

Old Specimens and New Directions: A Comment

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Ricklefs' recent commentary on the value of the museum tradition in ornithology (Auk 97: 206–207) was enlightening, mainly because it illustrated some of the misconceptions held by many modern ecologists. Ricklefs successfully pointed out some innovative ways in which museum collections may be put to use, but his view of museums as little more than playgrounds for ecologists is disturbing.

Reading Ricklefs, one might conclude that systematists have paved the way for ecologists and can now sink gratefully into oblivion while the latter forge onward to solve the remaining mysteries of the ornithological world. The most dangerous aspect of this outlook is that ecologists themselves usually lack a background in systematic zoology, and are therefore unequipped to question the conclusions of systematists regarding the relationships of animals. Systematists can be wrong, just as ecologists can be wrong. Ricklefs' own example of the size-ratios between related species can serve to illustrate the possible repercussions of this problem.

"Hutchinson's ratio" is a frequently used aid in measuring the importance of competition in the structuring of communities: related species are said to differ by a ratio of about 1.3. This Hutchinsonian ratio cannot be properly demonstrated, however, without an accurate understanding of phylogenetic relationships. There are many examples of "taxa" composed of unrelated species or of species that are closely related but not formally recognized as such; how will an ecologist examining "congeners" for evidence of competition be able to recognize when such systematic problems are inherent in his study? An example of this is the genus *Aimophila*, which probably is actually a composite of two genera. There are several other emberizine species that appear to be congeneric with *Aimophila* but that have never been considered as such (pers. obs.). A different sort of problem is presented by the Olive Warbler (*Peucedramus taeniatus*), which hitherto has always been placed with the Parulidae but which has now been shown to be a member of an altogether different family (George 1962, Amer. Mus. Novitates 2103: 1–41; Raikow 1978, Bull. Carnegie Mus. Nat. Hist. No. 7). Anyone studying competition in what are assumed to be natural groups will arrive at mistaken conclusions if the analyses are ultimately based on someone else's faulty systematics.

The work of avian systematists is far from complete. There are still countless problems at all taxonomic levels, and these can be solved only by years of work in a variety of disciplines, including paleontology, osteology, myology, physiology, ethology, biogeography, and ecology. We should not be trapped into the mistaken belief that some of the newer and perhaps more glamorous areas of biology hold the answers to all systematic problems, because no one field contains all the necessary information. There is an acute need for careful workers in all of these areas but particularly in anatomy, which still hides a wealth of information about the phylogenies of birds.

Ricklefs' message seems to be that museum collections can be very useful to ecologists but that systematists have served their purpose and are no longer necessary. I believe that this is untrue. No discipline should be allowed to replace another, as new information from one cannot help but influence the others. It is to be hoped that future generations in all branches of avian biology will permit themselves to benefit from such influence.

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Response: It's Time for Museums and Biology Departments to Get Back Together

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It is unfortunate that Olson and McKittrick missed the point of my commentary; they have a much stronger ally than they realize in their defense of museum collections and systematic studies as both viable and necessary to ornithology as a whole. By my commentary, I had intended only to illustrate some of the uses of collections to address problems outside the traditional museum disciplines of systematics, biogeography, and evolution. To have said, "The museum tradition in ornithology is dying," may have overstated my own sentiments somewhat; the reactions of Olson and McKittrick are understandable and

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