

***Hypocopra merdaria* (Fr.) J. Kickx f. PDD 126091 (= AEB 1406)**

Collected: 20 March 2024

Substrate: hare (*Lepus europaeus*) dung; **Incubated in moist chamber:** 25 March 2024

Collection site: NZTM grid ref. E1689530 N5650853, between the pyramids NW side of Mt. Taranaki, altitude 1237m among tussock (alpine scrub zone on old lava flows)

Collectors: Ian Flux & Merryl Park; **Identifier:** Ann Bell; **Photos and comments:** Dan Mahoney

Voucher materials: Three dried hare dung pellets accompanied by 5 Shear's mounting fluid (SMF) semi-permanent microscope slides; in-situ fresh fruiting area photos were taken using a Zeiss dissecting microscope; microscopic detail photos were taken from various Melzers' reagent, SMF and water mounts using an Olympus BX51 compound scope with a DP28 camera; references consulted & Dan's brief comments.

References consulted:

1. Griffiths D. 1901. The North American Sordariaceae. Memoirs of the Torrey Botanical Club. 11(1): 1–134. *See their key to *Hypocopra* species and portions related to *Hypocopra merdaria* on the page after next.*
2. Google chrome <https://www.asturnatura.com/especie/hypocopra-merdaria> – *see description by Ángel Suárez & photos by Enrique Rubio Domínguez on the page after Griffiths' treatment of *Hypocopra* & *H. merdaria*.*
3. Richardson M.J. & Watling R. 1982. Keys to Fungi on Dung. London: British Mycological Society. *A good key to 7 species of *Hyprocopra* is provided on pages 38 & 39 (including *H. merdaria*).*
4. Krug J.C. & Cain R.F. 1974. New species of *Hypocopra*. Canadian Journal of Botany **52**: 809–843. *A standard reference used by most. It lists 30 species in its key but only 15 of these receive a description with illustrations. *Hypocopra merdaria* is not one of these. We have found their key difficult to use.*
5. *Hypocopra* species that Ann and others have recorded at PDD. *See the next page.*

25 *Hypocopra* collections at PDD as of 16 March 2026. Most of these have been identified by Ann

[PDD 73725 : *Hypocopra* \(Fr.\) J. Kickx f.](#)
[PDD 77959 : *Hypocopra equorum* \(Fuckel\) G. Winter](#)
[PDD 73461 : *Hypocopra ornithophila* Speg.](#)
[PDD 73397 : *Hypocopra* \(Fr.\) J. Kickx f.](#)
[PDD 73680 : *Hypocopra* \(Fr.\) J. Kickx f.](#)
[PDD 73863 : *Hypocopra* \(Fr.\) J. Kickx f.](#)
[PDD 73727 : *Hypocopra cataphracta* J.C. Krug & Cain](#)
[PDD 73644 : *Hypocopra* \(Fr.\) J. Kickx f.](#)
[PDD 73401 : *Hypocopra keniensis* J.C. Krug & Cain](#)
[PDD 73646 : *Hypocopra* \(Fr.\) J. Kickx f.](#)
[PDD 73334 : *Hypocopra merdaria* \(Fr.\) J. Kickx f.](#)
[PDD 73721 : *Hypocopra* \(Fr.\) J. Kickx f.](#)
[PDD 73420 : *Hypocopra keniensis* J.C. Krug & Cain](#)
[PDD 73436 : *Hypocopra stercoraria* \(Sowerby\) Fuckel](#)
[PDD 73515 : *Hypocopra* \(Fr.\) J. Kickx f.](#)
[PDD 76443 : *Hypocopra* \(Fr.\) J. Kickx f.](#)
[PDD 77960 : *Hypocopra* \(Fr.\) J. Kickx f.](#)
[PDD 77961 : *Hypocopra* \(Fr.\) J. Kickx f.](#)
[PDD 77975 : *Hypocopra* \(Fr.\) J. Kickx f.](#)
[PDD 98348 : *Hypocopra* \(Fr.\) J. Kickx f.](#)
[PDD 77986 : *Hypocopra* \(Fr.\) J. Kickx f.](#)
[PDD 83673 : *Hypocopra anomala* J.C. Krug & Cain](#)
[PDD 82100 : *Hypocopra rostrata* Griffiths](#)
[PDD 73710 : *Hypocopra cataphracta* J.C. Krug & Cain](#)
[PDD 73709 : *Hypocopra cataphracta* J.C. Krug & Cain](#)

Griffiths D. 1901. The North American Sordariaceae. Memoirs of the Torrey Botanical Club. 11(1): 1–134.

Portions of pp. 93, 98, 99 & plate 12 (the latter with plate 12 legends on p. 129) are reproduced below.

7. *Hypocopa merdaria* (Fries) Fries, Summa Veg. Scand. 397. 1849; Cohn's Krypt.-Flora Schlesien, 3²: 289. 1894; Rabenhorst, Krypt.-Flora, I¹: 178. 1887. *Sphaeria merdaria* Fries, Elenchus Fungorum, 2: 100. 1828.

Sordaria merdaria (Fries) Awd. Abhand. naturforsch. Gesell. zu Halle, 13: 77. pl. 7. f. I. 1873.

Coprolepra merdaria (Fries) Fuckel, Symb. Mycol. 240. 1869.

Perithecia scattered or aggregated in clusters of 2 to 4, sunken with a black shining small papilliform beak projecting through a disk-shaped or confluent smooth black bare flat or often slightly convex stroma, about two-thirds mm. in diameter, sub-globose to pyriform, membranaceous and colorless, densely covered below the stroma with a fine colorless mycelium which ramifies through the substratum and becomes differentiated into a true stroma in its upper exposed layers. **Asci** 8-spored, cylindrical, broadly rounded above and suddenly contracted below into a short blunt stipe, quite persistent, 24–32 μm \times 260–320 μm ; apical structure prominent and staining blue with iodine: paraphyses filiform, tapering upward, septate, longer than the asci and mixed with them. **Spores** obliquely uniseriate, ellipsoid, rounded at both ends, 18–24 μm \times 34–40 μm , ranging from hyaline when young through yellow to dark brown and opaque; germinal slit lateral, one-half to two-thirds the length of the spore, and indistinct at maturity; gelatinous envelope prominent and swelling greatly when placed in water. (Pl. 12. f. 9–14.) **Distinctive characters:** Small shield-shaped scattered stromata, uniseriate and nonapiculate spores.

The measurements given for this species vary considerably with those of the ordinary descriptions. This is not because the American forms are different from the European, but because the measurements given are inaccurate. Specimens distributed by Plowright and named by Dr. Winter are at hand in which the spores measure exactly as quoted above. The development was very profuse in both the South Dakota and Kansas specimens – four of the specimens sent me by Dr. Bartholomew having more or less of this fungus on them.

Key to the Species

Spores apiculate.

Spores very large, 24–28 μ \times 52–61 μ .

Spores comparatively small, 17–20 μ \times 32–38 μ .

1. *H. gigaspora*.

2. *H. amphisphaeroides*.

Spores not apiculate.

Stoma effused and containing an indefinite number of perithecia.

Perithecia sunken.

Perithecia half sunken.

3. *H. equorum*.

4. *H. fimeti*.

Stoma with definite boundary and containing 1 to few perithecia or by confluency of individual stromas it may contain many.

Spores biseriate.

Stroma violet within.

Stroma white within.

5. *H. violacea*.

6. *H. Dakotensis*.

Spores uniseriate.

Beak papilliform.

Spores comparatively large, 18–24 μ \times 34–40 μ .

7. *H. merdaria*.

Spores comparatively small, 6–7 μ \times 10–13 μ .

8. *H. parvula*.

Beak enlarged and prominent.

9. *H. rostrata*.

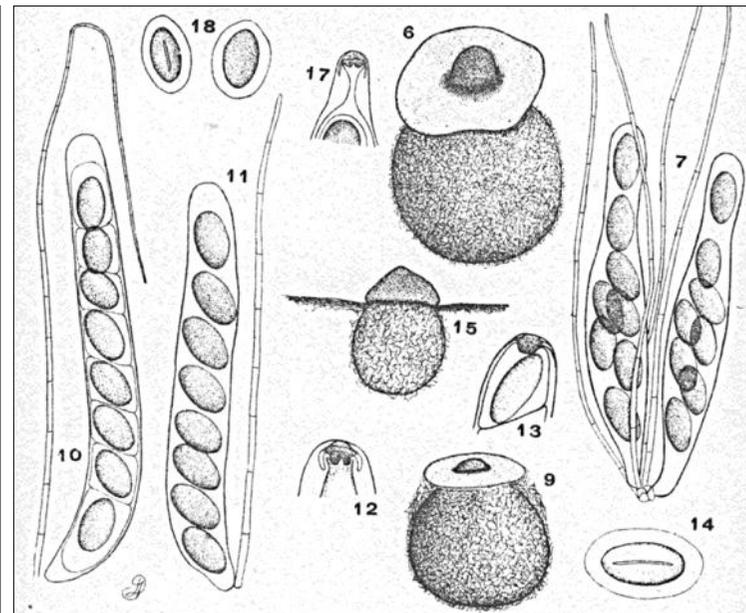


Plate 12

9–14. *Hypocopa merdaria*.

9. Perithecium showing a rather small individual stromatic shield.

10. Ascus.

11. Ascus of one of Plowright's specimens named by Winter. More details are omitted in this than the other.

12. Apex of mature ascus, X315.

13. Apex of young ascus X315.

14. Mature spore.

See <https://www.asturnatura.com/especie/hypocopra-merdaria>
description by Ángel Suárez & photos by Enrique Rubio Domínguez

***Hypocopra merdaria* (Fr.) J. Kickx f.**

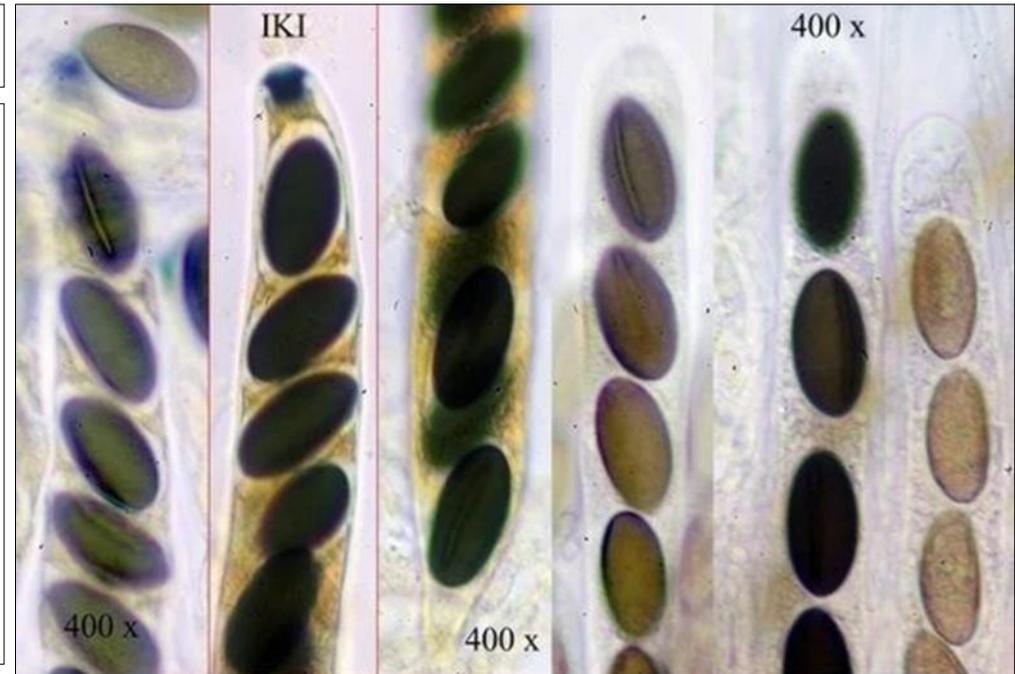
Description:

An ascomycete that forms minute perithecia immersed beneath a thin, superficial, blackish, shield-shaped stroma (clypeus). Its asci are fusiform, eight-spored, up to 225 x 24 µm, and possess a large, intensely amyloid apical pore. The spores, brownish black at maturity, form a longitudinal germ slit and measure 28–37 x 16–20 µm. Saprophytic on the dung of various herbivores. Proaza (Asturias), May 6, 2008, on deer dung incubated in a humid chamber, collected and identified by Ángel Suárez. New to Asturias, ERD-4445.

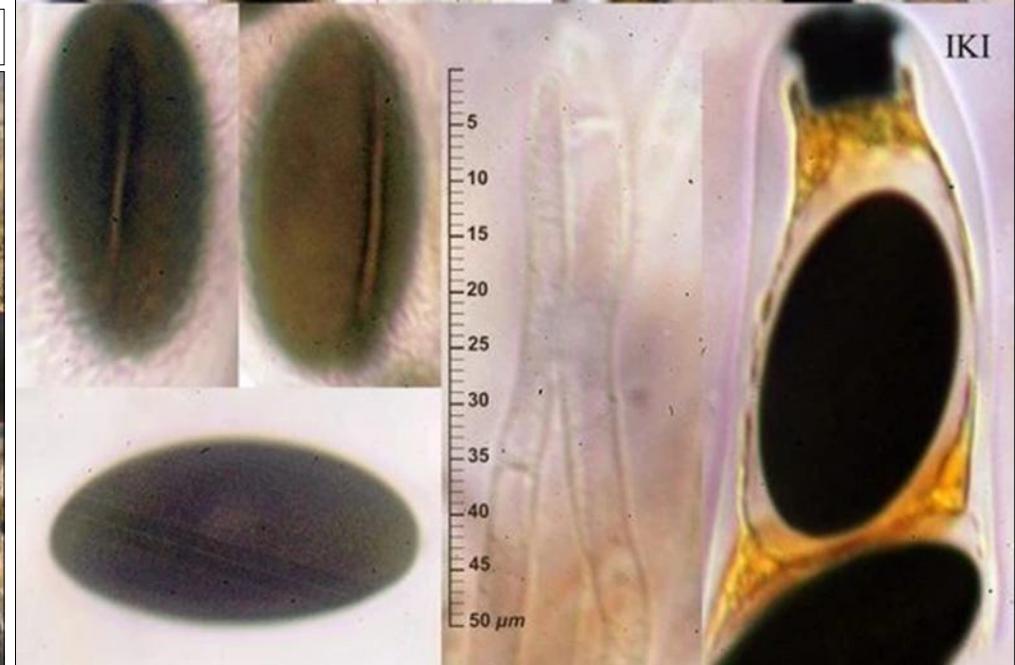
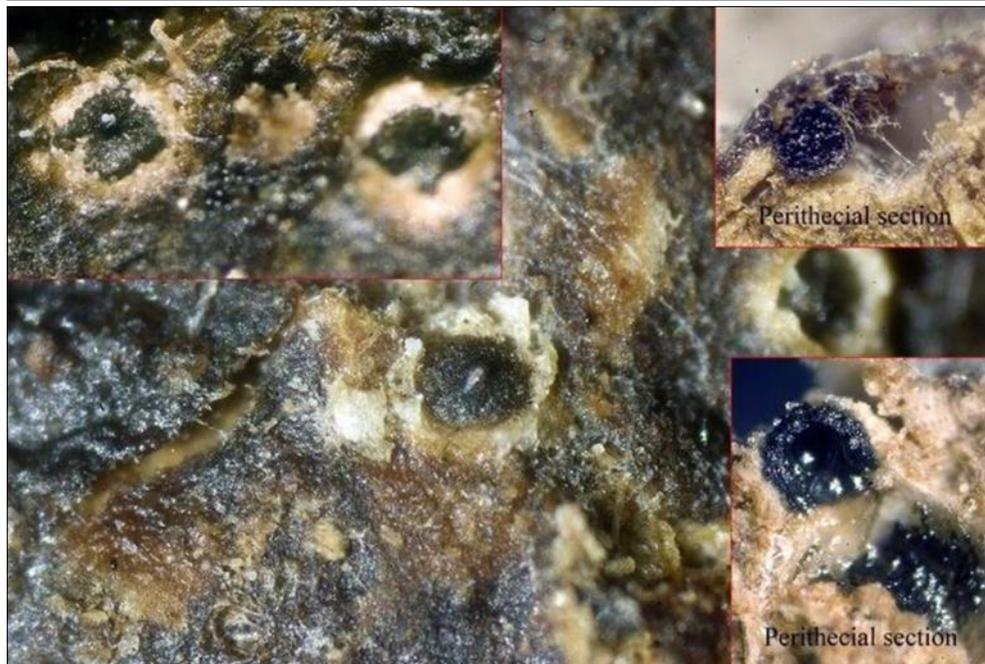
Species associated with the photographs: *Hypocopra merdaria* (Fr.) J. Kickx f. ([Ascomycota](#) , [Xylariaceae](#))

Publication date: 08/05/2008

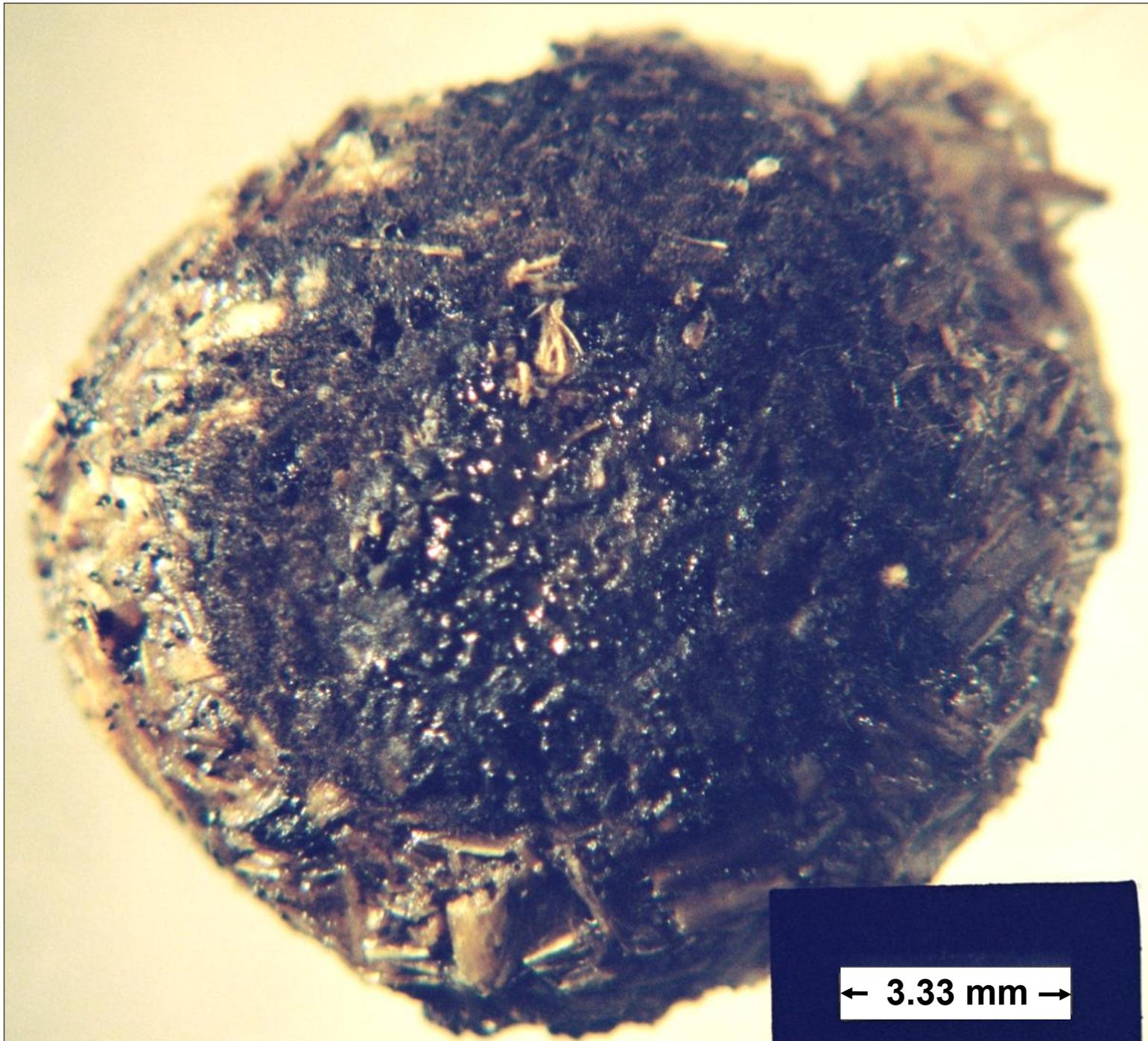
Author: [Enrique Rubio Domínguez](#)



***Hypocopra merdaria* Photo 1**

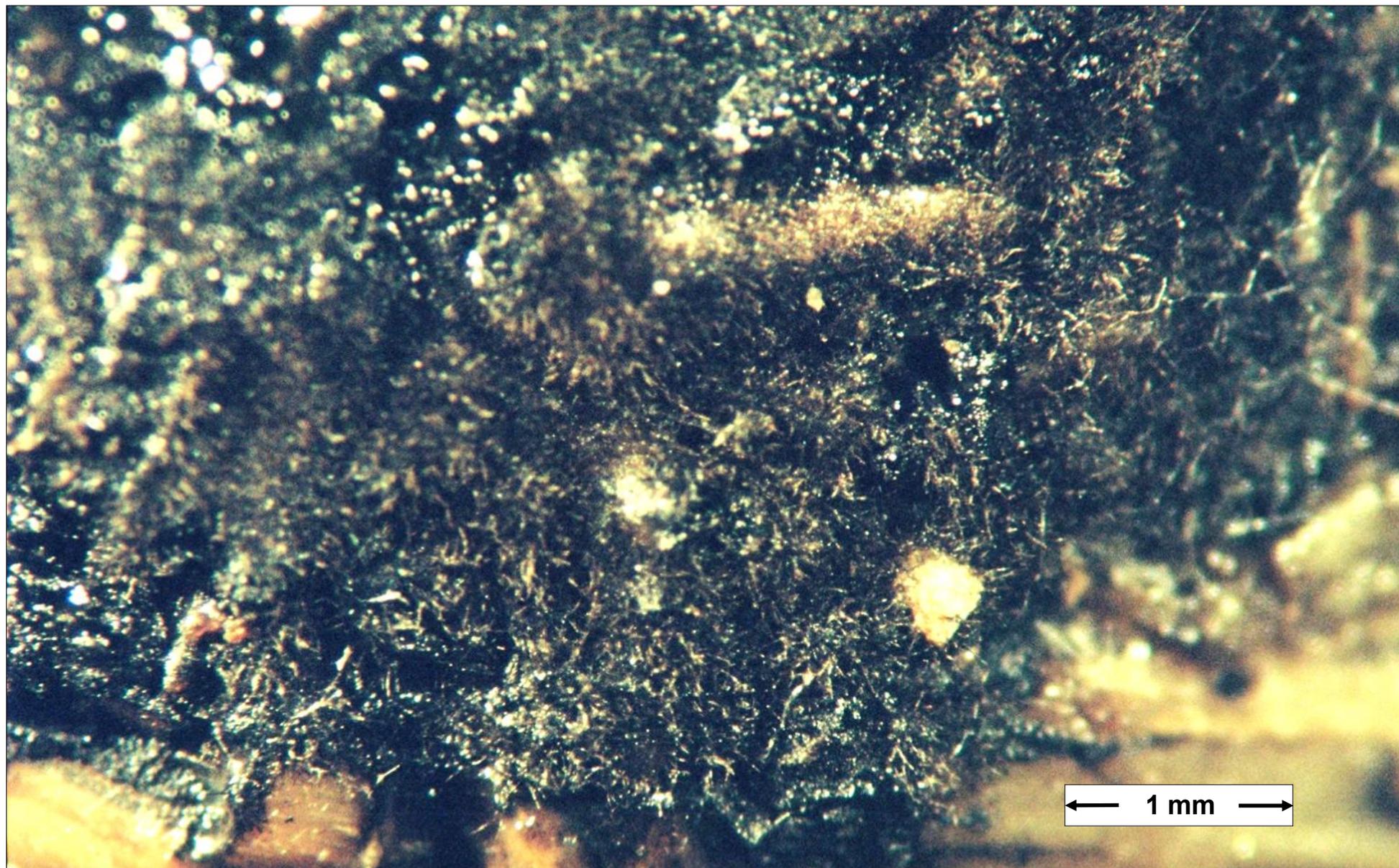


***Hypocopra merdaria* Photo 2**

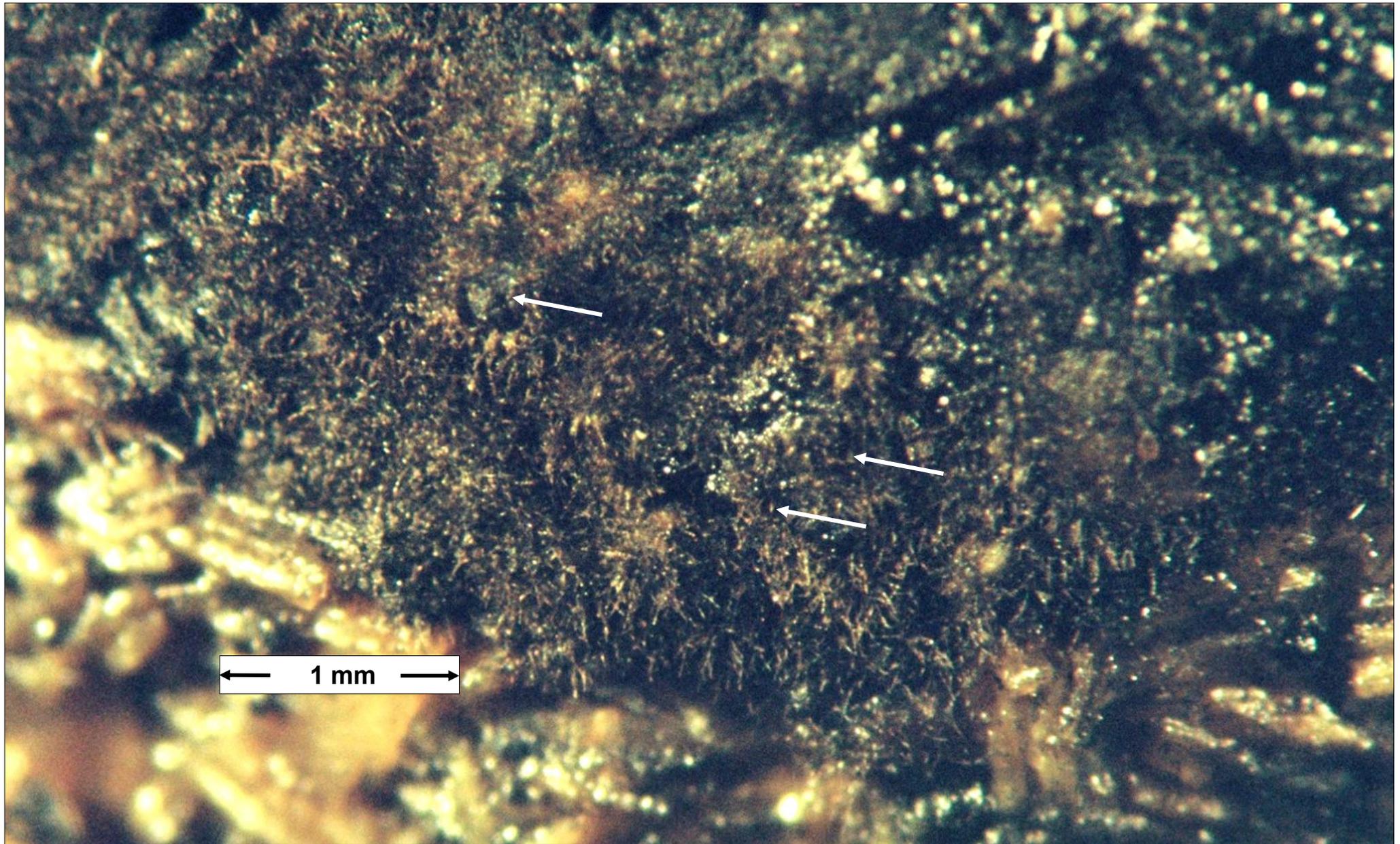


AEB 1406. An in-situ view of a fresh whole hare dung pellet. The dung surface features a large black fuzzy ascostroma and its embedded perithecia.

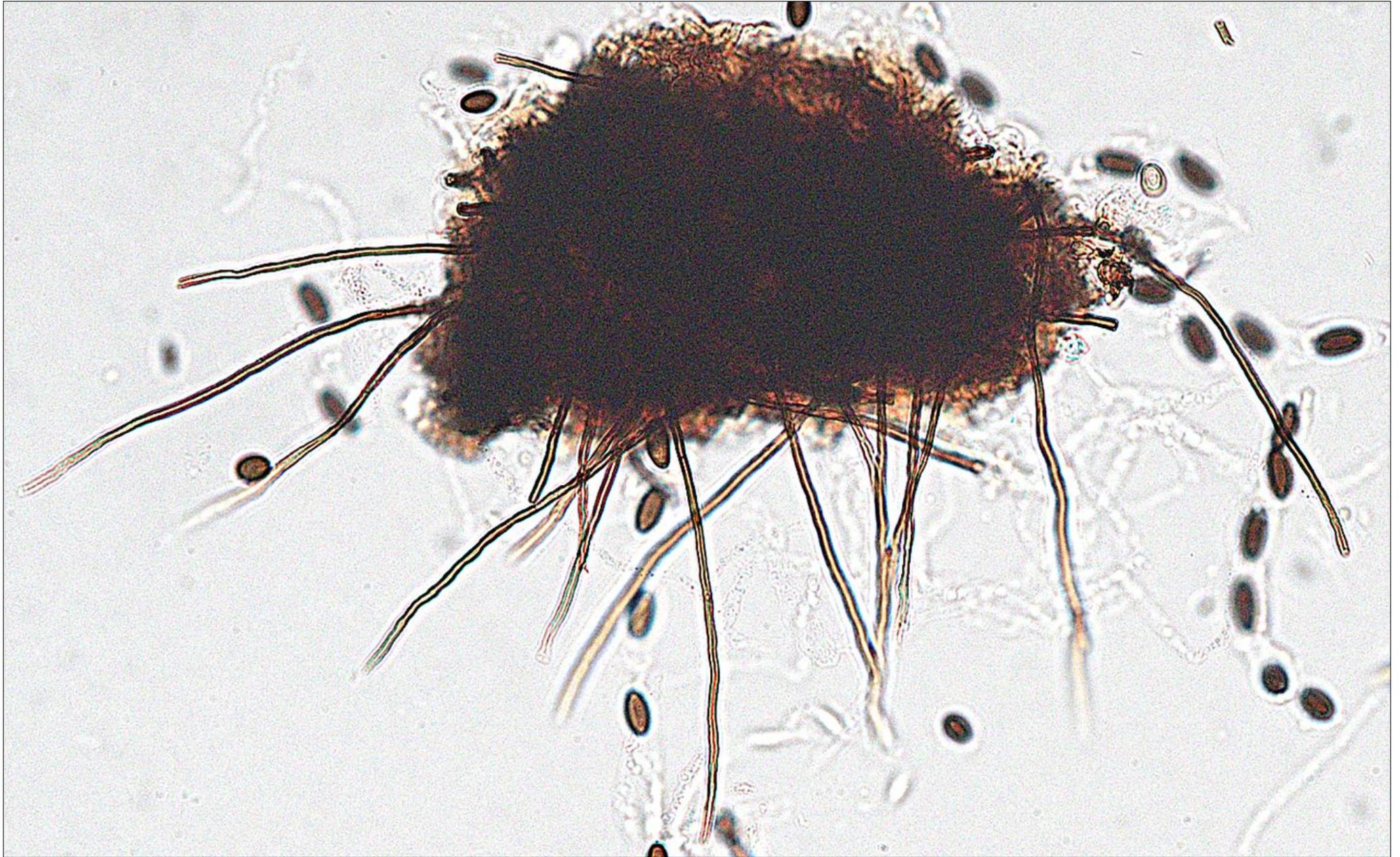
← 3.33 mm →



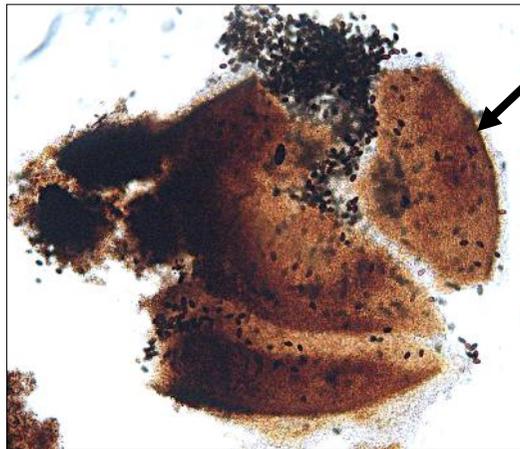
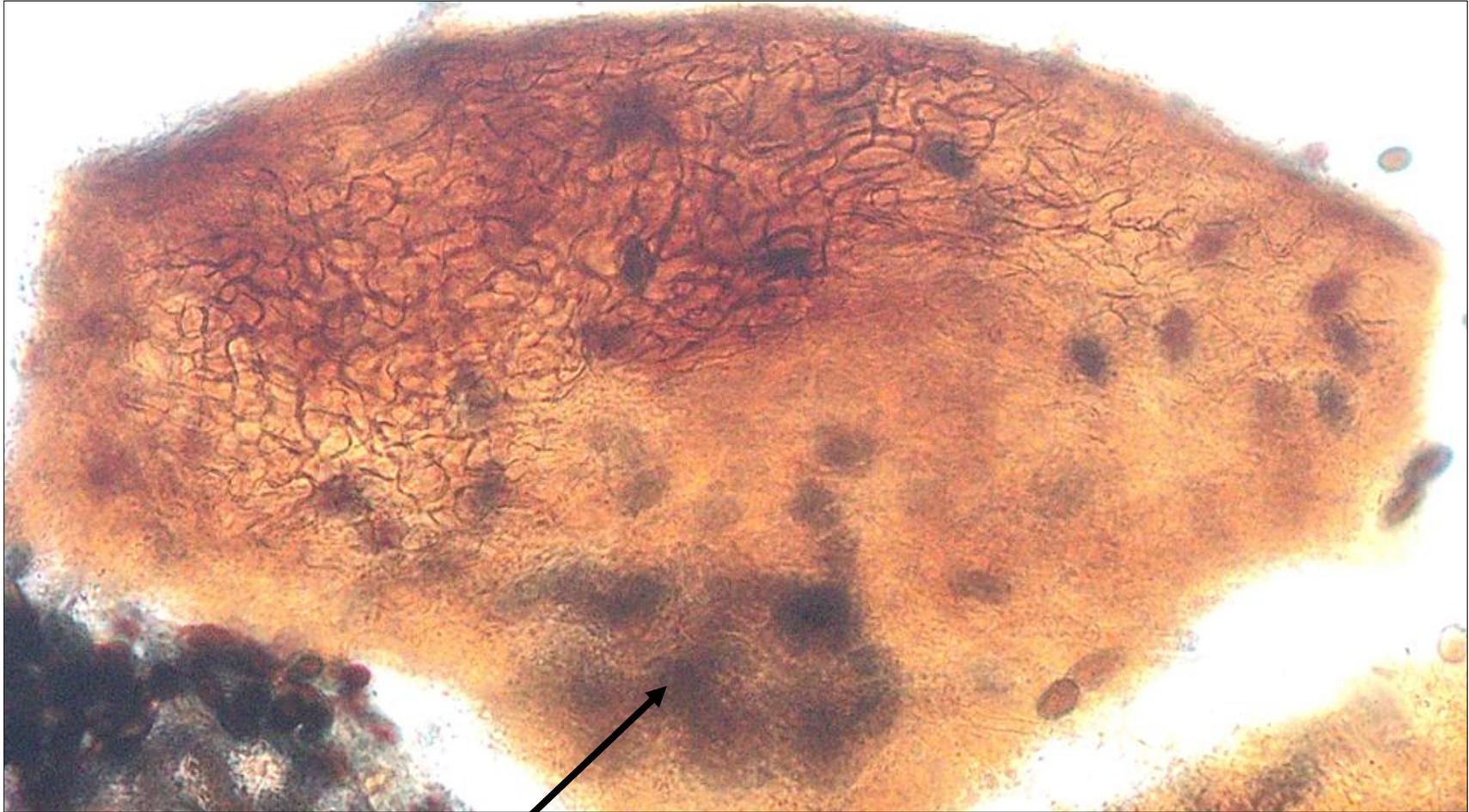
AEB 1406. A photo closeup of the right side of the ascostroma pictured on the previous page. By increasing the magnification, ostioles of some perithecia can be seen (with difficulty). See some more obvious on the next page.



AEB 1406.A photo closeup of the left side of the ascostroma pictured on page before last. By increasing the magnification, ostioles of some perithecia can be seen (white arrowed). Note also the fuzzy stroma between ascomata.



AEB 1406. Septate stroma hairs from a fragment among the embedded perithecia. Dan's X40+ Olympus BX51 photo from Ann's herbarium-voucher SMF slide #4.

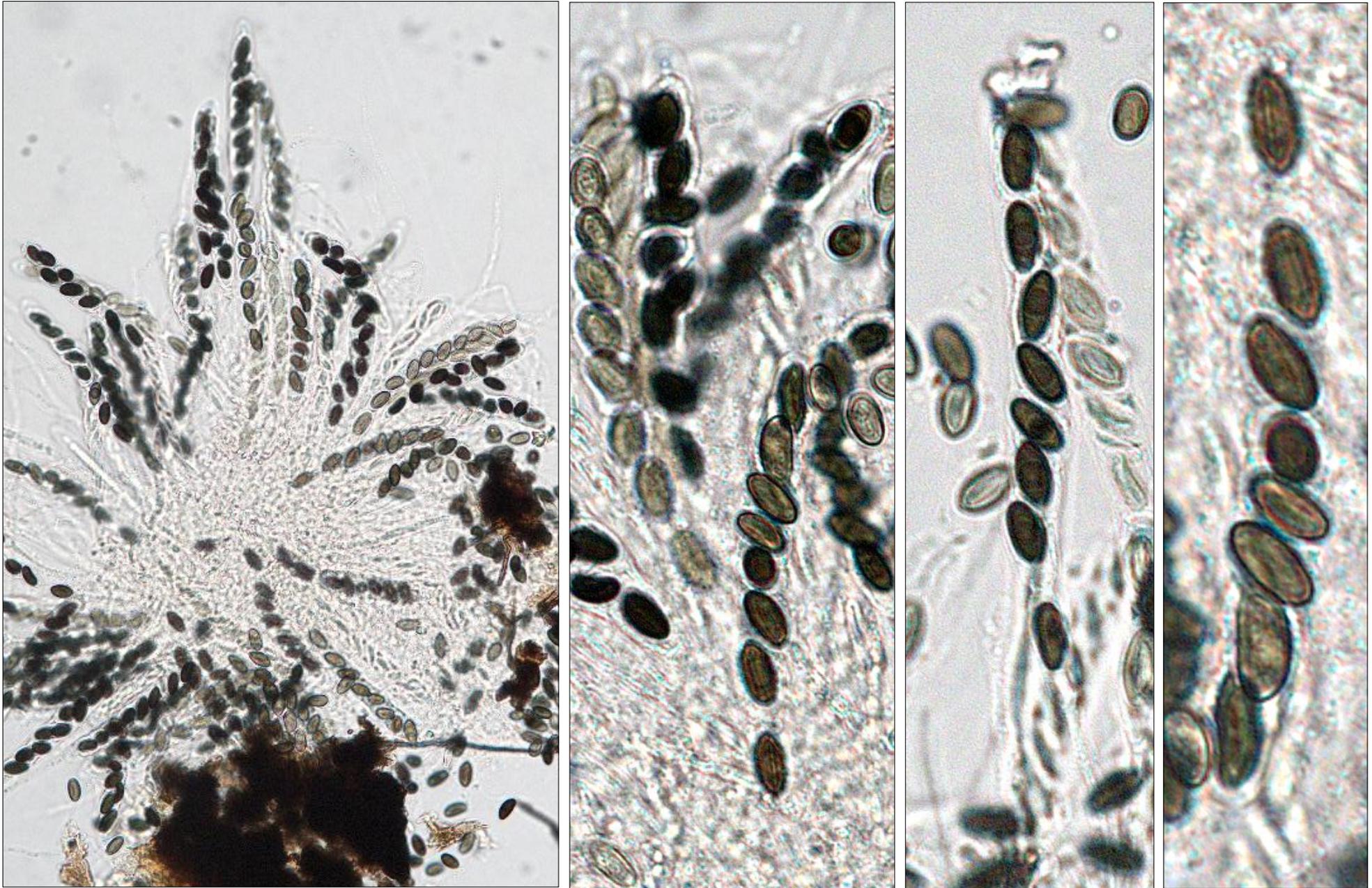


AEB 1406. Lower left photo: A fragmented perithecium showing its 3 large fragments and extruded ascospores (emphasis a fragment peridium). Dan's X20 size-reduced Olympus BX51 photo from Ann's herbarium-voucher SMF slide #3.

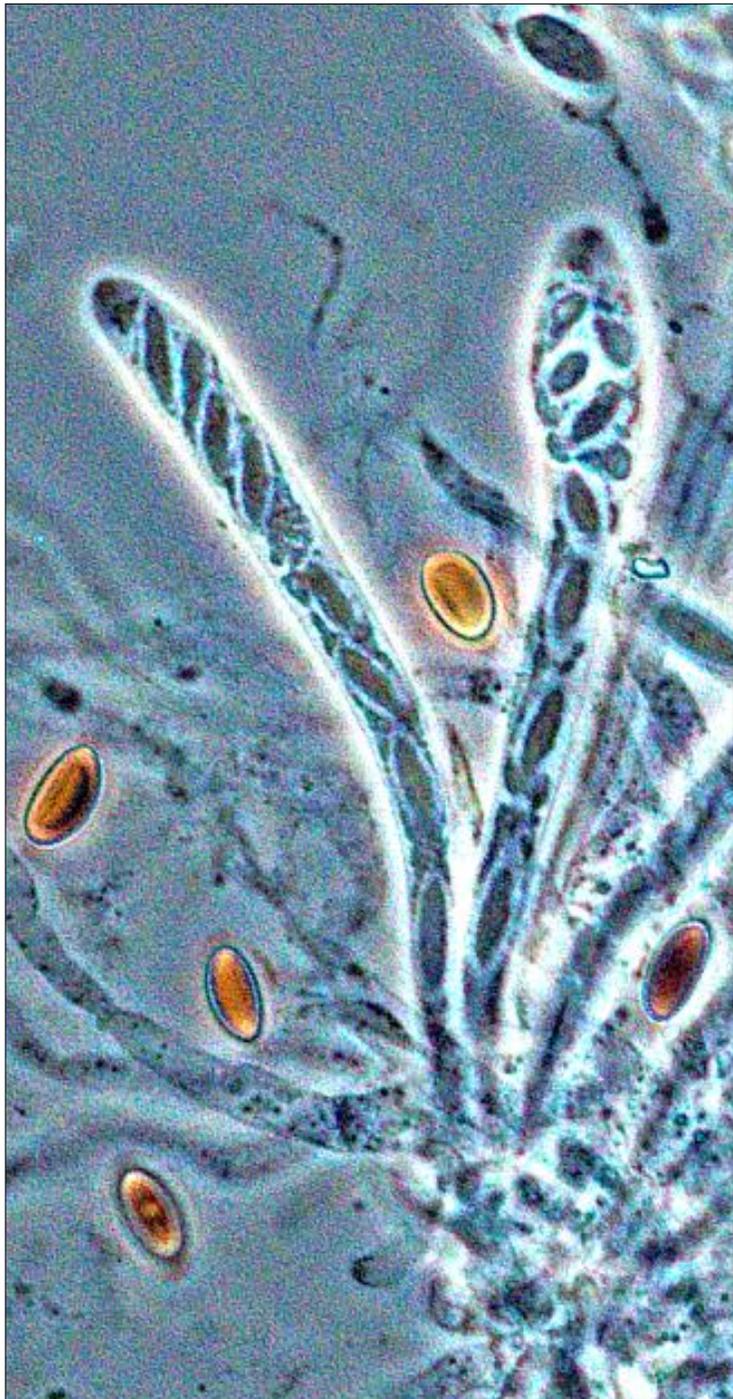
Upper photo: An enlarged reoriented view of the arrowed peridium in the lower left photo. Dan's X40+ enlarged and overexposed Olympus BX51 photo from Ann's herbarium-voucher SMF slide #3. Note the *textura intricata/epidermoides* like tissue in the outermost peridium.



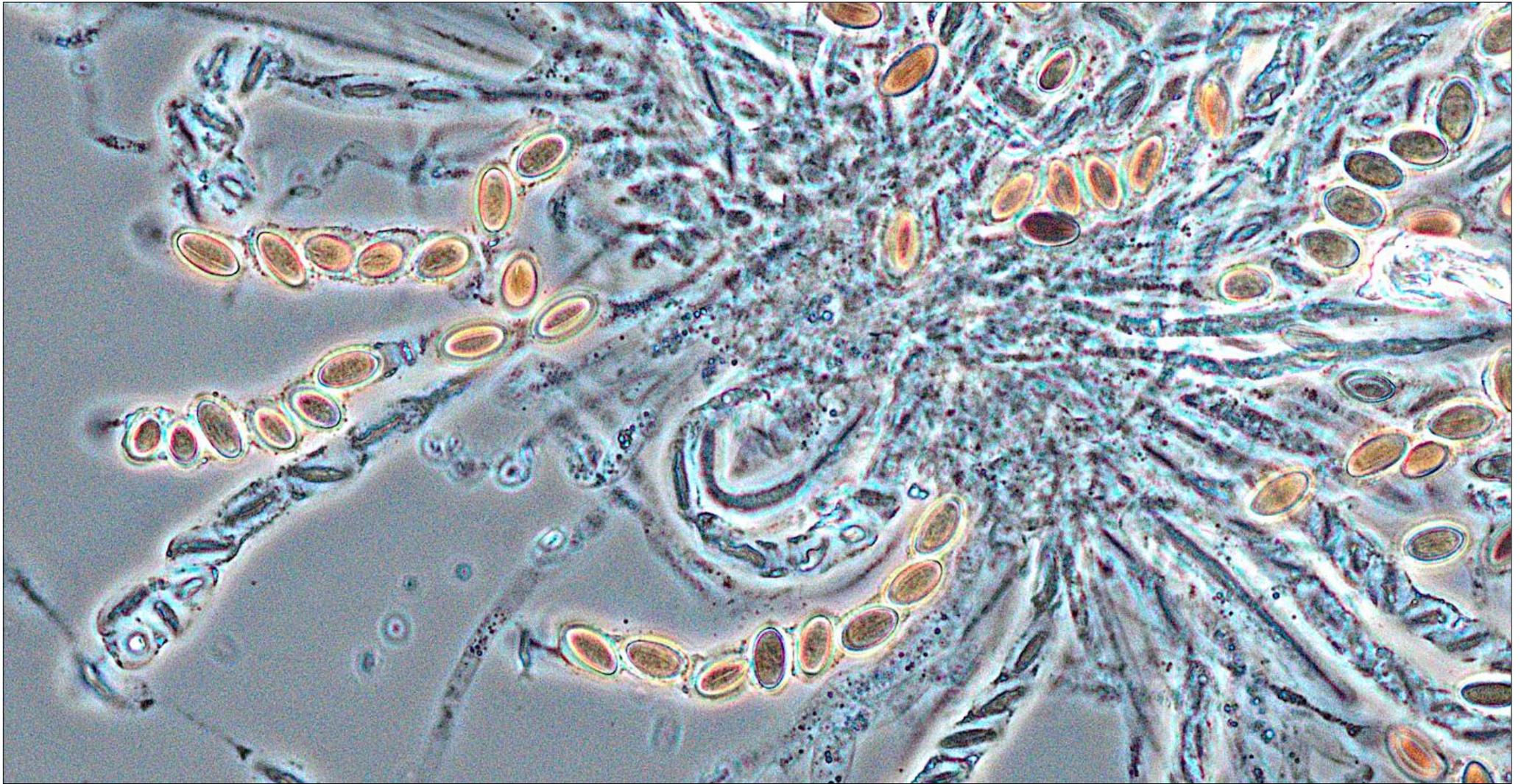
AEB 1406. Fresh asci, ascospores and paraphyses seen in a Melzer's reagent slide mount. The ascus tip bluing (arrowed) is faintly visible. The photo was taken using a X40 objective and confocal microscopy on an Olympus BX51 microscope.



AEB 1406. Four photos of fresh asci and ascospores mounted in SMF variously enlarged but using a X40 objective on an Olympus BX51 microscope. Note their longitudinal germ slits especially in the 3 far right photos.



AEB 1406. Four photos of fresh asci and ascospores mounted in SMF (left photo) and water (3 far-right photos) variously enlarged but using a X40 objective on an Olympus BX51 microscope. Note the nearly full length longitudinal germ slits in the water mounted ascospores.



AEB 1406. Asci with 8 ascospores over-lapping uniseriately. Note the immature ascospores with nearly full-length longitudinal germ slits. Dan's X40++ enlarged, phase microscopy Olympus BX51 photo from Ann's herbarium-voucher SMF slide #5. The next page shows mature ascospores with longitudinal germ slits.



AEB 1406. Ascospores shown in a compressed optical plane – mostly mature and revealing their nearly full-length longitudinal germ slit. Dan's X40+++ enlarged, brightfield microscopy Olympus BX51 photo from Ann's herbarium-voucher SMF slide #1. Spore measurements mostly 27.5–35 × 15–20 μm (n=25).