***Coprotus baeosporus* Jeng & Krug – PDD 126082 (= AEB 1397)**

Substrate: feral pig (*Sus scrofa*) dung

Collection date: 3 November 2024

Collection site: Northland (Mataraua) NZTM E1656396, N6060850, alt. 620m.; forest vegetation [*Syzygium maire*, *Ackama* sp., hinau (*Elaeocarpus dentatus*), *Weinmannia silvicola*]

Collector: Ian Flux; **Identifier:** Dan Mahoney

Moist chamber incubation date: 11 November 2024

Voucher materials: No dried herbarium specimen but 2 Shear's mounting fluid (SMF) semi-permanent microscope slides; Zeiss SV 11 Stereo-zoom dissecting microscope in-situ photo of a fruiting body using a MC80 camera and Olympus BX51 microscopic slide photos of asci, ascospores and paraphyses using a DP28 camera; references consulted.

References consulted (in chronological order):

Kimbrough J.W., Luck-Allen E.R. & Cain R.F. 1972. North American species of *Coprotus* (Thelebolaceae, Pezizales). Canadian Journal of Botany 50: 957–971. Keys, descriptions & illustrations are provided for 18 N. American species.

Jeng, R.S. and J.C. Krug. 1977. New records and new species of coprophilous Pezizales from Argentina and Venezuela. Can. J. Bot. 55: 2987–3000. See description and illustrations of *Coprotus baeosporus* on the next page.

Doveri F. 2004. Fungi Fimicoli Italici. Vicenza, A.M.B.-Fondazione Centro Studi Micologici, 1104 p., 158 pl. Includes an updated key to *Coprotus* (after Kimbrough, Luck-Allen & Cain, 1972).

Bell A. 2005. An Illustrated Guide to the Coprophilous Ascomycetes of Australia. CBS Biodiversity Series No. 3, Centraalbureau voor Schimmelcultures, Utrecht, the Netherlands, 172 pages. Pages 24 & 93 provide keys to 6 coprophilous *Coprotus* species and illustrations of *Coprotus baeosporus*. Ann's illustrations are reproduced on the page after next.

Kušan I., Matočec N., Jadan M., Tkalčec Z. & Mešić A. 2017. An overview of the genus *Coprotus* with notes on the type species and description of *C. epithecioides* sp. nov. MycoKeys 29: 15–47. This more recent reference is invaluable. It provides a historical summary, a worldwide key to accepted putative species of *Coprotus*, tables comparing their various morphological features and a phylogram with those species sequenced.

https://inaturalist.lu/taxa/1401107-Coprotus-baeosporus See portions of this website on the 3rd page after this page.

Jeng, R.S. and J.C. Krug. 1977. New records and new species of coprophilous Pezizales from Argentina and Venezuela. Can. J. Bot. 55: 2987–3000. Portions of pp. 2992, 2994 & 2995 are reproduced below.

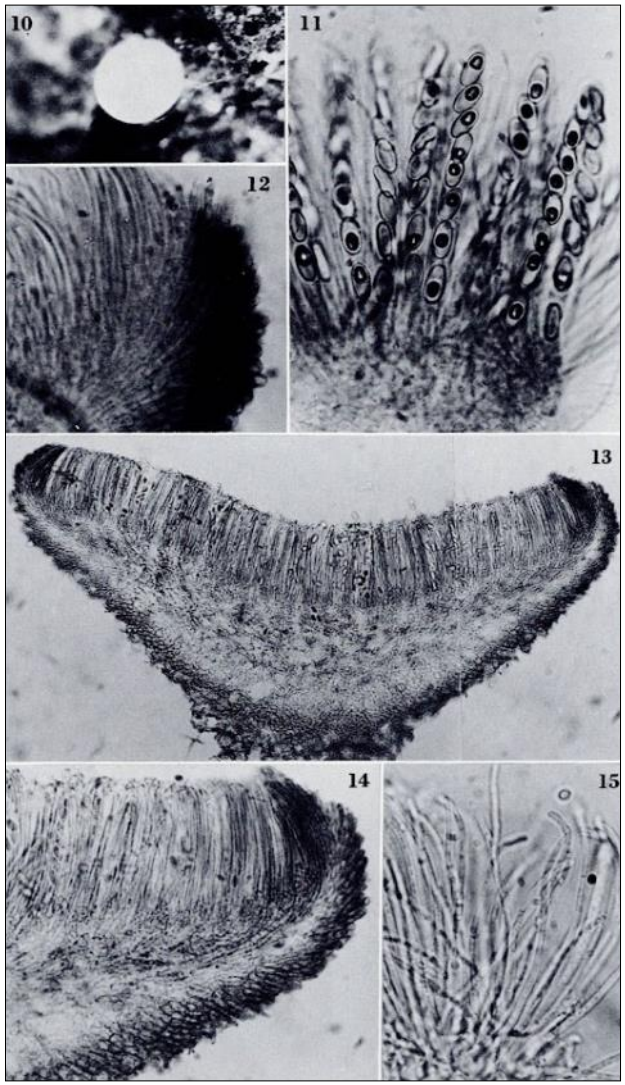
Coprotus baeosporus Jeng & Krug, sp. nov.
Figs. 10–15

ETYMOLOGY: Greek, *baios* (βαιος) = small, and *spora* (σπορα) = seed, referring to the size of the ascospores.

Apothecia scattered, superficial, white to pale yellowish, discoid to saucer-shaped, sessile to short stipitate, 200–650 µm diameter, smooth. Excipulum two-layered, consisting of an ectal excipulum of textura angularis, with relatively thick-walled, hyaline cells measuring 3–12 × 3–9 µm, which toward the exterior become more elongated and parallel, distinctly dextrinoid; and a medullary excipulum of textura intricata, with thin-walled, hyaline cells measuring 1–2 µm diameter. *Asci* operculate, non-amyloid, staining uniformly in Congo red, eight-spored, cylindrical, 60–90 × 6–9 µm, rounded above, contracted below into a short stipe. *Paraphyses* filiform, septate, simple or branched, slightly uncinate but not inflated at the apices, filled with numerous small pale yellowish guttules. *Ascospores* uniseriate, rarely biseriate, one-celled, ellipsoidal, 7–8.5 × 3.5–4.5 µm, hyaline, smooth, with each containing a single de Bary bubble. *Conidia* unknown.

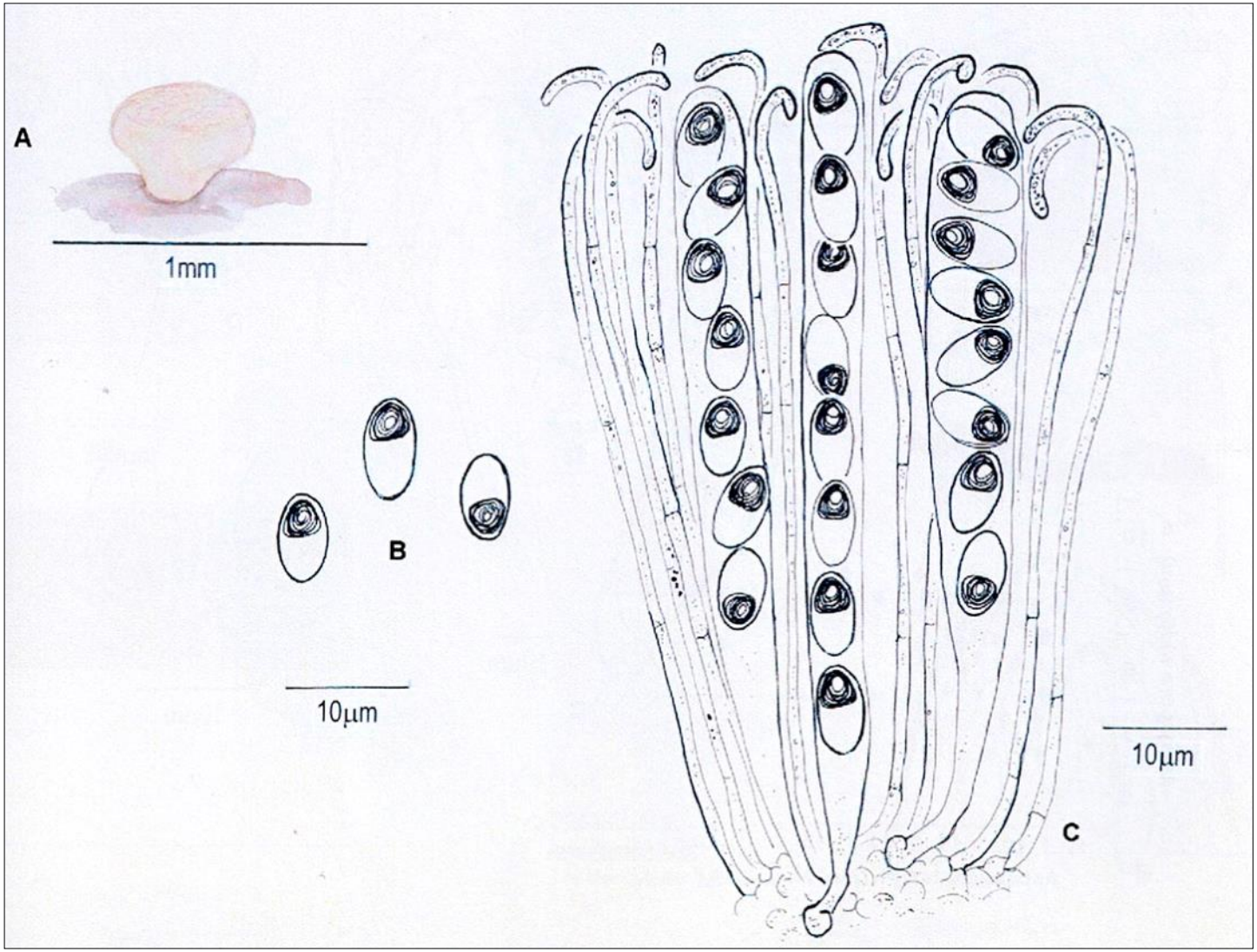
HABITAT: On deer dung.

SPECIMEN EXAMINED: VENEZUELA: Edo. Bolivar: on road between El Dorado and Sta. Elena, about 118 km S of El Dorado, from old military camp 'Ciento Veinticinco', trail up N facing slope of Uei-Tepui, deer dung, 5 Aug. 1972, *Dumont*, *Cain*, *Samuels* and *Blanco* VE-6986e, TYPE (TRTC).



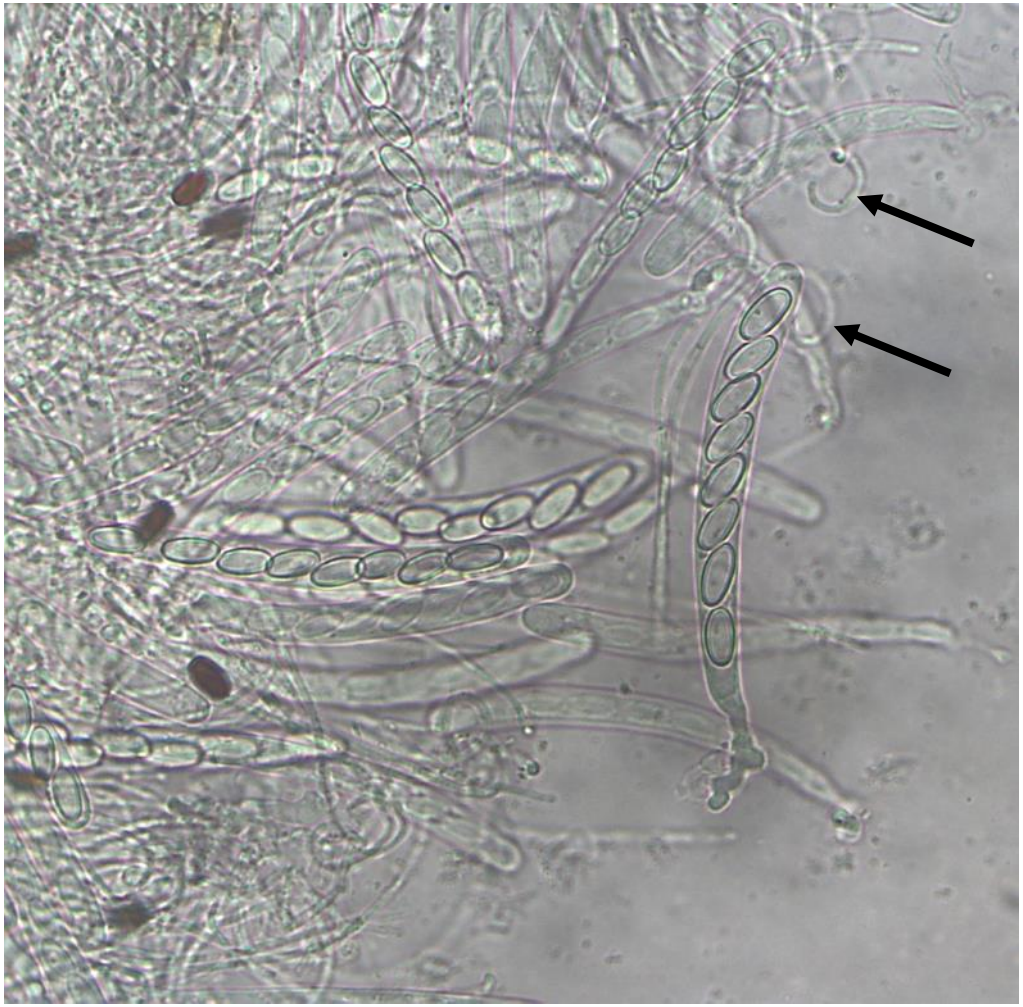
FIGS. 10–15. *Coprotus baeosporus*. Fig. 10. Habit view of an apothecium. × 40. Fig. 11. Portion of a squashed apothecium showing the asci, ascospores, and paraphyses. × 780. Fig. 12. Portion of a squashed apothecium showing the marginal cells of the excipulum. × 780. Fig. 13. Longitudinal section through an apothecium. × 185. Fig. 14. Section of an apothecium showing the ectal and medullary excipulum and hymenial layer. × 370. Fig. 15. Filiform, uncinate paraphyses. × 780.

Bell A. 2005. An Illustrated Guide to the Coprophilous Ascomycetes of Australia. CBS Biodiversity Series No. 3, Centraalbureau voor Schimmelcultures, Utrecht, the Netherlands, 172 pages.

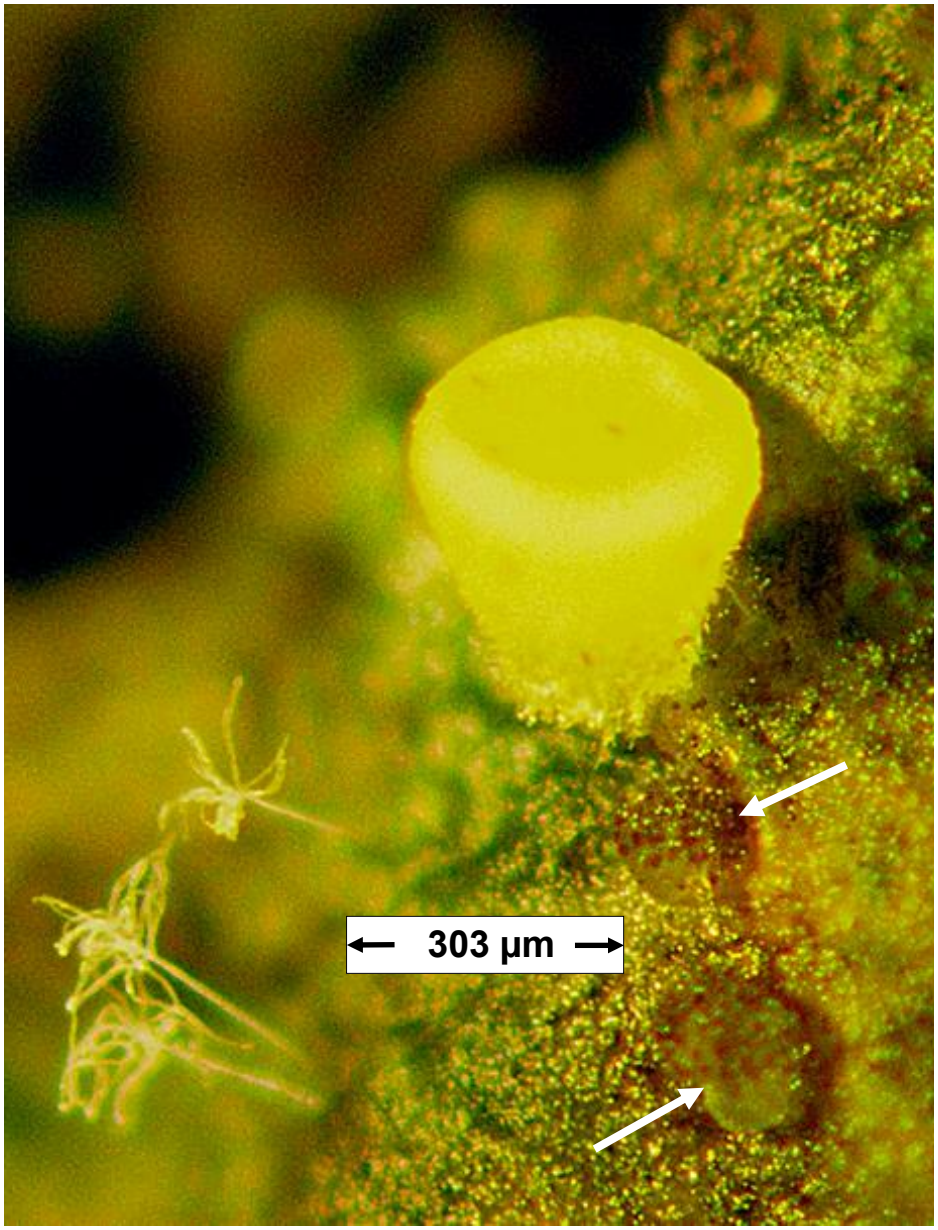


Page 93, Fig. 39. *Coprotus baeosporus*. A–C. A. Mature apothecium. B. Ascospores showing de Bary bubbles. C. Group of mature asci, ascospores & paraphyses. Ann's unpublished data records and SMF slides on which these drawings were based are treated in PDD 126083 (= AEB 1398) and the PDD 126083 external link to the datastore.

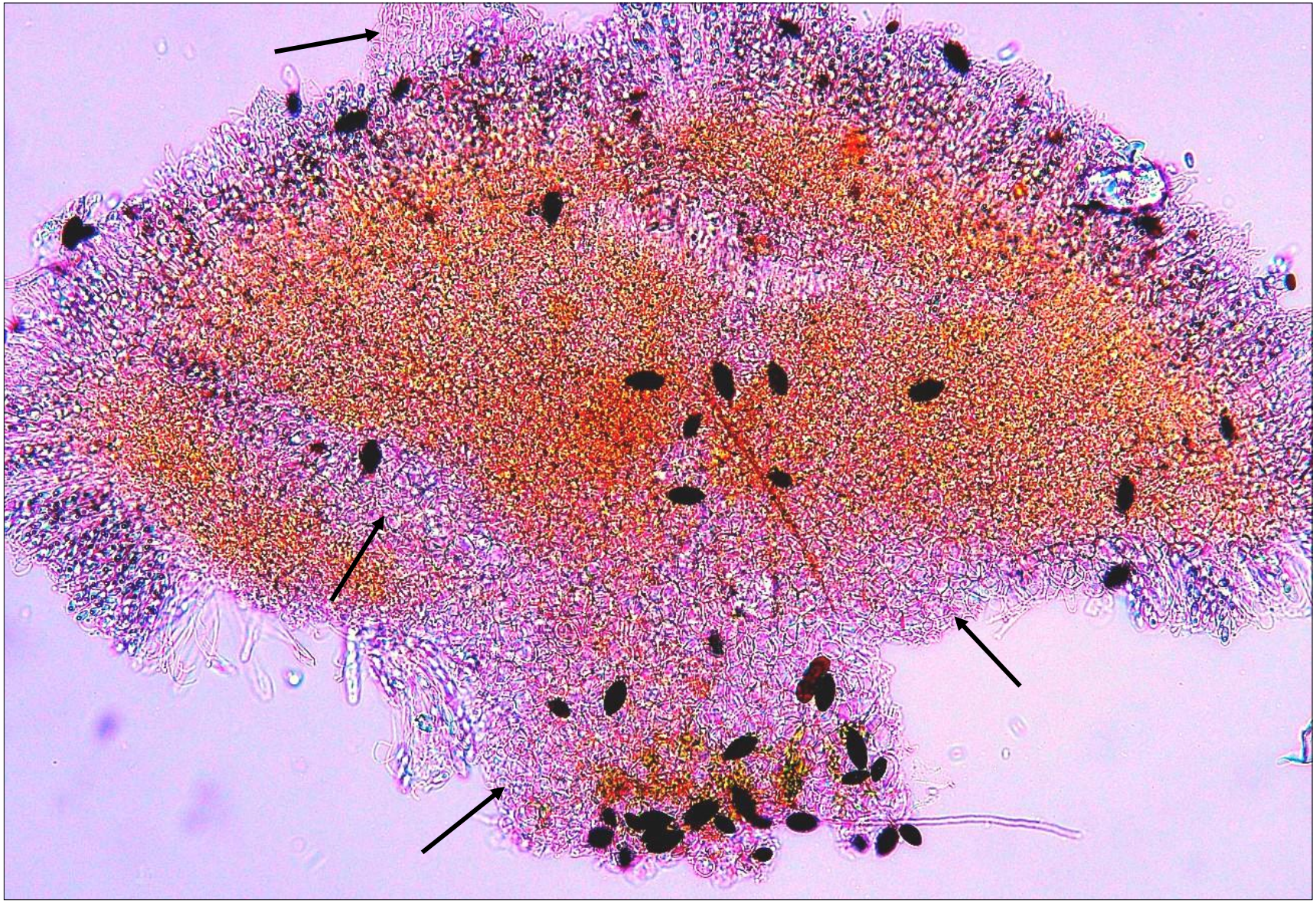
https://inaturalist.lu/taxa/1401107-Coprotus-baeosporus



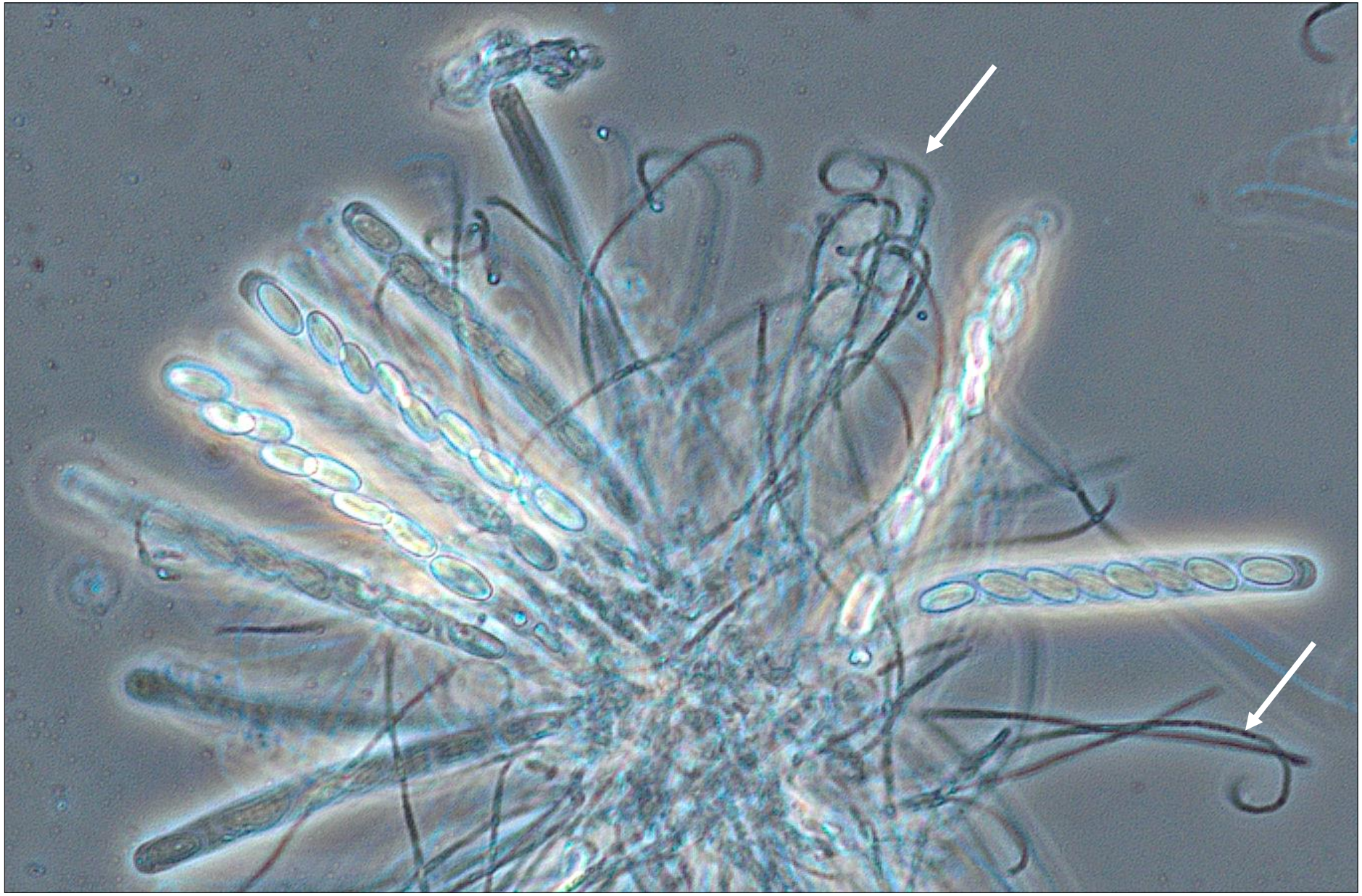
The *Coprotus baeosporus* photos above were taken by Peter Zuidland from deer dung collected 12 Apr 2022 at Port Albert VIC 3971 Australia. His notes are these: "This is a match for *Coprotus baeosporus* (Jeng & J.C. Krug), see Ann Bell's Coprophilous asco's of Australia. A cup/disc like species. Spores are hyaline with the right dimensions and have de Bary bubbles, paraphyses are uncinate with no branching seen, asci are right size and shape @80x8um." Note the uncinate paraphyses (arrowed) in the left photo.
"See also "An overview of the genus *Coprotus* (Pezizales, Ascomycota) with notes on the type species and description of *C. epithecioides* sp. nov.' Ivana Kušan, Neven Matočec, Margita Jadan, Zdenko Tkalčec, Armin Mešić for keys, description & isolated on deer."



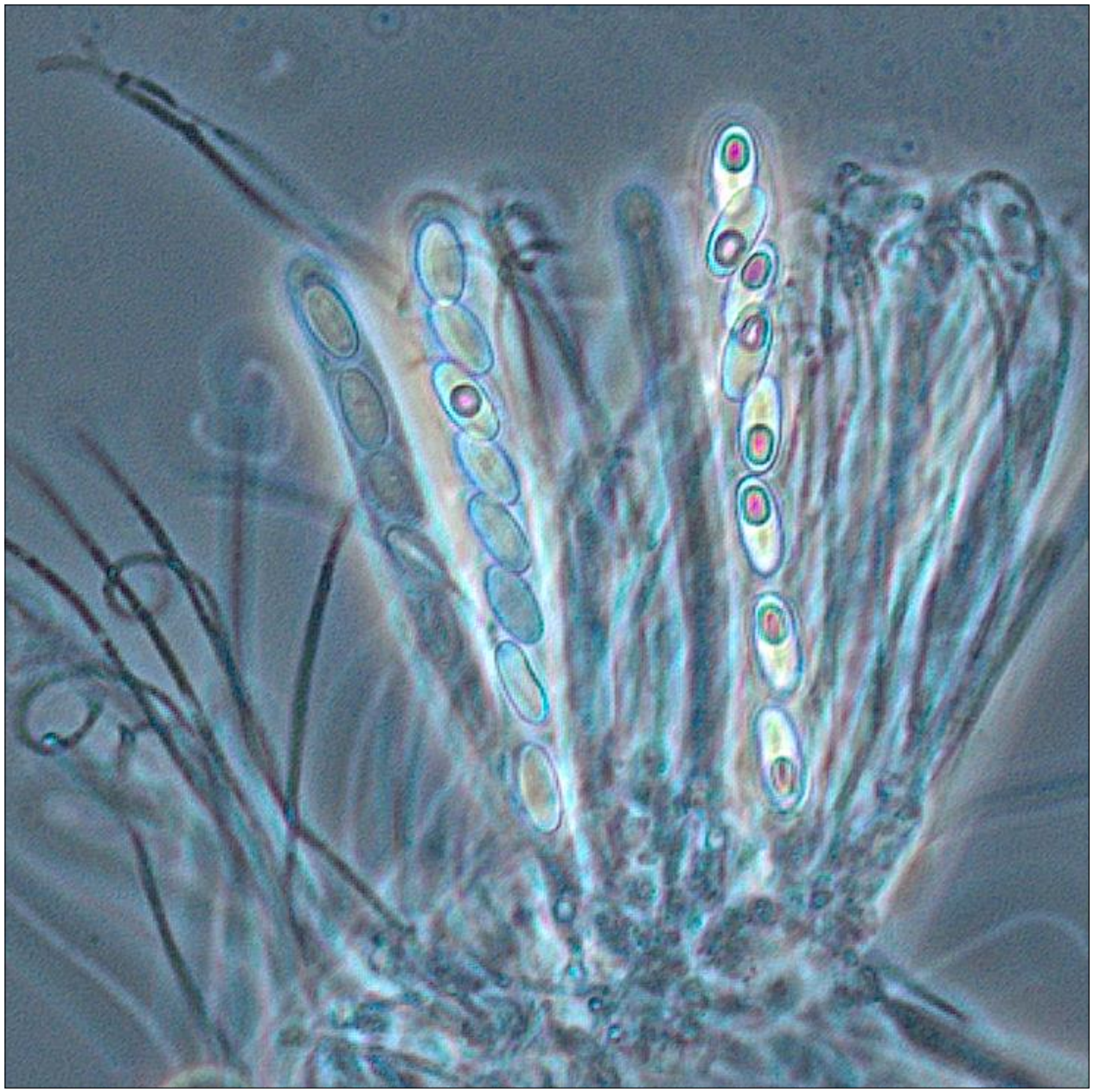
AEB 1397. In-situ view on 11 January 2025 of a fresh fertile apothecium on the surface of moist-chamber-incubated feral pig dung. This apothecium and other scattered specimens were late appearances on the incubating dung (now 2 months since the onset of incubation). Note also 2 apothecia of *Saccobolus minimus* (arrowed).

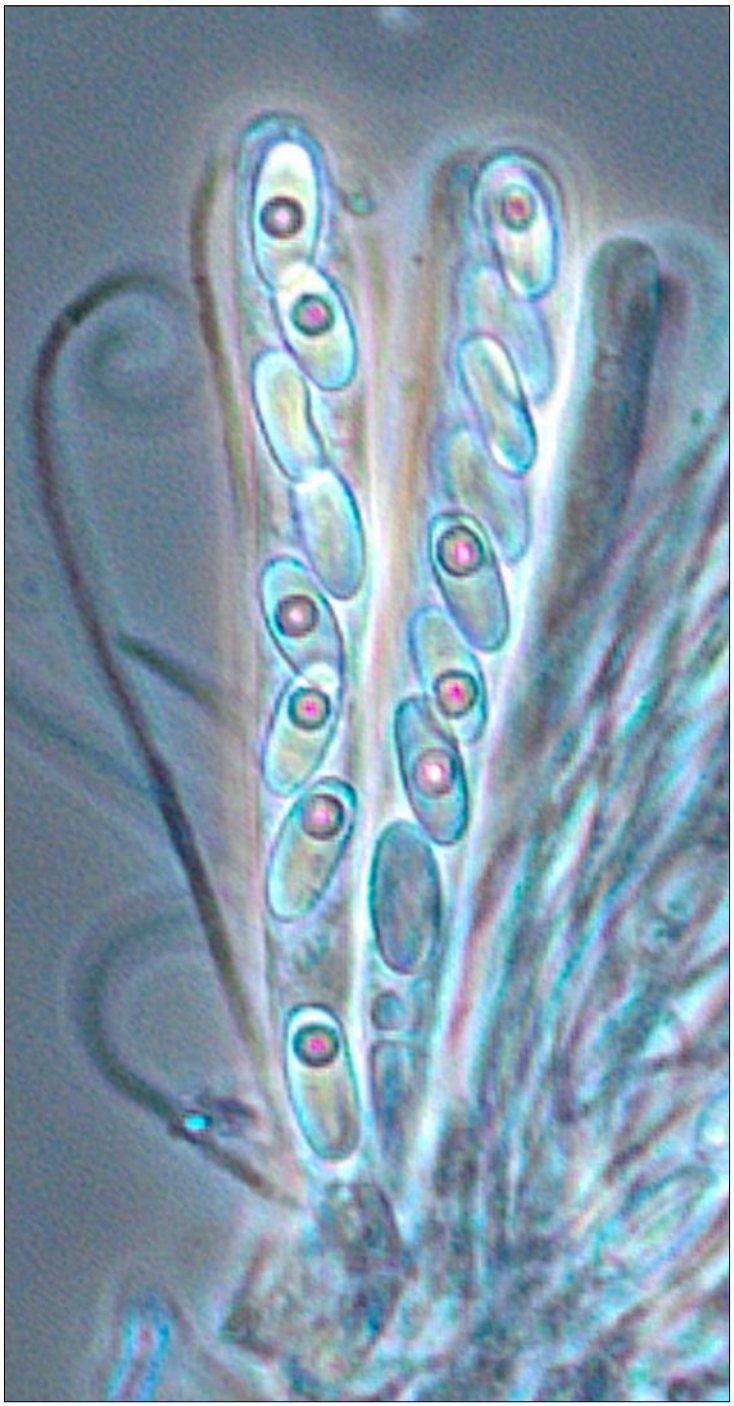


AEB 1397. Thin razor section of a fresh apothecium from moist-chamber-incubated feral pig dung mounted in Melzer's reagent. Photo taken 20 January 2025. Note the pinky-red dextrinoid reaction of the textura angularis tissue in the ectal excipulum. Best seen in thin areas of the section (arrowed). The scattered blackish spores are those of a nearby *Podospora* species.

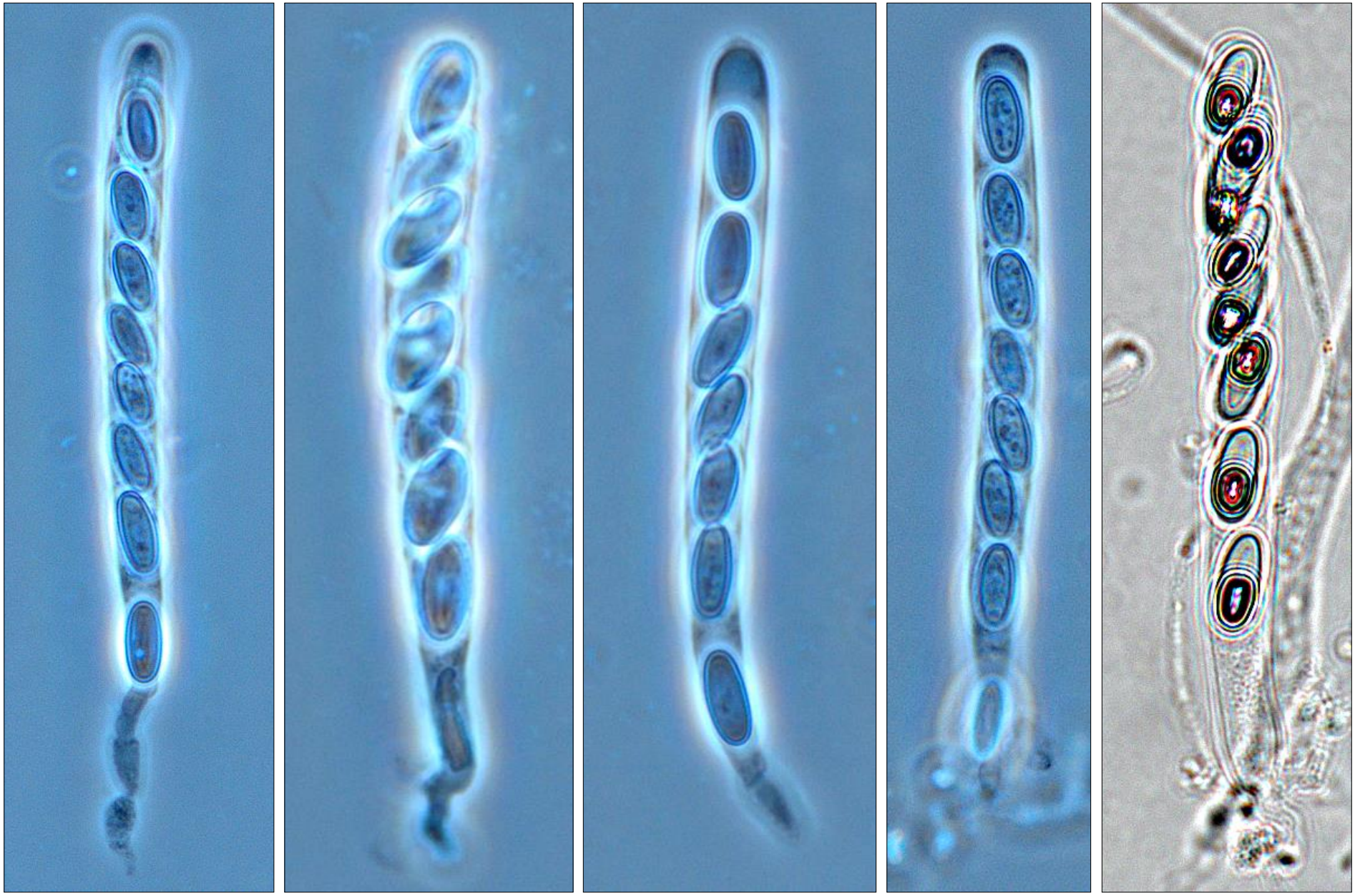


AEB 1397. Photo of a hymenium squash in a water mount irrigated with SMF taken 12 January 2025 using phase microscopy and a X40 objective (enlarged view). Note the 8-spored cylindrical asci and the uncinate paraphyses (the latter arrowed).





AEB 1397. Another photo from the same slide mount on the previous page. Here, however, many of the ascospores have de Bary bubbles.



AEB 1397. All photos: asci broken free of their hymenium in a SMF squash. Viewed under X100 objective (variously cropped & enlarged) on 17 Jan. 2025. Four phase, ascospores lacking de Bary bubbles; one brightfield with bubbles. Phase photos: asci 67–78 × 6–7 µm, ascospores 7.5–9 × 4 µm. Brightfield photo: ascus 80 × 6 µm, ascospores 9.5 × 4 µm.