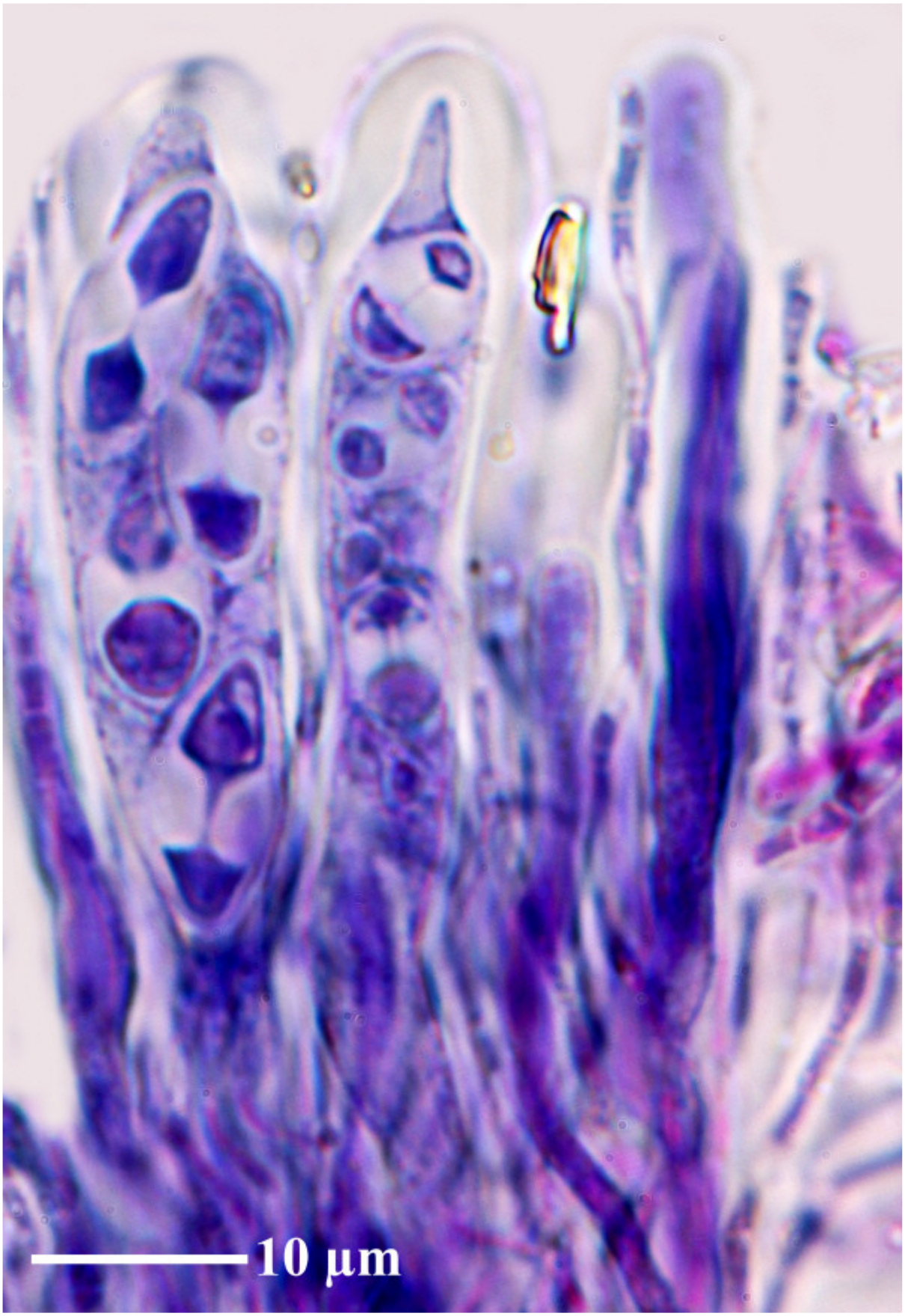


Caloplaca herbidella





Caloplaca herbidella



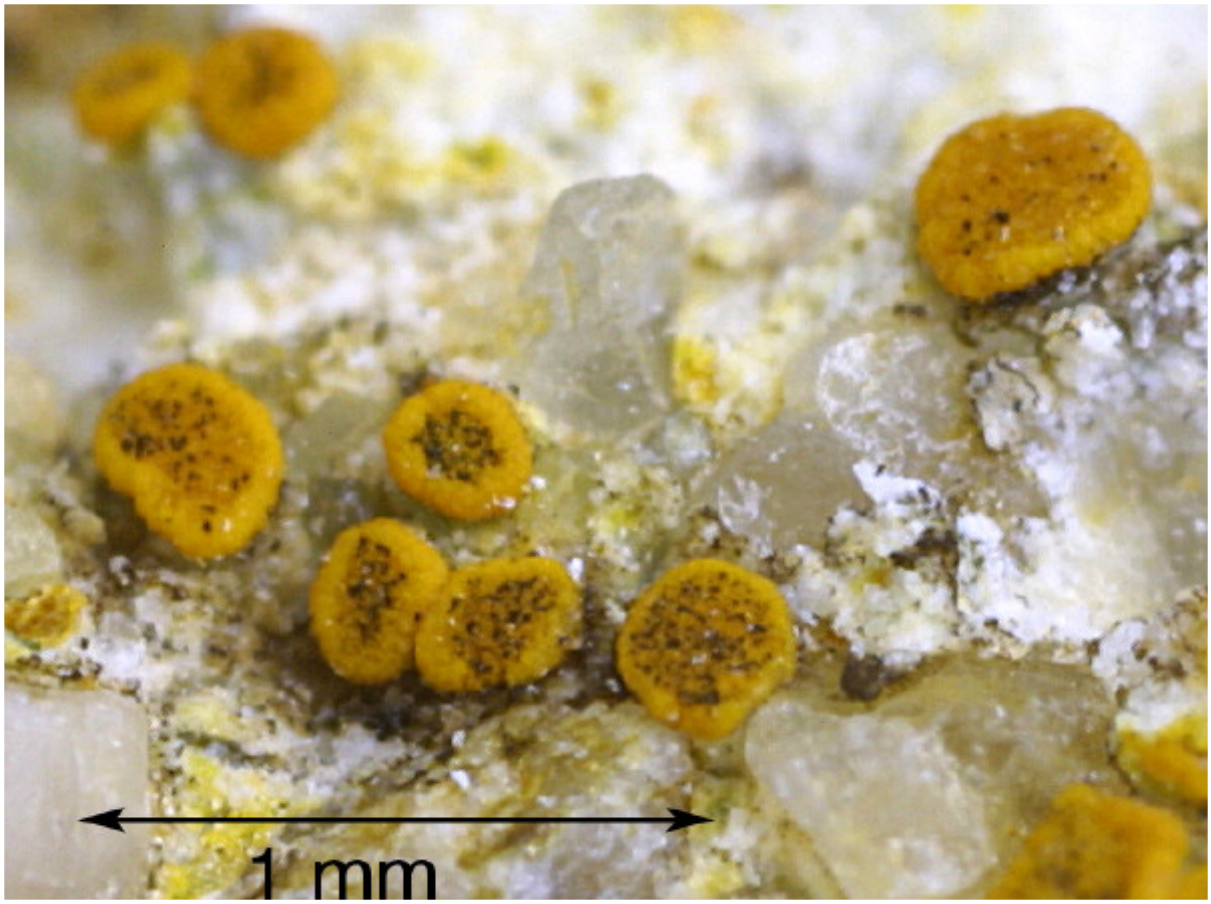
Caloplaca herbidella

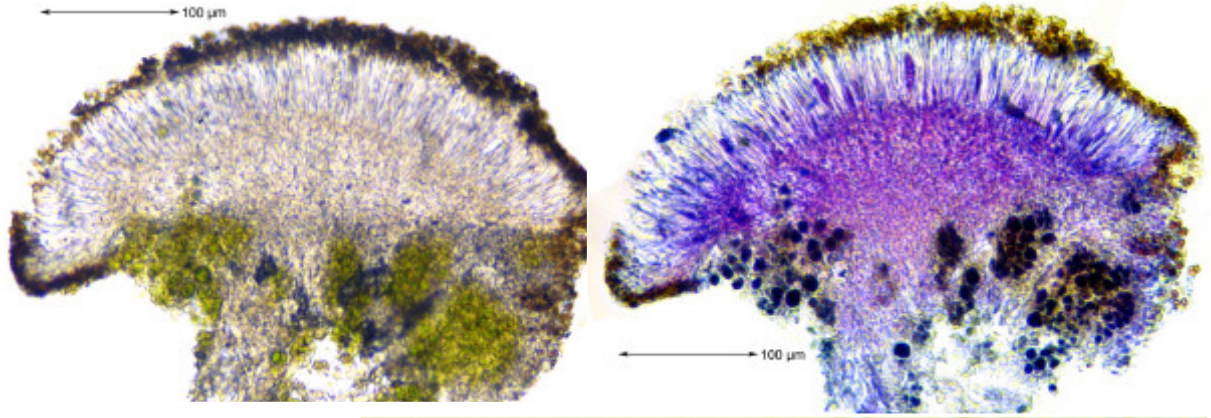
Caloplaca holocarpa (Hoffm.) A.E.Wade s. l.
[= *Athallia holocarpa* (Hoffm.) Arup, Frödén & Søchting]

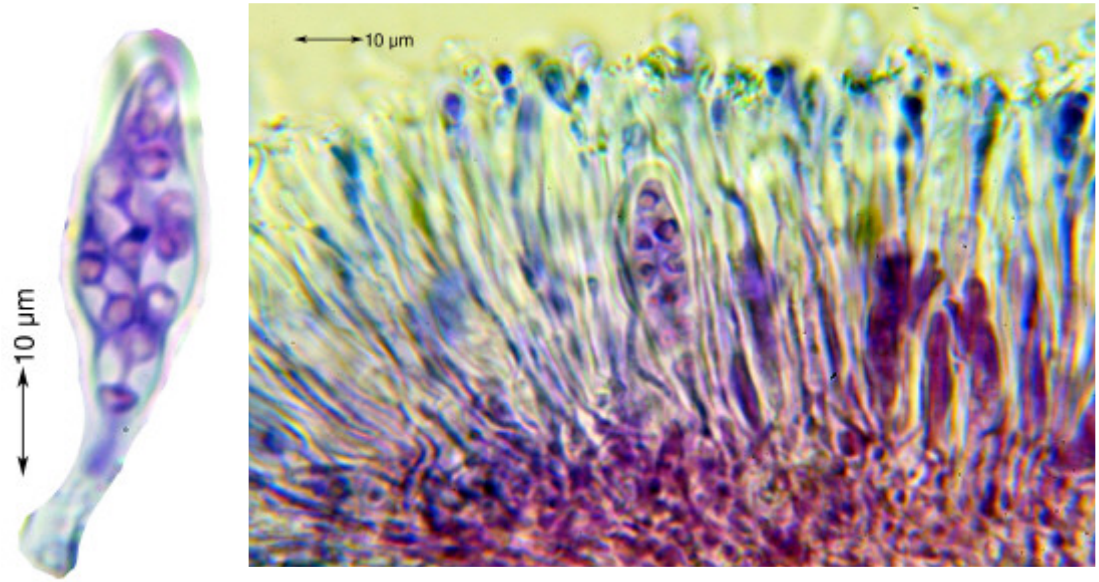
Thallus weiß, undeutlich, dünn staubig bis fehlend. Isidien fehlen, Sorale fehlen; Apothecien klein, 0,3-0,4 mm, aufsitzend, Scheibe flach bis etwas konvex, gelborange; Eigenrand gleichfarbig; Hymenium 65 µm; Algen unter dem Hypothecium. Sporen zu 8 im Ascus, polardiblastisch, ellipsoidisch, 10-11 x 5,5-6 µm, Septum dick, 3,2 µm. Chemie: gelbe Teile K+ rot. Auf Kalkstein, xerotherm, photophil

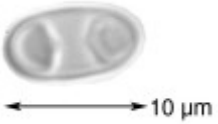
[13391], Spanien, Prov. Cádiz, Antlantikküste, alter Hafen bei Conil de .la Frontera, Kalksteine in trockenem Kiefernwäldchen, 36°17.872' N, 6°08.369' W, 14 m. Leg. F. Schumm, T. Neppert & W. Hanold, 24.09.2007.











Caloplaca holocarpa

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

Spores polarilocular, hyaline, 8/ascus**,** 13-16 x 6.5-8 µm, septum 8-8.3 µm. On bark.

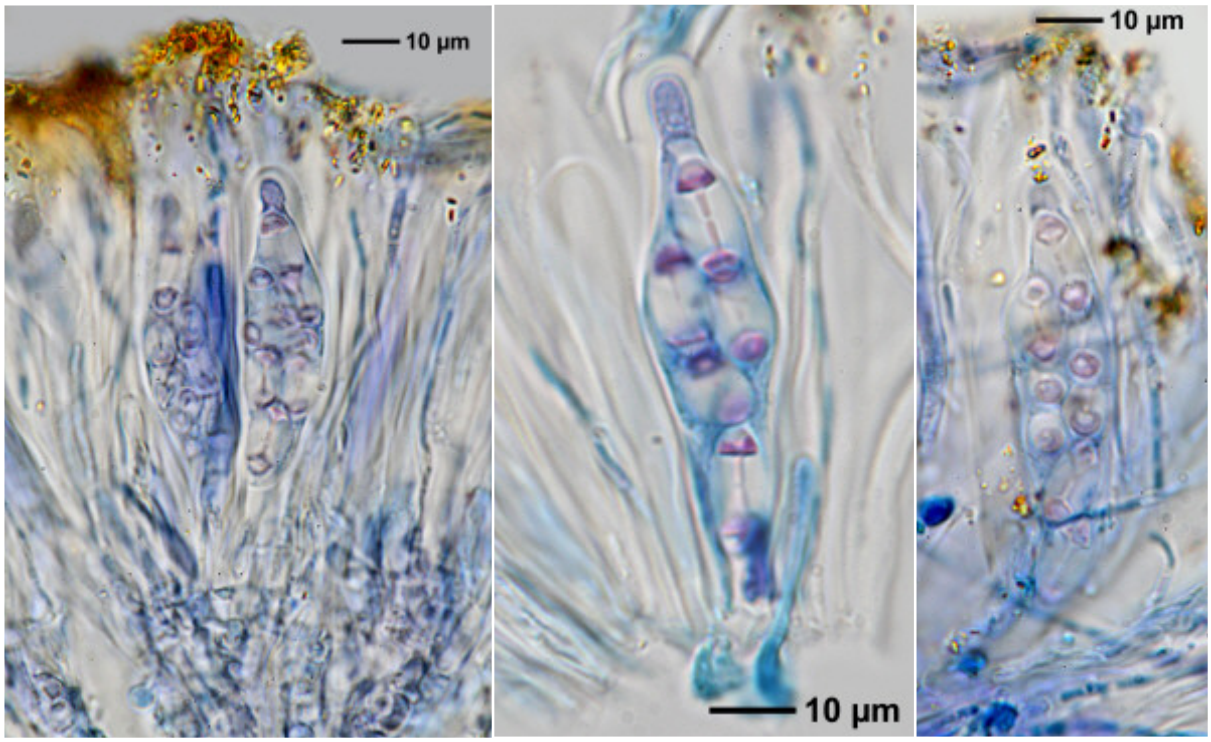
[13689], Malta, Xemxija, *Pinus halepensis* Wäldchen, 35°56.760' N, 14°22.193' E, 53 m, 300 m. Leg. F. Schumm & J.-P. Frahm, 12.03.2008, det. A. Aptroot 2016.







Caloplaca holocarpa







Caloplaca holocarpa

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.