

VIII.—THE PELAGIC FAUNA OF THE BAY OF ST ANDREWS.
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The pelagic fauna of the bay, while presenting certain common features in the monthly returns from year to year, yet often shows considerable variations. Thus, for instance, the beautiful and conspicuous pteropod *Oliane*, which appeared in April 1887, was not again met with till the spring of this year (1893). The abundant ctenophore, *Pleurobrachia*, which had been one of the most constant and most plentiful of the pelagic medusæ, completely vanished for the first nine months of 1891—to the disappointment of Mr Riches who, on the faith of its well-known frequency in our nets, had specially come from Plymouth to study its development and life-history. No sooner had he returned southward than it again appeared, and has been constantly met with since. It would be difficult to explain the cause of so sudden and so complete a disappearance. During no season have the myriads of larval and post-larval herrings so filled the bay as in the spring of 1889, when it became necessary to cease to use the bottom trawl-like tow-net, which captured them in immense multitudes. These larval herrings had probably been carried into the bay by currents from the mouth of the Forth, since, so far as known, no deposition of ova takes place in the bay itself. It is, indeed, many years since the eggs of the herring have been noticed at the Old Hake, off the east of Fife (near the Carr Lightship), where Lord Playfair and Prof. Allman carefully investigated them. At any rate, whether eggs are deposited within or near the bay, there is no lack of larval herrings under ordinary circumstances, and the same may be said of sprats.

The young of certain fishes not usually encountered in the pelagic fauna occur at certain definite seasons. Thus the young great pipe-fishes are common in the bottom-nets off the estuary of the Eden. On the other hand, the young eels bury themselves in the sand. The larval fish E (Seventh Annual Report, III., pp. 263 and 309, Plate III. figs. 5, 6, and 7) has again been encountered off Tents Moor, but no further light has been thrown on its relationship, though in some respects it approaches *Cottus*.

If the weather in the first part of May be warm, the young Pleuronectids (such as plaice, dabs, and flounders) of the season often disport themselves at the surface of the water, and can be caught with a hand-net in considerable numbers. This feature was formerly noticed chiefly in the turbot and brill later in the season, *e.g.*, in July and August. On the other hand, the scanty numbers of post-larval gadoids afforded a contrast to the waters of Smith Bank in the Moray Firth, where the post-larval gadoids, ranging from 4 to 16 mm., disport themselves, at the end of April and beginning of May, in multitudes, chiefly near the bottom, though also at the surface.

It is generally supposed that the transparent eggs of the food-fishes, which form one of the most important elements of the pelagic fauna, escape many dangers from their invisibility. It has to be remembered, however, that the embryos in these eggs are sometimes conspicuously coloured with black and yellow—just as the supposed inconspicuous medusæ are with blue, orange, brown, red, and black, though of course the full development of the pigment in the fish only occurs a short time before hatching. Some embryos remain almost devoid of pigment before extrusion—as the sprat, and an unknown form sent to Mr Holt from the west coast of Ireland. An important fact in this connection has also been observed, *viz.*, that in the stomach of a single herring taken from the midst of

The history of the city of Boston is a subject of great interest and importance. It is a city that has played a significant role in the development of the United States. From its founding in 1630, Boston has been a center of commerce, industry, and culture. It has been the site of many important events, including the Boston Tea Party and the signing of the Declaration of Independence. The city's location on a peninsula in the harbor of Massachusetts has made it a natural center of trade and commerce. Its proximity to the sea has allowed it to become a major port and a center of maritime activity. The city's history is a testament to the resilience and ingenuity of its people. It has overcome many challenges and has emerged as a leading city in the world. The history of Boston is a story of a city that has shaped the course of American history.

thousands caught off Shetland, and which was distended with the usual crustacean food, no less than thirty entire pelagic eggs of various species of fishes were found. It is true that these had in all probability been swallowed as the fish gulped the swarms of swimming crustaceans, yet the loss from this cause alone must be serious. It is rare, however, to find pelagic ova in the stomachs of marine animals, yet on one occasion ducks and other birds were feeding on these and perhaps the larval fishes in the Moray Firth; and Captain Dannevig has observed sprats snapping at the pelagic eggs as they escaped from a breeding pond at Arendal. At no period, indeed, during the life-history of the food-fish is it free from attack.

The enormous quantity of pelagic fish-food poured by the neighbouring mussel-beds into the inshore waters has often been referred to in communications from the St Andrews Marine Laboratory. It is one of the most constant factors in the annual supply—first, as minute ciliated spheres, then almost as minute swimming mussels in June, which crowd the waters both at the surface and the bottom, and afterwards settle down like grains of millet-seed on zoophytes, sea-weeds, stones, shells, and indeed on every available site, such as the ropes, buoys, and other parts of the salmon stake-nets.* But while the foregoing mollusks are perhaps the most conspicuous forms in their season, they are not by any means the only ones, for both bivalve and univalve shell-fishes in their early stages are common in the nets throughout the greater part of the year, some of them, *e.g.*, the peculiar flattened spiral shell of the young *Lamellaria*, being so unlike the adult (a more or less sedentary form amongst the rocks) as to have misled zoologists as to its actual position, which was, however, clearly defined, amongst others, by Prof. A. Giard of Paris,† a distinguished naturalist, who has largely extended our knowledge of marine animals. The foregoing forms, with occasional additions of *Spirialis* and *Olione*, take the place of the abundant and varied Pteropods, the curious *Glaucus*, and the brightly-coloured *Ianthina* of the warmer seas.

The remarks made some years ago concerning the distribution of the Appendicularians have been borne out by further experience, the immense multitudes of *Oikopleura cophocerca*, Gegenbaur, and their houses, being characteristic of April and May. The specimens are remarkably fine—according to Prof. Herdman, quite as large as those procured during the voyage of the 'Challenger.' The influence of such forms upon marine life of all kinds must be considerable. The profusion of *Actinotrocha*, the larval form of *Phoronis*, is one of the most diagnostic features of August, though early specimens appear in June, and many in July and September.

No group of pelagic marine animals is more generally distributed throughout the water than the Crustaceans, especially the countless swarms of the Copepods, though certain Amphipods and Thysanopods also occur in great numbers, and form rich feeding-grounds for many fishes, the nets in such areas being rapidly filled with a semi-solid mass of their bodies. The vast numbers of the larval sea-acorns, again, in spring is a noteworthy feature in the inshore waters, where rocks, wood—both stationary and floating—and every available surface, is coated by a densely grouped series as they become sessile. Some fishes, *e.g.*, *Gobius*, in the estuary of the Eden, feed largely in May on the *Cypris*-stage of these sea-acorns. No Amphipod, again, appears to be a more conspicuous feature in the pelagic fauna than *Parathemisto*, which characterises the winter months, especially January and February.

* The salmon fishermen observe that the ropes have been submerged a month (*viz.*, from May till the middle of June) before a deposit of the minute mussels is noticed.

† *Comptes Rendus de l'Acad. des Sc.*, 22 Mars 1875.

Few groups of invertebrates are more generally distributed in their pelagic larval condition than the Annelids, which are seldom absent from the tow-nets, especially the trawl-like bottom-net. They have been elsewhere referred to,* so that on the present occasion it is only necessary to observe that from January to December they are present at one stage or another, and afford a constant source of food for the smaller fishes. Perhaps the most conspicuous family is that of the Spionidæ, in which is the well-known borer in rocks and shells, viz., *Polydora ciliata*. The curious larva of *Polygordius* is not uncommon in July and August, and *Tornaria* and *Mitraria* also occur.

In our waters the characteristic pelagic Alciopidæ of the southern seas are absent, their place being taken by the ubiquitous *Tomopteris*, and in inshore waters by the active sexual forms of *Autolytus*, the majority bearing ova; and by an occasional *Heteronereis*-form in spring.

The absence of accurate knowledge concerning the development and life-history of the common cross-fish (*Uraster rubens*) has for many years been a conspicuous blank, and it was well known that no adult had ever been seen bearing eggs externally. It thus appeared to differ wholly from the abundant tidal form *Cribrella oculata* and the somewhat rarer *Asterias Mulleri*,† which is not uncommon at St Andrews under stones in rock-pools, both of which carry the eggs and larvæ over the mouth. The recent researches of Mr Field on *Asterias rubens* ‡ clears up the difficulty, for it is found that the larvæ are pelagic, and form in St Andrews Bay part of the teeming multitudes of larval Echinoderms, which in the form of Bipinnarians, Brachiolarians, Auricularians, and Plutei, characterise the warmer months. The vast myriads of the minute eggs of the common cross-fish are given off in May and June.

The irregularity in the appearance of the larger medusæ, e.g., *Aurelia* and *Cyanea*, in multitudes, has again been illustrated during the last season, when comparatively few entered the bay, whereas in 1891 both were common. A knowledge of the effects of currents and other facts connected with their distribution is not yet sufficiently accurate to enable us to make an explanation of the causes of such variations. The hydro-medusæ, on the other hand, seems to be more regular, the majority occurring in June, July, and August, while *Tima* and *Aglantha* are characteristic of the winter months. In April the medusoid *Hybocodon* generally makes its appearance, and continues to the end of summer. They are conspicuous by their four carmine ocelli, and their two tentacles have batteries of thread-cells. Large buds spring in some from the neighbourhood of an ocellus near the two tentacles, and the conspicuous faintly-pinkish manubrium (of a trumpet-shape) occasionally encloses a Copepod. Professor Alex. Agassiz § connects it with a tubularian growing singly; it might also have been supposed to be related to *Corymorpha*, which occurs off the Budda Rock. Another interesting addition to the pelagic fauna is the beautiful garnet-tinted *Halistemma*, several examples of which were procured in the bottom-net, and described by the Rev. A. D. Sloan, B.Sc.||

The larval forms of *Peachia* and allied species occur with great regularity in spring and summer—the earlier stages during the former period, the older during the latter.

Very few Radiolarians have been obtained in the surface-nets. On the other hand, the various species of *Ceratium* are abundant almost through-

* *Ann. Nat. Hist.*, ser. 6, vol. 6, p. 174.

† I am indebted to Professor Jeffrey Bell for the identification of this form.

‡ *Quart. Jour. Micr. Sci.*, vol. 34, p. 105, Nov. 1892.

§ *N. Amer. Aculephæ*, p. 193, 1865.

|| *Ann. Nat. Hist.*, 1891, 6 ser. vol. 7, p. 413.

out the year, and, as formerly mentioned, are the cause of phosphorescence in the water on certain occasions. This genus (*Ceratium*) has been considered by various authors as algaoid, *e.g.*, by Dr John Murray in the Report of the 'Challenger,' and by F. Schütt in the recent Plankton Expedition of the German Government.* On the other hand, Gourret † and Pouchet ‡ maintain more or less their relationship with the cilio-flagellate Infusoria.

The abundance of plant-life in the inshore waters of this area is a prominent feature. Diatoms, algæ in multitudes, and resembling those named, *Antelminellia*, *Chotoceras*, *Pysilla*, *Bacteriastrium*, and the various forms of *Rhizosolenia*, occur constantly in the nets. The abundance of the latter form occasionally causes a greenish discoloration of the water. §

* *Reisebeschreibung der Plankton-Expedition*, von Dr Otto Krümmel, &c. Kiel u. Leipzig, p. 266, &c., 1892.

† *Ann. du Muséum Hist. Nat. Marseille*, 1883. *Mém. No. 8.*

‡ *Jour. de l'Anat. et Physiol.*, 1883, p. 399.

§ I am indebted for much assistance in the preparation of the following tables to Mr J. Pentland Smith, M.A., B.Sc., now of the Horticultural College, Swanley, Kent, who conducted the examination of the contents of the tow-nets with great ability and punctuality.

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net)	(1) Length of Time Net down, and (2) Time when taken up.				
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
29th November 1887. Pier head	Towards Kinkell Ness 3 fathoms	All Sand	<i>Pleurobrachia</i> , many, and ova of <i>Pleurobrachia</i>					<i>Pleurobrachia</i> , large and small <i>Lesueuria</i> , a few adult
13th January 1888. North of Pier	Towards Bell Rock 4 fathoms	All Sand		1 hour		1 young <i>Syngnathus acus</i> , 2½ inch		
14th January 1888. Off Pier head	Northwards 4 fathoms	All Sand		1 hour				<i>Pleurobrachia</i> , numerous, large and small some larval)
16th January 1888, 2½ miles N. of Pier	To near E. Rocks 4 fathoms	All Sand						<i>Lesueuria</i> , a few
19th January 1888. 100 yards from Pier head	By salmon nets to Castle and thence to about 300 yards off Eden, keeping <i>en route</i> about ¼ mile from low water mark 3 fathoms							
20th January 1888. (1) Baths, forenoon	To Eden 3 fathoms	All Sand						<i>Pleurobrachia</i> , large and small
(2) Swilcan Burn, afternoon	To Baths 6 feet to 1 fathom	All Sand				Sprats, flounders		<i>Tima bairdii</i> , Johnst., with reproductive organs almost fully developed, 1½ inches across, colourless, transparent.

Mid-water Net.							Dia- toms.	Other Forms Greenish Bodies, Remarks, etc.
Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoïda.	Larval Mollusca, etc.		
	Many	Trochospheres of <i>Polynoë</i> and older stages with scales Larvæ of <i>Nerine</i>		Thysanopods Swarm of Copepods				<i>Ceratium tripos</i> bottom ^a
				<i>Schistomysis ornata</i>				Infusoria
				<i>Crangon vul- garis</i> , several <i>Parathemisto oblivia</i> , many adult and young				
	A few good			<i>Parathemisto oblivia</i> , in swarms				
				Swarms of <i>Parathemisto oblivia</i>	<i>Appendicu- laria</i> (?)			
		Adult <i>Scal- bregma in- flatum</i>		<i>Idotea linearis</i> <i>Parathemisto</i> , a few <i>Schistomysis ornata</i> <i>Amathilla sabini</i> ♀ with ova, pale brownish				

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.					
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.	
21st January 1889. (3) Off West Rocks		All Sand	<i>Parathemisto obliqua</i> , many large and small <i>Acartia longiremis</i> <i>Sagitta</i> , a few, about $\frac{1}{2}$ inch <i>Ceratium tripos</i>			Flounder, $\frac{3}{4}$ inch Sprats, many $1\frac{1}{2}$ to 2 inches			
22nd January 1889. $\frac{1}{2}$ mile N.E. of Pier p.m.	N. Eden On Eden 3 fathoms	6 fathoms Sandy	<i>Parathemisto obliqua</i> <i>Aglantha digitalis</i> (<i>Circe rosea</i>)	1 $\frac{1}{4}$ hour 3.15 p.m.			<i>Tima bairdii</i> , about $1\frac{3}{4}$ inch and under <i>Aglantha digitalis</i> (<i>Circe</i>), large		<i>Pleurobrachia</i> , very few, minute <i>Beroë</i> , $3\frac{1}{2}$ inches, and one smaller
23rd January 1888. Close inshore at E. Sands	Along E. Rocks keeping about 50 yards from outer Rocks 1 fathom	All Sand							
24th January 1888. (1) About 1 mile N.E. of Pier head	4 fathoms.	All Sand		1 hour			<i>Aglantha digitalis</i> (<i>Circe rosea</i>), and fragments of other Medusæ		
24th January 1889. (2) $\frac{1}{2}$ mile Castle	N. To point opposite outer target 3 fathoms	5 fathoms Sandy	<i>Parathemisto obliqua</i> , many	$\frac{3}{4}$ hour			<i>Aglantha digitalis</i> (<i>Circe rosea</i>) <i>Tima bairdii</i> , a few 1 inch		<i>Pleurobrachia</i> , large and small <i>Aglantha digitalis</i> (<i>Circe rosea</i>)

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
	Bottom	Tow-net. Very few, about $\frac{1}{2}$ inch		<i>Parathemisto obliqua</i> , very few Some very small				<i>Rhizosolenia</i> , very few in bottom tow-net
	Swarms Bottom A few $\frac{1}{2}$ inch	Young <i>Nerine</i> Tow-net.		<i>Parathemisto obliqua</i> , in swarms <i>Parathemisto obliqua</i> , a few				<i>Ceratium tripos</i> Diatoms
				<i>Parathemisto obliqua</i> , large and small in swarms, most small <i>Amathilla sabini</i> , a few small Sessile-eyed forms (?)				
	A considerable number reproductiv organs, comparatively small, but with ova in them. Curious parasitic Diatoms, near anns	Adult <i>Tomopteris</i> , numerous, small		<i>Parathemisto obliqua</i> , a few				
	In swarms, some with Trematode larvæ; male elements largely developed in some Bottom Numerous, $\frac{1}{2}$ inch and upwards	Adult <i>Tomopteris</i> Tow-net.		<i>Parathemisto obliqua</i> , many <i>Calanus finmarchicus</i> , etc., many <i>Calanus finmarchicus</i> , many <i>Pseudocalanus elongatus</i> , numerous				

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size,	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
26th January 1889. Abreast of College, $\frac{1}{2}$ mile N.	N. 2 fathoms	4 fathoms Sandy					<i>Stomobrachium octocostatum</i>	
28th January 1889. Pole Rock off W. Rocks	To Pier head, about 1 fathom				Ovum of green cod ?			<i>Pleurobrachia, Lesueuria</i> , 3 inches
30th January 1888. N. from Castle	Towards opposite shore 4 fathoms	6 fathoms Sandy	<i>Parathemisto obliqua</i> , a few					
3rd February 1888. Off Union Club	Outwards n line between Red Head and Bell Rock	1 fathom to 5 fathoms					<i>Aglantha digitalis (Circe rosea)</i> in considerable numbers, one with peculiar parasite (?)	<i>Pleurobrachia</i> , many large
6th February 1888. Beyond Beacon at end of Pier	Towards Bell Rock to point opposite Kinkell Ness	Sandy						
7th February 1888. From Pipe	E. To opposite Kinkell Ness 2 fathoms	Sandy	<i>Parathemisto obliqua</i> , a few					

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscofda.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
	In swarms Bottom	Adult <i>Tomopteris</i> , a few Tow-net.		<i>Calanus finmarchicus</i> <i>Diastylis rathkii</i> , young		Young <i>Spiralis</i>		<i>Coratium furca</i> <i>Tintinnus denticulatus</i> <i>Ceratium tripos</i> , numerous Spores of algae Fecular algaoid body Diatoms
Larval starfish like <i>Cribrella</i>	In swarms, few 1 inch, and swarms of less	Adult <i>Tomopteris</i>		<i>Parathemisto oblitiva</i> (as before), in swarms <i>Calanus finmarchicus</i>	A few veligers and bivalves			Spores of algae and fragments
				<i>Parathemisto oblitiva</i> , in swarms, males showing spermatozoa, most young, one containing ova of <i>Ascaris</i> and another. Two Ascidians				2 <i>Ascarids</i> in <i>Parathemisto</i> , and in another several large ova of <i>Ascaris</i>
	Considerable number	<i>Tomopteris</i> , numerous, small		<i>Amathilla sabini</i> 1 <i>Eurydice pulchra</i> <i>Parathemisto oblitiva</i> , considerable number				
	2 about 1½ inch			1 <i>Amathilla sabini</i> <i>Parathemisto oblitiva</i> , numerous, males developing spermatozoa				
				<i>Parathemisto oblitiva</i> , numerous				

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	Length of Time (1) Net down, and (2) Time when taken up.				
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
9th February 1888. Off bar of Eden.	Almost N.	Sandy						<i>Tima bairdii</i> , small
11th February 1888. Off Pier head 2 miles	To 4 miles from W. Sands. 3 fathoms.	Sandy						<i>Pleurobrachia</i> , a few
12th February 1888. ½ mile from Beacon	Towards Bell Rock at surface	Sandy						<i>Thaumantias</i> , a few
12th February 1889. ½ mile N.E. of Pier	S.	5 fathoms Sandy						Ova of <i>Pleurobrachia</i>
13th February 1888. 2 miles beyond Pier	2 miles towards Bell Rock							
13th February 1889. 2 Miles N.E. of Pier 9.30 a.m.	4 fathoms	7 fathoms Sandy	1 <i>Idotea linearis</i> , <i>Pseudocalanus elongatus</i> <i>Sagitta</i> , very few, ⅜ to ⅝ inch <i>Aglantha digitalis</i> (<i>Circe rosea</i>), very few, small, immature	1 hour 10.30 a.m.			<i>Aglantha digitalis</i> (<i>Circe rosea</i>), a few	<i>Pleurobrachia</i> , a few large and small, ⅜ to ½ inch Number of <i>Beroë</i> and <i>Lasueuria</i>
							<i>Aglantha digitalis</i> (<i>Circe rosea</i>), very few, small, immature	

Mid-water Net.							Diatoms.	Other forms, greenish bodies, Remarks, etc.
Larval Echinoderms.	Sagittæ, Size, &c.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.		
		Adult <i>Autolytus prolifer</i> , with eggs in pouch, Larval form of <i>Nereis</i>		<i>Parathemisto obliqua</i> , a few			A few	
				<i>Parathemisto obliqua</i> , numerous				
	A few			<i>Parathemisto obliqua</i>				
	Bottom A few large	Tow-net.		Many Copepoda		Young <i>Spiridæis</i>		
	Myriad, $\frac{3}{4}$ to $\frac{1}{2}$ inch Parasitic Nematode in some	<i>Nereis</i> as before Larval <i>Nereis</i> 8 segments and Trochosphere stage, adult <i>Tomopteris</i> , many, $\frac{1}{2}$ to $\frac{1}{2}$ inch <i>Nereis</i> <i>Autolytus</i> , with ovisac		<i>Parathemisto obliqua</i> , in swarms <i>Boreophausia raschii</i> , many <i>Schistomysis ornata</i> , very few <i>Mysis vulgaris</i> , very few 1 <i>Atylus swammerdami</i> <i>Parathemisto obliqua</i> , swarms, 1 <i>Eurydice pulchra</i> <i>Calanus finmarchicus</i> , a few <i>Pseudocalanus elongatus</i> Exuvia of <i>Balanus</i>		Minute bivalves		
	Bottom A few mature	Tow-net.		<i>Calanus finmarchicus</i> , a few <i>Pseudocalanus elongatus</i> , many				

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of time Net down and (2) Time when taken up.				
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
14th February 1889. N. of inner Pier, 1 mile 9.45 a.m.	N. 3 fathoms	5 fathoms Sandy	<i>Pseudocalanus elongatus</i> , many <i>Autolytus prolifer</i> , ♀ bearing ova Sagitta, very few <i>Aglantha digitalis</i> (<i>Circe rosea</i>) very few	$\frac{7}{2}$ hour 10.20 a.m.			<i>Aglantha digitalis</i> (<i>Circe rosea</i>) many	1 <i>Pleurobrachia</i> , $\frac{1}{2}$ inch
17th February 1888.			Reticulated larvæ of <i>Nerine</i> <i>Cyphonautes</i> Copepoda Young <i>Appendicularia</i>				<i>Aglantha digitalis</i> (<i>Circe rosea</i>) a few large	
19th February 1889. 30 yards N.E. of Pier head 1.30 p.m.	N.E.	Sandy	<i>Parathemisto obliqua</i> , very few <i>Pseudocalanus elongatus</i> , numerous 1 <i>Tomopteris</i> , very small Sagitta, many (as before) <i>Aglantha digitalis</i> (<i>Circe rosea</i>) many as in other net	2 hours 3.30 p.m.	Ova of Plaice; Haddock; Long rough dab; Dab; Green cod?	At mouth of Forth many young wolf-fishes, 21 mm.		
21st February 1889. 3 miles N.E. of Pier head 2.30 p.m.	S.W. 3 fathoms	6 fathoms	<i>Acartia longiremis</i> , many <i>Calanus finmarchicus</i> , very few 1 Sagitta <i>Aglantha digitalis</i> (<i>Circe rosea</i>) a few	$\frac{3}{4}$ hour 3.15 p.m.			<i>Aglantha digitalis</i> (<i>Circe rosea</i>) a few	Minute <i>Pleurobrachia</i> Ephyrae <i>Aurelia</i>

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoïda.	Larval Mollusca, etc.	Dia-toms.	Other forms, greenish bodies, Remarks, etc.
	Myriad Bottom Many, mature, one with parasitic Nematode	Tow-net.		<i>Atylus swammerdamii</i> , very few <i>Parathemisto oblivia</i> , numerous <i>Calanus finmarchicus</i> , many <i>Schistomysis ornata</i> , very few 2 <i>Atylus swammerdamii</i> <i>Calanus finmarchicus</i> and <i>Pseudocalanus elongatus</i> , numerous				
17 ova of Echinoderms (<i>Luidia</i> ? <i>Cucunaria</i> ?)			Nauplii, a few		<i>Cyphonautes</i>			<i>Ceratium tripos</i> and algæ
	Bottom Many, as before	Tow-net. Adult <i>Tomopteris</i> , a few, about $\frac{1}{4}$ inch	Nauplii, many (chiefly off rocks)	<i>Schistomysis ornata</i> , very few, small <i>Parathemisto oblivia</i> , many <i>Calanus finmarchicus</i> , many <i>Pseudocalanus elongatus</i> , numerous				
Many Bottom A few		Tow-net. Larval <i>Nerine</i>		<i>Parathemisto oblivia</i> , numerous <i>Calanus finmarchicus</i> , many <i>Parathemisto oblivia</i> , many <i>Calanus finmarchicus</i> , numerous Copepoda in considerable numbers				

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of time Net down and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
26th February 1889. Midway between Bell Rock and Carr Rock			<i>Parathemisto oblitvia</i> <i>Calanus finmar-chicus</i> , very few Sagitta, very few Larval <i>Nerine</i> ? Larval <i>Appendicularia</i>		Ciliated minute ovum in morula stage Larva E. Clupeoids Sand-eels		<i>Aglantha digitalis</i> (<i>Circe rosea</i>), a few	Ephyrae of <i>Aurelia</i>
2nd March 1888. Off Beacon	To Tent's Muir 3 fathoms			1½ hour	Ova of plaice and gurnard	Larval sand-eels	<i>Aglantha digitalis</i> (<i>Circe rosea</i>)	<i>Pleurobrachia</i>
6th March 1888. 100 yards off E. Rocks	To mouth of Eden 1¼ mile 3 fathoms				Ova of Haddock Ova of cod ,, long rough dab Ova of dab ,, rock-ling (3 bearded)		<i>Aglantha digitalis</i> (<i>Circe rosea</i>)	
7th March 1889. ½ mile E. of Kinkell Ness, and 1 mile N. of Kinkell Ness 11.30 a.m.	To Eden	8 to 6 fathoms Sandy	Eggs of haddock, long rough dab, cod, plaice and rockling	¾ hour 12.15 p.m.	2 eggs of Plaice embryo about to issue from egg Egg of dab Larval sand eels	1 of Cottus (?) 7 mm. With no appearance of fin rays Montagus sucker 5.2 mm.	<i>Aglantha digitalis</i> (<i>Circe rosea</i>) many	<i>Cyanea</i> , a few minute Two <i>Aurelia</i> minute Eggs and larvæ of <i>Peachia</i>
8th March 1889. 1½ mile N.E. of Kinkell Ness 2.30 p.m.	Towards Harbour 4½ fathoms	8 to 7 fathoms Sandy	<i>Parathemisto oblitvia</i> <i>Halitemora longicornis</i> , many <i>Pseudocalanus elongatus</i> , very few Nauplius, a few Pluteus		Crustacean (?) in morula stage Sand eels 5 mm. Montagus sucker 4.5 mm. Cœlenterate ova		<i>Aglantha digitalis</i> (<i>Circe rosea</i>) Myriad 1 <i>Timabairdii</i> 2½ inches	1 <i>Pleurobrachia</i> ¾ inch <i>Cyanea</i> minute, very few 1 <i>Pleurobrachia</i> 5/8 inch

Mid-water Net.							Diatoms.	Other forms, greenish bodies, Remarks, etc.
Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.		
	Bottom In swarms, chiefly small	Tow-net. Adult <i>Autolytus</i> ♂ <i>Tomopteris</i> , small Bristles of <i>Harmithoe</i>		<i>Thysanoessa</i> , <i>Calanus finmarchicus</i> , a few	<i>Cyphonautes</i>	<i>Spirialis Clione</i> , a few	<i>Ceratium tripos</i> , a few <i>Ceratium furca</i> , a few <i>Rhizosolenia</i> , a few Many spores of algae Diatoms, many	
	Numerous Some fine	Multitudes of the Larvæ of <i>Nerine</i> Adult <i>Autolytus prolifer</i>		<i>Parathemisto</i> , very few Thysanopods (<i>Nyctiphanes</i> and <i>Thysanoessa</i>) <i>Calanus</i> (?)		Young <i>Ommastrephes</i> 1 inch long		
	Large and small			A few small crabs				
Minute brittle-stars	Bottom Myriad	Trawl-net <i>Tomopteris</i> , a few small <i>Autolytus</i> ♂ several 2 small bearing ova	Nauplii abundant for a fortnight Zoëa of <i>Crangon</i>	<i>Parathemisto oblitvia</i> , very few <i>Calanus finmarchicus</i>		A few young mussels, 1.5 mm., and other minute bivalves A few veligers of <i>Littorina</i>	<i>Ceratium tripos</i> , very few. Diatoms, many	
	Myriad	<i>Autolytus prolifer</i> ♀ bearing ova (2)		<i>Crangon vulgaris</i> , a few, large and small <i>Schistomysis ornata</i> a few <i>Calanus finmarchicus</i> numerous <i>Acartia longiremis</i> , a few <i>Calanus finmarchicus</i> , a few <i>Pseudocalanus elongatus</i> myriad <i>Haliemora longicornis</i> , very few				
	Bottom Many	Tow-net. <i>Nerine</i> , adult. <i>Autolytus prolifer</i> ♂ one other form	Nauplius			<i>Spirialis</i> , a few	Diatoms in bottom and surface tow-nets	

Net put down, where and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom,	Surface Fauna (Tow-net).	(1) Length of time Net down and (2) Time when taken up.	In the net			
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusae.	Medusae.
11th March 1889 500 yards N.E. of Pier head 9 a.m.	Towards Targets 3½ fathoms	5 fathoms Sandy	<i>Haltemora longicornis</i> , very few <i>Pseudocalanus elongatus</i> , very few Nauplii, very few Sagitta, very few	1 hour 10 a.m.	2 eggs of rockling	3 clupeoids, 8.5 mm. 10 mm. A few Gobies Pipe fish (<i>Syngnathus acus</i>) 2½ inches 1 herring (?) 1½ inch		
12th March 1889. Targets 8.30 a.m.	N.E. 3½ fathoms	5 fathoms Sandy		½ hour 9 a.m.	1 of plaice Sand eels	Sprats 1½ to 2 inches		
Targets 9.30 a.m.	N.E. 3½ fathoms	5 fathoms Sandy		½ hour 10 a.m.	1 of Cod	2 Cotti <i>Agonus cataphractus</i> , many herrings	<i>Aglantha digitalis</i> (<i>Circe rosea</i>) 1 <i>Bougainvillia britannica</i> , minute	<i>Cyanea</i> minute, very few
15th March 1889. 1 mile abreast of Kinkell Ness 10 a.m.	To Harbour 4½ fathoms	8 fathoms Sandy and rocky	<i>Calanus finmarchicus</i> , very few <i>Pseudocalanus elongatus</i> , very few Nauplii in swarms	1½ hour 11.15 a.m.	1 of plaice Egg of <i>Motella</i>	6 clupeoids, 8-10 mm. Permanent rays appearing in tall Herrings many as before 1 clupeoid, 9.5 mm., no appearance of permanent rays	<i>Aglantha digitalis</i> (<i>Circe rosea</i>) very few <i>Aglantha digitalis</i> (<i>Circe rosea</i>)	Fragments of <i>Lesueuria</i>
22nd March 1889. 400 yards off Pier 1.40 p.m.	To Targets 3½ fathoms	5 fathoms Sandy	<i>Haltemora longicornis</i> , very few Zoea Larval <i>Lesueuria</i> , minute <i>Aglantha digitalis</i> (<i>Circe rosea</i>), many		Eggs of plaice, embryo far advanced Larval sand eels (many)	Clupeoids, numerous, 8 to 9 mm. on average 1 <i>Agonus cataphractus</i> , sand eels, a few Young Cotti	1 <i>Tima bairdii</i> , 1½ inches, unripe <i>Aglantha digitalis</i> (<i>Circe rosea</i>) myriad, some ripe 1 <i>Bougainvillia britannica</i> , very small	<i>Cyanea</i> , minute, many Fragment of <i>Lesueuria</i> 3 <i>Pleurobrachia</i> , inch

Mid-water Net.							Dia- toms.	Other forms greenish bodies, Remarks, etc.
Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.		
	Myriad as before			<i>Schistomysis ornata</i> , many <i>Mysis vul- garis</i> , very few <i>Mysis griffith- sia</i> <i>Diastyllis rathkii</i> , one <i>Calligus</i> <i>Parathemisto oblivia</i> <i>Pseudocalanus elongatus</i> , very few			Diatoms in surface net	
	Bottom Very few	Tow-net.	Nauplii, very few Zoëæ					
	Bottom Numerous as before	Trawl-net <i>Adult Autolytus prolifer</i> 3 ♀ bearing ova	Nauplii Zoëæ, many of <i>Carcinus</i> and <i>Crangon</i>	<i>Schistomysis ornata</i> , very few <i>Parathemisto oblivia</i> , very few <i>Calanus fin- marchicus</i> , a few <i>Schistomysis ornata</i> , very few <i>Parathemisto oblivia</i> , a few <i>Calanus fin- marchicus</i> , many		<i>Spiralis</i> , very few	Diatoms, many	
	Bottom	Tow-net. Adult 1 <i>Tomopteris</i> , 1 inch	Nauplii myriad	<i>Schistomysis ornata</i> , very few <i>Parathemisto oblivia</i> , many <i>Calanus fin- marchicus</i> , many <i>Calanus fin- marchicus</i> , very few <i>Pseudocala- nus elon- gatus</i> , very few <i>Haltermora longicornis</i> , very few				
	A few (as be- fore)	Adult <i>Tomop- teris</i>	Zoëæ, very few	1 <i>Mysis</i> ? <i>Atylus swam- merdami</i> , very few <i>Parathemisto oblivia</i> , a few <i>Eurydice pulchra</i> , 3 <i>Idotea linearis</i> (3), very small				

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of time Net down and (2) Time when taken up.				
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, &c.	Hydromedusæ.	Medusæ.
5th April 1888. In line with Kinkell Ness	To Maiden Rock 4 fathoms				Haddock, plaice, cod and rockling, a few (Also in bottom-net)			Young forms. <i>Hybocodon</i>
6th April 1888. 7 miles E. of Bell Rock		Sandy	Eggs of cod and plaice					
9th April 1888. 4 miles from Pier and 2 miles N.E. of Kinkell Ness		Sandy			Eggs of plaice and rockling			
7 miles E. of Bell Rock		Sandy	Eggs of dab and rockling Many Crustaceans, Daphnia-like					
12th April 1888. 2 miles off Kinkell Ness, and 2 miles from Pier head	4 fathoms	Sandy			Eggs of cod, haddock, plaice, dab, flounder, rockling and weever (<i>Trachinus vipera</i>)	Sprat, 2 inches		Some young <i>Pleurobrachia</i>
14th April 1888. Pier head	Towards Tay lightship for 1½ miles	Sandy	Many eggs of haddock, cod, long rough dab, plaice, dab, flounder and rockling		Many eggs of plaice, haddock, cod, dab, sprat, rockling Clupeoids, 6·4 to 7·5 mm.	Sand eels 5·8 mm. Agoni 5·5-7·5 rockling 4·5 mm. Plaice, 7·5 mm. Cotti, 5·2 mm.	Some	
18th April 1888. Kinkell Ness	N. 3 fathoms				A few eggs of plaice and long rough dab Sand eels in swarms Montagu's snucker <i>Agonus cataphractus</i>	Gunnels, 17 mm.		<i>Pleurobrachia</i> , numerous, small
19th April 1888. 20 miles S.E. of N. Carr Rock			Eggs of haddock, cod, long rough dab, sprat, plaice, dab, turbot (one) and rockling, many Zoëæ		24th April Eggs of gurnard, sprat and long rough dab, many sand eels	Clupeoids 7·5 mm. to 9·2 mm.		

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
			Zoeæ					
		Adult <i>Autolytus prolifer</i>						
	A few			<i>Talitrus</i> -like form, <i>Daphnia</i>				
	Many	Many Adult <i>Nereis dumerilii</i> (Epitocous form)	Many	<i>Hyperia</i> (?) <i>Eurydice</i> , <i>Idolea tinca</i> and <i>tricuspidata</i>				
	Swarms, chiefly about $\frac{1}{4}$ inch			<i>Idolea</i> , and many stalk-eyed transparent shrimp-like forms (<i>Mysis</i>)	A few young forms	<i>Ctione</i> , many forms		

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size,	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
26th April 1888. 300 yards off Pier 10.30 a.m.	N.E. 500 yards just in line with Pier head 3 fathoms	6½ fathoms Sandy	Numerous Copepoda, <i>Centropages hamatus</i> and <i>Calanus finmarchicus</i>	½ hour 11 a.m.	Few of plaice, cod, and whiting, one of flounder and poor cod, 25th April 1887 <i>Cottus</i> , 7 mm.	1 goby, 1½ inch Young flounders, ⅞ to ⅝ inch, and one 1⅞ inch Dab, 27 mm.	Pelagic Medusoid eggs	
30th April 1888. 3 miles E. of Pier head, and 3 miles from Kinkell Ness 1 p.m.	To Maiden Rock 4 fathoms	7 to 9 fathoms Sandy	A few eggs of rockling Numerous Copepoda <i>Centropages hamatus</i> <i>Calanus finmarchicus</i> and <i>Halitemora longicornis</i>	1 hour 2 p.m.	A large number of ova, viz.:— of plaice, gurnard, long rough dab and rockling	5 gadoids, ½ to 1½ inch 8 sand-eels, ¾ inch	Few. <i>Thaumantias</i> and <i>Lizzia punctata</i>	<i>Pleurobrachia</i> many
4th May 1888. 100 yards off Pier in line with middle of Pier and Scoonie Hill 7 a.m.	To point about half-way between Eden and Pier 3 fathoms	6½ fathoms Sandy	Young Decapod <i>Cuma</i> <i>Centropages hamatus</i> , ♂ and ♀ <i>Halitemora longicornis</i> and <i>Acartia longiremis</i> numerous <i>Nauplii</i>	1 hour 8 a.m.	Not nearly as numerous as last day Eggs of plaice, gurnard and haddock	4 gadoids, ½ inch 3 sand-eels, ⅝ inch	Numerous. <i>Sarsia tubulosa</i> and <i>Thaumantias</i>	<i>Cyanea</i> , in great numbers <i>Pleurobrachia</i> in great numbers
9th May 1888. (1) Abreast of Castle 10.15 a.m.	E.N.E. To point where Scoonie Hill in line with Pier head 3 fathoms	4½ to 6 fathoms Sandy	A few <i>Appendicularia</i> , <i>Cuma</i> Larval Mollusca (?) <i>Calanus finmarchicus</i> <i>Halitemora longicornis</i> <i>Nauplii</i>	1 hour 11.15 a.m.		8 gadoids, ⅝ inch 3 gadoids, ⅞ inch 1 gadoid, ½ inch, 1 sand-eel, ½ inch	<i>Sarsia tubulosa</i> , a few <i>Sarsia pulchella</i> , 1 <i>Phialidium variabile</i> , var. <i>globosa</i> (?)	1 <i>Pleurobrachia</i>
(2) Near mouth of Eden 12 noon	S. To point where Scoonie Hill in line with Pier head			½ hour 12.30 p.m.		4 gadoids, ¼ to ⅞ inch	<i>Sarsia tubulosa</i> and <i>Thaumantias</i> , a few	
10th May 1888. Half-way between Kinkell Ness and Budda Rock 11 a.m.	To Eden mouth 4 fathoms	8 fathoms Sandy	1 Copepod, <i>Halitemora longicornis</i> 3 <i>Sagitta</i> , ¼ to ½ inch	¾ hour 11.45 a.m.		7 gadoids, ⅝ to ⅞ inch 2 flounders, ⅞ to ⅝ inch 1 clupeoid, ⅝ inch	<i>Sarsia tubulosa</i> , a few <i>Phialidium variabile</i> , var. <i>globosa</i> , 2 1 <i>Thaumantias</i>	1 <i>Cyanea</i> , <i>Pleurobrachia</i> a few
Harbour, 2 p.m.				2 hours 4 p.m.		2 flounders, ½ inch	1 <i>Stauridium productum</i>	

Mid-water Net.							Dia- toms.	Other Forms, Greenish Bodies, Remarks, etc.
Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoïda.	Larval Mollusca, etc.		
		A few adult Nematodes	Pelagic ova	1 <i>Crangon vulgaris</i> , <i>Mysis vul- garis</i> , <i>Schistomysis ornata</i> , <i>Diastyllis rathkii</i> , a few				
	Numerous, $\frac{1}{8}$ inch	Adult <i>Tomopteris</i>	Zoæa numer- ous	<i>Parathemisto oblivia</i> , <i>Eurydice</i> , a few <i>Calanus fin- marchicus</i>	<i>Appendicu- laria</i> , 3			
	Numerous, $\frac{1}{4}$ to 1 inch, one or two with para- sitic Nema- tode	Adult. 2 <i>Nereis</i> and <i>Syllis</i> , latter bearing blue mass of eggs	2 Zoæa	2 <i>Parathe- misto oblivia</i>	<i>Appendicu- laria</i> , many		Numer- ous spicular forms	
	1, 1 inch			<i>Parathemisto oblivia</i> , 3 <i>Amphithoe</i> 1 <i>Eurydice</i> 1 Copepod, <i>Calanus fin- marchicus</i>	<i>Appendicu- laria</i> , in swarms; <i>Appendicu- laria</i> , in swarms		<i>Rhizoso- lenia</i> amongst 'houses' of <i>Appendicu- laria</i>	Infusorians amongst 'houses' of <i>Appendicu- laria</i>
			Zoæa, a few	2 <i>Parathe- misto oblivia</i> 1 Copepod, <i>Calanus fin- marchicus</i> <i>Schistomysis ornata</i> , a few 3 <i>Amphithoe littorina</i> 2 <i>Gammarus locusta</i> ,	<i>Appendicu- laria</i> , in swarms		<i>Rhizoso- lenia</i> in abund- ance in surface net	2 larval in- sects

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusa.	Medusa.
11th May 1888. (1) Opposite Spindle Rock 12.15 p.m.	N.W. for 500 yards 4 fathoms	6 fathoms Rocky	2 Copepods, unrecognisable, and <i>Halimora longicornis</i> (?) Ova of Holothurian (?), a very few	$\frac{1}{2}$ hour 12.45 p.m.		2 sand-eels, $\frac{3}{8}$ to $\frac{1}{2}$ inch	1 <i>Sarsia tubulosa</i>	
(2) 500 yards N.W. of Spindle Rock 1 p.m.	N.W. along shore keeping 150 yards off low water rocks, 2 fathoms	6 to 5 fathoms Rocky	Eggs of gurnard, haddock, poor cod, sprat, dab, lemon dab, and rockling, Ova of Holothurian (?), a few	2 p.m.		2 sand-eels, $\frac{5}{8}$ to $\frac{7}{8}$ inch 2 <i>Gadus virvens</i> (?), $\frac{5}{8}$ to $\frac{1}{2}$ inch 2 flounders, $\frac{3}{8}$ inch	<i>Laodice cruciata</i> , (<i>Thaumantias pilosella</i>), a few <i>Thaumantias melanops</i> , a few <i>Sarsia pulchella</i> and <i>tubulosa</i> , a very few 1 <i>Stauridium productum</i>	<i>Pleurobrachia</i> a few
15th May 1888. 2 miles N.E. of Pier 4 a.m.	N.W. 3 fathoms	6 $\frac{1}{2}$ to 4 $\frac{1}{2}$ fathoms Sandy	Eggs of topknot and others as above	1 $\frac{1}{2}$ hour 5.30 a.m.			<i>Sarsia tubulosa</i> , many <i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>) <i>Thaumantias melanops</i> , a few <i>Stauridium productum</i> , a few <i>Margelis ramosa</i> (<i>Bougainvillia britannica</i>) 1 <i>Lizzia octopunctata</i>	<i>Cyanea</i> , many <i>Halistemma</i> (bottom-net)
16th May 1888. 1 $\frac{1}{2}$ mile E. of Pier, and 2 miles N.E. of Kinkell Ness 8 a.m.	W. 3 $\frac{1}{2}$ fathoms	7 fathoms Sandy		$\frac{1}{2}$ hour 8.30 a.m.		4 <i>Gadus virvens</i> , $\frac{1}{2}$ inch, with parasitic <i>Caligus</i>	<i>Sarsia tubulosa</i> , a very few	1 <i>Cyanea</i> of pinkish hue $\frac{1}{4}$ inch
17th May 1888. 1 mile E. of Pier 4.30 p.m. E. of Maiden Rock 5.15 p.m.	N.W.		A few <i>Appendicularia</i> 2 <i>Sagittæ</i> , $\frac{3}{8}$ and $\frac{1}{2}$ inch	$\frac{1}{2}$ hour 4.50 p.m. $\frac{1}{2}$ hour 5.25 p.m.				

Mid-water Net.							Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.		
				<p><i>Parathemisto oblitria</i>, a few <i>Gammarus marinus</i> (?) and <i>locusta</i> 1 <i>Amphithoe littorina</i></p> <p><i>Parathemisto oblitria</i>, a few 2 <i>Amphithoe littorina</i>, <i>Eurydice pulchra</i>, a few</p>	<p><i>Appendicularia</i>, in swarms</p> <p><i>Appendicularia</i>, in swarms</p>		<p><i>Rhizosolenia</i> in abundance in mid-water and surface nets</p> <p><i>Rhizosolenia</i> in abundance in mid-water and surface nets</p>	
	1, $\frac{1}{8}$ inch, with parasitic Nematode			<p>1 <i>Amphithoe littorina</i> 1 <i>Atylus swamnerdami</i> 1 <i>Eurydice</i></p>	<i>Appendicularia</i> , in swarms		<i>Rhizosolenia</i> in abundance in surface net	
				<p>1 <i>Atylus bipinosus</i> 1 <i>Caprella</i></p>	<i>Appendicularia</i> , in swarms		<i>Rhizosolenia</i> in abundance in 'houses' of <i>Appendicularia</i> , and surface net	1 larval Insect
							<i>Rhizosolenia</i> in abundance	

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size,	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusae.	Medusae.
18th May 1888. (1) 55 miles S.E. of Bell Rock (2) $\frac{3}{4}$ mile E. of Pier 8.40 a.m. (3) $\frac{3}{4}$ mile E. of Pier 4.30 p.m.	W. by Baths to Roman Catholic Church 2 fathoms N.	6 $\frac{1}{2}$ to 3 $\frac{1}{2}$ fathoms	1 <i>Idotea</i> Copepoda, many <i>Calanus finmarchicus</i> <i>Acartia longiremis</i> and <i>Longipedia coronata</i> <i>Appendicularia</i> , a very few 2 <i>Sagittæ</i> , $\frac{1}{4}$ and $\frac{1}{8}$ inch 1 <i>Beroë</i>	1 $\frac{1}{2}$ hour 9.50 a.m. $\frac{1}{4}$ hour 4.45 p.m.	Eggs of rock-ling	6 gadoids, $\frac{3}{8}$ to $\frac{1}{16}$ inch	<i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>), very few 1 <i>Thaumantias melanops</i> <i>Sarsia tubulosa</i> , very few 1 <i>Sarsia pulchella</i>	2 <i>Beroë</i>
19th May 1888. N. of Eden 9.26 a.m.	To 100 yards E. of Pier 3 fathoms	5 $\frac{1}{2}$ to 4 $\frac{1}{2}$ fathoms Sandy	<i>Appendicularia</i> , a very few <i>Calanus finmarchicus</i> <i>Longipedia coronata</i> 2 <i>Sagittæ</i> , $\frac{1}{8}$ and $\frac{1}{16}$ inch	1 $\frac{1}{2}$ hour 10.30 a.m.		31 gadoids, $\frac{1}{8}$, $\frac{3}{8}$ and $\frac{1}{16}$ inch, smallest with embryonic, median fin: post-larval caudal fin appearing	<i>Sarsia tubulosa</i> , a few	<i>Pleurobrachia</i> numerous, pinkish coloration <i>Lesueuria vitrea</i> , numerous $\frac{3}{8}$ to $1\frac{1}{2}$ inch
22nd May 1888. (1) 2 $\frac{1}{2}$ miles of Boarhills, and 4 miles E. of St Andrews 10.30 a.m. (2) Point where net drawn up at 11.30 a.m. 11.45 a.m.	N. 5 $\frac{1}{2}$ fathoms W. 3 $\frac{1}{2}$ fathoms	9 $\frac{1}{2}$ to 9 fathoms Sandy 9 fathoms Sandy	1 Copepod, <i>Halitemora longicornis</i>	1 hour 11.30 a.m. $\frac{3}{4}$ hour 12.30 p.m.		2 gadoids, $\frac{3}{8}$ and $\frac{1}{8}$ inch, former with post-larval caudal fin appearing, embryonic median fin 1 gadoid, $\frac{3}{8}$ inch	<i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>) <i>Sarsia tubulosa</i> , a few <i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>) ova (?)	<i>Lesueuria vitrea</i> , numerous <i>Pleurobrachia</i> many
23rd May 1888. Midway between Pier head and Kinkell Ness, 2 miles from shore 11.30 a.m.	S. 3 fathoms	7 $\frac{1}{2}$ fathoms Sandy	Ovum of Holothurian	1 hour 12.30 p.m.			<i>Sarsia tubulosa</i> , many <i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>), a very few	<i>Lesueuria vitrea</i> , numerous <i>Pleurobrachia</i> numerous

Mid-water Net.

Larval Echinoderms.	Sagittae, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
							<i>Rhizosolenia</i> , very few	
					<i>Appendicularia</i> , a very few			
							<i>Rhizosolenia</i> in abundance	
			<i>Balani</i> in Cypris-stage				<i>Rhizosolenia</i> abundant in surface net	
				1 Copepod <i>Haliemora longicornis</i>	<i>Appendicularia</i> , numerous		<i>Rhizosolenia</i> abundant in both nets	
							<i>Rhizosolenia</i> in surface net	
							<i>Rhizosolenia</i> , in surface net	

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	Length of Time (1) Net down, and (2) Time when taken up.	PLANKTON			
					Pelagic Ova Nature, Size. Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusae.	Medusae.
24th May 1888. 2½ miles E. of Pier, 3 miles N. of Kinkell Ness, 11.15 a.m.	W. 3 fathoms	9 fathoms Sandy	Eggs of rockling 13 Copepoda, <i>Halite- mora longicornis</i> Exuvia of <i>Balani</i>	¾ hour 12 noon			<i>Sarsia tubu- losa</i> , a few 1 <i>Sarsia pulchella</i>	<i>Lesueur- ia vitrea</i> , many <i>Pleurobrachia</i> , many
26th May 1888. 3 miles from shore Midway between Kin- kell Ness and Pier 11.50 a.m.	W.S.W. 3 fathoms	6½ fathoms Sandy	Copepoda, <i>Halite- mora longicornis</i> , a few Exuvia of <i>Balani</i>	¾ hour 12.30 p.m.	Many of gur- nard, all showing embryo with pigmented yolk and lens fully formed A few ova of brill (?)	3 gadoids, 11, 19 and 24 mm.	<i>Thaumantias tucida</i> (?), brick red marginal ocelli, numerous and rather thick ten- tacles <i>Sarsia tubu- losa</i>	<i>Lesueur- ia vitrea</i> , very few
28th May 1888. 4 miles E. of Pier, 3 miles from Kinkell 1.30 p.m.	W.S.W. 4 fathoms	8½ to 6½ fathoms Sandy	1 Copepod, <i>Centro- pages hamatus</i> Exuvia of <i>Balani</i>	1½ hour 2.50 p.m.	Many ova of gurnard, sprat, dab, cod, had- dock, whit- ing, brill (a few)	1 <i>Cottus</i> , 9 mm., perma- nent caudal rays scarcely apparent 8 gadoids, 2-5 mm. to 20 mm., smal- lest exhibit- ing perma- nent rays in caudal fin 5 sand-eels, 18 mm to 20 mm., one partially digested by <i>Pleurobrachia</i> 3 flounders, 9 mm. to 15 mm.	2 <i>Thaumantias melanops</i> <i>Sarsia tubu- losa</i> , a few	<i>Lesueur- ia vitrea</i> , a few <i>Pleurobrachia</i> , many
1st June 1888. Near Pier, in line with Scoonie Hill and end of Pier 10.30 a.m.	N.E. 2½ fathoms	5 fathoms Sandy		¾ hour 11.15 a.m.		18 gadoids, 7-5 mm. to 24 mm., smallest with mere trace of permanent rays in caudal fin 6 flounders, 9 mm. to 12 mm., with eye on each side of head, and perma- nent rays present in smallest	<i>Thaumantias pileata</i> , a few <i>Thaumantias melanops</i> , many <i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>), numerous <i>Thaum- antias</i> , (?), a few 1 <i>Margelis ramosa</i> (<i>Bougainvillia britannica</i>)	<i>Lesueur- ia vitrea</i> , in swarms <i>Pleurobrachia</i> , very few

Mid-water Net.							Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.		
					<i>Appendicularia</i> , a few		<i>Rhizosolenia</i> , a few	
					<i>Appendicularia</i> , in swarms		<i>Rhizosolenia</i> , a few in both nets	
		1 adult <i>Tomopteris</i>	Megalops, a few Zocæ, a few	Young <i>Hyperia</i>	<i>Appendicularia</i> , in swarms		As before	
							<i>Rhizosolenia</i> , numerous	

Net put down, where, and time.	Course of Boat thenceafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.			
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
7th June 1888. Seonnie Hill in line with Coast Guard Flagstaff, 3 miles from shore 10.40 a.m.	S.	Sandy		2 7/15 hours 1.15 p.m.	10 <i>Agonus cataphractus</i> 25 <i>Gobius minutus</i> <i>Pleuronectes limanda</i> and <i>platessa</i> , many large and small, 3 clupeoids, 5 gurnards	<i>Gadus virens</i> (?), 33 mm. Gadoid, 27 mm. 9 flounders, 4-5 mm. to 9 mm. 3 <i>Agonus cataphractus</i> 10.5 mm.	Hydroid Zoophytes	
1 mile N.E. off Kinkell Ness 11.40 a.m.	Towards Harbour	8-6 fathoms Sandy		1 1/2 hour 12.50 p.m.	7 <i>Trigla gurnardus</i> <i>Gobius minutus</i> , very many, 1 whiting 7 <i>Agonus cataphractus</i> <i>Pleuronectes limanda</i> , 6 saleable, 3 unsaleable <i>Pleuronectes platessa</i> , 3 saleable, 16 unsaleable	5 flounders, 6, 7, 7.3, 13 mm. 1 clupeoid 1 <i>Agonus cataphractus</i> , 11 mm.	Hydroid Zoophytes	2 <i>Pleurobrachia</i> , small
11th June 1888. 2 miles from Pier, 1 mile off Kinkell Ness. 12.15 p.m.	Towards Pier	Sandy	Eggs of rockling (3 bearded?) A few Ostracoda	1/2 hour 1.30 p.m.	A few of gurnard Larval <i>Cyclopterus lumpus</i> , 5 mm.		<i>Sarsia tubulosa</i> , many <i>Thaumantias melanops</i> <i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>), very few, <i>Thaumantias lucida</i> numerous, <i>Margelis ramosa</i> (<i>Bougainvillia britannica</i>), a few <i>Lizzia octopunctata</i> , and 2 other forms.	<i>Cyanea</i> , a few, larger than before and yellowish <i>Pleurobrachia</i> , many

Ground Trawl.

Larval chinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Dia- toms.	Other Forms, Greenish Bodies, Remarks, etc.
	Adult Echino- derms Two sand- stars	2 adult		<i>Schistomysis</i> <i>ornata</i> , numerous 1 <i>Crangon</i> <i>vulgaris</i> 1 <i>Cancer</i> (<i>Corystes</i>) <i>cas-</i> <i>sivellaunus</i> <i>Cuma tri-</i> <i>spinosa</i> <i>Diastylis</i> <i>rathkii</i> , numerous 1 <i>Alytus swam-</i> <i>merdami</i> <i>Allorchestes</i> <i>nilssonii</i> , very few 7 <i>Idotea line-</i> <i>aris</i>				
	A few sand- stars 1 heart- urchin	2 adult <i>Aulolytus</i>		<i>Schistomysis</i> <i>ornata</i> , numerous 1 <i>Crangon</i> <i>vulgaris</i> 1 small hermit-crab 1 <i>Cancer</i> <i>cassivellaun-</i> <i>us</i> <i>Porunus</i> <i>holstus</i> , myriad 3 <i>Diastylis</i> <i>rathkii</i> , numerous <i>Alytus swam-</i> <i>merdami</i> , a few <i>Nisaea lub-</i> <i>bockiana</i> . a few				
	<p style="text-align: center;">Mid-water Net.</p> Many, 15 mm.	1 adult <i>Tomopteris</i>	Megalops, a few Zocæ, many with long spines	1 <i>Pandalus</i> <i>annulicornis</i> 1 <i>Hippolyte</i> (?)	<i>Appendi-</i> <i>cularia</i> , many			Exuvie of <i>Balan</i> , a few A few In- fusoria in mid-water net

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Specimens			
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
12th June 1888. Midway between Pier and Kinkell Ness 1.10 p.m.	To about 200 yards from Pier keeping $\frac{1}{2}$ mile off shore	Sandy and partly rocky		$\frac{1}{2}$ hour 2 p.m.	Many of gurnard, some with blastoderm multicelled, and others with embryo far advanced Larval <i>Cyclopterus lumpus</i> , 5 mm.	2 gadoids, 10 and 17 mm., former with secondary rays apparent only in caudal region	Swarms:— <i>Thaumantias inconspicua</i> , <i>lucida</i> , <i>hemisphærica</i> , and <i>melanops</i> , <i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>), <i>Phialidium variabile</i> (var. <i>globosa</i>) <i>Margelis ramosa</i> (<i>Bougainvillia britannica</i>), Fragment of <i>Stauridium</i> , <i>Sarsia tubulosa</i>	<i>Lesueuria vitrea</i> In swarms, young and adult <i>Pleurobrachia</i> , very few
13th June 1888. Abreast of Maiden Rock 1.10 p.m.	To middle of west sands $4\frac{1}{2}$ fathoms	6 fathoms Sandy		$1\frac{1}{2}$ hour 2.15 p.m.	Gurnards, numerous, some with blastoderm multicelled, and others with pigmentation on embryo and yolk-sac, Larval <i>Cyclopterus lumpus</i> , 6 mm.	4 gadoids, 7, 7.5, 8 and 10 mm., the smallest with permanent rays in caudal region 3 flounders, 6, 9 and 12 mm., with eyes on both sides of head, and swimming on edge, no permanent rays in tail of smallest	Swarms:— <i>Sarsia tubulosa</i> <i>pulchella</i> (?), with reddish ocelli, <i>Thaumantias hemisphærica</i> , <i>inconspicua</i> , <i>melanops</i> , <i>octona</i> (?), and <i>gibbosa</i> , (pinkish), <i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>), <i>Epenthesis maculata</i> <i>Margelis ramosa</i> (<i>Bougainvillia britannica</i>), 2 <i>Lizzia octopunctata</i>	<i>Beroë</i> , very few <i>Lesueuria vitrea</i> , in swarms— young and adult, <i>Pleurobrachia</i> , numerous, large and small

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
	Very few	Young <i>Mage-lona</i> , <i>Phyllococe</i> , <i>Eulalia</i> , <i>Polydora</i> and <i>Sabellaria</i>			<i>Appendicularia</i> , very few			
	Very few	Adult <i>Tomopteris</i> , a few large and small		<i>Hippolyte</i> (?) <i>Caligus</i> , with parasitic <i>Udonella caligorum</i>	<i>Appendicularia</i> , many			

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size. Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
15th June 1888. ½ mile from Pier rocks with (1) Scoonie Hill in line with Gas Works chimney 10 a.m.	E. 2 fathoms	4 fathoms Sandy		1 hour 11 a.m.	Gurnard a few, with blastoderm multicelled, and others with pigmented embryo	1 <i>Gadus morhua</i> , showing tessellated arrangement of pigment 1 <i>Cyclopterus lumpus</i> , 9 mm.	Numerous — <i>Sarsia tubulosa</i> , small, <i>Margelis ramosa</i> (<i>Bougainvillia, britannica</i>), very few, not quite ripe, <i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>) <i>Phialidium variabile</i> var. <i>globosa</i> , not quite mature, <i>Thaumantias melanops</i> , nearly ripe, <i>Thaumantias octona</i> immature, <i>Thaumantias hemisphærica</i> , mature, <i>Thaumantias inconspicua</i> , immature, Same as above, but not so numerous	<i>Lesueuria vitrea</i> , many young and adult <i>Pleurobrachia</i> , many
(2) From end of former trawl 12 noon	N. to Eden mouth 2½ fathoms	3 fathoms Sandy		½ hour 12.30 p.m.	Same as before			Same as above, but not so numerous
16th June 1888.					1 Cephalopod, with spermatophores A few Copepoda			
18th June 1888. 1 mile N.E. of Pier 9.30 a.m.	W.S.W. 3 fathoms	6½ fathoms Sandy		hour 10 a.m.	Same as before	<i>Sarsia tubulosa</i> <i>Thaumantias gibbosa</i> , <i>hemisphærica</i> , <i>octona</i> , <i>lucida</i> , and <i>melanops</i> , as before, <i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>), as before, <i>Margelis ramosa</i> (<i>Bougainvillia britannica</i>), as before 1 <i>Oceania episcopalis</i>	<i>Pleurobrachia</i> , as before <i>Lesueuria vitrea</i> , as before	

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
		Young <i>Mitraria</i>		<i>Caligus</i> , with parasitic <i>Udonella caligorum</i>				
				<i>Allorchestes nitsonii</i> <i>Caligus</i> , 4 ♂ and ♀, latter very mature				

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size. Larval Fishes, Nature, Size,	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
23rd June 1888. 3½ miles E.N.E. off Pier 10.45 a.m.	Towards Pier 14½ fathoms	10 fathoms Sandy	A few Copepoda:-- <i>Haltemora longicornis</i> , <i>Centropages hamatus</i> , and <i>Acartia longiremis</i> , A very few Ostracoda, Megalops stage of lobster. Diatoms	1½ hour 12.15 p.m.	Same as before		<i>Thaumantias hemispherica</i> , many, mature 1 <i>Margellia ramosa</i> (<i>Bougainvillia britannica</i>) <i>Epenethesis maculata</i> (<i>Thaumantias maculata</i>), very ripe, <i>Sarsia tubulosa</i> , many small and immature	<i>Pleurobrachia</i> very many, large (very ripe), and small
25th June 1888. 1 mile N.E. of Pier head 11.45 a.m.	To within 300 yards of Pier head near salmon nets 2½ fathoms	5 fathoms Sandy	Many Copepoda:-- <i>Centropages hamatus</i> , <i>Acartia longiremis</i> , Cladocera, <i>Evadne nordmanni</i> , a very few A very few Zoeæ	2 hours 1.45 p.m.	A few as before		<i>Sarsia tubulosa</i> as before <i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>), a few large, not quite ripe, <i>Thaumantias hemispherica</i> , many as before, <i>Thaumantias</i> (?), large, not quite ripe, <i>Epenethesis maculata</i> (<i>Thaumantias maculata</i>), many, not so ripe as formerly	Very few fragments of <i>Lesueuria</i> one whole, small <i>Pleurobrachia</i> very many as before
26th June 1888. 1½ miles N. of Pier head 12.45 p.m.		Sandy	Young Mollusca 0.13 inch Cladocera, <i>Evadne nordmanni</i> , Many Infusoria, <i>Ceratium fusus</i> 1 Megalops	1½ hour 2 p.m.	Solenette (<i>Solea lutea</i>), dab		<i>Sarsia tubulosa</i> , immature	

Mid-water Net.							Dia- toms.	Other Forms, Greenish Bodies, Remarks, etc.
Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.		
	Very few, 12 mm.	Young <i>Poly- gordius</i> Adult <i>Tomop- teris</i>	Megalops, a few Zoeæ, a few	<i>Caligus</i> , many, ♂ and ♀			In sur- face and mid- water nets	Peculiar spicu- lar bodies. Algoid (see sketch)
	Very few, 6 mm. to 14 mm.			1 <i>Montagua alderi</i> , ♀ ripe. <i>Caligus</i> , many, ♂ and ♀, mature			A few (see sketch) in sur- face net	Algoid forms (as before)
	Bottom	Tow-net.		<i>Acartia longiremis</i>				
<i>Plutei</i> , many	Bottom	Tow-net.	<i>Nauplii</i> , numerous	<i>Halitemora longicornis</i> Ostracoda, numerous <i>Evadnenord- manni</i> , myriad. <i>Calagus rapax</i> , M.- Ed.		<i>Post-larval</i> mussels, '012 inch, '0077 inch, '008 inch <i>Spirialis</i> , a few	4 kinds in sur- face net, and 5 kinds in bottom net	<i>Tintinnus denticulatus</i> <i>Ceratium divergens</i> Spores of algæ and algoid as above in surface net. Algoid as before in bottom net

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time (Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
28th June 1888. 300 yards N.E. of Pier 2.20 p.m.	S. 4½ fathoms 2 feet from bottom	5 fathoms Sandy	1 young lobster Young crabs, very few Ostracoda, very few Cladocera, <i>Evadne nordmanni</i> , very few Megalops, very few A very few <i>Plutei</i> Infusoria, <i>Ceratium fusus</i>	½ hour 3 p.m.				
2nd July 1888. 400 yards N.E. of Pier head 10 a.m.	N.E. 2 feet from bottom	5 fathoms Sandy 5 fathoms	Many eggs of gurnard with advanced embryos Many eggs of sprat with advanced embryos A few eggs of dab with advanced embryos Many eggs of rockling with advanced embryos A few of topknot (?) A few of lemon dab 1 embryo with yolk-sac 1 <i>Centropages hamatus</i> <i>Evadne nordmanni</i> , very few Exuvia of <i>Balani</i> , very few <i>Ceratium divergens</i> , few <i>Tintinnus denticulatus</i> , very few	1 hour 11 a.m.	8 <i>Trigla gurnardus</i> , 3¾ to 4¾ inches, 1 saleable 1 <i>Agonus cataphractus</i> , 2¾ inches 1 sprat injured, probably 2¾ inches 1 whiting, unsaleable <i>Pleuronectes platessa</i> , 8 saleable, 5 unsaleable <i>Pleuronectes limanda</i> , 5 saleable, 6 unsaleable 2 thornback skates, saleable	5 flounders, 5.5, 7, 11, and 12 mm., smallest exhibiting eyes on each side of head, and permanent rays appearing in tail 5 gobies, 6, 10, 11 mm., smallest with permanent rays in tail		<i>Pleurobrachia</i> , very few Young <i>Pleurobrachia</i> , (see sketch) A few ova of <i>Lesneuria</i> (?) (see sketch)

Mid-water Net.							Dis- tom s.	Other Forms, Greenish Bodies, Remarks, etc.
Larval Echinoderms.	Sagittae, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoïda.	Larval Mollusca, etc.		
<i>Plutei</i> , numerous	Bottom	Tow-net. Larval, <i>Lagis</i> , <i>Magelona</i> , <i>Spirorbis</i>	1 <i>Megalops</i> <i>Nauplii</i> , numerous	<i>Halteromora</i> <i>longicornis</i> <i>Acartia</i> <i>longiremis</i> <i>Centropages</i> <i>hamatus</i> , numerous Ostracoda, abundant, <i>Evadne</i> <i>nordmanni</i> , myriad	<i>Appendicu- laria</i> , a few young (see sketch) <i>Cyphonautes</i> , many		4 kinds in sur- face net, nume- rous forms as be- fore in bottom net	Infusoria :— <i>Tintinnus</i> <i>denticulatus</i> Algold, as before, in surface net <i>Ceratium</i> <i>fusus</i> , <i>tripos</i> , and <i>divergens</i> Algold as before in bottom net
Adult Echinoderms 1 <i>Asterias</i> , broken test of <i>Echinus</i>	Ground	Trawl. 1 small <i>Neph- thys</i> , young		<i>Mysis flexu- osus</i> , nu- merous <i>Portunus</i> <i>holsatus</i> , numerous <i>Diastylis</i> <i>rathkii</i> , abundant <i>Anonyx</i> <i>edwardsii</i> , very many, large and small, ♀ carrying young <i>Atylus swam- merdami</i> , very few Another ses- sile-eyed form				
<i>Plutei</i> , few	Bottom	Tow-net. 1 <i>Wartelia</i>	<i>Nauplii</i> , numerous	Copepoda, in abundance <i>Acartia lon- giremis</i> , <i>Halteromora</i> <i>longicornis</i> Ostracoda, very few <i>Evadne</i> <i>nordmanni</i> , Lovén, nume- rous, many specimens with young in brood- pouch	<i>Appendicu- laria</i> , young, very few	<i>Post-larval</i> A few young mussels, .01 to .0125 inch <i>Spiralis</i> , a few	Many, same kinds as form- erly	Infusoria, numerous <i>Ceratium di- vergens</i> and <i>fusus</i> <i>Tintinnus</i> <i>denticulatus</i> <i>Amphidinium</i> <i>operculatum</i> Algold (as before)

Net put down where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromeduse.	Meduse.
4th July 1888. 1½ mile N. off Pierhead 8.40 a.m.		4½ fathoms Sandy	1 small <i>Anonyx edwardsii</i> A very few larval Annelids, same as smallest in other nets	1½ hour 9.10 a.m.	2 <i>Pleuronectes limanda</i> , 2¼ to 2½ inches 1 <i>Syngnathus acus</i>			<i>Pleurobrachia</i> , very few
	2 feet from bottom	4½ fathoms			Pleuronectids, 11 mm. Lump-suckers, 9 to 10 mm.			
5th July 1888. 2 miles N.E. of Pierhead 10 a.m.	Towards Kinkell Ness	5 fathoms Sandy and muddy		1½ hour 11.30 a.m.	18 <i>Trigla gurnardus</i> , 3¼ to 5 inches 2 <i>Trigla gurnardus</i> , 7½ inches 1 sprat, 2¼ inches 2 whittings, 5½ to 6¼ inches 70 <i>Pleuronectes limanda</i> , 2 to 3½ inches 60 <i>Pleuronectes platessa</i> , 4 to 4½ inches 8 <i>Pleuronectes flesus</i> , saleable 20 <i>Pleuronectes platessa</i> , large, 12 inches 10 <i>Pleuronectes limanda</i> , largest 10 inches 1 <i>Raia clavata</i> , 16½ by 12½ inches	3 flounders, 8, 9, and 12 mm., smallest with permanent rays appearing in tail		<i>Pleurobrachia</i> , a few ova shed

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoïda.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
	Ground Trawl.	Form as in bottom tow-net, and a few tubes	<i>Nauplii</i> , a few	<i>Schistomysis ornata</i> , very few, young, one ♀ bearing ova <i>Diastylis rathkii</i> <i>Anonyx edwardsii</i> , a few <i>Atylus swammerdami</i> , a few 1 <i>Calliope laeviuscula</i> 3 <i>Idotea linearis</i>			A few in ground-trawl	
<i>Plutei</i> , a few	Bottom Tow-net.	Form in tube, <i>Nerine</i> (see sketch), Many small forms	<i>Nauplii</i> , abundant	Copepoda, many <i>Acartia longiremis</i> Ostracoda, very few <i>Evadne</i> , in abundance Other forms A few ova	<i>Appendicularia</i> , very few <i>Cyphonantes</i>	<i>Post-larval</i> Young molluscs, '012 inch A few young Pteropods	6 kinds, 4 as formerly	Infusoria, numerous <i>Tintinnus denticulatus</i> <i>Ceratium tripos</i> and <i>divergens</i> <i>Amphidinium operculatum</i> Algoid, as before
	Ground Trawl.			Young shrimps, a few <i>Diastylis rathkii</i> , a few	Very few, young			

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom	Surface Fauna (Tow-net).	Length of Time (1) Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusae.	Medusae.
	2 feet from bottom	5 fathoms						
6th July 1888. N. of Pier head, 2 miles 10 a.m.	Towards Kinkell Ness 3 fathoms	5½ fathoms Sandy	<i>Natica</i> (?), a few; Mussels, .013 inch Ostracoda, very few (<i>Cypris</i> stage of Cirripede?) with diatoms growing on it 1 Zoea, Holoblastic ovum	1 hour 11 a.m.	A few of gurnard with embryo well advanced, pigmented A few eggs of sole	33 gobies, 3.5 mm. to 11 mm., smallest with permanent rays in tail	<i>Sarsia tubulosa</i> , many, small, immature 2 <i>Thaumantias melanops</i> <i>Thaumantias maculata</i> A few almost ripe, largest nearly ½ inch	2 <i>Lesueuria vitrea</i> <i>Pleurobrachia</i> numerous, large, seemingly spent, a few small
Same place and time as before	2 feet from bottom	5½ fathoms Sandy		1 hour 11 a.m.				
7th July 1888. 1½ miles E. of Pier head, and 1½ mile N. of Kinkell Ness 10.30 a.m.	W. 4 fathoms	8 fathoms Sandy		½ hour 11 a.m.			<i>Thaumantias melanops</i> , many, and <i>hemisphaerica</i> a few very ripe, about ⅝ inch	3 <i>Aurelia aurita</i> , largest 4 inches in diameter <i>Lesueuria</i> bearing ova .016 inch <i>Pleurobrachia</i> many large and small as before
From point where net taken up last day 11 a.m.	Towards Boarhills, 2 feet from bottom	8 fathoms Sandy	<i>Halitemora longicornis</i> , a few <i>Eradnie nordmanni</i> , <i>Nauplii</i> , numerous <i>Plutei</i> , a few Infusoria:— <i>Ceratium divergens</i> and <i>Amphidinium operculatum</i>	½ hour 11.30 a.m.	8 eggs with previtelline space and oil globule-like clupeoid, but no vesicles in yolk Egg of top-knot(?)			

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Dia-toms.	Other Forms, Greenish Bodies, Remarks, etc.
<i>Plutei</i> , numerous	Bottom	Tow-net. <i>Nerine</i> , as before Small forms as before	<i>Nauplii</i> , numerous	<i>Acartia longiremis</i> <i>Halitemora longicornis</i> , abundant 1 <i>Caligus</i> Ostracoda, very few <i>Evadne</i> , many Brood-pouches filled	<i>Appendicularia</i> , very few, young <i>Actinotrocha</i>	<i>Post-larval Spirialis</i> , many Young mussels, '013 inch, numerous		Infusoria:-- <i>Tintinnus denticulatus</i> and <i>Ceratum divergens</i>
Many <i>Plutei</i>	Bottom	Tow-net. <i>Nerine</i> (post-larval)	<i>Nauplii</i> , numerous	<i>Halitemora longicornis</i> Ostracoda very few <i>Evadne</i> , a few Ova in <i>Gastrula</i> stage	<i>Appendicularia</i> , very few	<i>Post-Larval Natica catena</i> (?) a few young mussels, '013 inch	2 kinds in surface net	<i>Tintinnus denticulatus</i> Algold (as before)
<i>Plutei</i> , a few	Bottom	Tow-net. As before	<i>Nauplii</i> , very few	<i>Caligus</i> , a few ♀ bearing ova; one with parasitic <i>Udonella caligorum</i>			A few of 1 kind	
<i>Plutei</i> , a few	Bottom	Tow-net. As before	<i>Nauplii</i> , abundant	<i>Halitemora longicornis</i> <i>Centropages hamatus</i> <i>Acartia longiremis</i> Ostracoda, very few <i>Evadne</i> , few Ovum in <i>Morula</i> stage			5 kinds in bottom, and 4 kinds in surface nets	Algold (as before) both tow-nets Two forms (see sketch)

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net.)	(1) Length of Time Net down, and (2) Time when taken up.				
					Pelagic Ova, Nature, Size. Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusae.	Medusae.
10th July 1888. 200 yards N.E. of Pier 11.40 a.m.	Towards Eden 3½ fathoms	5 fathoms Sandy		½ hour 12.10 a.m.	Masses of eggs of frog-fish	1 goby, 8 mm., permanent rays appearing in tail	<i>Thaumantias hemispherica</i> , many large, a few immature, majority ripe <i>Thaumantias maculata</i> , a few ripe	<i>Lesueuria vitrea</i> , in swarms, a few small, largest 2 inches in diameter <i>Pleurobrachia</i> , in swarms, large and small
13th July 1888. 1 mile N. of Pier 2.45 p.m.	To within 200 yards of Pier head 3 fathoms	5 fathoms Sandy		¾ hour 3.30 p.m.	Eggs of top-knot	2 gobies, 7 mm. and 12 mm.	<i>Thaumantias hemispherica</i> , many large, <i>Sarsia tubulosa</i> , very few 1 <i>Margelis ramosa</i> (<i>Bougainvillia britannica</i>), large, immature	1 <i>Aurelia aurita</i> , 4 inches in diameter <i>Lesueuria vitrea</i> , numerous (as before) <i>Pleurobrachia</i> (as before)
14th July 1888. ¼ mile N. of Kinkell Ness 2.20 p.m.	To within ¾ mile abreast of Maiden Rock 3 fathoms 2 feet from bottom	5½ fathoms rocky 5½ fathoms rocky		¾ hour 3.5 p.m.			<i>Thaumantias hemispherica</i> , numerous <i>Sarsia tubulosa</i> , a few A few ova <i>Thaumantias hemispherica</i> , many	3 <i>Aurelia aurita</i> , 4 inches in diameter <i>Lesueuria vitrea</i> , a few <i>Pleurobrachia</i> , numerous, Larval <i>Peachia</i> , many <i>Pleurobrachia</i> , small, very few, and a few embryonic forms Larval <i>Peachia</i> (?)

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
				<i>Ampelisca gaimardii</i> ♀ bearing ova			3 kinds	A few Coelenterate (?) Ova .004 to .005 inch <i>Tintinnus denticulatus</i>
			A very few Zoæ	1 <i>Hyperia medusarum</i> <i>Caligus</i> , very few Moultings of Cirripedes	<i>Appendicularia</i> , a few very small		3 kinds	
Bottom	Tow-net.	As before Young forms in tube (<i>Spio</i> -like)	<i>Nauplii</i> , numerous	1 <i>Hippolyte</i> $\frac{1}{2}$ inch <i>Acartia longiremis</i> <i>Halitemora longicornis</i> , myriad, and many <i>Longipedia coronata</i> Ostracoda, many <i>Evadne</i> , numerous A few ova in <i>Morula</i> -stage	<i>Cyphonautes</i>	Post-larval <i>Spiralis</i> , a few <i>Natica</i> , and other univalves, myriad Mussels, .011 inch to .014 inch, numerous	3 kinds	<i>Tintinnus denticulatus</i> , numerous Form (see sketch) Richest collection this summer

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoïda.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
<i>Plutei</i> , numerous	Bottom	Tow-net. <i>Nerine</i> , many (as before) <i>Spio</i> -like in tube <i>Capitella</i>	<i>Nauplii</i> , numerous Zocæ, very few	<i>Acartia longiremis</i> , myriad <i>Halitemora longicornis</i> , a few <i>Centropages hamatus</i> <i>Longipedia coronata</i> <i>Pleopis polyphemoides</i> <i>Oithona spinifrons</i> , a few <i>Evadne</i> , many Ostracoda, very few	<i>Appendicularia</i> , very few, small <i>Cyphonautes</i> , very few <i>Phoronis</i> , and other forms	Veliger of <i>Spiralis</i> (?) Post-larval Mussels .011 inch to .013 inch A few ova	4 kinds	<i>Tintinnus denticulatus</i> <i>Ceratiium divergens</i> , numerous, ,, <i>fusus</i> , numerous, Algid as formerly
							<i>Rhizosolenia</i> very few (see sketch) 3 other kinds in surface net	
<i>Plutei</i> , many	Bottom	Tow-net. <i>Terebella</i> <i>Polynoe</i> , <i>Spio</i>	<i>Nauplii</i> , a few	<i>Halitemora longicornis</i> , and <i>Acartia longiremis</i> , a few <i>Evadne</i> , very few <i>Cyclopina littoralis</i>	<i>Cyphonautes</i>	Veliger of <i>Spiralis</i> (?) Post-larval mussels .013 inch <i>Spiralis</i> , and other univalves	7 kinds	<i>Tintinnus denticulatus</i> <i>Ceratiium fusus</i>

Net put down, where, and time	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size,	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
20th July 1888. 1 mile E. of Pier head, and 1 mile N.E. of Kinkell Ness	W. 4 fathoms	7 fathoms Sandy	Young Mollusca, .0125 inch <i>Acartia longiremis</i> , very few <i>Calanus finmarchicus</i> <i>Centropages hamatus</i> Larval Annelid, with enormous bristles (<i>Sabellaria</i>)		1 <i>Cyclopterus lumpus</i> , newly hatched	3 gadoids <i>Gadus virens</i> , 19 mm., and 1 <i>Gadus minutus</i> , 15 mm.	<i>Thaumantias melanops</i> , myriad Numerous planulae	<i>Aurelia aurita</i> , many, 6 inches in diameter <i>Lesueuria Pleurobrachia</i> , numerous Larval <i>Peachia</i> , $\frac{1}{4}$ to $\frac{1}{2}$ inch, cling- ing to <i>Thaumantias melanops</i> , numerous
	2 feet from bottom	7 fathoms					<i>Obelia dichotoma</i> , very few Ova	<i>Pleurobrachia</i> , a few medium size <i>Pleurobrachia</i> (larval)
21st July 1887. 'Garland' 12.20 p.m.			Young Hyperia <i>Calanus finmarchicus</i> <i>Acartia longiremis</i> Minute siphono- phore-like					
21st July 1888.			<i>Acartia longiremis</i> <i>Centropages hamatus</i> <i>Anomalocera pater-sonii</i> <i>Oithona spinifrons</i>					

Mid-water Net.

Larval Echinoderms.	Sagittae, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoïda.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
<i>Plutei</i> , very few	Bottom	Tow-net. <i>Nerine</i> Form with enormous bristles (<i>Sabellaria</i>) <i>Terebella</i> <i>Polynoë</i>	<i>Nauplii</i> , numerous	<i>Thysanocessa tenera</i> Surface and bottom nets <i>Longipedia coronata</i> , many <i>Acartia longiremis</i> , numerous <i>Halitemora longicornis</i> , numerous <i>Oithona spinifrons</i> , a few <i>Pleopsis polyphemoides</i> Ostracoda, a few <i>Eradne nordmanni</i> , a few	<i>Cyphonantes</i> , very few	Post-larval Univalves, very few Mussels, .013 inches, .0145 inch, and other forms	8 kinds and <i>Rhizosolenia</i> , very few	<i>Tintinnus denticulatus</i> , many Algoid (as before)
	Some 15 mm.		Lobster-like	<i>Hyperia medusarum</i> , ♀ with ova <i>Calanus finmarchicus</i> <i>Acartia longiremis</i> <i>Pseudocalanus elongatus</i>				

Net put down, where and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	PLANKTON			
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
23rd July 1888. Between Kinkell Ness and Maiden Rock $\frac{1}{4}$ mile from shore and $\frac{3}{4}$ mile from Pier head 11.10 a.m.	Towards Castle $3\frac{1}{2}$ fathoms	$5\frac{1}{2}$ fathoms Sandy	22nd July 1887, 'Garland,' surface-net vii <i>Anomalocera pater-sonii</i> <i>Hallemora longicornis</i> , a few <i>Acartia longiremis</i> , a few <i>Longipedia coronata</i> <i>Evadne nordmanni</i> , a few <i>Plutei</i> <i>Ceratium fusus</i> and <i>tripos</i> , very few 'Garland,' surface-net viii <i>Calanus finmarchicus</i>	$\frac{3}{4}$ hour 11.50 a.m.	Many eggs of gurnard Many eggs of spat Many eggs of rockling A few of dragonet	Pleuronectids, 5-2 mm. Gobies 4 to 5-2 mm. Rockling, 3-8 mm. Pipe-fishes 16 to 22 mm.	<i>Sarsia tubulosa</i> , a few <i>Thaumantias</i> (?) myriad <i>Thaumantias hemispherica</i> , very few	<i>Lesueuria</i> , a few <i>Beroë</i> , many <i>Pleurobrachia</i> , many, Larval <i>Peachia</i> , on <i>Thaumantias</i>
	2 feet from bottom	$5\frac{1}{2}$ fathoms					<i>Obelia dichotoma</i> , very few Ova	<i>Pleurobrachia</i> , a few small
24th July 1888. $\frac{3}{4}$ mile N.E. of Pier 11.10 a.m.	Towards Eden $3\frac{1}{2}$ fathoms	5 to $4\frac{1}{2}$ fathoms Sandy	Mussels, .015 inch, very few <i>Acartia longiremis</i> , a few <i>Evadne nordmanni</i> , a few <i>Nauplii</i> , very few <i>Plutei</i> , many <i>Tintinnus denticulatus</i> , very few	$\frac{3}{4}$ hour 11.50 a.m.			<i>Thaumantias</i> (?) numerous 1 <i>Margelis ramosa</i> (<i>Bougainvillia britannica</i>), ripe <i>Sarsia tubulosa</i> , a few <i>Thaumantias hemispherica</i> , a few	<i>Lesueuria</i> , numerous <i>Beroë</i> , numerous, <i>Pleurobrachia</i> , myriad Larval <i>Peachia</i> , a few
	2 feet from bottom	5 to $4\frac{1}{2}$ fathoms					<i>Obelia dichotoma</i> , very few Ova	<i>Pleurobrachia</i> , a few small Larval <i>Pleurobrachia</i> , a few

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoïda.	Larval Mollusca, etc.	Dia-toms.	Other Forms, Greenish Bodies, Remarks, etc.
<i>Plutei</i> , a few	Bottom Tow-net.	<i>Nerine</i> , many Form with large bristles as before (<i>Sabellaria</i>) <i>Terebella</i> <i>Polynoë</i>	Zoeæ, very few <i>Nauplii</i> , many	1 <i>Diastylis rathkii</i> <i>Halimemora longicornis</i> <i>Acartia longiremis</i> <i>Oithona spinifrons</i>	<i>Appendicularia</i> , small <i>Appendicularia</i> , very few <i>Cyphonautes</i> , many	<i>Post-larval Natica</i> , and other univalves, many Mussels and other bi-valves '013 inch and '0155 inch Young univalve <i>Natica catena</i> (?), very few	3 kinds in surface net 6 kinds	 <i>Tintinnus denticulatus</i> and <i>Ceratium tripos</i>
<i>Plutei</i> , many <i>Bipinnaria</i> <i>Brachiolaria</i>	Bottom Tow-net.	<i>Nerine</i> , a few <i>Polynoë</i> , very few Form with enormous bristles (<i>Sabellaria</i>), a few	<i>Nauplii</i> , many	<i>Acartia longiremis</i> <i>Longipedia coronata</i> and <i>Oithona spinifrons</i> , numerous Ostracoda, a few <i>Evadne nordmanni</i> , a few Exuvie of <i>Balan</i>	<i>Appendicularia</i> , small, very few <i>Cyphonautes</i> , a few	Post-larval univalves, <i>Natica</i> , etc., a few Mussels '014 inch to '013 inch Young univalve <i>Natica catena</i> (?)	<i>Rhizosolenia</i> , very few, and 5 other kinds	<i>Tintinnus denticulatus</i> <i>Ceratium fusus</i> , very few Many minute ova

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-Net).	Length of Time (1) Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
25th July 1888. 3 miles from St Andrews 2 miles N. of Whale Rock 12.55 p.m.	Towards St Andrews 5 fathoms	9 fathoms Sandy	<i>Natica catena</i> (?), .013 inch, very few <i>Evadne nordmanni</i> , numerous <i>Acartia longiremis</i> , many <i>Haliemora longicornis</i> <i>Centropages hamatus</i> Larval Annelid (young of <i>Polynoë</i>) <i>Plutei</i> , myriad <i>Pleurobrachia</i> , a few, small	1½ hour 1.50 p.m.			<i>Thaumantias melanops</i> , myriad <i>Thaumantias</i> (?), a few <i>Margelis ramosa</i> (<i>Bougainvillia britannica</i>), a few ripe <i>Thaumantias hemisphærica</i> , many	<i>Lesueuria</i> , myriad, <i>Beroë</i> , myriad <i>Pleurobrachia</i> , myriad Larval <i>Peachia</i> , many, clinging to <i>Thaumantias melanops</i>
	2 feet from bottom	9 fathoms					<i>Thaumantias melanops</i> , small, unripe 2 <i>Thaumantias hemisphærica</i> <i>Obelia dichotoma</i> , a few <i>Stauridium productum</i> , very few	<i>Pleurobrachia</i> , very few, small
26th July 1888. 1 mile N. of Pier	Towards Baths 3 fathoms	5 fathoms Sandy		½ hour 1.30 p.m.	Eggs of rockling, sprat, weever and gurnard	12 gbbies, 7 mm. to 13 mm., smallest with permanent rays in caudal region	<i>Thaumantias hemisphærica</i> , many	<i>Lesueuria</i> , a few <i>Beroë</i> , many <i>Pleurobrachia</i> , large, myriad
	1 mile N.E. of Pier head 2 p.m.	Towards Pier 2 feet from bottom	6 to 4½ fathoms Sandy				<i>Obelia dichotoma</i> , very few <i>Podocoryne carnea</i> (?)	<i>Pleurobrachia</i> , a few, small
			<i>Appendicularia</i> , small, very few <i>Natica catena</i> (?), very few Mussels .013 inch, many <i>Longipedia coronata</i> , very few <i>Evadne nordmanni</i> , Lovén, numerous Larval Annelid (<i>Wartelia</i>) in tube, very few <i>Plutei</i> , a few <i>Pleurobrachia</i> , young, very few A few Cœlenterate ova <i>Ceratium fusus</i> , very few					

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size. Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
31st July 1888. 1 mile N. of Pier 9 a.m.	E. towards Redhead, 2 feet from bottom surface net 9 feet from surface	5½ fathoms Sandy	<i>Appendicularia</i> , young, very few <i>Cyphonautes</i> , many <i>Natica catena</i> (?), young, very few Mussels, .013 inch, .015 inch, and other bivalves <i>Halimemora longicornis</i> <i>Acartia longiremis</i> <i>Longipedia coronata</i> , very few <i>Oithona spinifrons</i> , very few Ostracoda, very few <i>Evadne nordmanni</i> , many Nauplii, many Plutei, a few Beroë, many <i>Pleurobrachia</i> , young, a few		Eggs of Solenette Larval sand-eels, a few	Dragonet, 4 mm. Motella, 4-5 mm., several Gobies, 6-11 mm. many Sand-eels, 7-12 mm.		<i>Pleurobrachia</i> , very few <i>Pleurobrachia</i> , young, very few
1 August 1888. ¼ mile N.E. off Pier opposite Eden 10.20 a.m.	Towards Castle 3½ fathoms	7 fathoms Sandy	<i>Appendicularia</i> (larval), a few <i>Cyphonautes</i> , a few <i>Natica catena</i> (?), a few Copepoda, a few <i>Evadne nordmanni</i> , a few Plutei, a few Beroë, very few	½ hour 10.45 a.m.		Cupcoids, 16-18 mm. several	<i>Thaumantias melanops</i> , many <i>Thaumantias hemisphaerica</i> , a few	Beroë, various sizes, average 1½ inch <i>Pleurobrachia</i> , ¼ inch and upwards, many
7th August 1888. Off Boarhills Harbour 5 50 p.m.	E. 7½ fathoms	9½ fathoms Sandy	<i>Cyphonautes</i> , many <i>Actinotrocha</i> <i>Spiralis</i> , numerous <i>Acartia longiremis</i> <i>Halimemora longicornis</i> Megalops of <i>Portunus</i> Zoæ of <i>Porcellana</i> , many Zoæ of <i>Portunus</i> (?) <i>Wartelia</i> in transparent tubes <i>Tomopteris</i> , many <i>Sagitta</i> , many Plutei, many Beroë, a few, medium size <i>Pleurobrachia</i> , numerous, small <i>Thaumantias inconspicua</i> <i>Thaumantias octona</i> <i>Lizzia octopunctata</i> , ¼ inch, and many small Medusa buds	½ hour 6.45 p.m. (Surface) ¾ hour 6.35 p.m.		Gunnel, 43 mm.	1 <i>Margelis ramosa</i> (<i>Bougivillia brilannica</i>) <i>Thaumantias hemisphaerica</i> and <i>inconspicua</i>	<i>Lesueuria</i> , a few Beroë, 1½ to 4 inches <i>Pleurobrachia</i> , numerous, ½ inch to 1½ inches Larval <i>Peachia</i> , chiefly attached to <i>Thaumantias hemisphaerica</i>

Mid-water Net.							Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.		
<i>Plutei</i> , many, few young star-fishes	Bottom	Tow-net. Form in tube, many <i>Nerine</i> , many <i>Polygordius</i>	<i>Nauplii</i> , many	<i>Diatylis rathkii</i> , a few <i>Acartia longiremis</i> , <i>Oithona spinifrons</i> , and <i>Longipedia coronata</i> , numerous <i>Halteromera longicornis</i> , a few <i>Pleopsis polyphemoides</i> <i>Cyclopina littoralis</i> , <i>Pseudocalanus elongatus</i> Ostracoda, many <i>Evadne nordmanni</i> , Lovén, numerous	<i>Appendicularia</i> , young, many <i>Cyphonautes</i> , numerous	Post-larval mussels, '013 inch and '023 inch, and other bivalves <i>Natica</i> , as before	<i>Rhizosolenia</i> very few, and 9 or 10 other kinds in both nets	<i>Tintinnus denticulatus</i> <i>Ceratium tripos</i> , <i>fuscus</i> , and <i>divergens</i> <i>Amphidinium operculatum</i> Algoid structure (as before) in nets
<i>Plutei</i> , many, 2 kinds	Bottom	Tow-net. <i>Polygordius</i>		Copepoda, <i>Evadne nordmanni</i> , numerous	<i>Cyphonautes</i> , many	Gastropods, in veliger stage Post-larval mussels '014 inch	Many in surface net Many	<i>Ceratium tripos</i> , a few
			Zoeæ	Young <i>Nephrops</i> <i>Caligus</i> ♂ and ♀ a few, other Copepoda, a few				

Mid-water Net.							Dia- toms.	Other Forms, Greenish Bodies, Remarks, etc.
Larval Echinoderms.	Sagitte, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans	Molluscoida.	Larval Mollusca, etc.		
	Bottom	Tow-net.		<i>Acartia long- giremis</i> , <i>Calanus fin- marchicus</i> , <i>Centropages hamatus</i> <i>Evadne nord- manni</i>	<i>Appendicu- laria</i>	<i>Spirialis</i>		
			Zoæ		<i>Appendicu- laria</i> ; a few			
	Bottom	Tow-net.						
<i>Plutei</i> , many	Many	<i>Magelona</i> , young, a few <i>Castalia</i> , young	Zoæ of <i>Portunus</i> (?), lobster-like	<i>Acartia longiremis</i> , <i>Centropages hamatus</i> , and <i>typicus</i>				
			Zoæ <i>Nauplii</i>	Copepoda Ostracoda, a few				
<i>Plutei</i> , many			Zoæ, many	<i>Centropages hamatus</i> , many Ostracoda, a few <i>Evadne</i> , a few	<i>Appendicu- laria</i> , a few, young <i>Actinotrocha</i> , small	<i>Post-larval Spirialis</i> , a few, older than inshore forms	<i>Ceratum tripos</i>	
	Bottom	Tow-net.						
	A few	<i>Polynoë</i> , young, $\frac{1}{8}$ inch <i>Terebella</i> (?), young, than inshore forms						

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.				
					Pelagic Ova, Nature, Size. Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
9th August 1888. (1) 15 miles E.S.E. of Bell Rock	24 fathoms 2 fathoms (surface net)	28 fathoms	3 <i>Motella</i> , 3.5 mm. 5 mm. and 6 mm. <i>Appendiculariæ</i> , small <i>Centropages hamatus</i> , many Megalops, very few Zoeæ, many <i>Evadne nordmanni</i> , very few <i>Plutei</i> , a few Peculiar form (Foraminifer?)		Eggs of gurnard, rockling and sprat	2 <i>Gadus merlangus</i> , 16 mm. and 29 mm.	<i>Tima bairdii</i>	
							A very few small Medusa buds <i>Sertularia abidina</i> (?) Hydroid stock with Polyzoon growing on it	
9th August 1888. (2) Bell Rock Trawling Ground Bell Rock bearing N.W. and Isle of May, N.W.		30 fathoms	4 larval Pleuronectids A few eggs, .05 inch to .053 inch <i>Appendiculariæ</i> , Zoeæ, many <i>Acartia longiremis</i> <i>Centropages hamatus</i> Megalops <i>Plutei</i> , a few A very few small Medusæ buds		1 Pleuronectid, 6.5 mm.	1 <i>Callionymus</i> , about 4 mm.	Hydroid stock of <i>Ovelia Lizzii octopunctata Lizzii blonlina</i>	<i>Euphysa aurata Pleurobrachia</i> , less than 1/2 inch
						3 flounders, 10 mm. 1 goby, 5 mm.		

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
<i>Plutei</i>	A very few		Megalops	Young <i>Pandalus</i> (?) <i>Centropages hamatus</i> , <i>Anomalocera patersonii</i> <i>Caligus</i> ♀, with parasitic <i>Udonella caligorum</i>				
<i>Plutei</i> , very few Young starfishes, a few	A few	Bottom Tow-net. <i>Nerine</i> Form with numerous bristles (<i>Sabellaria</i>) Form (see sketch B)	Zoæ, numerous	<i>Calanus finmarchicus</i> , a few <i>Halteromora longicornis</i> , many <i>Mysis</i> (?) <i>Evadne nordmanni</i>	<i>Appendicularia</i> , many <i>Cyphonautes</i>	Univalve, small Bivalves, very few, small		
<i>Plutei</i> , a few <i>Post-larval</i> 2 Echini and small sand and brittle stars	Numerous, large and small	Bottom Tow-net. <i>Polynoë</i> <i>Nerine</i>	<i>Post-larval Pandalus annulicornis</i> (?)	<i>Schistomysis ornata</i> , very few <i>Halteromora longicornis</i> , many <i>Pseudocalanus elongatus</i> , few <i>Anomalocera patersonii</i> <i>Centropages hamatus</i> <i>Calanus finmarchicus</i>	<i>Appendicularia</i> , in swarms <i>Actinotrocha</i>	<i>Spiralis</i> , a few 1 bivalve form and relics of univalves		
Young sand stars	Many	Trawl-net (in Bag of Tow-net) A few (see sketch B)	Zoæ, few Megalops, a few	Trawl-net (in Trawl.) <i>Mysis flexuosa</i> , many <i>Gammarus</i> <i>Campylops</i> (?) very few <i>Anonyx edwardsi</i> , very few <i>Halteromora longicornis</i>				Numerous fish scales

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.					
					Pelagic Ova, Nature; Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.	
10th August 1888. (2) S. E. of Isle of May 15 miles	24 fathoms	28 fathoms	(1) <i>Appendiculariæ</i> , very few <i>Calanus finmarchicus</i> , many <i>Halimemora longicornis</i> <i>Centropages hamatus</i> (Lilljeborg) <i>Pseudocalanus elongatus</i> <i>Sagittæ</i> , many <i>Plutei</i> , numerous <i>Obelia gelatinosa</i> (Hydroid stock) A few small <i>Medusa</i> buds		Eggs of gurnard and rockling				
Over same ground, W. by N.		28 to 30 fathoms				Gurnards 2 other forms	Small <i>Medusa</i> buds		
(3) Over same ground			(2) <i>Centropages hamatus</i> , a few <i>Calanus finmarchicus</i> very few <i>Plutei</i> , many		Eggs of sole and rockling 1 <i>Cyclopterus lumpus</i> , 6 mm.	1 <i>Pleuronectid</i> (<i>Plaice</i>), 13-5 mm. Permanent rays in fins 1 goby (<i>G. minutus</i>), 13 mm.	<i>Sertulariæ</i> , very few A few other Hydroid stocks		
					Eggs of rockling	1 <i>Gadus merlangus</i> , 1½ inch, with 4 parasitic <i>Caligi</i>			

Mid-water-Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Dia-toms.	Other Forms, Greenish Bodies, Remarks, etc
Adult 4 <i>Ophiocoma nigra</i>		1 adult		1 <i>Hyas coarctatus</i> 1 <i>Crangon vulgaris</i> , ♀ bearing ova 2 <i>Phoxichilidium</i> 1 <i>Pycnogonum littorale</i>	1 Ascidian			
<i>Plutei</i> many	Bottom A few	Tow-net I. <i>Nerine</i>		<i>Calanus finmarchicus</i> , GÜnner, numerous <i>Centropages typicus</i> , a few				Radiolarians, a few
	Ground Swarms, 17 mm. (average size)	Trawl II. A few Form with circumoral ring of tentacles (see sketch)	Megalops, very few	<i>Mysis vulgaris</i> , in swarms <i>Schistomysis ornata</i> , many <i>Pandalus annulicornis</i> (?), young <i>Arcturus gracilis</i>		Univalve forms, a few Mussels, a few, 4 mm. 2 Cephalopods (Young <i>Sepioloa</i>), 5 mm,		
<i>Ophiuroids</i> and <i>Ophiothrix</i> Echini, young	Myriad	<i>Polynoë</i> , young, a very few <i>Nerine</i> , small <i>Wartelia</i> , young in tube		1 <i>Crangon vulgaris</i> , large <i>Schistomysis ornata</i> , many, small <i>Mysis vulgaris</i> , very few, small <i>Boreophausia raschii</i> , Young crabs, ½ inch, very few		<i>Spiralis</i> , a few, and relics of other Mollusks.		
Young <i>Spalangus</i> <i>Ophiuroids</i> , and brittle stars	Bottom	Tow-net II. <i>Terebella</i> , very young	Megalops, very few	Remains of Schizopods, <i>Centropages hamatus</i> , many <i>Calanus finmarchicus</i> , a few		Many kinds		<i>Ceratium tripos</i> , many <i>Ceratium furca</i> , very few Radiolarian (as before), very few

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
11th August 1888. West of Isle of May		15 feet				2 gurnards, 8 mm., permanent rays in tail	1 <i>Thaumantias hemispherica</i> 1 <i>Tiara (Oceania) octona</i> 1 <i>Margelis ramosa (Bougainvillia britannica)</i> 1 <i>Thaumantias (Bougainvillia) nigritella</i> <i>Lizzia octopunctata</i> <i>Lizzia minuta</i>	
2nd August 1888. $\frac{1}{2}$ mile from shore, opposite middle of W. Sands 10 a.m.	E. 2 $\frac{1}{2}$ fathoms	4 fathoms Sandy	<i>Appendicularia</i> <i>Actinotrocha</i> and <i>Tornaria</i> , many <i>Cyphonantes</i> , many Mussels (minute) <i>Centropages hamatus</i> <i>Acartia longiremis</i> <i>Cyclops</i> (?) Zoeæ <i>Evadne nordmanni</i> <i>Echinus</i> , minute, many <i>Plutei</i> , three kinds <i>Avicularia</i> , with spines	$\frac{1}{2}$ hour 10.20 a.m.	Eggs of gurnard, sprat and rockling		<i>Thaumantias</i> , (<i>inconspicua</i> ?) very few, <i>Thaumantias hemispherica</i> , and <i>melanops</i>	<i>Beroë</i> , many <i>Pleurobrachia</i> , small
						Clupeoids, 5.5 to 8 mm.		

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans	Molluscoida.	Larval Mollusca, etc.	Dia-toms.	Other Forms, Greenish Bodies, Remarks, etc.
<i>Plutei</i> , many Echini, very young	Bottom	Tow-net. <i>Nerine</i> , numerous <i>Tomopteris</i> , ½ inch, very small form in tube (<i>Wartelia</i>)	Zoeæ, very few	<i>Pandalus annulicornis</i> , young <i>Centropages hamatus</i> (Lilljeborg), many <i>Calanus finmarchicus</i> , many <i>Acartia longicornis</i> (Lilljeborg) <i>Halleemora longicornis</i> , Müller			Very few	
<i>Plutei</i> , two forms	Bottom	Tow-net. <i>Nerine</i> , a few <i>Polydora</i> , etc. Adult <i>Nereis</i> , a few		Copepods (2 kinds)	<i>Appendicularia</i> , many	Post-larval univalves, a few Mussels, '012 inch	Many in surface net 4 kinds, abundant	<i>Ceratium furca</i> " <i>fuscus</i> , many " <i>tripos</i> Radiolarian

Net put down, where and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.				
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusa	Medusæ.
3rd August 1888. Midway between Pier and Rock and Spindle, one mile from shore 9.15 a.m.	N.W. 3½ fathoms	6½ to 4 fathoms Sandy	<i>Appendicularia</i> , many <i>Natica</i> (?), a few Mussels, .01 inch to .015 inch Ostracoda, many <i>Evadne</i> , many Zoeæ <i>Nereis</i> (larval) <i>Plutei</i> <i>Ceratum fusus</i> " <i>tripos</i>	½ hour 9.45 a.m.			<i>Thaumantias sarnica</i> (?), <i>globosa</i> , <i>inconspicua</i> , <i>melanops</i> , <i>Oceania globulosa</i> (?)	<i>Aurelia aurita</i> , ♂, 8 inches in diameter <i>Lesueuria</i> , a few, 1 inch to 1½ inches <i>Beroë</i> , a few, ½ inch to 3¼ inches <i>Pleurobrachia</i> , very small, 4 mm. to 19 mm.
4th August 1888. Off mouth of River Eden (south side) 9 a.m.	N. 2 fathoms	3½ fathoms Sandy	Mussels, .01 inch to .013 inch <i>Evadne</i> , many <i>Ophiuroid</i> (larval) <i>Plutei</i> , many <i>Ceratum fusus</i>	½ hour 9.30 a.m.	Eggs of gurnard, sprat and rockling	15 gobies, 3.5 mm. to 10 mm. Flounder, 10 mm.	<i>Thaumantias inconspicua</i> , <i>globosa</i> , <i>conversa</i> , <i>melanops</i> , var. <i>sarnica</i>	<i>Lesueuria</i> , a few, ½ inch to 3¼ inches <i>Beroë</i> , many, 1 to 3 inches <i>Pleurobrachia</i> , many, 3 mm. to 8 mm. Larval <i>Peachia</i>
14th August 1888. ½ mile N.E. of Pier	N.E.	5½ fathoms Sandy	<i>Appendicularia</i> , a few <i>Cyphonautes</i> , a few <i>Natica catena</i> (?), and other univalves, many Mussels, .01 inch to .013 inch <i>Acartia longiremis</i> <i>Centropages hamatus</i> Ostracoda <i>Plutei</i> , a few <i>Avicularia</i> <i>Pleurobrachia</i> , a few, ½ inch to ½ inch A few Medusa buds <i>Ceratum fusus</i> " <i>tripos</i> Radiolarians, a few				<i>Thaumantias melanops</i> , <i>hemisphærica</i>	<i>Pleurobrachia</i> , ½ inch to ½ inch, a few

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoïda.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
	Bottom	Tow-net.	<i>Nephrops</i> (Zoea-stage)	<i>Caligus</i>	<i>Appendicularia</i> , a few, small		A few in both nets	
<i>Plutei</i> , many		<i>Nerine</i> , many <i>Polydora</i> , etc		<i>Evadne nordmanni</i> , many	<i>Appendicularia</i> , many	<i>Post-larval</i> mussels, many	Many forms	<i>Ceratium fusus</i> " <i>furca</i> " <i>tripos</i>
	1, 12 mm	<i>Polygordius</i> , Adult <i>Tomopteris</i> , a few		<i>Schistomysis ornata</i> <i>Caligus</i>	<i>Appendicularia</i> , a few		Many in surface net	
	Bottom	Tow-net.		<i>Evadne nordmanni</i>	<i>Appendicularia</i> , many <i>Actinotrocha</i>	<i>Post-larval</i> mussels, very abundant	Very abundant	<i>Ceratium tripes</i>
<i>Plutei</i> , many Young starfishes, a few	Bottom	Tow-net.		<i>Centropages typicus</i> , <i>Acartia longirens</i> Ostracoda	<i>Appendicularia</i> , a few <i>Actinotrocha</i> , 2	<i>Natica</i> and other univalves, many Mussels (as above), numerous	Many different forms	<i>Ceratium tripes</i>

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time (Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
17th August 1888. 1 mile N.E. of Pier head 11.45 a.m.		5 to 8 fathoms Sandy	<i>Cyphonautes</i> , very few <i>Natica catena</i> (?), young Mussels, '014 inch, many <i>Acartia longiremis</i> , numerous <i>Centropages hamatus</i> , numerous <i>Halletemora longicornis</i> , numerous Ostracoda, many Nauplii, a few Larval form (see sketch, 25th July) of Annelid Larval Annelid, with enormous bristles (<i>Nereis</i>) <i>Plutei</i> , many <i>Pleurobrachia</i> , many, small Cœlenterate ova, a few <i>Ceratium tripos</i> , very few	$\frac{3}{4}$ hour 12.30 p.m.		Montagu's sucker, 4 mm. Dragonet, 5.5 mm. Gobies, 4 to 9 mm. Sand-eels, 5 mm.	<i>Obelia dichotoma</i> , a few Ova, many	<i>Pleurobrachia</i> , many, small Young forms of <i>Pleurobrachia</i> , a few
20th August 1888. $\frac{1}{2}$ mile N. of Whale Rock 11.15 a.m.	E. $4\frac{1}{2}$ fathoms	9 fathoms Sandy	<i>Appendicularia</i> , very few <i>Cyphonautes</i> , a few <i>Natica catena</i> (?) a few, young Young mussels, '011 inch to '014 inch; other young bivalves <i>Acartia longiremis</i> , many <i>Halletemora longicornis</i> , many <i>Centropages hamatus</i> , a few <i>Longipedia coronata</i> , a few Ostracoda, very few Nauplii, a few 2 larval Annelids (see sketch, 25th July) Larval <i>Nereis</i> , very few Nematodes, very small, a few Turbellarian, very few (see sketch) <i>Plutei</i> , very few <i>Pleurobrachia</i> , many <i>Thaumantias hemisphærica</i> , very few, mature A few Cœlenterate ova Radiolarian (as before)	$\frac{3}{4}$ hour 11.35 p.m.		Adult 7 <i>Gadus merlangus</i> , 3 inches	<i>Thaumantias hemisphærica</i> , numerous, mature	Very small fragment of Medusa 1 <i>Beroë</i> , mature <i>Pleurobrachia</i> , myriad

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoïda.	Larval Mollusca, etc.	Dia-toms.	Other Forms, Greenish Bodies, Remarks, etc.
Young star-fishes, many <i>Plutei</i> , many	Bottom Tow-net.	<i>Polynoë</i> , very few <i>Nerine</i> , very few <i>Spio</i> <i>Polydora</i> <i>Capitella</i> , etc. Nematode	Zoeæ of <i>Por-cellana</i> , long-spined, myriad <i>Nauplii</i> , a few	<i>Diastylis rathkii</i> , very few <i>Acartia longiremis</i> , <i>Oithona spinifrons</i> <i>Longipedia coronata</i> , numerous <i>Pseudocalanus elongatus</i> <i>Centropages hamatus</i> <i>Cyclopina</i>	<i>Appendicularia</i> , very few <i>Cyphonautes</i> , a few	Post-larval <i>Natica</i> (?) and other univalves Mussels, '013 inch to '017 inch	<i>Rhizosolenia</i> , and 6 other forms	<i>Ceratium fusus</i> , a few <i>Ceratium tripos</i> , a few <i>Ceratium divergens</i> , very few
							<i>Rhizosolenia</i> , and 5 other kinds; many in surface-net	Radiolarian in surface net

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusae.	Medusae.
					Larval Fishes, Nature, Size.			
21st August 1888. ¼ mile E. of Maiden Rock 11.45 a.m.	Towards Pier	5 fathoms Rocky	<i>Appendicularia</i> , a few <i>Cyphonautes</i> , many <i>Spiralis</i> , a few <i>Natica catena</i> (?), many Mussels, .014 inch, many <i>Acartia longiremis</i> , many <i>Halitemora longicornis</i> , many <i>Longipedia coronata</i> , many <i>Centropages hamatus</i> Ostracoda, numerous <i>Evadne</i> , very few Exuvia of <i>Balanus</i> <i>Nauplii</i> , a few <i>Magelona papillicornis</i> , young, not quite ½ inch Larval <i>Nerine</i> , a few, and other larval Annelids (see sketch) <i>Plutei</i> , very few <i>Tintinnus denticulatus</i> , very few	⅞ hour 12.20 p.m.		4 gobies, 3-2 mm. to 4-4 mm., smallest with permanent rays appearing in tail	A few planulae	<i>Pleurobrachia</i> , a few small A few ova of <i>Pleurobrachia</i> .
22nd August 1888. Near Eden mouth ⅓ mile from shore, 1⅓ mile from Pier 11.55 a.m.	N. 3½ fathoms	4 fathoms Sandy	<i>Appendicularia</i> , very few <i>Cyphonautes</i> , very few <i>Natica catena</i> (?), very few Mussels .011 to .013 inch, very few <i>Acartia longiremis</i> , many <i>Centropages hamatus</i> Ostracoda, very few <i>Plutei</i> , very few Small Medusa bud <i>Tintinnus denticulatus</i> <i>Ceratium divergens</i> , very few	¾ hour 12.40 p.m.		9 gobies, 5 to 12 mm. Pleuronectid (see sketch) 3 <i>Syngnathus acus</i> , 1½ inch	<i>Oceania octona</i> (?) <i>Oceania</i> (?) <i>Thaumatias sarvica</i> , a few small 3 <i>Thaumatias</i> (see sketch, 24th July)	<i>Beroë</i> , very few <i>Pleurobrachia</i> , a few Ova of <i>Pleurobrachia</i> , a few

Mid-water Net.

Larval Echinoderms.	Sagittae, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
	Bottom	Tow-net. Form with numerous bristles (<i>Sabellaria</i>), a few <i>Nerine</i> , a few Other forms, a few <i>Terebella</i> <i>Polydora</i> <i>Spio</i> Young <i>Magelona</i>	<i>Nauplii</i> , a few	<i>Acartia longiremis</i> , numerous <i>Halitemora longicornis</i> , a few	<i>Appendicularia</i> , very few	Post-larval Univalves, a few Mussels, '011 inch, a few	<i>Rhizosolenia</i> numerous, 7 other kinds	<i>Ceratium tripos</i> , <i>Tintinnus denticulatus</i> , a few Radiolarian, as before
	Bottom	Tow-net. <i>Terebella</i> <i>Polydora</i> , etc.	<i>Nauplii</i> , a few	<i>Cumabispinosa</i> (?) young <i>Acartia longiremis</i> , numerous <i>Halitemora longicornis</i> , many <i>Oithona spinifrons</i> , a few <i>Thalestris longimana</i> , 1 specimen Ostracoda, a few	<i>Appendicularia</i> , many <i>Cyphonautes</i> , very few	Post-larval <i>Natica</i> , and other univalves, many Mussels, '013 inch to '014 inch	<i>Rhizosolenia</i> , numerous in both nets, and many other kinds	<i>Ceratium tripos</i> , " <i>fusus</i> , " <i>divergens</i> <i>Tintinnus denticulatus</i> Radiolarian, as before
		<i>Polynoe</i> , very few	Megalops	<i>Liljeborgia shelandica</i> <i>Schistomystis ornata</i> 1 crab, '06 inch <i>Centropages typicus</i> , a few <i>Halitemora longicornis</i> , <i>Caligus</i> , very few			<i>Rhizosolenia</i> , very few numerous in surface-net, with many other kinds	

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
27th August 1888. (1) 200 yards N. off Pier head 7.40 a.m.	N.E. towards targets 3 fathoms	5 to 7 fathoms Rocky, sandy	<i>Cyphonautes</i> , very few Young mussels, .017 inch, very few <i>Halimemora longicornis</i> , very few <i>Acartia longiremis</i> , very few Larval Annelid (<i>Sabellaria</i>), with enormous bristles (as before) <i>Pleurobrachia</i> , numerous <i>Thaumantias hemispherica</i> , very few <i>Tintinnus denticulatus</i> , very few	½ hour 8.30 p.m.			<i>Thaumantias hemispherica</i> , <i>Thaumantias quadraia</i> , many <i>Thaumantias</i> (?) as before <i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>) 2 <i>Tiara</i> (<i>Oceania</i>) <i>octona</i>	<i>Pleurobrachia</i> , numerous
(2) 100 yards S.E. of Beacon 3.30 p.m.	Around Beacon	Rocky	<i>Appendicularia</i> , very few Univalves, very few <i>Acartia longiremis</i> , very few Zoea, very few <i>Nauplii</i> , very few Larval Annelid (see sketch) Another form (see sketch) Turbellarian (as before) <i>Sagittæ</i> , very few, small <i>Thaumantias hemispherica</i> , a few Coelenterate ova, in <i>Morula</i> stage <i>Tintinnus denticulatus</i> , <i>Ceratium furca</i>	¼ hour 3.45 p.m.			<i>Thaumantias hemispherica</i> , very few <i>Thaumantias</i> (?) as before	<i>Pleurobrachia</i> , numerous

Mid-water Net.							Dia- toms.	Other Forms, Greenish Bodies, Remarks, etc.
Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.		
<i>Plutei</i> , a few	Bottom	Tow-net. <i>Nerine</i> <i>Polydora</i> Turbellarian, very few	<i>Nauplii</i> , a few	<i>Halimora longicornis</i> , <i>Acartia longiremis</i> , many <i>Cyclopina littoralis</i> , <i>Oithona spiniifrons</i> , very few Ostracoda, very few, <i>Evadne nordmanni</i>	<i>Cyphonautes</i> , very few	<i>Post-larval Natica catena</i> (?), a few, and other uni- valves	<i>Rhizosolenia</i> in abun- dance, many other kinds	<i>Tintinnus denticulatus</i> <i>Ceratium fusus</i> , very few Radiolarian, as before
	Some about $\frac{1}{2}$ inch			1 <i>Dulichia porrecta</i> (?) 2 <i>Hyperia galba</i> , small <i>Pseudocalanus elongatus</i>			<i>Rhizosolenia</i> , and a few other kinds in surface- net	
<i>Plutei</i> , very few	Bottom	Tow-net. <i>Tornaria</i>		<i>Acartia longiremis</i> , very few	<i>Cyphonautes</i> , very few		<i>Rhizosolenia</i> , and many other kinds	

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	Length of Time (1) Net down, and (2) Time when taken up.	PLANKTON			
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusae.	Medusae.
29th August 1888. ¾ mile N. of College 8.50 a.m.	N. 2½ fathoms	4½ fathoms Sandy	<i>Appendicularia</i> , very few Univalves, very few <i>Acartia longiremis</i> , <i>Haltemora longicornis</i> , Moultings of Cirripeds Megalops, very few <i>Plutei</i> , very few <i>Pleurobrachia</i> , numerous <i>Thaumantias hemisphaerica</i> , very few Ova of Coelenterate, numerous <i>Tintinnus denticulatus</i> , very few	1 hour 9.50 a.m.		1 goby, 8 mm., permanent rays in tail	<i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>), numerous <i>Thaumantias hemisphaerica</i> , numerous <i>Tiara (Oceania) octona</i> , numerous <i>Tiara globulosa</i> , very few <i>Stomobrochium octocostatum</i> , very few <i>Margelii ramosa</i> (<i>Bougainvillia britannica</i>) 1 <i>Thaumantias (Bougainvillia) nigrella</i> , young	<i>Beroë</i> , numerous <i>Pleurobrachia</i> , myriad
							1 <i>Stomobrochium octocostatum</i> , <i>Thaumantias hemisphaerica</i> , very few Ova numerous Planulae, a few A few small gonozooids	<i>Pleurobrachia</i> , numerous
30th August 1888. 2 miles N.E. of Pier head 8.45 a.m.	N.E. 3½ fathoms	7 fathoms Sandy	<i>Appendicularia</i> , very few <i>Centropages hamatus</i> , very few <i>Haltemora longicornis</i> <i>Acartia longiremis</i> , very few Zoeae, many <i>Plutei</i> , a few <i>Thaumantias hemisphaerica</i> <i>Obelia dichotoma</i> , gonozooids Coelenterate ova	½ hour 9.15 a.m.		3 Pleuronectids, 7, 11, and 11.5 mm., smallest with permanent rays appearing in tail Clupeoids 9-11 mm.	<i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>) <i>Thaumantias hemisphaerica</i> , <i>Oceania globulosa</i> <i>Tiara (Oceania) octona</i> , very few 1 <i>Tima bairdii</i>	<i>Beroë</i> , many <i>Pleurobrachia</i> , myriad

Mid-water Net.							Dia- toms.	Other Forms, Greenish Bodies, Remarks, etc.
Larval Echinoderms.	Sagittae, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.		
	1, 13 mm.						<i>Rhizo- solenia</i> , very few	
	Bottom	Tow-net. Form with enormous bristles (<i>Sabellaria</i>)	1 Zoæ <i>Nauplii</i> , very few	<i>Halimemora longicornis</i> , a few <i>Centropages hamatus</i> , a few <i>Pseudo- calanus elongatus</i> , Boeck <i>Calanus fin- marchicus</i> , Günner <i>Acartia longiremis</i> , Lilljeborg	<i>Appendicu- laria</i> , very few	Mussels, '012 inch	<i>Rhizo- solenia</i> , a few, and a few other forms	Form (see sketch)
	Many about ½ inch	2 <i>Tomopteris</i> , about ¾ inch	Zoæ of Nor- way Lobster, very few				<i>Rhizo- solenia</i> , very few, and a few other kinds in surface net	

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
							<i>Thaumantias hemisphaerica</i> , very few	<i>Pleurobrachia</i> , $\frac{1}{8}$ inch less or more; numerous Ova of <i>Pleurobrachia</i>
31st August 1888. $1\frac{1}{2}$ mile N.W. off Pier head $\frac{3}{4}$ mile off W. Sands 8.50 a.m.	N.E. 2 fathoms	4 fathoms Sandy	<i>Cyphonautes</i> , very few Univalves, a few Bivalves, very few, .013 inch <i>Centropages hamatus</i> , <i>Halleimora longicornis</i> , many <i>Acartia longiremis</i> , many <i>Pseudocalanus elongatus</i> <i>Oithona spinifrons</i> , very few <i>Longipedia coronata</i> , very few Ostracoda, a few <i>Evadne nordmanni</i> , very few Larval Annelids (see sketch) 26th July <i>Plutei</i> , a few Small gonozooids, very few Cœlenterate ova, a few	$\frac{1}{2}$ hour 9.20 a.m.		1 Pleuronecid-like 'witch' 2 gurnards, 5 to 6 mm. 1 <i>Callionymus</i> (see sketch) Adult 2 <i>Syngnathus acus</i> , 41 mm., 47 mm.	<i>Thaumantias hemisphaerica</i> , numerous <i>Tiara (Oceania) octona</i> , very few	<i>Beroë</i> , very few <i>Pleurobrachia</i> , myriad
							Small gonozooids, many ova	<i>Pleurobrachia</i> , very few

Mid water-Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
<i>Plutei</i> , very few	Bottom	Tow-net. Form with enormous bristles (<i>Sabellaria</i>), numerous Form (see sketch) 20th August, a few <i>Nerine</i> Form (see sketch) 25th July	Zoeæ of Norway, Lobster, many <i>Nauplii</i> , many	Myside -- <i>Amphithoe rubricata</i> (?) very small <i>Anceus maxillaris</i> , young <i>Calanus finmarchicus</i> <i>Acartia longiremis</i> , numerous <i>Haltemora longicornis</i> , many <i>Longipedia coronata</i> , very few <i>Caligus rapax</i> <i>Pseudocalanus elongatus</i> , very few Ostracoda, very few	<i>Appendicularia</i> , very few	Post-larval Univalves, very few Mussels, '012 inch	Many kinds	<i>Ceratum fusus</i> <i>Ceratum tripos</i> , a few <i>Tintinnus denticulatus</i>
	Bottom	Tow-net. Form with enormous bristles (<i>Sabellaria</i>), numerous <i>Nerine</i> , numerous Larval forms (see sketches) 25th August, and 25th July <i>Polydora</i> ; <i>Capitella</i> -like, many	Zoeæ of Norway Lobster <i>Nauplii</i> , many	3 <i>Paguri</i> , very small <i>Acartia longiremis</i> , myriad <i>Haltemora longicornis</i> , many <i>Pseudocalanus elongatus</i> , very few <i>Centropages hamatus</i> , many Many Ostracods	<i>Actinotrocha</i> , very few <i>Cyphonautes</i> , very few	Post-larval Univalves, many Mussels, '013 inch, many	A few kinds	<i>Tintinnus denticulatus</i> , a few <i>Ceratum tripos</i> , very few

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net)	(1) Length of Time Net down, and (2) Time when taken up.				
					Pelagic Ova. Nature, Size. Larval Fishes, Nature, Size.	Post-Larval Fishes. Nature, Size, Coloration, etc.	Hydromedusa.	Medusa.
3rd September 1888. S. side of mouth of Eden 9.20 a.m.	Towards N. bank of Eden 2 fathoms	4 to 3 fathoms Sandy	<p><i>Cyphonautes</i>, very few Univalves, many Mussels, .013 inch, a few A very few other bivalves <i>Halitemora longicornis</i>, numerous <i>Acartia longiremis</i>, a few <i>Centropages hamatus</i> <i>Ecadne nordmanni</i>, very few Ostracoda, a few Larval <i>Nerine</i>, very few Larval Annelid (see sketch, 25th July) <i>Plutei</i>, very few <i>Pleurobrachia</i>, very few Ova of <i>Pleurobrachia</i>, very few <i>Thaumantias hemispherica</i>, very few Coelenterate ova, very few <i>Ceratium tripos</i>, many <i>Ceratium furca</i>, a few <i>Tintinnus denticulatus</i>, a few</p>	1½ hour 10.30 a.m.	A few minute, apparently pelagic	<p><i>Callionymus</i>, 4.5 mm. 2 gobies, 7, 16 mm. 1 <i>Syngnathus acus</i>, 43 mm. Clupeoids 10-12 mm.</p>	<p><i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>), a few <i>Thaumantias hemispherica</i> numerous 1 <i>Tiara (Oceania) octona</i> 1 <i>Oceania globulosa</i></p>	<p><i>Beroë</i>, a few, small <i>Pleurobrachia</i>, myriad</p>
						Minute forms A few ova		

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoïda.	Larval Mollusca, etc.	Dia-toms.	Other Forms, Greenish Bodies, Remarks, etc.
	A few	2 <i>Tomopteris</i> , 1 <i>Nereis</i> , young, $\frac{1}{4}$ inch		1 <i>Atylus gib-bosus</i> (?) 3 <i>Hyperia galba</i> <i>Pandalus annulicornis</i> , young, 9 mm. 1 shrimp, young, 7 mm. <i>Schistomysis ornata</i>	<i>Appendicu-laria</i> , num-erous, largest about 5.5 mm.		Many kinds, num-erous in sur-face-net	
<i>Plutei</i> , very few	Bottom Tow-net.	Form with enormous bristles (<i>Sabellaria</i>) <i>Tornaria</i>	<i>Nauplii</i> , num-erous	1 <i>Atylus swammer-dami</i> <i>Nicea lub-bockiana</i> , very few <i>Schistomysis ornata</i> , <i>Halteremora longicornis</i> , myriad <i>Acartia longiremis</i> , myriad <i>Pseudo-calanus elongatus</i> , a few <i>Centropages hamatus</i> Ostracoda, a few	<i>Appendicu-laria</i> , num-erous <i>Actinotrocha</i> , very few <i>Cyphonautes</i> , very few	<i>Post-larval</i> Univalves, very few Mussels, 0.13 inch, very few	<i>Rhizo-solenia</i> , num-erous, and a few other kinds	<i>Ceratium tripos</i> , a few

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time (Net down, and (2) Time when taken up.				
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
5th September 1888. ½ mile off Malden Rock 10.30 a.m.	2½ fathoms	6½ fathoms Partly rocky, partly sandy	<p><i>Appendicularia</i>, a few <i>Cyphonautes</i>, very few <i>Phoronis</i>, in confinement by metamorphosis <i>Actinotrocha</i>, a few Univalves, many Mussels, '012 inch, also other univalves <i>Halimora longicornis</i>, many <i>Acartia longiremis</i>, numerous <i>Acartia biflora</i>, Giesbrecht <i>Centropages hamatus</i>, <i>Longipedia coronata</i>, Claus 1 <i>Atylus swammerdami</i> Zoeæ of Norway Lobster Ostracoda, a few <i>Evadne</i>, very few <i>Nauplii</i>, a few Larval <i>Nerine</i>, a few Larval Annelid with enormous bristles (<i>Nerine</i>) <i>Plutei</i>, a few 1 <i>Pleurobrachia</i>, small <i>Tintinnus denticulatus</i>, a few <i>Ceratium tripos</i>, a few <i>Ceratium furca</i>, a few <i>Ceratium fusus</i>, very few</p>	½ hour 11 a.m.		1 <i>Cottus</i> (?) as before Goby, 7 mm. Rocklings, 6 and 24 mm.	<p><i>Thaumanias hemispherica</i>, numerous 1 <i>Tiara (Oceania) octona</i>, Turris</p>	<i>Pleurobrachia</i> , myriad, small
						1 like sand-eel (?), 7.5 mm.	A very few small gonozooids	

Mid-water Net.

Larval Echinoderms.	Sagittæ, Sizes, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca etc.	Dia toms.	Other Forms, Greenish Bodies, Remarks, etc.
	Many	Form (see sketch), a few Form with enormous bristles (<i>Sabellaria</i>) 1 form (see sketch, 27th August)	Zoeæ of <i>Porcellana</i>	4 <i>Atylus swammerdami</i> , very few <i>Halimemora longicornis</i> , many <i>Acartia longiremis</i> , many <i>Pseudocalanus elongatus</i> , a few	<i>Appendicularia</i> , numerous <i>Actinotrocha</i>		<i>Rhizosolenia</i> , and many other kinds in surface net	
	Bottom	Tow-net.	Zoeæ of Norway Lobster, many <i>Nauplii</i> , a few	1 <i>Atylus swammerdami</i> <i>Halimemora longicornis</i> , myriad <i>Acartia longiremis</i> , myriad <i>Centropages hamatus</i> , numerous <i>Calanus finmarchicus</i> , a few Another form as before	<i>Cyphonautes</i> , very few	Post-larval Univalves, many Mussels, '013 inch, a few	<i>Rhizosolenia</i> , as in surface, many kinds	<i>Ceratium tripos</i>

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size, Post-Larval Fishes, Nature, Size, Coloration, etc.			
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
8th September 1888. 1½ mile off Pier head 1 mile N.E. of Maiden Rock 1.40 p.m.	S.E.	7 fathoms Sandy	<i>Appendicularia</i> , a few small <i>Cyphonautes</i> , very few Mussels .014 to .012 inch, a few Univalves, young, a few <i>Haltemora longicornis</i> , many <i>Acartia longiremis</i> , Lilljeborg <i>Centropages hamatus</i> , Lilljeborg <i>Centropages typicus</i> , very few <i>Nauplii</i> , a few Larval Annelid (see sketch, 25th July) Larval <i>Nerine</i> , a few <i>Plutei</i> , a few 3 <i>Pleurobrachia</i> , ¼ inch	2½ hour 2 p.m.				
10th September 1888. 1¾ mile N.E. of Pier head 1.40 p.m.	E.N.E. 4 fathoms	7 fathoms Sandy	<i>Cyphonautes</i> , very few Mussels .015 inch <i>Podocerus capillatus</i> , <i>Acartia longiremis</i> , myriad <i>Haltemora longicornis</i> , numerous Ostracoda, very few <i>Evadne nordmanni</i> , very few Young crabs (<i>Portunus holsatus</i>) Megalops, very few Larval Annelid with enormous bristles (<i>Sabellaria</i>), very few <i>Pleurobrachia</i> , very few, ¼ inch.	¾ hour 2.25 p.m.	4 <i>Callionymus lyra</i> , 10, 8.5 mm. Pleuronectid 11 mm. 1 flounder (?) 6 mm. 3 gurnards, 8.5, 5 mm. 2 <i>Gadus merlangus</i> , 1, 2½ inches <i>Nerophis æquoreus</i> , 26 mm.	<i>Thaumanias hemispherica</i> , a few as before <i>Laodice cruciata</i> (<i>Thaumanias pilosella</i>), very few as before <i>Tiara</i> (<i>Oceania</i>) <i>octona</i> , very few, ripe <i>Margelis ramosa</i> (<i>Bougainvillia britannica</i>), unripe	<i>Beroë</i> , a few <i>Pleurobrachia</i> , myriad, ¼ to ½ inch	
						A few small Medusa buds		

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusa.	Medusa.
12th September 1888. ¼ mile N.E. of Pier 8.20 a.m.	2½ fathoms	4¾ fathoms Sandy	<i>Appendicularia</i> , very few <i>Cyphonautes</i> , very few <i>Actinotrocha</i> , a few Univalves, many <i>Acartia longiremis</i> , <i>Halimnora longicornis</i> <i>Pseudocalanus elongatus</i> <i>Evadne nordmanni</i> Larval Annelid, with enormous bristles (<i>Sabellaria</i>), very few <i>Plutei</i> , very few <i>Margelis ramosa</i> (<i>Bougainvillia britannica</i>) Ova of <i>Pleurobrachia</i> , a few <i>Ceratium tripos</i> , many <i>Ceratium divergens</i> , very few <i>Ceratium furca</i> , a few <i>Ceratium fusca</i> , a few Radiolarian (?) as before	½ hour 8.50 a.m.		<i>Syngnathus acus</i> , 2 inches disintegrated	<i>Laodice cruciata</i> (<i>Thaumantias pilosella</i>), many <i>Thaumantias hemisphaerica</i> , numerous <i>Stomobrachium octocostatum</i> , very few <i>Tima bairdii</i> , very few <i>Margelis ramosa</i> (<i>Bougainvillia britannica</i>), a few	<i>Beroë</i> , a few <i>Pleurobrachia</i> , myriad
							<i>Thaumantias hemisphaerica</i> , very few	<i>Pleurobrachia</i> , very few Ova of <i>Pleurobrachia</i> , very few
13th September 1888. Near mouth of Eden, 1½ mile off Pier head 8.50 a.m.	N.E. 4 fathoms	5 fathoms Sandy	<i>Appendicularia</i> , a few small Univalves, many, principally <i>Velutina</i> , and other littoral forms Young mussels and other bivalves, many <i>Halimnora longicornis</i> , many <i>Acartia longiremis</i> , many <i>Nauplii</i> of Copepoda, a few Zoea of Norway Lobster, a few Fragment of <i>Tomopteris</i> Larval <i>Nerine</i> , a few Larval Annelid, with enormous bristles (<i>Sabellaria</i>), a few <i>Ceratium tripos</i> , many <i>Ceratium divergens</i> , many <i>Ceratium furca</i> , many <i>Tintinnus denticulatus</i> , very few Radiolarian (?) as before	1½ hour 9.25 a.m.		8 clupeoids, 11 mm. A few clupeoids (disintegrated) 1 gurnard, 12.5 mm., young 1 <i>Gadus marlangus</i> , 3 inches	<i>Tima bairdii</i> , many <i>Tiara</i> (<i>Oceania</i>) <i>Octona</i> , many <i>Thaumantias hemisphaerica</i> , numerous <i>Margelis ramosus</i> (<i>Bougainvillia britannica</i>) <i>Stomobrachium octocostatum</i> , a few Another Medusa bud	<i>Beroë</i> , many as before <i>Pleurobrachia</i> , myriad, as before

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
		Larval <i>Priapulid</i> (?) <i>Tornaria</i>	Zoeæ, very few	Young crabs, numerous			Many kinds in surface net	
	Bottom	Tow-net.						
		Larval <i>Nerine</i> , many Form with enormous bristles, (<i>Sabellaria</i>), many Trochopheres, a few	<i>Nauplii</i> , a few	<i>Haltemora longicornis</i> , a few <i>Longipedia coronata</i> , very few Ostracoda, very few	<i>Appendicularia</i> , a few small <i>Cyphonautes</i> , very few	<i>Post-larval</i> Univalves, numerous Mussels, '013 mm., and other bivalves	numerous, many kinds	Algold (as before), very few <i>Ceratium divergens</i> , very few <i>Ceratium tripos</i> , a few <i>Tintinnus denticulatus</i> , very few
	1, 13 mm.			Copepoda, various immature forms			<i>Rhizosolenia</i> , myriad, and other kinds, numerous in surface net	

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(d) Length of Time Net down, and (2) Time when taken up.				
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusae	Medusae.
15th September 1888. ½ mile N.W. of Rock and Spindle, 1½ mile from Pier head 10.15 a.m.	W.	7 to 6 fathoms Rocky	<i>Appendicularia</i> , many small <i>Cyphonautes</i> , very few Mussels, .012 inch <i>Halimena longicornis</i> , numerous <i>Acartia longiremis</i> , many <i>Centropages hamatus</i> , <i>Oithona spinifrons</i> , very few Zoeæ of Norway Lobster, very few Ostracoda, very few <i>Evadne nordmanni</i> , a few Megalops, very few <i>Nauplii</i> , very few Larval <i>Nerine</i> , a few Larval Annelid (see sketch (a), 25th July) very few Larval <i>Nereis</i> , etc. <i>Pleurobrachia</i> , very few, small <i>Ceratium tripos</i> , many <i>Ceratium furca</i> , very few Radiolarian (as before), very few	½ hour 10.45 a.m.		Larval sand-cells (a few) Clupeoids, 9-11 mm.		<i>Pleurobrachia</i> , very few

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoïda.	Larval Mollusca, etc.	Dia-toms.	Other Forms, Greenish Bodies, Remarks, etc.
	Bottom	Tow-net. Form (see sketch, 25th July), many Form with enormous bristles (<i>Sabellaria</i>), many <i>Nerine</i> , numerous <i>Polynoe</i> , many Trocho-spheres, many Turbellarian, as before, very few Many Nereids <i>Nepithys</i> , etc.		<i>Halitemora longicornis</i> , many <i>Calanus finmarchicus</i> , <i>Acartia longiremis</i> and <i>Longipedia coronata</i> , very few Ostracoda, very few	<i>Cyphonautes</i> , very few	Post-larval <i>Natica</i> , and other univalves, very few Mussels '012 inch '014 inch, very few	Many kinds	<i>Ceratium fusus</i> , very few
<i>Plutei</i> , very few	Bottom	Tow-net. <i>Nerine</i> , a few <i>Polynoe</i>	Zocæ of Norway lobster, very few <i>Nauplii</i> , very few	<i>Schistomysis ornata</i> , very few, small <i>Cuma</i> Young crabs, very few, as before <i>Atylus swamerdami</i> , a few small <i>Atylus bispinosus</i> <i>Podocerus capillatus</i> , very few <i>Halitemora longicornis</i> , a few <i>Acartia longiremis</i> , numerous <i>Pseudocalanus elongatus</i> , many <i>Thalassira rufocincta</i> , 1 specimen	<i>Appendicularia</i> , many, small <i>Cyphonautes</i> , very few	Post-larval univalves, many Mussels '015 inch to $\frac{1}{2}$ inch, many	A few kinds in bottom net Many kinds in surface net	<i>Ceratium tripos</i> , very few <i>Ceratium furca</i> , very few <i>Ceratium fusus</i> , very few

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Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	Length of Time Net down, and (2) Time when taken up.				
					Pelagic Ova, Nature, Size. Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusa.	Medusa.
17th September 1888. 2½ miles N. E. from Pier head 9.15 a.m.	N. E. 2½ fathoms	4 fathoms Sandy	<i>Appendicularia</i> , very few <i>Cyphonautes</i> , very few Univalves, very few Mussels .013 inch to .015 inch, a few Ostracoda, very few <i>Centropages hamatus</i> , very few <i>Acartia longiremis</i> , numerous <i>Eudne nordmanni</i> , a few <i>Nauplii</i> , a few Larval <i>Nerine</i> , very few <i>Plutei</i> , a few <i>Pleurobrachia</i> , many <i>Ceratium tripos</i> , numerous <i>Ceratium fusca</i> , very few <i>Tintinnus denticulatus</i> , a few	¾ hour 10 a.m.	1 goby, 21 mm. 16 <i>Syngnathus acus</i> , 1½ to 2¼ inches	<i>Laodice cricata</i> (<i>Thaumanthias pilosella</i>) very few <i>Thaumanthias hemisphaerica</i> , many	<i>Beroë</i> , a few <i>Pleurobrachia</i> , myriad	
								<i>Pleurobrachia</i> , very few

Mid-water Net.

Larval Echinoderms.	Sagitta, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
				Young crabs (as) before), numerous 1 <i>Atylus swammerdami</i>			A few kinds in surface net	
<i>Plutei</i> , a few	Bottom	Tow-net.	<i>Nauplii</i> , numerous	<i>Atylus swammerdami</i> , very few, minute <i>Diastylis rathkii</i> , very few, minute <i>Haliemora longicornis</i> , many <i>Acartia longiremis</i> , numerous <i>Longipedia coronata</i> , many <i>Pseudocalanus elongatus</i> <i>Ecalne nordmanni</i> , a few Ostracoda, very few	<i>Appendicularia</i> , a few 1 <i>Actinotrocha</i> , <i>Cyphonantes</i> , very few	<i>Post-larval univalves</i> Mussels '012 inch to '014 inch, a few, 2.5 mm.	Very few kinds	<i>Ceratium fusus</i> , very few <i>Ceratium furca</i> , very few

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Dia-toms.	Other Forms. Greenish Bodies, Remarks, etc.
	A few	Form with enormous bristles (<i>Sabellaria</i>), very few 2 <i>Tomopteris</i> , medium size	Zoeæ of Norway lobster	Young crabs, as before, very few 1 <i>Atylus swamerdani</i> , small <i>Halimemora longicornis</i> , very few	<i>Appendicularia</i> , very few small			
	Bottom	Tow-net.						
<i>Plutei</i> , very few		<i>Nerine</i> , numerous Trochospheres of <i>Polynoë</i> , a few Form with enormous bristles (<i>Sabellaria</i>), a few Form (see sketch (a), 25th July) <i>Polynoë longisetosus</i> , about 1 mm. 1 other form <i>Polydora ciliata</i> , young, 2.5 mm. Turbellarian, young	Zoeæ of <i>Porcellana</i> , long-spined, a few <i>Nauplii</i> , a few	<i>Halimemora longicornis</i> , a few <i>Acartia longiremis</i> , numerous <i>Harpacticus chelifer</i> , many <i>Dactylopus</i> , Claus <i>Evadne nordmanni</i> , very few Ostracoda, very few	<i>Appendicularia</i> , very few, minute <i>Actinotrocha</i>	Post-larval univalves, many Mussels .013 inch, very few	Numerous, many kinds	<i>Ceratiwm tripes</i> , numerous <i>Ceratiwm divergens</i> , <i>Tintinnus denticulatus</i> , a few

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.				
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
20th September 1888. 2 miles from Pier head, 1 1/4 mile from Kinkell Ness 12.30 p.m.	W.S.W. 5 fathoms	7 1/2 fathoms Sandy	<i>Appendicularia</i> , very few <i>Natica</i> , very few <i>Acartia longiremis</i> , numerous <i>Centropages hamatus</i> , Ostracoda, a few <i>Evadne nordmanni</i> , very few Young crabs (<i>Portunus holsatus</i>), numerous as before <i>Nauplii</i> , numerous Larval <i>Nerine</i> , many <i>Thaumantias hemisphaerica</i> , very few, ripe <i>Ceratium tripos</i> , very few	1/2 hour 1 p.m.	4 gurnards, 12 mm., 10 mm. 1 <i>Callionymus</i> , as before, 9 mm.	<i>Thaumantias hemisphaerica</i> , numerous ripe <i>Thaumantias</i> (See sketch 1), very few, unripe <i>Tima bairdii</i> , very few large and small, unripe <i>Tiara</i> (<i>Oceania octona</i> , a few, unripe <i>Margelis ramosa</i> (<i>Bougainvillea britannica</i>), many ripe	<i>Pleurobrachia</i> , myriad <i>Beroë</i> , many, 1 to 1 1/2 inch	Ova, very few. Probably of <i>Pleurobrachia</i>
22nd September 1888. 1/2 mile off Maiden Rock 12 noon	E. 5 fathoms	5 fathoms Rocky and sandy	<i>Appendicularia</i> , numerous, larger than before Univalves, young, many Mussels and other bivalves, .015 inch, very few Young crabs (as before) numerous <i>Acartia longiremis</i> , myriad <i>Evadne nordmanni</i> , many <i>Nauplii</i> , a few Larval Annelids (see sketch, 25th July), a few Larval <i>Nerine</i> , a few <i>Sagitta</i> , 18 mm. <i>Plutei</i> , very few <i>Pleurobrachia</i> , 1/4 inch <i>Thaumantias hemisphaerica</i> , ripe <i>Ceratium tripos</i> , many	1/2 hour 12.20 p.m.	clupeoids, 8-15 mm.			

Mid-water Net.

Larval Echinoderms.	Sagittae, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
	1, 13 mm.		Zoeae of <i>Porcellana</i> , numerous	<i>Atylus swamerdami</i> , very few, small			A few Many kinds in surface net	
	Bottom	Tow-net. <i>Nephtys</i> , young <i>Polydora</i> and other numerous <i>Nerine</i> , myriad Form (see sketch (a), 25th July), myriad Form (see sketch, 25th July), many Trochospheres of <i>Polynoë</i> , very few	<i>Nauplii</i> , numerous	<i>Acartia longiremis</i> , numerous <i>Longipedia coronata</i> , many Ostracoda, many		<i>Post-larval</i> Univalves, many Mussels and other bivalves, '012 inch, very few	Very few A few kinds	
<i>Plutei</i> , very few	Bottom	Tow-net. <i>Polynoë</i> , very few (see sketch) Form (see sketch, 25th July) Form with enormous bristles (<i>Sabellaria</i>), very few <i>Polydora</i> , <i>Aricia</i> , <i>Nephtys</i> , Form in tube (<i>Wartelia</i>)	<i>Nauplii</i> , a few	<i>Atylus swamerdami</i> , very small, very few <i>Acartia longiremis</i> , numerous <i>Hallemora longicornis</i> , a few <i>Centropages hamatus</i> , a few <i>Pseudocalanus elongatus</i> , <i>Ecadne nordmanni</i> , a few, ♀ with young in brood-pouch Ostracoda, numerous	<i>Phoronis</i> and <i>Actinotrocha</i> (see sketch), only a few of each seen	<i>Post-larval</i> univalves, very few Mussels and other young bivalves, '008 to '014 inch	A few Many kinds in bottom net; and many kinds in surface net	

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Mid-water Net.				
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.	
26th September 1888. 2 miles N.E. from Pier head 2.30 p.m.	N.E. by E. 4½ fathoms	5 fathoms Sandy	<p><i>Appendicularia</i>, very few (as before)</p> <p><i>Cyphonantes</i>, very few</p> <p>Mussels, .012 inch, and other bivalves</p> <p>Univalves, young, a few</p> <p><i>Acartia longiremis</i>, numerous</p> <p><i>Centropages hamatus</i></p> <p><i>Pseudocalanus elongatus</i></p> <p><i>Oithona spinifrons</i> (?)</p> <p><i>Longipedia coronata</i></p> <p>Ostracods, many</p> <p><i>Evadne nordmanni</i>, a few, ♀ with young in brood-pouch</p> <p><i>Nauplii</i>, very few</p> <p>Larval Annelids, brittle, green coloration, otherwise like form in sketch of 25th July</p> <p>Larval <i>Nerine</i>, a few</p> <p>Larval <i>Polynoe</i>, very few</p> <p>Trochospheres of <i>Polynoe</i>, very few</p> <p><i>Plutei</i>, very few</p> <p>3 <i>Pleurobrachia</i>, ½ inch</p> <p>Larval <i>Pleurobrachia</i>, many</p> <p>Ova of <i>Pleurobrachia</i>, many, some far advanced, others not</p> <p>Small Medusa bud</p> <p><i>Ceratum tripos</i>, many</p> <p><i>Ceratum divergens</i>, very few</p> <p><i>Ceratum furca</i>, very few</p>	½ hour 3 p.m.		<p>5 clupeoids, 10 mm. to 13.5 mm., smallest with permanent rays just about to appear in tail, largest with permanent rays in dorsal aspect of tail alone</p> <p>1 goby, 6 mm., permanent rays appearing in tail</p> <p>clupeoids, 15-16 mm.</p>	<p><i>Tima bairdii</i>, 1½ inch in diameter, unripe</p> <p><i>Laodice cruciata</i> (<i>Thaummanias pilosella</i>) many large, unripe</p> <p>1 <i>Stomobanchium octocostatum</i>, ripe</p> <p><i>Tiara</i> (<i>Oceania octona</i>), 2 unripe</p> <p><i>Margelis ramosa</i> (<i>Bougainvillea britannica</i>), small, unripe</p>	<p><i>Beroë</i>, 1¼ inch</p> <p><i>Pleurobrachia</i> ½ to 1 inch</p>	Ova of <i>Pleurobrachia</i> , a few

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
	2, 15, 16 mm.			Young crabs (as before), numerous			Very few A few kinds in surface net	
<i>Plutei</i> , very few	Bottom	Tow-net.	<i>Nauplii</i> , a few	<i>Acartia longiremis</i> , myriad <i>Halteromora longicornis</i> , many	<i>Appendicularia</i> , very few, as before <i>Cyphonautes</i> , very few	<i>Post-larval</i> Univalves, very few Mussels, .014 inch, and other bivalves, a few	A few kinds	<i>Ceratium tripos</i> , very few

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up	Pelagic Fauna			
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
28th September 1888.			Larval forms of Copepoda, and young of several species of Copepoda		2 <i>Nerophis aequoreus</i> , 2 $\frac{3}{4}$ inches; Pleuromectid, 11 mm. Gobies, 10 to 15 mm. Bimaculated sucker, 7.5 mm. Dragonet, 5 mm. Young whiting, 45 mm. clupeoids, 15-16 mm.	<i>Tima bairdii</i> , 1 small, unripe 1 <i>Thaumantias hemisphaerica</i> , 1 <i>Tiaa</i> (<i>Oceania</i>) <i>octona</i> , almost ripe		Larval <i>Pleurobrachia</i> , very few
5th October 1888. $\frac{3}{4}$ mile N.E. of Pier head 1.55 p.m.	E. 3 fathoms	5 fathoms Sandy.	Univalves, a few Mussels, .014 inch, very few <i>Eodine nordmanni</i> , very few <i>Nauplii</i> , very few <i>Nerine</i> (larval), very few <i>Ceratium furca</i> , very few <i>Ceratium tripos</i> , very few	hour 2.45 p.m.	9 clupeoids, 17 mm. to 18 mm. Permanent rays in ventral aspect of tail, and appearing in median dorsal fin	<i>Thaumantias hemisphaerica</i> , many ripe, and nearly so, $\frac{3}{8}$ inch		<i>Pleurobrachia</i> , myriad, $\frac{3}{8}$ to $\frac{1}{2}$ inch, unripe 1 <i>Beroë</i> , $\frac{1}{2}$ inch

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
	3, 15 mm.		A few Zoeca, with long spines (<i>Porcellana</i>)	Young crabs (<i>Portunus</i>), many (as before) 1 <i>Idotea tricuspidata</i>		<i>Post-larval</i> Mussels, '045 inch, '047 inch, a few, and others fully 2 mm. and coloured	A few	in surface net
	Bottom	Tow-net.	<i>Nauplii</i> , many	<i>Diastylis rathkii</i> , very few, small <i>Atylus swamerdami</i> , very few, small <i>Acartia longiremis</i> , numerous <i>Halleemora longicornis</i> , a few <i>Longipedia coronata</i> , Claus, many <i>Pseudocalanus elongatus</i> , Boeck	<i>Appendicularia</i> , small <i>Cyphonautes</i> , many	Univalves a few young Mussels, '012 inch to '014 inch <i>Spiralis</i> , many	Many kinds	<i>Ceratium tripos</i> , many <i>Tintinnus denticulatus</i> , a few
		1 <i>Tomopteris</i> , 1½ inch					Many kinds in surface net	
	Bottom	Tow-net.		<i>Halleemora longicornis</i> , very few Ostracoda, very few		<i>Post-larval</i> univalves, very few	A few kinds	

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Total			
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusa.	Medusæ.
10th October 1888. As before 2 p.m.	N. 3 fathoms	5 fathoms Sandy		$\frac{1}{2}$ hour 2.30 p.m.			<i>Tima bairdii</i> , 1 $\frac{1}{2}$ inch, un- ripe <i>Thaumat. as hemisphaerica</i> (as before)	1 <i>Beroë</i> , 1 $\frac{1}{2}$ inch <i>Pleurobrachia</i> , myriad, as before
							A few ova	<i>Pleurobrachia</i> , very few, as in other net
11th October 1888. 200 yards from Pier head 8.20 a.m.	To Castle.	5 to 3 fathoms Sandy	Univalves, many Mussels, .011, .012 inch, and other bivalves, a few <i>Aplys swammer- dami</i> , very few, small <i>Haltemora longi- cornis</i> , many <i>Acartia longiremis</i> , many Ostracoda, a few <i>Nauplii</i> , a few Larval <i>Nerine</i> , very few, 2 kinds <i>Ceratium tripos</i> , very few <i>Tintinnus denticu- latus</i> , very few	$\frac{3}{4}$ hour 9.10 a.m.				
15th October 1888. 1 mile N. of Pier head, $\frac{3}{4}$ mile N.E. of Castle 8.45 a.m.	N.E. 3 fathoms	4 $\frac{1}{2}$ fathoms Sandy	Univalves, very few Mussels, .011 inch, very few <i>Oithona spinifrons</i> (?), very few <i>Acartia longiremis</i> , a few <i>Haltemora longi- cornis</i> <i>Evadne nordmanni</i> , very few <i>Nauplii</i> , very few <i>Tomopteris</i> , very few, very small <i>Nereis</i> larvæ, very few Ova of <i>Pleuro- brachia</i> , very few, (embryos well ad- vanced) <i>Ceratium tripos</i> , very few <i>Ceratium furca</i> , very few	$\frac{3}{4}$ hour 9.30 a.m.			<i>Thaumat. as hemis- phaerica</i> , numerous, as before <i>Tima bairdii</i> , many, un- ripe 1 specimen, 2 inches in diameter <i>Stomo- brachium octocostatum</i> , many large, unripe A few ova	<i>Beroë</i> , many, 1 $\frac{1}{2}$ to 2 $\frac{1}{2}$ inches <i>Pleuro- brachia</i> , myriad, $\frac{1}{8}$ to $\frac{5}{8}$ inch

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.	Diatoms-	Other Forms, Greenish Bodies, Remarks, etc.
	<p>Bottom 1 partially decomposed</p>	<p>Tow-net. <i>Nerine</i>, a few</p>	<p><i>Nauplii</i>, a few</p>	<p><i>Halitemora longicornis</i>, myriad <i>Acartia longiremis</i>, many <i>Longipedia coronata</i>, a few <i>Ecadne nordmanni</i>, many Ostracoda, very few</p>			<p>Numerous Many kinds</p>	
	<p>Bottom</p>	<p>Tow-net. <i>Nerine</i>, numerous <i>Polynoë</i>, many Sepunculoïd(?) in tube <i>Pilidium</i> (Nemertean)</p>	<p><i>Nauplii</i>, very few Cirripede</p>	<p><i>Diastylis rathkii</i>, very few <i>Atylus swammerdami</i>, very few, small <i>Halitemora longicornis</i>, many <i>Acartia longiremis</i>, many <i>Longipedia coronata</i>, very few <i>Pseudocalanus elongatus</i> <i>Oithona spinifrons</i></p>	<p><i>Cyphonautes</i>, many</p>	<p><i>Post-larval</i> Mussels, .013 inch, A few, and one large about $\frac{1}{16}$ inch</p>	<p>Numerous in surface net, many in bottom net Many kinds</p>	
		<p><i>Tomopteris</i>, a few, very small</p>		<p>Young crabs, a few (as before), probably <i>Portuni</i> <i>Atylus swammerdami</i>, very few</p>			<p>Myriad Many kinds in surface net</p>	

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Hydromedusa			
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusa.	Medusa.
								<i>Pleurobrachia</i> , very few Ova of <i>Pleurobrachia</i> , well advanced, very few
16th October 1888. 1½ mile N. of Pier head, 1 mile from shore 9.30 a.m.	To mouth of Eden 3 fathoms	5 fathoms Sandy	Univalves, very few <i>Acartia longiremis</i> , many <i>Nauplii</i> , very few <i>Nerine</i> (larval), very few <i>Ceratium tripos</i> , many <i>Ceratium divergens</i> , very few	8 hour 10.20 a.m.	1 gurnard, permanent rays 3 clupeoids, 11-5 mm. to 18-5 mm. No permanent rays in smallest 1 adult <i>Syngnathus acus</i>	<i>Laodicea ucitata</i> (<i>Thaumantias pilosella</i>), many <i>Thaumantias hemisphaerica</i> numero is as before <i>Tima bairdii</i> , young, as before <i>Stomobrachium octocostatum</i> , numero is as before	<i>Beroë</i> , many, as before <i>Pleurobrachia</i> , myriad, as before	<i>Pleurobrachia</i> , very few
17th October 1888. 3 miles N.E. of Pier head 11.20 a.m.	E. 4 fathoms	8 fathoms Sandy	Univalves, very few Mussels and other bivalves, .012 inch, a few <i>Hallepora longicornis</i> , a few <i>Acartia longiremis</i> , a few <i>Longipedia coronata</i> <i>Eoadne nordmanni</i> <i>Nauplii</i> , many <i>Plutei</i> , a few <i>Ceratium tripos</i> , myriad <i>Ceratium furca</i> , a very few		Adult 3 <i>Syngnathus acus</i>	<i>Laodicea cruciata</i> (<i>Thaumantias pilosella</i>), many <i>Thaumantias hemisphaerica</i> , as before <i>Tima bairdii</i> , many	<i>Beroë</i> and <i>Pleurobrachia</i> , many, as before	

Mid-water Net.

Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoïda.	Larval Mollusca, etc.	Dia-toms.	Other Forms, Greenish Bodies, Remarks, etc.
	Bottom Very few small	Tow-net. <i>Nerine</i> , 3 kinds, a few <i>Polydora</i> ; <i>Cirratulus</i> , young, about $\frac{1}{2}$ inch <i>Polynoe</i> , very few		<i>Atylus swammerdami</i> , very few, small <i>Parathemisto oblitata</i> , <i>Haltemora longicornis</i> , numerous <i>Acartia longiremis</i> , <i>Longipedia coronata</i> (?) Ostracoda, very few		<i>Post-larval Spirialis</i> , very few Mussels, .016 inch, and other bivalves, also larger mussels with coloured bands and elongated	Numerous Many kinds	
	Very few	1 <i>Tomopteris</i>		Young crabs, many (as before) <i>Caligus</i> , very few 1 <i>Idotea linearis</i>		<i>Post-larval</i> univalves, very few Mussels, .016 inch	Myriad Many kinds in surface net	
	Bottom 1	Tow net.	<i>Balanus</i> , very few	<i>Acartia longiremis</i> , numerous <i>Calanus finmarchicus</i> , a few <i>Haltemora longicornis</i> <i>Eucadne nordmanni</i> , a few young		<i>Spirialis</i> , very few Mussels, .015 inch, and other bivalves	Myriad Many kinds	
				<i>Nephrops norvegicus</i> , young, $\frac{2}{3}$ inch				

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	Length of Time (1) Net down, and (2) Time when taken up.				
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
								<i>Pleurobrachia</i> , very few as before
18th October 1888. Abreast Maiden Rock, $\frac{1}{2}$ mile from shore 9.30 a.m.	E.	5 to 9 fathoms Sandy	Univalves, a few <i>Post-larval</i> Portuni, young <i>Calanus finmarchicus</i> , <i>Halimemora longicornis</i> <i>Acartia longiremis</i> Larvæ of <i>Balan</i> <i>Oceania octona</i> , and other Medusa-buds	$\frac{3}{4}$ hour 10.15 a.m.				<i>Pleurobrachia</i> , very few as before Larval <i>Pleurobrachia</i> , very few Ova.
30th October 1888. Abreast of Kinkell Ness 8.30 a.m.	N. 4 fathoms	8 fathoms Rocky and sandy	Bivalves, .017 inch, very few <i>Halimemora longicornis</i> , many <i>Acartia longiremis</i> , numerous <i>Pseudocalanus elongatus</i> <i>Balan</i> (Ostracod stage), very few <i>Pleurobrachia</i> , very few	1 hour 9.30 a.m.				<i>Beroë</i> , many <i>Pleurobrachia</i> , myriad, like largest of former
						<i>Aglanthe digitata</i> 1 (<i>Circe rosea</i>)		<i>Pleurobrachia</i> , very few

Mid-water Net.							Dia- toms.	Other Forms, Greenish Bodies, Remarks, etc.
Larval chinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.		
	Bottom	Tow-net. Trochos- pheres of <i>Polynoë</i> , very few <i>Nerine</i> , very few <i>Nephtys</i> <i>Pholoë</i>	<i>Nauplii</i> , very few Zoeæ of <i>Porcellana</i>	<i>Atylus swan- merdami</i> , very few <i>Acartia</i> <i>longiremis</i> , many <i>Halitemora</i> <i>longicornis</i> , many <i>Longipedia</i> <i>coronata</i> , very few <i>Pseudo- calanus</i> <i>elongatus</i> Ostracoda, very few	<i>Appendicu- laria</i> , young	<i>Post-larval</i> Univalves Mussels, .012 inch, very few	Myriad Many kinds	<i>Ceratum</i> <i>tripos</i> , my- riad <i>Ceratum</i> <i>furca</i> , very
	Bottom	Tow-net. <i>Nerine</i> , many, 2 kinds	<i>Nauplii</i> , a few	<i>Calanus fin- marchicus</i> , a few <i>Acartia</i> <i>longiremis</i> , many <i>Halitemora</i> <i>longicornis</i> <i>Longipedia</i> <i>coronata</i> , very few <i>Pseudo- calanus</i> <i>elongatus</i> <i>Eradne</i> , a few Ostracoda, many	<i>Appendicu- laria</i> , young	<i>Post-larval</i> Univalves, many Mussels, .015 inch, .022 inch, very few, and other bi- valves	Myriad Many kinds	<i>Ceratum</i> <i>tripos</i> , many
	Bottom	Tow-net. Many, 8 to 15 mm.	Two forms of <i>Nerine</i> , a few	<i>Nauplii</i> , very few <i>Balanus</i>	<i>Halitemora</i> <i>longicornis</i> , numerous <i>Acartia</i> <i>longiremis</i> , myriad <i>Pseudo- calanus</i> <i>elongatus</i> , a few <i>Centropages</i> <i>hamatus</i>	<i>Post-larval</i> Univalves, a few		<i>Ceratum</i> <i>divergens</i> , very few <i>Tintinnus</i> <i>denticulatus</i> , very few 4th November (Thames) <i>Bacillaria</i> <i>pera</i> , abun- dant <i>Chotocous</i> <i>wighamii</i> <i>Eucampia</i> , <i>Osihosira</i> <i>Rhizosolenia</i> , 2 specimens <i>Lithodesmium</i>

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.				
					Pelagic Ova, Nature, Size, Larval Fishes, Nature, Size,	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusae.	Medusae.
1st November 1888. 2 miles N.E. of Pier 9 a.m.	N.E. 3 fathoms	5 fathoms Sandy	Swarms of Megalops stage of crabs (<i>Hyas</i>) young <i>Macroura</i> , <i>Parathemisto</i> , a few; <i>Copepoda</i> and <i>Pleurobrachia</i>	1 hour 10 a.m.		Bimaculated sucker, 8 mm. 4 clupeoids, 14.5 mm. to 19 mm. 1 Pleuronectid (probably flounder), 11.5 mm.	<i>Aglantia</i> , a few <i>Panulva</i>	<i>Beroë</i> , large, many <i>Pleurobrachia</i> myriad (as before) and ranging from $\frac{1}{16}$ to $\frac{3}{16}$ inch, some $\frac{1}{16}$ inch
24th November 1888. Pier head 8.30 a.m.	To Castle and back	4 fathoms Sandy	<i>Acartia longiremis</i> , many Exuvia of <i>Balanus</i> , very few <i>Tomopteris</i> , a few small Tube of Annelid <i>Sagitta</i> , many as before <i>Pleurobrachia</i> , very few, small <i>Aglantha digitalis</i> (<i>Circe rosea</i>), many	1 hour 9.20 a.m.		Young gobies, 18 to 23 mm.		<i>Pleurobrachia</i> very few <i>Lesueuria</i> , <i>Beroë</i> (also in Thames)
5th December 1888. 2 miles N. of Kinkell Ness 2 p.m.	To 2 miles off Pier 4 fathoms	9 to 7 fathoms Sandy	1 <i>Atylus swammerdami</i> <i>Tina bairdii</i> , medium size <i>Aglantha digitalis</i> (<i>Circe rosea</i>), many <i>Tintinnus</i> , many [<i>Peridinium fuscus</i> , (in Thames) also <i>Tintinnus</i>]	2 hours 4 p.m.			<i>Tima bairdii</i> , several, one full inches across; ♂ and ♀ elements well developed, but not quite ripe <i>Aglantha digitalis</i> (<i>Circe rosea</i>), many, $\frac{1}{2}$ inch less than $\frac{1}{4}$ inch; reproductive organs developed <i>Stonobrachium octocostatum</i> , many, about $\frac{1}{2}$ inch <i>Theumantias hemisphaerica</i> , 2 or 3 <i>Aglantha digitalis</i> (<i>Circe rosea</i>), a few	1 <i>Beroë</i> , $\frac{1}{4}$ inch <i>Pleurobrachia</i> $\frac{3}{4}$ inch downwards, reproductive elements not well developed <i>Pleurobrachia</i> , very few

Mid-water Net.							Dia- toms.	Other Forms, Greenish Bodies, Remarks, etc.
Larval chinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.		
	Numerous and large	Larval forms of <i>Nerine</i> <i>Tomopteris</i> , chiefly small		<i>Diastylis</i> , a few Copepoda, a few				
	Bottom Numerous, large and small	Tow-net. Larval <i>Nerine</i> Nematodes, a few <i>Tomopteris</i> , very few, small		<i>Schistomysis</i> <i>ornata</i> , many 1 <i>Crangon</i> <i>vulgaris</i> , <i>Acartia</i> <i>longiremis</i> , myriad <i>Pseudocalanus</i> <i>elongatus</i> , numerous	<i>Cyphonautes</i>	<i>Post-larval</i> Univalves, a few Mussels, .016 inch, very few		
	Bottom A few, $\frac{1}{8}$ inch	Tow-net.		<i>Parathemisto</i> <i>oblivia</i> <i>Halitemora</i> <i>longicornis</i> <i>Pseudocalanus</i> <i>elongatus</i> , and <i>Calanus</i> <i>finmarchicus</i> , in swarms 1 <i>Ecadne</i>			Spores of algæ Fragments of algæ, in surface net	

Net put down, where, and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Pelagic Ova, Nature Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydro medusae	Medusae.
6th December 1888. 1 mile of Pier head 2.30 p.m.	Towards Harbour, short distance close to ridge of Beacon rocks 3 fathoms	5 to 7 fathoms Sandy					<i>Aglantha digitalis</i> (<i>Circe rosea</i>), many <i>Stomobrachium octocostatum</i> , many, and of about same size as before; reproductive organs in some nearly ripe.	1 <i>Lesueuria Pleurobrachia</i> numerous, some $\frac{3}{4}$ inch and in good condition
10th December 1888. 100 yards N. of Pier head	$\frac{1}{2}$ mile N., and again S., net had touched bottom	7 fathoms	<i>Cyphonautes</i> , numerous Larval <i>Spiralis</i> , swimming with <i>Epipodia</i> <i>Acartia longiremis</i> Nauplii, a few Exuvia of <i>Balanus Sagitta</i> , numerous <i>Pluteus</i> , arms short and apparently atrophied; skeletons still visible, no starfish <i>Pleurobrachia</i> , young forms with ova <i>Aglantha digitalis</i> (<i>Circe rosea</i>), a few <i>Ceratium tripos</i> , numerous <i>Ceratium furca</i> " <i>fuscus</i>					
12th December 1888. 100 yards off Pier 10 a.m.	N.E. for $\frac{1}{2}$ mile 2 fathoms	7 to 5 fathoms		$\frac{1}{2}$ hour 10.45 a.m.			<i>Tima bairdii</i> , <i>Aglantha digitalis</i> (<i>Circe rosea</i>), many <i>Stomobrachium octocostatum</i>	<i>Beroë</i> , a few
13th December 1888. 200 yards off Budda Rock 10 a.m.	Along shore to W., end of E. rocks $3\frac{1}{2}$ fathoms	7 fathoms	Copepoda <i>Sagitta</i> , a few <i>Aglantha digitalis</i> , very few	$1\frac{1}{2}$ hour 11.30 a.m.		Clupeoid, $1\frac{1}{2}$ inch	<i>Aglantha digitalis</i> , many	3 <i>Lesueuria</i> about $\frac{3}{4}$ inch, <i>Pleurobrachia</i> many large and small <i>Aglantha digitalis</i> <i>Lesueuria Pleurobrachia</i>

Mid-water net.							Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
Larval echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.		
				<i>Parathemisto oblivia</i> , a few				
	Bottom	Tow-net. Bristles of <i>Sabellaria</i> , and fragments of <i>Polynoë</i>		<i>Calanus finmarchicus</i> <i>Pseudocalanus elongatus</i> , Considerable number, Shells of Ostracoda	<i>Cyphonautes</i> , many	Minute shells <i>Littorina</i> (?), young		Foraminifera Fragments of algæ, in bottom net
	A few, 1 $\frac{3}{4}$ inch			<i>Parathemisto oblivia</i> , very few				
	In swarms, $\frac{3}{4}$ to $\frac{7}{8}$ inch, some $\frac{1}{2}$ inch and less	1 <i>Tomopteris</i> , about $\frac{3}{4}$ inch		<i>Parathemisto oblivia</i> , a few				Spores of algæ in surface net, and in bottom net,
Many	Bottom	Tow-net.	Copepoda, many					

Net put down, where and time.	Course of Boat thereafter and Depth.	Total Depth of Water and Nature of Bottom.	Surface Fauna (Tow-net).	(1) Length of Time Net down, and (2) Time when taken up.	Specimens			
					Pelagic Ova, Nature Size, Larval Fishes, Nature, Size.	Post-Larval Fishes, Nature, Size, Coloration, etc.	Hydromedusæ.	Medusæ.
14th December 1888. Site of target, N. of Battery 10.30 a.m.	E.N.E. for 1600 yards 3 fathoms	7 fathoms	1 <i>Tomopteris</i> , $\frac{3}{4}$ inch <i>Sagitta</i> , many <i>Pleurobrachia</i> , a few, about $\frac{1}{8}$ inch and under	1 hour 11.30 a.m.			<i>Aglantha digitalis</i> , many	1 <i>Lesueuria</i> , $\frac{3}{4}$ inch <i>Pleurobrachia</i> , numerous, large, $\frac{1}{2}$ inch to $\frac{3}{4}$ inch <i>Pleurobrachia</i> , $\frac{1}{8}$ inch and under
18th December 1888. Opposite Castle 12 noon	Towards Eden, 3 miles course 3 fathoms	5 fathoms	<i>Sagitta</i> , a few, various sizes <i>Aglantha digitalis</i> , a few [In Thames:— <i>Noctiluca</i> , <i>Pleurobrachia</i> Infusoria in sand case Larval Molluscs, Annelids, bivalves, and a Copepod]	1½ hour 1.30 p.m.			<i>Aglantha digitalis</i> , in swarms; reproductive organs developing <i>Aglantha digitalis</i> , a few	Swarms of <i>Pleurobrachia</i>

Mid-water net.							Diatoms.	Other Forms, Greenish Bodies, Remarks, etc.
Larval Echinoderms.	Sagittæ, Size, etc.	Larval Annelids and Adults.	Larval Crustaceans.	Adult Crustaceans.	Molluscoida.	Larval Mollusca, etc.		
	Many, some over $\frac{3}{8}$ inch in length Bottom Many	2 <i>Tomopteris</i> about $\frac{1}{2}$ inch Tow-net. Bristles of <i>Sabellaria</i> and <i>Nereis</i>	1 young <i>Carcinus maenas</i> Megalops and Zoeæ of	<i>Parathemisto oblivia</i> , very few <i>Calanus finmarchicus</i> , a few, small			Some	Spores of algae Fragment of young sponge with spicules like those of <i>Oculina</i> (?)
	In swarms, same length as before, 1 inch and less Some showed sperm-cells clear and translucent, and many large Bottom A few	Tow-net.		<i>Parathemisto oblivia</i> , considerable number <i>Calanus finmarchicus</i> , considerable number A very few Copepoda			Some in mid-water net	Spores of algae, a few in mid-water net

