

Among the mammals obtained by Mr. Vernay unusual interest attaches to a specimen of the Malayan tapir, which was secured in the northernmost part of the range of this species. Sureness of aim such as that required to lay low this animal has few parallels in the annals of marksmanship, for Mr. Vernay shot the tapir by moonlight as it was splashing about in a water hole near his camp.

A cable from Mr. Vernay dated April 24, later confirmed by letter, contained the important announcement that two splendid specimens of the buffalo had been secured,—a bull with horns that, measured from the tip of one horn downward along its wide curve, then across the skull and upward in similar manner to the tip of the other horn, registered 110 inches, and a cow with a horn expansion only one inch less.

Keen interest was aroused by the statement in yet another communication that not only the American Museum, but the New York Zoological Society as well was to be the beneficiary of Mr. Vernay's enterprise and devotion. Two young male gibbons, the one black, the other white, are on their way to New York to join the menagerie in the Bronx. Mr. Vernay writes that they became so tame after a week of kind treatment that when he released them from confinement, they would climb the highest trees only to return at meal times and in the evening, when they would enter the box that was provided for them. "The black one," he adds, "is called Myonk (the Burmese for monkey) and the white one Disha (Deeshah) after one of our elephant men who resembled the ape." Two small crocodiles are also being shipped at the same time.

A summary of the number of different specimens secured by the Faunthorpe-Vernay Expedition discloses the fact that there is a total of 246 mammals, subdivided among the following orders: Insectivora 7, Carnivora 37, Artiodactyla 58; Proboscidea 3, Perissodactyla 5, Rodentia 101, Chiroptera 4, Primates 31.

ASIATIC RHINOCEROSSES SECURED BY THE FAUNTHORPE-VERNAY EXPEDITION.—Under date of May 27 Mr. Arthur S. Vernay cabled President Henry Fairfield Osborn that he had succeeded in obtaining a female and young male of the rare Sumatran rhinoceros (*Dicerorhinus sumatrensis*). Few specimens of this interesting form have reached museums,

though one lived for some years in the London Zoological Gardens. Contrary to what one might expect, *D. sumatrensis* is totally different from the great, one-horned, Indian rhinoceros (*Rhinoceros unicornis*). In the structure of its cheek teeth it shows a closer relationship to the black, or hook-lipped, African form (*Diceros bicornis*). Like the latter it has two horns and in connection with its life in the



A skeleton being conveyed to camp for ultimate shipment to the American Museum

forest has adopted similar browsing habits. It is the smallest of living rhinoceroses, remarkable for its fairly dense hairy coat and the slight development of the folds of its rough granular hide. The Sumatran rhinoceros inhabits the countries east of Bengal, ranging from Assam through certain parts of Burma and Siam into the islands of Sumatra and Borneo. The equally rare, but more widely distributed, lesser one-horned Indian, or Javan, rhinoceros (*Rhinoceros sondaicus*) has extended its haunts into the island of that name.

Not only are the life histories of these three Asiatic rhinoceroses rather imperfectly known but the specimens preserved in museum collec-

tions are inadequate and scientists have consequently been handicapped in their efforts to solve many vexing questions concerning these animals. Such valuable contributions as those made by the Faunthorpe-Vernay Expedition are, therefore, of the highest importance.

For many years Professor Osborn has devoted himself to the study of rhinoceroses and has published extensive works upon the different problems presented by them, especially those of the relationship and evolution of fossil forms. Continued comparison of recent with prehistoric forms is most necessary. Only in this way can one satisfactorily interpret the habits of rhinoceroses of the past, now known only through skeletal remains, often incomplete.

In the evolution of different groups of heavy, gigantic mammals a variety of grotesquely shaped horn structures has been developed, partly to clear a way through the jungle, partly as a means of defense against enemies, and finally as weapons in the competitive battles among the bulls during the rutting period. Guided by these facts Professor Osborn suggested that the great Indian rhinoceros also may use its horn, which sometimes attains a length of as much as twenty-four inches, for purposes of defense.

It is most interesting that his belief is confirmed by a naturalist so well versed in the habits of Indian big game as Colonel Faunthorpe. This sportsman has no doubt that occasionally the Indian rhinoceros uses the horn to inflict wounds upon adversaries such as elephants. He himself shot a rhinoceros in Nepal which had a large deep puncture in the abdomen, as well as other injuries in its hide. These looked as though they were the result of a contest in which horns played the important rôle. They did not resemble wounds inflicted by the triangular, forward and upward-directed, two lower incisors, generally called the tushes, which are of service also in partly cutting to pieces the tubers and other vegetation on which the animals feed.

For a long time it has been known that the tushes are the chief weapons upon which the great Indian rhinoceros relies in an attack against its enemies including man, as Mr. Roderick T. Mackenzie has kindly pointed out in a letter to Professor Osborn. Mr. Mackenzie states, furthermore, that the horn is always more or less worn away by digging up roots. As the animal rushes forward,

head up, muzzle and lower lip drawn back, and mouth open, the tushes are bared for action. Considering the tremendous impact of the body and the unwonted rapidity of motion of the head under such circumstances, a rhinoceros is liable to inflict terrific wounds. Indeed, it makes a boar's ripping look like the effects of a mild display of temper when it puts into action these sharp, chisel-like weapons. It even cuts open the legs of elephants employed to force it from its retreat.

The mode of attack of the great Indian rhinoceros is, therefore, totally different from that of the two African rhinoceroses, which, deprived of incisors, depend entirely upon charging with head lowered, occasionally goring their enemies with their often sharp-pointed horns. Bulls of the African "black" rhinoceros may fight to the death. Bronsart von Schellendorf gives us the following account of such a contest: "In the next moment both bulls rushed around each other in a circle, furiously snorting, and each one trying to plunge its horns into the body of the other. The older of them suddenly stumbled. Immediately he received two deep thrusts in the breast and belly. The long, sharp, dagger-like horn of his adversary had entered him for about two-thirds of its length. In vain did he try to raise himself. Quick as a flash he received another well aimed thrust in the middle of the neck. After several piercing shrieks he lifted his heavy head up and down, trembled and died."—H. L.

PUBLIC EDUCATION

THE EXPEDITION OF THE AMERICAN MUSEUM TO SWEDEN AND LAPLAND has begun its work under conditions that are an assurance of success. Thanks to the friendly assistance of Legationsrådet Hendriksson, a letter was secured from the head of the educational department (Eklesiastik Departementet) of Sweden, requesting all those connected with the schools, colleges, and universities to give Dr. G. Clyde Fisher every assistance within their power. Doctor Fisher is, furthermore, being aided in his visits to the schools by Miss Staël von Holstein, who in addition to her knowledge of the Swedish language and of Swedish educational institutions has a viewpoint regarding American educational standards gained through several years spent at Columbia University. One of Doctor Fisher's main purposes in visiting Sweden is to obtain an insight into the Swedish educational