

SAFARIS MOLD SCIENTISTS AND ENRICH OUR MUSEUMS

BY AUSTIN L. RAND
CHIEF CURATOR OF ZOOLOGY

SAFARI is a magic word. It conjures up visions of camps in far places and lines of laden porters on the march. "Safari" put into a news release from the Museum about any sort of expedition, not just one to East Africa where the word originated, practically guarantees that the item will be used by the press and that the public will read it.

In telling about birds and bird men and about bird collections and museums, the safaris, or expeditions as we usually call them, are logical and fitting places to start. Most museum specimens have been collected by expeditions and, for many a museum man, expeditions have pleasant personal associations.

Many a great naturalist owes much to his early expeditions. They gave him material to think about and inspiration to use it, and they helped in shaping his ideas. The greatest naturalist, Charles Darwin, got the idea he later elaborated into his *Origin of Species* while on *The Voyage of the "Beagle."* This theory gave us our present-day concept of evolution, descent with modification, that has so strongly affected our philosophy of man and nature. Another naturalist-philosopher, Prince Peter Kropotkin, introduces his book on *Mutual Aid*—an idea that seems to be coming back into fashion—with the sentence, "Two aspects of faunal life impressed me during the journey which I made in my youth in eastern Siberia and northern Manchuria."

AN EXCITING START

A chance to go on an expedition has given many a young naturalist his start in his career. I got my start that way. It is a wonderful way to see the world, to go as a peripatetic naturalist, see the main cities of the world, and then to live in the country where the collecting is to be done, investigating it, drawing up descriptions of its terrain, climate, vegetation, and people for the introduction to the main report, which contains an account of the birds that you find there with notes on everything you can find out about them.

The very names of the places I've stopped call up a host of memories: names such as Ambohimarahavava, Ihosy, Sonsonata, Mira Mondo, Manokwari, Tafa, Tagbilaran on Bohol, Little Ewie's Lake, Manyberries, Wildhorse, Jaydot, Hicoria, Whiskey Slew, Hardscrabble Mountain, Boot Island, not to mention ports of call on the way to places—Marseilles, Majunga, Amsterdam, Batavia, San Pedro, and Samarai. These are place-names to dream on. Some I will see again, most of them I won't. I'd like to live over the times and places again, but more likely there will be new and different ones in the future. Museum collecting days are wonderful days.

The Museum collector is not really happy until he has established his camp in the jungle or on the plains and is spending his mornings getting specimens, his afternoons preparing them. The natives can be a big help in securing birds. The variety that natives get into their methods of collecting birds makes the museum collector seem a plodder indeed. The latter depends on a shotgun and chooses his shot according to his bird: coarse shot for large ones and fine shot for small ones, so as not to injure the plumage. The native to whom firearms are fantastically expensive in his scale of living, if available at all, still uses the methods our ancestors did before they had

On the two pages that follow, the many steps involved in the operation of a Museum expedition are illustrated in a comprehensive series of sketches.

fowling pieces. Then falconry, nets, snares, and bird lime were commonplace in Europe, and they still are commonplace among some tropical peoples.

MAN-PROPELLED DECOYS

One of the most intriguing ways of catching birds used by natives is the wading for ducks, a system I found in Madagascar where the natives brought me flamingoes, ducks, and gallinules they'd caught that way. But Dr. Salim Ali gives the best description I've seen of this craft as practiced in northern India. Coots that swarm on Manchhar Lake in Upper Sind are the chief game. The local Mohana poles his boat as near the flock as he thinks is safe. Then he dons a duckskin hat and slips into the water. He submerges until the duck hat, which has head and neck naturally posed, seems to be a duck swimming. The Mohana, thus camouflaged and watching through holes cut in the hat, slowly edges up to the flock of coots and seizes one after another by its feet, pulls it under, and ties it to his belt. Finally the coots become suspicious and patter off, but a good operator may have from ten to fifteen coots on his belt by then.

The habitats of a bird may make a special method of capture possible, as with the Argus pheasant. This magnificent pheasant clears a display ground for itself in the forest of Borneo, and this the Dyaks capitalize on. They take a piece of bamboo, that many-purpose plant of the tropics, and

shave it thin to a razor-like edge. This they plant firmly in the ground in the Argus pheasant's display area. The male Argus pheasant, returning, tries to remove the sliver of bamboo. But it is firmly anchored. In trying to pull it out, the pheasant twists it and pushes against it and finally by accident rubs its neck along the razor edge and cuts its own throat.

No matter how the museum collector gets his birds, he turns them all into museum specimens. The oldest museum bird specimens are said to be a half dozen or so given to the museum in Upsala, Sweden, in 1747. They are thus something over two hundred years old. There are other older examples of prepared birds, notably the birds from tombs in Egypt, preserved as mummies. The oldest mounted bird that has come to my attention is an African gray parrot about 250 years old. It, too, was connected with a tomb, but in Westminster Abbey, and is the only parrot to gain that eminence in death. Sir Norman Kinnear tells the story.

This parrot belonged to Frances, Duchess of Richmond, who as Frances Stuart was known as "la belle Stuart." She was the mistress of Charles II, was described by Pepys in his diary, and in her will left money to found a home for stray cats, causing Alexander Pope to write, "Dying, endow a college for cats." She was fond of animals, and when she died, the parrot, which survived her by only a few days, was mounted in a life-like pose and placed along with a wax effigy of the lady in her Queen Anne coronation dress near the tomb in which Lady Frances rested with her husband in the Abbey.

Scientific collections of birds got a late start, probably because no way of preserving birds was known. The pioneer bird men, Turner of England and Gesner of Germany, in the mid-16th century, and the greatest ornithologists of the 17th century, Willughby and Ray, worked mostly from sketches and drawings and rarely were able to have a "dried" bird for study.

BEGAN WITH PLUMES

Though the 1500's and 1600's were periods of exploration, drawings rather than specimens were the bird material brought back. But out of these voyages may have come the germ of an idea. The Mollucan bird hunters of the East Indies brought bird-of-paradise plumes from New Guinea and traded them to the Western World. These New Guinea plumes had been prepared for the trade by the bird being skinned and a stick thrust through it. Such "skins" reached Europe by 1522 and may have suggested to European ornithologists the idea of skinning birds. But Belion in 1555, giving directions for preparing birds, still

(Continued on page 11, column 3)

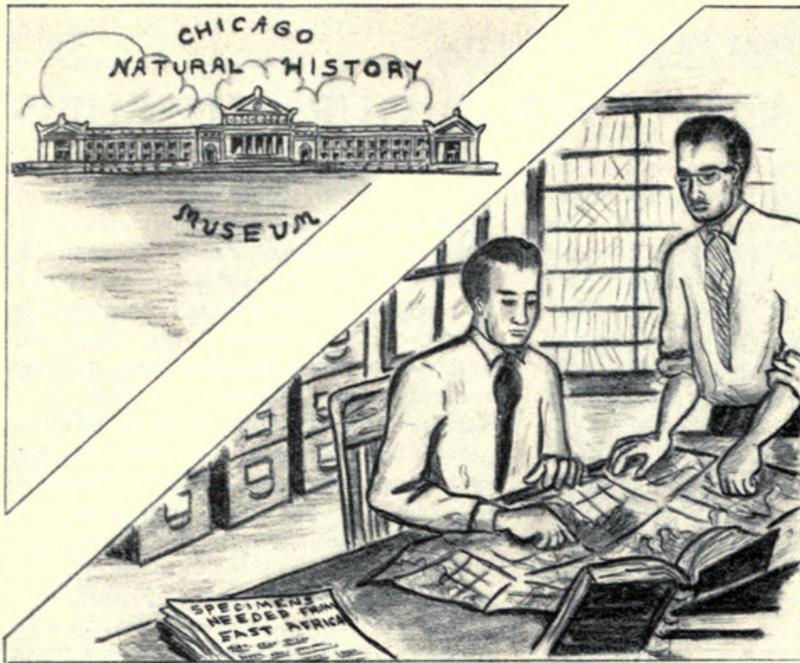
MUSEUM MEMBERS' NIGHT
Friday, October 7

EXPEDITIONS

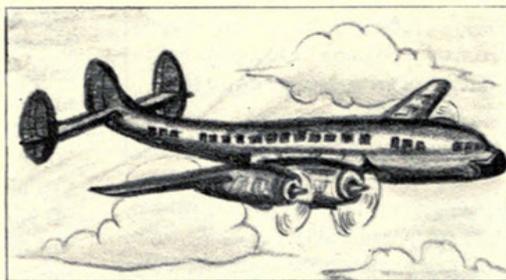
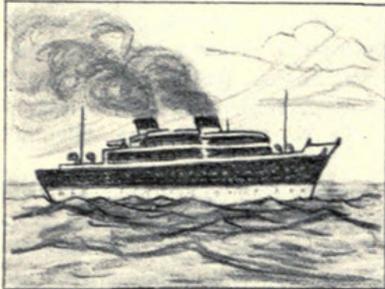
BY AUSTIN L. RAND, WITH

The bird specimens in museums are the guarantees of authenticity that stand back of the books written about birds. Chicago Natural History Museum's bird collection of some 240,000 specimens is one of the important bird collections in the world.

A series of expeditions is the best way of building up a collection. We may get some specimens through exchange, purchase, or



← Start of the expedition. In the offices of the Division of Birds the area to be visited is decided on, plans are made, and equipment is ordered and gathered. Expedition personnel is carefully selected. Preferably we send professional naturalists or men who have trained themselves for such a position. They must be practical enough to arrange for food and water, shelter, and transportation where such things are scarce; they must be hunters enough to collect the animals and preparators enough to make them into proper specimens and get them dry, packed, and safely shipped home; they must be biologists enough to know what are desirable specimens and what records and notes are of value; they must be diplomats enough to deal with foreign officials and native potentates, often in foreign languages; and they must be managers enough to handle museum funds and direct expedition workers. Only key men are sent on expeditions. Local persons are recruited on the spot, as carriers, camp help, and hunters. They know the country and its problems. Their rate of pay is low, and they don't need transportation. They form a link between the expedition and the country.

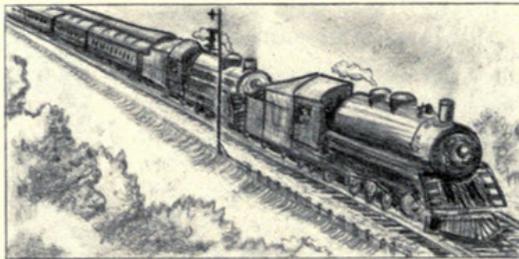


Travel to the field of operation may be by:

ship

airplane

train

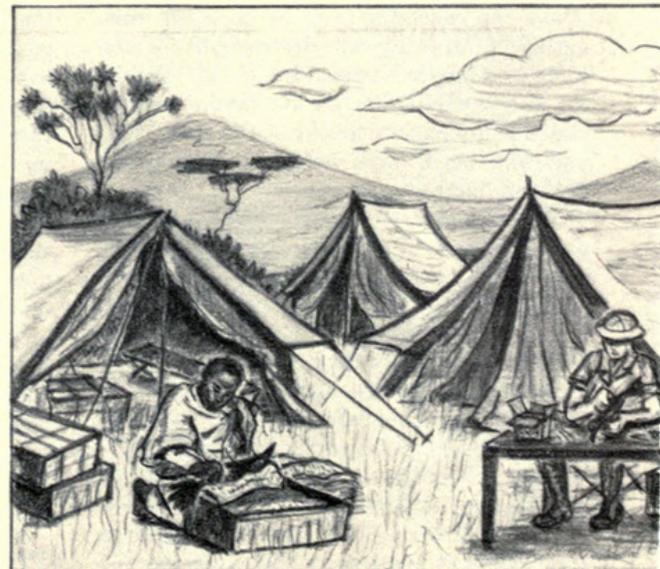
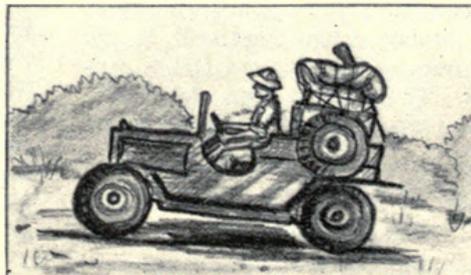


The jungle is the laboratory where the birds are sought and observations made in the humid tropics.

To prepare a specimen along breast and a



Once on location, in the field as we call it, travel may be more primitive: by carriers—by pack train—by canoe—or even by jeep.

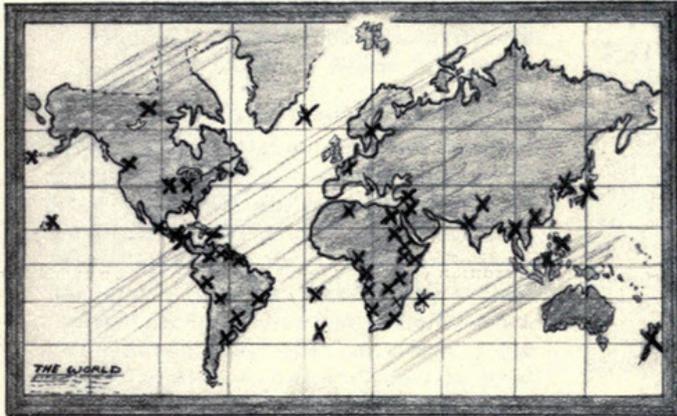


A collector's camp in the field. The wise museum man carries a table for he can work better in comfort; the native helper is working on a box.

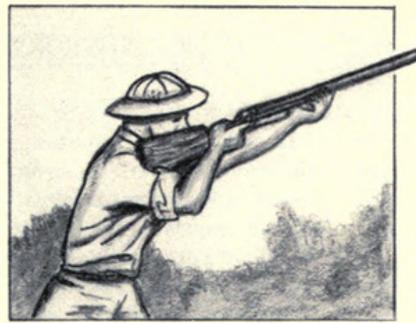
HOW TO GET BIRDS

ILLUSTRATIONS BY RUTH ANDRIS

Even a gift, but nothing takes the place of an expedition with trained museum personnel. Not only does it bring back a good representation of the bird life but also a knowledge of the country and the local conditions affecting bird habits and habitats. This aids greatly in understanding the problems that arise later in writing about the birds.



Our interests span the world. The X's mark areas from which Chicago Natural History Museum bird division has received bird specimens in the last seven years.



The collector shoots most of his specimens, using small shot so as not to damage the plumage.



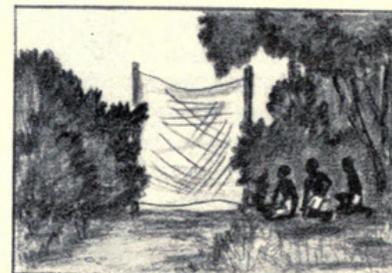
by setting snares

But native help is invaluable for getting many small, rare or shy birds:

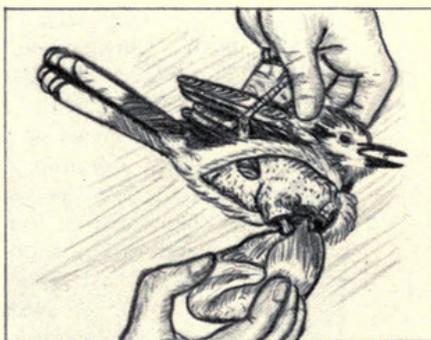


← by shooting with a many-pointed arrow

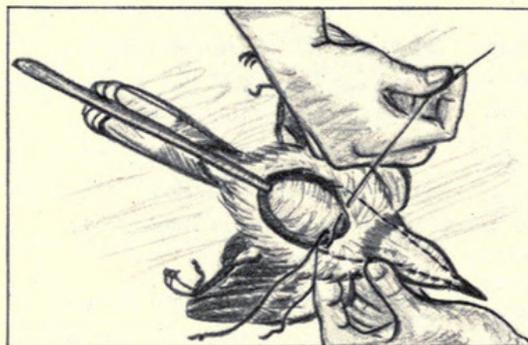
and by rigging bird nets



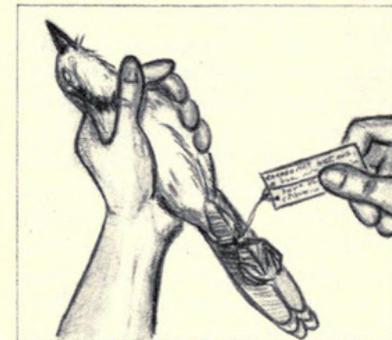
The skin is opened and cleaned.



The body is removed. Skull, wings, and leg bones are cleaned and preservative applied.



An artificial body of tow, cotton, or other material is inserted.



The finished specimen looks like a bird, lying on its back, with legs crossed and labeled with date and place of capture.



chair, and a hornbill.

The collector finishing a parrot specimen. His tools are few: scissors, scalpel, and forceps. Note catalogue and labels at hand.



The dry specimens are packed into a wooden box for shipment and, on the coast, may be taken out to a waiting schooner by dinghy to start the first leg of the journey back to the Museum.

YOUR HOSTS—

(Continued from page 4)

The Raymond Foundation, with a staff of Miss Wood and six other young women, carries natural-science lessons via other media to the same vast audience of school children. They present in the schools extension lectures with films and slides and are also in charge of the free motion-picture programs and other educational entertainments given in the Museum Theatre each spring, summer, and fall. They conduct also the guide-lecture tours of the Museum for both children and adults, and write the children's stories published by the Museum.

Miss Wood has directed the course of the Raymond Foundation's activities with such enthusiasm and such success that the Foundation's work has become a model for similar work conducted by institutions in many other cities. Her counsel has been eagerly sought on matters of education in natural history by teachers and principals of the schools in this city and by organizations such as Boy Scouts, Girl Scouts, camp directors, and others concerned in the guidance of youth. Her first concern always is the children themselves—to devise the best ways to heighten their interest in the natural sciences and to develop their powers of observation of the life of the plants and animals they discover wherever they may go. She has found in this work an inspiration—and her methods, her devotion, and her energy in turn have inspired the members of her staff, hundreds of teachers, and thousands of children.

Miss Wood and the other Raymond Foundation lecturers will conduct the escorted tours of the Museum for guests on Members' Night.

The Library—

No scientific institution or its staff could get very far without a good library for reference. With some 135,000 volumes on its shelves, the Museum's Library is the largest in its specialized fields west of the Alleghenies. The Librarian presiding over it is Mrs. Meta P. Howell whose seemingly limitless energies are devoted to making the Library's service as nearly perfect as may be attainable. And here



Meta P. Howell

it may well be noted that no matter how fine and complete a collection of books may be, its value would be largely lost to those

who need it for research if it lacked administration by a capable librarian. Mrs. Howell has a sixth sense that anticipates the needs of the scientific staff, so that reference works required are practically always on hand and immediately available when requested. Under her supervision the Library has also augmented its service to the public in general. Mrs. Howell and her staff will welcome visitors in the Library on Members' Night.

CHILDREN'S FREE MOVIES BEGIN OCTOBER 1

Beginning October 1 the Museum's James Simpson Theatre will be well occupied Saturday mornings with hundreds of youngsters attending the autumn series of free motion-pictures for children. Presented at 10:30 A.M. each Saturday during October and November by the James Nelson and Anna Louise Raymond Foundation, the programs offer a wide variety of entertaining and educational films.

Children are invited to attend the programs alone, accompanied by parents or other adults, or in groups from schools, clubs, or other centers. No tickets are needed. Following are the titles and dates:

October 1—Neptune's Children

An exploration of the wonderful world of sea and skirting shore

Story by Robert C. Hermes

October 8—Pueblo Boy

Story of a Pueblo Indian boy

Also a cartoon

October 15—Nature's Half Acre

A Disney "True-Life Adventure"

color movie

Also a cartoon

October 22—American Cowboy

The story of real cowboys and life on their ranch

Also a cartoon

October 29—A Tale of Two Grizzlies

Story by Cleveland P. Grant

November 5—Some Favorite Animals

Also a cartoon

November 12—Ti-Jean Goes Lumbering

And other lumbering stories

Also a cartoon

November 19—Winter Hobbies

Also a cartoon

November 26—Wind from the West

Lapland story

Also a cartoon

MEMBERS' NIGHT—

(Continued from page 2)

who do not wish to drive their cars, special free motor-bus service has been arranged. A special bus marked to indicate Museum shuttle-service will leave Jackson Boulevard at State Street at 15-minute intervals beginning at 6:30 P.M. The last bus will leave the Museum at 10:45 P.M. In both directions the bus will make an intermediate stop at 7th Street and Michigan Avenue. This transportation is free—no fares collected, no transfers required.

Meet the Creative Artists—

The dioramas in the Hall of the Earth are the work of George Marchand, well-known sculptor of West Seneca, New York. Mr. Marchand in 1951 prepared for Frederick J. V. Skiff Hall (Hall 37) ten dioramas representing prehistoric invertebrate life and is noted for his exhibition work in many other museums. The four dioramas now being prepared are his first venture into the creation of exhibits in the field of physical geology and the first use of his own patented system of automatic lighting that simulates the changes in light during a day. The other exhibits in the hall were prepared, under the supervision of Chief Curator Roy, by Harry E. Changnon, Curator of Exhibits in Geology, Preparators Henry Horback and Henry U. Taylor, and Miss Maida Wiebe, Artist in the Department of Geology.

The three new dioramas of prehistoric American Indians are the work of Alfred Lee Rowell, Dioramist in the Department of Anthropology, with the supervision and counsel of Chief Curator Martin and George I. Quimby, Curator of North American Archaeology and Ethnology.

The exhibit illustrating the iridescence of hummingbirds was prepared by Carl W. Cotton, Taxidermist in the Department of Zoology. The Museum's Division of Engineering co-operated in devising the mechanical features of the exhibit.

SOUTHWEST DIORAMAS—

(Continued from page 3)

with pink clay are clowns who entertain the audience between dances and watch closely to assist the dancers during the ceremony. The only music for the dancing comes from the shaking of the rattles and the chanting of the dancers. The ceremony is patterned after one performed at Zuni today, but similar ceremonies are performed in the other pueblos in the Southwest, and this one probably has been in use for a long time.

An innovation in the display of these dioramas is their arrangement in a hexagonal pylon in the center of Hall 7. Each diorama can be viewed from two windows in the hexagon.

In other cases in Hall 7 are actual specimens of pottery, cradles, clothing, and tools.

MUSEUM MEMBERS' NIGHT
Friday, October 7

SATURDAY AFTERNOON LECTURES TO BEGIN OCTOBER 1

WHERE would you like to go? A wide variety of travel adventure, ranging from the Bahamas to the Yukon, to India, and to South America, is offered for those who wish to see far places without leaving Chicago.

Opening on October 1, Chicago Natural History Museum will present its 104th series of free illustrated lectures provided by the Edward E. Ayer Lecture Foundation Fund. Well-known explorers with color motion-pictures of their exploits will appear each Saturday afternoon throughout October and November in the James Simpson Theatre of the Museum. All of the programs are free, and all will begin at 2:30 P.M.

Although limited accommodations make it necessary to restrict admittance to adults, children will have their own series of free motion-picture programs, provided by the Raymond Foundation, on the mornings of the same Saturdays.

The programs for adults are as follows:

October 1—Between the Tides

Robert C. Hermes

On color film Robert Hermes has captured the majesty and mystery of the sea in his story of the weird forms of life that inhabit its depths and its shores. To make his pictures he traveled to such widely separated places as the Bahamas, Nova Scotia, the Pacific Coast, and Hawaii. He has gone beneath the waves in tidepools with special submarine-camera apparatus to photograph the mysteries of the teeming life beneath the surface. His films abound in fascinating views of flying sea-birds and wading shore-birds on their patrols at the water's edge, and of patterns of sunlight and wind on water and rocks.

October 8—The Land the Glaciers Forgot

Howard L. Orians

One of the most curious phenomena of the Middle West is a huge area that was completely bypassed by the great glaciers. The contrasts between this driftless section and the glaciated areas are recorded in these noteworthy geological films. Orians also shows the wildlife of this unique region—its bears, otters, and many more commonly encountered animals. Especially interesting are his studies of birds.

October 15—Shikar in India

John Moyer

"Shikar" is an Indian word equivalent to "safari" in Africa. During several years in India on a mission for the United States government, John Moyer, who is head of the Museum's Division of Motion Pictures, made some truly sensational films of that vast country's animal life. The audience

will thrill at tigers and elephants that threaten to come right out of the screen and walk down the aisles of the theatre, so close did they approach Moyer's camera lenses. There are adventures with rhinos and water buffalo, probably the most dangerous of all big game. Especially exciting is a roundup of thousands of wild elephants from the jungle into a stockade where those suitable for training as work animals are selected.

October 22—Strange People, Strange Places

Irving Johnson

This film and the narrative of Commander Irving Johnson, U.S.N.R. form an epic of adventure—the story of the voyage of the

and the pioneers. Grizzly bears, Alaska moose, and a variety of birds are seen through his camera's-eye. Spectacular is a mating-time battle of bull bison, each weighing more than a ton. Grant also shows such garden spots as the orchards of Okanagan Valley in British Columbia, which he calls "the nearest place to Shangri-la we have ever found."

November 5—Brazil

Karl Robinson

Brazil, largest country of South America (vaster than the United States in territorial extent), is a land of startling contrasts ranging from barely explored Amazon jungles to modern and beautiful cities such as Rio de Janeiro and São Paulo. All of this great country's aspects are brilliantly represented in this remarkable color-film survey. Robinson brings out the importance of the coffee and rubber plantations to the nation's economy. Interesting, too, are his sequences of the life of the rugged vaqueiros (ranchers) and their herds in the semi-desert northwest, the jaugadeiros (raft-fishermen) of the coast, and the remnants in some areas of a culture brought from Africa. He even takes his audience underground into the world's deepest operating gold mine and into the precious-stone mines of Minas Gerais.

November 12—From Dodos to Devil Rays (in the remote islands of the Indian Ocean)

Quentin Keynes

A great grandson of Charles Darwin, Quentin Keynes made an expedition of his own in the wake of the famous "Voyage of the 'Beagle'" and the results are recorded in color films that concentrate on the unexpected in out-of-the-way places. Keynes started out on a search for a dodo and, although he did not find a live specimen of the long-extinct creature, he did find a skeleton in the island of Mauritius. He sought adventure also in the little-known islands of Rodriguez, Réunion, Glorioso, Aldabra, and the Seychelles. His motion pictures are packed with such thrills as the harpooning and capture of a giant devil ray and a 10,000-foot climb into the rugged and precipitous mountains and volcanoes of Réunion.

November 19—Indonesia Today

Lester F. Beck

The first complete all-color film made in Indonesia since the war is presented by Dr. Beck as an authentic record of one of the most fascinating areas in the Orient. Sumatra, Java, and Bali are all on the itinerary—their small villages and remote beauty spots as well as their wondrous and mystical cities. Fully as interesting as the

(Continued on page 12, column 1)

RESERVED SEATS FOR MEMBERS

No tickets are necessary for admission to these lectures. A section of the Theatre is allocated to Members of the Museum, each of whom is entitled to two reserved seats. Requests for these seats should be made in advance by telephone (WAbash 2-9410) or in writing, and seats will be held in the Member's name until 2:25 o'clock on the lecture day.

Yankee, one of the last of the square-rigged sailing ships, manned by a crew of young men and women without previous experience afloat. These young people sail to remote seldom-visited places, often through uncharted waters, and mingle with some of the world's least-known peoples. In New Guinea they dwell with tribes still living in a Stone Age culture, after taking their ship 300 miles up an uncharted river where floating islands from which they can pick coconuts lodge against the ship's bow and travel with the ship. Borneo, Siam, Bali, and various parts of Africa are logged in their itinerary.

October 29—Northwest by West

Cleveland P. Grant

A former member of this Museum's staff, Cleveland Grant is recognized as one of America's leading nature cinematographers. In his present film he will take his audience from Montana through British Columbia, the Yukon, and Alaska. He relates the story of the Old West, the Gold Rush areas,

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WITH THANKS TO ALL WHO AID RESEARCH

By EARL E. SHERFF

RESEARCH ASSOCIATE IN SYSTEMATIC BOTANY

NUMEROUS accounts are to be found in museum bulletins of expeditions undertaken by staff members in the prosecution of their scientific researches. Interesting and instructive, these rightly receive prominent notice. Less numerous are citations of those persons or institutions to whom an author's thanks are due for important aid—aid so vital to the author's studies that without it many undertakings could never have been successfully completed. In looking back over several decades of research at Chicago Natural History Museum (or Field Museum of Natural History, as it was called when this research started), I was reminded of a number of such instances that seem worthy of mention, although doubtless they are but typical of the wonderful spirit of co-operation commonly found among scientific workers throughout the world.

In 1915 I was engaged in monographing the large genus *Bidens*, a genus of Compositae related to the well-known genera *Coreopsis* and *Dahlia*. First-hand information was needed about certain West Indies species that were distinguished by a climbing habit, and it was impossible to launch an expedition to the West Indies at that time. We therefore wrote to William Harris, superintendent of public gardens for the Department of Agriculture in Jamaica, telling him of our urgent need. He promised his whole-hearted assistance and embarked upon a small expedition of his own that required several days of arduous travel in the mountains and involved the use of several pack mules and much camp equipment.

VINE LOCATED

Finally, at Cedar Valley, St. Thomas (in western Jamaica), he located the very kind of vine that had been most desired and was able to send us pressed specimens and ripe seeds. Subsequently a seed was planted in Chicago and a large vine obtained that soon was multiplied by cuttings into many vines. Thereupon the authorities at the University of Chicago kindly allowed us to transfer the vines to the university's greenhouses and to keep them there under observation until all matters of leaf-outline, leaf-division, etc., could be settled. Mr. Harris died long ago, but his generous and unstinting co-operation made possible the settling of several moot points in a revisional treatment of *Bidens*, which the Museum published in 1937.

In this revisional treatment of *Bidens* it was proposed originally to illustrate all or most of the species with full-page plates. These were being prepared from borrowed herbarium specimens sent to Chicago from

various institutions throughout the world. Around 1915, when World War I made ocean transport hazardous, most foreign institutions were compelled to discontinue shipping specimens across the ocean. And then what has always seemed to us a most unusual gesture of friendly co-operation came to us from Sir David Prain, Director of the Royal Botanic Gardens, Kew, England, and Dr. Otto Stapf, the famous botanist at the head of Kew Herbarium. These men directed that the sheets on which were mounted invaluable type specimens desired for our plates be carefully divided into two parts each, one part to be sent to the United States on loan for sketching and then kept on this side of the ocean until the end of the war. Meanwhile, of course, the other part would not leave the Kew Herbarium but would remain there to represent for all time the species of which it was the type.

And so, with the aid of these fractional sheets, supplemented by my own collection of large photographs taken at Kew before the outbreak of the war, it was possible to illustrate sixteen more species of the genus *Bidens*. Both Sir David and Dr. Stapf died many years ago, but some of the most important of the full-page plates that finally were published in 1937 are a testimonial to their exceptionally kind aid.

PECULIAR CASE

A strange case of a different sort of co-operation pertained to a new species of kukui, or candlenut, tree, a more detailed



AID TO RESEARCH

Leaves from the type sheet of *Aleurites Remyi*, known by the common name Remy's kukui or candlenut tree. The type specimen is preserved in the Museum of Natural History in Paris.

account of which may be found in the Botanical Series of this Museum (vol. 17, p. 558, 1939), under the title *Aleurites Remyi*. A French collector, Jules Remy, had collected somewhere in the Hawaiian Islands

from 1851 to 1855 some flowering branchlets of kukui trees. These found their way into the huge herbarium of the Museum of Natural History at Paris and about 1938 were included in that museum's shipment of material sent by Dr. H. Humbert, the museum's director, to Chicago for study.

Most of the specimens were found to represent the very common kukui tree of the Hawaiian Islands and other tropical areas of the earth, known to science as *Aleurites moluccana* (a relative of the species extensively cultivated in Florida and elsewhere as a source of the tung oil of commerce). Several detached leaves, however, were definitely of a different species, as could be seen from their very slender, acute lobes (see illustration). Failing to find any such species described in botanical literature, we appealed in a letter to Dr. Otto Degener of Honolulu, a botanist who is widely regarded as the foremost living authority on



Dr. Otto Degener



Mrs. Thomas Jaggar

Hawaiian plants, for any information that he might have. He replied that he had a dim recollection of a woman mentioning long ago a similar, apparently new kukui. Some months later, however, he succeeded in extricating the lady's identity from his memory. She was Mrs. Thomas Jaggar, wife of the famous volcanologist (since deceased) on the island of Hawaii. Dr. Degener promptly wrote her for more information.

Mrs. Jaggar, however, had to wait until she could recall certainly where she had seen an anomalous kukui tree growing. In September, 1940, she made two trips to places where she believed she had seen one. On each trip she was rewarded by finding a tree. Elsewhere I have presented fuller details touching this peculiar case (*American Journal of Botany*, vol. 31, p. 157, 1944), but it may suffice here to say that Mrs. Jaggar collected herbarium specimens and ripe fruits from one tree. These she sent to Dr. Degener, who sent them to Chicago. The fruits were planted and a vigorous seedling tree obtained in 1941. The tree has been well protected at the University of Chicago greenhouses and now is some 23 feet high. Unfortunately it has failed to flower or fruit.

Meanwhile other collectors were spurred on to search for this species, named *Aleurites Remyi* for its original collector, to assist in rounding out our knowledge of it. Miss Amy Greenwell, in March, 1949, discovered

MUSEUM MEMBERS' NIGHT
Friday, October 7

at Puuanahulu, western Hawaii, several more trees of it, all of them young, and obtained herbarium specimens for distribution to various scientific institutions. Chicago Natural History Museum received two of these specimens through the kindness of Dr. Degener.

CLOSER TO HOME

In seeking to solve problems closer to home, we often have been agreeably surprised at the alacrity and extreme courtesy with which persons in some remote locality hasten to be of service to us or, through us, to science in general. An instance in mind concerns the rediscovery in 1912 of the now locally famous Kankakee mallow. An extended account of this rediscovery was presented in the magazine *Rhodora* for May, 1946 (vol. 48, p. 89). As stated there, it was desired in 1912 by the Department of Botany of this Museum to make fresh collections for botanical studies and descriptions of the Kankakee mallow, a plant known at that time only from an island in the Kankakee River. The elderly Rev. E. J. Hill, who had collected the species forty years before, consented, despite his age, 79, to accompany two of us from the Museum on a trip to the type locality, thus enabling us to collect a large supply of material.

Some four years afterward, the late Judge Arthur W. De Selm of the circuit court in Kankakee, learning that once again two representatives from the Museum were in Kankakee to collect specimens of the famous mallow, hastily adjourned his court for the day and placed himself at our service to aid us in every possible way. Judge De Selm's profession was, of course, law, but his interest in botany was such that he had gradually built up a considerable fund of plant lore. On his own initiative some years earlier he had gone to the island in the Kankakee River, obtained vigorous specimens of the Kankakee mallow, and planted them in his yard, where they were laden with delightfully fragrant rose-colored flowers when they were shown to us.

The rediscovery of the Kankakee mallow had an interesting aftermath in the discovery, by some botanists from the University of West Virginia a score of years later, of a related species of mallow on Peters Mountain at the Narrows, in southwestern Virginia. But shortly afterward, the forests on Peters Mountain were cut to the ground. This so altered the type-habitat of the new mallow that, in August, 1945, when we journeyed there to make an investigation, we were unable to locate the plants. We appealed for aid to the principal of the Narrows high school, Henry H. L. Smith, who enlisted a senior student, James Hubert Browning, to assist us. After a week of difficult mountain climbing, Browning finally located two of the rare plants and saved corroborative specimens for our

Museum's herbarium. His assistance was especially fruitful in that it stimulated the interest of other local enthusiasts in the quest for what had seemed till then a possibly extinct species.

FRIENDLY AIDS

Thus our warm personal friend, Dr. P. D. Strausbaugh, professor of botany at the University of West Virginia, enlisted the friendly aid of Dr. E. Meade McNeill of Concord College, Athens, West Virginia. Professor McNeill and two companions very graciously undertook, even at the expenditure of much time and great physical effort, to rediscover the Peters Mountain mallow. By climbing to the topmost ridge and then walking along the ridge as a scouting team, one in the center at the very crest of the ridge and each companion spaced about twenty or thirty feet lower down and on opposite slopes, they resolved not to overlook a single mallow plant. Their thoroughness was repaid with finding numerous plants, some of them growing in clumps or even in small colonies.

As a result of the knowledge obtained or opened up to us by these generous collaborators, we were able, on a return visit to the Narrows in October, 1945, to climb directly to where living plants were growing and to make various critical and important observations. As an outgrowth of these observations, the Narrows or Peters Mountain mallow was christened with a new botanical name, *Iliamna Corei*, which distinguished it from the very different Kankakee mallow, known to science as *Iliamna remota*. *Iliamna Corei* was incorporated in the large new eighth edition of *Gray's Manual*.

The name *Corei* alluded to Dr. Earl L. Core, of the University of West Virginia, who was the original discoverer of the Peters Mountain plant. It seems unfortunate that, with the restrictions and limitations under which our systems of nomenclature operate, a commemorative collective name cannot be devised to honor the oft-times numerous pioneers in the study of plant life who have played an important role, though perhaps merely as laymen, in introducing a plant to science.

In the foregoing remarks I have sought to show by a few random examples how deeply conscious the staff members of Chicago Natural History Museum have been down through the years of the invaluable assistance given them by a host of friends and correspondents and how much they have depended upon this assistance. It is upon such co-operative effort that much of the Museum's claim to a high place in the

MUSEUM SAFARIS—

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recommends removing the entrails, packing the body with salt, and hanging it up by the legs to dry.

About two centuries later, in 1748, Reaumur, the celebrated French naturalist, published instructions on "Divers means for preserving from corruption dead birds . . ." outlining four methods: (a) skinning and stuffing, (b) putting in spirits of wine or very strong brandy, (c) embalming with powder, and (d) drying in an oven. There was still the problem of destruction of dried specimens by insects, but with the introduction about 1740 of the use of arsenic to keep bugs from eating the specimens, the way was opened for modern collections.

The late start that bird collections got is well illustrated by the British Museum, long one of the most important museums in the world, not only because of size and completeness of its bird collections but also because of its specimens of priceless historical value. Its bird collections started only about 200 years ago, in 1753, with the acquisition of Sir Hans Sloane's cabinet of 1,100 bird specimens.

MODERN METHOD

In the scientific world the standards of preparation of bird specimens have improved greatly. Now a museum bird specimen is prepared by skinning completely, turning the skin inside out like drawing off a glove, leaving the cleaned skull and wing and leg bones in the skin. The skin is coated with a preservative, preferably white arsenic to prevent insect damage, and turned right side out. It is filled with a spindle-shaped "body" of cotton or tow, with a slender stick or wire running from bill to tail. The bird is arranged with bill pointing ahead, wings folded, legs crossed, tail straight, and slightly spread. For all the world it looks like a dead bird, lying on its back, feathers smooth and clean. A last, and an all important point too often ignored by early collectors, is a label. The label is a must, and on it must be (a) locality and (b) date, at least. A specimen without a label loses much of its value.

These specimens, study skins they're called, can be completely prepared in the field on safari. They are compact and can be packed in boxes for shipment. Upon arrival at the Museum they're unpacked, sorted, and filed in our dust-proof cases readily available for study and comparison.

scientific world is securely founded. We can well afford to cultivate this co-operative effort most assiduously, knowing that upon it will depend, to a vast extent, the degree of success which our Museum attains as a great institution for the development of science and the advancement of knowledge of the world in which we live.

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Rand, Austin Loomer. 1955. "Safaris Mold Scientists and Enrich Our Museums." *Bulletin* 26(10), 5–11.

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