migrate all over the abyssal plain of the oceans, have very large eyes, the diameter of the eyes in *Macrurus armatus*, for instance (see p. 417, and Fig. 272, p. 398), being equal to one-fifth of the length of its large head.

As regards pelagic fishes we must remember that light penetrates to far greater depths than was previously supposed, for, as already stated, in the Sargasso Sea photographic plates were strongly acted upon by light at 500 metres, and at 1000 metres traces of light were clearly perceptible, so that at least certain components of the sunlight penetrate to that depth.

If we now review the size of the eyes of the fishes in relation to their vertical distribution, we notice a strange change just about the bathypelagic limit often referred to in this book, viz. 500 to 750 metres, varying according to latitude.

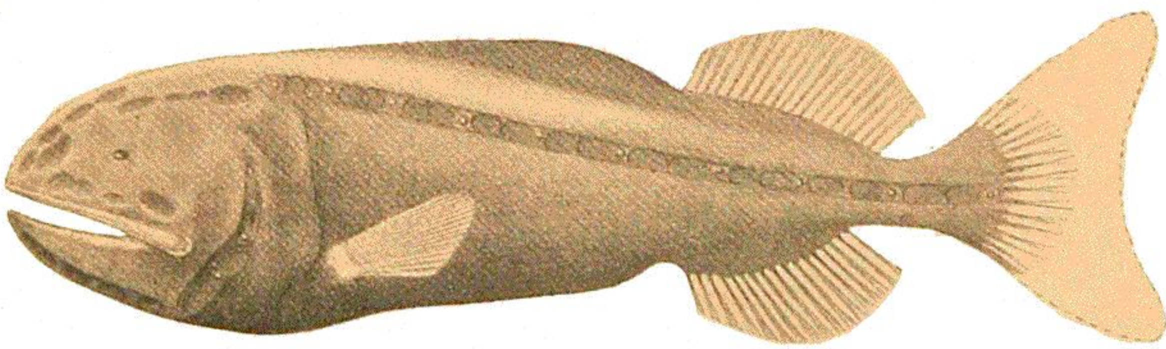

FIG. 497.
Cetomimus storeri, G. and B. Nat. size, 12 cm.

In the fish taken between 150 and 500 metres the diameter of the eye compared to the length of the head is, according to Brauer, as follows :—

Stomias	about	1 : 4	*Argyropelecus*	about	1 : 2
Chauliodus	,,	1 : 4	*Sternoptyx*	,,	1 : 2
Ichthyococcus	,,	1 : 2.6	*Opisthoproctus*	,,	1 : 4
Vinciguerria	,,	1 : 3			

If we consider *Cyclothone* and other fish which live deeper than 500 metres we find the following relations :—

Cyclothone signata	1 : 12	(see Plate I.)
,, *microdon*	1 : 12	(see Plate I.)
,, *obscura*	1 : 15 or 20,	

and if we inspect the figures representing *Gastrostomus bairdii* (Fig. 83, *a*, p. 97), *Cyema atrum* (Fig. 69, p. 87), and *Gonostoma* (Plate II.), we obtain a still stronger impression of the small size of the eyes. Finally our deepest pelagic hauls contained blind forms which have never been taken in the upper layers; I reproduce two of these blind fishes (Figs. 497 and 498), of