

A  
M A N U A L  
OF THE  
E L E M E N T S  
OF  
N A T U R A L H I S T O R Y.

BY  
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TRANSLATED FROM THE TENTH GERMAN EDITION,

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"It is, indeed, remarkable for its clear arrangement, and for the immense quantity of interesting and valuable information it contains, condensed into a small compass. It is, altogether, the best Elementary book on Natural History, in any language."

LAWRENCE'S LECTURES.

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(*ornithorhyncus paradoxus*) the spur on the hinder leg of which is considered to be poisonous.

§ 53. Eminent naturalists have suggested various artificial systems for the classification of mammifera; and founded them on particular characters devoted to that purpose. ARISTOTLE'S arrangement, for instance, is founded on the differences of the toes and claws, and has been adopted and extended by RAY and others. But in this way it is necessary to separate the closely connected and very similar species of ant eaters and sloths, and to place them in very different orders, merely because the one has a toe more, the other a toe less. LINNÆUS selected the teeth as his basis of classification; which, however, is not less liable to the objection of producing at one time the most unnatural separations, at another, the most extraordinary approximations\*. The bat genus must, in his system, from the differences of the teeth in some species, be divided among at least three orders; so also the two species of rhinoceros; on the contrary, the elephant is placed in the same order with the armadillo and manis.

§ 54. I have therefore attempted to form a more *Natural System* of mammifera: in doing so, I have looked to the general habit of these animals, but particularly to their organs of motion in the formation of the orders, as being most open to inspection, and correspondent to the general habit. Two of these orders, including many animals, I have again subdivided into families according to the differences presented by their teeth, and designated them by the names of some of the Linnean orders: the whole class, therefore, is arranged in the following manner.—

Order I. BIMANUS. Man, with two hands.

II. QUADRUMANA. Animals with four hands.—Apes, Baboons, Monkeys and Makis. (Lemurs.)

III. CHIROPTERA. Mammiferous animals, in which the fore feet form membranes for flying: (§ 43.) Bats.

IV. DIGITATA. Mammiferous animals with separate toes on all four feet. This order is divided according to the differences of the teeth, into the following three families:—

(A.) *Glives*.—With teeth like those of the mouse.

\* “ Non enim methodicorum scholis se adstringere voluit Natura. Systemata artificialia nostra flocci faciens.”—PALLAS.

squirrel, dormouse, and other mice; the marmot, guinea-pig, jerboa, hare, porcupine.

(B.) *Feræ*.—Carnivorous animals, properly so called, and some other genera with teeth of the same kind. Lions, dogs, &c. The bear, weasel, civets, opossums, hedgehog, shrew, mole.

(C.) *Bruta*.—Without teeth, or at least without fore teeth, &c. Sloths, ant eaters, armadilloes, manis.

V. *SOLIDUNGULA*. The horse, &c.

VI. *BISULCA*. Ruminating animals with cloven feet.

VII. *MULTUNGULA*. Mammiferous animals, for the most part very large, unshapely, with bristles or scattered hairs, with more than two toes on each foot. Swine, (which have usually four toes) the tapir, elephant, rhinoceros, hippopotamus.

VIII. *PALMATA*. Mammiferous animals with feet made for swimming. Subdivided according to the different forms of their teeth, into three families, as above.

(A.) *Glires*.—The beaver.

(B.) *Feræ*.—Seals, otters, &c.

(C.) *Bruta*.—Duck-billed animal, walrus, manati; and from these the most suitable transition to Order

IX. *CETACEA*. Whales, warm-blooded animals, which have nothing in common with cold-blooded fishes but the name, and the natural connexion of which with mammifera was correctly remarked even by RAY\*.

*For the Natural History of Mammifera.*

CONR. GESNERI. *Historiæ Animalium*, L. I. *de Quadrupedibus viviparis*. Basil, 1551. fol.

UL. ALDROVANDI. *De Quadrupedibus digitatis viviparis*.

L. III. BONON. 1627. fol.

*Id.* *De Quadrupedibus solidipedibus*, ib. 1616. fol.

*Id.* *De Quadrupedibus bisulcis*, ib. 1613. fol.

*Id.* *De Cetus* (at the end of his Work *De Piscibus*.) ib. eod. folio.

JO. RAII. *Synopsis Animalium Quadrupedum*. Lond. 1693. Svo.

\* “Cetacea quadrupedum modo pulmonibus respirant, coeunt, vivos fœtus pariunt, eodemque lacte alunt, partium denique omnium internarum structura et usu cum iis conveniunt.”—RAIUS.

6. *Rattus*. The black Rat. *Ger.* die Ratte. *Fr.* le Rat.—*M. cauda elongata, palmis tetradactylis cum unguiculo pollicari.* Dispersed over all the five parts of the world, but apparently originally a native of the middle regions of Europe. Extremely voracious. It eats even scorpions, and follows man and his provisions every where, into the deepest mines as well as into his ships. Among others, one of the greatest enemies to the sugar plantations of the West Indies.

In many places it has been gradually supplanted by the Norway Rat, (*Mus decumanus*.) which is originally a native of Persia and the East Indies, and is of a reddish grey colour; with a few bristly hairs scattered through its fur.

10. MARMOTA. (*Arctomys*.) *Auriculæ abbreviatæ, cauda brevis, aut nulla. Dentes ut in præcedentibus.*

1. *Alpina*. The Marmot. *Ger.* das Murmelthier. *Fr.* la Marmotte. In the Grisons, *Murmont*—from the Latin, *Mus-montanus*.—*M. corpore depresso, supra fusco, subtus flavescente.*

(v. WILDUNGEN *Taschenbuch*, f. 1812.)

In many of the highest Alpine regions of Europe and Asia. It is remarkable that it is occasionally met with on the *Allée Blanche*, in Savoy, upon isolated rocks, which project like islands from the sea of ice, at the distance of some leagues from any part that is not frozen, and not free from snow for more than six weeks in the whole year; so that it would appear that the Marmot, in such situations, must sleep at least ten months in the year, and pass an extremely small part of its existence in a waking state.

2. *Citellus*. (*Mus ponticus*.) Earless Marmot. *Ger.* das Erdzeiselchen.—*M. Auriculis minimis, cauda villosa, corpore vario.*

(SCHREBER. Tab. 211.)

Principally found in Hungary, Poland, and Siberia. About the size of the Hamster, and like it has cheek-pouches.

3. *Cricetus*. The Hamster.—*M. abdomine nigro.*

(F. G. SULZERS' *N. G. des Hamsters*. Gött. 1774. 8vo. Tab. 1, 2.)

In many parts of Germany, Poland, Siberia, &c. Lives chiefly on corn and beans, of which it carries large quantities in its cheek-pouches to its subterraneous burrows, sometimes seven feet deep. A hole of this kind will contain sixty pounds of such provisions. It increases rapidly, and in the district of Gotha alone, as many as 90,000 Hamsters have been killed in one