***Sporormiella splendens* (Cain) S.I. Ahmed & Cain 1972 – AEB 1222 (= PDD 110464) A good match to the Ahmed & Cain morphological description provided on the next page.**
Index Fungorum recognizes its current name as *Preussia splendens* (Cain) Kruys 2009

Substrate: snowshoe hare (Lepus americanus) dung

Collection site: Snowbank Lake, 22 miles NE of Ely, Minnesota, U.S.A.

Collection date: 24 July 2013

Collector: Dan Mahoney

Identifiers: Dan Mahoney and Ann Bell

Voucher materials: herbarium specimen [AEB 1222 (= PDD 110464)], only consists of 2 Shear's mounting fluid (SMF) semi-permanent slides since the ascomata were present on only one of many hare pellets and were scant on that pellet; Dan's compound scope digital photos of microscopic detail; Dan and Ann's brief description and comments.

Brief description: **Ascomata** sparse, pyriform, dark brown, smooth. **Peridium** a textura angularis. **Asci** bitunicate**,** regularly 8-spored, 212.5–240 × 57.5–62.5 µm, (n = <10), clavate, broadly rounded above, considerably enlarged in the middle, contracted below into a short broad stipe. **Pseudoparaphyses** hyaline, filiform, septate. **Ascospores** dark brown, smooth, 132.5–145 × (10–)12–14 µm (n = <10), nearly parallel within the ascus, tri– to multiseriate and overlapping in the ascus middle portion, regularly 8-celled, transversely septate, with the terminal cells tapering toward the ends and somewhat longer (especially the apical cell) than the middle six cells, the middle six cells longer than broad and oblong-cylindrical, all cells invaginated at the septa and separating with age, longitudinal germ slits diagonal – straight to sigmoid, gelatinous sheath hyaline, thin.

Comments: Discussions regarding the taxonomic status of *Sporormiella* & *Preussia* continue. Publications such as "Asgari, B. & Zare R. 2010. Two new species of Preussia from Iran. Nova Hedwigia 90: 533–548" review that discussion while those by Asa Kruys do likewise (see her 2015 citation, 4th page of this pdf). Kruys' comment was "I treat them as synonyms since molecular phylogenetic studies do not support a differentiation of *Preussia* from *Sporormiella*." Having said that, she continues to transfer *Sporormiella* species to *Preussia* as she did in her 2009 publication [*Preussia splendens* (Cain) Kruys, comb nov.; Basionym: *Sporormia splendens* Cain, Cain (1934, p. 107)]. It is my hope that future publications will wait until more field collections are described and illustrated since sequencing alone has failed to separate the genera.

Ahmed, S. Iftikhar & Cain R.F. 1972. Revision of the genera *Sporormia* and *Sporormiella*. Canadian Journal of Botany 50(3): 419–477.

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57. ***Sporormiella splendens*** (Cain) Ahmed & Cain, comb. nov. Figs. 150–153

BASIONYM: *Sporormia splendens* Cain, Univ. Toronto Stud., Biol. Ser. No. 38: 107. 1934.

Perithecia scattered, immersed, pyriform, 550–625 × 350–410 μ, smooth, bare, dark brown; neck short, papilliform, 150–180 × 100–125 μ, roughened with small papillae or bare, dark brown to black. Peridium thin, membranaceous. Asci eight-spored, clavate, 200–270 × (40–)45–55 μ, broadly rounded above, considerably enlarged in the middle, contracted below into a short, broad stipe, measuring 10–15 μ in length. Paraphyses abundant, filiform, septate, sparingly branched, slightly longer than the asci and mixed with them. Ascospores nearly parallel with the ascus, bi- or tri-seriate, all overlapping in the middle, eight-celled, cylindrical, (130–)140–160 (–165) × 9.0–12.5 μ, dark brown when mature, septa transverse, constrictions at septa broad and deep, segments easily separable; terminal cells tapering toward the ends, apical cell more narrowed than the basal cell, remaining cells longer than broad, cylindrical; germ slit oblique to almost diagonal; gelatinous sheath hyaline, narrow.

HABITAT: On dung of rabbit and porcupine.

TYPE: On rabbit dung, Ontario, Nipissing Dist., Lake Timagami, *Cain*, TRTC 5321.

SPECIMENS EXAMINED: CANADA: Ontario: Algoma Dist., TRTC 32385, 35746, 36762, 37561, 40609, 40611. Haliburton Co., TRTC 36102, 36112. Kenora Dist., TRTC 35871. Muskoka Dist., TRTC 5394, 36044. Nipissing Dist., RFC 6288, 6294, 6299, 6300, 6301, 6302, 6303, 6387, 6705, 9081, TRTC 5321 (TYPE), 5393, 5395. Parry Sound Dist., TRTC 39711. Sudbury Dist., TRTC 36361, 39710, 40605. Timiskaming Dist., TRTC 35947, 35968, 35993, 36002. Quebec: Montmorency Co., TRTC 39754, 39755. Quebec Co., RFC 6878. UNITED STATES: New Hampshire: Cheshire Co., TRTC 32654.

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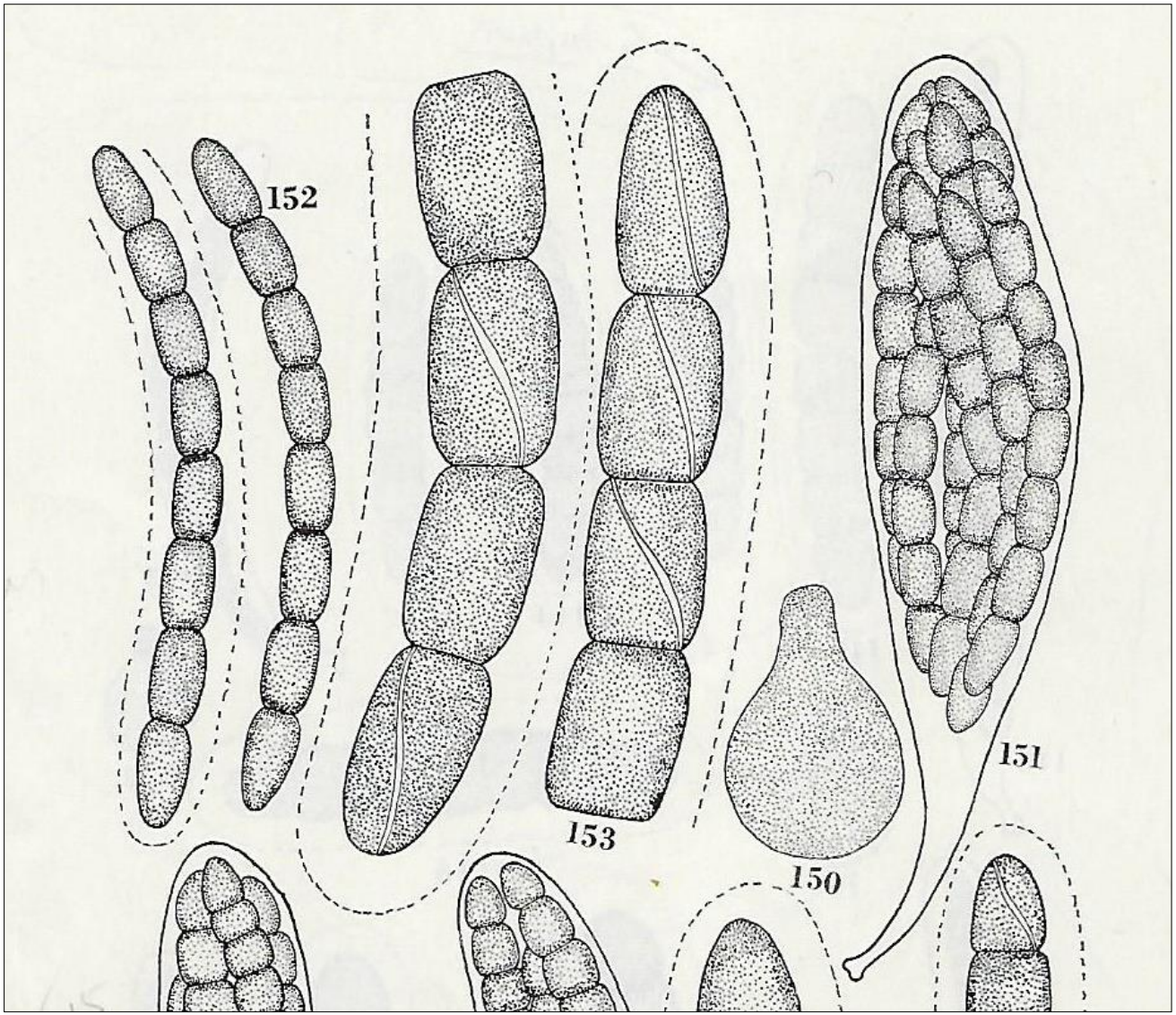


FIGS. 150–153. *Sporormiella splendens* (TRTC 35746). Fig. 150. Perithecium, X40. Fig. 151. Ascus with ascospores, X430. Fig. 152. Ascospores, X430. Fig. 153. Parts of ascospore, X920.

Doveri F. & Sarrocco S. 2013. *Sporormiella octomegaspora*, a new hairy species with eight-celled ascospores from Spain. Mycotaxon 123: 129–140.

Worldwide key to Sporormiella species with 8-celled ascospores **(portions of the key from pages 136 & 137)**

1a. Ascospores 5–10-celled (never consistently 8-celled) 2

1b. Ascospores consistently 8-celled 7

7a (1b). Ascospores >100 µm long 8

7b. Ascospores <100 µm long 10

8a. Ascomata hairy, 720–900 × 400–500 µm. Ascospores 152–175 × 16–18 µm, cylindric-subfusiform with third to sixth cells from the upper end almost as long as wide, and the third usually the broadest. Germ slits sigmoid and parallel . . . . . **S. octomegaspora**

8b. Ascomata glabrous, smaller. Ascospores narrower, cylindrical. Germ slits oblique to diagonal . . 9

9a. Ascomata 550–600 × 350–400 µm. Ascospores 135–165 × 9.5–12.5 µm (Cain 1934), with middle cells longer than broad, cylindrical . . . . . **S. splendens**

9b. Ascomata subglobose, 250–330 µm diam. Ascospores 100–122 × 14–15 µm (Ahmed & Cain 1972), with middle cells almost equal in size, cubical . . . . . **S. insignis**

KRUYS, ÅSA. 2015. New species of *Preussia* with 8-celled ascospores (Sporormiaceae, Pleosporales, Ascomycota). Phytotaxa 234(2): 143–150.

Worldwide key to the coprophilous species of *Preussia* sensu lato with consistently eight-celled ascospores (species > 100 µm long in red)

1. Ascospores cylindrical, with middle cells (almost) equal in width 2

   Ascospores fusiform, with one cell enlarged and broader 8

2. Ascospores less than 60 µm long 3

   Ascospores over 60 µm long 4

3. Ascospores 48–58 × 6–7 µm, easily part in the middle ..... P. bipartis (Cain) Kruys

   Ascospores 47–57 × 12–14 µm ..... Sporormia pulchra E. C. Hansen

4. Ascospores with middle cells broader than long 5

   Ascospores with middle cells cubical—longer than broad, over 100 µm long..... 6

5. Ascospores 79–95 × 14–16 µm, with constrictions at septa deep and broad, end cells ovoid ..... S. platymera S.I. Ahmed & Cain

   Ascospores 72–108 × 14–19 µm, with rectangular middle cells and rounded end cells .....P. tenerifae (Arx & Guarro) Kruys

6. Ascomata hairy, ascospores 130–160 × 15–17 µm, easily part in the middle .....

   .....P. octocylindrospora N. Lundq. & Kruys

   Ascomata glabrous, ascospores narrower 7

7. Ascospores 140–160 × 9–12.5 µm (Ahmed & Cain 1972) ..... P. splendens (Cain) Kruys

   Ascospores 100–122 × 14–15 µm (Ahmed & Cain 1972) .....

   ..... S. insignis (Niessl) S.I. Ahmed & Cain

8. 3rd cell broadest 9

   4th cell broadest 16

9. Ascospores 152–175 × 16–18 µm ..... *S. octomegaspora* F. Doveri & S. Sarrocco

   Ascospores less than 100 µm long 10

10. Ascospores less than 12 µm wide 11

    Ascospores more than 12 µm wide 14

11. Asci abruptly ending in a very short stipe, ascospores 52–57 × 8–9 µm .....

    ..... *S. schadospora* S.I. Ahmed & Cain

    Asci gently narrowing in a long stipe 12

12. Ascospores 52.5–60 × 9.5–10.5 µm (Doveri 2008), 50–59 × 10–11.5 (Ahmed & Cain 1972) ..... *S. corynespora* (Niessl) S.I. Ahmed & Cain

    Ascospores smaller 13

13. Ascospores 38–43.5 × 8–9 µm (Doveri 2008), 40–48 × 7–8 (Ahmed & Cain 1972)

    ..... *P. octomera* (Auersw.) Kruys

    Ascospores 45–52 × 6–7 µm ..... *P. alpina* N. Lundq. & Kruys

14. Ascospores with hemispheric end cells, 48.5–63 × 12.5–14.5 µm (Doveri 2008), 48–58 × 12–14 µm (Ahmed & Cain 1972)..... *P. octonalis* (S.I. Ahmed & Cain) Soláns

    Ascospores with tapered end cells 15

15. Ascospores 55–70 × 13–15 µm ..... *S. tomilinii* O.V. Korol.

    Ascospores 65–80 × 12–15 µm .....

    ..... *P. affinis* (Sacc., E. Bommer & M. Rousseau) Valldos. & Guarro

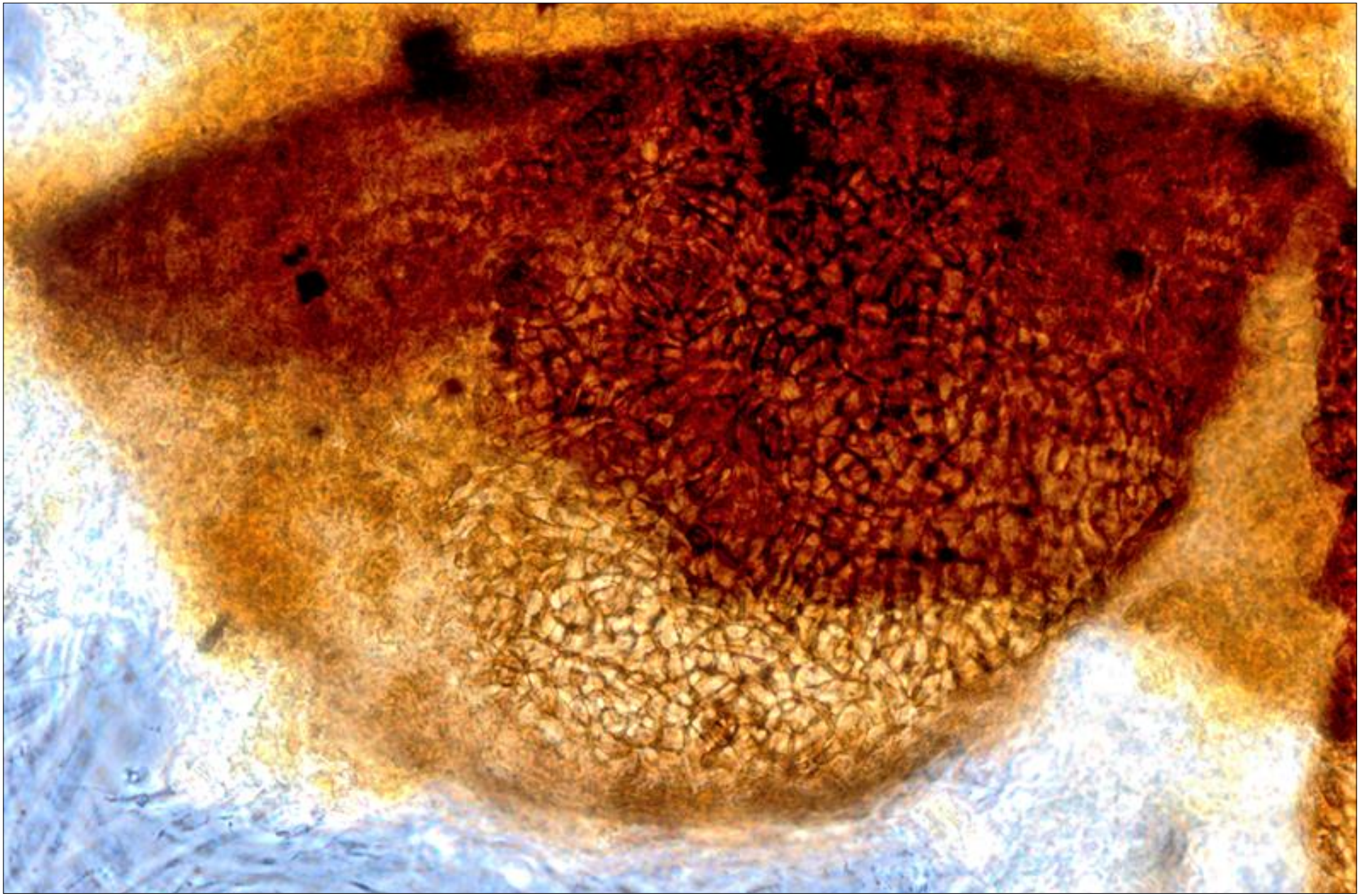
16. Ascospores 34–42 × 7 µm (Doveri 2008), 32–36 × 5.5–6.5 µm (Ahmed & Cain 1972), asci gradually tapering to a short stipe ..... *P. minipascua* (S.I. Ahmed & Cain) Kruys

    Ascospores larger, asci abruptly short-stipitate 17

17. Ascospores 40–51.5 × 7.5–8.5 µm (Doveri 2008), 40–49 × 8–9 µm (Ahmed & Cain 1972) ..... *P. pascua* (Niessl) Valldos. & Guarro

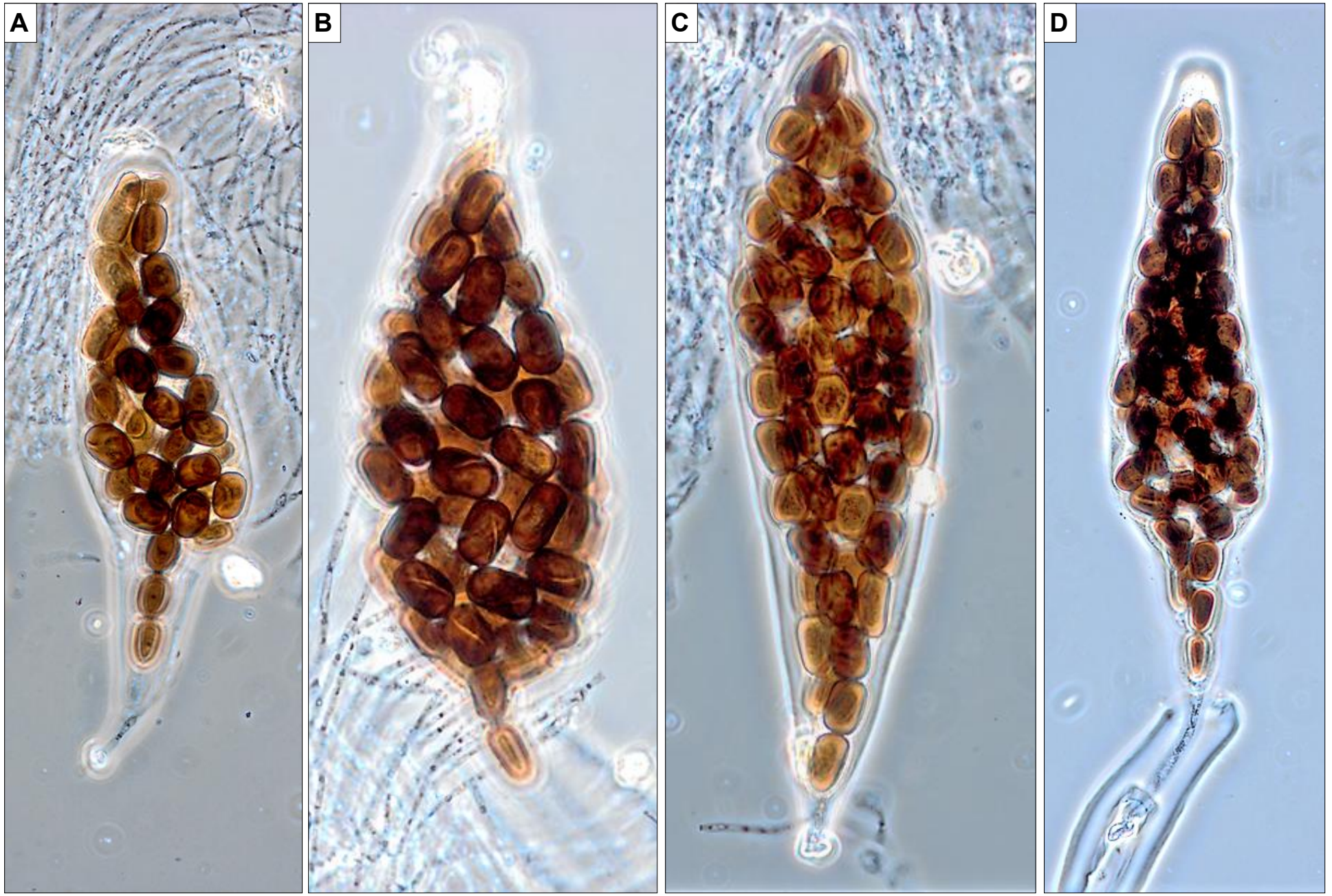
    Ascospores 49–58 × 9–10 µm (Ahmed & Cain 1972) .....

    ..... *S. ontariensis* (Cain) S.I. Ahmed & Cain

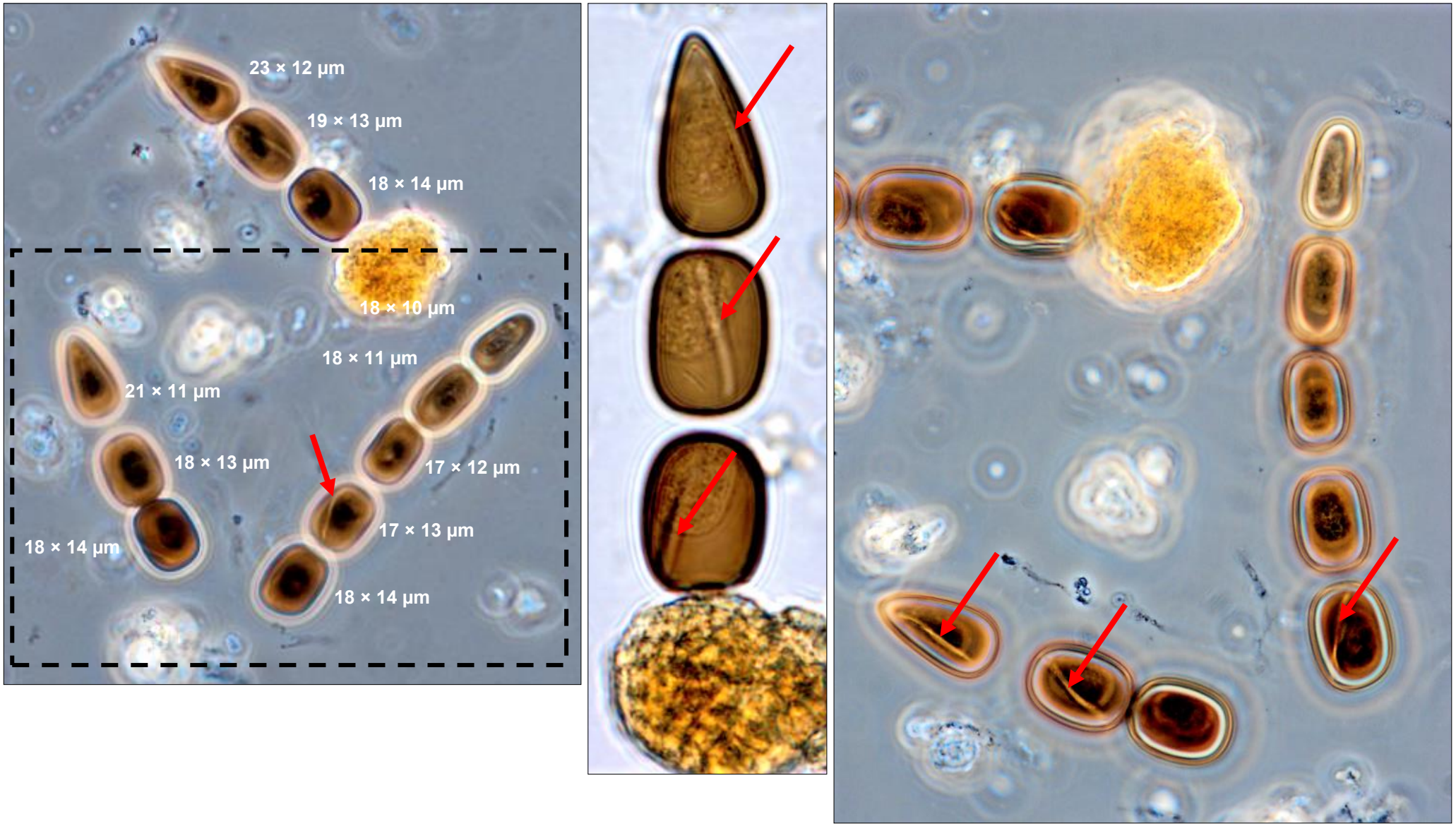


Ascoma fragment exhibiting its textura angularis peridium. Photo taken 28 July 2021 using a SMF slide prepared from fresh material in July 2013. The photo was taken with phase microscopy under the X40 objective.

Asci & ascospores. Photos taken from fresh material on 26 July 2013. Both from water mounts under the X40 objective using brightfield microscopy. Left photo: young short-stiped bitunicate ascus 212.5 × 62.5 µm with 8-celled ascospores. Note the longer, tapering ascospore end cells (solid-arrows) and the equal-shaped oblong cylindrical mid-cells (dotted-arrows). Right photo: ascus with dark mature ascospores. Overexposed to show the germ slits.



A–D. Asci with dark mature disarticulating ascospores. Note the longitudinal germ slits. Photos taken 28 July 2021 using a SMF slide prepared from fresh material in July 2013. The photos were taken with phase microscopy under the X40 objective.



Ascospores. Photos taken 28 July 2021 using a SMF slide prepared from fresh material in July 2013. Left photo: X40 objective, phase. Other photos are more highly magnified portions of the left photo: X100 objective, brightfield & phase (sizes of these are configured to fit the page). All ascospore cell sizes at the left were measured under the X100 objective. The black-dashed rectangle at the left contains one partially disarticulated ascospore. Note the characteristic straight to sigmoid diagonal germ slits (red-arrowed).