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CROCODILES, PERILOUSLY COLLECTED BY HUNTERS IN CANOE, NOW EXHIBITED

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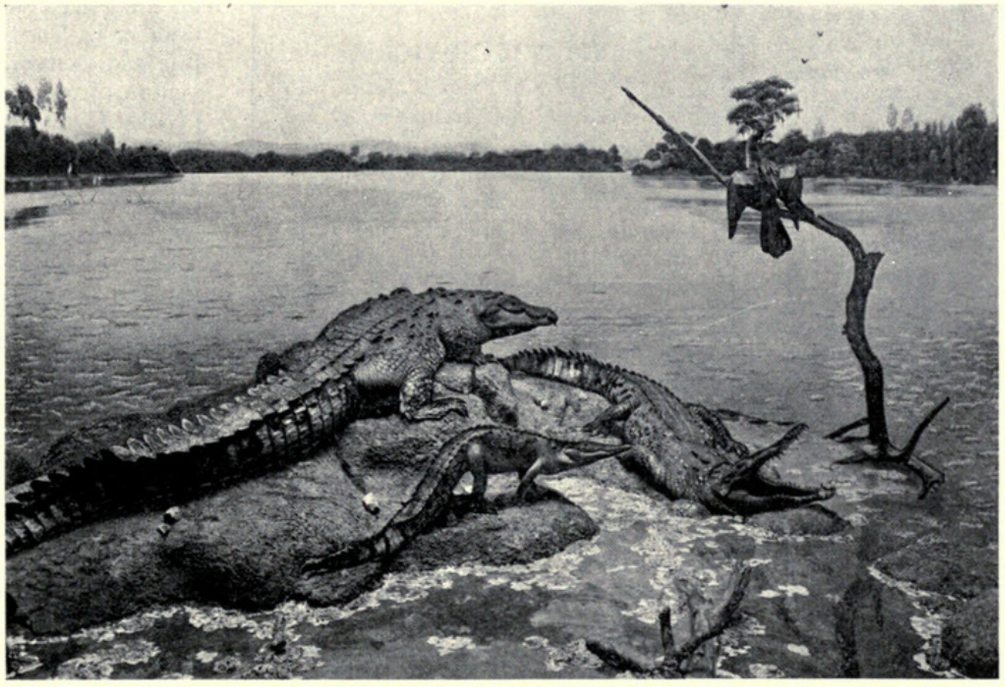
The lifelike representation of reptiles for museum exhibition was for a long time a major problem of modern taxidermy. This craft, as applied to the exhibition of birds and mammals, was raised to the level of a genuine art by Carl E. Akeley and other critical museum workers in the 'nineties. During subsequent years there was a great development of museum exhibition in the direction of the habitat group, a portrayal of finely mounted individual animals in their natural environment, reproduced with artificial vegetation and with a painted landscape background. In this kind of exhibit, which has steadily increased in popularity, reptiles and amphibians had little place because of the difficulties of preparing mounted specimens or models in any way comparable to the results obtained with bird and mammal skins.

The solution of the problem of making wholly lifelike exhibition models of reptiles by the use of celluloid as a casting medium was accomplished by Mr. Leon L. Walters in the laboratories of Field Museum. Staff Taxidermist Walters' early experiments proved that celluloid, dissolved to form a thick liquid and mixed with the pigments desired, dried to form a material exactly resembling reptile scales. By the early nineteen-twenties, this technique of reproducing reptiles as celluloid models for museum exhibition had been perfected; it is now generally referred to among museum workers here and elsewhere as "the Walters Process."

The opportunity afforded by a reorganization of the Museum's zoological divisions in 1922, with a newly established separate Division of Reptiles, was made the occasion for an expedition to the Central American tropics in which Mr. Walters and the writer were associated. It was desired to apply the new exhibition techniques to larger reptiles, and especially to a habitat group.

For the habitat group we chose the American crocodile, widespread in Central America (the same species is found also in the West Indies and in southern Florida). We were extremely fortunate in finding for our crocodile hunting a locality of great biological interest, where, at the same time, the actual collecting of the crocodiles could be efficiently undertaken.



CROCODILES ON LAKE TICAMAYA, HONDURAS

Habitat group of great American reptiles, as now exhibited in Albert W. Harris Hall (Hall 18). The collecting of these animals was an outstanding adventure in the careers of Chief Curator K. P. Schmidt and Taxidermist L. L. Walters.

Lake Ticamaya, a shallow but good-sized body of water in the Ulna River valley in Honduras, proved to be a veritable lake of crocodiles. Sitting in concealment on the bank, we could count as many as seventy-five heads of crocodiles floating at the surface of the water in a single bay, and the glowing red eyes showed on every hand at night when we set forth with the dugout canoe and jacklight. The picturesque shores, wooded with the gigantic cohune palm and hardwood trees hung with Spanish moss, are overgrown with cat-tail in the bays, but have sand and gravel or even rocky banks on the projecting points on which the crocodiles haul out to sun themselves, sometimes evenly spaced in a row.

The water of Lake Ticamaya is filled with microscopic plant life to such a degree as to give it the consistency and color of pea soup. The extremely soft mud at the bottom, probably formed by the death of this plant material, gives off marsh gas. This, together with oxygen given off by the living algae, rises to the surface and forms a bubbly scum, which is driven by the wind to lee shores and accumulates as varicolored mats, often in regular zones of green, pink, and brown, parallel to the shore.

These singular conditions determine the method of hunting crocodiles in common use at the lake. The ooze at the bottom gives off gas at the slightest touch, and a slowly moving submerged crocodile can accordingly be followed by means of tracks of persistent bubbles which register on the surface above him every footprint of the hind feet below. A fair estimate of the size of the crocodile can be made from the breadth of his bubble trail. With this means of following individual crocodiles, it is possible to get into advantageous position for harpooning them.

We found it necessary to hunt early in the morning before the forenoon wind disturbs the surface of the water. With harpoon, .22 rifle, 30-caliber Winchester in case of trouble, and single paddles, we set out from our camp to one of the upper bays on the lake. There is no trouble in finding a fresh crocodile "bubble trail," as the shy crocodiles attempt to walk away on the bottom when anyone approaches. The harpooner stands in the front of the dugout, and the paddler closely follows

the trail. Trial casts of the harpoon frighten the crocodile, and he dashes off under water, leaving a shooting trail of bubbles. All the strength of the paddler is required to keep up with him.

HUNTER OVERBOARD AMONG "CROCS"

With continued pursuit, the crocodile invariably gives up his under-water tactics and swims at the surface. The canoe is then driven forward, and the harpoon cast into the crocodile's back. It is then well to pay out the rope rapidly, to avoid possible attack. With fifty feet of rope, the crocodile can be played like a gigantic fish; he soon tires but it proves impossible to tow him with the canoe. It is necessary for one of us to strip and step into the waist-deep crocodile-filled water. With the rope over his shoulder and a steady pull the hunter can then land the animal on a rocky portion of the shore. We found that our largest specimens could be killed by a vertical shot into the neck with the .22 pistol.

Obtaining the specimens is only the beginning—then follows the arduous work of mold-making. The task of making plaster of Paris molds of the larger crocodiles occupied a large share of the three weeks we spent at the lake, and had to be done under difficulties. The body of the freshly killed specimen (the largest weighed more than half a ton) had to be transported to the nearest beach which we could reach with our barrels of plaster. The posing of our reptilian monsters was an important matter, since the positions chosen were necessarily final. The algae-filled water of the lake could not be used in mixing the plaster, and shallow wells had to be dug near the lake shore, into which clear water filtered through the sandy mud.

A RACE AGAINST TIME

We applied the plaster of Paris in two layers: a thin inner one of smooth plaster was followed immediately by a heavy outer one laid on with masses of tow soaked in plaster. Working together at top speed, it took us until past midnight of the day on which our specimen was killed to complete the work for the body alone, and on the following morning there was a continued race between the application of the plaster and the advance of decomposition.

The packing of these large shells of plaster for transportation to Chicago was in itself a difficult problem. The largest pieces of mold were six feet in length. We purchased rough lumber at the mill in San Pedro, hauled it out by ox-cart, and built three large packingboxes, each six and a half feet long, three and a half feet wide, and a foot and a half deep. Frames of straight green poles were fitted inside these boxes, and the molds were lashed inside the springy frames. This arrangement, devised largely by Mr. Walters, proved so effective that the huge plaster shells of our four complete molds of crocodiles reached the Museum without damage.

The final construction of the crocodile models in the Museum required more than a year's work by Mr. Walters. These specimens, recently reinstalled in the Hall of Reptiles (Albert W. Harris Hall, Hall 18) include an eleven-footer in the typical lazy pose of a sunning crocodile; a specimen with mouth wide open, also a familiar sight at the lake; a juvenile specimen in the remarkably dinosaur-like pose taken when getting on its feet preparatory to walking into the water; and a floating specimen with only the upper surface of its head exposed. Something of the wealth of bird life at the lake is shown in the foreground by a long-toed jacana walking on the floating scum, and a snake bird sitting in characteristic pose on a dead limb. The panoramic background by Staff Artist Arthur G. Rueckert reproduces the dense vegetation of the shores thronged with sunning crocodiles. In the sky are seen egrets, and the ever present wheeling vultures.

SPECIAL NOTICE

All Members of Field Museum who have changed their residence, or are planning to do so, are earnestly urged to notify the Museum at once of their new addresses, so that copies of FIELD MUSEUM NEWS and all other communications from the Museum may reach them promptly.

PALEONTOLOGICAL EXPEDITION COLLECTS RARE SPECIMENS

Several specimens of one of the earliest large mammals to walk the earth—the rare *Coryphodon*, a creature about the size of a hippopotamus, but in its special characteristics unlike any animal living today—have been discovered by the Colorado Paleontological Expedition of Field Museum. This is revealed in a recent report from Mr. Bryan Patterson, Assistant Curator of Paleontology and leader of the expedition.

Mr. Patterson, and his associates—who include James H. Quinn of the Museum staff, John and Robert Schmidt, and Ellsworth Shaw, all of Homewood, Ill., and Edwin Galbreath, of Ashmore, Ill.—have completed reconnaissance, and are now in the midst of excavating operations to remove the specimens they have located from the rocks in which they are deeply and firmly imbedded. The sites where work is being conducted are on the western slope of the Rocky Mountains in Colorado.

The *Coryphodon* lived in the early Eocene period, or about 50,000,000 to 60,000,000 years ago. It has no modern relatives. Until now, there have been only three reasonably complete Coryphodon skeletons in the world. Mr. Patterson's report indicates that Field Museum will have an extensive collection including several complete skeletons and a number of skulls, leg bones, jaws, vertebrae, etc.

The rare animal is a member of the Pantodonta, a group comprising only very primitive types of hoofed mammals. It was overtaken by extinction even before the end of the Eocene period, which was the earliest part of the Age of Mammals. The bones indicate that the animal resembled a hippopotamus only in size and stocky build—it was extremely short in stature for its length, and its head was disproportionately large for its body.

Specimens of various other prehistoric animals that inhabited Colorado millions of years ago are also being collected.

RAYMOND FOUNDATION FILMS OFFERED FOR CHILDREN

The James Nelson and Anna Louise Raymond Foundation for Public School and Children's Lectures will present its autumn series of nine free motion picture programs for children on Saturday mornings beginning October 4. The first program, "Indian Lore, Life and Culture," features, in addition to motion pictures, a personal appearance by Charles Eagle Plume, who is partly Indian himself. He will tell the children the story of the life of the original Americans. He will wear tribal costumes and illustrate his subject with various dances.

The complete schedule of the programs through November will appear in the next issue of FIELD MUSEUM NEWS. All are to be presented twice, at 10 and 11 A.M., in the James Simpson Theatre of the Museum. Admission is free, and no tickets are necessary. Children from all parts of Chicago and suburbs are invited, and they may come alone, accompanied by adults, or in groups from schools and other centers.

Mineralogist Completes Expedition; Enters Service of U.S

Mr. Bryant Mather, Assistant Curator of Mineralogy, returned on August 8 from six weeks spent in eastern states collecting mineral specimens. He visited many areas from which Field Museum's collections lacked specimens. Of these, certain regions in eastern Pennsylvania, New Jersey, Virginia, and northern Maryland yielded interesting and valuable collections.

Mineralogists from Baltimore, Washington, and Philadelphia museums, from Johns Hopkins and Princeton Universities, and from Bryn Mawr College generously gave their time, information, and assistance in field collecting. Approximately 1,000 specimens were obtained.

Mr. Mather is now on leave of absence from the Museum to serve an emergency appointment in a civilian capacity under the direction of the Corps of Engineers of the United States Army. He reported for assignment at The Concrete Laboratory, West Point, New York.