



ELLIOTT COUES AWARD, 1989
PETER BERTHOLD

Peter Berthold directs long-term research on the control of annual rhythms, migration, breeding biology, and the population dynamics of birds at the Max-Planck-Institute für Verhaltensphysiologie, Vogelwarte Radolfzell, Federal Republic of Germany. This project began in 1968 with studies of annual rhythms and molt in sylviid warblers. In the subsequent twenty-year period it has expanded to include extensive field and laboratory studies that include the genetic analysis of migratory behavior. Over 2,000 birds of 33 species have been hand-raised in the course of these projects. More than 500 warblers have been bred in captivity for genetic studies.

The work indicates a strong genetic component to nocturnal migratory activity. Hybrids between migratory and nonmigratory Blackcaps (*Sylvia atricapilla*) have intermediate levels of migratory activity and show that the propensity to migrate is controlled by a genetic program. Natural selection can act rapidly to enable a population to respond to changes in resources by changing the migratory habits of the species. An example in progress is the new migratory direction in the Blackcap currently being established between mainland Europe and the British Isles.

Berthold also has shown that Garden Warblers (*Sylvia borin*) could reach their winter quarters using only endogenous information. Similar findings in some other warblers suggest that this ability may be more common among migratory birds.

Berthold's pioneering investigations are rigorous, innovative, and imaginative. They show that captively bred birds can open up new possibilities for research. The work differs from any current research in North America and is therefore particularly appropriate for the Coues Award, which recognizes imaginative contributions that impact Western Hemisphere ornithology.

Three recent papers that summarize this work are published in *Science* (1981, 212: 77), in the *Journal of Evolutionary Biology* (1988, 1: 195) and in "Acta XIX Congressus Internationalis Ornithologici" (1988, 215-249). It is with great pleasure that the American Ornithologists' Union awards the Elliott Coues Award for 1989 to Peter Berthold for his outstanding body of influential research.