

**A COURSE IN INVERTEBRATE
ZOOLOGY. A GUIDE TO THE
DISSECTION AND COMPARATIVE
STUDY OF INVERTEBRATE
ANIMALS**

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A Course in Invertebrate Zoölogy. A Guide to the Dissection and Comparative Study of Invertebrate Animals by Henry Sherring Pratt

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INVERTEBRATE ZOÖLOGY

A GUIDE TO THE DISSECTION AND COMPARATIVE
STUDY OF INVERTEBRATE ANIMALS

BY

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PREFACE

THE plan of this course is to study each of the larger groups of invertebrate animals, so far as possible, as a whole, instead of detached types of different groups taken more or less at random, as is usually done. The attention is directed constantly to the main structural features which characterize the entire group under consideration. The effort is thus made to teach relationships, and to make the study truly comparative.

In order that the systematic position of the animals examined and their larger affinities may be easily kept in mind, a synopsis of the animal kingdom expressing the relationships of the various groups has been added in an appendix.

The course begins with arthropods, because the natural succession of forms from the lowest to the highest is more apparent in them than in any other group of invertebrates, and it is, consequently, easier for a beginner, by studying them, to learn to appreciate the real significance of the blood-relationship of animals. Arthropods are also perhaps the most convenient animals with which to teach the fundamental principles of invertebrate morphology. Whether, however, the student begins his course with insects or with crustaceans, and whether the first insect taken up is the wasp or the grasshopper, will be matters for the decision of the teacher. The course has been so arranged that any of these methods of beginning may be adopted.

While the comparative feature runs through all the dissections in the course, each one is usually complete in itself and does

not depend upon any others. The teacher is thus enabled to give his class such dissections as he wishes and is not compelled to adopt the entire series in order to have his course complete. In my own classes, I vary the order of the dissections from year to year and never go through the entire course. I even occasionally begin the course with the Protozoa and work upward to the higher animals; but I do not consider this usually so profitable a method of procedure for the pupil as the one herein recommended.

An important feature of the plan of this course has been adopted, in a somewhat different form, from Huxley and Martin's "Practical Biology" and Marshall and Hurst's "Practical Zoölogy." It is to give the student such practical directions that he can go on with his work intelligently and profitably without having an instructor constantly at his elbow. It has been my experience that far too much of the time of the average youthful student is often wasted in the laboratory because the instructor does not happen to be at hand at critical times to direct his work. The student will often do the work wrong in consequence, or perhaps he will not do anything at all; in either case his time is wasted and perhaps his material spoiled.

In most of the dissections the directions are so arranged that the student can complete the study with a single specimen, and the order in which the different systems of organs are taken up in each dissection is made dependent upon this feature. The necessity of practicing economy of material is thus inculcated, and the habit is acquired of studying and handling each specimen with care and judgment.

I have been fortunate in procuring the coöperation of a number of well-known teachers in the revision of the proofs, with the aid of whom I have sought to eliminate errors so far as possible. Portions of the proofs have been read critically by

PREFACE

v

Professors A. S. Packard, J. H. Comstock, H. H. Wilder, J. I. Hamaker, Frank Smith, H. B. Ward, E. L. Rice, H. L. Osborn, H. L. Clark, C. W. Hargitt, and H. S. Jennings. Their criticisms and suggestions have been most helpful and important, and I wish to acknowledge a heavy obligation to each of them.

H. S. PRATT.

HAVERFORD, PA.,
October, 1901.

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