COLLINS' CLEMENTARY SCIENCE SERIES. AN INTRODUCTION TO THE STUDY OF GENERAL BIOLOGY: DESIGNED FOR THE USE OF SCHOOLS AND SCIENCE CLASSES

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649055890

Collins' Clementary Science Series. An Introduction to the Study of General Biology: Designed for the Use of Schools and Science Classes by Thomas C. MacGinley

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

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THOMAS C. MACGINLEY

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AN INTRODUCTION

TO THE STUDY OF

GENERAL BIOLOGY.

DESIGNED FOR THE USE OF

SCHOOLS AND SCIENCE CLASSES.

BY

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WITH 124 ILLUSTRATIONS.

LONDON AND GLASGOW:

WILLIAM COLLINS, SONS, & COMPANY.

1874.

PREFACE.

THE very best preparation for the study of the laws of LIFE, under its various manifestations, is first to become thoroughly conversant with the characters of a few well-marked typical beings, with which all others may be compared, and around which, as centres, they may be conveniently grouped. As every true classification of plants and animals must be founded on their structural affinities, care has been taken in the present work to place before the student a clearly detailed statement of the form, functions, and minute structure of every part of the organism brought under his notice. With this object in view, numerous illustrations have been introduced, which, it is hoped, will render the facts of anatomy and physiology more intelligible, and more easily remembered. The student is, however, earnestly recommended to verify these by actual observation. The illustrations, for the most part, are either drawings from nature, or *diagrams* of the Author's own designing. A few, however, are taken from the works of recent writers on the subjects to which they severally refer. The use of technical terms has been by no means avoided, inasmuch as it is believed to be absolutely impossible to understand thoroughly any department of special study without a good knowledge of the technical language employed by

the more eminent among the authorities who treat of it. In the present work, these terms are explained as they occur, and in the Glossary their derivations and literal meanings are also given along with their technical applications.

In the preparation of this work, designed, as it is, to meet the wants of junior science students in connection with the Science and Art Department, the Syllabus of the Elementary Stage in General Biology has been followed. It is not intended, however, to supersede the use of the scalpel or microscope, or oral instruction from a competent teacher. On the contrary, it is hoped that, with its aid, and with the other helps recommended, the student will examine the great field of nature for himself, and thus acquire that kind of knowledge which it is most desirable and delightful to possess—namely, the knowledge derived from a patient questioning and examination of those objects in nature to which one's studies are specially devoted.

Of the works consulted, the author must here express his indebtedness to those of Balfour, Silver, Haughton, Carpenter, Nicholson, and Huxley. He must also acknowledge his obligations to Messrs. P. Doyle, and G. H. Begley, Portaferry, and to Messrs. J. C. Ward and P. O'Byrne, Killybegs, for the aid kindly rendered while the work was passing through the press.

THOMAS C. MacGINLEY.

CROAGH, DUNKINEELY, DONEGAL,
March, 1874.

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