considerable amount of high priced fruit had been ruined.

Scattered irregularly over the surface of each apple were conspicuous spots of various sizes where the epidermis was dead, discolored and slightly sunken. Each spot was nearly circular, though on some apples the adjacent spots had coalesced, forming a large affected area of irregular shape. Beneath each spot to a depth of a few millimeters, the flesh was dead, shrunken and dry, appearing as though affected with a dry rot. There was no disagreeable odor or taste to the dead flesh or epidermis.

In the center of each of the smaller spots, and scattered over the larger affected areas, were small bodies resembling the pycnidia of a fungus, but examination showed them to be only the normal lenticels of the apples.

Failure to find either fungi or bacteria as a cause of the injury led to the belief that some treatment of the fruit, such as fumigation, might be a cause. Sulphur, being commonly used for fumigation, was experimented with to note the effects of the fumes upon ripe apples. Fruits of different varieties including Esopus Spitzenburg were placed in a bell jar which was then filled with sulphur fumes. After five minutes the fruit was removed and found to have developed numerous spots that were in every way identical with those on the apples received for examination.

This experiment was repeated many times with wet and with dry fruits, but the characteristic spots were always produced. The spots continued to enlarge for some time after the fruits were removed from the fumes.

The presence of a lenticel in the center of each spot would indicate that the sulphur dioxid passes into the fruit at this point and causes the bleaching of the tissue. A similar effect was produced where an artificial break in the epidermis was made. A lenticel makes a strong color contrast with the bleached epidermis, thus giving it the appearance of a pycnidium.

Sulphur was the only substance used in these experiments; it is possible that other chemicals would produce a similar injury.

GENEVA, N. Y. H. J. EUSTACE.

THE FLOATING LABORATORY OF MARINE BIOLOGY OF TRINITY COLLEGE.

ARTICLES of incorporation have been filed with the secretary of the state of Connecticut 'to establish and maintain a floating laboratory of marine biology for exploration in oceanography and the collection and investigation of the organisms of the sea; to supply colleges, museums and other institutions with material for investigation, study and exhibition.'

A vessel of about ninety tons burden will be secured and equipped with the necessary dredges, trawles, tangles, tow-nets, etc., as well as chemical reagents and glassware for work in marine zoology and botany. When the boat is anchored in a protected harbor immediately it becomes a laboratory. The vessel, in sailing from place to place in the ocean, will furnish most favorable facilities for the investigation of the distribution and variation of organisms. On each expedition it is planned to stay in some particularly desirable locality for about one month so that problems of cytology, embryology and physiology may be undertaken. Competent preparators, artists and photographers will be on the staff so that not only museums and laboratories may be supplied with material, but an effort will be made to meet the specifications of investigators as to fixation and preservation, together with sketches, or photographs, of the organisms desired for their work. In going to a new region each summer large collections for research will be made year after year and it is hoped to greatly extend our knowledge of the local faunæ and floræ of the western Atlantic.

In the early summer of 1906 the vessel will sail to the Bahamas. After a month in the sub-tropics the boat will weigh anchor for the cruise northward, making a harbor every hundred miles or so for the purpose of getting material for comparative studies. In the Bahama Islands the conditions are very favorable for the most abundant and varied organisms since these islands are situated in the mouth of the Gulf Stream where it debouches between Florida and Cuba, bringing with it myriads of creatures caught up in the

wide circuit of the current from the equator and through the Gulf of Mexico. The climate, though warm, is agreeable in summer and usually keeps between 84° and 86°. The trade winds blow steadily, the waters are clear and the people honest and simple hearted. Biological investigators have already found the life there in summer both interesting and delightful. These healthful conditions are of great importance for northern men when working hard with both mind and body on the edge of the tropics.

While this project centers in Trinity College, shares have been taken by those interested in other institutions and it is in the largest way for the benefit of all investigators who care to take advantage of the opportunities offered. CHARLES L. EDWARDS.

FEDERICO DELPINO.

BY the death, at the age of seventy-two, of Professor Federico Delpino, of the University of Naples, modern botany has lost one of its pioneers. For, according to Friedrich Ludwig, a leading authority on the subject, the foundations of plant biology were laid by the publication in 1867 of Delpino's 'Thoughts on Vegetable Biology, on Taxonomy and on the Taxonomic Value of Biological Characters.'

Born at Chiavari, in the province of Genoa, his childhood was largely passed in the garden of his father's house, where he studied closely the habits of ants, bees and wasps and succeeded in discovering the mode in which the great blue-black bee, *Xylocopa violacea,* constructs its nests. His education was the classical one usually given to an Italian boy of that day, and his employment for nearly ten subsequent years was in the routine of the custom house.

About 1864 a friend called Delpino's attention to the account of an English observer of the manner in which a Ligurian orchid was pollinated by *Xylocopa.* Delpino at once replied to his friend that there should be a similar apparatus in the flowers of the Asclepiadaceæ and he hastened to Chiavari to verify this prophecy. Here he quickly found the *Xylocopa* in the act of pollinating the flowers of a magnificent Brazilian asclepiad.

The discovery of the relation between this plant and its insect visitor was a turning point in Delpino's career, for the paper which he promptly published at once put him into relations with the botanical world and marked the beginning of a long series of brilliant researches. Becoming a professional botanist, Delpino taught successively in the universities of Genoa, of Bologna and of Naples.

His predominant interest was always in the relations between plants and animals, but he made valuable researches and thought profoundly on other departments of botany, attacking problems as far away from his chosen subject as phyllotaxy and plant geography.

As a university professor Delpino was probably more feared than loved by his students. No member of the first class which took the final examination in botany at the University of Naples after Delpino's assumption of the instruction in that department will ever forget the wholesale manner in which the failures were recorded. His manner, too, would impress one who met him for the first time as somewhat ascetic. But an experience of almost ten years, of the unvarying courtesy with which Professor Delpino, in frail health and loaded with researches of his own, would respond to every demand for an opinion leads the writer to remember him as no less typical an Italian gentleman than he was an ideal scholar. J. Y. BERGEN.

NAPLES,
May 26, 1905.

THE AMERICAN MICROSCOPICAL SOCIETY.

THE twenty-seventh annual meeting of the American Microscopical Society will be held at Cedar Point (Sandusky), Ohio, on July 5, 6, 7 and 8, 1905. The society will be the guest of the Ohio Lake Laboratory under the direction of Professor Herbert Osborn of Ohio State University who has placed at the disposal of the meeting all the facilities of the laboratory and who is planning excursions and collecting trips to demonstrate the rich fauna and flora of this region. The meetings will be held in the laboratory with the exception of the president's address which will be given in Sandusky.