pelagic—' etc., seeming to use the terms as synonymous. Again, there is something of doubt in the validity of certain references to symbiotic relations, as in the following: '*Hydractinia* and even the sea-anemone form interesting partnerships with the hermit-crab.' This is all admirable and beyond dispute. But that 'the polyps cover up the shell occupied by the crab, thus concealing it from its enemies and its prey' may be seriously doubted. Indeed, every observer knows that there are more hermit-crabs without the hydroid colonies than with them. And furthermore, the reviewer has found larger colonies of this particular hydroid on bits of water-logged spars and on the piles of a dock than the combined colonies of scores of crab-shells.

The figures are for the most part well selected and executed. In a few cases figures are rather too diagrammatic for accuracy. In its mechanical aspects the book is a creditable piece of press-work. The typography is excellent and mistakes few. A slight one may be noted in the description of Fig. 68, where the expanded and contracted vorticellæ are wrongly indexed. C. W. H.

SCIENTIFIC JOURNALS AND ARTICLES.

The American Naturalist for October contains but two papers: 'The Naididæ of Cedar Point,' by L. B. Walton, and the 'Mechanism of the Odontophoral Apparatus in *Sycotopus canaliculatus*,' by J. C. Herrick. The microscopic Oligochæta have received little attention in this country and Professor Watson's paper deals with the local species systematically, giving a key to the genera and describing seven new species. Professor Herrick describes in detail the structure and workings of the rasping apparatus by means of which the winkle bores through and destroys so many clams and similar mollusks. He decides that Huxley's views were correct and that the radular membrane bearing the teeth slides back and forth over the supporting cartilage like a chainsaw.

The Bulletin of the College of Charleston Museum for October is mostly devoted to the early history of the museum which may possibly claim to be the oldest public museum of natural history in the United States. The rival claimant is the collection of minerals of Harvard which dates back to 1798.

The Museum News of the Brooklyn Institute for November has articles on the 'Housekeeping of a Large Museum,' 'The King Penguin' and on 'The Woodward Jade Collection.' This last contains a good *résumé* on the history of jade objects and the methods of working. The principal article in the Children's Museum section is devoted to 'Bird Life in Bedford Park.'

SOCIETIES AND ACADEMIES.

THE TORREY BOTANICAL CLUB.

ON May 23, 1906, the club held a special meeting in commemoration of the tenth anniversary of the commencement of work in the development of the New York Botanical Garden.

The meeting was held in the lecture hall of the Museum Building at the Botanical Garden. President Rusby presided, and there was an attendance of 125. The following persons were elected to membership: Percy L. Ricker, U. S. Department of Agriculture, Washington, D. C.; Miss Winifred J. Robinson, Vassar College, Poughkeepsie, N. Y.; Miss Bina Seymour, 115 West 84th Street, New York City.

After the election of new members the club listened to an illustrated lecture by its president on 'The History of Botany in New York City.'

Dr. Rusby presented a historical sketch of the development of botany in the city of New York, giving special attention to the history of local botanical gardens, of the botanical department of Columbia College and of the Torrey Botanical Club. The earliest local work related to the botanical gardens of Colden, Michaux and Hosack, and to the publication of local catalogues and floras. The second period was that of text-books, manuals and other educational works. Out of the associations resulting from local work, the Torrey Botanical Club developed so gradually that it was impossible to fix the date of its

actual beginning. Portraits of its early members were exhibited and brief biographical sketches presented. Out of the activity of the club and of the botanical department of Columbia, grew the demand for a great botanical garden, which was satisfied by the establishment of the present New York Botanical Garden. The contemporary botanical forces at work in the city were briefly described, and their most important present needs outlined. The complete address was published in *Torreya* for June and July, and separates will be furnished at ten cents each.

The lecture was followed by an informal reception in the library, and by an inspection of the library, laboratories, herbaria and the museum exhibits.

C. Stuart Gager,
Secretary.

Discussion and Correspondence.

The Policy of the U. S. Geological Survey and its Bearing upon Science and Education.

To the Editor of Science: It is but fair to Director Walcott that his reply to my letter insisting upon my resignation should be laid before those who have seen the earlier letters. The following is a copy of it:

U. S. Geological Survey,
Washington, D. C., Nov. 9, 1906.

Dr. J. C. Branner,
Stanford University, California.

Dear Sir: Your letter of October 13 was received at this office on October 22, and in my absence was acknowledged by Dr. Hayes on October 23. I was naturally surprised on my return to find that this letter, together with other correspondence on the subject of surveys in the Arkansas coal field, had been published in Science on October 26. I am at a loss to understand your reasons for publishing the correspondence, inasmuch as I do not think anything is to be gained by a public controversy. I have sent a brief communication to Science (copy enclosed) explaining the principles which govern the United States Geological Survey in its relations with other geological surveys and working geologists.

In your letter, on page 2, you state seven reasons, deduced from my letter of March 8, for the course followed in this matter, and reply to them. Permit me to add a word of comment to your replies.

1. "The field work on the Arkansas coal region was done 18 years ago." You recognize that work done so long ago needs to be brought up to date before publication. Your contention is that, "having originated and directed the survey of the Arkansas coal fields," you should be allowed to bring the work and the report up to date. This, of course, is the gist of the whole matter, and I shall revert to it again.

2. "It was based upon poor maps." There is no difference of opinion on this point. Inasmuch, however, as the scale of publication proposed by this Survey is only half that insisted upon by yourself, and as the map will be published without contours, the defects in the topographic base are very much less serious than they would have been if your proposition had been accepted and an attempt had been made to publish maps on the 62,500 scale.

3. "The work is not 'up to present standards' and therefore could not be accepted for publication by the Survey." You state that "neither you nor any of your assistants have read the report and you can not therefore know anything about its relations to standards of any kind." While the report has not been read, you will recall that the maps were examined in December, 1901, by Dr. Hayes in connection with the proposition to publish the report at that time. These maps bore such evidence of inaccuracy and generalization that the scale proposed for their publication was not regarded as suitable and the recommendation was made that they should be reduced, preferably to one-quarter, and at least to one-half, the scale proposed. He made no statement regarding the standard of the written report, but considered the maps as amply justifying the statements made regarding the character of the work. You will recall that in the correspondence of 1901, when the proposition to publish your report was being considered, an essential condition to such publication was that additional field work should