

Paperback Re-issue

The life cycle of a fern, like that of other sexually producing plants, involves an alternation of gametophytic and sporophytic generations. A single-celled spore, born out of a reduction division in the spore mother cell is the beginning of the gametophytic generation. Various phases of gametophyte such as spore germination, formation of the planar gametophyte, control of initiation of sex organs and gametogenesis have been subject to extensive research and have become model systems in plant developmental biology. This book is about how the fern spore achieves the basic body plan of the gametophyte, how the gametophyte grows and reproduces and, finally, how it is set on track to initiate the sporophytic phase. The objective is to provide an account of those aspects of the developmental biology of the fern gametophyte, beginning with the spore, that impinge on the morphological, cytological, physiological, biochemical and molecular changes in the cell population. By uniting the old with the new, the theoretical with the experimental, and the static with the dynamic, the book looks at the developmental biology of the fern gametophyte from a new perspective.

The cover photograph shows a section of a germinating spore of *Mohria caffrorum* delimiting the rhizoid initial. In a general sense, this photograph epitomizes the theme of the book – initiation of the gametophytic program in ferns. *M. caffrorum* is restricted in its distribution to southern parts of Africa, and spores used in the germination experiment conducted in 1988 to produce this photograph were collected in 1978 by Ms Joyce Stewart, University of Natal, Pietermaritzburg, South Africa.

Cover design by Ken Vail

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