

Book Review

Phylogenetic Analysis and Paleontology.

Edited by Joe Cracraft and Niles Eldredge. Columbia University Press, New York, 1979. 233 pp. \$. . .

Lepidopterists who are not regular readers of *Systematic Zoology*, that most arcane of journals, may be dimly aware that a new controversy is raging in systematics over an approach known by its founders as "phylogenetic systematics" and by most people as "cladistics." In many ways, the action is a replay of the bitter struggle over "phenetics" or "numerical taxonomy" in the 1960s. All the ideological passion, the self-righteousness, and the talking past the other side are there, but the cast has been changed. Cladistics is a deductive method for inferring phylogenetic relationships and ordering taxa on this basis. It has made claims of testability in a rigorous, Popperian sense, although its conclusions ultimately depend on minimizing the number of contradictions in accordance with Occam's razor - which is treated as a "given." The method predisposes to splitting and the creation of not only new taxa but new rankings. If all of this strikes you as incomprehensible gobbledygook it would be a good idea to read this book. Although Lepidoptera are never mentioned and the book is ostensibly about paleontology, it contains some of the clearest arguments pro and con the cladistic approach to appear thus far, even though the pro and con speakers seem mostly to have not understood one another at the symposium. Although its rigid formalism is certain to crumble, cladistics will leave its mark on the way most of us do systematics. Its logic will be absorbed just as conventional systematics co-opted the numerical techniques of the pheneticists while their ideology wasted away. Systematics will probably be better for it, but in the meantime this book can help explain the turmoil. As A. J. Boucot says in the concluding chapter, "all of us ...have seen our favorite stories go up in smoke time after time. We try to console ourselves that each scheme is a better approximation of the ultimate evolutionary 'truth' than the last house of cards..."

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