

which are rudimentary colored visual organs on the five ocular plates, alternating with the five genital plates round the periproctal space at the aboral pole, did not show any pigment. It was a perfect albino, and, so far as I have been able to ascertain, the first albino sea-urchin ever seen. It was a beautiful object, appearing as though its characteristic apple-shaped form were delicately carved in white marble. It is now conspicuous in the faunal collection of fishes and invertebrates at the Dominion Biological Station, St. Andrews, N.B.

An interesting albino specimen of the lobster (*Homarus americanus*), from the Pictou shore, Nova Scotia, came into my possession some time ago. Pale tinted specimens of lobsters have long been known, some of which, in place of the dark blackish blue of the usual type, show reddish or yellowish coloration; but the specimen which I secured was dappled all over with irregular patches of yellowish white and the blue-black color was confined to small, irregular spots, chiefly on the upper parts of the tergum, or dorsal portion of the body and tail-segments. This very unusual specimen was only 8 inches in length and cannot have been more than three or four years old. It might be suggested that, instead of being an albino, the specimen merely retained some of the varied coloration of the infantile stages, for when half-an-inch long, at the stage when salts of lime and pigment first appear in the delicate shell, the general color is maroon, or sometimes pale brown with green intermingled, and especially prominent are some chalk-white spots, four or five in number, apparently marking the attachments of the tendons of the cephalo-thoracic muscles inside. These spots are even more distinct at the sixth stage, about the fifth week after hatching, when its length is three-fifths of an inch. At the seventh stage (seventh week), when three-quarters of an inch in length, a definite pigment layer appears below the external cuticle. In the adult lobster this pigment layer, called by Dr. W. B. Carpenter the areolar layer, is a canaliculated stratum crowded with lime salts, and is hypodermic in origin, and mainly constitutes the thick, dense shell. A tubular layer occurs beneath, likened by some authorities to dentine, being thick and dense, and forming the gleaming white part which is seen when the shell is broken. Lowest of all is a thin lamellar non-calcified layer. The color in the areolar layer is due to chromogens, which are converted by boiling, dehydration by alcohol, etc., and even by exposure to excessive light, into a red lipochrome. Every one is familiar with the change, by boiling, of a dark blue or blackish-green lobster into a bright scarlet one. The normal prevailing color of lobsters on the Atlantic coast is blackish-blue, sometimes of