

***Sclerococcum stygium* (Berk. & M.A. Curtis) Olariaga, Teres, J.M. Martín, M. Prieto & Baral ... page 904 in “Olariaga, I., Teres, J., Martín, J. et al. 2019. *Pseudosclerococcum golindoi* gen. et sp. nov., a new taxon with apothecial ascomata and a *Chalara*-like anamorph within the Sclerococcales (Eurotiomycetes). *Mycol Progress* 18, 895–905. <https://doi.org/10.1007/s11557-019-01500-7> ”**

Quoting the authors in their 2019 publication abstract: “Based on ascal characters and interpretation of the phylogenetic analyses, 14 names assigned to saprotrophic species, previously placed in *Dactylospora*, are combined in *Sclerococcum*.”

AEB 1342 (= PDD 117259) – a good fit to the most frequently collected synonym, *Dactylospora stygia* (Berk. & M.A. Curtis) Hafellner, Beih. Nova Hedwigia 62: 137 (1979). See published descriptions of *D. stygia* on the following pages.

Collection site: Lower Hutt, Kelson, residential bush area

Substrate: firm dead much-decayed decorticated wood

Collection date: 24 September 2021; **Collector & identifier:** Dan Mahoney

Voucher material: dried herbarium material [AEB 1342 (= PDD 117259)] accompanied by several semi-permanent slides; Dan’s in-situ photos of black apothecial ascomata and his compound-scope photos from microscope slide mounts; Dan’s comments and his illustration descriptions.

Dan’s comments: This wide-spread species has many synonyms (see *Sclerococcum stygium* online at Index Fungorum). However, only one record of *Sclerococcum* sp. (PDD 105454), earlier identified as *Rhizodiscina lignyota* but whose sequencing suggested otherwise, is presently recorded on New Zealand’s Landcare Research PDD website. Another at Landcare, by myself as PDD 92324 – *Karschia lignyota* (Fr.) Sacc., has now been re-examined and re-identified as *Sclerococcum stygium*. Hafellner treated both non-lichenicolous species and lichenicolous species of *Dactylospora* in his major 1979 treatise. No algae are associated with his non-lichenicolous species *Dactylospora stygia* var. *stygia* (now *Sclerococcum stygium*) although most of his *Dactylospora* species have algal symbionts. Much remains to be done taxonomically among the lichenicolous and non-lichenicolous *Dactylospora* species and their relatives.

Dan’s descriptive comments for AEB 1342: These are provided in the photo legends that accompany his photos on the following pages. The photos of *S. stygium* will, hopefully, help document its morphological features in New Zealand.

Hosoya T. 2005. Enumeration of remarkable Japanese Discomycetes (2): Two Inoperculate Discomycetes rarely known in Japan. *Bull. Natn. Sci. Mus., Tokyo, Ser. B*, 31(2): 49–55. Portions of pp. 52–55 are reproduced below and on the next page.

Dactylospora stygia var. *stygia* Figs. 3–4 (Figs. on the next page)

Apothecia scattered, superficial, flat to patellate when fresh, 1–1.5 mm in diameter, carbonaceous, with slightly raised margin, widely attached to the substrate, seated on intricate hyphae; external morphology little changed when dried. **Epithecium** 3–5 μ m thick, composed of hyaline to brown amorphous matter, dusty to resinous. **Ectal excipulum** textura prismatica to textura angularis, composed of rectangular cells 10–20 \times 5–8 μ m with brown walls 1–1.5 μ m thick; radiating toward the surface in dichotomous manner, cells arranged almost perpendicular to the external surface, ending up to cells with a rounded apex. **Medullary excipulum** textura intricata, running almost horizontally, embedded in gelatinous matrix, composed of intricate, brown hyphae of 1–2 μ m thick. **Ascospores** (15–)17–20 \times 4.5–5 (18.4 \pm 1.6 \times 5.0 \pm 0.4 μ m on average \pm SD, n=20), ellipsoid to narrowly ellipsoid, straight to slightly curved, one-septate at the middle, usually not constricted, sometimes constricted at the septum; hyaline when young, becoming brown when mature; inconspicuously striate, biseriate to irregularly seriate in the asci, two to multi-guttulate. **Asci** 75–80 \times 12–15 μ m, clavate, thick walled, thinner walled at the side, becoming thicker at the apex, not easily disrupted; apex MLZ+, with or without KOH pretreatment, stained in thick band, deeply stained around the top, reaction becoming weaker away from the apex. MLZ reaction in the asci abundant, whole the ascal wall showing strong blueing when fresh or after one year after collection in dried materials, becoming weaker and diffused. **Paraphyses** filiform, 1.5–2.0 μ m thick, multi-septate toward the enlarged apex to 4 μ m, nearly as long as the asci, sometimes extending beyond the asci to form epithecium, hyaline; amorphous brown matter appearing scurfy to resinous attached to the apex, embedded in a gelatinous matrix with asci.

Specimens examined. HONSHU: TNS-F-11261, Japan Mushroom Park, Hirai, Kiryu, Gunma Pref., on decaying wood, 23–III–2002. col. T. Hosoya (THX-16).

Known distribution. Europe, Asia, Africa, North and South America (for countries, see Hafellner, 1979).

Notes. The present fungus is classified to Dactylosporaceae, Lecanorales that include both lichenized and non-lichenized fungi. *Dactylospora stygia* var. *stygia* is a non-lichenized fungus. Although the striation in the ascospore surface was not profound in the present species, Hafellner (1979) described a variety, *Dactylospora stygia* (Berk. & Curt.) Hafellner var. *striata* (Hafellner, 1979), for specimens with profound ascospore striation. The difference between var. *striata* and the type variety should be examined carefully.

The MLZ reaction of this fungus is remarkable. In the fresh specimens, the whole hymenium shows the blueing reaction, and seemingly keeps its reactive nature for at least one year in dried material. However, the reaction became weaker and not as conspicuous as the materials just after collection when examined three years later.

Dactylospora stygia var. *stygia* is widespread (Hafellner, 1979). However, only 2 specimens collected in Fukuoka and Tochigi in 1957 and 1940, respectively, both preserved in CUP were known from Japan previously. I have collected other specimens of *Dactylospora*, apparently different from *D. stygia* var. *stygia*, but further examination is required for their identification.

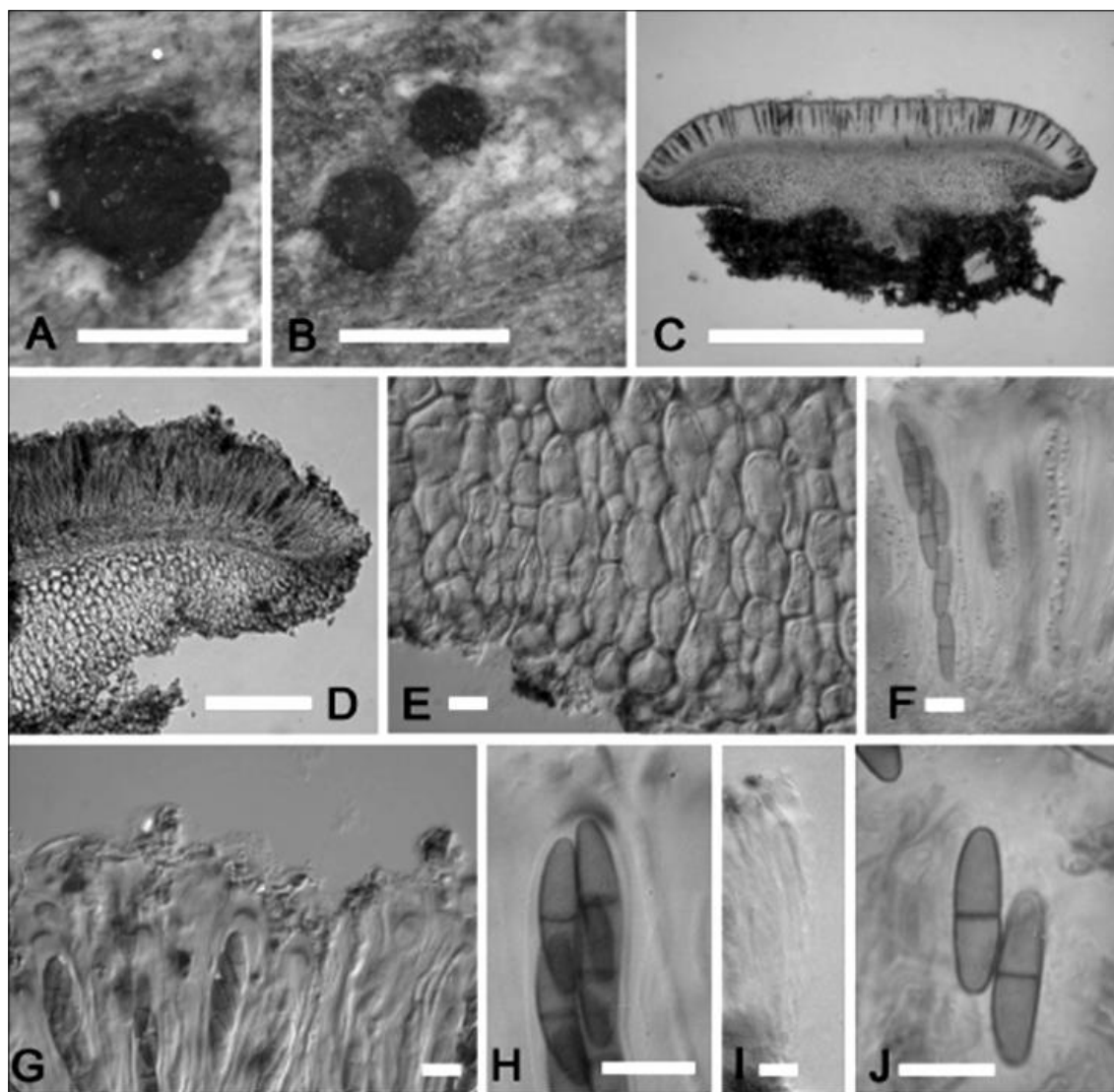


Fig. 3. *Dactylospora stygia* var. *stygia* (TNS-F-11261). C, D, G and H in MLZ. E, F, and I in CB-LA. A, B. Dried apothecia. C. Vertical section of the apothecium. Note the apothecium widely attached to the substrate. D. Vertical section of the dried apothecium kept in the herbarium for one year, mounted in MLZ. Note the profound MLZ reaction in the hymenium. E. Close up of the ectal excipulum in vertical section. F. Asci with mature and immature ascospores. Note that the ascospores lose conspicuous gutules through maturation. G. Close up of the apical portion of the hymenium in MLZ. Note MLZ reaction. H. Close up of the ascial apex in MLZ mount, showing the strong blueing reaction. I. Close up of the paraphyses apex. J. Ascospores. Scales. A, B, 1 mm; C, 500 μ m; D, 100 μ m; E–J, 10 μ m.

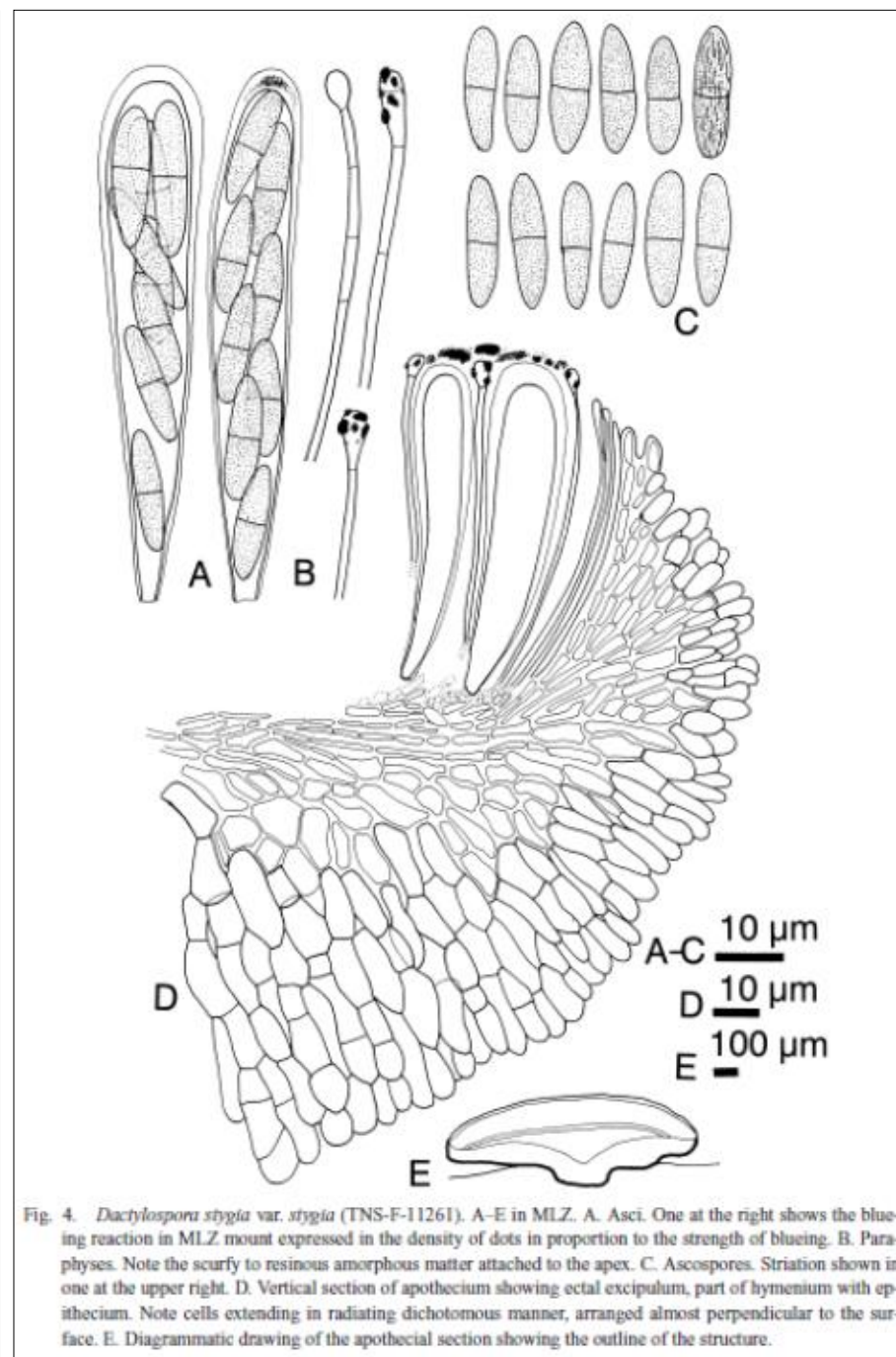


Fig. 4. *Dactylospora stygia* var. *stygia* (TNS-F-11261). A–E in MLZ. A. Asci. One at the right shows the blueing reaction in MLZ mount expressed in the density of dots in proportion to the strength of blueing. B. Paraphyses. Note the scurfy to resinous amorphous matter attached to the apex. C. Ascospores. Striation shown in one at the upper right. D. Vertical section of apothecium showing ectal excipulum, part of hymenium with epithecium. Note cells extending in radiating dichotomous manner, arranged almost perpendicular to the surface. E. Diagrammatic drawing of the apothecial section showing the outline of the structure.

[Dactylospora stygia](https://fungi.myspecies.info/all-fungi/dactylospora-s...) - Fungi of Great Britain and Ireland

[https://fungi.myspecies.info > all-fungi > dactylospora-s...](https://fungi.myspecies.info/all-fungi/dactylospora-s...)

Paul Cannon description based partly on Hosoya (2005)

Dactylospora stygia General description: **Anamorph:** not known.

Teleomorph: stromata absent. **Ascomata** apothecia, 1-1.5 (-2) mm diam., scattered or clustered, superficial, discoid, leathery with a slightly raised margin that becomes excluded, widely attached to the substrate, seated on a mat of hyphae. **Epithecium** composed of hyaline to brown amorphous matter surrounding the paraphysis tips. **Ectal excipulum** composed of brown thick-walled rectangular cells 10–20 x 5–8 μm in size, almost perpendicular to the external surface, the outer layer with a rounded apex. **Medullary excipulum** composed of brown intertwined hyphal tissue running almost horizontally, embedded in a gelatinous matrix. **Interascal tissue** composed of filiform paraphyses 1.5–2 μm diam., septate toward the enlarged apex (to ca 4 μm diam.), extending beyond the asci to form the epithecium, embedded in a gelatinous matrix. **Asci** 55–75 x 12–15 μm , clavate, thick-walled, the entire wall staining blue in iodine (more strongly so towards the apex). **Ascospores** arranged biserially, 15–19 x 4–5 μm , narrowly ellipsoidal to fusiform-ellipsoidal, with a \pm median septum, usually hardly constricted, becoming olivaceous brown, inconspicuously striate, each cell often two-guttulate.

Conservation status: Not formally assessed. The species has only 20 FRDBI records (accessed Jan 2017), but is likely to be more widespread than the records suggest. It should presumably be assessed as Data Deficient.

Associations: On rotten wood, including Fraxinus, Populus, Quercus, Salix and Ulmus, with one record on Rubus stems.

Distribution: Most records are from western Britain, including SW England, S Wales and the western and northern Highlands. There are recent records from Surrey and inner London.

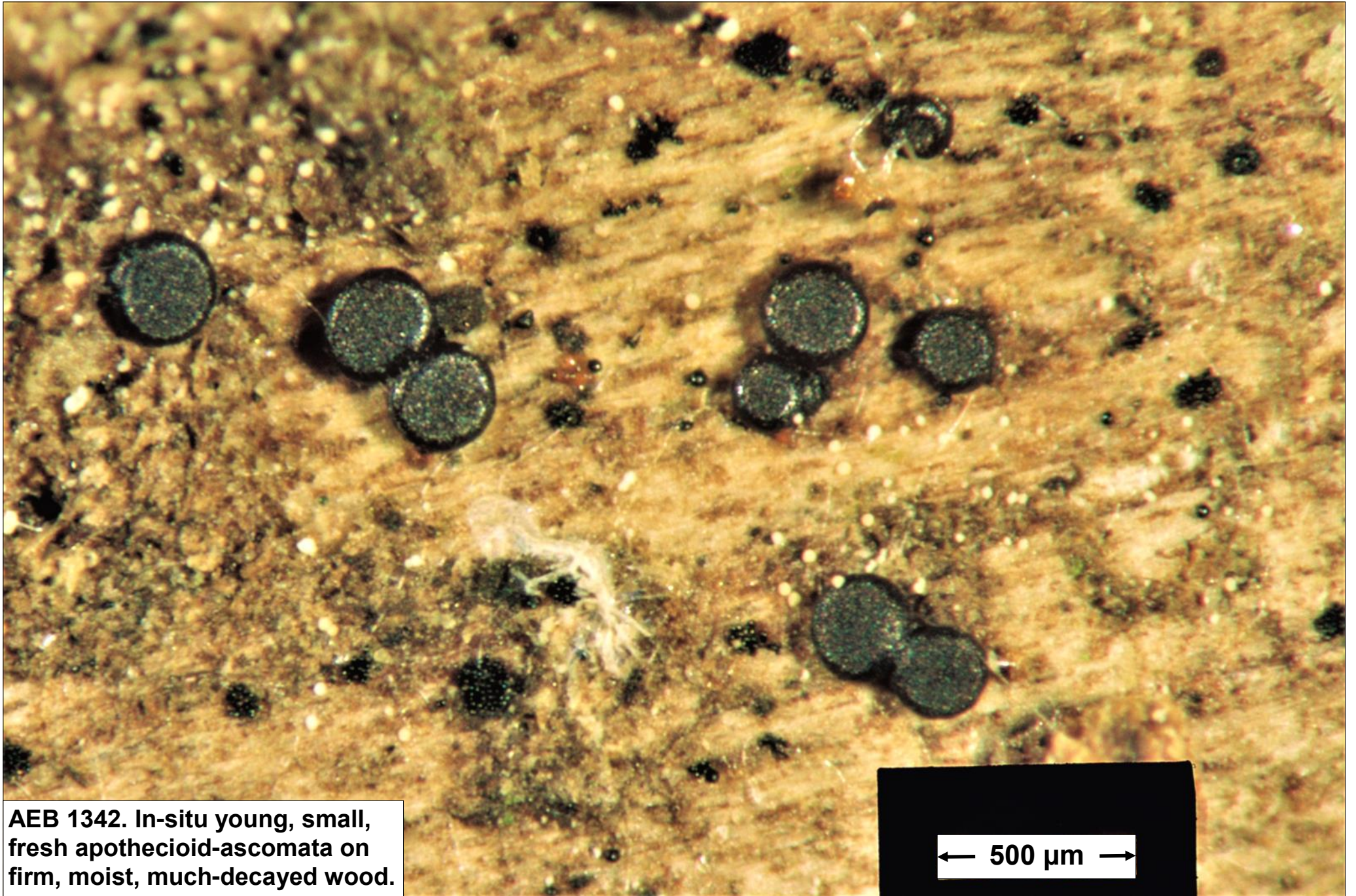
Ecology: The species does not appear to be lichenized, though the apothecia are frequently surrounded by an algal film on the substratum surface.



Ascospores illustration A10927
Note the longitudinal striations.



Apothecioid ascomata
illustration A10927



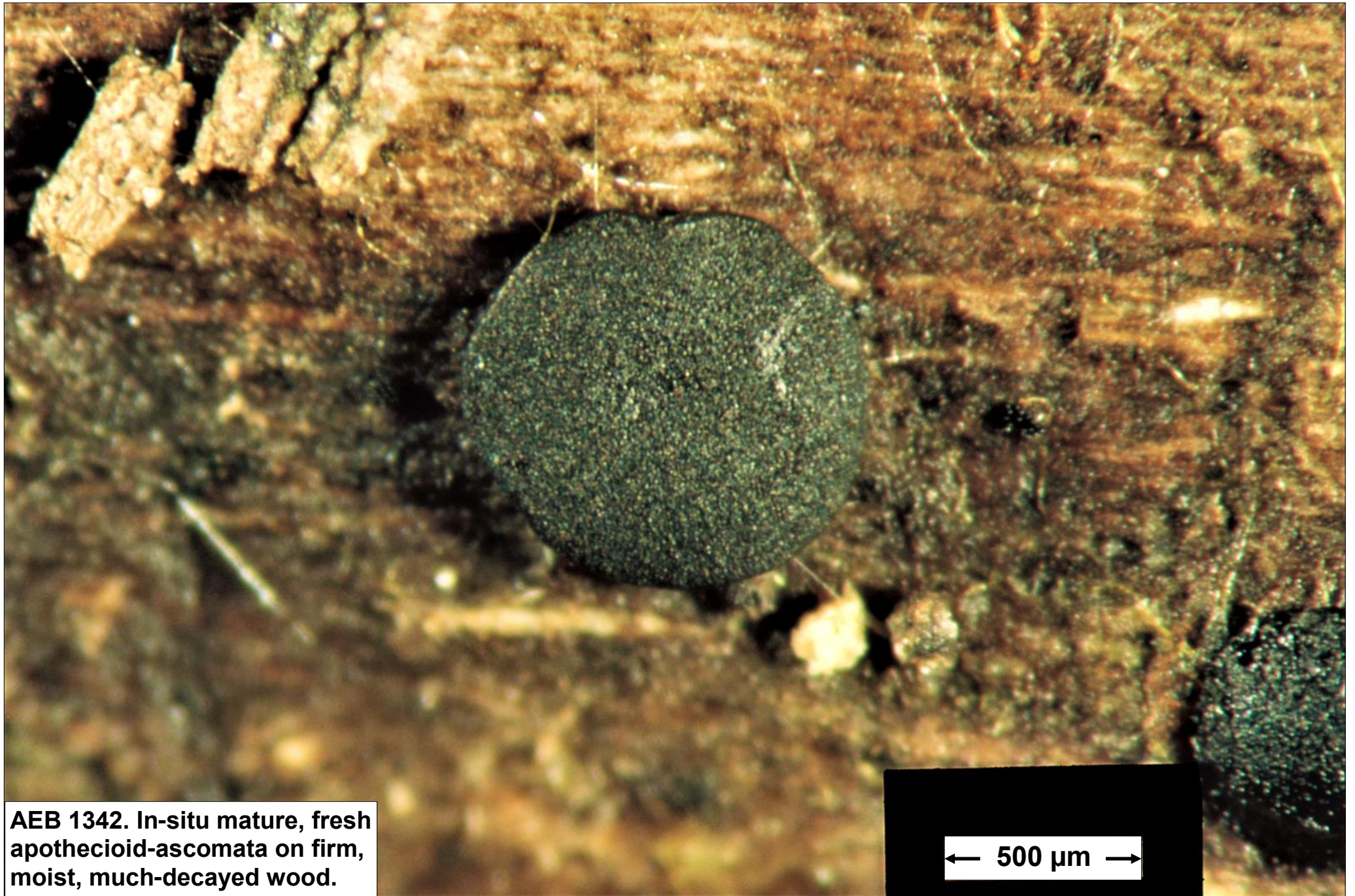
AEB 1342. In-situ young, small, fresh apothecioid-ascomata on firm, moist, much-decayed wood.

← 500 μm →



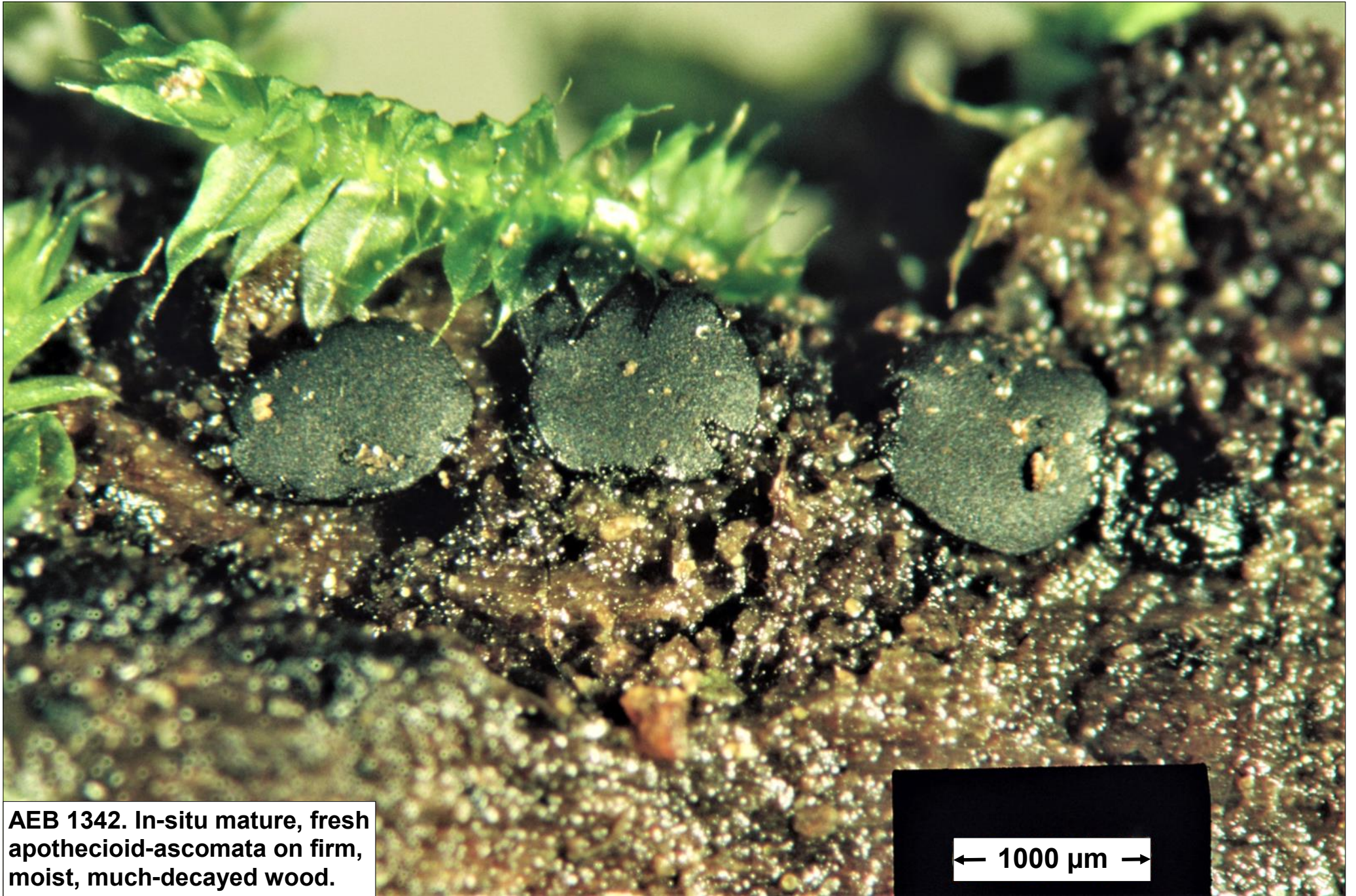
AEB 1342. In-situ young, small, fresh apothecioid-ascomata on firm, moist, much-decayed wood.

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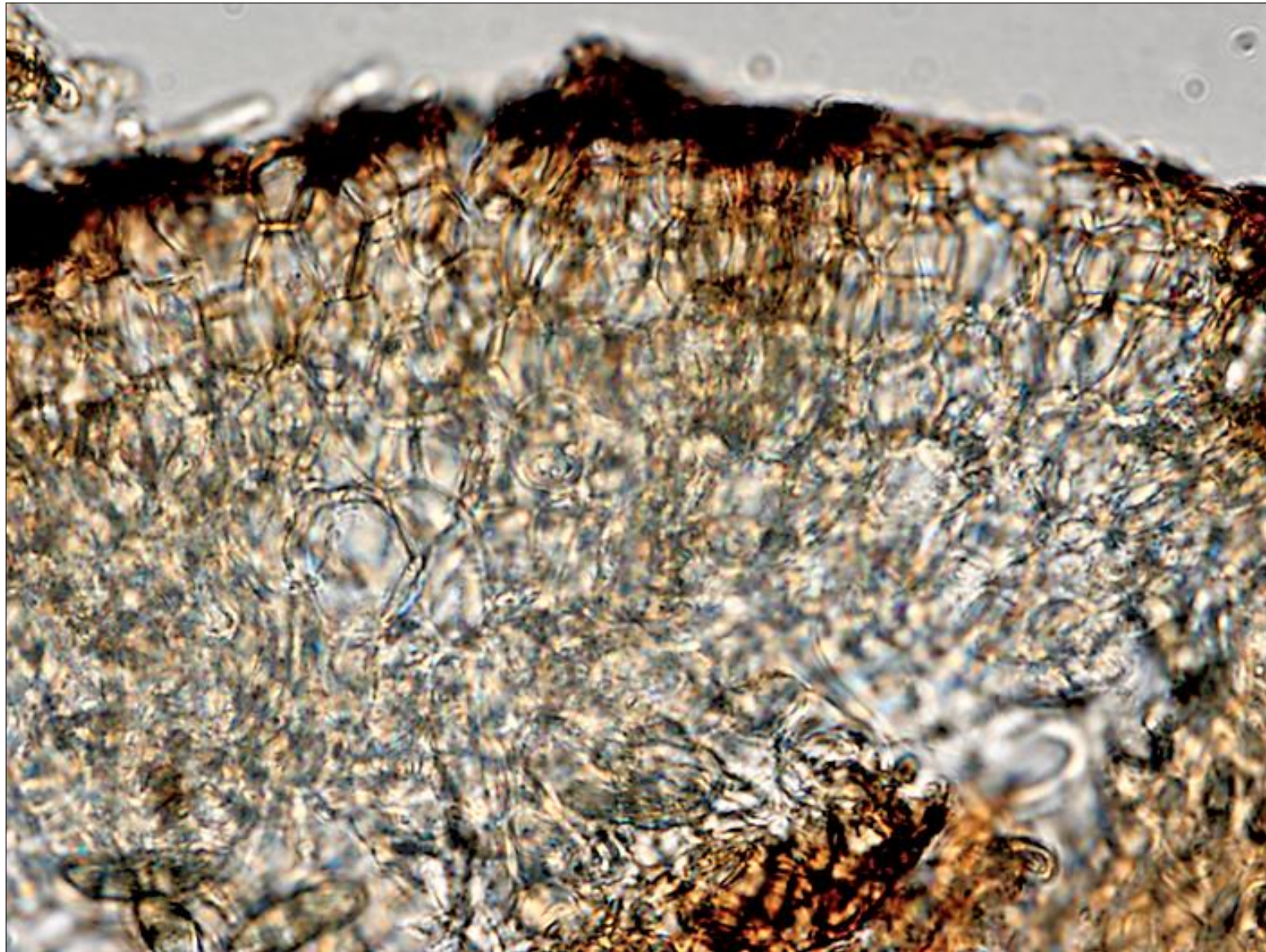
AEB 1342. In-situ mature, fresh apothecioid-ascomata on firm, moist, much-decayed wood.

← 500 μm →

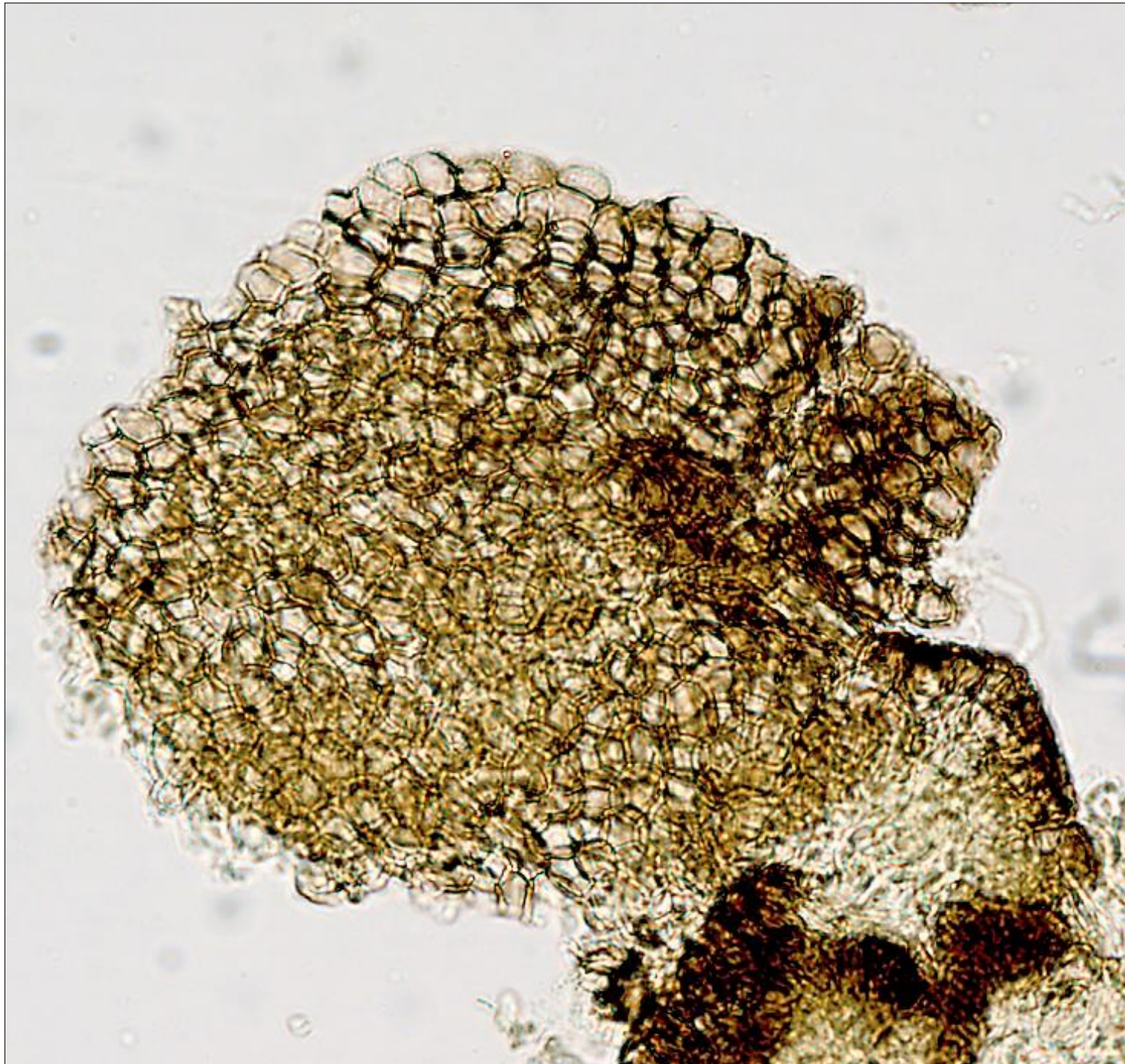


AEB 1342. In-situ mature, fresh apothecioid-ascomata on firm, moist, much-decayed wood.

← 1000 μm →



AEB 1342. Free-hand razor section of fresh ectal excipulum in water mount using X100 objective and brightfield microscopy. Hosoya (2005) describes as “textura prismatica to textura angularis, composed of rectangular cells with brown walls; radiating toward the surface in dichotomous manner, cells arranged almost perpendicular to the external surface, ending up in cells with a rounded apex.”



AEB 1342. Free-hand razor horizontal section somewhere between the subhymenial tissue and the receptacle base in a Melzer's reagent mount using the X40 objective and brightfield microscopy. Note the moderately thick-walled cells of the textura angularis.

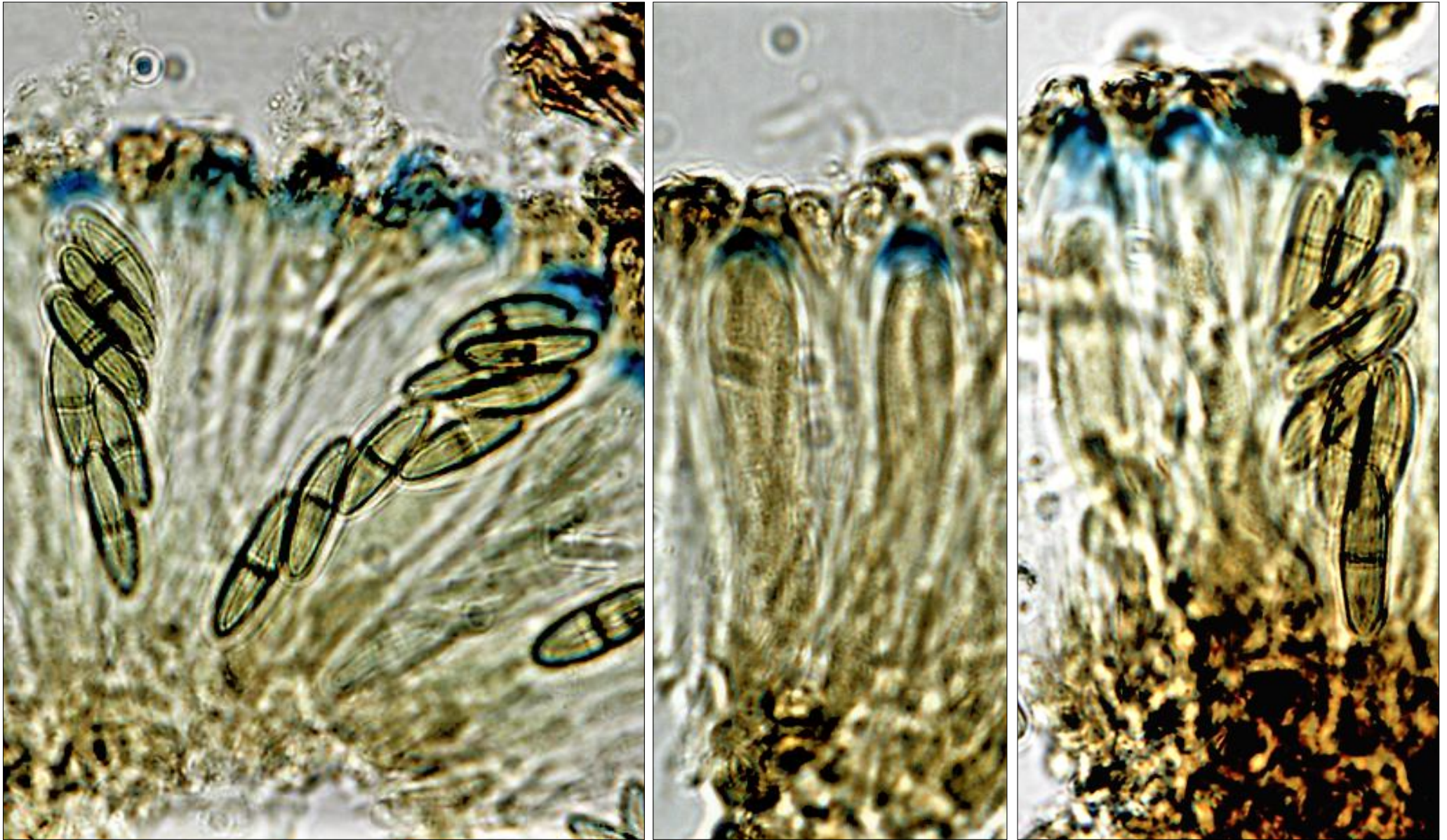


AEB 1342. Hymenial squash from a fresh ascoma in water mount using the X100 objective and brightfield microscopy. Note the 8-spored asci with their narrowly ellipsoid, 2-celled, longitudinally striate ascospores and the interascal paraphyses whose capitate darkly-encrusted apices extend above the asci to form an epithecium.



AEB 1342. Hymenial squash from a fresh ascoma in water mount using the X100 objective and brightfield microscopy. Note the 8-spored asci with their narrowly ellipsoid, 2-celled, longitudinally striate ascospores and the interascal paraphyses whose capitate darkly-encrusted apices extend above the asci to form an epithecium.

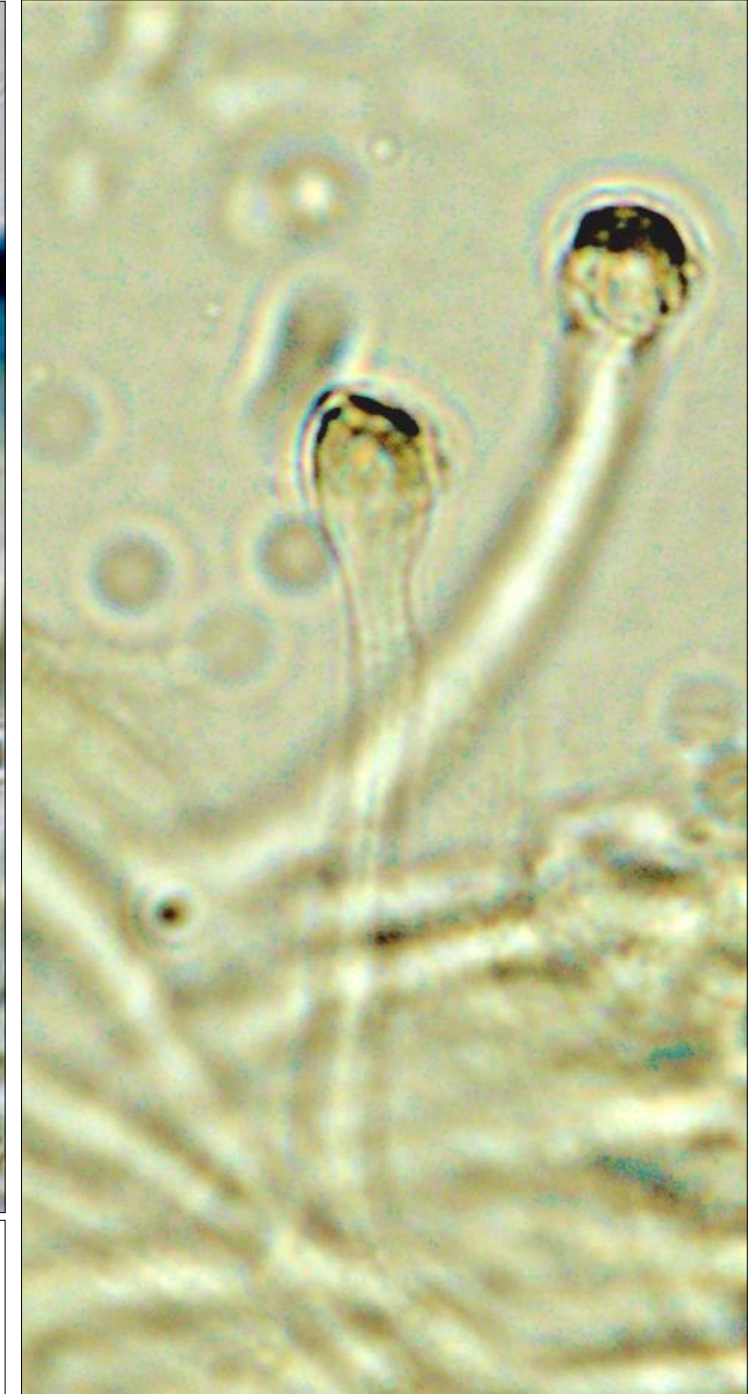
Left photo: Note the irregularly biseriately ascospore arrangement and the septa in the filamentous paraphyses. Right photo: Note the broader ascus and the tetraseriate ascospore arrangement.



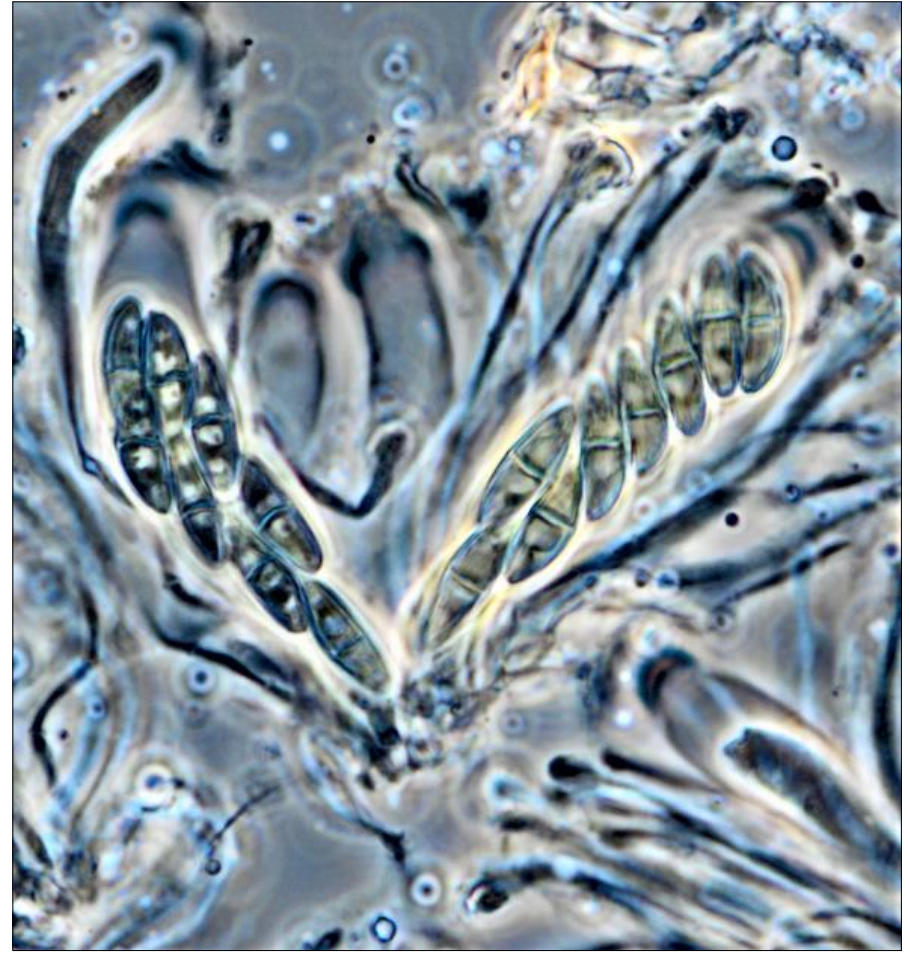
AEB 1342. Hymenial squash from a fresh ascoma in a Melzer's reagent mount using the X100 objective and brightfield microscopy. Note the thick bluing around the apices of the asci.



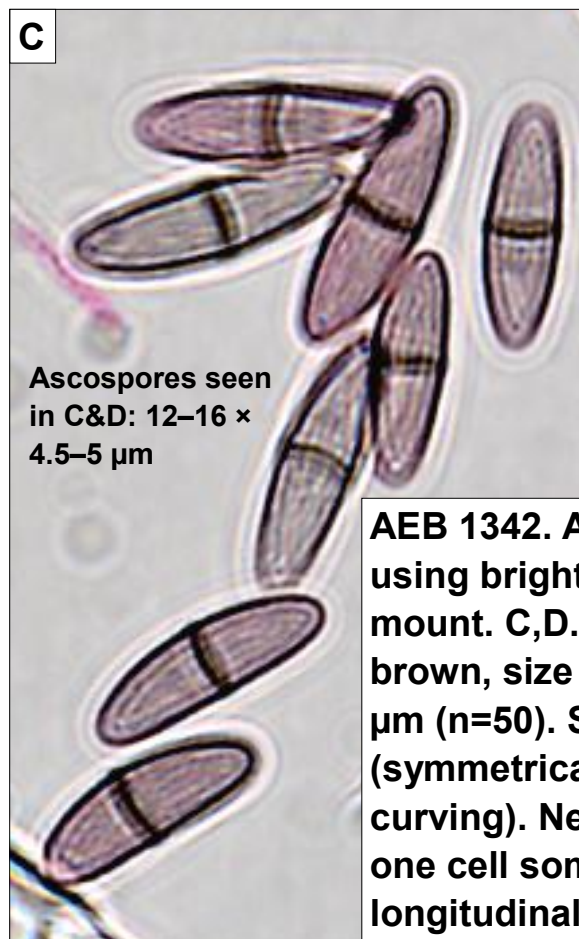
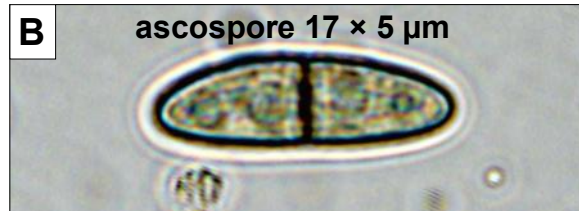
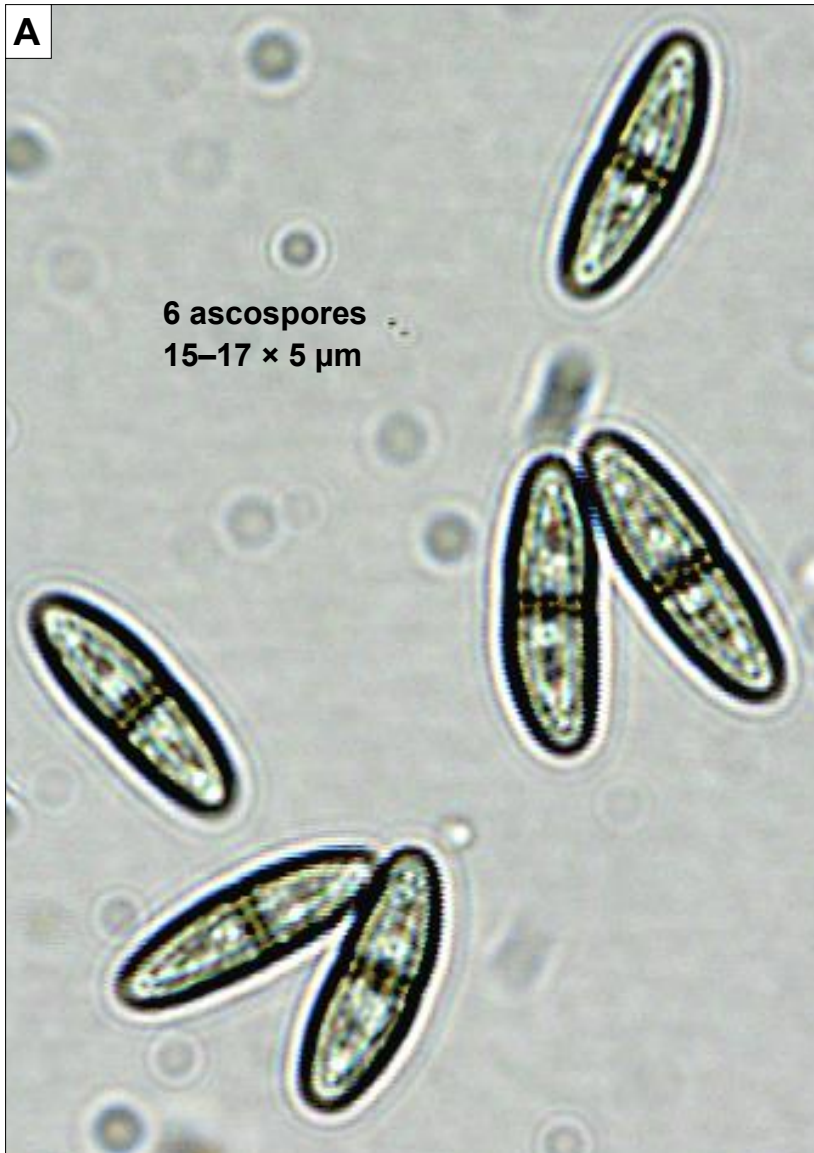
AEB 1342. Hymenial squash from a fresh ascoma in a Melzer's reagent mount using the X100 objective and brightfield microscopy. Note the thick bluing around the apices of the asci.



AEB 1342. Hymenial squash from a fresh ascoma in a Melzer's reagent mount using the X100 objective and brightfield microscopy. Left photo: Note the thick bluing around the apices of the asci. Right photo: Note the paraphyses with capitate darkly-encrusted apices.



AEB 1342. Hymenial squash from a fresh ascoma in a Melzer's reagent mount using the X100 objective. Both photos are the same field of view. Left photo: Brightfield, note the thick bluing around the apices of the asci. Right photo: Phase, note the one (usually two) guttules/cell in the ascospores .



AEB 1342. Ascospores. All X100 objective using brightfield microscopy. A,B. Water mount. C,D. Lacto-Fuchsin mt. Ascospores brown, size overall: (12–)15–18(–20) × 4.5–5 μm (n=50). Shape: narrow ellipsoid-fusoid, (symmetrical to plano-convex or slightly curving). Near-median non-indented septum, one cell sometimes slightly larger. Surface longitudinal striations. Often 2 guttules/cell.