

Interesting Animals Never Seen in Zoos

Zoology



*THE DUCK-BILLED PLATYPUS, known to zoologists as *Ornithorhynchus anatinus*, is peculiar because it lays eggs but suckles its young. A native of Australia, all attempts to bring one to America in captivity have been vain, though a specimen of its close relative, the echidna, has survived for many years in the Philadelphia zoological garden*

By WILLIAM M. MANN

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Some of the world's most interesting animals never have been seen in the United States. Others appear in American exhibits so infrequently that they are known to the general public only from stuffed specimens in museums or pictures in zoology textbooks.

No zoo can hope to present a complete collection of the animals of the globe. The great and inevitable gaps are due to a variety of reasons. In the first place, no zoo could hold all the animals, even if provided with all the buildings appealed for annually in the official report. Many creatures can not, or will not, live in captivity. This weakness may be purely physical, as is the case with some of the delicate and beautiful South American monkeys in whom the life processes seem delicately balanced to a specific environment. With others it may be essentially temperamental. Some animals fret themselves to death in captivity. William T. Hornaday long ago formulated zoo ethics in the words, "If an animal will not live happily in captivity, do not keep it in captivity." Beside being humane, this is a thoroughly practical idea, because if an animal will not live happily, it usually will not live at all.

Some creatures are worth, literally, their weight in gold. Zoo directors naturally are loath to pay enormous sums for creatures which are likely to die in a week or two. Any man with a budget to consider will hesitate a long time before signing a check for

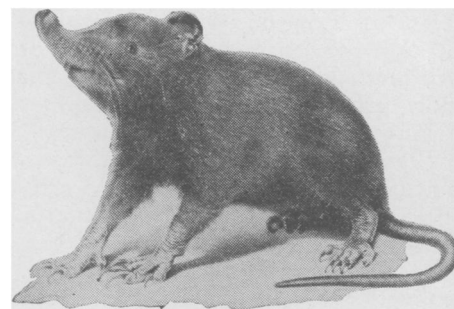
\$5,000 for a baby gorilla whose chances of survival for more than a few months are slim. Yet one gorilla lived for seven years in captivity, another for over three; and at present there are three specimens in the United States—one in the zoo at Philadelphia, one in our Washington zoo and one in the hands of a dealer.

Some animals are so rare that they never come into the hands of dealers—so rare, in fact, that their very existence is open to question. Some have restricted habitats in such out-of-the-way corners of the world that it would be necessary to send special expeditions to obtain them. Still others are highly specialized feeders whose diet cannot be provided for them far from their birthplaces. Some, on the verge of extinction, are so carefully protected by law that permits to capture them are practically unobtainable. A few, it is barely possible, still are unknown to science, although it is extremely doubtful if any animal of major importance remains to be discovered. Within the past ten years trained observers have penetrated to almost every spot on the globe capable of sustaining animal life and any creature of striking interest hardly could have escaped them.

Few Americans ever have seen the duck-billed platypus or the echidna, those curious egg-laying Australian animals which seem like reptiles in the process of becoming warm-blooded but undecided whether to become birds or mammals. They are the greatest curiosities in the mammal world and



THE BROWN HYENA, a native of southwest Africa, seldom reaches our zoological parks, though this one is a resident of the National Zoological Park in Washington



THE SOLENODON is an archaic insectivore from Cuba, and is rarely seen in captivity

would be highly prized exhibits in any zoo. But in the first place it is extremely difficult to obtain the platypus. Permits to capture them are issued by the Australian government very infrequently, and never to private individuals. In the second place, they don't live. The one example of platypus that has arrived in the United States was brought in by Ellis Joseph, the great naturalist collector. We had observed the animals in Australia for years and succeeded in bringing one to New York, where it lived for only five weeks. One echidna has lived for years in the Philadelphia zoo, but this is a solitary example of success among many failures. This one is kept on earth and during the daytime it sleeps in the shelter of a wooden box, unseen by visitors; in the evening it comes out and eats its single meal of raw egg and milk. Both the platypus and the echidna are specialized feeders and have no facility for adapting themselves to a new environment. Better success may be had when more is known of their diet and habits.

I recently saw a dead proboscis monkey in the store of a dealer in New York City. It had died before reaching the States. This monkey inhabits the island of Borneo and is probably the queerest and quaintest of all the monkey race. Some of the "wild-man-of-Borneo" legends may have been inspired by this animal. Its low forehead is crowned with chestnut locks, neatly parted in the middle. It has bushy chestnut whiskers and beard, so that the white face is framed in masses of long hair. Its cheeks are far apart, it has a wide mouth, and its cheeks and chin are tinged with blue, as if it were in the habit of shaving every morning. But the most remarkable feature of all is its nose. Monkeys as a (Turn to next page)

Strange Animals Never Seen in Zoos—*Continued*

rule have no noses at all. Some of them have muzzles like dogs. Others merely have nostrils opening straight into the face below the eyes. But this animal has a pointed nose, tilting upward at the tip, which is several inches long, reminding one of the trunk of a tapir. Oddest of all is that the nose keeps growing during the life of the owner. The age of a proboscis monkey can be estimated from the length of his nose. Few wild animals appear so "human". When young it has been compared to a mentally defective youth, but when old it reminds one of a crabbed old man of a highly obstinate disposition. The Dyaks declare that it is not a monkey at all but a degenerate human being whose ancestors took to a life in the forests to avoid payment of taxes. A small specimen lived for a short time in the zoo in Amsterdam.

None of the many varieties of bats is seen often in zoos. Despite the somewhat morbid interest which attaches to these creatures, they form uninteresting exhibits. They cannot endure daylight. Fruit bats sometimes can be seen in the monkey houses of zoos by anyone who takes the trouble to lift the thick curtains which shut them off from the light, but they look very much like bunches of dry sticks suspended from horizontal bars. Others of this family are highly specialized creatures which cannot be kept alive in captivity. Among these is the vampire bat of South America which actually does suck human blood. Most interesting of all, perhaps, is the Soricine bat of Central America. Its great peculiarity is that it has a very long, very slender, and very extensible tongue with a brush of reversed bristles at the extremity. Some believe that it can hover in front of over-ripe fruit and lick out the pulp with its tongue. Others say that it feeds on certain insects which it brushes out from flowers with this tongue after the manner of certain humming birds. The fish-eating bat of the Caribbean Sea, an anomalous creature, would be a striking display could it be captured and maintained.

Among our well-known North American animals, the moose is perhaps the rarest of all in collections, this again due to specialized feeding habits. Attempts to keep them in captivity nearly always fail. They are docile creatures with no temperamental weakness, their natural diet can be exactly duplicated, but they do not survive for more than a few months,

and zoos hesitate to purchase specimens. Lack of exercise may be the explanation. Likewise, few persons in the East have seen the prong-horned antelope, which now is disappearing rapidly from the western plains. The trouble here is temperamental. It cannot adjust itself to a restricted range. Any of these animals brought into captivity simply brings the species that much nearer extinction because there can be no great expectation of keeping one alive. Yet the pronghorn has on occasion lived for a time in captivity. Zoos have successfully bred it. In the National Zoo at Washington one lived for eight years. During that time it broke its leg. This was put in splints and finally completely healed. This animal was eventually killed by a mule deer which leaped over a fence and horned it.

The bear family has two members, one of which has never been seen in North America, the other seldom. One of them has seldom been seen by anybody anywhere. It is the rarest of all the bruins. This animal, the panda bear or parti-colored bear of Thibet, has been known to science only since 1869. It is a rare animal in an inaccessible habitat. The general color is white, but the eyes are surrounded with black rings, the small ears are black, and the shoulders are marked by a transverse stripe of the same color gradually increasing in width as it approaches the fore-limbs. All four legs are black. Practically nothing is known of its habits, though it is said to feed on bamboo and other vegetables.

Almost equally rare in captivity is the spectacled bear of the Peruvian Andes, the sole representative of the family in South America. It is a small black bear given an extremely grotesque appearance by tawny circles around the eyes. The animal is only about three and one half feet long. The endemic bear of North Japan, the sacred bear to the Ainu, is equally rare.

Widely separated from the elephant in size is its closest relative among living mammals. This is the hyrax, an animal very similar in superficial appearance, size and habits to the rabbit. One species which inhabits Asia Minor is designated in the King James Bible by the word "coney", generally applied to the rabbit. With the exception of this single species the hyraxes are confined to the African continent. All are playful, intelli-

gent creatures and are much hunted for their soft skins. Why they do not thrive in captivity in general we do not know. Specimens obtained by the National Zoological Park were apparently contented and in good health, but they dropped off one by one. However, a South African species sometimes lives for a considerable time in captivity.

The greatest prize any zoo could possibly obtain would be a white rhinoceros. This animal is on the verge of extinction but still is met with occasionally in South Africa. One was killed last year by George Eastman. It is the largest of the rhinos. The color actually is a slate-grey, only a shade or so lighter than that of other members of this family. Perhaps its most remarkable character is the length of its front horn. One of these horns preserved in the British Museum has a total length of 56 inches. Others, however, measure less than 40 inches. The rear horn is only about one-third as long.

The white rhino, it is generally agreed, is a harmless, inoffensive creature, very dull-witted and asking only to be let alone. These animals generally travel in pairs or in parties of three, frequenting open, grassy plains. They generally are accompanied by the curious rhinoceros-birds which, by flapping their wings and screeching, often warn their enormous hosts of the approach of danger. The calf always walks in front of the mother and is directed by proddings from her long front horn.

Still another type of rhino not only never has been seen in captivity but has been known to science only a couple of years. As described to the German scientific journal *Die Umschau* by Dr. F. Vageler, it seems like a scaly monster of the pre-human ages of the earth surviving into modern times in the almost unvisited swampy country of southern Java. It is described as a one-horned rhino, related to a form already known elsewhere in the East Indies but differing from it in that its almost naked hide is covered closely with small hard, horny scales. It also has enormous front teeth, like those of a hippopotamus. It has often been described by the natives under the name of "Tang-giling", which means "scaly beast", but Europeans were incredulous, regarding these reports as folk-lore. A few professional hunters among the whites had killed specimens, but they could obtain such (*Turn to next page*)

Strange Animals—*Cont'd*

high prices from the Chinese, who use the hide and horns of rhinos in medicine, that they were secretive about the business and did not share their knowledge with scientists. Photographs obtained by Dr. Vageler, however, show that the animal is something entirely new to science. No effort has been made, so far as is known, to capture one of these creatures alive.

Java, Sumatra and Borneo, it is possible, may have other interesting animals to offer which are now unknown to science. The natives have some queer legends, and folk-lore quite frequently has a basis in truth. When Dr. Ales Hrdlicka, curator of physical anthropology at the U. S. National Museum, was in Sumatra on the track of ancient man three years ago he was told of a "wild man" who inhabited the jungle fastnesses. Perhaps a rare and odd monkey might have been responsible for these tales.

There is now no specimen in the United States of the wisent, or European bison. This splendid animal, like the North American bison in appearance, was almost wiped out in the world war. At the outbreak of hostilities it was represented by two herds—one in the Caucasus and one in Lithuania. At the beginning of 1914 the two herds numbered about 1500. In 1925 a census showed only 66 of them in Europe—all on private estates or in zoological gardens. A society has been formed for their preservation.

But if one peruses the list of animals that have lived at one time or another in the great zoological garden of London, he will find as far as the mammalia are concerned a most wonderful array of animals named. Certainly few mammals that the layman could name have not been exhibited at some time or other. The pangolin, heavily scaled and almost impossible to keep alive, has been exhibited on numerous occasions. The fossa cat from Madagascar, the aard-vark, the takin, the bandicoot, the pouched Tasmanian wolf, have all been seen there by the public. Each year brings animals new to collections into captivity. The bongo, a wonderful red and white antelope of West Africa, until recently stood preminent among the list of animals never seen in captivity, but one is now in the zoo at Paris. The nyala is living in Washington, and both St. Louis and San Diego have captive sea elephants.

At the present time many well-known large and (*Turn to next page*)

Prize Research May Help Sufferers

Medicines

Out of the research that won the \$1,000 prize of the New York meeting of the American Association for the Advancement of Science, just closed, there may come new treatments for severely burned fire victims, water-logged fat people, and sufferers from diabetes insipidus.

Dr. Oliver Kamm, the research director of the Detroit drug manufacturers, Parke, Davis and Company, who was honored for his paper on "Hormones from the Pituitary Gland," has studied for the past few years one of the smallest and most important organs of the human body.

About the size of a green pea, the pituitary gland is located near the brain, carefully protected and inaccessible. The front or anterior portion of the gland is responsible, when it is overactive, for some giants of the circus and other ungainly, unfortunate individuals whose skeletons have grown abnormally.

Dr. Kamm investigated the back or posterior lobe of the gland, and found

X-Ray Evolution Study

Biology

Money in excess of \$25,000, a loan of \$40,000 worth of radium, together with other facilities are now available for studies on the effects of X-rays, radium rays and other forms of radiation on living organisms. Announcement to this effect has just been made by a special committee of the National Research Council, headed by Dr. W. C. Curtis of the University of Missouri, through the agency of Science Service. The committee desires that qualified research workers who have problems in hand falling within the scope of the present program should get in touch immediately with the Division of Biology and Agriculture, National Research Council, 21st and B streets, Washington, D. C.

The funds now available, the committee states, are only the results of the first canvass of the field of possible donors; more may be expected later. The whole period provided for will extend over five years. It is expected that the applicants who qualify will be connected with universities or research institutions, which will continue to pay their salaries, and will also provide general laboratory facilities for their research. The expenditures from the fund will be used only in prosecution of special problems of research. (*Turn to next page*)

two hormones, called alpha and beta, produced by it.

If you could buy these hormones, they would cost you millions of dollars a pound. As it is, Dr. Kamm has been able to produce only a very few fractions of an ounce. So limited is the quantity that the chemical analysis must be performed under the microscope and the pituitary glands of 50,000 cattle must be used to obtain enough hormones for a single laboratory experiment.

The alpha hormone promises the women of the world some relief from the pains of childbirth, as it aids that process. At present its cost price, at the rate of \$3,000,000 a pound, prevents practical use.

The beta hormone has the important function of controlling the utilization of water in the tissues of the body. Dr. Kamm has been able to classify individuals as "physiologically wet" or "physiologically dry."

"Some individuals, the physiological wets, are (*Turn to next page*)

Anti-Evolution Protest

General Science

Protesting against all legislation and administrative interference with the presentation of the facts and theories of science, deploring the anti-evolution laws now on the statute books of three states, the American Association for the Advancement of Science and the American Association of University Professors, the two representative societies of science and education, announced in resolutions a fighting attitude against present and further encroachments upon the freedom of science and teaching.

At the November elections Arkansas passed an anti-evolution law by a large popular vote. Tennessee and Mississippi had previously placed a ban on evolution, and even more powerful in some cases are the unwritten prohibitions that many institutions impose upon teachers with loss of their jobs as the penalty.

This growing menace caused the scientists and educators to emphasize the basic principles of free and untrammelled teaching and plan steps toward a reformation.

The special committee of scientists, empowered with the delegated authority of over 20,000 scientists and over fifty scientific organizations, consisted of Prof. Edwin G. Conklin of Princeton, Prof. S. I. Holmes of the University of (*Turn to next page*)

Prize Research—Continued

extremely sensitive to the action of the beta hormone," Dr. Kamm said in explaining his work. Others readily return to normal after administration of the hormone, and they are the physiological drys.

"The fleshy type of individual is almost invariably of the wet type, whereas the slender, scrawny individual is usually a dry. The suggestion is therefore made that we have here possibly one of the important explanations why the former is fleshy and why the latter fails to put on weight readily in spite of an excessive intake of food and water.

"It is apparent that the portly person who is desirous of reducing must cut down on his liquid intake, as well as on his intake of solid food. As for the scrawny person, gland therapy may possibly be indicated, but here the work is still in the investigative stage and conclusions cannot be drawn."

Anti-Evolution—Cont'd

California. Dr. Henry Fairfield Osborn, president of the American Museum of Natural History; Dr. R. A. Millikan, president of the California Institute of Technology and newly elected president of the American Association for the Advancement of Science, and Dr. J. C. Merriman, president of the Carnegie Institution of Washington.

"We deplore all efforts to restrict the freedom of teaching and learning in science," the resolution stated. "We deplore such action first because evolution in some form is accepted by practically all competent men of science the world over, and second, because the idea of evolution has so profoundly influenced the thinking of mankind in biology, psychology, ethics, social science and philosophy that no one can pretend to have a liberal education who is ignorant of its grounds and import. We deplore these measures also for a deeper reason, which should appeal to all Americans of whatever creed who believe in intellectual and religious liberty whether they accept or reject the theory of evolution, namely, that such restrictions constitute a violation of a fundamental principle of freedom essential to all progress. What is taught as science should be determined by qualified experts in their fields rather than by popular vote."

Science News-Letter, January 12, 1929

Since the beta member of the "pituitary twins" affects the body's water content, it may prove useful in the treatment of severe burns which produce their damage by dehydrating the tissues of the body. Diabetes insipidus, characterized by disturbed water conditions of the body, may be better understood and treated through the use of the beta hormone when its cost is reduced to a price much less than its present value of three million dollars a pound.

The post-pituitary hormones are very similar in chemical behavior in spite of their different physiological action. One of the effects that is produced with equal facility by either of them is the increasing of the sugar content of the blood to counteract, for example, an overdose of the hormone, insulin, which science gave the world only a few years ago as a treatment for diabetes mellitus.

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Strange Animals—Cont'd

striking animals easily obtainable are not exhibited in the United States on account of the quarantine laws. These animals are practically all hoofed species, inhabitants of regions subject to communicable diseases which must not be brought into the United States because of the great risk of infecting our domestic animals here. A single case of the foot and mouth disease imported by the tiny mouse deer would cause a loss of millions of dollars. From regions in which these diseases occur animals cannot be imported, and so at the present time our collections all lack such specimens as the big-horned gowar and the goyal and their small relative the banting (a tiny buffalo of the East Indies), the four-horned deer and the musk deer, the dainty chevrotain of West Africa, and the curious Andean deer.

Science News-Letter, January 12, 1929

The Biology of Fear

Medicine—Psychiatry

WILLIAM S. SADLER in *The Truth About Mind Cure* (McClurg):

Fear is biologic. The tendency is inherent. It is easy to implant in the mind of a young child. It grows luxuriantly and flourishes extraordinarily, and if it is not counteracted by the diligent cultivation of faith, comes finally more or less to possess the mind and soul of its victims. If the individual happens to be the possessor of an inherent wobbly nervous system and has not been blessed with mental discipline and nerve training in his younger years, then he is well on the road to becoming a lifelong sufferer from fears, phobias, and other imaginary dangers and delusions.

We know that savage races and primitive peoples are fear-ridden. The Zulus and the Hottentots, as well as

X-Ray Fund—Cont'd

The field which the new fund will help to develop was opened up only recently by a number of widely scattered and independent workers, who discovered, almost simultaneously, that pronounced changes can be produced in the hereditary nature of animals by subjecting their reproductive cells to bombardments of powerful radiation. Evolutionary changes of certain types have been speeded up over a thousand per cent. in some of the experiments.

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other aborigines, are slaves to fear and superstition, and yet, who ever heard of a Hottentot having "nervous exhaustion" or a Zulu being afflicted with "brain-fag"? If these simple people worry so much and are so constantly exercised by fear, why do they not suffer more from "nerves"? The answer is simple. Fear alone will seldom cause a nervous breakdown. The mischief-making combination is fear plus concentration. It is spasm of the attention that does the wicked business.

Before fear can injure your health very much you have to go to school—attend college—and learn the civilized art of a high degree of mental concentration. It is the better educated individual who has mastered art of concentration and who is so unfortunate as to concentrate his well trained mind on a disastrous fear-thought; it is such a combination of fear and continuous concentration that constitutes worry, and worry is nothing more nor less than chronic fear—spasm of the attention.

This is the explanation of why uneducated races and undisciplined minds can indulge in constant fear of all the phenomena of nature and live lives of perpetual anxiety, and yet be strangers to the nervous disorders which afflict the modern civilized races.

Science News-Letter, January 12, 1929