

***Rosellinia rhopalostylidicola* L.E. Petrini AEB 1019 (= PDD 93156)**

The epithet is spelled '*rhopalostilicola*' in Petrini's original description but this is corrected in *Species Fungorum* to read *Rosellinia rhopalostylidicola*. See the *New Zealand Journal of Botany* 41(1): 71-138 (2003) for the original description and a key to *Rosellinia* species in New Zealand. Pertinent sections of that article are reproduced on the next page. The AEB 1019 collection matches the description and illustrations of this species despite the fact that all of the host substrates cited by Petrini were the nikau palm *Rhopalostylis sapida* – and the substrate here was not.

**Substrate:** on the bark of an unidentified dead branch

**Collection site:** gravel road, shrubbery above a road edge drainage area NW of Collingwood and W of Pakawau – a right turn off the Collingwood Puponga Main Road on a road near Wanganui Inlet that led to several farm properties with access to a couple of small lakes (Kaihoka Lakes).

**Collection date:** 25 April 2007

**Collector and Identifier:** Dan Mahoney

**Voucher material:** dried herbarium material (AEB 1019 = PDD 93156) accompanied by 5 semi-permanent Shear's mounting fluid (SMF) and SMF/Melzer's reagent microscope slides; Dan's projection slides (digitized) of fresh in-situ stromata taken under a Zeiss dissecting scope and microscopic detail from the 5 semi-permanent slides plus temporary slides in water and in Melzer's using an Olympus BX51 compound scope with DP25 camera for digital photos; Dan's brief description and comments.

**Brief description and comments:** **Stromata** not numerous but very fertile, scattered over the bark surface, slightly submerged to nearly superficial (mostly appearing superficial on a somewhat flattened base), globose with a papillate ostiole on the slightly flattened uppermost portion, the area surrounding the ostiole very smooth, black and shiny (although covered with dark ascospores after incubation in my collecting box), the area below the ostiolar shield a shiny matt black, the little that remains of the light-colored subiculum seen as a slight scurf near the edge of the ostiolar shield (no more of the subiculum remaining in this collection), ascomata  $\approx$  700–800  $\mu$ m in diameter. **Paraphyses** numerous, thin, filamentous, hyaline, septate, simple and extending above the asci. **Asci** numerous, cylindrical, with light blue apical rings in Melzer's and longish stipes. **Ascospores** 8/ascus arranged uniseriately to uniseriately overlapping, ellipsoidal-fusoid, dark brown with a conspicuous straight longitudinal germ slit the length of the spore, 10–13 X 5–6  $\mu$ m.

**Geniculosporium anamorph:** not observed



### Description for: '*Rosellinia rhopalostylidicola*' and synonyms

#### **Rosellinia rhopalostylidicola** L.E. Petrini

**Article:** [Petrini, L.E. \(2003\). \*Rosellinia\* and related genera in New Zealand. \*New Zealand Journal of Botany\* 41\(1\): 71-138 \(<http://www.rsnz.org/publish/abstracts.php>\).](http://www.rsnz.org/publish/abstracts.php)

**Article type:** Protologue (NZ)

**Description:** Subiculum evanescent, restricted in extension approx. 2-6 x 1-2 mm, in white, cream, to light brown patches, bearing conidiophores, covering stromatal initials, subsequently reduced while stromata progressively emerge and eventually confined to stromatal margins until absent in old material. Stromata (225)507 ± 112(825) µm high, (375)628 ± 107(875) µm wide ( $n = 60$ ), semiglobose, cupulate to conical, black, smooth, shiny, adhering to the substrate with a flat ring composed of hard stromatic material, solitary or in small groups on a common stromatic layer, occasionally containing more than one perithecium. Young stromata covered by a cream to light brown to grey, felty, hyphal mat, progressively emerging during development until completely free at maturity. Ostioles finely papillate, sometimes minimally pronounced. Ectostroma 25-50 µm thick, hard, splintering. Entostroma not seen. Perithecia detached and collapsed in older material, located in the centre of cavity. Ascus apical rings (1.9)2.3 ± 0.4(2.8) long, upper width 2-3.6 µm, lower width 1.5-2 µm ( $n = 26$ ), without bulge at upper margin, J+, pale blue. Ascospores (10.5)13 ± 0.8(15.4) µm long, (4.3)6 ± 0.5(10.5) wide ( $n = 290$ ), ellipsoidal, brown, with straight germ slit extending the whole spore length or ending shortly before. Conidia 3.5- 5.5 x 2.5-3.5 µm.

**ANAMORPH:** *Geniculosporium*.

**Type:** HOLOTYPUS (hic designatus): New Zealand, North Island, Northland, Waipoua Forest, trail between Yakas Kauri and Forest Headquarters, on *Rhopalostylis sapida*, 24 Jun 1981, *G. J. Samuels, A. P. Hawthorne, E. Horak, & R. Petersen*, PDD 49441.

**Habitat:** HOSTS: *Rhopalostylis sapida*.

**MATRIX:** Pieces of rachides.

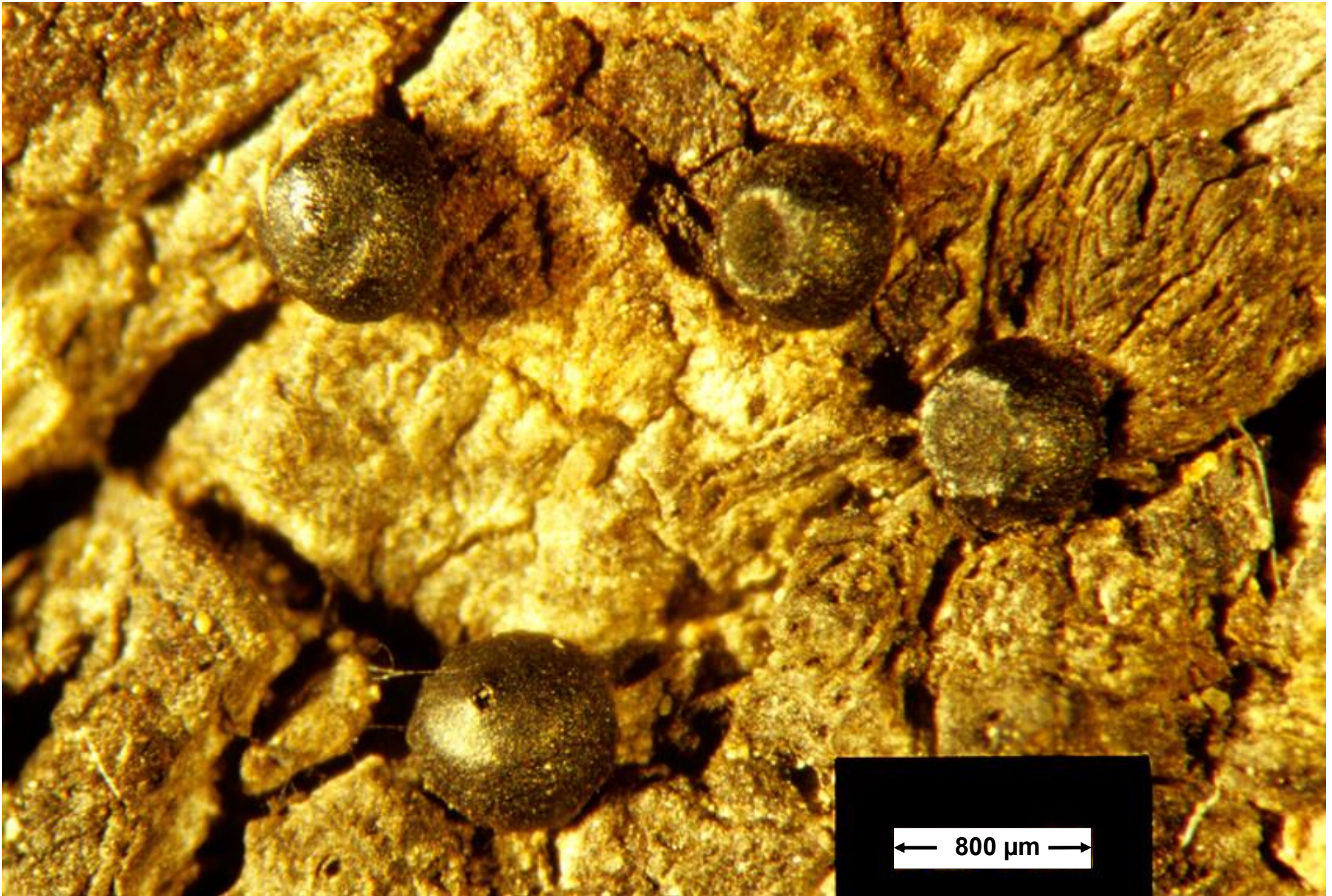
**Notes:** ETYMOLOGY: Referring to the most frequent host, *Rhopalostylis*.

**NOTES:** *Rosellinia rhopalostylidicola* has black, shiny stromata covered by a cream to light brown subiculum when young. It differs from *R. johnstonii* by apically rounded stromata, larger ascospores, and a symmetrical germ slit; from *R. mammoidea* by cupulate stromata with more pronounced ostioles, ascospores without a cellular appendage, and a germ slit extending the whole spore length; and from *R. communis* by stromatal shape and much smaller ascospores. It can be distinguished from *R. subiculata* by the subiculum colour and larger ascospores (Petrini 1993).

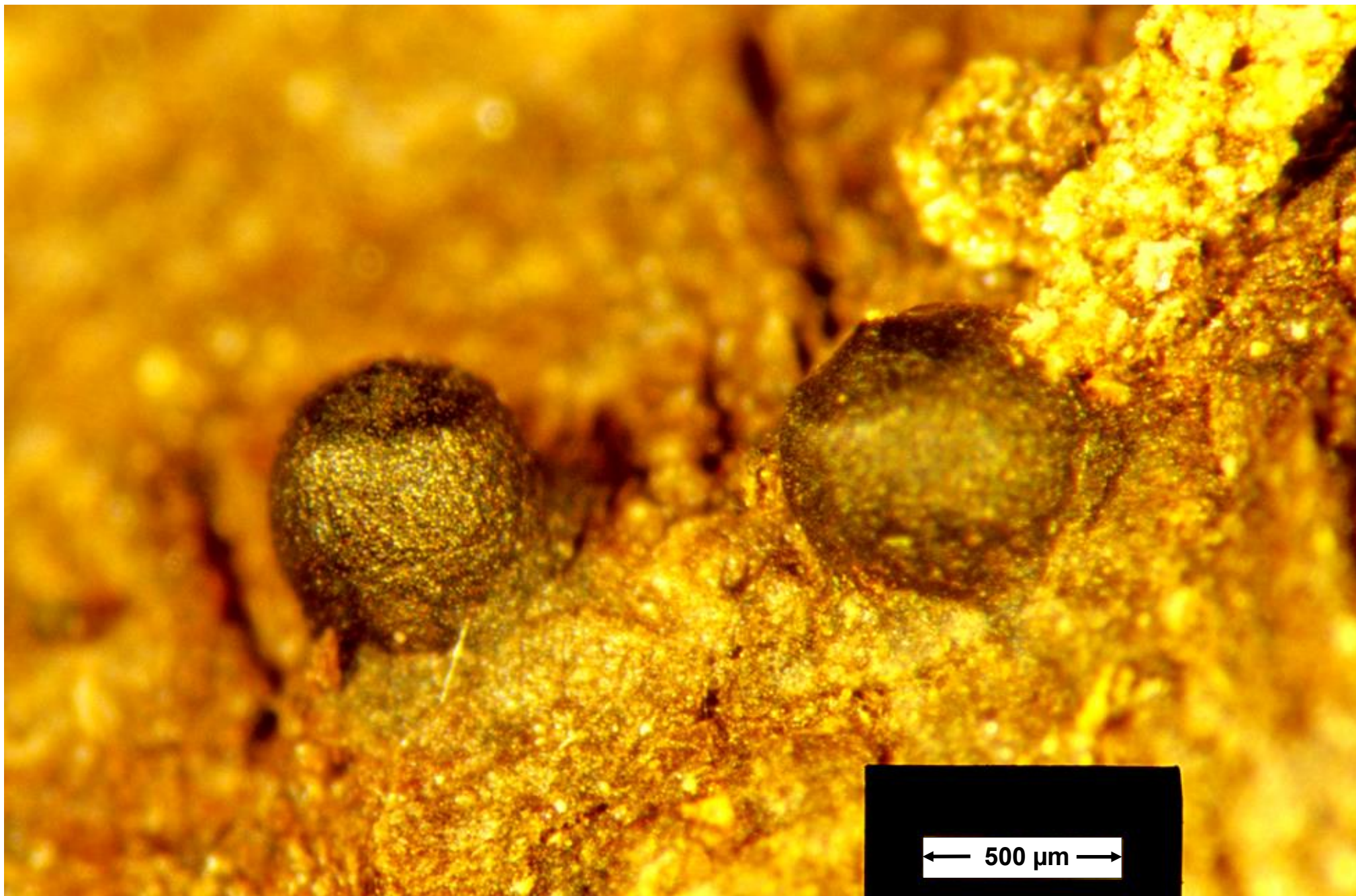
The presence of a subiculum in young stages as well as the *Geniculosporium* anamorph justify placement of this species in *Rosellinia*. Mature specimens without subiculum might be confused with *Astrocystis* spp. at first sight, because they occur on palm and most species of *Astrocystis* are described from such hosts (Smith & Hyde 2001). The stromata of *R. rhopalostylidicola*, however, show the regular nearly cupulate shape of typical *Rosellinia* and have well-pronounced papillate ostioles and the surface is smooth and shiny, without traces of a splitted stroma or adhering host material. *Rosellinia euterpes* Rehm, also described from a palm, has wider, semiglobose, opaque stromata with less pronounced ostioles, smaller ascus apical rings and smaller ascospores than *R. rhopalostylidicola*.



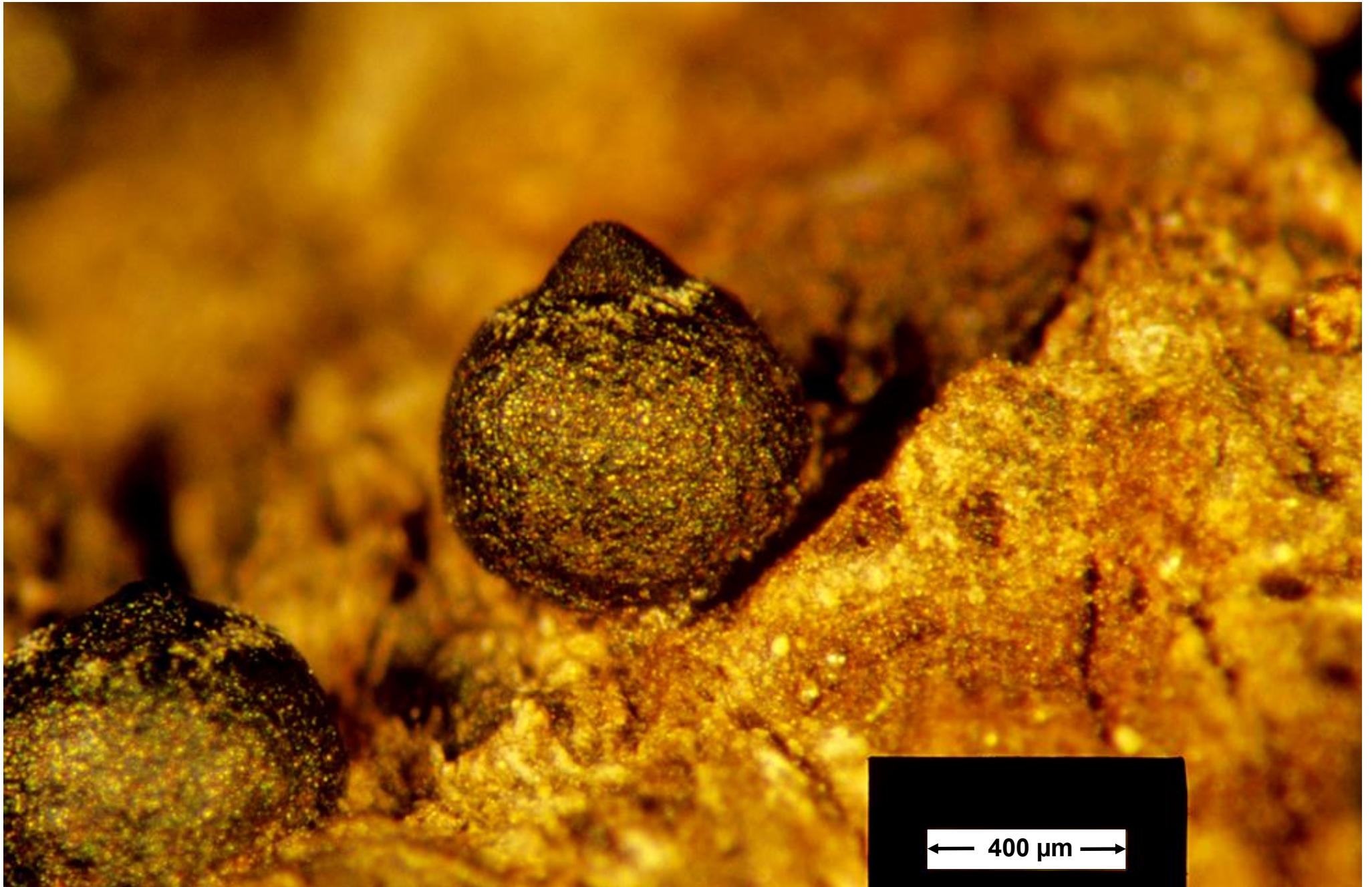
AEB 1019. Fresh stromata in-situ on dead wood.



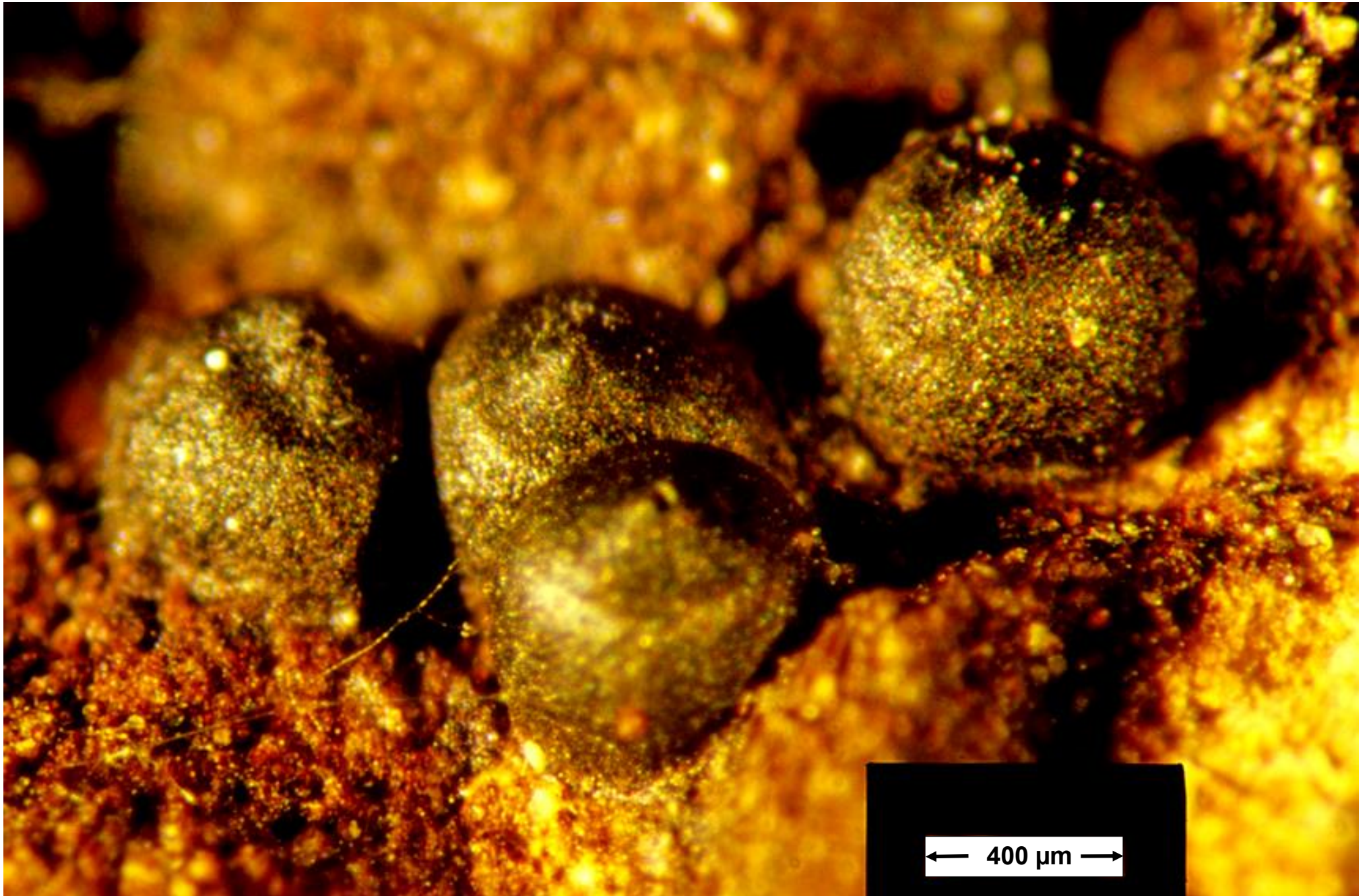
**AEB 1019. Fresh stromata in-situ on dead wood. A closer view of four stromata from the previous page.**



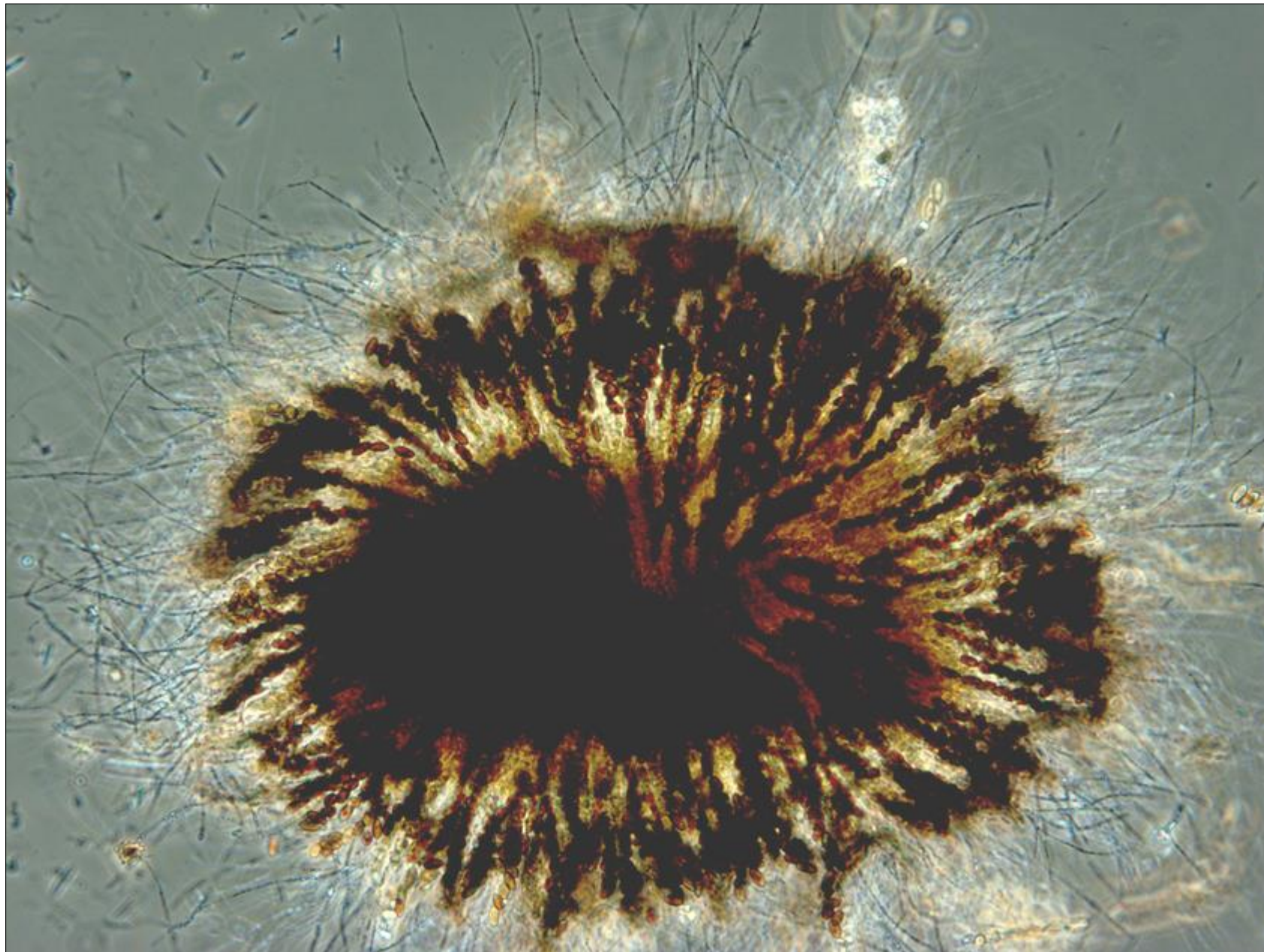
**AEB 1019. Fresh stromata in-situ on dead wood.**



AEB 1019. Fresh stromata in-situ on dead wood.



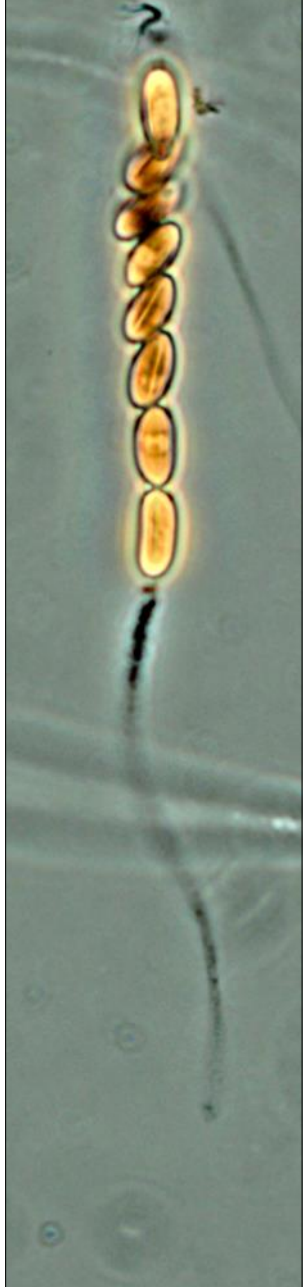
AEB 1019. Fresh stromata in-situ on dead wood.



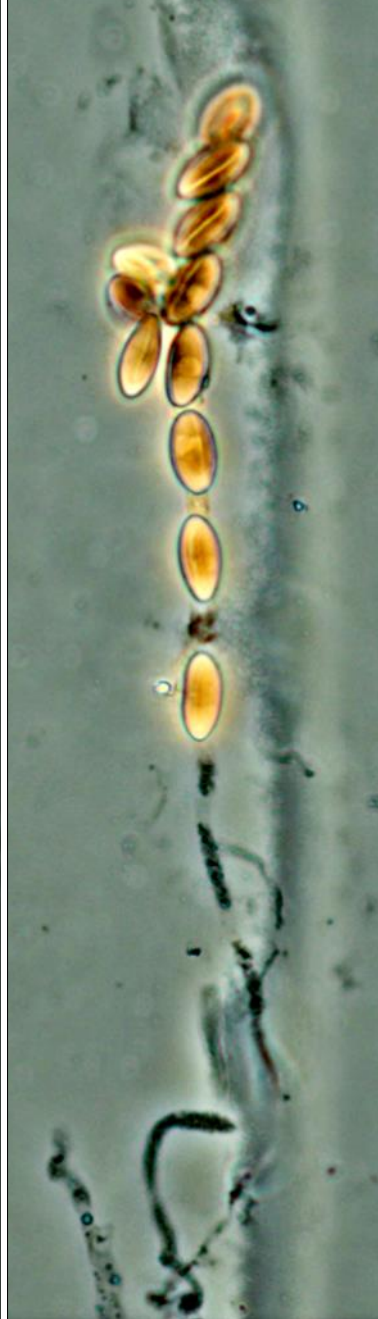
**AEB 1019. Hymenial squash emphasizing the fertility and paraphyses typical of this collection. From original 2007 SMF mount, X20 objective & phase microscopy.**



Ascus 155  $\mu\text{m}$   
stipe 75  $\mu\text{m}$   
width 8  $\mu\text{m}$



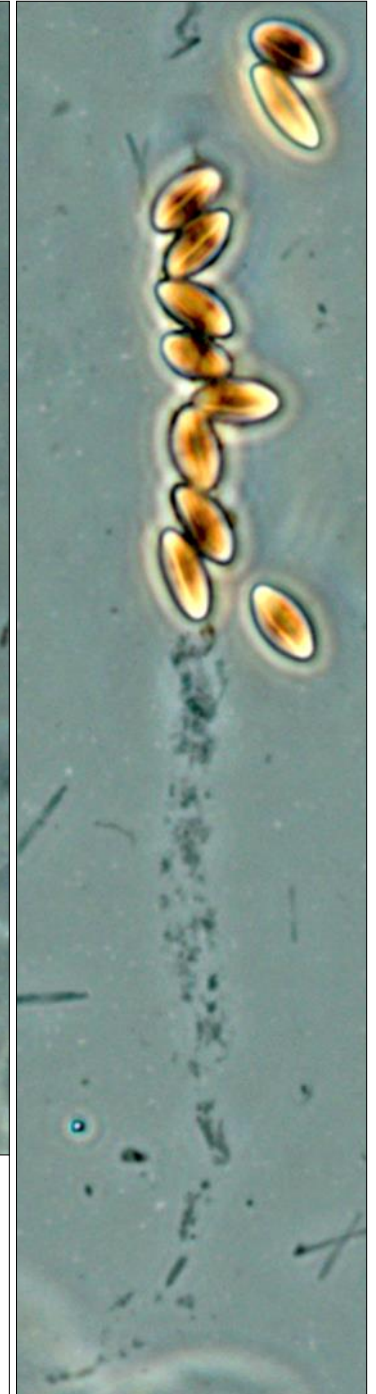
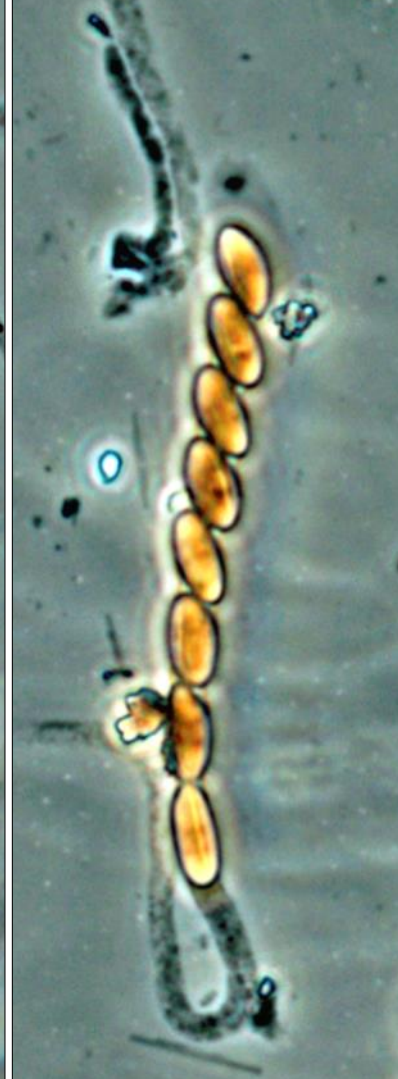
Ascus 167.5  $\mu\text{m}$   
stipe 75  $\mu\text{m}$



Ascus 125  $\mu\text{m}$   
stipe 52.5  $\mu\text{m}$



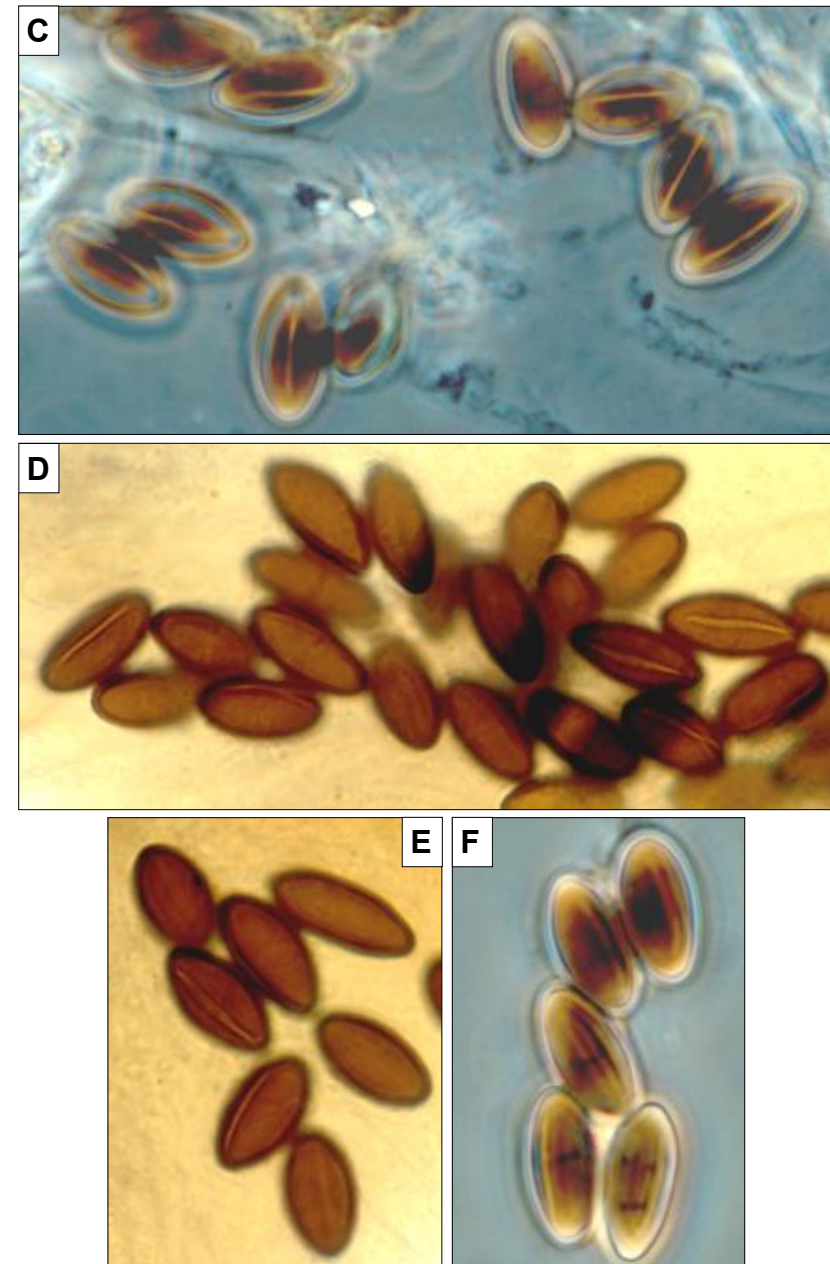
Ascus approx. 162.5  $\mu\text{m}$   
stipe approx. 75  $\mu\text{m}$



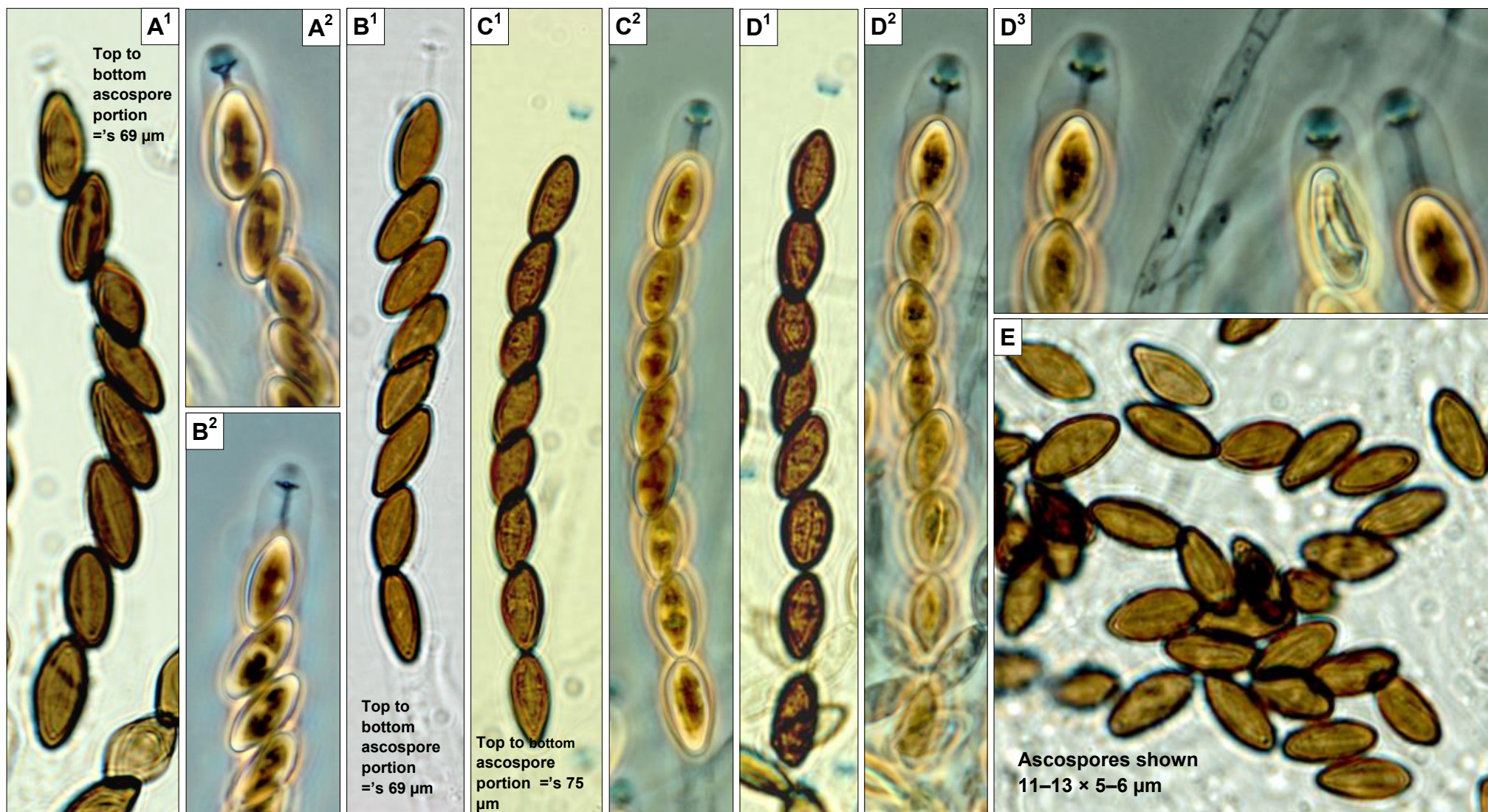
**AEB 1019. Asci & ascospores. All SMF mounts using X40 objectives & phase microscopy. Prepared April 2007 from fresh stromata. Note the long ascus stipes and ascospores with typically symmetrical elliptical-fusoid shapes and straight full-length germ slits.**



**A,B.** Asci & ascospores. Melzer's reagent mount, X100 objective, brightfield & phase resp. Prepared July 2020 from a 2007 herbarium stroma. Note ascus tip bluing & ascospore germ slits.



**C–F.** Ascospores. SMF mount, X100 objective, brightfield (D,E), phase (C,F). Prepared April 2007 from fresh stromata. C. Spores 10–13 × 5–6 μm. F. Spores 10.5–12 × 5–6 μm



**A–E. Asci & ascospores.** All photos prepared July 2020 from a 2007 herbarium stroma using the X100 objective. **A<sup>1</sup>–D<sup>1</sup>.** Brightfield microscopy. **A<sup>2</sup>–D<sup>2&3</sup>.** Phase microscopy. **A.** SMF/Melzer's reagent slide mount. The absence of apical ring bluing seems to be a result of using SMF to make the slide semi-permanent. **B.** Mount with SMF only. **C, D.** Mount with Melzer's reagent only. Note the apical bluing. Top width of the bluing area was 3 μm, the bottom width 2 μm. All ascus widths 7–8 μm. **E.** Ascospores in SMF only.