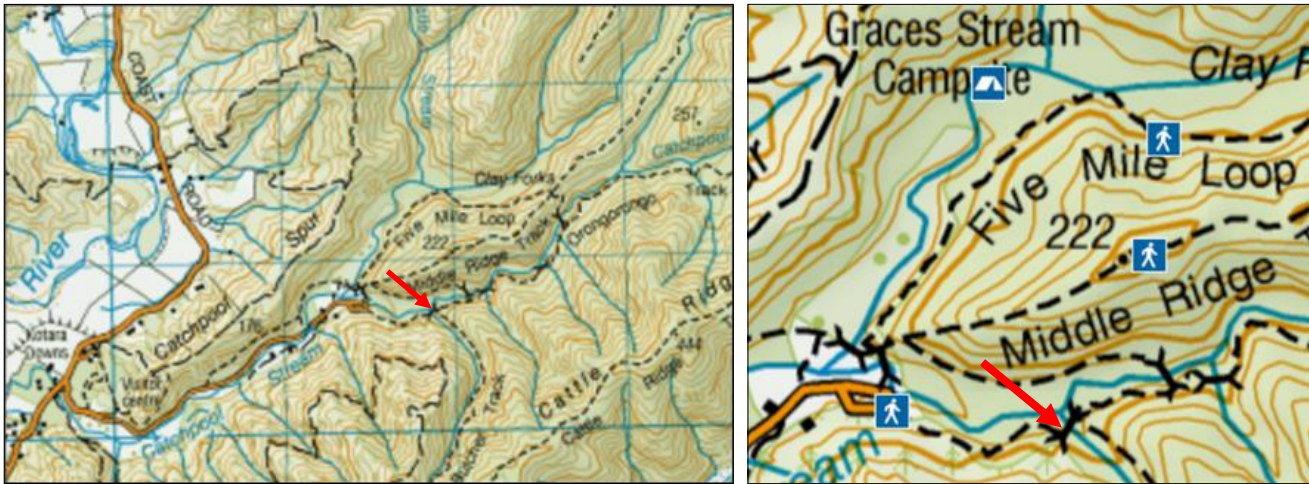


***Rosellinia mammoidea* (Cooke) Sacc. 1882 – AEB 1363 (= PDD 121651)** is a reasonably good match although *R. johnstonii* is very similar

Collection date: 24 May 2023

Collection site: Near Wainuiomata – Remutaka Forest Park, Orongorongo track
(see red arrows below for approx. location)



Substrate: on moist, dead wood of an unidentified species

Collector: Ann Bell; **Identifier:** Dan Mahoney

Voucher material: dried herbarium specimen AEB 1363 (= PDD 121651) accompanied by 4 Shear's mounting fluid (SMF) semi-permanent slide mounts; Zeiss dissecting scope Fujifilm 200 ASA photos of in-situ stromata and Olympus BX51 compound scope with DP25 camera photos of microscopic detail; Dan's comments.

Comments: See Petrini's 2003 description (p. 110 from her 2003 treatment of *Rosellinia* in New Zealand) that is reproduced on the following page of this pdf.

Legends accompanying my photos characterize both macro- and microscopic views of collection AEB 1363.

Petrini L.E. 2003. *Rosellinia* and related genera in New Zealand. New Zealand Journal of Botany 41: 71–138.

Portions in red below are my comments.

Rosellinia mammoidea (Cooke) Sacc., Syll. Fung. 1, 263 (1882)

BASIONYM: *Psilosphaeria mammoidea* Cooke, Grevillea 8, 67 (1879).

ANAMORPH: *Geniculosporium*.

HOLOTYPUS: New Zealand, North Island, Wellington: on wood, Travers 308, Herb. Cooke 1885, K 69372.

HOSTS: *Metrosideros robusta*, unidentified dicotyledonous wood.

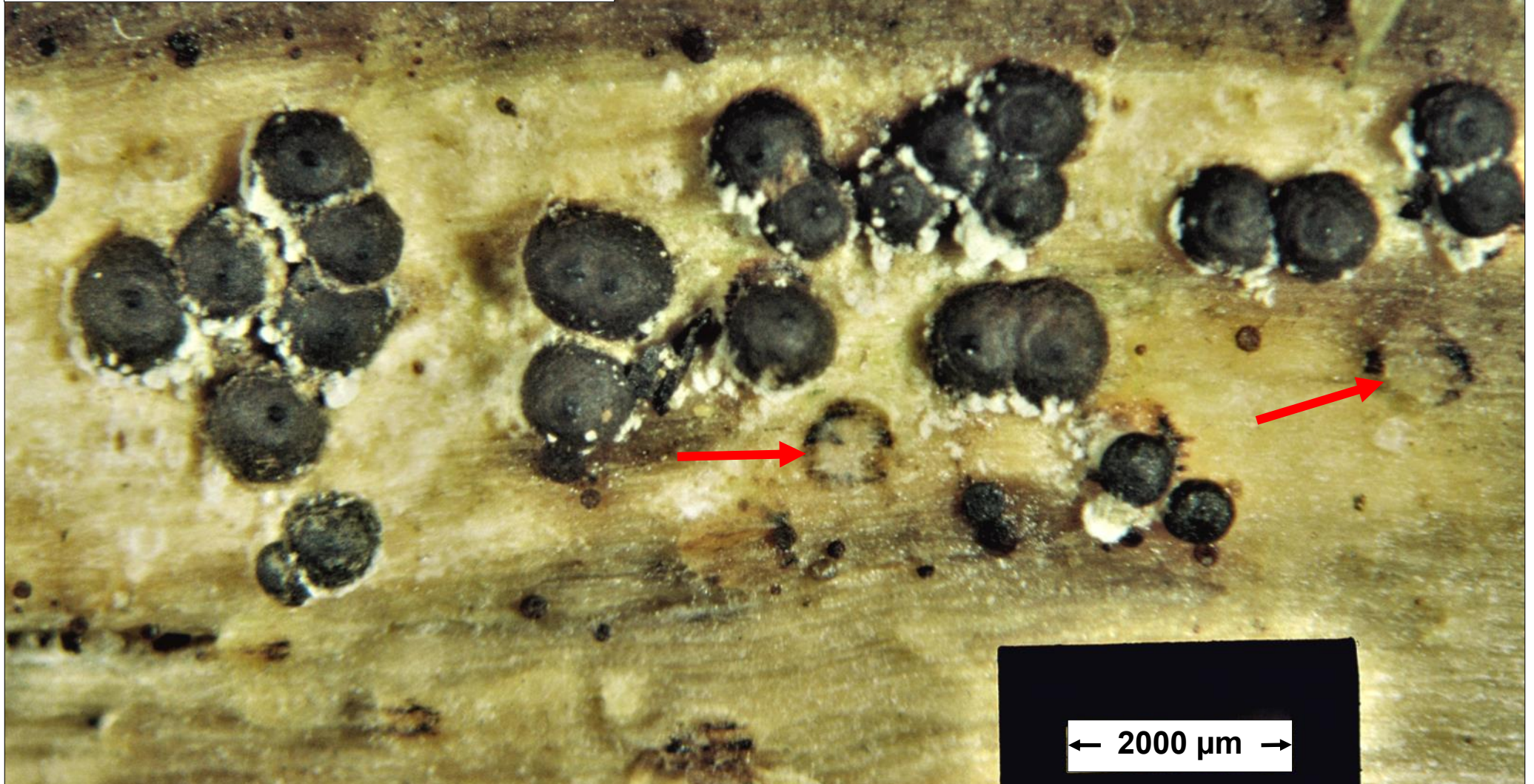
MATRIX: Decorticated heavily decomposed wood.

Subiculum (not seen in collection AEB 1363) evanescent, white, cream to light brown to grey. **Stromata** (see my measurements on the photos in this pdf) (350)482 ± 80(650) µm high, (500)658 ± 105(900) µm wide (n = 25), cylindrical to semi-globose, black, shiny, solitary or crowded in small groups, rarely 2–3 fused together. **Ostioles** finely papillate. **Ectostroma** 50–75 µm thick, black. **Entostroma** not seen. **Perithecia** detached in mature material. **Ascus** apical rings 2–3 µm high, upper width 2.8–4 µm, lower width 1.9–3 µm (n = 17), without bulge at upper margin, J+, blue. **Ascospores** (11)13 ± 1(16) µm long, (6.2)7.5 ± 0.5(9) µm wide (n = 150), inequilaterally ellipsoidal, brown to dark brown, with 8–10 µm long straight germ slit, some of them with a basal, 1 × 1 µm large, cellular appendage (no cellular appendages were seen in collection AEB 1363).

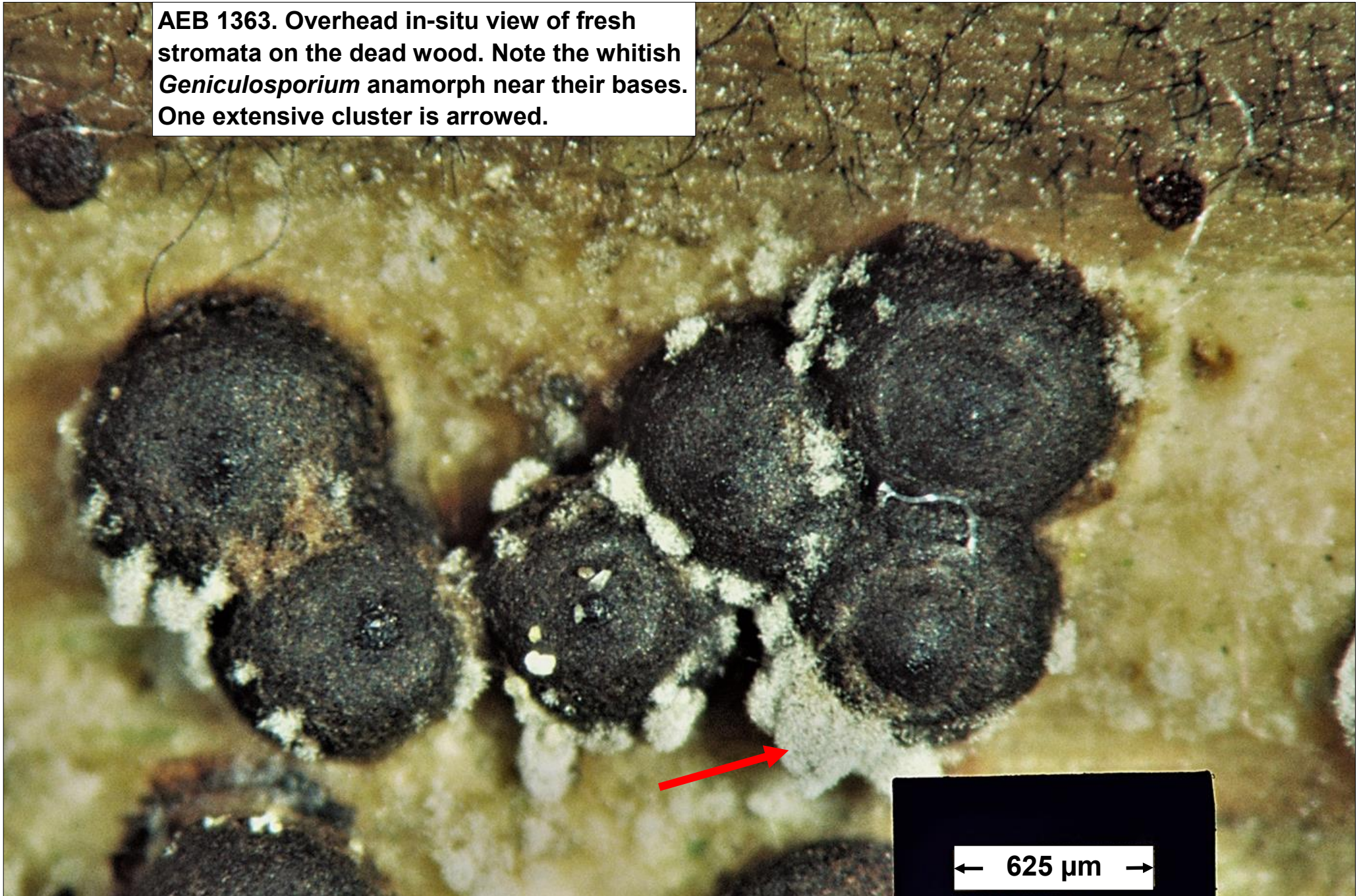
NOTES: *Rosellinia mammoidea* is characterised by a cream to light brown subiculum present only in a very early state, and dark brown ascospores with rounded side walls with a germ slit about two thirds of their length. In the original description the ascospore size ranges from 16 to 18 × 8 µm (Cooke 1879). (Ascospores in this collection fit these measurements.)


Rosellinia mammoidea can be distinguished from *R. communis* by smaller stromata and smaller ascospores, and from *R. johnstonii* by smaller stromata with mostly rounded tops (see side-view photos on the following pages), larger (usually wider) ascospores, occasionally with a cellular appendage and shorter germ slits positioned symmetrically. (Germ slits were straight and located in the middle of ellipsoidal symmetrical views. However, their length was difficult to discern with clarity so comparison with Petrini's separation between *R. mammoidea* and *R. johnstonii* was unclear.)

AEB 1363. Overhead in-situ view of fresh stromata on the dead wood. Note the whitish *Geniculosporium* anamorph near their bases. Note also the scars (arrowed) left where I have removed several superficial flat-based stromata for microscopic observation.



AEB 1363. Overhead in-situ view of fresh stromata on the dead wood. Note the whitish *Geniculosporium* anamorph near their bases. One extensive cluster is arrowed.



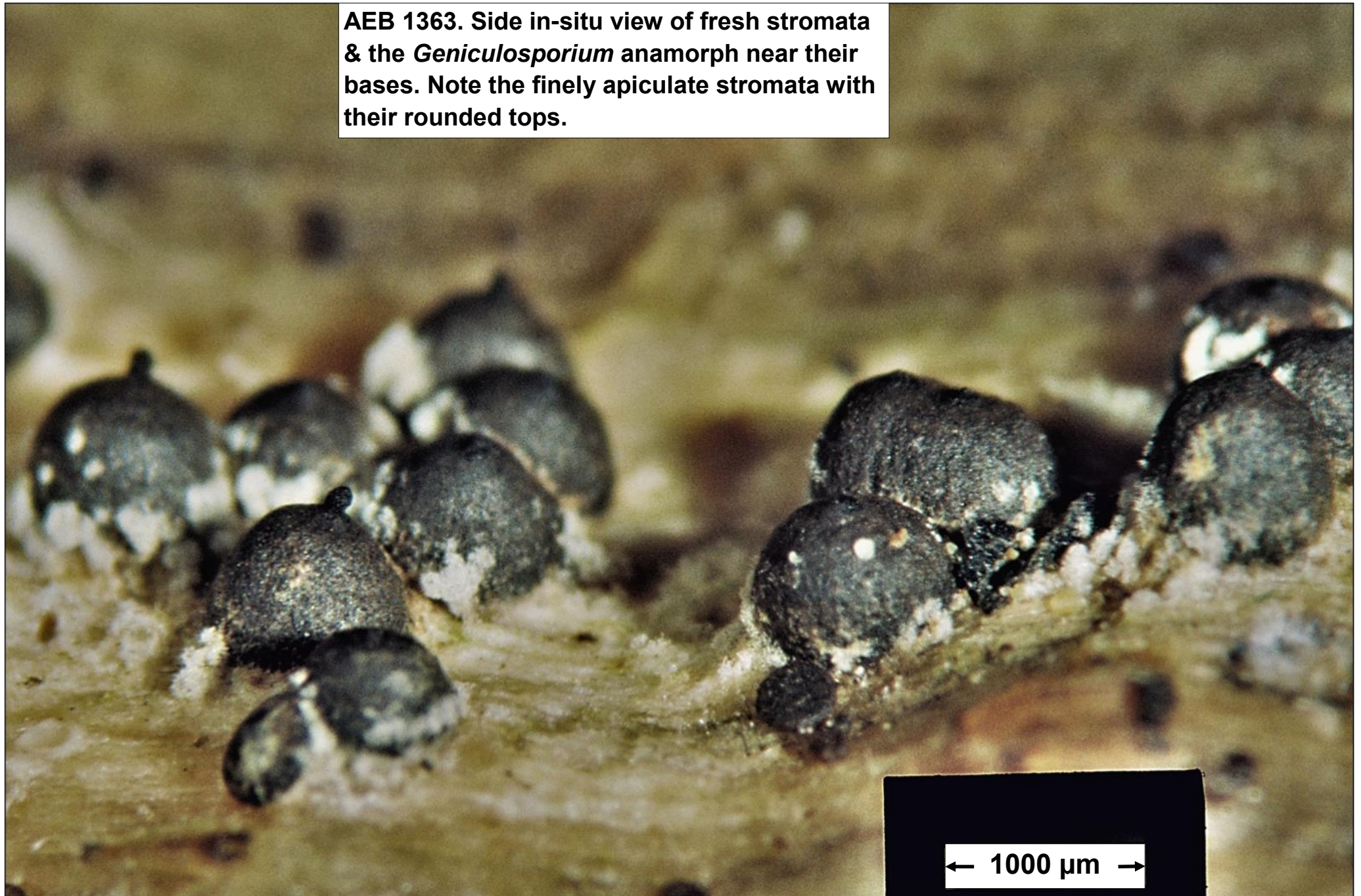


AEB 1363. Another overhead in-situ view of fresh stromata & the *Geniculosporium* anamorph.

This is a high-magnification photograph showing several dark, rounded, and somewhat irregular stromata. They are clustered together on a light-colored, textured substrate. The stromata have a granular or slightly bumpy surface. Some of them have a small, dark central point. The surrounding substrate is a pale yellowish-brown color with some fine, white, thread-like structures (mycelium) visible between the stromata.

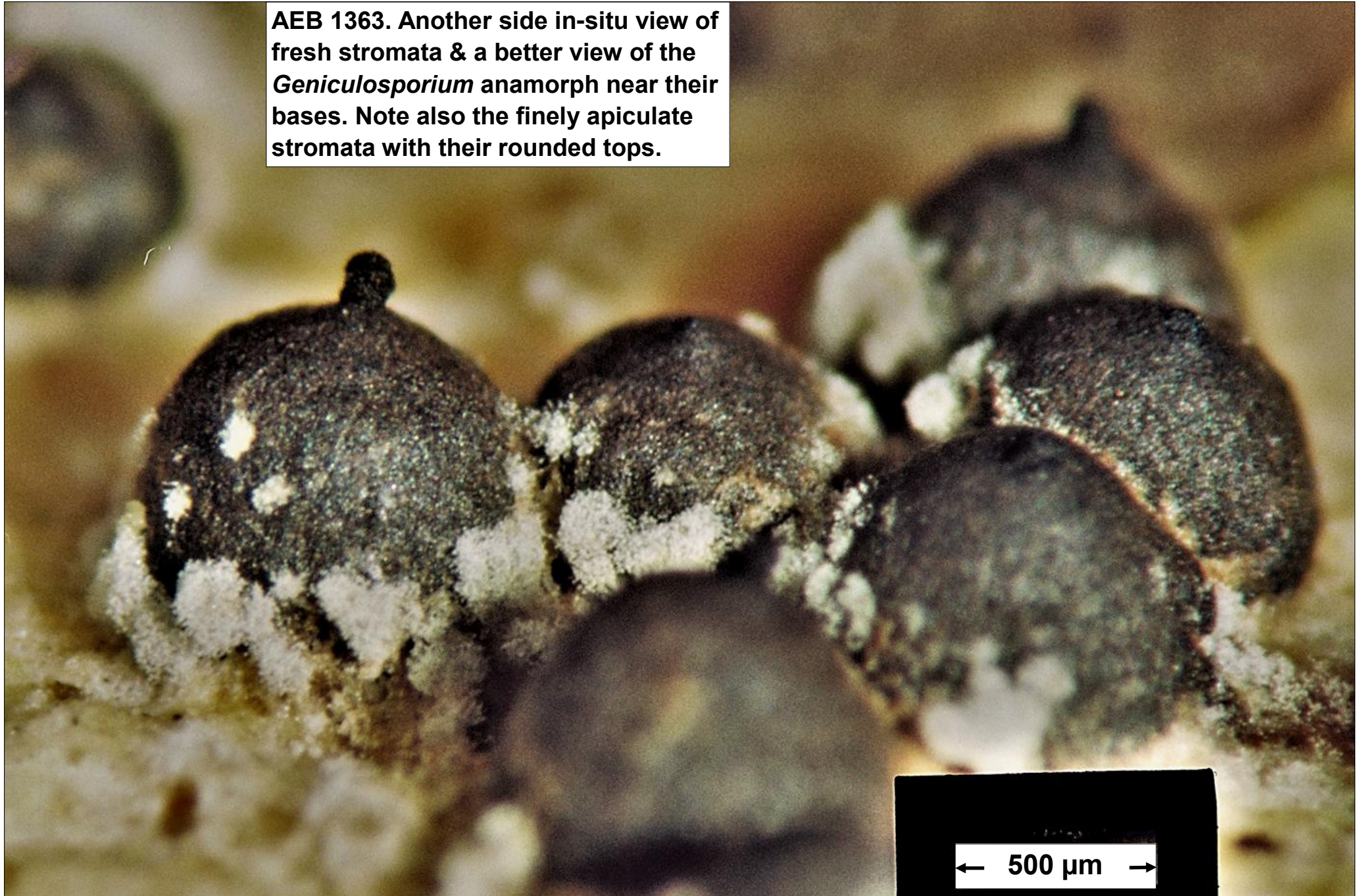
← 625 μm →

AEB 1363. Side in-situ view of fresh stromata & the *Geniculosporium* anamorph near their bases. Note the finely apiculate stromata with their rounded tops.



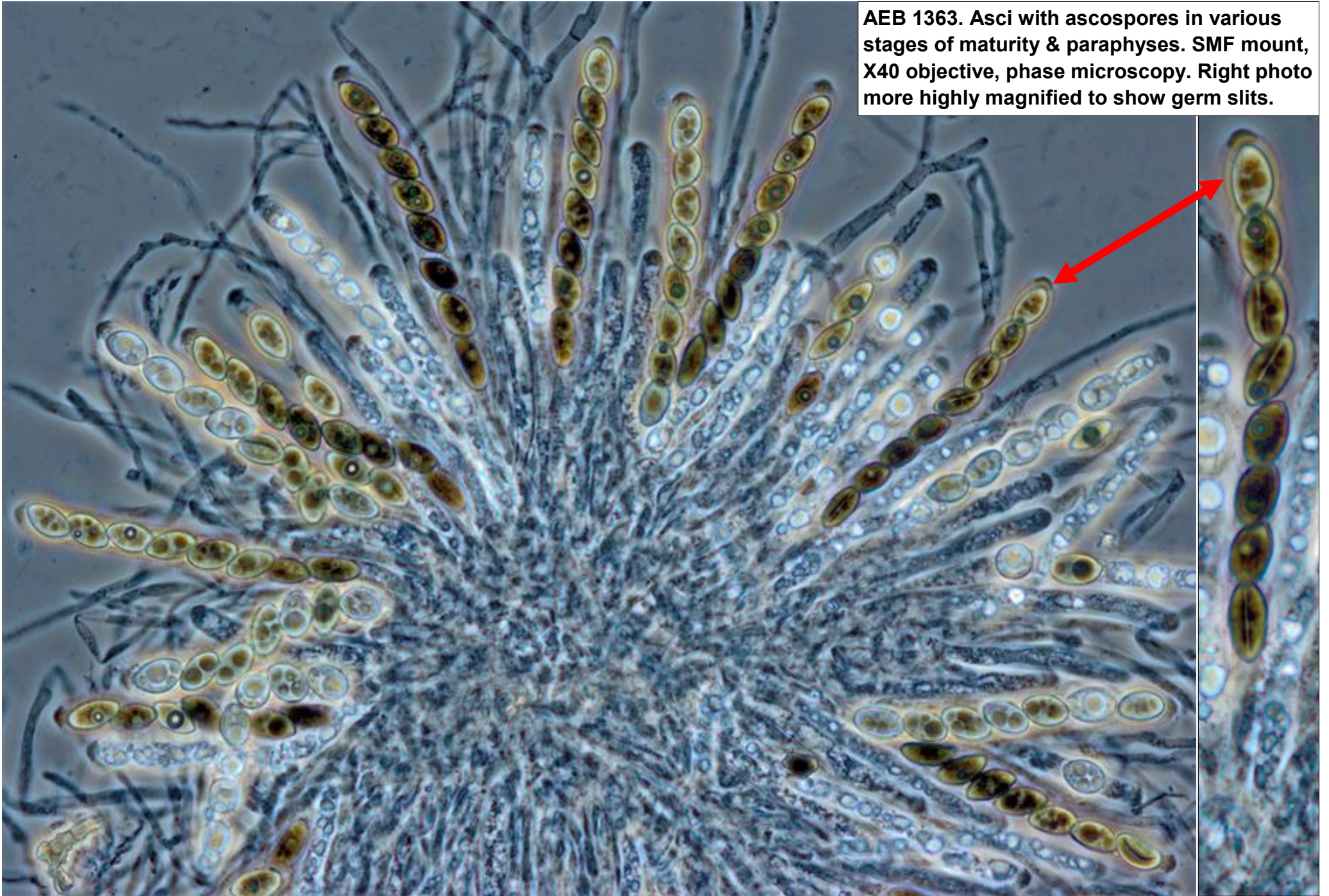
← 1000 μm →

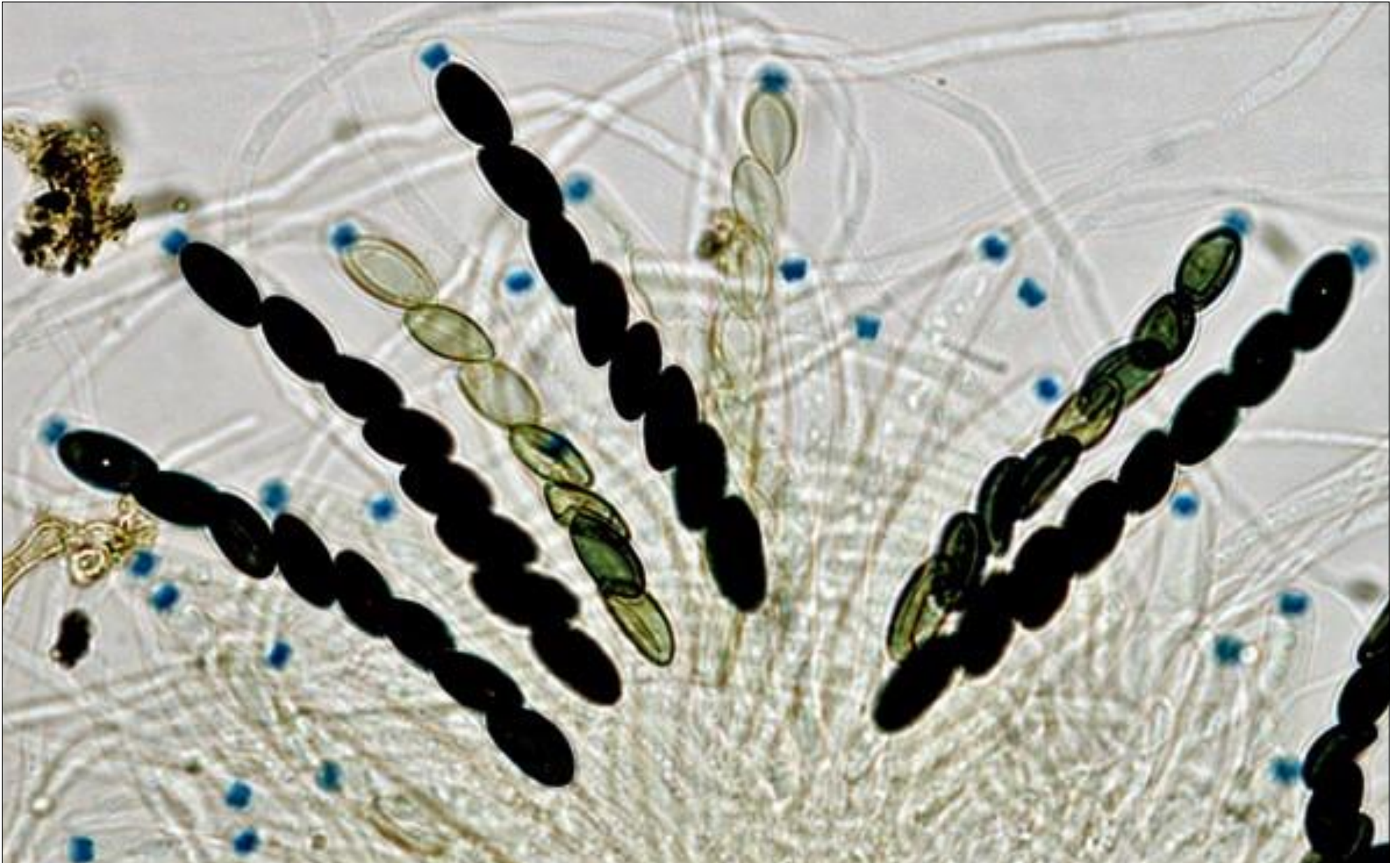
AEB 1363. Another side in-situ view of fresh stromata & a better view of the *Geniculosporium* anamorph near their bases. Note also the finely apiculate stromata with their rounded tops.



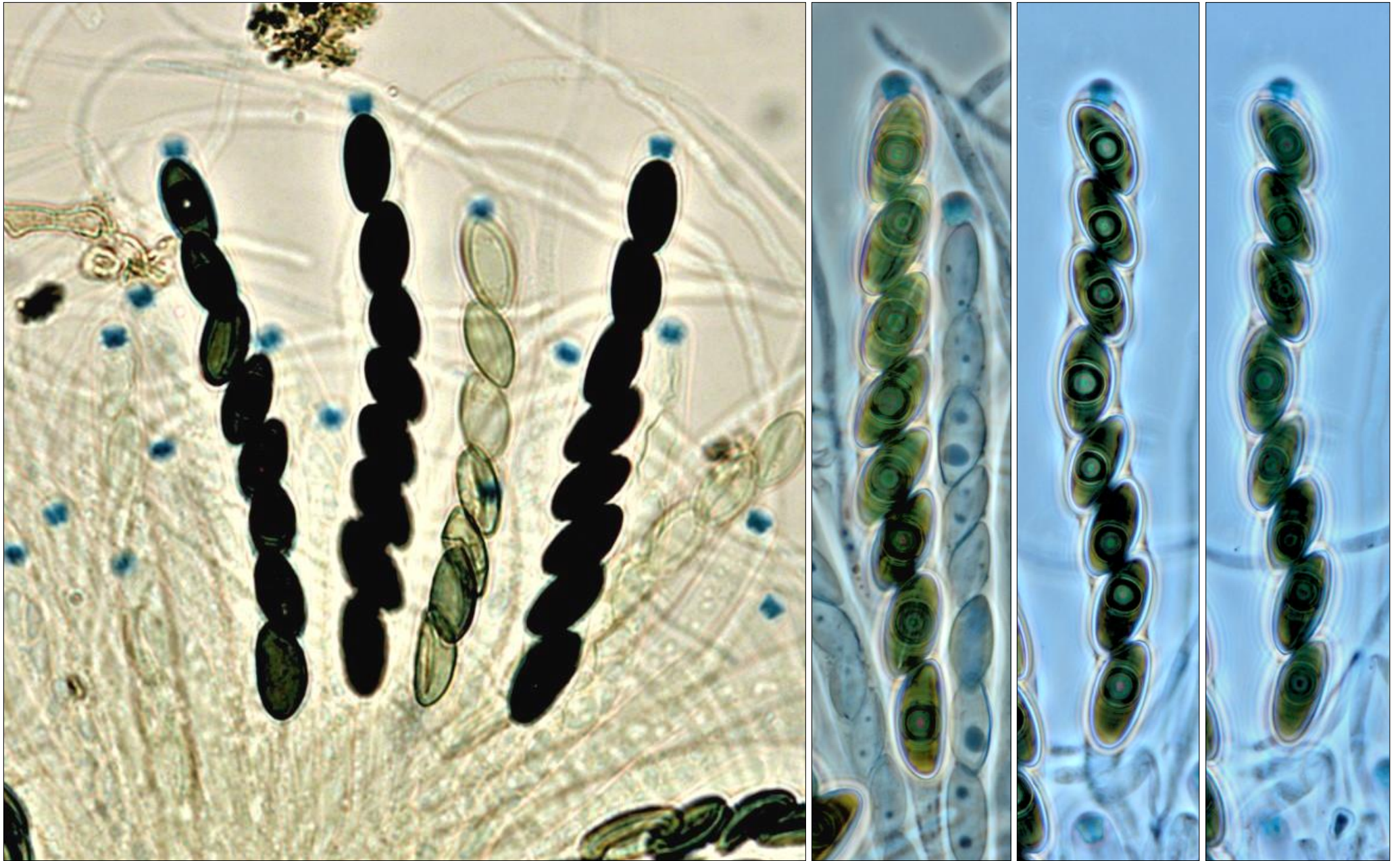
← 500 μm →

AEB 1363. Asci with ascospores in various stages of maturity & paraphyses. SMF mount, X40 objective, phase microscopy. Right photo more highly magnified to show germ slits.

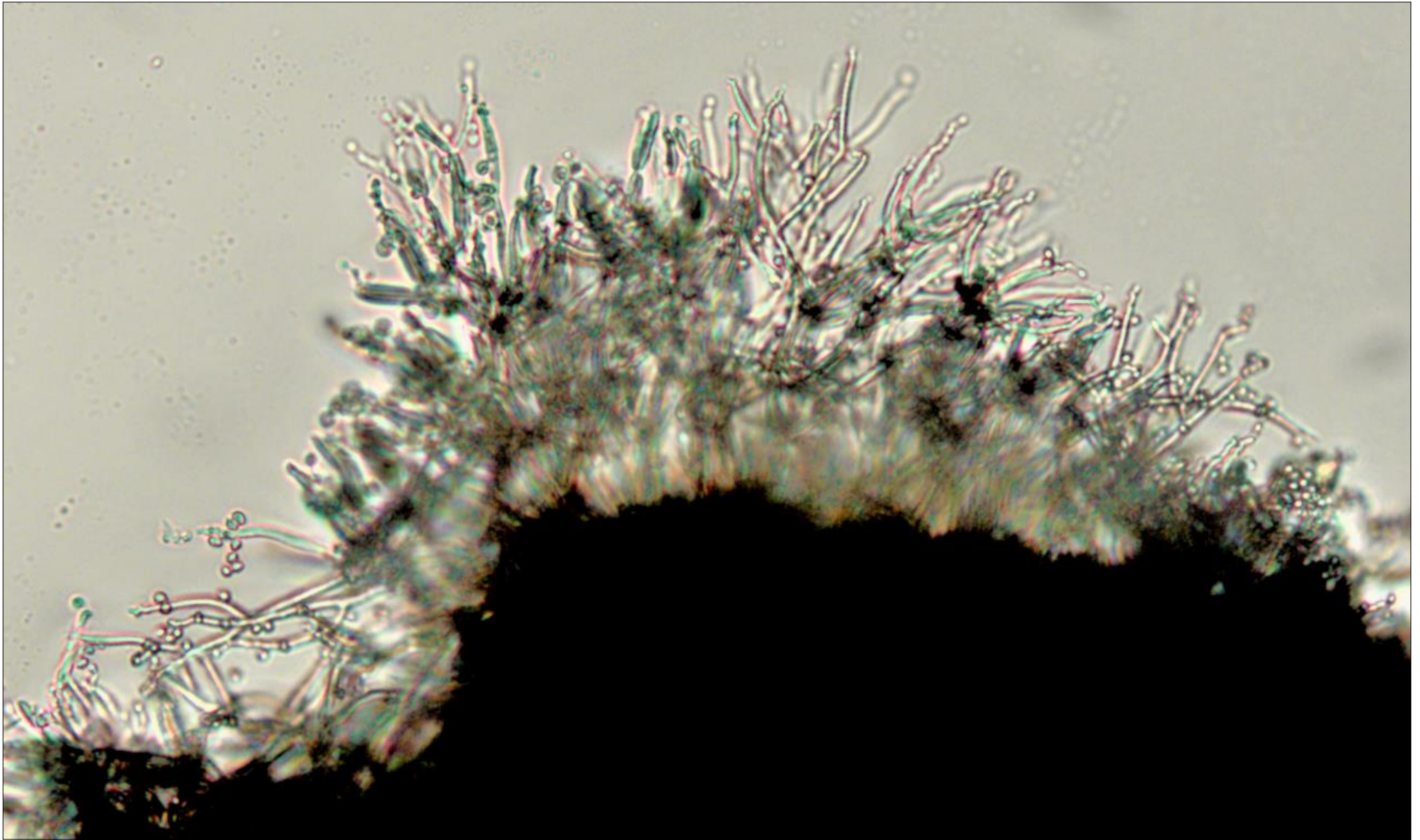




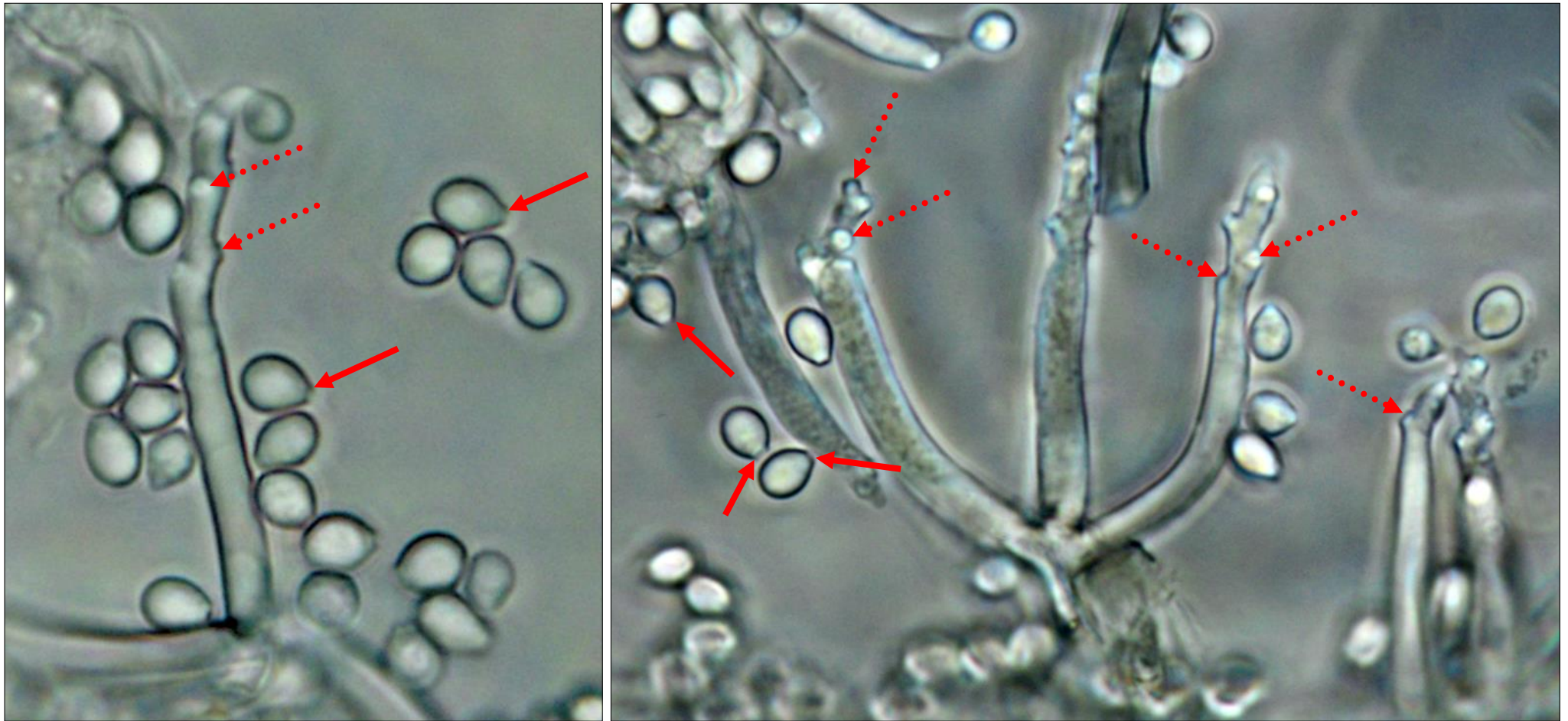
AEB 1363. Asci mounted in Melzer's reagent using the X40 objective & brightfield microscopy. Note strong funnel-shaped bluing at the apex which measured approx. $4 \times 3\text{--}4\text{ }\mu\text{m}$ under the X100 objective.



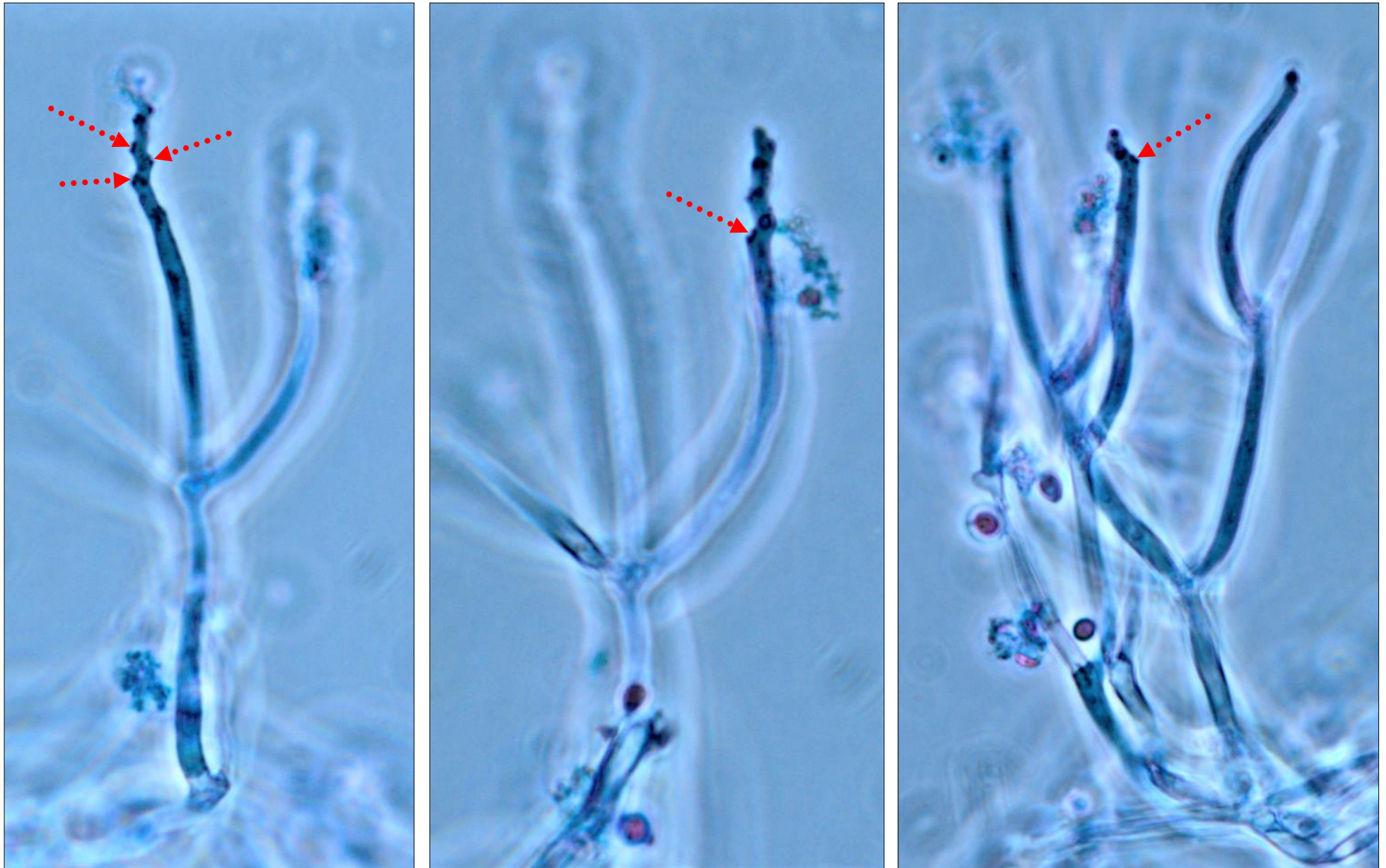
AEB 1363. Other views of asci mounted in Melzer's reagent. Note the strong apical bluing. Left photo: X40 objective, brightfield. Right 3 photos: X100 objective & phase (far right 2, same ascus but different foci) with ascospores measuring $16\text{--}18 \times 7\text{--}8 \mu\text{m}$.



AEB 1363. *Geniculosporium* anamorph. This whole view is only part of one anamorph network near the base of one stroma. Only the upper periphery shown here is thin enough to see conidia and conidiogenous cells. The photo is from a water mount without a coverslip using the X20 objective and brightfield microscopy.



AEB 1363. *Geniculosporium* anamorph conidia and sympodial conidiogenous cells. The ovoid conidia (mostly $3 \times 2.5 \mu\text{m}$) have a flat basal abscission scar with a minute detachment frill (arrowed in solid red). Zig-zag conidium detachment points on the conidiogenous cells are also seen (arrowed in dotted red). These photos were lucky observations in a water mount air bubble using the X100 objective and phase microscopy.



AEB 1363. *Geniculosporium* anamorph sympodial conidiogenous cells. Note the zig-zag conidium detachment points on the conidiogenous cells (arrowed in dotted red). These views in aniline blue lactic acid mounts using the X100 objective & phase microscopy were seen more frequently than the lucky views on the previous page.



AEB 1363. *Geniculosporium* anamorph conidia. The ovoid conidia (mostly $3 \times 2.5 \mu\text{m}$) have a flat basal abscission scar with a minute detachment frill (arrowed in solid red). These photos were taken in aniline blue lactic acid mounts using the X100 objective & phase microscopy.