
Book review

Real, L. (ed.): *Pollination Biology*. Orlando, San Diego, San Francisco, New York, London, Toronto, Montreal, Sydney, Tokyo, Sao Paulo: Academic Press 1983. xvii + 338 pp., several figs. and tabs. Soft bound \$ 19.50.

In his introduction, the editor of this splendid book points out that the past 15 years have seen a remarkable change in the style of pollination research. Prior to that time, a strong preoccupation with the descriptive aspects of anthecology had gradually led to stagnation. Undeniably, the emphasis was on case-histories, and the approach therefore became one of the "ain't Nature wonderful" type: initially exciting but ultimately sterile. Very little effort was made to uncover those ecological and evolutionary principles that can both be *generalized* and *tested experimentally*. Fortunately, there has been a drastic change. The refreshing new wind that is now blowing is quite perceptible in this book. It is full of novel ideas and suggestions, highly stimulating and holding out the promise of new approaches. Several of the authors responsible for the individual chapters (which range from mostly evolutionary to mostly ecological in focus) are imaginative (but not uncritical) "young Turks", not afraid to stick their scientific necks out by holding up, for inspection, hypotheses and theories which (as they admit) are still controversial. What shines through is a spirit of excitement, and even "fun". Yet, each chapter represents a perfectly sound, scholarly, and in some cases brilliant contribution. The coverage of the field is admirable. In Chapter 2, Herbert Baker, that grand old man of pollination-

biology, traces the historical development of our modern insights. In the next one, William Crepet attempts to reconstruct the origin of the flowering plants on the basis of the fossil record. Interesting new thoughts on the evolution of plant breeding systems are offered by Robert Wyatt in Chapter 4. Donald Whitehead masterfully covers wind-pollination. In Chapter 6, Andrew Stephenson and Robert Bertin make a case for the idea that plants, like animals, may compete for sex-partners. David Mulcahy, in Chapter 7, presents a computer model simulating the process of sexual selection through competition between male gametes. Steven Handel then analyzes the consequences of different gene movement patterns for population structure. Foraging behavior of pollinators is thoroughly analyzed by Keith Waddington in Chapter 9. In Chapter 10, Nickolas Waser checks the validity of the assumption (often made uncritically) that the floral traits we interpret as "adaptive" are really that. Leslie Real, in Chapter 11, shows that at least some of the interesting macroscopic features of plant/pollinator communities can be deduced from the microscopic behaviors of their components. In Chapter 12, finally, Beverly Rathcke ably discusses the competitive interactions that can exist between flowering plants in relation to their pollinators. Even a hairsplitter can find very little in this book to quarrel about!

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