An Introduction To The Study Of Mammals Living And Extinct

Richard Lydekker
Title: An Introduction To The Study Of Mammals Living And Extinct

Author: Richard Lydekker

This is an exact replica of a book. The book reprint was manually improved by a team of professionals, as opposed to automatic/OCR processes used by some companies. However, the book may still have imperfections such as missing pages, poor pictures, errant marks, etc. that were a part of the original text. We appreciate your understanding of the imperfections which can not be improved, and hope you will enjoy reading this book.
AN INTRODUCTION
TO THE
STUDY OF MAMMALS
AN INTRODUCTION
TO THE STUDY OF
MAMMALS
LIVING AND EXTINCT

BY
WILLIAM HENRY FLOWER
DIRECTOR OF THE NATURAL HISTORY DEPARTMENTS, BRITISH MUSEUM

AND
RICHARD LYDEKKER

LONDON: ADAM AND CHARLES BLACK
MDCCXCII

THE WOOLLY OPOSSUM
PREFACE

One of the greatest difficulties experienced by all who undertake a work of this nature, not professing to be an exhaustive treatise on the subject with which it deals, is to determine the amount of detail desirable to be introduced to meet the requirements of the ordinary student, without rendering it too bulky or costly for general use. The experience of those who endeavour to profit by the book can alone decide how far the authors have succeeded in this respect. It will be observed that in many instances certain better-known or more interesting members of the class have been described at considerable length, while it has been necessary to treat others with much greater brevity.

With regard to the references to the literature of the various groups treated of, it has been the endeavour of the authors to make a selection of such memoirs and works as are likely to prove most valuable to the student for the amount of original information which they contain, and more especially of those giving full bibliographical data up to the time of their publication, the repetition of which has been considered unnecessary.

In a few instances new generic terms have been introduced to
replace some which were already occupied; these have been proposed by Mr. Lydekker, and should be quoted as his.

The work is based largely upon the article “Mammalia,” together with forty shorter articles, written by the senior of the two authors for the ninth edition of the Encyclopædia Britannica. The account of the orders Rodentia, Insectivora, and Chiroptera contributed to the article “Mammalia” by Dr. G. E. Dobson, F.R.S., as well as the articles “Mole,” “Shrew,” and “Vampire,” by the same writer, the articles “Marmot,” “Mouse,” “Opossum,” “Phalanger,” “Rat,” “Squirrel,” “Stoat,” “Vole,” and others, by Mr. Oldfield Thomas, and likewise the article “Ape,” by Dr. St. G. Mivart, F.R.S., have also been made use of to a greater or less extent. The best thanks of the authors are due to these three gentlemen for freely permitting the incorporation of their own work in the present volume.

Mr. Lydekker undertook the task of arranging the various articles in their proper sequence, selecting from these such portions as seemed suitable, filling up the gaps, and adding new matter where necessary; a large amount of this new matter treating of the extinct forms, and also of the group Artiodactyla.

The subsequent revision, both before being sent to the printers, and also when passing through the press, has been made by both authors, who are thus jointly responsible for the whole work.

The illustrations are to a great extent those prepared for the various articles in the Encyclopædia, but many have been added —some drawn expressly for the work, and some borrowed from other publications. For most of the latter the authors take this opportunity of expressing their thanks to the Publication Com-
mittee of the Zoological Society of London, as well as to the individual writers in whose works they first appeared.

The authors have further much pleasure in acknowledging the ready and obliging way in which Mr. Oldfield Thomas has, throughout the progress of the work, placed his extensive knowledge of the group of animals of which it treats at their disposal.

London, March 1891.
CORRIGENDA.

Page 280, *for* Chaeropsis *read* Chaeropsis.

Page 292, *for* Chaeropotamidae and Chaeropotamus *read* Chaeropotamidae and Chaeropotamus.

Page 590, *for* Precilogale *read* Precilogale.
# CONTENTS

## CHAPTER I

### INTRODUCTORY REMARKS

Use of term mammals, 1; Characters of mammals, 2; Development of young, 3; Size of mammals, 4; Uses and products of mammals, 4.

### CHAPTER II

#### GENERAL ANATOMICAL CHARACTERS

1. tegumentary structures . . . . 7

Hair, 7; Colour, 8; Scales, etc., 11; Nails, claws, and hoofs, 12; Odour-secreting glands, 12.

2. Dental System . . . . 13

Teeth, 13; Structure of teeth, 13; Development of teeth, 15; Forms of teeth, 17; Succession of teeth, 19; Arrangement, homologies, and notation of teeth, 21; Dental formula, 25; Modifications of teeth in relation to function, 28; Taxonomy, 30; Trituberculism, 30.

3. The Skeleton . . . . 33

Definition, 33; Axial skeleton, 34; Skull, 34; Vertebral column, 39; Cervical vertebra, 41; Dorsal vertebra, 12; Lumbar vertebra, 42; Sacral vertebra, 43; Caudal vertebra, 43; Sternum, 44; Ribs, 44; Appendicular skeleton, 46; Anterior limb, 46; Shoulder-girdle, 46; Brachium and Antebrachium, 47; Manus, 48; Carpus, 48; Metacarpus and Phalanges, 49; Posterior limb, 50; Pelvic girdle, 50; Thigh and Leg, 51; Pes, 52.

4. The Digestive System . . . . 53

General considerations, 53; Mouth, 54; Salivary glands, 55; Stomach, 57; Intestinal canal, 59; Liver, 60.

5. Circulatory, Absorbent, Respiratory, and Urinary Systems . . . . 63

Blood, 63; Heart, 63; Lymphatic vessels, 65; Ductless glands, 65; Nostrils, 66; Trachea, 67; Larynx, 67; Diaphragm, 67; Lungs, 68; Air-sacs, 68; Urinary Organs, 69; Bladder, 69.
VI. Nervous System and Organs of Sense . 69
   Brain, 69; Nerves, 71; Sense of touch, 72; Taste and
   smell, 72; Sight, 72; Hearing, 73.

VII. Reproductive Organs . 74
   Testes, 74; Penis, 74; Ovaries and oviduct, 75; Mammary
   glands, 75; Secondary sexual characters, 76; Placenta, 76.

CHAPTER III

ORIGIN AND CLASSIFICATION OF THE MAMMALIA . 82

Origin, 82; Classification, 84; Table of orders and
families, 88.

CHAPTER IV

GEOGRAPHICAL AND GEOLOGICAL DISTRIBUTION . 93

I. Geographical Distribution . 93
   Zoological regions, 96; Palaearctic region, 97; Ethiopian
   region, 98; Oriental region, 100; Celebes, 102; Nearctic region,
   102; Neotropical region, 103; Aquatic mammals, 104.

II. Geological Distribution . 107
   Sequence of strata, 107; Mesozoic mammals, 109; Multi-
tuberculata, 109; Polyprotodont types, 113; Tertiary mammals,
115.

CHAPTER V

THE SUBCLASS PROTOHERIA OR ORNITHODELPHIA . 117

General characters, 117. Family Ornithorhynchidae,
119; Ornithorhynchus, 119. Family Echidnidae, 124;
Echidna, 125; Proechidna, 126; Fossil species, 127.

CHAPTER VI

THE SUBCLASS METATHERIA OR DIDELPHIA . 128

General characters, 128; Distribution, 131; Classification,
131.

Suborder Polyprotodontia . . 133
Family Didelphidae, 133; Chiroptera, 134; Didelphys,
135. Family Dasyuridae, 136; Subfamily Dasyurine, 136;
Thylacinus, 136; Sarcoophilus, 137; Dasyurus, 138; Phascolote-
gale, 139; Sminthopsis, 139; Antechinomys, 139; Subfamily
Myrmecobiinae, 140; Myrmecobius, 140. Family Peramelidae,
141; Perameles, 142; Peracola, 143; Choropus, 143.