

***Stemonitis splendens* Rostaf., Sluzowce Monografia: 195 (1874)  
SM90 (= PDD 117235)**

**Collection site:** Wainuiomata Recreation Area, Gums Loop Track (See yellow line on map insert. Dark green areas are plantation eucalypts.) The collection was made near the beginning of the Track – note the red arrow.

**Substrate:** *Stemonitis splendens* occupied a limited area on a dead decaying wood fragment.

**Collection date:** 28 December 2019

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

**Voucher materials:** Dried herbarium specimen [SM90 (= PDD 117235)] accompanied by 2 Shear's mounting fluid (SMF) semi-permanent slide mounts; Dan's in situ Zeiss dissecting scope photos [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.

**Publications and online references consulted:**

- 1) Stephenson, S.L. 2003. The Fungi of New Zealand Volume 3: Myxomycetes of New Zealand. Fungal Diversity Research Series 11: 1-238.
- 2) Clive Shirley's hiddenforest.co.nz - Having Googled this address, follow slime molds under the site map to the *Stemonitidaceae*. Then, under the genus *Stemonitis*, look at the macro and micro images of *Stemonitis splendens*.

**Brief comments:** Matching the description given by Stephenson (2003, pp. 132, 133). As he says in his 'Comments', p. 133, "The distinguishing features of this species are the large overall size of the sporangia and the large meshes of the surface net". More specific measurements and comments for SM90 (= PDD 117235) are provided in the photo legends that accompany photos in the following pages of this pdf.

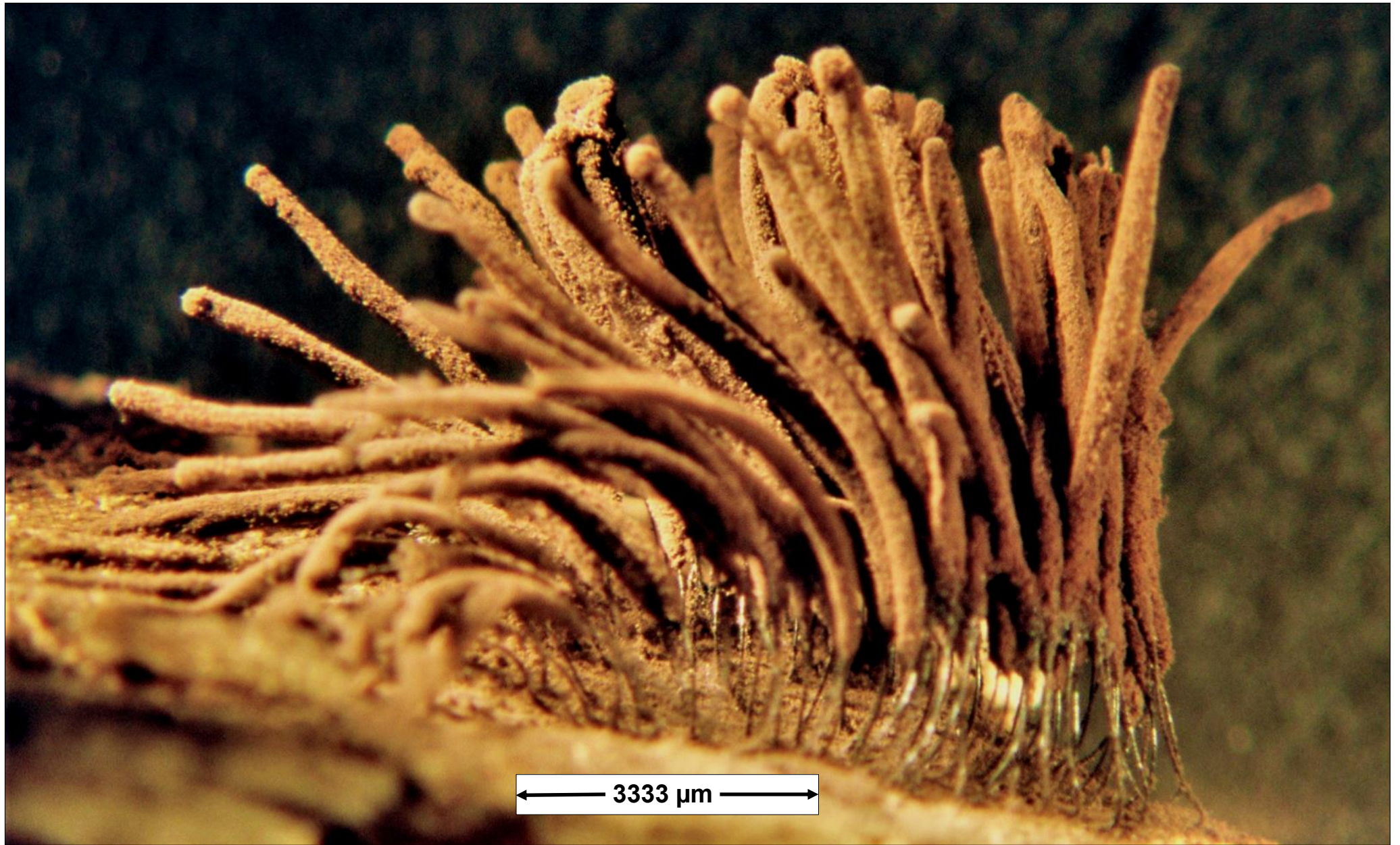
**See our earlier online PDD record for this species** – PDD 110456 (= SM14).





One in-situ cluster of *Stemonitis splendens* SM90 fruiting bodies on the dead wood substrate.





Another in-situ cluster of *Stemonitis splendens* SM90 fruiting bodies on the dead wood substrate.





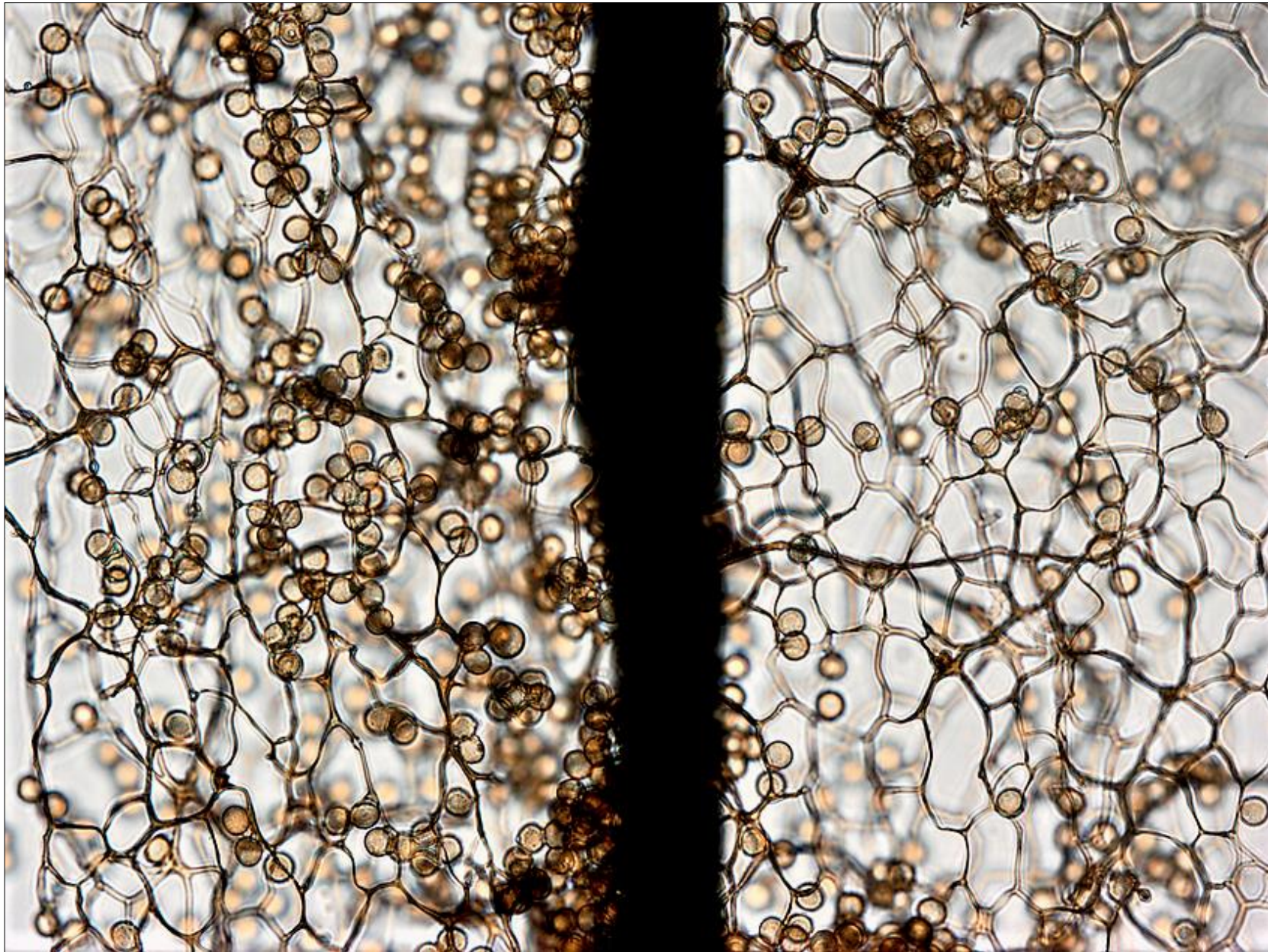
Closeup (emphasis stalks and lower portions of the sporangia) from the in-situ cluster of *Stemonitis splendens* SM90 fruiting bodies on the previous page.





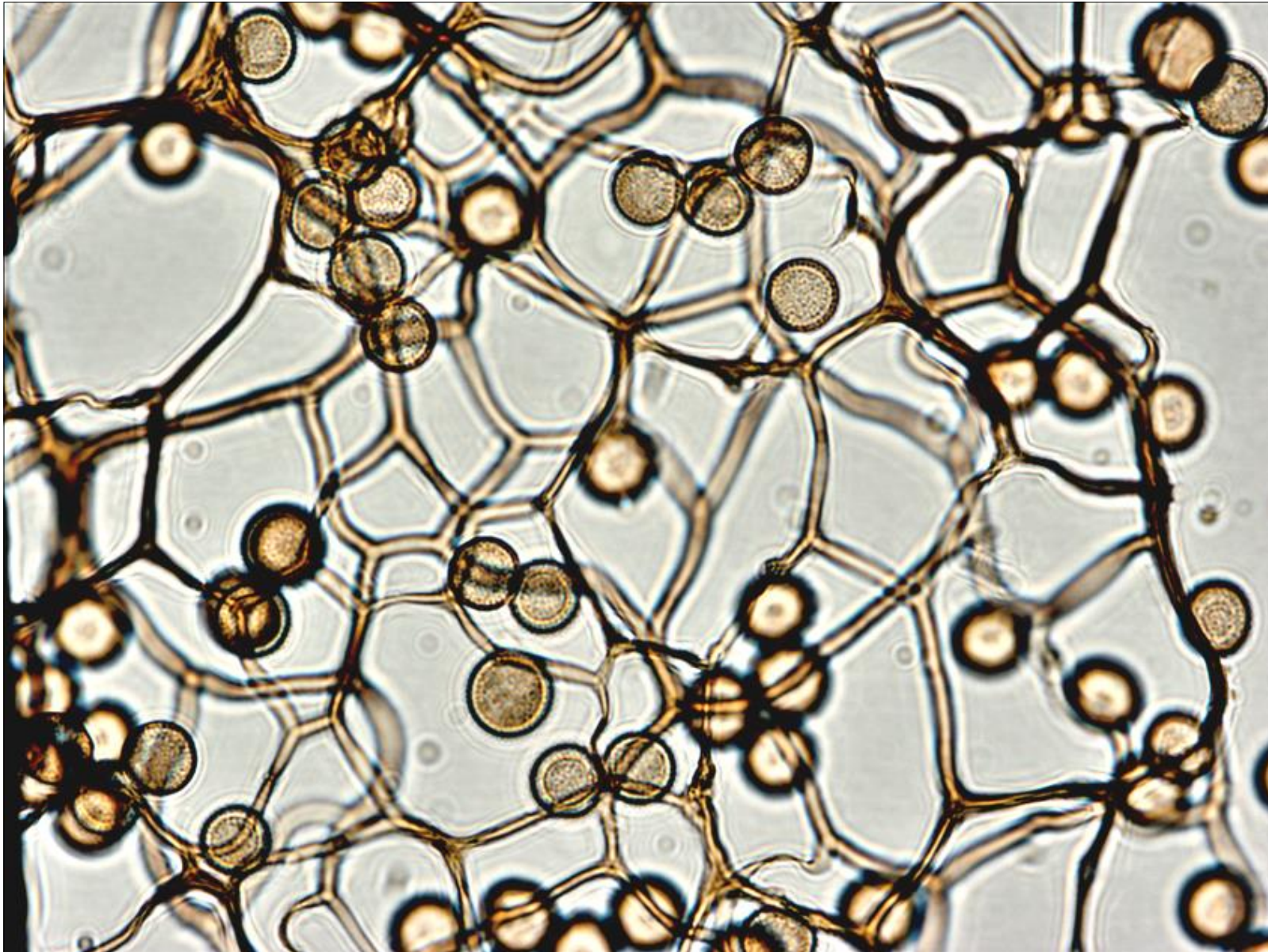
**These three photos were taken of a representative sporangium (many of whose spores had been dispersed) mounted without a coverslip in a 70% EtOH slide mount and viewed under the X20 objective using bright-field microscopy. Left photo, uppermost focus on the large-meshed surface net; middle photo, focus on the central columella showing the few capillitial connections between it and the surface net; right photo, lowermost focus on the large-meshed surface net resting on the slide surface where most of the spores have settled. These views without a coverslip enable us to see the 'whole' sporangial space in a more natural unsquashed manner. The next pages concentrate on details of the surface net and the spores.**





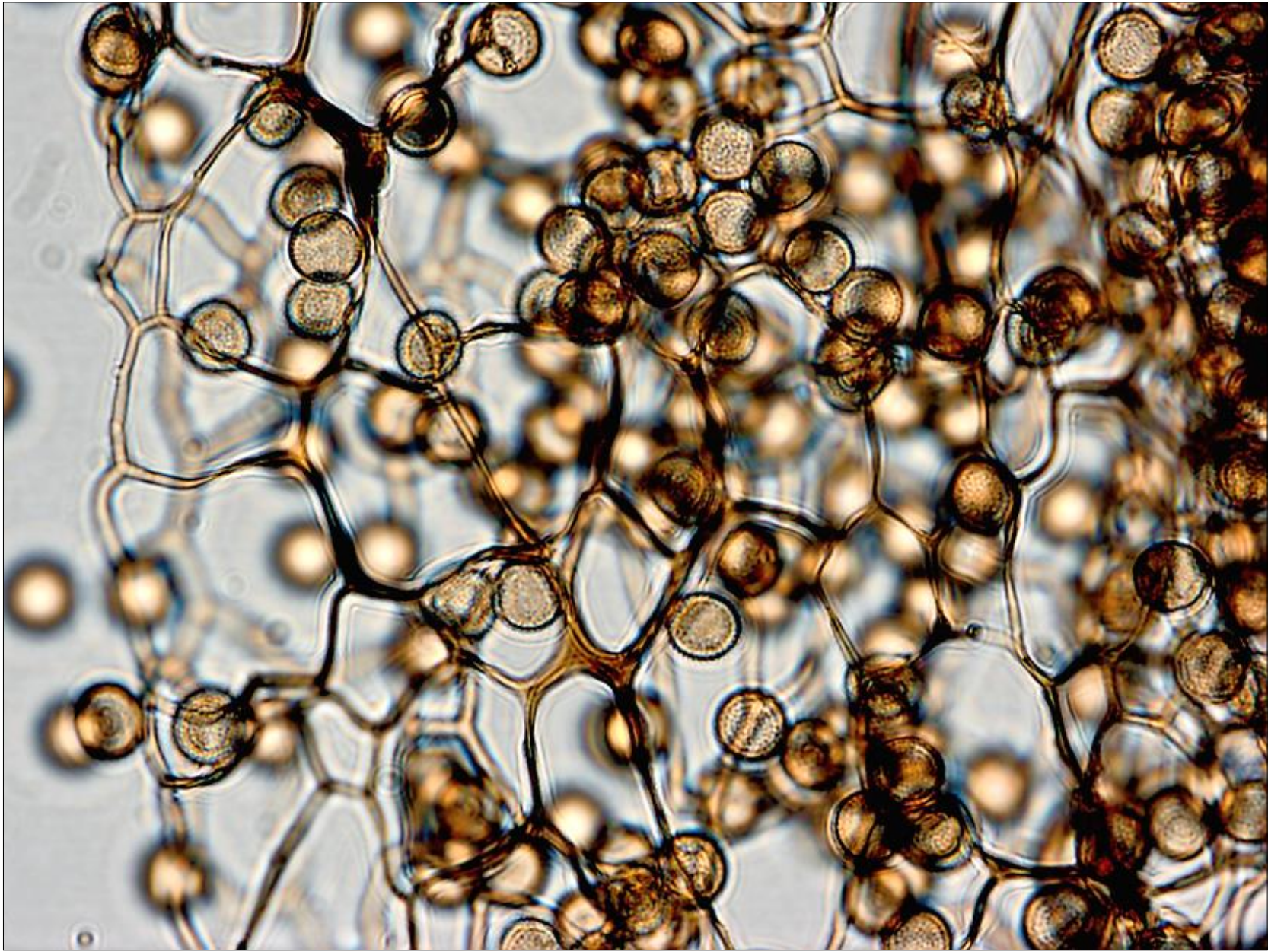
**Columella (width 30  $\mu\text{m}$ ), dark capillitial connections from columella to surface net, surface-net mesh and spores. Here, unlike photos on the previous page, a coverslip was applied to a 70% EtOH mount under the X40 objective using brightfield microscopy.**





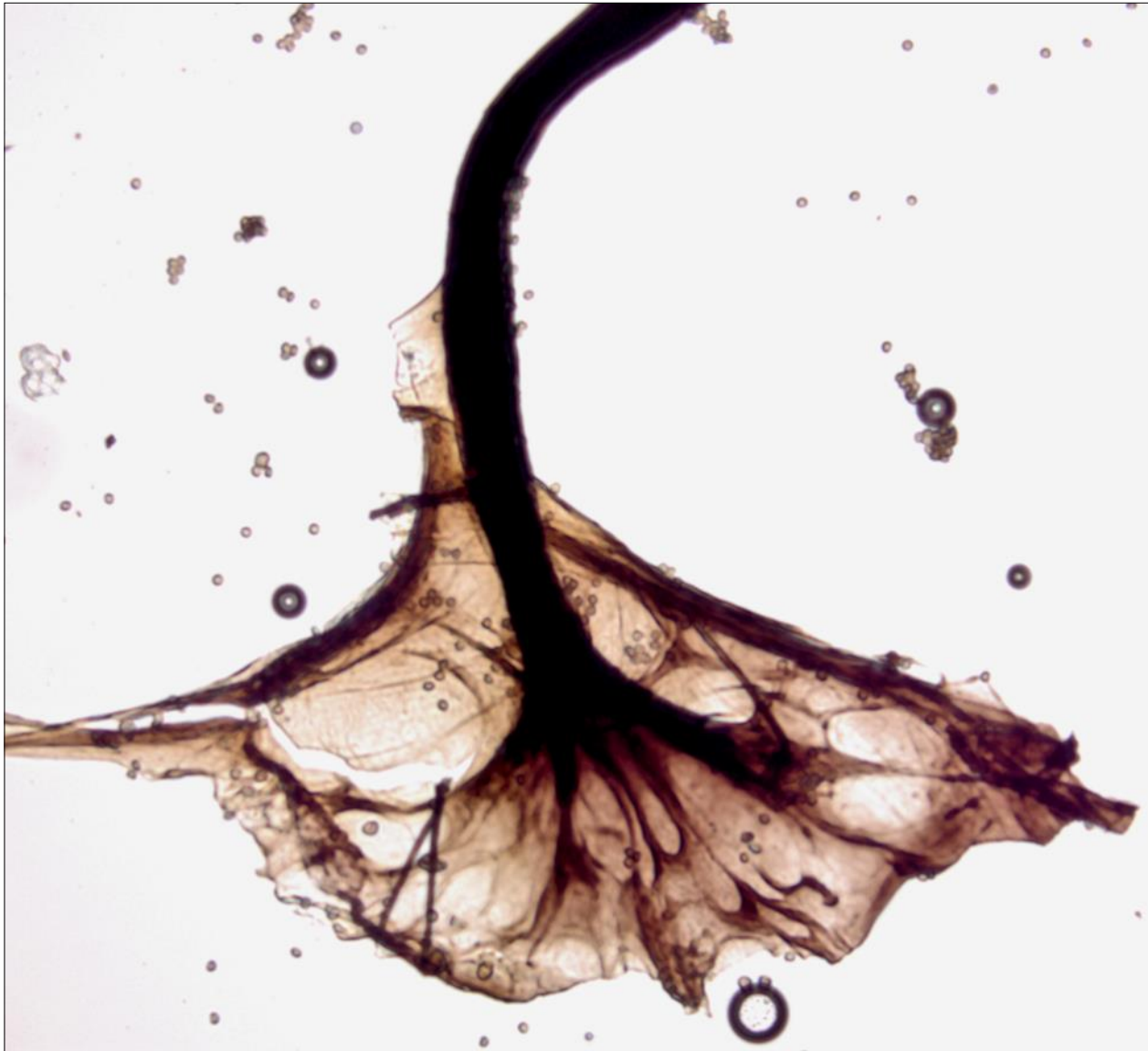
Surface-net mesh (right side of columella – tiny bit of columella seen far lower left) and spores. Longest lengths of irregular mesh openings varying from 15–75  $\mu\text{m}$  but with many in the 30–50  $\mu\text{m}$  length range. Spores globose to subglobose, brown, evenly & finely roughened (spinulose/verruculose), mostly 7–8.5  $\mu\text{m}$  (rarely 10 or even 13). 70% EtOH mount under the X100 objective using brightfield microscopy.





Surface-net mesh (left side of columella) and spores. Longest lengths of irregular mesh openings varying from 15–75  $\mu\text{m}$  but with many in the 30–50  $\mu\text{m}$  length range. Spores globose to subglobose, brown, evenly & finely roughened (spinulose/verruculose), mostly 7–8.5  $\mu\text{m}$  (rarely 10 or even 13). 70% EtOH mount under the X100 objective using brightfield microscopy.





**Left photo. Stalk basal attachment to the wood with a fragment of the hypothallus. Mounted in 70% EtOH then irrigated with SMF and slightly heated. Photographed under the X10 objective (but photo enlarged) using brightfield microscopy. Right photo. Spores mounted in 70% EtOH and photographed under the X100 obj. (photo slightly enlarged) using brightfield microscopy.**