Table 1. *Nature of the sites investigated*

Position from which sample taken	pH	Water content of tip (%)	Organic matter content of tip (%)	Number of sporophores
Base	5·0	10·1	7·9	18
2 m up	5·0	8·2	8·6	9
2·5 m up	5·0	5·6	11·1	8

At the base of the tip *Calluna vulgaris* is well developed. Seedlings of *Betula pubescens* and *Quercus* spp. are scattered amongst the *Calluna*, but these tree seedlings are largely confined to an area commencing about 10 m from the tip. Amongst the lichen flora, the following are well developed: *Parmelia physodes*, *Peltigera* spp., *Usnea* spp., *Cladonia coniocraea*, *C. pyxidata*, and *C. coccifera*.

The surface 5 cm of tip material was removed from the three sites for simple analysis and the results are presented in Table 1. No topsoil was present and the tip material appeared homogenous to a depth of more than 35 cm. The samples were collected in early October, 1972, during a prolonged period without rainfall. The results indicate a fairly low content of moisture and of organic matter of the tip material. The relatively higher organic matter at the base could perhaps be due to some inwashing of material derived from the *Calluna* on top of the tip.

Qualitative analysis of the samples revealed the presence of arsenic, copper, tin, and lead. In addition, in some parts of the tip scattered fragments of charcoal are present – a remnant from the days of arsenic refining in the area.

The fungus *Laccaria laccata* is well represented on this metal spoil tip. It is the only plant present on certain parts of the tip and would appear to constitute a colonizing organism. It is of interest that the fungus is able to survive in such an extreme area with such a limited amount of organic matter in the substrate.

I am indebted to the Director of the Royal Botanic Gardens, Kew, for confirming the identification of the fungus. My thanks are also due to a group of my students who attended the field course on the day the fungus was found.

COPROTUS TRICHOSURUS SP.NOV. FROM NEW ZEALAND

ANN BELL AND J. W. KIMBROUGH

Botany Department, Victoria University, Wellington, New Zealand and Botany Department, University of Florida, U.S.A.

Coprotus Korf & Kimbrough (Thelebolaceae, Pezizales) is a segregate of the coprophilous genus *Ascophanus* Boud. characterized by minute, translucent, white to yellow apothecia, operculate, non-amyloid, eight-

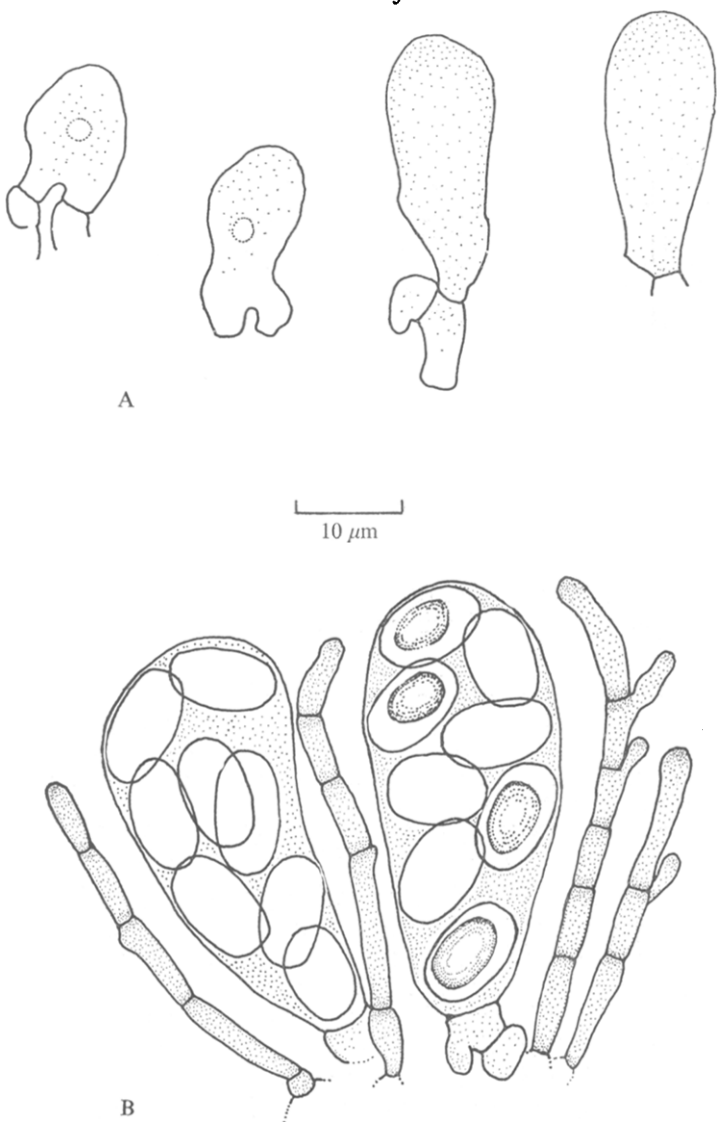

Fig. 1. *Coprotus trichosurus*. A, Immature asci; B, mature asci, ascospores and paraphyses.

to multi-spored asci, and smooth, hyaline, thin-walled ascospores that contain a refractive bubble. Kimbrough & Korf (1967) transferred six species previously belonging to *Ascophanus* or *Ryparobius* Boud. to *Coprotus* and selected *C. sexdecimsporus* (Cr. & Cr.) Kimbrough & Korf as the holotype. In a current treatment of the genus, 18 North American species of *Coprotus* are recognized (Kimbrough, Luck-Allen & Cain, 1972).

In a study of coprophilous discomycetes of New Zealand, a collection of *Coprotus* was found on faecal pellets of the Brush-tailed opossum, *Trichosurus*

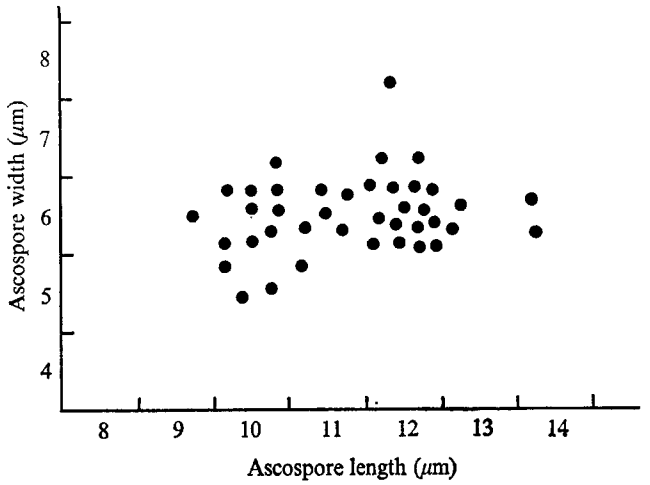

Fig. 2. Scatter diagram illustrating the range of ascospore sizes in *Coprotus trichosurus*.

vulpecula Kerr., that appeared different from previously described species. For this we propose the following new specific name.

Coprotus trichosurus Bell & Kimbrough sp.nov.

Apotheciis 125–175 μm diametro, sessilibus, pallidus. Excipulum cellarum globosarum. *Thecis* globosarum clavati, octosporis, 2-seriatis, 50–60 × 20 μm. *Ascosporis* ellipsodeis hyalinis aut eguttulatis aut guttulatis, 9–14 × 5–6 μm. Paraphysibus hyalinis, septatis, aut simplicibus aut ramosus brevis, 3–4 μm.

Sparsa vel gregaria in stercoribus *Trichosuri vulpeculae*, Orongorongo Valley, Wellington, Nova Zelandia. Dec. 1971, A. Bell, holotypus (PDD 30082).

Apothecia sessile, scattered or gregarious, 125–175 μm diam, colourless when fresh, drying to pale yellow. Apothecial wall composed of globose cells which may become angular through mutual pressure. Asci broadly clavate (Fig. 1 A, B) approximately 50–60 × 20 μm when mature, with little or no stalk, containing eight biseriately arranged ascospores. Ascospores bluntly oval, 9–14 × 5–6 μm (Fig. 2), smooth-walled, hyaline, sometimes containing a refractive bubble (Fig. 1 B). Paraphyses hyaline, cylindrical, septate, sometimes with short branches, 3–4 μm in diam and similar in length to the mature asci.

Coprotus trichosurus appears most closely related to *C. granuliformis* (Cr. & Cr.) Kimbrough and *C. breviascus* (Vel.) Kimbrough, Luck-Allen & Cain. All three species have very short, broad asci (45–60 × 15–30 μm), and ascospores that approach 15 μm in length. *Coprotus trichosurus* may be distinguished from these species, however, in that its apothecia are usually smaller and devoid of pigments, its spores are from 1·0–5·0 μm smaller in diameter, and its paraphyses are neither broadly inflated nor filled with lipid bound pigments. Although certain collections of *C. granuliformis* appear colourless, small lipid droplets may still be found in the paraphyses.

The paraphyses in *C. breviascus* are slightly uncinate and filled with large pigmented droplets, while those of *C. trichosurus* are straight, cylindric and devoid of pigmented droplets.

REFERENCES

KIMBROUGH, J. W. & KORF, R. P. (1967). A synopsis of the genera and Species of the tribe Thelebolcae (= Pseudoascoboleae). *American Journal of Botany* **54**, 9–23.

KIMBROUGH, J. W., LUCK-ALLEN, E. R. & CAIN, R. F. (1972). North American species of *Coprotus* (Thelebolaceae, Pezizales). *Canadian Journal of Botany* **50**, 957–971.

SCLEROGRAPHIOPSIS AND *SPINULOSPORA*, TWO NEW MONOTYPIC HYPHOMYCETOUS GENERA FROM SIERRA LEONE

F. C. DEIGHTON

Commonwealth Mycological Institute, Kew

Sclerographiopsis dalbergiae Deighton, gen. et sp.nov. Deuteromycotina, Hyphomycetes.

Maculae nullae. Mycelium superficiale, evanescens, hypophyllum: hyphae circum basim synnematum olivaceae, parce septatae, ramosae, laeves, 1–2·5 μm latae. *Synnemata* hypophylla, erecta, subrecta, atrobrunnea, usque 1450 μm longa, basi 25–30 μm, sursum leniter attenuata, ex hyphis olivaceis, laevibus, septatis, 1·5–2·5 μm latis, non ramosis, arcte adhaerentibus, compositum: pars fertilis terminalis, longe clavatus, usque 250 μm longus et 65 μm latus. Cellulae conidiogenae integratae, terminales vel intercalares. *Conidiophora* ex hyphis synnematis lateraliter oriunda, patentia, etiam terminaliter oriunda, numerosissima, cylindrica, olivacea, plerumque simplicia et continua, illa longiora interdum 1–2 septata et ramulo brevi laterali, 5–25 μm longa, (3) 4–5 μm lata, laevia, denticulis brevibus numerosis, valde cicatricatis, ornata. Cicatrices conspicue incrassatae, circa 1 μm diam. *Conidia* pallide olivacea, leniter obclavata, saepe catenulata, illa terminalia apice obtusa, plerumque leniter curvata, laevia, 1–3 septata, non constricta, 17·5–28 × 2·5–3 μm.

In foliis vivis *Dalbergiae heudelotii* Stapf, Sierra Leone: Kowama (Gallinas-Perri), 24. xi. 1949, F. C. Deighton, IMI 40326, holotypus.

A *Sclerographio* differt conidiis laevibus, pallide brunneis, 1–3 transverse septatis, catenulatis.

Leaf spot none. Synnemata hypophyllous, solitary, sparsely distributed over wide areas of the leaf. *Mycelium* superficial, evanescent: hyphae at base of synnemata olivaceous, sparingly septate, branched, smooth, 1–2·5 μm wide. *Synnemata* erect, substraight, very dark brown, up to 1450 μm long, 25–30 μm wide at the base, diminishing slightly towards the long club-shaped conidiiferous head, composed of closely adherent olivaceous, smooth, septate hyphae 1·5–2·5 μm wide which are apparently unbranched below the conidiiferous portion where they bear the conidiogenous cells terminally and as lateral branches. Conidiiferous portion up to 250 μm long and 65 μm wide. Conidiogenous cells integrated, terminal or intercalary. *Conidiophores* olivaceous, patent branches of the hyphae of the synnema, very numerous, cylindric, mostly simple and continuous, longer ones sometimes 1–2 septate and with a short lateral branch, 5–25 μm long,