

## LIST OF ILLUSTRATIONS.

	Facing page.
Plate 1. The Marine Grotto in the United States Fish Commission building at Washington, D. C. ....	1
2. Common Sun-fish ( <i>Eupomotis gibbosus</i> ) .....	6
3. Long-eared Sun-fish ( <i>Lepomis curritus</i> ). Group of Common Sun-fish ( <i>Eupomotis gibbosus</i> ) .....	6
4. The Large-mouthed Black Bass ( <i>Micropterus salmoides</i> ). The White Perch ( <i>Morone americana</i> ) .....	6
5. The Spotted Sea Trout or Squeteague ( <i>Cynoscion maculatum</i> ). The Tautog or Black-fish ( <i>Tautoga onitis</i> ) ...	6
6. The Sen Bass ( <i>Centropristis striatus</i> ) .....	6
7. The Naked Star-gazer ( <i>Astroscopus guttatus</i> ). The Pike ( <i>Lucius lucius</i> ) .....	6
8. The Cat-fish ( <i>Ameiurus nebulosus</i> ). The Brook Trout ( <i>Salvelinus fontinalis</i> ) .....	6
9. Young Rainbow Trout ( <i>Salmo irideus</i> ) .....	6
10. (1) <i>Synapta roscola</i> . (2) Part of the same magnified four times. (3) <i>Synapta inharens</i> .....	21
11. Figures illustrating parts of <i>Synapta inharens</i> and <i>S. roscola</i> .....	24
12. Scup ( <i>Stenotomus chrysops</i> ). Three Views illustrating Gas-bubble Disease .....	33
13. Map showing Clam-flats at Mouths of Essex and Castle Neck Rivers, Massachusetts .....	44
14-22. Figs. 1-46, illustrating Rotatoria of the United States, with especial reference to those of the Great Lakes. ....	104
23-26. Figs. 1-30, illustrating the Natural History of the Starfish .....	224
27. Map of the Region of Woods Hole, showing migrations of Lobsters .....	230
28. (1) The Sailing Smack <i>Bar Bel</i> , of Rockland. (2) The First Steam Smack to carry Lobsters in a Well .....	241
29. (1) The Steam Smack <i>Mina and Lizzie</i> landing her Cargo. (2) Fleet of Lobster Boats in Harbor .....	244
30. (1) Lobster Cars used in the Wholesale Trade at Portland. (2) Lobster Pots. (3) Fisherman's Lobster Cars. ....	248
31. (1) Fishermen operating their Pots. (2) Inclosure for Live Lobsters at Vinal Haven, Maine .....	252
32. Boiling Live Lobsters preparatory to shipping in Ice, showing Boiler, Steam Tank, Cage, etc. ....	254
33-43. Figs. 1-121, illustrating Fish Parasites collected at Woods Hole in 1898 .....	304
44. Right Lateral View of the Entire Skeleton of <i>Micropterus dolomieu</i> .....	311
I-XXXIV. Figs. 1-379, illustrating Parasites of Fishes of the Woods Hole Region .....	392

### TEXT FIGURES.

Blennieottus recalyus .....	10	Pseudoscarus jordani .....	64
globoiceps .....	11	Pseudocheilinus octotania .....	64
Rusciculus rimensis .....	13	Views showing bands of teeth of Istlarius balsanus .....	118
Dialarchus snyderi .....	15	Istlarius balsanus .....	119
Eximia rubellio .....	18	Notropis rascenis .....	121
Macropharyngodon aqullolo .....	46	calientis .....	122
Halichæres iridescens .....	47	Xystrosus popoche .....	123
lao .....	48	Falcula chapalæ .....	124
Coris lepomis .....	49	Characodon encastustus .....	126
Hemicoris remedius .....	50	Xenendum callente .....	127
keleipionis .....	50	xaliscone .....	129
Thalassoma pyrrovinctum .....	51	Pocilia limantouri .....	130
Novaeulichthys woodi .....	52	Xiphophorus montezumæ .....	132
entargyreus .....	53	Eslópsarum arge .....	134
Hemipteronotus umbrilatus .....	54	Chirostoma chapalæ .....	135
Infistlus leucozonus .....	55	Views of Head of Chirostoma promelas .....	136
verater .....	55	Chirostoma diazi .....	138
Cheilinus zonurus .....	56	crystallinum .....	138
Anampses evermanni .....	57	Dorsal View of Head of Chirostoma crystallinum .....	139
Calotomus irradians .....	58	Lateral and Dorsal Views of Head of Chirostoma	
Searus brunneus .....	59	ocotlane .....	140
gilberti .....	60	Views of Head of Chirostoma lermæ .....	142
paluca .....	61	Cichlasoma steindachneri .....	142
ahula .....	62	Heros istlanus .....	145
minlatus .....	63	Neotroplus carphntis .....	146

Calanus finmarchicus.....	165	Obelia dichotoma, geniculata, and gelatinosa.....	350
minor.....	165	bicuspidata and longissima.....	351
Eucalanus attenuatus.....	166	Gonothyrea loveni and tenuis.....	352
monachus.....	166	Hebella pygmaea.....	353
Mecynocera clausii.....	167	Lovenella grandis.....	353
Paracalanus parvus.....	168	Opercularella lacerata.....	354
Calocalanus pavo.....	169	Calyceella syringa.....	354
plumulosus.....	170	Lafrea dumosa and gracillima.....	356
Clausocalanus arcuicornis.....	171	Halecium halecinum, articulatum, and tenellum.....	357
Centropages typicus.....	172	beanii and gracile.....	358
hamatus.....	173	Sertularia pumila.....	359
bradyi.....	174	cornicina and complexa.....	360
Temora longicornis.....	175	Diphasia fullax and rosacea.....	361
Metridia hibernica.....	176	Sertularella abietina and tricuspidata.....	362
Candace pectinata.....	177	rugosa, polyzonias, and gayi.....	363
Labidocera aestiva.....	179	Thunaria argentea.....	363
Pontella meadii.....	180	cupressina and thuja.....	364
Anomalocera pattersonii.....	181	Hydrallmania falcata.....	364
Monops regalis.....	182	Monostæchas quadridens.....	365
Acartia tonsa.....	183	Schizotricha tenella and gracillima.....	366
Corynura bumpusii.....	185	Antennularia antennina.....	366
Oithona plumifera.....	187	americana and rugosa.....	367
similis.....	187	Cladocarpus flexilis.....	368
Setella gracilis.....	188	Hybocodon prolifer.....	371
Miracia efferata.....	189	Stomatocha apicata.....	371
Clytemnestra rostrata.....	189	Gemmaria cladophora.....	372
Oncaea venusta.....	190	Corynitis agassizii.....	372
Sapphirina gemma.....	191	Perigonimus jonesii.....	372
Corycaeus elongatus.....	192	Coryne mirabilis.....	373
carinatus.....	192	Ectopleura ochracea.....	373
Mya arenaria. Ten camera outlines of shells.....	194	Pennaria tiarella.....	373
Mya arenaria, with shell 0.4 mm. long.....	195	Dysmorphosa fulgurans.....	374
Mya arenaria. Form 2.3 mm. long.....	195	Stylactis hooperi.....	374
Lobster Pops.....	230	Turris vesicaria.....	375
Lobster Pots, old style and patent head.....	248	Turritopsis nutricula.....	375
Left lateral view of cranium of <i>Micropterus salmoides</i> .....	312	Nemopsis bachei.....	376
Left lateral view of skull of <i>M. salmoides</i> .....	313	Bougainvillia carolinensis and supercellaris.....	376
Right lateral view of skull of <i>M. dolomieu</i> .....	314	Lizzia grata.....	376
Left lateral view of mandible of <i>M. salmoides</i> .....	316	Orechistoma tentaculata.....	377
Left outer aspect of upper jaw of <i>M. salmoides</i> .....	316	Eutima mira.....	378
Inner aspect of opercular bones of <i>M. salmoides</i> .....	317	Hebella calcarata.....	378
Inner aspect of left half of shoulder girdle.....	318	Eucheilota duodecimallis.....	378
Outer aspect of part of shoulder girdle.....	319	Tima formosa.....	379
Calva leptostyla.....	327	Obelia commissuralis and geniculata.....	380
Cordylophora lacustris.....	328	Oceania singularis.....	380
Syncoeryne mirabilis.....	328	Tiaropsis diademata.....	381
Corynitis agassizii.....	329	Epenthesis foliata.....	381
Bougainvillia carolinensis.....	330	Trachynema digitale.....	382
Perigonimus jonesii.....	330	Gonionemus vertens.....	382
Eudendrium ramosum.....	331	Melicertum campanula.....	382
dispar.....	332	Rhegmatodes tenuis.....	383
carneum and tenue.....	333	Sphyræna helleri.....	387
album.....	334	snodgrassi.....	388
Hydractinia polyclina.....	335	Anthias fuscipinnis.....	389
Stylactis hooperi.....	336	Aphareus flavivultus.....	391
Pennaria tiarella.....	336	Eupomacentrus marginatus.....	392
Corymorpha pendula.....	337	Chromis velox.....	393
Tubularia couthouyi, larynx, and spectabilis.....	339	Chaetodon mantelliger.....	394
crocea.....	340	sphenospilus.....	396
Hypolytus peregrinus.....	340	Ostracion canurum.....	397
Clytia blephora and noliformis.....	343	Ovoides latifrons.....	398
grayi.....	344	Tropidichthys jactator.....	399
Campanularia poterium, hincksi, and volubilis.....	345	Eumycterias biteniatus.....	400
minuta and edwardsi.....	346	Scorpaenopsis cacopsis.....	400
neglecta and verticillata.....	347	cacopsis, dorsal view of head.....	401
amphora and angulata.....	347	Parapercis pterostigma.....	402
calceolifera and flexuosa.....	348	Brotula marginalis.....	403
Obelia flabellata and commissuralis.....	349		