

THE TUNICATA OBTAINED DURING THE EXPEDITION OF THE H.M.C.S. "THETIS" ON THE COAST OF NEW SOUTH WALES IN 1898.

By W. A. HERDMAN, D. SC., F.R.S., Professor of Zoology at the University of Liverpool; and WM. RIDDELL, M.A., Fisheries Assistant in the University of Liverpool.

(Plates xc.-xcii.)

The collection of Tunicata obtained during the trawling operations of the "Thetis" comprises twenty-five species, and most of these are familiar Australian forms. Three of the species appear to be new to science, and three are in such poor condition that they cannot be named with certainty. That no representatives of peculiar or exceptional genera were obtained is quite natural when we remember that the expedition was undertaken mainly for fisheries purposes, and that consequently the "Thetis" worked along the coasts of the State, north and south of Port Jackson, always within the 100 fathom line, and never more than thirty miles from shore. When we add that the Australian Tunicate fauna, and especially that of New South Wales, is one of the best known in the world, the small number of novelties found in this collection will cause no surprise. Believing, as we do, that the further elucidation of known forms is quite as important for science as the diagnosis of new species, we have not hesitated to add to this Report particulars ascertained from the "Thetis" specimens in regard to the structure and affinities of species already known to science.

The species of the "Thetis" collection represent Simple and Compound Ascidiæ fairly equally, but there is only a single member of the Thaliacea (or pelagic forms) present, viz., *Salpa costata-tilesii*. The simple Ascidiæ all belong to the great Family Cynthiidae, which is not only the largest family, in species, but is also the one that is most strongly represented in Southern seas. The Ascidiidae which are so abundant in European seas are evidently very rare on the Australian coast.

Amongst the Compound Ascidiæ, although Distomids and Polyclinids are the most abundant, still four in all of the leading families are represented.