

SPECIMENS EXAMINED: MEXICO: Hidalgo, TRTC 38219. Jalisco, TRTC 36488. Sinaloa, TRTC 36890.

5. *Sporormiella antarctica* (Speg.) Ahmed & Cain, comb. nov. Figs. 168, 169

BASIONYM: *Sporormia antarctica* Speg., Fungi Fuegiana; Bol. Acad. Nac. Cienc. Cordoba, 11: 224. 1887.

= *Sporormia venusta* Cain, Univ. Toronto Stud., Biol. Ser., No. 38: 108. 1934.

Perithecia scattered, subglobose to pyriform, 300–400 × 200–300 μ, dark brown to nearly black; neck small, papilliform to bluntly conical, smooth, bare, black. Peridium thin, membranaceous. Asci eight-spored, cylindrical-clavate, 175–220 × 26–32 μ, broadly rounded above, broadest near the middle, abruptly contracted below into a short stipe, measuring 10–15 μ in length. Paraphyses abundant, filiform, septate, branched, longer than and mixed with the asci. Ascospores obliquely biserial, 13-celled, cylindrical, (44–)48–60 × 9–10 μ, broadly rounded at the ends, dark brown and opaque when mature, septa transverse, constrictions at septa fairly shallow, segments not easily separable; cells broader than long, fifth cell from the upper end abruptly larger, terminal cells hemispherical; germ slit indistinct, transverse to diagonal, gelatinous sheath hyaline, narrow.

HABITAT: On dung of goose, horse, and rabbit.  
TYPE: Argentina, *Spegazzini*, LPS 3500.

SPECIMENS EXAMINED: ARGENTINA: *Spegazzini*, LPS 3500. CANADA: Ontario: Bruce Co., RFC 6313. Muskoka Dist., RFC 6314. Timiskaming Dist., TRTC 36192. York Co., TRTC 5322, 6312.

According to *Spegazzini*'s type description of *Sporormia antarctica* the spores are 11- to 13-celled and 5–6 μ wide. Except for these two features, the type (*Spegazzini* 3500, LPS) agrees perfectly with the type description. All observed ascospores are 13-celled and 9–10 μ wide. It is our opinion that *Spegazzini*'s type description of *S. antarctica* involved an error regarding the width as well as the 11- and 12-celled condition of the ascospores. *S. venusta* Cain (1934) agreed in all the characters with the type of *S. antarctica*.

6. *Sporormiella australis* (Speg.) Ahmed & Cain, comb. nov. Figs. 30–32

= *Sporormia australis* Speg., Bol. Acad. Nac. Cienc. Cordoba, 11: 50. 1887.

= *Sporormia intermedia* Auersw. var. *lagopina* Bres., Malpighia, 11: 52. 1897.

Perithecia scattered, embedded when young, becoming superficial when old, subglobose to pyriform, 220–300 × 160–200 μ, smooth, bare, dark brown to nearly black; neck small papilliform, smooth, bare, dark brown to nearly black. Peridium thin, membranaceous. Asci eight-spored, subcylindrical, (120–)136–150 × 17–21 μ, broadly rounded above, broadest below the middle, abruptly contracted below into a very short stout stipe. Paraphyses scanty, filiform, septate, mixed with the asci. Ascospores obliquely bi- or tri-seriate, four-celled, 38–46 × 7–8 μ, broadly rounded at the ends, dark brown and opaque when mature, transversely septate; constrictions at septa broad and shallow, segments easily separable; terminal cells slightly narrowing toward the ends; germ slit slightly to strongly oblique, occasionally almost diagonal; gelatinous sheath hyaline, broad.

HABITAT: On dung of burro, cow, deer, goat, horse, moose, porcupine, rabbit, and sheep.

TYPE: Argentina.

SPECIMENS EXAMINED: ARGENTINA: with *Sordaria argentinensis* Speg. 6843, *C. Spegazzini* (LPS). CANADA: Ontario: Algoma Dist., TRTC 38281. Bruce Co., TRTC 35990. Haliburton Co., TRTC 36109, 36334. Kenora Dist., TRTC 35822, 38220. Muskoka Dist., TRTC 35895, 36011. Nipissing Dist., RFC 5946, 5947, 5948, 5950, 5952, 5953, TRTC 32224, 34453, 36629, 36686, 36703. Parry Sound Dist., TRTC 39684. Sudbury Dist., TRTC 36012, 36359, 39682. Timiskaming Dist., TRTC 35991, 35999. Thunder Bay Dist., RFC 5944. Quebec: Montmorency Co., TRTC 39734. Saskatchewan: RFC 6626. EUROPE: With *Delitschia minuta* Fuckel (G). UNITED STATES: California: Lassen Co., TRTC 39206. Colorado: Teller Co., TRTC 38881, 39640. Montana: Prairie Co., TRTC 35742. Gallatin Co., TRTC 35727. Nevada: Elko Co., TRTC 35731. Esmeralda Co., TRTC 40669. New Mexico: Otero Co., TRTC 38096, 38123. New York: Cattaraugus Co., TRTC 37375, 37385, 38906. Warren Co., RFC 5961, 5962. Wisconsin: Dane Co., TRTC 32113. Wyoming: Park Co., TRTC 39046. Teton Co., TRTC 32049, 32307, 32333, 32350. MEXICO: Chihuahua, TRTC 36495, 36712, 39778, 39780. Durango, TRTC 36951, 37000, 39776. Jalisco, TRTC

40627, 36788. Nuevo Leon, TRTC 36721. Oaxaca, TRTC 39839. San Luis Potosi, TRTC 39777, 39636. Tamaulipas, TRTC 36570.

This species is related to *Sporormiella minima* and *Sporormiella intermedia* and possesses asci and ascospores which are intermediate in size between these two species. *S. intermedia* var. *lagopina* possesses ascospores which agree with the specimens of *S. australis* examined.

7. *Sporormiella bipartis* (Cain) Ahmed & Cain, comb. nov. Figs. 147-149

BASIONYM: *Sporormia bipartis* Cain, Univ. Toronto Stud., Biol. Ser., No. 38: 106. 1934.

Perithecia scattered, immersed, subglobose to pyriform, 240-350 × 190-240 μ, smooth, bare, dark brown to nearly black; neck short, papilliform, smooth, bare, black. Peridium thin, membranaceous. Asci eight-spored, clavate, (150-)160-180(-190) × 18-21 μ, broadly rounded above, broadest above the middle, gradually narrowing below into a very short, rather stout stipe. Paraphyses filiform, septate, branched, slightly longer than the asci and mixed with them. Ascospores bi- or tri-seriate, eight-celled, cylindrical, (45-)48-58 × 6-7 μ, rounded at the ends, dark brown when mature, septa transverse, constriction at the central septum deep and the spores readily break into two groups of four cells each, broad and shallow at the remaining septa where the segments are not easily separable; six middle cells more or less square-shaped in the optical section, terminal cells slightly longer and narrower toward the ends; germ slit diagonal, gelatinous sheath hyaline, narrow.

HABITAT: On dung of deer, moose, partridge, and rabbit.

TYPE: On rabbit dung, Ontario, Nipissing Dist., Lake Timagami, TRTC 5320.

SPECIMENS EXAMINED: CANADA: Ontario: Algoma Dist., TRTC 37505, 37558, 38147, 39685, 39689. Bruce Co., TRTC 38923, 35950. Haliburton Co., TRTC 36103, 36353. Muskoka Dist., RFC 5976, 5978, TRTC 35754, 35898, 35933. Nipissing Dist., RFC 5964, 5969, 5970, 5972, 5982, 5987, 12013, TRTC 5320 (TYPE). Parry Sound Dist., TRTC 32106. Timiskaming Dist., TRTC 35927, 36016. Quebec: Montmorency Co., TRTC 39735. Portneuf Co., RFC 6884, 6920. Saskatchewan: TRTC 40138.

EUROPE: with the type of *Delitschia auerswaldii* Fuckel, Fungi Rhenani Exsiccati 2034 (G). MEXICO: Jalisco, TRTC 37472. UNITED STATES: New Hampshire: Cheshire Co., TRTC 32607, 32649, 32657. New York: Warren Co., RFC 5988, 5989. Vermont: Chittenden Co., TRTC 40628, 40629.

8. *Sporormiella borealis* (I. Egel.) Krug, Trans. Bot. Soc. Edinb. 41(2): 198. 1971.

BASIONYM: *Sporormia borealis* I. Egel., Nytt Mag. Bot. 16: 217. 1969.

Perithecia globose, 300-450 μ diam. Neck short, cylindrical, pale olivaceous, translucent. Asci eight-spored, cylindrical, abruptly narrowed below into a short stipe, 220-280 × 39-44 μ. Ascospores four-celled, cylindrical, 92-114 × 18-21 μ, with second cell slightly broader than others. Germ slit prominent, parallel to the length of the ascospores, but sometimes nearly diagonal.

HABITAT: On cow dung.

TYPE: On cow dung, Norway, I. Egeland, 244 (O).

9. *Sporormiella calomera* Ahmed & Cain, sp. nov. Figs. 183-186

Peritheciis sparsis, immersis, subglobosis usque piriformibus, 600-700 × 300-350 μ, nigris, denudatis; collo longo, subcylindraco, 150-200 × 120-140 μ, nigro, denudato. Peridio membranaceo. Ascis octosporis, cylindraco-clavatis, 230-270 × 26-30 μ, superne late rotundatis, superne mediam partem latissimis, inferne attenuatis, breve stipitatis; stipite usque ad 25 μ longa. Paraphysibus filiformibus, septatis, ramosis, copiosis, ascos superantibus. Ascosporis 2- aut 3-seriatis, fusiformibus plerumque 12-cellularibus, raro 10, 11, vel 13-cellularibus, 65-80(-90) × (15-)17-20 μ, ad terminales angustioribus, demum atro-brunneis, transverse septatis, mediocriter constrictis. Duobus articulis mediis majoribus, 7.5-10 × 15-20 μ, articulis terminalibus hemisphaericis, 6-10 × 8-10 μ. Sine stria germinationis spectabili in articulis terminalibus; stria germinationis transversa in articulis reliquis. Strato gelatinoso hyalino, angusto.

HOLOTYPE: In fimo cuniculorum, Louisiana, Livingston Parish, Walker, 23 August 1960, Cain, TRTC 36704.

ETYMOLOGY: Greek, *kalos* = beautiful, and *meros* = part, referring to the beauty of the spore segments.

Perithecia scattered, immersed, subglobose to pyriform,  $600-700 \times 300-350 \mu$ , smooth, bare, black; neck long, subcylindrical,  $150-200 \times 120-140 \mu$ , smooth, bare, black. Peridium membranaceous. Asci eight-spored, cylindrical-clavate,  $230-270 \times 26-30 \mu$ , broadly rounded above, slightly narrow at the upper end, broadest above the middle, gradually narrowing below into a short stipe, measuring up to  $25 \mu$  in length. Paraphyses abundant, filiform, septate, branched, longer than and mixed with the asci. Ascospores bi- or tri-seriate, nearly parallel with the ascus, usually 12-celled, occasionally 10, 11, or 13-celled, fusiform,  $65-80(-90) \times (15-17-20) \mu$ , narrowly rounded at the ends, yellowish brown when young, becoming dark brown and opaque when mature, septa transverse, constrictions at septa moderately deep, two middle cells larger than the remaining cells, measuring  $7.5-10 \times 15-20 \mu$ , remaining cells decreasing in width toward each end, terminal cells dome-shaped, measuring  $6-10 \times 8-10 \mu$ ; germ slit apparently nonexistent in the terminal cells, transverse in the remaining cells, gelatinous sheath hyaline.

HABITAT: On dung of cow and rabbit.

SPECIMEN EXAMINED: UNITED STATES: Louisiana: Orleans Parish, TRTC 38295. Livingston Parish, TRTC 36704.

10. *Sporormiella capybarae* (Speg.) Ahmed & Cain, comb. nov. Figs. 73, 74  
 = *Sporormia capybarae* Speg., Fungi Argentinii. Anal. Mus. Nac. Buenos Aires, 6: 279. 1899.

Perithecia subglobose,  $250-350 \mu$  diam, with a short neck. Asci eight-spored, cylindrical-clavate,  $140-180 \times 20-25 \mu$ , straight or slightly curved, broadly rounded above, gradually narrowing below into a stipe, measuring up to  $30 \mu$  in length. Paraphyses filiform, septate, longer than and mixed with the asci. Ascospores bi- or tri-seriate above, uni- or bi-seriate below, four-celled, fusiform-cylindrical,  $45-53 \times 9.5-11.5 \mu$ , dark brown and opaque when mature; septa transverse; constrictions at septa broad and deep; segments not easily separable; cells unequal in size; upper end cell prominently narrowing, measuring  $11.5-12.5 \times 9.0 \mu$ , second cell from the upper end measuring  $8.0-10.5 \times 10.0-11.5 \mu$ , third cell  $9.0-11.5 \times 10.0 \mu$ , basal cell longer than the remaining cells, measuring

$13-15 \times 8.0-9.0 \mu$ ; germ slit nearly oblique to diagonal; gelatinous sheath present.

HABITAT: On dung of burro, cow, goat, rodent, and sheep.

TYPE: Argentina.

SPECIMENS EXAMINED: ARGENTINA: With type of *Sporormia antarctica* Speg., *Spegazzini* 3500 (LPS), *Spegazzini* 5982 (LPS). EUROPE: With *Delitschia moravica* Niessl, *Rehm*, *Ascomyceten* 746 (G); with *Sporormia ovina* Sacc., *Desmazières*, *Plantes Cryptogames de France*, 98 (G); with *Delitschia auerswaldii* Fuckel, *Fungi Rhenani* 2034 (G). UNITED STATES: Colorado: Moffat Co., TRTC 35514. Teller Co., TRTC 3885. New Mexico: Santa Fe Co., TRTC 36473. Wyoming: Albany Co., TRTC 32343. Teton Co., TRTC 39614. MEXICO: Durango, TRTC 36581, 37484. Hidalgo, TRTC 39832. San Luis Potosi, TRTC 36971, 36989. Tamaulipas, TRTC 38882.

11. *Sporormiella chaetomioides* (Griff.) Ahmed & Cain, comb. nov. Figs. 21-23  
 = *Sporormia chaetomioides* Griff., *Mem. Torrey Bot. Club*, 11: 113. 1901.

Perithecia scattered or aggregated in small clusters, immersed, subglobose,  $300-420 \mu$  in diam, olivaceous brown when young, becoming dark brown to black and opaque when mature; neck long cylindrical, straight or curved, provided with long, flexuous, septate, branched, light brown hairs, which measure about  $4-6 \mu$  in diameter. Peridium thin, membranaceous. Asci eight-spored, cylindrical-clavate,  $150-200 \times 13-17 \mu$ , broadly rounded at the upper end, gradually narrowing below into a long slender stipe. Paraphyses abundant, septate, branched, guttulate, longer than and mixed with the asci, measuring  $3-5 \mu$  in diameter. Ascospores somewhat obliquely disposed, bi- or tri-seriate above, uniseriate below, four-celled, cylindrical,  $(26-28-40) \times 5-7 \mu$ , olivaceous brown when young, becoming dark brown and opaque at maturity, transversely septate; constrictions at septa broad and deep; segments easily separable; cells nearly equal in size; germ slit parallel; gelatinous sheath hyaline, narrow.

HABITAT: On dung of cow and deer.

TYPE: Biloxi, Mississippi (NY).

SPECIMENS EXAMINED: CANADA: Ontario: Kenora Dist., TRTC 38420. UNITED STATES: Arizona: Pima Co. (NY). Mississippi: Biloxi, TYPE (NY).

Griffith's collections from Arizona and Mississippi as well as the one from Ontario were examined and compared. In the Mississippi collections, the ascospores averaged 28–30  $\mu$  in length whereas in the Arizona material there was a range from 28 to 40  $\mu$ . In addition, the ascospores in the Ontario collections measured 30–55  $\mu$  in length and were slightly wider than those of Griffiths. Despite the variation in ascospore dimensions as exhibited in these collections, no other distinguishing feature was found that would warrant a segregation.

12. *Sporormiella commutata* (Niessl) Ahmed & Cain, comb. nov. Figs. 175–178

BASIONYM: *Sporormia commutata* Niessl, Oesterr. Bot. Z. 28: 164. 1876.

Perithecia subglobose, 220–250  $\mu$ , with short papilliform neck. Asci eight-spored, clavate, 145–200  $\times$  18.5–23.0  $\mu$ , broadly rounded above, gradually narrowing from the broadest part near the apex into a short stipe, measuring up to 20  $\mu$  in length. Paraphyses filiform, septate, longer than and mixed with the asci. Ascospores triseriate above, uni- or bi-seriate below, cylindrical-clavate, usually nine-celled, occasionally seven- or eight-celled, 50–60(–65)  $\times$  8.0–10.5  $\mu$ , rounded at the ends, becoming dark brown and opaque when mature, septa transverse, constrictions at septa broad and deep, segments easily separable; third cell from the upper end broadest, cells narrowing gradually toward each end, terminal cells longer than broad, more or less ovoid-conical, remaining cells broader than long; germ slit strongly oblique to diagonal; gelatinous sheath present.

HABITAT: On dung of rabbit.

TYPE: Europe.

SPECIMENS EXAMINED: UNITED STATES: Nevada: Elko Co., TRTC 35760. Esmeraldo Co., TRTC 41449. New Mexico: Otero Co., TRTC 38878.

In certain specimens examined, only nine-celled ascospores were found (TRTC 41449) whereas in a few others, eight- and nine-celled ones were observed (TRTC 38878, 37443). These specimens were similar in all the characters to those possessing seven-, eight-, and nine-celled ascospores (TRTC 35760). The nine-celled condition was invariably found to be dominant in all the collections consisting of a variable number of cells.

13. *Sporormiella corynespora* (Niessl) Ahmed & Cain, comb. nov. Figs. 129, 130

BASIONYM: *Sporormia corynespora* Niessl, Oesterr. Bot. Z. 28: 45, 166. 1876.

Perithecia subglobose, 320–400  $\mu$ , with short papilliform neck. Asci eight-spored, clavate, 150–200  $\times$  23–26  $\mu$ , broadest near the upper end, gradually contracted below into a stipe, measuring 25–35  $\mu$  in length. Paraphyses abundant, filiform, septate, longer than and mixed with the asci. Ascospores three- or four-seriate above, uniseriate below, eight-celled, more or less clavate, 50–59  $\times$  10.0–11.5  $\mu$ , straight or curved, dark brown and opaque when mature; transversely septate; constrictions at septa broad and fairly shallow, cells not separable; third cell from the upper end abruptly larger than the remainder, cells becoming narrower toward both ends, apical cell conical, more prominently narrower toward the end than the basal cell; germ slit diagonal, gelatinous sheath hyaline, narrow.

HABITAT: On dung of deer and rabbit.

TYPE: Europe.

SPECIMENS EXAMINED: CANADA: Ontario: Victoria Co., TRTC 36405. Saskatchewan: TRTC 38974. EUROPE: *Rehm*, Ascomyceten 748, det. by V. Niessl (NY and G). With *Sordaria maxima* Niessl, Rabenhorst, Fungi Europaei 1528 (NY). With *Sporormia intermedia* Auersw., Flora Exsiccata Austro-Hungarica 3573 (G). With *Sporormia heptamera* Auersw., Herbarium Müller 1554/22 (G).

When one of the specimens (*Rehm*, Ascomyceten 748) identified by Niessl was examined, the stipe measured 25–30  $\mu$  in length. Some of the asci were found with much longer stipes and in these cases, it was considered to be due to the ectoascus which had slipped downward. Usually the endoascus was found to be slightly constricted at the point where the lower part of the broken ectoascus started. The immature asci were also examined to get some idea of the actual length of the stipe, as there is comparatively less chance for these to expand. Observations made on these asci indicated that the stipe was not very short.

14. *Sporormiella cylindrospora* Ahmed & Cain, sp. nov. Figs. 37–40

Peritheciis sparsis, immersis usque semi-immersis, subglobosis usque piriformibus, 350–

400 × 250–300 μ, atro-brunneis usque nigris, denudatis; collo breve papilliformi, nigro, denudato. Peridio membranaceo. Ascis octosporis, subcylindratis, 190–240 × 32–36(–38) μ, superne late rotundatis, prope mediam partem latissimis, inferne attenuatis, breve stipitatis. Paraphysibus filiformibus, septatis, ramosis, guttulatis, ascos superantibus. Ascosporis 2- aut 3-stichis, obliquis, 4-cellularibus, cylindratis (67–) 70–80(–90) × 13–16 μ, utrinque late rotundatis, demum atro-brunneis opacisque, transverse septatis, constrictis mediocriter vel profunde; articulis terminalibus leniter attenuatis. Stria germinationis obliqua usque parallelo ordinata. Strato mucoso hyalino, lato.

HOLOTYPUS: In fimo *Odocoilei virginiani*, Saskatchewan, Cypress Hills Prov. Pk., 25 July 1962, Cain, TRTC 38977. In Cryptogamic Herbarium, University of Toronto.

ETYMOLOGY: Greek, *kylindros* = cylinder, and *spora* = seed, referring to the cylindrical spores.

Perithecia scattered, immersed when young, becoming semi-immersed when old, subglobose to slightly pyriform, 350–400 × 250–300 μ, smooth, bare, dark brown to nearly black; neck small papilliform, smooth, bare, black, with a prominent ostiole. Peridium thin, membranaceous. Asci eight-spored, subcylindrical, 190–240 × 32–36(–38) μ, broadly rounded above, broadest below the middle, abruptly contracted below into a very short stipe. Paraphyses filiform, septate, sparingly branched, guttulate, longer than the asci and mixed with them, about 3–4 μ in diameter. Ascospores obliquely bi- or tri-seriate, four-celled, cylindrical, (67–) 70–80(–90) × 13–16 μ, broadly rounded at the ends, olivaceous brown when young, becoming dark brown and opaque when mature, transversely septate; constrictions at septa moderate to deep; cells nearly equal in size; terminal cells slightly narrower toward the ends; germ slit oblique to nearly parallel; gelatinous sheath hyaline, broad.

HABITAT: On dung of cow, deer, elk, horse, and moose.

TYPE: On deer dung, Saskatchewan, Cypress Hills Prov. Pk., TRTC 38977.

SPECIMENS EXAMINED: AUSTRALIA: Balir, Warcup A277/1 (TRTC). CANADA: Alberta: TRTC 38988, 39035. British Columbia: TRTC 39225. Saskatchewan: TRTC 38977 (TYPE), 39011.

UNITED STATES: Colorado: Larimer Co., TRTC 41616. Montana: Yellowstone Co., TRTC 36854. North Dakota: Meade Co., TRTC 39408. Wyoming: Big Horn Co., TRTC 39604.

*Sporormiella cylindrospora* seems to be related to *S. intermedia* and *S. teretispora*, as may be indicated by its resemblance to them in several characters. It may be differentiated from them by its overall larger size.

15. *Sporormiella cymatomera* Ahmed & Cain, sp. nov. Figs. 67–69

Peritheciis sparsis vel aggregatis immersis, subglobois usque piriformibus, 350–450 × 250–350 μ, atro-brunneis usque nigris, denudatis; collo breve papilliformi usque cylindrato, nigro, denudato. Peridio crasso, membranaceo. Ascis octosporis, cylindrato-clavatis (130–) 150–170 × 15–18 μ, superne late rotundatis, inferne attenuatis, breve stipitatis. Paraphysibus filiformibus, septatis, copiosis, 2.5–3.0 μ diam, ascos superantibus. Ascosporis supra 2-seriatis, infra 1-seriatis, 4-cellularibus, fere fusiformibus 27–34(–38) × 7–10 μ, demum atro-brunneis, transverse septatis, mediocriter constrictis; articulis mediis late subglobois; articulis terminalibus leviter longioribus. Stria germinationis diagonali. Strato gelatinoso angusto.

HOLOTYPUS: In fimo vaccino, South Dakota, Meade Co., Wall, 3 Sept. 1962, Cain, TRTC 39428. In Cryptogamic Herbarium, University of Toronto.

ETYMOLOGY: Greek, *kymas* = pregnancy, and *meros* = part, referring to the subglobose mid-cells of the ascospores.

Perithecia scattered or aggregated in small groups, firmly attached to the substratum, immersed, subglobose to pyriform, 350–450 × 250–350 μ, smooth, bare, dark brown to black; neck papilliform to short cylindrical, with or without an enlarged apex, smooth, bare, black. Peridium thick, membranaceous. Asci eight-spored, cylindrical-clavate, (130–) 150–170 × 15–18 μ, broadly rounded above, gradually narrowing below into a short stipe. Paraphyses abundant, filiform, septate, longer than the asci and mixed with them, measuring 2.5–3.0 μ in diameter. Ascospores bi-seriate above uniseriate below, four-celled, nearly fusiform, 27–34(–38) × 7–10 μ, hyaline at first, ranging through yellowish brown to dark brown and opaque; septa trans-

verse; constrictions at septa broad and moderately deep; mid-cells broader than long, nearly subglobose; terminal cells prominently narrowing toward the ends, longer than the mid-cells; germ slit diagonal; gelatinous sheath hyaline, narrow.

HABITAT: On dung of cow, horse, moose, sheep, and rabbit.

SPECIMENS EXAMINED: CANADA: Alberta: TRTC 39019. Ontario: Bruce Co., RFC 6193. Parry Sound Dist., RFC 6192. Saskatchewan: TRTC 39002. UNITED STATES: Colorado: Teller Co., TRTC 38086, 38875. Montana: Yellowstone Co., TRTC 36857. North Dakota: Billings Co., TRTC 39316. South Dakota: Meade Co., TRTC 39428 (TYPE), 40651. Wyoming: Albany Co., TRTC 39226. Big Horn Co., TRTC 39864. Crook Co., TRTC 39079, 39087, 39115. Park Co., TRTC 39041.

*S. cymatomera* resembles *S. leporina* in certain respects but it can be distinguished by the broader ascospores, subglobose mid-cells, and strictly diagonal germ slit.

16. *Sporormiella dakotensis* (Griff.) Ahmed & Cain, comb. nov. Figs. 47-49  
 ≡ *Sporormia dakotensis* Griff., Mem. Torrey Bot. Club, 11: 114. 1901.

Perithecia scattered or aggregated in small groups, immersed, becoming partially superficial when old, subglobose, 300-450  $\mu$  in diam, smooth, bare, dark brown to black; neck narrowly cylindrical, straight or curved, smooth, bare, black, measuring 120-240  $\times$  60-90  $\mu$ . Peridium membranaceous. Asci eight-spored, clavate, 100-120  $\times$  9-11  $\mu$ , broadly rounded above, broadest near the upper end, gradually narrowing below into a long stipe, measuring up to 45  $\mu$  in length. Paraphyses abundant, filiform, septate, longer than and mixed with the asci, 2.5-3.0  $\mu$  in diameter. Ascospores biseriate above, uniseriate below, four-celled, cylindrical, 21-27  $\times$  3.0-4.5  $\mu$ , broadly rounded at the ends, straight or curved, olivaceous brown when young becoming dark brown at maturity; septa transverse; constrictions at septa broad and deep; segments easily separable; cells nearly equal in length; germ slit parallel; gelatinous sheath hyaline, narrow.

HABITAT: On dung of deer, moose, porcupine, and rabbit.

TYPE: Brookings, S. Dakota, U.S.A. (NY).

SPECIMENS EXAMINED: CANADA: Ontario: Bruce Co., RFC 5995, 5999, 6012. Grey Co., RFC 5355, 5356, 5996, 6000. Haliburton Co., RFC 6004. Manitoulin Dist., RFC 6575. Nipissing Dist., RFC 5357, 6002. Sudbury Dist., RFC 6010. Victoria Co., RFC 6003, 6005. UNITED STATES: New York: Warren Co., RFC 6014, 6015. S. Dakota: Brookings Co. (TYPE, NY).

*S. dakotensis* is distinguished from *S. leporina* by its smaller asci and strictly parallel germ slits. It may also be differentiated from *S. subtilis* by the distinctly narrower ascospores and parallel germ slits.

17. *Sporormiella decamera* Ahmed & Cain, sp. nov. Figs. 162-164

Peritheciis sparsis, immersis, subglobosis, 250-300  $\mu$  diam, tenuis, membranaceis usque leniter coriaceis, atro-brunneis usque nigris denudatis; collo breve papilliformi, nigro, denudato. Peridio tenui membranaceo vel leniter coriaceo. Asci octosporis, cylindraco-clavatis, 150-170(-180)  $\times$  21-23  $\mu$ , superne late rotundatis, prope apicem latissimis, inferne in stipitem longum usque ad 20  $\mu$  attenuatis. Paraphysibus filiformibus, septatis, guttulatis, ascos superantibus. Ascosporis supra 2- aut 3-seriatis, infra 1-seriatis, 10-cellularibus, fusiformi-cylindracois, 48-65(-70)  $\times$  9-10(-11)  $\mu$ , utrinque rotundatis, atro-brunneis opacisque, transverse septatis, profunde constrictis, facile secedentibus; articulo quarto majore 5.5-7.0  $\times$  9.0-11.5  $\mu$ , articulis terminalibus longioribus et attenuatis, superne articulo conico 5.5-7.5  $\times$  5.5-7.0  $\mu$ , inferne articulo 8.0-10.5  $\times$  5.5-7.0  $\mu$ . Stria germinationis obliqua usque diagonali. Strato mucoso hyalino, lato.

HOLOTYPUS: In fimo *Cervi canadensis*, Montana, Yellowstone Co., Yellowstone Natl. Park, 18 Sept. 1962, Luck-Allen, TRTC 39844. In Cryptogamic Herbarium, University of Toronto.

ETYMOLOGY: Greek, *deka* = 10, and *meros* = part, referring to its 10-celled ascospores.

Perithecia scattered, immersed, subglobose, 250-300  $\mu$  in diam, smooth, bare, dark brown to nearly black; neck small, papilliform, smooth, bare, black. Peridium thin, membranaceous to slightly coriaceous. Asci eight-spored, cylindrical-clavate, 150-170(-180)  $\times$  21-23  $\mu$ , broadly rounded above, broadest near the upper end,

gradually narrowing below into a stout, rather persistent stipe, measuring up to  $20\ \mu$  in length. Paraphyses filiform, septate, guttulate, longer than and mixed with the asci. Ascospores obliquely bi- or tri-seriate above, uniseriate below, 10-celled, fusiform-cylindrical,  $48\text{--}65\text{--}(70) \times 9\text{--}10\text{--}(11)\ \mu$ , rounded at the ends, light brown and translucent when young, becoming dark brown and opaque when mature, septa transverse, constrictions at septa broad and deep, segments easily separable; fourth cell from the upper end largest,  $5.5\text{--}7.0 \times 9.0\text{--}11.5\ \mu$ , cells becoming smaller toward each end, terminal cells longer than the remaining cells, somewhat bluntly conical, apical cell  $5.5\text{--}7.5 \times 5.5\text{--}7.0\ \mu$ , basal cell  $8.0\text{--}10.5 \times 5.5\text{--}7.0\ \mu$ ; germ slit oblique to nearly diagonal, gelatinous sheath hyaline, broad.

HABITAT: On dung of cow, elk, and moose.

SPECIMENS EXAMINED: UNITED STATES: California: Lassen Co., TRTC 39603. Colorado: Larimer Co., TRTC 41615. Montana: Yellowstone Co., TRTC 39844 (TYPE). Nevada: White Pine Co., TRTC 41595. Wyoming: Teton Co., TRTC 32033.

18. *Sporormiella dodecamera* Ahmed & Cain, sp. nov. Figs. 165–167

Peritheciis sparsis, immersis, pyriformibus, circa  $300 \times 225\ \mu$ , atro-brunneis, denudatis; collo breve papilliformi, nigro, denudato. Peridio membranaceo. Ascis octosporis, cylindratis usque cylindrato-clavatis,  $(150\text{--})160\text{--}190\text{--}(200) \times 30\text{--}33\text{--}(35)\ \mu$ , superne late rotundatis, prope mediam partem latissimis, inferne attenuatis, brevis stipitatis. Paraphysibus filiformibus, septatis, ramosis. Ascosporis 2- aut 3-stichis, obliquis, 12-cellularibus, cylindratis usque cylindrato-clavatis,  $(51\text{--})54\text{--}60\text{--}(63) \times 11.0\text{--}12.5\ \mu$ ; utrinque late rotundatis, rectis vel leniter curvatis, demum atro-brunneis opacisque, transverse septatis, leniter constrictis, cohaerentibus; articulis tertio quartoque majoribus,  $4.5 \times 11.0\text{--}12.5\ \mu$ ; articulis terminalibus hemisphaericis. Stria germinationis obliqua. Strato gelatinoso hyalino, lato.

HOLOTYPE: In fimo equino, Saskatchewan, Cypress Hills Prov. Park, 25 July 1962, Cain, TRTC 39003. In Cryptogamic Herbarium, University of Toronto.

ETYMOLOGY: Greek, *dodeka* = 12, and *meros* = part, referring to its 12-celled ascospores.

Perithecia scattered, immersed, pyriform, about  $300 \times 225\ \mu$ , smooth, bare, dark brown; neck small, papilliform, smooth, bare, black. Peridium membranaceous. Ascis eight-spored, cylindrical to cylindrical-clavate,  $(150\text{--})160\text{--}190\text{--}(200) \times 30\text{--}33\text{--}(35)\ \mu$ , broadly rounded above, slightly narrower at the upper end, broadest at the middle, narrowing below into a very short stipe. Paraphyses filiform, septate, branched, equalling the asci and mixed with them. Ascospores overlapping, obliquely bi- or tri-seriate, 12-celled, almost cylindrical to nearly cylindrical-clavate,  $(51\text{--})54\text{--}60\text{--}(63) \times 11.0\text{--}12.5\ \mu$ , broadly rounded at the ends, straight or slightly curved, light brown when young, becoming dark brown and opaque when mature, septa transverse, constrictions at septa broad and shallow, segments not easily separable; cells broader than long, third and fourth cell from the upper end larger than the remainder, measuring  $4.5 \times 11.0\text{--}12.5\ \mu$ , terminal cells dome-shaped; germ slit oblique; gelatinous sheath hyaline, broad.

HABITAT: On dung of horse.

SPECIMEN EXAMINED: CANADA: Saskatchewan, Cypress Hills Prov. Park, TRTC 39003 (TYPE).

19. *Sporormiella dubia* Ahmed & Cain, sp. nov. Figs. 64–66

Peritheciis sparsis vel aggregatis, immersis, erumpentibus, subglobosis,  $230\text{--}280\ \mu$  diam, demum atro-brunneis usque nigris, denudatis; collo breve papilliformi usque cylindrato vel ad apicem aucto,  $100\text{--}200 \times 80\text{--}100\ \mu$ , nigro, denudato. Peridio crasso, membranaceo. Ascis octosporis, cylindrato-clavatis,  $140\text{--}160\text{--}(170) \times 17\text{--}19\ \mu$ , superne late rotundatis, prope apicem latissimis, inferne attenuatis, brevis stipitatis, stipite usque ad  $20\ \mu$  longa. Paraphysibus filiformibus, septatis copiosis, guttulis, ascos superantibus. Ascosporis supra 2- aut 3-seriatis, infra 1- aut 2-seriatis, 4-cellularibus, fusiformis-cylindratis,  $38\text{--}45 \times 8\text{--}9\ \mu$ , demum atro-brunneis opacisque, transverse septatis, profunde constrictis, facile secedentibus; articulis similibus, terminalibus ovoideo-conicis; stria germinationis longitudinale; strato mucoso hyalino mediocriter lato.

HOLOTYPE: In fimo equino, Alberta, Jasper Natl. Park, Athabasca Falls, 9 Aug. 1962, Cain, TRTC 39021. In Cryptogamic Herbarium, University of Toronto.

ETYMOLOGY: Latin, *dubius* = doubtful.

Perithecia scattered or aggregated in small groups, immersed when young, becoming almost superficial when old, subglobose, 230–280  $\mu$  in diam, smooth, bare, olivaceous brown when young, becoming dark brown to black when mature; neck small, papilliform to moderately long cylindrical or somewhat enlarged at the apex, 100–200  $\times$  80–100  $\mu$ , smooth, bare, black. Peridium thick, membranaceous. Asci eight-spored, cylindrical-clavate, 140–160(–170)  $\times$  17–19  $\mu$ , broadly rounded above, broadest near upper end, gradually tapering below into a short stipe, measuring up to 20  $\mu$  in length. Paraphyses abundant, filiform, septate, guttulate, longer than the asci and mixed with them. Ascospores bi- or tri-seriate above, uni- or bi-seriate below, four-celled, fusiform-cylindrical, 38–45  $\times$  8–9  $\mu$ , narrowing prominently toward the ends, olivaceous brown when young, becoming dark brown and opaque when mature; septa transverse; constrictions at septa deep; segments easily separable; cells about equal in length; terminal cells ovoid-conical; germ slit prominent, parallel; gelatinous sheath hyaline, moderately broad.

HABITAT: On the dung of burro, cow, deer, goat, horse, moose, porcupine, and rabbit.

SPECIMENS EXAMINED: CANADA: Alberta: Jasper Natl. Park, TRTC 39021 (TYPE). Ontario: Algoma Dist., TRTC 39836. Brant Co., RFC 6568, 12388. Haliburton Co., TRTC 36113. Muskoka Dist., RFC 5936, 5937, TRTC 5347. Nipissing Dist., TRTC 5348, 36702. Victoria Co., TRTC 36399. Wellington Co., RFC 5938. Quebec: Montmorency Co., TRTC 36533. Jacques Cartier Co., RFC 12362. MEXICO: Nuevo Leon, TRTC 37457. San Luis Potosi, TRTC 36835. Sinaloa, TRTC 36889. UNITED STATES: Iowa: Johnson Co., RFC 6772. Louisiana: Livingston Parish, TRTC 38084. Wyoming: Crook Co., TRTC 39114.

The Ontario collections of this species were identified by Cain (1934) as *S. ambigua*. It should be pointed out that the description given by Niessl (1878) for *S. ambigua* and the illustration by Berlese (1894) of Niessl's specimen distributed in Rehm, *Ascomyceten* 988 fit *S. dubia* better than *S. lageniformis*. However the type collections of *S. ambigua* as well as *S. obliquisepta* are the same as Fuckel's *S. lageniformis*. In *S. dubia* the ascospore septa are

transverse and the germ slit parallel whereas in *S. lageniformis* the septa are oblique and the germ slit diagonal.

20. *Sporormiella euryspora* Ahmed & Cain, sp. nov. Figs. 94–97

Peritheciis sparsis, immersis, subglobose, 400–500  $\mu$  diam, atro-brunneis vel nigris, denudatis; collo breve usque longo, 150–220  $\times$  150–170  $\mu$ , nigro, denudato. Peridio membranaceo vel leviter coriaceo. Ascis octosporis, cylindraco-clavatis, 290–340  $\times$  47–54  $\mu$ , superne late rotundatis, superne mediam partem latissimis, inferne attenuatis, stipitatis; stipite usque ad 30  $\mu$  longa. Paraphysibus filiformibus, septatis, 3.5–4.5  $\mu$  crassis, ascos superantibus. Ascosporis superne 2- aut 3-stichis, inferne 1-stichis, 4-cellularibus, fusiform-cylindracois, 80–88(–91)  $\times$  20–24  $\mu$ , rectis vel leviter curvatis, demum atro-brunneis opacisque, transverse septatis, profunde constrictis; articulis similibus, terminalibus leviter attenuatis. Stria germinationis transversa usque leniter obliqua. Strato mucoso hyalino, lato.

HOLOTYPUS: In fimo vaccino, Saskatchewan, Cypress Hills Prov. Park, 26 July 1962, Cain, TRTC 39010. In Cryptogamic Herbarium, University of Toronto.

ETYMOLOGY: Greek, *eurys* = broad, and *sporos* = seed, referring to the broad ascospores.

Perithecia scattered, immersed, subglobose, 400–500  $\mu$  in diam, smooth, bare, dark brown to black; neck short to moderately long, stout, 150–170  $\mu$ , smooth, bare, black. Peridium membranaceous to slightly coriaceous. Asci eight-spored, cylindrical-clavate, 290–340  $\times$  47–54  $\mu$ , broadly rounded above, slightly narrower near the upper end, broadest above the middle, gradually narrowing below into a broad, stout stipe, measuring up to 30  $\mu$  in length. Paraphyses abundant, filiform, septate, longer than and mixed with the asci, measuring about 3.5–4.5  $\mu$  in diameter. Ascospores bi- or tri-seriate above, uniseriate below, four-celled, fusiform-cylindrical, 80–88(–91)  $\times$  20–24  $\mu$ , straight or slightly curved, yellowish brown when young, becoming dark brown and opaque when mature, septa transverse, constrictions at the septa broad and deep; cells nearly equal in length, terminal cells slightly narrower toward the ends; germ slit transverse to obliquely transverse, gelatinous sheath hyaline, broad.

HABITAT: On cow dung.



SPECIMEN EXAMINED: CANADA: Saskatchewan, TRTC 39010 (TYPE).

*Sporormiella euryspora* can be distinguished easily from *Sporormiella ovina* by the difference in the germ slit. In *S. euryspora* the germ slit is obliquely transverse whereas in *S. ovina* it is nearly parallel to oblique, occasionally almost diagonal.

21. *Sporormiella grandispora* (Speg.) Ahmed & Cain in Krug, Trans. Bot. Soc. Edinb. 41(2): 198. 1971. Figs. 61–63  
 ≡ *Sporormia grandispora* Speg., Fungi Copr. Ven. 1: 230. 1878.

Perithecia scattered or aggregated in small groups, immersed when young, becoming semi-immersed when old, subglobose, 300–400  $\mu$  in diam, smooth, bare, dark brown to black; neck short and broad, 120–140  $\times$  120–140  $\mu$ . Peridium thin, membranaceous. Asci eight-spored, cylindrical-clavate, 160–200  $\times$  26–29  $\mu$ , broadly rounded above, gradually tapering below into a short stipe. Paraphyses filiform, septate, longer than the asci and mixed with them. Ascospores bi- or tri-seriate above, uniseriate below, four-celled, fusiform-cylindrical, 45–60  $\times$  11.5–14  $\mu$ , hyaline at first, ranging through yellowish brown to dark brown and opaque; septa transverse; constrictions at septa broad, more or less shallow; segments not easily separable; cells almost equal in size; terminal cells conspicuously narrower toward the ends; germ slit usually parallel, occasionally slightly oblique, usually curved next to septum; gelatinous sheath hyaline, broad.

HABITAT: On dung of sheep, rabbit, cow, deer, horse.

TYPE: On sheep dung, Conegliano, Italy, Sept. 1877. *Spegazzini* 207 (LPS 3515).

SPECIMENS EXAMINED: CANADA: Ontario: Peel Co., TRTC 38817. York Co., TRTC 39217. UNITED STATES: Utah: Duchesne Co., TRTC 44837. Washington: Olympic Natl. Park, TRTC 45719. Wyoming: Yellowstone Natl. Park, TRTC 42247, 42292. ITALY: Conegliano (LPS 3515, TYPE).

*Sporormiella grandispora*, *S. dubia*, and *S. megalospora* may be difficult to separate. *S. grandispora* can be delimited from *S. dubia* by its broader asci and ascospores. Though the septa are usually transverse in *S. grandispora*, they occasionally tend to be oblique whereas in *S.*

*dubia* they are strictly transverse. *S. grandispora* can be differentiated from *S. megalospora* by the narrower asci, smaller ascospores, and parallel germ slit.

22. *Sporormiella heptamera* (Auersw.) Ahmed & Cain, comb. nov. Figs. 112–114  
 ≡ *Sporormia heptamera* Auersw., Hedwigia, 7: 71. 1868.

Perithecia scattered, immersed, subglobose, 400–570  $\mu$  in diam, smooth, bare, black; neck short, papilliform, smooth, bare, black. Peridium membranaceous to slightly coriaceous. Asci eight-spored, cylindrical-clavate, 250–285  $\times$  (30–)33–37  $\mu$ , broadly rounded above, broadest above the middle, contracted below into a slender stipe, measuring 20–40  $\mu$  in length. Paraphyses filiform, septate, equalling the asci and mixed with them. Ascospores bi- or tri-seriate above, uni- or bi-seriate below, seven-celled, 70–80  $\times$  16–18  $\mu$ , rounded at the ends, dark brown and opaque when mature, septa transverse, constrictions at septa deep, segments easily separable; third cell from the upper end broadest, cells decreasing in width toward each end, five middle cells broader than long, terminal cells ovoid-conical; germ slit oblique to diagonal, gelatinous sheath hyaline, broad.

HABITAT: On dung of cow, deer, horse, moose, and rabbit.

TYPE: Europe.

SPECIMENS EXAMINED: CANADA: Ontario: Bruce Co., RFC 6018. Simcoe Co., TRTC 36613. Wellington Co., RFC 6016, TRTC 5358. Saskatchewan: RFC 6020, TRTC 38973. UNITED STATES: Iowa: Johnson Co., RFC 6730. Washington Co., RFC 6738. Oregon: Deschutes Co., TRTC 40652. Harney Co., TRTC 40434. S. Dakota: Meade Co., TRTC 39441. Wyoming: Albany Co., TRTC 39742. Crook Co., TRTC 39093. Teton Co., TRTC 32355.

23. *Sporormiella herculea* (Ell. & Ev.) Ahmed & Cain, comb. nov. Figs. 170–174  
 BASIONYM: *Sporormia herculea* Ell. & Ev., North American Pyrenomycetes. p. 135. 1892.

Perithecia scattered, immersed, subglobose, 500–600  $\mu$  in diam, smooth, bare, dark brown to nearly black; neck moderately long, cylindrical, 200–300  $\times$  140–150  $\mu$ , smooth, bare, black. Peridium membranaceous to slightly coriaceous. Asci eight-spored, clavate to slightly fusiform,

(225-)250-350  $\times$  45-60  $\mu$ , broadly rounded above, slightly narrower near the upper end, broadest near the middle, contracted below into a short, blunt, persistent stipe. Paraphyses abundant, septate, longer than the asci and mixed with them, measuring about 3  $\mu$  in diameter. Ascospores obliquely bi- to tetra-seriate, 10- to 16-celled, cylindrical to slightly fusiform, (95-)100-160(-170)  $\times$  15-18(-20)  $\mu$ , broadly or narrowly rounded at the ends, dark brown and opaque when mature, septa transverse, constrictions at septa broad and deep, segments easily separable, second to fifth cell from the upper end of the uppermost spore of each ascus larger than the remainder, measuring 17-21  $\times$  21-25  $\mu$ , remaining cells 11-14  $\times$  14-18  $\mu$ ; germ slit transverse, gelatinous sheath hyaline, moderately narrow.

HABITAT: On dung of burro, cow, and horse.

TYPE: On cow dung, Newfield, New Jersey (NY).

SPECIMENS EXAMINED: CANADA: Ontario: Kent Co., TRTC 5359, 6022. York Co., TRTC 36875. MEXICO: Jalisco, TRTC 36888. Sinaloa, TRTC 36889, 36898. Tepic, TRTC 39595. BRAZIL: *Alfons Theobald*, TRTC 45802, 45803. UNITED STATES: Georgia: Athens Co., RFC 6021, 6023. Louisiana: East Baton Parish, TRTC 38711, 38892. New Jersey: Gloucester Co., TYPE (NY).

Specimens of *Sporormiella herculea* from Mexico and Brazil show certain differences when compared with those from Ontario and the United States. In the Mexican and Brazilian collections, ascospores were comparatively shorter (even as low as 87  $\mu$ ) and possessed a smaller number of cells. In addition, the perithecial size was often found to be smaller, containing a small number of asci. To provide a better understanding concerning the nature and extent of variations, the following description is given, based on the Mexican and Brazilian collections of *S. herculea*.

Perithecia scattered, immersed, subglobose, 300-400  $\mu$  in diam, smooth, bare, black; neck stout, conical to moderately long, 200-240  $\times$  100-120  $\mu$ , smooth to slightly tuberculate, black. Peridium thin, membranaceous to coriaceous. Asci eight-spored, clavate to nearly fusiform, 250-300  $\times$  40-50  $\mu$ , rounded above, narrower near the upper end, broadest near the middle, contracted below into a very short, stout, persistent stipe. Paraphyses filiform, septate, slightly

longer than and mixed with the asci. Ascospores almost parallel with the ascus or slightly oblique, bi- or tri-seriate, 7- to 12-celled, cylindrical to cylindrical-fusiform, (87-)90-125(-140)  $\times$  15-18  $\mu$ , dark brown and opaque when mature, septa transverse, constrictions at septa broad and deep, segments easily separable; second to fifth cell of the uppermost ascospore very much enlarged, subglobose, 17-18  $\times$  20-25  $\mu$ , remaining cells measuring 10-12  $\times$  14-18  $\mu$ , germ slit transverse, gelatinous sheath hyaline, narrow.

24. *Sporormiella inaequalis* Ahmed & Asad, Sydowia, 21: 291. 1967.

Perithecia subglobose, glabrous, 200-300  $\mu$  diam. Asci eight-spored, cylindrical-clavate, 85-110  $\times$  11-14  $\mu$ , gradually tapering below into a short stipe. Ascospores fusiform-cylindrical, 20-30  $\times$  5.5-7.0  $\mu$ , with septa transverse and with cells unequal in size. Measurements of apical cell 6-8  $\times$  5.0-6.5  $\mu$ , of basal cell 7-10  $\times$  5.0-6.5  $\mu$ , of upper mid-cell 4.5-5.5  $\times$  6-7  $\mu$ , and of lower mid-cell 6.5-7.5  $\times$  5.0-6.5  $\mu$ . Germ slit oblique to diagonal.

HABITAT: On goat dung.

TYPE: On goat dung, Karachi, West Pakistan.

25. *Sporormiella insignis* (Niessl) Ahmed & Cain, comb. nov. Figs. 154-157

BASIONYM: *Sporormia insignis* Niessl, Oesterr. Bot. Z. 4: 167. 1878.

Perithecia scattered, immersed, subglobose, 250-300  $\mu$  in diam, smooth, bare, black; neck conical to moderately long, cylindrical, smooth, bare, black. Asci eight-spored, nearly clavate, 200-240  $\times$  40-45  $\mu$ , broadly rounded above, broadest above the middle, tapering gradually into a very short stipe. Paraphyses abundant, filiform, septate, longer than and mixed with the asci, about 2.5  $\mu$  in diameter. Four to five ascospores in a parallel bundle in the upper part of the ascus, remainder overlapping at different levels below, eight-celled, cylindrical, 100-122(-125)  $\times$  (13-)14-15  $\mu$ , dark brown and opaque when mature, septa transverse, constrictions at septa broad, more or less deep, cells easily separable; terminal cells narrower toward the ends, apical cell prominently narrower than the basal cell, remaining cells nearly equal in size, square-shaped in optical section; germ slit diagonal, gelatinous sheath present.

HABITAT: On dung of rabbit.

TYPE: Europe.

SPECIMENS EXAMINED: With *S. corynespora* Niessl, *Rehm*, Ascomyceten 748 (NY). With *Delitschia moravica* Niessl, *Rehm*, Ascomyceten, 746 (G).

*S. insignis* can be distinguished from *S. splendens* by the smaller size of the perithecia, shape of the ascus, arrangement and size of the ascospores, and the shape of the individual cells.

26. *Sporormiella intermedia* (Auersw.) Ahmed & Cain, in Kobayasi, Hiratsuka, Otani, Tubaki, Udagawa, and Soneda, Bull. Natl. Sci. Mus. Tokyo, 12: 311-430. 1969.

Figs. 33, 34

BASIONYM: *Sporormia intermedia* Auersw., Hedwigia, 7: 67. 1868.

Perithecia scattered or aggregated in small groups, embedded when young, becoming more or less superficial when old, subglobose to pyriform, 175-250 × 150-230 μ, smooth, bare, dark brown to black; neck short papilliform, smooth, bare, shining, black. Peridium thin, slightly coriaceous. Asci eight-spored, subcylindrical, 150-180(-200) × 25-28 μ, slightly broader below the middle, abruptly contracted below into a very short stipe. Paraphyses filiform, septate, longer than the asci and mixed with them. Ascospores bi- or tri-seriate throughout, four-celled, cylindrical, 48-59 × 9.5-11.5 μ, broadly rounded at the ends, straight or curved, dark brown and opaque at maturity, septa transverse, constrictions at septa broad and shallow; segments easily separable; terminal cells slightly longer than the mid-cells, tapering slightly toward the ends; germ slit oblique to diagonal; gelatinous sheath hyaline, broad.

HABITAT: On dung of burro, caribou, cow, deer, goat, horse, moose, partridge, porcupine, rabbit, sheep, and wolf.

TYPE: Europe.

SPECIMENS EXAMINED: ARGENTINA: With *Sordaria hypocoprioides* Speg. 6828 (LPS). CANADA: Alberta: TRTC 38933. British Columbia: TRTC 38942. Ontario: Algoma Dist., RFC 6030, 6043, TRTC 36755, 37534, 38917, 38922, 39690, 40605. Bruce Co., RFC 6032, 6034, 6036, 6041, 6042, 6044, 6050, 6051, TRTC 53603. Grey Co., RFC 6033. Haliburton Co., TRTC 36104, 36108. Manitoulin Dist., RFC 6048, 6064. Muskoka Dist., TRTC 35982, 36085, 36974. Nipissing Dist., RFC 11056, TRTC 36684. Oxford Co., RFC 6049. Parry Sound Dist.,

RFC 6040. Peel Co., TRTC 38815. Simcoe Co., TRTC 36611. Sudbury Dist., RFC 6047, TRTC 36324, 39691. Timiskaming Dist., TRTC 36988. Thunder Bay Dist., RFC 6038. Victoria Co., TRTC 36397. York Co., RFC 6053, TRTC 38505. Quebec: Gaspé East Co., TRTC 36420, 39744. Portneuf Co., RFC 6870. West Charlevoix Co., TRTC 36371. Saskatchewan: RFC 6055, 6578, 6579, 6756. EUROPE: With *Sporormia corynespora* Niessl, *Rehm*, Ascomyceten 748 (G). With *Sordaria maxima* Niessl, *Rehm*, Ascomyceten 744 (FH). Flora Exsiccata Austro-Hungarica 3573 (G). With *Delitschia moravica* Niessl, *Rehm*, Ascomyceten 746 (FH). With *Sordaria leporina* Niessl, Fungi Gallici Exsiccati 3539 (G). With *Hypocopra fimicola* (Rab.) Sacc., Fungi Selecti Exsiccati 6637 (G). With *Sporormia fimetaria* De Not., *Fuckel* (G). With *Sordaria macrospora* Auersw., Mycotheca Marchica, *Sydow*, 281 (NY). MEXICO: Chihuahua, TRTC 36496, 39778. Durango, TRTC 36804. San Luis Potosi, TRTC 39777. UNITED STATES: Arizona: Coconino Co., TRTC 32064. Colorado: Park Co., TRTC 38089. Saguache Co., TRTC 38106. Florida: Alachua Co., TRTC 31241. Georgia: Athens Co., RFC 6055. Idaho: Elmore Co., TRTC 39856. Fremont Co., TRTC 39918. Iowa: Washington Co., RFC 6742. Kansas: Rooks Co., TRTC 39340, 39374. Montana: Prairie Co., TRTC 35738. Nevada: Elko Co., TRTC 35729, 39865, 40665. White Pine Co., TRTC 40666. New Hampshire: Cheshire Co., TRTC 32646. North Dakota: Billings Co., TRTC 36222. Oklahoma: Delaware Co., TRTC 38139. Wisconsin: Dane Co., TRTC 32116. Wyoming: Albany Co., TRTC 32317. Big Horn Co., TRTC 40402. Crook Co., TRTC 39133, 39333, 39334, 39809. Park Co., TRTC 39044. Teton Co., TRTC 31896, 32321.

27. *Sporormiella irregularis* (I. Egel.) Ahmed & Cain, comb. nov.

BASIONYM: *Sporormia irregularis* I. Egel., Nytt Mag. Bot. 16: 218. 1969.

Perithecia 230-260 × 200-220 μ. Peridium thin, yellowish brown, translucent, glabrous. Asci clavate, eight-spored, 170-195 × 35-42 μ, tapering gradually into a short stipe. Ascospores four-celled, nearly cylindrical, definitely tapered toward upper end, 50-58 × 10-13.5 μ. Septa irregularly oblique. Germ slit parallel to length of ascospore.

HABITAT: On cow dung.

TYPE: On cow dung, Norway, *I. Egeland*, 244 (O).

28. *Sporormiella isomera* Ahmed & Cain, sp. nov. Figs. 58-60

Peritheciis sparsis, immersis usque semiimmersis, subglobosis, 200-250  $\mu$  diam, nigris, denudatis; collo breve papilliformi usque longe cylindraceo, usque ad 100  $\mu$  longo, nigro, denudato. Peridio tenue membranaceo. Ascis octosporis, cylindraceo-clavatis, 120-160  $\times$  13-15  $\mu$ , superne late rotundatis, inferne attenuatis, breve stipitatis. Paraphysibus filiformibus, septatis, ramosis, circa 2.5  $\mu$  crassis, ascos superantibus. Ascosporis supra 2-seriatis, obliquis, infra 1-seriatis, 4-cellularibus, cylindraceis, 32-38(-40)  $\times$  5.5-7.0(-8)  $\mu$ , utrinque rotundatis, rectis vel leviter curvatis, demum atro-brunneis, transverse septatis, ad septe profunde constrictis, facile secedentibus; articulis prope similibus; strato mucoso hyalino, midiocriter lato obductis; stria germinationis parallela usque obliqua.

HOLOTYPE: In fimo perdrigis, Ontario, Algoma Dist., Twp. 5F, 17 June 1960, *Cain, J. Reid*, and *W. Obrist*, TRTC 36241. In Cryptogamic Herbarium, University of Toronto.

ETYMOLOGY: Greek, *isos* = equal, and *meros* = part, referring to the equal size of the ascospore segments.

Perithecia scattered, immersed when young, becoming semi-immersed when old, subglobose, 200-250  $\mu$  in diam, smooth, bare, black; neck small, papilliform to cylindrical, up to 100  $\mu$  in length, smooth, bare, black. Peridium thin, membranaceous. Ascis eight-spored, cylindrical-clavate, 120-160  $\times$  13-15  $\mu$ , broadly rounded above, broadest above the middle, gradually narrowing below into a short stipe, measuring up to 15  $\mu$  in length. Paraphyses filiform, septate, branched, longer than the asci and mixed with them, about 2.5  $\mu$  in diameter. Ascospores obliquely bi-seriate above, uniseriate below, four-celled, cylindrical, 32-38(-40)  $\times$  5.5-7.0(-8)  $\mu$ , rounded at the ends, straight or slightly curved, light brown when young, becoming dark brown when mature; septa transverse; constrictions at septa broad and fairly deep; segments easily separable; cells nearly equal in size; second cell from the upper end slightly broader than the remainder; terminal cells slightly narrower toward the ends; germ slit

parallel to oblique, with a kink near the middle; gelatinous sheath hyaline, moderately broad.

HABITAT: On dung of moose, partridge, porcupine, and rabbit.

SPECIMENS EXAMINED: CANADA: Ontario: Algoma Dist., TRTC 36241 (TYPE). Haliburton Co., TRTC 36101. Muskoka Dist., TRTC 36053. Nipissing Dist., TRTC 2225. Sudbury Dist., TRTC 5371.

*S. isomera* may be separated from *S. leporina* by the less pointed ascospores, by the more readily separable segments, by the kink in the germ slit, and by the shorter stipe (measuring up to 15  $\mu$  in length instead of 20-35  $\mu$ ). It may be distinguished from *S. minima* by the larger perithecia, larger asci, the gradual tapering toward the lower end of the asci, and the length of the ascospores.

29. *Sporormiella kansensis* (Griff.) Ahmed & Cain, comb. nov. Figs. 87-89

BASIONYM: *Sporormia kansensis* Griff., Mem. Torrey Bot. Club, 11: 113. 1901.

Ascis eight-spored, cylindrical-clavate, 230-280  $\times$  28-34  $\mu$ , broadly rounded above, broadest part above the middle, contracted below into a stout, persistent stipe. Paraphyses abundant, filiform, septate, branched, longer than the asci and mixed with them. Ascospores bi- or tri-seriate, four-celled, cylindrical, (68-)72-77  $\times$  10-12  $\mu$ , broadly rounded at the ends, hyaline when young, ranging through yellow to dark brown and opaque; septa transverse; constrictions at septa broad and deep; segments easily separable; cells about equal in length; terminal cells very slightly narrowed toward the ends; germ slit parallel; gelatinous sheath hyaline, broad.

HABITAT: On dung of cow and horse.

SPECIMENS EXAMINED: UNITED STATES: Kansas: Rooks Co., Stockton, 3 Aug. 1960, *Cain*, TRTC C1273. Florida: Alachua Co., TRTC 31529. Wyoming: Niobrara Co., TRTC 45371.

Griffiths' slides of *Sporormia kansensis* (from Rooks Co., Kansas) were examined. These slides were not in a very good condition; however, it was possible to determine the ascospore measurements. The ascospores on these slides measured 80-100  $\times$  12.5-14.5  $\mu$  whereas the dimensions given by Griffiths in his description of *S. kansensis* are 72-77  $\times$  10-12  $\mu$ . Several collections have been found which fit this

measurement. One of these is from Stockton, Rooks Co., Kansas, the type locality for *S. kansensis*. Unfortunately, it is not adequate to serve as a neotype. The slides left by Griffiths are evidently not the ones used by him in writing his description. A species does exist which fits the Griffiths description and the name *S. kansensis* is here applied to it. A suitable collection should be obtained on rabbit dung from the type locality to serve as neotype.

30. *Sporormiella lageniformis* (Fuckel) Ahmed & Cain, comb. nov. Figs. 44-46

≡ *Sporormia lageniformis* Fuckel, Symbol. Mycol. Jahrb. Nass. ver. Naturk. 23-24: 242. (1869) 1870.

= *Sporormia ambigua* Niessl, Oesterr. Bot. Z. 28: 97. 1878.

= *Sporormia obliquisepta* Speg., Bol. Acad. Nac. Cienc. Cordoba, 11: 48. 1887.

Perithecia scattered or loosely aggregated, immersed, becoming partially superficial when old, subglobose, 190-250  $\mu$  in diam, smooth, bare, dark brown to nearly black; neck small, papilliform to short cylindrical or somewhat enlarged at the apex, 100-150  $\times$  90-100  $\mu$ , smooth, bare, nearly black. Peridium thin, membranaceous. Asci eight-spored, cylindrical-clavate, 125-180  $\times$  16-19  $\mu$ , broadly rounded above, tapering gradually below into a stipe, measuring about 20  $\mu$  in length. Paraphyses abundant, filiform, septate, longer than the asci and mixed with them. Ascospores bi- or tri-seriate above, uni- or bi-seriate below, four-celled, cylindrical-fusiform, 37-42  $\times$  7.5-8.5  $\mu$ , straight or curved, dark brown and opaque when mature; septa oblique; constrictions at septa broad and deep; segments easily separable; terminal cells ovate-conical, narrower toward the ends, longer than the more or less rhomboidal mid-cells; germ slit diagonal; gelatinous sheath hyaline, broad.

HABITAT: On dung of cow, deer, horse, moose, partridge, porcupine, and rabbit.

TYPE: Germany.

SPECIMENS EXAMINED: CANADA: Ontario: Algoma Dist., TRTC 32613, 36186, 38148. Bruce Co., RFC 6200, 6201, 6212, 6216, TRTC 35916, 36000. Brant Co., RFC 6199, 6217, 6472. Haliburton Co., TRTC 5382, 36336. Manitoulin Dist., RFC 6214. Muskoka Dist., TRTC 35921, 35931. Nipissing Dist., RFC 6203, 6204, 6210, 6213, 9070, TRTC 36538, 39703. Norfolk Co.,

RFC 6198. Simcoe Co., TRTC 36610, 36612, 38912, 38916, 39623. Victoria Co., RFC 6205. Quebec: Gaspé East Co., TRTC 39747, 36425, 39750. Jacques Cartier Co., RFC 12360. Montmorency Co., TRTC 36527, 39749. Portneuf Co., RFC 6893. Quebec Co., TRTC 39748. EUROPE: As *Sporormia ambigua* Niessl, Niessl, 823 (NY). As *Sporormia ambigua* Niessl, Rehm, Ascomyceten 988, Niessl (NY, G). With *Delitischia moravica* Niessl, Rehm, Ascomyceten 746 (G). With *Sordaria appendiculata* Auersw., Rehm, Ascomyceten 138 (NY); Fuckel 693, 2034, 2270 (G). UNITED STATES: Colorado: Custer Co., TRTC 39800. Wyoming: Crook Co., TRTC 39105.

Authentic specimens of *S. ambigua*, determined by Niessl, and *S. lageniformis*, determined by Fuckel, show no essential difference and these agree with the description of *S. obliquisepta*.

31. *Sporormiella lata* (Griff.) Ahmed & Cain, comb. nov. Figs. 11-13

≡ *Sporormia lata* Griff., Mem. Torrey Bot. Club, 11: 110. 1901.

Perithecia scattered, immersed, firmly attached to the substrate, subglobose, 250-385  $\mu$  in diam, smooth, bare, olivaceous brown when young, becoming dark brown and finally black; neck small, papilliform, smooth, bare, black. Peridium membranaceous to coriaceous. Asci eight-spored, cylindrical, 250-330  $\times$  30-55  $\mu$ , broadly rounded above, narrowing below into a short, stout, rather persistent stipe. Paraphyses abundant, filiform, septate, branched, longer than the asci and mixed with them. Ascospores uniseriate, four-celled, more or less broadly cylindrical, (40-)43-49(-54)  $\times$  16-20  $\mu$ , broadly rounded at the ends, olivaceous brown when young, becoming dark brown and opaque when mature, transversely septate; constrictions at septa broad and deep; segments not easily separable; cells nearly equal in size, broader than long; terminal cells semispherical; mid-cells oblong to oval; germ slit diagonal; gelatinous sheath hyaline, broad.

HABITAT: On dung of porcupine and rabbit.

TYPE: Decorah, Winneshiek Co., Iowa (NY).

SPECIMENS EXAMINED: CANADA: Ontario: Bruce Co., RFC 6068, 6069, 6078. Manitoulin Dist., RFC 6075, 6077. Muskoka Dist., RFC 6073. Nipissing Dist., RFC 5366, 5367, TRTC 39695.

Peel Co., TRTC 40660. Simcoe Co., TRTC 36615. Sudbury Dist., TRTC 39694. Timiskaming Dist., RFC 6071, 6074. Victoria Co., RFC 6072. York Co., RFC 5365, 6079, 6663. Saskatchewan: RFC 6080, 6081, 6560. UNITED STATES: Iowa: Iowa Co., RFC 6734, 6744. Winneshiek Co., TYPE (NY). New York: Cattaraugus Co., TRTC 39695.

32. *Sporormiella leporina* (Niessl) Ahmed & Cain, comb. nov. Figs. 56, 57

= *Sporormia leporina* Niessl, Oesterr. Bot. Z. 28: 44, 96. 1878.

= *Sporormia tuberculata* Griff., Mem. Torrey Bot. Club, 11: 112. 1901.

Perithecia more or less gregarious or scattered, immersed when young, becoming partially superficial when old, subglobose, 180–250  $\mu$  in diam, smooth, bare, dark brown to black; neck short, cylindrical, straight or slightly curved, occasionally enlarged at the apex, smooth, bare, black. Peridium membranaceous to more or less coriaceous. Asci cylindrical-clavate, (110–)120–160(–170)  $\times$  12–15(–16)  $\mu$ , broadly rounded above, broadest near the apex, gradually tapering below into a stipe, measuring 20–35  $\mu$  in length. Paraphyses filiform, septate, slightly constricted at the septa, branched, guttulate, longer than the asci and mixed with them. Ascospores obliquely biseriate above, uniseriate below, four-celled, cylindrical, 30–35(–37)  $\times$  5.5–6.5  $\mu$ , upper end distinctly narrowed, olivaceous brown when young, becoming dark brown and opaque when mature; septa transverse, occasionally slightly oblique; constrictions at septa broad and fairly shallow; segments not easily separable; germ slit nearly parallel to strongly oblique, occasionally almost diagonal; gelatinous sheath hyaline, moderately broad.

HABITAT: On dung of burro, carnivore, cow, deer, fox, horse, moose, partridge, porcupine, rabbit, and sheep.

TYPE: Czechoslovakia.

SPECIMENS EXAMINED: ARGENTINA: With *Delitischia sordarioides* Speg., *Spegazzini* 682 (LPS). CANADA: Alberta: TRTC 38963, 40165. Manitoba: RFC 6551. Ontario: Algoma Dist., TRTC 35805, 36743, 36754, 36764, 37504, 37495, 37511, 37521, 37522, 37533, 37544, 37545, 38140, 38895, 38908, 38920, 39386, 39697, 39722, 39723. Brant Co., RFC 6082, 6084, 12339. Bruce Co., RFC 6086, 6087, 6088, 6100, 6104, 6109, 6111, TRTC

35914, 36019. Grey Co., RFC 6085, TRTC 23528. Halton Co., TRTC 52104. Haliburton Co., TRTC 36314. Kenora Dist., TRTC 35800, 35839, 35887. Manitoulin Dist., RFC 6102, 6108, TRTC 35928, 36037, 36086. Nipissing Dist., RFC 6091, 6094, 6103, 6105, 6112, 6118, 6210, TRTC 35995, 39725, 39726. Norfolk Co., RFC 6099, TRTC 39720. Parry Sound Dist., TRTC 36073, 39696. Peel Co., RFC 12191, TRTC 36974, 38914. Peterborough Co., RFC 6101. Sudbury Dist., TRTC 36373, 36514, 36638, 40643. Timiskaming Dist., TRTC 35949, 35961, 36139. York Co., RFC 12156, TRTC 39446. Saskatchewan: RFC 6128. Quebec: Gaspé East Co., TRTC 39762. Montmorency Co., RFC 6885, TRTC 36387, 39756, 39758. EUROPE: As *Perisporium typharum* Sacc., *Petrak* 963 (PBI). With *Sporormia corynespora* Niessl, *Rehm*, *Ascomyceten* 748 (NY). As *Sporormia notarisii* Carestia, *Rehm*, *Ascomyceten* 1390 (S). With *S. ambigua* Roumeguere, *Fungi Selecti Exs.* 6489 (NY); *Kunze*, *Fungi Sel. Exs.* 273 (NY). UNITED STATES: Georgia: Athens Co., RFC 6124. Iowa: Johnson Co., RFC 6751. Michigan: Linawee Co., RFC 12082. North Carolina: Orange Co., RFC 6125. New Hampshire: Cheshire Co., RFC 6391, TRTC 32608. New York: Cattaraugus Co., TRTC 38904, 38905, 38913. Warren Co., RFC 6123, 6127.

Griffiths' type specimen of *Sporormia tuberculata* was examined and no distinct character was found to retain it as a separate species from *S. leporina*. The tuberculate neck, which, according to Griffiths, is the distinguishing character of *S. tuberculata* has occasionally been observed in *S. leporina*.

33. *Sporormiella longispora* (Cain) Ahmed & Cain, comb. nov. Figs. 102–105

BASIONYM: *Sporormia longispora* Cain, *Univ. Toronto Stud., Biol. Ser., No.* 38: 100. 1934.

Perithecia scattered, immersed to semi-immersed, becoming nearly superficial when old, subglobose to pyriform, 500–800  $\times$  300–425  $\mu$ , smooth, bare, dark brown to black; neck short to elongate, cylindrical, smooth, bare, black. Peridium membranaceous to coriaceous. Asci eight-spored, clavate, (170–)180–230  $\times$  41–45  $\mu$ , broadly rounded above, gradually narrowing below into a short, rather stout stipe, measuring 15–20  $\mu$  in length. Paraphyses abundant, septate,

branched, longer than the asci and mixed with them. Ascospores almost parallel with the ascus, four of them nearly at an equal level in the upper part of the ascus, remainder at different levels below, four-celled, cylindrical, (80-)90-100(-108)  $\times$  12-14  $\mu$ , straight or slightly curved, light brown when young, becoming dark brown and opaque when mature, septa usually transverse, occasionally almost oblique, constrictions at septa narrow and deep, segments occasionally separable; terminal cells longer and narrower than the mid-cells, tapering toward the ends; germ slit parallel to oblique; gelatinous sheath hyaline, narrow.

HABITAT: On dung of burro, deer, goat, moose, and rabbit.

TYPE: On rabbit dung, Ontario, Bruce Co., Port Elgin.

SPECIMENS EXAMINED: CANADA: Ontario: Algoma Dist., TRTC 32384. Bruce Co., TRTC 5318 (TYPE), RFC 6129, 6139. Brant Co., RFC 6134. Grey Co., RFC 5373, 6131. Haliburton Co., TRTC 36347. Huron Co., RFC 6138. Muskoka Dist., RFC 6136, TRTC 35890, 35925, 35970, 36029, 36018, 36051, 36129, 36547. Nipissing Dist., RFC 5372, 6707, TRTC 32386. Parry Sound Dist., RFC 6135. Sudbury Dist., TRTC 36630. Timiskaming Dist., RFC 6133, TRTC 35987. Victoria Co., TRTC 36401. York Co., RFC 6143. Quebec: Montmorency Co., TRTC 39769. Portneuf Co., RFC 6869. Quebec Co., TRTC 40640. Saskatchewan, RFC 6559. MEXICO: Durango, TRTC 39628. Nuevo Leon, TRTC 36723. Oaxaca, TRTC 38891, 38931. San Luis Potosi, TRTC 36476. UNITED STATES: Montana: Prairie Co., TRTC 35741. Wyoming: Teton Co., TRTC 32311, 32332.

34. *Sporormiella longisporopsis* Ahmed & Cain, sp. nov. Figs. 106-109

Peritheciis sparsis, immersis, subglobosis, 400-500  $\mu$  diam, atro-brunneis usque nigris, denudatis; collo breve usque longo cylindraco, usque ad 400  $\mu$  longo, nigro, denudato. Peridio tenui membranaceo. Ascis octosporis, cylindraco-clavatis 230-270  $\times$  35-40  $\mu$ , superne late rotundatis, superne mediam partem latissimis, inferne in stipitem 20-25  $\mu$  longis attenuatis. Paraphysibus filiformibus, septatis, copiosis, ascos superantibus. Ascosporis 2- aut 3-stichis, 4-cellularibus, cylindracois, (75-)80-100(-104)  $\times$  14-17  $\mu$ ,

utrinque late rotundatis, rectis vel curvatis, demum atro-brunneis opacisque, transverse septatis, profunde constrictis, perfacile secedentibus; articulis terminalibus leviter longioribus et attenuatis. Stria germinationis parallela usque leviter obliqua. Strato gelatinoso hyalino, lato.

HOLOTYPUS: In fimo cuniculorum, Ontario, Peel Co., Palgrave, 17 Oct. 1962, Cain, TRTC 38816. In Cryptogamic Herbarium, University of Toronto.

ETYMOLOGY: Latin, *longispora*, and the suffix *-opsis*, referring to the resemblance to the species *S. longispora*.

Perithecia scattered, immersed, subglobose, 400-500  $\mu$  in diam, smooth, bare, dark brown to nearly black; neck short cylindrical to considerably long, measuring up to 400  $\mu$  in length, smooth, bare, black. Peridium thin, membranaceous. Ascis eight-spored, cylindrical-clavate, 230-270  $\times$  35-40  $\mu$ , broadly rounded above, broadest above the middle, gradually contracted below into a persistent stipe, measuring 20-25  $\mu$  in length. Paraphyses abundant, filiform, septate, longer than the asci and mixed with them. Ascospores somewhat obliquely bi- or tri-seriate, four-celled, cylindrical, (75-)80-100(-104)  $\times$  14-17  $\mu$ , broadly rounded at the ends, straight or curved, light brown when young, becoming dark brown and opaque when mature, septa transverse, constrictions at septa deep, cells very easily separable; terminal cells very slightly narrower toward the ends, slightly longer than the mid-cells; germ slit parallel, occasionally slightly oblique; gelatinous sheath hyaline, broad.

HABITAT: On dung of burro, cow, goat, rabbit, rodent, and sheep.

SPECIMENS EXAMINED: ARGENTINA: With the type of *Delitschia sordarioides* Speg. 5980 (LPS). CANADA: Ontario: Peel Co., TRTC 38816 (TYPE). MEXICO: Durango, TRTC 36803, 36964, 37046, 39782. Hidalgo, TRTC 38791. Jalisco, TRTC 36970, 37011, 37035, 36452. San Luis Potosi, TRTC 36589, 36823, 36990, 37434. Sinaloa, TRTC 36887, 36897. UNITED STATES: Colorado: Saguache Co., TRTC 38053. Georgia: Athens Co., RFC 6063. Kansas: Rooks Co., TRTC 39379. Louisiana: Orleans Parish, TRTC 37389. North Dakota: Billings Co., TRTC 39309.