Science, the botanical department of the University of Pennsylvania, and the various field clubs are fully exploited, the pages being interspersed with numerous half-tone illustrations of points of botanical interest, in addition to many excellent portraits, the full-page illustrations amounting to forty-eight. The work is written in a pleasing style, is well printed, and forms an attractive volume. The portions relating to the earlier botanical workers who gave to Philadelphia its early botanical prestige are particularly interesting. Additional matter of general interest is found in the historical account of the scientific journals and serial publications that have been issued from Philadelphia. An interesting account of the historic trees of the vicinity closes the work.

The author is sanguine that Philadelphia 'is peculiarly fitted to be the botanical center of America,' and his references to 'the metropolitan life and publishing houses' of New York on the one side, and 'the libraries and scientific departments' of Washington on the other, illustrate well how near one can live to cities and yet fail to appreciate their most salient features.

LUCIEN M. UNDERWOOD.

The Maturation, Fertilization and Early Development of the Planarians. By WILLARD G. VAN NAME. From Trans. Conn. Acad., Vol. X., p. 263–300, pl. xxxvi.–xli. August, 1899.

The author has studied the early life history of *Eustylochus ellipticus* (Girard), and *Planocera nebulosa* Verrill with great care. The characteristic features of each structure are presented, so far as could be determined from the study of the material, which is not favorable for the solution of certain points. While the results obtained agree in the main with those of previous observers, light is thrown on a number of doubtful points. Especial mention may be made of the discussion of the centrosphere and its parts, as well as that on the interesting modifications in the form of the chromosomes. The paper is well illustrated. H. B. W.

SOCIETIES AND ACADEMIES.

BIOLOGICAL SOCIETY OF WASHINGTON.

THE 313th meeting of the Society was held Saturday, December 2d. W. H. Dall exhibited a specimen of the fruit of a species of *Barringtonia* stating that it was used for capturing fish, the kernel being bruised and cast into small ponds or streams whereupon the fish became stupefied and rose to the surface, where those that were wanted were gathered. The effect upon the fish was only temporary, those not taken soon recovering.

Frederick V. Coville showed an entire and a bisected cone of *Pinus alternata* both covered with lichens. Mr. Coville stated that these cones remained on the trees from 20 to 50 years and seemed to open and release the seeds only when exposed to great heat, so that no seedlings of this pine were to be seen except where the ground had been swept over by fire.

L. H. Dewey spoke on 'Frost Flowers,' saying that this name is applied to peculiar formations of ice found on certain plants on frosty mornings in fall and early winter. They are most frequently observed on dittany, *Cunila origanoides;* frostweed, *Helianthemum canadense;* marsh fleabanes, *Pluchea camphorata* and *P. fœtida*, and on the Pacific coast on the cultivated heliotrope. The first published record of the phenomenon appears to be that of Dr. Stephen Elliott, in 1824, who observed it on *Pluchea fœtida* ('Conyza bifrons') and made a note of it in his 'Botany of South Carolina and Georgia.' It has since been observed, studied and written about by many botanists and physicists. It is apparently purely physical in character, due to capillary movement of water and the action of frost, but no thoroughly satisfactory explanation has yet been given why it should be found on only about twenty-six species of plants and not on others. Further observations in the field at this season are needed to determine whether frost flowers may be found on species other than those recorded, and also further studies are needed on the structure of plants exhibiting the phenomenon.

H. J. Webber presented a paper 'The Effect of Hybridization in the Origination of Cultivated Plants,' calling attention to the remarkable development of certain of our cultivated plants, due to the effect of hybridization. It was pointed out that this is particularly true in the grape where 57 per cent. of the sorts of known parentage are hybrids while only 29 per cent.