the sheath disintegrates readily and small fragments only remain to indicate its presence.

Micrographs of the sheath show a definite structure. Narrow pointed plates lie side by side in groups at various angles, the whole presenting a more or less regular pattern as if crystalline (Fig. 1). The persistence of the sheath seems to be associated with the degree of marking. The most strongly patterned sheaths observed were those which broke up readily, apparently fragmenting parallel to the long axes of the narrow plates.

Using the technique of Erikson[2], the sheath did not stain with sudan IV.

Attached to the sheath and sometimes enfolded by it, small dense spherical bodies were frequently observed. These inclusions varied in size from 0·1μ to 0·2μ. The nature and function of these bodies are not known (Fig. 1). Electron micrographs of *Nocardia ruber*[3] show granules which may be similar.

The presence of spiny processes on the spores of certain strains was reported by Flaig *et al.*[4], and several isolates from New Zealand soils have been noted to produce spores with spiny outgrowths. Micrographs show that spores with spines are produced within the hyphal wall in the normal manner, and are liberated by a longitudinal splitting of the sheath. The sheath shows clearly markings and indentations caused by the spines. In some cases the spines were observed to penetrate the hyphal wall and occasionally were broken off when the spores were released.

As no previous record has been seen, it is of interest to note that a culture of *S. flaveolus* NRRL. B.1334 showed spiny spores. The spines on the spores of *S. flaveolus* are long and thin (1μ × 0·04μ) tapering only slightly towards the tip. They are very fragile and easily broken off (Fig. 3).

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Isolation of *Microsporum gypseum* and of *Keratinomyces ajelloi* from Australian Soil

Sixty-six samples of soil collected from various parts of New South Wales were examined for the presence of keratinophilic fungi. Following the technique of Vanbreuseghem[1], Petri dishes half-filled with moistened soil were baited with autoclaved human hair. At varying intervals, ranging from three to seven weeks, some hairs were found to be overgrown by fungi; these were examined microscopically and transferred to Sabouraud's agar containing 'Actidione' (*cyclo*heximide), penicillin and streptomycin[2].

Microsporum gypseum was isolated in pure culture from five samples of soil and *Keratinomyces ajelloi* from eight samples. So far as we know, this is the first occasion on which these fungi have been isolated from Australian soil. Other fungi are being encountered in the course of this work, which is supported by a grant from the National Health and Medical Research Council of Australia and which will be reported in full later.

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Selection of Aphid Species by Different Kinds of Insect Traps

Moereke yellow trays are a simple and cheap method of trapping aphids, and are being widely used for the study of aphid flight and behaviour. These traps, however, have never been standardized with respect to their differential catch of various species. Three yellow trays and a suction trap were operated close to each other, over a small plot of pyrethrum not infested with aphids, for more than two years at the East African Agriculture and Forestry Research Organization, near Kikuyu, Kenya. There are reasons for thinking that the suction trap takes a fairly accurate sample of aphid density. The ratio of yellow-tray to suction-trap catch for the commoner species is shown in Table 1. The total number of specimens, from both traps, is placed in parentheses. All the specimens listed were alate viviparous females except for the male *Rhopalosiphum maidis*.

Table 1. Ratio of Catches in Yellow Trays to those by Suction Trap

1	*Toxoptera citricidus*	30·7	(95)
2	*Myzus ornatus*	25·0	(52)
3	*Macrosiphum euphorbiae*	14·7	(771)
4	*Hyadaphis coriandri*	12·7	(41)
5	*Brevicoryne brassicae*	11·1	(799)
6	*Brachycaudus helichrysi*	9·5	(21)
7	*Trifidaphis phaseoli*	9·5	(21)
8	*Myzus persicae*	6·4	(844)
9	*Aphis* spp.	3·3	(2,048)
10	*Hyperomyzus lactucae*	2·9	(27)
11	*Lipaphis erysimi*	2·7	(720)
12	*Longiunguis sacchari*	2·7	(76)
13	*Dactynotus compositae*	2·2	(805)
14	*Aulacorthum vincae*	2·1	(49)
15	*Geoica lucifuga*	2·1	(25)
16	*Rhopalosiphum maidis* ♂♂	2·0	(51)
17	*Tetraneura hirsuta*	1·6	(102)
18	*Aploneura lentisci*	1·5	(168)
19	*Rhopalosiphum splendens*	1·3	(734)
20	*Micromyzus ageni*	1·2	(35)
21	*Macrosiphum (Sitobion)* spp.	0·8	(261)
22	*Rhopalosiphum maidis* ♀♀	0·8	(972)
23	*Schizaphis cyperi*	0·6	(344)
24	*Acyrthosiphon pisum*	0·5	(414)

From these figures it is evident that some species may be selected as much as thirty times as strongly as others by yellow trays than by suction traps. The host plants of species 1–11, 13 and 14 and 24 are dicotyledons, and of 12 and 15–23 are grasses or sedges. These grass- and sedge-feeding species belong to several different taxonomic groups, and the yellow trays select against them in favour of most of the common species feeding on dicotyledons.

Statistical analysis of these trap catches from hour to hour shows that the presence of sunshine increases the yellow-tray catch relative to the suction trap: these findings are to be published in greater detail elsewhere.

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