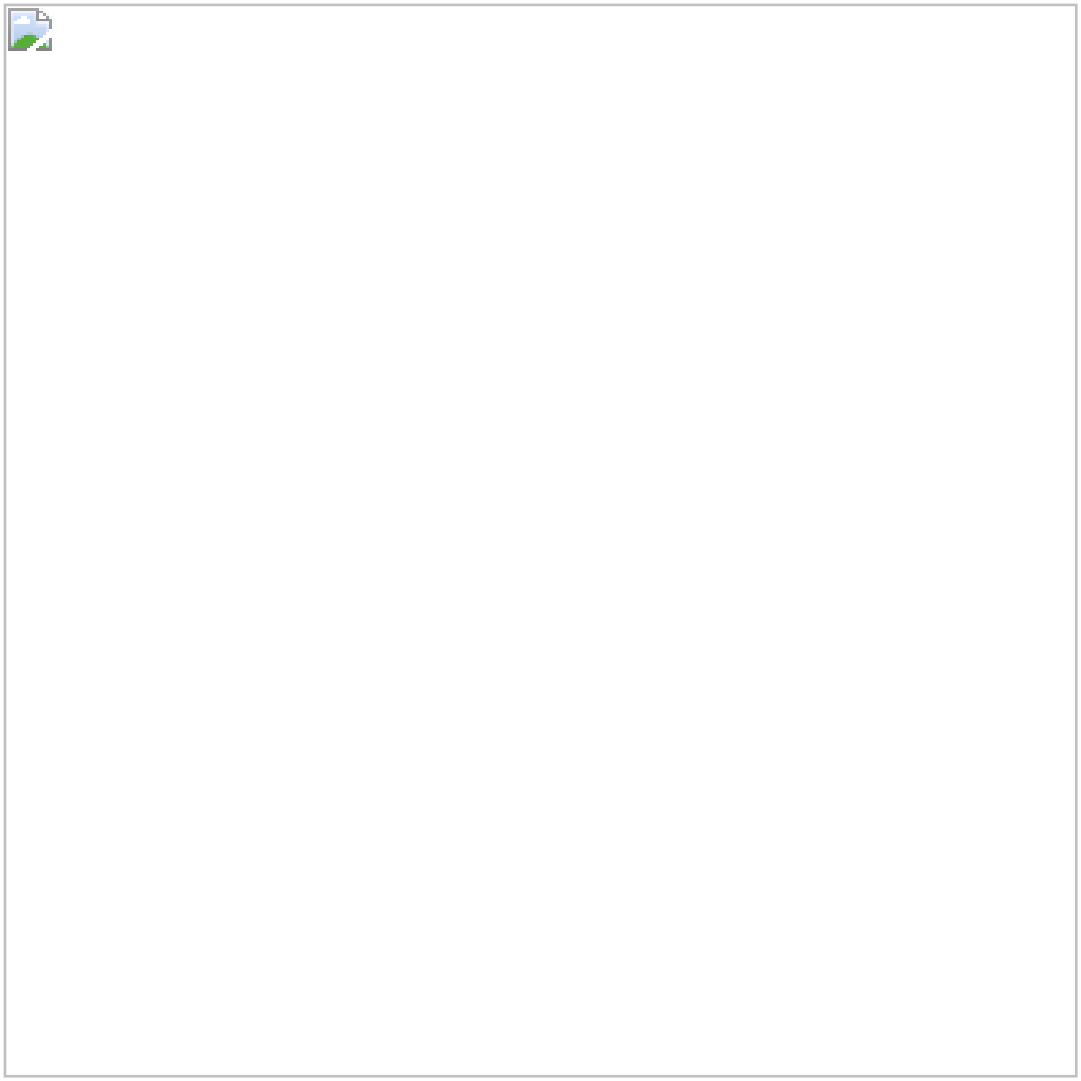

William Brewster Memorial Award, 2011

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Awards

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WILLIAM BREWSTER MEMORIAL AWARD, 2011

Sandra Vehrencamp

(*From left to right*) Patty Kahwaty, Sandra Vehrencamp (foreground), Kate Uveli (background), and Emily Germano Harding in Sapsucker Woods Sanctuary, Ithaca, New York, May 2003. (Photograph by Cornell Lab of Ornithology staff photographer.)

The 2011 William Brewster Memorial Award is presented to Dr. Sandra L. Vehrencamp, emeritis faculty in the Laboratory of Ornithology and professor in the Department of Neurobiology and Behavior at Cornell University in Ithaca, New York. Vehrencamp earned her B.A. at the University of California, Berkeley, and her Ph.D. in Animal Behavior at Cornell, where she was a student of Stephen T. Emlen. Her dissertation was on the evolution of communal nesting in Groove-billed Anis (*Crotophaga sulcirostris*).

Vehrencamp is a behavioral ecologist who studies social evolution in birds. Her research integrates the evolution of social behavior, life-history evolution, signal evolution, sexual selection, and parental care. Within the broad category of social evolution, she has made important contributions to several different areas of ornithology: the evolution of cooperative breeding, including general theoretical work; the reproductive ecology of crotophagine cuckoos, with a focus on the evolution of joint nesting; the evolutionary significance of sexual displays; and evolutionary aspects of avian song. She has published more than 65 papers (which have been cited more than 2,400 times) and 19 book chapters.

Vehrencamp and Jack Bradbury coauthored the influential textbook *Principles of Animal Communication* (1998), now the

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standard reference for evolutionary and proximate aspects of animal signals and communication. A tour de force, it is used both as an upper-division textbook and as a high-level reference for researchers in the field, including ornithologists. That the text has been cited more than 1,000 times attests to its value to the field.

Vehrencamp's early work on the reproductive ecology of grove-billed anis was focused on the evolution of joint nesting (also known as communal nesting), a form of cooperative breeding. At the time, much of the field of cooperative breeding was dominated by studies of helpers at the nest (i.e., non-breeding individuals). Her ani work helped to broaden the sorts of behaviors included in studies of cooperative breeding to include social groups with multiple breeding individuals. Equally important, her work on reproductive competition within social breeding groups of anis was critical in forcing evolutionary biologists to pay more attention to the conflicts of interest that are often rife in putatively cooperative social groups of animals. Her two most important papers on the ani work were published in *Science* and *Behavioral Ecology and Sociobiology*, respectively.

Vehrencamp's work on anis, and the reproductive antics that female anis use to alter their share of the reproductive pie, led to two groundbreaking theoretical papers on reproductive skew. These papers laid out a broadly synthetic theory for the evolution of cooperative breeding that combined two ideas previously viewed as alternative hypotheses: indirect benefits of kin selection to helpers, and ecological constraints that favored delayed dispersal. Her synthesis highlighted the interesting pattern that the degree of reproductive skew varies tremendously in avian societies (as well as other taxa) and provided a novel hypothesis to explain the variation. These ideas helped transform our thinking about the evolution of cooperative breeding in birds and have also been extremely influential in studies of cooperative societies in insects and mammals.

With Jack Bradbury and Robert Gibson, Vehrencamp conducted a long-term study of sexual selection and mating system in sage-grouse (*Centrocercus* spp.), following earlier work on mating-system evolution in bats. Two of the papers were particularly influential. One that focused on the energetics of male sage-grouse display was among the first to test honest signaling theory using an energetics approach. A second study focused on understanding the factors that affect female mating decisions in lekking systems such as that of sage-grouse, in which a few males garner most of the copulations and females seem to show unanimity in the males they prefer.

The AOU honors Sandra Vehrencamp for her thorough and insightful body of work on social evolution and animal communication. She has served as an inspiration to all her colleagues through her commitment to excellence, exceptional dedication to ornithology, professionalism, and work ethic. We are proud to recognize a research scientist, teacher, and mentor who continues to increase our knowledge of the evolution of social behavior and communication in birds.

Award criteria.—The William Brewster Memorial Award consists of a medal and an honorarium provided through the endowed William Brewster Memorial Award of the American Ornithologists' Union. It is given to the author or coauthors (not previously so honored) of the most meritorious body of work on birds of the Western Hemisphere published during the 10 calendar years preceding a given AOU meeting.