

Preface

In the Preface of *Animal Species and Evolution* (1963), I wrote that it was "an attempt to summarize and review critically what we know about the biology and genetics of animal species and their role in evolution." The result was a volume of XIV + 797 pages. Ever since its publication, I have been urged to provide an abridged edition that would be more handy for class use and for the reader who does not want the detailed documentation of the large volume. To satisfy this demand is the object of *Populations, Species, and Evolution*. The essential discussions of the original volume have been retained, but the massive citations of the literature and discussions of many peripheral subjects have been eliminated. The specialist as well as the teacher will still need the fully documented treatment in *Animal Species*, but the general reader will find the new volume easier to use.

At first, there was no intention to combine a revision of *Animal Species* with the preparation of this abridgment. Yet, during the work on many of the chapters a rather extensive revision became inevitable, and certain chapters, particularly 2, 8, 9, 10, 15, and 17 were almost completely rewritten. No conscious effort was made, however, to incorporate the entire literature published since 1962. To do so would have nullified the endeavor to provide an abridgment. Furthermore, a number of excellent books have been published recently that review current research. The present volume should be used in conjunction with such volumes as Verne Grant, *The Origin of Adaptations* (1963), E. B. Ford, *Ecological Genetics* (1964), B. G. Campbell, *Human Evolution* (1966), and Bruce Wallace, *Topics in Population Genetics* (1968).

Animal Species had three dominant themes: (1) the species is the most important unit of evolution; (2) individuals (and not genes) are the target of natural selection, hence the fitness of "a" gene is a nebulous if not misleading concept; and (3) the most important genetic phenomena in species are species-specific epistatic systems that give species internal cohesion. These three theses are now (in 1970) far more widely, or at least more

consciously, accepted than they were in 1963, and there was no need, therefore, to modify this basic platform in the abridgment.

A detailed typewritten criticism of *Animal Species*, prepared by Professor R. Alexander (Michigan) and a graduate class (D. J. Futuyma, D. L. Hoyt, R. J. Jehl, B. G. Murray, D. Otte, A. E. Pace, R. T. Vinopal, and M. J. West) was most helpful in eliminating errors and inducing me to tighten up loose arguments. In the Preface of *Animal Species* I thanked those who gave me most generous help in the preparation of the original volume. Mrs. Sara S. Loth undertook the preparation of the manuscript (typing, bibliography, illustrations, permissions, and so forth) in the most competent manner, and Mrs. Nancy Clemente devoted exceptional care to the editing of the typescript. The volume owes a great deal to their dedicated efforts.

E. M.

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