

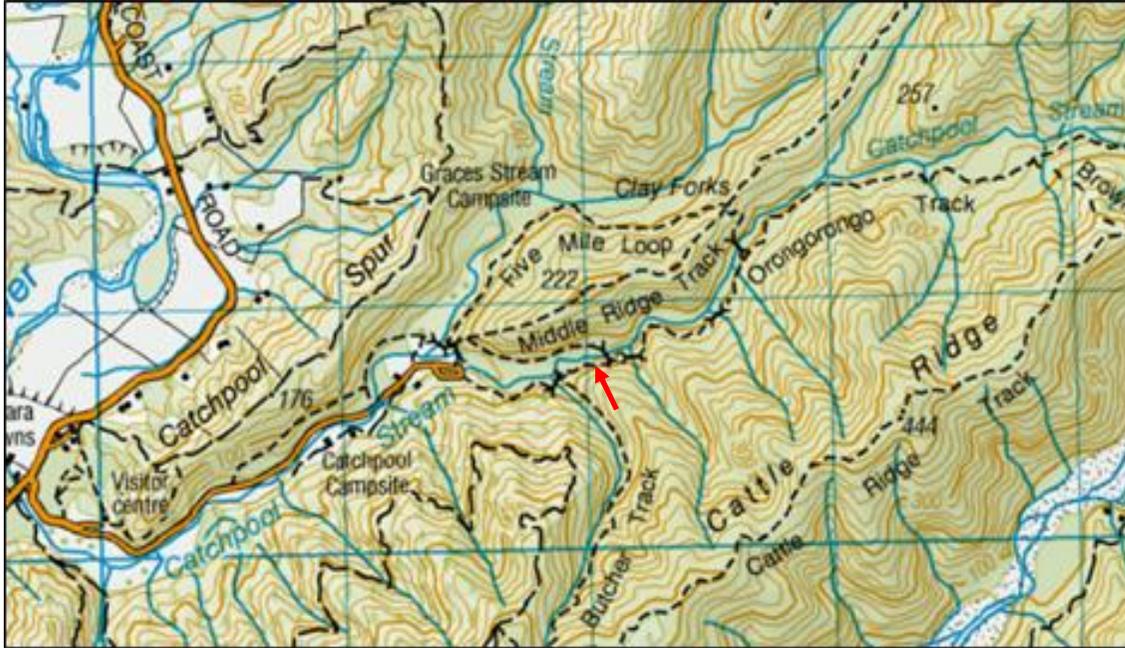
***Eutypella leprosa* (Pers.) Berl. AEB 1329 (= PDD 117238)**

Collection site: Remutaka Forest Park, Orongorongo Track (See red arrow on map insert).

Substrate: Small downed dead twig

Collection date: 18 September 2019

Collector: Dan Mahoney; **Determination:** Ann Bell & Dan Mahoney



Voucher materials: Dried herbarium specimen accompanied by 2 Shear's mounting fluid (SMF) slides (one of the early hymenium with numerous paraphyses but no asci and the other with numerous free ascospores and a few typical mature asci) and a third aniline blue lactic acid/SMF slide with good mature asci but few paraphyses; Dan's in situ Zeiss dissecting scope photos of stromata [Kodak Professional Portra 160 color neg. film, (best ones digitally scanned)] and Olympus BX51 compound scope with DP25 camera for digital photos of microscopic detail; Dan's comments. Measurements and other details are provided with the photos and photo legends.

Brief comments: AEB 1329 (= PDD 117238) has numerous long-stipitate asci with the 8 one-celled allantoid ascospores irregularly clustered in the broad apically truncate portion of the unitunicate asci. It is a good match to descriptions and photos online. See especially: 1) *Eutypella leprosa* - All Fungi | Fungi and Lichens of Great Britain & 2) Diatrypaceae - Eutypa, Eutypella? - Forum ASCOFrance. The summary description from 1) is reproduced on the following page. Further comments and measurements for AEB 1329 (= PDD 117238) are provided in the photos and legends – see pp. 4-12 in this pdf.

Continued on the next page:

From online “*Eutypella leprosa* - All Fungi | Fungi and Lichens of Great Britain” – Summary description

SUMMARY [My annotations for AEB 1329 (= PDD 117238) in red]

Stromata developing within the bark (seen as superficial entities on wood in the AEB collection), 1-2 (-5) mm diam., containing 2-6 (-15) ascomata, pustulate, circular to ovoid in outline, pulvinate to conical, sometimes only partially emergent, black, rugose, scattered or confluent in small groups. Ostioles emerging collectively, or separately in large stromata, in many collections not obviously furrowed and hardly projecting beyond the outer layer of the stroma. Inner tissue of the stroma (entostroma) white, sometimes well-developed (present, but not distinct, in this older AEB collection); often limited by a black line within the wood (see AEB photo).

Anamorph: conidiomata formed as plurilocular cavities within the stroma, without a well-defined wall, lined with conidiogenous cells. Conidia orange in mass. No anamorph was observed in AEB 1329 (= PDD 117238) .

Teleomorph: ascomata perithecia, 400-600 µm diam. and 600-900 µm tall, ± globose to ovoid but often distorted by pressure from surrounding ascomata, with a short cylindrical neck. Interascal tissue composed of broad, very thin-walled unbranched paraphyses. Asci narrowly clavate, often very long-stalked, the part containing spores (30-) 40-60 (-70) x 6-8 µm, the stalk 60-120 µm long, gradually tapering, thin-walled, not fissitunicate, the apex obtuse to truncate (distinctly truncate), with a minute apical ring that usually blues in iodine (no bluing was observed), 8-spored. Ascospores arranged irregularly, 9.5-12 (-15) x 2.5-3 µm (9–12 × 3 µm), allantoid, pale yellow-brown, aseptate, thin-walled, without an episporium, gelatinous sheath or appendages.

Associations: On dead twigs and branches of various woody plants, including *Acer pseudoplatanus*, *Frangula alnus*, *Fraxinus excelsior*, *Populus tremula*, *Rosa canina*, *Tilia* sp., *Ulex* sp. and *Ulmus procera*. [previously collected on 8 November 2006 in New Zealand from dead stems of *Ripogonum scandens*, AEB 969 (= PDD 92311)]

Distribution: Scattered throughout southern England and Northern Ireland; the actual distribution is presumably rather broader.

Notes: Description adapted from Rappaz (1987). Tue, 2017-08-15 10:06 -- Paul Cannon

Several photos on the following page represent helpful online images of this species.

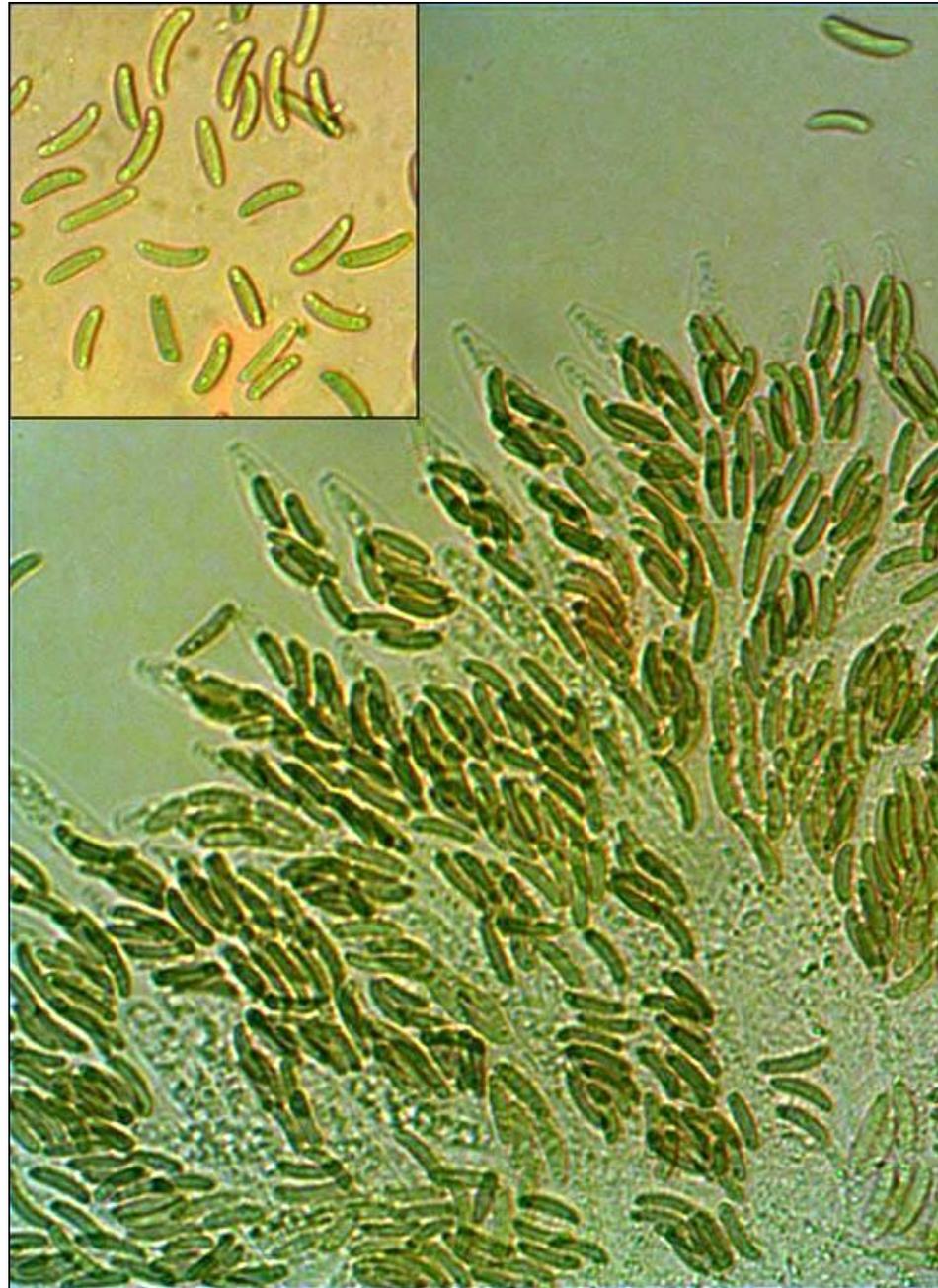
Eutypella leprosa, vertical section through stroma. Collection from rotten bark of *Ulex europaeus*, VC12 N Hampshire. The original uploaded by Paul Cannon. Licence:



Below: More representative of the amount of white entostroma seen in AEB 1329 (= PDD 117238).

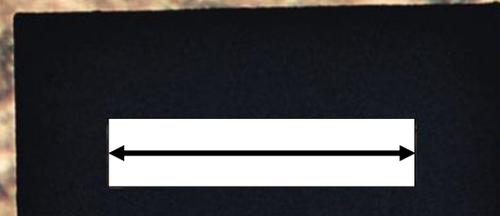


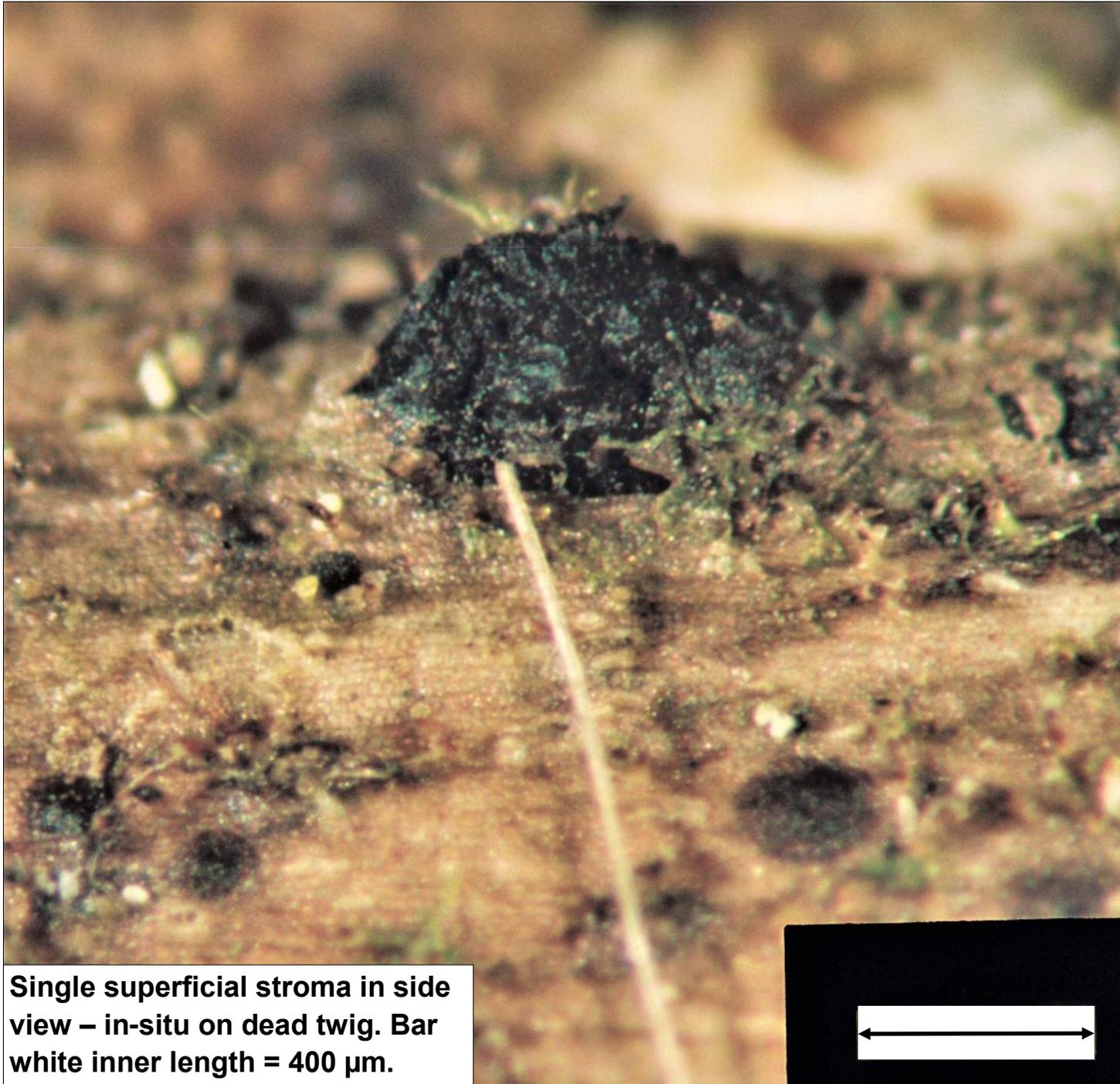
Images (bottom left, stroma; right, asci and ascospores) by Jenny on “Diatrypaceae - Eutypa, Eutypella? - Forum ASCOFrance”





Stromata in-situ on dead twig. Scattered, single or clumped, superficial, black, carbonaceous, irregularly cracked. Ostiolate openings from perithecia within the stromata are difficult to see – one is arrowed. Bar white inner length = 1000 μ m.

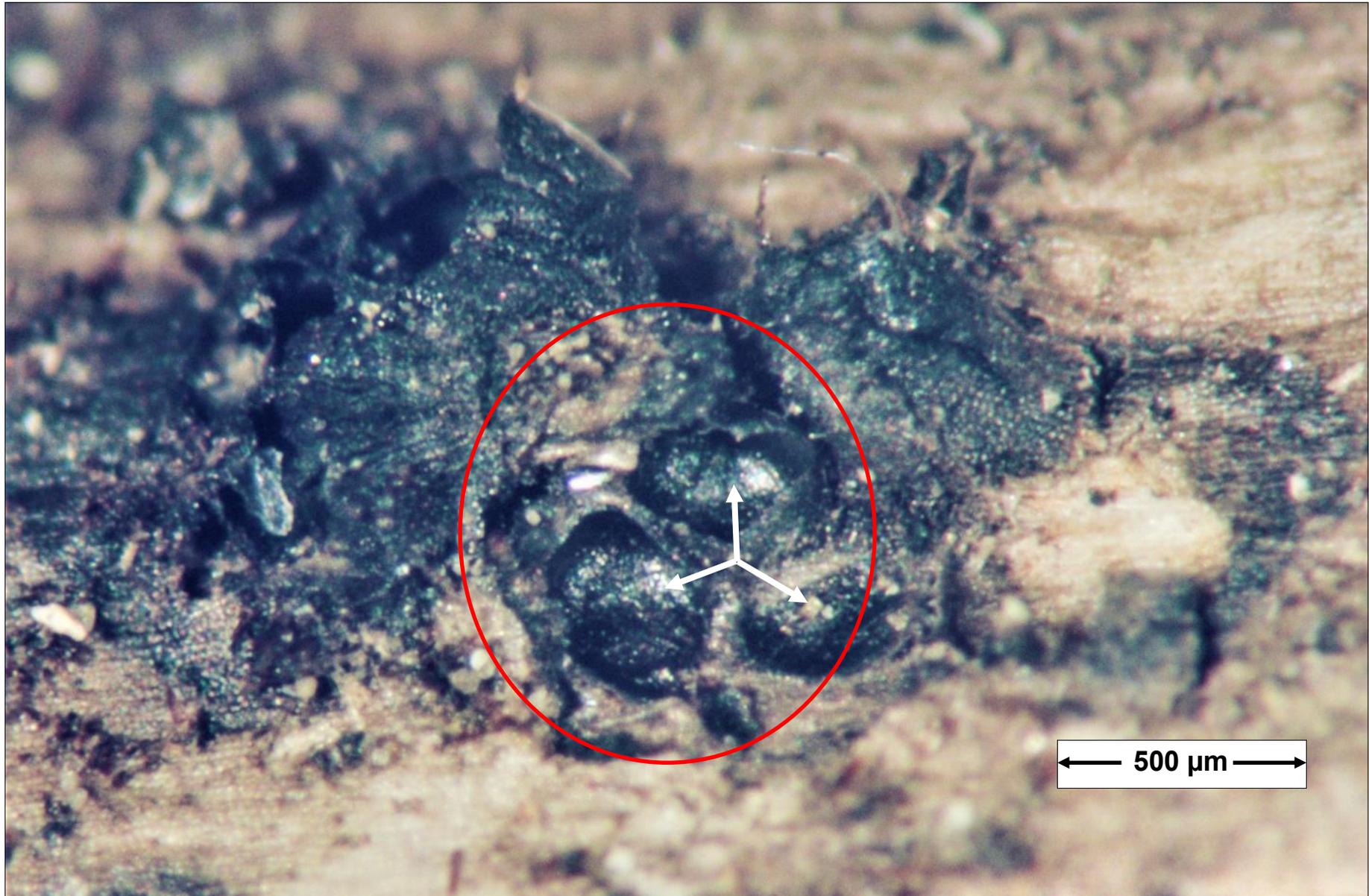




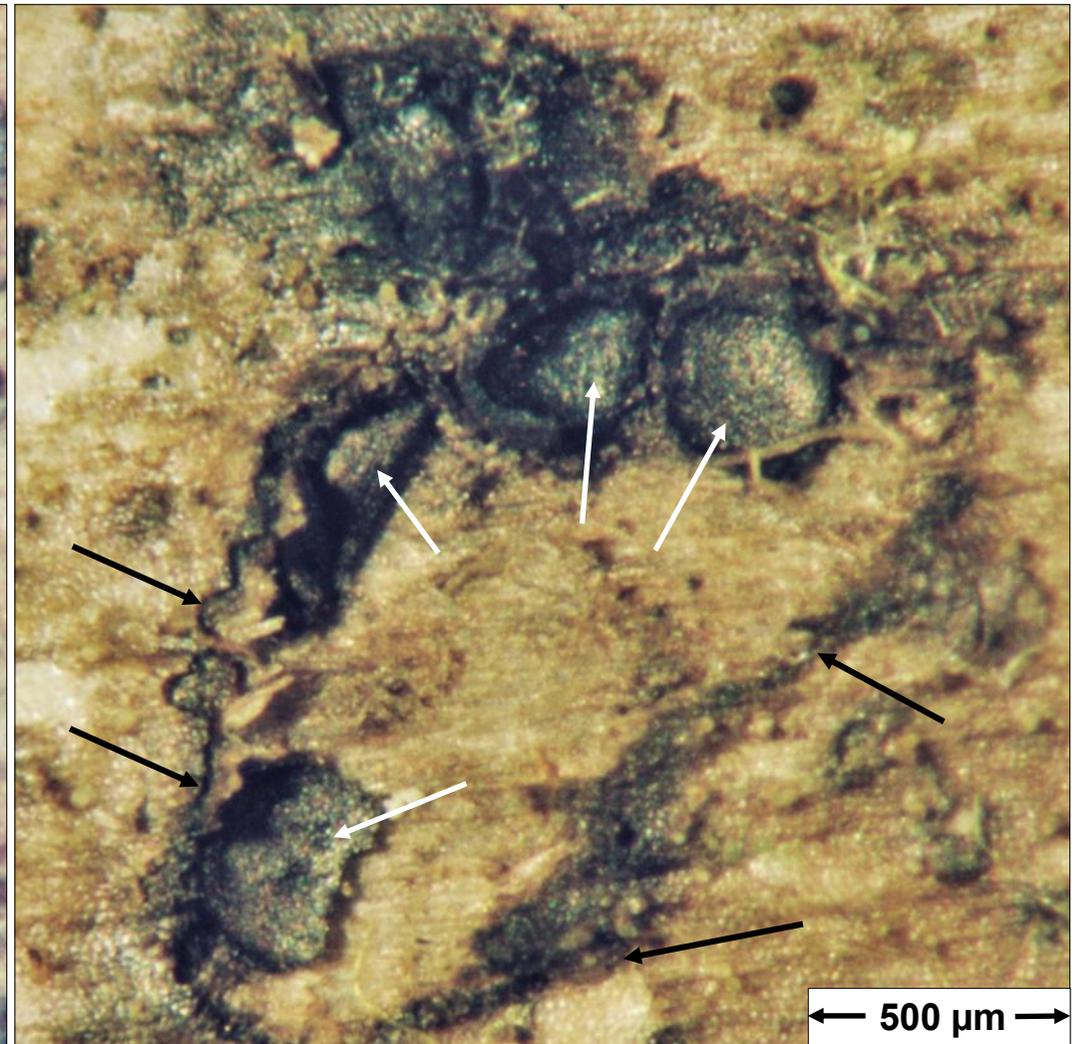
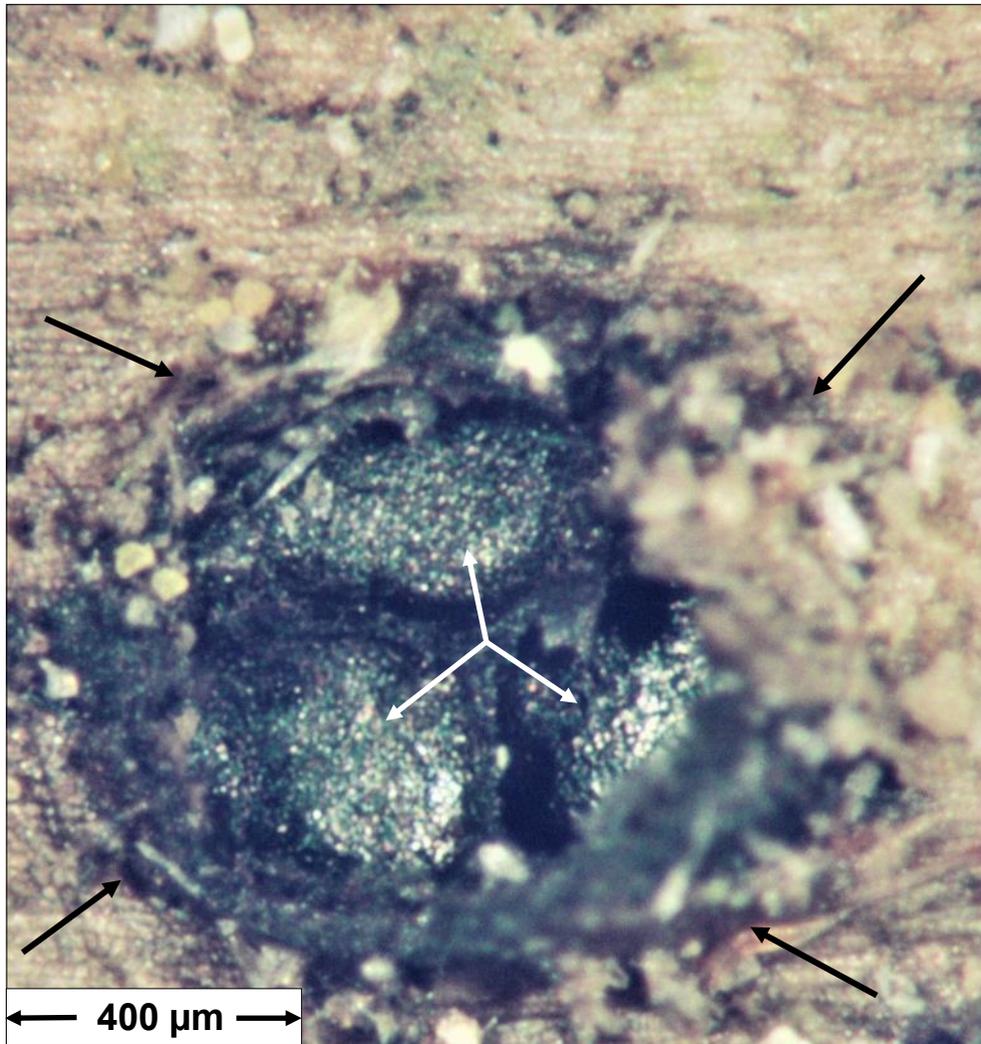
Single superficial stroma in side view – in-situ on dead twig. Bar white inner length = 400 μm .



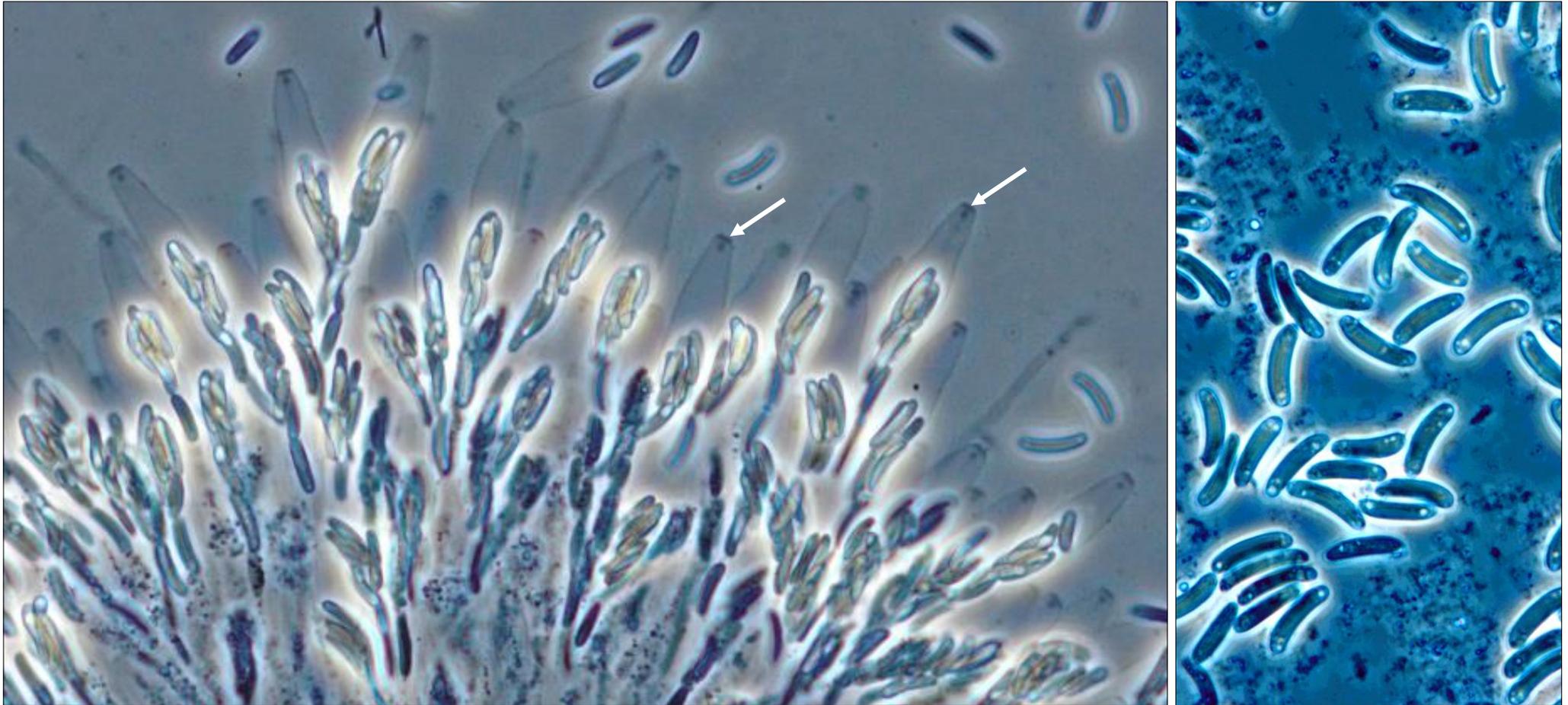
Stroma with outermost black ectostroma partially eroded to expose a lighter-colored layer beneath (the latter arrowed). Ostiolar exit points from perithecia within the stroma are not clearly seen.



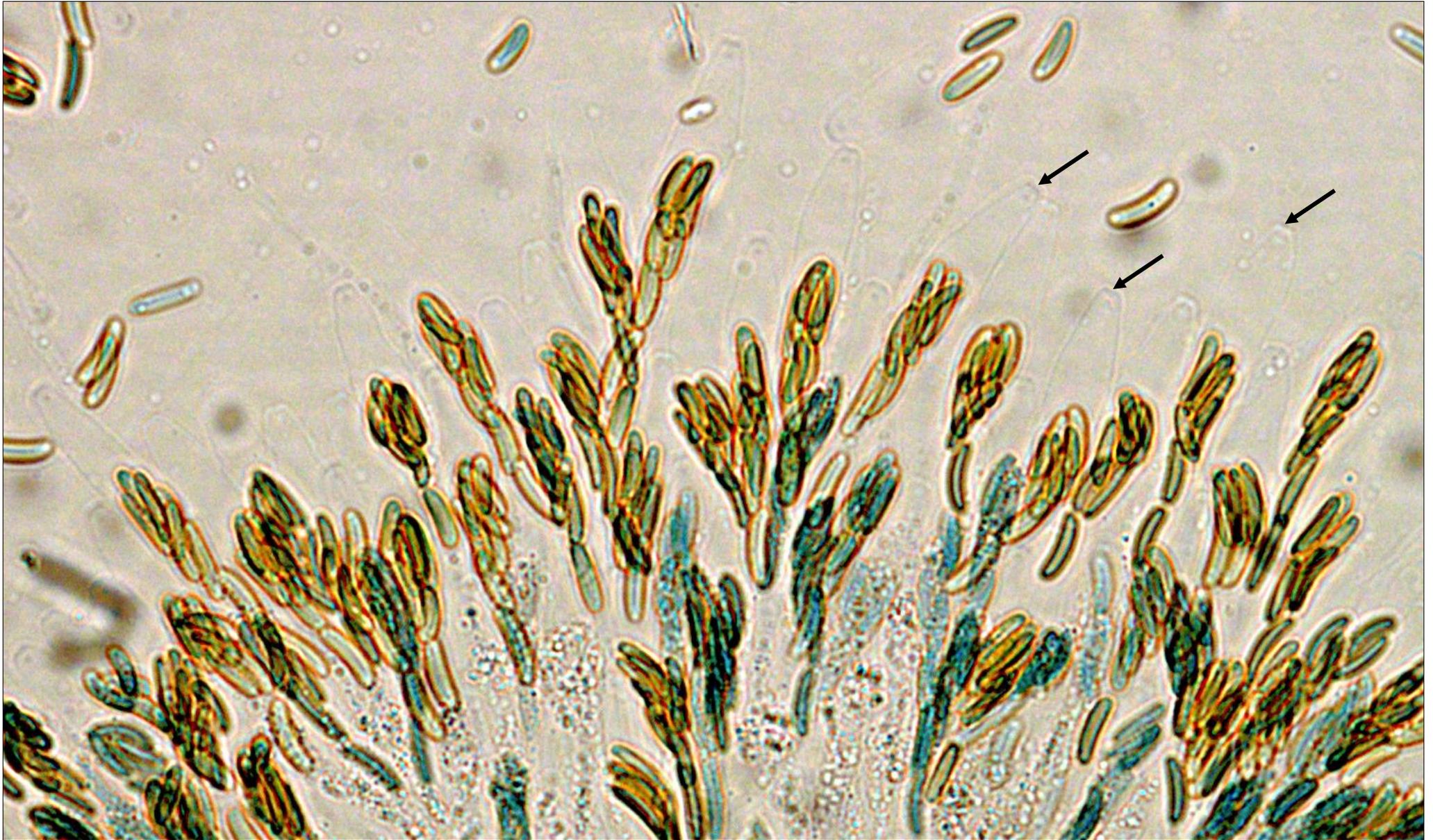
In-situ view of a 'window' into the contents of a broken-open stroma. Note where the break in the black ectostroma occurs just inside the red circle. The contents of 3 collapsed perithecia are seen within (white arrows).



Photos of 2 in-situ stromata, both having lost nearly all of their stromatic tissue (ecto- and ento- stromatic) leaving only the black ectostromatic line that outlines the edges of each stroma (see black arrows). The smaller stroma at the left contains the collapsed contents of 3 (perhaps 4) perithecia while the larger stroma at the right contains only whole or portions of several collapsed perithecia from what were previously many. See the collapsed perithecia (white arrows).



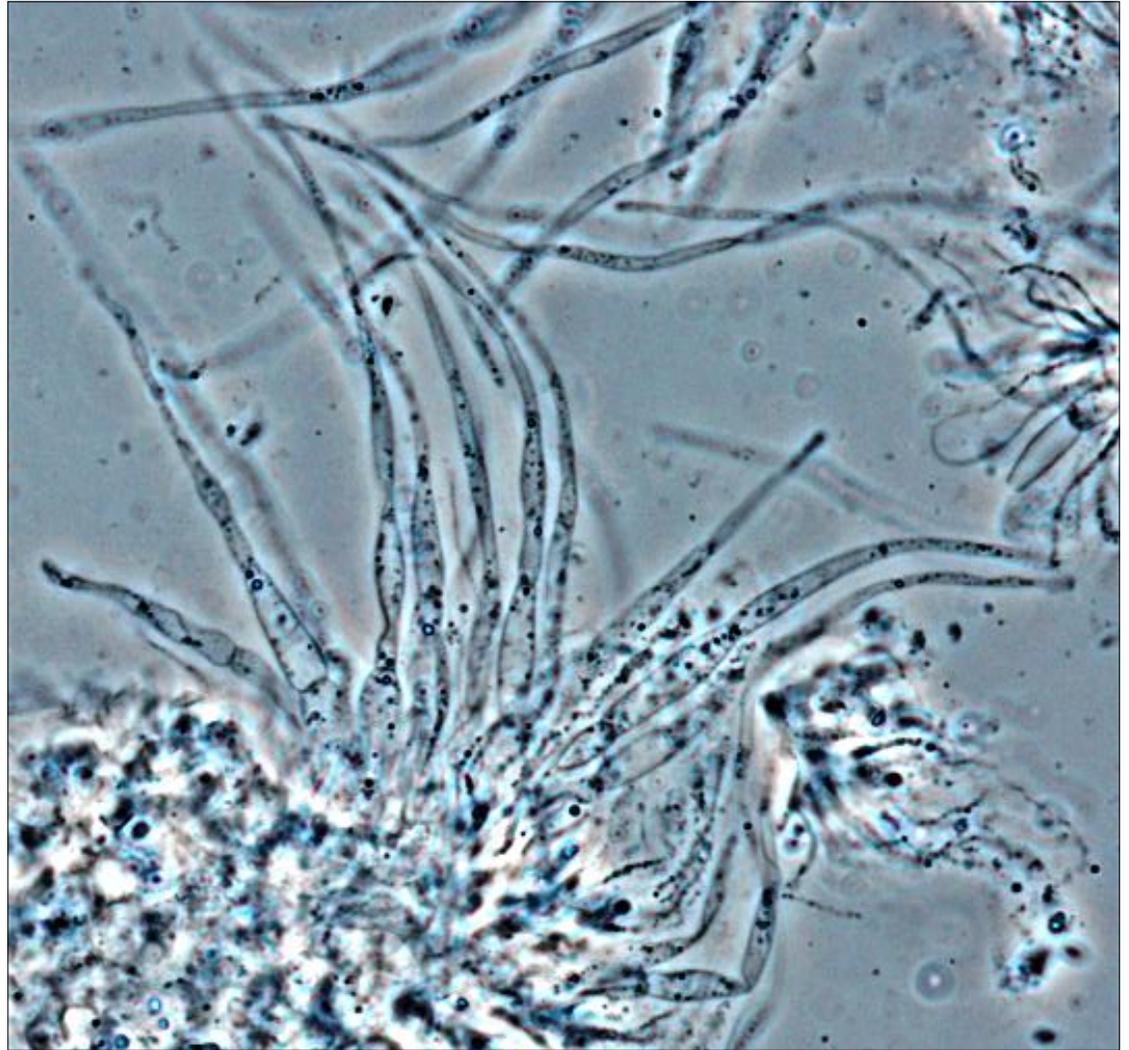
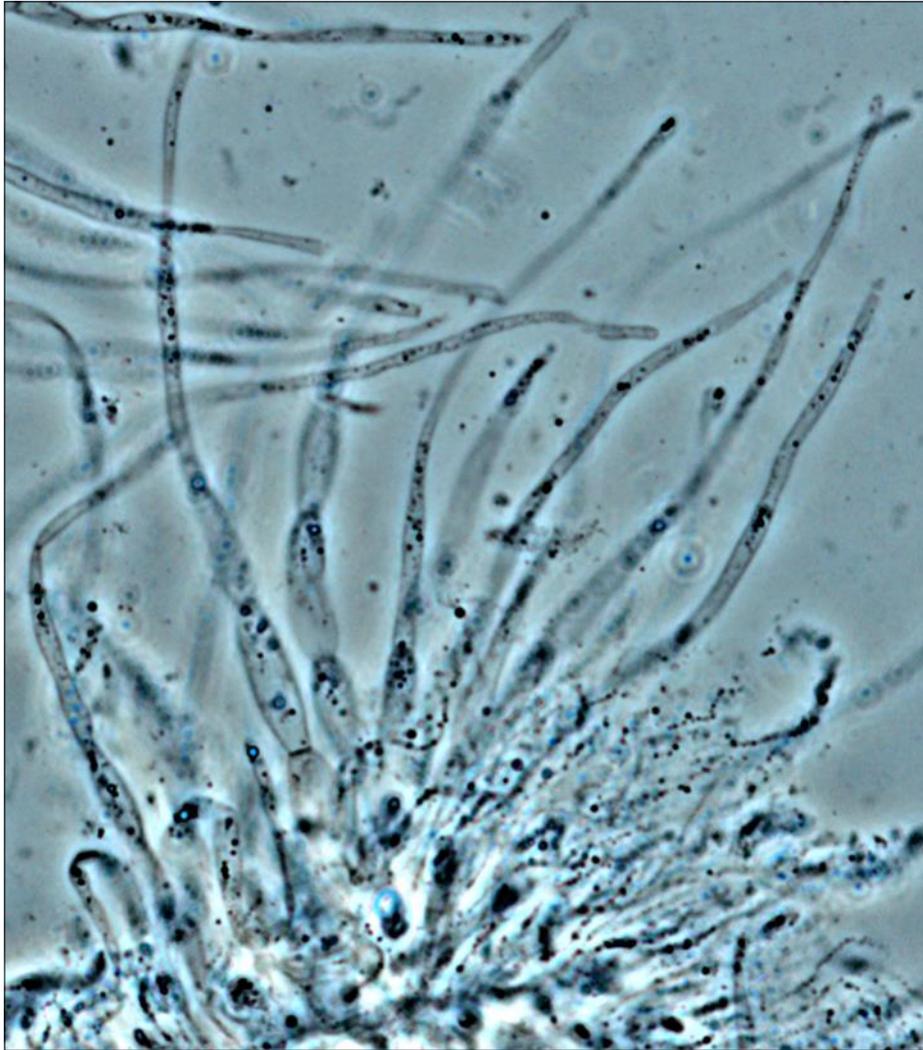
Asci and ascospores. Left photo – X40 objective, phase, aniline blue lactic acid/Shear's mounting fluid mount. Note clumps of 8 allantoid ascospores in a broad portion of the asci below their truncate apices (the latter arrowed). Right photo – ascospores 9–12 × 3 μm, allantoid with one to few polar globules. Water mount, X100 objective, phase microscopy.



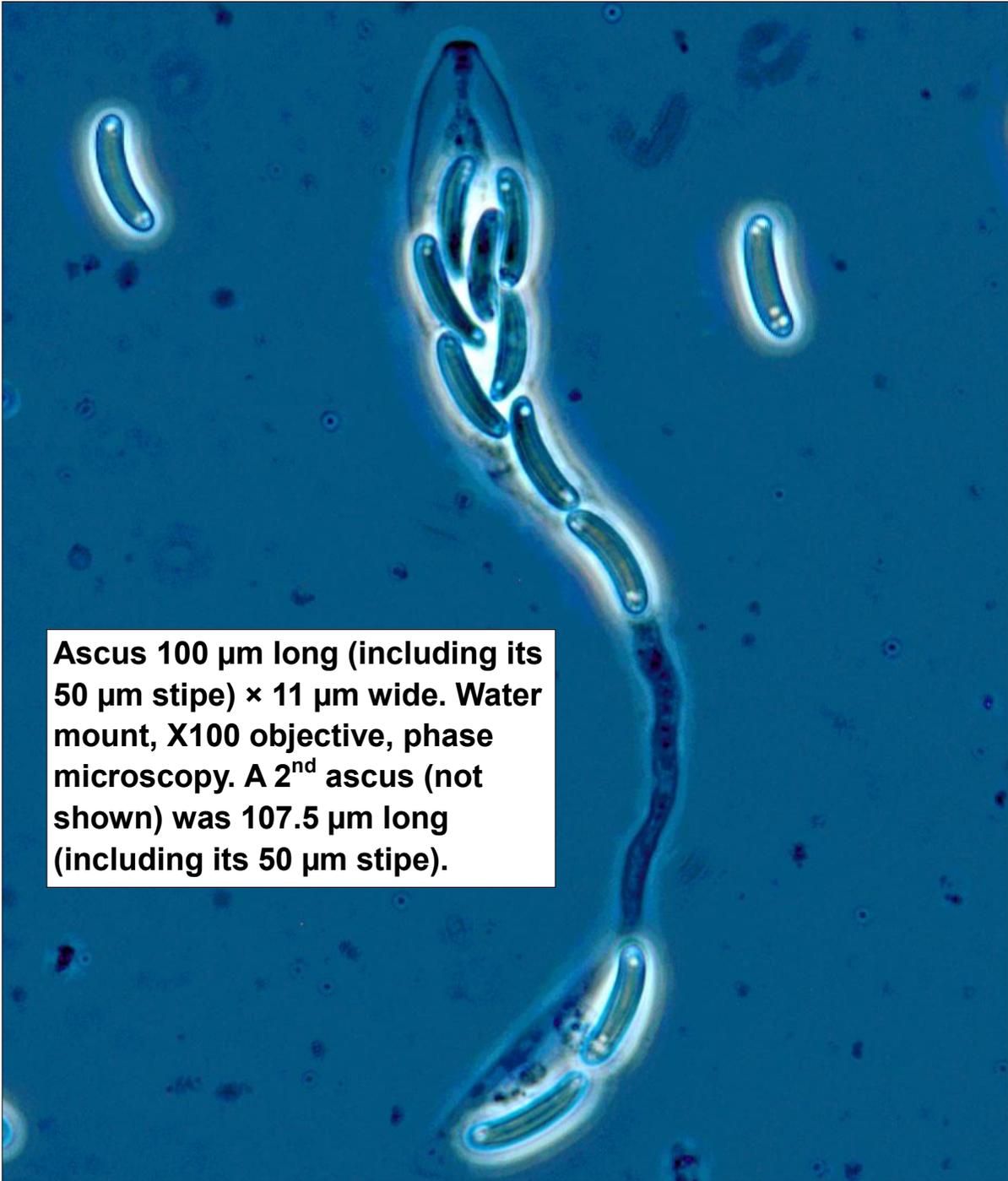
Same field of view as the previous page but brightfield & natural color. Mature ascospores are dull yellow-brown while immature ones have taken up the aniline blue stain. As previously noted, clumps of 8 allantoid ascospores are located in a broad portion of the asci below their truncate apices (the latter faint and arrowed).



Asci and ascospores. Water mount irrigated with aniline blue lactic acid, X40 objective, DIC microscopy. Note clumps of 8 allantoid ascospores in a broad portion of the asci below their truncate apices (the small apical ring is arrowed and visible at a higher magnification).



A young hymenial squash that featured paraphyses but not asci. X40 objective, SMF mount and phase microscopy. Note the swollen basal cells indented at their septa and the narrow, tapering apical cells – not indented at their septa.

A phase-contrast micrograph showing a central, elongated, spindle-shaped ascus containing several dark, rod-shaped spores. The ascus is surrounded by a thin, clear membrane. Two other smaller, similar structures are visible on either side of the main ascus. The background is a uniform light blue color with some faint, scattered dark spots.

Ascus 100 μm long (including its 50 μm stipe) \times 11 μm wide. Water mount, X100 objective, phase microscopy. A 2nd ascus (not shown) was 107.5 μm long (including its 50 μm stipe).