***Lasiobolus macrotrichus* Rea – PDD 126769 (= AEB 1422)**

Collection: 5 April 2024; **Incubation in a moist chamber:** a week or so later

Substrate: red deer (*Cervus elaphus*) dung

Collection site: Raukumara Conservation Park, NZTM = E2014912, N5801777, on ridge under mixed native forest (rewarewa, tawa, hinau, miro, hard-beech)

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

Voucher materials: no dried herbarium specimens but 1 Shear's mounting fluid (SMF) semi-permanent microscope slide; dissecting scope photo of a fresh apothecium on the incubating dung & Olympus BX51 compound scope microscopic detail photos using a DP28 camera; Pertinent references & Dan's comments.

Pertinent reference consulted:

Bezerra J.L. & J.W. Kimbrough. 1975. The genus *Lasiobolus* (Pezizales, Ascomycetes). Can. J. Bot. 53: 1206-1229. See the next page for a key to species and a description and illustrations of *L. macrotrichus*.

Comments:

1. The length and overall size of the setae and the shape/size of the ascospores make this species of *Lasiobolus* more easily identified.

2. See another collection of this species [PDD 126087 (= AEB 1402)], also on red deer dung. Its pdf in the datastore provides a history of Ann Bell's earlier work in mainland NZ as well as on the Auckland and Stewart Islands. Ann also included *Lasiobolus macrotrichus* in her 1983 publication – Bell, A. 1983. Dung Fungi an illustrated guide to coprophilous fungi in New Zealand. Victoria University Press, Wellington. 88pp., 46 figs.

Bezerra J.L. & J.W. Kimbrough. 1975. The genus *Lasiobolus* (Pezizales, Ascomycetes). Can. J. Bot. 53: 1206-1229.

See portions of pp. 1213, 1220 & 1221 below.

KEY TO THE SPECIES OF LASIOBOLUS

A. Asci eight-spored.....C
A. Asci containing more than eight spores.....B

B. Apothecia multiascal.....*L. cainii* (1)
B. Apothecia uniascal.....*L. monascus* (9)

C. Ascospores longer than 20 µ.....G
C. Ascospores shorter than 20 µ.....D

D. Setae cylindrical acicular.....E
D. Setae subventricose at the base.....F

E. Ascospores 13–18 × 9–13.5 µ, ectal cells horizontally oriented.....*L. lasioboloides* (6)
E. Ascospores 8.5–11.5 × 6–9 µ, ectal cells vertically oriented.....*L. trichoboloides* (11)

F. Ascospores 13–18 × 7.5–11.5 µ, setae usually smooth.....*L. intermedius* (5)
F. Ascospores 9–11 × 6.6–8.0 µ, setae always with cyanophilic markings.....*L. microsporus* (8)

G. Setae 600 µ long or more.....H
G. Setae less than 600 µ long.....I

H. Ascospores 15–23 × 6–13 µ, narrow ellipsoidal, asci cylindrical.....*L. macrotrichus* (7)
H. Ascospores 22–30 × 9–13.5 µ, subfusiform, asci clavate.....*L. ruber* (10)

I. Ascospores 24–34 × 12–19 µ, becoming yellowish when mature.....*L. diversisporus* (4)
I. Ascospores smaller, 18–24 × 12–14 µ, remaining hyaline.....H

H. Asci broadly clavate, setae subventricose, up to 24 µ diam at the base.....*L. cuniculi* (3)
H. Asci cylindrical or clavate cylindrical, setae ventricose, up to 42 µ at the base.....*L. ciliatus* (2)

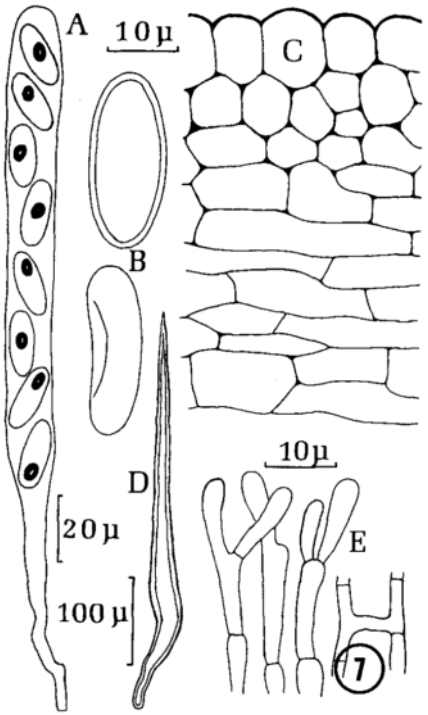
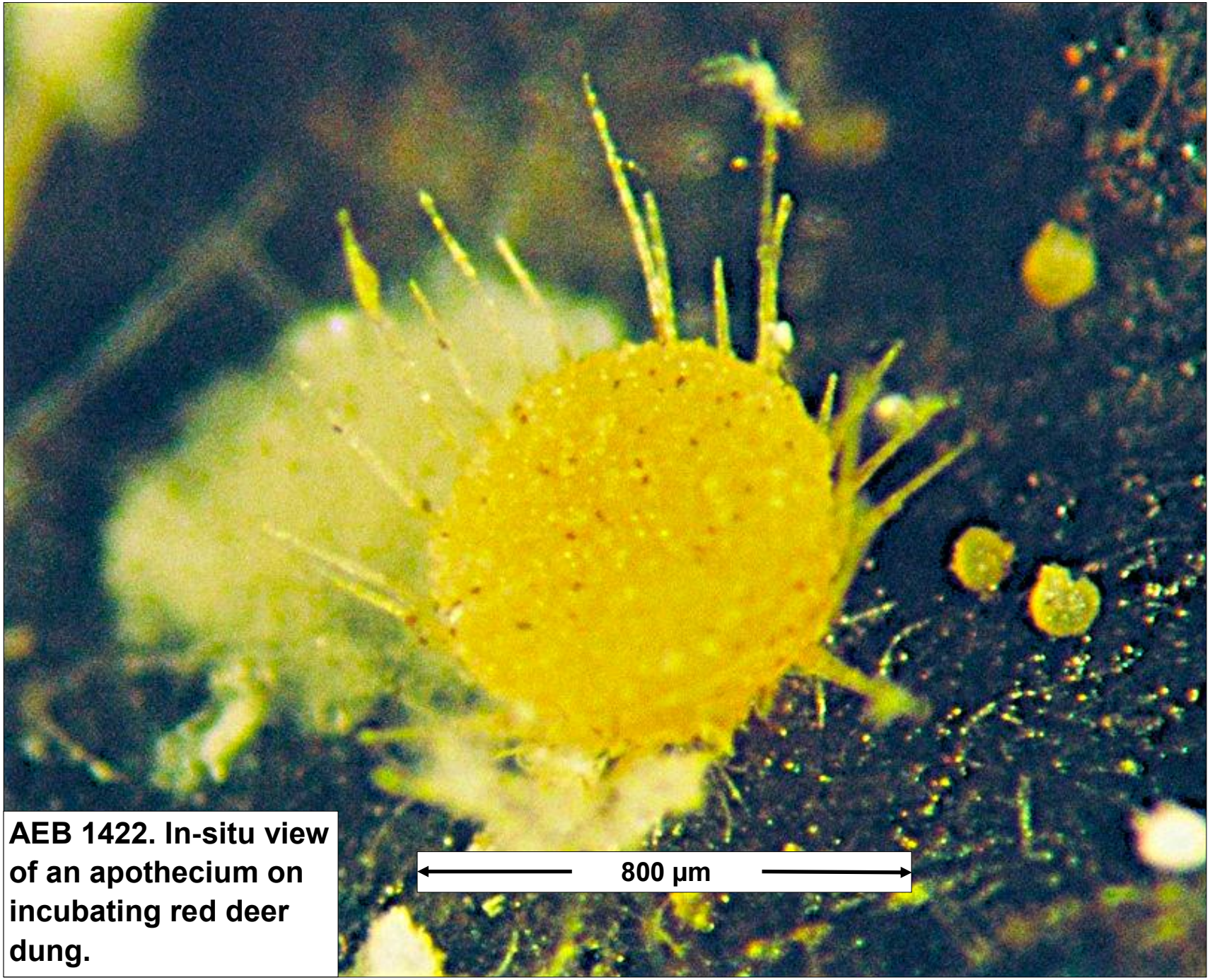


FIG. 7. *Lasiobolus macrotrichus*. A. Ascus and ascospores with deBary bubbles. B. Ascospores. C. Ectal cells. D. Seta. E. Paraphyses apices, two laterally anastomosed.

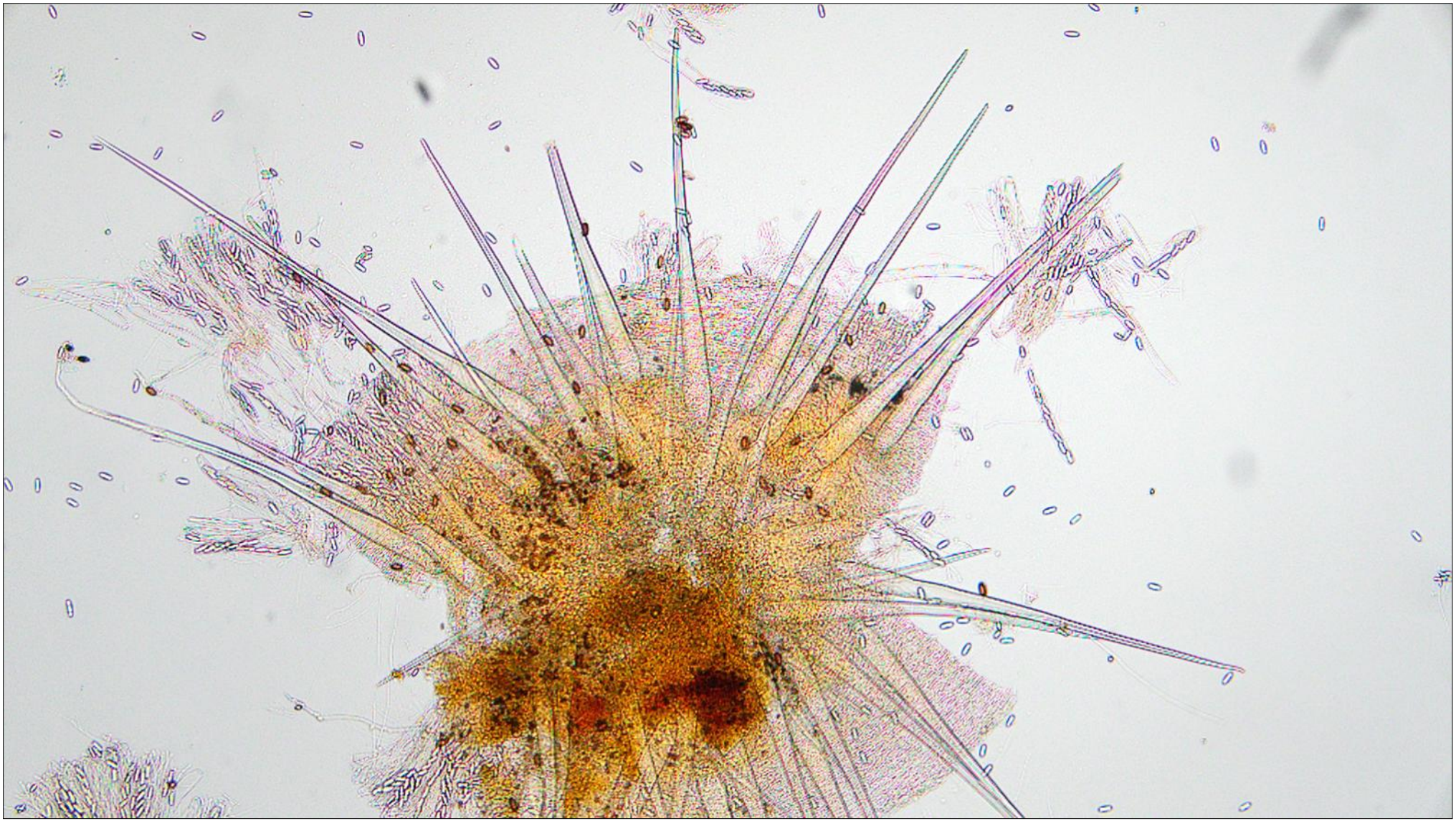
Lasiobolus macrotrichus Rea, Trans. Br. Mycol. Soc. 16: 440. 1917. Fig. 7

Apothecia gregarious to crowded, sessile, (300-)420-800(-1000) µm diam. Disc flat, without distinct margins, pale orange to tan. Receptacle obconical to funnel-shaped, setose, concolorous with the disc; anchoring hyphae subhyaline, non-septate, unbranched, 3.0-5.5 µm diam. **Setae** arising superficially from the lower and median parts of the receptacle, non-septate, bristly, straight, pointed, ventricose, 300-1000(-1380) µm long by 20-48 µm diam at the widest part; walls smooth, 3.0-7.5 µm thick. **Ectal excipulum** of small, elongated, sometimes lobed, horizontally arranged cells, 6.5-20.0 x 3.0-7.5 µm, a textura epidermoidea. **Medullary excipulum** of hyaline, narrow cells. Subhymenium inconspicuous. Hymenium multiascal, Iodine negative. **Asci** cylindrical, rounded or truncate above, attenuate below, usually long pedicellate, 110-240 x 15-27 µm, eight-spored. **Ascospores** obliquely uniseriate, hyaline, ellipsoidal, rounded at both ends, smooth-walled, (15-)17-22(-24) x (5.5-)9.0-12.0(-13.5) µm, each with a conspicuous deBary bubble. **Paraphyses** hyaline, filiform, septate, branched, slightly inflated to 2-3 µm diam at their apices. **Habitat**: On dung of various animals. **Name**: Referring to the long setae.

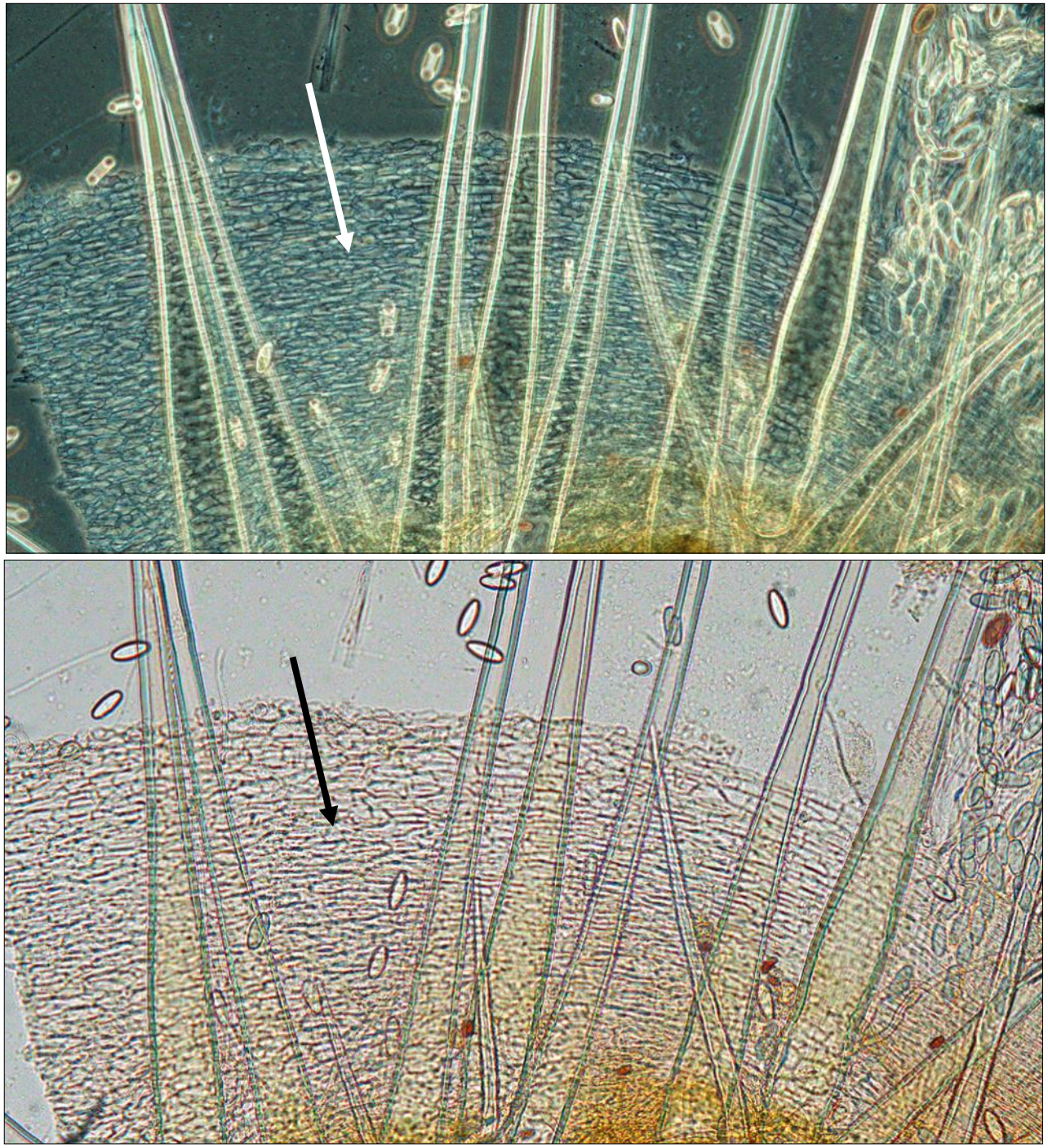


AEB 1422. In-situ view of an apothecium on incubating red deer dung.

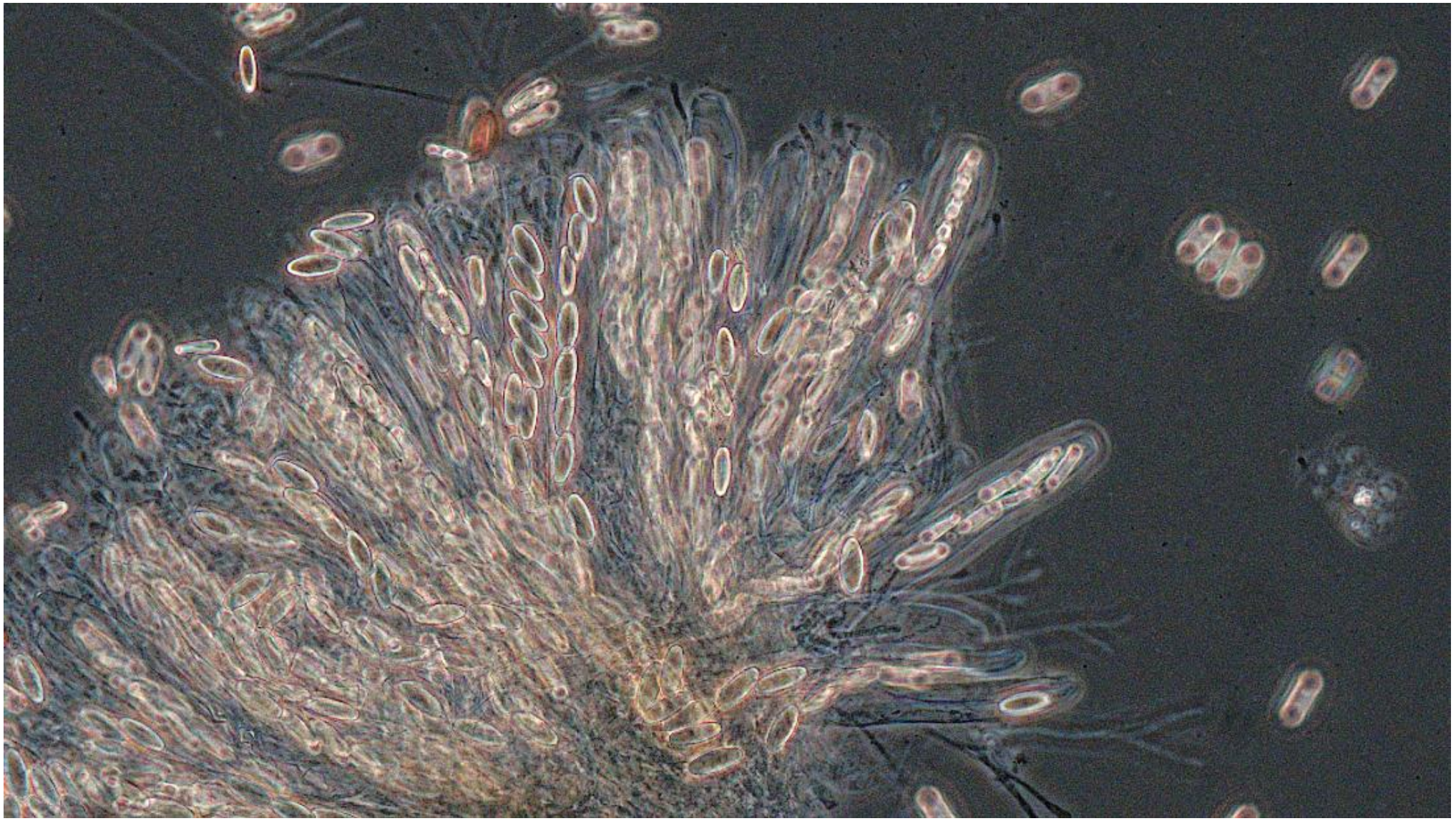
AEB 1422. Overhead view of an apothecium in a SMF slide mount, using the X10 objective on the Olympus microscope. Note the faint septations in a few of the setae (arrowed).



AEB 1422. Squashed view of an apothecium in a SMF slide mount, using the X10 objective on the Olympus microscope. This view is from the voucher slide for this collection.



AEB 1422. Both photos the same field of view using a SMF slide and the X40 objective; top phase, bottom brightfield. Aside from the setae, note especially the ectal excipulum of small, elongated, sometimes lobed, horizontally arranged cells (arrowed).



AEB 1422. Squashed view of an apothecium hymenium in a SMF slide mount, using the X40 objective and phase microscopy. Note particularly the long narrowly ellipsoid ascospores – here measuring 17.5–20 × 7–8 µm.