

*animal  
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# *The Center for Field Biology and*

## *In the Continuing Tradition of the New York Zoological Society*



The society's new Center for Field Biology and Conservation will concentrate on research in the field. Many animals, such as the African cheetah are rapidly disappearing from the wild and must be studied while sufficient populations still exist.

The New York Zoological Society has established a Center for Field Biology and Conservation, which is devoted to the study of the natural world, a society tradition established by William Beebe at the turn of the century.

The center formally established January 1, 1972, actually had its origin in 1965 when the society and the Rockefeller University jointly created the Institute for Research in Animal Behavior, an act made possible with a grant from the Sarah Mellon Scaife Foundation, Inc. The institute was formed on the basic premise that animals can be understood only if they are studied as whole and complex beings, each intricately adapted to the environment. By combining the physical and scientific resources of the society and a university, it was hoped that the institute would conduct a series of investigations into animal biology with emphasis on how various behavior patterns function and what selective forces have shaped them.

Under the initial leadership of Dr. Donald Griffin and later of Dr. Peter Marler, the institute was a success from its inception. Not only can the impact of the institute be measured by the list of publications that have emanated from it, but also by the many students who have been stimulated to enter the field of behavior after having had contact with the research staff.

Research at the institute centered around two basic approaches, that of experimentally-oriented studies and expeditionary field studies. Dr. Griffin and his students have concentrated on the sensory systems of animals, particularly those of bats. Currently they are investigating the sonar capability which permits some bats to discriminate a flying insect from surrounding vegetation. A wind tunnel is used to measure directional patterns of sound emission in flying bats and other problems. In another line of research, migratory birds are being tracked by radar with the hope of finding out how birds are able to orient themselves inside the featureless environment of clouds.

Dr. Marler, Dr. Fernando Nottebohm, Dr. Paul Mundinger, Dr. Alan Lill, and their students have devoted their major research efforts to elucidating the communicatory systems of animals. Their findings on the language of emotions in Japanese macaques, chimpanzees, parrots, white-crowned

# Conservation

sparrows, gold finches, and other animals have, like much behavioral research, direct implications for understanding man. Certain species of birds, for instance, learn their songs from adults in a manner that is somewhat analogous to children learning to speak. Both have a critical period of learning, pass through a developmental phase of "babbling," depend on hearing their own voice for normal social development, and are predisposed to learn certain sounds more readily than others. Similarly, facial expressions and gestures of non-human primates may give important insights into human non-verbal communication.

Several studies were conducted at the William Beebe Tropical Research Station in Trinidad, which was closed by the society last year. Projects conducted there on the social behavior of parrots and manakins yielded insights into the evolution of polygamy and the relationship of social organization and ecological conditions.

Other investigations by the institute have focused on such varied topics as the recordings of vocalizations of humpback whales in Bermuda, the biology of drills and *Cercopithecus* monkeys in the rain forests of West Africa and Central Africa, and predator-prey relations of large mammals in the Serengeti National Park of Tanzania.

Any institution which has proven its worth ultimately strives to widen its scope and impact. Last year the Rockefeller University acquired the Innisfree Estate, with buildings, forests, and meadows, near Millbrook, New York. The acquisition provided the institute with an opportunity to expand. To fully exploit the potentials of such a field station, the research staff is moving its base of operations from the Bronx Zoo to the new site, a move which will reduce contact with the society. The institute will expand by dividing along natural lines of interest: the experimentally-oriented staff will base itself at the new field station, to be administered primarily by the Rockefeller University; and the field-oriented staff will retain its close ties with the society as part of the new Center for Field Biology and Conservation.

The society traditionally has been interested in field research. Not only has it had such eminent naturalists as William Beebe on its staff, but it has also over the years supported many projects



Deep in the Kibale Forest Reserve of Uganda, Dr. Thomas Struhsaker (above, left) will study the eight species of monkeys inhabiting the area, a project that may require more than five years of field research.

throughout the world. The new center is in part an outgrowth of this interest. With a grant from the Scaife Family Charitable Trusts, the center will provide several scientists with the opportunity to carry on field research unhampered by teaching, administration, and other duties. At present the research staff consists of three biologists, each with his own sphere of interest and each devoted to a long-term study of a group of animals, which, together with its habitat, is endangered.

Dr. Thomas Struhsaker, whose lengthy studies of various African forest monkeys are unequalled in depth and duration, established in 1970 a research station in the Kibale Forest Reserve of Uganda. He hopes to spend at least another five years in a study of the eight species of nonhuman primates that occur in the area, concentrating his research particularly on the sooty mangabey, red colobus, and red-tail monkey in different habitats.

By observing certain species intensively on a long-term basis, Dr. Struhsaker will be able to discern trends in social groupings, populations, and the ecosystem as a whole, and he will be able to relate particular aspects of behavior to certain habitat conditions. This, he hopes, will enhance knowledge of the relationship between ecology, phylogeny, and social organization among primates, a biological problem of great importance, for it may help to broaden our understanding of the genesis of human society.



Dr. George B. Schaller (above) examines a scrape made by a snow leopard high in the Himalayas (see also pages 7 to 13).



Himalayan tahr (above) and Siberian ibex (below, left) are representatives of the wild goats and sheep Dr. Schaller will be studying in the wild.



The high rampart of the Hindu Kush and Himalayan mountains from West Pakistan to the People's Republic of China harbors a distinctive fauna of large mammals about which little is known beyond some hunting accounts that were published more than 30 years ago. These animals present many tempting research problems. It would be interesting to determine their ecological and behavioral adaptations to the high and harsh environment in which they live. The area contains the greatest variety of wild sheep and goats in the world, including not only the Himalayan tahr, the markhor, the ibex, and the Marco Polo sheep, but also the bharal which is in many respects intermediate between the sheep and the goat. By studying the displays of these related species, a greater understanding of the evolution of behavior patterns may be gained. Since 1968, Dr. George Schaller has made several trips to study this fauna and he now plans to concentrate his research efforts in that part of the world.

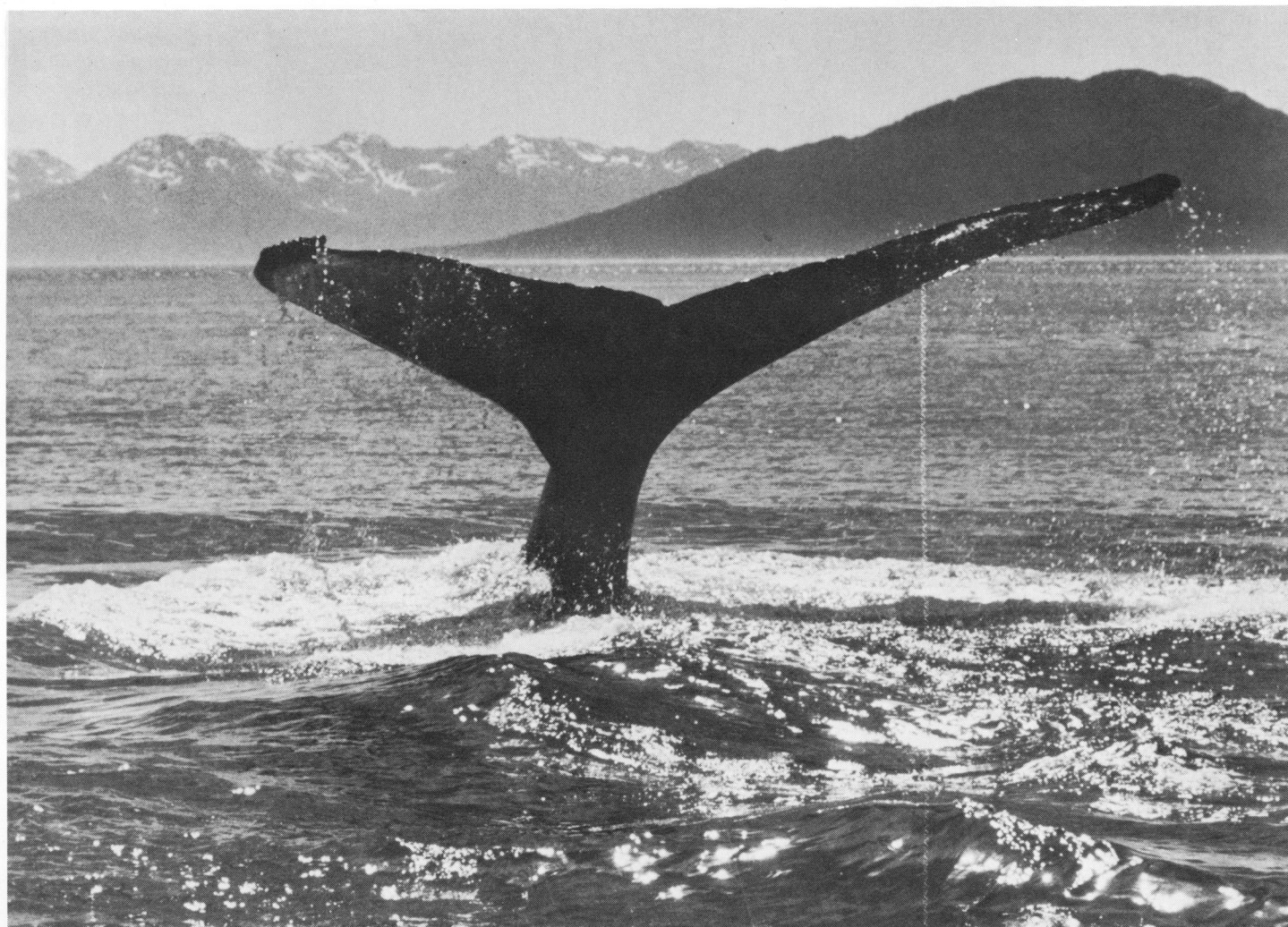
The study of whales, particularly of the small porpoises, has increased but many basic facts about the biology and behavior of the larger species remain unknown. A site at which the large baleen whales could be kept under prolonged observation long has been needed. Dr. Roger Payne has found a herd of right whales in Patagonia where study conditions are ideal. He plans a five-year study in the region combining basic biology and behavior with particular emphasis on the role of sounds in the organization of this highly social species. Once abundant off the shores of all continents, but now among the rarest mammals on earth, this species lends itself to research for several reasons: each whale is recognizable as an individual by a set of distinctive knobs on the head which become visible every time the animal surfaces for air. This, combined with the right whales' tendency to stay close to shore and in very confined areas, makes it possible to learn about social behavior of groups in which known individuals of known sex and past history are living.

Although the Center for Field Biology and Conservation has an identity distinct from the institute and the field staff will be scattered over



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Dr. Roger Payne (above) plans a five-year study of the right whale — so called because it was once considered the “right” whale to hunt — at a site off Patagonia in South America (below).



several continents, close contact with the Rockefeller University is being maintained. The present field staff holds appointments at the university, and students hopefully will participate in some of the field work, using the results for their graduate degrees. Scientists with suitable projects also might become affiliated with the center. In these and other ways, the center hopes to maintain contact with and contribute to the scientific community.

In addition to collecting scientific information, the projects of the center are also oriented toward finding ways in which various species and their habitats can be preserved. This approach is a continuation of the society's traditional role in conservation. The last chance to study populations of many vanishing animals in their natural habitat may be approaching. Each member of the center is dedicated to the task of somehow preserving samples of the wilderness.

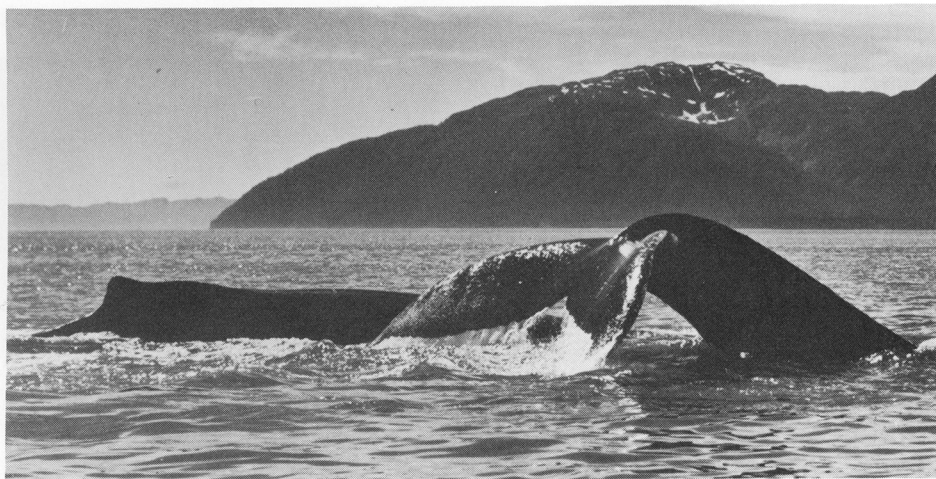
Dr. Struhsaker, for instance, is concerned about the exploitation of rain forests in Africa. He feels that this fragile and poorly known habitat must now be included in several inviolable reserves to prevent timber companies and agricultural activities from destroying the last primal stands.

The high mountains of Asia include such rare animals as the snow leopard and Kashmir stag. Knowing that the future of most of these animals is tenuous, Dr. Schaller is trying to find out their distribution and status with the hope that he can interest local governments in setting aside and maintaining a few remnants in sanctuaries.

Several species of whales have been brought to the verge of extinction through the greed and indifference of a few countries. Dr. Payne has become a spokesman on the whales' behalf. His recordings of the eerily beautiful songs of the humpback whale not only have entranced the public but also have drawn attention to the plight of these animals.

One of the functions of the center will be to further conservation by disseminating information through articles, recordings, and other ways, and by contributing facts and advice whenever these are needed.

If through its research the center can contribute to an understanding of the world's wildlife and if through its efforts even a small portion of the remaining wilderness is preserved, it will have fulfilled its purpose.



Once abundant, the right whale is now rare, a fate it shares with too many of the world's creatures.