

Preface

An author who has succumbed to the urge to put something on paper has to brace himself for that inevitable question: For whom is your book intended? Let me simply say that this story of pollination has been written for young persons between the ages of eight and eighty (and older). Indeed, if you, the reader, are to find something good in it, you will have to recapture the mood of childhood's constant wondering about this amazing and beautiful world of ours. A sense of poetry will be a great help to you, even though, like a child, you may be unable to define it. I hope that there is some adventure in this book, too, of the type that makes looking through a microscope so attractive and rewarding to some people.

A second inevitable question, I suppose, is: Why did I write it? Well, let's make no bones about the matter—I had a bee in my bonnet. Part of my youth was spent in West Java, a tropical paradise full of birds, flowers, and insects. Even before I could put my feelings into meaningful words, I was fascinated by the contrast between the splendid immobility of the flowers and the darting movements of the butterflies—God's little magicians, as they have been called. Boldness and intimacy, brilliant colors and bizarre shapes! Gradually I began to realize, dimly at first, that observation of these beautiful creatures would yield that almost unique reward: a blend of intellectual and poetical satisfaction. Strange to say, however, it was impossible to find any real guidance when I tried to become familiar with the creatures around me. My guess is that the scientists who at that time were so abundant in my home town were perfectionists, unable to produce the unpretentious books that would have been the only real help to green boys like myself. In passing, I venture to point out that most of them never did produce the perfect books they must have had in mind. "Better" things are always the enemy of good things.

This childhood experience has goaded me to share with others what knowledge I now possess about the wonders of pollination. May I be forgiven if a missionary's zeal has sometimes carried me away. Although some readers may think that I have occasionally gone off on tangents, I hasten to assure them that there is some system in my madness. In the first part of the book I have tried to present, in a more or less logical order, a number of principles—or at least matters of general importance—concerning the relationships between flowers and the animals that pollinate them. Thus, there is a chapter on the color vision of animals, one on the ways in which flowers produce their color effects, and a chapter on the honey-guides that lead the pollinators to the hidden nectar.

Even a brief inspection of these earlier chapters will show that it was impossible for me to avoid the introduction of special animals such as the bee fly which, unknowingly, have played such an important role in the establishment of our general principles of pollination. I do not apologize for this because, after all, what is a story without heroes? Unashamedly, I have included in the latter half of the book chapters on the most important pollinators—bees, birds, butterflies, hawkmoths, flies, bats, and beetles. Some of the matters covered in these chapters have, as I say, already been taken up earlier in the book, but the story is now told more or less from the viewpoint of the pollinating animal, a change in emphasis which has its advantages, too.

In general, I have tried to let the facts do the talking. This means that there will be enthusiasm here, but no sticky sentimentality, for it is always wrong to read human motives into the actions of animals. In those few cases where the reader may get the impression that I have "humanized" plants and animals a little, he should remember that it was done with tongue in cheek.

I do not believe that this is a book which should be read in one sitting. Rather, in order to give the words real life, the reader should try to intersperse trips into the field for observation. Such trips, undoubtedly, will raise many questions in his mind. A majority of these are answerable, but the forgiving reader should not expect to find all the answers here. For reasons which by this time must be clear, I have made no attempt to write a book that contains all the answers.

It is a privilege to thank all those friends who, in some way or other, have encouraged me in the writing of this book. Particularly

do I thank Niko Tinbergen of Oxford University, a guide in some of my earlier steps as a scientist. I am deeply grateful to my wife who, without complaint, saw me devote to this book many hours which might have been spent more companionably. My warm appreciation goes to Miss Hilda Kern for her skillful and patient execution of the drawings, and to Ben Goffe for the comradeship and splendid help he gave me in taking the photographs.

B. J. D. MEEUSE

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