

Ecuador, Peru, and other areas. These efforts resulted in the publication of several tapes produced in collaboration with J. W. Hardy. Ben and Lula became Field Associates in Ornithology and Bioacoustics at the Florida Museum of Natural History at the University of Florida, where many of Ben's tapes now constitute the Coffey Neotropical Collection in the Museum archives. As a tribute to Ben and Lula, the Arkansas Audubon Society paid for publication of "Cantos de Aves Mexicanos," a tape, narrated in Spanish, including 60 species recorded by the Coffeys. These tapes were sent to ornithologists and schools throughout Mexico to increase awareness and interest in Mexican birds.

Ben Coffey will be remembered for many contributions and in many arenas. No better

example could be found than the life of Ben B. Coffey, Jr., to illustrate the significance of the contributions of amateurs to scientific ornithology. My choice of words here is deliberate. Ben Coffey was an amateur in the sense that he was not trained as an ornithologist in an academic setting, and he was not paid for his work as an ornithologist. However, the quality of his scientific contributions, as reflected by his election as a Fellow of the AOU in 1991, meets a standard that few professionals achieve. While there is no question that the value of Ben's scientific contributions will endure, the greatest legacies that Ben leaves us are the ways in which he, through birds, influenced the lives of those around him.

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IN MEMORIAM: FRANÇOIS BOURLIÈRE, 1913-1993

FRANÇOIS VUILLEUMIER

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François Bourlière, a Corresponding Fellow of the AOU since 1954, died suddenly in Boulogne, France, on 10 November 1993. He is survived by his wife, two sons, one daughter, and eight grandchildren. With his passing the French and international scientific communities have lost a remarkable scientist who pursued two careers simultaneously. He was one of the most influential French ecologists and one of the best-known French gerontologists of the second half of this century.

Born 21 December 1913 in Roanne (Loire, France), François Marie Gabriel Bourlière studied medicine at the University of Paris, where he obtained his Doctorate in 1940 and his Agrégation in 1949. After being Professor of Physiology at Rouen's School of Medicine (1946-1949), he moved to the Faculty of Medicine of the University of Paris, where he became Maître de Conférences (Assistant Professor; 1949-1959), then Full Professor (1959-1968) of Experimental Medicine, and Professor of Gerontology (1969-1983). Concurrently, he taught mammalian ecology as Chargé de Cours (Adjunct Professor) at the Faculty of Sciences of the Uni-

versity of Paris (1962-1980). In addition, Bourlière founded in 1972 and directed until 1983 the Gerontology Research Unit (U 118) of INSERM (Institute of Health and Medical Research), and was a staff member of the Paris Hospitals (1963-1983). As a practicing gerontologist who taught and headed an important research institute, Bourlière published numerous articles and wrote or edited several books, including *Précis de gérontologie* (1955, Russian translation 1960), *Sénescence et sénilité* (1958, Russian translation 1962), *Progrès en Gérontologie* (1969), and *Gérontologie: Biologie et clinique* (1982). He was coeditor of the journal *Gerontologia* from 1957 to 1970, and editor-in-chief of *Gerontology* from 1971 to 1983.

If Bourlière had been only a gerontologist with an international reputation, his career would have been considered successful enough. However, he was also an ornithologist, a mammalogist, and an ecologist who pursued his hobby, as he called his nonmedical career, just as vigorously. During his parallel career he was editor-in-chief of *Revue d'Ecologie* (formerly *La Terre et la Vie*) from 1949 until his death, and

published 16 books, including: *Eléments d'un guide bibliographique du naturaliste* (2 vols., 1940–1941); *Vie et moeurs des mammifères* (1951, published in English as *The Natural History of Mammals* in 1954, revised 1956, second revised edition 1964); *Le Monde des Mammifères* (1954, translated in six languages); *Introduction à l'écologie des ongulés* (1960); *The Land and Wildlife of Eurasia* (1964); *African Ecology and Human Evolution* (coedited with F. Clark Howell, 1963); *Problèmes d'échantillonnage des peuplements animaux terrestres* (coedited with M. Lamotte, 1969); *Problèmes d'échantillonnage des peuplements animaux aquatiques* (coedited with M. Lamotte, 1971); *Structure et fonctionnement des écosystèmes terrestres* (1978); *Tropical Savannas* (Ecosystems of the World, volume 13, 1983, reprinted 1992); *A Primate Radiation: Evolutionary Biology of African Guenons* (coedited with A. Gautier-Hion, J. P. Gautier, and J. Kingdon, 1988); and *Vertebrates in Complex Ecosystems* (coedited with M. Harmelin-Vivien, 1989). François Bourlière translated into French *Birds as Animals* (*Les Oiseaux dans le règne animal*, 1949) by James Fisher, a book that had much influence on French ornithology in the early fifties. Bourlière also wrote ornithological articles in journals like the *Wilson Bulletin*, *L'Oiseau et la Revue française d'ornithologie*, *Revue Suisse de Zoologie*, *Comptes rendus des séances de la Société de Biologie*, and *Journal of the Bombay Natural History Society*. Among his most significant publications on birds are probably those on the breeding and physiology of the Emperor Penguin (*Aptenodytes forsteri*) in Antarctica and on the interactions between resident and migrant birds in tropical west Africa.

Perhaps even more important than his productivity in gerontology and vertebrate biology, however, are Bourlière's contributions to conservation, education, and science policy. Largely stemming from his fieldwork in Africa in the early sixties, Bourlière became concerned with the fate of Africa's fauna. He published detailed articles on the conservation of selected taxa, and more general ones on conservation policy and the role of national parks. An indefatigable traveller, Bourlière attended international meetings year after year to promote the cause of conservation, especially in the tropics. Back home, he was active in conservation organizations. Thus, he was Vice President (1960–1963) and President (1963–1966) of the International Union for Conservation of Nature and Natural Resources (IUCN), President of the

French Société Nationale de Protection de la Nature (1972–1982), and Chairman of the Executive Council of Man and the Biosphere (MAB) at UNESCO (1971–1975), a wide-ranging program that he helped start.

As an educator, François Bourlière encouraged young researchers to carry out fieldwork in the tropics, reviewed their progress during their thesis work, insisted that they publish their results, and helped them find jobs once they had obtained their degree. Many of today's most important avian and mammalian ecologists in France, thus, are in his debt. Worried that ecology in France was not on an equal footing with more established sciences, Bourlière found time to lobby successfully, especially within the powerful Centre National de la Recherche Scientifique (CNRS). As Jacques Blondel (in litt.) put it: "People of my generation . . . owe him just about everything that was done so that modern ecology [would] be fully accepted within the CNRS, the University System, and other institutions. . . ."

Bourlière was rewarded by numerous honors, including two doctorates *honoris causa* (University of Ulster, 1973; University of Sherbooke, 1992), the French Legion of Honor (Chevalier, 1970; Officer, 1989), the Dutch Royal Order of the Golden Ark (1974), Corresponding Membership at the American Museum of Natural History (1974), and Honorary Membership in World Wildlife Fund International (1984).

Lest this memorial piece appear as only a list of accomplishments, I wish to emphasize the personal side of François Bourlière. During my visits to Paris, he would invite me to his magnificent apartment, where exquisite meals were served and where the topics ranged from the latest ornithological discoveries to mathematical models in ecology, and from Australian politics to the most recent literary prizes in France. When overseas guests were present, the conversation would flow from French into English—or German. His wife and children imparted a warm family atmosphere to these magical reunions.

Bourlière was always up on the latest literature, across taxa from birds to plants, across disciplines, and on a worldwide basis. In the *Revue d'Ecologie* he published innumerable book reviews, which I read as soon as I received the journal. His critical analyses of field guides, as well as technical books, were a pure delight. Interestingly, his three desks—at home, at the

Faculty of Medicine, and at his Gerontology Institute—always were impeccably ordered, as if he did not work there. And yet, he wrote constantly and edited two major journals simultaneously, one in gerontology and the other in ecology. How he did all this remains largely

a mystery. He certainly had efficient secretaries, yet much of his correspondence was in his own neat hand writing. François Bourlière was an exceptional man, what the French call a "polymathe," a Renaissance man in the best sense of the word.

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IN MEMORIAM: PONTUS PALMGREN, 1907-1993

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Pontus Palmgren, an Honorary Fellow of the AOU since 1946, was born in Helsinki, Finland, on 27 April 1907 and died there 26 November 1993. His father was a prominent professor of botany, who as a student had taken an active part in Finland's fight for autonomy and against the "Russification" that started about the turn of the century. Pontus followed in his footprints and became a professor of zoology. When the Soviet Union assaulted Finland in 1939, he was among the first to be decorated for bravery at the frontier.

Palmgren's first large treatise, published in 1928, was an introduction to the problems treated in his Ph.D. thesis two years later. The study of forest ecology was already highly advanced in Finland. A. K. Cajander, professor of forestry, and prime minister of Finland when the Soviet Union attacked, had found that the undergrowth was the most reliable indicator of forest productivity. Palmgren's censuses showed a clear correlation between forest productivity and bird numbers (*Sanicula* > *Oxalis-Myrtillus* > *Myrtillus* > *Vaccinium* types). The undergrowth of these forests consists of a large number of plant species, of which these are the most typical, and have lent their names to the different types. In 1936 he established a similar correlation in respect to Thienemann's and Naumann's lake types, eutrophic and oligotrophic.

Palmgren's data also threw light on the autoecology of bird species, their varying abundance in different habitats raising the question of the factors controlling habitat selection. In

1932 he was able to provide answers with respect to two species, the Goldcrest (*Regulus regulus*) and the Willow Tit (*Parus montanus*). A minor variation in the loop of the *Tibialis anticus* muscle prevented the Goldcrest from clinging upside down at the ends of birch branches as the Willow Tit can do, and thus excluded the Goldcrest from the birch forests.

In addition to bird censuses in the breeding season and throughout the year and the functional anatomy of bird's legs, he studied the correlation of *Zugunruhe* with meteorological factors, insulating properties of bird's nest structure, daily rhythm, territory and other ethoecological problems, range expansions, and natural selection. During my study years in the 1930s, Palmgren was the only Finnish biologist I heard lecturing about selection.

New avenues of research opened by Palmgren encouraged students in Finland. Between 1936 and 1951, 10 Ph.D. theses in ornithology were published, to a greater or lesser degree inspired by Palmgren. This contrasted with one Ph.D. thesis, J.A. Palmén's on the migratory pathways of birds, 40 years earlier.

Perhaps stimulated by his Goldcrest study—small passerines are keen arachnologists—Palmgren devoted much of his subsequent work to the anatomy, physiology, ecology, and ethology of spiders. His *magnum opus* was a large systematic handbook on the spider fauna of Finland in eight parts (1939-1977).

Palmgren was honored, perhaps one should say burdened, by many important but time-con-