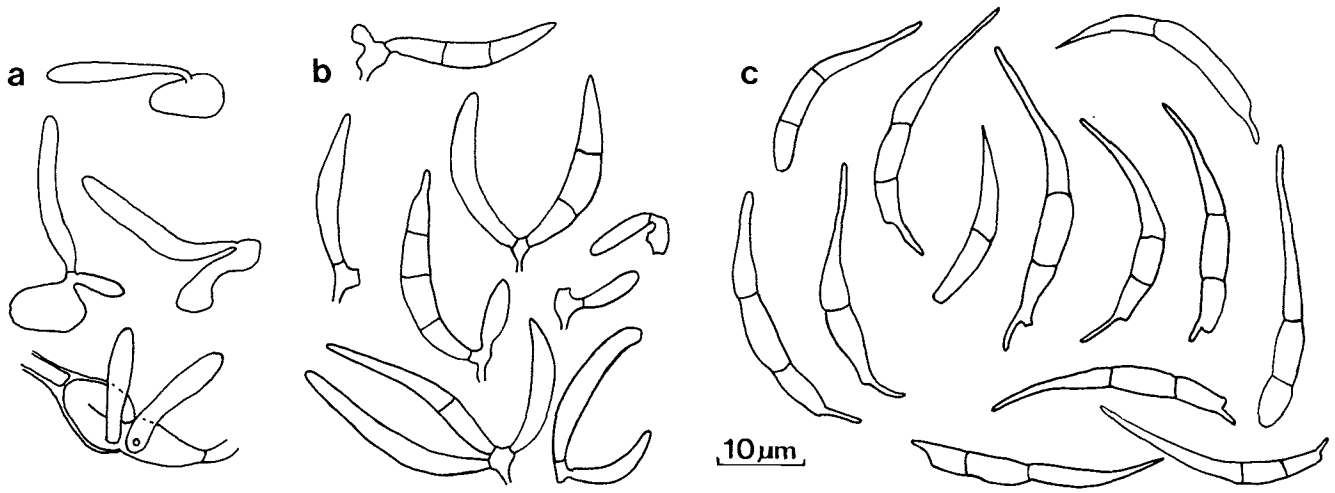

Fig. 1. Conidiogenesis and conidia of *S. avenae*
(a) Subcuticular vesicular cells, penetration process and developing conidia.
(b) Supracuticular sympodial conidiogenous apparatus and conidia.
(c) Conidia from host.

The above account differs from that of Deighton (2) who apparently only observed the early stages of conidiogenesis, and assumed that conidia were borne singly on elongate conidiogenous cells. Sprague and Johnson (6) implied a possible sympodial proliferation of conidiogenous cells when they described conidia as "borne singly or sometimes in pairs, acrogenously or subacrogenously". Sympodial conidiogenous cells are described for other species of *Spermospora* (*S. lolii* and *S. holci*) by MacGarvie and O'Rourke (3).

The fungus has been cultured on potato dextrose agar (PDA), potato carrot agar (PCA) and sterile wheat straw on water agar. Growth on PDA is slow and colonies grown at room temperature do not exceed 10-15 mm in 14 days. Colonies are white above, buff-coloured below, frequently radially wrinkled, with sparse aerial mycelium (1.5-3.0µm diam), becoming powdery with conidial production. Conidium morphology in PDA culture differs from that on the host by the greatly increased variability in conidial length, and the high proportion of aberrant forms. Aberrant conidia are often misshapen, excessively long and 3-6-septate, frequently with unusual sites of insertion of the appendages. On PCA the fungus grows more rapidly but sporulation is sparse. The fungus is described in detail by Sprague and Johnson (5) and Deighton (2). Specimens and cultures are lodged in the Plant Research Institute herbarium as VPRI 10604, 10793, 10795, 10796 and 11233, and duplicates have been sent to Herb. DAR (Rydalmere, N.S.W.) and Herb. BRIP (Indooroopilly, Queensland).

Pathogenicity tests were conducted to determine the susceptibility of the oat cultivars Algerian, Algeribee, Avon, Coast Black, Coolibah, Saia and Swan to *S. avenae*. A spore suspension in distilled water (1 x 10^6 spores/ml) was prepared from naturally infected material and sprayed into 8-week-old oat plants. Leaves were kept moist for 24 hours, and then allowed to dry. All varieties were susceptible to the disease.

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Clover Yellow Vein Virus in Broad Bean

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A virus (isolate A) causing a severe mosaic, leaf distortion and stem necrosis was isolated from a crop of broad beans at Forth, Tasmania. Leaf extracts negatively stained and examined with the electron microscope contained potyvirus-like virions. Sap transmission of the virus to pea and French bean caused severe mosaic followed by plant death in both species. These symptoms were indicative of those of clover yellow vein virus (C1YVV) (4, 5) rather than those of bean yellow mosaic virus (BYMV), a potyvirus frequently recognised causing low levels of infection in Tasmanian broad bean crops.

C1YVV was first described in 1965 (3). Hollings and Stone (1974) concluded that the virus was best identified by serology because there was no single diagnostic host nor consistent difference in host range and symptomatology to separate it from other potyviruses. However, Bos *et al.* (1) and Jones and Diachun (5) have since reported that C1YVV and BYMV can be distinguished in host range studies.

C1YVV has not been reported from Australia and an earlier study of some Australian BYMV strains (2) did not include an isolate resembling C1YVV. Isolate A therefore was identified by inoculation to the diagnostic indicator species used by the above workers (1, 5). A BYMV isolate (J) from broad bean was included in tests for comparison with isolate A. Leaf tissue was triturated in 60 mM potassium phosphate buffer (pH 7.8) and inoculated to in-

dicators. Indicators showing no symptoms were back tested by inoculation to *Chenopodium quinoa* Willd.

The indicator hosts used, and the reactions each isolate induced on them, are shown in Table 1. With the exception of cucumber, all host reactions of isolates A and J were as reported for C1YVV and BYMV respectively (1, 5). My failure to infect cucumber with C1YVV may have been because I used resistant cultivars or it may indicate a minor variation in host range which is common among these and other potyviruses.

These results therefore confirm the identity of C1YVV in Tasmania. Isolate J was similar to Goodchild's pea mosaic (2) and sub group III of Jones and Diachun.

Table 1. Indicator host used and reactions shown to each isolate.

Differential host	Isolate	
	A	J (BYMV)
Trifolium repens L.		
Grasslands Huia	MoSM	NS NR
Grasslands Pitau	MoSM	NS NR
Cucumis sativus L.		
Telegraph	NS NR	NS NR
Gherkin	NS NR	NS NR
Crystal apple	NS NR	NS NR
Nicotiana clevelandii Gray	L SCISp	NS NR
Chenopodium quinoa Willd.	L SCISp	L
Vicia faba var. *major* Harz.		
Coles Dwarf Prolific	L SeSM Pd	MoSM
Pisum sativum L. s. lat.		
Greenfeast	NS NR	NS NR
Chanchera	L SeSM Pd	MoSM
Trapper	L SeSM Pd	MoSM
Nicotiana tabacum L.		
Xanthi	L	NS NR
Turkish	L	NS NR
Phaseolus vulgaris L.		
Bountiful	L SeSM Pd	L
Royal Windsor	L SeSM Pd	NS NR
Gourmet's Delight	L SeSM Pd	NS NR

L = visible local infection
MoSM = moderate systemic mosaic
SeSM = severe systemic mosaic
SCISp = systemic chlorotic spots
Pd = plant death
NS = no symptoms
NR = no virus recovered by back inoculation

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REVIEWS

"*Lophodermium* on Pines"

By D. W. Minter — 1981
C.M.I. Mycological Paper No. 147.
54 pp., 65 figs, 1 pl. (col.).
Price: 5.00 (add 15% for air mail postage).
Issued 16 March 1981.

"The taxonomy of *Pseudoperonospora*"

By Grace M. Waterhouse and Margaret P. Brothers — 1981
C.M.I. Mycological Paper No. 148.
28 pp., 3 figs.,Price: 2.50 (add 15% for air mail postage).
Issued 1 May 1981.

Both obtainable from the Commonwealth Agricultural Bureaux, England.

These are the two latest titles in the C.M.I. Mycological Paper series. Dr. Minter's paper on the species of *Lophodermium* on pines now makes it possible to identify to species many of the collections of this common and important genus found on pine needles and, more rarely, on cones. Previously the literature and the species concepts were both very confused. With a series of clear descriptions, based on the type specimens (where available) and other collections, Dr. Minter gives the distinguishing features for the 16 species accepted. Details of ascocarp morphology, which are the major characters used to separate species, are presented in a comprehensive series of diagrams and photomicrographs and summarised in two keys, one dichotomous and one synoptic. Conidial states, cultural characteristics, host ranges, pathogenicity, doubtful and excluded species (and even hyperparasites!) are covered in this important and significant publication. It should be on hand for all plant pathologists, and especially those working with tree diseases. The clarification of the often wrongly applied name *Lophodermium pinastri* and the recognition of other *Lophodermium* spp. as more important pathogens could have implications for Australian forest pathology and for plant quarantine.

The genus *Pseudoperonospora* (previously called *Peronoplasmopara* in error) contains those downy mildews which produce sporangia (papillate and germinating by zoospores), and thus resemble *Plasmopara*, but with sporangiophores whose shape and branching is more reminiscent of *Peronospora*. The authors discuss the history of the genus, describe its distinguishing features, and give detailed descriptions of the seven named (and one unnamed) species that they accept. The best known of these is *P. cubensis* causing downy mildew of various Cucurbitaceae. The host range, geographic distribution and specimens examined are thoroughly documented. The paper ends with a discussion of seven species, included by some workers in *Pseudoperonospora*, but placed elsewhere by the present authors for various reasons which are detailed. This is an essential paper for those whose work requires them to identify downy mildews.

John Walker

NEWS FROM THE EXECUTIVE

4th International Plant Pathology Congress

The first circular has been mailed to all A.P.P.S. and I.S.P.P. members. It contains an outline of the programme, which consists of morning symposia and afternoon specialised sections. Fourteen sections are listed. Eight workshops, an industrial exhibition and book display are also planned. A preliminary reply card is attached, and from this we should receive an indication of demand. The