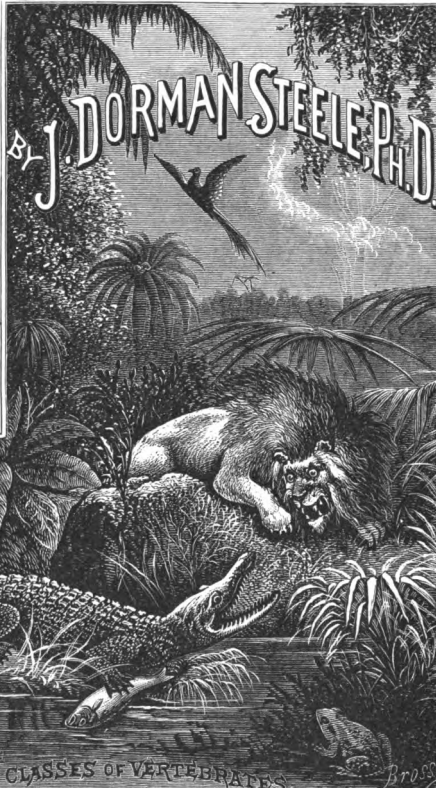
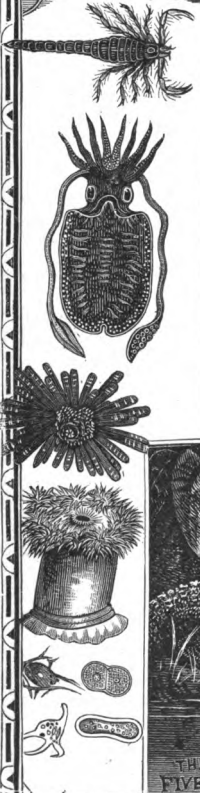


FOURTEEN WEEKS OF ZOOLOGY.



THE FIVE CLASSES OF VERTEBRATES.

A. S. BARNES & CO.
NEW YORK PUBLISHERS. CHICAGO.

Laura H. Hodges

FOURTEEN WEEKS

IN

ZOOLOGY.

BY

J. DORMAN STEELE, PH. D., F. G. S.,

AUTHOR OF THE FOURTEEN-WEEKS SERIES IN NATURAL SCIENCE

*"And Nature, the old nurse, took
The child upon her knee,
Saying, 'Here is a story-book
Thy Father hath written for thee.'"*
Longfellow's "Tribute to Agassiz."

A. S. BARNES & COMPANY,
NEW YORK, CHICAGO, AND NEW ORLEANS.

Fig. 113.

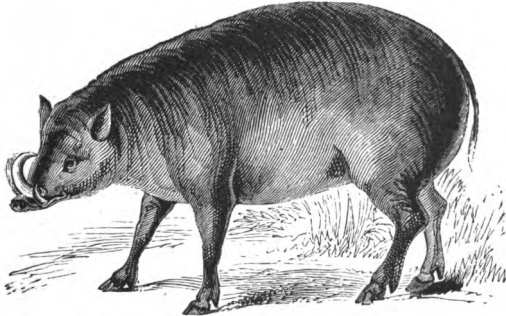
*Sus babiroussa*, Babiroussa Hog. $\frac{1}{16}$.

Fig. 114.

herds which stretch out for miles in their destructive migrations. They resemble pigs, but have slender tusks capable of inflicting terrible wounds.

Equidæ. — The Horse family have a single hoof* to each foot, with metacarpals elongated so as to compel them to carry the heel (c) high up from the ground. Strictly herbivorous with upper and lower incisors, they seem designed to crop after the

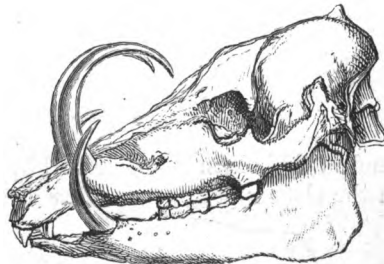
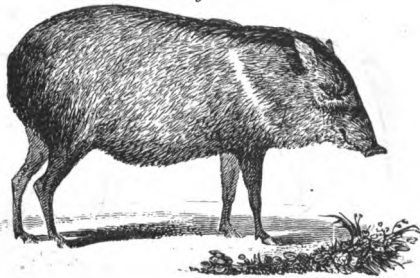
Skull of *Babiroussa*. $\frac{1}{16}$.

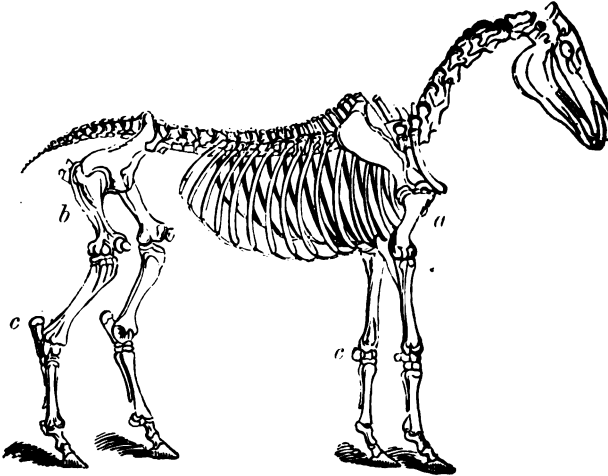
Fig. 115.

*Dicotyles torquatus*, Peccary. $\frac{1}{16}$.

others successively take its place, so that, if skillfully managed by the hunter, the whole number may be captured.

* The earlier fossil species had five, later ones four, and still later three toes, the indications of two suppressed, called splint bones, being still seen.

Fig. 116.



Skeleton of Horse

ox, and in their turn to be followed by the narrow-jawed sheep with the cleft upper lip, enabling it to nibble where neither of the others could thrust its wide mouth.

Fig. 117.

*Equus caballus*, Horse.

The *Horse* has been so diversified by domestication as to defy all attempts to trace its origin.* It is adapted to constant movement by having a simple stomach without a gall bladder which

* Careful research proves that there is not a distinctive Arabian breed—often-times considered the parent of the horse—any more than there is a Persian or an English one.

permits uninterrupted digestion. Changing its coat of hair to suit the season, it is easily acclimated; in tropical regions the hair remaining short and sparse, in colder, lengthening to three or four inches and thickening so as to become almost woolly.

The *Ass* is generally employed by the peasantry throughout the East.

Feeding upon coarser herbage than the horse, and being more patient under abuse, it is better adapted to be the slave of the poor.*

The *Zebra* is the most elegant of quadrupeds, but all attempts to domesticate it have failed.

Fig. 118.

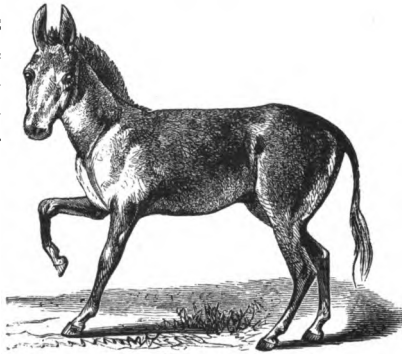
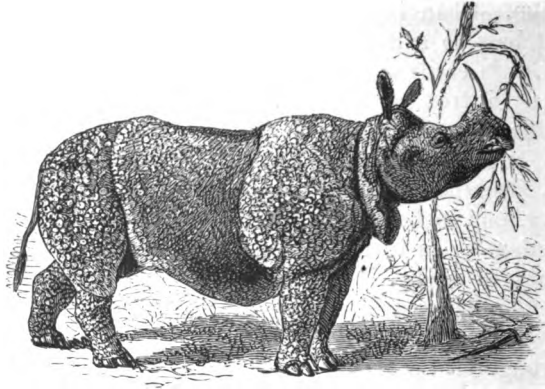
*Equus asinus*, Wild Ass. 36.

Fig. 119.

*Equus zebra*. 35.

* It is common in European cities to see these animals driven every morning to the door of the sick to be milked for their use.

Fig. 120.

*Rhinoceros unicornis*, One-horned Rhinoceros, India. †.

Rhinocerotidæ.*—The *Rhinoceros*, paradoxical as it may seem, possesses a skeleton more nearly allied to the horse

Fig. 121.

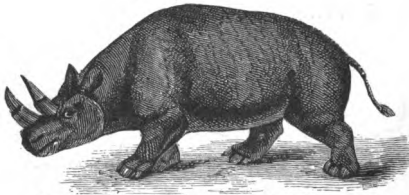
*Rhinoceros bicornis*, Two-horned Rhinoceros. Africa. †.

Fig. 122.

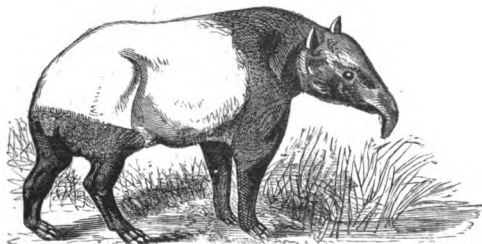
*Hyrax syriacus*, Daman. †.

than any other hoofed quadruped. It has a hard, naked, rough skin, laid in large folds, and so elastic that a bullet or spear-hole immediately closes, thus stanching the wound. The horn is composed of agglutinized hairs, and, being attached

* Closely allied to the rhinoceros in structure is the Hyrax, the only genus of the order Hyracoidea. The Daman, in its various species, is a rabbit-like animal found in Syria, Mozambique, and Southern Africa. A timid creature, it hides itself in the clefts of the rocks, and is, doubtless, the Coney of Scripture (Proverbs xxx, 26).

only to the skin, is movable; when, however, the animal is enraged, it becomes fixed as though a part of the bone itself. Individuals attain the weight of 6000 pounds.

Fig. 123.



Tapirus bicolor, Indian Archipelago. 15.

Tapiridæ.—The *Tapir* links the artiodactyls and perissodactyls, its fore feet having four toes and its hind feet three. Flight being its only means of defence, the head, covered with hard skin and shaped like a conical wedge, is adapted for boring through tangled brushwood. The uniform black color of the South American *Tapir* is in striking contrast to the white back of the Indian.

Fig. 124.



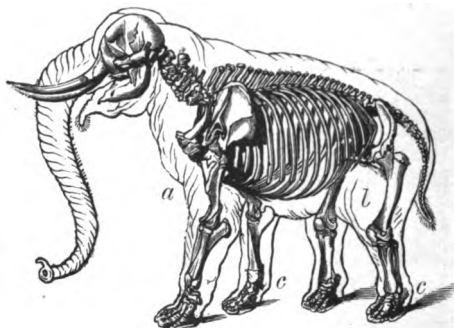
Tapirus americanus. 15.

ORDER PROBOSCIDEA.

Elephantidæ.—The *Elephant* is the largest of living quadrupeds, attaining eight to ten feet in height and 10,000 pounds in weight. It roams the forest in herds of twenty or more, and is supposed to live over one hundred years. Un-

like the Horse, it has the metacarpal bones short-

Fig. 125.

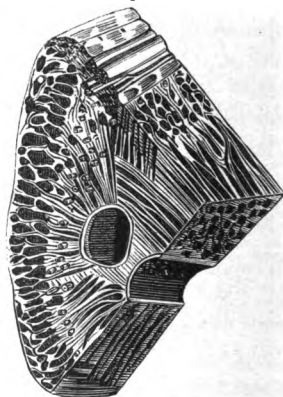


Skeleton of Elephant.

ened, so that the heel (*c*) is brought near the ground. The two upper incisors are prolonged into tusks, which serve for defence and for ploughing up the ground to obtain succulent roots. The nose is lengthened into a proboscis or trunk con-

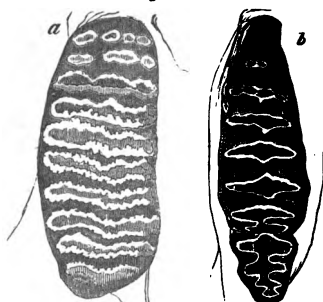
taining several thousand muscles, which permit every conceivable motion; while a mobile lip at the end is delicate enough to pick up a grain of wheat. This enables the Elephant to reach its food, which it could not do with its mouth, on

Fig. 127.



Section of Elephant's trunk.

Fig. 126.

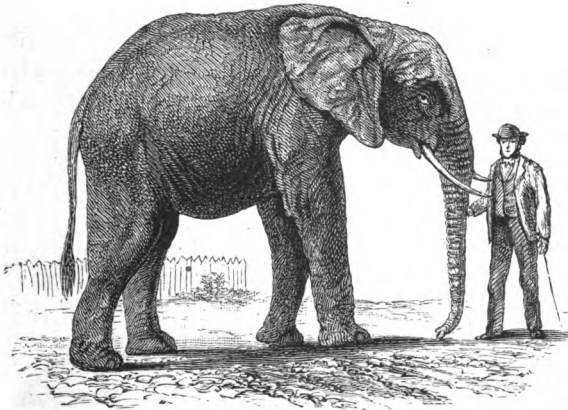


a. Tooth of Asiatic Elephant.

b. Tooth of African Elephant.

account of its short neck and huge tusks. Water is also drawn into the trunk by suction, and then, the end being inserted into the mouth, discharged down the throat. The

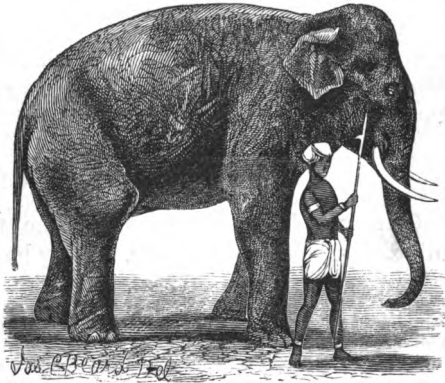
Fig. 128.

*Elephas africanus*, African Elephant.

Asiatic species is alone tamed at the present day.* It has a concave forehead,

small ears, and the enamel of the teeth arranged in transverse bands. The *African* species has a convex forehead, enormous ears, and the enamel of the teeth lozenge-shaped. Both sexes have tusks, the male's often being eight feet long and weighing a hundred pounds.

Fig. 129.

*E. indicus*, Asiatic Elephant.

* Its intelligence is sometimes almost human. It can be taught to lay stone wall, and to pile logs uniformly, rolling them up an inclined plane. It is ever entrusted with the care of young children—the huge nurse being lavish in its attentions, and when its charge crawls between its legs, moving with the utmost caution, and, with its trunk, carefully lifting the child out of the way. Tennant, in his work on Ceylon