

*Coprophila* (FH slide 1701); Timagmi Isl. (porcupine) 1935, Cain 7391 as *B. coprophila* (FH, NY, S, UC-M140178, UPS); Bear Isl. (r) 8.IX.1936, Cain as *B. coprophila* (UPS). — USA: Michigan, Alger, Kock River (r) 23.VIII.1927, Fovah as *B. fasciculata* (MICH); Fovah 1931. CHOICE OF SUBSTRATE: 5 finds: on dung of American rabbit 3, hare, porcupine.

*C. gossypina* is distinguished primarily by its cottony, white or yellow tomentum (hence the epithet), membranaceous, yellow-ochraceous peridium, verrucose subapical globulus, and its habitat. It belongs to a group of species with the same type of peridial structure and tomentum. Closest are the herbicolous *Cercophora lanuginosa* (Cr. & Cr.) Lundq. n. comb. (Bas.: *Sordaria lanuginosa* Cr. & Cr. 1867: 22; syn.: *Sordaria lutea* Ell. & Ev.), and the coprophilous *C. citrina* (Peteh) Lundq. n. comb. (Bas.: *Sordaria citrina* Peteh 1922: 301). The former is larger throughout, and the latter has a more reddish vestiture and yellow, up to 85  $\mu$  long spores.

The Canadian specimens of *C. gossypina* deviate a little from the type material, as no yellow colour can be detected in their tomentum or perithecial contents. They have slightly larger spores, too, 42-50  $\mu$ , compared to 41-46  $\mu$ , and broader spore heads, (6)-8-9  $\mu$ , comp. to 6-8  $\mu$ . The sporal differences are, however, probably intra-specific variations, and a yellow colour may once have been present. Other explanations are that various substrates may induce different colours in the fungus, or that the Canadian specimens represent a taxon of lower rank than the species. It is interesting to note that some individuals on the type collection, too, are practically white-haired.

9. *Cercophora scortea* (Cain) Lundq. n. comb. (Fig. 11, 16d, pl. 10)

*Bombardia scortea* Cain 1934: 68. — Holotype on rabbit dung from Tara, Brnce, Ontario, Canada, 21.VII.1932, Cain 5606 (TRITC 5301); not seen.

*Ferthiecia* scattered or a few together,  $\pm$  superficial, aoid to conical, 700-950  $\times$  450-625  $\mu$ , with a short conical neck, covered all over, except around the ostium, with scattered, rigid, simple, cylindrical, straight or somewhat curved, brown, hyaline-tipped, obtuse, sparingly septate hairs, 15-120  $\times$  3-5  $\mu$ . *Peridium* dark brown, pseudo-bombardioid, coriaceous, c. 40  $\mu$  thick below, up to 60  $\mu$  thick above, 4-layered; outer peridial cells 5-10  $\mu$  in diam., epidermoid, with slightly thickened walls; gelatinous layer yellowish, 15-40  $\mu$  thick; third layer 10-15  $\mu$  thick, brownish, with thick-walled, tangentially flattened cells. Perithecial contents hyaline. *Paraphyses* filiform-ventri-cose. Asc 8-spored, 230-290  $\times$  16-19  $\mu$ , narrowly clavate; apical ring thickened, simple, 3-3.5  $\mu$  wide, c. 1  $\mu$  thick, round (or triangular?) in cross-section; subapical globulus round, c. 5  $\mu$  in diam., verrucose. Spores 2-3-seriate, at their hyaline stage one-celled, cylindrical, vermiform, slightly sigmoid or only bent below, smooth, 49-58  $\times$  3-4  $\mu$ , filled with one series of 15-22 large oil drops, finally swelling above becoming transversely uniseptate; upper cell at last brown, 16-21  $\times$  7-12  $\mu$ ,  $\pm$  equilateral,  $\pm$  ellipsoidal with a truncate base, a conical, often umbonate apex, and an apical germ pore; pedicel 30-36  $\times$  3-4  $\mu$ , cylindrical, bent at the lower end, collapsing. A lash-like *gelatinous cauda* attached to both ends of the spore, 18-30  $\times$  2-3  $\mu$ , rather fugacious.

REVISION OF THE GENERA LASIOSPHAERIA AND BOMBARDIA

by

Kandiah Gnanaanthan

A Thesis submitted in conformity with the requirements  
for the degree of Doctor of Philosophy  
in the University of Toronto

May 1972

© Gnanaanthan 1972

14. Lasiosphaeria citrina (Petch) Gnan. & Cain, comb. nov. (pl. Frontispiece, 1, 12, 53D)

= Sordaria citrina Petch, Ann. Roy. Bot. Gard.

Peradeniya 7:301. 1922.

= Cercophora citrina (Petch), Lundq., Symb. Botan.

Upsaliensis 20(1):109. 1972.

Perithecia 650-1000 x 520-700 $\mu$ , superficial, scat-

tered or gregarious, pyriform, yellowish-brown, darker at

base, covered and often united by a conspicuous greenish

or lemon yellow tomentum. Neck conical, black, about

130-175 $\mu$  long, usually bare but occasionally covered by the

tomentum. Peridium 30-40 $\mu$  thick, semi-transparent, com-

posed of two layers, outer layer 18-22(-28) $\mu$  thick, com-

posed of large, more or less rectangular cells with wavy,

thin, hyaline walls. Inner layer 12 $\mu$  thick, composed of

a few rows of narrow, rectangular, hyaline cells with thin

walls. Contents of perithecium yellow. Asci 170-200(-240)

x 12-16 $\mu$ , unitunicate, eight-spored, fusoid-cylindrical,

broadest near middle, attenuated upwards, rounded to al-

most truncate at apex, with a shining ring and a refractive

subapical globule 4-5 $\mu$  in diameter, tapered below into a

stipe 30-50 $\mu$  long. Paraphyses abundant, filiform, tinted

yellowish, longer than the asci and evanescent. Ascospores

at first hyaline or pale yellow, one-celled, (56-)65-85 x

2.5-4 $\mu$ , loosely biseriate, cylindrical, vermiform, sigmoid

or genticulate near lower end, with an axial row of guttules, with one hyaline filamentous gelatinous cauda 17-35 x 2.5 $\mu$  at each end, finally swelling in upper region forming ellipsoidal head (14-17-22 x 6-10 $\mu$ ). Head is hyaline at first, eventually turning brown and delimited from hyaline pedicel by a septum.

Among the several collections examined, many perithecia were found to contain hyaline-headed spores but dark-headed spores were seldom encountered.

HABITAT: on dung of elephant, horse, moose, porcupine and rabbit.

SPECIMENS EXAMINED: CANADA: Manitoba: Riding Mt.

Nat. Park: Clear Lake, on porcupine dung, 15 Aug. 1935,

Bisby (TRTC 6608); on porcupine dung, 16 Aug. 1935, Bisby

(TRTC 6609); near Renzie, on moose dung, 28 Aug. 1935,

Bisby (TRTC 5602). Ontario: Oxford Co.: Benwell Swamp,

on horse dung, 24 Sept. 1939, Cain (TRTC 12010); 4 miles

N. W. of Norwich, on rabbit dung, 11 Sept. 1934, Cain

(TRTC 6768). Thunder Bay Dist.: 14 miles W. of Manitou-

wadge, 18 June 1963, Taylor (TRTC 39870).

CEYLON: Hakgala, on elephant dung, Dec. 1917, Petch,

TYPE (PDA).

The septum delimiting the head and the primary

appendage develops rather belatedly. Evidently, this is

another species where the heads turn brown-only after the

ejection of spores from the asci. This is a rather attractive species and can be readily identified by the conspicuous lemon yellow tomentum and the characteristically long and slender spores.

*L. sulphurella* has a tomentum very similar to that of *L. citrina* but its ascospores are comparatively smaller, measuring (44-)50-60(-65) x 3.5-4 $\mu$ . *L. lutea* is the only other species of this genus having a bright coloured tomentum. This species however is lignicolous and differs from *L. citrina* in having an orange-yellow tomentum and somewhat shorter ascospores.

*Lastosphaeria citrina* (TRTC. 6609, 5602, 39870)

A. Habit

B. Perithecium 150 x

C. An ascus with ascospores 1000 x

D, E, F & G. Vermiform ascospores 1560 x

H, I & J. Ascospores with an inflated upper end 1560 x

K. Ascospore with a dark head 1560 x

