

Chaetosphaeria gallica (Sacc. & Flageolet) Réblová (?) AEB 1042 (= PDD 94221) – see also *Sporidesmium hormiscioides* Corda & *Chaetosphaeria gallica* (?) AEB 1041 (= PDD 94220)

The AEB 1041 pdf emphasizes *S. hormiscioides* while the AEB 1042 pdf emphasizes *C. gallica* (?). Both species are present in each collection and occupy positions on the same dead branch. Any genetic relationship between the species is unknown.

Substrate: a decorticated decaying fallen branch of *Fuscospora* (until recently known as *Nothofagus*), approx. 2 cm in diameter



Collection site: treeline, near Jumbo Hut in the Tararua Forest Park, NW of Masterton, N. Island, New Zealand (see photos below, taken southeasterly from the Hut)

Collection date: 28 March 2008

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

Other fungi on this branch: *Sporidesmium hormiscioides* AEB 1041 (= PDD 94220) - see its pdf on the PDD Landcare website.

Voucher materials: dried herbarium material [AEB 1042 (= PDD 94221)] accompanied by 3 semi-permanent Shear's mounting fluid (SMF) slide mounts; digital (Olympus BX51 compound scope) photos of paraphyses, asci and ascospores and Zeiss dissecting scope colored slides (best scanned) of in situ perithecia on the wood substrate; Dan's description.

References consulted:

- 1) Réblová, M. 2004. Four new species of *Chaetosphaeria* from New Zealand and redescription of *Dictyochaeta fuegiana*. *Studies in Mycology*. 50 (1):171-186. (With a key to *Chaetosphaeria* species and on p. 185 a description and illustration of *Chaetosphaeria gallica* which represents a comb. nov. – formerly *Zignoëlla gallica* Sacc. & Flageolet. Réblová's treatment of the latter is based on her examination of the Italian PAD holotype. AEB 1041 & 1042 are its first collection records from New Zealand.)
- 2) *Basionym:* *Zignoëlla gallica* Sacc. & Flageolet—*Syll. Fung.* 24: 967. 1926 (an online copy of the *Sylogae Zignoëlla gallica* description)
- 3) *Chaetosphaeria gallica* (Sacc. & Flageolet) Réblová, comb. nov. MycoBank MB500047. Fig. 65. (Mycobank online, Word exported data)



Réblová, M. 2004. Four new species of *Chaetosphaeria* from New Zealand and redescription of *Dictyochoeta fuegiana*. *Studies in Mycology*. 50(1):171-186. p. 185

Chaetosphaeria gallica (Sacc. & Flageolet) Réblová, **comb. nov.** MycoBank MB500047. Fig. 65.

Basionym: *Zignoëlla gallica* Sacc. & Flageolet, Syll. Fung. 24: 967. 1926.

Anamorph: Unknown.

Perithecia immersed or semi-immersed, solitary, subglobose to globose, papillate, 200–230 µm diam, 280–350 µm high, dark brown to black, glabrous, not setose, ostiolate. *Ostiole canal* periphysate. *Perithecial wall* 35–48 µm thick, carbonaceous, fragile, consisting of two regions; outer region formed of dark brown, thin-walled, polyhedral cells; inner region formed of hyaline, thinner-walled, elongated, compressed cells. *Paraphyses* persistent, branching, hyaline, septate, 1.5–2 µm wide, not tapering, rounded at the top, longer than the asci. *Asci* unitunicate, cylindrical-clavate, 131–160 (mean ± se = 150 ± 3.2) × (11–)12.5–13.5(–15) (mean ± se = 12.8 ± 0.3) µm, LW 11.7:1, short-stipitate, truncate at the apex, refractive apical annulus distinct, 2.5–3 µm diam, 1–1.5 µm high. *Ascospores* fusiform, curved or straight, often inequilateral, (21–)23–25 (mean ± se = 23.6 ± 0.2) × 4.5–6 (mean ± se = 5.5 ± 0.1) µm, LW 4.3:1, (3–)5-septate, not constricted at the septa, hyaline, smooth, obliquely 1-seriate or 2-seriate in the ascus.

Holotype: **Italy**, on decayed wood, P.A. Saccardo 2823

(PAD).

Known distribution: Italy.

Habitat: Saprobic on decayed wood.

Commentary: *Chaetosphaeria gallica* is similar to *Ch. curvispora*, but differs by longer asci, longer ascospores and glabrous perithecia that were half-immersed in the wood on the type material.

Dan's description of *Chaetosphaeria gallica* (?) AEB 1042:

Perithecia numerous, emergent becoming superficial with venters only slightly submerged in the decorticated wood, separate or clustered (often the latter), blackish to reddish black or grey, globular to broadly ovoid with a short papillate neck, venters roughly 300 µm in diam. Older perithecia remaining as black empty hollows with only the lower peridium persisting. **Peridium** moderately coriaceous, the **outer layers** opaque. However, in photos from overexposed chlorine bleach mounts and water + iodine squash mounts, the papillate/ostiole area exhibited horizontally elongate cells extending downward from the ostiole (like close-set, ladder-like rungs, but actually closely-spaced, small, aerolate areas). These areas duplicated around the ostiole and extending downwards. As they reach the venter, they become larger and more-obviously areolate – each dark areolate area with a lighter 'spacer' area between it and adjacent aerolate areas. In a peridial squash, water + iodine mount, the darker areas appeared to have tiny spine-like surfaces but this couldn't be verified. At certain stages of drying, in dissecting scope views, what seemed to be the darker areas were seen as low dark 'bumps' scattered over the venter surface. Overall, however, attempts to see the areolate appearance more clearly were not as successful as hoped. Perhaps, a different technique would better demonstrate the areolate pattern. **Inner layers** of the venter peridium lighter with the cells irregularly shaped and interlocking to form a textura epidermoidea. In other views this inner layer appeared somewhere between a textura angularis and a textura epidermoidea. **Fertility** good when first observed but with most perithecia soon devoid of good asci. **Paraphyses** numerous, simple and branched, hyaline, septate, slightly longer than the asci, **Asci** numerous, 8-spored, cylindrically clavate, short-stiped with a small non-amyloid apical ring at the truncate apex, two that were free of the hymenium measured 120–130 × 10.5–12.5 µm. **Ascospores** variable in shape, size and septation, arranged biserially overlapping (less frequently uniseriately overlapping), hyaline, smooth, straight to slightly curving (sometimes *Fusarium* macroconidium-like at the apices), varying from fusiform symmetrical to asymmetrical plano-convex with rounded to almost apiculate apices, smooth and not indented at the septa, with 3–6 (rarely 7) transverse septa (usually 5 – 4&6, 3-septate spores were less frequently seen), at first with numerous vacuoles but later with one large vacuole per cell (full strength chlorine mounts enabled me to see the number of septa without confusion from vacuoles or stains), ascospores mostly (20–)25–30(–33) × (–4.5)5–6(–7) µm (n=50) – shortest ascospores were 3-septate (these as small as 12.5 × 4 µm). When first formed the spores were more apically rounded (obtuse) but with age and germination they became more apically acute (or narrowly obtuse). This was especially prominent in germinating ascospores as the end cells extended apically to give rise to a single germ tube. Occasionally a longer germ tube was seen to bifurcate. Germinating ascospores were very common in the centrum of older perithecia where the asci had broken open.

MycoBank general information

Summary: [Chaetosphaeria gallica](#) (Sacc. & Flageolet) Réblová. [Studies in Mycology](#) 50 (1): 185 (2004) [MB#500047]

Synonymy: =[Zignoëlla gallica](#) Sacc. & Flageolet, [Sylloge Fungorum](#) 24 (1): 967 (1926) [MB#199313]

MycoBank #: 500047

Epithet: gallica

Rank: sp.

Authors: (Saccardo & Flageolet) Réblová

Authors (abbreviated): (Sacc. & Flageolet) Réblová

Literature: [Réblová, M. 2004. Four new species of Chaetosphaeria from New Zealand and redescription of Dictyochoaeta fuegiana. Studies in Mycology. 50\(1\):171-186](#)

Page #: 185

Year of effective publication: 2004

Name type: Combination

Gender: Feminine

Name status: Legitimate

Classification and associated taxa

Current name: [Zignoëlla gallica](#) Sacc. & Flageolet, [Sylloge Fungorum](#) 24 (1): 967 (1926) [MB#199313]

Classification: [Fungi](#), [Dikarya](#), [Ascomycota](#), [Pezizomycotina](#), [Sordariomycetes](#), [Sordariomycetidae](#), [Chaetosphaeriales](#), [Chaetosphaeriaceae](#), [Chaetosphaeria](#)

Basionym: [Zignoëlla gallica](#) Sacc. & Flageolet, [Sylloge Fungorum](#) 24 (1): 967 (1926) [MB#199313]

Obligate or homotypic synonyms: [Zignoëlla gallica](#) Sacc. & Flageolet, [Sylloge Fungorum](#) 24 (1): 967 (1926) [MB#199313]

Description: [Chaetosphaeria gallica](#) (Sacc. & Flageolet) Réblová, *comb. nov.* MycoBank MB500047. [Fig. 65.](#)

Record #1942

File type: drawing (microscopic)

File by: Réblová

Device directory: CD\0001\0003

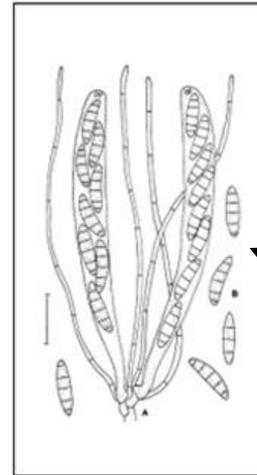
FileName: Chaetosphaeria_gallica1.jpg

Literature: [Réblová, M. 2004. Four new species of Chaetosphaeria from New Zealand and redescription of Dictyochoaeta fuegiana. Studies in Mycology. 50\(1\):171-186](#)

Page number: 185

On Internet: Yes

Remarks: [Chaetosphaeria gallica](#). A. Asci with paraphyses. B. Ascospores. From PAD (holotype). Scale bar = 10 μ m.



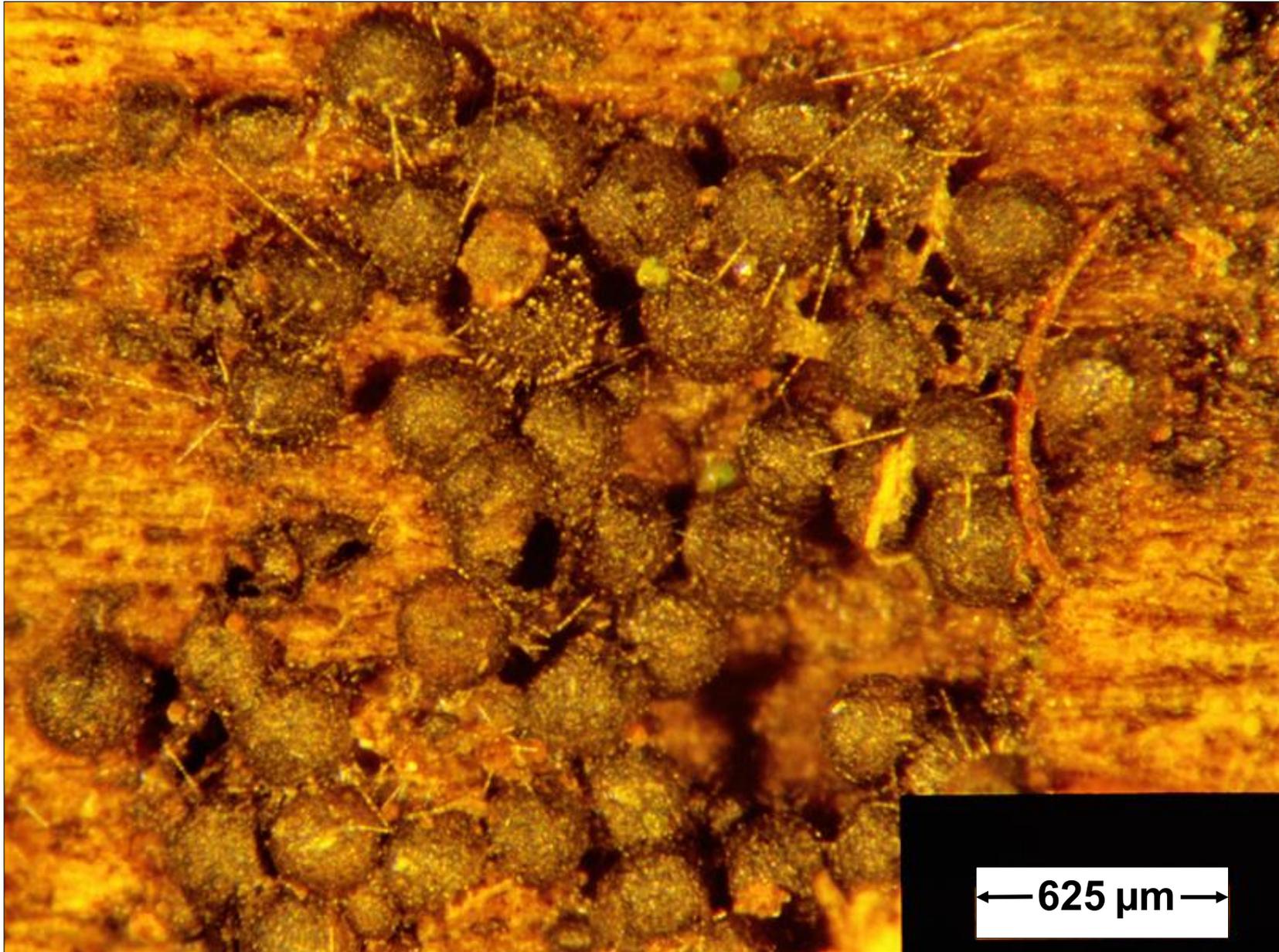
Although AEB 1042 has somewhat larger perithecia and ascospores, it better matches Réblová's *Chaetosphaeria gallica* comb. nov. than other *Chaetosphaeria* species. My photos of paraphyses, asci and ascospores are very similar to those seen at the left (arrowed). Réblová's drawing from a nearly 100-year-old holotype speaks to an amazingly well-preserved specimen—perhaps slightly enhanced.

[Zignoëlla gallica](#) Sacc. & Flageolet, [Sylloge Fungorum](#) 24 (1): 967 (1926)

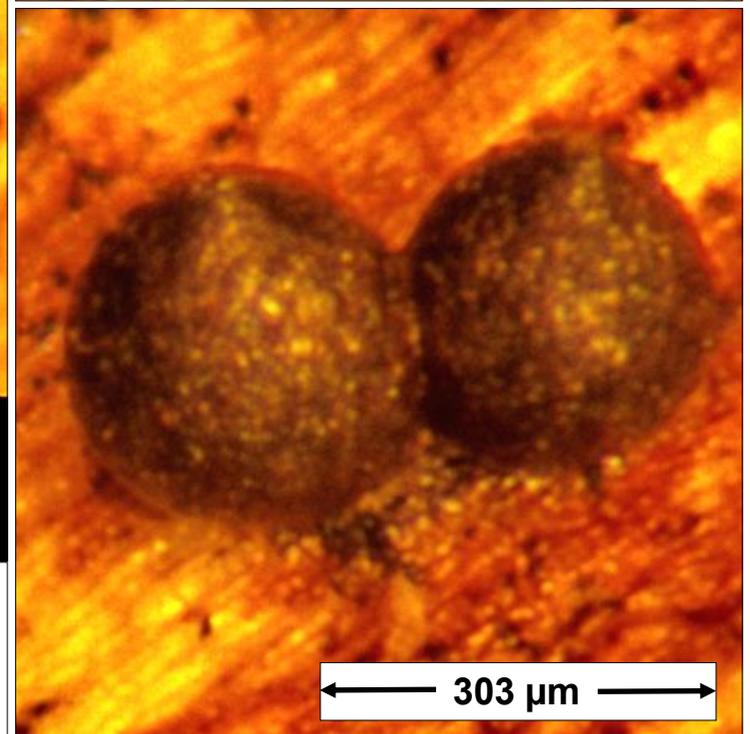
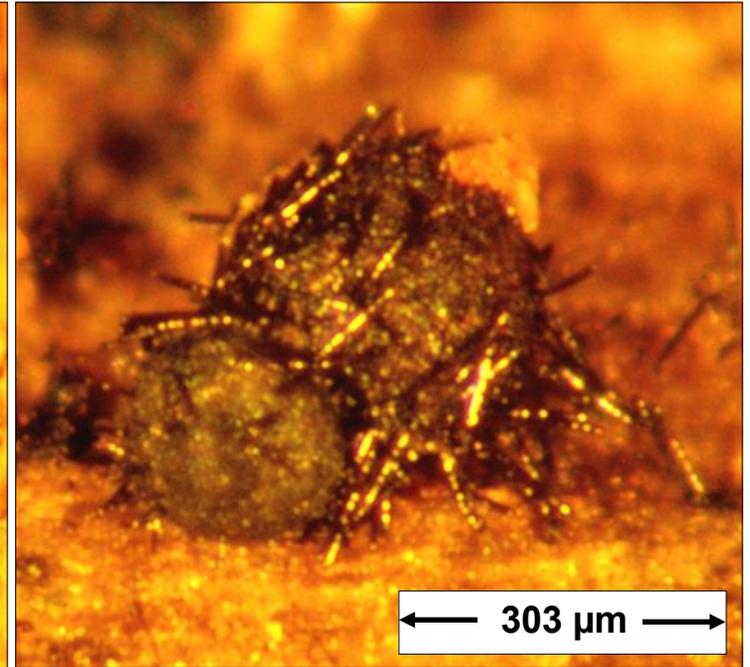
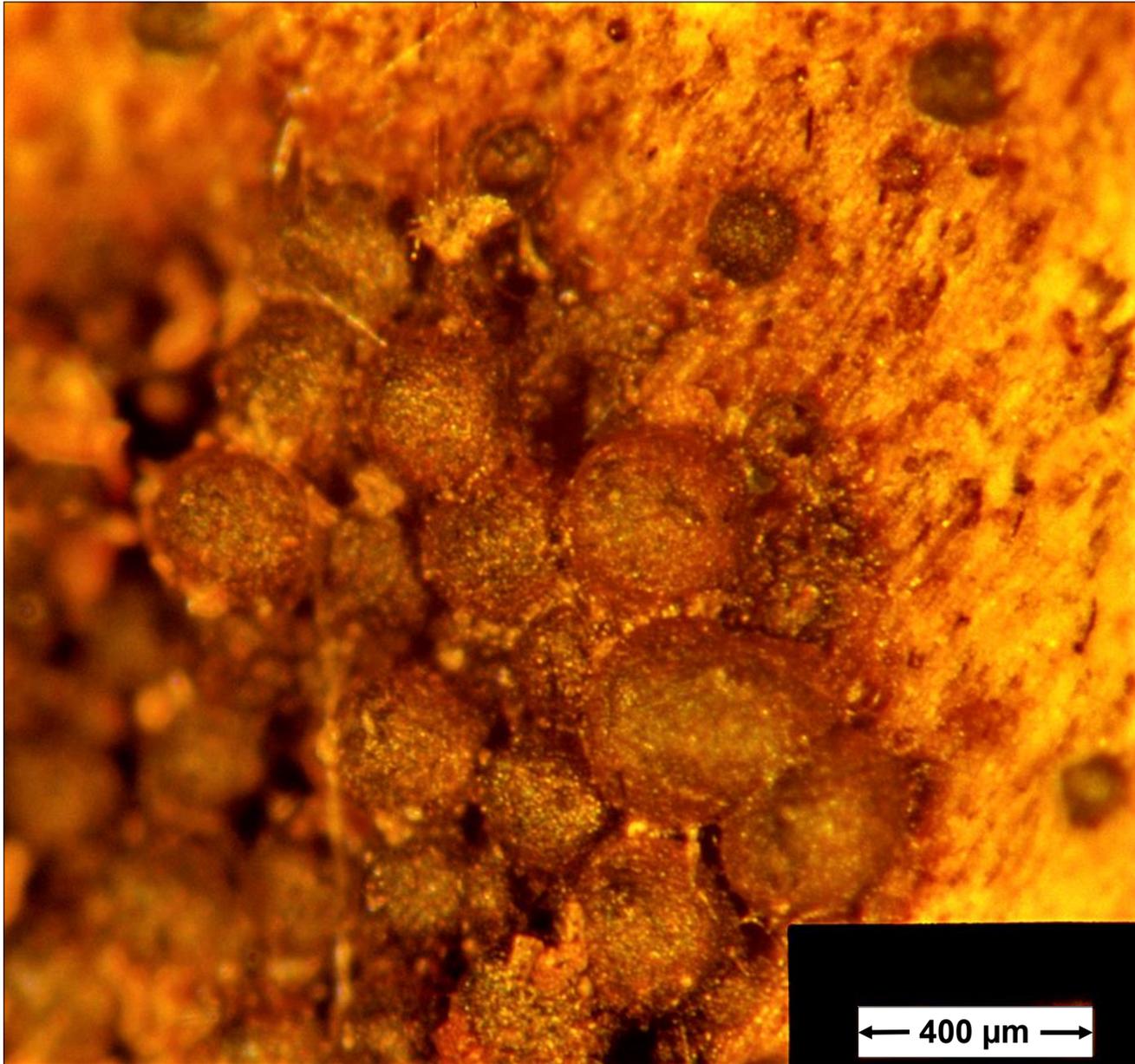
Pyrenomyces, Splaeriosora, Zignoëlla.

967

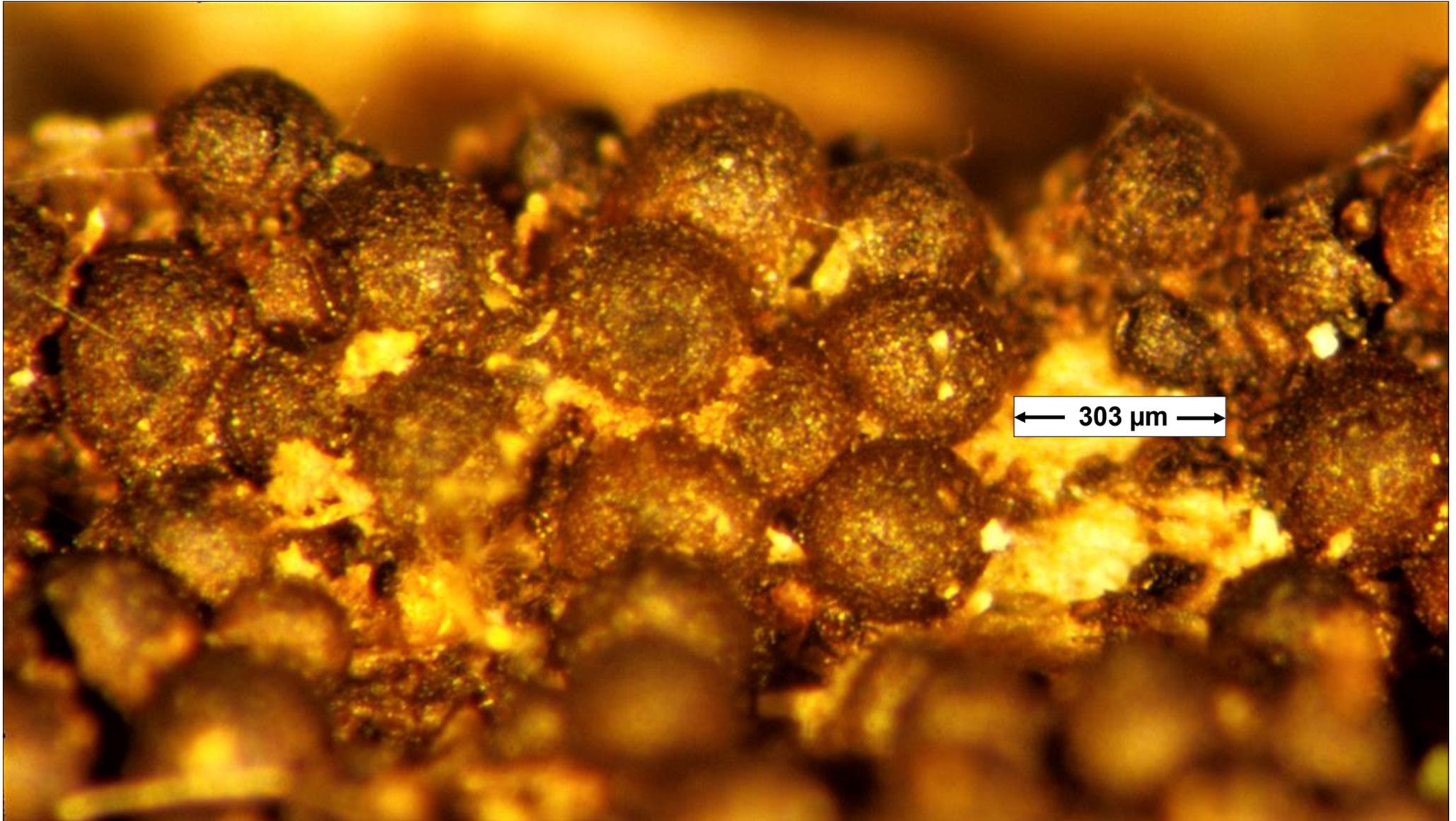
12. *Zignoëlla gallica* Sacc. et Flag. in Sacc., *Notae Myc.* XX, *Nuovo Giorn. bot. it.* 23, 1916, p. 222. — Perithecia sparsis, basi appressata ligno adnatis, superficialibus, globoso-hemisphaericis, brevissime conico-papillatis, subcarbonaceis, nigris, 250 μ diam. contextu denso et minute celluloso, fuligineo; ascis cylindricis, apice obtusatis, 140-160 \times 7,5-8,5, brevissime tenuato-stipitatis, filiformi-paraphysatis, 6-8-sporis; sporidiis oblique monoatichis, oblongo-fusoides, saepius leviter curvata, utriusque plus v. minus rotundatis, 3-5-septatis, 6-guttulatis, ad septum medium non v. vix contractis, 19-20 \times 5,7-6, hyalinis.



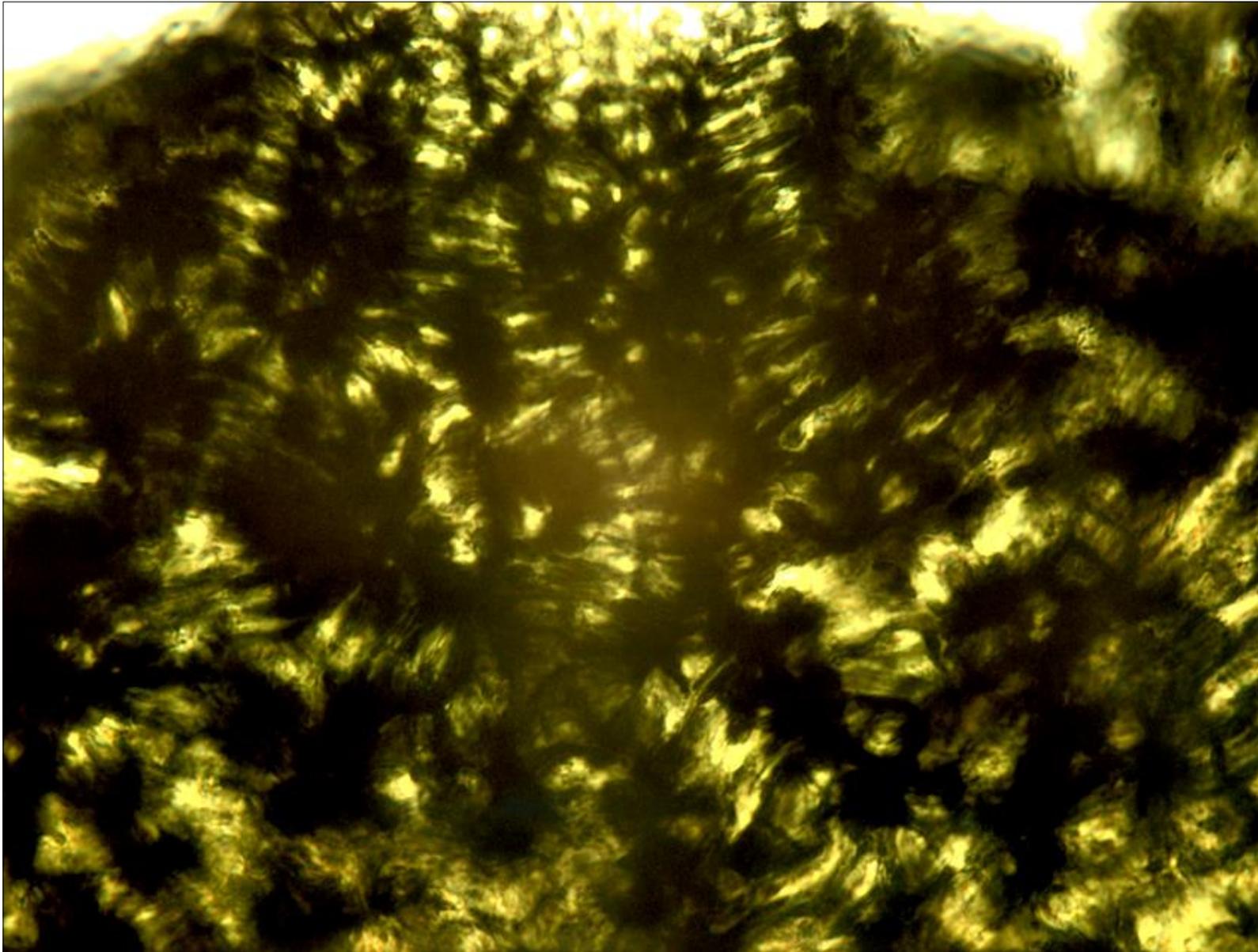
AEB 1042. In situ view of fresh perithecia on the dead, decorticated, wood substrate. Note the short papillate apices on the globular perithecia.



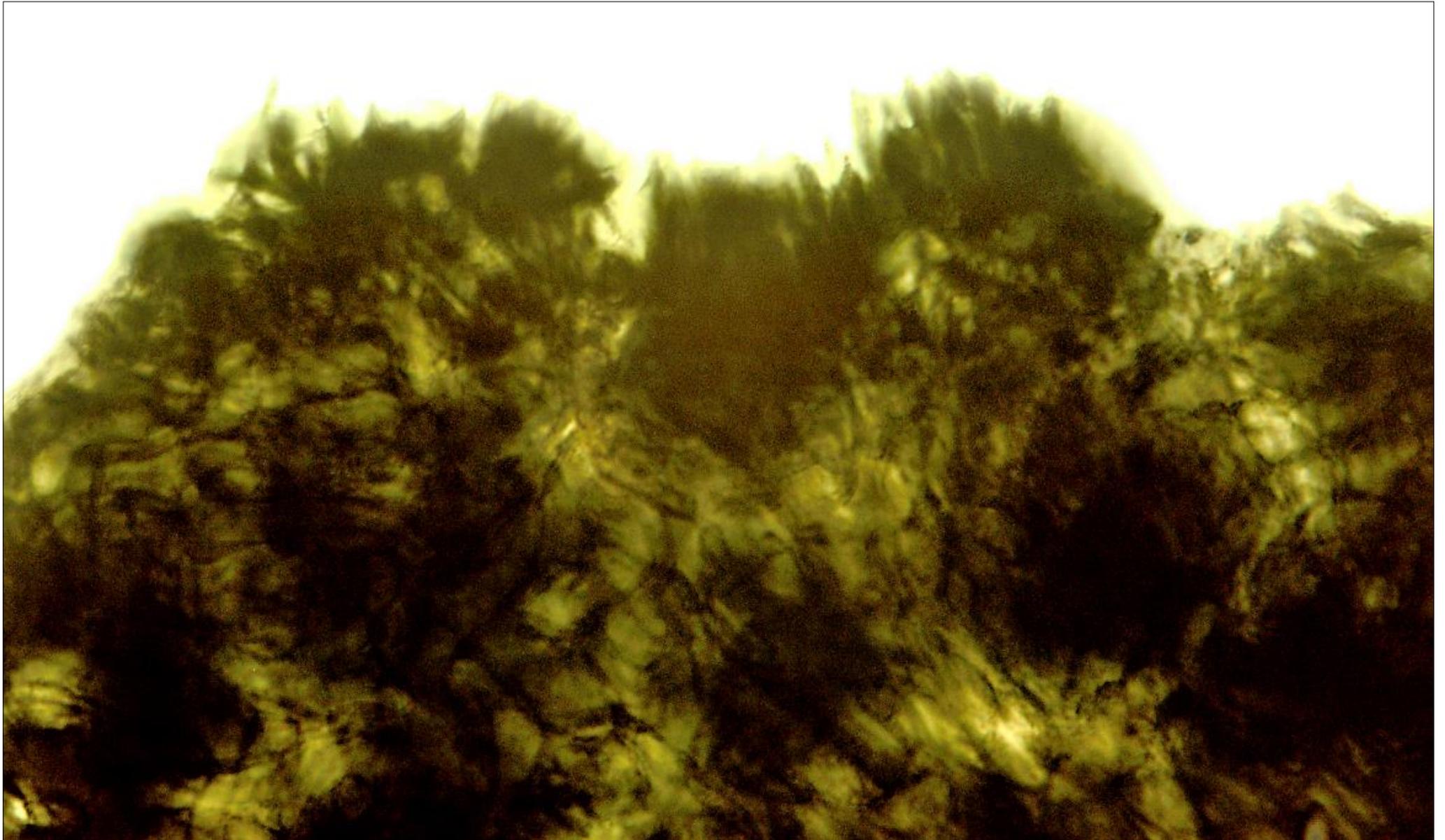
AEB 1042. In situ view of fresh perithecia on the dead, decorticated, wood substrate. Note the short papillate apices on the globular perithecia (especially in the lower right photo). The peridia (left photo) are slightly reddish and numerous *Sporidesmium* conidia are seen on and near the perithecia in the upper right photo.



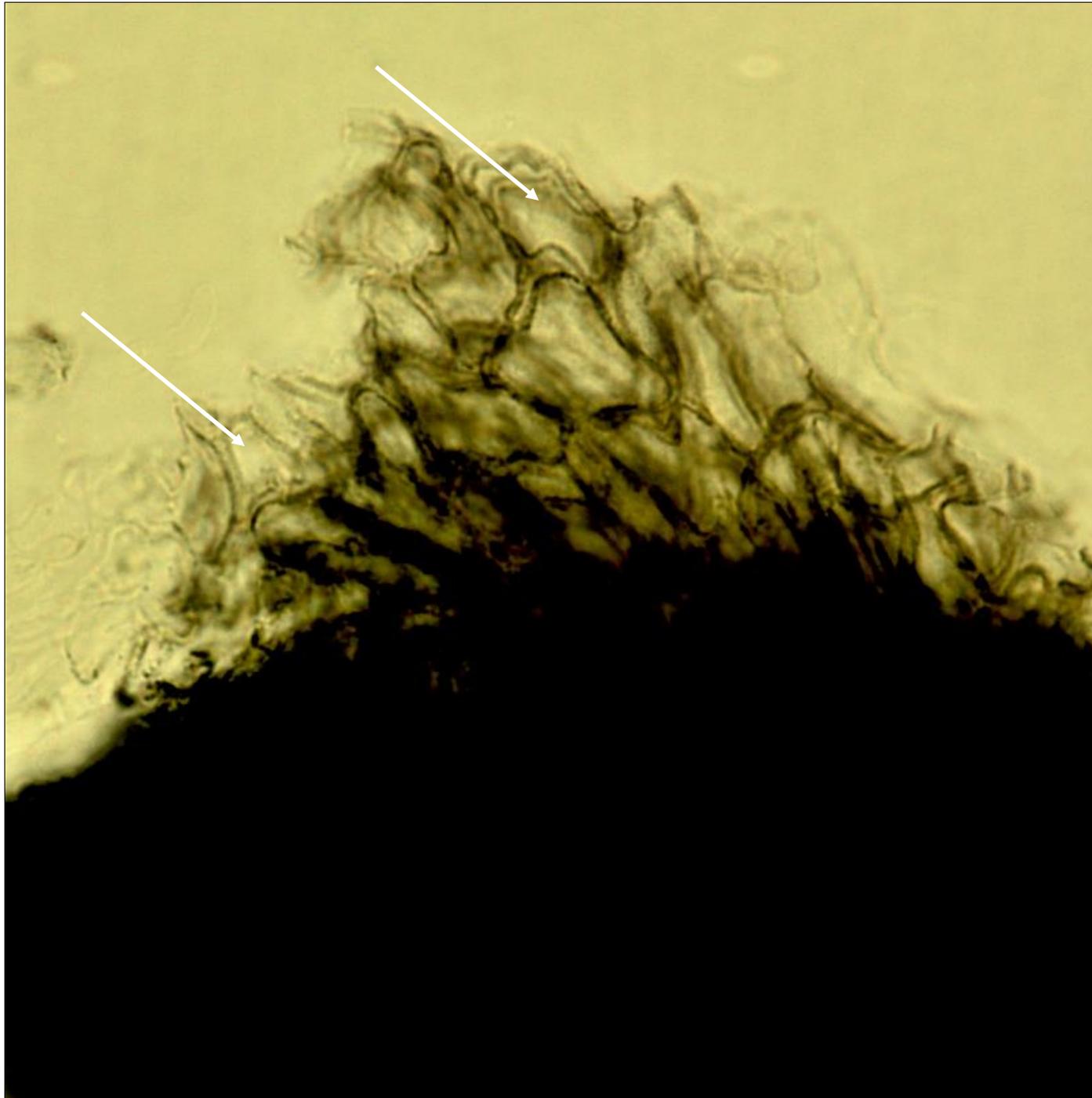
AEB 1042. In situ view of fresh perithecia on the dead, decorticated, wood substrate. Note the regular, small, raised, black bumps on the venter peridia. These, I believe, represent the dark areas in the aerolate views seen on the next 2 pages of this pdf.



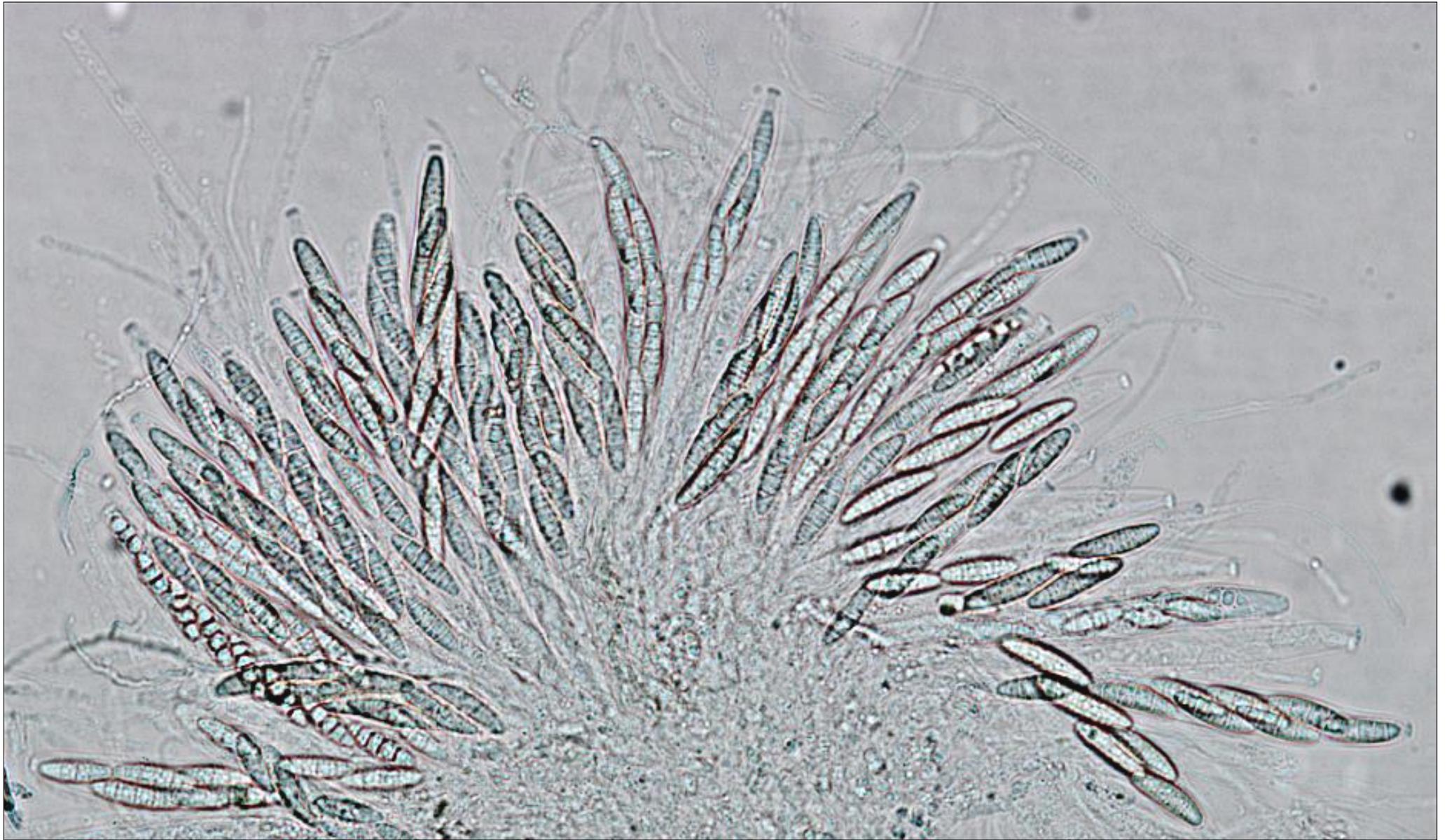
AEB 1042. Surface view of the outermost over-exposed peridium in the area of the papillate apex (seen uppermost). Note cells extending downward from the apex like close-set, ladder-like rungs (actually closely-spaced small areolate areas) with these areas duplicated around the ostiole extending downwards. As they reach the venter they become larger and more-obviously areolate – each areolate area with a lighter 'spacer' area between it and adjacent areolate areas. 100X objective, water + iodine mount, brightfield.



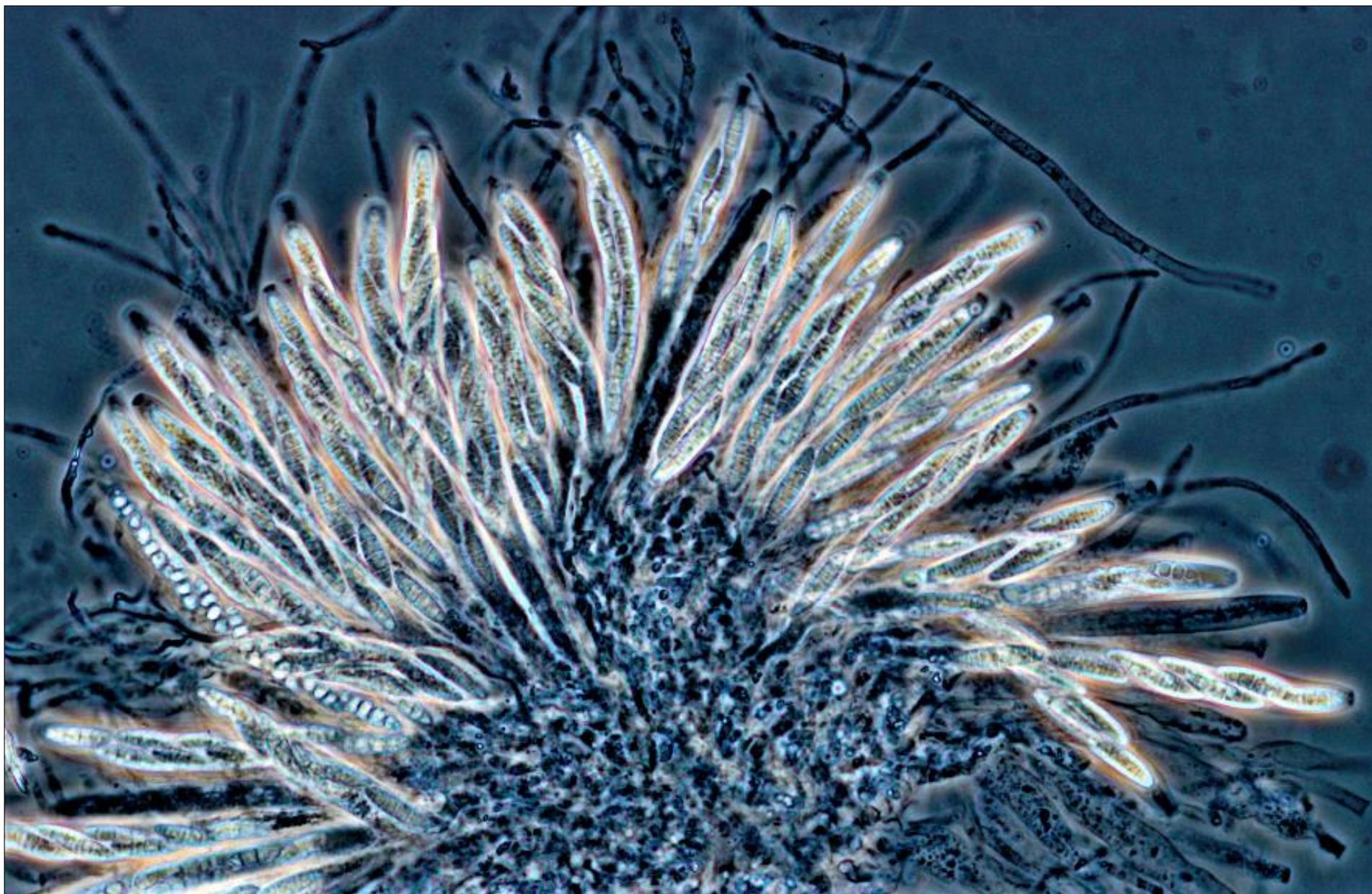
AEB 1042. Here shown focused on an overexposed venter peridium area slightly below the surface aerolate patterns seen on the previous page (same slide). These are the dark unfocused areas while the lower lighter areas reveal more lightly pigmented cells of the inner peridium. See the next page for this innermost epidermioid tissue.



AEB 1042. Focus on the innermost epidermoid tissue layer of the peridium (another less-overexposed area of the same slide mount on the previous 2 pages). Here (arrowed) the outer darker portion has been torn away, allowing a view of this innermost layer. In other views this inner layer appeared somewhere between a *textura angularis* and a *textura epidermoidea*.



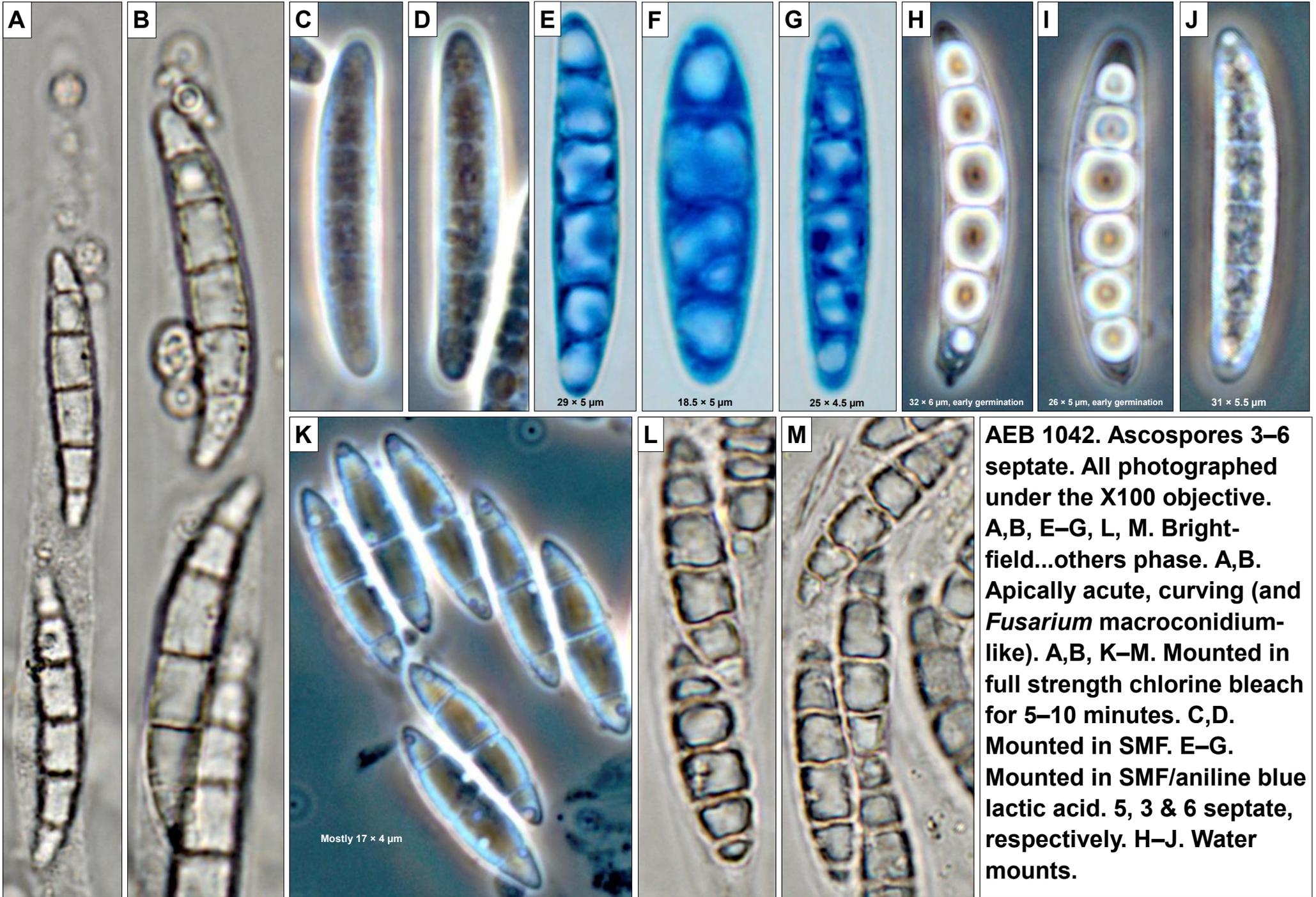
**AEB 1042. Hymenial spread of paraphyses, asci and ascospores (mostly 5-septate).
Shear's mounting fluid slide mount under the X40 objective using brightfield microscopy.**



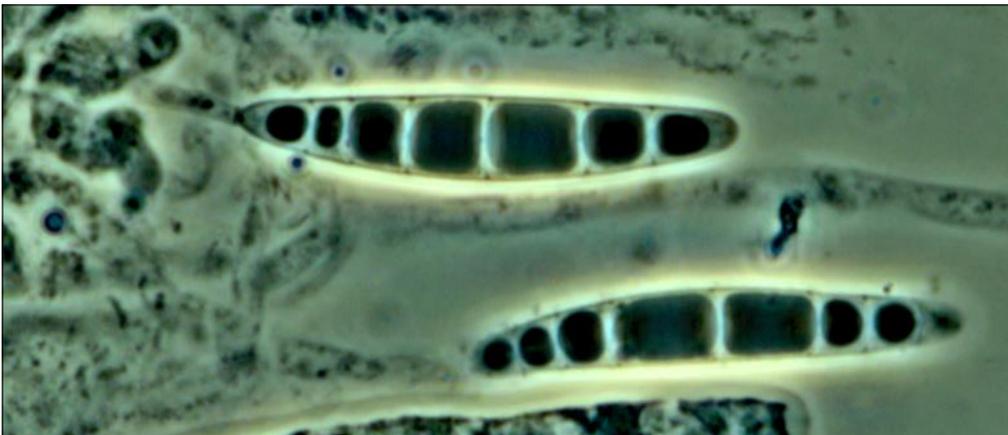
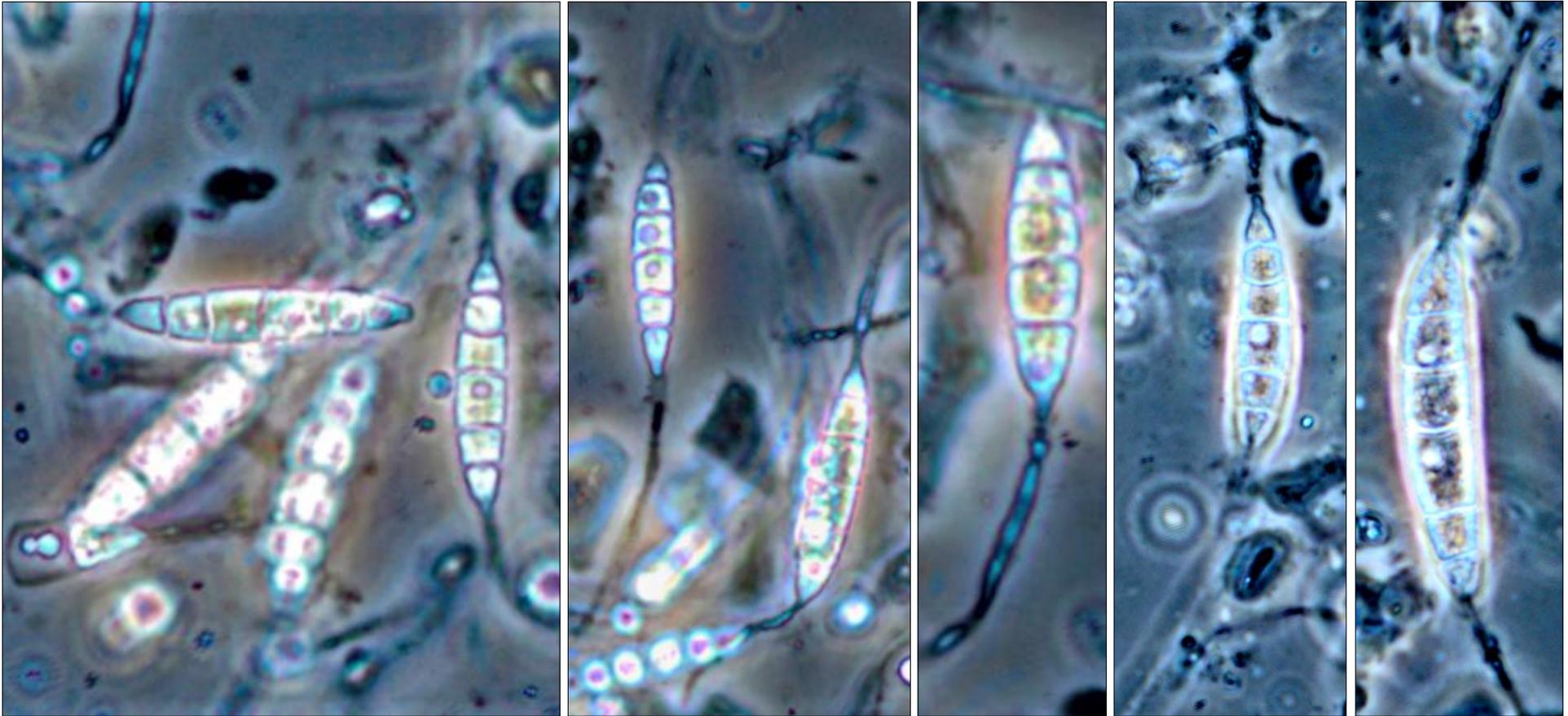
AEB 1042. Hymenial spread of paraphyses, asci and ascospores (mostly 5-septate). Shear's mounting fluid slide mount under the X40 objective using phase microscopy. Same field of view as on the previous page.



AEB 1042. Paraphyses, asci and ascospores. Emphasis on the central ascus which is just beginning to break up (at its upper right) and release its spores. Note that its 8 spores are clearly transversely 4–5 septate. They measure $22\text{--}27 \times 6\text{--}7 \mu\text{m}$. Note also the small ascus apical ring (arrowed). Ascospores in the less-mature asci are slightly smaller, more vacuolate and with 3–5 often less obvious septa. SMF mount, X100 objective and phase microscopy.



AEB 1042. Ascospores 3–6 septate. All photographed under the X100 objective. A,B, E–G, L, M. Bright-field...others phase. A,B. Apically acute, curving (and *Fusarium* macroconidium-like). A,B, K–M. Mounted in full strength chlorine bleach for 5–10 minutes. C,D. Mounted in SMF. E–G. Mounted in SMF/aniline blue lactic acid. 5, 3 & 6 septate, respectively. H–J. Water mounts.



AEB 1042. Top row photos. Germinating ascospores from the centrum cavity of an older perithecium, 4–5 septate ascospores and most with a single germ tube from each end. All mounted in full strength chlorine bleach for 5–10 minutes and photographed using phase microscopy. Left 3 photos under the X40 objective. Right 2 under the X100 objective. Lower left photo. Two germinating ascospores, both with a germ tube at only one end. Upper spore 6-septate $33 \times 5.5 \mu\text{m}$; bottom spore 7-septate $34 \times 5 \mu\text{m}$. SMF mount, X100 objective, phase microscopy.