***Coniochaeta hansenii* (Oudem.) Cain & *Coniochaeta philocoproides* (Griffiths) Cain – PDD 121661 (= AEB 1371)**

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:** Dan Mahoney

Voucher materials: One dried hare dung pellet accompanied by 3 Shear's mounting fluid (SMF) semi-permanent microscope slides (2 of *C. hansenii*, 1 of *C. philicoproides*); primary references consulted & Dan's brief comments.

References consulted:

1. Mahoney D.P. & Lafavre J.S. 1981. *Coniochaeta extramundana*, with a synopsis of other *Coniochaeta* species. Mycologia 73(5): 931–952.

2. Asgari B., Zare R. & Gams W. 2007. *Coniochaeta ershadii*, a new species from Iran, and a key to well-documented *Coniochaeta* species. Nova Hedwigia 84: 175–187.

3. Doveri F. 2016. Description of *Chaetomium aureum*, *Corynascus sepedonium* and *Coniochaeta hansenii*, newly recorded from Italy, and a key to coprophilous Chaetomiaceae and Coniochaetaceae. Ascomycete.org 8(1): 7–24. His worldwide key to coprophilous species of *Coniochaeta* with poly-spored asci is reproduced below:

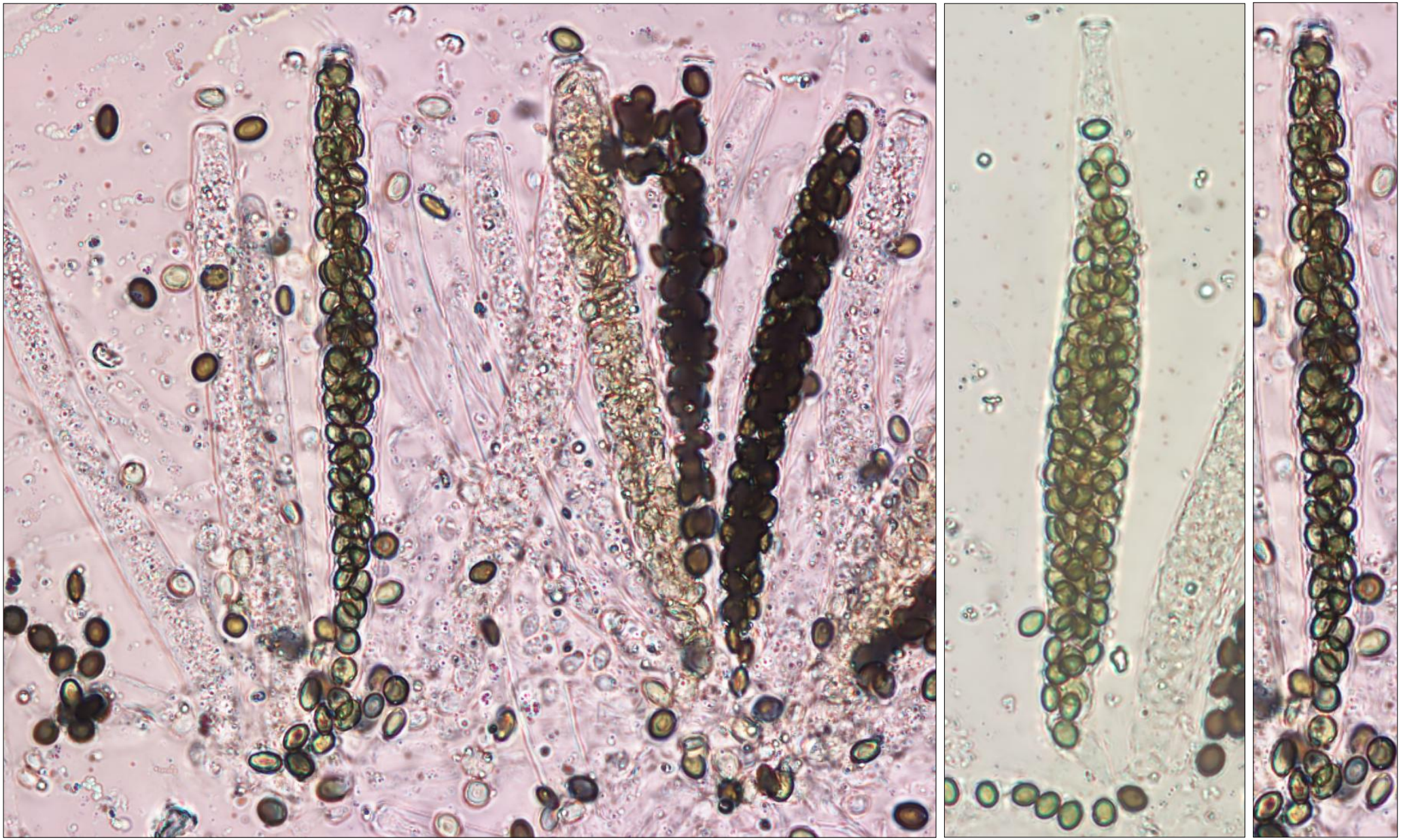
Worldwide key to coprophilous species of *Coniochaeta* with poly-spored asci

1a) Asci 32-spored, cylindrical to clavate, 90–110 × 13–20 µm. Ascospores discoidal, 5.5–8 × 8 µm ... ***C. philocoproides*** (Griffiths) Cain
1b) Asci 64-spored or more 2
2a) Asci 64-spored, clavate, 160–200 × 35–45 µm. Ascospores discoidal, 13–16.5 × 9.5–13.5 × 5.5–9 µm. Neck setae up to 35 µm long. ..... ***C. polymegasperma*** M.J. Richardson
2b) Ascospores smaller. Setae up to 175 µm long 3
3a) Asci 64–128-spored. Ascospores discoidal or ellipsoidal 4
3b) Asci more than 128-spored. Ascospores discoidal 5
4a) Asci 64–128-spored, clavate, rarely cylindric-clavate or saccate, 125–230 × 17–32 µm. Ascospores discoidal, 6–10 × 4–9 × 3.5–7 µm ..... ***C. hansenii*** (Oudem.) Cain
4b) Asci 128-spored, cylindrical, 60 × 10 µm. Ascospores ellipsoidal, 5–8 × 4–5 µm ..... ***C. polyspora*** (W. Phillips & Plowr.) N. Lundq.
5a) Asci 512-spored 6
5b) Asci about 1000-spored, broadly cylindric-clavate, 200–250 × 42–50 µm. Ascospores 5–6 × 3–6 µm in frontal view ..... ***C. multispora*** Cain
6a) Asci broadly cylindrical to clavate, 200–250 × 50–55 µm. Ascospores 7–8 × 6–8 × 4–4.5 µm ..... ***C. polysperma*** Furuya & Udagawa
6b) Asci clavate, 195–250 × 50–80 µm. Ascospores 9–14.5 × 6.5–12.8 × 5–6.5 µm ..... ***C. burtii*** M.J. Richardson

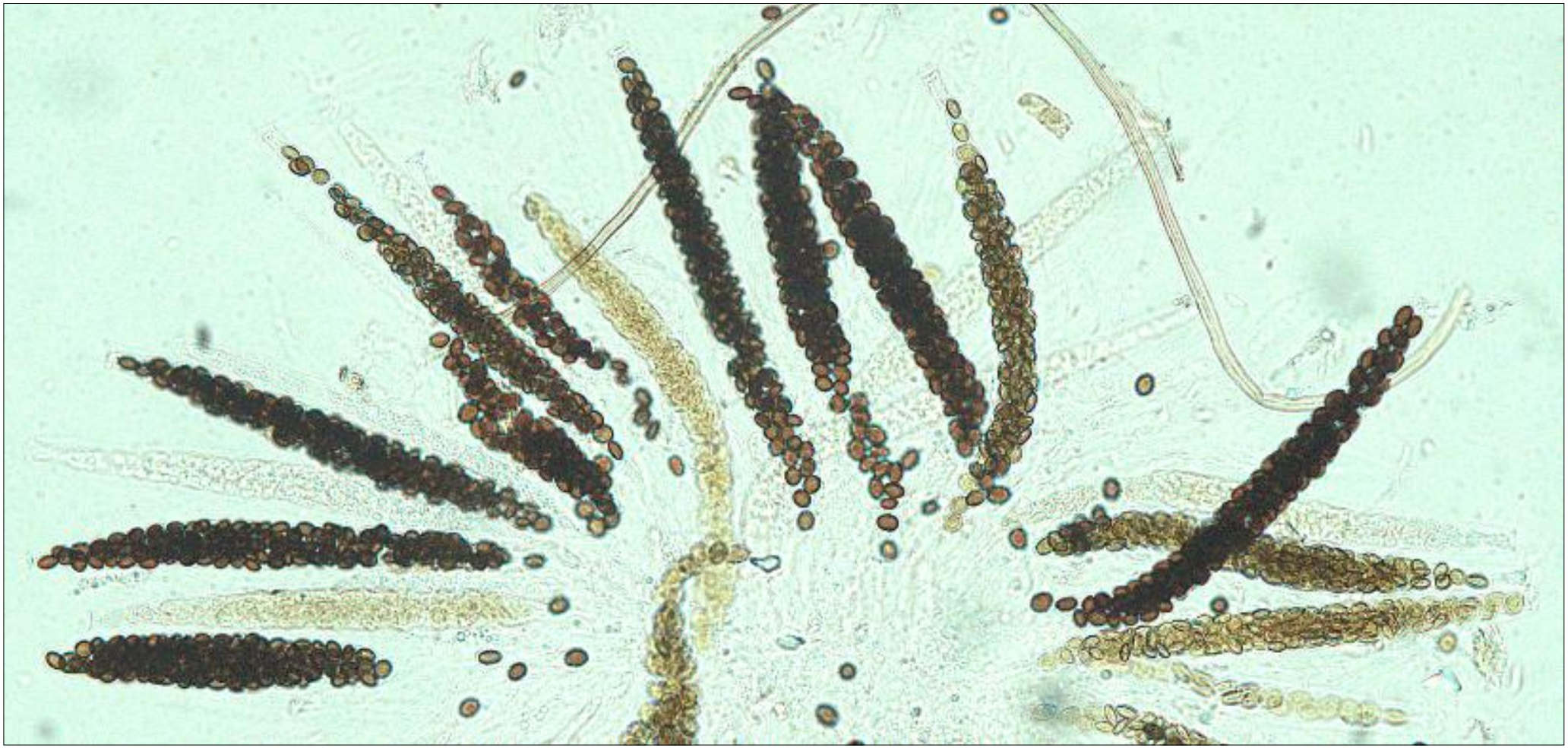
Brief comments:

Both species matched their descriptions. As of Nov. 10, 2025, *Coniochaeta hansenii* has been more frequently reported: with 2 records in PDD, 62 in Mycoportal and 8 in Genbank. *Coniochaeta philocoproides* has been infrequently reported: 3 in PDD, the same 3 in Mycoportal and with no publicly available DNA sequences in GenBank or in other major public sequence databases.

AEB 1371 *Coniochaeta hansenii*. Fragments of a squashed perithecium neck seen in a SMF slide mount using the X40 objective (enlarged). Emphasizing the rigid, tapering, pointed chaetae.

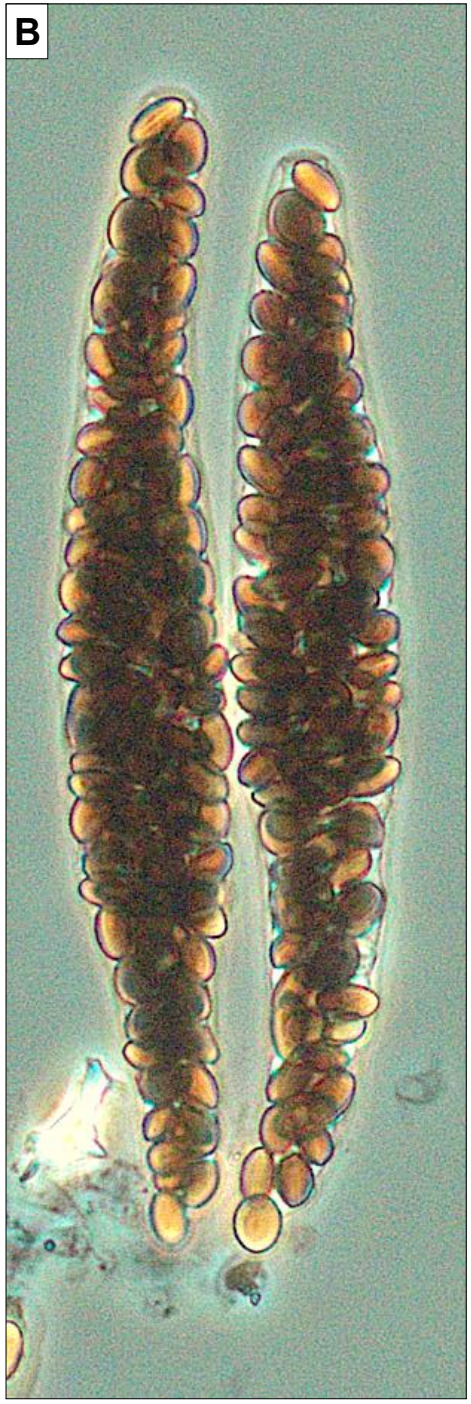


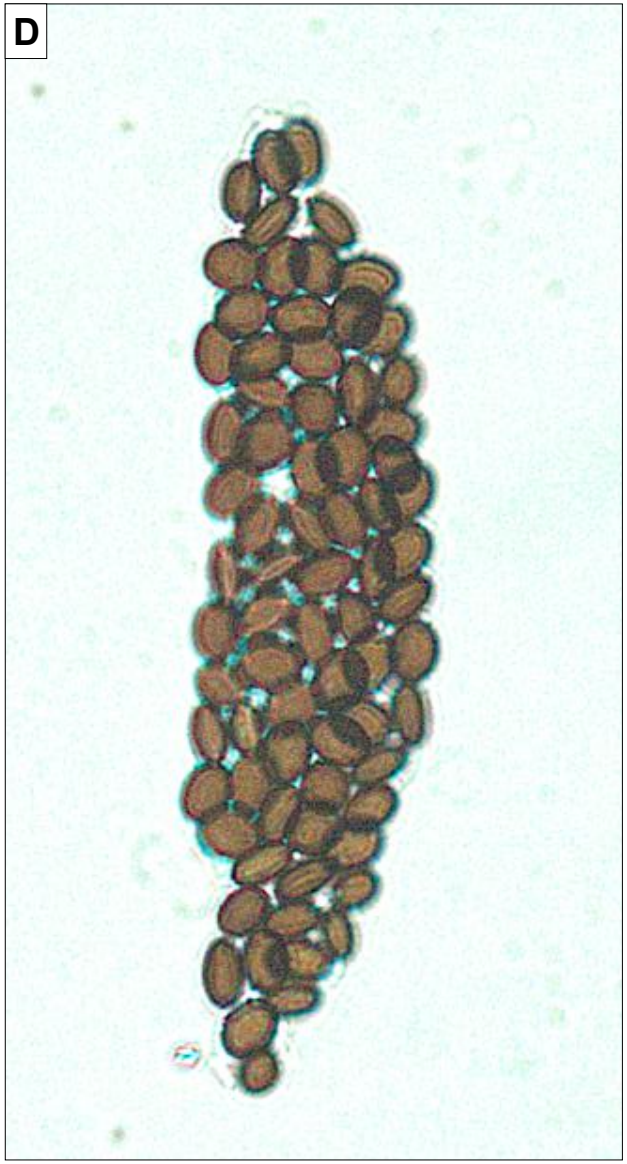
AEB 1371 *Coniochaeta hansenii*. Asci in various stages of development. All photos from the same water mount slide using the X40 objective and confocal imaging. Far right photo with ascus seen also in the left photo – that ascus measuring ≈ 150 × 12.5 µm. Other mature asci on the slide varied from 130–150 × 12.5–27.5 µm (n=5).



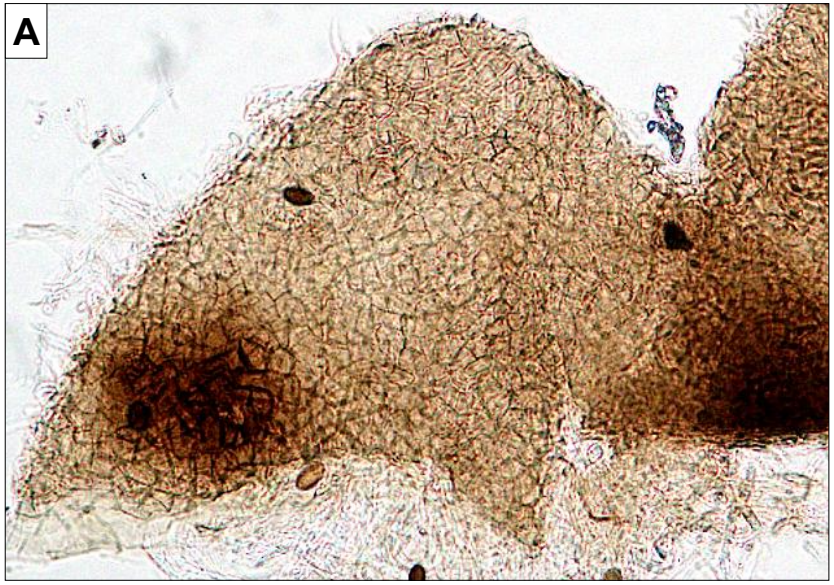
AEB 1371 *Coniochaeta hansenii*. Various asci, mostly mature, seen in a SMF slide mount using the X40 objective.

AEB 1371 *Coniochaeta hansenii*. Mature and immature asci seen in a SMF slide mount using the X40 objective and phase microscopy. Emphasis is on the ascus tip apical ring (black-arrowed)

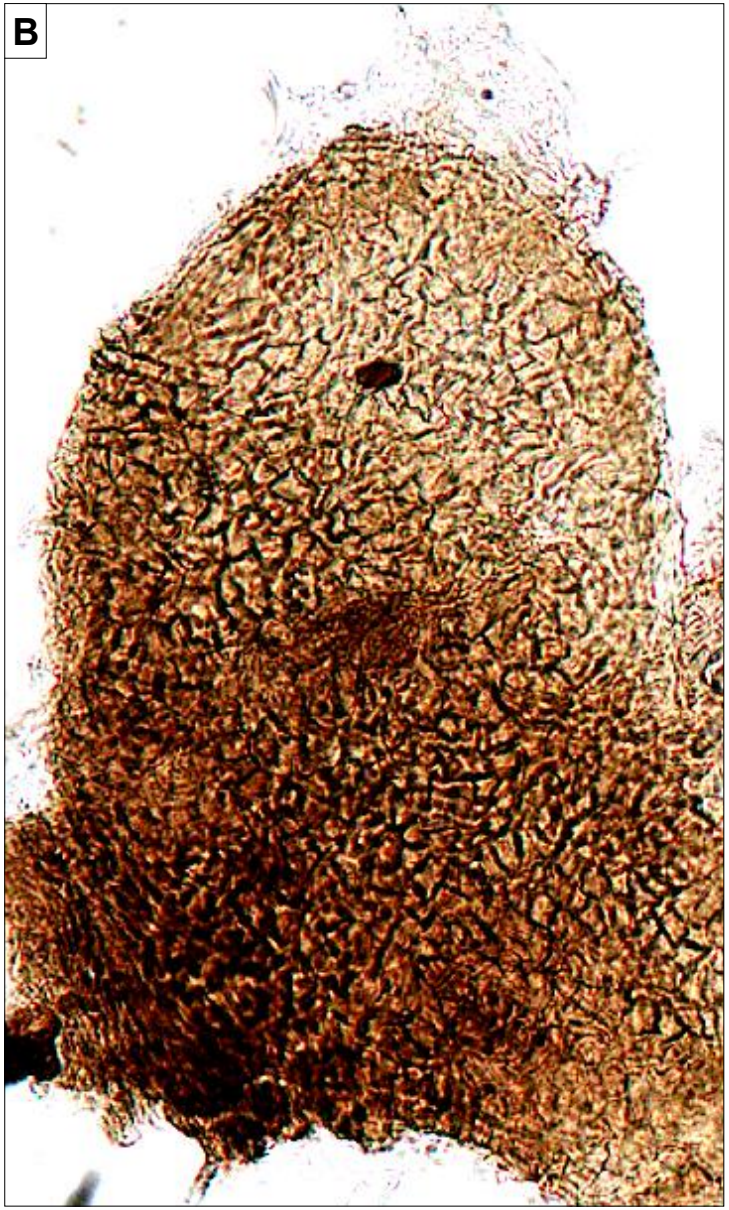




AEB 1371 *Coniochaeta hansenii*. A–D. Mature asci seen in SMF slide mounts using the X40 objective (enlarged). A. 187.5 × 12.5 µm. B. Left ascus 150 × 20 µm, right ascus 142.5 × 20 µm. C–D. Different asci with countable spores – more than 64 per ascus.

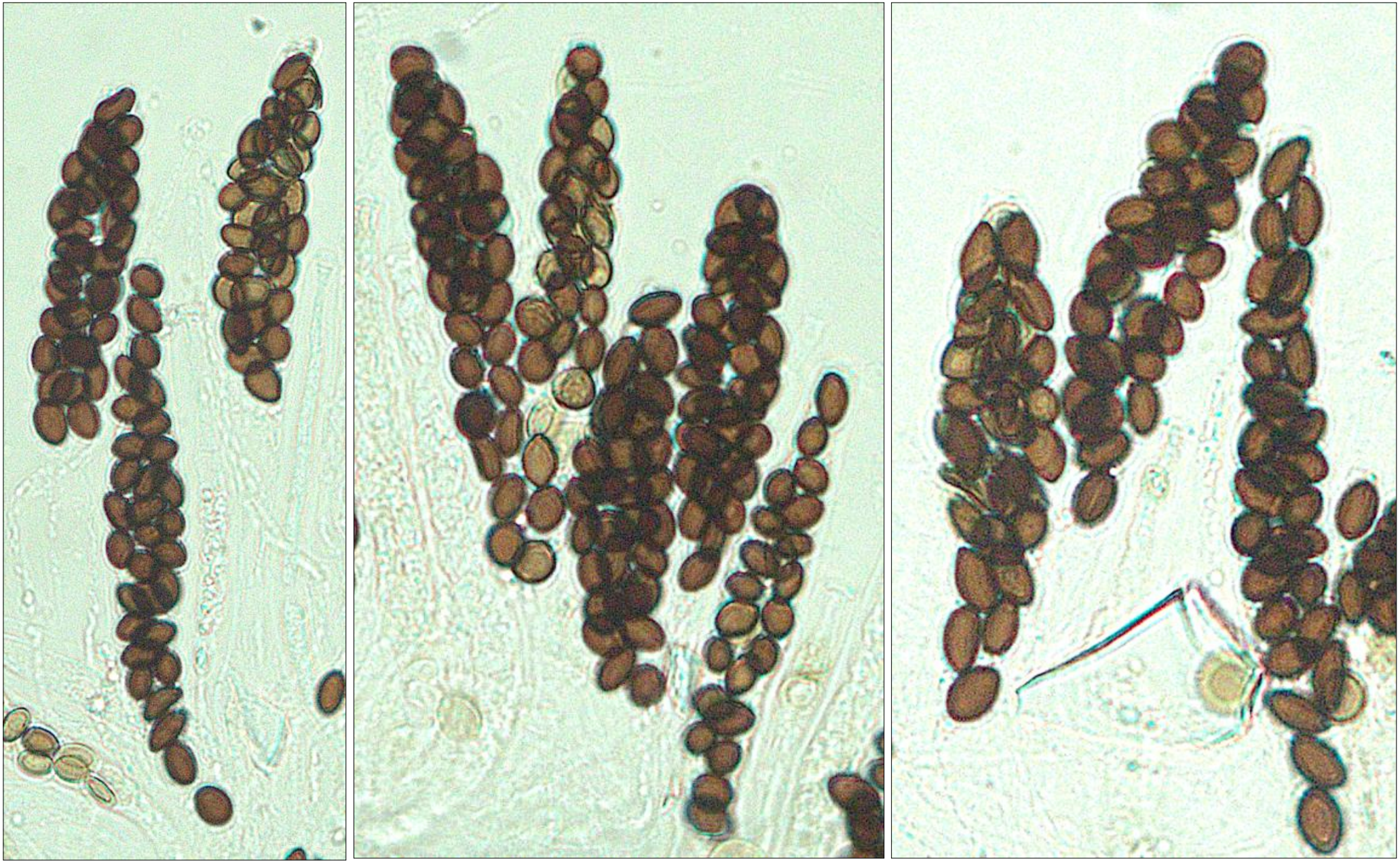


Tapering chaetae shown in photo C are 52.5–102.5 µm long.

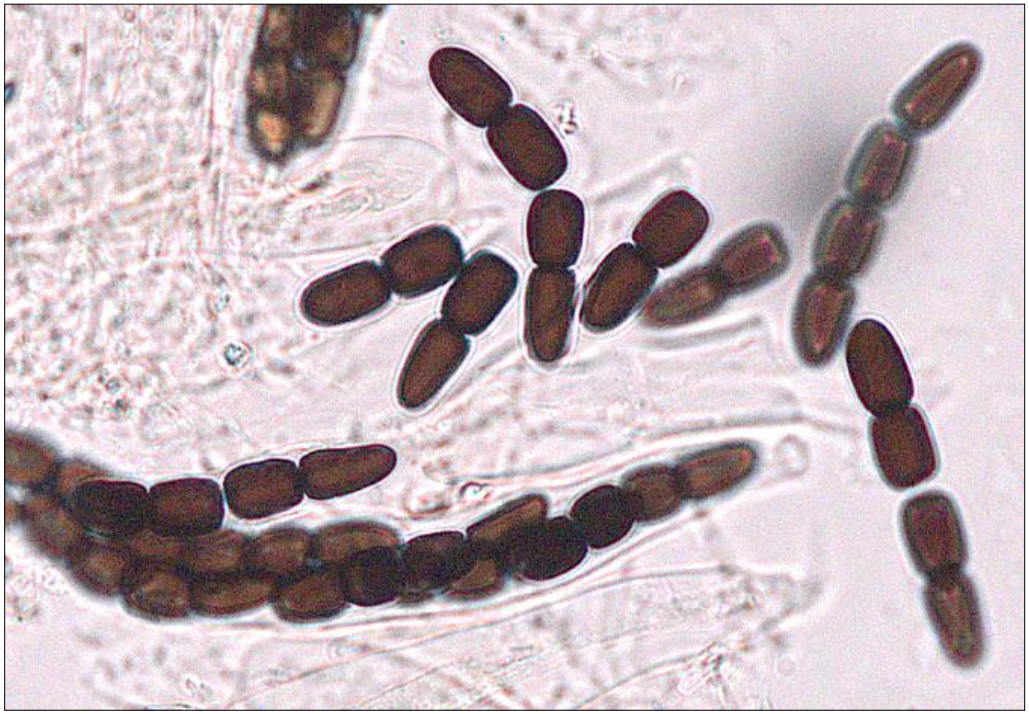


AEB 1371 *Coniochaeta philocoproides.* A–B. Perithecium venter textura angularis peridium as seen in a SMF mount using the X40 objective (enlarged). C. Perithecium neck peridium with protruding chaetae as seen in the same mount as A–B (using the X40 objective, but much less enlarged than A–B). Note the different shape & arrangement of cells in the attached venter peridium fragment (black-arrowed) when compared to cells in the neck peridium.

AEB 1371 *Coniochaeta philocoproides*. Both photos with mature asci from a SMF slide using the X40 objective.



AEB 1371 *Coniochaeta philocoproides*. All photos with mature asci from a SMF slide using the X40 objective. These photos are enlarged to better show the number and shape of ascospores in each ascus.



Sporormiella intermedia **from the SMF slide of AEB 1371 bearing** ***Coniochaeta philocoproides.*** **Shown variously enlarged using the X40 objective. Asci in top photo ≈ 125–135 × 27–33 µm and 4-celled ascospores ≈ 52.5 × 10 µm. Bottom photo a view from the same slide showing 4-celled ascospores fragmenting in the middle to yield 2-celled units.**