

***Rosellinia gisbornia* L.E. Petrini AEB 1094 (= PDD 98338) — A good match to this infrequently seen endemic New Zealand species. See the New Zealand Journal of Botany 41(1): 71-138 (2003) for Petrini's original description and a key to *Rosellinia* species. Pertinent portions of that article are reproduced on the next page.**

Substrate: unidentified dead wood

Collection site: near Levin, Waikawa Stream Reserve.

Collection date: 13 May 2009; during the 23rd New Zealand Fungal Foray, 10th – 16th May 2009 at El Rancho Christian Holiday Camp, close to Waikanae on the Kapiti Coast.

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

Voucher material: dried herbarium material (AEB 1094 (= PDD 98338)) accompanied by 3 semi-permanent Shear's mounting fluid (SMF) and 1 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 various SMF, water, and Melzer's mounts using an Olympus BX51 compound scope with DP25 camera for digital photos (The 2009 dried collection was originally accompanied by only one SMF slide. However, while preparing this pdf in July 2020, Dan supplemented the descriptive and photo records with additional slides from a dried fertile stroma in the 2009 collection. The first 5 photo pages that follow in the pdf used the original SMF slide contents while the last 5 represent additional information from the July 2020 slides); Dan's brief description and comments.

Brief description and comments: **Stromata** robust, firm, blackish and slightly warty apically but otherwise brownish and rugose with low irregularly-scattered blackish warty areas, not numerous but very fertile, solitary or in small groups, submerged to superficial (mostly appearing superficial), semiglobose to conical with a finely papillate ostiole, roughly 800+/- μm in diameter (see measurements on in-situ photos), no obvious subiculum remaining in this collection. **Paraphyses** numerous, thin, filamentous, slightly tapering apically, hyaline, septate, simple and extending above the asci. **Asci** 182.5–207.5 \times 10 μm (n =5), numerous, cylindrical, with large complex blue apical rings in Melzer's reagent mounts (see pdf photo details) and short stipes. **Ascospores** brown to dark brown, smooth, 8/ascus arranged uniseriately to uniseriately overlapping, inequilaterally ellipsoidal-fusoid appearing symmetrical to plano-convex and somewhat apiculate, protruding or blunted at the apices, with a conspicuous straight longitudinal germ slit extending the length (or nearly the length) of the spore (along the mid-section in symmetrical views), 21–31 \times 7–10 μm (n = 35) – mostly 24–28 \times 8–9 μm , no obvious slimy sheaths seen.

No anamorph observed



Description for: '*Rosellinia gisbornia*' and synonyms

Rosellinia gisbornia 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, of restricted extension, cream to light brown, gradually disappearing, absent in mature material. Stromata (550)690 ± 100(850) µm high, (600)738 ± 84(825) µm wide ($n = 15$), semiglobose, cupulate to conical, black, lower part slightly rugose, solitary or densely crowded in small groups, when young completely covered by the subiculum, becoming exposed when growing and subiculum gradually worn away. Ostioles finely papillate or not pronounced. Ectostroma 50-75 µm, black, brittle. Entostroma dark brown, absent in old material. Perithecia detached and collapsed in mature material. Ascus apical rings (4.8)6.2 ± 1.4(8.6) µm high, upper width 2.8-4.8 µm, lower width 2.8- 3.8 µm ($n = 13$), J+, blue to pale blue. Ascospores (21.2) 25.5 ± 2.3(31.7) µm long, (6.7)7.7 ± 0.5(8.6) µm wide ($n = 90$), inequilaterally ellipsoidal, brown to dark brown, with straight germ slit running over the whole spore length on flat side, ending shortly before ends, both extremities and flat side surrounded by a slimy sheath, 2-3 µm thick at ends, 1-2 mm thick at side.

ANAMORPH: Unknown.

Type: HOLOTYPUS (hic designatus): New Zealand, North Island, Gisborne: Urewera National Park, c. 15 km SE of Ruatahuna, along SH 38, Taupeupe Saddle, indet. wood, 3 Nov 1983, *G. J. Samuels, P. R. Johnston, & P. K. Buchanan*, PDD 43800.

Habitat: HOSTS: Undetermined.

MATRIX: On bark or wood of twigs, c. 1.5 cm diam.

Collections examined: ADDITIONAL SPECIMENS EXAMINED: NORTH ISLAND: GISBORNE: Urewera National Park, L. Waikaremoana, on indet. tree, 4 Nov 1982, *G. J. Samuels, P. R. Johnston, & P. K. Buchanan*, PDD 43808. SOUTH ISLAND: BULLER: on decorticated wood, 17 Apr 1983, *G. J. Samuels, R. E. Beever, P. R. Johnston, & R. H. Petersen*, PDD 45917, cultures on OA, PDA.

Notes: ETYMOLOGY: Referring to Gisborne Province, where the type specimen was collected.

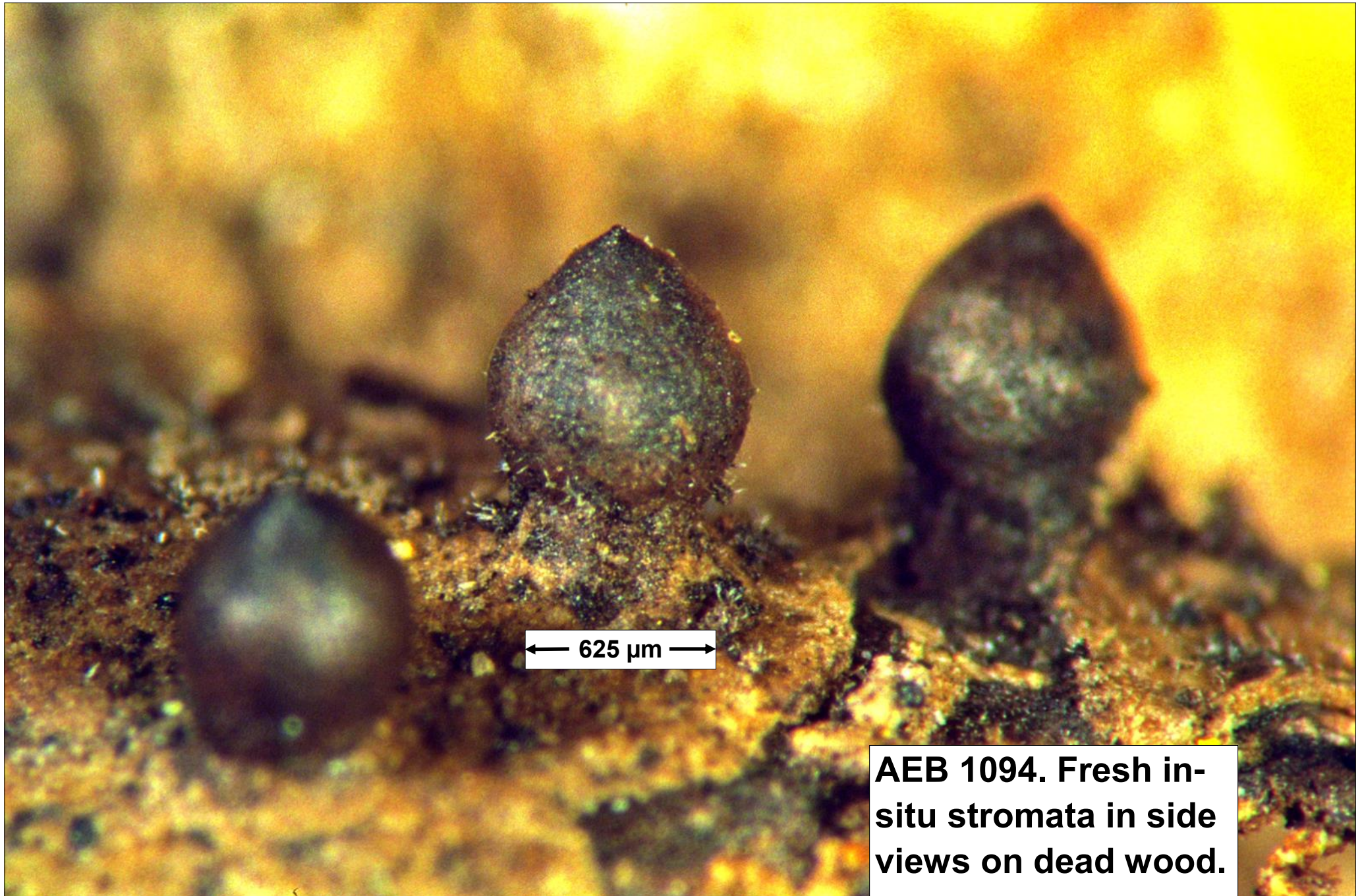
NOTES: *Rosellinia gisbornia* is characterised by an evanescent, cream to light brown subiculum and ascospores with slimy caps and sheath on one side. The germ slit runs straight over the whole spore length. The ascospores present in the specimen PDD 45917 are up to 4 µm longer than those seen in the other two collections.

Rosellinia gisbornia differs from *R. chusqueae* and *R. dingleyae* by having ascospores with straight germ slit and asci with smaller apical rings. It can be distinguished from the morphologically similar *R. britannica* by the stromatal shape and size, and the characters of the subiculum (Petrini 1993). *Rosellinia hyalospora* Theiss. has ascospores with a similar size, but they are light brown and lack the slimy sheath. Its stromata are also smaller (L. E. Petrini unpubl. data).



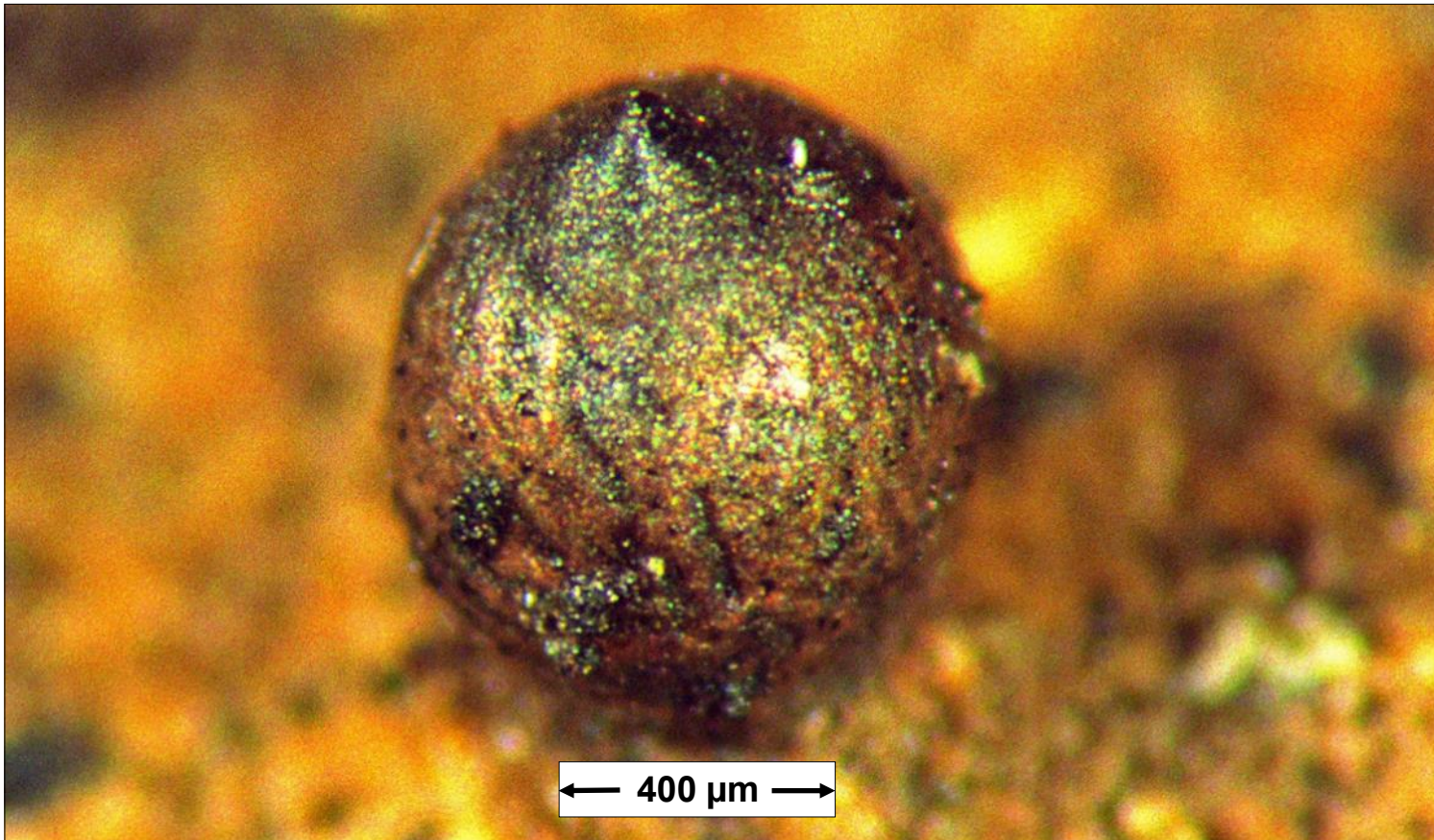
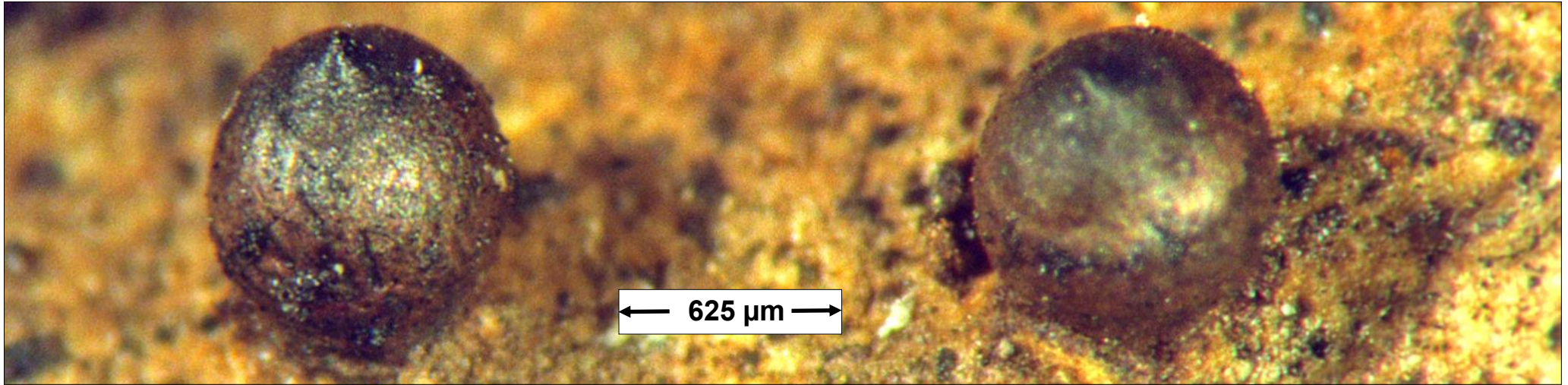
← 1667 μm →

AEB 1094. Fresh in-situ stromata in overhead views on dead wood.

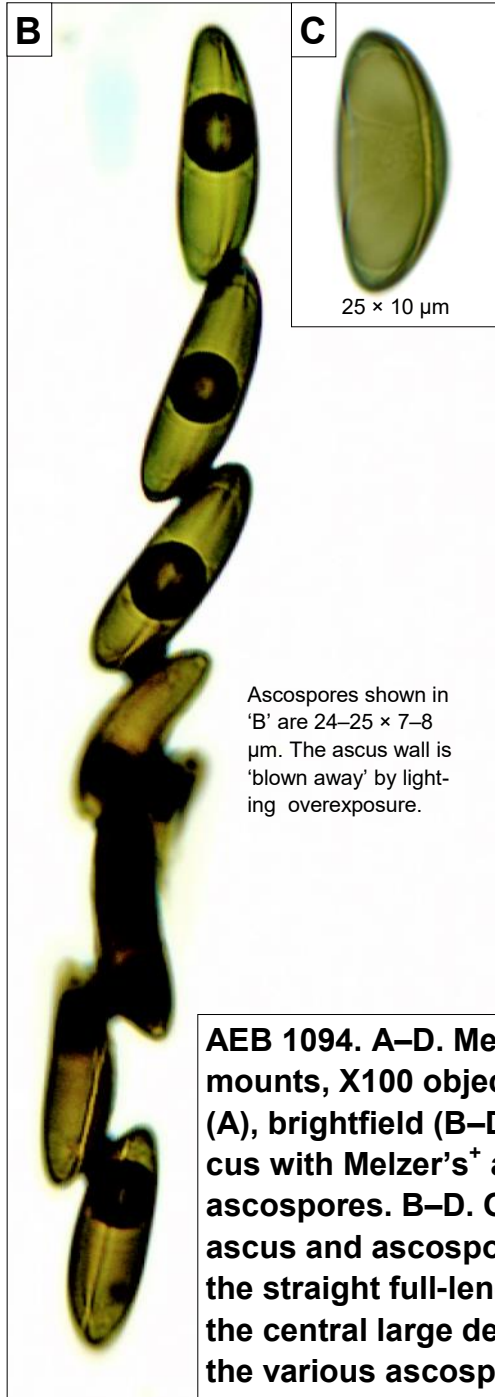


← 625 μm →

AEB 1094. Fresh in-situ stromata in side views on dead wood.



AEB 1094. Fresh in-situ stromata in side views on dead wood. Left stroma in the upper photo is the same stroma shown in the lower photo.

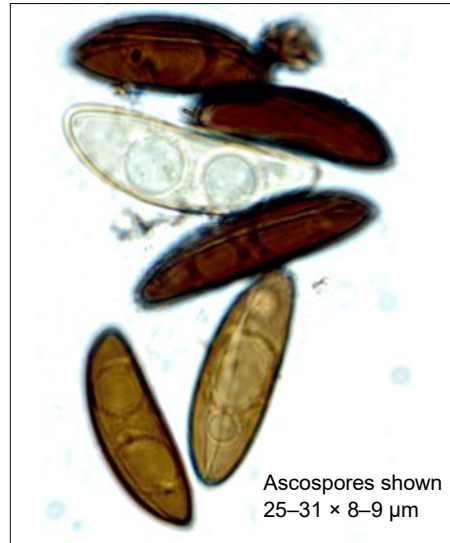


AEB 1094. A–D. Melzer's reagent mounts, X100 objective, phase (A), brightfield (B–D). A. Young ascus with Melzer's⁺ apex and faint ascospores. B–D. Overexposed ascus and ascospores to highlight the straight full-length germ slits, the central large deBary bubble & the various ascospore shapes.



Ascospore portion
 $130 \times 20 \mu\text{m}$ (width
 at widest point)

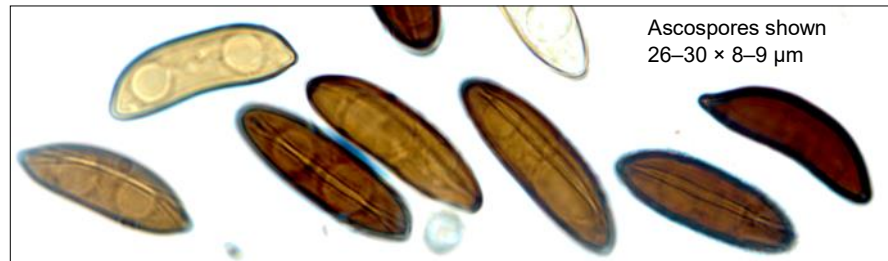
Left 2 photos. Asci in SMF, X40 objectives & brightfield views.
 Ascus walls over-exposed or dissolved & difficult to see.



Ascospores shown
 $25\text{--}31 \times 8\text{--}9 \mu\text{m}$

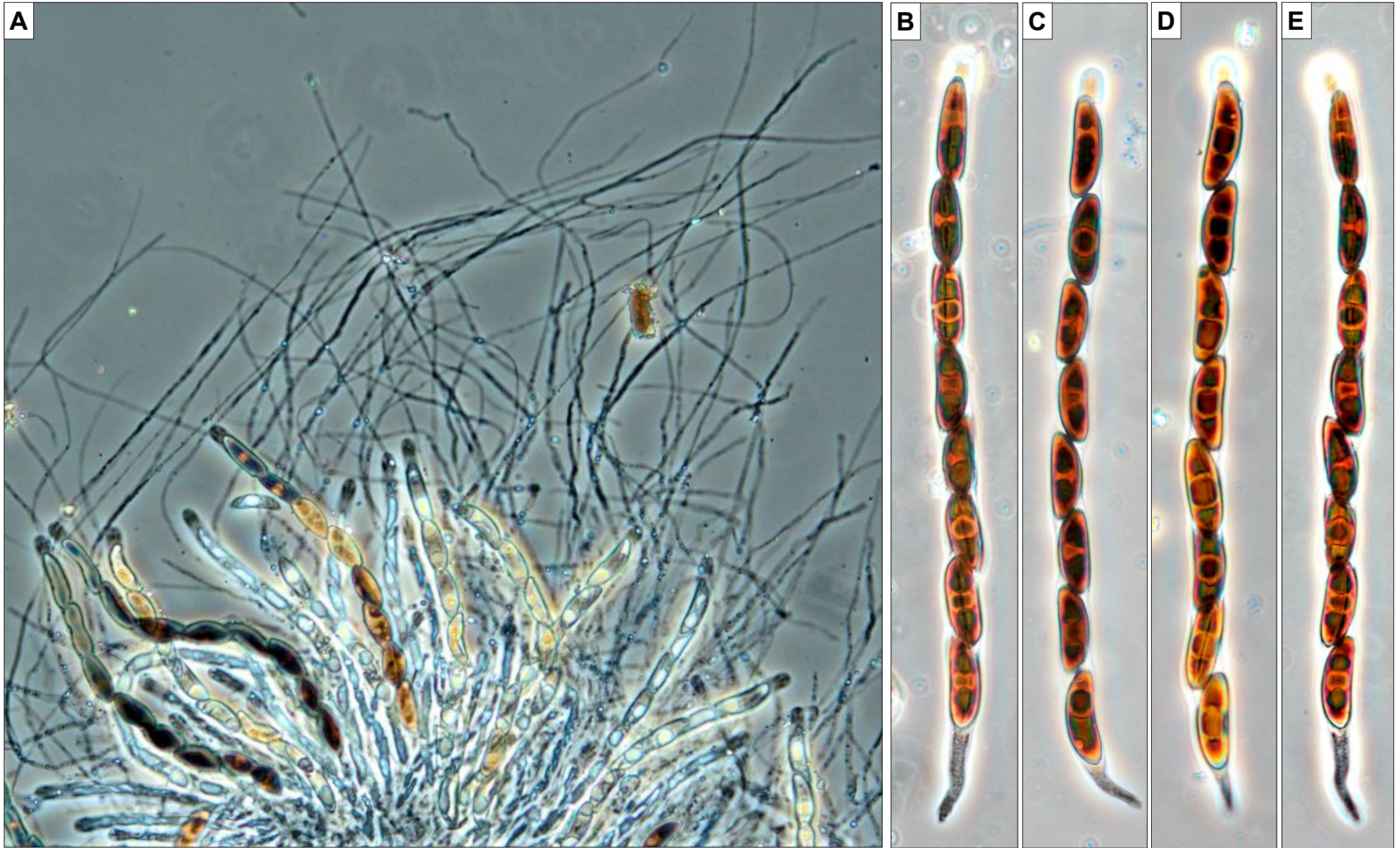


Ascospores shown
 $26\text{--}28 \times 7.5\text{--}8.5 \mu\text{m}$



Ascospores shown
 $26\text{--}30 \times 8\text{--}9 \mu\text{m}$

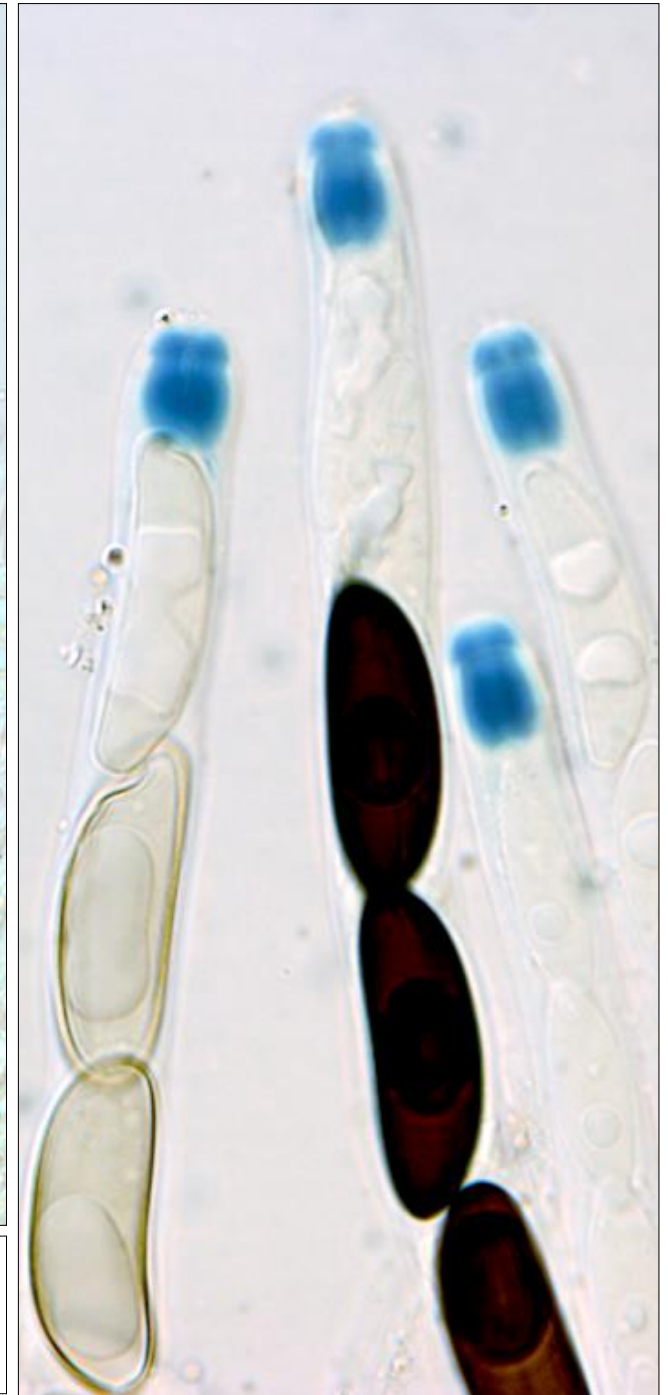
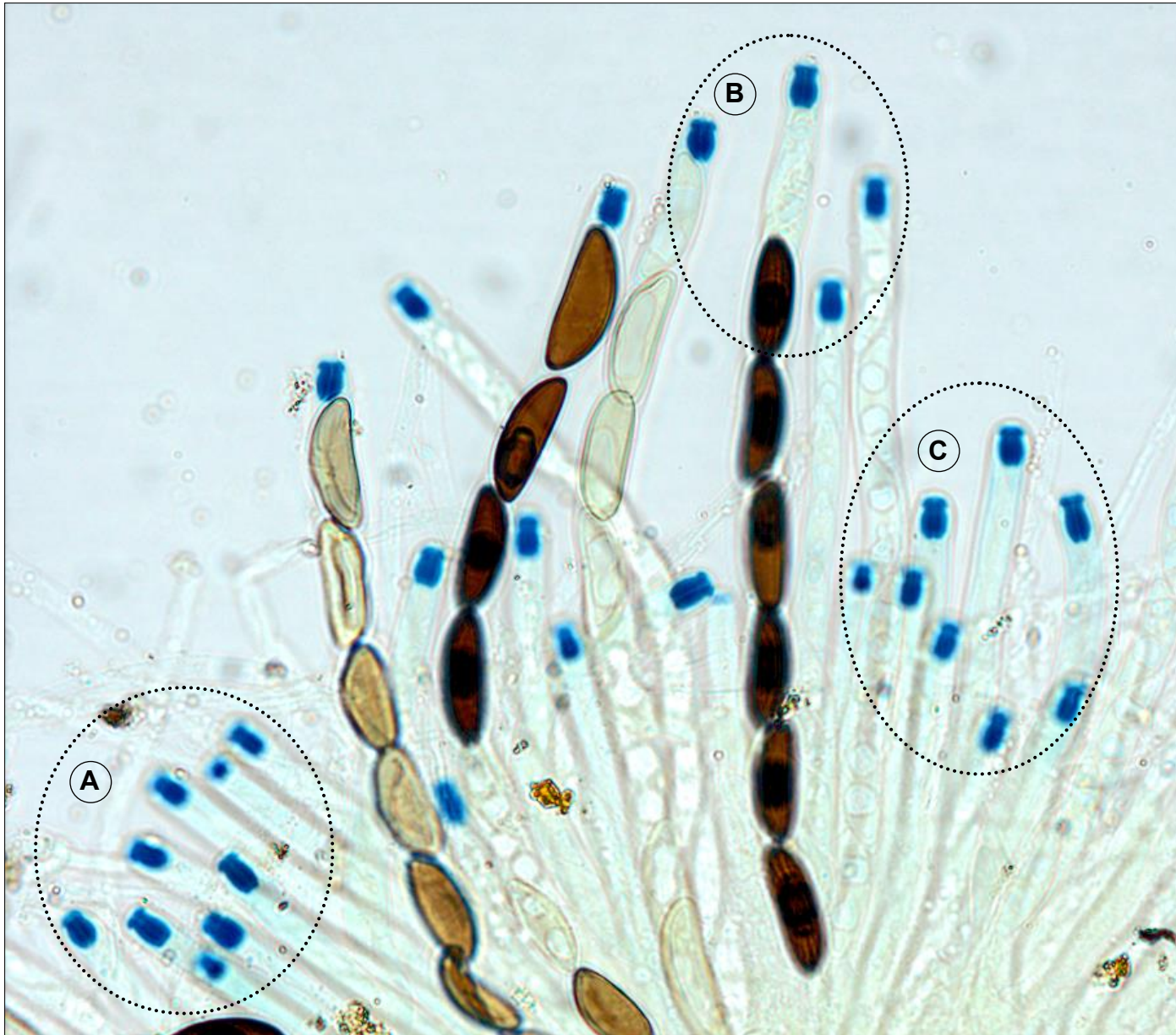
Right 5 photos. Ascospores in SMF using X100 objectives & brightfield.



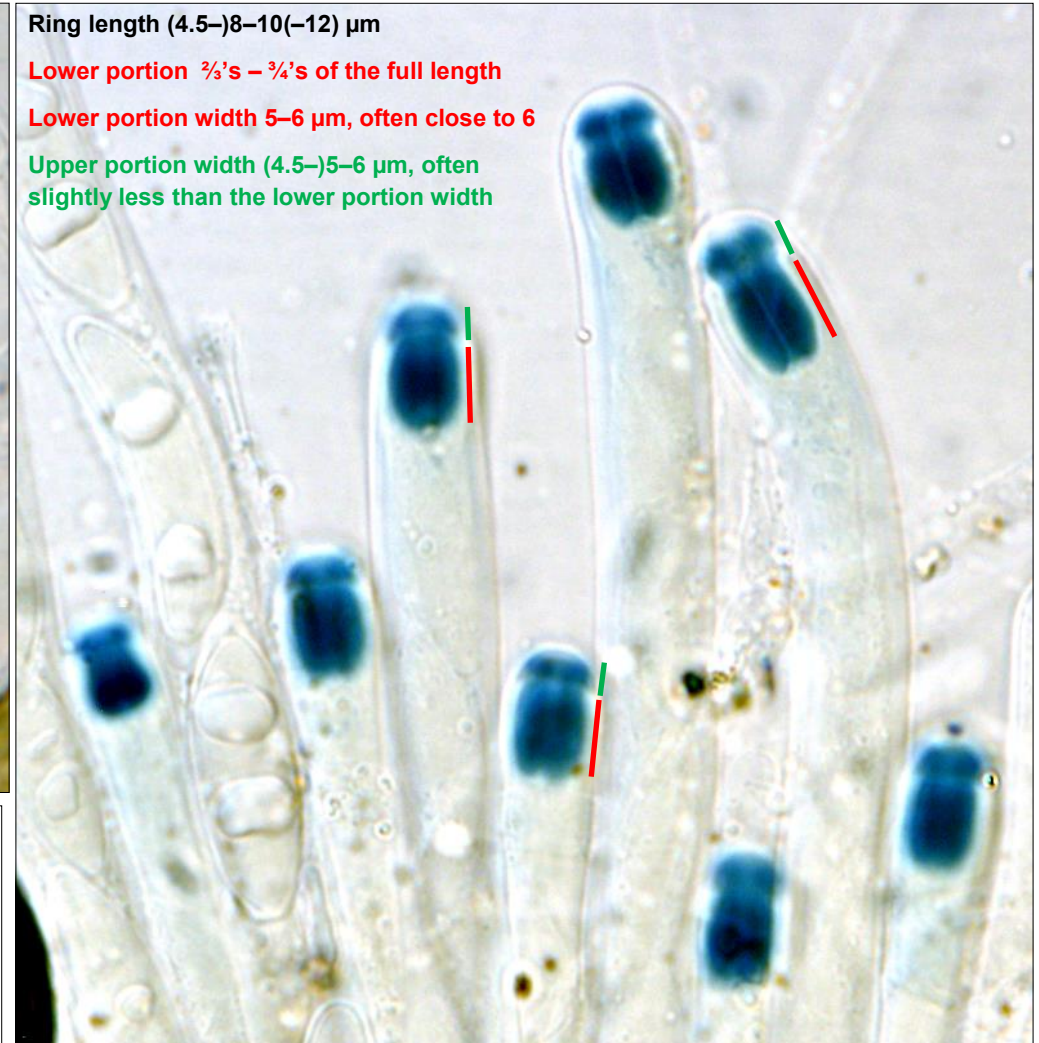
A–E. Hymenial squashes, July 2020 preparation using a May 2009 dried stroma. A. Asci & paraphyses, emphasis paraphyses. SMF mount, X20 objective, phase microscopy. B–E. Asci in water mounts, X40 obj., phase. Note short stipes, ascospore arrangements, spore shapes, bi-polar vacuoles, central deBary bubbles & germ slits. Ascus measurements: B. $205 \times 10 \mu\text{m}$, C. $207.5 \times 10 \mu\text{m}$, D. $195 \times 10 \mu\text{m}$, E. $202.5 \times 10 \mu\text{m}$



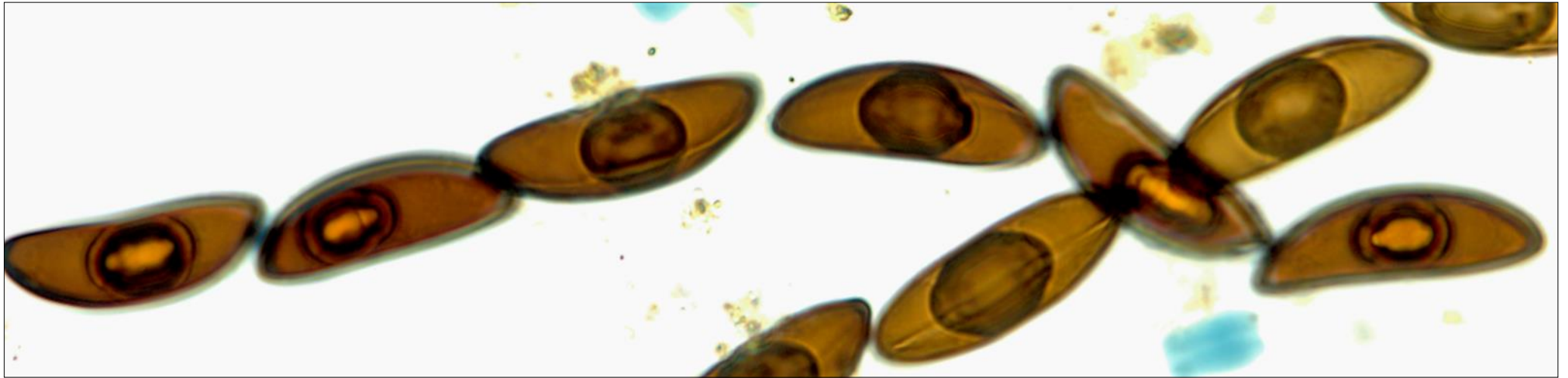
Hymenial squash. Melzer's reagent slide mount using the X20 objective and brightfield microscopy. This photo and those that follow in this pdf were all prepared in July 2020 from a single dried stroma in the AEB 2094 herbarium material (13 May 2009). The robust, firm, thick-walled stroma was first re-hydrated in water, then cut lengthwise with a single-edge razor blade. Hymenial contents were teased out and separated with insect pins, then moved to a small drop of Melzer's reagent. Note the ascus detail and especially their large well-defined Melzer's-positive ascus tips. Note also the ascospore arrangements and their shapes, colors, contents and full-length germ slits.



Asci & ascospores. July 2020 preparation using a May 2009 dried stroma. Melzer's mounts, DIC-edited microscopy, left photo X40 objective, right photo X100 obj. (its X40 counterpart labelled B). Circled areas A & C on next page.



Both photos X100 objective, DIC edited – see their circled A & C, X40 obj. counterparts on the previous page. Emphasized are the large, Melzer's-positive, ascus apical rings. Bluing apical rings are reasonably uniform in size regardless of their ascus maturity. Many are seen in median focus with the ascospore-discharge channel a lighter line stretching from base to apex. For details see the right photo inserts.



Ascospores from a rehydrated stroma of the 2009 herbarium material. July 2020 Melzer's reagent mounts, X100 objectives and brightfield microscopy. Note the ascospore shapes, color, full-length longitudinal germ slits and single large deBary bubbles.

