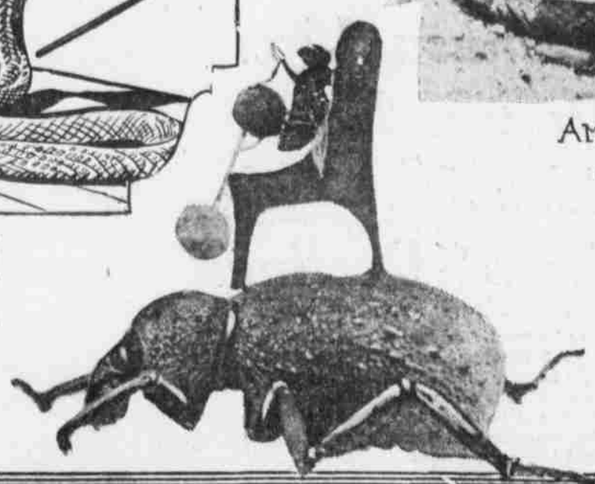
Photographing Skunks, Snakes, Spiders and Bugs

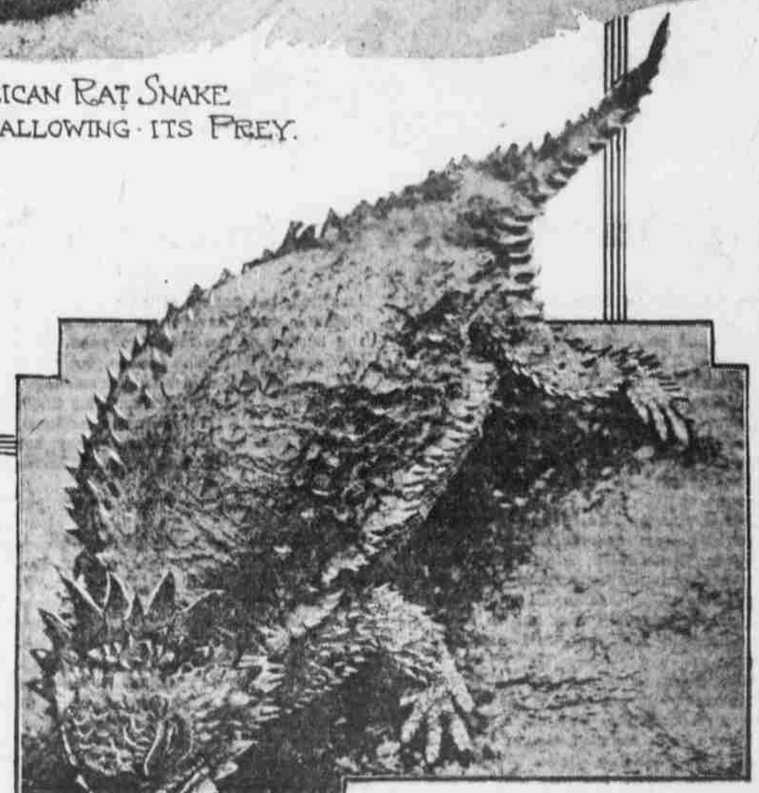
Prof. Raymond L. Ditmars, Curator of Reptiles, New York Zoological Park, Who Made the Remarkable Moving Pictures of the Lower Creatures' Domestic Life.

Prof. Ditmars Explains How He Managed to Get Remarkable Motion Pictures of the Intimate Family Life of Many Strange Creatures

AMERICAN RAT SNAKE SWALLOWING ITS PREY.

"Mrs. Ditmars flicked her handkerchief at the cobra, which then sprang at her. At the same time the moving picture camera was thrust forward and its electric-turning motor started. All wore goggles to shield their eyes from the poison ejected by the snake."





A Juggling Fly on an Elephant Beetle—One of the Strangest Motion Pictures Ever Prepared—The Idea Was Suggested by Mrs. Ditmars.

A Horned Toad About to Devour an Unwary Cricket.

A Turtle About to Breakfast Upon a Frog

By Prof. Raymond L. Ditmars

Curator of Reptiles at the New York Zoological Park.

THERE are many traits in animal life that parallel the events of the human race. There is much humor, pathos and tragedy in Nature that would fill a vast book that has not yet been written. It was upon this field of wild life that I determined to point the moving picture camera and show animals as they actually live, play and die.

The mind of the scientific man may grasp the scope of his field, but it needs a more sympathetic mind to search for inspirations in work like this. Mrs. Ditmars has voiced many ideas in the completion of these pictures and has spent many hours in the seething lights of the studio, exposed to the various dangers in the handling of wild animals and poisonous reptiles. I remember one instance in particular where my wife furnished the inspiration for an especially startling scene, that the observer could see in but one way—and remain alive—and that is upon the motion picture screen. We were filming the deadly ring-necked cobra, a species that spits its venom toward the eyes of the intruder. Mrs. Ditmars had been watching the operation from the far end of the studio, where we entreated her to remain. The sorely frightened camera operator was manipulating the instrument about fifteen feet from the cobra.

"The glassy stare of that snake is positively uncanny," said Mrs. Ditmars. "How wonderful it would be if the camera could look him straight in the eye and picture him as I see him now!"

Her advice was followed. We put on auto goggles to protect our eyes from the spurted poison. The camera was focused upon a spot not four feet away, then belted to an electric motor. With a long pole we held the snake before the machine and commenced to photograph. Mrs. Ditmars was not satisfied. She wanted the snake to rear and pose. Coming to the elevated stage she flicked a handkerchief at the reptile, which reared to meet her.

It struck and posed again, then darted with such force as to slide from the platform and fall almost at my wife's feet. I reached forward to swing her away, but she had jumped upon the housing of an electrical coil, and the snake darted away under her feet, sending the electrician rushing through the door to safety. It will take some time to forget that tragic moment, but Mrs. Ditmars thus prepared a scene that may never again be duplicated. When the film was screened the cobra appeared to literally darken the auditorium with the spread of his ominous hood, while the terrible head with the glassy eyes looked down in malignant fashion. And then the creature, with an expression of blind fury—strikes. It is that stroke that placed my wife's life in deadly peril, and I give her all credit for this wonderful delineation of reptilian anger.

With many scenes in which excessively timid animals are involved my wife and I go about the work alone. Things often move swiftly, and we feel that any additional help would be more of a hindrance than a benefit. In the illumination of mercury vapor, we were taking a scene that illustrated the moonlight prowlings of the lance-head snake, the lethal fangs of which cause many fatalities among the sugar plantations of tropical America. A prowling animal is supposed to alarm the snake.

At first there is but a slight movement of the diamond-shaped head, the lithe body is suddenly contorted in S-shaped loops, and the enraged serpent is seen to hurl himself forward with the vehemence and precision of a suddenly released steel spring. One might fear the monster has jumped off the screen into the audience. Actually, the venomous reptile had thus hurled himself at Mrs. Ditmars, who had been working the camera when this picture was being taken. It fell within a foot of her shoes, and she saved herself only by the hastiest of retreats.

I remember but one instance when Mrs. Ditmars voiced any objection to enthusiastically assisting in the production of these pictures. This was upon a quite recent occasion when we were filming the home-life of an untamed and consequently dangerous family of skunks. No disagreeable events transpired, but Mrs. Ditmars was exceedingly cautious in obtaining close-up life studies of the father skunk while the writer was engaging the animal's attention and causing it to wave the plumed tail.

Throughout the difficulties in completing these pictures, my wife's ingenuity and patience are apparent. By experiment she made possible a really amazing scene—the juggling fly. Upon this scene was based a reel called "The Jungle Circus," showing the wild creatures performing all sorts of natural acrobatics. The fly in question was one of many dozens put through series of experiments until it enters the arena on the back of the elephant beetle and gives an exhibition of actual juggling. Likewise my wife experimented with singing insects, sorting out those examples bold enough to show the eccentric methods of "singing," by scraping the wings or rubbing the long hind legs.

My entire family has thus helped me in the preparation of these scenes, as Gladys, a child of ten, has been the "keeper" of the more delicate kinds, rearing her delicate charges in the wonderful insect cages constructed by the Japanese.

A considerable amount of motion picture material has recorded big game at home, and we are always fascinated to note large animals in a natural environment. At first there was a startling originality about the possibility of showing herds of zebras, elephants and the like in their native lands, but when we stop to carefully analyze the value of these films we realize that a considerable portion of them does not teach us anything particularly new. It is possible to observe and study the movements of all these creatures in zoological gardens. The writer has seen a few of these films that brought out specific wild habits and delineated conditions that were especially instructive, but films of this type are much in the minority. If advantage is to be taken of the great possibilities of portraying nature with the motion picture camera, the photographer should seek animals amid environment that elucidates facts new to the greater number of students, or causes his subjects to illustrate characteristic habits.

The work of photographing mammals, reptiles and insects demands much varied ingenuity. Some of the mammals, that are large enough to be dangerous, take many liberties in the studio and at times do considerable damage. In order to avoid any trace of cagework in the pictures the subjects have the free run of the place and are enticed upon the stages with food or by rock shelters built for them. The promptings of a hungry stomach are found to be the most effective in the stage management of this theatre of Nature, and many of the pictures are made at the period of feeding time.

The prowling of a hungry ocelot or tiger cat is a good illustration of animal management. For several days this creature's food had been concealed in different locations of the stage—sometimes hidden among the rocks or concealed in the branch of a tree. The picture was taken as the cat started to search for the food, crouching, scenting and alertly peering about.

The development of the eggs of frogs and toads was obtained with a camera set before a Bohemian glass jar and from the same position recording a few feet of film each day. One of these cameras did such duty for a period of two months, thus placing this instrument hors-de-combat for all other laboratory work. The life history of several spiders was obtained in like fashion. The story of a large species of Lycosa, or wolf spider, was recorded throughout upon the same "field"—a gravelly hollow six inches square. After each photograph the enclosure was covered with a bell-glass and wet sponge to provide the proper moisture, for many spiders are particularly delicate as captives.

The care of this spider was more laborious than that of a large animal. Soft-bodied grubs were hunted for her, and she received drinking water by permitting miniature drops to run to the end of a broom straw. These precautions were necessary in preserving the absolute cleanliness of her tiny yard, which on the projecting screen will be magnified thousands of areas. The spinning of her egg cocoons was successfully accomplished, and we waited with much anxiety the time when the young spiders would emerge and crawl upon the parent's back—hundreds of them—presenting an indescribable spectacle. This chapter of the family history was recorded, and there was a wait of eight days when the infants would swarm from the mother's back and shift for themselves.

This process may be spectacularly inaugurated by a sudden vibration of the ground, causing the parent to jump—then a riot of the spiderlings swarms over the ground. An additional camera was trained into the field, for once the dispersal takes place, all is over and the little spiders are gone. The critical time, when the youngsters appeared uneasy, arrived on a humid evening, when a heavy electrical storm was breaking. The rectifiers for the mercury vapor lamps were already giving some trouble as the cameras were adjusted.

With the cameras running, the metal stand containing the spider arena was vibrated by a steel ball dropped upon it and the spider family departed to all points of the compass. This was an event we had anxiously awaited, and luck appeared to be with the photographer. As the electrician prepared to throw out the main switch and extinguish the illuminating batteries, lightning followed the feed wires into the studio and gave us a week's work repairing burned-out parts. But the history of the spider family was completed, minus a few feet of film to show the exit of the more laggard members.

So many of the insects are tiny, almost microscopic creatures, and so many of them perform their characteristic capers in inaccessible places, that the value of greatly enlarged motion picture portrayals opens previously impossible opportunities for studio and observations in the school room. By these methods students are enabled to see habits the greater number of them would never in any other way observe. Not one child in a million has seen the katydid singing; the preying mantis rear in frightful pose, grasp and devour a fly; the toilette of a gaudy grasshopper as she carefully brushes pollen dust from her face, or the spider, presented as a terrific monster and seen upon the screen as the fly sees this terrible enemy of the insect legions.

To induce web-spinning spiders to construct nurseries it was necessary to build cases painted black inside, make the spider feel at home by keeping her quiet for some time, feeding her and giving her water, when she usually hatched her young, spun her nursery and stood guard over it. Then the case was placed upon the photographic table, the camera adjusted and a cruel deed performed. The photographer destroyed the silken nursery, removed the tangled ruin while the baby spiders ran frantically about their distracted mother—who immediately started the construction of a new and generally more elaborate nursery; and while she was doing this and her infants were being reinstalled the camera was steadily clicking away, to later tell the story on the projecting screen.

To photograph the katydid singing by a scraping of its wings was a difficult matter. This insect sings only at night. A light of any kind will stop it. Yet to photograph a singing specimen at night meant that a stream of powerful electric light must be turned upon the songster. The deed was done in a grove of young oaks close to the studio. Several dozen katydids were placed in the trees, and the camera, on a high tripod, focused on the vegetation of a tree in the centre of the grove. The instrument, with special long focus lens, was to record the movement of a single insect that watched all proceedings, but remained silent owing to our close arrangements with the machines. The camera was then belted to a small motor, so that no operator would stand by the instrument to disturb the insect. A searchlight, such as is used in the navy, was then trained on the single tree in which reposed the actor, its powerful rays making photography possible. With the remainder of the grove in darkness the decoy katydids sang vigorously. In the intense beam of violet light this musician of nature was seen turning slowly.

Was it irritated by the light, and would it crawl from the lines of focus?

This would mean much labor in moving the heavy apparatus in what seemed a fruitless and costly experiment. But its uneasiness was caused by the saucy taunts of the decoys. Its wings were elevated slightly. It could not resist answering some of those rasping calls. The man behind the searchlight could be seen glistening with perspiration as he "fed" the carbon of the great arc light. The writer's fingers were upon the switch of the camera motor. Then the insect's wings began to rhythmically move and another chant was added to the chorus of "Katydid, katydidn't"—and so it continued until the picture was taken. And now this picture may be seen by thousands of children who never knew how insects "sing."

Mending Broken Bones with Rugs

CATGUT woven in the form of a little rug with long fringed ends is the newest method for holding the ends of a fractured bone in place until they have had time to knit together.

The rug is woven on a hand loom, the gut first being wet so it can be woven more closely. It is made just a little shorter than the circumference of the bone and the fringed ends are used to tie it around the injured member just as you would a splint.

Experiments with these catgut rugs on a number of dogs have shown them to be superior to any other kind of splints in the treatment of fractures. When the fracture is mended the catgut is not removed but is allowed to remain and become absorbed by the flesh. In a number of cases the absorption was so complete that by the end of three weeks not a trace of the splint could be seen.

By an ingenious method of weaving, only two sizes of the rugs are needed for the treatment of fractures in the human body—one for large bones, the other for small ones. This is accomplished by having the strands that run the long way of the rug made up of separate fibers while those running across the fabric are made of one long continuous strand which is alternately woven over and under the long parallel strands.

In applying the catgut rug to a broken bone the rug is of course first carefully sterilized. Then the bone ends are exposed, the muscles gently separated from them and the rug introduced around the bone. Great care has to be taken in doing this not to injure or displace the bone's delicate membrane.

When the surgeon is sure that the line of fracture is at the exact centre of the rug he begins tying the two opposite free ends of each of the longitudinal strands o catgut. Should it seem desirable to make them splint still stronger the ends remaining are quite long enough to wind and to tie again beore cutting off.

As soon as the rug is in place the limb is put in a plaster cast and kept there for three or four weeks.