difficulties were encountered in the assay of trehalose synthesis and ascribed to artefacts (Wright and Kelly 1981).

In the phycomycete *Blastocladiella emersonii* Cantino and Lovett (1964) have described a point of no return in the differentiation of the resistant sporangium. This refers to selection for the resistant sporangium by the presence of sodium bicarbonate in the medium and to a time at which the bicarbonate need no longer be present. It is difficult to make a comparison with *A. macrogynus* for several reasons. It is not clear whether *B. emersonii* requires nutrients for the continued development of the resistant sporangium as *A. macrogynus* does. Also, *B. emersonii* has been described as having an internal pool of glucose which *A. macrogynus* does not. Finally, *A. macrogynus* has an ability to undergo hyphal extension and branching which is not a part of the morphological development of *B. emersonii*. The current situation as far as *A. macrogynus* is concerned is that plants differentiating to form the zoosporangia can revert to vegetative growth at the swollen tip stage but not after the septum is laid down. However, with added nutrients vegetative growth can recommence by branching after the zoosporangium is complete. So far as development of the resistant sporangium is concerned, plants will revert after septation and before completion of the melanized wall if glucose is not available.

Acknowledgments

This work was supported by a grant from the Australian Research Grants Committee. Miss Shelley Sandars investigated the uptake of amino acids into the internal pools.

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Manuscript received 4 May 1982, accepted 3 August 1982