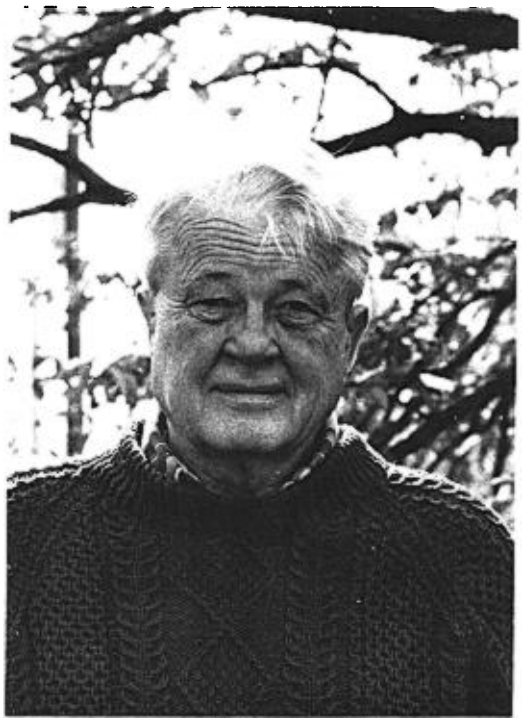


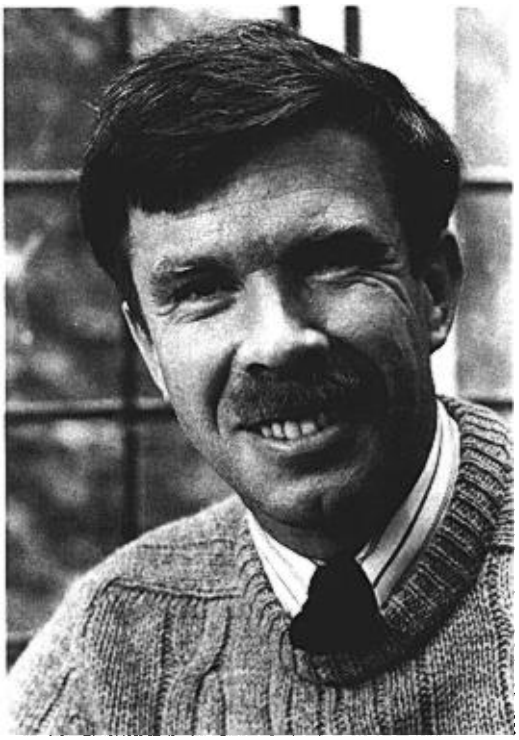
William Brewster Memorial Award, 1986

Val Nolan, Jr.

This year the American Ornithologists' Union honors Val Nolan, Jr., for "The Ecology and Behavior of the Prairie Warbler *Dendroica discolor*" (1978, Ornithol. Monogr. 26). This monumental work—comprehensive, detailed, systematic, and accurate—is an invaluable reference, one of the most complete field studies of life history and population dynamics on any bird. No student of songbird reproduction, nesting behavior, migration, mortality, population, or brood parasitism can afford to ignore it. The product of 21 years of patient and meticulous fieldwork, it is a model of thorough and scholarly work. Field researchers, modelers, and others will continue to refer to it again and again. The writing and the analysis of data are clear, concise, critical, and well organized; throughout, the author emphasizes the living bird in its natural environment.

In a small population of Prairie Warblers in south-central Indiana, Nolan marked virtually every bird on its arrival in the spring, found the nests while they were being built, and followed each individual through the summer, in many cases up to the day of migration. His thorough knowledge of his birds enabled him to obtain precise data on subjects on which little accurate information is available elsewhere: the number of repeated nesting attempts by each female throughout the breeding season, the average number of fledglings produced by each female per year, and their survival from nest-leaving to independence and from independence to their return the following spring. His complete life table for the Prairie Warbler, showing an expected adult life span of 2.5 years, will be of interest to behavioral ecologists for comparison with the same and other species in other habitats and geographic localities. Nolan's uniquely complete sample of nests also gives renewed insight into the biology of avian parasitism, such as the random distribution of cowbird eggs among available nests and the extremely low fledging success of cowbird eggs.

For his fine study of the Prairie Warbler, a member of a distinctly American group, the beautiful wood warblers, the American Ornithologists' Union takes great pleasure in presenting the William Brewster Memorial Award for 1986 to Val Nolan, Jr.



ELLIOTT COUES AWARD, 1986

FERNANDO NOTTEBOHM

The nature of the physico-chemical basis for learning and memory in the brain is perhaps the most important of present-day problems in biology. Song learning in birds provides good material for the study of the physical basis of complex learning. No one has contributed more than Fernando Nottebohm to our understanding of the neural pathways for song control in the brain of birds, their development, and their possible relationship to the problem of complex learning. He reviewed part of his research for the American Ornithologists' Union in a plenary lecture at its centennial meeting in 1983.

Using many sophisticated and modern techniques, Nottebohm has made numerous important discoveries on the neural basis of song control in the domestic canary and other songbirds. He has identified the principal nuclei and pathways in the cerebrum that control song learning, shown experimentally that the neural control of song learning differs in the right and left sides of the brain and syrinx, shown that the anatomy of song-control pathways differs markedly between males and females, found seasonal volume changes of up to 100% in the song-control nuclei of the brain in adult male canaries, shown that these changes are due in part at least to testosterone stimulating the growth of dendrites and synapses, shown that the sensitive, critical, or plastic period of song development when a male canary is adding new syllables to his song repertoire is paralleled by an increase in the size of a brain song-control nucleus, and shown that the size of certain brain song-control nuclei is correlated with the size of the song repertoire in canaries and Marsh Wrens. Perhaps the most notable of the many important advances made by Nottebohm and his associates is the evidence that new neurons are constantly being formed in the forebrain of the adult canary, a discovery that runs counter to the conventional, long-held idea that neurons are not formed in the brain of adult birds and mammals.

Nottebohm has a thoroughly ethological point of view and is an international leader in the expanding field of neuroethology. Because of his long record of outstanding, scholarly, and innovative contributions to the neuroethology of birds, the American Ornithologists' Union takes pride and great pleasure in presenting the Elliott Coues Award for 1986 to Fernando Nottebohm.