

sponding limit is set for plant and animal life upon our globe.

T. J. J. SEE.

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ON THE NEW GENUS OF LAMPREY, *MACROPH-*
THALMIA CHILENSIS.

THE preliminary account of Dr. Plate's remarkable discovery published in the *Sitzungsberichte der Gesellschaft Naturforschende Freunde*, Berlin (1897, No. 8, pp. 137-141), has, as far as I am aware, received no comment in recent literature, although there can be little doubt that this remarkable Cyclostome has revived more of the important discussions as to the position of the Cyclostomes than any publication since the time of the classic pamphlet of Professor Dohrn, '*Der Ursprung der Wirbelthiere*.' And morphologists will, I am sure, await impatiently a further discussion of the anatomy of this newly discovered type, shortly to appear in the *Fauna Chilensis* in the Supplement Volume of the *Zoologische Jahrbücher*.

As the preliminary account is not readily accessible, it may be noted that this remarkable lamprey has large and normally developed eyes. It measures but 107 mm. in length, is of a brilliant silver-white color, and its sides are literally compressed, as in the case of many of the typical bony fishes. The back region is blue-black, with light yellow, dusky flakes on the anterior half of the forehead. It is also noteworthy that the sides of the body are perfectly smooth, lacking the markings of the muscles, common in other Cyclostomes. The nasal opening is slit-like, situated anterior to the eyes, and not opening in a papilla. The gill-slits are vertically compressed. The eye is of extraordinary size, 2.5 mm. in diameter, and resembles outwardly the eyes of a Teleost, with a circular pupil, 1 mm. in diameter.

The dentition is relatively simple, and is said to resemble that of Myxine.

Plate has not as yet expressed his opinion as to the significance of his morphological prize; but, judging from a single phrase in his paper, he appears to regard it as a form which has not assumed parasitic habits, and has, therefore, not been subjected to degeneration. To what degree, however, will he support Dohrn's earlier teachings, which derived the Cyclostomes from a teleost-like ancestor? In any case, this discovery will by no means simplify the difficult problem as to the relationships of the Cyclostomes in general, for it is not unnatural to assume that if one of these forms has evolved normally developed eyes probably the others also may originally have possessed them, and that the present condition of cornea, lens and retina may reasonably be interpreted as degenerate instead of primitive. On the other hand, as far as the preliminary account enables one to judge, it is also possible to assume that under favorable conditions the *Hyperoarte* may have become highly specialized to the degree, indeed, of acquiring a more teleost-like body form, together with more completely developed visual structures. It is to be hoped that Dr. Plate has succeeded in collecting material which will throw light upon the relations of this new type from the standpoint of metamorphosis and embryonic development.

BASHFORD DEAN.

NOTE ON THE SPAWNING SEASON OF THE
EEL.

THE recent and most interesting work of the Italian naturalists Grassi, Calandruccio and Ercolani has added, in all essential regards, the needed information regarding the spawning time, as well as the metamorphosis, of the eel. I do not find, however, in my review of the literature, any definite observations with regard to either