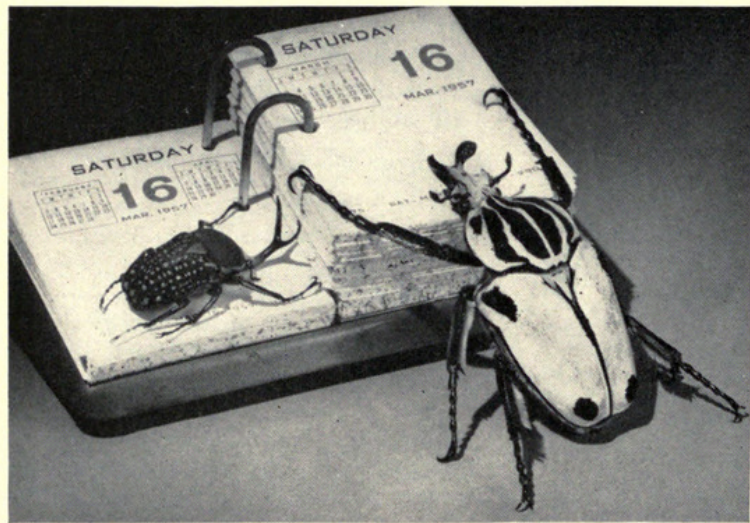


CURATOR COMMENTS ON BEETLES, COLLECTIONS, MUSEUMS

BY RUPERT L. WENZEL
CURATOR OF INSECTS

IN 1941 Chicago Natural History Museum acquired its first important specialized study-collection of beetles. This was a collection of the family Histeridae (the writer's specialty) that was formed by a New York publisher, Charles Ballou. Since that time a number of other outstanding collections of beetles (and other insects) have been acquired, several of them from abroad. The most recent of these were the Knirsch collections of cetoniid and lucanid beetles (see Museum BULLETIN, September, 1957). The articles written about these collections seem to have given some of our friends the impression that (1) our collections, especially of beetles, are tremendously large and that (2) the living world consists of nothing but beetles.

The first impression is misleading. The second, though not true, has enough truth in it that we almost believe it ourselves.



GOLIATHS—LARGE AND SMALL

Two goliath beetles display their variation in size and their highly decorative upper-sides. Both are from the Knirsch collection of more than 30,000 Cetoniid beetles recently acquired by Museum.

Though the beetles may not have inherited the earth, there is some reason for thinking they have.

There are more kinds of insects than of all other living things—animals and plants combined. From four-fifths to five-sixths of all animals are insects. Because there are no world catalogues available for most groups of insects, no one really knows how many species have been described, although estimates run as high as 1,500,000 species for the world. As a matter of fact, there are no recent catalogues for most groups for North America. However, a figure of 800,000 to 850,000 for the world is generally regarded as being reasonably accurate. New species are being described at the rate of about 5,000 to 6,000 per year, and projected estimates of the number of species that

actually exist range from 2 to 4 million, with 2 million as the minimum figure. About 41 per cent, or 350,000, of the described species are beetles!

THE FLOURISHING WEEVILS

If one recalls that there are about 46,000 species of birds, fishes, reptiles, and amphibians combined, the magnitude of the evolution that has taken place in the beetles can be somewhat appreciated. Beetles are divided into from 150 to more than 200 families, depending upon the classification followed. A family may contain a single species or as many as 50,000; a number of families include from 10,000 to 20,000 species. The figure of 50,000 species is for the largest family of organisms, the weevils.

The amazingly successful evolution of the weevils has been closely tied to that of flowering plants upon which most of them feed. Sir Guy Marshall, the world authority on the weevils, estimates, from the rate at

which they are being described, that the ultimate total of the species of weevils will be between 200,000 and 250,000! Yet, in spite of the fact that the weevils are of considerable economic importance, the writings on this large group are scattered, and the number of specialists who study it are few. There is not yet a published key to the subfamilies and tribes of weevils of the world. This partly refutes the prevalent idea that if a group of animals is of economic importance, it will necessarily be studied forthwith, and the

classification and associated problems neatly solved. In the case of the weevils, the work of classifying, describing, and cataloguing the species that exist will require the efforts of hundreds of specialists over a long period of time.

At any given time there may be no specialists for many major groups of beetles (or other insects as well) and large families may be unstudied, even on a local basis, for decades. There are as yet no modern monographic treatments that can be used for identification of most North American insects, and there are not apt to be for a long time, because most of the work is done by a relatively few individuals, on their own time and without special compensation other than personal gratification. Most are professional biologists, usually college and

university teachers, who pursue their research as a side interest in such time as they can spare from teaching or whatever else is their principal means of livelihood. A few are employees on the staffs of museums. A sizeable number are enthusiastic, often very capable amateurs. All require collections in order to work.

Today, most of the specialists build up rather small, highly specialized collections, which they usually deposit in a museum as gifts or bequests. They obtain their study specimens by (1) personally collecting them in the field (the field work usually paid for by themselves), (2) paying professional collectors abroad to secure their special materials for them, (3) borrowing museum specimens or studying them at museums, (4) exchanging with other specialists and with museums.

As stated, the specialist relies heavily upon museums to make available to him the collections of past authors and of unstudied materials that are amassed as a result of expeditions, purchases, etc. Museums get much of their material in the same ways as do the specialists, but on a larger scale, and with the important distinction that they build to a considerable extent upon collections of specialists. They function as trustees in perpetuity of the collections of past specialists, in order to expedite the research of the future.

LINNAEUS SPURRED RESEARCH

The work of Linnaeus gave impetus to a great flush of research in the fields of natural history in the 19th century. The colonial powers, through collectors and naturalists abroad, built great museums in order to house the samples of the fauna and flora which they were eagerly gathering and describing. Interest in natural history became and still is widespread among the literate peoples of these countries. Learned men of means often accumulated large, world-wide, general or specialized collections of great value, sometimes through expeditions of their own. Others have established their own museums. In these activities they were ably assisted by dealers who maintained large staffs of private collectors abroad. These dealers could offer extensive collections of insects that were of value to the specialists. It was only natural that a large percentage of the collections that were formed were of beetles. Beetles are most numerous and relatively easily preserved, are of great variety of form and ornamentation, and the larger ones are relatively easily studied.

In the period of growth of the great collections, the United States was a young growing nation, still relatively immature culturally. In entomology this was reflected by a shortage of people interested in the field. Those who did study insects

found the undescribed fauna of the expanding frontiers more than enough to occupy their energies. Hence, of the relatively few large collections that were formed, most were of United States insects.

Since World War I and, especially, World War II, the United States has undertaken to share or take over many technical commitments and interests in undeveloped countries that were previously almost exclusively the province of European powers. This has been true in systematic entomology too, in part because of the close dependence of many phases of economic and medical entomology upon systematics. Our horizons have broadened, apart from these commitments also. Unfortunately, although United States entomologists have been orienting their interests outwardly for some time, the basic world-wide collections that they need are, with a few notable exceptions, largely lacking. Our largest museum collections are still very small by comparison with those of even the smaller European museums, to say nothing of the British, Paris, Berlin, and Vienna museums.

HUGE COLLECTIONS

The largest museum collection in the United States numbers several million specimens. Several other collections—including those of several of the university museums—number between a million and a half and two million specimens. Chicago Natural History Museum's collection numbers a little more than a million specimens, of which about 600,000—or a little more than their proportional representation in nature—are beetles. In contrast, the British Museum collections total more than 10 million specimens, of which 4 to 5 million are beetles. No exact figure is available for the Paris Museum. Its beetle collection was about the size of that of the British Museum until recently, when Paris acquired the René Obertür collection. This fabulous collection alone numbered almost 5 million specimens, most of them beetles. Because of the combination of circumstances that produced the large basic insect collections in Europe, as well as of certain cultural factors currently at work on the American scene, the insect collections of the principal United States museums can probably never be the equal of those in European museums.

It will be a long time before we will have collections that are comprehensive enough to enable American systematic entomologists to fulfill that part of the world role that is their inheritance. These basic collections cannot be formed as easily as they were in Europe during the 19th and early 20th centuries, but energetic field work and acquisition of collections, when they are available, will help to overcome this lag. Recent acquisitions from abroad of several important beetle collections by Chicago

Natural History Museum, the Museum of Comparative Zoology at Harvard, and the U. S. National Museum are steps in this direction.

Technical Publications

The following technical publications were issued recently by the Museum:

Fieldiana: Geology, Vol. 10, No. 26. *Fauna of the Vale and Choza: 12. A New Trematopsid Amphibian from the Vale Formation.* By Everett Claire Olson. 6 pages, 2 illustrations. 15c.

Fieldiana: Geology, Vol. 10, No. 27. *Fauna of the Vale and Choza: 13. Diadectes, Xenacanthus, and Specimens of Uncertain Affinities.* By Everett Claire Olson. 6 pages, 2 illustrations. 15c.

STAFF NOTES

Matthew S. Moroney, a member of the Museum Guard force since September 1, 1952, has been appointed Captain of the Guard to succeed Captain Frank Meinke, who retired in September. Captain Moroney is a native Chicagoan who retired from the Illinois Bell Telephone Company in 1948 after more than 40 years of service As official delegate of the American Anthropological



Matthew S. Moroney

Association, **Phillip H. Lewis**, Assistant Curator of Primitive Art in the Department of Anthropology, participated last month in a symposium, "The Artist in Tribal Society," at the Royal Anthropological Institute, London, where he presented a paper entitled "The Artist in New Ireland Society." The paper was one of five papers that described activities of primitive artists of various parts of the world, and discussion was directed toward abstracting theoretical knowledge of primitive art **Loren P. Woods**, Curator of Fishes, left for Trinidad, where he will board the U. S. Fish and Wildlife motor vessel *Oregon* for a four-week exploratory fishing cruise in the offshore waters along the coast of the Guianas and Brazil **George I. Quimby**, Curator of North American Archaeology and Ethnology, recently returned from a study trip in northeast Wisconsin and upper Michigan, where he examined museum collections and archaeological sites **Dr. Eugene S. Richardson, Jr.**, Curator of Fossil Invertebrates, last month spoke on "Natural Science as a Career" before a seminar at Lake Forest Academy, Lake Forest, Illinois.

ALBERT J. FRANZEN 1901-1957



The Museum regrets to report the death of Albert J. Franzen, Preparator and Taxidermist for the Department of the N. W. Harris Public School Extension of the Museum. He died on October 22 at a Chicago hospital after a lingering illness.

Born June 17, 1901, at Darien, Wisconsin, Mr. Franzen joined the staff of Harris Extension as a taxidermist in 1927, and in 1944 he was appointed Preparator and Taxidermist. He devoted thirty years of faithful service to the Museum before he became ill several months ago. He is survived by his wife, Frieda, and two daughters, Marilyn and Arlene, all of Chicago.

'Wanderland' Is Next Audubon Screen-Tour

"Wanderland," the second screen-tour of the Illinois Audubon Society's 1957-58 season, will be presented at 2:30 o'clock on Sunday afternoon, November 10, in the James Simpson Theatre of the Museum. William H. Wagoner, Jr., lecturer for the National Audubon Society, and his wife, June, will bring to the audience scenes and stories of the wonders of the outdoors—of animal and plant life on mountain peaks, beneath the sea, in the desert, and in jungles, forests, and swamps.

The remaining three Audubon Society screen-tours will be given at the Museum in January, February, and March. All programs are free.

Winter Visiting Hours at the Museum

Winter visiting hours, 9 A.M. to 4 P.M. (5 P.M. on Sundays), went into effect at the Museum on October 15 and will continue in effect until February 28.

Some amazing anatomical structures found in bats are illustrated by models on exhibition in Hall 15.



Wenzel, Rupert L. 1957. "Curator Comments on Beetles, Collections, Museums." *Bulletin* 28(11), 6–7.

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