SECOND REPORT

ON THE

FOOD OF FISHES (NORTH SEA, 1904-1905),

BY

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I.—INTRODUCTION.

During 1904–5 the food of 6,190 fish belonging to 31 species was examined, making with those recorded in the first report a total of 9,826 specimens of 34 species. As before, the majority of the fish were gutted at sea, and the stomachs and intestines preserved in formalin for examination at the Laboratory, the sizes of the fish being noted in the majority of cases.

In each sample the general condition of the stomachs (*i.e.* empty, containing recognisable or unrecognisable food) was noted, and the number of stomachs containing each of the various food species was recorded together with the number of specimens present as far as possible.

The actual data on these points for each batch of stomachs are given in the detailed tables at the end, whilst in the text the general condition of the stomachs in a particular sample is given in percentages of the total examined, and the number of stomachs containing each organism as a percentage of those containing recognisable food, so that

$$\frac{\text{Number of specimens}}{\text{Number of stomachs}}\text{ (in the tables)} = \frac{\text{Number of specimens per 100}}{\text{Percentage of stomachs}}\text{ (in the text)}$$

= average number of specimens of a particular species or group present in the stomachs. In many instances, especially in the case of some Mollusca (*Tellina*, *Donax*, *Scrobicularia*, *Mactra*) the number of specimens present was estimated, as they were often too much broken to admit of actual counting.

In the case of the plaice, dab, cod and haddock an attempt has been made to show what are the principal changes which take place in the food of the fish as they increase in size, by combining the figures for the principal food groups, in each size group, from as many samples as possible irrespective of locality. These when plotted out, show in all, but particularly in the plaice, dab and cod, that the young as compared with the older fish have a marked predeliction for Crustacea, represented chiefly by Amphipods, Cumacea and Decapod larvæ. In the haddock the difference was not so marked, owing probably to the fact that the fish were divided into two groups only, viz., 15–30 cm. and 30 cm. +, whilst no fish of less than 15 cm. were examined; still in the smaller size group Crustacea were found in more stomachs than any other food-group, whilst in the larger fish they only came third in order of frequency (*see* pp. 66).

With regard to the competition for food between various fish, it seems probable that it is acute in the case of a few species only, viz., in Mollusca, *Solen ensis* and *S. siliqua* (between plaice, dabs and haddock), *Tellina fabula* (between plaice and haddock); in Crustacea, *Crangon Allmanni* (between whiting, cod and grey gurnard), *Eupagurus Bernhardus* (between dabs, whiting and cod), &c., &c. (*see* pp. 123).

Cessation of feeding in the winter months is apparent only in one or two flatfish, notably the plaice, in which species the number of empty stomachs observed during the winter months was 99 per cent. (November), 72 per cent. (December), 76 per cent. (January), 57 per cent. (February), whereas during the remainder of the year, March to October, the percentage of empty stomachs in each month never rose above 7 per cent.

In the flounder, owing to a paucity of records, the evidence is not conclusive, but all the stomachs but one of the fish examined in November and March (off Ymuiden and Egmont) were empty, whereas in April (off Covehithe) they were all full. In the sole also for the same reason, the evidence is not conclusive, although it points to a cessation of feeding in January-April. In the dab the cessation of feeding is not so marked as in the plaice and flounder, although the percentage of empty stomachs in November rises to 48 per cent., and in March to 21 per cent. In December and January, it was 0 and 7 per cent. respectively, whilst in February we have no observations.

As to the cause of this period of abstinence I am inclined to attribute it to the effects of the spawning period. In the plaice it certainly coincides with the time from when the fish are approaching ripeness to near the close of the spawning, *i.e.*, November to February inclusive, and is most marked on those grounds which are frequented by the fish for breeding purposes, *e.g.*, Sandettie (XLIV. 1, November; cf. Garstang, Cd. 2670, p. 96, and Wallace, this Volume, p. 30).

It appears to be characteristic of a spawning ground for plaice, in the spawning season, that the proportion of males to females caught should be markedly in excess of the normal (cf. 2nd Trawling Report: East Edge Deep Water, November, Stations XLIII. 1, 37 males, 13 females; XLIII. 5, 24 males, 15 females; Sandettie, November, XLIV. 1, 88 males, 10 females; XLIV. 3, 77 males, 7 females; Flamborough Off, January, XLVII. 2, 30 males, 10 females; XLVII, 3, 59 males, 16 females; XLVII. 4, 53 males, 23 females; XLVII. 5, 40 males, 15 females). Now, in samples from hauls XLVII. 26 (January), XLVIII. 2, 10 and 18 (February), and XXIII. 3 (December), the ratio $\frac{\text{number of males}}{\text{number of females}}$ was low and varied between 0·4 and 1·2 (average 0·9), whilst in the remaining winter samples XLVIII. 14, 18, 20 (February), XLVII. 2 and 5 (January) and XLIV. 1 (November) the ratio was high and varied from 1·4 to 8·8 (average 3·3). It is therefore interesting to note that in the first group the ratio $\frac{\text{number of empty stomachs}}{\text{number containing food}}$ was also low and varied between 0·1 and 1·3 (average 0·7), whilst in the second group it was high and varied between 2·7 and 37 : 0 (average 7·4). In other words, the greater the excess of males over females, the greater the proportion of empty stomachs.

It is difficult to realise the amount of destruction which can be wrought among molluscan and other fry by various fish. Several instances are given in the present report, *e.g.*, haddock and dabs eating *Solen* fry, plaice eating young *Mactra*, coal fish eating *Ammodytes* sp. juv., lesser weever eating *Megalopæ* (young crabs), &c. The most obvious instance, however, is not reported in the present report, as it was observed in April of the present year (1906). Four hundred and seventy-eight haddock were taken in a four-hour haul of the beam trawl in Clay Deep, and the food of 55 fish was examined. From the data thus obtained it was estimated the haddock caught in this haul had eaten no less than 1,210,000 *Mactra subtruncata* fry averaging 1·4 mm. in length. Taking the length of the haul as eight miles, and the length of the beam as 45 feet it will be seen that this is equivalent to about 20,000,000 *Mactra* fry destroyed by haddock per square sea mile, probably in one day, without taking into account the obvious fact that the beam trawl does not catch all the fish swimming over the ground which it covers.

As before, I am responsible for the identification of the majority of the food species, the exceptions being the Polychæta and a few Echinoderma, for the identification of which I am indebted to Dr. Allen and Mr. Borley respectively.

The nomenclature used throughout the present report is the same as in the first, *i.e.* :—

Pisces	Day, British Fishes.
Mollusca	Jeffreys, British Conchology.
Crustacea (in general) ...	Bell, British stalk-eyed Crustacea; and Sars, Crustacea of Norway.
Polychæta...	St. Joseph, Les Annélides Polychètes des Côtes de Dinard.
Echinoderma	Bell, Catalogue of British Echinoderms, British Museum.

II.—RESULTS OF THE EXAMINATION OF STOMACHS.

Father Lasher. (*Cottus scorpius.*)

Off Ymuiden. XXVIII. 24.* (B. 115.) March. 8–10 fathoms. f.s.

Twelve fish (70 per cent.) contained recognisable food. Pisces were found in 75 per cent. (92 specimens per 100 stomachs) consisting of *Clupea sprattus* 17 per cent. (33 per 100), *Gobius minutus* 8 per cent., and remains in 50 per cent.

Crustacea occurred in 58 per cent. (117 specimens per 100 stomachs) represented by *Crangon vulgaris* 50 per cent. (100 per 100), *Portunus holsatus* and *Eupagurus Bernhardus* each in 8 per cent.

Grey Gurnard. (*Trigla gurnardus.*)

One hundred and twenty eight stomachs from 10 stations were examined, of which 91 per cent. contained recognisable food, the remainder being empty. Crustacea formed the chief food in all but one sample being present in 93 per cent. of the total, and were represented principally by *Crangon* spp.; especially *C. Allmanni*. Pisces occurred in 15 per cent. and Mollusca in 1 per cent.

In the first report on Fish Food the percentages given were Crustacea 99 per cent., Pisces 5 per cent., Mollusca 7 per cent., and Nemertinea 1 per cent. for a total of 76 fish containing recognisable food. Together these give 192 fish containing recognisable food consisting of Crustacea in 95 per cent., Pisces 11 per cent., Mollusca 3 per cent., Nemertinea 0·5 per cent.

1. Hartlepool Ground. L. 9. (O. 281.) March. 14–25 fathoms. f.d.s.

Twelve fish (100 per cent.) contained recognisable food. They were feeding chiefly on Crustacea 67 per cent. (159 specimens per 100 stomachs) represented by *Crangon Allmanni* and *Nyctiphanes* each in 25 per cent. (50 per 100) and *Pandalus Montagui* in 17 per cent. (50 per 100.)

Pisces were present in 42 per cent. (58 per 100) represented by *Gadus merlangus* in 33 per cent. (50 per 100), and *Clupea* sp. in 8 per cent., whilst Mollusca were represented by *Sepiola atlantica* in 8 per cent. (50 per 100).

2. Whitby Ground. L. 17. (O. 285.) March. 35 fathoms. f.d.s.

Seven fish (58 per cent.) contained recognisable food, the remainder being empty. They were feeding chiefly on Pisces in 86 per cent. (114 per 100) represented by *Gadus merlangus* in 71 per cent. (100 per 100), and remains unidentified in 14 per cent. Crustacea were present in 43 per cent. represented by *Crangon* sp. and *Pandalus Montagui* each in 29 per cent.

3. Off Sutton (Lincolnshire). XL. 41. (B. 224.) October. 5–9 fathoms. s., g.l.

Fourteen fish (100 per cent.) contained recognisable food, which consisted entirely of Crustacea 100 per cent. (1,300 per 100) represented by *Crangon vulgaris* 57 per cent. (840 per 100), *Pandalus Montagui* 64 per cent. (364 per 100), and *Crangon Allmanni* 50 per cent. (93 per 100).

4. Leman Ground. XXVIII. 17. (B. 110.) March. 14–16 fathoms. f.s., f.d.s.

Six fish (100 per cent.) contained recognisable food, consisting solely of Crustacea, which were represented by *Crangon Allmanni* and a few *Pandalus Montagui*.

5. Leman Ground. XXVIII. 15. (B. 109.) March. 14–16 fathoms. f.s., f.d.s.

Three fish (100 per cent.) contained recognisable food, all Crustacea, represented by *Crangon Allmanni* in all (935 specimens per 100), and by *Crangon* sp. and *Pandalus Montagui* each in one.

* Note throughout: Voyages XXVI.–XLVI. were made in 1904 and XLVII.–LXVII. in 1905.

6. Off Haaks Light Vessel. XXX. 31. (B. 125.) April. 14–15 fathoms. f.s.

Twenty-seven fish (100 per cent.) contained recognisable food; all were feeding on Crustacea (378 per 100) represented by *Crangon Allmanni* in 89 per cent. (207 per 100), *Gastrosaccus spinifer* 37 per cent. (122 per 100), *Crangon trispinosus* 30 per cent. (37 per 100), and *Crangon vulgaris* 7 per cent. (11 per 100).

Pisces were present in 7 per cent. represented by *Ammodytes* sp. and unidentified remains each in 4 per cent.

7. Off East End of Great Silver Pit. LVI. 47. (O. 317.) June. 23–25 fathoms. s. & m., f.d.s.

Eleven fish (69 per cent.) of < 20 cm. contained recognisable food, the remainder being empty. Feeding exclusively on Crustacea, 100 per cent. (282 per 100), consisting of *Diastylis* sp. ? and *Ampelisca* sp. ? each in 36 per cent. (91 per 100), *Crangon bispinosus* 55 per cent. (73 per 100), and *Pandalus Montagui*, *Iphimedia* sp., and Mysidæ each in 9 per cent. (9 per 100).

8. Lower Scruff. XXIX. 10. (O. 175.) March. 24 fathoms. f.s.

Three fish were examined, of which one only contained food consisting of 3 *Portunus holsatus*.

9. Horn Reef Outer. XXXI. 16. (B. 136.) May. 26–27 fathoms. f.s. & m.

Twenty-six fish (100 per cent.) contained recognisable food, almost exclusively Crustacea represented solely by *Crangon Allmanni* 100 per cent. (231 per 100). The only other food present was *Pleuronectes limanda* in 4 per cent.

10. S.E. of Vyl Light Vessel. XXXI. 10. (B. 133.) May. 11 fathoms. f.s.

Nine fish (100 per cent.) contained recognisable food, chiefly Crustacea 100 per cent. (621 per 100) represented by *Crangon Allmanni* 100 per cent. (466 per 100), and *Gastrosaccus spinifer* and *Ampelisca* sp. each in 22 per cent. (78 per 100).

Pisces occurred in 44 per cent. represented by *Gobius minutus* 22 per cent. *Pleuronectes* sp. 11 per cent., and remains unidentified in 22 per cent.

Latchet. (*Trigla hirundo.*)

1. Winterton Shoal. XXXVII. 13. (B. 175.) August. 19–20 fathoms. g.br.s.

The only fish examined contained 17 *Ammodytes* sp. ?.

2. West of Middle Ground. LIV. 2. (O. 298.) April. 23–24 fathoms. g.br.s., gs.

A single *Callionymus lyra* constituted the food of the only fish examined

Red Gurnard. (*Trigla cuculus.*)

1. Knoll Deep. XXXVI. 53. (B. 167.) August. 21–23 fathoms. d.s., m. & s.

Eleven fish (100 per cent.) contained recognisable food, chiefly Crustacea 100 per cent. (236 per 100) consisting of *Crangon Allmanni* 82 per cent. (127 per 100), *Portunus holsatus* 27 per cent. (27 per 100), and *Gastrosaccus spinifer* 27 per cent. (82 per 100).

Pisces were present in 45 per cent., represented by *Ammodytes* sp. in 36 per cent. (64 per 100), and unidentified remains in 9 per cent.

Monk or Angler. (*Lophius piscatorius.*)

Twenty fish from eight stations were examined, of which 10 were empty and 10 contained recognisable food.

The food consisted of Pisces in all, with Echinoderma and Coelentera each in one.

1. Off Farn Island. LXV. 1. (O. 353.) October. 44–48 fathoms. m.

Eight fish examined, of which 6 were empty and 2 contained recognisable food, which consisted of two *Gadus æglefinus* in one and a Gadoid in the other.

2. Hartlepool. LIX. 56. (O. 339.) July. 23–24 fathoms. c.s., s. & m.

One fish of 61 cm. contained a *Gadus æglefinus* of 16 cm., a *G. merlangus* of 23 cm., and a piece of *Alcyonium digitatum*.

3. Bridlington Bay. LVI. 9. (O. 302.) May. 5–6 fathoms. f.d.s.

Two fish only were examined. One contained fish-remains, whilst the other was empty.

4. Lynn Deep. LVII. 21. (B. 324.) June. 9–16 fathoms. s. & m., c.s. & m.

The only fish examined contained fish-remains.

5. N.W. of Sandettie Light Vessel. XLIV. 3. (B. 248.) November. 21 fathoms. c.s.

One fish of 87 cm. contained 13 *Clupea harengus*.

6. Between Brown Ridges and Winterton Twenties. LVIII. 24. (B. 339.) June. 15–17 fathoms. f.g.s.

One fish of 60 cm. contained one *Gadus merlangus* and four *Trachinus vipera*.

7. W.N.W. of Brucey's Garden. LIX. 51. (O. 338.) July. 41–46 fathoms. f.s. & m.

Four fish were examined, of which three were empty, the remaining one (99 cm.) containing two *Gadus morrhua* (45 and 50 cm.), three *Gadus æglefinus* (21, 22, and 30 cm.), and fish-remains.

8. North of N.W. Part of Dogger. LIX. 44. (O. 336.) July. 36–43 fathoms. f.s. & m.

Two fish were examined. One contained a *Gadus æglefinus* (22 cm.) and a *Spatangus purpureus*, the other contained a *Raia radiata* (24 cm.) and fish-remains.

Greater Weever. (*Trachinus draco*.)

1. East of Swarte Bank. XXXV. 12. (O. 217.) July. 12–15 fathoms. f.g.s.

Six fish (46 per cent.) contained recognisable food

Feeding chiefly on Pisces, which occurred in five, consisting of *Ammodytes* sp. in two, *Solea lutea* in one, and remains in two.

Crustacea, the only other group represented, were present in two.

2. South of Brown Ridges. XLIII. 1. (B. 244.) November. 15–18 fathoms. f.d.s.

Twenty-seven fish (96 per cent.) were empty; the remaining one contained fish-remains.

Lesser Weever. (*Trachinus vipera*.)

1. N.N.E. of the South-West Patch of the Dogger. LIX. 12. (B. 344.) June. 14–15 fathoms. f.g.s. & sh.

Three fish were examined. They were feeding chiefly on Crustacea, represented by Megalopæ in all (one contained 130) and Amphipoda in two.

Polychæta, fish larvæ, and fish eggs each occurred in one only.

Lumpfish. (*Cyclopterus lumpus.*)

1. N.E. of the South-West Patch of the Dogger. XXIX. 7. (O. 172.) March. 9–11 fathoms. f.s.

The stomach of the only fish examined, a large nearly-ripe female, was distended with water and contained many fresh and semi-digested *Pleurobracheus pileus.*

Cat-Fish. (*Anarrhichas lupus.*)

Nine fish were examined, all containing recognisable food.

Mollusca and Crustacea each occurred in eight, and Polychæta and Echinoderma each in one.

These records combined with those in the first report give the following results for the 15 fish examined, viz.—Mollusca in 93 per cent., Crustacea in 93 per cent., Echinoderma 33 per cent. and Polychæta 13 per cent.

1. Hartlepool. LIX. 56. (O. 339). July. 23–24 fathoms. c.s., s. & m.

Two fish were examined, of 62 and 66 cm. respectively. Both contained many *Pecten opercularis* and several *Hyas coarctatus*, and in addition one contained a mass of *Ophiothrix fragilis* remains.

2. W.N.W. of Brucey's Garden. LIX 51. (O. 338). July. 41–46 fathoms. f.s. & m.

Five fish were examined. All were feeding chiefly on *Pecten opercularis* whilst three also contained *Eupagurus Bernhardus*, and one contained *Buccinum* and *Lithodes maia.*

3. Brucey's Garden. LIX. 40. (O. 334). July. 32 fathoms. f.s. & m.

One fish of 88 cm. contained four *Eupagurus Bernhardus* and one *Aphrodite aculeata.*

4. North of the Dogger Bank. LIX. 21. (O. 326). June. 38–40 fathoms. f.s. & m.

One fish of 97 cm. contained many *Eupagurus Bernhardus* and a few *Pecten opercularis.*

Cod. (*Gadus morrhua.*)

Four hundred and forty-three stomachs from 33 stations have been examined. Of these 402 (91 per cent.) contained recognisable food, whilst nine per cent. were empty.

The food consisted of Crustacea in 80 per cent., Pisces in 36 per cent., Polychæta in 13 per cent., Mollusca in 8 per cent., and Echinoderma and Gephyrea each in less than one per cent.

Including those recorded in the first report, 664 cod have been examined from 43 stations. Of these 614 contained recognisable food consisting of Crustacea in 83 per cent., Pisces in 35 per cent., Polychæta in 16 per cent., Mollusca in 9 per cent., Echinoderma and Gephyrea in less than 0·5 per cent.

In examining the stomachs included in the present report, note has been taken of the range of size of the fish from which they were obtained. The majority of the samples fall more or less into the following size groups, viz., <15 cm., 15–30 cm., 30–60 cm. and 60 cm. +.

The following table shows for each size group (i) the number of stomachs containing recognisable food, and (ii) the percentage of stomachs containing the four principal food groups.

TABLE I. Cod.

Size Groups.	<15 cm.	15-30 cm.	30-60 cm.	60 cm.+
Number of stomachs	24	122	113	85
	%	%	%	%
Pisces	0	11	52	67
Mollusca...	0	2	16	4
Crustacea	100	95	67	63
Polychæta	0	9	9	26

The following curves show the above table in a graphic form.

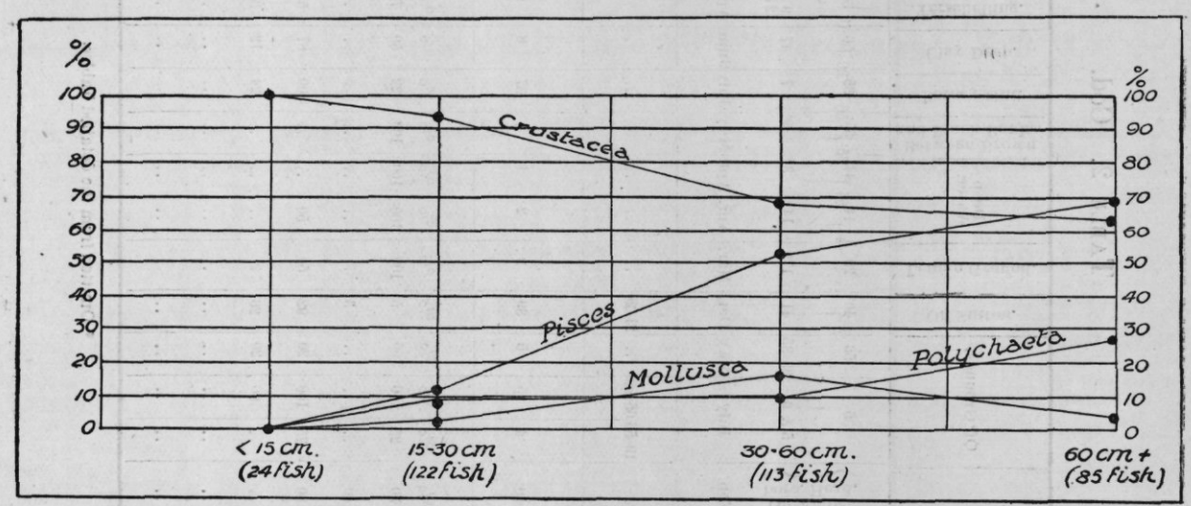


FIG. 1. COD. Change in food with increase in size.

It will be noticed that the cod of less than 15 cm. were feeding wholly on Crustacea, which also formed the chief food of the fish up to 60 cm. long, but in percentages decreasing with size.

Pisces were absent from the fish of the smallest size group, but were found in the other size groups in increasing quantities, until in the fish exceeding 60 cm. in length they were present in a larger percentage than Crustacea.

Mollusca and Polychæta were both absent from the fish of less than 15 c.m., but showed a rise in the other size groups, especially Polychæta, which were represented principally by *Aphrodite aculeata*. The slight rise in Mollusca, in the 30–60 cm. group, was due chiefly to the fish from XXIX, 8, of which 13 out of 14 had been feeding on *Buccinum*, *Mactra* and *Natica*.

For details, *see* Table A., of which the following is a summary :—

TABLE 2. Cod.

Region.	Off Farn Island.	Off Hartlepool.							Whitby.		Off Grounds.			Off Sutton.	Leman Ground.	Deep Water.		Between Brown and Black Banks.	Botney Gut.	Clay Deep.	Terschelling.	Sylt Outer.	Lower Scruff.		N. of Dogger.	Bruce's Garden.		Dogger Bank.								
Voyage	65	50	50	50	50	50	50		50	Off Flamboro. Head.	35		56	40	28	44	44	55	35	56	30	31	29		59	59	59	59		56		28	29	28	28	28	41	41
Station	1	8	6	7	5	4	9		13, 16 & 17.		5 & 6		33-35	41	17*	14*	3*	5*	7	47	19 & 24	20	10		17*	43*	40*	1		40		11*	8	7	10*	5*	20	19
Month	Oct	Mar.	Mar.	Mar.	Mar.	Mar.	Mar.		Mar.	Feb.	July		May	Oct.	Mar.	Apr.	Apr.	May	July	June	Apr.	May	Mar.		June	July	July	June		May		Mar.	Mar.	Mar.	Mar.	Mar.	Oct.	Oct.
Size of fish (cm.) ..	74+	29-63	7-12	8-10	9-11	9-10	<50	50+	..	..	19-53	65-80	..	21-26	..	..	..	..	..	..	..	74+	<62	62+	80	109	92	20+	30+	<32	45+	..	..	..	..	..	..	..
Stomachs containing recognisable food.	4	4	11	4	6	3	21	19	31	10	4	5	5	39	2	2	1	1	37	8	9	3	11	7	1	1	1	58	29	20	3	1	14	5	1	1	sev.	20
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Pisces	75	100	..	..	..	..	38	68	52	30	25	40	100	5	100	100	100	100	22	50	78	100	45	86	100	100	..	12	41	20	67	100	29	40	100	100	100	75
Mollusca	..	..	..	..	..	..	..	..	3	80	..	..	..	3	..	..	..	..	5	..	..	..	9	29	..	..	..	..	10	5	..	..	93	..	100	..	..	..
Crustacea	75	75	100	100	100	100	67	79	52	80	75	100	20	92	50	50	..	..	100	87	55	67	55	43	100	100	100	97	86	95	67	100	86	60	..	100	..	50
Polychæta	50	..	..	..	..	..	..	..	39	..	..	80	20	26	..	..	..	..	24	12	33	..	36	14	100	..	..	2	..	..	..	..	21	60	..	..	..	..
Echinoderma	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gephyrea	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3	..	..	..	..	..	..	..	..	..

* Omitted from the detailed Tables.

1. Off Farn Island. LXV. 1. (O. 353.) October. 41–48 fathoms. m.

Four fish (80 per cent.) of 74 cm.+ contained recognisable food.

Three were feeding on Pisces represented by 9 Gadoids (*Gadus æglefinus*, *G. merlangus*, and *G. Esmarckii*) ; three on Crustacea, represented by 11 specimens of five species ; and two were feeding on Polychæta, represented by *Aphrodite aculeata*.

2. Off Hartlepool. L. 8. (B. 294.) March. 5–10 fathoms. c.s., f.s.

Four fish (80 per cent.) of 29–63 cm. contained recognisable food.

Pisces occurred in all, viz., five *Gadus merlangus* in three and four *Clupea harengus* in two.

Crustacea occurred in three, represented by four species.

3. Off Hartlepool. L. 6. (S.T. 406.) March. 4–5 fathoms. f.s.

Eleven fish (100 per cent.) of 7–12 cm. contained recognisable food.

Crustacea constituted the sole food in all (472 per 100), the principal representatives being *Paratylus Swammerdami* 91 per cent. (400 per 100).

4. Off Hartlepool. L. 7. (S.T. 408.) March. 5–8 fathoms. f.s.

Four fish (100 per cent.) of 8–10 cm. contained recognisable food.

All feeding on Crustacea (475 per 100), *Paratylus Swammerdami* in two stomachs (225 per 100) being the commonest species.

5. Off Hartlepool. L. 5. (S.T. 405.) March. 5–7 fathoms. f.s.

Six fish (100 per cent.) of 9–11 cm. contained recognisable food, exclusively Crustacea 100 per cent. (930 per 100), consisting chiefly of *Paratylus Swammerdami* 100 per cent. (832 per 100).

6. South of Mouth of the Tees. L. 4. (S.T. 404.) March. 5–6 fathoms. f.s.

Three fish (100 per cent.) of 9–10 cm. contained recognisable food, exclusively Crustacea 100 per cent. (600 per 100), chiefly *Paratylus Swammerdami* 67 per cent. (533 per 100).

7. Hartlepool Ground. L. 9. (O. 281.) March. 14–25 fathoms. f.d.s.

Forty fish (95 per cent.) divided into two groups, *i.e.*, < 50 cm. (21 fish) and 50 cm.+ (19 fish) contained recognisable food.

The following Table shows for each size group (i.) the percentage of stomachs containing the various food groups, and the dominant species, and (ii.) the total number of specimens found per 100 stomachs :—

Table 3. Cod.

Size in cm.	<50.		50+.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Crustacea	67	143	79	215	72	177
Crangon Allmanni	24	24	21	37	22	30
Pandalus Montagui... ...	33	52	...	...	17	27
„ *brevirostris* ...	10	14	21	32	15	22
Portunus pusillus	5	5	32	47	17	25
Eupagurus Bernhardus ...	14	14	16	16	15	15
Pisces	38	43	68	174	52	105
Gadus merlangus	19	24	21	53	20	37
Clupea sp.	10	10	16	32	12	20
Echinoderma...	...	...	5	5	2	2

The smaller fish were feeding chiefly on a varied assortment of Crustacea with a few Pisces whilst the larger were feeding more or less equally on both.

8. Whitby Ground. L. 13, 16 and 17. (O. 283, 284, and 285). March. 34–35 fathoms. f.d.s.

Thirty-one fish (58 per cent.) contained recognisable food, the remainder being empty.

Feeding on Pisces 52 per cent. (71 per 100) chiefly *Pleuronectes limanda* 29 per cent (35 per 100), Crustacea 52 per cent. (74 per 100), represented by five species in from 6 per cent. to 23 per cent., and Polychæta 39 per cent. (68 per 100), represented solely by *Aphrodite aculeata*. Mollusca occurred in 3 per cent. only.

9. Off Flamboro' Head. February.

A sample of 10 cod caught off Flamboro' Head by lines all contained recognisable food.

Mollusca occurred in 80 per cent. (540 per 100) represented by feet of *Buccinum undatum* in 80 per cent. (530 per 100). Crustacea occurred in 80 per cent. (330 per 100), represented by seven species, chief amongst which was *Hyas coarctatus* 60 per cent. (120 per 100). Pisces were present in 30 per cent. and Echinoderma in 10 per cent.

10. Flamboro' Off Grounds. XXXV. 5 and 6. (O. 215. B. 156). July. 30–35 fathoms. f.d.s. & m.

Nine fish (82 per cent.) contained recognisable food.

Crustacea occurred in 89 per cent., represented chiefly by *Corystes* and *Eupagurus Bernhardus* in 33 per cent. and 22 per cent. respectively. Polychæta (*Aphrodite*) were present in 45 per cent. and Pisces in 33 per cent.

11. Flamboro' Off Grounds. LVI. 33–35. (B. 317, 318. O. 312). May. 25–27 fathoms. c.d.s., f.d.s.

Five fish (100 per cent.) contained recognisable food, chiefly Pisces, 100 per cent. (1080 per 100) represented almost entirely by *Ammodytes* sp. 100 per cent (940 per 100). Crustacea and Polychæta occurred in 20 per cent. only.

12. Off Sutton, Lincolnshire. XL. 41. (B. 224). October. 5–9 fathoms. s. & gl.

Thirty-nine fish (97 per cent.) of 21–26 cm. contained recognisable food, almost entirely Crustacea, 92 per cent. (236 per 100) consisting chiefly of *Pandalus Montagui* 64 per cent. (123 per 100), *Eupagurus Bernhardus* 41 per cent. (49 per 100), and *Portunus holsatus* 18 per cent. (26 per 100).

Polychæta remains occurred in 26 per cent., Pisces in 5 per cent. and Mollusca in 3 per cent.

13. Leman Ground. XXVIII. 17. (B. 110.) March. 14–16 fathoms. f.s., f.d.s.

Two fish were examined.†

Both were feeding principally on Pisces, consisting of *Pleuronectes limanda* in both. *Callionymus lyra* in one, and *Clupea harengus* in one (13 fish 21–23 cm. long). Crustacea occurred in one only.

14. Edge of Deep Water. XLIV. 14. (B. 251.) April. 19 fathoms. s.m. & gl.

Two fish were examined,† the smallest measuring 62 cm. in length.

Both were feeding on Pisces (*Ammodytes* sp. and *Clupea* sp.) whilst Crustacea occurred in one.

15. West of Middle Ground. LIV. 3. (O. 299.) April. 20–21 fathoms. g.br.s. & sh.

One fish examined, 109 cm. in length.†

It contained one *Pleuronectes platessa*, one *Pleuronectes* sp. ? one *P. limanda* and one *Solea lutea*.

† Omitted from the detailed tables.

16. Between Brown and Black Banks. LV. 5. May. 13–15 fathoms. f.d.s.

One fish of 102 cm. contained five *Pleuronectes limanda* and one *Gadus merlangus*.†

17. Botney Gut. XXXV. 7. (O. 216.) July. 31–32 fathoms. m.

Thirty-seven fish (95 per cent.) contained recognisable food, chiefly Crustacea 100 per cent. (354 per 100) represented in 89 per cent. by *Nephrops norvegicus* (276 per 100).

Pisces occurred in 22 per cent. (46 per 100). Polychæta (*Aphrodite aculeata*) in 24 per cent. (46 per 100) and Mollusca in 5 per cent. (11 per 100).

18. Off East End of Great Silver Pit. LVI. 47. (O. 317.) June. 23–25 fathoms. s. & m., f.d.s.

Eight fish (73 per cent.) contained recognisable food, chiefly Crustacea, 87 per cent. (338 per 100) represented by *Portunus holsatus* 75 per cent. (87 per 100). *Corystes cassivelaunus* 37 per cent. (212 per 100), &c. Pisces occurred in 50 per cent. (62 per 100), and Polychæta in 12 per cent.

19. North West of Terschelling. XXX. 19 & 24. (O. 186, 187). April. 19–21 fathoms. m., s. & m.

Nine fish (100 per cent.) contained recognisable food, the chief of which consisted of Pisces 78 per cent. (111 per 100), represented in 44 per cent. by *Gadus merlangus* (44 per 100). Crustacea occurred in 56 per cent. (145 per 100), *Eupagurus Bernhardus* 56 per cent. (67 per 100) being the commonest species. Polychæta (*Aphrodite*) were present in 33 per cent. (44 per 100).

20. Sylt Outer. XXXI. 20. (B. 139). May. 10–11 fathoms. f.s.

Three fish (100 per cent.) of 74 cm. + contained recognisable food.

Pisces, represented by *Ammodytes* sp. and *Solea lutea*, occurred in all, whilst Crustacea occurred in two, represented by *Corystes cassivelaunus* in both, and *Crangon* in one.

21. Lower Scruff. XXIX. 10. (O. 175). March. 24 fathoms. f.s.

Eighteen fish (95 per cent.) contained recognisable food. They were divided into two size groups, viz. : <62 cm. (11 fish) and 62 cm. + (seven fish).

Table showing for each size group (i) the percentage of stomachs containing the various food groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 4. Cod.

Size in cm.	<62		62+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Pisces	45	63	86	114	61	83
Pleuronectes sp.	9	27	28	43	17	33
Gadus sp.	9	9	28	28	17	17
Crustacea	55	55	43	43	50	50
Eupagurus Bernhardus ...	27	27	43	43	33	33
Polychæta (*Aphrodite*) ...	36	63	14	57	28	61
Mollusca (*Buccinum*) ...	9	9	28	28	17	17

Thus the smaller fish were feeding about equally on Pisces, Crustacea and Polychæta, whilst the larger fish were feeding chiefly on Pisces.

22. North of the Dogger. LIX. 17. (O. 325.) June. 44 fathoms. s. & m.

The only fish examined † (of 80 cm.) contained single specimens of *Lumpenus lampetriformis*, *Pleuronectes limanda*, and *Crangon* sp., and two *Aphrodite aculeata*.

23. Brucey's Garden. LIX. 43. (O. 335.) July. 32 fathoms. f.s. & m.

One fish of 109 cm.† contained *Callionymus lyra* (1), *Gadus æglefinus* (1), *Pleuronectes limanda* (1), *Drepanopsetta limandoides* (2), *Portunus holsatus* (13), and *Eupagurus Bernhardus* (1).

24. Brucey's Garden. LIX. 40. (O. 334.) July. 32 fathoms. f.s. & m.

One cod of 92 cm.† contained three *Portunus holsatus*, and two *Corystes cassivelaunus*.

25. Dogger Bank—North of the South-West Patch. LIX. 1. (O. 318.) June. 9–15 fathoms. f.s., f.s. & sh.

Eighty-seven fish (95 per cent.) divided into two groups, viz., 20–30 cm. (58 fish), and 30 cm. + (29 fish), contained recognisable food.

Table showing for each size group (i) the percentage of stomach containing the various food groups, and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 5. Cod.

Size in cm.	20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Crustacea	96	169	86	155	93	164
Eupagurus Bernhardus ...	81	88	59	73	74	83
Portunus pusillus	28	67	28	55	28	63
Pisces	12	19	41	48	22	29
Ammodytes	7	9	41	48	18	22
Mollusca	—	—	10	10	3	3
Polychæta	2	2	—	—	1	1
Gephyrea	2	2	3	—	2	2

Thus the smaller fish were feeding chiefly on Crustacea, and the larger fish, whilst still feeding principally on that group, were feeding to a larger extent on Pisces compared with the 20–30 cm. fish.

26. Dogger Bank—North of the South-west Patch. LVI. 40. (O. 314.) May. 10–14 fathoms. f.g.s. & sh.

Twenty-three fish (100 per cent.) contained recognisable food.

Feeding chiefly on Crustacea 91 per cent. (200 + per 100), represented principally by *Eupagurus Bernhardus* 74 per cent. (78 per 100). *Portunus pusillus* 22 per cent. (87 per 100). Pisces occurred in 26 per cent. (48 per 100). *Ammodytes* sp. 13 per cent. (30 per 100), being the commonest species. Mollusca occurred in 4 per cent.

27. Dogger Bank—East of South-west Patch. XXVIII. 11. (O. 164.) March. 10–13 fathoms. f.s.

The only fish examined contained fish remains and *Crangon Allmanni*.†

28. Dogger Bank—N.E. of South-west Patch. XXIX. 8. (O. 173.)
March. 11–14 fathoms. f.s. & sh.

Fourteen fish (100 per cent.) contained recognisable food.

This was chiefly Mollusca 93 per cent. (985 per 100) consisting principally of *Mactra* sp. 57 per cent. (580 per 100) and *Buccinum undatum* 50 per cent. (335 per 100). Crustacea were present in 86 per cent. (193 per 100) represented by *Eupagurus Bernhardus* 78 per cent. (122 per 100), and *Portunus holsatus* 43 per cent. (57 per 100). Pisces occurred in 29 per cent. (36 per 100), and Polychæta (*Phyllodoce grœnlandica*) in 21 per cent. (21 per 100).

29. Dogger Bank—East of South-west Patch. XXVIII. 7. (O. 161.)
March. 9–11 fathoms. f.s. & sh.

Five fish (100 per cent.) contained recognisable food.

Crustacea and Polychaeta each occurred in three, and Pisces in two.

30. Dogger Bank—East of South-west Patch. XXVIII. 10. (O. 163.)
March. 12–15 fathoms. f.s.

One fish contained fish remains and *Buccinum*, whilst the other was empty.†

31. Dogger Bank—East Part of South-west Patch. XXVIII. 5. (O. 160.)
March. 9–13 fathoms. f.s.

One cod of 83 cm. contained three *Solea lutea*, four *Eupagurus Bernhardus*, and one *Portunus holsatus*.†

32. Dogger Bank—South of South-west Patch. XLI. 20. (O. 249.)
October. 17–18 fathoms. s. & gl., g.s.

Several fish examined, all feeding chiefly on herring spawn.

33. Dogger Bank—South of South-west Patch. XLI. 19. (O. 248.)
October. 17–18 fathoms. g.s. & sh., s. & gl.

Twenty fish (100 per cent.) contained recognisable food.

Pisces formed the chief food, occurring in 75 per cent., and represented in 60 per cent. by Herring spawn.

Crustacea occurred in 50 per cent. (140 per 100) represented chiefly by *Portunus holsatus*, 30 per cent. (95 per 100), and *Eupagurus Bernhardus*, 25 per cent. (30 per 100).

Haddock. (*Gadus æglefinus.*)

Six hundred and thirty-four stomachs from 24 stations have been examined. Of these, 628 contained recognisable food, whilst the contents of six were unrecognisable.

The food consisted of Mollusca in 62 per cent., Crustacea in 54 per cent., Polychæta in 39 per cent., Echinoderma in 37 per cent., Pisces in 13 per cent., Coelentera in one per cent., with Nemertinea and Gephyrea each in less than 0·5 per cent.

Including those recorded in the first report a total of 1,766 have been examined, 1,738 of which contained recognisable food, consisting of Mollusca in 64 per cent., Polychæta in 49 per cent., Echinoderma in 44 per cent., Crustacea in 36 per cent., Pisces in 5 per cent., whilst Tunicata, Nemertinea, Gephyrea, and Coelentera were present in less than 0·5 per cent.

Of the 634 haddock stomachs recorded in the present report 204 were from fish of less and 362 from fish greater than 30 cm., whilst the length of the remaining 68 was not recorded.

The following table shows the percentage of fish above and below 30 cm. which had been feeding on the various food groups taking those hauls only from which fish of both size-groups were examined :—

TABLE 6. Haddock.

Size Group.	15–30 cm.	30 cm.+
Number of Fish	200	128
	%	%
Pisces...	6	15
Mollusca	46	83
Crustacea	53	45
Polychæta	23	34
Echinoderma	38	54

It will be observed that with increase in size there was an increase in the number of stomachs containing Mollusca, Echinoderma, Polychæta, and Pisces, especially the first, whilst a slight decrease was shown in Crustacea. It is highly probable that in haddock of less than 15 cm. Crustacea would be the chief food.

Two samples of stomachs from North of the South-west Patch of the Dogger (LIX. 1 and LXV. 7) are interesting in that they show (i) the amount of destruction which can be effected among young Mollusca by small haddock and (ii) the rate of growth of *Solen* sp.

From the first station (June 27th) 21 fish of less than 26 cm. were examined, and seven of these contained about 3,500 *Solen* of 1–2 mm. in length. The total number of small haddock caught in the haul was about 400, so that if the proportions of fish feeding on *Solen* fry and the number eaten by them were the same in the remainder of the catch we have a total of 56,500 *Solen* fry eaten by the small haddock caught in a haul of $12\frac{1}{8}$ miles with an otter trawl of 86 ft. head-line.

Taking the spread of the trawl as 60 feet it will be seen that the total area covered by the trawl was approximately $\frac{1}{8}$ of a square sea mile. This gives 532,000 young *Solen* eaten by small haddock in one square mile in, say, one day (we have, however, no information regarding the time food takes to pass through the intestines of the haddock). This number is probably far below the actual figure for the occasion in question seeing that large numbers of small haddock probably escaped through the meshes of the trawl.

Three months later, on the same ground (LXV. 7. October 12), both large and small haddock were feeding on *Solen* about 25 mm. long (showing a growth of about 23 mm. in 107 days). The total number eaten by the haddock caught in this haul was approximately 5,000, which yields an average of 40,000 per square sea mile.

Supposing that the number of *Solen* eaten by haddock uniformly decreased from 532,000 per day (June 27) to 40,000 per day (October 12) per square mile, it will be seen that the total eaten in that period (107 days) by haddock alone was

$$\frac{532{,}000 + 40{,}000}{2} \times 107 = 30{,}602{,}000 \text{ per square mile}$$

all of which were less than 25 mm. in length.

As large numbers of small haddock probably escaped and dabs were also feeding on the small *Solen* (cf. Dabs. LIX. 1), it will be seen that a very large number of *Solen* are destroyed before reaching even 25 mm.

Whether the small *Solen* (2 mm. in length) were still in the pelagic state or not, I am unable to say. It seems probable, however, seeing that very little extraneous matter was found with them in the stomachs, that they were about to settle on the bottom preparatory to burrowing.

For details *see* Table B, of which the following is a summary :—

TABLE VII. Haddock.

Region.	W.N.W. of Brucey's Garden.	Off Grounds.					Hills.	Clay Deep.		Lower Scruff	Eastern Grounds.		Dogger Bank.																					
Voyage	59	59			56		49	56		41	29	31	29	41	41	65		59		56		47	29	31	28	56		56		29	47	38	59
Station	51	30			35		26	47		23	10	20	15	20	19	7		1		40		12	20	30	7	45		43		8	18	3	8
Month	July	July			May		Mar.	June		Oct.	Mar.	May	Mar.	Oct.	Oct.	Oct.		June		May		Jan.	Mar.	May	Mar.	May		May		Mar.	Jan.	Aug.	June
Size of Fish (cm.) ...	...	10+	20+	30+	<26	30+	30+	<28	30+	...	30+	30+	30+	...	...	<30	30+	<26	30+	18–22	30+	30+	30+	30+	30+	16–23	35+	17–22	30+	30+	30+	30+	...
Stomachs containing recognisable food ...	16	17	15	23	34	11	20	25	11	23	23	27	19	sev.	16	30	23	21	9	22	12	25	20	13	29	16	20	20	19	8	22	26	13
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Pisces	...	6	...	4	32	55	...	...	...	4	...	26	...	100	94	3	43	...	11	...	8	...	55	...	7	...	...	...	...	...	27	27	...
Mollusca	19	6	13	91	53	82	95	12	36	78	44	100	47	...	19	93	96	81	78	50	50	8	85	93	83	6	90	55	100	100	59	77	92
Crustacea	87	6	20	17	74	45	65	28	73	61	35	67	32	...	25	47	57	38	33	100	67	96	25	31	76	37	20	100	63	62	55	96	23
Polychæta	25	...	40	39	21	27	85	28	45	57	61	59	21	...	25	20	17	33	11	18	8	64	30	15	65	37	40	20	95	12	96	46	23
Nemertinea	...	...	...	...	...	...	...	...	...	...	4	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gephyrea	...	...	...	...	...	...	...	...	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Echinoderma	12	94	93	91	15	45	40	100	100	91	100	...	100	...	6	...	4	...	89	...	8	28	...	8	17	100	100	...	11	...	...	12	15
Coelentera	...	...	...	...	...	...	...	...	...	...	9	...	...	...	6	...	...	..	...	...	...	...	...	15	3	...	...	...	...	...	...	...	...
Foraminifera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

NOTE—Voyages 26 to 46 inclusive were in 1904; voyages 47 to 67 in 1905.

1. W.N.W. of Brucey's Garden. LIX. 51. (O. 338.) July. 41–46 fathoms. f.s.m.

Sixteen fish (100 per cent.) contained recognisable food.

Feeding chiefly on Crustacea 87 per cent., represented by Amphipoda in 81 per cent., each stomach containing many specimens.

Polychæta occurred in 25 per cent. (31 per 100), Mollusca in 19 per cent. (25 per 100), and Echinoderma in 12 per cent. (12 per 100).

2. Flamboro' Off Grounds. LIX. 30. (O. 329.) July. 29–36 fathoms. f.s., f.d.s.

Fifty-five fish (96 per cent.) divided into three size groups, i.e., 10–20 cm. (17 fish), 20–30 cm. (15 fish), and 30 cm. + (23 fish), contained recognisable food.

The following Table shows for each size group (i.) the percentage of stomachs containing the various food groups and the dominant species and (ii.) the total number of specimens found per 100 stomachs :—

Table 8. Haddock.

Size in cm.	10–20.		20–30.		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
Echinoderma	94	1,203	93	815	91	970	93	1,000
Echinocyamus pusillus	88	1,179	87	800	87	870	87	926
Ophiura sp.	18	18	7	7	30	48	20	27
Mollusca	6	6	13	13	91	117	44	55
Polychæta	...	...	40	40	39	39	27	27
Crustacea	6	59	20	20	17	39	15	40
Pisces	6	6	...	...	4	4	4	4

Echinoderma (especially *Echinocyamus*) formed the chief food in the two smaller size groups and with Mollusca the chief food of the larger fish.

3. Flamboro' Off Grounds. LVI. 35. (O. 312.) May. 27 fathoms. f.d.s.

Forty-five fish (98 per cent.) divided into two groups, i.e., <26 cm. (34 fish) and 26 cm. + (11 fish) contained recognisable food.

The following Table shows for each size group (i.) the percentage of stomachs containing the various food groups and the dominant species, and (ii.) the total number of specimens found per 100 stomachs :—

Table 9. Haddock.

Size in cm.	<26		26+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Crustacea	74	410	45	82	67	329
Bathyporeia sp. ?	74	352	27	64	62	282
Mollusca	53	68	82	227	60	107
Scrobicularia prismatica ...	21 (?)	21	73	173	33	58
Solen sp.	12	12	27	27	16	16
Pisces (*Ammodytes* sp.) ...	32	44	55	191	38	80
Polychæta	21	24	27	164	22	58
Echinoderma (*Echinocyamus pusillus*).	15	21	45	154	22	53

Crustacea (especially *Bathyporeia*) formed the chief food of the smaller fish, whilst the larger were feeding principally on Mollusca (*Scrobicularia*), Pisces (*Ammodytes*), Echinoderma (*Echinocyamus*), and Polychæta (chiefly *Ophelia limacina*).

4. The Hills. XLIX. 26. (O. 280.) March. 15–27 fathoms. f.g.s., f.d.s., f.s.

Twenty fish (100 per cent.) contained recognisable food.

Feeding chiefly on Mollusca 95 per cent. (245 per 100), especially *Solen pellucidus* 80 per cent. (200 per 100), Polychæta 85 per cent. (360 per 100), *Ophelia limacina* 60 per cent. (230 per 100), Crustacea 65 per cent. (310 per 100), *Ampelisca* sp. 40 per cent. (150 per 100), *Gastrosaccus spinifer* 25 per cent. (50 per 100).

Echinoderma occurred in 40 per cent. (190 per 100) represented chiefly by *Echinocyamus pusillus* 40 per cent. (185 per 100).

5. Off East End of Great Silver Pit. LVI. 47. (O. 317.) June 23–25 fathoms. s. & m., f.d.s.

Thirty-six fish (100 per cent.) divided into two groups. i.e., <28 cm. (25 fish) and 30 cm.+ (11 fish) contained recognisable food.

The following Table shows for each size group (i.) the percentage of stomachs containing the various food groups and the dominant species, and (ii.) the total number of specimens found per 100 stomachs :—

Table 10. Haddock.

Size in cm.	<28		30+		Total.	
	St. 100	Sp. (all full)	St. 100	Sp. (all full)	St. 100	Sp. (all full)
Echinoderma (*Amphiura filiformis*).	28	28	73	73	42	42
Crustacea	24	24	...	...	17	17
Ampelisca sp.	...	...	36	36	11	11
Callianassa subterranea ...	28	28	45	63	33	39
Polychæta	24	24	36	36	28	28
Lagis Koreni...	12	16	36	45	19	25
Mollusca	...	...	9	9	3	3
Gephyrea						

The chief food in all cases was Echinoderma represented solely by *Amphiura*.

6. Clay Deep. XLI. 23. (O. 252.) October. 20–22 fathoms. f.g.s.

Twenty-three fish (100 per cent.) contained recognisable food.

Feeding chiefly on Echinoderma 91 per cent., the stomachs in all cases being more or less full of *Amphiura filiformis*.

Mollusca were present in 78 per cent. (186 per 100) represented by eight species in 4–35 per cent.

Crustacea occurred in 61 per cent. (152 per 100) represented chiefly by *Nika edulis* 35 per cent. (87 per 100), whilst Polychæta were present in 56 per cent. (61 per 100), and Pisces in 4 per cent.

7. Lower Scruff. XXIX. 10. (O. 175.) March. 24 fathoms. f.s.

Twenty-three fish (100 per cent.) contained recognisable food.

All were feeding chiefly on Echinoderma represented by *Amphiura filiformis*.

Polychæta occurred in 61 per cent. (104 per 100), Mollusca in 43 per cent. (52 per 100), Crustacea in 35 per cent. (87 per 100), and Coelentera in 9 per cent.

8. Sylt Outer Ground. XXXI. 20. (B. 139.) May. 10–11 fathoms. f.s.

Twenty-seven fish (100 per cent.) contained recognisable food.

Feeding chiefly on Mollusca 100 per cent. (660 per 100) represented principally by *Tellina fabula* 93 per cent. (570 per 100), and *Solen* sp. 44 per cent. (59 per 100).

Crustacea occurred in 67 per cent. (900 per 100), *Bathyporeia* sp. 56 per cent. (852 per 100) being the chief species.

Polychæta were present in 59 per cent. (70 per 100), Pisces (*Ammodytes* sp.) 26 per cent. (30 per 100), and Nemertinea in 4 per cent.

9. West of Horn Reef. XXIX. 15. (O. 179.) March 22–23 fathoms. f.s. & oz.

Nineteen fish (95 per cent.) contained recognisable food.

Feeding principally on Echinoderma, 100 per cent., especially *Amphiura filiformis*, of which all the stomachs were full.

Mollusca were present in 47 per cent. (68 per 100), Crustacea in 32 per cent. (37 per 100), and Polychæta in 21 per cent. (21 per 100).

10. Dogger Bank—South of South-west Patch. XLI. 20. (O. 249.) October. 17–18 fathoms. s. & gl., g.s.

Several fish were examined, all full of herring spawn.

11. Dogger Bank—South of South-west Patch. XLI. 19. (O. 248.) October. 17–18 fathoms. g.s. & sh., s. & gl.

Sixteen fish (100 per cent.) contained recognisable food.

Feeding chiefly on Pisces, 94 per cent., represented in 81 per cent. by herring spawn (all full).

Polychæta and Crustacea each occurred in 25 per cent., Mollusca in 19 per cent. Echinoderma and Coelentera each in 6 per cent.

12. Dogger Bank—N.N.E. of South-West Patch. LXV. 7. (O. 358.) October. 10–14 fathoms. f.g.s.

Fifty-three fish (100 per cent.), divided into two groups, *i.e.*, <30 cm. (30 fish) and 30 cm. + (23 fish), contained recognisable food.

The following Table shows for each size group (i) the percentage of stomachs containing the various food groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 11. Haddock.

Size in cm.	<30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	93	1,013	95	1,024	94	1,018
Solen sp.	87	1,000 ca.	83	870 ca.	85	945 ca.
Crustacea	47	223	56	61	51	153
Portunus holsatus	33	100	22	22	28	66
Eupagurus Bernhardus ...	10	10	35	35	21	21
Polychæta	20	30	17	30	19	30
Phyllodoce grœnlandica ...	10	20	17	30	13	24
Echinoderma	...	...	4	4	2	2
Pisces	3	40	43	?	21	?
Herring spawn	...	...	22	(full)	9	(full)

Both size groups were feeding chiefly on *Solen* sp. about 25 mm. long. Crustacea, represented by *Eupagurus* and *Portunus*, were also fairly common in each size group, whilst 22 per cent. of the larger fish were nearly full of herring spawn.

13. Dogger Bank—North of South-west Patch. LIX. 1. (O. 318.) June. 9–15 fathoms. f.s., f.s. & sh.

Thirty fish (94 per cent.), divided into two groups is, <26 (21 fish), and 30 cm. + (9 fish), contained recognisable food.

The following Table shows for each size group (i), the percentage of stomachs containing the various food groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 12. Haddock.

Size in cm.	<22		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	81	17,000 ca.	78	390	80	13,000 ca.
Mactra (*subtruncata ?*) fry	29	95	55	333	37	166
Solen sp. ? fry	33	16,670 ca.	...	...	23	11,650 ca.
Crustacea	38	38	33	33	37	37
Polychæta	33	33	11	11	27	27
Echinoderma (*Amphiura filiformis*).	...	..	89	890	27	267
Pisces	...	...	11	11	3	3
Foraminifera...	5	?	...	...	3	?

The smaller fish were feeding chiefly on Mollusca, consisting in 29 per cent. of the fry of *Mactra*, about 6 mm. long, and in 33 per cent. of young *Solen* sp. about 2 mm. long, one stomach, taken at random, containing no less than 509 specimens. In October of the same year, cf. the preceding station, LXV. 7, young *Solen* of apparently the same brood were about 25 mm. long, showing a growth of 23 mm. in about $3\frac{1}{2}$ months.

The larger fish were feeding on *Mactra* fry and *Amphiura filiformis*.

14. Dogger Bank—North of South-west Patch. LVI. 40. (O. 314.) May. 10–14 fathoms. f.g.s. & s.h.

Thirty-four fish (100 per cent.) divided into two groups, *i.e.*, 18–22 cm. (22 fish) and 30 cm. + (12 fish), contained recognisable food.

The following Table shows for each size group (i), the percentage of stomachs containing the various food groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 13. Haddock.

Size in cm.	18–22		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Crustacea	100	930	67	583	88	809
Bathyporeia sp.	100	910	...	...	65	590
Cheirocratus sp.	...	...	50	416	18	147
Portunus sp....	5	5	33	158	15	59
Mollusca	50	50	50	250	50	121
Solen sp.	5	5	25	25	12	12
Tellina fabula	...	...	42	167	15	59
Polychæta	18	18	8	17	15	18
Pisces	...	...	8	33	3	12
Echinoderma	...	...	8	8	3	3

The smaller fish were all feeding chiefly on Crustacea (*Bathyporeia*), whilst the larger were feeding chiefly on Crustacea (*Cheirocratus* sp. and *Portunus*) and Mollusca (*Tellina fabula*).

15. Dogger Bank—South Part. XLVII. 12. (O. 270.) January. 15–17 fathoms. f.s.

Twenty-five (100 per cent.) contained recognisable food.

Feeding chiefly on Crustacea, 96 per cent. (776 per 100), represented principally by *Callianassa subterranea*, 96 per cent. (744 per 100).

Polychæta occurred in 64 per cent. (76 per 100). Echinoderma in 28 per cent. (172 per 100), represented solely by *Amphiura filiformis*, whilst Mollusca were present in eight per cent. only.

16. Dogger Bank—East of South-west Patch. XXIX. 20. (O. 184.) March. 11–14 fathoms. f.s.

Twenty fish (100 per cent.) contained recognisable food.

Feeding chiefly on Mollusca, 85 per cent. (370 per 100), consisting principally of *Tellina fabula*, 45 per cent. (75 per 100), *Mactra* sp. ? 30 per cent. (180 per 100) and *Solen* sp. 45 per cent. (85 per 100). Pisces were present in 55 per cent. (150 per 100) represented chiefly by *Gobius minutus*, 55 per cent. (125 per 100).

Polychæta occurred in 30 per cent. (40 per 100), the principal representative being *Nephthys* sp. in 30 per cent. (30 per 100), whilst Crustacea occurred in 25 per cent. (25 per 100).

17. Dogger Bank—Between East and West Shoals. XXXI. 30. (B. 143.) May. 11–12 fathoms. f.g.s., f.d.s.

Thirteen fish (100 per cent.) contained recognisable food.

Feeding chiefly on Mollusca, 92 per cent. (246 + per 100), *Solen* sp., 69 per cent. (108 per 100), and *Mactra* sp. 54 per cent. (62 per 100) being the principal representatives.

Crustacea occurred in 31 per cent. (46 per 100), Polychæta in 15 per cent. (15 per 100), Echinoderma in 8 per cent., and Coelentera in 15 per cent.

18. Dogger Bank—East of South-west Patch. XXVIII. 7. (O. 161.) March. 14–17 fathoms. f.s. & sh.

Twenty-nine fish (100 per cent.) contained recognisable food.

The chief food consisted of Mollusca, 83 per cent. (189 per 100), represented by *Solen* sp. 38 per cent. (41 per 100), and *Tellina fabula* 31 per cent. (76 per 100), Crustacea 76 per cent. (186 per 100), chiefly Amphipoda 41 per cent. (110 per 100), and *Callianassa subterranea* 21 per cent. (21 per 100).

Polychæta occurred in 65 per cent. (100 per 100), represented by six species, Echinoderma in 17 per cent. (24 per 100), Pisces in 7 per cent., and Coelentera in 3 per cent.

19. Dogger Bank—North Part of Hospital. LVI. 45. (O. 316.) May. 18–19 fathoms. f.d.g.s.

Thirty-six fish (92 per cent.) divided into two groups, viz., 16–23 cm. (16 fish) and 35 cm. + (20 fish) contained recognisable food.

The following Table shows for each size group (i) the percentage of stomachs containing the various food groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

TABLE 14. Haddock.

Size in cm.	16–23		35+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Echinoderma	100	940	100	many	100	many
Amphiura filiformis ...	100	940	100	many	100	many
Mollusca	6	6	90	500	53	280
Montacuta ferruginosa ...	—	—	35	150	19	83
„ *bidentata* ...	6	6	65	300	39	170
Polychæta	37	50	40	50	39	50
Lagis Koreni	25	25	20	20	22	22
Crustacea	37	37	20	20	28	28
Ampelisca	19	19	10	10	14	14

Echinoderma, represented by *Amphiura filiformis*, formed the principal food in all the fish. The larger fish had also been feeding largely on *Montacuta* spp.

20. DOGGER BANK—N.E. OF SOUTH WEST PATCH. LVI. 43. (O. 315.) May. 11–16 fathoms. f.g.s. & sh., f.d.g.s.

Thirty-nine fish (100 per cent.) divided into two groups, viz., 17–22 cm. (20 fish), and 30–45 cm. (19 fish) contained recognisable food.

The following Table shows for each size group (i.) the percentage of stomachs containing the various food groups and the dominant species, and (ii.) the total number of specimens found per 100 stomachs :—

TABLE 15. Haddock.

Size in cm.	17–22.		30–45.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	55	90	100	2,420	77	1,225
Tellina fabula	30	40	95	1,315	61	660
Montacuta ferruginosa ...	5	20	100	1,050	51	520
Solen sp.	25	25	32	32	28	28
Crustacea	100	520	63	110	82	320
Bathyporeia sp.	95	500	37	?	67	?
Polychæta	20	25	95	215	56	118
Sigalion mathildae	...	...	53	68	26	33
Goniada maculata	5	5	53	79	28	41
Lagis Koreni	...	...	32	32	15	15
Echinoderma	...	...	11	11	5	5

The smaller fish were feeding chiefly on Crustacea (especially *Bathyporeia*), whilst the larger fish were feeding on Mollusca (chiefly *Tellina*, *Montacuta* and *Solen*), and Polychæta.

21. Dogger Bank—N.E. of South West Patch. XXIX. 8. (O. 173.) March. 11–14 fathoms. f.s. & sh.

Eight fish (100 per cent.) contained recognisable food.

Feeding chiefly on Mollusca 100 per cent. (623 per 100), the principal representatives being *Mactra subtruncata* ? feet, 100 per cent. (500 per 100). Crustacea occurred in 62 per cent. (75 per 100), and Polychæta in 12 per cent. (12 per 100).

22. Dogger Bank—Eastern Shoal. XLVII. 18. (O. 272.) January. 11–12 fathoms. f.s.

Twenty-two fish (100 per cent.) contained recognisable food.

Feeding chiefly on Polychæta 96 per cent. (300 per 100) represented in 91 per cent. by *Phyllodoce grœnlandica* (282 per 100).

Mollusca occurred in 59 per cent. (82 per 100), *Solen* sp. 55 per cent. (64 per 100) being the chief representative.

Crustacea were present in 55 per cent. (82 per 100), represented by *Eupagurus Bernhardus* in 32 per cent. (32 per 100), whilst Pisces occurred in 27 per cent. (*Gobius minutus* 23 per cent.).

23. Dogger Bank—South Part of Eastern Shoal. XXXVIII. 3. (B. 185.) August. 10–17 fathoms. f.g.s. & sh.

Twenty-six fish (100 per cent.) contained recognisable food.

The chief food consisted of Mollusca 77 per cent. (675 per 100), represented by *Tellina fabula* 65 per cent. (500 per 100) and *Montacuta ferruginosa* 31 per cent. (134 per 100).

Crustacea 96 per cent. (415 per 100), represented chiefly by *Portunus holsatus* 50 per cent. (269 per 100), and *Ampelisca* 31 per cent. (100 per 100).

Polychæta were present in 46 per cent. (88 per 100), *Nephthys* sp. 23 per cent. (35 per 100), and *Goniada maculata* 23 per cent. (38 per 100) being the chief representatives.

Pisces occurred in 27 per cent. (69 per 100) represented in 27 per cent. by *Gobius minutus* (65 per 100), whilst Echinoderma occurred in 12 per cent.

24. Dogger Bank—N.N.E. of South West Patch. LIX. 8. (O. 321.) June. 16–17 fathoms. f.s. & sh., f.g.s.

Thirteen fish (100 per cent.) contained recognisable food.

Feeding chiefly on Mollusca 92 per cent. (439 per 100), *Solen* sp. 69 per cent. (177 per 100), and *Tellina fabula* 38 per cent. (231 per 100) being the principal representatives.

Crustacea occurred in 23 per cent. (23 per 100), Polychæta in 23 per cent. (46 per 100), and Echinoderma in 15 per cent. (85 per 100).

Whiting. (*Gadus merlangus.*)

Two hundred and ninety-three stomachs from 15 stations have been examined belonging to the following size groups. <20 cm., 18 fish; 20–30 cm., 63 fish; 30 cm. + 36 fish; length not recorded, 176 fish.

Recognisable food was found in 206, and consisted of Crustacea in 63 per cent., Pisces in 38 per cent., Polychæta in 6 per cent., Mollusca in 4 per cent., Echinoderma in 2 per cent., and Coelentera in 0·5 per cent.

Including those recorded in the first report, 394 stomachs have been examined, of which 302 contained recognisable food, consisting of Crustacea in 67 per cent., Pisces in 40 per cent., Polychæta in 6 per cent., Mollusca in 4 per cent., Echinoderma in 1 per cent., and Coelentera in 0·3 per cent.

For details, *see* Table C., of which the following is a summary :—

TABLE 16. Whiting.

Region.	Wash.		Leman Ground.			Knoll Deep.		E. Deep Water.		W. of Horn Reef.	Lower Scruff.	Clay Deep.	Dogger.	
Voyage	33	57	47	28	28	61		43		29	29	56	56	41
Station	10	18	26	17	15	59–62		5		15	10	47	45	20
Month	June	June	Jan.	Mar.	Mar.	Aug.		Nov.		Mar.	Mar.	June	June	Oct.
Size in cm.	...	...	...	...	...	15+	25+	20+	30+	...	...	...	...	...
Stomachs containing recognisable food ...	11	14	11	4	6	38	38	4	5	17	21	18	19	sev.
	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Pisces	27	57	91	25	33	18	18	75	40	88	52	22	32	100
Mollusca	36	...	...	...	...	...	...	...	...	...	5	...	16	...
Crustacea	91	50	9	100	100	82	89	25	60	12	43	56	63	...
Polychæta	9	14	...	...	17	5	...	...	40	...	5	11	11	...
Echinoderma ...	...	...	...	...	...	...	...	...	...	...	10	11	...	...
Coelentera	...	...	...	...	...	...	...	...	...	6	...	...	...	...

1. BOSTON DEEP. XXXIII. 10. (S.T. 182.) June. 5–6 fathoms. f.s.

Eleven fish (73 per cent.) contained recognisable food.

Feeding chiefly on Crustacea, 91 per cent., represented by *Crangon vulgaris* and Amphipoda, each in 45 per cent.

Pisces occurred in 27 per cent., Mollusca (*Sepiola atlantica*) in 36 per cent., and Polychæta in 9 per cent.

2. LYNN DEEP. LVII. 18. (S.T. 488.) June. 5–8 fathoms. s.m., sh.gl.

Fourteen fish (100 per cent.) contained recognisable food.

Feeding chiefly on Pisces, 57 per cent., represented in 43 per cent. by *Ammodytes* sp.

Crustacea occurred in 50 per cent. (71 per 100), the commonest species being *Gastrosaccus spinifer*, 29 per cent. (43 per 100), whilst Polychæta were present in 14 per cent.

3. EAST OF LEMAN GROUND. XLVII. 26. (O. 276.) January. 17–20 fathoms. f.s. & m.

Eleven fish (37 per cent.) contained recognisable food.

Feeding almost entirely on Pisces, 91 per cent., represented by *Clupea* sp. in 82 per cent. (82 per 100). Crustacea occurred in 9 per cent.

4. LEMAN GROUND. XXVIII. 17. (B. 110.) March. 14–16 fathoms. f.s., f.d.s.

Four fish (100 per cent.) contained recognisable food.

Feeding almost exclusively on Crustacea, represented solely by *Crangon Allmanni* 100 per cent. (475 per 100). Pisces occurred in 25 per cent. only.

5. Leman Ground. XXVIII. 15. (B. 109.) March. 14–16 fathoms. f.d.s., f.s.

Six fish (100 per cent.) contained recognisable food.

Feeding almost entirely on Crustacea (*Crangon Allmanni*), 100 per cent. (750 per 100). Pisces and Polychæta were present in 33 and 17 per cent. respectively.

6–9. Knoll Deep. LXI. 59–62. (B. 367–370.) August. 21–26 fathoms. Soil variable.

Seventy-six fish (73 per cent.) divided into two groups, *i.e.*, 15–24 cm. (38 fish), and 25–34 cm. (38 fish) contained recognisable food.

Table showing for each size group (i.) the percentage of stomachs containing the various food groups and the dominant species, and (ii.) the total number of specimens found per 100 stomachs.

Table 17. Whiting.

Size in cm.	15–24		25–34		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Crustacea	81	92	90	108	85	100
Crangon Allmanni	76	82	45	58	60	70
Gastrosaccus spinifer ...	5	5	24	29	14	17
Pisces	18	18	18	18	18	18
Ammodytes sp.	16	16	16	16	16	16
Polychæta	5	5	—	—	3	3

Crangon Allmanni and *Ammodytes* sp. formed the chief food in both size groups, whilst *Gastrosaccus spinifer* were more common in the larger than in the smaller fish.

10. Eastern Deep Water. XLIII. 5. (B. 245.) November. 18 fathoms. f.s., cl.sh., spk.s.

Nine fish (69 per cent.) contained recognisable food.

Pisces occurred in five, Crustacea in four, and Polychæta in two.

11. West of Horn Reef. XXIX. 15. (O. 179.) March. 22–23 fathoms. f.s. & oz.

Seventeen fish (71 per cent.) contained recognisable food.

Feeding principally on Pisces, 88 per cent., *Clupea* sp. 23 per cent., and *Gadus* sp. in 6 per cent. being the only ones identified.

Crustacea in 12 per cent. and Coelentera in 6 per cent. formed the remainder of the food.

12. Lower Scruff. XXIX. 10. (O. 175.) March. 24 fathoms. f.s.

Twenty-one fish (57 per cent.) contained recognisable food.

Feeding on Pisces, 52 per cent. (57 per 100). *Solea lutea* and *Clupea* sp. each in 5 per cent. being the only ones identified. Crustacea were present in 43 per cent. (81 per 100), represented by 6 species, whilst Mollusca and Polychæta each occurred in 5 per cent., and Echinoderma in 10 per cent.

13. Off East End of Great Silver Pit. LVI. 47. (O. 317.) June. 23–25 fathoms. s. & m., f.d.s.

Eighteen fish (100 per cent.) contained recognisable food.

Feeding on Crustacea, 55 per cent. (83 per 100). *Eupagurus Bernhardus*, 33 per cent. (33 per 100), being the commonest species.

Pisces occurred in 22 per cent. (33 per 100), Polychæta in 11 per cent. (22 per 100), and Echinoderma in 11 per cent. (11 per 100).

14. Dogger Bank—North Part of Hospital. LVI. 45. (O. 316.) June. 18–19 fathoms. f.d.g.s.

Nineteen fish (68 per cent.) contained recognisable food.

Feeding chiefly on Crustacea, 63 per cent. (84 per 100). *Eupagurus Bernhardus*, 47 per cent. (47 per 100), and *Callianassa subterranea*, 32 per cent. (32 per 100), being the commonest species.

Pisces occurred in 32 per cent. (32 per 100), Mollusca in 16 per cent. (16 per 100), and Polychæta in 11 per cent. (11 per 100).

15. Dogger Bank—South of South-west Patch. XLI. 20. (O. 249.) October. 17–18 fathoms. s. & gl., g.s.

Several fish were examined, all of which were feeding chiefly on Herring spawn.

Coal Fish. (*Gadus virens.*)

1. N.W. of the North-west Part of the Dogger. LIX. 46. (O. 337.) 40–43 fathoms. f.s. & m.

The only fish examined contained two Gadoids, and one *Pleuronectes* sp. ?

2. Flamborough Off Grounds. LVI. 35. (O. 312.) May. 27 fathoms. f.d.s.

The only fish examined contained 30 *Ammodytes* sp. ?

3. East Part of the Dogger. XXXI. 25. (B. 142.) May. 16–21 fathoms. f.s.

One fish examined, contained 113 *Ammodytes* sp., 3–6 cm. long, one *Pleuronectes limanda* (3·5 cm.), three *Loligo Forbesii* of 5 cm., and one *Crangon trispinosus*.

Pout. (*Gadus luscus.*)

1. N.W. of Sandettie Light Vessel. XLIV. 3. (B. 248.) November. 21 fathoms. c.s.

Twenty fish (100 per cent.) contained recognisable food.

Feeding almost entirely on Crustacea 100 per cent. (620 per 100), consisting of *Pandalus Montagui* 80 per cent. (225 per 100), *Galathea intermedia* 35 per cent. (155 per 100), *Eupagurus Bernhardus* 35 per cent. (35 per 100), *Crangon Allmanni* 30 per cent. (30 per 100), *Porcellana longicornis* 30 per cent. (45 per 100), *Portunus holsatus* 20 per cent. (35 per 100), and *Stenorhynchus phalangium*, *S. longirostris*, *Portunus pusillus*, *Nika edulis*, *Crangon vulgaris*, *Pandalus brevirostris*, *Hippolyte varians*, and *Gastrosaccus spinifer* in 5–15 per cent. (5–20 per 100).

Pisces occurred in 30 per cent. represented by *Ammodytes* sp. and *Callionymus lyra* each in 5 per cent., and remains in 25 per cent., whilst Mollusca were present in 20 per cent. represented by *Buccinum* feet in 15 per cent., and *Sepiola atlantica* in 5 per cent.

Ling. (*Molva vulgaris.*)

1. W.N.W. of Brucey's Garden. LIX. 51. (O. 338.) July. 41–46 fathoms. f.s. & m.

Examined five fish, all of which were empty.

2. Hartlepool. LIX. 56. (O. 339.) July. 23–24 fathoms. c.s., s. & m.

Examined two fish of which one was empty, whilst the other (85 cm. long) contained a *Gadus morrhua* of 23 cm. and two *Gadus minutus* of 23 cm. and 24 cm. respectively.

3. Flamborough Off Grounds. LVI. 35. (O. 312.) May. 27 fathoms. f.d.s.

The only fish examined contained single specimens of *Gadus æglifinus* and *G. merlangus.*

Long Rough Dab. (*Drepanopsetta limandoides.*)

1. Horn Reef Outer. XXXI. 16. (B. 136.) May. 26–27 fathoms. f. s. & m.

Fourteen fish (100 per cent.) contained recognisable food.

Feeding chiefly on Crustacea 86 per cent., represented in all cases by *Nika edulis.*

Polychæta occurred in 29 per cent., *Ampharete Grubei* 7 per cent. being the only species identified, whilst Pisces were present in 7 per cent. represented by *Pleuronectes* sp. ?

2. Horn Reef Outer. XXXI. 18. (B. 137.) May. 26–27 fathoms. f., s. & m.

Twenty-one fish (100 per cent.) contained recognisable food.

Feeding chiefly on Crustacea 86 per cent. (138 ? per 100), represented by *Nika edulis* 57 per cent. (71 per 100), *Crangon Allmanni* 29 per cent. (38 per 100), *Portunus holsatus* 14 per cent. (24 per 100), Amphipoda 5 per cent., and Amphipod tubes ? 57 per cent.

Polychæta unidentified occurred in 33 per cent., and Mollusca in 29 per cent., represented by *Cardium* sp. 5 per cent., *Mactra solida* 19 per cent. (43 per 100), and *Scrobicularia alba*, 5 per cent., whilst Pisces remains occurred in 14 per cent.

Turbot. (*Rhombus maximus.*)

Twenty-six fish from 10 stations were examined, of which 14 contained recognisable food, whilst the remainder were empty.

The food in all cases consisted solely of Pisces.

1. Flamborough Off Grounds. LVI. 34. (B. 318.) May. 26–27 fathoms. f.d.s.

Four fish were examined, and all contained recognisable food, consisting solely of Pisces.

Gadus æglefinus occurred in two, *Ammodytes* in three, *Callionymus lyra* in one, and two *Pleuronectes limanda* in one.

2. Flamborough Off Grounds. LVI. 35. (O. 312.) May. 27 fathoms. f.d.s.

The only fish examined contained 30–40 *Ammodytes* sp.

3. Flamborough Off Grounds. XXXI. 43. (B. 145.) May. 26–31 fathoms. f.d.s.

The fish contained a single *Callionymus lyra* of 13 cm.

4. North Part of Winterton Shoal. LXI. 55. (B. 364.) August. 22 fathoms. f.s.

The only fish examined contained a *Trigla gurnardus* of 27 cm.

5. Brown Bank. LXI. 45. (B. 355.) August. 13–15 fathoms. f.g.s.

Two fish were examined, of these one was empty, whilst the other contained a single *Trachinus vipera.*

6. S.W. of Helgoland. XXXI. 3. (B. 129.) May. 18–19 fathoms. s. & oz.

Six fish were examined, of which five were empty, whilst the remaining one contained a *Pleuronectes limanda* and a *Pleuronectes* sp. ?

7. Off East End of Great Silver Pit. LVI. 47. (O. 317.) June. 23–25 fathoms. s. & m., f.d.s.

Six fish were examined, of which five were empty, whilst the remaining one contained a *Gadus merlangus* of 18 cm.

8. Dogger Bank—South of the South-West Patch. XXXI. 42. (B. 144.) May. 19–21 fathoms. f.s.

The only fish examined contained two *Pleuronectes limanda* of 9 and 14 cm.

9. Dogger Bank—East of the South-West Patch. XXVIII. 10. (O. 163.) March. 12–16 fathoms. f.s.

The only fish examined contained a *Gadus merlangus.*

10. Dogger Bank—East of the South-West Patch. XXVIII. 7. (O. 161.) March. 14–17 fathoms. f.s.

Three fish were examined, one of which was empty, whilst the other two contained respectively a *Gadus merlangus* and fish remains.

Brill. (*Rhombus lævis.*)

S.W. of Helgoland. XXXI. 3. (B. 129.) May. 18–19 fathoms. s. & oz.

Two fish only were examined, of which one was empty, whilst the other contained *Ammodytes* sp.

Plaice. (*Pleuronectes platessa.*)

Two thousand nine hundred and eighty-two stomachs from 86 hauls have been examined. Of these 2,167 were divided into size groups, *i.e.*, < 20 cm. (515), 20–30 cm. (845), 30–40 c.m. (738), 40 cm. + (69), whilst the sizes of the remaining 815 were not noted.

Of the total examined, 475 (16 per cent.) were empty, 189 (6 per cent.) contained unrecognisable food, and 2,318 (78 per cent.), contained recognisable food.

The principal food groups were Mollusca in 77 per cent., and Polychæta in 45 per cent., whilst Crustacea occurred in 15 per cent., Echinoderma in 12 per cent., Pisces in 4 per cent., Polyzoa, Nemertinea, and Coelentera each in 1 per cent., and Tunicata, Gephyrea, and Porifera each in less than 0·5 per cent.

Including those recorded in the first report, 4,073 stomachs from 109 stations have been examined, 3,180 of which contained recognisable food, which consisted of Mollusca in 77 per cent., Polychæta in 42 per cent., Crustacea in 15 per cent., Echinoderma in 13 per cent., Pisces in 3 per cent., none of the remaining food groups being present in more than 1 per cent.

Change of food with increase in size was well marked, as the following table and curve show.

Table showing for each size group (i) the number of fish containing recognisable food, and (ii) the percentage of (i) containing the various food groups.

TABLE 18. Plaice.

Size Group.	<10 cm.	10–20 cm.	20–30 cm.	30 cm.+
Number of fish containing recognisable food ...	65*	322†	692‡	700§
	%	%	%	%
Pisces	...	1	5	5
Mollusca	17	66	76	84
Crustacea	57	16	13	11
Polychæta	38	37	51	42
Echinoderma	...	20	13	6

The above table is shown below in a graphic form.

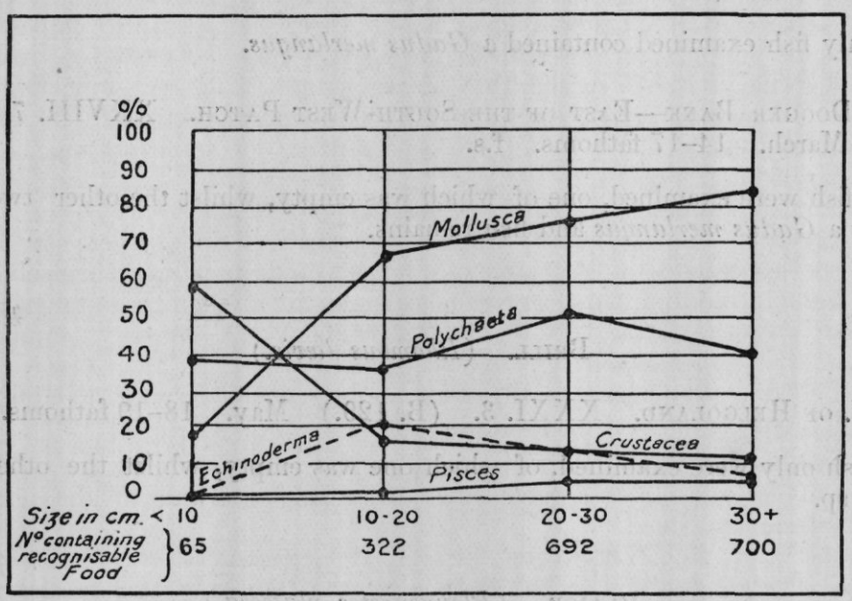


FIG. 2. PLAICE.

It will be observed that the smallest plaice (<10 cm.) were feeding chiefly on Crustacea and Polychæta, with Mollusca in 17 per cent. only. Pisces and Echinoderma were absent. In the 10–20 cm. group Mollusca had risen to 67 per cent. and had become the chief food whilst Polychæta remained stationary, Crustacea had become fourth in position, being lower than Echinoderma, and Pisces were present in 1 per cent.

In the 20–30 cm. and 30 cm. + groups Mollusca and Pisces showed a steady rise in importance, and Echinoderma and Crustacea a fall; whilst Polychæta showed a rise in the 20–30 cm. fish (due chiefly to the fish from the Dutch Coast to the Brown Ridges) and a drop in 30 cm. +.

The statement made in the first report, that plaice do not appear to feed to any extent in the winter, is well shown by the following curve, which gives the percentage of

* All from the Wash.
† Including 50 from the Wash, and 121 from the Dutch Coast.
‡ 146 from the Leman, 249 from Dutch Coast, 161 from Knoll Deep—Winterton Shoal.
§ 200 from the Dogger, 165 from Leman, 117 from Dutch Coast, 89 from Knoll Deep—Winterton Shoal and 54 from Flamboro' Off and Hills.

empty stomachs found in each month from July to June, including those recorded in the first report. The index numbers show the total number examined in each month.

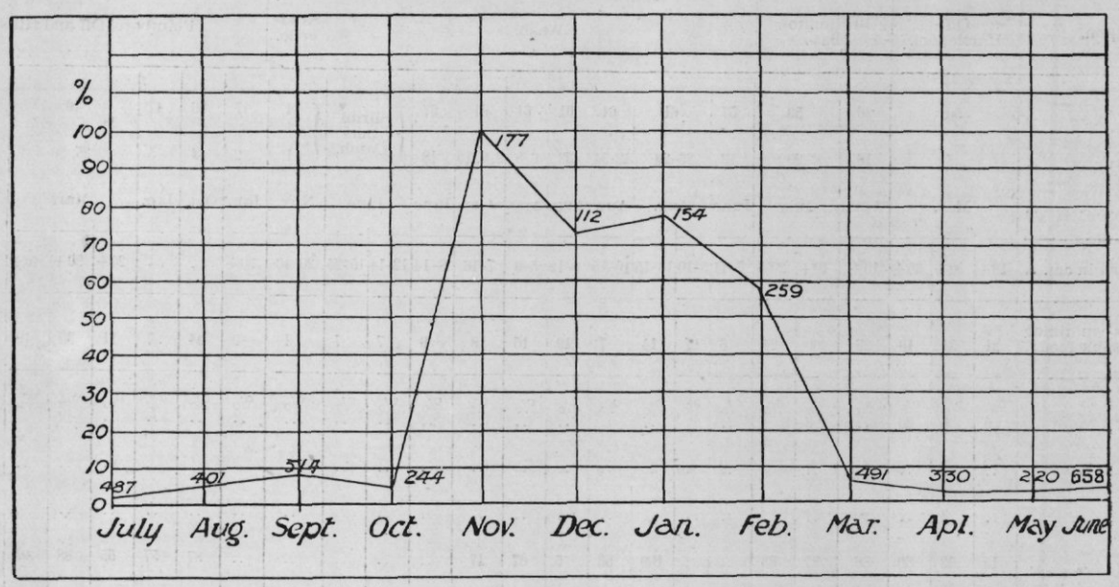


FIG. 3. PLAICE —Percentage of Empty Stomachs.

From March to October inclusive the percentage of empty stomachs is seen to have varied from 2–7 per cent., the average being about 4 per cent. In November, according to our observations the plaice ceases to feed almost altogether, but a few feed in December, January and February, in which months the percentage of empty stomachs is seen to have dropped to 72 per cent., 76 per cent. and 57 per cent. respectively. In March they apparently start feeding regularly again, the percentage of empty stomachs falling to 5 per cent. (cf. p. 54).

Apart from the difference in the percentages of empty stomachs in the winter (November–February) and summer (March–October) periods, there is a marked difference in the appearance of the empty stomachs and intestines themselves ; those taken during the winter are much cleaner and paler in colour than those taken during the summer period, and the latter, although destitute of food, generally contain a small amount of glair with flocculent matter in suspension.

The chief food of the plaice in the areas under consideration (including the first report) may be briefly summarised as follows :—

(i) Dogger Bank.—Chiefly *Solen* sp., especially on the South Dogger and Hospital Grounds, and *Mactra subtruncata*, especially on and to the north of the Easternmost Shoal.
On the N.W. side of the bank.—*Solen*, *Mactra subtruncata*, *Pecten opercularis*, *Solen pellucidus*, and on the east end of the Dogger,—*Mactra subtruncata*.

(ii) Hartlepool Ground.—*Solen pellucidus* and *Lagis* (*Pectinaria*) *Koreni*.
Whitby Ground.—Chiefly *Mactra subtruncata* and *Solen pellucidus*.

(iii) Flamboro' Off Ground and the Hills.—*Solen pellucidus*, *Solen* sp., *Mactra subtruncata*.

(iv) Leman Banks.—Chiefly *Tellina fabula*.
Leman to Hasbro'.—*Mactra*, *Scrobicularia*, and *Ophelia limacina*.
Leman Ground.—*Solen*, *Tellina fabula*, *Lagis Koreni*, *Donax vittatus*.

(v) Knoll Deep and Winterton Twenties.—Chiefly *Lagis Koreni*.

(vi) Brown Ridges and Brown Bank Ground.—Chiefly *Donax vittatus*, with *Ophelia limacina*, *Tellina fabula*, and *Solen* sp.

(vii) Texel Ground.—*Lagis Koreni*, *Donax vittatus*, *Solen* sp., and *Tellina fabula*.

(viii) Sylt Outer Ground.—*Tellina fabula*.

(ix) North of Horn Reef.—*Tellina fabula*, *Scrobicularia alba*, *Mactra solida*.
South of Horn Reef.—*Tellina fabula*, *Solen pellucidus*.
Off Fanö.—*Scrobicularia alba*.

(x) Inshore Grounds.—
Off Hartlepool and Bridlington Bay.—Mollusca, various.
Off Saltfleet.—*Scrobicularia alba*.
The Wash.—*Cardium edule* fry and Amphipods (in small plaice).
Off Sheringham.—*Modiolaria discors*.

For details, *see* Table D, of which the following is a summary :—

TABLE 19. Plaice.

Region.	Off Hartlepool.			Bridlington Bay.			Wash.										Sandettie.	Flamboro' Off and Hills.							
Voyage	50			30	59		57	61		61	61	61	61	57	Shrimpers' Catch.		44	47	66	47	49		56	31
Station	8			16	29		13	26-29		32-34	23	6, 8	3, 9, 10	18			1	2	4	5	25, 26		38	43
Month	Mar.			April	July		June	Aug.		Aug.	Aug.	Aug.	Aug.	June	June		Nov.	Jan.	Oct.	Jan.	Mar.		May	May
Size of Fish in cm. ..	10+	20+	30+	10+	10+	20+	7-11	5-10	10-15	10-15	6-12	5-9	7-16	8-14	12-14	15-25	20-40	30+	..	..	20+	30+	40+	..	..
Stomachs containing recognisable food..	21	31	10	26	30	24	6	17	14	7	19	15	18	6	7	7	1	0	24	7	11	35	19	31	26
Pisces	% 5	% 6	% 20	% ..	% 3	% 4	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% 9	% ..	% 32	% 23
Tunicata	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Polyzoa	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mollusca	19	32	30	88	87	83	..	..	100	86	5	67	17	..	..	..	..	..	87	57	55	88	95	84	85
Crustacea	38	32	60	19	3	4	..	53	..	..	79	40	61	83	..	..	100	..	..	..	27	11	..	13	..
Polychæta	86	87	50	23	50	46	..	76	21	29	26	13	50	17	71	100	..	..	25	86	55	57	32	42	23
Nemertinea	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	..	..	..
Gephyrea	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..
Echinoderma ..	..	3	10	15	10	8	..	..	14	..	..	..	..	..	..	..	..	..	25	14	..	9	10	19	27
Coelentera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29	..	..	..	..	..	55	34	..	3	..
Porifera	..	..	..	..	..	..	100	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Region.	Knoll Deep to Winterton Shoal.											W. of Brown Ridges.		Brown Ridges.														Dutch			
Voyage	48	61		58	64		58	49				58		58	58	58		58		48	58			30		28		30		
Station	2	59-62		28	20		26	2				8		16	18	10		12		20	20			39		21		31		
Month	Feb.	Aug.		June	Sep.		June	Mar.				June		June	June	June		June		Feb.	June			April		Mar.		April		
Size of Fish in cm. ..	..	20+	30+	20+	30+	20+	20+	30+	<20	20+	30+	20+	30+	..	..	20+	30+	<20	20+	30+	..	<20	20+	30+	20+	30+	20+	30+	10+	20+
Stomachs containing recognisable food..	26	17	26	32	26	26	36	31	18	50	6	27	16	60	33	33	18	8	40	27	11	9	33	20	32	23	16	7	20	24
Pisces	% ..	% ..	% ..	% 6	% ..	% ..	% ..	% 3	% 6	% 36	% ..	% ..	% 6	% 2	% ..	% ..	% ..	% ..	% 2	% ..	% ..	% ..	% ..	% ..	% 16	% 48	% ..	% ..	% ..	% ..
Tunicata	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Polyzoa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mollusca	12	76	65	66	54	46	94	100	72	62	50	100	100	97	100	94	89	75	82	78	64	67	100	100	91	95	100	86	100	100
Crustacea	..	..	..	13	15	23	6	10	28	34	..	7	12	10	3	9	..	..	12	22	..	22	3	15	..	22	6	29	5	21
Polychæta	98	76	85	69	88	65	36	26	33	46	67	67	56	72	48	76	72	75	72	67	45	78	49	50	66	52	31	29	45	37
Nemertinea	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	..	..	..	..	..	..	..	..	8
Gephyrea	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Echinoderma ..	..	..	..	16	23	12	11	3	33	38	17	19	25	13	..	9	..	..	17	11	..	11	3	5	3	4	..	..	..	..
Coelentera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Porifera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE 19. Plaice.

Markham's Hole.	Leman Ground and Neighbourhood.																										New Zealand.		
49	49	40		66			28	49			64	28		63		40	48	47	48	63		63		63			48		
10	6	13		8			17	5			22	15		1		14	10	26	8	5		7		9			14		
Mar.	r.	Sep.		Oct.			Mar.	Mar.			Sep.	Mar.		Sep.		Sep.	Feb.	Jan.	Feb.	Sep.		Sep.		Sep.			Feb.		
..	..	<31	31+	20+	30+	40+	..	<20	20+	30+	30+	20+	30+	20+	30+	25-40	..	..	..	20+	30+	20+	30+	20+	30+		10+	20+	30+
44	40	20	31	26	29	9	sev.	5	11	11	31	6	7	18	20	34	30	28	2	12	6	16	2	37	19		1	9	9
% 16	% 30	% ..	% 3	% 4	% 10	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% 7	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..		% ..	% ..	% ..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	..	..
84	97	65	74	92	76	78	100	80	91	100	45	67	86	100	100	91	67	21	100	92	83	56	100	92	100		..	11	22
41	17	5	13	4	10	22	..	..	9	9	16	33	29	..	..	9	30	21	..	..	17	..	..	5	10		..	..	..
50	40	35	42	65	45	..	..	..	18	64	74	17	43	6	..	32	47	71	100	25	..	50	..	24	16		100	100	89
2	..	..	..	..	..	..	..	..	..	..	..	..	14	..	..	..	..	..	..	..	..	..	..	..	..		..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	..	..
25	42	50	29	23	14	33	..	20	27	27	32	..	..	17	15	3	13	7	50	..	..	12	..	3	..		..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	..	..

Coast.						Borkum.		Eastern Grounds.						Clay Deep.	Dogger Bank.															
30	48	63		63		41		31	60	31				56	59	59	65	65	59	59	59	65	28		31	28		56	31	41	31
31	18	12		11		27		20	3	12				47	35	38	5	6	8	6	4	7	11		30	7		45	42	19	25
April	Feb.	Sep.		Sep.		Oct.		May	July	May				June	June	June	Oct.	Oct.	June	June	June	Oct.	Mar.		May	Mar.		May	May	Oct.	May
30+	..	10+	20+	10+	20+	20+	30+	20+	30+	10+	10+	20+	30+	..	29+	..	28+	..	30+	30+	30+	..	20+	30+	30+	20+	30+	..	30+	..	29+
6	20	51	25	33	19	22	11	10	28	30	20	13	16	25	16	9	sev.	8	19	34	20	27	13	21	14	17	49	17	12	22	15
% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% 10	% 46	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..	% ..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11	..	..	10	6	..	..	..	..	..	6	8	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	53	10	..	..	..	..
100	90	41	80	67	42	73	64	80	89	90	90	100	100	80	94	100	100	100	89	85	100	100	77	86	93	47	98	88	92	95	93
17	35	8	16	36	10	59	55	..	..	3	15	..	..	28	12	..	..	..	16	9	..	4	..	19	..	23	12	29	8	41	..
17	95	28	48	18	42	86	55	10	25	20	15	15	19	81	56	11	..	..	26	18	10	..	46	38	14	23	31	82	50	5	47
..	..	..	..	..	..	..	9	..	..	..	..	..	..	12	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	15	57	12	42	26	23	..	20	..	7	..	..	..	44	6	11	..	..	..	3	..	..	..	..	..	6	2	12	..	..	..
..	..	12	..	..	..	..	..	..	..	..	..	..	..	..	6	11	..	..	5	..	..	..	..	5	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

1. North of Hartlepool. L. 8. (B. 294.) March. 5–10 fathoms. f.s., c.s.

Sixty-two fish (87 per cent.), divided into three groups, *i.e.*, 10–20 cm. (21 fish), 20–30 cm. (31 fish) and 30 cm. + (10 fish) contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 20. Plaice.

Size of fish in cm.	10–20		20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
Polychæta	86	110	87	126	50	70	80	110
Nephthys sp.	33	33	26	35	10	10	26	30
Owenia fusiformis	19	29	16	16	10	10	16	19
Lagis Koreni	5	5	6	6	10	10	6	6
Crustacea	38	67	32	39	60	100	39	58
Amphipoda	29	52	23	29	30	70	26	43
Portunus holsatus	10	10	3	3	30	30	10	10
Mollusca...	19	48	32	32	30	30	27	27
Pisces (*Ammodytes*)	5	5	6	6	20	20	8	8
Echinoderma	...	...	3	3	10	10	3	3

Polychæta formed the chief food of the two smaller size-groups, whilst Crustacea (especially *Portunus holsatus*) and Pisces were found more frequently in the larger fish.

2. Bridlington Bay. XXX. 16. (B. 124.) April. 5 fathoms. f.g.s.

Twenty-six fish (100 per cent.) of 10–20 cm., contained recognisable food.

Feeding chiefly on Mollusca in 88 per cent. (116 specimens per 100 stomachs), consisting of *Scrobicularia* sp. ? in 23 per cent., *Solen* sp. in 35 per cent., *Solen pellucidus* in 11 per cent. (15 specimens per 100 stomachs), and remains in 38 per cent.

Crustacea occurred in 19 per cent., Polychæta in 23 per cent., and Echinoderma in 15 per cent.

3. Bridlington Bay. LIX. 29. (B. 345.) July. 3½–5 fathoms. f.d.s.

Fifty-four fish (95 per cent.), divided into two groups, *i.e.*, 10–20 cm. (30 fish) and 20–30 cm. (24 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 21. Plaice.

Size in cm.	10–20		20–30		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	87	87	83	134	85	108
Remains	73	73 ?	33	33 ?	55	55 ?
Tellina fabula	7	7	21	21	13	13
Nucula sp.	7	7	8	8	7	7
Polychæta	50	84	46	92	48	87
Nephthys sp.	40	67	12	12	28	43
Goniada maculata	13	13	33	67	22	37
Echinoderma	10	10	8	8	9	9
Crustacea	3	3	4	4	4	4
Pisces	3	3	4	4	4	4

Mollusca were the chief food in each size group, with Polychæta next in frequency; but whereas the 10–20 cm. fish were feeding chiefly on *Nephthys*, the 20–30 cm. contained more *Goniada maculata*.

4. The Wash—Boston Deep. LVII. 13. (S.T. 483.) June. 8 fathoms. cs.gl. & sh., f.s.

Six fish (43 per cent.) of 7–11 cm. contained recognisable food.

Feeding solely on sponges, *Leucosolenia* sp. ?, which was the only food found. Probably those containing unrecognisable food (57 per cent.) had been feeding on the same organism.

5–11. The Wash—Boston Deep. XLI. 26–29, 32–34. (Ag. & S.T. 575–578, 581–583.) August. 2–7 fathoms. f.s.

Thirty-eight fish (70 per cent.), divided into two groups, viz., 5–10 cm. (17 fish), and 10–15 cm. (21 fish) contained recognisable food.

The 5–10 cm. fish were feeding chiefly on Polychæte larvae, in 76 per cent., and Crustacea (chiefly Amphipoda) in 53 per cent.

The 10–15 cm. fish were feeding chiefly on Mollusca (consisting wholly of *Cardium edule* fry), which occurred in 95 per cent., and averaged 1,200 specimens per 100 stomachs.

Polychæta occurred in 24 per cent., represented by *Nephthys* sp. in 14 per cent., whilst Echinoderma were present in 10 per cent.

12. The Wash—Boston Deep. LXI. 23. (Ag. 572.) August. 1 fathom. f.s.

Nineteen fish (95 per cent.) of 3–12 cm. contained recognisable food.

Crustacea in 79 per cent. formed the chief food, and were represented by Amphipoda in 68 per cent. Polychæta occurred in 26 per cent. and Mollusca in 5 per cent.

13–14. The Wash—Gat Channel. LXI. 6 & 8. (Ag. 555 & 557.) August. 1–3 fathoms. f.s.

Fifteen fish (62 per cent.) of 5–9 cm. contained recognisable food.

Mollusca, represented solely by *Cardium edule* fry (670 specimens per 100 stomachs), occurred in 67 per cent., Crustacea in 40 per cent., represented by *Crangon* sp. ?, and Polychæta in 13 per cent.

15–17. The Wash—Gat Channel—Lynn Deep. LXI. 3, 9 & 10. August. 3–9 fathoms. f.s.

Eighteen fish (55 per cent.) of 7–16 cm. contained recognisable food.

Feeding chiefly on Crustacea (in 61 per cent.), Amphipoda and *Crangon vulgaris*, each in 22 per cent. Polychæta occurred in 50 per cent., represented by *Sabellaria* in 17 per cent. Mollusca, represented by *Cardium edule* fry (55 specimens per 100), were present in 17 per cent.

18. The Wash—Lynn Deep. LVII. 18. June. (S.T. 488.) 5–8 fathoms. s.m., sh., s.gl.

Six fish (55 per cent.) of 8–14 cm. contained recognisable food.

Crustacea, represented solely by Amphipoda, occurred in five, and Polychæta in one.

19. The Wash—Shrimpers' Catch. June.

Fourteen fish (42 per cent.), divided into two groups, *i.e.*, 12–14 cm. (seven fish) and 15–25 cm. (seven fish), contained recognisable food.

The chief food consisted of Polychæta, in five and seven stomachs respectively, the principal representative being *Lanice conchilega* in two (two specimens) and six (ten specimens) respectively.

Hydroids occurred in two and one respectively.

20. Off Sandettie Light Vessel. XLIV. 1. (B. 247.) November. 19–20 fathoms. gl.

Ninety-six fish of 20–40 cm. were examined; of these 95 were empty, whilst the remaining one contained a single *Pandalus Montagui* (cf. pp. 54 and 81).

21. Flamboro' Head Ground. XLVII. 2. (B. 277.) January. 31 fathoms. f.d.s.

Thirty-seven fish, 30 cm.+, were examined: all were found to be quite empty (cf. pp. 54 and 81).

22. Flamboro' Off Grounds. LXVI. 4. (O. 364.) October. 26–30 fathoms. f.g.s.

Twenty-four fish (86 per cent.) contained recognisable food.

Mollusca occurred in 87 per cent. (200 specimens per 100 stomachs), represented chiefly by *Mactra subtruncata* in 42 per cent. (50 per 100 stomachs), *Scrobicularia alba* in 21 per cent. (50 per 100 stomachs), and *Solen* sp. in 21 per cent. (37 per 100 stomachs).

Polychæta occurred in 25 per cent. (50 per 100 stomachs), *Owenia fusiformis*, 12 per cent., being the chief representative.

Echinoderma were present in 25 per cent. (29 per 100 stomachs), represented chiefly by *Ophiura* sp.? in 17 per cent.

23. Flamboro' Off Grounds. XLVII. 5. (O. 268.) January. 25–26 fathoms. f.s.

Fifty-three fish were examined, of these 45 (85 per cent.) were empty, whilst six (11 per cent.) contained recognisable food.

Polychæta occurred in six (*Owenia fusiformis* in three), Mollusca in four, and Echinoderma in one.

24–25. The Hills. XLIX. 25 & 26. (O. 279 & 280.) March. 15–30 fathoms. f.s., f.d.s., f.g.s.

Sixty-five fish (94 per cent.), divided into three groups, *i.e.*, 20-30 cm. (11 fish), 30–40 cm. (35 fish), and 40 cm.+ (19 fish), contained recognisable food.

The following table shows for each size-group (i) the percentage of stomachs containing the various food-groups and dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 22. Plaice.

Size in cm.	20-30		30-40		40+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	55	118	89	454	95	326	85	360
Solen sp....	...	...	49	74	79	270	49	118
Tellina fabula	27	82	54	257	5	5	35	154
Scrobicularia prismatica	...	...	34	83	10	10	21	48
Polychæta	55	100	57	94	32	37	49	78
Owenia fusiformis	27	64	29	46	16	16	25	40
Coelentera (*Cerianthus*)	55	55+?	34	34+?	...	...	28	28+?
Crustacea	27	27	11	11	...	...	11	11
Echinoderma	...	...	9	9	10	10	8	8
Pisces	...	...	9	9	...	...	5	5
Gephyrea	...	...	3	3	...	...	2	2

It will be noticed that with an increase in size there was an increase in the relative number of fish feeding on Mollusca. This is mainly due to the increasing importance of *Solen* in the food of the growing fish. The Mollusca eaten by the smallest fish were chiefly *Tellina fabula* ; these remained dominant in the next size-group though *Solen* and *Scrobicularia prismatica* were added ; while *Solen* became the dominant food among the largest fish and *Scrobicularia* and *Tellina* fell to insignificant proportions.

There was a marked decrease in the number of Polychæta, Crustacea and Coelentera present with increase in size, the two latter being absent from the largest fish, whilst Echinoderma were present in the two larger size-groups only and Gephyrea and Pisces only in the 30–40 cm. fish.

26. South of the Hills. LVI. 38. (O. 313.) May. 27–29 fathoms. f.g.s.

Thirty-one fish (88 per cent.) contained recognisable food.

Feeding chiefly on Mollusca, 84 per cent. (225 per 100 stomachs), the principal representatives being *Solen pellucidus* 23 per cent. (74 per 100), *Solen* sp. 26 per cent. (61 per 100), with 12 other species in 3–19 per cent.

Polychæta occurred in 42 per cent. (45 per 100), Pisces, represented by *Ammodytes*, in 32 per cent. (55 per 100), Crustacea in 13 per cent., Echinoderma in 19 per cent., and Coelentera in 3 per cent.

27. Flamborough Off Grounds. XXXI. 43. (B. 145.) May. 26–31 fathoms. f.d.s.

Twenty-six fish (100 per cent.) contained recognisable food.

Feeding chiefly on Mollusca, 85 per cent. (273 per 100), *Solen* sp. 38 per cent. (65 per 100), *Scrobicularia* sp. 31 per cent. (69 per 100), *Tellina fabula* 19 per cent. (46 per 100), being the chief representatives.

Echinoderma occurred in 27 per cent., Polychæta in 23 per cent., *Owenia fusiformis* 15 per cent., and Pisces, represented by *Ammodytes* only, occurred in 23 per cent., (35 per 100).

28. Markham's Hole. XLIX. 10. (B. 292.) March. 19–33 fathoms. f.s., s. s., s. & m.

Forty-four fish (94 per cent.) contained recognisable food.

Feeding chiefly on Mollusca, 84 per cent. (535 per 100), the chief representatives being *Scrobicularia prismatica* 64 per cent. (410 per 100), and *Solen* sp. 36 per cent. (43 per 100).

Polychæta were present in 50 per cent. chiefly *Lagis Koreni* 30 per cent. (84 per 100) ; Echinoderma occurred in 25 per cent. (41 per 100) ; Pisces in 16 per cent. (23 per 100), represented by *Amphioxus* and *Ammodytes*.

Crustacea occurred in 41 per cent. (93 per 100), represented chiefly by *Ampelisca* sp. 32 per cent. (68 per 100).

29. Leman Ground. XLIX. 6. (B. 291.) March. 12–13 fathoms. f.bl.spk.s., f.d.s.

Forty fish (100 per cent.) contained recognisable food.

Feeding chiefly on Mollusca, 97 per cent. (2,750 per 100), *Donax vittatus* 72 per cent. (2,500 per 100), *Tellina fabula* 55 per cent. (200 per 100), and *Solen* sp. ? 15 per cent. (17 per 100), being the chief representatives.

Echinoderma occurred in 42 per cent., *Echinocardium* 27 per cent., *Amphiura filiformis* 22 per cent.

Polychæta were present in 40 per cent., represented chiefly by *Lagis Koreni* 20 per cent.

Pisces, consisting solely of *Ammodytes*, occurred in 30 per cent. (52 per 100), and Crustacea in 17 per cent.

30. Leman Ground—E.N.E. of Swarte Bank. XL. 13. (B. 220.) September. 12–15 fathoms. f.d.s., f.spk.s.

Fifty-one fish (85 per cent.), divided into two groups, <31 cm. (20 fish) and 31 cm. + (31 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs :—

Table 23. Plaice.

Size in cm.	<31		31+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	65	85	74	148	71	124
Solen sp.	20	20	35	61	29	45
Venus gallina	25	35	10	13	16	21
Polychæta	35	50	42	55	39	53
Nephthys sp.	30	40	6	10	16	22
Echinoderma	50	50+ ?	29	29+ ?	37	37+ ?
Echinocardium sp.	40	40+ ?	29	29+ ?	33	33+ ?
Crustacea	5	5	13	13	10	10
Pisces	...	...	3	3	2	2

Echinoderma were more common in the smaller fish than in the larger, whereas the reverse was the case with the other groups, especially Mollusca. In the latter group *Solen* replaced *Venus gallina* as the dominant species among the larger fish.

31. Leman Ground. LXVI. 8. (O. 368.) October. 12–17 fathoms. gl., f.s.

Sixty-four fish (97 per cent.), divided into three groups, *i.e.*, 20–30 cm. (26 fish), 30–40 cm. (29 fish), 40 cm. + (9 fish), contained recognisable food.

The following table shows for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number present per 100 stomachs :—

Table 24. Plaice.

Size in cm.	20-30		30-40		40+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	92	400	76	845	78	600	83	630
Tellina fabula	42	268	52	760	22	222	44	484
Solen sp.	23	23	14	28	67	255	25	58
Polychæta	65	154	45	48	...	...	47	84
Nephthys sp.	31	31	7	7	...	...	16	16
Lagis Koreni	27	108	...	...	...	...	...	...
Echinoderma	23	280	14	35	33	78	20	142
Echinocyamus pusillus	11	270	7	14	...	...	...	...
Crustacea	4	4	10	10	22	22	9	9
Pisces	4	4	10	10	...	...	6	6

The 20–30 cm. fish were feeding chiefly on *Tellina fabula*, *Lagis Koreni* and *Echinocyamus*, the 30–40 cm. on *Tellina fabula*, and the 40 cm. + on *Solen* sp. and *Tellina fabula*.

32. LEMAN GROUND. XXVIII. 17. (B. 110.) March. 14–16 fathoms. f.s., f.d.s.

Several plaice examined, all of which were feeding on *Solen* sp.

33. LEMAN GROUND—EAST OF WELL BANK. XLIX. 5. (B. 290.) March. 15–17 fathoms. f.d.s., f.g.s.

Twenty-seven fish (82 per cent.) divided into three groups, *i.e.*, < 20 cm. (5 fish), 20–30 cm. (11 fish), and 30 cm. + (11 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number found per 100 stomachs.

TABLE 25. Plaice.

Size in cm.	<20		20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	80	1,000	91	930	100	1,540	93	1,180
Donax vittatus	80	1,000	82	910	55	1,360	70	1,110
Polychæta	...	...	18	36	63	320	33	144
Lagis Koreni	...	...	9	27	63	320	30	140
Echinoderma	20	20	27	36	27	27	26	30
Crustacea	...	...	9	9	9	9	7	7

Mollusca (especially *Donax vittatus*) formed the chief food in all the size-groups, and were practically the sole food in the smallest. Polychæta were most numerous among the larger fish, whilst Echinoderma were more or less constant throughout.

34. LEMAN GROUND—SOUTH PART. LXIV. 22. (B. 389.) September. 17 fathoms. f.g.s.

Thirty-one fish (91 per cent.) of 30 cm. + contained recognisable food.

Feeding chiefly on Polychæta, 74 per cent. (130 per 100), represented principally by *Lagis Koreni*, 58 per cent. (97 per 100).

Mollusca occurred in 45 per cent. (74 per 100), *Scrobicularia alba*, 13 per cent., *Mactra solida* (?) 16 per cent.

Echinoderma were present in 32 per cent. (42 per 100), *Ophiura* sp. 13 per cent., *Echinocyamus pusillus*, 16 per cent., whilst Crustacea were found in 16 per cent., *Thia polita*, 6 per cent.

35. LEMAN GROUND. XXVIII. 15. (B. 109.) March. 14–16 fathoms. f.d.s., f.s.

Thirteen fish (81 per cent.) divided into two groups, *i.e.*, 20–30 cm. (6 fish) and 30 cm + (7 fish), contained recognisable food.

The smaller contained single specimens of four species of Mollusca, two of Crustacea and one of Polychæta.

The larger had been feeding chiefly on Mollusca, 85 per cent. (670 per 100), *Tellina fabula*, 57 per cent. (430 per 100), and *Solen* sp., 28 per cent. (100 per 100).

Polychæta occurred in 43 per cent. (57 per 100), Crustacea in 28 per cent. and Nemertinea in 14 per cent.

36. LEMAN GROUND. LXIII. 1. (O. 343.) September. 15½–17 fathoms. f.g.s.

Thirty-eight fish (72 per cent.) divided into two groups, *i.e.*, 20–30 cm. (18 fish) and 30 cm. + (20 fish), contained recognisable food.

The following table shows for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

TABLE 26. Plaice.

Size in cm.	20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	100	416	100	1,145	100	800
Donax vittatus	67	305	85	1,100	76	723
Echinoderma	17	?	15	?	16	?
Polychæt	6	6	...	...	3	3

Mollusca, represented chiefly by *Donax vittatus*, was the principal food in each group, the average number of specimens being about three times as numerous in the 30 cm. + group as in the 20–30 cm.

37. LEMAN GROUND. XL. 14. (B. 221.) September. 14–17 fathoms. f.d.s.

Thirty-four (100 per cent.) of 25–40 cm. contained recognisable food.

Feeding chiefly on Mollusca, 91 per cent. (153 per 100), represented principally by *Solen* sp., 41 per cent. (56 per 100), with nine other species in 3–18 per cent.

Polychæta occurred in 32 per cent. (32 per 100), the commonest species being *Nephthys* sp. 21 per cent.

Crustacea and Echinoderma occurred in 9 per cent. and 3 per cent. respectively.

38. LEMAN GROUND—EAST PART. XLVIII. 10. (B. 281.) February. 16–17 fathoms. f.s., f.d.s.

Thirty fish (86 per cent.) contained recognisable food.

Feeding chiefly on Mollusca, 67 per cent. (90 per 100), represented by *Solen* sp., 20 per cent. (27 per 100), *Solen pellucidus*, 17 per cent. (20 per 100), *Scrobicularia alba*, 20 per cent. (20 per 100), and four other species in 3–7 per cent.

Polychæta were present in 47 per cent. (53 per 100), *Lanice conchilega*, 23 per cent., being the chief representative.

Crustacea occurred in 30 per cent. (37 per 100), represented by *Corystes*, *Callianassa* and *Hippomedon* in 10 per cent., 3 per cent. and 17 per cent. respectively, whilst Echinoderma were present in 13 per cent. and Pisces in 7 per cent.

39. LEMAN GROUND—EAST OF LEMAN GROUND. XLVII. 26. (O. 276.) January. 17½–20 fathoms. f.s. & m.

Twenty-eight fish (44 per cent.) contained recognisable food, the remainder being empty.

Feeding chiefly on Polychæta, 71 per cent. (250 per 100), represented principally by *Lagis Koreni*, 50 per cent. (232 per 100). Mollusca and Crustacea each occurred in 21 per cent., and Echinoderma in 7 per cent.

40. LEMAN GROUND—SOUTH-EAST PART. LVIII. 8. (B. 280.) February. 16–18 fathoms. f.s.

Twenty-four fish examined, of these two contained recognisable food, whilst the remainder (92 per cent.) were empty (cf. pp. 54 and 81).

The two fish had each been feeding on Mollusca and Polychæta, and one of them had also eaten Echinoderma.

41. LEMAN GROUND. LXIII. 5. (O. 346.) September. 15–16 fathoms. f.d.g.s.

Eighteen fish (38 per cent.) divided into two groups, *i.e.*, 20–30 cm. (12 fish) 30 cm. + (6 fish), contained recognisable food, whilst 17 (34 per cent.) were empty.

The following table shows for each size group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs :—

TABLE 27. Plaice.

Size in cm.	20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	92	315	83	300	89	311
Donax vittatus	58	250	50	250	56	250
Polychæta	25	57	...	...	17	39
Crustacea	...	...	17	17	6	6

Both groups had been feeding chiefly on Mollusca, especially *Donax vittatus*, whilst in addition the smaller group had eaten Polychæta, and the larger group contained Crustacea.

42. LEMAN GROUND. LXIII. 7. (B. 374.) September. 15–16 fathoms. f.d.s., f.s.

Eighteen fish (46 per cent.) contained recognisable food, and 18 contained unrecognisable food, the remainder (8 per cent.) being empty.

Feeding principally on Mollusca 61 per cent. (94 per 100), *Solen* sp. 17 per cent. (39 per 100) being the chief representative, with five other species in 6-11 per cent.

Polychæta, represented by four species, occurred in 44 per cent., and Echinoderma in 11 per cent.

43. NORTH OF BROWN RIDGES. LXIII. 9. (O. 347.) September. 15–16 fathoms. f.d.g.s., f.s.

Fifty-six fish (94 per cent.) divided into two groups, *i.e.*, 20–30 cm. (37 fish) and 30 cm. + (19 fish), contained recognisable food.

The following table shows for each size-group (i) the percentage of stomachs containing the various food groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs :—

TABLE 28. Plaice.

Size in cm.	20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	92	450	100	935	95	616
Donax vittatus	54	324	79	788	62	483
Solen sp.	40	49	63	126	48	75
Polychæta	24	24	16	16	21	21
Crustacea	5	5	10	10	7	7
Echinoderma	3	3	...	...	2	2

Mollusca formed the chief food in both groups, the two principal species being relatively more numerous in the larger fish, both in percentage of stomachs containing them and in actual average frequency.

44. SOUTH-WEST PART OF NEW ZEALAND GROUND. XLVIII. 14. (B. 283.) February. 14–15 fathoms. f.s., f.d.s.

Nineteen fish (27 per cent.) divided into three groups, *i.e.*, 10–20 cm. (1 fish), 20–30 cm. (9 fish), and 30 cm. + (9 fish), contained recognisable food, whilst the remainder (73 per cent.) were empty.

The two larger groups of fish were feeding chiefly on Polychæta, 94 per cent. (205 per 100), represented principally by *Lanice conchilega*, 83 per cent. (189 per 100), with Mollusca in 17 per cent., *Solen* sp. being present in 17 per cent. (28 per 100).

The single fish of 10–20 cm. contained unidentified Polychæta remains.

45. Off Smith's Knoll Light Vessel. XLVIII. 2. (B. 278.) February. 22–24 fathoms. s. & m., s. & ross.

Twenty-six fish (76 per cent.) contained recognisable food.

Feeding almost entirely on Polychæta 96 per cent. (2,500 per 100) represented solely by *Lagis Koreni*. Mollusca occurred in 12 per cent. only.

46–49. Knoll Deep. LXI. 59–62. (B. 267–270.) August. 23–26 fathoms. Soil variable.

Forty-three fish (78 per cent.) divided into two groups, *i.e.*, 20–30 cm. (17 fish) and 30 cm. + (26 fish), contained recognisable food, the remainder, 22 per cent., being empty.

The following table shows for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs :—

Table 29. Plaice.

Size in cm.	20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Polychæta	76	94	85	270	81	200
Lagis Koreni	76	94	85	270	81	200
Mollusca	76	247	65	69 ?	70	140 ?
Scrobicularia alba	59	235	...	...	23	93
Remains, unidentified ...	6	6 ?	61	61 ?	40	40 ?

The smaller fish were feeding chiefly on Mollusca (especially *Scrobicularia alba*), whilst the larger ones were feeding principally on Polychæta (*Lagis Koreni*).

50. Winterton Twenties. LVIII. 28. (B. 341.) June. 19–22 fathoms. f.g.s.

Fifty-eight fish (95 per cent.) divided into two groups, *i.e.*, 20–30 cm. (32 fish) and 30 cm. + (26 fish), contained unrecognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 30. Plaice.

Size in cm.	20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Polychæta	69	163	88	587	78	353
Lagis Koreni	34	94	77	539	53	293
Ophelia limacina	19	28	12	15	16	22
Mollusca	66	320	54	238	60	282
Tellina fabula	19	44	23	100	21	69
Donax vittatus	50	250	19	50	36	160
Echinoderma	16	19	23	46+ ?	19	31+ ?
Crustacea	12	16	15	15	14	15
Pisces	6	9	...	...	3	5

The larger fish were feeding chiefly on *Lagis Koreni* and *Tellina fabula*, the smaller on *Donax vittatus* and *Lagis Koreni*.

51. East Part of Knoll Deep. LXIV. 20. (B. 388.) September. 22–24 fathoms. f.g.s., blk. clay.

Twenty-six fish (81 per cent.) of 20–30 cm. contained recognisable food.

Feeding chiefly on Polychæta, 65 per cent. (88 per 100), the principal representatives being *Lagis Koreni*, 31 per cent. (50 per 100), and *Nephthys* sp., 23 per cent. (23 per 100).

Mollusca occurred in 46 per cent. (58 per 100) consisting chiefly of *Scrobicularia* sp., 12 per cent. (15 per 100), and unidentified remains in 27 per cent. Crustacea occurred in 23 per cent., represented solely by *Gastrosaccus spinifer* (54 per 100), whilst Echinoderma were present in 12 per cent.

52. Winterton Twenties. LVIII. 26. (B. 340.) June. 17–20 fathoms. f.g.s.

Sixty-seven fish (100 per cent.) divided into two groups, 20–30 cm. (36 fish) and 30–40 cm. (31 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 31. Plaice.

Size in cm.	20-30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	94	1,124	100	1,700	97	1,395
Donax vittatus	75	695	84	967	79	820
Tellina fabula	56	389	58	612	57	492
Solen sp.	19	25	42	77	30	49
Polychæta	36	119	26	39	31	82
Lagis Koreni	14	97	23	26	18	64
Crustacea	6	6	10	10	7	7
Echinoderma	11	17	3	3	7	10
Pisces	...	...	3	6	1	1

Donax vittatus and *Tellina fabula* formed the bulk of the food in both groups, *Solen* sp., as is usually the case, were present in greater numbers in the larger size-group.

Lagis Koreni, although present in a smaller percentage of stomachs in the 20-30 cm. group, was more abundant in point of numbers than in the larger group.

53. Winterton Shoal. XLIX. 2. (B. 289.) March. 16–19 fathoms. blk. spk.s.

Seventy-four fish (93 per cent.) divided into three groups, *i.e.*, < 20 cm. (18 fish), 20–30 cm. (50 fish), and 30 cm. + (6 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food groups, and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

TABLE 32. Plaice.

Size in cm.	<20.		20-30.		30+.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	72	305	62	110	50	100	63	157
Donax vittatus	61	211	20	30	17	17	30	73
Solen sp.	17	17	12	12	17	17	13	13
Mactra sp.	22	22	8	8	17	17	12	12
Polychæta	33	33	46	66	67	183	45	66
Lagis Koreni	...	...	26	42	67	166	23	42
Echinoderma	33	33	38	42+?	17	17	35	38+?
Crustacea	28	44	34	58	...	...	30	50
Gastrosaccus spinifer	22	33	24	42	...	...	22	36
Pisces (*Ammodytes*)	6	6	36	48	...	...	26	34

The smallest fish had been feeding chiefly on Mollusca (*Donax vittatus*) the medium on Mollusca, Polychæta and Pisces (*Ammodytes*), and the large on *Lagis Koreni*.

54. BETWEEN WINTERTON TWENTIES AND BROWN RIDGES. LVIII. 8. (B. 331.) June. 19–20 fathoms. f.g.s. & sh.

Forty-three fish (100 per cent.) divided into two groups, *i.e.*, 20–30 cm. (27 fish) and 30 cm.+ (16 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

TABLE 33. Plaice.

Size in cm.	20-30.		30+.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	100	962	100	1,430	100	1,135
Donax vittatus	85	670	62	563	77	627
Tellina fabula	33	186	69	688	46	371
Scrobicularia sp.	26	30	31	31	28	30
Solen sp.	33	40	69	118	46	70
Polychæta	67	115	56	125	63	118
Sthenelais limicola	37	37	12	12	28	28
Ophelia limacina	37	66	19	31	30	53
Echinoderma	18	22+?	25	25	21	23
Crustacea	7	7	12	19	9	12
Pisces	...	...	6	6	2	2

The small fish were feeding chiefly on *Donax vittatus* with *Tellina fabula* and *Ophelia limacina*, whilst the food of the large ones consisted principally of *Tellina* and *Donax* with *Solen* sp.

55. South Part of Middle Brown Ridge. LVIII. 16. (B. 335.) June. 15–18 fathoms. f.g.s., sh.

Sixty fish (100 per cent.) contained recognisable food.

Feeding principally on Mollusca, 97 per cent. (588 per 100), consisting of *Donax vittatus*, in 77 per cent. (333 per 100), *Solen* sp., 78 per cent. (122 per 100), *Tellina fabula*, 30 per cent. (100 per 100).

Polychæta occurred in 72 per cent. (226 per 100), represented chiefly by *Ophelia limacina*, 58 per cent. (183 per 100).

Echinoderma were present in 13 per cent., Crustacea in 10 per cent. and Pisces in 2 per cent.

56. Between the Eastern Brown Ridges. LVIII. 18. (B. 336.) June. 15–17 fathoms. f.g.s.

Thirty-three fish (100 per cent.) contained recognisable food.

Feeding chiefly on Mollusca 100 per cent. (712 per 100), represented by *Donax vittatus* 91 per cent. (455 per 100), *Tellina fabula* 33 per cent. (152 per 100), and *Solen* sp. 70 per cent. (97 per 100).

Polychæta were present in 48 per cent. (142 per 100), *Ophelia limacina* in 39 per cent. (121 per 100) being the chief representative.

Crustacea occurred in 3 per cent.

57. North Part of the West Brown Ridge. LVIII. 10. (B. 332.) June. 15–21 fathoms. f.d.s., f.g.s.

Fifty-one fish (100 per cent.) divided into two groups, *i.e.*, 20–30 cm. (33 fish) and 30 cm. + (18 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups, and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 34. Plaice.

Size in cm.	20–30.		30+.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	94	835	89	1,080	92	920
Donax vittatus	73	665	72	890	72	744
Tellina fabula	21	100	61	94	35	98
Solen sp.	21	21	55	72	33	39
Scrobicularia sp.	30	36	22	22	27	31
Polychæta	76	310	72	200	75	272
Ophelia limacina	51	242	33	72	45	182
Crustacea	9	12	...	...	6	8
Echinoderma	9	73	...	...	6	47

Both groups feeding chiefly on Mollusca (especially *Donax*) and Polychæta (especially *Ophelia*).

58. Between the Western Brown Ridges. LVIII. 12. (B. 333.) June, 15–20 fathoms. f.g.s., f.g.s. and sh.

Seventy-five fish (100 per cent.) divided into two groups, *i.e.*, < 20 cm. (8 fish), 20–30 cm. (40 fish), and 30 cm. + (27 fish), contained recognisable food.

Table showing for each group (i) the percentage of stomachs containing the various food groups, and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

TABLE 35. Plaice.

Size in cm.	<20.		20–30.		30+.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	75	400	82	553	78	778	80	620
Donax vittatus	50	312	65	474	67	667	64	525
Solen sp.	37	37	27	27	41	55	33	39
Scrobicularia sp.	25	37	15	15	18	18	17	19
Polychæta	75	137	72	250	67	300	71	255
Ophelia limacina	37	50	47	132	33	63	41	98
Lagis Koreni	...	...	12	35	30	196	17	89
Crustacea	...	..	12	12	22	22	15	15
Echinoderma	..	...	17	20	11	15	13	16
Pisces	..	...	2	2	...	...	1	1

The fish of each size group were feeding chiefly on Mollusca (especially *Donax*) and Polychæta (especially *Ophelia* in the two smaller, and *Lagis* in the largest group.)

59. BROWN RIDGES. XLVIII. 20. (B. 286.) February. 14–17 fathoms. f.g.s., f.br.s.

Eleven fish (16 per cent,) contained recognisable food, the remaining 57 (84 per cent.) being empty (cf. pp. 54 and 81).

Mollusca occurred in 64 per cent. (*Solen* sp. 55 per cent.), Polychæta in 45 per cent. and Echinoderma in 9 per cent.

60. EASTERMOST BROWN RIDGE. LVIII. 20. (B. 337.) June. 14–18 fathoms. f.g.s.

Sixty-two fish (98 per cent.) divided into three groups, *i.e.*, < 20 cm. (9 fish), 20 cm. + (33 fish), and 30 cm. + (20 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

TABLE 36. Plaice.

Size in cm.	<20.		20–30.		30 +.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	67	146	100	830	100	565	95	644
Donax vittatus	55	100	67	515	50	250	60	370
Solen sp.	22	33	61	106	75	85	60	89
Tellina fabula	...	...	24	182	65	200	34	161
Polychæta	78	111	48	115	50	100	53	110
Ophelia limacina	56	78	45	97	25	40	40	76
Nephthys sp.	11	11	15	15	20	20	16	16
Crustacea	22	22	3	3	15	15	10	10
Echinoderma	11	11	3	3	5	5	5	5

The qualitative differences in the food of the three size-groups were slight in this collection. *Donax vittatus* was the commonest mollusc in each size group, whilst *Solen* occurred in a greater proportion of stomachs in the larger fish than in the smaller. *Tellina fabula*, though absent from the smallest fish, formed an appreciable item of the food of the larger. *Ophelia* was present in all size groups, but was most frequent in the smallest. Crustacea and Echinoderma were both more common in the smallest and largest fish than in the medium.

61. North-east Part of Brown Ridges. XXX. 39. (B. 126.) April. 15 fathoms. f.s.

Fifty-five (100 per cent.) divided into two groups, *i.e.*, 20–30 cm. (32 fish) and 30 cm. + (23 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 37. Plaice.

Size in cm.	20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	91	659	96	900	93	760
Donax vittatus	87	500	82	465	85	486
Tellina fabula	47	131	43	260	45	185
Solen sp.	12	12	65	161	35	75
Polychæta	66	100	52	65	60	85
Nephthys sp.	25	40	22	22	24	33
Ophelia limacina	22	22	9	9	16	16
Pisces (*Ammodytes*)... ...	16	28	48	78	29	49
Crustacea	...	...	22	22	9	9
Echinoderma	3	3	4	4	4	4

Donax, *Tellina* and Polychæta formed the chief food of the smaller fish whilst the 30 cm. + fish had in addition been feeding more largely on *Solen* sp. and *Ammodytes*.

62. Broad Fourteens. XXVIII. 21. (B. 113.) March. 12–16 fathoms. f.g.s.

Twenty-three fish (85 per cent.) contained recognisable food.

Feeding chiefly on Mollusca 96 per cent. (348 per 100), principally *Solen* sp., 74 per cent. (152 per 100), and *Tellina fabula* 17 per cent. (178 per 100).

Polychæta occurred in 30 per cent. (226 per 100), chiefly *Ophelia limacina* 17 per cent. (213 per 100), and Crustacea in 13 per cent.

63. Off Haaks Light Vessel. XXX 31. (B. 125.) April. 14–15 fathoms. f.s.

Fifty fish (100 per cent.) divided into three groups, *i.e.*, 10–20 cm. (20 fish), 20–30 cm. (24 fish), and 30 cm. + (6 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

TABLE 38. Plaice.

Size in cm.	10–20		20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	100	770	100	1,280	100	1,780	100	1,136
Donax vittatus...	100	650	100	895	100	1,280	100	844
Tellina fabula	30	50	67	254	50	366	50	186
Solen sp.	60	65	29	46	33	116	42	62
Polychæta	45	55	37	37	17	17	38	42
Ophelia limacina	40	40	17	17	17	17	26	26
Crustacea	5	5	21	25	17	17	14	16
Nemertinea	...	...	8	8	...	...	4	4

Mollusca formed the major portion of the food of all the size-groups, *Donax* being the chief representative in all, whilst *Tellina* was most common in the two larger groups, and *Solen* sp. in the largest.

64. OFF THE HAAKS LIGHT VESSEL. XLVIII. 18. (B. 285.) February. 16 fathoms. f.g.s.

Twenty fish (74 per cent.) contained recognisable food.

Feeding chiefly on Polychæta 95 per cent. (470 per 100) represented principally by *Lagis Koreni* 90 per cent. (430 per 100).

Mollusca occurred in 90 per cent. (220 per 100), *Solen* sp. being present in 55 per cent. (55 per 100), *Scrobicularia alba* in 30 per cent. (100 per 100), and *Solen pellucidus* in 30 per cent. (30 per 100).

Crustacea occurred in 35 per cent. (110 per 100), represented chiefly by *Nika edulis* 25 per cent. (105 per 100), whilst Echinoderma were present in 15 per cent.

65. OFF CAMPERDOWN. LXIII. 12. (B. 376.) September. 7–10 fathoms. c.s., f.g.spk.s.

Seventy-six (91 per cent.) divided into two groups, *i.e.*, 10–20 cm. (51 fish) and 20 cm. + (25 fish) contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

TABLE 39. Plaice.

Size in cm.	10–20		20+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	41	47	80	364	54	151
Tellina fabula	...	...	72	312	34	102
Remains	20	20 ?	...	...	13	13 ?
Scrobicularia sp.	8	8	28	44	14	20
Polychæta	27	27	48	60	34	38
Nephthys sp.	18	18	4	4	13	13
Lagis Koreni	4	4	40	40	16	16
Echinoderma	57	61+ ?	12	12+ ?	42	45+ ?
Echinocardium sp.	57	57+ ?	12	12+ ?	42	42+ ?
Coelentera (*Chondractinia*)	12	16	...	...	8	10
Crustacea	8	8	16	16	10	10

The smaller fish were feeding chiefly on *Echinocardium*, and the larger on *Tellina fabula*.

66. Off Camperdown. LXIII. 11. (O. 348.) September. 8-12 fathoms. f.g.s.

Fifty-two fish (67 per cent.) divided into two groups, *i.e.*, 10–20 cm. (33 fish) and 20 cm. + (19 fish), contained recognisable food, and 21 (27 per cent.) unrecognisable food, the remainder being empty.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 40. Plaice.

Size in cm.	10–20.		20 +.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	67	185	42	105	58	156
Mactra sp. young	48	152	...	...	31	96
Tellina fabula	...	...	37	100	13	36
Polychæta	18	24	42	42	27	31
Crustacea	36	106	10	10	27	71
Gastrosaccus spinifer ...	33	100	...	...	21	63
Echinoderma	42	42	26	26	36	36
Echinocardium sp.	30	30	16	16	25	25
Ophiura sp.	12	12	10	10	12	12

The smaller fish were feeding chiefly on *Mactra* sp. young (about 5 mm. long) and *Gastrosaccus spinifer* and the larger on *Tellina fabula*.

67. Off Borkum. XLI. 27. (O. 256.) October. 20 fathoms. f.g.s. and m.

Thirty-three fish (91 per cent.) divided into two groups, *i.e.*, 20–30 cm. (22 fish) and 30 cm. + (11 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 41. Plaice.

Size in cm.	20–30.		30 +.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Polychæta	86	332	55	55	76	240
Lagis Koreni	41	136	18	18	33	97
Scalibregma inflatum ...	55	136	...	...	36	91
Mollusca	73	241	64	73	70	185
Nucula nitida	36	55	18	18	30	42
Solen pellucidus	41	118	9	9	30	82
Scrobicularia alba	23	50	18	18	21	39
Crustacea	59	136	55	109	57	127
Nika edulis	41	104	55	109	45	106
Ampelisca sp.	23	23	...	...	15	15
Echinoderma	23	23	...	...	15	15
Nemertinea	...	...	9	9	3	3

The smaller fish were feeding chiefly on Polychæta (*Lagis* and *Scalibregma*), Mollusca (*Solen pellucidus*) and Crustacea (*Nika edulis*), whilst the larger were feeding chiefly on *Nika edulis* with a varied assortment of Mollusca and Polychæta.

68. Sylt Outer. XXXI. 20. (B. 139.) May. 10–11 fathoms. f.s.

Thirty-eight fish (92 per cent.) divided into two groups, *i.e.*, 20–30 cm. (10 fish) and 30 cm. + (28 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 42. Plaice.

Size in cm.	20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	80	420	89	614	87	564
Tellina fabula	80	400	82	590	81	540
Solen sp.	10	10	25	29	21	24
Polychæta	10	10	25	39	21	31
Pisces (*Ammodytes*)... ...	10	10	46	50	37	39
Echinoderma	20	20	...	...	5	5

Both size-groups were feeding chiefly on *Tellina fabula*, whilst *Solen* sp., Polychæta and *Ammodytes* were more common in the larger, and Echinoderma in the smaller fish.

69. South Bight of Horn Reef. LX. 3. (O. 342.) July. 9–10 fathoms. f.d.s. & sh.

Thirty fish (100 per cent.) contained recognisable food.

Feeding chiefly on Mollusca, 90 per cent. (323 per 100), represented principally by *Tellina fabula*, 30 per cent. (134 per 100), *Solen pellucidus*, 27 per cent. (80 per 100), and *Scrobicularia alba*, 20 per cent. (53 per 100).

Polychæta occurred in 20 per cent., Echinoderma in 7 per cent., and Crustacea in 3 per cent..

70. Norman Deep. XXXI. 12. (B. 134.) May. 7–11 fathoms. f.d.s.

Forty-nine fish (91 per cent.), divided into three groups, *i.e.*, 10–20 cm. (20 fish), 20–30 cm. (13 fish), and 30 cm. + (16 fish), contained recognisable food.

Table showing for each size group (i) the percentage of stomachs containing the various food groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 43. Plaice.

Size in cm.	10–20		20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	90	190	100	408	100	319	96	289
Tellina fabula	20	35	85	315	62	181	51	157
Scrobicularia alba	65	150	23	92	69	106	55	121
Polychæta	15	15	15	15	19	19	16	16
Lagis Koreni	5	5	...	...	19	19	8	8
Crustacea	15	15	...	...	...	...	6	6

All groups were feeding chiefly on Mollusca, represented almost entirely by *Tellina* and *Scrobicularia*.

71. Off East End of Great Silver Pit. LVI. 47. (O. 317.) June. 23–25 fathoms. s. & m., f.d.s.

Twenty-five fish (100 per cent.) contained recognisable food.

Mollusca, 80 per cent. (188 per 100), represented by *Cylichna cylindracea*, 72 per cent. (144 per 100), and *Solen* sp., 20 per cent. (20 per 100), and Polychæta, 84 per cent. (160 per 100), represented by *Nephthys* sp., 60 per cent. (100 per 100), and *Ophelia limacina*, 16 per cent. (40 per 100) formed the chief food, whilst Echinoderma occurred in 44 per cent. (160 per 100), represented solely by *Amphiura filiformis*. Gephyrea were present in 40 per cent. (64 per 100), Crustacea in 28 per cent. (56 per 100), and Nemertinea in 12 per cent.

72. Dogger—North Ground. LIX. 35. (O. 331.) June. 16–27 fathoms. f.d.g.s.

Sixteen fish (89 per cent.), 29 cm. + in length, contained recognisable food.

Feeding chiefly on Mollusca, 94 per cent. (444 per 100), consisting principally of *Solen* sp., 37 per cent. (69 per 100), *Solen pellucidus*, 44 per cent. (131 per 100), and *Psammobia ferröensis*, 19 per cent. (75 per 100).

Polychæta occurred in 56 per cent. (169 per 100), represented chiefly by *Owenia fusiformis*, 37 per cent. (125 per 100).

Crustacea were present in 12 per cent., Echinoderma and Coelentera each in 6 per cent.

73. Dogger—North Ground. North Part. LIX. 38. (O. 332.) June. 25–27 fathoms. f.d.g.s.

Nine fish (100 per cent.) contained recognisable food.

Feeding chiefly on Mollusca, 100 per cent. (700 per 100). *Solen pellucidus*, 78 per cent. (500 per 100), and *Solen* sp., 67 per cent. (144 per 100), being the principal representatives.

Polychæta, Echinoderma, Coelentera and Tunicata each occurred in one stomach only (11 per cent.)

74. Dogger—North-west Rough. South East Part. LXV. 5. (O. 356.) October. 13–17 fathoms. f.g.s. ; gl.

Several plaice of 28 cm. + were examined, all contained recognisable food, which consisted chiefly of Mollusca, *i.e.*, many *Pecten opercularis* and a few *Solen* sp.

75. Dogger—North-west Rough. East Part. LXV. 6. (O. 357.) October. 17–18 fathoms. gl., c.s.

Eight fish (89 per cent.) contained recognisable food.

Feeding exclusively on Mollusca, 100 per cent. (1,545 per 100), represented by three species only. *Pecten opercularis*, 37 per cent. (620 per 100). *Solen* sp., 87 per cent. (875 per 100), and *Psammobia ferröensis*, 25 per cent. (50 per 100).

76. Dogger—N.N.E. of South-west Patch. LIX. 8. (O. 321.) June. 16–17 fathoms. f.s. & sh., f.g.s.

Nineteen fish (91 per cent.) of 30 cm. + contained recognisable food.

Feeding principally on Mollusca 89 per cent. (200 per 100), chiefly *Solen* sp. 63 per cent. (132 per 100), and *Psammobia ferröensis*, 26 per cent. (58 per 100.)

Polychæta occurred in 26 per cent. (58 per 100) and Crustacea in 16 per cent. (105 per 100) represented by small *Eupagurus Bernhardus*.

77. Dogger—N.N.E. of South-west Patch. LIX. 6. (O. 320.) June. 13-16 fathoms. f.s. & sh.

Thirty-four fish (83 per cent.) of 30 cm.+ contained recognisable food.

Feeding chiefly on Mollusca 85 per cent. (506 per 100) the principal representatives being *Mactra subtruncata* in 29 per cent. (265 per 100), *Solen* sp. 47 per cent. (88 per 100) and *Natica catena* 3 per cent. (94 per 100).

Polychæta occurred in 18 per cent., Crustacea in 9 per cent. (88 per 100) (represented solely by small *Eupagurus Bernhardus*), Echinoderma in 3 per cent., and Tunicata in 6 per cent.

78. Dogger—N.N.E. of South-west Patch. LIX. 4. (O. 319.) June. 12–13 fathoms. f.s. & sh.

Twenty fish (87 per cent.) of 30 cm.+ contained recognisable food.

Feeding almost exclusively on Mollusca 100 per cent. (1,290 per 100) *Mactra subtruncata* in 90 per cent. (1,250 per 100) being the principal representative.

Polychæta occurred in 10 per cent.

79. Dogger—N.N.E. of South-west Patch. LXV. 7. (O. 358.) October. 10–14 fathoms. f.g.s.

Twenty-seven fish (100 per cent.) contained recognisable food.

Feeding almost exclusively on Mollusca 100 per cent. (21,000 ! per 100) the chief representatives being young *Mactra subtruncata*, 78 per cent. (20,900 ! per 100) and *Solen* sp. 15 per cent. (26 per 100). Crustacea occurred in 4 per cent. The number of *Mactra* present, which were nearly all in fragments, was calculated by drying the total quantity found after picking out all extraneous matter, weighing and dividing the weight by that of 70 whole *Mactra* (dry), which were found in the mass of fragments and multiplying the result by 70 ; the average length of the 70 whole specimens was 6·2 mm.

80. Dogger—E. of South-west Patch. XXVIII. 11. (O. 164.) March. 10–13 fathoms. f.s.

Thirty-four fish (87 per cent.) divided into two groups, *i.e.*, 20–30 cm. (13 fish) and 30 cm.+ (21 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups, and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 44. Plaice.

Size in cm.	20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	77	108	86	629	82	430
Solen sp.	54	77	62	148	59	121
Mactra subtruncata ...	...	...	52	428	32	265
Tellina fabula	15	23	14	19	15	21
Polychæta	46	46	38	52	41	50
Nephthys	15	15	19	19	18	18
Crustacea	...	...	19	19	12	12
Coelentera	...	...	5	5	3	3

The smaller fish were feeding chiefly on *Solen* sp., *Tellina fabula*, and Polychæta, whilst *Mactra subtruncata* and *Solen* sp. constituted the chief food of the larger ones.

81. Dogger—Between East and West Shoals. XXXI. 30. (B. 143.) May. 11–12 fathoms. f.g.s., f.d.s.

Fourteen fish (78 per cent.) of 30 cm. + contained recognisable food.

Feeding principally on Mollusca 93 per cent. (193 per 100), consisting wholly of *Solen* sp., 93 per cent. (172 per 100), and *Mactra* sp. 21 per cent. (21 per 100.)

Polychæta (14 per cent.) was the only other group represented.

82. Dogger—East of South-west Patch. XXVIII. 7. (O. 161.) March. 14–17 fathoms. f.s., & sh., f.s.

Sixty-six fish (96 per cent.) divided into two groups, *i.e.*, 20–30 cm. (17 fish) and 30 cm. + (49 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups, and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 45. Plaice.

Size in cm.	20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	47	94	98	445	85	355
Tellina fabula	29	71	24	88	26	83
Solen sp.	...	...	75	300	56	222
Polychæta	23	47	31	43	29	44
Nephthys sp.	18	18	12	12	14	14
Polyzoa (*Alcyonidium*) ...	53	?	10	?	21	?
Crustacea	23	23	12	18	15	20
Tunicata (*Pelonaia* sp. ?) ...	6	6	8	41	8	32
Echinoderma	6	6	2	2	3	3

The smaller fish were feeding chiefly on Mollusca (especially *Tellina fabula*) and *Alcyonidium*, whilst *Solen* sp. constituted the principal food of the larger fish.

83. Dogger—North Part of Hospital. LVI. 45. (O. 316.) May. 18–19 fathoms. f.d.g.s.

Seventeen fish (94 per cent.) contained recognisable food.

Feeding chiefly on Mollusca 88 per cent. (330 per 100), *Solen* sp. 35 per cent. (153 per 100) and *Cylichna cylindracea* 47 per cent. (165 per 100), being the chief representatives, and Polychæta 82 per cent. (376 per 100), *i.e.*, *Nephthys* sp. 59 per cent. (129 per 100), *Goniada maculata* 53 per cent. (124 per 100), *Lagis Koreni* 41 per cent. (65 per 100) and *Owenia fusiformis* 23 per cent. (59 per 100.) Crustacea occurred in 29 per cent. (29 per 100), Echinoderma in 12 per cent. (12 per 100) and Nemertinea in 6 per cent.

84. Dogger—South of South-west Patch. XXXI. 42. (B. 144.) May. 19–21 fathoms. f.s.

Twelve fish (92 per cent.) of 30 cm. + contained recognisable food.

Feeding chiefly on Mollusca, 92 per cent. (267 per 100), consisting principally of *Solen* sp., 75 per cent. (175 per 100), and *Mactra subtruncata*, 33 per cent. (58 per 100). Polychæta, 50 per cent. (83 per 100), were represented chiefly by *Nephthys* sp., 50 per cent. (67 per 100), and Crustacea, 8 per cent. (108 per 100) by *Portunus holsatus*, 8 per cent. (100 per 100).

85. Dogger—South of South-west Patch. XLI. 19. (O. 248.) October. 17–18 fathoms. g.s. & sh.; s. & gl.

Twenty-two fish (85 per cent.) contained recognisable food.

Feeding chiefly on Mollusca, 95 per cent. (222 per 100). *Solen* sp., 82 per cent. (168 per 100), being the principal representative.

Crustacea occurred in 41 per cent. (50 per 100), *Corystes cassivelaunus* being present in 36 per cent. (45 per 100), whilst Polychæta were found in 5 per cent. only.

86. East Part of Dogger Bank. XXXI. 25. (B. 142.) May. 16–21 fathoms. f.s.

Fifteen fish (100 per cent.) of 29 cm.+ contained recognisable food.

Feeding chiefly on Mollusca, 93 per cent. (466 per 100), represented by *Mactra subtruncata*, 53 per cent. (400 per 100), and *Solen* sp., 27 per cent. (47 per 100).

Polychæta occurred in 47 per cent. (47 per 100), represented by three or more species.

Lemon Soles. (*Pleuronectes microcephalus.*)

Fifty-nine fish from five stations were examined; of those 53 contained recognisable food, and two were empty, the contents of the remainder being unrecognisable.

The food consisted chiefly of Polychæta in 53 per cent., and Coelentera (*Cerianthus*) in 49 per cent., whilst Polyzoa occurred in 15 per cent., Mollusca in 15 per cent., and Crustacea in 6 per cent.

Included those recorded in the first report, 199 fish have been examined, of which 141 contained recognisable food consisting of Polychæta in 76 per cent., Coelentera, 21 per cent., Crustacea, 11 per cent., Mollusca and Polyzoa each in 6 per cent.

1. East of Farn Island. LXV. 3. (O. 354.) October. 40–50 fathoms. m.

Fifteen fish were examined of which three contained unrecognisable food, and 12 (80 per cent.) contained recognisable food.

Feeding chiefly on Coelentera (*Cerianthus*) 75 per cent. (167 per 100), and Polychæta, 58 per cent. (75 per 100), represented by *Eunice* (*norvegica* ?) and a Capitellid each in 17 per cent., and *Nereis pelagica*, *Sabella pavonina*, and a Terebellid each in 8 per cent.

2. W.N.W. of Brucey's Garden. LIX. 51. (O. 338.) July. 41–46 fathoms. f.s. & m.

Fourteen fish (100 per cent.) containing recognisable food.

Feeding chiefly on Coelentera (*Cerianthus*) 78 per cent. (171 per 100), and Polychæta, 57 per cent. (179 per 100) consisting of *Ampharete* (*Grubei* ?) 43 per cent. (143 per 100). *Eunice* (*norvegica* ?) 21 per cent. (21 per 100) and *Sabella pavonina* and a Terebellid each in 7 per cent.

Crustacea represented by *Eupagurus Bernhardus* occurred in 7 per cent.

3. South of the Hills. LVI. 38. (O. 313.) May. 27–29 fathoms. f.g.s.

Nine fish were examined of which two were empty and seven contained recognisable food.

Coelentera (*Cerianthus*) formed the chief food, occurring in six, whilst Polychæta were present in two, represented by *Sabella pavonina* in two, *Phyllodoce* sp.? and *Lepidonotus squamatus* each in one.

Mollusca represented by *Solen* feet occurred in two, and *Pycnogonum littorale* in one.

4. Off Grounds. XXXI. 43. (B. 145.) May. 26–31 fathoms. f.d.s.

Nine fish (100 per cent.) contained recognisable food.

Feeding chiefly on Polyzoa ? (*Alcyonidium*?), which was present in eight. The only other food found was *Hyas* sp. ? in one and six *Pycnogonum littorale* in one.

5. Off Blakeney Overfalls. LVII. 29. (B. 326.) June. 11–12 fathoms. s. & sh.

Eleven fish (92 per cent.) contained recognisable food.

Feeding wholly on Polychæta, represented by six *Lanice conchilega* in four stomachs, seven *Sabella pavonina* in three stomachs, and by numbers of *Pomatoceros triqueter* in four, the last species apparently having been pulled out of their tubes, as no trace of the latter was found.

Witch. (*Pleuronectes cynoglossus.*)

1. East of Farn Island. LVX. 3. (O. 354.) October. 40–50 fathoms. m.

Fifteen fish (83 per cent.) contained recognisable food, the contents in the remainder being unrecognisable.

Feeding chiefly on Polychæta, 80 per cent. (93 per 100), consisting of *Lumbriconereis* sp. ? 47 per cent., unidentified remains in 20 per cent., and *Sabella pavonina*, *Pectinaria* sp. ?, *Goniada maculata* and *Notomastas* ? sp., each in seven per cent.

Crustacea, represented by Amphipoda, occurred in 33 per cent. Mollusca (Cephalopoda) and Gephyrea each in seven per cent., and Coelentera (*Cerianthus*) in 13 per cent.

Dabs. (*Pleuronectus limanda.*)

One thousand and forty-one stomachs from 47 stations have been examined, of these 704 were divided into size groups, *i.e.*, < 10 cm., 117 ; 10–20 cm., 272 ; 20–30 cm., 209; 30 cm. +, 106 ; whilst the lengths of the remaining 337 were not noted.

Of the total examined 87 (8 per cent.) were empty, 114 (11 per cent.) contained unrecognisable food, whilst recognisable food was found in 840 (81 per cent.).

The food consisted of Mollusca and Crustacea each in 43 per cent., Polychæta in 22 per cent., Echinoderma in 18 per cent., Coelentera in 13 per cent., Pisces in 2 per cent., whilst Tunicata, Gephyrea and Foraminifera each occurred in less than 0·5 per cent.

Including those recorded in the first report, 1,370 stomachs have been examined, of which 1,098 contained recognisable food, *i.e.*, Mollusca in 47 per cent., Crustacea in 41 per cent., Polychæta in 21 per cent., Echinoderma in 15 per cent., Coelentera in 12 per cent., Pisces in 2 per cent., Polyzoa and Nemertinea each in 1 per cent., Tunicata, Gephyrea, and Foraminifera in less than 0·5 per cent.

Change of food with increase in size is shown in the following curves.

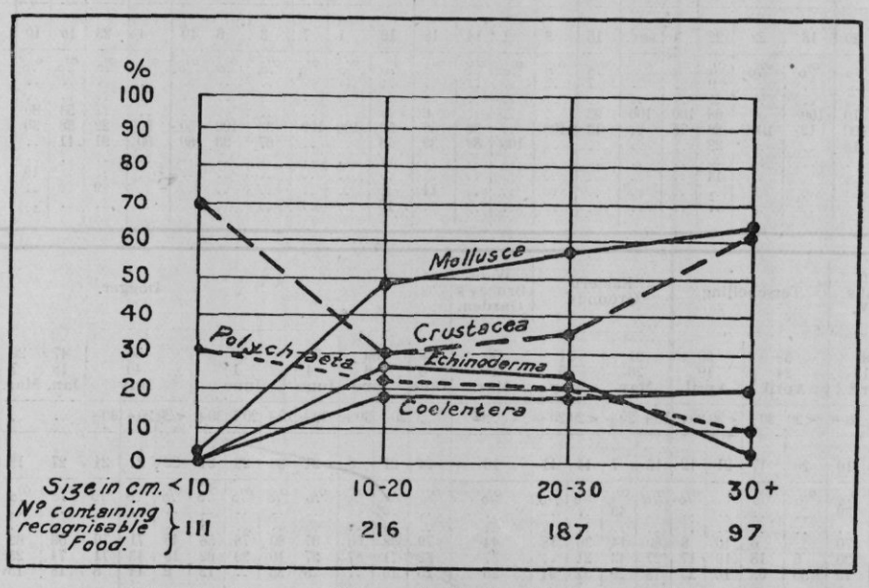


Fig. 4. Dabs. Change in food with increase in size.

The < 10 cm. fish were feeding chiefly on Crustacea (Amphipoda and Cumacea), with Polychæta second in importance; in the remaining groups Mollusca constituted the chief food, with Crustacea second. The rise in Crustacea in the 30 cm.+ group was almost wholly due to *Eupagurus Bernhardus*, whilst that in Echinoderma in the 10–20 and 20–30 cm. fish was due chiefly to *Amphiura filiformis*, *Echinocardium* sp. and *Ophiura* sp. The steady rise in Coelentera was due almost entirely to *Obelia* sp., which is often found in Dab stomachs from the Dogger.

Although not so marked as in the Plaice, there seems to be a certain cessation of feeding in the winter months, which is most marked in November, when the percentage of empty stomachs reaches 48 per cent.

The following curve shows the percentage of empty stomachs in each month of the year, the index figures giving the number examined (including the first report).

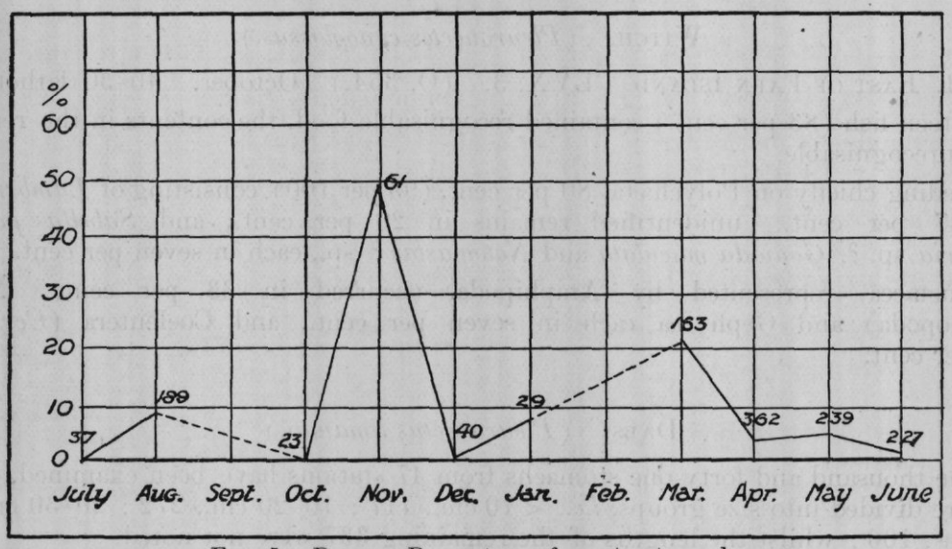


FIG. 5. DABS. Percentage of empty stomachs.

The average for the period November to March inclusive was 23 per cent., and 4 per cent. for April to August.

For details see Table E., of which the following is a summary :—

TABLE 46. Dabs.

Region.	Hartlepool.		Bridlington Bay.						Wash.												Leman Ground.		Markham's Hole.	S. of Brown Ridges.		Ijmuiden.	NE. of Brown Ridges.
Voyage	50	50	30	Oithona.	30		47	59	57	61	61		61	61		61	61	61		57	28		66	43		29	30
Station	4	6	16	7	11		1	29	13	32-34	26-29		23	3		9,10	6	16-19		18	15		7	1		4	39
Month	Mar.	Mar.	April	July	April		Jan.	July	June	Aug.	Aug.		Aug.	Aug.		Aug.	Aug.	Aug.		June	Mar.		Oct.	Nov.		Mar.	April
Size of Fish in cm. ..	2-7	4-7	20+	5-14	<20	20+	..	20+	5-7	5-10	5-10	10-15	6-9	10-17	7-9	..	6-10	7-9	10-16	5-12	<22	22+	..	10+	20+	..	10+
Stomachs containing recognisable food ..	11	20	16	22	22	4	sev.	15	3	1	14	18	16	1	7	3	6	10	4	23	19	10	23	7	8	20	19
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Pisces	..	..	..	..	9	..	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	25	5	26
Tunicata	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mollusca	..	10	100	..	68	100	100	93	..	..	..	6	..	..	..	..	..	..	..	..	53	80	13	71	62	20	84
Crustacea	100	100	12	100	86	75	..	13	100	..	36	56	50	100	100	33	100	50	50	22	58	30	30	..	37	35	21
Polychæta	..	15	..	..	23	..	..	..	..	100	86	39	56	..	..	67	33	60	50	91	11	..	4	..	..	35	16
Gephyrea	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Echinoderma	..	..	..	..	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	10	61	14	12	15	..
Coelentera	..	..	..	..	..	..	..	..	..	..	..	ii	..	..	..	..	..	..	..	9	..	..	22	29	..	..	..
Foraminifera	..	..	..	..	..	..	..	..	..	..	..	..	19	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Region.	Off Haaks L.-V.		Terschelling.				Eastern Grounds.				W. of Brucey's Garden.	Dogger.																	Clay Deep.
Voyage	30		30		30		31		31		50	59	59		59		59		56		47	29	31		56		31		56
Station	31		24		19		20		16		24	8	6		4		1		40		18	7	30		45		25		47
Month	April		April		April		May		May		Mar.	June	June		June		June		May		Jan.	Mar.	May		May		May		June
Size of Fish in cm. ..	<20	20+	<20	20+	<20	20+	10+	20+	<20	20+	..	..	20+	30+	30+	10+	20+	30+	<20	20+	30+	..	..	10+	30+	20+	10-24	30+	..
Stomachs containing recognisable food ..	27	10	20	17	21	12	15	7	14	11	16	24	21	8	21	20	23	24	22	21	24	27	13	6	18	22	10	2	33
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Pisces	..	30	..	..	..	..	..	43	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	..	..	..	20	..	..
Tunicata	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mollusca	78	70	..	6	10	8	80	14	36	18	44	79	38	50	67	80	78	58	45	71	79	59	62	33	61	59	10	..	39
Crustacea	30	30	5	18	10	17	27	43	21	..	37	62	71	87	57	10	39	62	18	43	71	74	23	17	50	41	70	100	21
Polychæta	4	10	35	53	10	25	13	29	57	91	25	25	10	..	5	35	..	12	9	14	8	18	15	17	17	23	10	..	30
Gephyrea	..	..	..	..	..	..	..	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Echinoderma	26	40	95	76	86	100	13	..	7	9	12	..	..	..	5	..	..	4	9	..	..	4	..	..	59	10	..	..	82
Coelentera	4	..	15	29	57	75	7	..	7	..	..	..	10	..	..	..	4	..	73	57	46	18	46	33	50	9	..	..	..
Foraminifera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

1. South of the Mouth of the Tees. L. 4. (S.T. 404.) March. 5–6 fathoms. f.s.

Eleven fish (92 per cent.) of 2–7 cm. contained recognisable food.

Feeding wholly on Crustacea, 100 per cent., consisting of Amphipoda in 73 per cent. *Mysis* larvae in 18 per cent., and unidentified remains in 9 per cent.

2. North of Hartlepool. L. 6. (S.T. 406.) March. 4–5 fathoms. f.s.

Twenty fish (100 per cent.) of 4–7 cm. contained recognisable food.

Feeding chiefly on Crustacea, 100 per cent., represented by Amphipoda (400 per 100) in 80 per cent., remains in 25 per cent., and Cumacea in 5 per cent.

Polychæta occurred in 15 per cent. and Mollusca in 10 per cent.

3. Bridlington Bay. XXX. 16. (B. 124.) April. 8 fathoms. d.s. and sh.

Sixteen fish (100 per cent.) of 20 cm. + contained recognisable food.

Feeding chiefly on Mollusca, 100 per cent. (125 per 100), represented in 94 per cent. by *Solen* sp. ? (119 per 100).

Crustacea occurred in 12 per cent.

4. Bridlington Bay. Oithona 7. July. $2\frac{1}{4}$ fathoms.

Twenty-two fish (100 per cent.) of 5–14 cm. contained recognisable food.

All were full of Crustacea, represented exclusively by Cumacea.

5. Bridlington Bay. XXX. 11. (B. 123.) April. 5–7 fathoms. d.s.gl.

Twenty-six fish (96 per cent.), divided into two groups, *i.e.*, < 20 cm. (22 fish) and 20 cm. + (4 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food groups, and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 47. Dabs.

Size in cm.	< 20.		20 +.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Crustacea	86	145	75	100	85	138
Crangon vulgaris	27	27	50	50	31	31
Idothea linearis	9	9	25	25	11	11
Corystes cassivelaunus ...	23	23	...	...	19	19
Amphipoda	18	18	...	...	15	15
Mollusca	68	86	100	150	73	96
Solen sp.	23	23	75	125	31	38
Polychæta	23	23	...	...	19	19
Echinoderma	14	14	...	...	12	12
Pisces	9	9	...	...	8	8

Both size-groups were feeding chiefly on Crustacea and Mollusca.

6. Bridlington Bay. XLVII. 1. (B. 276.) January. 6 fathoms. f.s.

Several fish examined, all feeding largely on Mollusca, represented by *Doris pilosa*.

7. Bridlington Bay. LIX. 29. (B. 345.) July. 3–5 fathoms. f.d.s.

Fifteen fish (100 per cent.) of 20 cm. + contained recognisable food.

Feeding principally on Mollusca, 93 per cent. (106 per 100), represented almost entirely by *Solen* sp. 93 per cent. (93 per 100).

Crustacea occurred in 13 per cent. and Pisces in 7 per cent.

8. Wash—Boston Deep. LVII. 13. (S.T. 483.) June. 8 fathoms. c.s., gl. & sh., f.s.

Three fish (75 per cent.) of 5–7 cm. contained recognisable food.

All feeding on Crustacea, represented solely by Amphipoda.

9–11. Wash—Boston Deep. Bennington Main. LXI. 32–34. (S.T. 581–583.) August. 3–5 fathoms. s.m., f.s.

Eleven fish of 3–5 cm. were examined, of these 10 contained unrecognisable food, whilst the remaining one had been feeding on Polychæta.

12–15. Wash—Boston Deep. Leverton and Bennington Main. LXI. 26–29. (S.T. 575–578.) August. 1–7 fathoms. f.s.

Thirty-two fish (80 per cent.), divided into two groups, *i.e.*, 5–10 cm. (14 fish) and 10–15 cm. (18 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 48. Dabs.

Size in cm.	5–10.		10–15.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Polychæta (unidentified) ...	86	?	39	39	59	?
Crustacea	36	43	56	89	47	69
Crangon vulgaris	7	7	28	39	19	25

The smaller fish were feeding chiefly on Polychæta, whilst the food of the larger consisted principally of Crustacea, represented by *Crangon vulgaris* and *Portunus holsatus*.

16. Wash—Boston Deep (North Toft). LXI. 23. (Ag. 572.) August. 1 fathom. f.s.

Sixteen fish (76 per cent.) of 6–9 cm. contained recognisable food.

Feeding chiefly on Crustacea, 50 per cent. (169 per 100), consisting principally of Amphipoda 37 per cent. (156 per 100).

Polychæta were present in 56 per cent., mostly unidentified.

17. Wash—Lynn Deep (Gat Channel). LXI. 3. (S.T. 552.) August. 3–4 fathoms. f.s.

Eight fish (73 per cent.) of 7–17 cm. contained recognisable food.

The food in all cases consisted solely of Polychæta, none of which were identified.

18 & 19. Wash—Lynn Deep (Gat Channel). LXI. 9 & 10. (S.T. 558, 559.) August. 4–9 fathoms. f.s.

Three fish (16 per cent.) contained recognisable food ; 79 per cent. being empty.

Polychæta occurred in two and Crustacea in one.

20. WASH—LYNN DEEP (GAT CHANNEL). LXI. 6. (Ag. 555.) August. 2 fathoms. f.s.

Six fish (85 per cent.) of 6–10 cm. contained recognisable food.

All feeding on Crustacea, represented in 50 per cent. by Amphipoda. Polychæta occurred in 33 per cent.

21–24. WASH—LYNN DEEP (HOOK HILL HALL AND OLD SOUTH GROUND). LXI. 16–19. (Ag. 565–568.) August. 1–6 fathoms. f.s., f.s. & m., f.s. & sh.

Fourteen fish (67 per cent.) of 7–16 cm. contained recognisable food.

Feeding chiefly on Polychæta, 57 per cent., and Crustacea, 50 per cent. (64 per 100), *Crangon* sp ? 29 per cent. (43 per 100) being the only one identified.

25. WASH—LYNN DEEP. LVII. 18. June. 5–8 fathoms. Soil variable.

Twenty-three fish (85 per cent.) of 5–12 cm. contained recognisable food.

Feeding chiefly on Polychæta, represented solely by Terebellida (? *Lanice*) in 91 per cent.

Crustacea (Amphipoda) occurred in 22 per cent. and Hydrozoa in 9 per cent.

26. LEMAN GROUND. XXVIII. 15. (B. 109.) March. 14–16 fathoms. f.d.s., f.s.

Twenty-nine fish (83 per cent.), divided into two groups, *i.e.*, < 22 cm. (19 fish) and 22 cm. + (10 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

TABLE 49. Dabs.

Size in cm.	< 22.		22 +.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	53	110	80	220	62	148
Solen sp. feet	16	26	60	200	31	86
Mactra sp. feet	16	21	...	...	10	14
Crustacea	58	74	30	40	48	62
Callianassa subterranea ...	26	26	20	20	24	24
Pandalus Montagui	37	37	10	10	28	28
Polychæta	11	11	...	...	7	7
Echinoderma	...	...	10	10	3	3

The smaller fish were feeding chiefly on Crustacea (*Pandalus* and *Callianassa*), Mollusca (chiefly *Solen* and *Mactra* feet), whilst Mollusca, represented almost entirely by *Solen* feet, formed the principal food of the larger fish.

27. MARKHAM'S HOLE. LXVI. 7. (O. 367.) October. 20–33 fathoms. spk.s., s. & m.

Twenty-three fish (100 per cent.) contained recognisable food.

Feeding chiefly on Echinoderma, 61 per cent. (74 per 100), the principal representatives being *Ophiothrix fragilis* 30 per cent. and *Echinus miliaris* 35 per cent.

Crustacea occurred in 20 per cent. (43 per 100), *Eupagurus Bernhardus* 13 per cent. (13 per 100) being the chief representative.

Mollusca were present in 13 per cent. and Polychæta in 4 per cent.

28. South of Brown Ridges. XLIII. 1. November. 15–18 fathoms. f.d.s.

Fifteen fish (48 per cent.), divided into two groups, *i.e.*, 10–20 cm. (seven fish) and 20 cm. + (eight fish), contained recognisable food, and 48 per cent. were empty.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 50. Dabs.

Size in cm.	10–20.		20 +.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	71	71	62	75	67	73
Solen sp.	43	43	50	50	47	47
Crustacea	...	...	37	37	20	20
Echinoderma	14	14	12	12	13	13
Coelentera (*Obelia* sp.) ...	29	?	...	...	13	?
Pisces	...	...	25	25	13	13

Both groups were feeding chiefly on Mollusca (especially *Solen* sp.).

The 20 cm. + fish had also been feeding on Crustacea and Pisces, which were both absent from the stomachs of the smaller fish.

29. Off Ijmuiden. XXIX. 4. (O. 170.) March. 9–11 fathoms. f.s.

Twenty fish (62 per cent.) contained recognisable food ; 31 per cent. being empty.

Feeding chiefly on Crustacea, 35 per cent. (40 per 100), represented by *Crangon vulgaris* 20 per cent. (20 per 100), *Eupagurus Bernhardus* 15 per cent. (15 per 100), and *Thia polita* 5 per cent., and Polychæta, 35 per cent. (35 per 100), the principal representatives of which were *Terebella* ? in 15 per cent. and *Phyllodoce grænlandica* 10 per cent.

Mollusca occurred in 20 per cent., *Solen* sp. 10 per cent., Echinoderma represented by *Ophiura albida* in 15 per cent., and Pisces in 5 per cent.

30. North-East Part of Brown Ridges. XXX. 39. April. 15 fathoms. f.s.

Nineteen fish (82 per cent.) of 10–20 cm. contained recognisable food.

Feeding chiefly on Mollusca, 84 per cent. (158 per 100), represented principally by *Syndosmya prismatica* 47 per cent. (58 per 100), *Donax vittatus* 26 per cent. (63 per 100), and *Solen* sp. 31 per cent. (31 per 100).

Pisces, represented by *Ammodytes*, occurred in 26 per cent. (26 per 100), Crustacea in 21 per cent., and Polychæta in 16 per cent.

31. Off Haaks Light-vessel. XXX. 31. (B. 125.) April. 14–15 fathoms. f.s.

Thirty-seven fish (95 per cent.), divided into two groups, *i.e.*, <20 cm. (27 fish) and 20 cm. + (10 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

TABLE 51. Dabs.

Size in cm.	< 20.		20 +.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	78	133	70	170	76	143
Solen sp.	37	48	40	40	38	46
Solen pellucidus	18	33	20	70	19	43
Tellina fabula	18	18	10	10	16	16
Crustacea	30	30	30	40	30	32
Eupagurus Bernhardus ...	7	7	30	30	14	14
Echinoderma	26	26 ?	40	40 ?	30	30 ?
Echinocardium sp.	7	?	30	?	14	?
Polychæta	4	4	10	20	5	8
Pisces (*Ammodytes* sp.) ...	...	...	30	30	8	8

Mollusca formed the chief food of both size-groups. Echinoderma were more common in the larger fish, whilst Pisces were absent from the stomachs of the smaller ones.

32. NORTH-WEST OF TERSCHELLING. XXX. 24. (O. 187.) April. 19–20 fathoms. m., s. & m.

Thirty-seven fish (97 per cent.), divided into two groups, *i.e.*, < 20 cm. (20 fish) and 20 cm. + (17 fish), contained recognisable food.

Table showing for each size group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

TABLE 52. Dabs.

Size in cm.	< 20.		20 +.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Echinoderma	95	685	76	124	86	426
Amphiura filiformis ...	95	650	23	41	62	370
Ophiura ciliaris	25	25	47	47	35	35
Echinocardium sp.	5	?	29	?	16	?
Polychæta	35	110	53	218	43	159
Lagis Koreni	25	100	53	212	38	151
Coelentera (*Obelia* sp.) ...	15	?	29	?	22	?
Crustacea	5	5	18	18	11	11
Mollusca	...	...	6	6	3	3

Both groups were feeding chiefly on Echinoderma and Polychæta, the former being more common in the < 20 cm. group than in the 20 cm. + and the latter *vice versa*.

33. N.N.W. of Terschelling. XXX. 19. (O. 186.) April. 20–21 fathoms. m.

Thirty-three fish (100 per cent.), divided into two groups, *i.e.*, < 20 cm. (21 fish) and 20 cm. + (12 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 53. Dabs.

Size in cm.	< 20.		20 +.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Echinoderma	86	119	100	234	91	161
Echinocardium sp.	19	?	100	?	48	?
Ophiura ciliaris	29	29	50	50	36	36
Amphiura filiformis ...	38	67	33	67	36	67
Coelentera (*Obelia* sp.) ...	57	?	75	?	64	?
Polychæta	10	29	25	42	15	33
Crustacea	10	10	17	17	12	12
Mollusca	10	10	8	8	9	9

Echinoderma (especially *Amphiura*) and Coelentera (*Obelia* sp.) formed the chief food of the smaller fish, whilst Echinoderma (especially *Echinocardium* sp.) and Coelentera (*Obelia* sp.) formed that of the larger.

34. Sylt Outer. XXXI. 20. (B. 139.) May. 10–11 fathoms. f.s.

Twenty-two fish (76 per cent.), divided into two groups, *i.e.*, < 20 cm. (15 fish) and 20 cm. + (7 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 54. Dabs.

Size in cm.	< 20.		20 +.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	80	86	14	29	59	68
Solen sp.	27	33	14	14	23	27
Bivalve feet	40	40	14	14	32	32
Crustacea	27	27	43	43	32	32
Eupagurus Bernhardus ...	7	7	43	43	18	18
Polychæta	13	13	29	29	18	18
Pisces	...	...	43	43	14	14
Echinoderma	13	13	...	...	9	9
Coelentera (*Obelia*)	7	?	...	...	5	?

Mollusca formed the chief food of the smaller fish, whilst the larger fish had been feeding more on Crustacea and Pisces.

35. Horn Reef Outer. XXXI. 16. (B. 136.) May. 26–27 fathoms. f.s. & oz. ; f.s. & m.

Twenty-five fish (64 per cent.) divided into two groups, *i.e.*, < 20 cm. (14 fish) and 20 cm. + (11 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various-food groups, and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 55. Dabs.

Size in cm.	<20.		20+.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Polychæta	57	78	91	100	72	88
Mollusca	36	36	18	18	28	28
Scrobicularia sp.	29	29	...	...	16	16
Crustacea	21	21	...	...	12	12
Echinoderma	7	7	9	9	8	8
Coelentera	7	?	...	...	4	?
Gephyrea	7	7	...	...	4	4

The larger fish were feeding principally on Polychæta, with few Mollusca and Echinoderms.

The smaller fish, whilst feeding chiefly on Polychæta, although to a less extent than the larger, contained (in addition to Mollusca and Echinoderma) Crustacea, Coelentera, and Gephyrea, which were absent from the stomachs of the larger fish.

36. West of Brucey's Garden. L. 24. (O. 286.) March. 42–43 fathoms. f.d.s.

Sixteen fish (40 per cent.) contained recognisable food, 47 per cent. being empty, whilst the remainder contained unrecognisable food.

Mollusca occurred in 44 per cent. (50 per 100), *Cardium* feet 25 per cent. and *Solen pellucidus* 12 per cent., being the chief representatives.

Crustacea occurred in 37 per cent. (112 per 100) represented in 19 per cent. by *Ampelisca* sp. (94 per 100).

Polychæta were present in 25 per cent.. and Echinoderma in 12 per cent.

37. Dogger—N.N.E. of South-west Patch. LIX. 8. (O. 321.) June. 16–17 fathoms. f.s. & sh. ; f.g.s.

Twenty-four fish (89 per cent.) contained recognisable food.

Feeding chiefly on Mollusca 79 per cent. (92 per 100), the principal representative being *Solen* sp. 71 per cent. (83 per 100), and Crustacea 62 per cent. (62 per 100), represented solely by *Eupagurus Bernhardus*. Polychæta occurred in 25 per cent.

38. Dogger—N.N.E. of South-west Patch. LIX. 6. (O. 320.) June. 13–16 fathoms. f.s. & sh.

Twenty-nine fish (83 per cent.) divided into two groups, *i.e.*, 20–30 cm. (21 fish) and 30 cm. + (8 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

TABLE 56. Dabs.

Size in cm.	20–30.		30+.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.
Crustacea	71	81	87	87	76	83
Eupagurus Bernhardus ...	71	76	87	87	76	79
Mollusca	38	38	50	62	41	45
Solen sp.	24	24	50	62	31	34
Polychæta	10	10	...	...	7	7
Coelentera	10	?	...	...	7	?

Both size-groups had been feeding chiefly on Crustacea (especially *Eupagurus Bernhardus*) and Mollusca (principally *Solen* sp.), Polychæta and Echinoderma were present in the 20–30 cm. fish only.

39. DOGGER—N.N.E. OF SOUTH-WEST PATCH. LIX. 4. (O. 319.) June. 12–13 fathoms. f.s. & sh.

Twenty-one fish (95 per cent.) of 30 cm. +, contained recognisable food.

Feeding principally on Mollusca 67 per cent. (219 per 100), consisting chiefly of *Natica catena* 57 per cent. (152 per 100), and *Mactra subtruncata* 29 per cent. (62 per 100), Crustacea represented solely by *Eupagurus Bernhardus* were present in 57 per cent. (57 per 100.)

Polychæta and Echinoderma each occurred in 5 per cent. only.

In three stomachs which contained both *Natica* and *Mactra*, the latter were bored by the *Natica*.

40. DOGGER—NORTH OF SOUTH-WEST PATCH. LIX. 1. (O. 318.) June. 9–15 fathoms. f.s., f.s. & sh.

Sixty-seven fish (85 per cent.) divided into three groups, *i.e.*, 10–20 cm. (20 fish), 20–30 cm. (23 fish), and 30 cm. + (24 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

TABLE 57. Dabs.

Size in cm.	10–20		20–30		30+		Total.	
	St.	Sp.	St.	Sp.	St.	Sp	St.	Sp.
Mollusca	80	m	78	144	58	129	72	m
Solen sp.	55 (fry)	m	22	26	29	29	34	m
Natica catena	...	...	22	30	29	50	18	28
Mactra subtruncata	...	...	9	22	8	37	6	21
Crustacea	10	10	39	43	62	75	39	45
Eupagurus Bernhardus	10	10	26	26	58	71	33	37
Polychæta	35	35	...	...	12	12	15	15
Coelentera	...	...	4	?	...	...	1	?

The smallest fish were feeding chiefly on Mollusca, represented in the majority of cases by the fry of *Solen* sp., about 2 mm. long, many of the stomachs being quite full. The medium fish were feeding on a varied assortment of Mollusca, chiefly *Solen*, *Natica* and *Mactra*, and Crustacea, especially *Eupagurus*. The food of the larger fish consisted chiefly of *Eupagurus* and Mollusca.

In one case (among the 30 cm. + fish) in which both *Natica* and *Mactra* were present in the same stomach, four out of seven of the latter were bored.

41. Dogger—North of South-west Patch. LVI. 40. (O. 314.) May. 10–14 fathoms. f.g.s. & sh.

Sixty-seven fish (92 per cent.) divided into three groups, *i.e.*, < 20 cm. (22 fish), 20–30 cm. (21 fish), and 30 cm. + (24 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 58. Dabs.

Size in cm.	<20.		20–30		30+.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
Mollusca	45	95	71	110	79	138	66	115
Solen sp.	36	41	62	86	58	100	52	76
Coelentera (*Obelia* sp.)	73	?	57	?	46	?	58	?
Crustacea	18	23	43	43	71	75	45	48
Eupagurus Bernhardus	14	14	33	33	71	75	40	42
Polychæta	9	9	14	14	8	8	10	10
Echinoderma	9	9	...	...	...	...	3	3

The small fish were feeding chiefly on *Obelia* and *Solen*, the medium on *Solen*, *Obelia* and *Eupagurus*, and the large on *Eupagurus*, *Solen* and *Obelia*.

42. Dogger—Eastern Shoal. XLVII. 18. (O. 272.) January. 11–12 fathoms. f.s.

Twenty-seven fish (93 per cent.) contained recognisable food.

Feeding chiefly on Crustacea represented solely by *Eupagurus Bernhardus* 74 per cent. (104 per 100), and Mollusca 59 per cent. (130 per 100), consisting chiefly of *Solen* sp. 33 per cent. (48 per 100), *Mactra subtruncata* 26 per cent. (41 per 100), and *Natica catena* 22 per cent. (37 per 100).

Polychæta occurred in 18 per cent., *Phyllodoce grœnlandica* 15 per cent. being the chief representative.

Coelentera (*Obelia geniculata*) were present in 18 per cent. and Echinoderma in 4 per cent.

43. Dogger—N.E. of South-west Patch. XXIX. 7. (O. 172.) March. 9–11 fathoms. f.s. & sh.

Thirteen fish (87 per cent.) contained recognisable food.

Feeding principally on Mollusca 61 per cent. (77 per 100), *Solen* sp. 38 per cent. (46 per 100) being the chief representative.

Coelentera (*Obelia longissima*) occurred in 46 per cent., Crustacea (*Eupagurus Bernhardus*) in 23 per cent. (31 per 100), and Polychæta in 15 per cent.

44. Dogger—Between East and West Shoals. XXXI. 30. (B. 143.) May. 11–12 fathoms. f.g.s., f.d.s.

Twenty-four fish (86 per cent.) divided into two groups, *i.e.*, 10–20 cm. (6 fish) and 30 cm. + (18 fish), contained recognisable food.

Table showing for each size-group (i) the percentage of stomachs containing the various food-groups and the dominant species, and (ii) the total number of specimens found per 100 stomachs.

Table 59. Dabs.

Size in cm.	10–20.		30+.		Total.	
	St.	Sp.	St.	Sp.	St.	Sp
Mollusca	33	33	61	67	54	58
Solen sp.	33	33	56	61	50	54
Coelentera (*Obelia*)	33	?	50	?	46	?
Crustacea	17	17	50	50	42	42
Eupagurus Bernhardus ...	...	...	50	50	37	37
Polychæta	17	17	17	17	17	17

The chief food in each case consisted of *Solen* and *Obelia*, and in addition the 30 cm. + were feeding to a large extent on *Eupagurus*.

45. Dogger—North Part of Hospital. LVI. 45. (O. 316.) May. 18–19 fathoms. f.d.g.s.

Twenty-two fish (88 per cent.) of 20 cm. + contained recognisable food.

The chief food consisted of Mollusca 59 per cent. represented almost entirely by *Solen* sp. 55 per cent. and Echinoderma 59 per cent. (141 per 100), represented by *Amphiura filiformis* 59 per cent. (136 per 100).

Crustacea occurred in 41 per cent., *Eupagurus Bernhardus* 23 per cent., and *Callianassa subterranea* 18 per cent., whilst Polychæta were present in 23 per cent.

46. Dogger—East Part. XXXI. 25. (B. 142.) May. 16–21 fathoms. f.l.g.s., f.s., f.g.s.

Twelve fish (41 per cent.) contained recognisable food, that in the remainder being unrecognisable.

The food consisted chiefly of Crustacea in 75 per cent. (290 per 100), represented by Amphipoda 42 per cent. (250 per 100). *Eupagurus Bernhardus* 25 per cent. (25 per 100).

Pisces occurred in 17 per cent., whilst Mollusca, Polychæta and Echinoderma were each present in 8 per cent.

47. Off East End of Great Silver Pit. LVI. 47. (O. 317.) June. 23–25 fathoms. s. and m., f.d.s.

Thirty-three fish (100 per cent.) contained recognisable food.

Feeding chiefly on Echinoderma in 82 per cent. (618 per 100) consisting principally of *Amphiura filiformis* 79 per cent. (606 per 100).

Mollusca occurred in 39 per cent. (39 per 100). *Solen pellucidus* 21 per cent. (21 per 100) being the commonest species.

Crustacea occurred in 21 per cent., and Polychæta in 30 per cent.

Flounder. (*Pleuronectes flesus.*)

Twenty-seven fish from two stations were examined. Five of these contained recognisable food, the remainder (all from one station) being empty. Including those recorded in the last report fifty-one stomachs from three stations have been examined, 45 of which were empty. The empty stomachs were all those of fish caught off Ijmuiden and Egmont in 8–10 fathoms f.s.–c.s. in November and March, one stomach only from that locality containing any food. Those containing food were taken off Covehithe in April. (c.f. Plaice and Dabs, pp. 81 and 106.)

Off Covehithe. LII. 9. (S.T. 431.) April. 11 fathoms. m.

Five fish (100 per cent.) contained recognisable food.

All feeding chiefly on Mollusca (*Scrobicularia alba*), whilst *Crangon vulgaris*, *Idothea linearis*, and *Lagis Koreni* each occurred in one stomach only.

Off Ijmuiden. XXVIII. 24. (B. 115.) March. 8–10 fathoms. f.s.

All the fish examined (22) were empty. (c.f., 1st Report on Food of Fishes, p. 251.)

Soles. (*Solea vulgaris.*)

One hundred and fifty-seven stomachs from 16 stations have been examined; of these 87 were divided into size-groups, *i.e.*, <20 cm. (47 fish), 20–30 cm. (19 fish), 30 cm. + (21 fish), whilst the lengths of 70 were not noted.

Of those examined recognisable food was found in 108, whilst 31 were empty, and 18 contained unrecognisable food. The food found consisted chiefly of Polychæta in 58 per cent., Crustacea 26 per cent., Mollusca 12 per cent., Pisces 10 per cent., Echinoderma 6 per cent., and Nemertinea 1 per cent.

Including those recorded in the last report 349 stomachs have been examined. Of these 212 contained recognisable food, which consisted of Polychæta in 59 per cent., Crustacea in 30 per cent., Pisces and Mollusca each in 11 per cent., Echinoderma in 9 per cent., Nemertinea in 3 per cent., Polyzoa and Coelentera each in less than 0·5 per cent.

There is a small amount of evidence to show that, like the Plaice, Dab, and Flounder, the Sole does not feed to the same extent in the winter (December–April) as it does in the summer, but owing to the fact that we have so few records, it is not conclusive.

Curve showing the percentage of empty stomachs in each month of the year (excepting October, November, February, and March), including those recorded in the first report. The index numbers show the number examined.

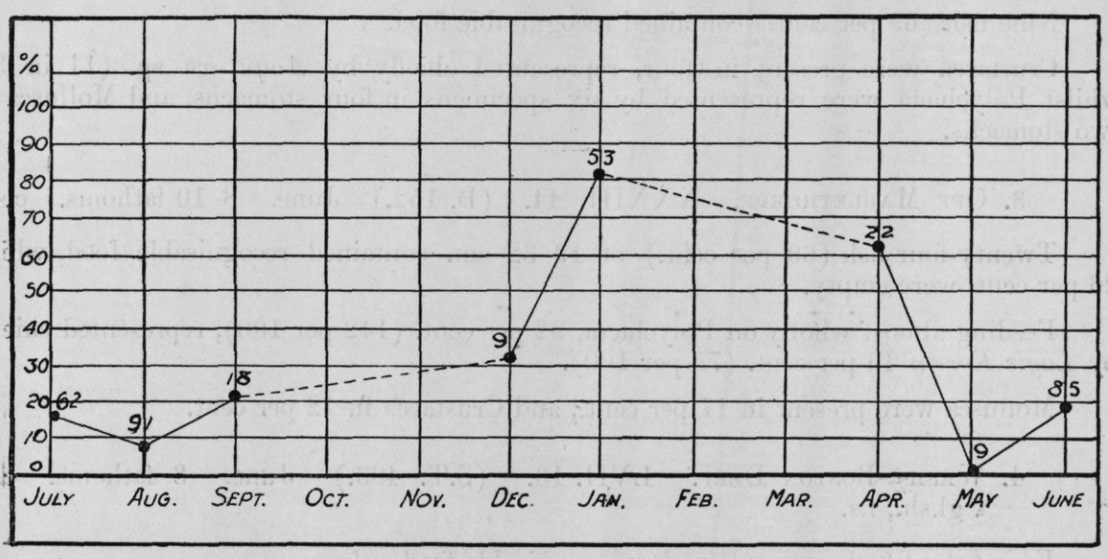


Fig. 6. Soles. Percentage of Empty Stomachs.

It will be seen from the above that in December, January, and April the percentage of empty stomachs varies between 33 per cent. and 82 per cent., whilst from May to September it does not rise above 22 per cent.

For details *see* Table F, of which the following is a summary.

TABLE 60. Soles.

Region.	Lincolnshire Coast.				Wash.								Middle Ground.	Sylt Outer.
Voyage	30	57		33	57	Boston Deeps.	61	61	61	61	57		64	31
Station	3	22		44	13		3	9–10	16–19	12	21		16	20
Month	Apr.	June		June	June	June	Aug.	Aug.	Aug.	Aug.	June		Sept.	May
Size	...	20+	30+	19–32	8–9	7–14	9–11	11–14	10–14	10–14	20+	30+	...	30+
Stomachs containing recognisable food.	6	5	4	24	0	13	1	2	5	12	8	5	14	9
	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Pisces	...	...	...	...	...	...	...	...	...	8	...	...	7	100
Mollusca	33	20	25	17	...	...	...	...	...	...	37	20	7	...
Crustacea	...	60	25	12	...	15	100	50	40	75	37	20	14	...
Polychæta	67	40	50	92	...	85	...	50	60	25	37	60	64	...
Nemertinea	...	...	...	...	...	...	...	...	...	8	...	...	...	...
Echinoderma ...	...	...	...	...	...	...	...	...	...	...	...	...	50	...

1. OFF TRUSTHORPE. XXX. 3. (B. 119.) April. 7 fathoms. f.s., c.s.

Six fish (35 per cent.) contained recognisable food, and 59 per cent. were empty.

Polychæta occurred in four, represented by 18 specimens of three species.

Mollusca (unidentified) were present in the remaining two.

2. OFF MABLETHORPE. LVII. 22. (B. 325.) June. 7–9 fathoms. spk.s., s. & m.

Nine fish (69 per cent.) contained recognisable food.

Crustacea were present in four, represented chiefly by *Ampelisca* sp. (11 in 3), whilst Polychæta were represented by six specimens in four stomachs, and Mollusca in two stomachs.

3. OFF MABLETHORPE. XXXIII. 44. (B. 152.) June. 8–10 fathoms. c.s.

Twenty-four fish (69 per cent.) of 19–32 cm. contained recognisable food, whilst 26 per cent. were empty.

Feeding almost wholly on Polychæta, 92 per cent. (142 per 100), represented chiefly by *Lagis Koreni* 46 per cent. (75 per 100).

Mollusca were present in 17 per cent., and Crustacea in 12 per cent.

4. WASH—BOSTON DEEP. LVII. 13. (S.T. 483.) June. 8 fathoms. c.s., gl.sh., f.s.

Four fish of 8–9 cm. contained unrecognisable food only.

5. WASH—BOSTON DEEP. June. (Fisherman's catch.)

Thirteen fish (86 per cent.) of 7–14 cm. contained recognisable food.

Polychæta constituted the chief food in 85 per cent. represented by unidentified remains in all cases.

Crustacea (unidentified remains) occurred in the remaining 15 per cent.

6. WASH—LYNN DEEP (GAT CHANNEL). LXI. 3. (S.T. 552.) August. 3–4 fathoms. f.s.

Five fish (9–11 cm.) were examined, of which one only contained recognisable food consisting of a single Amphipod.

7 & 8. WASH—LYNN DEEP (GAT CHANNEL). LXI. 9 & 10. (S.T. 558, 559.) August. 4–9 fathoms. f.s.

Two fish (11-14 cm.) out of three contained recognisable food, consisting in one case of a single Amphipod, and in the other of unidentified Polychæte remains.

9–12. WASH—HOOK HILL HALL AND OLD SOUTH GROUND. LXI. 16–19. (Ag. 565–568.) August. 3–6 fathoms. f.s. & sh.

Five fish (10–14 cm.) out of seven contained recognisable food, consisting of Amphipoda in two, and Polychæta in three.

13. WASH—LYNN DEEP. LXI. 12. (S.T. 561.) August. 4 fathoms. s. & m.

Twelve fish (92 per cent.), 10–14 cm. in length, contained recognisable food.

75 per cent. were feeding on Amphipoda, and 25 per cent. on Polychæta, whilst Nemertinea and Pisces each occurred in 8 per cent.

14. WASH—LYNN DEEP. LVII. 21. (B. 324.) June. 9–16 fathoms. s. & m., c.s. & m.

Thirteen fish (72 per cent.) of 20 cm. + contained recognisable food.

Feeding chiefly on Polychæta, 46 per cent., *Nephthys* sp. in 31 per cent., and *Ophelia limacina* in 15 per cent. being the chief representatives.

Mollusca and Crustacea each occurred in 31 per cent., the latter represented chiefly by *Amphipoda*.

15. MIDDLE GROUND. LXIV. 16. (B. 386.) September. 23–24 fathoms. f.g.s.

Fourteen fish (78 per cent.) contained recognisable food.

Feeding chiefly on Polychæta 64 per cent. (93 per 100), represented in 29 per cent. by *Ophelia limacina* (50 per 100.)

Echinoderma occurred in 50 per cent. (114 per 100), represented chiefly by *Echinocyamus pusillus* 43 per cent. (93 per 100), whilst Crustacea occurred in 14 per cent., and Pisces and Mollusca each in 7 per cent.

16. SYLT OUTER. XXXI. 20. (B. 139.) May. 10–11 fathoms. f.s.

Nine fish (100 per cent.) of 30 cm. + contained recognisable food.

Feeding wholly on Pisces, which consisted of single specimens of *Ammodytes* sp. in five, *Pleuronectes limanda* in three, and *Rhombus maximus* ? juv. in one.

SEA TROUT. (*Salmo trutta.*)

LEMAN GROUND. LXI. 36. (B. 347.) August. 13–17 fathoms. f.d.s., f.s.

The only fish examined, one of 41 cm., contained two *Ammodytes lanceolatus*.

HERRING. (*Clupea harengus.*)

MARKHAMS HOLE. LXVI. 7. (O. 367.) October. 20–33 fathoms. spk.s., s. & m.

Fifteen fish were examined, of these one was empty, whilst the remainder had all been feeding on herring spawn.

TOPE. (*Galeus vulgaris.*)

SOUTH BIGHT OF HORN REEF. LX. 1. (O. 340.) July. 9–10 fathoms. f.d.s. & sh., f.d.s.

One fish was examined, and found to contain two whole *Pleuronectes* sp. and several pieces, including a head, and several *Ammodytes* sp.

SPUR DOG. (*Acanthias vulgaris.*)

One hundred and nineteen stomachs from 10 stations have been examined. Of these 28 were empty, one contained unrecognisable food, and 90 contained recognisable food.

The food consisted chiefly of Coelentera (*Pleurobracheus pileus* in 65 per cent., whilst Pisces occurred in 32 per cent., Crustacea in 22 per cent., Mollusca in 3 per cent., Polychæta in 2 per cent. and Gephyrea in 1 per cent.

Including those recorded in the first report, 180 stomachs from 21 stations have been examined, of these 110 contained recognisable food which consisted of Coelentera (*Pleurobracheus*) in 54 per cent., Pisces 30 per cent., Crustacea 26 per cent., Gephyrea (*Echiurus*) 15 per cent., Mollusca 4 per cent., Polychæta 2 per cent.

In the majority of cases in which *Acanthias* had been feeding on *Pleurobracheus*, and in some cases in which no food was found, the stomachs were distended with water.

Acanthias, unlike most piscivorous fish, does not always swallow a fish whole, but often bites pieces off. This is well shown by the experience of drift net fishermen, who frequently have a large proportion of their catch of herring and mackerel rendered unsaleable by the bites of spur dogs.

1. OFF MABLETHORPE. XL. 44. (B. 226.) October. 7–8 fathoms. s.gl.

Five fish (29 per cent.) of 67 cm. + contained recognisable food, whilst unrecognisable food occurred in 65 per cent.

Pisces remains were present in four, and Crustacea in one.

2. OFF SUTTON. XL. 42. (B. 225.) October. 5–7 fathoms. s. & m.

Fifteen fish (54 per cent.) of 28–45 cm. contained recognisable food, the remainder being empty.

Feeding chiefly on Crustacea 100 per cent. (180 per 100), consisting of *Crangon vulgaris* 47 per cent. (67 per 100), *Pandalus Montagui* 47 per cent. (53 per 100), *Eupagurus Bernhardus* 33 per cent. (33 per 100), and *Gastrosaccus spinifer* 13 per cent. (27 per 100).

Pisces were present in 60 per cent. (60 per 100), represented by *Clupea* sp. 27 per cent., *Gobius minutus*, *Petromyzon* sp., and *Solea vulgaris* each in 7 per cent. and remains in 13 per cent.

Mollusca occurred in 20 per cent. represented by *Buccinum undatum* in 13 per cent. and *Solen* sp. in 7 per cent., whilst Polychæta (*Ophelia limacina*) were found in 7 per cent.

3. LEMAN GROUND. XXVIII. 15. (B. 109.) March. 14–16 fathoms. f.d.s., f.s.

The only fish examined contained fish remains.

4. East of Leman. XXVIII. 19. (B. 112.) March. 16 fathoms. f.d.s.

Five fish were examined.

In two the stomachs were distended with water only, whilst the remaining three contained respectively, single specimens of *Clupea harengus*, *C. sprattus* and *Eupagurus Bernhardus*.

5. Between Brown Ridges and Winterton Twenties. LVIII. 24. (B. 339.) June. 15–17 fathoms. f.g.s.

The only fish examined (75 cm. long) contained a single *Gadus merlangus*.

6. Between the Western Brown Ridges. LVIII. 14. (B. 334.) June. 17–20 fathoms. f.g.s. & sh.

Fifty-one fish of 38–60 cm. and one of 83 cm. contained recognisable food.

Feeding chiefly on Coelentera, represented by large numbers of *Pleurobracheus pileus* in 98 per cent. Pisces occurred in 12 per cent. represented by a whole pleuronectid in 4 per cent., and pieces in 4 per cent., and *Solea lutea* in 4 per cent.

The stomachs in all cases contained a large quantity of water.

7. Broad Fourteens. XXXVII. 22. August. 13–14 fathoms. f.g.s.

The only fish (81 cm. long) examined, contained single specimens of *Trachinus draco* and *Pleuronectes platessa*.

8. W.S.W. of Fano. XXXI. 9. (B. 132.) 7½ fathoms. f.s. & oz.

Four fish (80 per cent.) of 80 cm. + contained recognisable food.

Crustacea occurred in three, represented by *Eupagurus Bernhardus* in two and *Crangon vulgaris* in one, whilst Polychæta (*Alitta virens* and *Nephthys caeca*), Gephyrea (*Echiurus*) and Coelentera (*Pleurobracheus pileus*) each occurred in one stomach only.

9. Horn Reef, Outer. XXXI. 14. (B. 135.) May. 19–21 fathoms. f.l.s.

Seven fish (100 per cent.) of 60–70 cm. contained recognisable food.

All the stomachs were distended with water, and contained many *Pleurobracheus pileus*, and in addition one or two contained fish remains.

10. Off East End of Great Silver Pit. LVI. 47. (O. 317.) June. 23–25 fathoms. s. & m., f.d.s.

Of the two fish examined one was empty, whilst the other contained pieces of *Pleuronectes* sp. ?

Skate. (*Raia batis.*)

Leman Ground. XXVIII. 15. (B. 109.) March. 14–16 fathoms. f.d.s., f.s.

One fish only was examined ; it contained single specimens of each of the following—*Clupea sprattus*, *Crangon Allmanni*, *Pandalus brevirostris*, and *Pandalus Montagui*.

Thornback. (*Raia clavata.*)

Sixty-four stomachs from 8 stations have been examined. Of these 58 (91 per cent.) contained recognisable food, the remainder being empty.

Feeding chiefly on Crustacea in 96 per cent., with Polychæta in 21 per cent., Mollusca in 15 per cent., and Pisces in 12 per cent.

Including those recorded in the first report, 132 stomachs have been examined. Of these 121 contained recognisable food, consisting of Crustacea in 97 per cent., Polychæta in 12 per cent., Pisces in 10 per cent., and Mollusca in 9 per cent.

For details see Table G., of which the following is a summary.

TABLE 61. Thornback.

Region.	Bridlington.	Mablethorpe.	Blakeney.	Leman Ground.		Brown Ridges.	Southwold.			Sunk.
Voyage	56	56	26	28	28	58	61			32
Station	11	31	2	17	15	10	52			14
Month	May	May	Jan.	Mar.	Mar.	June	August			June
Size in cm.	23–49	...	...	...	...	62	<30	30+	40+	...
Stomachs containing recognisable food.	4	11	6	1	6	1	7	10	2	10
	%	%	%	%	%	%	%	%	%	%
Pisces	25	...	50	...	33	...	...	...	...	10
Mollusca	50	...	33	...	33	...	...	...	...	30
Crustacea	100	100	83	100	100	100	100	100	100	90
Polychæta	...	36	17	...	...	...	...	...	...	70

1. BRIDLINGTON BAY. LVI. 11. (B. 304.) May. 6 fathoms. f.d.s.

Four fish (100 per cent.) of 23–49 cm. contained recognisable food.

Crustacea were present in all, represented by *Portunus holsatus* and *Crangon* sp. ? each in two, whilst Mollusca occurred in two, and Pisces in one.

2. OFF MABLETHORPE. LVI. 31. (B. 315.) May. 6–7 fathoms. s. & gl.

Eleven fish (100 per cent.) contained recognisable food.

Feeding almost exclusively on Crustacea 100 per cent. (1,560 per 100), represented principally by *Gastrosaccus spinifer*, 73 per cent. (455 per 100), *Amathilla homari* 64 per cent. (427 per 100), and *Ampelisca* sp. ? 36 per cent. (500 per 100). Polychæta, the only other group found, occurred in 36 per cent.

3. EAST OF BLAKENEY OVERFALL. XXVI. 2. (B. 101.) January. 10 fathoms. c.s. & sh.

Six fish (60 per cent.) contained recognisable food.

Crustacea occurred in five, represented by ten specimens of four species, whilst Pisces occurred in three, Mollusca in two, and Polychæta in one stomach only.

4. LEMAN GROUND. XXVIII. 17. (B. 110.) March. 14–16 fathoms. f.s., f.d.s.

The only fish examined contained ten *Crangon Allmanni*.

5. LEMAN GROUND. XXVIII. 15. (B. 109.) March. 14–16 fathoms. f.d.s., f.s.

Six fish (84 per cent.) contained recognisable food.

Feeding chiefly on Crustacea 100 per cent. (532 per 100), represented in the majority of cases by *Crangon Allmanni* 100 per cent. (500 per 100).

Pisces and Mollusca each occurred in 33 per cent.

6. North Part of West Brown Ridge. LVIII. 10. (B. 332.) June. 15–19 fathoms. f.d.s., f.g.s.

One fish of 62 cm. contained three *Portunus holsatus* and two *Corystes cassivelaunus*.

7. Off Southwold. LXI. 52. (B. 362.) August. 12 fathoms. c.s. & st.

Seventeen fish (100 per cent.) divided into three groups, *i.e.*, <30 c.m. (7 fish), 30–40 c.m. (10 fish), and 40 c.m. + (2 fish) contained recognisable food.

Feeding exclusively on Crustacea 100 per cent. (605 per 100), represented chiefly by *Crangon Allmanni* 100 per cent. (432 per 100), and *Pandalus Montagui* 53 per cent. (105 per 100).

8. Sunk. XXXII. 14. (B. 149.) June. 9–10 fathoms. c.s. & gl.

Ten fish (91 per cent.) contained recognisable food.

Feeding chiefly on Crustacea 90 per cent. (330 per 100), represented by *Pandalus Montagui* 40 per cent. (110 per 100), *Eupagurus Bernhardus* 60 per cent. (90 per 100), *Portunus holsatus* 60 per cent. (60 per 100), and four other species in 10–20 per cent.

Polychæta occurred in 70 per cent. (100 per 100), represented chiefly by *Nephthys caeca* in 70 per cent. (90 per 100).

Mollusca, represented by bivalve feet, were present in 30 per cent. (330 per 100) and Pisces in 10 per cent.

Homelyn. (*Raia maculata.*)

1. Off Mablethorpe. LVI. 31. (B. 115.) May. 6–7 fathoms. s. & gl.

Eight fish (100 per cent.) contained recognisable food.

Feeding chiefly on Crustacea 100 per cent. (3,510 per 100), represented by *Gastrosaccus spinifer* 88 per cent. (3,120 per 100), *Amathilla homari* 25 per cent. (75 per 100), *Gammarus* sp. 25 per cent., *Portunus holsatus* and *Crangon trispinosa* each in 12 per cent., whilst Polychæta represented by *Nephthys* sp. were present in 62 per cent.

2. Off Saltfleet. LVI. 30. (B. 114.) May. 7 fathoms. c.d.s., d.s. & gl.

Two fish only were examined.

Both feeding on Crustacea and Polychæta. Of the former *Gastrosaccus spinifer* occurred in both, one of which was full, whilst *Crangon* sp. and *Pandalus Montagui* each occurred in one. Polychæta were represented by *Nephthys* sp. only.

III.—COMPARISON OF THE FOOD OF DIFFERENT SPECIES OF FISH CAUGHT IN THE SAME HAUL OF THE TRAWL.

1. South of the Mouth of the Tees. L. 4. (S.T. 404.) March. 5–6 fathoms. f.s.

Three Cod of 9–10 cm. and 11 Dabs of 2–7 cm. contained recognisable food.

All were feeding wholly on Crustacea, consisting chiefly of Amphipoda (*Paratylus Swammerdami* in the case of the Cod).

2. North of Hartlepool. L. 6. (S.T. 406.) March. 4–5 fathoms. f.s.

Eleven Cod of 7–12 cm. and 20 Dabs of 4–7 cm. contained recognisable food.

All were feeding chiefly on Crustacea, consisting principally of Amphipoda in the Dabs, and Amphipoda and Mysidæ in the Cod; in addition Pisces occurred in one Cod, and Polychæta and Mollusca in three and two Dabs respectively.

3. Hartlepool Ground. L. 9. (O. 281.) March. 14–25 fathoms. f.d.s.

Twelve Grey Gurnard, 20 Cod (< 50 cm.), and 19 Cod (50–70 cm.) contained recognisable food.

The following Table shows the percentage of stomachs for each species and size group in which the various food groups and dominant food species were found.

Table 62. Grey Gurnard and Cod.

—	Grey Gurnard.	Cod < 50 cm.	Cod 50–70 cm.
	%	%	%
Crustacea	67	70	79
Crangon Allmanni	25	25	21
Pandalus Montagui	17	35	...
Portunus pusillus	...	5	32
Galathea squamifera ...	...	...	21
Pisces	42	40	68
Gadus sp.	33	20	37
Clupea sp.	8	10	16
Pleuronectes sp.	...	...	21
Mollusca	8	...	...
Echinoderma	...	...	5

Both Cod and Grey Gurnard were feeding chiefly on Crustacea and Pisces, the Crustacea being more varied in the Cod than in the Grey Gurnard, whilst Pisces were most numerous and varied in the large Cod.

4. Bridlington Bay. XXX. 16. (B. 124.) April. 5 fathoms. f.g.s.

Twenty-six Plaice (<20 cm.) and 16 Dabs (20 cm. +) contained recognisable food. The Dabs were feeding principally on *Solen* feet (94 per cent.), whilst the Plaice, although feeding chiefly on Mollusca (*Solen*, *Mactra*, *Syndosmya*), also contained four species of Polychæta in 23 per cent., two of Crustacea in 19 per cent., and two of Echinoderma in 15 per cent.

5. Bridlington Bay. LIX. 29. (B. 345.) July. 3–5 fathoms. f.d.s.

Thirty Plaice (12–20 cm.) and 15 Dabs (20 cm. +) contained recognisable food. As in XXX. 16, the Dabs were feeding chiefly on *Solen* feet (93 per cent.), whilst the Plaice were feeding on Mollusca (mostly unidentified) 87 per cent. and Polychæta (50 per cent.), represented principally by *Nephthys* (40 per cent.).

6. Off Sutton. XL. 41. (B. 224.) October. 5–9 fathoms. s. & gl.

Thirty-nine Cod (21–26 cm.) and 14 Grey Gurnard (27–35 cm.) contained recognisable food. The Gurnard were feeding wholly on Crustacea, consisting of *Crangon Allmanni*, *C. vulgaris*, and *Pandalus Montagui* in 50 per cent., 57 per cent., and 64 per cent. respectively.

The Cod also were feeding chiefly on Crustacea (92 per cent.), *Pandalus Montagui* 64 per cent. and *Eupagurus Bernhardus* 41 per cent., being the chief representatives, whilst Polychæta, Pisces and Mollusca occurred in 18 per cent., 5 per cent., and 3 per cent. respectively.

7. East of Farn Island. LXV. 3. (O. 354.) October. 40–50 fathoms. m.

Fifteen Witches and 12 Lemon Soles contained recognisable food. The former were feeding chiefly on Polychæta 80 per cent., with Crustacea (Amphipoda) in 33 per cent., Mollusca and Gephyrea ? in 7 per cent., and Coelentera (*Cerianthus*) in 13 per cent., whilst the Lemon Soles were feeding on Coelentera (*Cerianthus*) 75 per cent., and Polychæta 58 per cent.

8. W.N.W. of Brucey's Garden. LIX. 51. (O. 338.) July. 41–46 fathoms. f.s. & m.

Sixteen Haddock, 14 Lemon Soles, and one Angler contained recognisable food. The Haddocks were feeding chiefly on Crustacea (Amphipoda) 87 per cent., the Lemon Soles on *Cerianthus* 78 per cent., and Polychæta 57 per cent., and the Angler on Pisces (*Gadus*, sp. var.).

9. The Hills. XLIX. 26. (O. 280.) March. 15–27 fathoms. f.s., f.d.s.

Twenty Haddock and six Plaice contained recognisable food. The Haddock were feeding chiefly on Mollusca 95 per cent. (*Solen pellucidus* 80 per cent.), Polychæta 85 per cent. (*Ophelia limacina* 60 per cent., *Nephthys* sp. 60 per cent.), Crustacea 65 per cent. (Amphipoda 55 per cent.), with Echinoderma in 40 per cent., whilst the food of the Plaice consisted of Mollusca in 83 per cent. (*Tellina fabula* 50 per cent.), Coelentera (*Cerianthus*) 67 per cent., Polychæta in 33 per cent., and Crustacea in 17 per cent.

10. South of the Hills. LVI. 38. (O. 313.) May. 27–29 fathoms. f.g.s.

Thirty-one Plaice and seven Lemon Soles contained recognisable food. The former were feeding chiefly on Mollusca 84 per cent. (*Solen* sp. ? 26 per cent., *Solen pellucidus* 23 per cent., and *Cylichna cylindracea* 19 per cent.), Polychæta 42 per cent., and Pisces (*Ammodytes*) 32 per cent., whilst the latter were feeding chiefly on Coelentera (Actinians) 85 per cent. with Polychæta and Mollusca each in 28 per cent. and Crustacea in 14 per cent.

11. Flamborough Off Ground. XXXI. 43. (B. 145.) May. 26–31 fathoms. f.d.s.

Twenty-six Plaice and nine Lemon Soles contained recognisable food.

The former were feeding on a varied assortment of Mollusca in 85 per cent., with Echinoderma in 27 per cent. and Pisces and Polychæta each in 23 per cent., whilst the Lemon Soles were feeding chiefly on *Alcyonidium* 89 per cent., with Crustacea and Pycnogonida each in 11 per cent.

12. Leman Ground. XXVIII. 15. (B. 109.) March. 14–16 fathoms. f.s., f.d.s.

Six Plaice (20–30 cm.), seven Plaice (30 cm. +), 19 Dabs (< 22 cm.), 10 Dabs (22 cm. +), six Whiting, three Grey Gurnard, and six Thornbacks contained recognisable food.

The Plaice were feeding chiefly on Mollusca (*Tellina fabula*, *Solen* spp., &c.), the small Dabs on Crustacea (*Pandalus Montagui* and *Callianassa subterranea*) and Mollusca (*Solen* and *Mactra* spp.), the large Dabs on Mollusca (*Solen* sp.), the Whiting, Grey Gurnard and Thornback on Crustacea (*Crangon Allmanni*).

13. Knoll Deep. LXI. 59–62. (B. 367–370.) August. 21–26 fathoms. Soil various.

Eighty Whiting and 43 Plaice contained recognisable food.

The former were feeding principally on Crustacea (*Crangon Allmanni* chiefly), and the latter on Polychæta (*Lagis Koreni*) and Mollusca (*Scrobicularia alba*).

14. N.E. Part of Brown Ridges. XXX. 39. (B. 126). April. 15 fathoms. f.s.

Fifty-five Plaice and 19 Dabs contained recognisable food.

The former were feeding chiefly on Mollusca (*Solen* sp., *Donax vittatus* and *Tellina fabula*) and Polychæta (*Nephthys*, *Goniada maculata*, &c.), and Pisces (*Ammodytes*), and the latter on Mollusca (*Scrobicularia prismatica*, *Solen* sp. and *Donax vittatus*), Pisces (*Ammodytes*), Crustacea and Polychæta.

15. Off Haaks Light Vessel. XXX. 31. (B. 125.) April. 14–15 fathoms. f.s.

Fifty Plaice, 37 Dabs and 27 Grey Gurnard contained recognisable food.

The Plaice were all feeding chiefly on Mollusca (*Donax vittatus*, *Tellina fabula* and *Solen* spp.), the Dabs on Mollusca (*Solen* spp. and *Tellina fabula*), and the Grey Gurnard on Crustacea (*Crangon Allmanni*).

16. Sylt Outer. XXXI. 20. (B. 139.) May. 10–11 fathoms. f.s.

Twenty-two Dabs, 38 Plaice, 27 Haddock, and three Cod contained recognisable food.

The Dabs were feeding chiefly on Mollusca (*Solen* spp. and bivalve feet), the Plaice and Haddock on Mollusca (*Tellina* spp.), and the Cod on Pisces.

17. West of Horn Reef. XXIX. 15. (O. 179.) March. 22–23 fathoms. f.s., f.s. & oz.

Nineteen Haddock and 17 Whiting contained recognisable food.

The former were all feeding chiefly on Echinoderma (*Amphiura filiformis*) and the latter on Pisces (*Clupea*, &c.).

18. Horn Reef Outer. XXXI. 16. (B. 136.) May. 26–27 fathoms. f.s. & m.

Twenty-five Dabs, 14 Long Rough Dabs, and 26 Grey Gurnard contained recognisable food.

The Dabs were feeding chiefly on Polychæta, the Long Rough Dabs on Crustacea (*Nika edulis*), and the Grey Gurnard on Crustacea represented however by *Crangon Allmanni*.

19. Lower Scruff. XXIX. 10. (O. 175.) March. 24 fathoms. f.s.

Eighteen Cod, 23 Haddock, 21 Whiting, and one Grey Gurnard contained recognisable food.

The Cod were feeding chiefly on Pisces and Crustacea, the Haddock on Echinoderma (*Amphiura filiformis*), Polychæta (*Lagis Koreni*), Mollusca (*Solen* sp.) and Crustacea, the Whiting on Pisces and Crustacea, and the Grey Gurnard on Crustacea.

20. Off East End of Great Silver Pit. LVI. 47. (O. 317.) June. 23–25 fathoms. s. & m., f.d.s.

Twenty-five Plaice, 33 Dabs, 36 Haddock, 18 Whiting, 11 Cod, and 11 Grey Gurnard contained recognisable food.

The Plaice were feeding chiefly on Polychæta (*Nephthys* sp.), Mollusca (*Cylichna cylindracea*), and Echinoderma (*Amphiura filiformis*), the Dabs and Haddock on Echinoderma (*Amphiura*), the Whiting on Crustacea (*Eupagurus Bernhardus*) and Pisces, the Cod on Crustacea and Pisces, and the Gurnard on Crustacea only (*Crangon trispinosus*, &c.).

21. Dogger—N.N.E. of South-West Patch. LIX. 8. (O. 321.) June. 16–17 fathoms. f.s. & sh., f.g.s.

Nineteen Plaice, 24 Dabs, and 13 Haddock contained recognisable food.

The Plaice were feeding chiefly on Mollusca (*Solen* sp. and *Psammobia ferroensis*), the Dabs on Mollusca (*Solen* feet and siphons) and Crustacea (*Eupagurus Bernhardus*), and the Haddock on Mollusca (*Solen* sp. and *Tellina fabula*).

22. Dogger—N.N.E. of South-West Patch. LIX. 6. (O. 320.) June. 13–17 fathoms. f.s. & sh.

Thirty-four Plaice and 29 Dabs contained recognisable food.

The former were feeding chiefly on Mollusca (*Solen* and *Mactra subtruncata*), and the latter on Crustacea (*Eupagurus Bernhardus*) and Mollusca (*Solen* sp.).

23. Dogger—N.N.E. of South-West Patch. LIX. 4. (O. 319.) June. 12–13 fathoms. f.s. & sh.

Twenty-one Plaice and 22 Dabs contained recognisable food.

The Dabs were feeding chiefly on Mollusca (*Natica catena* and *Mactra subtruncata*) and Crustacea (*Eupagurus Bernhardus*), and the Plaice on Mollusca (*Mactra subtruncata*).

24. Dogger—North of South-West Patch. LVI. 40. (O. 314.) May. 10–14 fathoms. f.s. & sh.

Sixty-seven Dabs, 34 Haddock, and 23 Cod contained recognisable food.

The Dabs were feeding chiefly on Mollusca (*Solen*), Crustacea (*Eupagurus Bernhardus*), and Coelentera (*Obelia*), the Haddock on Crustacea (*Amphipoda*), and the Cod on Crustacea (*Eupagurus Bernhardus*).

25. Dogger—N.N.E. of South-West Patch. LXV. 7. (O. 358.) October. 10–14 fathoms. f.g.s.

Twenty-seven Plaice and 53 Haddock contained recognisable food.

The former were feeding chiefly on Mactra fry (about 6 mm. long), whilst the latter were feeding principally on Solen (about 25 mm. long).

26. Dogger—North of South-West Patch. LIX. 1. (O. 318.) June. 9–15 fathoms. f.g.br.s., f.s. & sh.

Sixty-seven Dabs, 20 Haddock, and 87 Cod contained recognisable food.

The Dabs were feeding chiefly on Mollusca (various species, chiefly *Solen* fry in the case of the smaller) and Crustacea (*Eupagurus Bernhardus*), the Haddock (large) on Echinoderma (*Amphiura filiformis*) and Mollusca, various, and (small) Mollusca (*Solen*, *Mactra*, and other fry), whilst Crustacea (*Eupagurus Bernhardus*) and Pisces formed the chief food of the Cod.

27. Dogger—South of South-West Patch. XLI. 19. (O. 248.) October. 17–18 fathoms. f.s. & sh., s. & gl.

Twenty Cod, 16 Haddock, and 22 Plaice contained recognisable food.

The Cod and Haddock were feeding chiefly on Herring spawn, whilst *Solen* and *Corystes* formed the principal food of the Plaice.

28. Dogger—South of South-West Patch. XLI. 20. (O. 249.) October. 17–18 fathoms. s. & gl., g.s.

Whiting, Cod, and Haddock were all feeding largely on Herring spawn.

29. Dogger—N.E. of South-West Patch. XXIX. 8. (O. 173.) March. 11–14 fathoms. f.s. & sh., f.s.

Fourteen Cod and eight Haddock contained recognisable food.

The Cod were feeding chiefly on *Buccinum* and bivalve feet and *Eupagurus Bernhardus*, and the Haddock on *Mactra subtruncata* (?) feet.

30. Dogger—East of South-West Patch. XXVIII. 7. (O. 161.) March. 14–17 fathoms. f.s. & sh., f.s.

Sixty-six Plaice, 29 Haddock, and five Cod contained recognisable food.

The Plaice were feeding chiefly on Mollusca (*Solen* sp. and *Tellina fabula*). The Haddock on a varied assortment of Mollusca (*Tellina* and *Solen* largely), Crustacea and Polychæta, and the Cod on Crustacea, Polychæta and Pisces.

31. Dogger—North Part of Hospital. LVI. 45. (O. 316.) May. 18–19 fathoms. f.d.g.s.

Seventeen Plaice, 25 Dabs, 19 Whiting, and 36 Haddock contained recognisable food.

The Plaice were feeding chiefly on Mollusca (*Solen* sp. and *Cylichna cylindracea*) and Polychæta (*Nephthys* sp. *Goniada maculata* and *Lagis Koreni*), the Dabs on Mollusca (*Solen*), Echinoderma (*Amphuira filiformis*) and Crustacea (*Eupagurus* and *Callianassa*), the Whiting on Crustacea (*Eupagurus Bernhardus* and *Callianassa subterrannea*) and Pisces, and the Haddock on Echinoderma (*Amphiura filiformis*) and Mollusca (*Montacuta bidentata* and *M. ferruginosa*).

32. Dogger—Between East and West Shoals. XXXI. 30. (B. 143.) May. 11–12 fathoms. f.g.s., f.d.s.

Fourteen Plaice, 24 Dabs, and 18 Haddock contained recognisable food.

The Plaice were feeding chiefly on Mollusca (*Solen* sp.), the Dabs on Mollusca (*Solen* sp.), Crustacea (*Eupagurus Bernhardus*) and Coelentera (*Obelia*), whilst the Haddock were feeding chiefly on Mollusca (*Solen*, &c.) and Crustacea.

33. Dogger—East Part. XXXI. 25. (B. 142.) May. 16–21 fathoms. f.l.g.s., f.s., f.g.s.

Fifteen Plaice, 12 Dabs, and one Coal fish contained recognisable food.

The Plaice were feeding principally on Mollusca (*Mactra subtruncata* and *Solen* sp.), the Dabs on Crustacea with Pisces, &c., whilst the Coal fish contained as principal food 113 *Ammodytes* of 3–6 cm.

Plaice, Dabs and Haddock (*see* Table H).

One hundred and thirteen Plaice, 125 Dabs, and 130 Haddock from stations XXXI. 20 and 30, LVI. 45 and 47, and LIX. 8 contained recognisable food.

Mollusca formed the chief food of all three (87 per cent., 57 per cent., and 59 per cent. respectively), and were represented principally by *Solen* sp. in 39 per cent., 38 per cent., and 27 per cent. respectively. *Tellina fabula* occurred only in the Plaice and Haddock (27 per cent. in each).

Montacuta spp. were most abundant in the Haddock, practically absent in the Dabs, and absent in the Plaice.

Cylichna cylindracea was present in 23 per cent. of the Plaice, absent in Dabs, and present in 2 per cent. only of the Haddock.

Crustacea were most common in the Dabs and Haddock, the respective percentages being 11 per cent., 38 per cent., and 38 per cent., the chief representative being *Eupagurus Bernhardus*, which was not found in the Plaice stomachs, but was present in 28 per cent. of the Dabs, and 9 per cent. of the Haddock.

Polychæta were most common in the Plaice (in 44 per cent.), whilst they occurred in 36 per cent. of the Haddock, and 23 per cent. of the Dabs. Of the various species identified, *Nephthys* sp. was present in 31 per cent. of the Plaice and 7 per cent. of the Haddock, being absent in the Dabs, *Lagis Koreni* was most common in the Plaice and Haddock (13 per cent. and 15 per cent. respectively), and rare in the Dabs (2 per cent.).

Echinoderma constituted a large proportion of the food in the Haddock (58 per cent.), whilst they were present in the Dabs (31 per cent.), and Plaice 12 per cent., represented in nearly all cases by *Amphiura filiformis*.

The chief food species being *Solen* sp., *Amphiura*, *Echinocyamus*, *Tellina*, *Mactra* and *Lagis*.

Haddock, especially when small (23–25 cm.), undouhtedly do an enormous amount of damage among small Mollusca, as for example in LIX. 1, where no less than 509 *Solen* fry of less than 2 mm. were counted in one stomach. Whether the *Solen* fry were sifted out of the sand or whether they were still in the pelagic state, we cannot say ; they seem, however, hardly worth the trouble of eating, as 500 *Solen* of 2 mm. would be about the equivalent of one of 1·6 cm.

Whiting. (*Gadus merlangus.*)

The Whiting feeds chiefly on Crustacea and Pisces. Of the former the chief representatives are *Crangon Allmanni*, *Eupagurus Bernhardus* and *Gastrosaccus spinifer*, and of the latter *Ammodytes* and *Clupea*. Mollusca, Polychæta and Echinoderma are also eaten, but not in any quantity.

Coalfish. (*Gadus virens.*)

Feeds almost entirely on Pisces.

Pout. (*Gadus luscus.*)

Apparently feeds chiefly on Crustacea with Pisces and Mollusca.

Ling. (*Molva vulgaris.*)

Apparently feeds wholly on Pisces.

Long Rough Dab. (*Drepanopsetta limandoides.*)

Feeds chiefly on Crustacea (*Nika*, *Crangon*, &c.)

Turbot. (*Rhombus maximus.*)

Feeds entirely on Pisces (*Gadus*, *Pleuronectes*, *Solea*, *Ammodytes*, &c.)

Plaice. (*Pleuronectes platessa.*)

When small (< 10 cm.) the Plaice feeds chiefly on Crustacea (Amphipoda, &c.) and Polychæta. With increase in size, however, Mollusca take first place, Polychæta remaining in the second, whilst Crustacea drops to third, whilst in the very large Plaice (50 cm. +) the food consists almost exclusively of Mollusca (*Solen* sp., *Mactra* sp.)

The chief representatives of the principal food groups are :—

Pisces—*Ammodytes* (3 per cent.)

Mollusca—*Tellina fabula*, 23 per cent. ; *Solen* sp., 22 per cent. ; *Donax vittatus*, 20 per cent. ; *Mactra subtruncata*, 5 per cent. ; *Solen pellucidus*, 4 per cent. ; *Scrobicularia* sp., 4 per cent.

Crustacea—*Corystes*, *Gastrosaccus spinifer*, *Nika*, and Amphipoda, all in less than 5 per cent.

Polychæta—*Lagis Koreni*, 16 per cent. ; *Ophelia limacina*, 8 per cent. ; *Nephthys* sp., 9 per cent. ; *Goniada maculata*, 3 per cent. ; *Owenia fusiformis*, 3 per cent.

Echinoderma—*Echinocardium* sp. ? 5 per cent. ; *Echinocyamus pusillus*, 4 per cent.

Plaice apparently cease feeding in November, and do not start properly again until March (*see* Introduction, p. 54).

Lemon Soles. (*Pleuronectes microcephalus.*)

Feed principally on Polychæta and Coelentera with an occasional Mollusc or Crustacean.

The chief species of Polychæta were mostly tubicolous, *i.e.*, *Sabella pavonina*, *Sabellaria spinulosa*, *Eunice norvegica*, *Pomatoceros triqueter*, *Owenia fusiformis*, whilst Coelentera were represented entirely by *Cerianthus*.

Dab. (*Pleuronectes limanda.*)

Young Dabs (< 10 cm.) feed chiefly on Crustacea (Amphipoda and Cumacea). In larger fish (10–30 cm.) Mollusca form the chief food, with Crustacea, Echinoderma, Polychæta and Coelentera in the order named, whilst in fish of 30 cm. + Mollusca still hold first place with Crustacea (chiefly *Eupagurus Bernhardus*) second, and Coelentera (*Obelia*) third, whilst Polychæta and Echinoderma drop to fourth and fifth places respectively.

The chief representatives of the principal food groups are :—

Mollusca.—*Solen* sp. (25 per cent.), *Mactra subtruncata* (6 per cent.), *Solen pellucidus* and *Natica catena* (each in 3 per cent.).

Crustacea.—*Eupagurus Bernhardus* (19 per cent.).

Polychæta.—*Lanice conchilega* (4 per cent.), *Lagis Koreni* (2 per cent.).

Echinoderma.—*Amphiura filiformis* (7 per cent.), *Echinocardium* (4 per cent.), *Ophiura ciliaris* (4 per cent.).

Coelentera.—*Obelia* (11 per cent.).

There is evidence to show that Dabs do not feed as much during the winter (November to March) as during the remaining months of the year, but it is not so marked as in the Plaice.

Soles. (*Solea vulgaris*).

Feeds chiefly on Polychæta and Crustacea (Amphipoda, &c.) with Pisces, Mollusca, Echinoderma, &c. The principal food species—

Pisces.—*Pleuronectes limanda*, young (4 per cent.), *Ammodytes* (3 per cent.).

Mollusca.—*Scrobicularia alba* (3 per cent.).

Crustacea.—*Ampelisca* (6 per cent.).

Polychæta.—*Nephthys* sp. (4 per cent.), *Lagis Koreni* (10 per cent.), *Ophelia limacina* (10 per cent.), *Sabellaria spinulosa* (4 per cent.).

Echinoderma.—*Echinocyamus pusillus* (5 per cent.).

Spurdog. (*Acanthias vulgaris.*)

As far as our records show, Coelentera (*Pleurobracheus pileus*) form a large portion of the food of the Spurdog, the other important groups being Pisces, Crustacea, and Gephyrea.

It seems very strange that such an organism as *Pleurobracheus* should be eaten in large quantities by a fish which otherwise feeds on Pisces, Crustacea, &c. It has been suggested that the *Pleurobracheus* are gulped down when the fish are struggling in the trawl, but if that were the case, one would expect to find a more or less heterogeneous collection, including stones, shells, sand, &c., which is certainly not the case. This supposition might, however, account for the fact that the stomachs are generally distended with sea water (cf. *Cyclopterus lumpus*, p. 58).

Thornback. (*Raia clavata.*)

Feeds almost entirely on Crustacea, no other food group occurring in more than 12 per cent.

The chief representatives of Crustacea are :—

Crangon vulgaris (30 per cent.), *Crangon Allmanni* (30 per cent.), *Portunus holsatus* (29 per cent.), *Eupagurus Bernhardus* (23 per cent.), *Pandalus Montagui* (18 per cent.), *Gastrosaccus spinifer* (10 per cent.), *Portunus pusillus* (7 per cent.).

Polychæta :—

Nephthys sp. (8 per cent.).

Homelyn. (*Raia maculata.*)

Feeds chiefly on Crustacea and Polychæta, Mysidæ, especially *Gastrosaccus spinifer*, forming a large proportion of the former food group.

Competition between Species.

Although many food species are liable to be eaten by several different fish, competition over the former is restricted to quite a small number of species.

The following table shows for each of the commoner food species the fish of which 10 per cent. or more had been eating them.

Table 63.

Table comparing the results of the investigations described in the 1st and 2nd Reports as regards the food of the various species of fish. The number of stomachs containing each food-group is expressed as a percentage of the total number containing recognisable food.

The figures are general averages based on the entire series of data collected from 1902–1905. Owing to differences in distribution, the figures do not indicate the full amount of competition which may take place in particular areas.

	Grey Gurnard.	Cod.	Haddock.	Whiting.	Plaice.	Dabs.	Soles.	Thornback.
MOLLUSCA :—	%	%	%	%	%	%	%	%
Tellina fabula	...	...	13	...	23	...	...	...
Donax vittatus	...	...	...	...	20	...	...	...
Mactra subtruncata	...	...	13	...	...	...	...	...
Solen sp ?	...	...	25	...	22	25	...	...
CRUSTACEA :—								
Portunus holsatus	...	14	...	...	...	...	...	29
Crangon vulgaris	...	...	...	...	...	...	...	30
Crangon Allmanni	49	...	...	24	...	...	...	30
Crangon trispinosus	14	...	...	...	...	...	...	...
Pandalus Montagui	...	14	...	...	...	...	...	18
Eupagurus Bernhardus	...	45	...	13	...	19	...	23
Gastrosaccus spinifer	22	...	...	...	...	...	...	10
Ampelisca sp.	16	...	...	...	...	...	...	...
POLYCHÆTA :—								
Aphrodite aculeata	...	11	...	...	...	...	...	...
Lagis Koreni	...	...	10	...	16	...	10	...
Ophelia limacina	...	...	...	...	...	...	10	...
ECHINODERMA :—								
Amphiura filiformis	...	...	21	...	...	...	...	...
Echinocyamus pusillus	...	...	13	...	...	...	...	...
COELENTERA :—								
Obelia	...	...	...	..	...	11	...	...

It will be seen that there is considerable competition over *Solen* sp. between Haddock, Plaice, and Dabs ; over *Crangon Allmanni* between Grey Gurnard, Whiting, and Thornback ; over *Eupagurus Bernhardus* between Cod, Whiting, Dabs, and Thornback ; and over *Lagis Koreni* between Haddock, Plaice, and Soles, &c.

On the whole, there is more competition between Plaice and Haddock (over *Tellina*, *Solen*, and *Lagis*) than between Plaice and Dabs (over *Solen* only) (cf. Table H).

V.—DETAILED TABLES A.—G.

Showing for the principal species of fish examined (i) Locality and date of capture, with depth and bottom deposits ; (ii) Size if noted ; (iii) The number of stomachs examined, distinguishing between those which were empty and those which contained recognisable or unrecognisable food ; (iv) The number of stomachs containing the various food species specified, and the number of the latter which were found.

Additional species found in the stomachs from those stations marked with a † will be found in the supplementary records for each species of fish.

Abbreviations used—st. = stomachs ; sp. = specimens ; m. = many.

TABLE A.—COD

Region	Off Farn Island.	Off Hartlepool						Whitby.	—	Off Grounds.		
Voyage	65†	50†	50†	50†	50†	50†	50†	50	Off Flamboro' Head.†	35†		56
Station	1	8	6	7	5	4	9	13, 16 & 17		5 & 6		33-35
Month	Oct.	Mar.	Mar.	Mar.	Mar.	Mar.	Mar.	Mar.	Feb.	July		May
Depth in fathoms	41-48	5-10	4-5	5-8	5-7	5-6	14-25	34-35	..	30-35		25-27
Soil	m.	c.s., f.s.	f.s.	f.s.	f.s.	f.s.	f.d.s.	f.d.s.	..	f.d.s. & m.		c.d.s., f.d.s.
Size in cm.	74+	29-63	7-12	8-10	9-11	9-10	<50	50+	..	..	19-53	65-80	..
	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	
Examined	5 ..	5 ..	11 ..	4 ..	6 ..	3 ..	21 ..	21 ..	53 ..	10 ..	5 ..	6 ..	5 ..	
Empty	1 ..	1 ..	.. ..	.. ..	.. ..	.. ..	.. ..	2 ..	22 ..	.. ..	1 ..	1 ..	.. ..	
Unrecognisable food	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	
Recognisable food	4 ..	4 ..	11 ..	4 ..	6 ..	3 ..	21 ..	19 ..	31 ..	10 ..	4 ..	5 ..	5 ..	
PISCES	3 9	4 9	.. ..	.. ..	.. ..	.. ..	8 9	13 33	16 22	3 ?	1 ?	2 ?	5 54	1
Remains	1 ..	.. ..	.. ..	.. ..	.. ..	.. ..	2 ..	6 ..	6 ..	.. ..	.. ..	.. ..	2 ..	2
Gobius minutus	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	3
Callionymus lyra	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 1	3 3	.. ..	.. ..	.. ..	1 2	4
Centronotus gunnellus	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 1	.. ..	.. ..	.. ..	.. ..	.. ..	5
Gadus æglefinus	2 6	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	2 2	.. ..	.. ..	.. ..	.. ..	.. ..	6
„ merlangus	1 1	3 5	.. ..	.. ..	.. ..	.. ..	4 5	4 10	1 1	.. ..	1 ..	1 ..	.. ..	7
„ sp.?	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	8
Motella sp.?	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 1	.. ..	.. ..	.. ..	.. ..	.. ..	9
Ammodytes tobianus	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	10
„ sp.?	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 1	.. ..	1 ..	5 47	11
Drepanopsetta limandoides	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 1	.. ..	.. ..	.. ..	.. ..	.. ..	12
Pleuronectes limanda	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	3 5	9 11	.. ..	.. ..	.. ..	1 3	13
„ sp.?	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 1	.. ..	.. ..	.. ..	.. ..	14
Solea lutea	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	15
Clupea harengus	.. ..	2 4	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	16
„ „ spawn	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	17
„ sprattus	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	2 2	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	18
MOLLUSCA	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 2	8 54	.. ..	.. ..	.. ..	19
Mactra sp.?	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	20
Natica catena	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	21
Buccinum undatum	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 2	8 53	.. ..	.. ..	.. ..	22
CRUSTACEA	3 11	3 6	11 52	4 19	6 56	3 18	14 30	15 41	16 23	8 33	3 ..	5 ?	1 1	23
Stenorhynchus sp.?	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 1	.. ..	.. ..	.. ..	24
Hyas coarctatus	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	2 4	1 1	4 4	6 12	.. ..	.. ..	.. ..	25
Portunus holsatus	.. ..	2 2	.. ..	.. ..	.. ..	.. ..	2 3	.. ..	2 2	1 4	.. ..	.. ..	1 1	26
„ pusillus	1 4	.. ..	.. ..	.. ..	.. ..	.. ..	1 1	6 9	.. ..	.. ..	.. ..	.. ..	.. ..	27
Ebalia Bryeri	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 2	.. ..	.. ..	.. ..	28
Corystes cassivelaunus	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	2 9	4 5	.. ..	.. ..	3 ..	.. ..	29
Eupagurus Bernhardus	1 1	.. ..	.. ..	.. ..	.. ..	.. ..	3 3	3 3	7 8	4 5	2 ?	.. ..	.. ..	30
„ cuanensis	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	31
Galathea intermedia	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	32
Gebia	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	33
Nephrops norvegicus	1 1	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	34
Crangon vulgaris	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 1	.. ..	.. ..	.. ..	35
„ Allmanni	.. ..	.. ..	.. ..	.. ..	.. ..	1 1	5 5	4 7	.. ..	.. ..	.. ..	.. ..	.. ..	36
„ trispinosus	.. ..	.. ..	.. ..	1 1	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	37
„ sp.?	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	38
Hippolyte pusiola	.. ..	.. ..	.. ..	.. ..	1 1	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	39
Pandalus Montagui	1 1	.. ..	.. ..	.. ..	.. ..	.. ..	7 11	.. ..	4 4	4 7	.. ..	.. ..	.. ..	40
„ brevirostris	.. ..	.. ..	.. ..	1 1	.. ..	.. ..	2 3	4 6	.. ..	.. ..	.. ..	.. ..	.. ..	41
Mysidæ unidentified	.. ..	1 1	.. ..	3 7	3 3	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	42
Paratylus Swammerdammi	.. ..	.. ..	10 44	2 9	6 50	2 16	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	43
Cheirocratus robustus	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	44
POLYCHÆTA	2 2	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	12 21	.. ..	.. ..	4 ?	1 ..	45
Remains	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 ..	46
Aphrodite	2 2	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	12 21	.. ..	.. ..	4 ?	.. ..	47
Phyllodoce grœnlandica	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	48
ECHINODERMA	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 1	.. ..	1 2	.. ..	.. ..	.. ..	49
Ophiura sp.?	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 1	.. ..	1 1	.. ..	.. ..	.. ..	50
GEPHYREA	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	51

Gadus morrhua). † For additional records, *see* p. 160.

	Off Sutton.		Botney Gut.		Clay Deep.		Off Tersch-elling.		Sylt Outer.		Lower Scruff.				Dogger Bank.													
	40†		35†		56		30		31		29†				59†				56				29†		28		41		41	
	41		7		47		19 & 24		20		10				1				40				8		7		20		19	
	Oct.		July		June		April		May		Mar.				June				May				Mar.		Mar.		Oct.		Oct.	
	5-9		31-32		23-25		19-21		10-11		24				9-15				10-14				11-14		9-11		17-18		17-18	
	s. & gl.		m.		s. & m., f.d.s.		m., s. & m.		f.s.		f.s.				f.g.br.s., f.s. & sh.				f.g.s. & sh.				f.s. & sh.		f.s. & sh.		s. & gl. & g.s.		g.s. & sh, s.gl.	
	21-26		..		..		..		74+		<62		62+		20+		30+		20-32		45-62		..		..		..		..	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
	40	..	39	..	11	..	9	..	3	..	11	..	8	..	61	..	31	..	20	..	3	..	14	..	5	..	several		20	..
	1	..	2	..	2	..	..	..	..	..	..	..	1	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	39	..	37	..	8	..	9	..	3	..	11	..	7	..	58	..	29	..	20	..	3	..	14	..	5	..	all	..	20	..
1	2	2	8	17	4	5	7	10	3	?	5	7	6	8	7	11	12	14	4	5	2	6	4	5	2	..	all	..	15	?
2	1	..	3	..	2	..	4	..	..	..	3	..	3	..	..	..	..	..	2	..	..	..	2	..	..	..	..	..	4	..
3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..
4	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..
5	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	..	..	1	5	..	..	4	4	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
8	..	..	..	..	1	1	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	..	..	4	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	14	..	..	2	5	..	..	..	..	..	..	..	..
11	..	..	..	..	..	..	..	..	3	?	..	..	..	..	4	5	..	..	1	2	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	..	..	1	1	..	..	..	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	..	..	1	2	2	2	1	1	..	..	1	3	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3
15	..	..	..	..	..	..	1	1	3	?	..	..	..	..	1	4	..	..	..	..	..	..	2	2	1	..	..	..	..	..
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	all	full	12	full
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..
19	1	1	2	4	..	..	..	..	..	..	1	1	2	2	..	..	3	3	1	1	..	..	13	138	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	8	82	..	..	..	..	..	..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	3	7	..	..	..	..	..	..
22	1	1	2	4	..	..	..	..	..	..	1	1	2	2	..	..	..	..	..	..	..	..	7	47	..	..	..	..	..	..
23	36	92	37	131	7	27	5	13	2	..	6	6	3	3	56	98	25	45	19	43+	2	3	12	27	3	3	..	..	10	28
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
26	7	10	..	..	6	7	2	2	..	..	1	1	..	..	..	..	..	..	..	..	1	1	6	8	..	..	..	..	6	19
27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16	39	8	16	5	20	..	..	..	..	..	..	..	..	..	..
28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
29	..	..	4	17	3	17	1	1	2	?	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
30	16	19	9	12	2	2	5	6	..	..	3	3	3	3	47	51	17	21	15	16	2	2	11	17	2	..	..	..	5	6
31	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..
32	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	5	2	5	..	..	..	..	..	..	..	..	..	..	..	..
33	..	..	..	..	1	1	1	1	..	..	..	..	..	..	2	3	1	1	..	..	..	..	..	..	..	..	..	..	..	..
34	..	..	33	102	..	..	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35	..	..	..	..	..	..	..	..	1	?	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
36	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..
37	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	6	..	..	..	..	..	..	..	..	..	..
38	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
39	8	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
40	25	47	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
41	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2
42	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
43	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
44	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	m	..	..	..	..	..	..	..	..	..	..
45	10	?	9	17	1	1	3	4	..	..	4	7	1	4	1	1	..	..	..	..	..	..	3	3	3	3	..	..	..	..
46	10	?	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
47	..	..	9	17	1	1	3	4	..	..	4	7	1	4	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..
48	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3	1	1	..	..	..	..
49	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
51	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE B.—HADDOCK

Region	W.N.W. of Brucey's Garden.	Off Ground.								Hills.		Clay Deep.				Lower Scruff.		Eastern Ground.				Dogger Bank					
Voyage	59†	59†				56†				49†		56†				41†		29†		31†		29†		41†		41†	
Station	51	30				35				26		47				23		10		20		15		20		19	
Month	July	July				May				March		June				Oct.		March		May		March		Oct.		Oct.	
Depth in fathoms	41–46	29–36				27				15–27		23–25				20–22		24		10–11		22–23		17 18		17–18	
Soil	f.s.m.	f.s,, f.d.s.				f.d.s.				f.gs., f.d.s. f.s.		s. & m., f.d.s.				f.g.s.		f.s.		f.s.		f.s. & oz.		s. & gl., g.s.		g.s. & sh., s.gl.	
Size in cms.	?	10 +		20 +		30 +		◁26		30 +		◁28		30 +		?		30 +		30 +		30 +		?		?	
	St. sp.	St.	sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
Examined	16 ..	18	..	16	..	23	..	35	..	11	..	20	..	25	..	11	..	23	..	23	..	27	..	20	..	Several		16	..
Empty	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Unrecognisable food	.. ..	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Recognisable food	16 ..	17	..	15	..	23	..	34	..	11	..	20	..	25	..	11	..	23	..	23	..	27	..	19	..	All		16	..
PISCES	.. ..	1	1	..	..	1	1	11	15	6	21	..	..	..	..	..	..	1	1	..	..	7	8	..	..	all	?	15	?
Gobius minutus	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1
Ammodytes sp.?	.. ..	1	1	..	..	1	1	11	15	6	21	..	..	..	..	..	..	..	..	..	..	7	8	..	..	..	..	1	1
MOLLUSCA	3 4	1	1	2	2	21	27	18	23	9	25	19	49	3	4	4	5	18	43	10	12	27	178	9	13	..	..	3	4
Remains	1 ..	..	..	..	..	13	..	7	..	2	..	1	..	..	..	..	..	..	..	1	..	3	..	..	..	..	..	2	..
Montacuta ferruginosa	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	3	3	..	..	..	..	..	..
„ bidentata	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	..	..	..	..
Tellina fabula	.. ..	..	..	..	..	..	..	..	..	..	..	2	4	..	..	..	..	..	..	..	..	25	154	..	..	..	..	..	..
Mactra sp.?	.. ..	..	..	..	..	..	..	1	1	2	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scrobicularia prismatica	.. ..	..	..	1	1	3	3	..	..	8	19	..	..	..	..	..	..	7	7	..	..	..	..	..	..	..	..	..	..
„ nitida	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
„ sp.?	.. ..	..	..	..	..	..	..	2	2	7	7	..	..	..	..	2	2	..	..	..	..	1	1	..	..	..	..	..	..
Solen pellucidus	1 1	..	..	..	..	3	3	1	1	1	1	16	40	..	..	1	1	3	5	2	3	1	1	4	5	..	..	..	..
„ sp.	.. ..	..	..	..	..	2	2	4	4	3	3	2	2	1	1	3	3	3	3	5	5	12	16	..	..	..	..	2	2
Natica catena	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cylichna cylindracea	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	8	16	..	..	..	..	2	2	..	..	..	..
CRUSTACEA	14 m	1	10	3	3	4	9	25	139	5	9	13	62	7	?	8	8	14	35	8	20	18	242	6	7	..	..	4	4
Remains	.. ..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	..	..	1	..	..	..	..	..	1	..	..	..	1	..
Portunus holsatus	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..
„ pusillus	.. ..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Corystes cassivelaunus	.. ..	..	..	..	..	1	1	..	..	1	1	..	..	3	3	..	..	1	1	..	..	..	..	..	..	..	..	..	..
Eupagurus Bernhardus	.. ..	..	..	..	..	..	..	2	2	1	1	1	1	1	1	..	..	2	2	1	1	..	..	5	6	2	2	..	..	1	1
Callianassa subterranea	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	4	4	4	4	..	..	..	..	..	..	..	..
Crangon Allmanni	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	..	..	..	..
„ sp.?	.. ..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..
Nika edulis	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	8	20	1	1	..	..	..	..	..	..	..	..
Gastrosaccus spinifer	.. ..	..	..	..	..	..	..	1	1	..	..	..	..	5	10	..	..	1	1	..	..	2	5	..	..	..	..	..	..
Diastylis	.. ..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	1	1	..	..	1	1	..	..	..	..
Cumacea unidentified	.. ..	..	..	..	..	..	..	..	..	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ampelisca sp.?	1 1	..	..	..	..	..	..	1	4	..	..	8	30	6	6	..	..	..	..	3	6	..	..	..	..	..	..	2	2
Bathyporeia sp.?	.. ..	..	..	..	..	..	..	25	120	3	7	2	10	..	..	..	..	..	..	..	..	15	230	..	..	..	..	..	..
Amphipoda unidentified	13 m	1	10	1	1	3	6	..	..	..	..	..	..	..	..	..	..	7	7	..	..	..	..	..	..	..	..	..	..
POLYCHÆTA	4 5	..	..	6	6	9	9	7	8	3	18	17	72	7	7	5	7	13	14	14	24	16	19	4	4	..	..	4	4
Remains	.. ..	..	..	2	..	4	..	5	..	..	..	..	..	1	..	2	..	4	..	2	..	6	..	2	..	..	..	..	..
Harmothoë sp.?	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	..	2	..	..	..	1	1	..	..	..	..
Phyllodoce grœnlandica	.. ..	..	..	1	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..
Lumbriconereis	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nephthys cæca	.. ..	..	..	..	..	..	..	..	..	..	..	4	6	..	..	..	..	1	1	2	2	..	..	..	..	..	..	..	..
„ sp.	.. ..	..	..	2	2	1	1	..	..	1	1	8	11	..	..	..	..	3	3	..	..	6	6	..	..	..	..	4	4
Goniada maculata	3 3	..	..	1	1	1	1	..	..	..	..	2	3	..	..	..	..	..	..	..	..	5	5	..	..	..	..	..	..
Lagis Koreni	1 1	..	..	..	..	..	..	..	..	..	..	4	4	6	6	4	4	1	1	9	15	1	1	1	1	..	..	..	..
Ophelia limacina	.. ..	..	..	..	..	1	1	1	2	3	17	12	46	..	..	..	..	2	2	1	1	1	1	..	..	..	..	..	..
ECHINODERMA	2 2	16	205	14	122	21	223	5	7	5	17	8	38	25	m	11	m	21	m	23	m	..	..	19	m	..	..	1	1
Ophiura sp.?	1 1	3	3	1	1	7	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..
Amphiura filiformis	.. ..	2	2	1	1	2	2	..	..	..	..	..	..	25	m	11	m	21	m	22	m	..	..	19	m	..	..	1	1
Echinocyamus pusillus	.. ..	15	200	13	120	20	200	4	6	5	17	8	37	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..
COELENTERA	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	1	..

(*Gadus æglefinus*). † For additional records, *see* p. 160.

Dogger Bank.

	65† 7 October 10–14 f.g.s.				59† 1 June 9–15 f.g.br.s., f.s. & sh.				56† 40 May 10–14 f.g.s. & sh.				47† 12 Jan. 15–17 f.s.		29† 20 March 11–14 f.s.		31† 30 May 11–12 f.g.s., f.d.s.		28† 7 March 14–17 f.s.& sh.		56† 45 May 18–19 f.d.g.s.				56† 43 May 11–16 f.g.s. & sh., f.d.g.s.				29† 8 March 11–14 f.s. & sh.		47† 18 Jan. 11–12 f.s.		38† 3 August 10–17 f.g.s. & sh.		59† 8 June 16–17 f.s. & sh. f.g.s.	
	<30		30+		<26		30+		18–22		30+		30+		30+		30+		30+		16–23		35+		17–22		30–45		30+		30+		30–40		?	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
	30	..	23	..	22	..	10	..	22	..	12	..	25	..	20	..	13	..	29	..	16	..	20	..	20	..	19	..	8	..	22	..	26	..	13	..
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	30	..	23	..	21	..	9	..	22	..	12	..	25	..	20	..	13	..	29	..	16	..	20	..	20	..	19	..	8	..	22	..	26	..	13	..
1	1	12	10	?	..	..	1	1	..	..	1	4	..	..	11	30	..	..	2	2	..	..	..	..	..	..	..	..	..	..	6	6	7	18	..	..
2	1	12	..	..	..	..	..	..	..	..	..	..	..	..	11	25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	7	17	..	..
3	..	..	1	1	..	..	..	..	..	..	1	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	28	304	22	235	17	3,560	7	351	11	11	6	30	2	2	17	74	12	32+	24	55	1	1	18	100	11	18	19	460	8	50	13	18	20	175	12	57
5	..	..	2	..	3	..	1	..	8	..	..	..	..	..	1	..	2	..	8	..	..	..	..	..	1	..	..	..	1	..	3	..	..	..	..	..
6	..	..	..	..	..	..	..	..	..	..	1	5	..	..	..	..	..	..	..	..	..	..	7	30	1	4	19	200	..	..	..	..	8	35	..	..
7	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1	1	1	13	60	..	..	2	4	..	..	..	..	..	..	..	..
8	..	..	4	15	ca. 6 mm. long.				..	..	5	20	..	..	9	15	3	6	9	22	..	..	2	2	6	8	18	250	3	3	..	..	17	130	5	30
9	3	3	3	9	6	20	5	300	..	..	..	..	..	..	6	36	7	8	1	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1	3
10	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	.	..	6	6	..	..
11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..
13	ca. 2·5 cm. long.				ca. 1-2 mm. long.		..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	26	ca. 300	19	ca. 200	7	3,500	..	..	1	1	3	3	..	..	9	17	9	14	11	12	..	..	2	2	5	5	6	6	2	2	12	14	..	..	9	23
15	1	1	3	5	..	..	..	..	..	..	1	1	..	..	3	3	..	..	1	2	..	..	..	..	..	..	..	..	2	4	..	..	1	1	..	..
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..
17	14	67	13	14	8	8	3	3	22	205	8	70	24	194	5	5	4	6	22	54	6	6	4	4	20	104	12	21	5	6	12	18	25	108	3	3
18	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
19	10	30	5	5	1	1	..	..	1	1	..	..	..	..	2	2	2	2	..	..	..	..	..	..	1	1	..	..	2	2	2	2	13	70	1	1
20	..	..	..	..	2	2	2	2	..	..	4	19?	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..
21	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..
22	3	3	8	8	..	..	..	..	1	1	1	1	3	3	..	..	3	3	..	..	..	..	1	1	..	..	1	1	..	..	7	7	7	7	1	1
23	..	..	..	..	..	..	..	..	..	..	..	..	24	186	..	..	..	..	6	6	1	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..
24	..	..	..	..	..	..	1	1	..	..	..	..	..	..	2	2	..	..	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	3	3	..	..	..	..	..	..
26	3	3	..	..	..	..	..	..	..	..	..	..	2	3	..	..	..	..	4	6	1	1	..	..	1	1	3	3	..	..	2	2	3	3	..	..
27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..
29	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30	1	1	..	..	1	1	..	..	1	1	..	..	..	..	..	..	..	..	2	3	3	3	2	2	..	..	4	6	..	..	..	..	8	26	..	..
31	..	..	..	..	..	..	..	..	22	200	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19	100	7	?	..	..	..	..	..	..	..	..
32	..	..	..	..	3	3	..	..	..	..	..	..	2	2	..	..	..	..	12	32	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..
33	6	9	4	7	7	7	1	1	4	4	1	2	16	19	6	8	2	2	19	29	6	8	8	10	4	5	18	41	1	1	21	66	12	23	3	6
34	..	..	..	..	5	..	1	..	1	..	..	..	9	..	..	..	2	..	6	..	3	..	..	..	1	..	..	..	1	..	..	..	..	..	1	..
35	..	..	..	..	..	..	..	..	..	..	..	..	3?	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
36	3	6	4	7	1	1	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	2	3	..	..	20	62	..	..	..	..
37	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
38	1	1	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..
39	2	2	..	..	..	..	..	..	..	..	1	1	2	2	6	6	..	..	5	5	..	..	1	1	1	1	2	3	..	..	..	..	6	9	2	2
40	..	..	..	..	..	..	..	..	2	2	1	1	2	4	1	1	..	..	3	3	..	..	1	1	1	1	10	15	..	..	1	1	6	10	1	1
41	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	4	5	4	4	4	4	..	..	6	6	..	..	1	1	1	1	1	1
42	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	1	1
43	..	..	1	1	..	..	8	80	..	..	1	1	7	48	..	..	1	1	5	7	16	150	20	m	..	..	2	2	..	..	..	..	3	3	2	11
44	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
45	..	..	..	..	..	..	8	80	..	..	..	..	7	48	..	..	..	..	5	6	16	150	20	m	..	..	2	2	..	..	..	..	3	3	1	1
46	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
47	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE C.—WHITING (*Gadus merlangus*).

Region.	Wash.			Leman Ground.			Knoll Deep.			E. Deep Water.			W. of Horn Reef.	Lower Scruff.	Clay Deep.	Dogger.	
Voyage	33	57		47	28	28	61			43			29	29	56	56	41
Station	10	18		26	17	15	59–62			5			15	10	47	45	20
Month	June	June		Jan.	March	March	August			November			March	March	June	June	Oct.
Depth in fms. ...	5–6	5–8		17–20	14–16	14–16	21–26			18			22–23	24	23–25	18–19	17–18
Soil	f.s.	s.m., sh., gl.		f.s. & m.	f.s. & f.d.s.	f.d.s., f.s.	variable.			f.s., clay & sh., f.spk.s.			f.s. & oz.	f.s.	s. & m. f.d.s.	f.d.g.s.	s. & gl. g.s.
Size in cm.... ...	...	...		...	...	...	15–24		25–34	20+		30+	...	...	...	...	...
	St.	Sp.	St. Sp	St.	Sp.	St. Sp.	St.	Sp.	St. Sp.	St.	Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.
Examined	15	...	14 ...	30	...	4 ...	6	...	38 ...	66	...	5 ...	8 ...	24 ...	37 ...	18 ...	28 ...	Several
Empty	4	...	... ...	19	...	... ...	...	...	... ...	28	...	1 ...	3 ...	7 ...	16 ...	... ...	8 ...	... ...
Unrecognisable food	...	...	... ...	...	...	... ...	...	...	... ...	...	...	... ...	... ...	... ...	... ...	... ...	1 ...	... ...
Recognisable „	11	...	14 ...	11	...	4 ...	6	...	38 ...	38	...	4 ...	5 ...	17 ...	21 ...	18 ...	19 ...	all ...
PISCES	3	?	8 8	10	10	1 1	2	2	7 7	7	7	3 3	2 2	15 15	11 12	4 6	6 6	all ...
Remains unidentified.	3	3	1 1	...	...	... ...	2	2	1 1	...	...	3 ...	2 ...	10 ...	10 ...	2 ...	4 ...	... ...
Gobius minutus...	...	...	... ...	...	...	... ...	...	...	... ...	1	1	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Gadus merlangus	...	...	... ..	1	1	... ...	...	...	... ...	...	...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
„ sp.? ...	...	...	... ...	...	...	... ...	...	...	... ...	...	...	... ...	... ...	1 1	... ...	... ...	1 1	... ...
Ammodytes sp.?	...	...	6 6	...	...	... ...	...	...	6 6	6	6	... ...	... ...	... ...	... ...	... ...	1 1	... ...
Pleuronectes limanda.	...	...	... ...	...	...	... ...	...	...	... ...	...	...	... ...	... ...	... ...	... ...	1 1	... ...	... ...
„ sp.	...	...	... ...	...	...	... ...	...	...	... ...	...	...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Solea lutea ...	...	...	... ...	...	...	... ...	...	...	... ...	...	...	... ...	... ...	... ...	1 1	... ...	... ...	... ...
Clupea sprattus...	...	...	... ...	...	...	1 1	...	...	... ...	...	...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
„ harengus spawn.	...	...	... ...	...	...	... ...	...	...	... ...	...	...	... ...	... ...	... ...	... ...	... ...	... ...	all ...
„ sp.? ...	...	...	1 1	9	9	... ...	...	...	... ...	...	...	... ...	... ...	4 4	1 1	2 3	... ...	... ...
MOLLUSCA	4	?	... ...	...	...	... ...	...	...	... ...	...	...	... ...	... ...	... ...	1 1	... ...	3 3	... ...
Solen siliqua ...	...	...	... ...	...	...	... ..	...	...	... ...	...	...	... ...	... ...	... ...	... ...	... ...	1 1	... ...
Bivalve feet ...	...	...	... ...	...	...	... ...	...	...	... ...	...	...	... ...	... ...	... ...	1 1	... ...	... ...	... ...
Buccinum feet...	...	...	... ...	...	...	... ...	...	...	... ...	...	...	... ...	... ...	... ...	... ...	... ...	2 2	... ...
Sepiola atlantica	4	...	... ...	...	...	... ...	...	...	... ...	...	...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
CRUSTACEA ...	10	?	7 10	1	1	4 19	6	45	31 35	34	41	1 1	3 7	2 2	9 17	10 15	12 16	... ...
Remains ...	...	...	1 ...	...	...	... ...	...	...	... ...	...	...	... ...	1 ...	... ...	... ...	... ...	... ...	... ...
Stenorhynchus sp.?	...	...	... ...	...	...	... ...	...	...	... ...	1	1	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Portunus holsatus.	...	...	... ...	...	...	... ...	...	...	1 1	...	...	... ...	... ...	... ...	1 1	... ...	1 1	... ...
sp.?	...	...	... ...	...	...	... ...	...	...	... ...	2	2	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Eupagurus Bernhardus.	1	...	... ..	...	...	... ...	...	...	1 1	4	4	... ...	... ...	... ...	2 2	6 6	9 9	... ...
Callianassa subterranea.	...	...	... ...	1	1	... ...	...	...	... ...	...	...	... ...	... ...	... ...	1 1	2 2	6 6	... ...
Crangon vulgaris	5	...	1 1	...	...	... ...	...	...	... ...	...	...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
„ Allmanni	...	...	... ...	...	...	4 19	6	44	29 31	17	22	... ...	... ...	... ...	4 4	... ...	... ...	... ...
„ sp. ...	...	...	... ...	...	...	... ...	...	...	... ...	...	...	... ...	... ...	1 1	... ...	2 3	... ...	... ...
Nika edulis ...	...	...	... ...	...	...	... ...	...	...	... ...	...	...	1 ...	2 6	1 1	1 1	... ...	... ...	... ...

Table C.—Whiting—*continued.*

Region.	Wash.		Leman Ground.			Knoll Deep.		E. Deep Water.		W. of Horn Reef.	Lower Scruff.	Clay Deep.	Dogger.	
Voyage	33	57	47	28	28	61		43		29	29	56	56	41
Station	10	18	26	17	15	59–62		5		15	10	47	45	20
Month	June	June	Jan.	March	March	August		November		March	March	June	June	Oct.
Depths in fms. ...	5–6	5–8	17–20	14–16	14–16	21-26		18		22–23	24	23-25	18–19	17–18
Soil	f.s.	s.m., sh., gl.	f.s. & m.	f.s. & f.d.s.	f.d.s., fs.	variable.		f.s., clay & sh., f.spk.s.		f.s. & oz.	f.s.	s. & m. f.d.s.	f.d.g.s.	s. & gl. g.s.
Size in cm.... ...	...	..	...	...	...	15–24	25–34	20+	30+	...	...	...	...	...
	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.	St. Sp.
Pandalus Montagui.	... ...	1 1	... ...	... ...	... ...	... ...	1 1	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Gastrosaccus spinifer.	... ...	4 6	... ...	... ...	... ...	2 2	9 11	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Mysidae, unidentified.	... ...	... ...	... ...	... ...	1 1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Ampelisca sp.? ...	... ...	1 1	... ...	... ...	... ...	... ...	.. ...	... ...	... ..	... ...	... ...	... ...	... ...	... ..
Urothoe sp.? ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... .	... ...	1 3	... ...	... ...
Hippomedon denticulatus.	... ...	... ...	... ...	... ...	... ...	... ..	... ...	... ...	... ...	... ...	... ...	1 1	... ...	... ...
Amphipoda unidentified.	5 ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	3 8	... ...	... ...	.. ...
Polychaeta ...	1 1	2 2	... ...	... ...	1 1	2 2	... ...	... ...	2 2	... ...	1 2	2 4	2 2	... ...
Remains	1 ...	.. ...	... ...	... ...	1 ...	1 ...	... ...	... ...	2 ...	... ...	... ...	... ...	1 ...	... ...
Polynoid ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 1	... ...	... ...	... ...
Phyllodoce sp.?...	... ...	1 1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Nereis sp.? ...	... ..	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 2	... ...	... ...
Nephthys caeca...	... ...	1 1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
„ sp.? ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 1	... ...	1 1	... ...
Glycera sp. ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 2	... ...	... ...
Lagis Koreni ...	... ...	... ...	... ...	... ...	... ...	1 1	... ...	... ...	... ...	... ...	... ..	... ...	... ...	... ...
Echinoderma ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	2 ...	2 ...	... ...	... ...
Amphiura filiformis.	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ..	2 7	2 2	... ...	... ...
Coelentera ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 ...	... ...	... ...	... ...	... ...
Pleurobracheus pileus.	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 ...	... ...	... ...	... ...	... ...

TABLE D.—PLAICE

Region	Off Hartlepool.						Bridlington Bay.						Wash.										
Voyage	50†						30†		59†				57†		61†				61†		61†		
Station	8						16		29				13		26-29				32-34		23		
Month	Mar.						April		July				June		Aug.				Aug.		Aug.		
Depth in Fathoms	5-10						5		3-5				8		1-7				3-5		1		
Soil	c.s., f.s.						f.g.s.		f.d.s.				c.s., gl., sh., f.s.		f.s.				f.s., s.m.		f.s.		
Size in cm.	10+		20+		30+		10+		10+		20+		7-11		5-10		10-15		10-15		6-12		
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	
Examined	23	..	32	..	16	..	26	..	31	..	26	..	14	..	20	..	14	..	20	..	20	..	
Empty	2	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Unrecognisable food	..	..	1	..	1	..	..	..	1	..	2	..	8	..	3	..	..	..	13	..	1	..	
Recognisable food	21	..	31	..	10	..	26	..	30	..	24	..	6	..	17	..	14	..	7	..	19	..	
PISCES	1	**1**	2	**2**	2	**2**	..	..	1	**1**	1	**1**	..	..	..	..	..	..	..	..	..	..	1
Ammodytes	1	**1**	2	**2**	2	**2**	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	..	..	2
MOLLUSCA	4	**10**	10	**10**	3	**3**	23	**30**	26	**26?**	20	**32**	..	..	..	..	14	**200**	6	**50**	1	**1**	3
Remains unidentified	2	**2**	4	**4**	..	..	10	**10**	22	**22?**	8	**8?**	..	..	..	..	..	..	..	..	1	**1**	4
Nucula nucleus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Venus gallina	..	..	1	**1**	..	..	..	..	..	..	2	**4**	..	..	..	..	..	..	..	..	..	..	6
Tellina fabula	..	..	1	**2**	1	**1**	..	..	2	**2**	5	**5**	..	..	..	..	..	..	..	..	..	..	7
Psammobia ferroensis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8
Donax vittatus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9
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Remains unidentified	..	..	..	..	..	..	1	**1**	1	**1**	..	..	..	..	2	?	..	..	..	..	..	..	21
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	f.s.		f.s.		s.m., sh., s.gl.		?				gl.		f.d.s.		f.d.g.s., f.g.s.		f.s.		f.g.s., f.d.s., f.s.				f.g.s.		f.d.s.	
	5-9		7-16		8-14		12-14		15-25		20-40		30+		..		..		20+		30+		40+		..		..	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
	24	..	33	..	11	..	20	..	13	..	96	..	37	..	28	..	53	..	12	..	38	..	19	..	35	..	26	..
	..	..	..	..	..	..	..	..	..	..	95	..	37	..	4	..	45	..	1	..	..	..	..	..	2	..	..	..
	9	..	15	..	5	..	13	..	6	..	..	..	..	..	..	..	1	..	..	..	3	..	..	..	2	..	..	..
	15	..	18	..	6	..	7	..	7	..	1	..	..	..	24	..	7	..	11	..	35	..	19	..	31	..	26	..
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	**3**	..	..	10	**17**	6	**9**
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	**3**	..	..	10	**17**	6	**9**
3	10	**100**	3	**10**	..	..	..	..	..	..	..	..	..	..	21	**43**	4	**4**	6	**13**	31	**159**	18	**62**	26	**70**	22	**71**
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	**2**	1	**1**	1	**1**	2	**2**	1	**1**
5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	1	**1**	..	..
6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	**4**	..	..	3	**9**	19	**90**	1	**1**	1	**1**	5	**12**
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**2**	..	..	..	..	3	**3**	1	**1**	1	**2**	3	**6**
9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	**12**	..	..	..	..	1	**1**	1	**3**	3	**5**	2	**2**
11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	2	**2**
13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	**5**	..	..	..	..	12	**29**	2	**2**	..	..	..	..
14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	**12**	..	..	..	..	1	**1**	..	..	1	**1**	..	..
15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	**2**	1	**1**	..	..	..	..	1	**1**	8	**18**
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**2**	..	..	1	**1**	5	**5**	1	**1**	7	**23**	1	**1**
17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	**9**	1	**1**	..	..	17	**26**	15	**51**	8	**19**	10	**17**
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	**2**	..	..	6	**9**	2	**3**
20	6	?	11	?	5	?	..	..	..	..	1	**1**	..	..	..	..	..	..	3	**4**	4	**4**	..	..	4	**12**	..	..
21	..	..	3	**3**	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	.	..	..	..	..	1	**1**	..	..	2	**2**	..	..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**8**	..	..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..
25	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..
26	..	..	..	..	.	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	**3**	..	..	..	..	..	..	..	..
28	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	2	**3**	..	..	1	**1**	..	..
29	2	..	4	?	5	?	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	1	**1**	..	..
30	2	**2**	9	?	1	**1**	5	**6**	7	**11**	..	..	..	..	6	**12**	6	**7**	6	**11**	20	**33**	6	**7**	13	**14**	6	**7**
31	1	..	5	..	..	..	3	**3**	1	**1**	..	..	..	..	..	..	1	**1**	1	**1**	5	**5**	1	**1**	5	**5**	2	**2**
32	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	**2**	..	..	..	..	..	..	2	**2**	..	..	..	..
33	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	1	**1**	..	..	1	**1**	..	..	2	**2**	..	..
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37	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	**2**	2	**2**	..	..	2	**2**	..	..
38	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	3	**8**	3	**3**	3	**7**	10	**16**	3	**3**	..	..	4	**4**
39	..	..	..	..	..	..	2	**2**	6	**10**	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
40	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	1	**1**	..	..	..	..	1	**1**	4	**4**	..	..
41	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	3	**3**	..	..	..	..	..	..
42	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	**3**	..	..	..	..	..	..
43	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	**7**	1	**1**	..	..	3	**3**	2	**2**	5	**5**	7	**7**
44	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	**4**	..	..	..	..	..	..	..	..	1	**1**	2	**2**
45	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	**2**	2	**2**	1	**1**
46	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	2	**2**
47	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	1	**1**	..	..
48	..	..	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	6	?	12	?	..	..	1	**1**	..	..
49	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	6	?	12	?	..	..	1	**1**	..	..

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Region	Markham's Hole.	Leman Ground and Neighbourhood.														
Voyage	49†	49†		40†				66†						28		
Station	10	6		13				8						17		
Month	Mar.	Mar.		Sept.				Oct.						Mar.		
Depth in Fathoms	19-33	12-13		12-15				12-17						14-16		
Soil	f.s., s.m., s.s.	f.bl.spk.s., f.d.s.		f.d.s., f.spk.s.				gl., f.s.						f.s., f.d.s.		
Size in cm.	..	..		<31		31+		20+		30+		40+		..		
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	
Examined	47	..	40	..	24	..	36	..	26	..	30	..	10	..	several				
Empty	1	..	..	..	1	..	3	..	..	..	..	..	1	..	..	..			
Unrecognisable food	2	..	..	..	3	..	2	..	..	..	1	..	..	..	..	..			
Recognisable food	44	..	40	..	20	..	31	..	26	..	29	..	9	..	all	..			
PISCES	7	**10**	12	**21**	..	..	1	**1**	1	**1**	3	**3**	..	..	..	..			1
Ammodytes sp.?	3	**3**	12	**21**	..	..	1	**1**	..	..	1	**1**	..	..	..	..			2
MOLLUSCA	37	**236**	39	**1,100**	13	**17**	23	**46**	24	**104**	22	**245**	7	**54**	all	?			3
Remains unidentified	1	**1**	..	..	5	**5**	5	**5**	4	**4**	3	**3**	..	..	..	..			4
Nucula nucleus	..	..	..	..	..	..	4	**5**	..	..	..	..	..	..	..	..			5
Venus gallina	..	..	..	..	5	**7**	3	**4**	2	**3**	1	**1**	..	..	..	..			6
Tellina fabula	5	**14**	22	**80**	..	..	6	**6**	11	**70**	15	**220**	2	**20**	..	..			7
Psammobia ferroensis	2	**13**	2	**2**	..	..	..	..	..	..	..	..	1	**3**	..	..			8
Donax vittatus	..	..	29	ca. **1,000**	1	**1**	2	**2**	1	**3**	2	**2**	2	**5**	..	..			9
Mactra subtruncata	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..			10
„ stultorum	2	**2**	..	..	..	..	3	**5**	2	**3**	2	**2**	..	..	..	..			11
„ sp.?	..	..	..	..	..	..	..	..	2	**2**	1	**1**	..	..	..	..			12
Scrobicularia prismatica	28	**180**	..	..	..	..	..	..	1	**4**	..	..	..	..	..	..			13
„ alba	1	..	2	**2**	..	..	..	..	..	..	..	..	..	..	..	..			14
„ sp.?	..	..	..	..	..	..	..	..	1	**1**	2	**4**	..	..	..	..			15
Solen pellucidus	4	**5**	..	..	..	..	..	..	..	..	..	..	..	..	..	..			16
„ (ensis and siliqua)	16	**19**	6	**7**	4	**4**	11	**19**	6	**6**	4	**8**	6	**23**	all	?			17
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Cylichna cylindracea	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			19
CRUSTACEA	18	**41**	7	**12**	1	**1**	4	**4**	1	**1**	3	**3**	2	**2**	..	..			20
Remains unidentified	3	**3**	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..			21
Portunus holsatus	1	**1**	1	**1**	..	..	1	**1**	..	..	1	**1**	2	**2**	..	..			22
Corystes cassivelaunus	1	**1**	..	..	1	**1**	2	**2**	..	..	..	..	..	..	..	..			23
Thia polita	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			24
Eupagurus Bernhardus	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..			25
Nika edulis	2	**2**	..	..	..	..	..	..	..	..	..	..	..	..	..	..			26
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	<20		20+		30+		30+		20+		30+		20+		30+		25-40		..		..		..		20+		30+	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
	7	..	13	..	13	..	34	..	8	..	8	..	28	..	25	..	34	..	35	..	64	..	24	..	29	..	18	..
	1	..	2	..	2	..	1	..	2	..	1	..	7	..	..	..	..	..	3	..	36	..	22	..	5	..	11	..
	1	..	..	..	..	..	2	..	..	..	..	..	3	..	5	..	..	..	2	..	..	..	..	..	12	..	1	..
	5	..	11	..	11	..	31	..	6	..	7	..	18	..	20	..	34	..	30	..	28	..	2	..	12	..	6	..
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	**2**	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..
3	4	**50**	10	**103**	11	**169**	14	**23**	4	**4**	6	**47**	18	**75**	20	**229**	31	**52**	20	**27**	6	**17**	2	..	11	**38**	5	**18**
4	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	1	**1**	2	**2**	1	**1**	..	..	..	..	..	..	..	..
5	..	..	..	..	..	..	..	..	1	**1**	1	**1**	..	..	..	..	6	**9**	..	..	..	..	..	..	..	..	..	..
6	..	..	1	**1**	..	..	..	..	..	..	..	..	..	..	..	..	6	**6**	..	..	..	..	..	..	..	..	..	..
7	..	..	..	..	6	**7**	3	**9**	1	**1**	4	**30**	3	**6**	2	**6**	..	..	2	**2**	..	..	2	**18**	..	..	1	**2**
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	**3**	..	..	..	..	..	..	..	..	..	..
9	4	**50**	9	**100**	6	**150**	1	**1**	..	..	1	**1**	12	**55**	17	**220**	..	..	..	..	..	..	..	..	7	**30**	3	**15**
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	..	..
11	..	..	..	..	2	**2**	..	..	..	..	1	**6**	1	**1**	..	..	1	**1**	2	**2**	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	..	..	..	..	5	**6**	..	..	..	..	..	..	..	..	1	..	1	**2**	..	..
13	..	..	1	**1**	..	..	..	..	..	..	..	..	1	**1**	..	..	1	**1**	..	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	4	**5**	..	..	..	..	..	..	..	..	5	**7**	6	**6**	3	**6**	..	..	1	**2**	..	..
15	..	..	..	..	5	**9**	1	**1**	..	..	..	..	2	**2**	1	**1**	..	..	..	..	..	..	..	..	..	..	..	..
16	..	..	1	**1**	1	**1**	..	..	1	**1**	1	**1**	1	**1**	..	..	1	**2**	5	**6**	3	**5**	..	..	..	..	..	..
17	..	..	..	..	..	..	1	**1**	1	**1**	2	**7**	..	..	1	**1**	14	**19**	6	**8**	..	..	1	..	2	**4**	1	**1**
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	..	..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..
20	..	..	1	**1**	1	**1**	5	**8**	2	**2**	2	**2**	..	..	..	..	3	**3**	9	**11**	6	**6**	..	..	..	..	1	**1**
21	..	..	1	**1**	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	**4**	1	**1**	..	..	..	..	..	..
24	..	..	..	..	..	..	2	**2**	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	1	**1**	..	..	..	..	..	..
27	..	..	..	..	..	..	2	**5**	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**
28	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..
29	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	..	..
30	..	..	2	**4**	7	**35**	23	**40**	1	**1**	3	**4**	1	**1**	..	..	11	**11**	14	**16**	20	**71**	2	..	3	**7**	..	..
31	..	..	..	..	..	..	5	**5**	..	..	1	**1**	..	..	..	..	1	**1**	3	**3**	1	**1**	1	..	1	..	..	..
32	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..
33	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	**4**	4	**4**	..	..	..	..	..	..
35	..	..	..	..	..	..	2	**2**	1	**1**	1	**2**	..	..	..	..	7	**7**	1	**1**	..	..	..	..	1	..	..	..
36	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
37	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	2	**2**	..	..	..	..	..	..	..	..	..	..
38	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
39	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	**7**	..	..	..	..	..	..	..	..
40	..	..	1	**3**	7	**35**	18	**30**	..	..	..	..	1	**1**	..	..	1	**1**	..	..	14	**65**	..	..	1	**5**	..	..
41	..	..	..	..	..	..	2	**2**	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	1	..	..	..	..	..
42	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
43	1	**1**	3	**4**	3	**3+**	10	**13+**	..	..	.	..	3	?	3	?	1	?	4	**3+**	2	**2+**	1	..	..	..	..	..
44	1	**1**	1	**2**	..	..	4	**5**	..	..	..	..	.	..	..	..	..	..	1	..	1	..	..	..	..	..	..	.
45	..	..	1	**1**	..	..	1	..	..	..	..	..	..	..	..	..	..	..	2	..	1	..	..	..	..	..	..	..
46	..	..	..	..	1	**1**	5	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	1	..	..	.	..	..
47	..	..	1	?	2	?	2	?	..	..	..	..	3	?	3	?	1	?	2	?	1	..	..	..	..	..	..	..
48	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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Voyage	63†				63†				48†						48		61				
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Month	Sept.				Sept.				Feb.						Feb.		Aug.				
Depth in Fathoms	15-16				15-16				14-15						22-24		23-26				
Soil	f.d.g.s.				f.d.g.s., f.s.				f.s., f.d.s.						s. & m., s. & ross.		variable.				
Size in cm.	20+		30+		20+		30+		10+		20+		30+		..		20+		30+		
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	
Examined	34	..	5	..	40	..	20	..	13	..	41	..	17	..	34	..	26	..	29	..	
Empty	1	..	2	..	..	..	..	..	12	..	32	..	8	..	8	..	9	..	3	..	
Unrecognisable food	17	..	1	..	3	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	
Recognisable food	16	..	2	..	37	..	19	..	1	..	9	..	9	..	26	..	17	..	26	..	
PISCES	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Ammodytes sp.?	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
MOLLUSCA	9	**11**	2	**6**	34	**167**	19	**178**	..	..	1	**2**	2	**4**	3	**3**	13	**42**	17	**18**	3
Remains unidentified	1	**1**	..	..	1	**1**	..	..	..	..	..	..	..	..	..	..	1	**1**	16	**16**	4
Nucula nucleus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Venus gallina	2	**3**	..	..	6	**10**	1	**1**	..	..	..	..	..	..	..	..	..	..	..	..	6
Tellina fabula	..	..	..	..	3	**5**	3	**3**	..	.	..	..	..	..	2	**2**	..	..	2	**2**	7
Psammobia ferroensis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8
Donax vittatus	2	**2**	..	..	20	**120**	15	**150**	..	..	1	**1**	..	..	..	..	..	..	..	..	9
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„ sp.?	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12
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„ alba	2	**2**	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	10	**40**	..	..	14
„ sp.?	..	..	..	..	2	**2**	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15
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„ (ensis and siliqua)	1	**1**	2	**6**	15	**18**	12	**24**	..	..	1	**1**	2	**4**	..	..	..	..	..	..	17
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Remains unidentified	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	..	..	31
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Phyllodoce grœnlandica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	33
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Lagis Koreni	2	**2**	..	..	..	..	1	**1**	..	..	..	..	..	..	25	**650**	13	**16**	22	**70**	40
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	Knoll Deep to Winterton Shoal.																W. of Brown Ridges.				Brown Ridges.							
	58 28 June 19-22 f.g.s.				64† 20 Sept. 22-24 f.g.s,, blk.clay.		58† 26 June 17-20 f.g.s.				49† 2 Mar. 16-19 blk.spk.s.						58† 8 June 19-20 f.g.s. & sh.				58† 16 June 15-18 f.g.s., sh.		58† 18 June 15-17 f.g.s.		58† 10 June 15-21 f.d.s., f.g.s,			
	20+		30+		20+		20+		30+		<20		20+		30+		20+		30+		..		..		20+		30+	
	St. 33	Sp. ..	St. 28	Sp. ..	St. 32	Sp. ..	St. 36	Sp. ..	St. 31	Sp. ..	St. 18	Sp. ..	St. 52	Sp. ..	St. 10	Sp. ..	St. 27	Sp. ..	St. 16	Sp. ..	St 60	Sp. ..	St. 33	Sp, ..	St. 33	Sp. ..	St. 18	Sp. ..
	1	..	1	..	4	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	..	1	..	2	..	..	..	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
	32	..	26	..	26	..	36	..	31	.	18	..	50	..	6	..	27	..	16	..	60	..	33	..	33	..	18	..
1	2	**3**	..	..	..	..	..	..	1	**2**	1	**1**	18	**24**	..	..	..	..	1	**1**	1	**1**	..	..	..	..	..	..
2	2	**3**	..	..	..	..	..	..	1	**2**	1	**1**	18	**24**	..	..	..	..	1	**1**	1	**1**	..	..	..	..	..	..
3	21	**102**	14	**62**	12	**15**	34	**405**	31	**527**	13	**55**	31	**55**	3	**6**	27	**259**	16	**228**	58	**352**	33	**235**	31	**276**	16	**195**
4	..	..	1	**1**	7	**7**	1	**1**	..	..	..	..	3	**3**	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**
7	6	**14**	6	**26**	1	**3**	20	**140**	18	**190**	1	**1**	6	**13**	..	..	9	**50**	11	**110**	18	**60**	11	**50**	7	**33**	11	**17**
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	16	**80**	5	**13**	..	..	27	**250**	26	**300**	11	**38**	10	**15**	1	**1**	23	**180**	10	**90**	46	**200**	30	**150**	24	**220**	13	**160**
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	..	..	..	..	..	..	..	..	..	..	4	**4**	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	..	..	7	**9**	1	**1**	..	..	..	..	..	..	4	**4**	1	**1**	8	**8**	..	..	..	..	..	..	..	..	..	..
13	2	**2**	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	5	**5**	..	..	..	..	2	**2**	..	..
14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15	..	..	3	**3**	3	**4**	2	**2**	5	..	..	..	8	**10**	2	**3**	6	**8**	..	..	10	**12**	2	**2**	10	**12**	4	**4**
16	1	**1**	1	**1**	..	..	2	**2**	..	..	.	..	1	**1**	..	..	..	..	2	**2**	2	**2**	1	**1**	1	**1**	..	..
17	1	**1**	2	**2**	..	..	7	**9**	13	**24**	3	**3**	6	**6**	1	**1**	9	**11**	11	**19**	47	**73**	23	**32**	7	**7**	10	**13**
18	..	..	2	**6**	..	..	..	..	2	**9**	2	**9**	1	**1**	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	4	**5**	4	**4**	6	**14**	2	**2**	3	**3**	5	**8**	17	**29**	..	..	2	**2**	2	**3**	6	**6**	1	**1**	3	**4**	..	..
21	..	..	1	**1**	..	..	1	**1**	..	..	..	..	3	**3**	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..	..	1	**1**	..	..	1	**1**	1	**1**	..	..	1	**1**	..	..	..	..	1	**1**	..	..	1	**1**	..	..	..	..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	1	**1**	..	..	1	**1**	..	..
25	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..
26	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..
27	4	**4**	1	**1**	6	**14**	..	..	..	..	4	**6**	12	**21**	..	..	1	**1**	1	**1**	..	..	..	..	..	..	..	..
28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	1	**1**	..	..	..	..	..	..	..	..	1	**1**	3	**3**	..	..	1	**1**	..	..	..	..	..	..	..	..	..	..
30	22	**52**	23	**153**	17	**23**	13	**43**	8	**12**	6	**6**	23	**33**	4	**11**	18	**31**	9	**20**	43	**136**	16	**47**	25	**103**	13	**36**
31	..	..	2	**2**	..	..	4	**4**	..	..	6	**6**	5	**5**	..	..	..	..	2	**2**	6	**6**	1	**1**	7	**7**	1	**1**
32	1	**1**	1	**1**	..	..	1	**1**	..	..	..	..	..	..	..	..	10	**10**	2	**2**	..	..	..	..	1	**1**	..	..
33	1	**1**	2	**2**	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	**2**
34	3	**3**	..	..	6	**6**	1	**1**	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..
35			1	**1**			..	..	1	**1**	..	..	4	**4**	1	**1**	..	..	3	**4**	6	**6**	1	**1**	..	..	2	**2**
36	4	**4**	1	**1**	..	..	..	..	..	..	..	..	..	..	..	..	2	**2**	..	..	1	**1**	..	..	..	..	2	**2**
37	4	**4**	2	**2**	..	..	1	**1**	..	..	..	.	..	..	..	..	..	.	2	**2**	4	**4**	..	..	3	**3**	..	..
38	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**4**
39	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
40	11	**30**	20	**140**	8	**13**	5	**35**	7	**8**	..	..	13	**21**	4	**10**	1	**1**	4	**4**	4	**9**	4	**4**	6	**12**	1	**12**
41	6	**9**	3	**4**	1	**1**	1	**1**	2	**3**	..	..	1	**1**	..	..	10	**18**	3	**5**	35	**110**	13	**40**	17	**80**	6	**13**
42	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
43	5	**6**	6	**12+**	3	**3+**	4	**6**	1	**1**	6	**6**	19	**21+**	1	**1**	5	**6+**	4	**4**	8	**14**	..	..	3	**24**	..	..
44	..	..	..	..	..	..	..	..	..	..	1	**1**	13	**13**	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..
45	..	..	1	**1**	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..
46	3	**3**	2	**7**	2	**2**	4	**6**	1	**1**	..	..	2	**2**	..	..	4	**4**	2	**2**	7	**13**	..	..	2	**23**	..	..
47	..	..	1	?	1	?	..	..	..	..	..	..	6	?	..	..	1	?	2	**2**	..	..	..	..	..	..	..	..
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TABLE D.—PLAICE

Region	Brown Ridges.																Broad Fourteens.				
Voyage	58†						48†\		58†						30†		28†				
Station	12						20		20						39		21				
Month	June						Feb.		June						April		Mar.				
Depth in Fathoms	15-20						14-17		14-18						15		12-16				
Soil	f.g.s., f.g.s. & sh.						f.g.s., f.br.s.		f.g.s.						f.s.		f.g.s.				
Size in cm.	<20		20+		30+		..		<20		20+		30+		20+		30+		20+		30+	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	
Examined	8	..	40	..	27	..	68	..	10	..	33	..	20	..	32	..	23	..	20	..	7	..	
Empty	..	..	..	..	..	..	57	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Unrecognisable food	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	4	..	..	..	
Recognisable food	8	..	40	..	27	..	11	..	9	..	33	..	20	..	32	..	23	.	16	..	7	..	
PISCES	.	..	1	**1**	..	..	..	..	..	..	..	..	..	..	5	**9**	11	**18**	..	..	..	..	1
Ammodytes sp.?	..	..	1	**1**	..	..	..	..	..	..	..	..	..	..	5	**9**	11	**18**	..	..	..	..	2
MOLLUSCA	6	**32**	33	**221**	21	**210**	7	**11**	6	**13**	33	**274**	20	**113**	29	**211**	22	**207**	16	**56**	6	**24**	3
Remains unidentified ..	1	**1**	2	**2**	..	..	..	..	1	**1**	..	..	1	**1**	..	..	..	..	2	**2**	..	..	4
Nucula nucleus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
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Tellina fabula	..	..	5	**10**	3	**7**	..	..	..	..	8	**60**	13	**40**	15	**42**	10	**60**	3	**35**	1	**6**	7
Psammobia ferroensis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8
Donax vittatus	4	**25**	26	**190**	18	**180**	1	**1**	5	**9**	22	**170**	10	**50**	28	**161**	19	**107**	1	**1**	..	..	9
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„ sp? ..	2	**3**	6	**6**	..	..	..	..	..	..	6	**6**	..	..	3	**3**	1	**1**	..	..	..	..	15
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	10+		20+		30+		..		10+		20+		10+		20+		20+		30+		20+		30+	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
	20	..	24	..	6	..	27	..	57	..	26	..	40	..	37	..	22	..	13	..	13	..	28	..
	..	..	..	..	..	..	7	..	6	..	..	..	1	..	3	..	..	..	2	..	..	..	..	..
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	20	..	24	..	6	..	20	..	51	..	25	..	33	..	19	..	22	..	11	..	10	..	28	..
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	13	**14**
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	13	**14**
3	20	**154**	24	**307**	6	**107**	18	**44**	21	**24**	20	**91**	22	**61**	8	**20**	16	**53**	7	**8**	8	**42**	25	**172**
4	..	..	..	..	..	..	..	..	10	**10**	..	..	1	**1**	1	**1**	1	**1**	..	..	..	..	..	..
5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	6	**10**	16	**61**	3	**22**	1	**1**	..	..	18	**78**	..	..	7	**19**	..	..	..	..	8	**40**	23	**164**
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..
9	20	**130**	24	**215**	6	**77**	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	..	..	2	**2**	..	..	..	..	..	..	..	..	..	..	..	..
11	..	..	..	..	1	**1**	..	..	ca. 5 mm. long		..	..	ca. 5 mm. long		..	..	..	..	..	..	..	..	..	..
12	1	**1**	..	..	..	..	1	**1**	5	**8**	..	..	16	**50**	..	..	..	..	..	..	..	..	..	..
13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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15	..	..	3	**6**	..	..	2	**5**	4	**4**	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..
16	..	..	6	**13**	..	..	6	**6**	1	**1**	..	..	2	**2**	..	..	9	**26**	1	**1**	..	..	..	..
17	12	**13**	7	**11**	2	**7**	11	**11**	1	**1**	..	..	3	**3**	..	..	1	**1**	1	**1**	1	**1**	7	**8**
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	1	**1**	1	**1**	1	**1**	1	**1**	..	..	..	..	..	..	..	..
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24	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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27	..	..	..	..	..	..	..	..	..	..	..	..	11	**33**	..	..	..	..	..	..	..	..	..	..
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31	..	..	1	**1**	..	..	..	..	..	..	2	**2**	3	**3**	..	..	..	..	..	..	1	**1**	2	**2**
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35	1	**1**	..	..	..	..	1	**1**	9	**9**	1	**1**	..	..	3	**3**	1	**1**	3	**3**	..	..	..	..
36	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
37	1	**1**	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	2	**2**	1	**1**	..	..	1	**1**
38	..	..	..	..	..	..	..	..	..	..	..	..	2	**2**	..	..	..	..	..	..	..	..	..	..
39	..	..	..	..	..	..	3	**6**	..	..	2	**2**	..	..	..	..	..	..	..	..	..	..	1	**1**
40	..	..	4	**4**	..	..	18	**86**	2	**2**	10	**10**	..	..	2	**2**	9	**30**	2	**2**	..	..	2	**2**
41	8	**8**	4	**4**	1	**1**	1	..	1	**1**	..	..	1	**3**	3	**3**	2	**7**	..	..	..	..	..	..
42	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
43	..	..	..	..	..	..	3	**3+**	29	**31+**	3	?	14	**14+**	5	**5+**	5	**5**	..	..	2	**2**	..	..
44	..	..	..	..	..	..	..	..	2	**2**	..	..	4	**4**	2	**2**	..	..	..	..	2	**2**	..	..
45	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	**4**	..	..	..	..	..	..
46	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..
47	..	..	..	..	..	..	2	?	29	?	3	?	10	?	3	?	..	..	..	..	..	..	..	..
48	..	..	..	..	..	..	..	..	6	**8**	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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TABLE D.—PLAICE

Region	S. of Horn Reef.		N. of Horn Reef.						S. of the Dogger.		Dogger Bank										
Voyage	60†		31†						56†		59†		59†		65†		65†		59†		
Station	3		12						47		35		38		5		6		8		
Month	July		May						June		June		June		Oct.		Oct.		June		
Depth in Fathoms	9–10		7–11						23–25		16–27		25–27		13–17		17–18		16–17		
Soil	f.d.s. & sh.		f.d.s.						s. & m., f.d.s.		f.d.g.s.		f.d g.s.		f.g.s., gl.		gl., c.s.		f.s., sh., f.g.s.		
Size in cm.	10+		10+		20+		30+		..		29+		..		28+		..		30+		
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp	St.	Sp.	St.	Sp.	St.	Sp.	
Examined	30	..	23	..	14	..	17	..	25	..	18	..	9	..	sev.	..	9	..	21	..	
Empty	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	2	..	
Unrecognisable food	..	..	3	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	
Recognisable food	30	..	20	..	13	..	16	..	25	..	16	..	9	..	all	..	8	..	19	..	
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Remains unidentified	8	**8**	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	4
Nucula nucleus	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	5
Venus gallina	1	**1**	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	6
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Psammobla ferroensis	..	..	..	..	..	..	..	..	..	..	3	**12**	2	**3**	..	..	2	**4**	5	**11**	8
Donax vittatus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9
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„ (ensis and siliqua)	1	**2**	..	..	..	..	2	**2**	5	**5**	6	**11**	6	**13**	?	..	7	**70**	12	**25**	17
Natica Alderi	..	..	..	..	..	..	..	..	..	..	1	**1**	1	**1**	..	..	..	..	..	..	18
Cylichna cylindracea	..	..	..	..	..	..	..	..	18	**36**	4	**7**	..	..	..	..	..	..	..	..	19
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	59† 6 June 13-16 f.s. & sh.		59† 4 June 12-13 f.s. & sh.		65 7 Oct. 10-14 f.g.s.		28† 11 Mar. 10-13 f.s.			31 30 May 11-12 f.g.s., f.d.s.		28† 7 Mar. 14-17 f.s. & sh., f.s.			56† 45 May 18-19 f.d.g.s.		31† 42 May 19-21 f.s.		41† 19 Oct. 17-18 g.s. & sh. s.gl.		31 25 May 16-21 f.g.s., f.s., f.g.s.	
	30+		30+		..		20+		30+	30+		20+		30+		..	30+		..		29-44	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
	41	..	23	..	27	..	18	..	21	..	18	..	18	..	51	..	18	..	13	..	26	..	15	..
	3	..	3	..	..	..	5	..	..	..	2	..	1	..	1	..	1	..	1	..	4	..	..	..
	4	..	..	..	..	..	..	..	..	..	2	..	..	..	1	..	..	..	..	..	..	..	..	..
	34	..	20	..	27	..	13	..	21	..	14	..	17	..	49	..	17	..	12	..	22	..	15	..
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	29	**172**	20	**258**	27	**5697**	10	**14**	18	**132**	13	**27**	8	**16**	48	**218**	15	**56**	11	**32**	21	**49**	14	**70**
4	1	**1**	..	..	1	**1**	1	**1**	..	..	..	..	1	**1**	1	**1**	1	**1**	..	..	..	..	..	..
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6	1	**1**	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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10	10	**90**	18	**250**	..	..	..	..	11	**90**	..	..	..	..	2	**21**	..	..	4	**7**	1	**2**	8	**60**
11	3	**4**	..	..	ca. 6 mm. long		..	..	1	**6**	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	21	**5670**	..	..	..	..	3	**3**	..	..	..	..	..	..	..	..	..	..	..	..
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14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	**3**	..	..	1	**1**	..	..	..	..
16	..	..	..	..	..	..	..	..	..	..	..	..	2	**2**	..	..	1	**1**	1	**1**	..	..	..	..
17	16	**30**	4	**7**	5	**26**	7	**10**	13	**31**	13	**24**	..	..	37	**147**	6	**26**	9	**21**	18	**37**	4	**7**
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**2**	8	**28**	1	**1**	..	..	..	..
20	3	**30**	..	..	1	**1**	..	..	4	**4**	..	..	4	**4**	6	**9**	5	**5**	1	**13**	9	**11**	..	..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..
22	..	..	..	..	1	**1**	..	..	..	..	..	..	1	**1**	1	**1**	..	..	1	**12**	..	..	..	..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	8	**10**	..	..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	3	**30**	..	..	..	..	..	..	1	**1**	..	..	..	..	1	**1**	..	..	1	**1**	..	..	..	..
26	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..
27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	..	..	..	..	..	..	..	..	..	..	..	..	2	**2**	2	**4**	2	**2**	..	..	1	**1**	..	..
29	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	1	**1**	..	..	..	..	..	..	..	..
30	6	**6**	2	**3**	..	..	6	**6**	8	**11**	2	**2**	4	**8**	15	**21**	14	**64**	6	**10**	1	**1**	7	**7**
31	4	**4**	..	..	..	..	2	**2**	2	**2**	2	**2**	..	..	4	**4**	..	..	..	..	..	..	2	**2**
32	..	..	..	..	..	..	..	..	..	..	..	..	1	**1**	..	..	..	..	..	..	..	..	..	..
33	..	..	1	**1**	..	..	..	..	2	**2**	..	..	..	..	..	..	..	..	..	..	..	..	..	..
34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	22	..	..	1	**1**	..	..
35	..	..	1	**1**	..	..	2	**2**	4	**4**	..	..	3	**3**	6	**6**			6	**8**	..	..	3	**3**
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40	1	**1**	1	**1**	..	..	..	..	1	**1**	..	..	1	**1**	6	**7**	7	**11**	1	**1**	..	..	1	**1**
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Voyage	50†		50†		30		Oithona.†		30†				47†		59		57		61		61†				61†		
Station	4		6		16		7		11				1		29		13		32-34		26-29				23		
Month	Mar.		Mar.		April		..		April				Jan.		July		June		Aug.		Aug.				Aug.		
Depth in Fathoms ..	5-6		4-5		8		..		5-7				6		3-5		8		3-5		1-7				1		
Soil	f.s.		f.s.		d.s. & sh.		..		d.s., gl.				f.s.		f.d.s.		c.s.,gl. sh, f.s.		s.m.,f.s.		f.s.				f.s.		
Size in cm.	2-7		4-7		20+		5-14		<20		20+		..		20+		5-7		5-10		5-10		10-15		6-9		
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp	St.	Sp.	
Examined	12	..	20	..	16	..	22	..	23	..	4	..	Several		15	..	4	..	11	..	20	..	20	..	21	..	
Empty	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	
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	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
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20	..	..	..	..	1	..	2	..	2	..	1	..	..	..	1	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..
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24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	5	2	2	..	..	..	..	..	..	..	..	..	..	1	1	..	..
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27	..	..	..	..	..	..	1	1	3	5	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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30	1	?	7	?	..	..	3	3	..	..	..	..	5	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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35	..	..	..	..	..	..	..	..	..	..	..	..	21	?	..	..	.	..	..	..	..	..	..	..	3	3	..	..	..	.	..	..
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39	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	3	3	1	1
40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	3	3	..	..	..	..	..	..
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44	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	.	..	..	..	..	2	?	3	?
45	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	5	..	2	..	..	..	..	..	..	..	1	..	..	..
46	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	2	..	..	..	..	..	..	..	..	..	..	..

TABLE E.—DABS

Region	Off Terschelling.								Eastern Grounds.								W. of Brucey's Garden.		Dogger.				
Voyage	30†				30†				31†				31†				50†		59†		59†		
Station	24				19				20				16				24		8		6		
Month	April				April				May				May				Mar.		June		June		
Depth in Fathoms	19–20				20–21				10–11				26–27				42–43		16–17		13–16		
Soil	m., s. & m.				m.				f.s.				f.s. & oz., f.s. & m.				f.d.s.		f.s. & sh., f.g.s		f.s. & sh.		
Size in cm.	<20		20+		<20		20+		10+		20+		<20		20+		..		..		20+		30+		
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	
Examined	20	..	18	..	21	..	12	..	21	..	8	..	26	..	13	..	40	..	27	..	25	..	10	..	
Empty	..	..	1	..	..	..	..	..	1	..	..	..	3	..	2	..	19	..	1	..	..	..	..	..	
Unrecognisable food	..	..	..	..	..	..	..	..	5	..	1	..	9	..	..	..	5	..	2	..	4	..	2	..	
Recognisable food	20	..	17	..	21	..	12	..	15	..	7	..	14	..	11	..	16	..	24	..	21	..	8	..	
PISCES	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Remains unidentified	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Ammodytes sp.?	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
MOLLUSCA	..	..	1	1	2	2	1	1	12	13	1	2	5	5	2	2	7	8	19	22	8	8	4	5	4
Remains unidentified	..	..	..	..	..	..	1	..	6	..	1	..	..	..	..	..	..	..	..	..	2	..	..	..	5
Montacuta ferruginosa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6
Tellina fabula	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7
Donax vittatus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8
Mactra subtruncata	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9
„ stultorum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10
„ sp.?	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	11
Syndosmya prismatica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12
„ nitida	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13
„ sp.?	..	..	..	..	1	1	..	..	1	1	..	..	4	4	..	..	..	..	..	..	..	..	..	..	14
Solen pellucidus	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	1	2	3	..	..	..	..	..	..	15
„ (ensis and siliqua)	..	..	..	..	..	..	..	..	4	5	1	1	1	1	1	1	..	..	17	20	5	5	4	5	16
Natica catena	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17
„ Alderi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	18
CRUSTACEA	..	..	1	1	3	3	2	2	2	2	4	4	3	3	3	3	..	..	6	18	15	15	15	17	7	7	19
Remains unidentified	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	..	..	..	..	..	..	..	..	20
Portunus holsatus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	21
Corystes cassivelaunus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	22
Eupagurus Bernhardus	..	..	3	3	1	1	1	1	1	1	3	?	..	..	..	..	..	..	15	15	15	16	7	7	23
Callianassa subterranea	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24
Crangon vulgaris	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	25
„ Allmanni	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	26
„ sp.?	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	27
Pandalus Montagui	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	28
Ampelisca sp.?	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	3	15	..	..	..	..	..	..	29
Amphipoda unidentified	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	30
POLYCHÆTA	..	..	7	22	9	37	2	6	3	5	2	2	2	2	8	11	10	11	4	4	6	6	2	2	..	..	31
Remains unidentified	..	..	2	..	..	..	..	..	..	..	2	..	2	..	8	..	9	..	3	..	2	..	2	..	..	..	32
Phyllodoce groenlandica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	33
Nephthys sp.?	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	34
Terebellida	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	35
Lagis Koreni	..	..	5	20	9	36	..	..	1	3	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	36
Sabella pavonina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	3	3	..	..	..	..	..	..	37
ECHINODERMA	..	..	19	137	13	21	18	25	12	28	2	2	..	..	1	1	1	1	2	2	..	..	..	..	..	..	38
Ophiura ciliaris	..	..	5	5	8	8	6	6	6	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	39
„ albida	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	40
„ sp.	..	..	1	1	..	..	1	1	1	1	1	..	..	1	1	..	..	1	1	..	..	..	..	..	..	..	41
Amphiura filiformis	..	..	19	130	4	7	8	14	4	8	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	42
Ophiothrix fragilis	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	43
Echinocardium sp.?	..	..	1	?	5	?	4	?	12	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	44
COELENTERA	..	..	3	..	5	..	12	..	9	..	1	..	..	..	1	..	..	..	..	..	..	..	2	..	..	..	45
Obelia, sp.?	..	..	3	..	5	..	12	..	9	..	1	..	..	..	1	..	..	..	..	..	..	..	2	..	..	..	46

—*continued.*

† For additional records, *see* p. 162.

	Dogger.																												Clay Deep.	
	59		59†					56†					47†		29†		31†			56†	31				56†	
	4		1					40					18		7		30			45	25				47	
	June		June					May					Jan.		Mar.		May			May	May				June	
	12–13		9–15					10–14					11–12		9–11		11–12			18–19	16–21				23–25	
	f.s. & sh.		f.g.br.s., f.s. & sh.					f.g.s. & sh.					f.s.		f.s. & sh.		f.g.s., f.d.s.			f.d.g.s.	f l.gr.s., f.s., f.g.s.				s. & m., f.d.s.	
	30+		10+		20+		30+	<20		20+		30+	..		..		10+		30+	20+	10–24		30+		..	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
	22	..	25	..	27	..	27	..	25	..	22	..	26	..	29	..	15	..	10	..	18	..	25	..	26	..	3	..	33	..
	1	..	1	..	..	.	..	..	..	..	1	..	2	..	2	..	1	..	..	..	..	..	3	..	..	..	..	..	..	..
	..	..	4	..	4	..	3	..	3	..	..	..	..	..	..	..	1	..	4	..	..	..	..	..	16	..	1	..	..	..
	21	..	20	..	23	..	24	..	22	..	21	..	24	..	27	..	13	..	6	..	18	..	22	..	10	.	2	..	33	..
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..
2	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..
4	14	46	16	m	18	33	14	31	10	21	15	23	19	33	16	35	8	10	2	2	11	12	13	?	1	1	..	..	13	13
5	..	..	4	..	7	..	1	..	1	..	..	..	1	..	..	..	1	3	..	..	..	..	..	..	..	..	..	..	1	..
6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	.	..	..	..	..
7	..	..	1	1	2	..	..	..	..	..	2	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
9	6	13	..	..	2	5	2	9	..	..	1	1	1	1	7	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	..	..	1	3	..	..	..	..	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	..	..	1	1	1	1	..	..	3	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	..	..	2	3	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..
15	..	..	ca. 2 mm long		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	7
16	..	..	11	m	5	6	7	7	8	9	13	18	14	24	9	13	5	6	2	2	10	11	12	?	1	1	..	..	2	2
17	12	32	..	..	5	7	7	12	..	..	1	1	4	4	6	10	1	1	..	..	1	1	..	..	..	..	..	..	..	..
18	1	1	1	1	2	5	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	12	12	2	2	9	10	15	18	4	5	9	9	17	18	20	28	3	4	..	..	9	9	9	?	7	32	2	3	7	8
20	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	2	..
21	..	..	..	..	2	2	1	1	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	12	12	2	2	6	6	14	17	3	3	7	7	17	18	20	28	3	4	..	..	9	9	5	?	1	1	2	2	3	3
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	?	..	..	..	..	1	1
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..
28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	30	..	..	..	..
31	1	1	7	7	..	..	3	3	2	2	3	3	2	2	5	5	2	2	1	1	3	3	5	5	1	1	..	..	10	10
32	..	..	6	..	..	..	1	..	1	..	1	..	..	..	1	..	..	..	1	..	..	..	4	..	..	..	..	..	6	..
33	1	..	..	..	..	..	..	..	..	..	..	..	1	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
34	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35	..	..	..	..	..	..	2	..	1	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..
36	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3
37	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
38	1	1	..	..	..	..	1	1	2	2	..	..	..	..	1	1	..	..	..	..	..	..	13	31	1	1	.	..	27	204
39	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
41	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
42	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	30	..	..	..	..	26	200
43	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3
44	..	..	..	..	..	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
45	..	..	..	..	1	..	..	..	16	..	12	..	11	..	5	..	6	..	2	..	9	..	2	..	..	..	..	..	..	..
46	..	..	..	..	1	..	..	..	16	..	12	..	11	..	..	..	..	..	2	..	9	..	2	..	..	..	..	..	..	..

TABLE F.—COMMON SOLE.

Region	Lincolnshire Coast.								Wash.		
Voyage	30		57				33		57		
Station	3		22				44		13		
Month	April		June				June		June		
Depth in fathoms	7		7-9				8-10		8		
Soil	fs., c.s.		spk.s.,s.m.				cs.		c.s.gl. sh., f.s.		
Size in cm.	..		20+		30+		19-32		8-9		
	st.	sp.	st.	sp.	st.	sp.	st.	p.	st.	sp.	
Examined	17	...	8	...	5	...	35	...	4	...	
Empty	10	...	2	...	...	...	9	...	...	...	
Unrecognisable food	1	...	1	...	1	...	2	...	4	...	
Recognisable „	6	...	5	...	4	...	24	...	...	...	
PISCES	...	...	...	...	...	...	...	...	...	...	1
Gobius minutus	...	...	...	...	...	...	...	...	...	...	2
Ammodytes sp.?	...	...	...	...	...	...	...	...	...	...	3
Rhombus maximus?	...	...	...	...	...	...	...	...	...	...	4
Pleuronectes limanda	...	...	...	...	...	...	...	...	...	...	5
Amphioxus lanceolatus	...	...	...	...	...	..	...	...	...	...	6
MOLLUSCA	2	2	1	1	1	1	4	4	...	...	7
Remains	2	...	...	...	...	...	...	...	...	...	8
Nucula sp.?...	...	...	...	...	...	...	1	1	...	...	9
Montacuta bidentata	...	...	...	...	...	...	1	1	...	...	10
Mactra sp.?	...	...	...	...	...	...	...	...	...	...	11
Scrobicularia prismatica	...	...	...	...	...	...	...	...	...	...	12
„ alba...	...	...	...	...	...	...	2	2	...	...	13
Mya?...	...	...	...	...	1	1	...	...	...	...	14
Chiton sp ?	...	...	1	1	...	...	...	...	...	...	15
CRUSTACEA	...	...	3	11	1	1	3	3	...	...	16
Remains	...	...	1	...	...	...	...	...	...	...	17
Diastylis sp.?	...	...	...	...	...	...	...	...	...	...	18
Ampelisca sp.?	...	...	2	10	1	1	3	...	...	...	19
Urothoë sp.	...	...	...	...	...	...	...	...	...	...	20
Amphipoda unidentified	...	...	...	...	...	...	...	...	...	...	21
Idothea linearis	...	...	...	...	...	...	...	...	...	...	22
POLYCHÆTA	4	18	2	2	2	4	22	34	...	...	23
Remains	...	...	1	...	1	...	7	...	...	...	24
Sthenelais limicola	...	...	...	...	...	...	...	...	...	...	25
Phyllodoce groenlandica	...	...	...	...	...	...	3	4	...	...	26
„ sp.?	2	2	...	...	...	...	...	...	...	...	27
Nephthys caeca	...	...	...	...	...	...	...	...	...	...	28
„ sp.?	...	...	...	...	...	...	...	...	...	...	29
Lanice conchilega	...	...	...	...	...	...	1	1	...	...	30
Lagis Koreni	...	...	...	...	...	...	11	18	...	...	31
Pectinaria sp.?	1	2	1	...	1	2	...	...	...	...	32
Ophelia limacina	1	14	...	...	1	...	4	4	...	...	33
Sabellaria	...	...	...	...	...	...	...	...	...	...	34
NEMERTINEA	...	...	...	...	...	...	...	...	...	...	35
ECHINODERMA	...	...	...	...	...	...	...	...	...	...	36
Ophiura sp.?	...	...	...	...	...	...	...	...	...	...	37
Echinocyamus pusillus	...	...	...	...	...	..	...	...	...	...	38

(*Solea vulgaris.*)

	Wash.												Middle Ground.		Sylt Outer.	
	Boston Deeps June		61 3 Aug. 3–4 f.s.		61 9 & 10 Aug. 4–9 f.s		61 16 & 19 Aug. 3–6 fs., sh.		61 12 Aug. 4 s.m.		57 21 June 9–16 s.m., c.s.m.				64 16 Sept. 23–24 f.g.s.		31 20 May 10-11 f.s.	
	7–14		9–11		11–14		10–14		16–14		20+		30+		—		30+	
	st. 15	sp. ...	st. 5	sp. ...	st. 3	sp. ...	st. 7	sp. ...	st. 13	sp. ...	st. 11	sp. ...	st. 7	sp. ...	st. 18	sp. ...	st. 9	sp. ...
	...	...	1	...	1	...	...	...	...	...	2	...	2	...	4	...	...	...
	2	...	3	...	...	...	2	...	1	...	1	...	...	...	...	...	...	...
	13	...	1	...	2	...	5	...	12	...	8	...	5	...	14	...	9	...
1	...	...	...	...	...	...	...	...	1	1	...	...	...	...	1	1	9	9
2	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	5
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	3
6	..	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
7	...	...	...	...	...	...	...	...	...	...	3	3	1	1	1	1	...	...
8	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	...	..	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
12	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...
13	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	2	2	1	1	1	1	2	2	9	?	3	3	1	2	2	?	...	...
17	2	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
18	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...
19	...	...	...	...	...	...	...	...	...	...	1	1	1	1	...	...	...	...
20	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...
21	...	...	1	...	1	...	2	...	9	...	...	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...
23	11	11	...	...	1	1	3	3	3	3	3	3	3	5	9	13	...	...
24	11	...	...	...	1	...	3	...	2	...	...	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...	...	...	...	3	3	1	1	...	...	...	...
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...
30	...	...	...	...	...	...	...	...	1	1	...	...	...	...	..	...	...	...
31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	3	...	...
32	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...
33	...	...	...	...	...	...	...	...	...	...	...	...	2	2	4	7	...	...
34	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...
35	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
36	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	16	...	...
37	...	...	...	...	...	...	...	...	...	...	...	...	...	..	1	3	...	...
38	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	13	...	...

TABLE G.—THORNBACK. (*Raia clavata.*)

Region	Bridlington Bay.		Mablethorpe.		Blakeney.		Leman Ground.		Leman Ground.		Brown Ridges.		Southwold.		Southwold.		Southwold.		Sunk.	
Voyage	56		56		26		28		28		58		61						32	
Station	11		31		2		17		15		10		52						14	
Month	May		May		Jan.		Mar.		Mar.		June		Aug.						June	
Depth in Fathoms	6		6-7		10		14-16		14-16		15-19		12						9-10	
Soil	f.d.s.		s. & gl.		c.s. & sh.		f.s., f.d.s.		f.d.s., f.s.		f.d.s., f.g.s.		c.s. & st.						c.s. & gl.	
Size in cm.	23-49		..		..		..		..		62 cm.		25-29		30+		40+		..	
	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.	St.	Sp.
Examined	4	...	11	...	10	...	1	...	7	...	1	...	7	...	10	...	2	...	11	...
Empty	...	...	...	...	4	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...
Unrecognisable food	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Recognisable food	4	...	11	...	6	...	1	...	6	...	1	...	7	...	10	...	2	...	10	...
PISCES	1	1	...	...	3	...	...	...	2	2	...	...	...	...	...	...	...	...	1	...
Remains	1	1	...	...	3	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...
Clupea sprattus	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1?	1
MOLLUSCA	2	3	...	...	2	2	...	...	2	5	...	...	...	...	...	...	...	...	3	33
Solen feet	2	2	...	...	...	...	...	...	1	2	...	...	...	...	...	...	...	...	...	...
Cardium	...	...	...	...	...	...	...	...	1	1	...	...	...	..	...	...	...	...	...	...
Bivalve	1	1	...	...	2	2	...	..	1	2	...	...	...	...	...	...	...	...	3	33
CRUSTACEA	4	4	11	171	5	10	1	10	6	32	1	5	7	44	10	61	2	10	9	33
Portunus holsatus	2	2	3	6	2	2	...	...	2	2	1	3	...	...	...	...	1	1	6	6
„ marmoreus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ pusillus	...	...	...	...	..	...	...	...	...	...	...	...	3	3	...	...	...	...	...	...
„ sp.?	...	...	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Corystes cassivelaunus	...	...	...	...	...	...	...	...	...	...	1	2	...	...	...	...	...	...	2	2
Eupagurus Bernhardus	...	...	2	2	...	...	...	...	...	...	...	...	...	...	2	2	1	2	6	9
Crangon vulgaris	...	...	2	2	2	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ Allmanni	...	...	...	...	...	...	1	10	6	30	...	...	7	35	10	44	2	3	...	...
„ sp.?	...	...	5	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2
Nika edulis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...
Hippolyte varians	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...	...	...
Pandalus Montagui	...	...	...	...	3	4	...	...	...	...	...	...	3	4	5	12	2	4	4	11
Gastrosaccus spinifer	...	...	8	50	...	...	...	...	...	...	...	...	2	2	...	...	...	...	2	2
Amathilla homari	...	...	7	47	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ampelisca sp.?	...	...	4	55	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
POLYCHAETA	...	...	4	...	1	9	...	...	...	...	...	...	...	...	...	...	...	...	7	10
Nephthys caeca	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	9
„ sp.?	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nereis longissima	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Ophelia limacina	...	...	...	...	1	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE H.—Comparing, for certain combinations of hauls, from which the food of Plaice with that of Dabs or Haddock or both was examined, the principal food species which were found, together with the percentage of stomachs containing them :—

Number of Stations	5. (*See* p. 128.)			8. (*See* p. 129.)		13. (*See* p. 129.)	
Species	Plaice.	Dabs.	Haddock.	Plaice.	Haddock.	Plaice.	Dabs.
Number containing recognisable food.	113	125	130	212	232	356	303
	%	%	%	%	%	%	%
PISCES	12	2	5	7	9	9	5
Ammodytes sp. ?	12	...	5	7	3	8	2
MOLLUSCA	87	57	59	88	73	90	63
Montacuta bidentata	...	2	11	...	6	...	1
„ ferruginosa ...	...	...	8	...	4	+	1
Tellina fabula	27	...	27	24	22	26	2
Psammobia ferroensis ...	4	...	...	2	+	3	...
Donax vittatus	...	1	...	...	+	28	3
Mactra subtruncata	3	2	2	12	4	11	4
Solen pellucidus	2	6	2	2	9	4	5
„ sp.	39	38	27	41	40	34	38
Natica catena	...	1	...	...	2	+	4
Cylichna cylindracea... ...	23	...	2	13	1	7	...
CRUSTACEA	11	38	38	11	48	10	41
Corystes cassivelaunus ...	3	...	2	1	2	1	1
Eupagurus Bernhardus ...	...	28	9	+	10	1	27
Callianassa subterranea ...	1	4	5	+	6	+	4
Pandalus Montagui	...	1	...	...	...	...	3
Ampelisca sp. ?	5	...	8	5	9	2	...
Bathyporeia sp. ?	...	...	12	...	8	...	...
POLYCHÆTA	44	23	36	33	40	40	11
Phyllodoce grœnlandica ...	...	...	...	...	4	+	1
Nephthys sp.	31	...	7	21	12	19	1
Goniada maculata	10	...	5	6	5	7	...
Lagis Koreni	13	2	15	10	12	8	1
Ophelia limacina	4	...	2	3	6	8	1
GEPHYREA	9	...	1	5	+	3	...
ECHINODERMA	12	34	58	8	38	7	18
Amphiura filiformis	11	31	56	6	34	4	13
Echinocardium sp. ?	...	2	1	1	1	1	3
COELENTERA	1	11	2	2	1	1	5
Obelia sp. ?	...	11	2	...	1	...	5

Table I.

Comparing the results of the investigations described in the 1st
The number of stomachs containing specimens of each food-group is

Species.	Examined.			Containing Recognisable Food.			Pisces.			Tunicata.			Polyzoa.			
	1st.	2nd.	Total.	1st.	2nd.	Total.	1st.	2nd.	Total.	1st.	2nd.	Total.	1st.	2nd.	Total.	
	No.	No.	No.	No.	No.	No.	%	%	%	%	%	%	%	%	%	
Cottus scorpius	9	17	26	7	12	19	28	75	58	..	..	..	..	..	..	1
Trigla gurnardus	78	128	206	76	116	192	5	15	11	..	..	..	..	..	..	2
„ hirundo	67	2	69	58	2	60	81	100	82	..	..	..	..	..	..	3
„ cuculus	..	11	11	..	11	11	..	45	45	..	..	..	..	..	..	4
Lophius piscatorius	4	20	24	3	10	13	100	100	100	..	..	..	..	..	..	5
Trachinus draco	..	41	41	..	7	7	..	86	86	..	..	..	..	..	..	6
„ vipera	..	3	3	..	3	3	..	67	67	..	..	..	..	..	..	7
Cyclopterus lumpus	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	8
Anarrhichas lupus	6	9	15	6	9	15	..	..	..	..	..	..	..	..	..	9
Gadus morrhua	221	443	664	212	402	614	31	36	35	..	..	..	..	..	..	10
„ æglefinus	1,127	634	1,761	1,105	628	1,733	+	13	5	+	..	+	..	..	..	11
„ merlangus	101	293	394	96	206	302	43	38	40	..	..	..	..	..	..	12
„ virens	5	3	8	5	3	8	100	100	100	..	..	..	..	..	..	13
„ luscus	..	20	20	..	20	20	..	30	30	..	..	..	..	..	..	14
Molva vulgaris	3	8	11	1	2	3	100	100	100	..	..	..	..	..	..	15
Hippoglossus vulgaris	1	..	1	1	..	1	100	..	100	..	..	..	..	..	..	16
Drepanopsetta limandoides	40	35	75	38	35	73	24	11	18	..	..	..	..	..	..	17
Rhombus maximus	22	25	47	12	14	26	100	100	100	..	..	..	..	..	..	18
„ laevis	1	2	3	1	1	2	100	100	100	..	..	..	..	..	..	19
Pleuronectes platessa	1,091	2,982	4,073	862	2,318	3,180	1	4	3	1	+	+	+	1	+	20
„ microcephalus	140	59	199	88	53	141	..	..	..	..	..	..	..	15	6	21
„ cynoglossus	3	18	21	3	15	18	..	..	..	..	..	..	..	..	..	22
„ limanda	329	1,041	1,370	258	840	1,098	5	2	2	+	+	+	3	..	1	23
„ flesus	24	27	51	1	5	6	..	..	..	..	..	..	..	..	..	24
Solea vulgaris	192	157	349	104	108	212	12	10	11	..	..	..	1	+	..	25
Salmo trutta	..	1	1	..	1	1	..	100	100	..	..	..	..	..	..	26
Clupea harengus	..	15	15	..	14	14	..	100	100	..	..	..	..	..	..	27
Galeus vulgaris	33	1	34	33	1	34	85	100	85	..	..	..	..	..	..	28
Scyllium canicula	2	..	2	2	..	2	..	..	..	..	..	..	..	..	..	29
Acanthias vulgaris	61	119	180	21	90	111	19	32	30	..	..	..	..	..	..	30
Raia batis	2	1	3	2	1	3	..	100	33	..	..	..	..	..	..	31
„ clavata	68	64	132	63	58	121	8	12	10	..	..	..	..	..	..	32
„ maculata	5	10	15	5	10	15	20	..	7	..	..	..	..	..	..	33
„ blanda	1	..	1	1	..	..	100	..	..	..	..	..	..	..	..	34

Table I.

and 2nd Reports as regards the food of the various species of fish.
expressed as a percentage of the total number containing recognisable food.

	Mollusca.			Crustacea.			Polychæta.			Nemertinea.			Echinoderma.			Gephyrea.			Coelentera.			Porifera.		
	1st.	2nd.	Total.	1st.	2nd.	Total.	1st.	2nd.	Total.	1st.	2nd.	Total.	1st.	2nd.	Total.	1st.	2nd.	Total.	1st.	2nd.	Total.	1st.	2nd.	Total.
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
1	14	..	5	57	58	58	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	7	1	3	99	93	95	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
3	17	..	17	26	..	25	..	..	..	..	..	..	2	..	2	..	..	..	..	..	..	..	..	..
4	..	..	..	..	100	100	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	..	..	..	33	..	..	..	..	..	..	..	..	..	10	8	..	..	..	..	10	8	..	..	..
6	..	..	..	..	29	29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	..	..	..	..	100	100	..	33	33	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	100	100	..	..	..
9	100	89	93	100	89	93	17	11	13	..	..	..	67	11	33	..	..	..	..	..	..	..	..	..
10	12	8	9	89	80	83	20	14	16	+	..	+	..	+	+	..	+	+	..	..	..	..	..	..
11	64	62	64	26	54	36	54	39	49	+	+	+	59	37	44	..	+	+	+	1	+	..	..	..
12	3	4	4	76	63	67	4	6	6	..	..	..	..	2	1	..	..	..	..	+	+	..	..	..
13	..	33	12	..	33	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	..	20	20	..	100	100	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..
16	100	..	100	100	..	100	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..	17	8	79	86	82	32	31	31	..	..	..	29	..	15	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..	..	..	100	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	78	77	77	15	15	15	38	45	42	1	1	1	17	12	13	..	+	+	+	1	1	..	+	+
21	8	4	6	15	6	11	90	53	76	..	..	..	..	..	..	..	..	..	5	49	21	..	..	..
22	..	7	6	100	33	44	67	80	78	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	60	43	47	35	43	41	17	22	21	3	..	1	7	18	15	..	+	+	9	13	12	..	..	..
24	..	100	83	100	40	50	..	20	17	..	..	..	100	..	20	..	..	..	..	..	..	..	..	..
25	11	12	11	34	26	30	59	58	59	5	1	3	12	6	9	..	..	..	1	..	+	..	..	..
26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	6	..	6	36	..	36	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	..	..	..	100	..	100	50	..	50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30	5	3	4	43	22	26	..	2	2	..	..	..	..	..	..	71	..	14	..	65	53	..	..	..
31	..	..	..	100	100	100	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
32	3	15	9	98	96	97	3	21	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
33	..	..	..	80	100	93	40	70	60	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

SUPPLEMENTARY RECORDS OF SPECIES FOUND IN FISH STOMACHS.

Cod. (*Gadus morrhua.*)

Off Flamborough Head.—Fish eggs, 2. *Sepiola atlantica*, 1. *Cancer pagurus*, 1. *Ophiothrix fragilis*, 1.

29. 8.—*Modiola modiolus*, 1. *Solen* foot, 1.

29. 10 < 62.—Crustacea remains, 1.

35. 5 & 6.—19–53 cm. Crustacea remains, 1.
65–80 cm. Crustacea remains, 3.

35. 7.—*Gadus morrhua*, 1.

40. 41.—*Siriella armata*, 2.

50. 4.—*Gammarus locusta*, 1.

50. 5.—*Gammarus locusta*, 2 in 1.

50. 6.—*Siriella crassipes* and *Schistomysis ornata*, 6. *Idothea linearis*, 2.

50. 7.—*Amathilla homari*, 1.

50. 8.—*Hyas*, 2 in 1. *Galathea*, 1.

50. 9.—50 cm. +. *Clupea*, 6 in 3. *Carcinus mœnas*, 1. *Galathea squamifera*, 5 in 4.

59. 1.—20 cm. +. *Lagis Koreni*, 1.
30 cm. +. *Venus gallina*, 1. *Trochus*, sp. 1.

65. 1.—*Gadus Esmarckii*, 1. *Atelecyclus heterodon*, 4 in 1.

Haddock. (*Gadus aeglefinus.*)

28. 7.—*Pleuronectes limanda*, 1. *Solea lutea*, 1. *Nucula nucleus*, 4 in 2. *Tellina*, 1. *Mactra subtruncata*, 1. *Buccinum undatum*, 1. *Galathea*, 1 *Crangon spinosus*, 2. *Proto pedata*, 1. *Gattyana cirrosa*, 1. *Lanice conchilega*, 7 in 2. *Ophiura albida*, 1. Hydrozoa. 1.

29. 8.—*Mactra subtruncata*, feet, 40 in 8.

29. 10.—*Nucula nucleus*, 1. *Buccinum*, foot, 1. *Fusus antiquus*, foot, 1. *Crangon bispinosus*, 1. *Crangon spinosus*, 1. *Tryphosites*, 7 in 3. Nemertinea, 1. *Ophiura albida*, 12 in 9. *Pleurobracheus pileus*, 2.

29. 15.—*Philine scabra*, 2. *Gebia*, 2. *Cucumaria*, 1. *Ophiura ciliaris*, 1.

29. 20.—*Pleuronectes*, 1. *Solea lutea*, 4 in 2. *Syndosmya alba*, 2. *Phyllodoce*, 1.

31. 20.—Nemertinea, 1. *Crangon trispinosus*, 1.

31. 30.—Bivalve fry, 2. *Natica Alderi*, 1. *Buccinum undatum*, 1. *Echinocardium*, 1. *Obelia*, 1.

38. 3.—*Arnoglossus?*, 1. *Solen siliqua*, 1. *Natica Alderi*, 1. *Crangon trispinosus*, 1. *Proto pedata*, 1. *Sthenelais limicola*, 3.

41. 19.—*Callionymus lyra*, 1. Herring spawn, 13 full. *Bolocera*, 1.

41. 20.—Herring spawn, all full.

41. 23.—*Nucula nitida*, 4. *Cardium*, foot, 1. Bivalve fry, 6. *Crangon trispinosus*, 1. *Sabella pavonina*, 1.

47. 12.—*Nucula nitida*, 1.

47. 18.—*Solea lutea*, 1. *Crangon trispinosus* 7 in 6.

49. 26.—*Psammobia ferroensis*, 1. *Natica Alderi*, 1. *Gebia*, 1. *Crangon trispinosus*, 3 in 1. *Lumbriconereis*, 1. *Glycera*, 1. *Ophiothrix fragilis*, 1.

56. 35.—10 cm. +. *Synchelidium*, 7 in 2. *Phyllodoce*, 1. *Ophiura ciliaris*, 1.

56. 40.—18–22 cm. *Iphinoë*, 1.
30 cm. +. *Venus exoleta*, 1. *Cheirocratus*, 50 in 6. *Synapta*, 1.

56. 43.—17–22 cm. *Urothoë*, 1. *Sthenelais limicola*, 1. *Glycera*, 1.
30–45 cm. *Venus gallina*, 1. *Urothoë*, 1. *Sigalion mathildae*, 13 in 10.

56. 45.—16–23 cm. *Sigalion mathildae*, 1.
35 cm. +. *Scrobicularia alba*, 1. *Mya*, 2. *Sigalion mathildae*, 4.

56. 47.—30 cm. +. *Gebia*, 1. Gephyrean, 1.

59. 1.—< 26 cm. *Tellina*, 1. Bivalve fry, 3. *Caecum glabrum*, 2. *Eulima* 7 in 3. *Cylichna obtusa*, 20 in 3. *Philine scabra*, 1. Gastropod fry, 2. Foraminifera, 1.
30 cm. +. *Amphioxus lanceolatus*, 1. *Venus exoleta*, 1. *Tellina donacina*, 9 in 3. *Caecum glabrum*, 2. *Eulima*, 4 in 2. *Natica* fry, 9 in 3. *Cylichna obtusa*, 24 in 1. Gastropod fry, 1.

59. 8.—*Pecten tigrinus*, 1. *Ophiothrix fragilis*, 10 in 1.

HADDOCK—*continued.*

59. 30.—10 cm. +. Gastropod fry, 1.
20 cm. +. *Actaeon tornatilis*, 1.
30 cm. +. *Eulima bilineata*, 2. *Actaeon tornatilis*, 1. *Glycera*, 1. *Ophiothrix fragilis*, 10 in 1.
59. 51.—*Tritonia Hombergi*, 2 in 1. *Thelepus cincinnatus*, 1. *Cucumaria*, 1.
65. 7.—< 30 cm. *Galathea*, 30 in 2.
30 cm. +. *Callionymus lyra*, 2. Herring spawn, 5 full. *Amphioxus lanceolatus*, 4 in 3. Fish remains, 1. *Pecten tigrinus*, 1. *Donax vittatus*, 1. *Mangelia*, 1. *Tritonia Hombergi*, 1. *Galathea*, 1. *Ophiura ciliaris*, 1.

PLAICE. (*Pleuronectes platessa.*)

Shrimpers Catch, Wash—12–14 cm. Hydrozoa, 2. *Enteromorpha*, 1. 15–25 cm. *Obelia*, 1.
28. 7.—20 cm. +. *Pelonaia*, 1. *Alcyonidium*, 9.
30 cm. +. *Pelonaia*, 20 in 4. *Alcyonidium*, 5. *Ebalia*, 1. *Phyllodoce*, 1.
28. 11.—30 cm. +. *Crangon trispinosus*, 2. *Sertularia abietina*, 1.
28. 15.—20 cm. +. *Ebalia*, 1. *Crangon*, 1.
30 cm. +. *Pecten opercularis*, 1. *Ebalia*, 1. *Phyllodoce*, 1.
28. 21.—20 cm. +. *Crangon*, 1.
30. 16.—*Crangon*, 1. Maldanid, 1. Echinoderm remains, 1. *Ophiothrix fragilis*, 1.
30. 31.—10 cm. +. *Paratylus Swammerdami*, 1. *Scoloplos armiger*, 1.
20 cm. +. *Montacuta ferruginosa*, 1. *Crangon Allmanni*, 3.
30. 39.—20 cm. +. *Tellina*, 1. *Glycera*, 1. *Scoloplos armiger*, 1.
30 cm. +. *Portumnus variegatus*, 1. Mysidæ, 1. *Glycera*, 1.
31. 12.—10 cm. +. *Montacuta bidentata*, 1.
20 cm. +. *Phyllodoce*, 1.
30 cm. +. *Montacuta bidentata*, 1.
31. 20.—30 cm. +. *Nereis longissima*, 2. *Ophelia*, 1.
31. 42.—*Pecten tigrinus*, 1.
31. 43.—*Astarte compressa*, 8 in 3. *Scrobicularia nitida*, 1. *Sabella pavonina*, 1. *Ophiura ciliaris*, 2.
40. 13.—31 cm. +. *Pinnotheres pisum*, 1. *Nerine coniocephala*, 1.
41. 19.—*Pecten opercularis*, 1. *Venus ovata*, 6 in 3.
41. 27.—20 cm. +. *Nucula nitida*, 12 in 8. *Lepton squamosum*, 1. *Conilera*, 1. *Glycera*, 1. *Ophelia*, 1. *Scalebregma inflatum*, 30 in 12.
30 cm. +. *Nucula nitida*, 2.
44. 1. *Pandalus Montagui*, 1.
47. 5. *Ophelia*, sp. 1.
47. 26. *Nucula nitida*, 5 in 2. *Buccinum* spawn, 1. *Ebalia*, 1. *Callianassa*, 1.
48. 10.—*Gobius minutus*, 1. *Nucula*, 1. *Callianassa*, 2. *Hippomedon*, 5.
48. 14.—30 cm. +. *Glycera*, 1.
48. 20.—*Phyllodoce*, 2.
49. 2.—< 20 cm. *Ophiura albida*, 4.
20 cm. +. *Montacuta ferruginosa*, 2. *Glycera convoluta*, 2.
30 cm. +. *Ophiura ciliaris*, 1.
49. 5.—20 cm. +. *Phyllodoce maculata*, 1.
30 cm. +. *Bathyporeia*, 1.
49. 6.—*Montacuta ferruginosa*, 1. *Scrobicularia nitida*, 2.
49. 10.—*Amphioxus lanceolatus*, 7 in 4. *Venus exoleta*, 1. *Pinnotheres pisum*, 1. *Gebia*, 1. *Urothoë*, 2. *Nerine coniocephala*, 1. *Ampharete Grubei*, 1. *Sabella pavonina*, 3 in 1. *Ophiura albida*, 4 in 2. *Echinus miliaris*, 4 in 3.
49. 25 & 26.—30 cm. +. *Odostomia rufa*, 1. Gephyrean, 1. *Ophiura albida*, 3.
40 cm. +. *Montacuta bidentata*, 1.
50. 8.—10 cm. +. *Anomia*, 7 in 2. *Crangon trispinosus*, 1. *Hippomedon*, 11 in 6. *Phyllodoce maculata*, 1.
20 cm. +. *Alcyonidium*, 1. *Mytilus*, 2. *Portunus pusillus*, 1. *Crangon vulgaris*, 1. *Hippomedon*, 9 in 7. *Phyllodoce*, 1. *Arenicola* 1.
30 cm. +. *Nerine coniocephala*, 3.

PLAICE—*continued.*

56. 38.—*Nucula nitida*, 2. *Cardium echinatum*, 1. *Venus exoleta*, 1. *V. ovata*, 1. *Sabella pavonina*, 1.
56. 45.—*Ebalia*, 1. *Ophiura albida*, 2.
56. 47.—*Nucula nitida*, 5 in 2. *Callianassa*, 1. *Gebia*, 1. Gephyrean ?, 16 in 10. *Priapulus*, 1.
57. 13.—*Leucosolenia*, 6.
57. 18.—*Thelepus cincinnatus*, 1.
58. 8.—20 cm. +. *Montacuta ferruginosa*, 1. *Ophiura albida*, 1.
30 cm. +. *Mactra solida*, 1.
58. 10.—20 cm. +. *Lepton squamosum*, 1. *Gebia*, 1. *Bathyporeia*, 1. *Ophiura albida*, 1.
58. 12.—20 cm. +. *Scrobicularia nitida*, 1. *Gebia*, 1. *Marphysa Belli*, 1.
30 cm. +. *Mactra solida*, 1. *Gebia*, 3. *Nereis longissinia*, 2.
58. 16.—*Mactra solida*, 5. *Bathyporeia*, 1. *Urothoë*, 2.
58. 18.—*Phyllodoce*, 1.
58. 20.—30 cm. +. *Tellina*, 1. *Nerine coniocephala*, 1.
58. 26.—20 cm. +. *Scrobicularia nitida*, 1.
30 cm. +. *Mactra solida*, 4. *Pinnotheres pisum*, 1. *Urothoë*, 1.
58. 28.—20 cm. +. *Tellina*, 2. *Mactra solida*, 2. *Ophiura ciliaris*, 1. *O. albida*, 2.
30 cm. +. *Tellina*, 1. *Pinnotheres pisum*, 1. *Ophiura albida*. 3. *Spatangus* ?, 1.
59. 4.—*Natica catena*, 1.
59. 6.—*Pelonaia*, 5 in 2. *Venus ovata*, 1. *Natica catena*, 32 in 1. *Glycera*, 1.
59. 8.—*Pelonaia*, 2. *Cyprina islandica*, 1. *Nereis*, 1.
59. 29.—10 cm. +. Fish remains, 1. *Nucula*, 2. Maldanid, 1.
20 cm. +. *Mytilus*, 1. *Nucula nitida*, 2. Maldanid, 1. Echinoderm remains, 1.
59.—35. *Nucula nitida*, 4 in 3. *Venus exoleta*, 1. *V. ovata*, 1. *Ophiura ciliaris*, 1. *Aphrodite*, 2 in 1.
59. 38.—*Pelonaia*, 3 in 1. *Aphrodite*, 1.
60. 3.—*Buccinum* fry, 6 in 2.
61. 3, 9 & 10.—*Cardium edule* fry, 10 in 3. *Crangon vulgaris*, 4. *Sabellaria*, 4.
61. 6 & 8.—*Cardium edule* fry, ca. 100 in 10. *Crangon*, 3. Crustacean larvae, 1.
61. 23.—*Crangon*, 2.
61. 26–29.—5–10 cm. *Cumacea*, 1. Crustacean fry, 2. Polychæte larvæ, many in 13.
10–15 cm. *Cardium edule* fry, ca. 200 in 14. Echinoderm remains, 2.
61. 32–34.—*Cardium edule* fry, ca. 50 in 6.
63. 1.—20 cm. +. *Montacuta ferruginosa*, 3.
63. 7.—20 cm. +. *Cardium norvegicum*, 1. *Echinus miliaris*, 1.
63. 9.—20 cm. +. *Nerine coniocephala*, 6.
63. 11.—10 cm. +. *Pholas*, sp. 4 in 1.
20 cm. +. Mysidae, 1.
63. 12.—10 cm. +. *Sabella pavonina*, 1. *Chondractinia digitata*, 8 in 6.
20 cm. +. *Crangon*, 2.
64. 20.—*Glycera convoluta*, 3.
64. 22.—*Mactra solida* ?, 5.
65. 5.—*Pecten opercularis*, all full.
65. 6.—*Pecten opercularis*, 50 in 3.
66. 4.—*Venus ovata*, 2. *Ophiothrix fragilis*, 1. *Spatangus* ?, 2.
66. 8.—20 cm. +. *Amphioxus lanceolatus*, 1. *Cardium norvegicum*, 8 in 4. *Nerine coniocephala*, 3. *Ophiopsila annulosa*, 2. *Echinus miliaris*, 1.
30 cm. +. *Amphioxus lanceolatus*, 2. *Cardium norvegicum*, 1. *Venus ovata*, 2. *Portunus pusillus*, 1. *Nerine coniocephala*, 4. *Notomastus* ?, 4.
40 cm. +. *Nucula nitida*, 3 in 2. *Ophiothrix fragilis*, 3 in 1. *Echinus miliaris*, 1.

DAB. (*Pleuronectes limanda.*)

Oithona, 7. Cumacea, 22 full.
28. 15.—22 cm. +. *Nucula nucleus*, 1.
29. 4.—Pipefish, 1. *Thia polita*, 1.
29. 7.—*Ophelia limacina*, 1. *Obelia longissima*, 6.

DAB—*continued.*

30. 11.—20 cm. +. *Gobius minutus*, 1. *Scrobicularia alba*, 6 in 2. *Sepiola atlantica*, 1. *Nika edulis*, 4 in 1. *Hippolyte varians*, 5 in 3. *Idothea linearis*, 2. *Idothea*, sp.? 2 in 1.
30 cm. +. *Idothea linearis*, 1.

30. 19.—< 20 cm. *Gebia*, 1. *Owenia fusiformis*, 6 in 2.
20 cm. +. *Cirolana borealis*, 1. *Aphrodite aculeata*, 1.

30. 24.—< 20 cm. *Cirolana borealis*, 1.
20 cm. +. *Cardium*, 1. *Aricia*, 1.

30. 31.—< 20 cm. *Mactra solida*, 1. *Scrobicularia alba*, 1. *Portumnus variegatus*, 1. *Ophelia limacina*, 1. *Echinus*, 1. *Cerianthus*, 1,

30. 39.—*Gebia*, 1. *Ophelia limacina*, 2.

31. 16.—< 20 cm. Gephyrean, 1.
20 cm. +. *Aphrodite*, 1. Echinoderm remains, 1.

31. 20.—10 cm. +. *Galathea*, 1.

31. 30.—30 cm. +. *Lanice*, 3.

43. 1.—10 cm. +. *Anomia*, 1. Echinoderm remains, 1.

47. 1.—*Doris pilosa*, in all.

47. 18.—*Obelia longissima*, 2. *O. geniculata*, in 5.

50. 4.—*Mysis* larvae, 2.

50. 6.—Bivalve fry, 2. Cumacea, 1.

50. 24.—*Pecten opercularis*, 1. *Cardium* foot, 4. *Eupagurus pubescens*, 1.

56. 40.—< 20 cm. *Galathea intermedia*, 1.
20 cm. +. *Venus gallina*, 1.
30 cm. +. *Venus gallina*, 1.

56. 45.—*Nucula nitida*, 1. *Montacuta bidentata*, 1.

56. 47.—*Fusus*, 2. *Galathea intermedia*, 2. *Harmothoë*, 1. *Spatangus*, 1.

59. 1.—10 cm. +. *Aricia*, 1.
20 cm. +. *Portunus pusillus*, 2.
30 cm. +. Tunicata, 1.

59. 6.—20 cm. +. *Venus exoleta*, 1.

59. 8.—*Thelepus*, 1.

61. 16–19.—10–16 cm. *Arenicola*, 1. Hydrozoa, 2.

61. 23.—Foraminifera, 3.

61. 26–29. 10–15 cm. *Nephthys caeca*, 1. *Arenicola*, 1. Actinian remains, 2. Hydrozoa, 1.

66. 7.—*Anomia*, 1. *Venus ovata*, 1. *Stenorhynchus*, 4 in 1. *Galathea*, 1. *Nika edulis*, 1. *Pycnogonum littorale*, 1. *Echinus miliaris*, 8.