

## GENERAL INDEX.



	Page.		Page.
Abralia	326	Belonidæ, scales	145
astrosticta	326	Berycidæ, scales	148
trigonura	329	Bicidium parasitica	239
Abralloipsis	330	Blackfish, Alaska, scales	142
abyssicola, Sagartia	243	Bianquellos, scales	163
acropora, Orbicella	250	Blenniidæ, scales	172
Actinaria, Synopsis of tribes	234	Bluefishes, scales	150
Actinauge verrilli	249	Boleosoma olmstedti, scales	157
aculeata, Pennatula	251	Bolitænidæ	289
Age of salmon at maturity	3-22	Boloceridæ	235
Agosia carringtoni	70	Bonefishes, scales	122
Albulidæ, scales	122	Bony-tongued fishes, scales	125
Alcyonaria	233, 251	böttgeri, Argonauta	277
Alcyonium	251	Brachioteuthidæ	336
carneum	251	Brachioteuthis	336
aleuticus, Cottus	72	(Tracheloteuthis) riisei	336
alfonsinos, scales	148	Buffalo-fishes, scales	139
aloposidæ	286	Bunodidæ	235
aloposus	286	Butterfishes, scales	150
mollis	287	Butterfly-fishes, scales	167
americanus, Cerianthus	249	Carangidæ, scales	149
epizoanthus	238	Carcinoma of the thyroid in fishes	363-524
Anabantidæ, scales	164	Cardinal fishes, scales	158
Anarhichadidæ, scales	172	Carneum, Alcyonium	251
Anatomy of alimentary tract of king salmon	73-100	Carpæ, scales	128
Anchovies, scales	123	carringtoni, Agosia	70
Anemonia, sargassensis	239	Catalufas, scales	150, 160
Anguillidæ, scales	126	cataphractus, Gasterosteus	71
Antennariidæ, scales	174	Catostomidæ, scales	139
Antheidæ	234	Catostomus mniotiltus	56
Anthozoa of Woods Hole region	223-254	Cavallas, scales	149
Aphredoderidæ, scales	152	Centrarchidæ, scales	150
Aplodinotus grunniens, host of fresh-water mussels	105	Cephalacanthidæ, scales	171
Apogonidæ, scales	158	Cephalopoda of Hawaiian Islands	255-362
Archoplites interruptus	71	synonymy	273
arctipinnis, Septoteuthis	308	Ceratodontidæ, scales	121
ardesiaca, Lavinia	58	Ceriantheæ	234
Argentiniidæ, scales	126	Cerianthus americanus	249
Argonauta	277	Chætodontidæ, scales	167
böttgeri	277	Characidæ, scales	128
species	280	Chelodipteridæ, scales	150
Argonautidæ	277	Chinook salmon, age at maturity	11
Argonautinæ	277	Chirocentridæ, scales	123
asper, Cottus	72	Chiroteuthidæ	343
Astrangia	250	Chopas, scales	162
danæ	250	chrysochloris, Pomolobus, host of fresh-water mussels	104
astrosticta, Abralia	326	Cichlidæ, scales	165
Atherinidæ, scales	146	Cirrhitidæ, scales	163
Balistidæ, scales	168	Cirroteuthidæ	274
banksii, Onychoteuthis	322	Climbing perches, scales	164
Barbudos, scales	149	Clupeidæ, scales	123
Barracudas, scales	146	Cobitidæ, scales	140
Basses, scales	150	Cods, scales	173
Batfishes, scales	174	Coelacanthidæ, scales	120

	Page.		Page.
Coho salmon, age at maturity.....	15	Flying-fishes, scales.....	145
compacta, Teleosteuthis.....	324	Flying gurnards, scales.....	171
Coral-fishes, scales.....	165	fontanianus, Polypus.....	299
Cottidae, scales.....	171	Food value of proteins.....	175-182
Cottus aleuticus.....	72	Gadidæ, scales.....	173
asper.....	72	Gadopsidæ, scales.....	172
gulosus.....	72	gahi, Loligo.....	311
Cranchiidæ.....	345	Gar pikes, scales.....	121
crassicornis, Tealia.....	244	Gars, marine, scales.....	145
Ctenodontidæ, scales.....	121	Gases dissolved in lake waters.....	576
Cylista leucolena.....	243	Gasterosteus cataphractus.....	71
Cynoscion regalis, food value of proteins.....	175-182	Gerridæ, scales.....	161
Cyprinidæ, scales.....	128	globulus, Liocranchia.....	346
Dallidæ, scales.....	142	Goatfishes, scales.....	162
danæ, Astrangia.....	250	Gobiidæ, scales.....	169
Darter from Maryland, new species.....	29-32	grandis, Ptychocheilus.....	62
Decapoda.....	307	Grenadiers, scales.....	173
dianthus, Metridium.....	236	grunniens, Aplodinotus, host of fresh-water mussels.....	105
Dibranchiata.....	274	Grunts, scales.....	160
Dog salmon, age at maturity.....	17	gulosus, Cottus.....	72
Drums, scales.....	162	Gymnoti, scales.....	140
Echeneidæ, scales.....	169	Hadropterus sellaris, new species.....	31
Edwardsiæ.....	234	Hæmulidæ, scales.....	160
Edwardisia elegans.....	247	Halcampa farinacea.....	238
leidyi.....	248	Halfbeaks, scales.....	145
lineata.....	248	Hawaiian Islands, cephalopoda.....	255-362
sipunculoides.....	247	hawaiiensis, Heteroteuthis.....	319
Eels, electric, scales.....	140	Onmastrephes.....	338
scales.....	126	Polypus.....	290
Electric eels, scales.....	140	Hellicocranchia.....	350
Eledonella.....	289	species.....	350
species.....	289	Hemirhamphidæ, scales.....	145
elegans, Edwardsiæ.....	247	Herrings, scales.....	123
Eloactis producta.....	245	Hesperoleucus.....	63
Elopidae, scales.....	122	navarroensis.....	65
Embiotocidæ, scales.....	164	mitrulus.....	67
Engraulididæ, scales.....	123	parvipinnis.....	66
Enoploteuhtidæ.....	325	subditus.....	67
Enoploteuhtinæ.....	325	venustus.....	64
Entosphenus tridentatus.....	56	Heteroteuthinæ.....	319
Ephippidæ, scales.....	167	Heteroteuthis.....	319
Epizoanthus americanus.....	238	hawaiiensis.....	319
Esocidæ, scales.....	141	Hexactinæ.....	234
Euprymna.....	311	Hiodontidæ, scales.....	123
scolopes.....	312	Histioteuthidæ.....	335
Exocetidae, scales.....	145	Histology of alimentary tract of king salmon.....	73-100
famelica, Mastigoteuthis.....	344	Holocentridæ, scales.....	148
farinacea, Halcampa.....	238	hoylei, Polypus.....	296
Filefishes, scales.....	168	Humpback salmon, age at maturity.....	21
Finbacks, scales.....	125	Hydrography, New York lakes.....	532
Finger Lakes, New York, limnological study.....	525-609	Hysteroecarpus traski.....	71
fisheri, Megalocranchia.....	348	Ictiobinæ, scales.....	139
Fish oils, properties.....	183-198	Ilyanthidæ.....	234
Fish scales, observations on.....	117-174	interruptus, Archoplites.....	71
Fishes, carcinoma of the thyroid.....	363-524	irideus, Salmo.....	70
Fishes, Monterey Bay tributaries.....	49-72	Iridoteuthis.....	316
sense of smell.....	33-46	iris, Stoloteuthis (Iridoteuthis).....	316
Fishing-frogs, scales.....	174	Killifishes, scales.....	141
Flashers, scales.....	160	King salmon, age at maturity.....	11
Flatheads, scales.....	121, 171	alimentary tract.....	73, 100
Flounders, scales.....	171	kisutch, Oncorhynchus.....	70

	Page.		Page.
Kneriidæ, scales.....	140	Odacidæ, scales.....	167
Kuhliidæ, scales.....	153	Œgopsida.....	321
Kurtidæ, scales.....	164	Ogocephalidæ, scales.....	174
Kyphosidæ, scales.....	162	Oil, fish, and vegetable mixtures.....	183-198
Labridæ, scales.....	166	olmstedii, Boleosoma, scales.....	157
Lætmoteuthis.....	274	Ommastrephes.....	338
lugubris.....	275	hawaiiensis.....	338
Lake studies, New York.....	525-609	Ommastrephidæ.....	338
Latilidæ, scales.....	163	Oncorhynchus, age at maturity.....	3-22
Lavinia ardesiaca.....	58	alimentary tract.....	73-100
leidyi, Edwardsia.....	248	kisutch.....	70
Lepidosirenidæ, scales.....	121	tschawytscha.....	70
Lepisosteidæ, scales.....	121	Onychoteuthidæ.....	322
leucolena, Cylista.....	243	Onychoteuthis.....	322
Linnological study of Finger Lakes, New York.....	525-609	banksii.....	322
lineata, Edwardsia.....	248	Orbicella acropora.....	250
Liocranchia.....	345	ornatus, Polypus.....	294
globulus.....	346	Orthodon microlepidotus.....	58
Lizard-fishes, scales.....	126	Osteoglossidæ, scales.....	125
Loaches, scales.....	140	oualaniensis, Symplectoteuthis.....	341
Lobotidæ, scales.....	160	Oxygen requirements of shellfish.....	207-222
Loliginidæ.....	307	Oysters, effect of water-gas tar.....	199-206
Loligo.....	310	Pacific salmon, age at maturity.....	3-22
gahi.....	311	Pantodontidæ, scales.....	125
Luciæ, Sagartia.....	241	Paractidæ.....	235
lugubris, Lætmoteuthis.....	275	Paractis.....	238
Lung fishes, scales.....	121	rapiformis.....	238
Lutianidæ, scales.....	160	parasitica, Bicidium.....	239
Mackerels, scales.....	149	Parasitism of fresh-water mussels.....	101-116
Macruridæ, scales.....	173	Parrot-fishes, scales.....	167
Madreporaria.....	250	parvipinnis, Hesperoleucus.....	66
Mænidæ, scales.....	161	patagiatus, Scæurgus.....	305
marmoratus, Polypus.....	291	Pempheridæ, scales.....	150
Maryland, new darter.....	29-32	Pennatula aculeata.....	251
Mastigoteuthis.....	344	Perches, scales.....	153
famelica.....	344	climbing, scales.....	164
Maurolidæ, scales.....	126	pirate, scales.....	152
Megalocranchia.....	348	Percidæ, scales.....	153
fisheri.....	348	Percopsidæ, scales.....	148
Megalopidæ, scales.....	122	Phractolemidæ, scales.....	125
Metridium dianthus.....	236	Physical conditions, New York lakes.....	525-609
microlampas, Pterygioteuthis.....	332	Picarelæ, scales.....	161
microlepidotus, Orthodon.....	58	Pikes, scales.....	141
Minnows, scales.....	128, 141	Pirate perches, scales.....	152
mitrulus, Hesperoleucus.....	67	Plankton, New York lakes.....	587
mnioiltus, Catostomus.....	56	platorhynchus, Scaphirhynchus, host of fresh-water mus-	
modesta, Sagartia.....	240	sels.....	106
Mojarras, scales.....	161	Platycephalidæ, scales.....	171
mollis, Alloposus.....	287	Pleuronectidæ, scales.....	171
Monacanthidæ, scales.....	168	Pœcillidæ, scales.....	141
Monterey Bay tributaries, fishes.....	49-72	Polymixiidæ, scales.....	149
Mud minnows, scales.....	141	Polynemidæ, scales.....	147
Mugilidæ, scales.....	146	Polypodidæ.....	289
Mulletæ, scales.....	146	Polypteridæ, scales.....	121
Mullidæ, scales.....	162	Polypus.....	289
Mussels, fresh-water, natural hosts.....	101-116	fontanianus.....	299
Myopsida.....	307	hawaiiensis.....	290
navarroensis, Hesperoleucus.....	65	hoylei.....	296
New York lakes, Linnological study.....	525-609	marmoratus.....	291
Notopteridæ, scales.....	125	ornatus.....	294
Cetopoda.....	274	species.....	304
		young.....	299, 300, 301, 303, 304

	Page.		Page.
Pomacentridæ, scales	165	Smelts, scales	126
Pomolobus chrysochloris, host of fresh-water mussels	104	Snappers, scales	160
Porgies, scales	160	Sockeye salmon, age at maturity	5
Priacanthidæ, scales	160	Soleidæ, scales	171
producta, Eloactis	245	Soles, scales	171
Proteins, food value	175-182	Spadefishes, scales	167
Pterygioteuthis	332	Sparidæ, scales	160
microlampas	332	Sphyrænidæ, scales	146
Ptychocheilus grandis	62	Squeteague, food value of proteins	175-182
Pyroteuthinæ	332	Squirrel-fishes, scales	148
rapiformis, Paractis	238	Stoloteuthinæ	315
Red salmon, age at maturity	5	Stoloteuthis	315
regalis, Cynoscion, food value of proteins	175-182	(Iridoteuthis) iris	316
Salmo, new species	26	Stromateidæ, scales	150
Remoras, scales	169	Sturgeon, host of fresh-water mussels	106
Rhyncoteuthion	341, 343	subditus, Hesperoleucus	67
riisei, Brachioteuthis (Tracheloteuthis)	336	Suckers, scales	139
Sagartia abyssicola	243	Sunfishes, scales	150
lucifæ	241	Surf-fishes, scales	164
modesta	240	Surmulletts, scales	162
Sagartidæ	235	Symplectoteuthis	341
Salmo irideus	70	oualaniensis	341
regalis, new species	26	Synaphobranchidæ, scales	127
Salmon, age at maturity	3-22	Syndontidæ, scales	126
alimentary tract	73-100	Tahoe trout, new species	23-28
anatomy and histology	73-100	Tar, effect on oysters	199-206
Pacific, age at maturity	3-22	Tarpons, scales	122
Salmonidæ, scales	125	Tealia crassicornis	244
Sand rollers, scales	148	Tealidæ	235
sargassensis, Anemonia	239	Teloteuthis	323
Sauries, scales	145	compacta	324
Scæurgus	304	Temperatures, New York lakes	532
patagiatus	305	Ten-pounders, scales	122
Scaphirhynchus platyrhynchus, host of fresh-water mus-		Threadfins, scales	147
sels	106	Thyroid carcinoma in fishes	363-524
Scaridæ, scales	167	Topography, New York lakes	532
Sciænidæ, scales	162	Trachichthyidæ, scales	148
scolopes, Euprymna	312	traski, Hysterothorax	71
Scombroscidæ, scales	145	Tremoctopodoniæ	281
Scombridæ, scales	149	Tremoctopus	281
Scorpenidæ, scales	170	< violaceous	281
Scorpion-fishes, scales	170	tridentatus, Entosphenus	56
Sculpins, scales	171	Trigger-fishes, scales	168
Sea basses, scales	158	Triglidæ, scales	171
Sea robins, scales	171	trigonura, Abralia	329
sellaris, Hadropterus, new species	31	Trout from Lake Tahoe, new species	23-28
Sense of smell in fishes	33-46	"Trouts" (New Zealand), scales	172
Sepiolidæ	311	tschawwyttscha, Oncorhynchus	70
Sepiolinæ	311	Umbridæ, scales	141
Sepioteuthis	308	Vegetable oils, properties	183-198
arctipinnis	308	venustus, Hesperoleucus	64
Serranidæ, scales	158	verrilli, Actinauge	249
Sheepshead, host of freshwater mussels	105	violaceous, Tremoctopus	281
Shellfish, oxygen requirements	207-222	Water-gas tar, effect on oysters	199-206
Silver salmon, age at maturity	15	Weakfish, food value of proteins	175-182
Silversides, scales	146	Wolf-fishes, scales	172
sipunculoides, Edwardsia	247	Woods Hole, Anthozoa	223-254
Sirenids, scales	121	Wrasses, scales	166
Skipjack, host of freshwater mussels	104	Zoantheria	233
Smell, sense in fishes	33-46	Zoantheæ	234