

Psathyrella senex – group B
Daniel Deschuyteneer – Lothar Krieglsteiner



Psathyrella Pl. u. CH
u. triformis
sp. 7-8,5
4-4,5
6.3.22
Pop-Algarve u. F. 10
Wgr. Q. Stekylitacia u. a
27/1

Small Psathyrella in wet to moist soil – not associated to woody material – Acacia and
Portugal , Algarve , Monchique-N ; 03/06/2022
Photo in situ L. Krieglsteiner



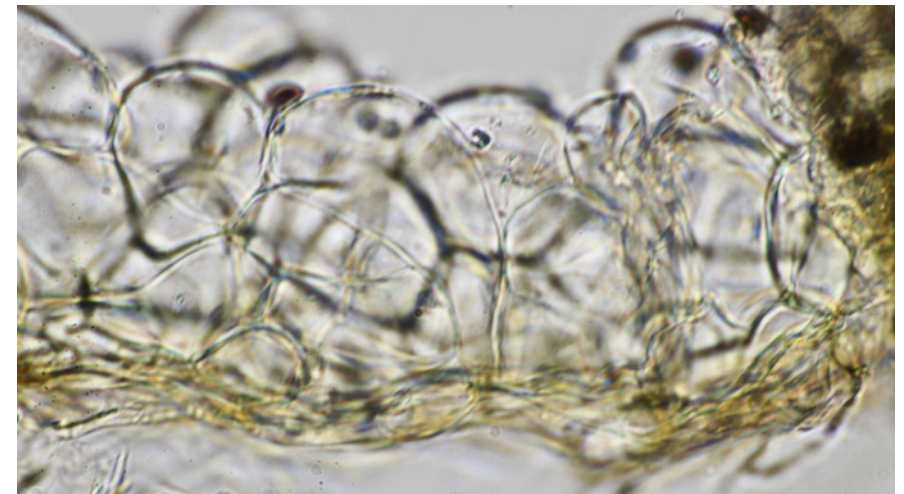
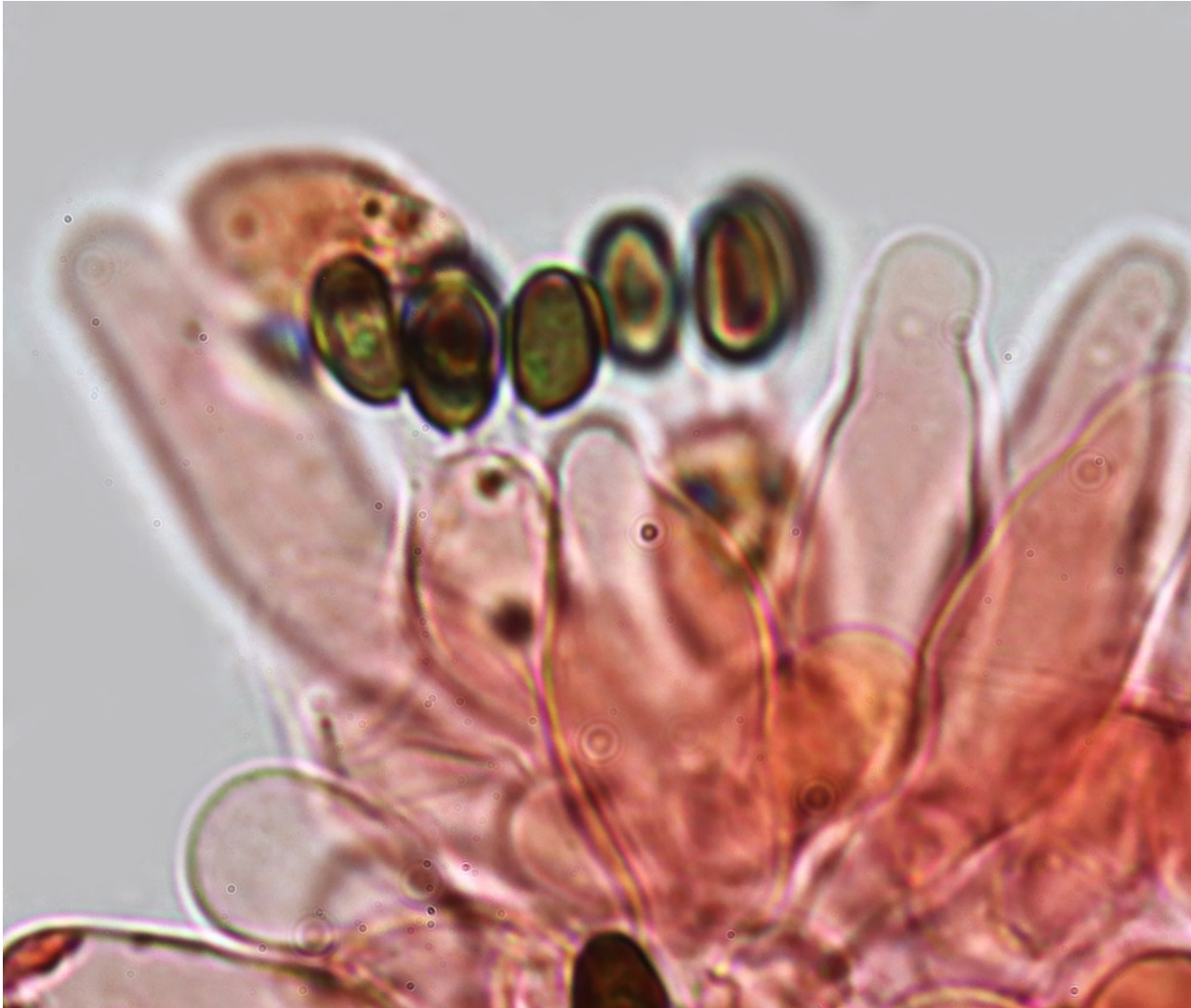
Cap striate in wet weather, small remnants of flocculose veil still adhering on the cap , gill edge white, apex of stipe pruinose.

Microscopy D. Deschuyteneer

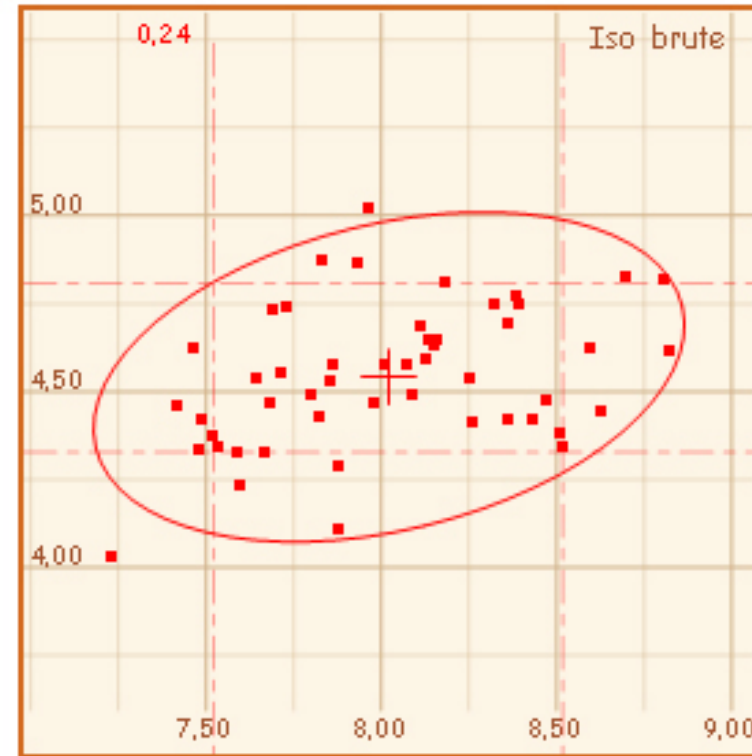
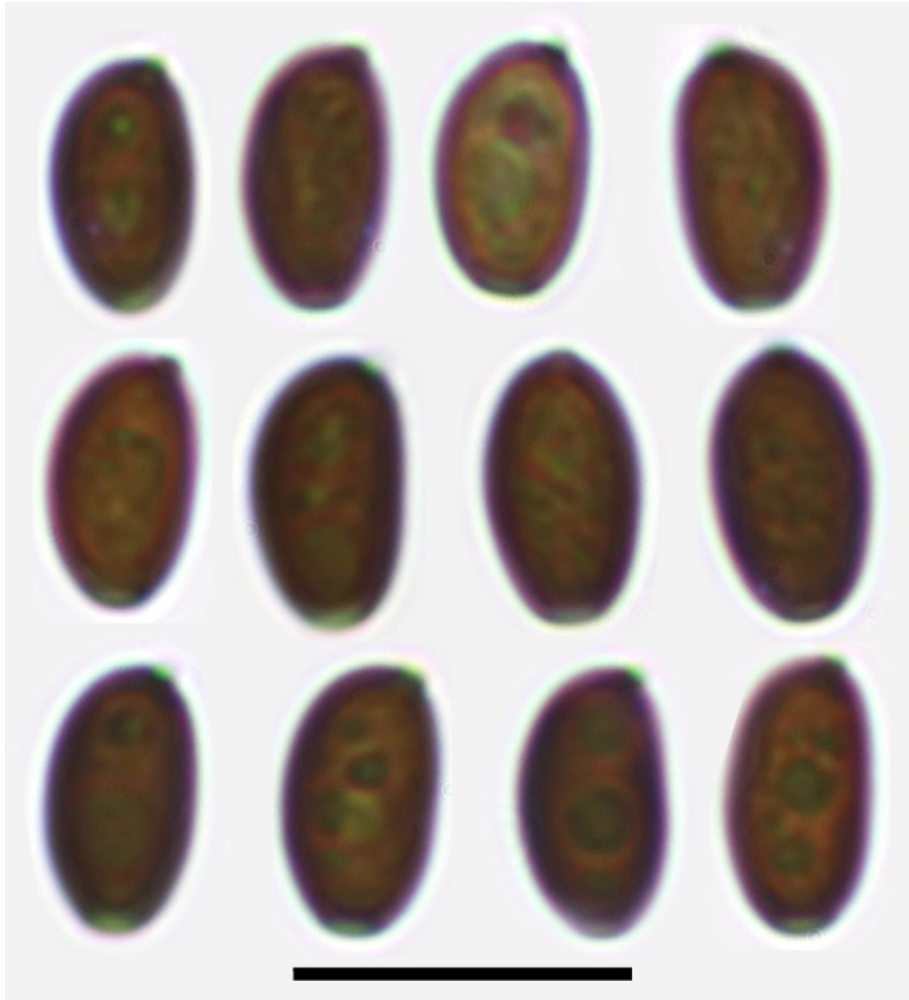
Basidia: 4 spored; clavate

Clamps: present

Pileipellis: one or two layers of usual obpyriform cells



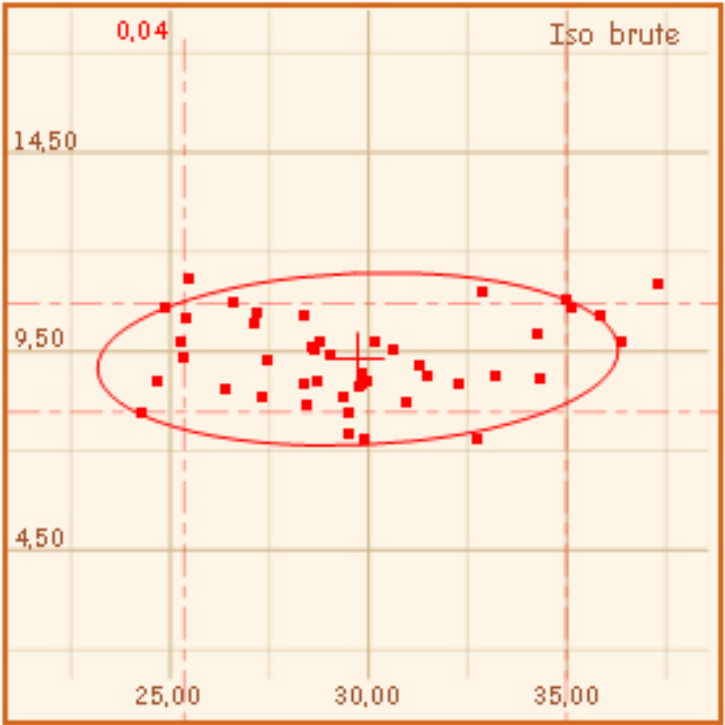
Spores red-brown in NH₄OH 10%, not opaque, ellipsoid in face view, flattened on one side and slightly amygdaliform in profile; germ pore distinct, central.



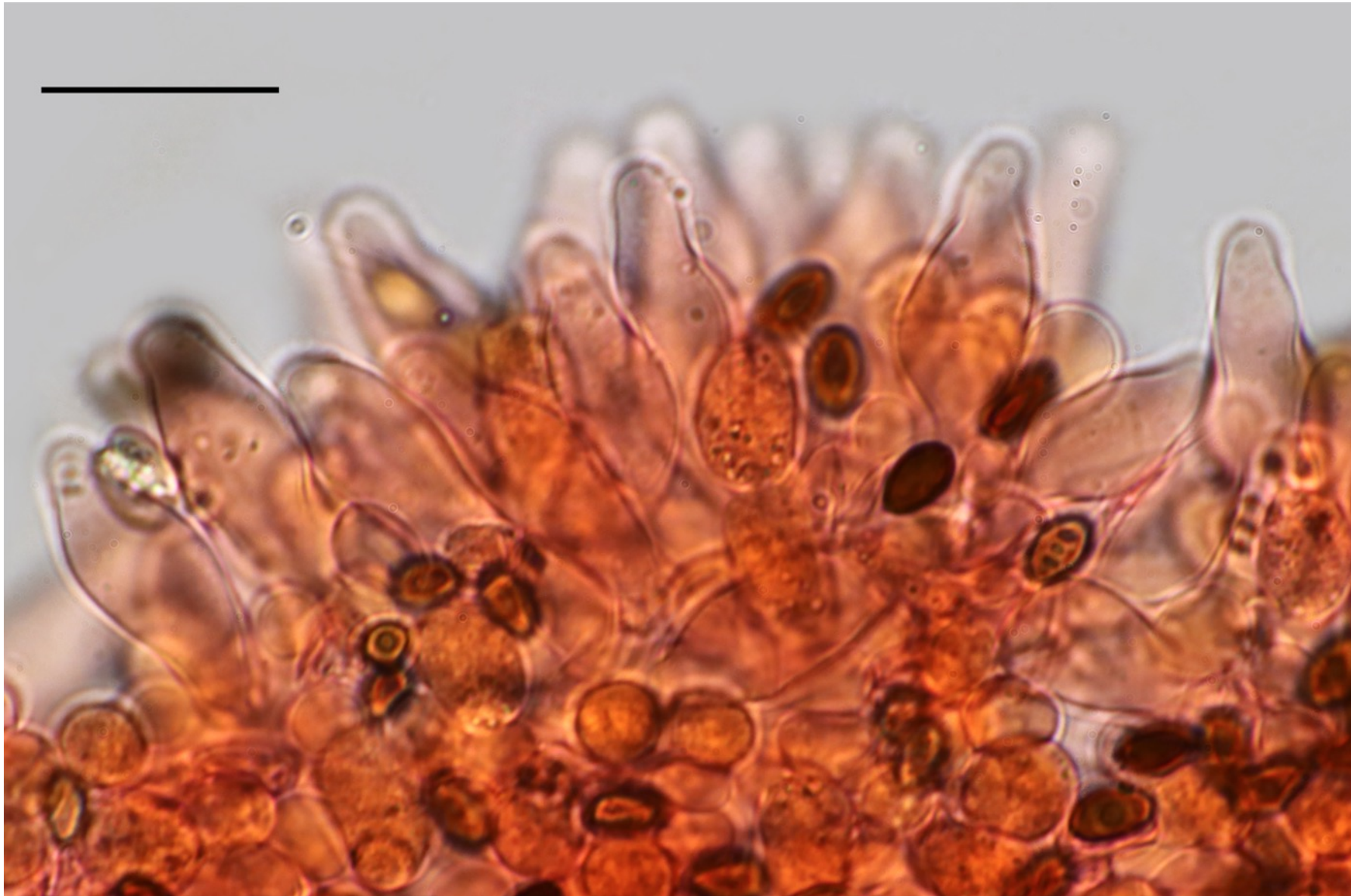
Spores measuring: N = 50
 (7,2) **7,5 - 8,5 (8,8)** × (4) **4,3 - 4,8 (5)** µm
Me = 8 × 4,5 µm ;
 Q = (1,6) 1,63 - 1,9 (2) ; Qe = 1,8

Cheilocystidia N = 45 ; 24,3) 25,4 - 35 (37,3) × (7,3) 8 - 10,7 (11,3) μm ; Me = 29,7 × 9,3 μm ; densely packed, mixed with few scattered basidia and thin walled clavate paracystidia.

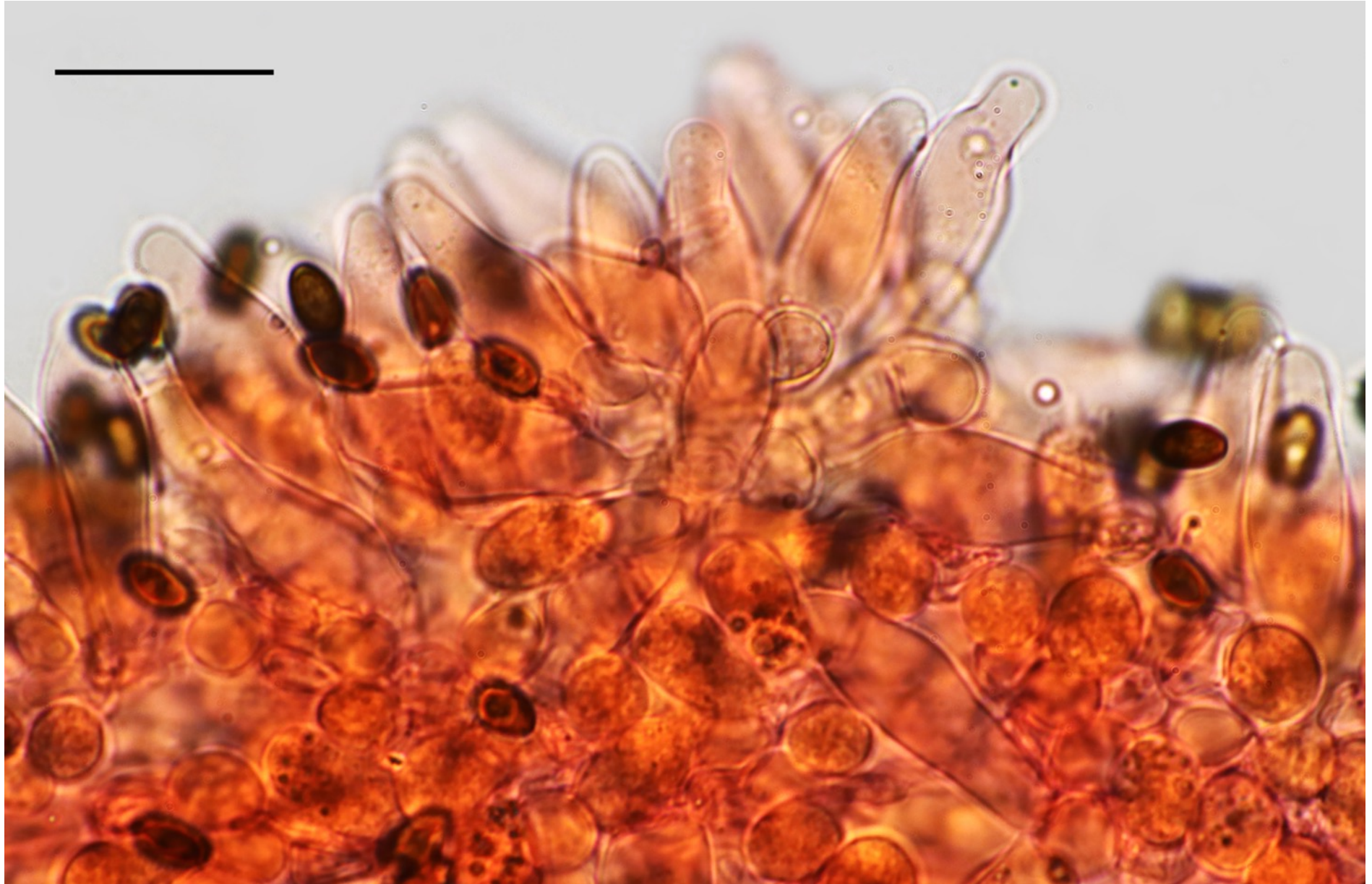
Cheilocystidia thin walled, mostly utriform but also often lageniform, with an obtuse to mainly round apex, not rostrate or forked.



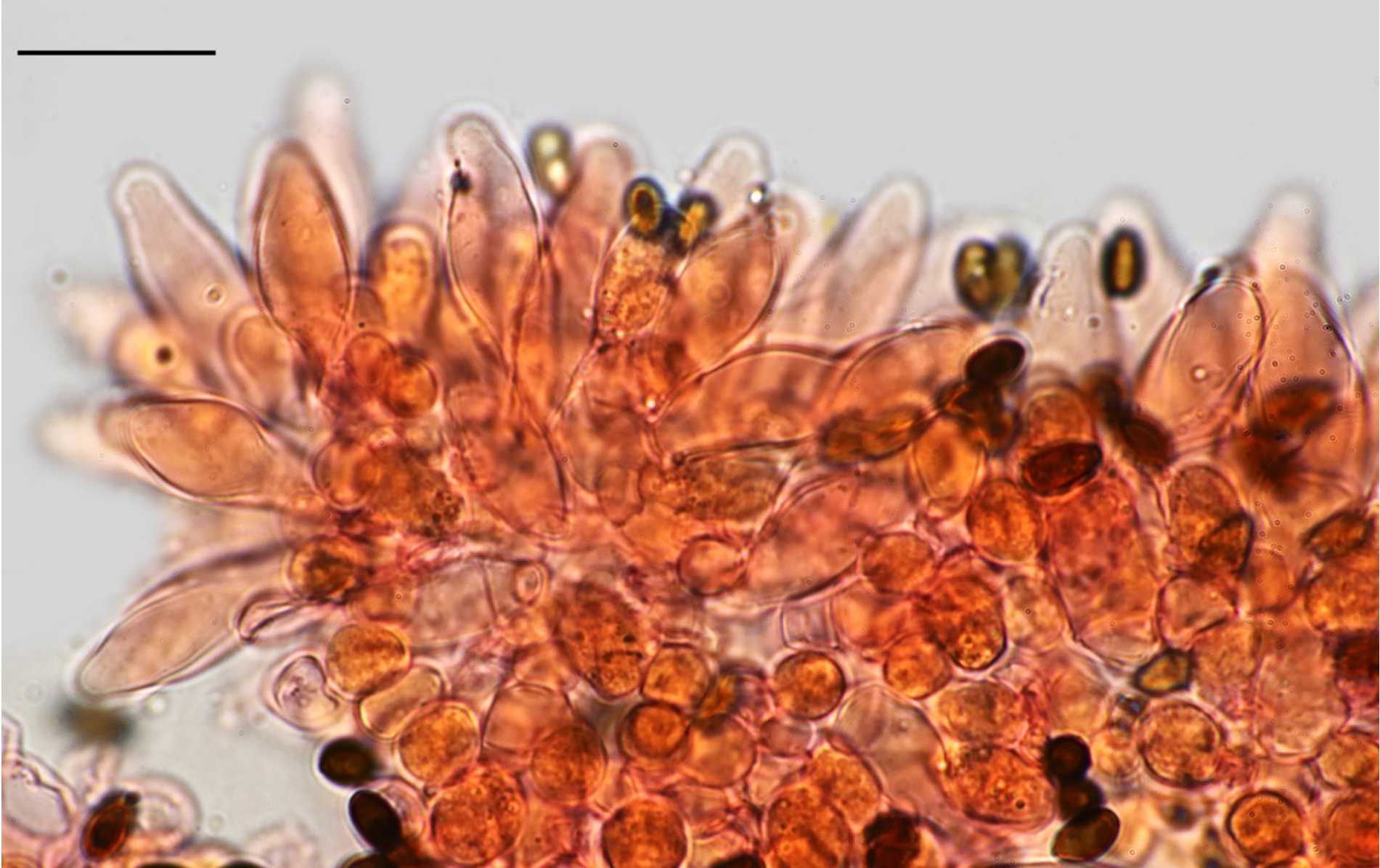
Cheilocystidia



Cheilocystidia



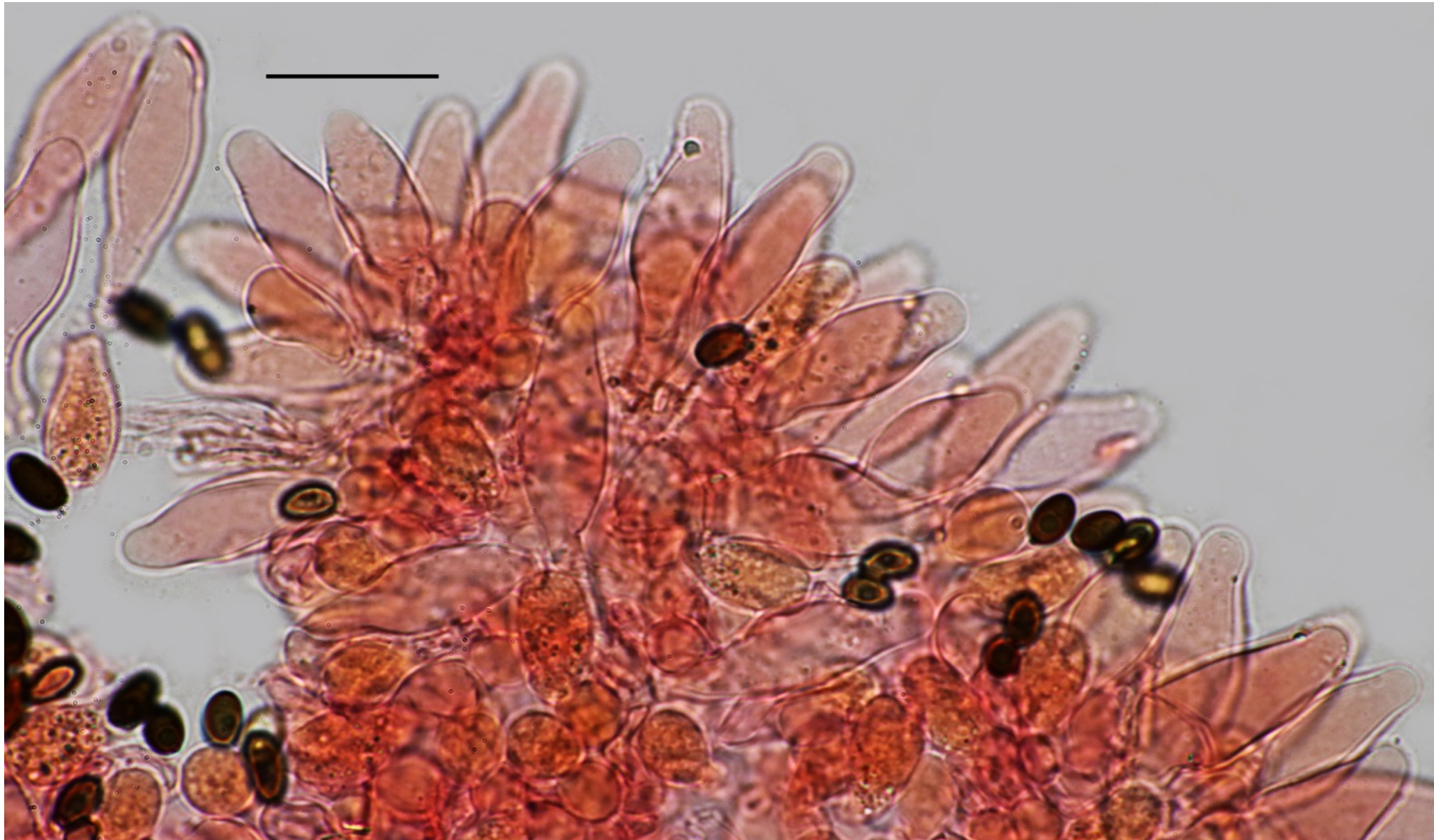
Cheilocystidia



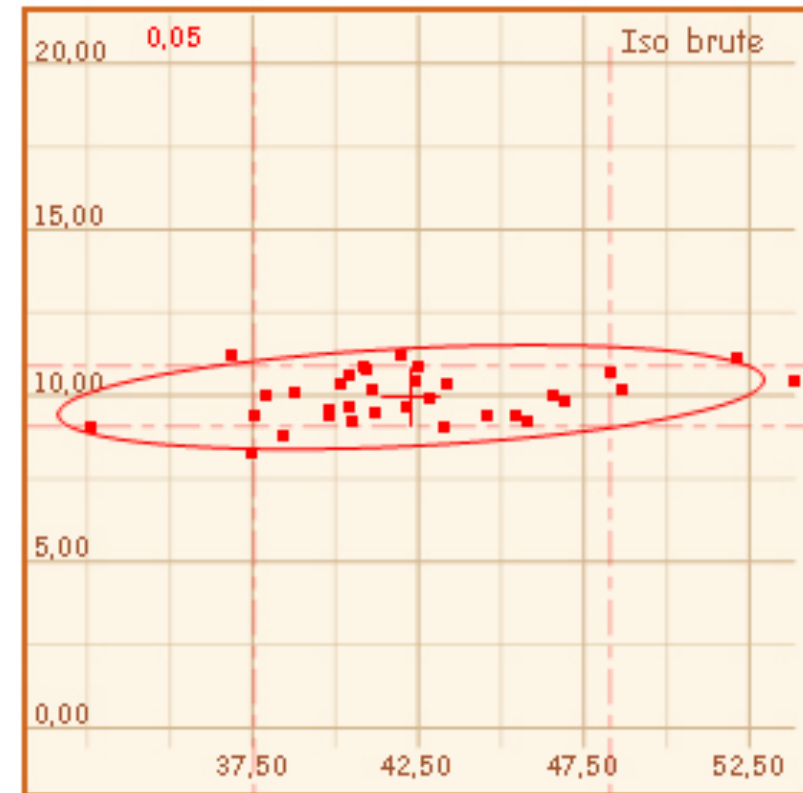
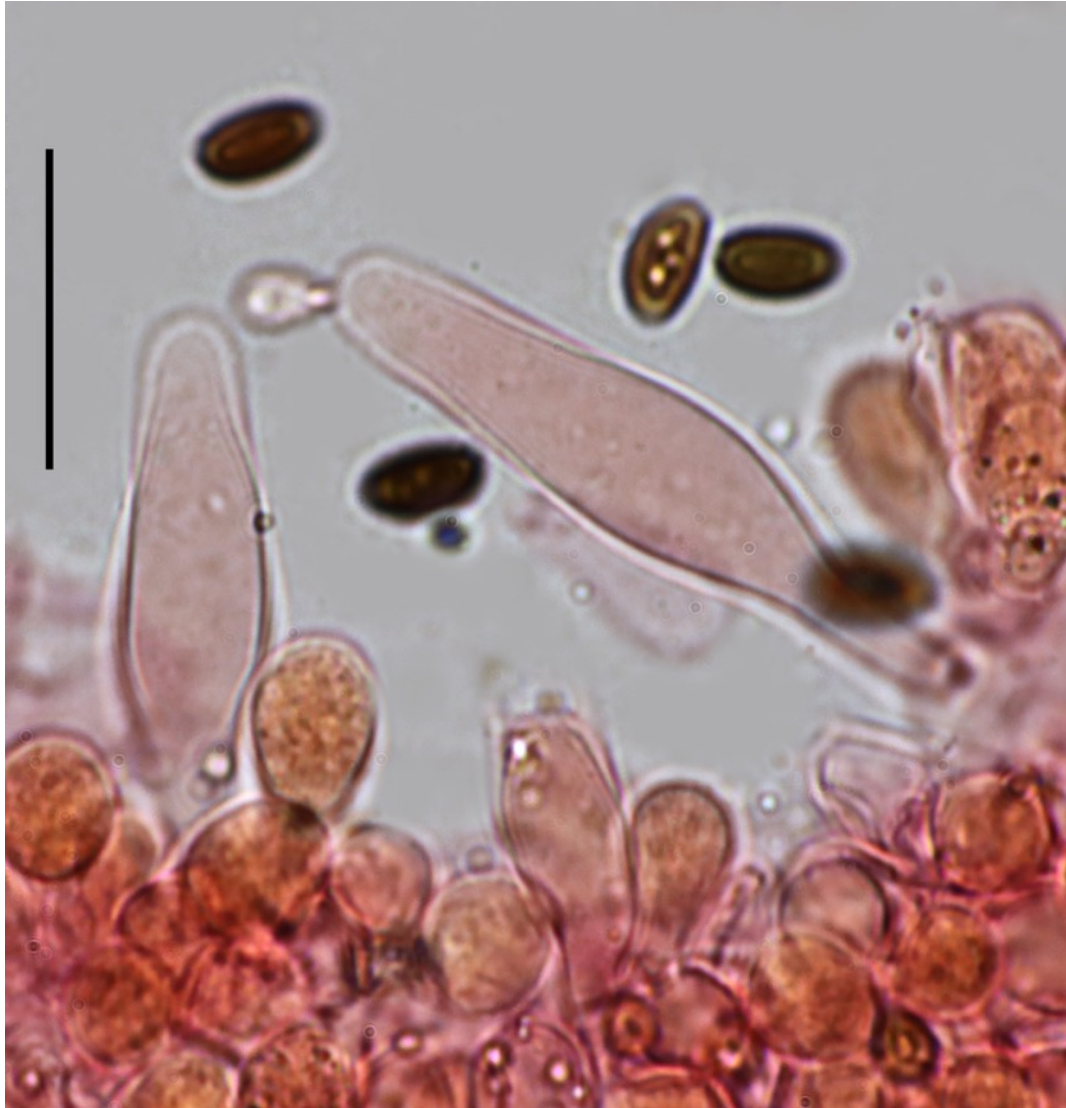
Cheilocystidia



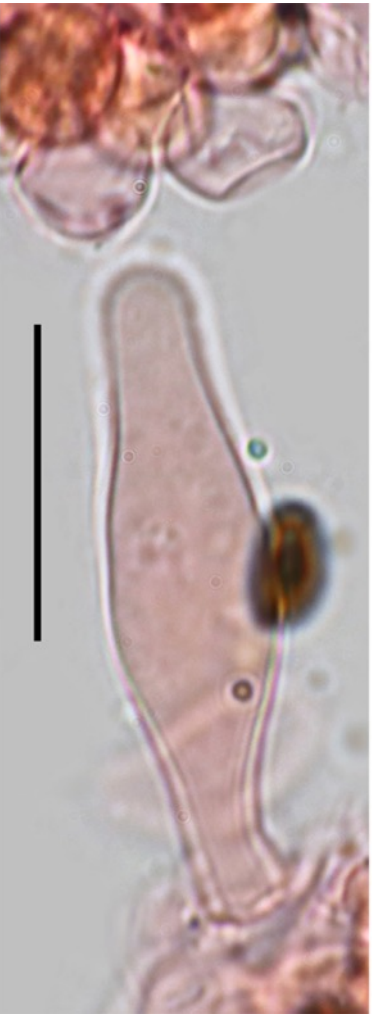
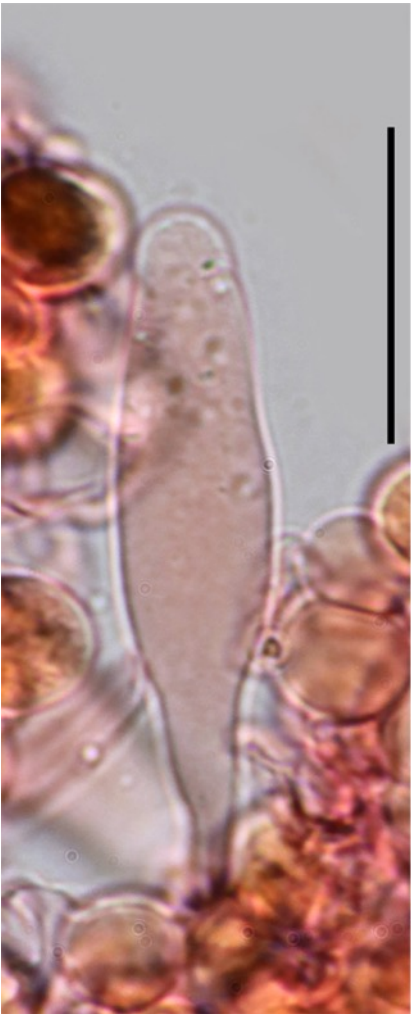
Cheilocystidia



Pleurocystidia measuring $N = 33$; (32,6) 37,5 - 48,3 (53,9) \times (8,3) 9,1 - 10,9 (11,2) μm ; $Me = 42,3 \times 10 \mu\text{m}$; very numerous, thin walled, mostly lageniform with an obtuse apex, very often pedicellated.



Pleurocystidia



Pleurocystidia



2022-2329-ALV35384 DD-KRIEG-030622

ITS = ok, 100% **Psathyrella senex MN657231 = voucher PT150619 of Daniel Deschuyteneer and Patrice Tanchaud** ,
99.23% *P. seminuda* KC992907, *P. warrenensis* KC992906

TEF1 = ok, 97.64% *Psathyrella amygdalinospora* MW410999, 96.72% *P. fagetophila* FM897222

ITS

NNNNNNNNNCNNCCTGATTTGAGGTCAAATTGTCAAAAAT
TGTCTTTGCAGACGGTTAGAAGCAAGTCTAAGTTCCTTCC
ACGGCGTAGATAATTATCACACCAATAGACGGAGCTCAGT
TTGAACTCGCTAATCCATTTGAGAGGAGCAGTCAGCAGTT
AAGCGTTCTGCACAACCCCCACATCCAAGCTTCACACAGT
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AGAACGAGAGTTATCCAGGCCTACATTAAGTGCACAGGTG
GAAAGATAAAAATGACGGGTGTGCACATGCTCCTAGAAGC
CAGCTACAACCAACGCCATAGATATTCAATTAATGATCCTT
CCGCAGGTTACCTACGGAAACCTTGTTACGACTTTTACT
TCCTCTAATGGAACCAAGAA

Sequences producing significant alignments

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GenBank Graphics Distance tree of results MSA Viewer

Description	Scientific Name	Max Score	Total Score	Query Cover	E value	Per. Ident	Acc. Len	Accession
<input checked="" type="checkbox"/> Psathyrella senex voucher PT150619 small subunit ribosomal RNA gene, partial sequence: internal transcribed spac...	Psathyrella senex	1236	1236	95%	0.0	100.00%	669	MN657231.1
<input checked="" type="checkbox"/> Psathyrella seminuda voucher Smith34091 internal transcribed spacer 1, partial sequence: 5.8S ribosomal RNA gene...	Psathyrella seminuda	1216	1216	96%	0.0	99.26%	1596	KC992907.1
<input checked="" type="checkbox"/> Psathyrella warrenensis voucher Smith70162 internal transcribed spacer 1, partial sequence: 5.8S ribosomal RNA ge...	Psathyrella warrenensis	1214	1214	96%	0.0	99.26%	1595	KC992906.1
<input checked="" type="checkbox"/> Psathyrella agrariella voucher MICH47939 small subunit ribosomal RNA gene, partial sequence: internal transcribed...	Psathyrella agrariella	1210	1210	96%	0.0	99.11%	717	MF325950.1
<input checked="" type="checkbox"/> Psathyrella limicola var. subpectinata voucher MICH11965 small subunit ribosomal RNA gene, partial sequence: inter...	Psathyrella limicola	1208	1208	98%	0.0	98.40%	721	MF325980.1
<input checked="" type="checkbox"/> Psathyrella fagetophila M LO210-85 ITS region, from TYPE material	Psathyrella fagetophila	1203	1203	96%	0.0	98.81%	757	NR_167955.1
<input checked="" type="checkbox"/> Psathyrella fagetophila voucher LO210-85 internal transcribed spacer 1, partial sequence: 5.8S ribosomal RNA gene...	Psathyrella fagetophila	1203	1203	96%	0.0	98.81%	1598	KC992902.1
<input checked="" type="checkbox"/> Psathyrella agrariella isolate S.D. Russell iNaturalist # 34996946 small subunit ribosomal RNA gene, partial sequenc...	Psathyrella agrariella	1201	1201	95%	0.0	99.10%	690	ON571381.1
<input checked="" type="checkbox"/> Psathyrella senex voucher HMJAU 4450 small subunit ribosomal RNA gene, partial sequence: internal transcribed sp...	Psathyrella senex	1199	1199	98%	0.0	98.25%	717	MG734732.1
<input checked="" type="checkbox"/> Psathyrella senex voucher AH 27060 small subunit ribosomal RNA gene, partial sequence: internal transcribed space...	Psathyrella senex	1190	1190	92%	0.0	100.00%	644	MF966488.1

My publication about *P. senex* group A & B

<http://www.amfb.eu/Myco/Psathyrelles/Pdf/Psathyrella-senex.pdf>

TEF1@

NNNNNNNNNNNNNNACTNNCAGGCTGANTGNGCCATCCTCA
TNATCGCTGCTGGTACTGGTGAATTCGAAGCCGGTATCTC
CAAGGATGGTCAAACCCGTAACACGCCTTGCTCGCCTTC
ACTCTCGGTGTGCGTCAGCTCATCGTCGCCGTCAACAAGA
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GGTCGAGTCTACATGAGTATCCCCTCTTGGTCGTTCCCT
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G

Descriptions		Graphic Summary	Alignments	Taxonomy				
Sequences producing significant alignments		Download	Select columns	Show 100				
<input checked="" type="checkbox"/> select all 100 sequences selected		GenBank	Graphics	Distance tree of results	MSA Viewer			
Description	Scientific Name	Max Score	Total Score	Query Cover	E value	Per. Ident	Acc. Len	Accession
<input checked="" type="checkbox"/> Psathyrella amygdalinospora voucher HMJAU37952 translation elongation factor 1-alpha gene, partial cds	Psathyrella amyg...	1784	1784	90%	0.0	97.25%	1053	MW410999.1
<input checked="" type="checkbox"/> Psathyrella romagnesii isolate 4324 translation elongation factor 1-alpha gene, partial cds	Psathyrella roma...	1485	1485	85%	0.0	93.43%	1006	KJ732802.1
<input checked="" type="checkbox"/> Psathyrella fennoscandica voucher HMJAU37918 translation elongation factor 1-alpha gene, partial cds	Psathyrella fenno...	1482	1482	89%	0.0	92.41%	1055	MW411000.1
<input checked="" type="checkbox"/> Psathyrella sp. 1 EL-2013 isolate 9201 translation elongation factor 1-alpha gene, partial cds	Psathyrella sp. 1...	1467	1467	85%	0.0	93.11%	1004	KJ732790.1
<input checked="" type="checkbox"/> Psathyrella pseudocorrugis isolate 9198 translation elongation factor 1-alpha gene, partial cds	Psathyrella pseu...	1303	1303	85%	0.0	90.26%	1001	KJ732801.1
<input checked="" type="checkbox"/> Psathyrella sp. 9 EL-2013 isolate 10104 translation elongation factor 1-alpha gene, partial cds	Psathyrella sp. 9...	1212	1212	85%	0.0	88.60%	1003	KJ732792.1

GENBANK ACCESSION CODE

ITS 35384 = OP006265

TEF 35384 = OP021859

Discussion :

For this species, the "genus specialists" consulted proposed *P. senex*, *P. rubiginosa* which likes humid environments as it is the case in this collection of L. Kriegelsteiner and *P. ichnusae*.

The most probable identification based on ecology, macro and microscopical characteristics, and biomol is *P. senex group B*.

<http://www.amfb.eu/Myco/Psathyrelles/Pdf/Psathyrella-senex.pdf>

Concerning the proposition of *P. rubiginosa* we can discard this hypothesis despite the ecology because the spores of Kriegelsteiner's specimen have a distinct germ pore, whereas for *P. rubiginosa* it would be absent to not very distinct according to the references I have quoted (see below).

P. ichnusae is closely related to this specimen but could be excluded from the biomol.

See below for a short description of these two species.

***Psathyrella ichnusae* Örstadius, Contu, E. Larss. 2015**
in Mycol. Progress 14(5), Article 25: 21f.

P. ichnusae (extract from the key of Voto) https://www.ameronlus.it/chiavi_micologia.php

In coastal regions in temperate Europe: on sandy soil possibly moist/mossy/burned; young Cap dark (ochre-) brown, not striate, broadly convex; SP (7)7.7-9.2(10)×(4)4.4-5.5 (5.8) μm , avSP 8.1-8.3× μm , rarely subphaseoliform; Bas hyaline; PL 32-40(48)×(9)10.5-14(18) μm

P. ichnusae

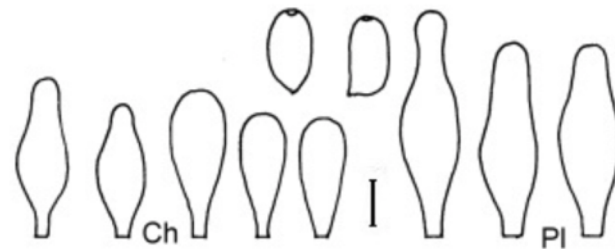
P. ichnusae : description of Andreas Melzer

Macrocharacters:

Cap up to to 18 mm broad, convex, campanulat, dark ockerlich brown, with flüchtigen veilfasern.
Lamellae distant to moderately close, dark brown, edges white.
Stipe up to 32 x 2 mm, whitish.

Microcharacters:

Spores 7,8-9.2 x 4,4-5 μm , longly ellipsoid, subcylindrical, ovoid, yellowish red brown, with distinct germ pore.
Basidia 4-spored.
Cheilocystidia 25-35 x 10-16 μm , utriform, lageniform, mäßig numerous. Undermixed with numerousen, small clavate cells.
Pleurocystidia 32-48 x 10-18 μm , utriform, lageniform, sometimes with slightly thickened walls.
Clamps present.



Bar: 5 μm (spores), 10 μm (other)
Drawing (changed) according Örstadius & al (2015).

Habitat: burnt place
Distribution: Italy

Description of A. Melzer of *P. rubiginosa* from the collection of P. Welt

Macrocharacters:

Pileus 5-20 mm broad, convex to conical, young dark to red brown, fading to ochre, sometimes with a pinkish hue. Veil sparse.

Lamellae distant to moderately distant, brown, edge white.

Stipe 15-50 x 1-2,5 mm, whitish to pale brownish, near the base darker.

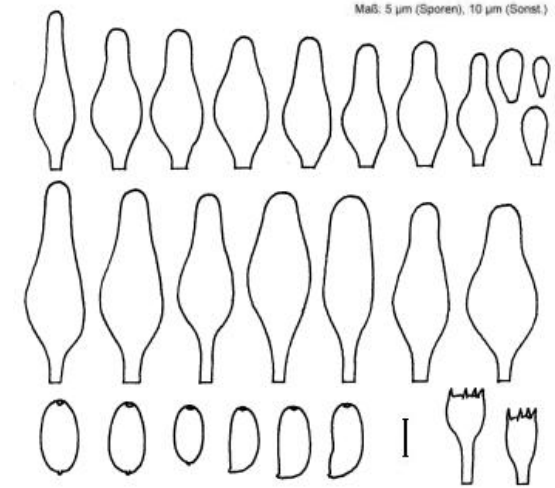
Microcharacters:

Spores 6,5-9 x 3,5-5 µm, av. 8,4 x 4,3 µm, av. Q=1,60-2,00, ellipsoid, ovoid, sometimes slightly phaseoliform, germ pore small, sometimes absent. In water reddish brown, in KOH grey brown.

Basidia 14-20,5 x 7-9 µm, 4-spored. Cheilocystidia 15-40 x 6-14 µm, utriform, rarely lageniform, close to moderately close.

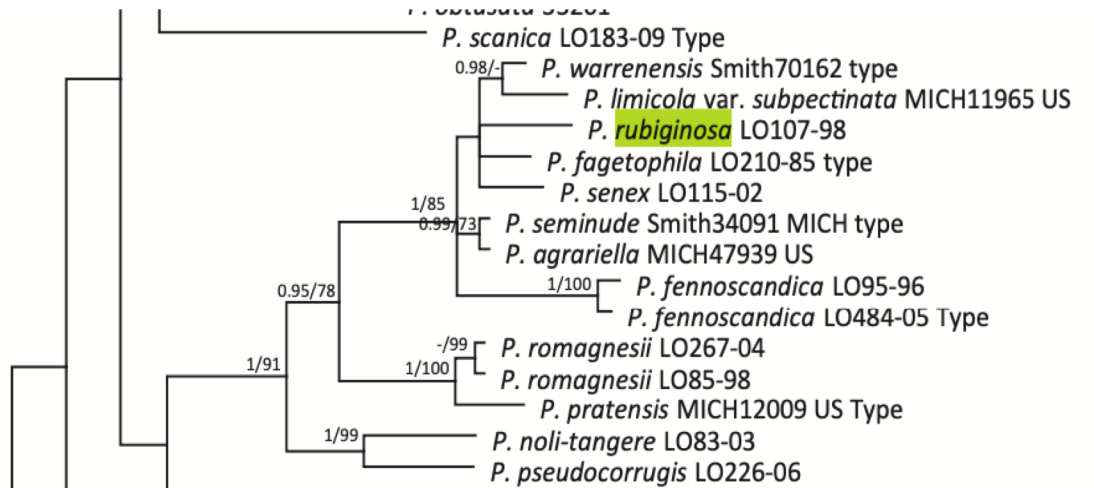
Clavate and sphaeropedunculate marginal cells rare, scattered, up to 16,5 x 12,3 µm. Pleurocystidia 25-50 x 7-20 (-22) µm, utriform, sublageniform, clavate, numerous.

Clamps present.



See also the description of Guillermo Munoz & Caballero published in 2012 (68)

Part of a phylogram from: **A revision of the genus *Psathyrella*, with a focus on subsection *Spadiceogriseae*** P. Voto¹, F. Dovana², M. Garbelotto³



/ agrariella



Foto: G. Muñoz