

APPENDIX.

NOTES ON AND RECORDS OF CONTENTS OF FISH-STOMACHS, SUPPLEMENTARY TO THOSE ALREADY RECORDED IN THE BULLETIN OF THE STATION.

- (1) Thresher (*Alopias vulpinus*): One specimen, a male, was examined and was full of pilchards.
- (2) Smooth-hound (*Mustelus antarcticus*): Contained the following species of worms; *Glycera ovigera*, *Lumbriconereis sphaericephala*, *Aphrodite talpa*, *Nereis vallata*, *Trochodota dunedinensis*, *Physcosoma annulata*, *Hemipodus simplex*, *Chilonereis pereispe*, and *Harmothoe praeclarior*; also *Cucumaria* sp. Young specimens were found to be feeding principally on isopods (*Sphaeromidae*) and Mollusca (*Maorimactra ordinaria* and *Zeathalia zealandiae*).
- (3) Spined dogfish (*Squalus fernandinus*): On two occasions only were fish met with—viz., sand-flounders (*Rhombosolea plebeia*) in Blueskin Bay, and mullet (*Agonostomus forsteri*) in Lower Portobello Bay.
- (4) Skate (*Raja nasuta*): Some contained large quantities of lemon soles (*Pelotretis flavilatus*) up to 7 in. in length; others contained red cod 7 in. long; also one mollusc (*Zenatia acinaces*) and worms (*Glycera* and *Physalidonotus*?) *squamosus*). In young skate *Zeathalia* and isopods were found.
- (5) Elephant-fish (*Callorhynchus milii*): In addition to forms already recorded, this fish was found to feed on lemon soles and red cod; the following molluscs—*Myllitella virens*, *Antisolarium egenum*, *Maorimactra*, *Nucula nitidula*, *Turbonilla zelandica*, *Notolepton sanguinea*, *Tellina alba*, *Amphidesma australis*, *Gari stangeri*, *Solemya parkinsoni*, *Tawera spissa*, and *Notosetia* sp.; *Halicarcinus planatus* and *Munida* among crustaceans; broken sea-urchins; *Salpa* sp., and remains of jelly-fish.
- (6) Silverside (*Argentina elongata*): Contained the crab *Cyclograpsus lavauxii* and *Munida*; *Glycera ovigera* and unidentified remains of some small fish.
- (7) Sea-horse (*Hippocampus abdominalis*): Minute mollusca (*Micrelenchus dilatatus*) and young of *Melaraphe cincta*; undetermined species of amphipods.
- (8) *Pseudophycis breviusculus*: Only three specimens were examined, and found to contain *Tripterygion varium*, the common crab (*Cancer novae-zealandiae*), and remains of shrimps.
- (9) *Cyttus australis*: Minute undetermined crustaceans.
- (10) Sand-eel (*Gonorrhynchus gonorrhynchus*): Only two specimens were examined. One was found to be feeding on minute crustaceans, the other on brittle-stars (*Ophiomyxa brevissima*).
- (11) Garfish (*Hemirhamphus intermedius*): Found to be feeding on worms (*Harmothoe spinosa*, *Amphitrite vigentipes*, and species of *Eunice*) and small crustacea.
- (12) Red cod (*Physiculus bacchus*): From stomachs of this omnivorous species the following fishes were taken in addition to those previously recorded: *Auchenoceros punctatus*, witch or megrim (*Caulopsetta scapha*), sand-flounder, kokopuru, *Helicogramma medium*, and *Cantherines scaber*. Of Mollusca, *Micrelenchus*, *Melagraphia zellaria*, *Turitella rosea*, *Tawera*, some octopods and squids; the tunicate *Boltenia*; of Crustacea, *Petrocheles spinosus*, *Nectocarcinus antarcticus*, *Paramithrax minor*, Hymenosomidae, *Munida* (both swimming and adult forms), and crayfish (*Jasus lalandii*). Some red cod caught in Blueskin Bay contained nothing but shrimps (*Pontophilus australis*), one specimen was full of zoophytes(?), another contained a petrel.
- (13) *Auchenoceros punctatus*: These were taken from the stomach of a red cod, and had been feeding on crustacean zooeas.
- (14) Megrim (*Caulopsetta scapha*): Contained young red cod and sprats, crabs (*Cancer*, *Nectocarcinus*, *Halicarcinus*, and hymenosomids), and *Munida*; brittle-stars (*Ophiomyxa*); holothurians (probably *Chirodota*); and worms (*Glycera* and *Physalidonotus*) and worm-cases.
- (15) Brill (*Colistium guntheri*): The favourite food was crustaceans (*Nectocarcinus*, *Halicarcinus*, *Munida*, and *Hymenosoma*); molluscs (*Maorimactra*, *Zeathalia*, and *Nucula*); worms (*Glycera*, *Physalidonotus*), and remains of *Pontobdella*?. In one catch the stomachs contained nothing but young red cod.
- (16) Sand-flounder (*Rhombosolea plebeia*): No fish have been found in those examined; the molluscs were *Maorimactra*, *Antisolarium*, *Myllitella*, *Nucula*, *Zeathalia*, *Calliostoma punctulatum*, *Zenatia*, and *Gari*; the crustaceans, *Halicarcinus*, *Nectocarcinus*, *Petrolisthes*, *Paramithrax*, *Squilla* sp., and small unidentified species; worms (*Glycera*, *Eunice*, *Lepidonotus polychroma*, and *Nereis*); remains of a sea-mouse (*Aphrodite* sp.); and species of Foraminifera.
- (17) Greenback flounder (*Rhombosolea tapirina*): Only two specimens were examined, and these contained small mullets (*Agonostomus*), together with mollusca (*Nucula*, *Zeathalia*, *Amphidesma*, *Chione*) and species of Nemertines.
- (18) Common sole (*Peltorhamphus novae-zealandiae*): The only fish found in the stomachs were sprats. The molluscs were *Maorimactra*, *Myllitella*, *Paphirus largillierti*, and *Zymene plebeius*; brittle-stars (*Ophiomyxa*); and crustacea (Hymenosomids and small unidentified forms).
- (19) Lemon sole (*Pelotretis flavilatus*): In one haul of these fish the stomachs were crammed with young red cod; others contained molluscs (*Maorimactra*, *Chione*, *Zeathalia*, and *Zegalus tenuis*), a Brachiopod (*Terebratella*), crabs (*Paramithrax* and *Hymenosma* sp.), holothurians unidentified, and worms (*Glycera*, *Lepidonotus*, *Timatele anchylochar*, and *Nereis*).
- (20) Mullet (*Agonostomus forsteri*) contained young of *Chione*, ostracods, and other minute crustaceans, while some stomachs were full of *Ulva*.
- (21) Hapuka, or groper (*Polyprion oxygeneios*): Lemon soles were found in the stomachs.
- (22) Trevally (*Longirostrum platessa*): Several were crammed with worms (*Glycera*, *Timarete*, and *Eunice*); others contained *Munida* and a species of shrimp; others the molluscs *Maorimactra* and *Zeathalia*.
- (23) Kahawai (*Arripis trutta*): Only three specimens were examined, and these contained sprats and *Munida*.