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AWARD ANNOUNCEMENTS

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HARRY R. PAINTON AWARD

Every two years the Cooper Ornithological Society bestows the Harry R. Painton Award on a paper published during the past four years in the *Condor* that made an extraordinary contribution to ornithology. The plumage patterns of birds have attracted the attention of ornithologists and evolutionary biologists for a long time. Bright plumage and sexual dichromatism have played a central role in the development of sexual selection theory. Delayed plumage maturation has implications for life-history evolution. Cryptic plumage is a key anti-predator adaptation. The Harry R. Painton Award for 2011 goes to Mark Riegner of Prescott College for his outstanding paper "Parallel evolution of plumage pattern and coloration in birds: implications for defining avian morphospace," published in *Condor* 110:599–614 (2008). It changes the way that the evolution of plumage in birds must be viewed.

Riegner looked for general patterns of coloration across an enormous sample of diverse birds in relation to body size and morphological accentuation in the anterior or posterior region of the individual. He discovered that as body size increases phylogenetically, plumage pattern often changes from countershaded to streaked to spotted and/or drab (or blended) to barred to bold separation of black and white (or uniform dark) and ultimately to reverse countershaded. The trend for all birds is also found within clades such as the Passeriformes, Falconiformes, and Picidae. Along this gradient of plumage pattern is a change from a long tail to head ornaments, such as a feathered crest, wattles, or casque.

The grand implication of this study is that developmental constraints have led to parallel evolution of plumage pattern and coloration in birds. There are exceptions, of course, but these do not nullify the overall result, which can be observed in any field guide to birds but especially in any book that treats an entire avian family. The previous paradigm of random mutation and subsequent selection on plumage for a given species must be secondary to developmental constraints. Accordingly, Riegner has identified a constrained morphospace within which selection can operate.

Evolutionary biologists have long been attracted to the plumage of individual species of birds. Now they can have greater understanding of plumage of birds in general.



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