

**Protoplast fusion genetic engineering in higher plants.** by Y. Y. Gleba and K. M. Sytnik. Springer-Verlag, Berlin. 1984. Pp. x+220. Price DM148.00.

For any researchers wishing to begin work on plant protoplast fusion this very well illustrated monograph is essential reading; it combines an excellent assessment of the literature of the subject with details of the experimental procedures involved. The coverage of cytoplasmic interactions is particularly good as might be expected from two of its pioneer investigators.

The authors deliberately chose to include the term "genetic engineering in higher plants" rather than "somatic hybridization" for the subtitle of this monograph which is an updated version of the original Russian edition. They believe that the term "genetic engineering" emphasis "a creative human presence and accentuates the synthetic rather than the analytic nature of protoplast fusion". They do not claim that this monograph is a comprehensive survey of somatic hybridization, indeed they have distinct reservations about the use of the term "somatic hybridization" preferring the term "parasexual hybridization". This results in a certain schizophrenic presentation since sometimes they use one term and sometimes the other. Generally most plant workers have now accepted the term somatic hybridization paralleling the terminology developed for the fusion of cultured animal cells.

The authors have rather decided viewpoints as to how the subject of plant protoplast fusion should be investigated; their presentation is from a geneticist's viewpoint and highlights a fundamental distinction from the hybridization of animal somatic cells in that fusion of plant somatic cell protoplasts results in many cases in the production of hybrid plants. Inevitably recent work on electro-fusion and the use of fluorescence activated cell sorting as a general method of selection are not included. Regardless of the deficiencies, a few inaccuracies in the text and occasional unfortunate phraseology, as in the Introduction where the instillation of "genetic ideology" is advocated, this monograph will remain as a definitive statement on the subject for many years to come.

There is no doubt that increasing numbers of workers will be attracted to this subject area in view of the ever-increasing range of species that can be regenerated into plants from protoplasts, the greater precision of cell selection now available and the recent demonstration of the production of gametosomatic plants following the fusion of somatic protoplasts and pollen tetrad plants. Why not a cheaper soft cover edition so that it can be at hand in the laboratory where it is needed?

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**Ecology and genetics of host-parasite interactions,** (Linnean Society Symposium Series Number 11). D. Rollinson and R. M. Anderson (eds.). Academic Press, London. 1985. Pp xi+266. Price £35.

It is my conviction that interactions between organisms generate powerful selective forces whose importance in evolution and the maintenance of genetic variation have been severely underestimated. I was therefore delighted to review "Ecology and Genetics of Host-Parasite Interactions", a collection of papers contributed to an international symposium organised by the Linnean Society and the British Society for Parasitology. Having read the volume I felt that an opportunity to provide a unifying review of host-parasite interaction had been missed.

My chief criticism is that this book does not provide a balanced account of the subject. Out of fourteen papers only one deals with plant systems, while nine describe interactions involving vertebrate hosts. This represents a curious imbalance when one considers both the strength of plant pathology, and the importance of ideas contributed by this discipline, many of which have been borrowed and are now employed by those studying animal systems.

My dissatisfaction with the range of topics covered in this volume was tempered by delight at the quality of some of the individual contributions. I especially enjoyed the final three chapters; a closely argued account of the gene-for-gene hypothesis by Barrett, a review of bacteria-phage interactions by Levin and Lenski, and the contribution by May on models of host-parasite association. Each of these chapters provided a clear account of the topic, uncluttered by unnecessary technical detail, and spiced with some genuine insights. Less satisfactory were a chapter by Kennedy on fish and their parasites which was marred by overinterpretation of data, and an article on leishmaniasis by Blackwell which was rendered unnecessarily obscure by the author's failure to provide an account of the taxonomy or biology of *Leishmania*.

Taken as a whole this book will appeal to zoologists interested in the ecology and genetics of animal hosts and their parasites. Biologists with a broader understanding of host-parasite interaction are likely to be disappointed that a more diverse and imaginative set of papers was not assembled. Whatever the merits of the contributions, however, the editor and publishers must be commended for the clarity and high quality of presentation of the text. This may serve as a reminder that conference proceedings need not be served up as the usual hotch-potch of camera-ready articles.

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