



WILLIAMS BREWSTER MEMORIAL AWARD, 1984

STEPHEN T. EMLEN

Stephen T. Emlen's many research contributions include both analysis and synthesis, and cover many of the major problems of bird behavior from orientation during migration to the ecology and evolution of different mating systems. His research career has been characterized by the highest standards, by significant and cogent insights, and by the resolution of difficult and long-standing problems with adequate data and the rigorous analysis of these data.

In addition to the key importance of his early and original work on the mechanisms, physiology, and ontogeny of celestial orientation during nocturnal migration of the Indigo Bunting, he and his colleagues, in a fine demonstration of scientific cooperation and collaboration, provided some of the most impressive evidence for the use of geomagnetic cues in migratory orientation.

Emlen has made many contributions to our understanding of the breeding behavior of colonial birds,

such as demonstrating that an increase in survival of young Bank Swallows with increased synchrony of breeding within colonies was related to social guidance of young birds to ephemeral and shifting food sources. He also has developed the theoretical and ecological conditions under which cooperative breeding, a phenomenon so important among tropical and subtropical birds of the world, would be expected to evolve, and he has confirmed many of these predictions from the results of field research by himself and others. His reviews and syntheses of problems in this difficult and complex field have been characterized by a broad perspective, a quantitative but realistic approach, and convincing treatment of evidence, making them the definitive reviews of this popular area of investigation.

It is, therefore, with pride and pleasure that the American Ornithologists' Union presents the Brewster Award for 1984 to Stephen T. Emlen.

**ELLIOT COUES AWARD, 1984**

TOM J. CADE

Tom J. Cade, professor of ornithology, Cornell University, has for 15 years directed the national effort to reestablish wild breeding populations of Peregrine Falcons in areas where the original populations were extirpated or seriously depleted by DDT poisoning in the 30 years following World War II. The success of this program is shown by a summary of the situation in 1984:

In the eastern U.S. where peregrines were extirpated, 21 pairs (all captive reared birds or their progeny) held territories this year, and 18 of these laid eggs and produced young. The breeding population in the East is doubling every 2-3 years. In the Rocky Mountains, released birds have augmented the natural reproduction and made the situation less precarious, although there is evidence of continuing pesticide contamination of prey species. On the west coast released peregrines have established breeding territories in new locations, and the population is clearly increasing.

This successful effort to reestablish wild Peregrine Falcons, one of the most dramatic birds of prey, is a

remarkable conservation achievement, and Cade has been the leader throughout.

In the early stages of the peregrine restoration work, Cade overcame formidable obstacles: bureaucratic resistance to his efforts, distrust on both sides between falconers and ornithologists, skepticism in the scientific community that the effort could succeed, technical problems in large-scale captive falcon propagation, development of methods of releasing young birds to the wild, and establishment of a reliable funding base. Cade is first of all an outstanding field ecologist. He studies how the morphology, behavior, and physiology of a species fit it for a particular way of life. His special interest in birds of prey led him to falconry, and his skills and credibility as a falconer as well as a biologist were essential parts of his leadership in the peregrine restoration.

All this has developed against a strong background of experience and research productivity in the study of ecology, behavior, and physiology of birds broadly, with an impressive record of publication starting in 1951. His doctoral thesis, a major work on the ecol-

ogy of peregrines and Gyrfalcons in Alaska, appeared in 1960. Through the 1950's and 1960's, he produced papers on behavior and physiological ecology of other kinds of birds based on field studies in Africa as well as in North America. More recently, he has been leading an investigation of Gyrfalcon ecology in Iceland. Atop the continuing work on the biology and conservation of peregrines, he authored a major book on the falcons of the world published in 1982.

Tom Cade's contributions to science and to conservation of birds of prey are unique. Few ornithologists have had a more distinctive impact on the welfare of North American birds. The American Ornithologists' Union is proud and pleased to present the Coues Award for 1984 to Tom J. Cade.

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