

position. Both consider the lime to have been precipitated from solution by various agents. The older hypothesis holds that the high percentage of carbon dioxide in spring water is reduced when it enters the lake. As a consequence, the calcium carbonate, which has been held in solution through the presence of the excess carbon dioxide, is precipitated. The other theory attributes the same result to the work of algae which remove the carbon dioxide. It is quite possible that both agencies have been operative at MacKay Lake; but, however precipitated, the marl in a finely divided state, would be injurious to the molluscan fauna and account for its depauperation.

Another factor which no doubt must have exerted considerable influence in this connection was the colder climate which probably existed when the marl was accumulating. Such conditions would tend to make short thick shelled forms with the vital organs concentrated as much as possible. A glance over the marl fauna shows this to be conspicuously true. *Valvata*, *Ammicola*, the represented species of *Planorbis*, all belong to this class. *Lymnaca galbana* with its shouldered thickset whorls is a remarkable contrast to *Lymnaca stagnalis appressa*. *Planorbis trivolvis* a large thin shelled species is missing from these marl beds.

The marl of MacKay Lake, therefore, seems to have a depauperate fauna due to an adverse bottom environment and, probably, to a cold climate. It would be interesting to note if, in other districts, similar results could be obtained from a comparative study of the fossil and recent forms. MacKay Lake, however, lends itself particularly well to this kind of study as the marl beds are in such close proximity to the lake. Instructive results would probably be obtained if the fresh water fauna of the Toronto formation were subjected to this type of study.

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The Division of Exhibits of the United States Food Administration, Washington, offers to assist any museum to develop a special exhibit to illustrate the need of conserving foods. A handbook of "Graphic Exhibits" has been printed. Mimeograph copies of plans for larger exhibits have been prepared. Copies have been secured of a series of 13 charts, designed and written by Elizabeth C. Watson, under the title, "Why Food Conservation is Necessary." All these are sent to any museum upon request.

## MOST UNUSUAL DEER HEAD WITH EYE TEETH.

The White-tailed Deer (*Odocoileus virginianus*) is well known as a bearer of great variations. The horns of the older animals exhibit many freak forms but it is not usual that a natural freak is seen in a young deer. The following note is of a freak in a young deer not over four years old and refers to the teeth and not to antlers, in which there are "eye teeth" or tusks (quite well developed for the age); both are evenly matched and slightly curved back, standing out from the jaw about three-eighths of an inch. A characteristic of the deer family is the absence of front teeth in the upper jaw, the only exception being found in the Elk group (*Cervus*), which when over four years usually develop eye teeth in the male sex only. Taking the formation of teeth in all the larger animals, the majority still carry the eye teeth, or show signs that they did in generations of long ago, and I conclude, therefore, that the deer family also had normal teeth in earlier times so it would be hard to say just how many generations this little deer has been thrown back to his former ancestors. I enquired at the Victoria Memorial Museum, Ottawa, if the officers there had ever known of this freak before and the Director replied that he could find no previous record. I also wrote to the U.S.N.M., Smithsonian Inst., Washington, D.C., and was informed that it is of most unusual occurrence, though they have one from Arizona. I gather, however, that the Arizona record is the only one they know of, but, in this, I may be mistaken. The specimen here recorded was killed near Yahk, B.C., in December 1917, and now forms part of my collection.

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As an example of the possibilities of economic zoology, it is interesting to report that the U.S. Biological Survey which has long been engaged in the control of rodent and other pests in various parts of the country, has detailed a staff to France to make similar attempts against the rats that infest the battlefields. These animals, disgusting in themselves, are also a source of danger to the trenches by their habits of undermining and to the troops owing to the food and material they destroy and their potential possibilities as disease carriers. Should even partially effective means of control be evolved they will demonstrate the practical value of scientific research in a most convincing manner.