

Sir,—

Dunedin, 3rd August, 1900.

I have the honour to present the following interim report on the scientific results of the trawling expedition on the coast of the South Island of New Zealand in the s.s. "Doto."

When it became known that it was the intention of the Government to undertake this investigation, I, on behalf of the Council of the Otago Institute, wrote to the Marine Department, urging that provision should be made for a scientific expert to accompany the vessel. Unfortunately, this could not be arranged, but I was notified that accommodation would be provided for any properly qualified person whom the Institute might appoint as its representative. Owing to various causes, such as shortness of notice and difficulty of getting away from other duties, it was not possible to arrange for any naturalist to accompany the "Doto" for more than a short period of the time she was occupied. Mr. A. Hamilton, Registrar of the Otago University, joined the vessel at Lyttelton at the beginning of the cruise, and was with her as long as Port Cooper was the starting-point of the trawling. I myself joined Mr. Ayson at Wellington on the 14th May, and was on board while the boat worked in Cloudy Bay, Tasman and Golden Bays, leaving her at Nelson on the 23rd May. Professor Benham, Mr. Hamilton, and I were out for one day of special deep-sea work off Cape Saunders, while one or other was out on several occasions with the Dunedin Harbour Board steamer "Plucky" on trawling expeditions off Otago Heads.

In addition to the material collected by us, Mr. Ayson was provided with collecting-vessels and preserving media, and put aside a good many specimens from several localities along the coast. The collections made were assorted in Dunedin at the close of the cruise, and the various groups distributed as follows: Fishes, mollusca, and polyzoa to Mr. Hamilton; crustacea to Mr. George M. Thomson; and all the other invertebrates to Professor Benham. The complete working-out of all the specimens collected will take a considerable time; meanwhile a brief *résumé* of the results so far arrived at has been made, and is submitted here. In future operations of the same nature I would recommend that provision be made for recording the temperature and density of the sea-water at all the stations where the trawl is worked.

I would take this opportunity of expressing, on behalf of my co-workers and myself, our appreciation of the cordial manner in which Mr. Ayson aided our work in every way in his power, and of the kindness shown and trouble taken by him and Captain Nielson to make us as comfortable as possible on the "Doto."

I have, &c.,

The Hon. W. Hall-Jones, Minister of Marine, Wellington.

GEO. M. THOMSON.

University of Otago, Dunedin, 5th July, 1900.

I HAVE the honour to report that I have made a preliminary examination of the fish and the mollusca obtained during the cruise of the "Doto" on the coasts of the South Island. In addition to the species enumerated in Mr. Ayson's report, the following species already on the list of New Zealand fishes occurred: *Clupea sprattus*, var. *Antipodum* (Hector), *Argentina decagon* (Clarke), *Calloptilum punctatum*, *Clinus flavescens* (Hutton), *Acanthoclinus*, sp. One specimen procured at station 76, in Foveaux Strait, is probably an addition of a new genus to our list. It closely resembles a small torpedo or cramp-fish, but in detail it appears to be a member of the genus *Astrape*, hitherto recorded from the Cape of Good Hope. If on further examination this view holds good I propose to call it *Astrape aysoni*. The *Macrurus*, taken in several hauls off Akaroa Peninsula, is a hitherto little known fish of a family generally found at much greater depths. In this case, as in many of the others, it is desirable that returns of the kinds of fish taken on the same grounds should be available for each month in the year.

Trawling does not as a rule provide any except the largest varieties of mollusca, but on one of two occasions we were able to use a dredge, and in the material thus obtained were a number of mollusca which are both scarce and interesting. Some curious species of *Myadora* were obtained off the Otago Heads, and some good specimens of *Trichotropis* in Cook Strait. A full list of the mollusca is given below.

The Hon. W. Hall-Jones, Minister of Marine, Wellington.

A. HAMILTON.

FISHES.

In addition to the list of fishes given at p. 14 of this report and in the letter above, the following species have been more recently identified by Mr. Hamilton:—

<i>Acanthoclinus littoreus</i> .	<i>Hemerocetes acanthorhynchus</i> .	<i>Chelidonichthys kumu</i> .
<i>Diplocrepis puniceus</i> .	<i>Myliobates aquila</i> , <i>juv</i> .	<i>Neophrynichthys latus</i> .
<i>Trachelochismus pinnulatus</i> .	<i>Monacanthus convexirostris</i> .	<i>Sebastes percoides</i> .
<i>Doryichthys elevatus</i> .	<i>Notothenia</i> , <i>sp</i> .	<i>Agriopus leucopœcilus</i> .

MOLLUSCA.

<i>Corbula erythron</i> .	<i>Mytilus edulis</i> .	<i>Turbonilla neo-zelandica</i> .
<i>Saxicava arctica</i> .	<i>Modiola australis</i> .	<i>Murex zealandicus</i> .
<i>Venerupis reflexa</i> .	<i>Myodora subrostrata</i> .	<i>Turritella rosea</i> .
<i>Venerupis siliqua</i> .	<i>Mesodesma ventricosa</i> .	<i>Umbonium zealandica</i> .
<i>Diplodonta</i> , <i>sp</i> .	<i>Emarginula striatula</i> .	<i>Trophon plebeius</i> .
<i>Venericardia australis</i> .	<i>Bittium terebelloides</i> .	<i>Ziziphinus cunninghami</i> .
<i>Venericardia compressa</i> .	<i>Bittium exile</i> .	<i>Fusus zealandicus</i> .
<i>Cardita australis</i> .	<i>Chemnitzia zealandica</i> .	<i>Voluta pacifica</i> .
<i>Kellia sanguinea</i> .	<i>Clathurella dictyota</i> .	<i>Ostrea</i> , <i>sp</i> .
<i>Kellia cycladiformis</i> .	<i>Clathurella varians</i> .	<i>Lima squamosa</i> .
<i>Tellina angulata</i> .	<i>Gibbula sanguinea</i> .	<i>Pecten zealandicus</i> .
<i>Venus mesodesma</i> .	<i>Pisania littorinoides</i> .	<i>Astridium imperialis</i> .
<i>Meretrix multistriata</i> .	<i>Trichotropis</i> , <i>sp</i> .	<i>Fusus nodosus</i> .