

THE AGE DETERMINATION OF THE TIGER FLATHEAD, *NEOPLATYCEPHALUS* (*COLEFAXIA*) *MACRODON* (OGILBY), BY MEANS OF OTOLITHS.

By

PROFESSOR WILLIAM J. DAKIN, D.Sc., C.M.Z.S.,

Department of Zoology, University of Sydney.

(Plates xxvii—xxx.)

Introduction.¹

A glance at the fisheries literature which has emanated since 1870 from the countries where fisheries science has chiefly developed, will show that many years had to elapse before the scientific knowledge of even the most common fish species was sufficient for any very definite application.

One of the most essential studies for estimating fish stocks and over-fishing, and for fish conservation generally, has been the collection of data for determining age. The amount of discussion regarding scales and otoliths of the herring, the cod, haddock, and plaice will indicate that the use of such guides is by no means a simple matter. And the proper estimation of the markings on fish scales, otoliths and skeleton has required a thorough study of the life history, migrations, and general ecology of the fish species concerned.

So far as I am aware there seems little or nothing of this kind available for fish of sub-tropical or tropical regions. The most intensely studied marine fish have been the herring, cod, haddock, halibut, plaice and hake, and the northern European countries with Canada and the United States have been mostly concerned. Their chief fisheries have been in cold waters (except for the tuna and pilchard of California). In the southern hemisphere practically no work of the kind has been carried out.

The present work must, therefore, be regarded not only as a pioneer effort in Australian seas, but an incomplete one. It has necessitated more time in the study of one aspect of the problem than the author wished to spend. The results have shown that such a study is unsatisfactory without a thorough scientific knowledge of the life history and habits of the fish.

Unfortunately, to obtain such information it would have required a fisheries investigation vessel so that material could have been obtained at any time and place, and it would have been most desirable to have had fish marked and measured and set free so that some estimates of growth rates in nature could have been obtained. And our knowledge of the Tiger Flathead—the chief trawled fish

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