

# ARTS AND SCIENCE

An able staff of artists use their talents to aid the Museum research effort.

By Patricia M. Williams

FIELD MUSEUM's series of scientific publications, *Fieldiana*, has long been recognized as a fine record of scientific research and achievement in the Museum's four fields of interest—Zoology, Geology, Botany and Anthropology. The successful presentation of this research has been due in no small measure to consistently excellent scientific illustration.

Illustrations for *Fieldiana* have been done by staff artists, independent artists on commission and, occasionally, by the author himself. Henry Dybas, Associate Curator, Insects, has added technique to talent to produce many of his own drawings.

Artistic ability has also been discovered among staff members engaged in other Museum work. Janet Wright, then Secretary to the Division of Amphibians and Reptiles, contributed many fine drawings to the publications of Dr. Robert Inger and Mr. Hyman Marx. Mrs. Lenore Warner of the Department of Botany, has recently provided a number of illustrations for Dr. Louis Williams' "Tropical American Plants." Joan Davis Levin learned the art of scientific illustration while working as assistant to the late Dr. Dwight D. Davis and her work appeared in his widely acclaimed monograph "The Giant Panda." This publication was "in the works" for many years and the illustrations in it represent the work of a number of artists, one of whom had spent many years as an engraver. His work is easily recognized by its minute and exquisite detail.

The use of color in *Fieldiana* is practically non-existent because of its high cost, therefore, most of *Fieldiana*'s illustrations are rendered in pen-and-ink and, occasionally, in pencil. Recently, however, several interesting variations have been seen. Ranier Zangerl, Chief Curator, Geology, used pencil on acetate for his drawings in "A New Shark of the Family Edestidae." Douglas Tibbitts, a former staff artist now free-lancing, uses pen-and-ink in combination with a wash for his bird illustrations to appear in Emmett R. Blake's *Manual of Neotropical Birds*.

As is true in all things, professional and personal, communication is a major problem for the science illustrator. For the scientist to adequately convey what he sees in his mind's eye to the artist is an often frustrating and time-consuming process. Once a rapport has been established between artist and scientist, the work can move quickly and satisfyingly for all involved.

The commercial artist is free to distort his subject to achieve the desired "image." For example, a car may be drawn longer and lower than it actually is, a refrigerator may appear taller and slimmer than it is in fact. Also, the com-



Artist Marion Pahl working on an insect exhibit. Miss Pahl, like many artists on the staff, works in the Department of Exhibition, as well as doing scientific drawings, charts and maps for individual scientists.

mercial illustration must frequently connote the subject's intangible qualities. A bottle of soda-pop must seem at once to be not only cold and refreshing, but zestful, youthful and gay, as well.

The "popular" artist may portray a snake as an exotic, sinister reptile, eyes glittering with evil as it slithers sinuously out of the firelight into the shadows. In *Fieldiana*, the same snake would be a neatly tagged and coiled specimen carefully arranged to best show individual variation in scale pattern of the species.

Because the illustrations in the series are meant to be used as aids to research and not as decorations, the artist must strive for faithful reproduction and absolute accuracy. A flower need not appear to be dew-drenched and fragrant. In fact, it is far better if it does not. The dewiness may imply a scientifically inaccurate texture.

Although a scientific illustration may not be a deliberate expression of the artist's personality, like handwriting, it always bears the inescapable imprint of the individual. John Pfiffner's bold, sure pen-stroke; the delicate, lace-like quality of Lenore Warner's botanical drawings; and the fine precision of Marge Moran's mollusk illustrations are all unmistakably unique.

Even though photographs are more quickly done and, therefore, less expensive, it is sometimes impossible to use this method. For example, an anthropologist may wish to pictorially recreate a scene from the past featuring artifacts he



has studied; or a botanist may base the description of a new genus on field notes and the study of a dried plant specimen. A photograph of such a specimen could not adequately indicate the stamens, calyx, pistils, etc. or picture the flower as it appears in life. A fossil, because of its angle of projection, size or texture may not photograph adequately for use in scientific study.

However, the Museum's Division of Photography, under the leadership of John Bayalis, has long since proven that when photographs are used they can be enormously effective. Homer Holdren, who has had wide experience as a commercial photographer, brought his own style to many *Fieldiana* plates. Whenever possible he uses light and shadow to highlight texture, brighten a luster, create interest and, always, to show a specimen to its greatest advantage.

Many of the photographs appearing in *Fieldiana*, especially those taken "on location," have been taken by the scientists themselves. When in Borneo Dr. Robert Inger, Curator, Amphibians and Reptiles, rigged up a system of lights and wires and, using infra-red film, was able to photograph nocturnal animals in their natural habitat. Dr. Louis Williams, Chief Curator, Botany, has taken hundreds of pictures of Central America—a number of which have appeared in *Fieldiana*. Loren Woods, Curator, Fishes, and his ubiquitous Minox went shutter-clicking across the Indian Ocean to return with a pictorial record of the expedition. Hymen Marx, Assistant Curator, Reptiles, has made many fine photographs of reptiles in the lab and several of these have appeared in *Fieldiana*.

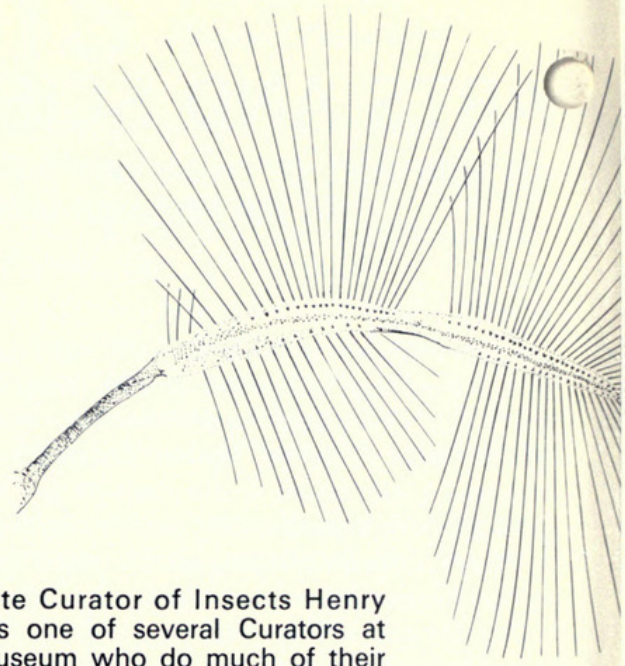
Whether drawings or photographs, the editors of *Fieldiana* have always made every effort to obtain the finest plate-making services available to do full justice to the illustrations. Finally, the printers of the Museum Press, notably William and George Sebela, a father-son team without peer in their craft, use their considerable skill to assure quality on the printed page.

It becomes evident, then, that excellence is the natural result of the care and skill spent on *Fieldiana's* illustrations from their conception in the scientist's mind to their ultimate printed reproduction.

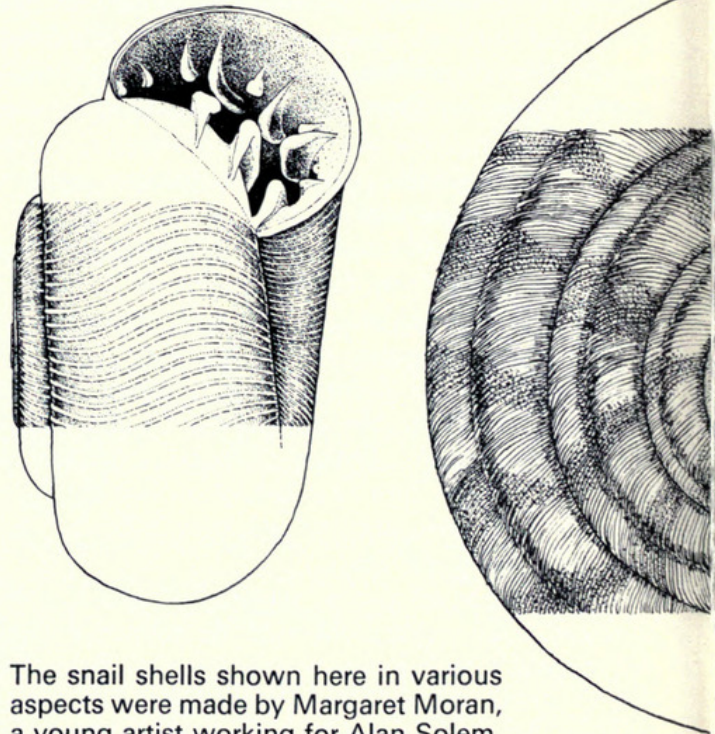
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This month's Cover shows two drawings in wash and pencil by Douglas Tibbitts, a former Museum staff member who now does free-lance work for Emmet Blake, Curator of Birds. Tibbitts is preparing the illustrations for the *Manual of Neotropical Birds*. These drawings represent an interesting innovation in ornithological illustration. The taxonomically important details of the bird are shown in line around a portrait of the bird as it appears in life. Top drawing shows the California Quail, *Lophortyx californicus*; the lower bird is the Buff-crowned Wood-Quail, *Dendrortyx leucophrys*.

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Associate Curator of Insects Henry Dybas is one of several Curators at Field Museum who do much of their own artwork. Dybas is self-taught. Shown here is a drawing of a wing from a feather-wing beetle. Dybas drew the wing magnified 100 times. Readers may recall that a photograph of a similar wing appeared on the cover of the BULLETIN in April 1966.



The snail shells shown here in various aspects were made by Margaret Moran, a young artist working for Alan Solem, Curator of Lower Invertebrates. Miss Moran's technique is so painstaking, detailed and exact, that often, as in these, only a section of the shell is shown.





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