

Elliott Coues Award, 2011

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ELLIOTT COUES AWARD, 2011

TIMOTHY BIRKHEAD



Timothy Birkhead on the north Norfolk coast, United Kingdom, August 2011.
(Photograph by Miriam Birkhead.)

The 2011 Elliott Coues Award is presented to Dr. Timothy Birkhead for his outstanding contributions to ornithology through his pioneering work on sperm competition and postcopulatory sexual selection in birds; his long-term studies of seabirds, magpies, and Zebra Finches; and his many books about birds written for both professional and lay audiences. Birkhead is a British behavioral ecologist who studies promiscuity and sperm competition in birds. His work has helped reshape our understanding of avian mating systems, and his unique combinations of studies focusing on both free-living and captive birds have done much to shape modern ornithology.

Birkhead's early interests in birds were fueled at the University of Newcastle-upon-Tyne, England, where he earned an undergraduate degree in zoology in 1972. He then conducted his doctoral research at the Edward Grey Institute, Oxford, on the population biology and behavior of Common Murres (*Uria aalge*), at first supervised by David Lack and then by Chris Perrins after Lack died. In 1976, Birkhead took up a faculty position at the University of Sheffield in England, where he has

been ever since. Birkhead became a Fellow of the Royal Society in 2004, was president of the International Society for Behavioral Ecology from 1996 to 1998, and has served on the management committee of the Darwin Correspondence Project. He was a Nuffield Research Fellow in 1990–1991 and a Leverhulme Research Fellow in 1996. In recognition of the global influence of his research, he was elected an Honorary Fellow of the AOU in 2010 and an Honorary Member of the Linnaean Society of New York in 2011.

Birkhead's research on captive populations of Zebra Finches (*Taeniopygia guttata*) and the domestic fowl (*Gallus domesticus*) shaped our understanding of how postcopulatory sexual selection actually works in birds—elucidating the mechanism of sperm competition, identifying the strategic allocation of sperm by males, providing the first evidence for cryptic female choice in birds, and providing the first estimates of the quantitative genetics that underlie sperm traits. His recent studies have resolved the long-standing issue of “internal incubation” in cuckoos and honeyguides. Birkhead's field research program has also

included studies of Common Murres (continuously since 1972!), Eurasian Magpies (*Pica pica*), Aquatic Warblers (*Acrocephalus paludicola*), Greater Vasa Parrots (*Coracopsis vasa*), and Red-billed Buffalo Weavers (*Bubalornis niger*) and have taken him to the Canadian High Arctic, Labrador, California, Australia, Africa, and Europe. Few modern ornithologists have tackled such a range of study systems with such success; fewer still have used their studies to ask such interesting questions about reproductive strategies and behaviors of birds. One result has been that studies of birds have led the way in research on sperm evolution and sperm design in all animals. To foster interaction among like-minded scientists, Birkhead has organized the biennial Biology of Spermatozoa conference, a highly successful discussion meeting for a wide range of researchers interested in the biology of reproduction, since 1992.

Along with his passion for research, Birkhead is committed to undergraduate, graduate, and public education. At Sheffield, where he has won two awards for innovative and effective teaching, he teaches courses on both animal behavior and the history and philosophy of science. To date, he has supervised 38 Ph.D. students, several of whom now hold academic positions in the U.K. and Europe. He is also dedicated to the public understanding of science (outreach), giving frequent public talks at book festivals and schools, as well as at the Royal Institution and Café Scientifique. One of his lectures available at TED: Ideas Worth Spreading (www.ted.com/talks/tim_birkhead_the_wisdom_of_birds.html) has been downloaded more than 100,000 times. In addition to public lectures, he also has written popular articles for *New Scientist*, *BBC Wildlife*, *Natural History* magazine, and *The Independent* newspaper, and for seven years he wrote a monthly column in *The Times Higher Education*, commenting on life in academia. In 2009, he helped to launch New Networks for Nature, a UK group committed to using culture to increase the understanding and value of conservation.

Birkhead has written or edited 12 books, including *Sperm Competition in Birds* (1992, Academic Press; with A. P. Møller), *Sexual Selection and Sperm Competition* (1998, Academic Press; edited with A. P. Møller), and *Sperm Biology* (2009, Elsevier; edited with D. Hosken and S. Pitnick). These three books have defined the modern study of sperm competition and sperm biology from an evolutionary perspective. His popular science books include *Promiscuity* (2000, Faber and Faber), *The Cambridge Encyclopedia of Ornithology* (1991, Cambridge University Press; with M. Brooke; awarded the McColvin Medal for best reference book), and *The Red Canary* (2003, Weidenfeld & Nicolson; awarded the Consul Cremer Prize). His recent book *The Wisdom of Birds* (2008, Bloomsbury)—a well-illustrated account of the history of ornithology or, as he prefers to say, how we know what we know about birds (see wisdomofbirds.co.uk)—won the Best Bird Book of the Year Award from the British Trust for Ornithology and British Birds. In that book, he makes a strong case for the influence of John Ray's books *The Ornithology of Francis Willughby* (1678) and *The Wisdom of God* (1691) as the foundation for modern ornithology and the study of adaptation, respectively.

For his comprehensive studies of sperm competition in birds in both laboratory and field, his naturalist's eye for interesting questions and study species, his influential books on birds and the history of ornithology, and his dedication to the public understanding of science, the American Ornithologists' Union is delighted to award Tim Birkhead the Elliott Coues Award for 2011.

Award criteria.—The Elliott Coues Award recognizes extraordinary contributions to ornithological research. The award is named in honor of Elliott Coues, a pioneering ornithologist of the western United States and a founding member of the AOU. There is no limitation with respect to geographic area, subdiscipline of ornithology, or time course over which the work was done. The award consists of a medal and an honorarium provided through the endowed Ralph W. Schreiber Fund of the AOU.