CEYLON JOURNAL OF SCIENCE

Vol. II - 1926

Appropriate Technology Services
121, POINT PEDRO ROAD
NALLUR, JAFFNA
No. 2189
2547

CEYLON FISHERIES

BULLETIN

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

CEYLON JOURNAL OF SCIENCE

SECTION C.—FISHERIES

BULLETINS

OF THE

CEYLON FISHERIES

EDITED BY

JOSEPH PEARSON, D.Sc., F.R.S.E., F.L.S.
Director of the Colombo Museum
and
Marine Biologist to the Ceylon Government

VOL. II.

March 10th, 1926

CEYLON
The Director, Colombo Museum

LONDON
Dulau & Co., Ltd., 34, Margaret St., Cavendish Sq., W. 1

PRICE Rs. 3/-

Digitized by Noolaham Foundation.
noolaham.org | noolaham.net

CEYLON JOURNAL OF SCIENCE

The Ceylon Journal of Science has been established by the Ceylon Government for the publication of scientific and other researches. In the first instance the Journal will consist of seven sections. Each section will be a separate publication with its own editor, having its own pagination and appearing independently of other sections. For the purposes of general administration the Journal will be controlled by an Editorial Board, the constitution of which is as follows:

EDITORIAL BOARD

Chairman

J. PEARSON, D.SC. (Liverpool), D.SC. (Manchester), F.R.S.E., F.L.S.

A. H. G. ALSTON, B.A. (Oxon)
A. J. BAMFORD, M.C., M.A. (Cantab), B. SC. (Lond.), F.R.A.S.
J. S. COATES, B.A. (Cantab)
L. F. HIRST, M.D. (Lond.)
A. M. HOCART
J. S. KENNEDY, M.C., M.A., B.SC. (Glas.), A.M.I.C.E.
R. MARRS, C.I.E., M.A. (Oxon)
L. NICHOLLS, M.D., B.C., B.A. (Cantab)
W. N. RAE, M.A. (Cantab), A.I.C., F.C.S.
J. D. SARGENT, B.A. (Oxon)
R. L. SPITTEL, F.R.C.S.
F. A. STOCKDALE, C.B.E., M.A. (Cantab), F.L.S.
C. SUNTHERALINGAM, B.A. (Oxon), B.SC. (Lond.)
C. T. SYMONS, B.A. (Oxon), F.I.C.
W. E. WAIT, M.A. (Edin.), F.Z.S.

Editor

J. PEARSON

Associate Editors

Section A.—Botany ("The Annals of the Royal Botanic Gardens, Peradeniya")
A. H. G. ALSTON

Section B.—Zoology and Geology ("Spolia Zeylanica")
J. PEARSON

Section C.—Fisheries ("The Bulletins of the Ceylon Fisheries")
J. PEARSON

Section D.—Medical Science
L. NICHOLLS

Section E.—Mathematics, Physics and Meteorology (Including "Bulletins of the Colombo Observatory")
A. J. BAMFORD

Section F.—Chemistry
C. T. SYMONS

Section G.—Archaeology, Ethnology, etc.
A. M. HOCART

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

3.06
C 15

Ex. Thambyahpillay
University of Ceylon

A Preliminary Report on the Possibilities of Commercial Trawling in the Sea around Ceylon

BY

Joseph Pearson, D.Sc., F.R.S.E., F.L.S.

AND

A. H. Malpas, F.L.S., F.Z.S.

WITH ONE PLATE

Ceylon is admirably situated for an extensive development on modern lines of her sea fishing industry, but so far enterprise has been notably lacking and the methods now in practice have remained primitive and inefficient. This industry gives employment to thousands of the poorer inhabitants, largely Roman Catholic Sinhalese in the south, and Hindu Tamils and Moormen (Ceylon-born Mohammedans) in the north and east. Sea fishing is carried on all round the coast, particularly from the more thickly populated areas of the coastal towns and villages. The craft employed are outrigger canoes and catamarans; the former being the favoured type. The larger outrigger canoes, fitted with a considerable spread of square cotton sail, are reliable and speedy, as much as eight knots being developed under favourable conditions of wind. Small fleets of these vessels often work at distances of 20 miles from the shore where they engage principally in line fishing for seer and other mid-water fishes. The catamaran is a small raft-shaped craft which is made up of 3 or 4 roughly shaped logs lashed together. These little vessels with their short masts and large triangular sails, though not altogether comfortable, are a handy and picturesque craft. They are used for inshore work with nets in the south, while in the Jaffna district they replace the outrigger canoe.

On account of the north-east and south-west monsoon periods, when heavy seas are running on the east and west coasts respectively, the fishing seasons of these coasts alternate. That of the west coast is more or less restricted to the north-east monsoon period—November to May,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

while that of the east coast flourishes during the south-west monsoon—May to December—and many fishermen, particularly the west coast Sinhalese, avail themselves of these seasons and migrate accordingly from one coast to the other. The fishes caught are largely mid-water fishes of the mackerel family, amongst which is the highly esteemed Seer (*Scomberomorus guttatum*), a huge mackerel which reaches a length of three feet and the bonitos and tunny fishes, while sword fishes and monster sharks and rays are caught in moderate numbers. Ground-feeding fishes such as rock-cod and rock-perch are also obtained. Shore fishing by large seine nets is practised at all parts of the coast, and at certain periods of the year large quantities of sardines are captured in this way.

Within the limits of the Ceylon Government Railway, fresh fish is transported in ice and sent to Colombo for distribution; elsewhere it is salted or dried and sent by sailing boats or carts to various parts of the Island. Practically no fish is exported from Ceylon, but considerable quantities of fish goods, now amounting to over 10 millions of rupees annually, are imported into the Island—largely from the Maldive Islands and S. India.

The following are the returns of fish imports from 1920 to 1923:—

Year	*Cured Fish*	*Tinned Fish*	*Fish Manure*	*Fish Guano*	*Fish Oil*	*Total*
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1920	4,508,568	230,147	1,338,411	1,967,961	2,775	8,047,862
1921	7,058,148	97,495	370,738	230,279	2,105	7,758,765
1922	7,627,882	131,882	599,515	1,016,245	1,651	9,522,175
1923	8,095,475	197,103	799,039	1,476,107	2,553	10,570,277

These imports are increasing year by year. Further, although no figures are available with regard to actual numbers of fishermen employed and the weights of local fish landed, there is an appreciable decline in the quantity of available fish. This decline is the direct result of a decrease in the fisher community brought about by the natural desire of the present generation to avoid as a means of livelihood an occupation which is poorly paid and which is carried on under severe and trying conditions. Contractors who control and finance the trade make no efforts to improve either condition or production. Consequently with a rapidly increasing population, the fish supply is becoming more and more unsatisfactory. In view of this the Ceylon Government sanctioned a three years' Biological Survey of the coastal waters of the Island with the object of making a thorough investigation into the question of available fish supply and the suitability of Ceylon waters for trawl fishing.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

During this investigation two large fish banks, the Pedro Bank and the Wadge Bank, have been examined, and we are now in a position to present a preliminary report of these operations.

These two fishing banks are outside territorial waters and are as accessible from the Indian coast as from Ceylon. The Pedro Bank could be fished from Negapatam or Madras and the Wadge Bank from Tuticorin, but there is no port in India from which both banks could be worked. On the other hand, Colombo is very favourably situated in this respect and could conveniently form the headquarters of fishing operations on both banks. The Pedro Bank is six hours steaming (mean distance) from Kankesanturai and that port is fourteen hours from Colombo by rail. The Wadge Bank is about eighteen hours steaming from Colombo (see Plate I.)

All the investigations have been conducted with a view to ascertaining the commercial possibilities of the Banks, and with this object in view each trawling operation has been conducted for a definite period of time, and all the fish obtained have been carefully weighed, and have been classified as Edible (1st and 2nd Class) and Inedible, having regard to the market value of the various kinds of fish.

PEDRO BANK

The *Pedro Bank* is an extensive shallow-water plateau situated off the extreme north east corner of the Island. It stretches across the mouth of Palk Strait and extends some distance up the Negapatam coast of India. It has an approximate area of 1,000 sq. miles, 650 miles of which have been systematically trawled by the Government trawler "Lilla." The ground bottom of this bank is largely flat rock upon which sea fans (Gorgonids) and sponges form a luxuriant growth. The depth varies from 10 fathoms inshore to 70-100 fathoms on the overfall, the average depth being from 25-50 fathoms. The important features of this bank from a commercial standpoint are :—

(1) its close proximity to Kankesanturai, the northern terminus of the Ceylon Government Railway,

(2) that it is protected by the Ceylon mainland from the full force of the SW. Monsoon blowing from May—October and is only affected by the NE. Monsoon, a variable wind which reaches its height during December and January and dies down in February.

It is only during December and January that trawl fishing is likely to be interrupted on account of bad weather and because the port of Kankesanturai is closed to sea traffic during this period. Trincomalee, now connected by rail with Colombo, might be used during this closed period.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

The investigations which so far have been carried out by the " Lilla " on this bank may be regarded as a preliminary survey, and do not in themselves provide sufficient information of the commercial possibilities of the bank.

The trawling stations were spread uniformly over the whole area of the bank, the general practice being to take a one hour trawl, then steam for one hour and take another trawl, irrespective of the quantity of fish caught. In this way a large area was quickly covered, but the average catches suffered, since no concentration was attempted over good ground, such as a commercial trawler would practise. So far as the results go, therefore, they may be regarded as giving a most conservative estimate of the commercial value of the bank.

26 trawls of 32½ hours duration were made over this area, giving the following results. (including 1·5% of inedible fish):—

Catch per hour lbs.	*No. of trawling hours.*	*Total catch lbs.*	*Average catch per hour lbs.*
Under 100	11½	524	45·56
Under 200	15½	2,157	139·16
Over 200	5½	1,425	259.09

In 32½ hours trawling the following results were obtained:—

	Total catch lbs.	*Edible Fishes*		*Inedible Fishes. lbs.*
		1st Class lbs.	*2nd Class lbs.*	
Amount of fish caught (32½ hours)	4,106	3,491	566	49
Average catch per hour	126·3	107·4	17·4	1·5

Working on the above figures and assuming the trawl to be in operation 18 hours daily, on a commercial basis, the day's catch would be as follows:—

Total catch lbs.	*1st Class lbs.*	*2nd Class lbs.*	*Inedible lbs.*
2,273 (approximately one ton.)	1.933	313	27

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Allowing a flat rate of 30 cents per lb. the daily yield would be Rs. 675/- or £45/-. Had, however, these trawlings been made for commercial purposes the trawler would have concentrated on the best ground and the average daily catch would have been appreciably higher, probably between 200 and 300 lbs. per hour, or an average daily yield valued at about £75.

TRAWLING RESULTS ON THE PEDRO BANK

Station	*Time Hrs.*	*Depth Fathoms*	*Nature of Bottom*	*Edible Fishes*	
				1st Class lbs.	*2nd Class lbs.*
45	1	15	Sand, rock, sponges	297	12
46	1	20	Rock, sponges gorgonids	48	43
47	1	14	,, ,, ,,	168	40
48	1	11	,, ,, ,,	103	43
49	1	25	,, ,, ,,	72	—
50	1	33	Rock, coral, gorgonids	108	7
52	1	26	Sand, shell, rock, gorgonids	168	9
58	1	12	Rock, coral, debris, gorgonids	172	5
59	1	14	Sand and shell, rock and weed	15	14
60	1	24	Rock, gorgonids	83	19
61	2½	30	,, ,,	71	6
62	1½	35	,, ,,	171	7
63	2	34	,, ,,	251	14
64	2	33	Sand, rock, gorgonids	261	21
65	1½	34	,, ,, ,,	297	24
66	2	45-71	,, ,, ,,	—	63
67	2	37	,, ,, ,,	290	87
73	1	12	Sand, rock, living coral	84	30
74	1	14	Flat rock, gorgonids	32	24
75	1	55	Sand	24	1
76	1	50-61	Mud, coral to sand	71	8
320	1	22	Sand, rock, weed	376	4
324	1	13	Sand, rock, sponges and gorgonids	79	16
341	1	39	Rock, living coral	69	37
343	1	40	Sand, rock and weed	7	3
344	1	16-40	Sand, rock, gorgonids, and sponges	174	29

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

CLASSIFICATION OF THE FISH OBTAINED

Percentage weights of individual genera :—

1st Class	%	
Epinephelus	10·67	
Lutianus	23·98	
Lethrinus	15·71	
Aprion	19·30	
Plectorhinchus	2·62	
Pagrus	5·02	
Caranx	2·81	
Drepane, Scomberomorus, Other genera	4·91	Total 85·02%
2nd Class		
Acanthurus	4·24	
Balistes	2·86	
Carcharias	5·52	
Other genera	1·16	Total 13·78%
Inedible		
Tetraodon, Fistularia, etc.		Total 1·20%

SUMMARY OF PEDRO BANK

Class	%	*Average Catch per hour lbs.*
1st	85·02	107·4
2nd	13·78	17·4
Inedible	1·20	1·5

WADGE BANK

The *Wadge Bank* lies outside the Indian territorial waters off Cape Comorin and is about 18 hours steaming from Colombo. It has an area of over 4,000 sq. miles and differs markedly from the Pedro Bank in being comparatively free from heavy growths of sponges and gorgonids. The ground is most suitable for trawling, coral growths and rocky projections being seldom encountered. Unlike the Pedro Bank this area is exposed to the full force of both the SW. and NE. monsoons, and while ordinary monsoon weather would not seriously handicap a modern trawler fishing in these waters there would be occasions when

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

fishing would not be practicable on this bank. This period would vary from year to year, but is never likely to be longer than three months in any one year.

Our first trawlings over this area were not promising, an average catch of only 70 lbs. being obtained for 31 one-hour trawls, but a later trial made over the Wadge Bank proper, instead of spreading up the coast, showed fish to be very plentiful. On this occasion we adopted the commercial practice of fishing continuously through the day, and obtained the following results, (including 1·2% of inedible fish). The figures have reference to 36 trawls extending over 43 hours.

Catch per hour lbs.	*No. of trawling hours.*	*Total catch lbs.*	*Average catch per hour lbs.*
Nil	3	Nil	Nil
Under 50	5	114	22.8
Under 100	9	642	71.3
Under 200	9	1,235	137.2
Over 200	17	6,408	376·9

In 43 trawling hours the following results were obtained :—

	Total catch lbs.	*Edible Fishes*		*Inedible Fishes. lbs.*
		1st Class lbs.	*2nd Class lbs.*	
Amount of fish caught (43 hours)	8,399	7,316	983	100
Average catch per hour.	195·32	170·14	22·86	2·32

The poor catches were obtained in shallow inshore water and not on the Wadge Bank proper. These should be eliminated in a valuation of this bank as a trawler operating on a commercial scale would not fish these waters, but,including these areas, the catch per day of 18 hours would yield.

Total catch. lbs.	*1st Class lbs.*	*2nd Class lbs.*	*Inedible. lbs.*
3,515 approx. 31 cwts.	3,062	414	39

Assuming again a flat rate of 30 cents per lb. of fish a day's catch would sell for Rs. 1,069 or £71 per day. If, however, the trawler concentrated on good ground the catch would be worth appreciably higher.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

TRAWLING RESULTS ON THE WADGE BANK

Station	*Time Hrs.*	*Depth Fathoms*	*Nature of Bottom*	*Edible Fish*	
				1st Class lbs.	*2nd Class lbs.*
499	1	9	Fine grey sand	—	—
500	1	15	,, ,, and rock	365	—
501	2	15	,, ,, ,, ,,	1,173	11
502	2	15	,, ,, and mud	26	160
503	1	15	,, ,, and rock	532	12
504	4	15	Coarse yellow sand and rock	238	3
505	1	15	,, ,, ,, ,,	113	—
506	1	15	,, ,, ,, ,,	127	8
507	1	16	,, ,, ,, ,,	10	—
508	1	14	,, ,, ,, ,,	7	—
509	1	14	,, ,, ,, ,,	53	—
510	1	15	Fine grey sand, mud and rock	—	—
511	1	15	,, ,, ,, ,, ,,	35	—
512	1	17	,, ,, and rock	67	3
513	1	21	,, ,, ,, ,,	—	—
514	1	19	,, ,, ,, ,,	90	12
515	1	20	Coarse yellow sand and rock	124	3
516	1	22	Grey sand, rock to mud.	223	14
517	1	25	Fine yellow sand and rock	191	24
518	1	30	Fine grey sand and rock	416	105
519	1	29	,, ,, ,,	315	89
520	2	26	Fine yellow sand and rock	443	57
521	1	25	,, ,, ,,	174	9
522	1	19	Fine grey sand and rock	71	20
523	1	26	Grey and yellow sand and ,,	123	13
524	1	30	Fine grey sand and rock.	49	75
525	1	37	Dark grey sand and rock	195	17
526	1	41	,, ,, ,, ,,	—	22
527	1	32	,, ,, ,, ,,	120	34
528	1	33	,, ,, ,, ,,	136	20
529	1	30	,, ,, ,, ,,	32	3
530	1	32	,, ,, ,, ,,	214	3
531	1	35	Grey sand and rock	428	5
532	1	35	,, ,,	552	17
533	2	33	,, ,,	392	226
534	1	29	,, ,,	282	18

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

CLASSIFICATION OF THE FISH OBTAINED

(*Percentage weights of individual genera.*)

	%	
1st Class		
Epinephelus	13·33	
Lutianus	35·11	
Lethrinus	13·80	
Plectorhinchus	6·10	
Drepane	13·20	
Other genera	5·57	
		Total 87·11%
2nd Class		
Acanthurus and Balistes	3·60	
Sharks and Rays	8·10	
		Total 11·70%
Inedible		
Heniochus, &c.		Total 1·19%

SUMMARY OF WADGE BANK

Class.	%	*Average catch per hour lbs.*
1st	87·11	170·14
2nd	11·70	22·86
Inedible	1·19	2·32

COMPARISON OF PEDRO AND WADGE BANKS

	Pedro.	*Wadge.*
Average catch per hour	126.3 lbs	195.32 lbs
1st Class Edible ,,	107.4 ,,	170.14 ,,
2nd Class Edible ,,	17.4 ,,	22.86 ,,
Inedible ,,	1.5 ,,	2.32 ,,

For the purpose of comparison we append a table of average catches per day obtained in European waters, extracted from the official statistics of the Fisheries Department of the Ministry of Agriculture and Fisheries for England and Wales. These records are based on actual fishing returns, while the estimates for the Pedro and Wadge Banks given above are based on experimental trawlings of a few days.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Average catches in cwt. per days absence from Port.
Steam Trawlers (England and Wales) only.

	1910	1911	1912	1913	1914	1919	1920	1921
White Sea	60·08	49·24	28·13	44·12	34·74	—	25·45	46·35
Iceland	44·35	49·05	46·05	46·10	47·91	68·19	58·54	49·31
Faroe	30·27	31·49	31·69	28·19	25·45	42·45	27·03	32·81
Rockall	14·74	29·28	41·90	39·27	26·50	57·89	49·53	59·64
North of Scotland	25·79	24·24	23·72	25·76	25·19	35·88	27·31	28·80
North Sea	15·20	16·23	15·76	14·08	15·88	30·64	24·94	22·41
English Channel	12·40	12·48	13·80	8·95	9·99	20·02	25·70	16·33
Irish Sea	12·23	12.48	14·02	11·94	12·49	22·80	18·79	18·81
British Channel	17·03	17·74	15·65	13·19	10·85	28·06	26·38	20·97
West of Scotland	26·24	28·09	31·73	28·11	23·53	32·69	28·17	31·64
West of Ireland	27·29	30·66	31·83	30·22	29·63	40·00	25·87	26·75
South of Ireland	24·27	25·89	28·94	23·74	22·23	36·00	26·63	23·30
Biscay	20·15	19·31	16·31	13·22	9·53	18·64	18·73	19·69
Portugal and Morocco	12·16	11·55	9·55	13·81	9·09	14·64	19·29	14·62

The conditions under which our experiments were made need to be emphasised. Our trawling stations were arranged irrespective of good and bad ground, as we were concerned chiefly with survey work and it was necessary to pursue our investigations without regard to the abundance and scarcity of fish. In commercial trawling, of course, this procedure would not be followed. As soon as a rich trawling area was found the ship would continue to trawl over that area. Consequently the estimated day's catch on the Pedro and Wadge Banks (1 ton and 31 cwts. respectively) may be regarded as being very conservative as we have indicated above. One other point is worthy of mention. Although the two banks differ from each other regarding the nature of the bottom, in no instance did we find the ground too rough for trawling purposes. Even on the Pedro Bank which is covered with an abundant growth of gorgonids and sponges, we rarely had any mishaps with our nets and fishing gear.

Annual Estimate of Fish Caught on the Pedro Bank

If we base our calculations upon the figures given above we arrive at the following results. (*Note.*—The following calculations are based on a trawler with a fish-hold of ten tons capacity.)

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

1 ton *per diem*
∴ 10 tons in 10 days.
½ day's run to railhead (Kankesanturai).
1 day in Kankesanturai.
½ day's run back to the Banks.
Total 12 days for every 10 tons of fish.
∴ *i.e.* 25 tons of fish *per mensem*.
Nine months work in the year would give
225 tons=504,000 lbs.

Annual Estimate of Fish Caught on Wadge Bank

31 cwts. *per diem*.
∴ *i.e.* approximately 10 tons of fish in 7 days.
1 day's run to Colombo.
1 day in Colombo.
1 day return from Colombo to Banks.
i.e. 10 tons of fish every 10 days.
or 30 tons a month,
or 240 tons in an eight months' working year
=537,600 lbs.
i.e. a total of 1,041,600 lbs. from both banks per annum.

In view of what has been stated above these may be regarded as conservative estimates.

EXPENDITURE

Capital Expenditure

Two ships would be required. The cost of each would be as follows:

Cost in England of AI second-hand trawler 120 ft. B.P.	£ 4,000
Cost of voyage to Ceylon, insurance, etc.	£ 750
Cost of installing cold storage	£ 1,500
Repairs and adaptations in Ceylon	£ 1,000
Total	£ 7,250

i.e. for two ships	£ 14,500
Cost of cold storage plant on shore, offices and 3 refrigerator railway trucks	£ 7,500
Total	£ 22,000
say Rs.	330,000

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Annual Recurrent Expenditure

Coal (3,200 tons at Rs. 25/- per ton) ..	.. Rs.	80,000
Upkeep of trawlers (*i.e.* repairs to hull and engines) ..		20,000
Paint, oil, nets and other accessories ..	..	15,000

Sea Staff for each Ship (maximum Salary)

European skipper ..	.. Rs.	9,000
Trawling Master ..	..	3,600
Engineer ..	..	3,600
Mate ..	..	1,440
2nd Engineer ..	..	1,440
2 quartermasters ..	..	1,440
8 lascars ..	..	4,800
4 stokers ..	..	2,400
	Rs. 27,720 each *	Rs. 55,440

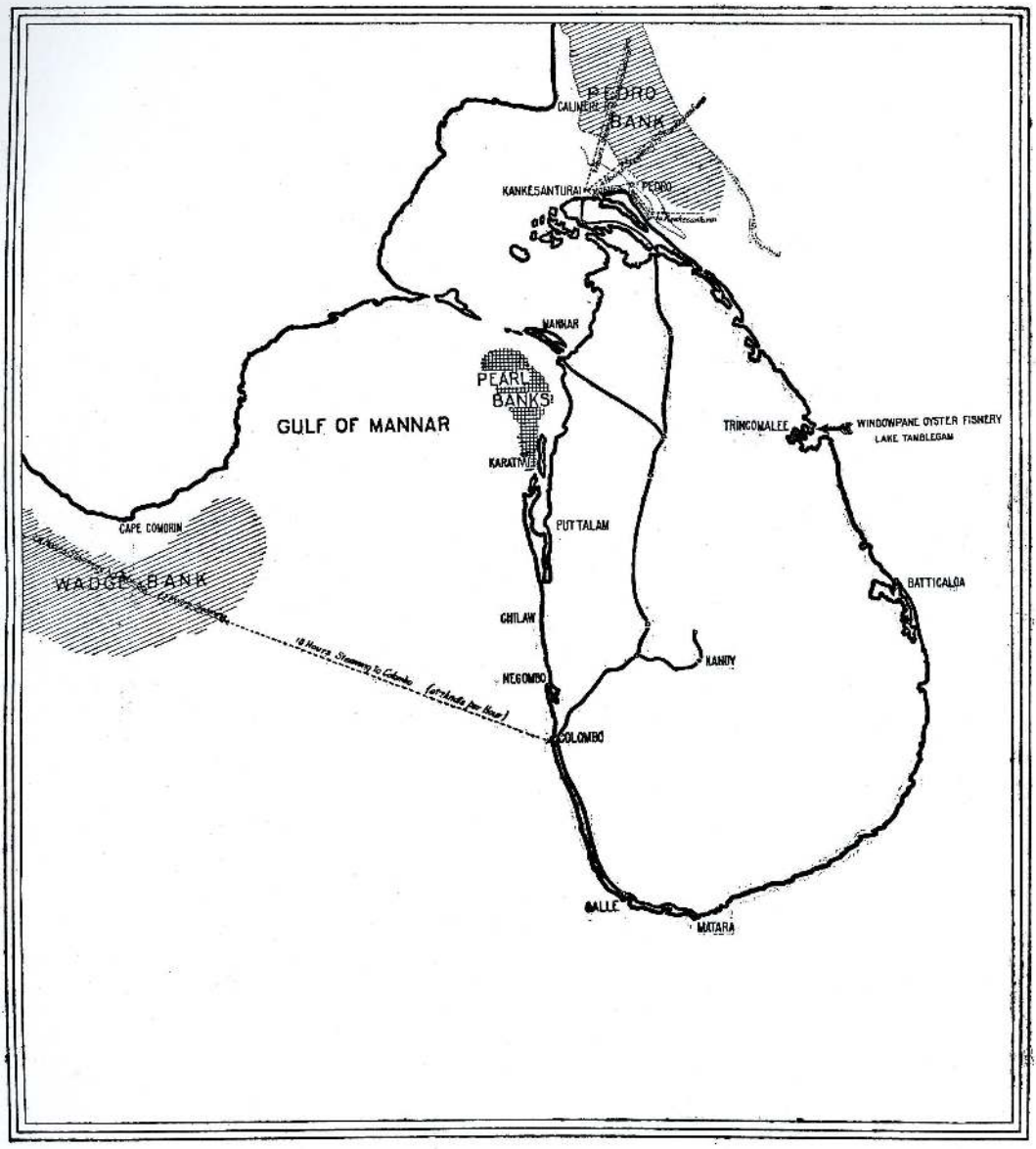
Harbour dues in Colombo (say) ..	.. Rs. 16,000
Shore staff	.. Rs. 20,000
Reserve fund to meet depreciation of trawlers.	.. Rs. 50,000
	Total Rs. 256,440

If 1,041,600 lbs. of fish were sold at a flat rate of *30 cents* per lb. a revenue of Rs. 312,480 would be obtained which would give a net profit of Rs. 56,040, or 14% per annum on a capital of Rs. 400,000. For every increase of 5 cents per lb. an additional net profit of 13 % would be obtained.

The present retail cost of fish in Colombo and other towns is from cents -/50 to Rs. 1/25 per lb.

* In the British Fisheries it is customary to pay the crew a nominal wage plus a bonus proportionate to the catch. It would be advisable to follow this plan and the figures given above could be used to determine the total pay of the crew from all sources.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media



Trawling grounds near Ceylon (Scale 1 inch = 70 miles.)

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

The Marine Biological Survey of the Littoral Waters of Ceylon[1]

BY

A. H. Malpas, F.L.S., F.Z.S.

Assistant Marine Biologist

WITH TWO PLATES

INTRODUCTION

Dr. Joseph Pearson, Editor of this series of Bulletins has, in his preface to the first volume, briefly indicated the reasons for and the purpose of the biological survey of the Ceylon waters, so that I can pass directly to a discussion of that part of the survey dealing with trawl fishing. It is perhaps necessary, however, that I should say something with regard to previous trawling operations in Ceylon waters.

The earliest attempt of which we have any knowledge was that made by a Mr. Noorbhai, a Colombo Parsee merchant who, in 1902, fitted out a steamer for trawl fishing and commenced trawling the waters off Colombo. Some success must have attended this early effort, for later on in that year Mr. Noorbhai purchased a small English steam trawler named the " Violet " and continued his operations with this vessel. Unhappily no details of Mr. Noorbhai's venture are available, but I understand the richest grounds he worked were those off Colombo and off the north east coast of the Island. With regard to the latter they were too far from the Port of Colombo, or, for that matter, any port then tapped by rail, to be a profitable proposition as it was not until some years later that the Government railway was extended to the north of the Island. The ground off Colombo, however, was said to be very profitable and Mr. Noorbhai's venture might have prospered, except for the fact that these waters were being fished very extensively by local

(1) The preceding paper on " The possibilities of Commercial trawling in the sea around Ceylon" which embodies the principal results recorded in the present paper was written primarily for those whose interests are restricted more particularly to the commercial and economic aspects of our local fisheries. In the present paper the question is treated in considerable detail and the complete results of the trawling operations are placed on record for the benefit of those who are interested in the biological side of the question. [*Ed., C. J. of Sc.*]

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

fishermen in their outrigger canoes and catamarans and were rightly considered by them to be their particular preserve. Persistent trawling of this area by Mr. Noorbhai's vessels aroused the fierce resentment of these fishermen, who not only succeeded in raising a very strong boycott of Mr. Noorbhai's fish among the Colombo fish contractors, but even went so far as to attack his vessel and damage her trawling gear when she was lying off Colombo at the mouth of the Kelaniya river. In the face of this fierce opposition the venture was doomed and had to close down. The trawler "Violet" was later purchased by the Ceylon Government for pearl fisheries work, in which capacity she did good service.

In 1906 the Ceylon Company of Pearl Fishers acquired the lease of the Ceylon pearl banks from Government, and the trawler "Violet" was purchased by them. In 1907 this Company, desirous of utilising their vessel in a commercial enterprise during the rough monsoon weather, when no work was possible on the pearl banks, decided to employ her in trawl fishing. They obtained the services of an experienced Grimsby trawling master from England—Capt. Cribb—who made two cruises, one along the east coast of the Island north to the Madras Presidency and the other to the large shallow-water area off Cape Comorin, Southern India. Capt. Cribb was very much handicapped in this work by the weakness of the boiler of the "Violet" which necessitated this vessel having a much reduced steam pressure. On this account she was only capable of towing a half size trawl at a slow speed, but, despite this weakness, good catches were obtained. The results of these two cruises, which were a purely private enterprise, were not made public until 1914-15, long after the failure of the Ceylon Company of Pearl Fishers. They were then published by Mr. Hornell (formerly scientific adviser to the defunct company) in the Bulletins of the Madras Fisheries Department.[1] I shall have occasion to refer to Mr. Hornell's report on these cruises later.

Independent of the Ceylon trawling investigations, experiments were carried out in the Bay of Bengal by the Bengal Fisheries Department,[2] and off Bombay by the Bombay Fisheries Department.[3] The results of these investigations are now published. They have very little bearing on the results obtained by the "Lilla" since the Indian grounds are for the most part mud banks, while the Ceylon grounds are very largely rock, hence Indian and Ceylon catches differ markedly in the kinds of fishes trawled.

(1) Madras Fisheries Dept. Bulletin No. 8, 1916.
(2) Fishery Survey of the Bay of Bengal—1911.
(3) Report on the work of the "William Carrick" A. E. Helford—Department of Industries Bombay, 1923.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

TRAWLING OPERATIONS OF THE "LILLA"

The trawling cruises of the "Lilla" in actual trawling days, omitting days to and from Colombo, were as follows :—

July 20th—Sept. 22nd, 1920. Trawling from Mullaitivu round the north east coast into Palk Strait and on the area of the Pedro Bank.

Dec. 5th, 1920—Jan. 2nd, 1921. Trawling from Little Basses rock north to Batticaloa, thence back to Little Basses trawling to Barberyn Lighthouse.

April 3rd, 1921—April 10th, 1921. Trawling off Cape Comorin on Wadge Bank.

August 10th, 1921—Sept. 10th, 1921. Mostly dredging, a few trawls taken on Pedro Bank.

Dec. 22nd, 1921—Dec. 24th, 1921. Trawling from Colombo to Negombo.

April 15th, 1922—April 16th, 1922. Trawling on Wadge Bank Cape Comorin (returned after two days owing to engine trouble),

May 6th, 1922—May 7th, 1922. Trawling off Negombo and Chilaw.

Jan. 27th, 1923—Feb. 4th, 1923. Trawling on Wadge Bank.

Feb. 8th, 1923—Feb. 13th, 1923. Trawling on Wadge Bank.

These cruises completed the preliminary survey of the entire coastal waters of Ceylon, and in addition the shallow-water area of the Wadge Bank off Cape Comorin, Southern India. The investigation was not prosecuted on a commercial scale, our purpose being not to fill the ship with fish by taking a series of long trawls of 3-4 hours, as is the practice in commercial fishing and as was the method employed by the Bengal and Bombay Fisheries Departments, but to survey rapidly and efficiently the entire littoral waters, the primary object being to search for trawling grounds which might be worked as a trawl-fishing industry. With this object in view we decided to take short trawls of about one hour, each trawl being separated by a distance of about 7 miles (in practice one hour's steaming at full speed). This was the general practice throughout, and enabled us to cover the ground both quickly and systematically. Soundings were taken immediately before and at the end of each trawl. Also bearings of the position of each trawl were taken by the ship's Kelvin compass on the shade deck. Thus we obtained reliable data of the ground over which each trawl was taken and also the precise position

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

of each trawl. The big series of trawls made by the " Lilla " gave us the following definite information :—

(*a*) Depth of water at frequent intervals.

(*b*) Nature of the bottom, both as regards fauna and bottom deposits.

(*c*) The comparative distribution of bottom feeding fishes and their feeding grounds.

(*d*) An indication of the most abundant of food fishes.

The preliminary nature of the survey, however, did not enable us to form a very exact idea of the catches which a vessel trawling repeatedly over good ground might be expected to obtain. In other words, the investigation supplied no certain evidence with regard to the numbers of any particular shoal of fishes the trawl encountered. This could only be obtained by concentrating on areas showing good preliminary catches. From the commercial point of view this was an important omission since from the data obtained we are unable to make an exact valuation of any particular fishing area. Further, the investigation failed to give any information as to the seasonal migration of fishes. These two questions have an important commercial bearing, and it is regrettable that the present condition of the "Lilla" will not permit of a further investigation which might throw some light on concentration and migration of fishes in Ceylon waters.[1]

Each catch obtained by the "Lilla" was carefully sorted, identified and weighed, and although this work was often difficult and laborious on account of rough weather, very few catches escaped individual attention. Particulars of each trawl are contained in Appendix 2.

Measurement of fishes.

Of the very large number of fishes taken in the trawl, representatives of all species occurring in each trawl were carefully measured and weighed. In cases where there were more than six fishes of the same species in one trawl six only were measured. Otherwise all were measured, sexed and their stomach contents examined. These data are given in full in Appendix 3. They should supply material for estimating growth rate, sexual maturity and feeding habits of the fishes concerned.

Disposal of fish.

The " Lilla " had no cold storage nor in fact any suitable accommodation for the storage of fish. Fish trawled outside the immediate vicinity of a port were, therefore, quite useless for commercial purposes.

(1) Since the above was written the Ceylon Government has purchased a new trawler for the Fisheries Dept. This vessel will be used to make further observations on the Wadge and Pedro Banks in addition to inspection work on the pearl banks.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

If, on entering a port we had good fish on board, the greater part was sent ashore to the chief port officer, to be distributed to the poor. The quantities disposed of in this manner were small.

Trawling areas.

Since there is some difficulty in identifying a particular set of trawlings with any well-marked shore station, it was decided to simplify matters by dividing the coastal waters into 15 more or less equal areas to which the consecutive numbers I—XV were allotted. Plate II shows these areas clearly defined and also the subsections *a*, *b*, *c*, into which most of these areas have been subdivided. All trawls mentioned in the subject-matter of this report are referred to their area and sub-area.

In discussing the trawls of Pedro and Wadge banks I have divided the fishes of each catch into three classes, namely, 1st class edible, 2nd class edible and inedible fishes. This arrangement will, I think, give a more definite idea as to the value of each catch.

As the trawl is a bottom fishing net, bottom feeding fishes naturally make up the greater part of each catch, but mid-water fishes which abound in these waters are often caught in the wings of the trawl during the descent and haul.

In the following list the more important edible fishes are arranged according to the classification stated above. Popular names of each species of fish so far as they are known are given, together with the scientific names.

FIRST CLASS EDIBLE FISHES

Midwater and surface fishes.

Herrings and Sardines—(*Chirocentrus, Clupea, Pellona, Dussumieria, Saurus and Saurida*), are mid-water and surface fishes found all round the coast in shoals at certain seasons of the year. They are not taken in the trawl except in very shallow waters such as Palk Strait, but are captured in quantities by the native fishermen using inshore seine nets.

Grey Mullet (*Mugil*)
Barracuda (*Sphyraena*)
Thread fins or Indian Salmon (*Polynemus*).
Mackerel or Seer (*Scomber and Scomberomorus*
Bonito (*Thynnus*)
Tunnies (*Pelamys*)
Hair tails (*Trichiurus*)
" Dolphins " (*Coryphaena*)

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

All surface and mid-water fishes, very plentiful all round the coast of Ceylon. Grey mullet, barracuda and seer (*Scomberomorus*), are captured chiefly by line by native fishermen. Grey mullet, Indian salmon and seer are very prized, and at present fetch the highest prices in the local fish markets, but like the mackerel in home waters they quickly deteriorate. **Seer** (*Scomberomorus*), which reaches a length up to 3 ft., is considered the pick of Ceylon sea fishes. Its qualities are, however, undoubtedly over-estimated and the bottom feeding rock fishes when better known, will be very strong competitors with seer for top prices.

Pomfret (*Stromateus*), is found only in shallow inshore waters where it seems to prefer a muddy bottom. Our catches were all taken in the shallow-water off Pedro and in Palk Strait. Pomfret is a very highly prized edible fish.

Horse Mackerel (*Trachynotus, Caranx, Alectis, Scomberoides, Selar*) are strictly speaking mid-water fishes. *Caranx* is, however, fairly well represented in our trawlings, particularly those from the neighbourhood of the Pedro Bank. Some species of this genus grow to quite a large size and weight, 7-10 lbs. being common. These fishes are highly prized as food.

Bottom-feeding fishes.

Sea Bass (*Epinephelus*).—Bottom feeders which are fairly common on rocky grounds. Some species, such as *E. salmoides*, grow to a huge size. Two or three specimens taken off the Wadge Bank scaled over 75 lbs., more commonly, however, they do not exceed 12 lbs. They are excellent food fishes.

Snappers (*Lutianus, Pagrus, Aprion*).—*Lutianus* is perhaps the commonest of bottom feeders. Many species are found in Ceylon waters; the two commonest are *L. argentimaculatus* and *L. rivulatus*; the former reaches an average weight of 5 lbs., while the latter is much larger, full grown specimens averaging 10 lbs. Our catches of this genus on the Wadge Bank were particularly heavy, especially of *L. dodecacanthus, L. lineolatus* and *L. marginatus*. *Lutianus dodecacanthus* is a particularly fine flavoured fish which seems to be more or less confined to the Wadge Bank.—467 specimens of this fish were taken from this area. *Pagrus spinifer* also a good fish, is not so plentiful. Our largest catches were made on the Pedro Bank. *Aprion.*—Only one species of this genus has so far been recorded, i.e. *Aprion pristipoma*. This is one of the best of the rock fishes. Our largest single haul was one of 81 fishes weighing 314 lbs. taken on the Pedro Bank.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Grunters (*Plectorhinchus, Caesio, Scolopsis, Pomadasys*). *Plectorhinchus.*—The Wadge Bank yielded the largest numbers of this fish. Each trawl contained one or two specimens. It is a very agreeable food fish of 4 or 5 lbs. weight. *Casio* and *Scoloposis* are small fishes of no great value. *Pomadasys* is a medium sized fish of good edible quality.

Sea bream (*Lethrinus*).—Several species of *Lethrinus* are found in Ceylon waters, the commonest being *Lethrinus kanwa*, especially on the Wadge Bank where we trawled 302 specimens. All the species of this genus are excellent food-fishes.

Note :—A complete list of the fishes caught in the trawl during the survey of the "Lilla" is given in the tables of Appendix 4. These tables also show the numbers of each species obtained in the different trawling areas and give therefore some idea of the local distribution of bottom feeding fishes mentioned above.

SECOND CLASS EDIBLE FISHES

Sharks.—The sand-shark (*Carcharias*) is the only representative of the shark family which is found in any numbers in Ceylon waters. It is much more numerous in shallow inshore sandy waters than in the deeper water reached by the trawl and except when trawling over a sandy bottom, *Carcharias* is generally only caught in the wings of the trawl during its descent and ascent. It seldom exceeds 3 ft. in length. As a food-fish it is only relished by the poorer people, except the fins which are considered a delicacy when dried. There is no market for shark skins in Ceylon.

Rays.—The sting-ray (*Trygon*), like the shark, prefers shallow sandy waters. It is seldom caught in the trawl when trawling over a rocky bottom and is only eaten by the poorer people. Rays are most plentiful in the neighbourhood of the pearl banks, where they feed on the pearl oyster and congregate in large shoals ; individual fishes measure as much as 6 ft. across the disc.

Spine tails (*Acanthurus*) and **Trigger fishes** (*Balistes*).—Both these genera of fishes are bottom feeders. *Acanthurus* has a leathery skin with a median spine on the fleshy part of the tail. *Balistes* has the first dorsal spine greatly thickened, somewhat resembling a trigger, and also has very thick large horny scales. Both haunt rocky and coral waters, but are not often taken in the trawl in any quantity. They have a small market among the poorer inhabitants.

THE CONTINENTAL SHELF

Before discussing the trawling results, it is perhaps necessary to give some description of the character of the sea bottom of the

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

littoral waters. This area, known as the continental shelf, shown in Plate III is restricted to a narrow ledge of 10—20 miles in width, ending abruptly at the so-called hundred fathom line as a more or less precipitous submarine cliff dropping some hundreds of fathoms. Off the southern half of the Island this shelf is fairly regular and narrow, but it broadens out both on the north-east and on the north-west coasts. On the north-east coast it forms an extensive plateau linking up with the continental shelf of India and is the area we have termed the Pedro Bank. On the north-west coast, it stretches across the head of the Gulf of Mannar to the south-east Indian coast where Ceylon is nearest to the Indian mainland, and is the site of the well-known Ceylon pearl-oyster banks.

The general character of this shelf is rocky, with varying growths of coral, sea fans (Gorgonids) and sponges of many sizes, shapes and colours. This growth in places is so thick as to form a diminutive submarine forest, the happy hunting ground of bottom feeding fishes of all kinds. Living coral and projections of rock, make that portion of the continental shelf south of Colombo and Batticaloa so rugged as to prohibit serious trawling. Our trawl-net, when working this area, was often caught up and in some cases badly torn. Consequently, the whole of the southern half of the coast of Ceylon can be ruled out of question as possible trawling ground.

Sand occurs as a varying deposit on all the rocky areas, but never to any depth, except on the pearl banks, over a small area south-east of Mullaitivu, and over the south-east corner of Palk Strait. These areas are mapped out in Plate III. In the region of the pearl banks outcrops of rock and patches of coral and rock debris of all kinds occur. These patches constitute the oyster banks or "paars" as they are termed. The purely sand areas are almost barren of marine fauna,[1] except in the region of the pearl banks where we find immense numbers of star fishes, sea urchins, sea cucumbers, &c., with chanks (*Turbinella pyrum*) and other molluscs.

The only other bottom deposit which deserves consideration is the muddy area of Palk Strait north of Adam's Bridge. This area, as we shall see later, is relatively rich in fishes of poor food value.

ANALYSIS OF TRAWLS IN VARIOUS AREAS

The weights of individual trawls are given in Appendix 2. The following table shows at a glance the number of trawls, the

(1) The evidence of the dredge is not conclusive. A Peterson grab would almost certainly show the presence of boring worms, molluscs, sea urchins, etc.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

total weights of the trawls and average weight per hour obtained in each area :—

Area	*Number of Trawling Hours.*	*Total Weight lbs.*	*Average weight per hour—lbs.*
I[1]	—	—	—
II[1]	—	—	—
III*a*	4	113	28
b	6	539	90
IV*a*	12	317	26
b	6	457	76
c	5	57	11
V*a*	15	698	46
b	15	415	28
VI*a*	$4\frac{1}{2}$	96	21
b	$11\frac{1}{4}$	219	29
VII*a*	$12\frac{3}{4}$	575	45
b	4	4	1
VIII*a*	6	420	70
b	3	26	8
IX*a*	3	6	2
b	8	244	30
X*a*	3	104	35
b	4	269	67
c	6	62	10
XI*a*	6	69	11
b	10	621	62
c	11	545	50
XII*a*	4	177	44
b	3	43	14
c	$11\frac{3}{4}$	1638	139
XIII	$50\frac{1}{2}$	4240	84
XIV*a*	$18\frac{1}{2}$	662	36
b	4	63	16
c	3	88	29
XV*a*	9	717	80
b	6	2737	456
c	7	1669	238

(1) The Pearl Banks are situated in these areas which are not therefore available for trawl-fishing.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

TRAWLING POSSIBILITIES OF THE VARIOUS AREAS

Areas I, II and III (Head of Gulf of Mannar to Negombo) comprise the potential area of the Pearl Banks and do not therefore come under consideration as these waters are not available for trawl fishing.

Areas IV-IX (Negombo south to Batticaloa) although in some cases giving good catches of rock fishes, are impracticable on account of the rugged bottom to which reference has already been made. Practically the whole of these waters are fished by native fishermen, by net inshore and by net and line in the deeper waters. At certain seasons of the year mid-water fishes such as the eastern representatives of the mackerels (seer fishes, tunny fishes, etc.) are particularly numerous and drift-net fishing in these waters should prove a profitable undertaking. Immense quantities of sardines are also caught annually along this coast.

Areas X and XI (Batticaloa to Mullaitivu) provide good trawling ground and although our catches were not particularly large, these areas should not be entirely neglected. They might be trawled during the NE. monsoon when Trincomalee is used as a trawling base for the Pedro Bank further north.

Area XII, Sections *a* and *b* (off Mullaitivu) are sand and mud respectively. These two sections gave extremely poor catches. This is significant in view of Mr. Hornell's report in which he says "the only really satisfactory trawling area found [in Ceylon waters] was off the north east coast of the Island between Mullaitivu and Point Pedro. Here outside the Mullaitivu shoals in depths from 15-40 fathoms sandy ground, good fishing was obtained and the trawling master was of opinion that a full powered vessel would pay its way working here. He did not however consider the ground extensive enough for a trawling fleet."

It is not quite clear from this statement exactly where this ground lies. If by "Mullaitivu Shoal" is meant the reef lying off the Jaffna peninsula shown on Plate III Capt. Cribb was quite incorrect in describing this ground as sand. On the other hand, if the firm white sandy area outside Mullaitivu is indicated, our catches over this area do not agree with those of Capt. Cribb. It has been our experience that bottom feeding fishes are not to be found in any quantity on a hard white sandy bottom where there is a general scarcity of food. I think it is therefore fairly certain that the ground to which Mr. Hornell refers is

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

not the sandy area off the Mullaitivu shoals (area XII*b*), but is the ground further north, off the Pedro reef (area XII*c*) where we obtained the respectable average catch of 139 lbs. per hour on a flat rocky bottom with gorgonids and sponges growing in moderate quantity. It is doubtful if Capt. Cribb took accurate bearings of his positions as none are given in Mr. Hornell's report. Further he had little knowledge of the bottom faunas of eastern waters, so that the invertebrate contents of his trawl would tell him nothing regarding the nature of the ground over which he was trawling. He would therefore have to rely on the evidence of his sounding lead which, even on a flat rocky bottom, would bring up sand. This evidence, together with the fact that his trawl encountered no obstructions, would convince him that he was working over a sandy bottom. It is unfortunate that Mr. Hornell does not supply any details of Capt. Cribb's catches in this locality. His statement does however confirm our results if, as I think we must, we assume Capt. Cribb's sandy ground to be our flat rock area XII*c*. This area is the southern portion of the Pedro Bank.

Area XIII, together with area XII*c*, forms the moderately extensive area of the Pedro Bank. This is the only area around the coast of Ceylon which shows promise for a trawl fishing enterprise. I purpose dealing in detail with this area later in this report.

The remaining areas XIV and XV together make up the whole area of Palk Strait, a large expanse of shallow water separating the north of Ceylon from India and having direct communication with the Gulf of Mannar by way of Adam's Bridge and Pamban Pass. The greatest depth is about 8 fathoms and except the sandy areas of XV*a* and XV*b*, the bottom is largely soft black mud. The bare evidence of the table of trawls on page 21 would suggest the southern part of this sheet of water to be by far the most prolific trawling area we have yet discussed. Area XV*b* gave the high average of 456 lbs. and the record catch of 1,982 lbs. or 17 cwts. of fish for a one-hour trawl, while area XV*c* showed an average of 238 lbs.

The greater bulk of these catches, however, was made up of immense numbers of small fishes related to the horse mackerel, which, on account of their small size, have relatively little food value except when dried. The most abundant of these small fishes is that known as *Equula*, of which there are several species, *E. edentula* being the commonest. Enormous numbers of this species were present in the large

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

catches of this area as shown in the following table :—

Area.	*Trawl No.*	*Total Weight of Catch. lbs.*	*Numbers.*	*Weight lbs.*
XV*b*.	103	279	2,630	104
	104	157	2,800	98
XV*c*.	105	835	14,000	510
	106	119	1,400	51
	108	122	1,200	47
XV*b*.	116	1,941	practically the whole catch, numbers and weight not ascertained.	

In each of these cases this species accounts for nearly half, or more than half, the gross weight of the catch. The fishes trawled in this area are interesting in that they are characteristic of shallow inshore muddy waters. Such fishes as *Drepane, Ephippus, Stromateus, Synagris, Lactarius, Equula, Gazza, etc.*, are commonly present. The only fishes of this series having any food value are *Drepane, Ephippus* and *Stromateus*, but as these are not present in bulk, this area is not worth trawling for food fishes. The immense quantities of fishes present, however, suggest that these waters might be trawled for the purpose of procuring material for the preparation of fish manure, fish guano and possibly fish oil, all products having considerable market value in this country. Fish manure, fish guano and fish oil to the value of Rs. 2,277,699/- were imported into the Island in 1923. I have no doubt that short trawls in area XV would provide large catches of such fishes, which could be shipped by light draft vessels to Colombo by way of Pamban Pass. This might be a remunerative method of employing a trawler working the Pedro Bank, when the vessel was held up by strong north-easterly gales and could not engage in more profitable fishing.

PEDRO BANK

The *Pedro Bank* is an extensive shallow-water plateau situated off the extreme north-east corner of the Island. It stretches across the mouth of Palk Strait and extends some distance up the Negapatam coast of India. It has an approximate area of 1,000 sq. miles, 650 miles of which have been systematically trawled by the Government trawler

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Lilla." The ground bottom of this bank is largely flat rock upon which sea-fans (Gorgonids) and sponges form a luxuriant growth. The depth varies from 10 fathoms inshore to 70-100 fathoms on the overfall, the average depth being from 25-50 fathoms. The important features of this bank from a commercial standpoint are :—

(1) its close proximity to Kankesanturai, the northern terminus of the Ceylon Government Railway,

(2) that it is protected by the Ceylon mainland from the full force of the SW. monsoon blowing from May-October and is only affected by the NE. monsoon, which reaches its height during December and January and dies down in February.

It is only during December and January that trawl-fishing is likely to be interrupted, partly on account of bad weather and also because the port of Kankesanturai is closed to sea traffic during this period. Trincomalee, now connected by rail with Colombo, might be used during this closed period.

Capt. Cribb, trawling this area in 1907, was not apparently greatly impressed, for Mr. Hornell thus reports on this bank (the italics are mine). "*The ground northwards of Pt. Pedro which on the chart looks most promising was found disappointing.* From the 10-20 fathom line it is so studded with live coral that the nets were being continually fouled and torn, while from 20-40 fathoms sea-fans and massive sponges (*Petrosia testudinaria*, etc.) cover the ground in immense profusion. Northwards from Kangesanturai no good results were got." In the face of this criticism this ground would seem to be quite unsuited to steam trawler work, but Capt. Cribb's comments in his log throw some light on the work done by the "Violet." He says "From Kangesanturai.....we steamed north-east and north-east by north for about 30 miles, then shot our gear in about 8 fathoms[1] firm sand and towed north-east into deeper water going off into 45 fathoms; from 10-20 fathoms in this part is *sand strewn with coral* which tear the nets very much at times. From 20-45 fathoms is clearer ground but thick with sea fans of various sorts and colours and large pieces of sponge of the bread sort (i.e., *Petrosia testudinaria*), *but not having enough power we cannot get satisfaction in deep water*.....Then on June 29th we started fishing east of Point Calimere from 8 fathoms into 20 fathoms mud; *this being the best fishing we have yet seen since commencing trawl-*

(1) This distance and bearing would take him into 54 and not 8 fathoms.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

ing getting all big and clean fish. In the deeper water the ground became fouler with lots of sea-fans, sponges, rocks and other things, getting plenty of torn nets." On July 25th Capt. Cribb returned to Point Calimere; he says "here we spent another day fishing, but the weather was so unfavourable we cannot give a true account."

These statements show that Captain Cribb was greatly handicapped (a) by a much underpowered vessel, and (b) by bad weather. His results, therefore, cannot be regarded as giving a satisfactory estimate of this bank. Further the table of trawls given by Mr. Hornell, which Capt. Cribb made on this cruise, shows that he only fished a very limited part of the Pedro bank. He took in all 19 trawls, 14 of which were made east and north-east of Pt. Calimere, that is on the northern portion of the bank; only five trawls were taken on the central and southern portions where we got our largest catches and these were taken in shallow-water not exceeding 12 fathoms. Of the 19 trawls made by Capt. Cribb, 12 gave a total catch of 2,954 lbs. for 17½ hours' fishing, or an average of 168.8 lbs. per hour. No weights are given for the other 7 hauls, two of which resulted in torn nets. Thus, counting the weight of fish given for 12 hauls only (2,954 lbs.) and allowing the full number of hours trawled, *i.e.* 26¾, Capt. Cribb made an average catch of 110.4 lbs. per hour, which for reputed bad ground and an underpowered vessel is not unpromising. It cannot be said therefore that the results of this partial investigation justify the adverse criticism made by Mr. Hornell.

The ground in places is admittedly heavy with gorgonids and sponges[1] and on first acquaintance would seem to be most unfavourable, but, except that our trawl collected quantities of this growth, we had no trouble from fouling coral or rock. It is my opinion that this ground would be considerably improved with trawling. A very large area could be fairly well cleared of the larger growths of gorgonids and sponges in the earlier trawls and such a clearance would, I think, greatly increase the food supply of this area by exposing the many types of bottom-living organisms, such as crabs, worms, &c., which swarm in these waters and which provide abundant food for bottom-feeding fishes. Once the first unfavourable impression created by the presence of quantities of gorgonids in the net were removed, I think a trawling skipper would quickly recognise the possibilities of this bank.

The trawls taken by the "Lilla" were spread uniformly over the whole of the bank so far as it was examined. They were, it is true, taken during a limited period of the year, so that they do not provide conclusive evidence regarding the value of this bank, but even so, the

1. Late 1925 investigations showed a very large area of this bank to be entirely free of gorgonids and sponges.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

results obtained are sufficiently satisfactory to warrant further enquiry. The following is a list of the " Lilla's " trawlings :—

Station	*Time hrs.*	*Depth fathoms*	*Nature of Bottom*	*Total Catch*[1] *lbs.*	*Edible Fishes*	
					1st Class lbs.	*2nd Class lbs.*
45	1	15	Sand, rock, sponges.	313	297	12
46	1	20	R. sponges, gorgonids	92	48	43
47	1	14	,, ,, ,,	208	168	40
48	1	11	,, ,, ,,	147	103	43
49	1	25	,, ,, ,,	72	72	—
50	1	33	,, coral, gorgonids	115	108	7
*51	1	11	Sand.	3	—	3
52	1	26	Sand, shell, rock & gorgonids.	179	168	9
*53	1	6	Sand & mud.	44	8	36
*54	1	6	,, ,,	137	—	137
*55	1	7	,, ,,	70	—	70
*56	1	7	,, ,,	79	55	24
*57	1	10	,, ,,	—	—	—
58	1	12	Rock, coral debris & gorgonids.	177	172	5
59	1	14	Sand & shell, rock & weed.	49	15	14
60	1	24	Rock, gorgonids.	102	83	19
61	$2\frac{1}{2}$	30	,, ,,	78	71	6
62	$1\frac{1}{2}$	35	,, ,,	179	171	7
63	2	34	,, ,,	274	251	14
64	2	33	Sand, rock, gorgonids.	282	261	21
65	$1\frac{1}{2}$	34	,, ,, ,,	321	297	24
66	2	45-71	,, ,, ,,	63	—	63
67	2	37	,, ,, ,,	379	290	87
*68	1	6	White sand.	32	10	22
*69	$\frac{1}{2}$	9	,, ,,	185	20	165
*70	1	8	,, ,,	115	11	104
*71	1	6	,, ,,	23	—	23
*72	1	9	,, ,,	19	14	5
73	1	12	Sand, rock & living coral.	115	84	30
74	1	14	Flat rock, gorgonids.	56	32	24

(1) Including inedible fishes.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Station	Time hrs.	Depth fathoms	Nature of Bottom	Total Catch[1] lbs.	Edible Fishes	
					1st Class lbs.	2nd Class lbs.
75	1	55	Sand.	25	24	1
76	1	50-60	Mud, coral to sand.	79	71	8
320	1	22	Sand, rock, weed.	380	376	4
324	1	13	Sand, rock, sponges & gorgonids.	102	79	16
341	1	39	Rock, living coral.	106	69	37
343	1	40	Sand, rock & weed.	10	7	3
344	1	16-30	Sand, rock, gorgonids & sponges.	203	174	29
			Total..	4,106	3,491	556

The catches marked by an asterisk in the above table were taken on sand in shallow water near the Pedro Shoal; they do not come within the confines of the Pedro Bank and are not included in the totals. They are given here to illustrate the marked difference in catches taken on sand and those taken on rock. This difference is very evident in the following table in which catches on rock and sand are compared.

Bottom	No. of Trawling hours	Total Catch[1] lbs.	Edible Fishes.	
			1st Class lbs.	2nd Class lbs.
Sand	12	732	142	590
Rock	32.5	4,106	3,491	556
Sand	Average Catch per hour	61	11.8	49.1
Rock	,, ,,	126.3	107.4	17.4

Not only is the average catch on sand less than one-half that on rock, but the quality of the two catches is very different. The former consists very largely of 2nd class fishes (sharks and rays) while in the

(1) Including inedible fishes.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

latter, 1st class fishes reach a high average. This comparison is by no means an exceptional case, but is generally true of sand and rock throughout the littoral waters of Ceylon. I have somewhat emphasised this point to show how very improbable is Mr. Hornell's statement already quoted, that the best catches of the "Violet" in Ceylon waters were taken on sand.

The 26 trawls of 32½ hours duration off rock within the confines of the Pedro Bank give the following results :—

Catch per hour lbs.	*No. of trawling hours*	*Total catch lbs.*	*Average catch per hour lbs.*
Under 100	11½	524	45.56
Under 200	15½	2,157	139.16
Over 200	5½	1,425	259.69

In 32½ hours trawling the following results were obtained :—

	Total catch lbs.	*Edible fishes*		*Inedible fishes lbs.*
		1st Class lbs.	*2nd Class lbs.*	
Amount of fish caught (32½ hrs)	4,106	3,491	566	49
Average catch per hour	126.3	107.4	17.4	1.5

Our trawlings on this bank were taken systematically, and more or less evenly throughout its area, without any regard to the abundance of fishes in any one locality. For example, trawls 62-65, taken down the middle of the bank, were separated from one another by some seven miles and represent a distance of over 21 miles. The total catch of these four trawls was 1,056 lbs., giving an average catch per hour of 264 lbs. Had a commercial trawler fished this area, she would have trawled until either the area was becoming exhausted or she had a full hold. It is clear, therefore, that the average weight per hour calculated from the trawls obtained during the survey by the "Lilla," cannot be a

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

true index of the value of this bank as a commercial proposition, but will be considerably below its actual value. The average value obtained by the "Lilla" was 126 lbs., and assuming 18 actual trawling hours each day, the total daily catch would be :—

Total catch lbs.	*1st Class lbs.*	*2nd Class lbs.*	*Inedible lbs.*
2,273 (approximately one ton).	1,933	313	27

Allowing a flat rate of 30 cents per lb. the daily yield would be Rs. 675/- or £45/-. Had, however, these trawlings been made for commercial purposes the trawler would have concentrated on the best ground and the average daily catch would have been appreciably higher, probably between 200 and 300 lbs. per hour, or an average daily yield valued at about £75.

COMPARISON OF CATCHES AT DIFFERENT DEPTHS ON PEDRO BANK.(1)

0-10 Fathoms

Station	*Time hrs.*	*Depth fathoms*	*Bottom*	*Gross Weight lbs.*	*Edible Fishes*	
					1st Class lbs.	*2nd Class lbs.*
53	1	6	Sand & mud.	44	8	36
54	1	6	,, ,,	137	—	137
55	1	7	,, ,,	70	—	70
56	1	7	,, ,,	79	55	24
57	1	10	,, ,,	—	—	—
68	1	6	Coarse white sand	32	10	21
69	1	9	,, ,, ,,	185	20	165
70	1	8	,, ,, ,,	115	11	108
71	1	6	,, ,, ,,	23	—	23
72	1	9	Grey sand.	19	14	5
			Total for 10 hours	704	118	589
			Average per hour	70.4	11.8	58.9

(1) Catches on sand included.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

11-20 Fathoms.

Station	*Time hrs.*	*Depth fathoms*	*Bottom*	*Gross Weight lbs.*	*Edible Fishes*	
					1st Class lbs.	*2nd Class lbs.*
45	¾	15	Sand, rock, sponges & gorgonids.	313	297	12
47	1	14	Sand, rock, coral & gorgonids.	208	168	40
48	1	11	,, ,, ,,	146	103	43
58	1	12	Sand to rock.	177	172	5
59	1	14	Sand, rock & weeds.	49	15	14
73	1	12	Sand,rock,living coral	115	85	30
74	1	14	Flat rock.	55	31	24
324	1	13	Sand, rock, gorgonids & sponges.	102	79	16
			Total for 8 hours	1,165	950	184
			Average per hour	145.6	118.7	23

20-45 Fathoms.

46	1	20	Sand, rock & sponges	92	48	43
49	1	25	,, ,, ,,	72	72	—
50	1	33	,, ,, coral & gorgonids.	115	108	7
52	1	26	Sand & shell.	181	168	9
60	1	24	Sand,rock & gorgonids	102	83	19
61	2½	30	Sand, rock & gorgonids	77	71	6
62	1½	35	,, ,, ,,	179	170	9
63	2	34	,, ,, ,,	274	252	13
64	2	33	,, ,, ,,	282	261	21
65	1½	34	,, ,, ,,	321	297	24
67	2	37	Sand,rock & gorgonids	377	290	87
343	1	40	Sand to mud	10	7	3
320	1	22	Sand, rock & weed	380	376	4
344	1	16-30	Sand, rock, gorgonids & sponges.	203	174	29
			Total for 20½ hours	2,665	2,377	274
			Average for one hour	130	115.9	13.3

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

45-100 Fathoms.

Station	Time hrs.	Depth fathoms	Bottom	Gross Weight lbs.	Edible Fishes 1st Class lbs.	Edible Fishes 2nd Class lbs.
66	2	71-45	Sand, rock, gorgonids & sponges	64	64	
75	1	55	Sand.	27	24	1
76	1	50-60	Mud, rock, coral to sand.	79	71	8
			Total for 4 hours	170	159	9
			Average for one hour	42.5	39.8	2

SUMMARY

The records given in the above tables may be summarised as follows. The figures given are the average catches per hour.

Depth fathoms.	Total Catch lbs.	Edible Fishes. 1st Class lbs.	Edible Fishes. 2nd Class lbs.
10	70.4	11.8	58.9
11-20	145.6	118.7	23.0
21-45	130.0	115.9	13.3
46-100	42.5	39.8	2.0

These tables show that the most profitable trawling depths were between 10-45 fathoms. The shallow inshore waters gave very poor catches. The deeper waters on the edge of the bank, namely 45-100 fathoms, would also appear to be comparatively poor in bottom feeding fishes. It must be borne in mind, however, that another series of trawlings taken at a different time of the year might conceivably show different results. Thus, while the available evidence is greatly in favour of the intermediate depths, a commercial trawler working this bank would do well to investigate more thoroughly than we have found it possible, all depths to the 100-fathoms line should intermediate waters at any time show catches not up to expectations.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

The numbers and weights of the more important fishes taken on P0dro Bank are given in the following table :—

1st Class	*Nos.*	*Lbs.*
Epinephelus fuscoguttatus ..	15	277
E. angularis	27	135
E. hexagonatus	2	2
E. flavo-caeruleus	2	11
E. species	11	45
Lutianus rivulatus	61	490
L. argentimaculatus	55	422
L. spp.	17	48
L. vitta (young)	6	1
L. dodecacanthus	4	19
L. fulviflamma	14	5
Lethrinus karwa . ..	122	498
L. ornatus . ..	9	65
L. rostratus	12	70
L. nebulosus	1	2
L. spp.	6	10
Plectorinchus griseum	22	107
Aprion pristipoma	195	792
Pagrus spinifer	163	206
Ephippus orbis . ..	35	29
Drepane punctata	5	10
Caranx armatus	42	34
C. leptolepis	314	10
C. malabaricus	117	47
C. nigripinnis	1	2
C. oblongus	3	1
C. spp.	13	23
Alectis ciliaris	2	8
Scomberomorus guttatum	13	33
Scomber macrolepidotus	2	1
Upeneus indicus	24	15
Psettus argenteus	7	14
Stromateus niger	1	3
Pomadasys maculatum	11	2
Pseudorhombus javanicus	2	4
Priacanthus holocentrum	16	14

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

2nd Class	*Nos.*	*Lbs.*
Acanthurus strigosus	10	40
A. matoides	52	131
A. aurolineatus	1	3
Balistes stellatus	42	84
B. erythrodon	1	11
B. mitis	1	1
B. viridescens	3	21
Carcharias spp.	55	160
Myliobatis nieuhofii	1	2
Rhynchobatus djeddensis	3	7
Rhinobatus halavi	1	11
Trygon kuhlii	6	14
T. walga	8	12
T. uarnak	2	2
Narcine timlei	11	9
Synagris japonicus	714	33
Percis pulchella	1	2
Saurida tumbil	183	17
Monacanthus monoceros	2	2
Priacentrum jerdoni	46	1
Sphyraena acutipinnis	1	4
Holocentrum imperator	1	2
Chirocentrus dorab	1	5
Equula spp.	—	12
Triacanthus brivirostris	—	1
Pseudoscarus dussumieri	2	8
P. chrysopoma	3	16
Myripristis blochii	3	2
Cossyphus axillaris	3	10
Holocentrum rubrum	1	6
Elops saurus	1	11
Inedible		
Pterois miles	2	2
Heniochus macrolepidotus	14	8
Ostracion turritus	10	4
O. cubicus	1	3
Tetraodon reticularis	2	14
T. inermis	2	7
T. leopardus	1	7
Fistularia serrata . ..	7	3
Echeneis naucrates	1	1

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

The above table has been arranged to give some idea of the numbers and weights of the individual fishes obtained in the trawls given on pp. 27 and 28 omitting those trawls marked with an asterisk. They are grouped according as they are 1st and 2nd class edible or inedible fishes. The following table shows the total weights and percentage weights of each genus of fish :—

	Gross Weight lbs.	*Percentage Weight.*
1st Class		
Epinephelus spp.	438	10.67
Lutianus spp.	985	23.98
Lethrinus spp.	645	15.71
Aprion pristipoma	792	19.30
Plectorhinchus griseum	107	2.62
Pagrus spinifer	206	5.02
Caranx spp.	115	2.81
Ephippus orbis	29	
Drepane punctata	10	
Scomberomorus sp.	33	4.91
Other genera	133	
	3,490	85.02
2nd Class		
Acanthurus spp.	174	4.24
Balistes spp.	117	2.86
Carcharias, Trygon, etc.	227	5.52
Other genera	148	1.16
	556	13.78
Inedible		
Tetraodon spp.	28	
Fistularia serrata	3	
Other genera	18	
	49	1.20

SUMMARY OF PEDRO BANK

Class	%	*Average catch per hour lbs.*
1st Class	85·02	107·4
2nd Class	13·78	17·4
Inedible	1·20	1·5

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

WADGE BANK

The *Wadge Bank* lies outside the Indian territorial waters off Cape Comorin between Manapad and Quilon and is about 18 hours steaming from Colombo. It has an area of over 4,000 sq. miles and differs markedly from the Pedro Bank in being comparatively free from heavy growths of sponges and gorgonids. The ground is most suitable for trawling, coral growths and rocky projections being seldom encountered. Unlike the Pedro Bank this area is exposed to the full force of both the S.W. and N.E. monsoons and, while ordinary monsoon weather would not seriously handicap a modern trawler, there would be occasions when fishing would not be practicable on this bank. This period would vary from year to year, but is never likely to be longer than three months in any one year. June, July and August are the months when fishing would be either very difficult or impossible.

Our first trawlings over this area were not promising, an average catch of only 70 lbs. being obtained for 31 one-hour trawls, but a later trial made over the Wadge Bank proper instead of spreading up the coast, showed fish to be very plentiful. On this occasion we adopted the commercial practice of fishing continuously through the day, and landed the following catches :—

Station	*Time hrs.*	*Depth fathoms*	*Bottom*	*Total Catch*[1] *lbs.*	*Edible Fishes*	
					1st Class lbs.	*2nd Class lbs.*
499	1	9	Fine grey sand.	—	—	—
500	1	15	,, ,, ,, and rock	377	365	—
501	2	15	,, ,, ,, ,,	1,184	1,173	11
502	2	15	,, ,, ,, and mud	186	26	160
503	1	15	,, ,, ,, and rock	549	532	12
504	4	15	Coarse yellow sand and rock.	241	238	3
505	1	15	Coarse yellow sand.	113	113	—
506	1	15	,, ,, ,,	135	127	8
507	1	16	,, ,, ,,	10	10	—
508	1	14	,, ,, ,,	7	7	—
509	1	14	Coarse yellow sand and rock	53	53	—
510	1	15	Grey sand, mud & rock	—	—	—
511	1	15	,, ,, ,,	35	35	—

(1) Including inedible fishes.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Station	Time hrs.	Depth fathoms	Bottom	Total Catch[1] lbs.	Edible Fishes 1st Class lbs.	Edible Fishes 2nd Class lbs.
512	1	17	Fine grey sand & rock.	70	67	3
513	1	21	,, ,, ,,	—	—	—
514	1	19	Fine grey sand, mud and rock	102	90	12
515	1	20	Coarse yellow sand and rock.	127	124	3
516	1	22	Grey sand and rock to mud.	237	223	14
517	1	25	Fine yellow sand and rock.	220	191	24
518	1	30	Fine grey sand & rock.	521	416	105
519	1	29	,, ,, ,,	416	315	89
520	2	26	Fine yellow sand and rock.	505	443	57
521	1	25	,, ,, ,,	184	174	9
522	1	19	Fine grey sand & rock.	92	71	20
523	1	26	Grey and yellow sand and rock	136	123	13
524	1	30	Fine grey sand & rock.	128	49	75
525	1	37	Dark grey sand & rock.	212	195	17
526	1	41	,, ,, ,,	27	—	22
527	1	32	,, ,, ,,	154	120	34
528	1	33	,, ,, ,,	156	136	20
529	1	30	,, ,, ,,	35	32	3
530	1	32	,, ,, ,,	219	214	3
531	1	35	Grey sand and rock.	436	428	5
532	1	35	,, ,, ,,	610	552	17
533	2	33	,, ,, ,,	618	392	226
534	1	29	Yellow sand, rock.	304	282	18

In the table given above the catches present one or two points of special interest. Trawling was commenced in shallow water off Manapad Light, where Capt. Cribb in 1907 trawled with considerable success. Our first haul yielded no catch, but the 2nd haul (500) gave a catch of over 3 cwts., half of which was due to the presence of numbers of *Drepane*

(1) Including inedible fishes.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

punctata, a shallow water rather foul-feeding fish, which has, however, excellent qualities as a food fish. Immediately this catch was landed, this ground was re-trawled for two hours, giving a catch of 10 cwts. Half of this catch was made up of *Lutianus vitta*, a species not previously trawled in any numbers. *Drepane punctata* contributed 3 cwts. The trawl was then re-shot and kept down for 2 hours, but only one large shark (*Hemigaleus balfouri*) with a few inshore fishes such as *Equula* were found in the net. This trawl was taken during the late evening when sights were bad and next morning when the ship's position was ascertained, it was found she had drifted one mile inshore off her course. We had therefore apparently missed the good ground. At sunrise the " Lilla " was put back on to station 500 and a catch of over 5 cwts. was obtained in a one-hour trawl ; chiefly *Drepane punctata*. No *Lutianus vitta* were present. We then trawled for 4 hours over this area, but again got off our course and only made a catch of 255 lbs. This difficulty of keeping to the ground would have been avoided, had we dropped a buoy to mark the spot of the first trawl and then had worked round the buoy. Hauls 506-517 were made on the way to the deep water on the Wadge Bank and contained nothing of note. Catches 516-520 and 530-534 were obtained from a fairly extensive deep-water area on the edge of the overfall, over a smooth rocky bottom having a light gorgonid growth. There was one day's interval between these two groups of trawlings. These catches were particularly good and had time permitted we should have continued working this area. It is somewhat noteworthy that catches 518 and 519 contained 221 and 162 *Lutianus marginatus* respectively and catch 533, 168 *Lutianus lineolatus*. These two species of *Lutianus* were confined to these catches so that we must have struck separate shoals. Another shoal encountered during these trawlings was, *Lutianus vitta* (one catch only). *Lutianus dodecacanthus* and *Lethrinus karwa* are characteristic of these waters.

An analysis of these trawls gives the following :—

Catch per hour lbs.	*No. of trawling hours.*	*Total Catch lbs.*	*Average Catch per hour. lbs.*
Nil	3	Nil	Nil
Under 50	5	114	22.8
Under 100	9	642	71.3
Under 200	9	1,235	137.2
Over 200	17	6,408	376.9

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

In 43 trawling hours the results obtained were :—

	Total Catch	*Edible Fishes*		*Inedible Fishes* lbs.
		1st Class lbs.	*2nd Class* lbs.	
Amount of fish caught (43 hours)	8,539 lbs.	7,316	983	100
Average catch per hour	195.32	170.14	22.8	2.32

The poor catches were obtained in shallow water and not on the Wadge Bank proper. These should be eliminated in a valuation of this bank as a trawler operating on a commercial scale would not fish these waters, but, including these areas, the catch per day of 18 hours would yield :—

Total Catch.	*Edible Fishes*		*Inedible*
	1st Class	*2nd Class*	
3,515 lbs. approx. 31 cwts.	3,062 lbs.	414 lbs.	39 lbs.

Assuming again a flat rate of 30 cents per lb. of fish a day's catch would sell for Rs. 1,069 or £71 per day. If, however, the trawler concentrated on good ground the average day's catch would be worth about £95.

COMPARISON OF CATCHES AT DIFFERENT DEPTHS ON WADGE BANK

11-20 Fathoms

Station	*Time* hrs.	*Depth* fathoms	*Bottom*	*Total Weight* lbs.	*Edible Fishes*	
					1st Class lbs.	*2nd Class* lbs.
500	1	15	Grey sand and rock	377	365	—
501	2	15	,, ,, ,, ,,	1184	1173	11
502	2	15	,, ,, ,, mud	186	26	160
503	1	15	,, ,, ,, rock	549	532	12

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

11-20 Fathoms

Station	Time hrs.	Depth fathoms	Bottom	Total Weight lbs.	Edible Fishes	
					1st Class lbs.	2nd Class lbs.
504	4	15	Yellow sand and rock	241	238	3
505	1	15	,, ,, ,,	113	113	—
506	1	15	,, ,, ,,	135	127	8
507	1	16	,, ,, ,,	10	10	—
508	1	14	,, ,, ,,	7	7	—
509	1	14	,, ,, ,,	53	53	—
510	1	15	Grey sand, mud & rock	—	—	—
511	1	15	,, ,, ,,	35	35	—
512	1	17	Grey sand and rock	70	67	3
514	1	19	Grey sand, mud &rock	102	90	12
522	1	19	Grey sand and rock	92	71	20
			Total for 20 hours	3154	2907	229
			Average per hour	157.7	145.3	11.4

21-45 Fathoms

Station	Time hrs.	Depth fathoms	Bottom	Gross Weight lbs.	Edible Fishes	
					1st Class lbs.	2nd Class lbs.
513	1	21	Grey sand and rock	—	—	—
515	1	20	Yellow sand and rock	127	124	3
516	1	22	Grey sand and rock to mud	237	223	14
517	1	25	Yellow sand and rock	220	191	24
518	1	30	Grey sand and rock	521	416	105
519	1	29	,, ,, ,,	416	315	89
520	2	26	Yellow sand and rock	505	443	57
521	1	25	,, ,, ,,	184	174	9
523	1	26	,, ,, ,,	136	123	13
524	1	30	Fine grey sand and rock	128	49	75
525	1	37	Grey sand and rock	212	195	17

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

21-45 Fathoms

Station	*Time hrs.*	*Depth fathoms*	*Bottom*	*Gross Weight lbs.*	*Edible Fishes*	
					1st Class lbs.	*2nd Class lbs.*
526	1	41	Grey sand and rock	27	—	22
527	1	32	,, ,, ,,	154	120	34
528	1	33	,, ,, ,,	156	136	20
529	1	30	,, ,, ,,	35	32	3
530	1	32	,, ,, ,,	219	214	3
531	1	35	,, ,, ,,	436	428	5
532	1	35	,, ,, ,,	610	552	17
533	2	33	,, ,, ,,	618	392	226
534	1	29	Yellow sand and rock	304	282	18
			Total for 22 hours	5245	4409	754
			Average per hour	238.4	200.4	34.2

SUMMARY OF CATCHES AT DIFFERENT DEPTHS ON WADGE BANK[1]

Depth fathoms	*Total catch lbs.*	*Edible Fishes*	
		1st Class lbs.	*2nd Class lbs.*
10	nil	nil	nil
11-20	157.7	145.3	11.4
21-45	238-4	200.4	34.6

The bank is fishable up to the 100-fathom overfall. Beyond this depth trawling is not possible as the bottom falls precipitously to a very great depth. Our trawlings were confined to the shallow water and intermediate depths on this bank. We have no information regarding the deeper waters up to 100 fathoms.

(1) The figures given are the average catches per hour.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

The numbers and weights of the more important fishes taken on Wadge bank are given in the following table:—

1st Class	*Nos.*	*Lbs.*
Epinephelus sp.	106	643
E. salmoides	7	333
E. pantherinus	7	136
Lutianus dodecacanthus	169	909
L. rivulatus	111	960
L. marginatus	384	296
L. lineolatus	196	116
L. vitta	61	559
L. madras	49	109
Lethrinus karwa	252	974
L. miniatus	36	188
Plectorhinchus griseum	80	511
Drepane punctata	219	1,118
Upeneus indicas	36	41
Dentex sp.	46	74
Pagrus spinifer	12	32
Aprion pristipoma	18	78
Arius sp.	6	61
Other species	—	288
2nd Class		
Acanthurus matoides	71	145
Balistes stellatus	28	65
B. erythrodon	68	68
B. mitis	8	15
Carcharias spp.	80	190
Hemigaleus balfouri	1	150
Trygon kuhlii	30	72
Rhynchobatus djeddensis	1	7
Taeniura melanospilus	1	200
Dactylopterus orientalis	12	10
Other species.	—	91
Inedible		
Henicchus macrolepidotus	118	59
Tetraodon leopardus	3	21
Ostracion turritus	18	9
Other species	—	11

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

The following table shows the gross weights and the percentage weights of each genus of fish.

1st Class	*Gross Weight lbs.*	*Percentage Weight.*
Epinephelus spp.	1,138	13.33
Lutianus spp.	2,998	35.11
Lethrinus spp.	1,178	13.80
Plectorhinchus spp.	520	6.10
Drepane punctata	1,118	13.20
Other genera	474	5.57
	7,426	87.11
2nd Class		
Acanthurus and Balistes	303	3.60
Shark, rays, &c.	710	8.10
	1,013	11.70
Inedible		
Heniochus, &c.	100	1.19

SUMMARY OF WADGE BANK

Class	%	*Average Catch per hour lbs.*
1st Class	87.11	170.14
2nd Class	11.70	22.86
Inedible	1.19	2.32

Mr. Hornell in his report refers to the Wadge Bank in the following terms " [The Wadge Bank] is so extensive an area as to offer good fishing for an indefinite period to a large fleet of steam trawlers of full power and size. ..... The trawl skipper of the "Violet" returned to port enthusiastic over the trawl potentialities of the Comorin bank of soundings both in regard to the large quantities of good quality fish to be had there and to the clean and unobstructed nature of the bottom." Our investigations amply support this statement.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

For the purpose of comparison I append a table of average catches per day obtained in European waters, extracted from the official statistics of the Fisheries Department of the Ministry of Agriculture and Fisheries for England and Wales. These records are based on actual fishing returns, while the estimates for the Pedro and Wadge Banks given above are based on experimental trawlings of a few days.

Average catches in cwts. per day's absence from Port.
Steam Trawlers (England and Wales only).

	1910	1911	1912	1913	1914	1919	1920	1921
White Sea	60.08	49.24	38.13	44.12	34.74	—	25.45	46.35
Iceland	44.35	48.05	46.05	46.10	47.91	68.19	58.54	49.31
Faroe	30.27	31.49	31.69	28.19	25.45	42.45	27.03	32.81
Rockall	14.74	29.28	41.19	39.27	26.50	57.59	49.53	59.64
N. of Scotland	24.79	24.24	23.72	25.76	25.19	35.88	27.31	28.80
North Sea	16.20	16.23	15.76	14.08	15.88	30.64	24.94	22.41
English Channel	12.40	12.48	13.80	8.95	9.99	20.02	25.70	16.33
Irish Sea	12.23	12.48	14.02	11.94	12.49	22.80	18.79	18.81
Bristol Channel	17.03	17.74	15.65	13.98	10.85	28.06	26.38	20.97
W. of Scotland	26.24	28.09	31.73	28.11	23.53	32.69	28.17	31.64
W. of Ireland	27.26	30.66	31.83	30.22	29.63	40.00	25.87	26.75
S. of Ireland	24.27	25.89	28.94	23.74	22.23	36.00	26.63	23.30
Biscay	20.15	19.31	16.31	13.22	9.53	18.64	18.73	19.69
Portugal and Morocco	12.16	11.55	9.55	13.81	9.09	14.64	19.29	14.62

From this table it will be seen that the estimated daily yield of the Pedro and Wadge Banks compare very favourably with the most profitable trawling grounds of home waters.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

APPENDIX 1

Trawls of S. S. "Lilla" grouped according to trawling areas :—

Area	III	a.	454–457.
		b.	438, 439, 451–453, 535.
Area	IV	a.	434–437, 440, 536–548.
		b.	549–554.
		c.	203, 204, 555–557.
Area	V	a.	189–202, 205, 441.
		b.	173–188.
Area	VI	a.	168–172.
		b.	156–167.
Area	VII	a.	143-155.
		b.	139–142.
Area	VIII	a.	117–121, 138.
		b.	122, 123, 137.
Area	IX	a.	124–126, 136.
		b.	127–135.
Area	X	a.	288, 289, 290.
		b.	291–294.
		c.	7, 8, 13, 14, 295, 296.
Area	XI	a.	12, 15, 19, 20, 21, 276, 286.
		b.	5, 6, 16–18, 22–24, 263, 297.
		c.	1–3, 9–11, 25–29.
Area	XII	a.	4, 24, 249, 252.
		b.	30, 42, 43.
		c.	44–52, 71, 320, 324.
Area	XIII		31–34, 37–41, 53–70, 72–77, 240.
			304–306, 333, 341, 343, 344, 356.
Area	XIV	a.	35, 36, 78–89, 363, 366, 368, 370.
		b.	111–114.
		c.	109, 110, 115.
Area	XV	a.	93–101, 370.
		b.	92, 102–104, 116, 386.
		c.	90, 91, 105-108, 392.
Wadge Bank.			
NW. area			206–215, 497–517.
Central area			216–229, 238, 239, 458-467, 472, 473, 518–534.
SE area			230–237, 442–450, 468–471, 474–494.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Appropriate Technology Services
121, POINT PEDRO ROAD
NALLUR, JAFFNA
No.....

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

APPENDIX 2

A Complete List of the Trawls of S.S. "Lilla"

FIRST CRUISE, JULY 20th—SEPTEMBER 22nd, 1920

Station	*Area*	*Time Hours*	*Depth in Fathoms*	*Bottom*	*Weight in Lbs.*
1	XI c	1	27	Soft mud.	—
2	XI c	1	14	Soft mud.	35
3	XI c	1	20	Soft mud.	15
4	XII a	1	10	Sand.	—
5	XI b	1¼	17	Hard sand.	8
6	XI b	1	20	Hard sand and mud.	9
7	X c	1	28	Flat rock, coral and weeds.	—
8	X c	1	18	Flat rock, coral and weeds.	—
9	XI c	1	9	Firm mud.	21
10	XI c	1	8	Firm mud.	9
11	XI c	1	6	Sand and mud.	32
12	XI a	¼	11	Sand, mud, and living coral.	8
13	X c	1	15–26	Flat rock and coral debris.	4
14	X c	1	9	Flat rock and coral debris	22
15	XI a	1	28	Black sand and mud with outcrops of flat rock.	25
16	XI b	1	21–30	Flat rock with Spongodes and gorgonids.	10
17	XI b	1	20	Flat rock with Spongodes and gorgonids	20
18	XI b	1	20	Hard sand and rock	125
19	XI a	½	20	Firm black mud and sand.	—
20	XI a	1	30	Firm black mud, sand and rock.	34
21	XI a	1	17–35	Mud and sand.	—
22	XI b	1	18	Hard sand and mud with scattered rock.	55
23	XI b	1½	15	Hard sand and mud with scattered rock.	96
24	XI b	1	11	Firm dark sand and mud with outcrops of rock.	84
25	XI c	1	22	Hard dark mud and sand to soft grey mud.	164
26	XI c	1	13	Coarse white sand with mud.	25
27	XI c	1½	24	Soft grey mud.	167
28	XI c	1	24	Soft grey mud and later coarse white sand.	66
29	XI c	1	10	Coarse white sand with mud.	26
30	XII b	1	7	Sand and rock to mud.	—
31	XIII	1½	7	Soft mud.	37
32	XIII	1¼	7	Soft mud and sand.	27
33	XIII	1	7	White loose sand and shell to hard grey mud.	9
34	XIII	1	7	Hard grey mud and shell.	13
35	XIV a	1¼	7	Soft grey mud.	13
36	XIV a	1	6	Hard grey mud and shell.	31
37	XIII	1	7	Soft grey mud.	77
38	XIII	1	7	Soft grey mud.	36

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Station	Area	Time Hours	Depth in Fathoms	Bottom	Weight in Lbs.
39	XIII	1	6	Soft grey mud.	28
40	XIII	2	7	Soft grey mud and shell.	122
41	XIII	1	8	Coarse sand, rock with sponges.	346
42	XII b	1	7	Coarse sand and rock to firm black mud and shell.	35
43	XII b	1½	8	Firm black sand to coarse sand with grey mud and shell.	7
44	XII c	1	15	Coarse sand.	—
45	XII c	¾	15	Coarse sand, rock and sponges.	313
46	XII c	1	20	Coarse sand and rock with large sponges.	92
47	XII c	1	14	Large grained sand, rock and coral, gorgonids.	208
48	XII c	1	11	Coarse sand, rock and coral.	147
49	XII c	1	25	Coarse sand and rock with gorgonids.	72
50	XII c	1	33	Coarse sand, rock and coral, coral debris.	115
51	XII c	1	11	Fine sand.	3
52	XII c	1	26	Coarse sand and rock with shell to grey sand.	179
53	XIII	1	6	Clean sand to mud.	44
54	XIII	1	6	Hard dark mud and sand, clean bottom with windowpane shells.	137
55	XIII	1	7	Soft grey mud, featureless bottom.	70
56	XIII	1	7	Hard sand with grey mud.	79
57	XIII	1	10	Hard sand with grey mud.	—
58	XIII	1	12	Sand, shell and sea weed, coral debris and gorgonid.	177
59	XIII	1	14	Sand, shell, rock and weed.	49
60	XIII	1	24	Grey sand and rock, gorgonids.	102
61	XIII	2⅛	30	Grey sand, rock.	78
62	XIII	1½	35	Grey sand and shell, rock, gorgonids.	179
63	XIII	2	34	Grey sand and shell, rock, gorgonids	274
64	XIII	2	33	Coarse sand and shell, rock, gorgonids.	282
65	XIII	1½	34	Coarse sand, rock and gorgonids.	321
66	XIII	2	45–71	Coarse sand, flat rock and gorgonids.	63
67	XIII	2	37	Coarse sand and flat rock.	379
68	XIII	1	6	Coarse white sand.	32
69	XIII	1	9	Coarse white sand.	185
70	XIII	1	8	Coarse white sand with outcrops of rock.	115
71	XII c	1	6	Coarse white sand.	23
72	XIII	1	9	Light grey sand.	19
73	XIII	1	12	Light grey coarse sand and living coral.	115
74	XIII	1	14	Flat rock.	56
75	XIII	1	55	Smooth bottom, fine sand, featureless.	25
76	XIII	1	50–61	Mud, coral to sandy bottom.	79
77	XIII	1½	95	Grey sand.	1
78	XIV a	1¼	6	Soft mud.	11
79	XIV a	1¼	6	Soft mud.	63
80	XIV a	1	5	Firm dark grey mud with windowpane shells.	10

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Station	*Area*	*Time Hours*	*Depth in Fathoms*	*Bottom*	*Weight in Lbs.*
81	XIV a	1	4	Firm dark mud with windowpane shells.	5
82	XIV a	1	4	Soft dark mud with windowpane shells.	30
83	XIV a	1	5	Soft mud.	11
84	XIV a	1	5	Soft mud.	86
85	XIV a	1	4	Soft mud.	54
86	XIV a	1	6	Firm mud.	17
87	XIV a	1	6	Soft mud.	48
88	XIV a	1	6	Soft mud.	30
89	XIV a	1	6	Soft mud.	44
90	XV c	1	7	Coarse yellow sand to firm mud.	34
91	XV c	1	7	Hard dark grey mud, coral.	235
92	XV b	1	7	Grey mud to coarse yellow sand, coral.	45
93	XV a	1	5½–6	Soft grey mud and sand.	44
94	XV a	1	5½–6	Soft grey mud and rock with gorgonids.	210
95	XVa	1	5	Soft grey mud and rock with gorgonids.	167
96	XV a	1	6	Firm light grey sand and rock with gorgonids.	43
97	XV a	1	4	Grey firm sand.	58
98	XV a	1	4	Grey firm sand.	—
99	XV a	1	6	Firm grey sand and rock.	12
100	XV a	1	7	Fine white sand and rock.	76
101	XV a	1	7	Fine white sand, living coral and rock.	90
102	XV b	1	7	Fine white sand to hard grey mud.	8
103	XV b	1	6	Hard dark grey sand.	279
104	XV b	1	7	Soft black mud to soft dark grey mud.	157
105	XV c	1	7	Soft dark grey mud.	835
106	XV c	1	6	Soft dark grey mud.	119
107	XV c	1	7	Soft dark grey mud.	17
108	XV c	1	7	Soft dark grey mud.	122
109	XIV c	1	7	Soft dark grey mud.	23
110	XIV c	1	6	Soft grey mud.	7
111	XIV b	1	6	Soft grey mud.	15
112	XIV b	1	4	Firm mud to hard mud.	6
113	XIV b	1	6	Fine grey and soft grey mud.	35
114	XIV b	1	7	Soft grey mud.	7
115	XIV c	1	7	Soft grey mud.	55
116	XV b	1	8	Soft grey mud.	1941

SECOND CRUISE, DECEMBER 5th, 1920—JANUARY 2nd, 1921

117	VIII a	1	18	Dark grey to light grey fine sand.	1
118	VIII a	1	19	Coarse yellow sand and rock.	175
119	VIII a	1	20	Coarse yellow sand and shell, rock, gorgonids.	205
120	VIII a	1	22	Coarse yellow sand and shell, rock.	26
121	VIII a	1	19	Fine dark grey sand with flat rock.	13
122	VIII b	1	24	Fine white to dark grey sand.	—
123	VIII b	1	20	Coarse yellow sand to white sand.	10
124	IX a	1	19	Coarse yellow sand and living coral.	6
125	IX a	1	17	Coarse yellow sand and shell.	—

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Station	*Area*	*Time Hours*	*Depth in Fathoms*	*Bottom*	*Weight in Lbs.*
126	IX a	1	15	Coarse yellow sand to dark grey sand and mud.	—
127	IX b	1	17	Coarse red sand and sponge.	7
128	IX b	1	20	Coarse red sand, living coral.	42
129	IX b	1	18	Coarse red sand, rock.	14
130	IX b	1	19	Coarse red sand, living coral.	7
131	IX b	1	19	Coarse reddish sand to coarse yellow sand.	20
132	IX b	1	19	Coarse yellow sand, living coral, rock and nullipore.	90
133	IX b	1	30	Dark grey fine sand to coarse reddish sand and rock.	57
134		2	31	Reddish coarse sand on rock.	—
135	IX b	1	27	Coarse reddish sand and rock, gorgonids.	17
136	IX a	½	36	Coarse white sand on rock.	—
137	VIII b	1	24–35	Fine grey sand to coarse yellow sand and shell.	16
138	VIII a	1	32	Rock, living coral, gorgonids. Very foul ground.	2
139	VII b	1	10	Fine light grey sand and rock, gorgonids.	2
140	VII b	1	15	Fine grey sand and rock, gorgonids.	2
141	VII b	1	31	Fine grey sand.	—
142	VII b	1	15	Fine yellow sand.	—
143	VII a	1	18	Fine yellow sand.	—
144	VII a	1	16	Coarse yellow sand and shell.	35
145	VII a	½	15	Coral debris on rock, nullipore and shell.	3
146	VII a	1	31	Coarse yellow sand and shell to medium size grey sand.	43
147	VII a	1	31	Grey sand, rock, with gorgonid.	196
148	VII a	1	32	Grey sand and rock with gorgonids.	49
149	VII a	1	27	Fine grey sand and rock with gorgonids.	87
150	VII a	1	34	Fine grey sand and rock with gorgonids.	81
151	VII a	1	33	Grey sand, great variety of gorgonids.	—
152	VII a	1	34	Medium size yellow sand.	—
153	VII a	1	40	Fine grey sand and rock with gorgonids.	106
154	VII a	1	42	Fine grey sand and rock with gorgonids.	75
155	VII a	1¼	37	Fine grey sand.	—
156	VI b	1	41	Fine grey sand and rock with gorgonids.	10
157	VI b	1	39–36	Fine grey sand, rock, gorgonids.	25
158	VI b	1	34	Fine grey sand, featureless bottom.	—
159	VI b	1	33	Fine grey sand to yellow sand, rock, gorgonids.	16
160	VI b	¼	16	Fine grey sand, with gorgonids.	—
161	VI b	1	32	Fine grey sand, rock with gorgonids.	65
162	VI b	1	32	Fine grey sand, rock with gorgonids.	10

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Station	*Area*	*Time Hours*	*Depth in Fathoms*	*Bottom*	*Weight in Lbs.*
163	VI b	1	33	Fine grey sand.	44
164	VI b	1	14	Coarse yellow sand and calcrete.	18
165	VI b	1	15	Fine dark grey sand, living coral with gorgonids.	15
166	VI b	1	35	Fine grey to fine dark sand and coral debris.	—
167	VI b	1	40	Fine dark grey sand, rock with gorgonids.	16
168	VI a	1	40	Fine yellow to fine grey sand and gorgonid.	19
169	VI a	1	38	Fine grey sand to fine dark sand.	40
170	VI a	1	35	Fine dark grey sand, featureless bottom	35
171	VI a	1¼	35	Dark grey sand, featureless bottom.	—
172	VI a	¼	35	Light grey sand with shell, rock with gorgonids.	2
173	V b	1	46	Fine dark grey sand, rock with gorgonids.	23
174	V b	1	36	Dark grey fine sand.	—
175	V b	1	36	Light grey sand and shell, rock with gorgonids.	270
176	V b	1	33	Coarse yellow sand and shell, rock with gorgonids.	3
177	V b	1	33	Fine dark grey sand.	3
178	V b	1	32	Fine dark grey sand, featureless bottom	6
179	V b	1	35	Fine light grey sand, rock with gorgonids.	66
180	V b	1	34	Flat rock, coral debris, and calcrete	21
181	V b	1	33–90	Flat rock and coral debris.	—
182	V b	¾	41	Fine light grey sand and flat rock.	—
183	V b	1	38	Fine light grey sand.	—
184	V b	¼	40	Fine dark grey to light grey sand.	7
185	V b	1	42	Fine light grey sand.	12
186	V b	1	43	Light grey sand and calcrete with gorgonids.	11
187	V b	1	36	Fine light grey sand.	—
188	V b	1	38	Dark grey fine sand to light grey fine sand.	—
189	V a	1	36	Fine light grey sand and rock,	6
190	V a	1	45	Fine light grey sand.	18
191	V a	1	36	Fine dark grey sand to dark grey mud and sand.	250
192	V a	1	43	Fine dark grey sand, rock with gorgonids.	55
193	V a	1	32	Fine dark grey sand and mud to fine light yellow sand.	46
194	V a	1	35	Fine dark grey sand and mud, rock with gorgonids.	71
195	V a	1	42	Fine light grey sand, rock with gorgonids.	96
196	V a	1	38	Coarse yellow sand and coral.	8
197	V a	¾	33	Fine light grey to fine dark grey sand and rock.	27
198	V a	1	37–48	Rock with gorgonids.	16
199	V a	1	34–43	Rock with gorgonids.	16
200	V a	1	35	Rock with gorgonids.	17
201	V a	1	17	Rock with living coral.	—

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Station	Area	Time Hours	Depth in Fathoms	Bottom	Weight in Lbs.
202	V a	1	27	Coarse white sand and rock.	12
203	IV c	1	30	Coarse white sand and rock.	4
204	IV c	1	27	Coarse white sand.	—
205	V a	1	30	Light yellow coarse sand.	42
				THIRD CRUISE, APRIL 3rd, 1921—APRIL 10th, 1921	
206	*Wadge Bank*	1	14	Fine white sand to fine light grey sand.	24
207	,,	1	20	Light grey sand.	8
208	,,	1	13	Fine light grey sand to coarse sand.	5
209	,,	1	13	Fine light grey sand to coarse yellow sand and shell	190
210	,,	1	10	Coarse red sand with shell and rock.	21
211	,,	1	17	Coarse yellow white sand to fine light grey sand.	5
212	,,	1	22	Fine dark grey sand, rock with gorgonid to coarse light sand	
	,,	1		with gorgonid.	85
213	,,	1	24	Fine light yellow grey sand to fine light grey sand and gorgonid.	21
214	,,	1	20	Fine light grey sand, rock with gorgonids.	150
215	,,	1	17	Coarse yellow red sand, rock with gorgonids.	72
216	,,	1	21	Coarse yellow red sand and rock.	263
217	,,	1	30	Dark grey sand.	80
218	,,	1	45–54	Fine grey sand and mud.	1
219	,,	1¼	35	Fine grey sand, mud, coral debris and rock with gorgonids.	88
220	,,	1	32	Fine dark grey sand with rock and gorgonids.	82
221	,,	1	25	Coarse red and yellow sand with rock and gorgonids	68
222	,,	1	24	Coarse red yellow sand	—
223	,,	1	26	Coarse red sand with rock and gorgonids.	57
224	,,	1	32	Fine grey sand and mud with rock and gorgonids.	77
225	,,	1	34	Coarse reddish sand and shell to fine grey sand and mud.	118
226	,,	1	46	Firm grey sand, rock with gorgonids.	74
227	,,	1	45	Coarse grey sand with shell to firm grey sand with rock and gorgonids.	52
228	,,	1	34	Fine dark grey sand with rock and gorgonids.	53
229	,,	1	34	Coarse red sand and shell to coarse red yellow sand.	13
230	,,	1	26	Coarse yellow sand, rock with gorgonids.	144
231	,,	1	24	Coarse yellow red sand, rock with gorgonids.	38
232	,,	1	20	Coarse yellow sand and rock.	70
233	,,	1	32	Fine dark grey sand and mud.	84
234	,,	1	47	Fine dark grey sand and mud.	136
235	,,	1	31	Fine grey sand.	6

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Station	*Area*	*Time Hours*	*Depth in Fathoms*	*Bottom*	*Weight in Lbs.*
236	*W. Bank*	1	48	Dark grey sand and mud.	36
237	,,	1	35	Dark grey sand and mud, featureless bottom.	97
238	,,	1	47–54	Dark grey sand, featureless bottom.	19
239	,,	1	53	Fine grey sand, featureless bottom.	47
				FOURTH CRUISE, AUGUST 10th, 1921—SEPTEMBER 20th, 1921	
240	XIII	1	10	Coarse yellow white sand and green mossy weed.	168
249	XII a	1	10	Dark grey mud and sand.	20
252	XII a	1	17	Soft grey mud.	73
263	XI b	½	18	Sand and mud to flat rock with living coral and gorgonids.	74
276	XI a	1	24	Black sand and rock.	—
286	XI a	1	10	Hard mud and sand with rocky patches.	—
288	X a	1	21	Coarse yellow sand.	48
289	X a	1	31	Fine light grey sand and mud with rock gorgonids.	56
290	X a	1	27	Light grey mud and sand	—
291	X b	1	30	Coarse yellow sand with nullipore sand on rock with nullipore.	105
292	X b	1	14	Coarse yellow sand, rock and nullipore.	46
293	X b	1	28	Coarse yellow sand, rock and nullipore.	109
294	X b	1	12	Fine yellow sand.	9
295	X c	1	27	Coarse yellow sand on rock with quantities of nullipore and halimeda.	8
296	X c	1	24	Yellow sand and nullipore.	28
297	XI b	1	26	Fine light grey sand and mud with rock and gorgonids.	140
304	XIII	1	8	Yellow sand and shell.	8
305	XIII	1	7	Firm soft mud.	17
306	XIII	1	7	Soft mud.	—
320	XII c	1	22	Fine firm yellow sand, rock with very little gorgonid.	380
324	XII c	1	13	White sand, rock with sponges, gorgonids.	102
333	XIII	1	24	Reddish yellow sand with rock and gorgonids.	71
341	XIII	1	39	Yellow sand, coral debris,	106
343	XIII	1	40	Yellow sand, coral debris, soft dark grey sand and mud.	10
344	XIII	1	16–30	Yellow sand, coral debris, gorgonids sponges.	203
356	XIII	1	15–24	Fine light grey sand, rock with gorgonids.	58
363	XIV a	1	4¾	Soft light grey mud and shell, coarse yellow sand and mud.	27
366	XIV a	1	6	Firm stiff mud and shell.	97
368	XIV a	1	6	Coarse yellow sand with mud, rock and gorgonids.	78
370	XIV a	1	5	Mud with shell and sand.	17

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Station	Area	Time Hours	Depth in Fathoms	Bottom	Weight in Lbs.
386	XV b	1	7	Coarse grained yellow sand with mud.	19
394	XV c	1	7	Soft dark grey mud.	307
				FIFTH CRUISE, DECEMBER 22nd—DECEMBER 27th, 1921	
434	IV a	1	10	Coarse yellow sand.	20
435	IV a	1	13	Coarse yellow sand, rocky in places.	—
436	IV a	1	10	Coarse yellow sand.	7
437	IV a	1	13	Coarse yellow sand.	—
438	III b	1	14	Coarse yellow sand.	—
439	III b	1	8	Coarse yellow sand with quantities of Sargassum.	37
440	IV a	¾	8	Coarse yellow sand and flat rock.	50
441	V a	¼	16	Coarse yellow sand.	—
				SIXTH CRUISE, APRIL 15th, 1922	
442	*Wadge Bank*	1	22	Fine yellow sand to coarse gravel and yellow sand.	38
443	,,	1	35	Fine dark grey sand and mud.	86
444	,,	1	47	Fine dark grey sand and mud.	66
445	,,	1	42	Fine dark grey sand and mud.	35
446	,,	1	30	Fine dark grey sand and mud.	94
447	,,	1	24	Fine yellow sand.	83
448	,,	1	32	Fine dark grey sand and mud.	74
449	,,	1	43	Fine dark grey sand and mud.	37
450	,,	1	34	Fine dark grey sand and mud.	450
				SVENTH CRUISE, MAY 6th, 1922—MAY 7th, 1922	
451	III b	1	7	Coarse yellow sand, coral debris, living coral, nullipore on sandstone.	42
452	III b	1	12	Coarse red sand to coarse yellow sand, living coral.	3
453	III b	1	7	Coarse red sand to coarse reddish yellow sand.	—
454	III b	1	7	Fine yellow sand to medium grey yellow sand.	68
455	III a	1	7	Coarse yellow sand.	—
456	III a	1	8	Yellow sand, rocky with coral debris and living coral.	46
457	III a	1	7	Coarse yellow sand on rock, coral debris.	—
				EIGHTH CRUISE, JANUARY 27th, 1923—FEBRUARY 13th, 1923	
458	*Wadge Bank*	1	20	Coarse reddish yellow sand on rock.	68
459	,,	1	23	Coarse reddish yellow sand on rock.	16
460	,,	1	24	Fine light yellow sand on rock.	52
461	,,	1	30	Fine grey sand with mud, shell and rock.	144
462	,,	1	37	Fine grey sand and mud.	148
463	,,	1	48	Grey mud and fine sand on rock, gorgonids.	29

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Station	*Area*	*Time Hours*	*Depth in Fathoms*	*Bottom*	*Weight in Lbs.*
464	*W. Bank*	1	52	Grey mud and fine sand.	46
465	,,	1	41	Grey mud and fine sand.	68
466	,,	1	35	Grey mud and fine sand, small lumps of light grey calcreted mud.	88
467	,,	1	34	Grey mud and fine sand to light mud and fine sand.	5
468	,,	1	35	Light grey mud and reddish yellow sand, small deposit of calcreted mud and shells.	82
469	,,	1	28	Coarse reddish yellow sand.	11
470	,,	1	35	Grey mud and fine yellow sand, rock and gorgonid.	74
471	,,	1	37	Light grey mud and yellow sand.	10
472	,,	½	35	Light grey mud, yellow sand and shell.	—
473	,,	1	42	Light grey mud and yellow sand.	63
474	,,	1	42	Light grey mud, yellow sand and shell.	15
475	,,	1	44	Light grey yellow sand, small fragments calcrete.	48
476	,,	1	33	Dark grey sand, mud and rock with gorgonids.	89
477	,,	1	32	Dark grey sand and mud, calcrete, coral debris.	100
478	,,	1	43	Dark grey sand, mud and rock with gorgonids.	88
479	,,	1	51–64	Dark grey sand and mud, rock gorgonid, calcrete, coral debris.	53
480	,,	1½	51	Grey sand and mud, flat sandstone rock, with calcrete, coral debris.	35
481	,,	1	41	Dark grey sand and mud, coral debris and shell.	43
482	,,	1	31	Dark grey sand and mud.	34
483	,,	1	28	Dark grey sand and mud.	2
484	,,	1	37	Dark grey sand and mud, calcrete.	87
485	,,	1	49–65	Dark grey sand and mud, calcrete.	124
486	,,	1	63	Dark grey sand, mud and rock, living coral and gorgonid.	31
487	,,	1	36	Dark grey sand and mud.	—
488	,,	1	38	Light grey sand and mud.	—
489	,,	1	34	Light grey mud and sand.	211
490	,,	1	33	Dark grey mud and sand to light grey mud.	71
491	,,	1	27	Light grey sand and mud.	5
492	,,	1	24	Light grey mud and sand.	—
493	,,	1	33	Light grey mud and sand.	—
494	,,	1	35	Light grey sand.	—
495	,,	1	30	Light grey coarse sand and shell, rock with gorgonids.	52
496	,,	1	36	Dark grey sand and mud.	85
497	,,	1	21	Grey sand and mud.	—
498	,,	1	16	Light grey fine sand and mud.	—
499	,,	1	9	Fine dark grey sand.	—
500	,,	1	15	Fine grey sand and rock.	377
501	,,	2	15	Fine grey sand and rock.	1184
502	,,	2	15	Fine dark grey sand and mud.	186
503	,,	1	15	Fine grey sand and rock.	549

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Station	Area	Time Hours	Depth in Fathoms	Bottom	Weight in Lbs.
504	W. Bank	4	15	Coarse yellow sand, rock and gorgonids.	241
505	,,	1	15	Coarse grey and yellow sand, flat rock.	113
506	,,	1	15	Coarse yellow sand, rock with gorgonids.	135
507	,,	1	16	Coarse yellow sand with shell, rock with gorgonids.	10
508	,,	1	14	Coarse yellow sand, rock with gorgonids.	7
509	,,	1	14	Coarse yellow sand to fine grey sand and mud, rock and gorgonids.	53
510	,,	1	15	Fine grey sand, mud and rock.	—
511	,,	1	15	Fine grey sand, mud and rock.	35
512	,,	1	17	Fine grey sand and rock.	70
513	,,	1	21	Fine grey sand and rock.	—
514	,,	1	19	Fine grey sand, mud and rock.	102
515	,,	1	20	Coarse yellow sand and rock.	127
516	,,	1	22	Light grey sand and rock with gorgonids.	237
517	,,	1	25	Fine grey and yellow sand, rock and gorgonids.	220
518	,,	1	30	Fine grey and yellow sand, rock and gorgonids.	521
519	,,	1	29	Grey and yellow sand and rock.	416
520	,,	2	26	Fine yellow sand, rock with gorgonids.	505
521	,,	1	25	Fine yellow sand, rock with gorgonids.	184
522	,,	1	19	Fine grey sand, rock with gorgonids.	92
523	,,	1	26	Grey and yellow sand, rock with gorgonids.	136
524	,,	1	30	Fine grey sand and rock.	128
525	,,	1	37	Fine dark grey sand and rock.	212
526	,,	1	41	Fine dark grey sand and rock.	27
527	,,	1	32–33	Fine grey sand and rock.	154
528	,,	1	33	Fine dark grey sand and rock.	156
529	,,	1	30	Fine dark grey sand and rock.	35
530	,,	1	32	Grey sand and rock.	219
531	,,	1	35	Grey sand, rock with quantities of gorgonids.	436
532	,,	1	35	Grey sand, rock with gorgonids, cup sponge.	610
533	,,	2	33–34	Light grey sand, rock with gorgonids.	618
534	,,	1	29	Quantities of gorgonid growth, living coral on sandstone and yellow sand.	304
	NINTH CRUISE, APRIL 5th, 1923—APRIL 12th, 1923				
535	III b	1	6	Mud.	457
536	IV a	¾	14	Yellow sand.	—
537	IV a	1	17	Coarse yellow sand.	12
538	IV a	1	16	Coarse yellow sand and rock.	55
539	IV a	1	19	Yellow sand and rock.	24

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Station	*Area*	*Time Hours*	*Depth in Fathoms*	*Bottom*	*Weight in Lbs.*
540	IV a	1	16	Yellow sand and rock.	52
541	IV a	1	14	White sand.	—
542	IV a	1	11	Reddish yellow sand.	—
543	IV a	1	11	Reddish yellow sand and rock.	48
544	IV a	½	12	Reddish yellow sand and rock.	38
545	IV a	¾	15	Yellow sand and rock.	—
546	IV a	1	19–17	Sand and living coral.	23
547	IV a	1	17–16	Yellow sand and living coral.	26
548	IV a	1	22–25	Yellow clay and nullipore.	12
549	IV b	1	24–27	Yellowish sand to greyish mud.	17
550	IV b	½	29–27	Light greyish mud.	33
551	IV b	1	28–30	Grey sand and mud.	232
552	IV b	1	30	Reddish yellow sand.	157
553	IV b	1	30	Fine grey sand.	6
554	IV b	1	30–31	Coarse grey sand to fine grey sand.	12
555	IV c	1	31–28	Fine grey sand to light grey sand.	—
556	IV c	1	30–27	Light grey sand and shell.	22
557	IV c	1	30–32	Fine grey sand.	19

Note.—Details of these catches have already been published in the Ceylon Administration reports (Marine Biology), 1919 and 1920, 1921 and 1922.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

APPENDIX 3

Fish Measurements

The following are the linear measurements (cm.) used in these tables :—

ab. anterior border of head to anterior border of eye.

bc. horizontal diameter of eye.

ad. anterior border of head to posterior border of opercle.

ae. anterior border of head to anterior border of dorsal fin.

af. anterior border of head to anterior border of anal fin.

ag. anterior border of head to posterior border of dorsal fin.

ah. anterior border of head to posterior border of anal fin.

aj. anterior border of head to caudal peduncle.

ak. anterior border of head to tip of tail.

lm. greatest depth of body.

In cases where the dorsal fin is double, *ae* is measured to the anterior border of 1st dorsal: *ag* is measured to the posterior border of 2nd dorsal.

NOTE :—The sign—in the last two columns signifies not examined.

	Station	*Date*	*ab.*	*bc.*	*ad.*	*ae.*	*af.*	*ag.*	*ah.*	*aj.*	*ak.*	*lm.*	*wt. in grammes.*	*condition of gonads*	*stomach contents.*
Hemiscylliidae															
Chiloscyllium indicum ♀	82	1.9.20	2·5	2	4	24	21	39	50	50	62	5	454	ripe	nil
Ginglystomidae															
Ginglymostoma concolor ♂	119	5.12.20	15	2·5	21·5	115	120	132·5	132·5	187·5	252·5	125	68400	ripe	digested matter
Carcharliidae															
Carcharias sp. ♀	9	24.7.20	—	—	—	—	—	—	—	—	78	12	2725	embryos	—
	,,	,,	—	—	—	—	—	—	—	—	69	9	1590	½ ripe	prawns
	13	29.7.20	—	—	—	—	—	—	—	—	81	10	2040	embryos	—
	22	2.8.20	5·5	1·5	13	24	35	29	39	54	75	7	—	,,	small fish
	42	13.8.20	5	1·5	14	21	47·5	52	51·5	58	76	7	1134	2 ,,	squids
	,,	,,	4	1	13	18	36	40	39	45	61	7	1248	,,	,,
	51	16.8.20	6	1·3	16	22	33·8	51·3	50·7	56·4	74·9	9	1588	ripe	3 fish
	53	17.8.20	—	—	—	—	—	—	—	—	70	10	1817	2 embryos	nil
	,,	,,	—	—	—	—	—	—	—	—	72	11	2272	ripe	1 squid and fish
	,,	,,	—	—	—	—	—	—	—	—	60·5	9·5	1362	,,	digested prawns
	56	17.8.20	6	1·5	16	24	15·5	51	50	55	77	11	1817	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	61	9	1134	—	—
	,,	,,	—	—	—	—	—	—	—	—	63	10	1362	—	—
	,,	,,	—	—	—	—	—	—	—	—	77	12	2498	—	—
	,,	,,	5	1	13	20	14·5	44	44	50	66	9	1362	½ ripe	nil
	58	18.8.20	5·5	1	14	21	14	48	48	55	70	9·5	1362	2 embryos	,,
	59	,,	5·8	1·3	17	25	16	55	51	60	79	11	1817	ripe	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	bn.	wt. in grammes.	condition of gonads	stomach contents.
Carcharhinidae															
Carcharias sp. ♀	60	25.8.20	5	1·5	12·5	23	41·5	44	50	51	69	13	1817	2 embryos	nil
	68	28.8.20	6·5	1·5	17·5	23·5	16	52	51	57	78	9	1817	,,	prawns
	,,	,,	6	1·5	17	23·5	15·5	53	51	57·5	77	4·5	2043	embryos	cuttlefish
	70	29.8.20	5·25	1·5	14	19·5	13·5	44	43	50	66	9	1362	½ ripe	prawns
	,,	,,	—	—	—	—	—	—	—	—	68	8·5	1134	,,	prawns & fish
	,,	,,	—	—	—	—	—	—	—	—	72	8	1362	embryos	nil
	,,	,,	—	—	—	—	—	—	—	—	65	8·5	1134	½ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	68	8	1134	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	69	10	1362	½ ripe	fish
	,,	,,	—	—	—	—	—	—	—	—	70	9	1362	¾ eggs	,,
	71	,,	3·25	·75	8·25	10·5	8	22·5	21	25	35	4·5	169	immature	prawns
	,,	,,	—	—	—	—	—	—	—	—	35	4	169	,,	,,
	83	6.9.20	4·5	·5	9	17·5	11	33	32	37	47	6	226	½ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	50	6·5	454	½ ripe	digested matter
	,,	,,	—	—	—	—	—	—	—	—	53	9·5	567	ripe	Kurtus indicus & squids
	90	10.9.20	6	1·5	18	26	17·5	57	55	62	81	9	2043	ripe	nil
	92	,,	—	—	—	—	—	—	—	—	18	7·5	113	,,	,,
	96	12.9.20	6	1·5	17	27	16·5	58	56	65	86	14	2951	—	—
	100	,,	4·5	·5	14·5	20	14	41	41	46	74	9·5	1475	½ ripe	nil
	103	13.9.20	4	1	13	19	14	41	41	47	63	8·5	1362	½ ripe	crabs & shrimps
	127	7.12.20	6	2	16·5	27	47	51	50	61	72	8	1817	2 embryos	nil
	,,	,,	5·75	2	16	24·5	51	55	54	60	78	7	1362	½ ripe	,,
	146	13.12.20	6	2	18	27·5	53	57	56	63	74	7·5	2043	2 embryos	1 crab & 1 fish
	191	20.12.20	5·5	1·5	17	24	50	53·5	54	55	60·5	9·5	2498	embryos	nil
	,,	,,	6	1·5	17·5	24	47·5	49·5	50·5	51·5	57	10	2043	,,	,,
	194	31.12.20	6	1·25	17·5	24·5	35	47	42·5	52·5	64	16·5	3406	—	—
	202	2.1.21	5·75	1·5	16	25·5	48	51·5	53	58	76	6·5	1475	2 embryos	nil
	206	,,	5	1·5	13·5	19	39	43	42	48·5	66	8	1134	—	,,
	,,	,,	4·5	1	15·5	21·5	42·5	46	51	62·5	68·5	10	1817	—	,,
	212	4.4.21	4·5	1	13	19	38	43	41	47·5	65	7½	908	embryos	,,
	,,	,,	5	1	13·5	18·5	38	42	40·5	46	63	7	680	—	,,
	224	7.4.21	6	1	17	25	48	53	53	58	77	8	2272	ripe	,,
	,,	,,	6	1	16·5	23	46	51	51	56	76	88	1817	,,	,,
	,,	,,	6	1	17	21	44	48	48	53	72	8	1817		—
	,,	,,	—	—	—	—	—	—	—	—	72	6	1588	—	—
	,,	,,	—	—	—	—	—	—	—	—	74	6	1588	—	—
	,,	,,	—	—	—	—	—	—	—	—	72	8	1588	—	—
	233	9.4.21	6		16·5	24	46·5	52	51	57	76	8	1820	—	—
	,,	,,	—	—	—	—	—	—	—	—	78	7	1590	—	—
	235	,,	5	1·5	15	22	49	52	53	60	76	8	1590	—	—
	,,	,,	5	1·5	15	24	45	49	48	55	74	7	1360	—	—
	237	10.4.21	6	1·5	15	24	45	50	48	55	73·5	6	1362	—	—
	242	10.8.21	6	1·5	16·5	23	35·5	52	51	57	76	7·5	1817	ripe	small fish
	,,	,,	6	1·5	17·5	23·5	38	53	51	52·5	78·5	8	2725	,,	,,
	,,	,,	6	1·5	16	23·5	36·5	51	50	55·5	75·5	7·5	2043	,,	,,
	249	11.8.21	5·25	1·25	15	21·5	45·5	49	48·5	54·5	73	10	2312	,,	nil
	,,	,,	5·5	1·5	18	24·5	49	54	54	59	81	9	2725	½ ,,	small fish

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt in grammes.	condition of gonads	stomach contents.
Carchariidae															
Carcharias sp. ♀	252	12.8.21	5·5	1·25	16·5	24	48	51	51	58	78	10	2951	ripe	nil
	263	13.8.21	5	1·5	15	23	40	50	48	56	70	24	2725	,,	,,
	292	22.8.21	5	1·25	15·5	24	49	54	53	59	78	10	2725	—	—
	295	23.8.21	6	1·75	17	27	37·5	54	51·5	60	81	6	1702	¼ ripe	cuttlefish
	296	,,	6	1·5	17	25·5	36·5	54·5	52	60	78·5	7	1588	¼ ,,	Balistes
	297	26.8.21	6	1·5	17	23	36	53	51·5	57·5	78	7	2272	—	—
	305	28.8.21	4·5	1·5	15	22·5	35·5	53·5	54	61	78	6	1817	½ ripe	nil
	,,	,,	4·5	1·5	14	20	32	49	50	57	73·5	6·5	1362	ripe	,,
	324	10.9.21	5·5	1·25	16	21	42·5	46·5	45·5	52	70	6·5	1362	,,	,,
	,,	,,	6	1·25	16·5	22·5	45	48·5	48	54	61	6·5	1588	,,	embryos
	,,	,,	4	2	16	25	55	59	59·5	66·5	84	7	2157	,,	nil
	,,	,,	5·5	1	15·5	21	42	46	44·5	51	70	6		,,	,,
	341	12.9.21	5·5	1·25	16·5	22	46	50·5	49	55	70·5	7	1588	—	—
	,,	,,	5	1·25	16·5	21·5	44	49	47	53	71	6	1588	—	—
	344	,,	6	1·75	18·5	25	50·5	55·5	54	61	80	7·5	930	—	—
	,,	,,	5·5	1·5	16	23	46	50	49	55	74	6	1475	—	—
	,,	,,	—	—	—	—	—	—	—	—	73·5	6·5	1588	—	—
	,,	,,	—	—	—	—	—	—	—	—	71·5	6	1475	—	—
	,,	,,	5·25	1·5	15·5	20·5	42·5	46.5	45·5	51	69	6·5	1588	—	—
	355	15.9.21	6	1·5	19	15·5	51	56	54	61	81	8	2043	—	—
	,,	,,	6	1·5	18	23	47	51·5	50·5	57	76	7	1702	—	—
	366	17.9.21	4	1·25	11·5	16	31·5	35	34	38·5	51·5	6	680	—	—
	442	15.4.22	4	1·5	12	17	28	43	43	50	65	5	684	—	—
	,,	,,	3·5	1	12	19	29	43	43	50	84	5	912	—	—
	,,	,,	—	—	—	—	—	—	—	—	62	4	912	—	—
	,,	,,	—	—	—	—	—	—	—	—	66	6	1140	—	—
	444	,,	4·5	1·5	16	23	50	53	53	62·5	80·5	9	1824	—	—
	,,	,,	5·5	2	16·5	24·5	46	51	49	56	76	8	1368	—	—
	445	,,	5	2	15	23·5	51	54	55	62	79·5	8	1824	—	—
	,,	,,	5	1·5	15·5	24	53	56·5	57	64	82	9	2052	—	—
	446	,,	5	2	17	26	49	53	52	59	80	8	1596	—	—
	447	16.4.22	5	1·25	14	20	41	44	43	48·5	65	8	1140	—	—
	448	,,	5	1·25	15	22	48	53	53	60	75	8·5	1596	—	—
	450	,,	5	1	15	21	43	47	46	52	70	6·5	1140	—	—
	,,	,,	—	—	—	—	—	—	—	—	77	8	1482	—	—
	482	1.2.23	4·5	1	13·5	17·5	35·5	37·5	38	42·5	59	5·25	1026	—	—
	,,	,,	5·75	1·75	15·25	23·5	45	48·5	48	54	74	5·5	1254	—	—
	485	2.2.23	5·25	1·75	15	26	48	52	50	57	76	7	1596	—	embryos
	496	4.2.23	6	1·5	16	25	45	48	47	54·5	73	6	1368	¼ ripe	nil
	501	8.2.23	6	1·5	19	26	53·5	58	56·5	63·5	84	10	2508	—	—
	,,	,,	6	1·5	8	26	52·5	58·5	56·5	64·5	83·5	10	2736	—	—
	506	9.2.23	5·5	1·5	7·5	23	46	50·5	49	55	74	8	1824	—	—
	510	10.2.23	5	1·5	15·5	20·5	41·5	46	44·5	50	68	7	1368	—	—
	514	,,	5·5	1·75	17	27	57	61	62	70	88	10·5	3192	—	—
	521	12.2.23	5·5	1·25	16·5	22·5	45·5	48·5	48·5	54·25	72	6	1596	—	—
	523	,,	5	1·25	15	20	44	47	47	53	71	5·5	1140	—	—
	,,	,,	4	1	14	21	47	50	50	56	72	6	1140	—	—
	524	,,	5	1	14	21	46	50	49	56	73	6	1368	¼ r pe	—

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Carchariidae															
Carcharias sp. ♀	527	13.2.23	4	1·25	13	18	40	42·5	43·5	49	64	6·5	912	½ ripe	small fish
	,,	,,	8·5	1·5	14·5	21	45·5	49	49·5	56·5	76	7·5	1368	½ ,,	cuttlefish
	,,	,,	4·5	1·5	14·5	21	46	49	49·5	56	72	7	1140	½ ,,	prawns.
	,,	,,	—	—	—	—	—	—	—	—	66	6·5	1140	¼ ,,	nil
	528	,,	4·5	1·5	15·5	20	45·5	49	49	56·5	73·5	7	1140	½ ,,	,,
	,,	,,	4·5	1·5	14	20	44·5	47	46	54·5	70	6	1140	½ ,,	cuttlefish
	,,	,,	4	1·5	14	21	45	49	49	55·5	71·5	6·5	1140	½ ,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	74	8	1596	—	cuttlefish
	,,	,,	—	—	—	—	—	—	—	—	71	6·5	1140	½ ripe	fish
	,,	,,	—	—	—	—	—	—	—	—	70	6·5	1140	—	—
	546	10.4.23	4·75	1·25	13·5	20·5	38	43	41	48	68	6·5	798	—	—
	,,	,,	5	1·5	14	21	40	44·5	42·5	49·5	68	6	798	—	—
	551	11.4.23	5·5	2	17·5	27	49	54·5	52	60	79	7·5	1482	—	—
Carcharias sp. ♂	9	24.7.20	—	—	—	—	—	—	—	—	70	9	1700	½ ripe	nil
	27	3.8.10	4·7	1·5	11·5	21·2	34	50	51	60	75	8	1590	½ ,,	,,
	28	,,	4·2	1·5	12.2	21	31·5	27	34·5	52	68	9	1475	¼ ,,	small fish
	29	,,	5·5	1·5	16·5	22·5	31·5	48·5	47	54	71·8	8·5	1475	¼ ,,	—
	42	13.8.20	6	2	22	31	69	74	76	85	115	14	6362	ripe	one squid
	,,	,,	4·5	1·5	20·5	46	48	49·5	50	57	74	7	1248	½ ripe	nil
	,,	,,	5	2	14	21	42	45	45·25	51	69	10	1817	ripe	squids
	,,	,,	5	1·5	20	46·5	51	50	52	58	74	7	1134	½ ,,	nil
	53	17.8.20	—	—	—	—	—	—	—	—	33	6·5	1050	ripe	cuttlefish
	,,	,,	—	—	—	—	—	—	—	—	66	9·7	1248	,,	digested prawn
	54	,,	5·5	1·25	23	16·5	50	49	55	60	72	11	2043	—	—
	55	,,	3·5	3·25	9·5	13	10	25	24	27·5	56	6	226	½ ripe	one cuttlefish
	56	,,	—	—	—	—	—	—	—	—	62	9·5	1134	—	—
	—	—	—	—	—	—	—	—	—	—	76	8	1248	—	—
	70	20.8.20	5	1·5	18	18	13	31	39	45	62	8	908	½ ripe	prawns
	,,	,,	—	—	—	—	—	—	—	—	65	8	908	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	65	8·5	1134	½ ,,	—
	72	29.8.20	6	2	16	25	16·5	51	49	57	78	8	1588	ripe	prawns & flat fish
	73	,,	5	1	13	20	14	50	50	57	73	7	1134	½ ,,	squids
	78	31.8.20	3	1·25	9	15	10	32	32	37	50	8·5	567	½ ,,	crabs & prawn
	79	,,	5	1	12	19	14	41	41	47	62	9	1134	¼ ,,	prawns
	83	2.9.20	2·5	·5	7·5	11	7·25	23	22·5	26	35	4	—	½ ,,	nil
	87	7.9.20	3·75	·5	11	17·5	12	34	33	37·5	49	7	567	ripe	,,
	90	10.9.20	—	—	—	—	—	—	—	—	73	8	1134	,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	70	9	1588	,,	Equula
	91	,,	—	—	—	—	—	—	—	—	73	6·4	1021	,,	mud
	,,	,,	—	—	—	—	—	—	—	—	71	7	1021	,,	squids
	,,	,,	—	—	—	—	—	—	—	—	74	8	1134	,,	nil
	92	,,	5	1	14	21	7·5	10	18	20	28	10	169	,,	,,
	94	11.9.20	3·25	·5	9	16·5	10	34·5	34·5	40	53	7	680	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	51	7	680	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	52	7·5	680	,,	,,
	99	12.9.20	5·75	1·5	17	23	17·5	53	54	59·5	79	10	1588	,,	shrimps
	100	,,	—	—	—	—	—	—	—	—	72	9	1134	,,	fish

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Carcharlidae															
Carcharias sp. ♂	117	5.12.20	4·5	1	12	17	24	25·5	26	42	59·5	5	454	½ ripe	small fish
	120	,,	6	1	17	15·5	12·5	31	31	36	46	14	1588	¾ ,,	nil
	144	10.12.20	6	1·5	17	23·5	45	51	49	55	74	9	1817	ripe	,,
	163	18.12.20	5	1	12·5	22	45	50	48	54	73	8·5	1588	,,	fish
	191	29.12.20	4·5	1	13	17	34	37	38	38·25	415	7	793	½ ,,	,,
	206	2.1.21	6	1	16	23	46	50	49	55	72·5	8	1588	½ ,,	,,
	209	3.4.21	3·25	·5	9	13	26	28	27·5	31	43	5	340	½ ,,	,,
	223	7.4.21	5	1	14	20	43	43	48	56	66	8	1134	ripe	nil
	233	9.4.21	5·5	1	16·5	23·5	47	51	50	55	73	8	2040	—	—
	,,	,,	5·5	1	16	22	46	51	49·5	56	74	8	1590	—	—
	,,	,,	—	—	—	—	—	—	—	—	71·5	7	1360	—	—
	,,	,,	—	—	—	—	—	—	—	—	74	7	1360	—	—
	252	12.8.21	5·5	1·25	16·5	22·5	46	49	49	55	72·5	8	2272	ripe	nil
	341	12.9.21	5·5	1·5	17	22·5	46.5	50·5	50	56	74·5	7·5	1824	—	—
	342	,,	6	1·75	17	25	47·5	52.5	51	58	78·5	17	1362	—	—
	344	,,	—	—	—	—	—	—	—	—	66.5	6	1588	—	—
	355	15.9.21	5·75	1·5	17	22	45	49	47	54	71·5	8	1588	—	—
	366	17.9.21	4·25	1·75	14·5	20	47	49·5	50·5	57	74	6	1134	—	—
	,,	,,	3	1·25	11·5	15	31·5	34	34	37·5	51	6	680	—	—
	,,	,,	4·5	1·5	15	20	46	49·5	49·5	56	64	6	1134	—	—
	442	15.4.22	4	1·5	14	21·5	32	50	50	58·5	74·5	7	1368	—	—
	,,	,,	—	—	—	—	—	—	—	—	61	5	684	—	—
	443	,,	5	1·5	14	21	45	49	49	57	72	6·5	684	—	—
	444	,,	3·5	1·5	14	20	43	46	46	53	68	8	1254	—	—
	446	,,	6	1·5	17	24	49	52	52	58	74	8·5	1596	—	—
	,,	,,	5	1·5	14	21·5	41·5	43	44·5	50	68·5	6	1026	—	—
	447	16.4.22	4·5	1·5	14	20	45	47·5	48	54	69·5	7	1140	—	—
	,,	,,	5·5	1·5	15	21·5	46	49	48	54	71	7·5	1596	—	—
	,,	,,	—	—	—	—	—	—	—	—	66·5	6	1026	—	—
	,,	,,	—	—	—	—	—	—	—	—	70	7·5	1482	—	—
	,,	,,	—	—	—	—	—	—	—	—	71	7·5	1368	—	—
	449	,,	6	1·5	15·5	25	47	51·5	50·5	57	77·5	7·5	1368	—	—
	450	,,	5·5	1·5	16	23	45	48	47	54	71	7·5	1368	—	—
	,,	,,	6	1·25	17·5	23·5	46	50	49	55	73	8	1368	—	—
	,,	,,	—	—	—	—	—	—	—	—	68	7	1254	—	—
	,,	,,	—	—	—	—	—	—	—	—	71	7·5	1368	—	—
	452	6.5.22	6	1·75	17	26	49	53·5	52.5	59·5	80·5	7	1368	—	—
	469	29.1.23	4	1·5	14	20·5	46	49	49	55·5	73	6	684	—	—
	482	1.2.23	5·5	1·25	15·5	21·5	44	47·5	47	53	71·5	7·5	1482	—	—
	483	,,	4·75	1·25	13·5	18·5	36·5	40·5	39·5	45	59·5	5·5	912	—	—
	504	9.2.23	6	1·75	17	25	49	53·5	51·5	59	80·5	7	1596	—	—
	506	,,	4	2	15	24	52	55	56·5	64	81	8	2052	—	—
	523	12.2.23	4·75	1	15	20	45	48	48	55	71·5	6	1140	—	—
	,,	,,									69	5	1140	—	—
	524	12.2.23	5·5	2	16	26	46	50	49	55	76	8	1596	ripe	—
	,,	,,	4·5	1	13	18	40	43	42·5	48·5	63·5	6	912	,,	cuttlefish & small sole
	,,	,,	—	—	—	—	—	—	—	—	70	6·5	1140	,,	—

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	ut. in grammes.	condition of gonads	stomach contents
Carchariidae															
Carcharias sp. ♂	524	12.2.23	—	—	—	—	—	—	—	—	70	6	1026	ripe	cuttlefish
	,,	,,	—	—	—	—	—	—	—	—	68	6	1140	,,	—
	527	13.2.23	—	—	—	—	—	—	—	—	73	6	1140	,,	prawns
	,,	,,	—	—	—	—	—	—	—	—	68	7	1140	,,	—
	529	,,	5·5	2	16·5	25	46·5	51·5	50	57·5	78	7	1596	,,	—
Carcharias walbeehmii ♂	3	20.7.20	—	—	—	—	—	—	—	—	65	9		—	small fish
	,,	,,	—	—	—	—	—	—	—	—	73	9·5		—	,,
Carcharias walbeehmii ♀	3	20.7.20	—	—	—	—	—	—	—	—	64	8	—	—	small fish
	,,	,,	—	—	—	—	—	—	—	—	65	9·5	—	—	nil
	,,	,,	—	—	—	—	—	—	—	—	64	8	—	embryos	,,
	,,	,,	—	—	—	—	—	—	—	—	73	9·5	—	,,	prawns
	,,	,,	—	—	—	—	—	—	—	—	79	10	—	,,	nil
	5	21.7.20	—	—	—	—	—	—	—	—	79	11	2040	,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	78	10	1820	,,	—
Carcharias laticaudus ♂	35	12.8.20	3·5	1·25	11	17·5	25·5	22·5	28	41	55	7	595	½ ripe	nil
Sphyrnidae															
Sphyrna malleus ♀	249	11.8.21	3·5	1·5	16	19·5	42	46	46	50·5	73·5	6·5	1402	immature	nil
Pristidae															
Pristis perrotteti ♂	28	3.8.20	Lgth with out saw			281·2	Lgth with saw		302·5	120 to o large		to weigh		—	—
Pristis perrotteti ♀	231	8.4.21	—	—	—	—	—	—	—	—	432·5	60	*	½ ripe	fish
Pristis cuspidatus ♂	87	7.9.20	—	—	—	—	—	—	—	—	230	34	*	ripe	,,
Rhinobatidae															
Rhynchobatus ancylostomus ♀	28	3.8.20	—	—	—	—	—	—	—	—	195	120	*	—	—
Rhynchobatus djeddensis ♂	305	28.8.21	10·5	1·5	13·5	30	49			57	66	8	1362	ripe	fish
	524	12.2.23	12·5	2	16	38·5	18·5	65	32	74	86·5	13	3420	,,	,,
Rhinobatus halavi ♀	239	10.4.21	—	—	—	—	—	—	—	—	75	29·5	1588	,,	prawns
	344	12.9.21	9·5	2	12	41	31	57·5	64	—	71	19	1134	immature	,,
Torpedinidae															
Narcine timlei ♀	53	17.8.20	—	—	—	—	—	—	—	—	40·5	21·8	794	2 embryos	squids
	54	,,	5·5	·5	7·5	25	20	33	24	35	41	21	596	ripe	nil
	79	31.8.20	5	1	6·5	23	19	30	23	34	40	21	680	embryos	digested matter
	81	1.9.20	1·5	·5	13	10	15	12·5	16	16·9	19	9·5	113	ripe	nil
	173	23.12.20	4·5	1	6·5	22·5	19	31	25	34	39	18·5	908	6 embryos	,,
Narcine timlei ♂	55	17.8.20	4	·5	4·5	16	13	21	17	22	29	15	226	½ ripe	,,
	78	31.8.20	3	1·25	9·5	15	10	32	32	37	50	8·5	567	½ ,,	crabs & prawns
Narcine sp. ♀	81	1.9.20	1·5	·5	13	10	15	12·5	16	16·9	19	9·5	113	ripe	nil
Elopidae															
Elops saurus ♂	341	12.9.12	3·5	3·5	17·5	40·5	62	53	69·5	80	97·5	12·5	4771	ripe	young Balistes

* Too large to weigh

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents
Chirocentridae															
Chirocentrus dorab ♂	32	11.8.20	3·5	1·5	10	39	38	44	50	55	67	10	1134	½ ripe	nil
	,,	21.9.20	3	1·5	8	31	38	30	40	44	53	8	680	½ ,,	,,
	111	,,	—	—	—	—	—	—	—	—	49	7	567	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	42	6	283	½ ,,	,,
Chirocentrus dorab ♀	33	12.8.20	1·5	1·5	9	32·5	33	45	47	50	61	8	680	½ ,,	,,
	35	,,	3	1·5	8	27·5	28	31	35	40	50·5	7·5	454	½ ,,	,,
	55	17.8.20	4	1·5	9·5	33	35	37	44	49	59	9	2413	¾ ,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	52	8	567	—	nil
	56	,,	6	2	14·2	50	37	57	66	73	88	15	2498	½ ripe	one large Caranx
	84	7.9.20	5·5	2·5	13·5	50	51	56	64	72	86	14·5	2725	ripe	nil
	93	10.9.20	3·5	1·75	9·5	35·5	39·5	47	51	60	71	9·5	1362	,,	,,
	111	21.9.20	3·5	1·5	9	29·5	31	34	40	45	55	7·5	567	,,	,,
	112	,,	3	1·5	8·25	31	31	35	40	45	56	7·5	680	¾ ripe	Dussumeria acuta
	355	15.9.21	3	2	13	48	48	53	61·5	67	81	12	2272	½ ,,	nil
Clupeidae															
Clupea atricauda ♀	93	10.9.20	1·5	1	4	6	8·5	11·5	7·5	12·5	15·5	4·5	28	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	14	4·5	35	,,	,,
	110	21.9.20	1	1	3	5·75	5·5	7·5	11·5	12·5	16	5	57	¾ ripe	,,
	113	,,	1·5	1	4	7·5	9	9·5	14·5	15·5	20	5	57	¼ ,,	,,
Clupea atricauda ♂	34	12.8.20	1	1·2	3·1	5·5	5	7·8	11	11·8	14·9	4·8	114	ripe	,,
	,,	,,	9	1	2·8	5·8	5·8	7	10·7	11·5	14·3	4·8	142	immature	,,
	93	10.9.20	—	—	—	—	—	—	—	—	14	4	28	½ ripe	,,
	109	21.9.20	1·25	1	3·25	5·5	7·5	7·5	10	12	15	4	42	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	13	3	28	¾ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	11	2·5	14	¼ ,,	,,
	113	,,	—	—	—	—	—	—	—	—	25	6	113	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	12·5	3·5	28	½ ,,	,,
Clupea sp. ♀	544	10.4.23	1	1	3·25	5·5	8	7·5	11·5	12	16	4·5	35	ripe	,,
	,,	,,	1	1	3	5·5	7	7	11	12	15·75	4	28	½ ,,	,,
	,,	,,	1	1·25	3·5	6	8	8	12	13	16·5	4·75	45	ripe	,,
Ilisha filigera ♂	209	3.4.21	1·25	1	3	6	7	8·5	11·5	13	16	4·5	28	½ ,,	,,
	,,	,,	1·25	1	3	5·5	8	8	12	14	17	4·5	35	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	17	4·5	57	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13	3·5	21	½ ,,	,,
Ilisha filigera ♀	209	3.4.21	1·5	1	4	7	8·5	9·25	13·5	15	19	5	28	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	14·5	3·5	28	½ ,,	,,
Ilisha sp. ♀	2	20.7.20	—	—	—	—	—	—	—	—	16·6	5·5	—	¼ ,,	,,
Ilisha sp. ♂	2	20.7.20	—	—	—	—	—	—	—	—	16·6	5	—	¼ ,,	,,
	2	,,	—	—	—	—	—	—	—	—	14·5	4·3	—	¼ ,,	,,
Opisthopterus tartoor ♂	56	17.8.20	1	·5	3·5	10	7·5	10·5	14	14·5	16·5	5	28	¼ ,,	,,
Raconda russelliana ♀	81	1.9.20	1	·5	3	—	—	7	16	16·5	19	4·5	28	ripe	,,
	87	7.9.20	·75	1	3	—	—	8·5	17·25	18	20·25	4·5	35	,,	,,
Dussumieriidae															
Dussumieria acuta ♂	35	12.8.20	1	·8	2·7	3·8	7	7·3	9	11·2	14·2	3·1	85	½ ripe	nil
	,,	,,	1	·9	3	6·2	7·6	8	10·8	11·4	14·6	3·2	114	—	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Dussumieriidae—															
Dussumieria acuta ♂	54	17.8.20	1	·5	2·5	5·5	6	6·5	7	10	12·5	2·75	28	¼ ripe	nil
	55	,,	1·25	·5	3·25	7	8	9	12	13·5	15·5	4	57	½ ,,	,,
	79	31.8.20	—	—	—	—	—	—	—	—	13	2·75	14	¾ ,,	,,
	80	1.9.20	—	—	—	—	—	—	—	—	13·5	3	21	½ ,,	,,
	85	7.9.20	1	·5	3	5	3	7	9	10	12·5	3	14	½ ,,	,,
	86	,,	—	—	—	—	—	—	—	—	13	3·25	34	½ ,,	,,
	87	,,	·75	·5	2·5	5·5	3	7·25	9·5	10·5	13·5	2·75	21	½ ,,	,,
	112	21.9.20	1	·5	2·5	6	7	8	10	11·75	13	3	28	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	14	3	28	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13·5	2·75	28	ripe	,,
	113	,,	1	·5	2·25	5	7	6·5	9	10·25	12	2·5	21	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13	2·25	21	½ ,,	,,
	115	22.9.20	1	·5	2·5	5	6	7·5	9	10·5	13	2	14	¼ ,,	,,
Dussumieria acuta ♀	35	12.8.20	1	1	2·7	5·9	5·9	7·5	10·3	11·3	14	3·2	85	ripe	,,
	,,	,,	1	·8	2·7	5·9	6·8	7·4	9·7	10·8	13·7	2·9	85	,,	,,
	78	31.8.20	1·2	·7	2·2	6·2	3·5	7·5	9·8	11	14	3	28	,,	prawns
	79	,,	1	·75	2·5	5·5	9	10·5	10·75	12·75	13	2·75	14	½ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	12·5	2·75	14	½ ,,	,,
	80	1.9.20	1	·5	3	6·5	3·5	8·5	10	12	14·5	3	28	ripe	,,
	83	2.9.20	1	·5	3	6·5	7	8	10	12	14	3	28	½ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	14	3	14	ripe	,,
	85	,,	—	—	—	—	—	—	—	—	12	2·5	14	½ ripe	,,
	86	7.9.20	·75	·5	2·5	5·5	2·75	7	9	10	13	1·75	21	—	,,
	87	,,	—	—	—	—	—	—	—	—	13	2·75	21	ripe	,,
	113	21.9.20	—	—	—	—	—	—	—	—	12	2	21	½ ripe	,,
Dorosomidae															
Dorosoma chacunda ♂	35	12.8.20	1·25	1	4	7	11·5	9·5	13·5	14	17·5	6·5	141	½ ripe	nil
	86	7.9.20	·5	1	3	6	6·75	8·5	12·25	13·25	16·75	6	78	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13	5	35	½ ,,	,,
	88	,,	·75	1	3·25	6	6·25	8·5	12	13	17	5·75	42	½ ,,	,,
Dorosoma chacunda ♀	78	30.8.20	1·5	1	4	7	4	9·5	13·5	15·25	18·5	7	113	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	18	7	99	ripe	,,
	80	1.9.20	1	·5	3·5	7	7	9	13	14	17	7	113	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	17	6·5	85	,,	,,
	,,	7.9.20	—	—	—	—	—	—	—	—	18	7·5	99	,,	,,
Dorosoma nasus ♀	34	12.8.20	·7	·9	3·7	6·5	7·2	8·8	14	14·8	19·2	6·5	141	immature	nil
Engraulidae															
Engraulis filigera ♂	87	7.9.20	1·5	1·5	5	10	8	11·75	17·5	19	23	6	85	½ ripe	nil
Engraulis kamallensis ♀	86	,,	1·5	1·25	4·5	8·75	7	10·5	15·5	16·5	20·5	5	71	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	11·5	3	14	¼ ripe	,,
	209	3.4.21	·5	·5	2·5	7·5	6	8·5	11	12	14	3·5	14	½ ,,	,,
	,,	,,	·5	·5	2·75	8	6	8·5	11·25	12	14	4	21	ripe	,,
Engraulis kamallensis ♂	80	1.9.20	1·5	1	4·25	9	10	11·5	16	17·5	22	6	78	½ ripe	,,
	209	3.4.21	·75	·5	2·5	4·5	5·5	8·25	11·5	13	14·5	4	14	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13·5	4	14	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents
Engraulidae															
Engraulis kamallensis ♂	209	3.4.21	—	—	—	—	—	—	—	—	11·5	3	14	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	12·5	3·25	7	¼ ripe	,,
Engraulis mystax ♀	34	12.8.20	·7	·85	3·1	7·3	9·8	9	13·6	14·8	18·5	4·8	85	immature	shrimps
Engraulis indicus ♀	,,	,,	1·8	1·3	1·7	8·6	9·5	10·4	15·5	16·6	20·5	5·5	85	,,	small fish
Engraulis indicus ♂	,,	,,	1·7	1·5	5	10	11·3	11·5	17·9	19	23	7	254	ripe	,,
Engraulis hamiltoni ♀	83	2.9.20	2	1·5	6·25	18·5	15	15·5	24	27	34	7·5	183	¼ ripe	nil
Ariidae															
Arius gagora ♂	94	11.9.20	7·5	2·5	20	28	18	58	61	67	84	15	6018	ripe	10 crabs
	,,	,,	—	—	—	—	—	—	—	—	90	14	6131	,,	10 Equula sp.
	95	12.9.20	7·5	2	19	23	17	51	51	60	75	13	3180	½ ripe	shrimps & crabs
	,,	,,	—	—	—	—	—	—	—	—	80	15	4090	¾ ,,	nil
	100	,,	7	2	16·5	22	13·5	46	49	56	73	13	2612	½ ,,	crabs
	,,	,,	—	—	—	—					77	14	3180	ripe	,,
	209	3.4.21	2	1	5	7	16	17·5	18·25	20·5	26	3·5	454	½ ripe	digested matter
	,,	,,	—	—	—	—	—	—	—	—	15	2	14	—	—
	,,	,,	—	—	—	—	—	—	—	—	29	3	141	immature	nil
	366	17.9.21	6·5	2·5	22	28	54·5	61	63	67	88	13·5	6362	ripe	crabs
	450	16.4.22	3·5	1·5	10·5	13·75	27	29·75	31	33	43	7	684	,,	shrimps
	,,	,,	4	1·5	11	14	27	29	31	33	41·5	6	684	½ ripe	,,
	,,	,,	3·5	1·75	11	14·5	28·5	30·5	32	34·5	44	7	798	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	43	8	798	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	45	7	798	¾ ripe	crabs & shrimps
	,,	,,	—	—	—	—	—	—	—	—	42	6·5	570	½ ,,	shrimps
Arius gagora ♀	209	3.4.21	3	2	9·5	10	22	29	26·5	33	39	14	1134	¼ ,,	Holothuria synapta
	,,	,,	3	1	10	13	25	27·5	28	31	40	7·5	680	¾ ,,	crabs
	,,	,,	3	1	7	10	23	24·5	25	27·5	35	6·5	567	ripe	fishes
	,,	,,	—	—	—	—	—	—	—	—	36	5	454	½ ripe	nil
Arius jella ♀	454	6.5.22	3·75	2	13	18	37·5	41	43	46	59	9·5	1824	¾ ,,	,,
Arius sp. ♂	80	1.9.20	1·5	·5	5	7	5·5	15	14·5	17·5	21	3	85	¼ ,,	,,
	81	,,	—	—	—	—	—	—	—	—	17	4	64	¼ ,,	,,
	84	7.9.20	—	—	—	—	—	—	—	—	16	8	35	¼ ,,	,,
	237	10.4.21	5	2·5	16	20·5	42	46	47	52	66	11	2951	ripe	crabs
	,,	,,	4	2	16	21	42	46	47	51	68	11	2951	,,	crabs and fishes
	482	1.2.23	4·25	2	14·5	19·5	39	44	46·5	50	64	10	2736	,,	digested matter
	,,	,,	4·75	2	14	17	39	41·5	44	48	64	10	2508	,,	crabs & fish
	501	8.2.23	7·5	2·5	18·5	24	35	50	52	56·5	75	11·5	4104	,,	prawns
	,,	,,	7	2	19·5	14·5	38	53	54	58	75	11·5	4560	,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	79	12	4788	,,	,,
	544	10.4.23	2	1·5	6·5	9·5	18	20·5	21	22·5	32	6	228	,,	prawns
	,,	,,	2	1·5	6	8·5	17·5	19·75	20·5	22	32	6	228	,,	,,
	,,	,,	1·75	1·25	6	8	16·5	18·5	19	20·5	30	5	228	,,	nil
Arius sp. ♀	34	12.8.20	2·2	1·1	6·8	7·6	11·5	17·7	18·9	21	30	5	283	¼ ripe	,,
	79	31.8.20	2·5	1	6	8	6	16·5	16·5	20	26	5	127	immature	shrimps
	78	,,	2·25	1	6	7·5	6	16·5	16·5	18·5	23·5	5	155	ripe	crabs
	,,	,,	—	—	—	—	—	—	—	—	24·25	5	141	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	23	4·5	120	,,	digested matter

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Ariidae															
Arius sp. ♀	81	1.9.20	1·25	·5	4·5	6	5	15	15	17	21	4·5	113	ripe	nil
	84	7.9.20	2	·5	6	8·5	12	20	20	25	28	8	233	,,	,,
	104	13.9.20	1·5	·75	4·5	5·5	4	13	12·5	14	18	4	155	,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	24	4·5	77	,,	nil
	109	21.9.20	1·5	·5	3·5	5·75	9·5	15	15·5	18	22	3	113	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	23	4	169	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	24	4	141	½ ripe	,,
	501	8.2.23	7	2·5	19·5	26	37·5	55	57	61·5	80	12·5	3192	½ ,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	76	12·5	5016	½ ,,	fish
Synodontidae															
Synodus indicus ♂	111	21.9.20	1·25	·5	4	5	4·5	15·5	13·5	16	16·5	3·5	21	ripe	prawns
	168	19.2.20	·75	·5	4	5·5	11	7·75	12	13·5	15·5	2	28	,,	nil
Synodus indicus ♀	55	17.8.20	1·5	·5	5	9	8	17·5	18	21	2·5	4·5	113	¼ ripe	,,
Saurida gracilis ♂	143	10.12.20	1	·5	4·5	7	14	9·5	15·25	17·5	20·25	2·5	57	ripe	,,
Saurida gracilis ♀	189	28.12.20	1·5	·75	6·5	12·5	23·25	25·5	25·5	30	35	5	454	¼ ripe	small fish
	,,	,,	1·25	·75	5	8·5	15·5	17·25	17·25	20·25	24	3	113	½ ,,	cuttlefish
Saurida tumbil ♂	71	29.8.20	—	—	—	—	—	—	—	—	25·5	3·5	113	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	25·5	3·5	127	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	25·5	2·5	127	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	25	3	155	ripe	fish
	76	30.8.20	1·5	·5	4·5	8	5	16	16	18·5	21	3·5	85	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	23	3	99	¼ ,,	,,
	114	21.9.20	—	—	—	—	—	—	—	—	17	2	35	½ ,,	nil
	115	22.9.20	1	·5	3	6	5·5	12	12	15	18	2	42	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	16	1·5	28	,,	,,
	206	3.4.21	1	·5	3·5	9·5	17	18·5	18	21·5	26	3	134	½ ,,	,,
	,,	,,	1·5	·5	4	10	18	21	21	25	29·5	3·5	162	½ ,,	,,
	,,	,,	1	·5	3	9	16	17·25	17	21	24·5	3	113	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	19	2·5	435	½ ,,	,,
	394	19.9.21	1	1	6·5	12	22	24	24	29	35	4	283	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—			169	½ ,,	,,
Saurida tumbil ♀	71	29.8.20	1·5	·5	4·5	10	19·5	19·5	20	25	29	4	155	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	25	3	—	¼ ,,	—
	79	31.8.20	1	·75	4·75	8·5	7	16·5	16·5	19·5	23·75	3·5	92	½ ,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	21	2·75	71	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	19	2	42	½ ,,	,,
	85	7.9.20	1·5	·5	6	10	9	19·5	19	23	28	4	141	½ ,,	,,
	111	21.9.20	1·25	·5	5	8	7	15·5	15·5	19·5	22·5	3	71	½ ,,	,,
	114	,,	1·5	·5	6	11	10	22	22	27	32	5	260	½ ,,	small fish
	115	22.9.20	—	—	—	—	—	—	—	—	22	2·5	71	½ ,,	nil
	208	3.4.21	1·5	·5	5	11·5	20	21·5	22·5	26	31	5	228	ripe	,,
	215	5.4.21	1·5	·75	6·5	13	22	25·5	26·	30	36	5	368	½ ,,	small fish
	394	19.9.21	1	·75	5	9·5	17	19	19	22·5	27	3	148	½ ,,	nil
	,,	,,	·75	5·5	9·5	17·5	19	19	23	27	—	3	162	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	29	3·5	169	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	27	3	169	ripe	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads.	stomach contents
Synodontidae															
Saurida tumbil ♀	454	6.5.22	1	·75	5	9·5	16·5	18·5	18·5	22	26	3	142	¼ ripe	nil
	,,	,,	·75	·75	3·5	7	12·5	13·75	13·75	16	19·5	2	49	¼ ,,	,,
Paralichthyidae															
Pseudorhombus arsius ♀	394	19.9.21	·75	·75	3·5	1	3·5		12·5	12·5	15·5	7·5	49	½ ripe	prawns
Pseudorhombus arsius ♂	30	12.8.20	1	·25	2·5	2·25	3	9·5	9·5	10	12	16	28	¼ ,,	nil
	394	19.9.21	·75	·75	3·5	1	3	—	12·5	13	16	7	32	ripe	,,
Pseudorhombus javanicus ♂	40	13.8.20	2·5	·5	9	8	12	28·5	32	34	41	14	—	¼ ripe	,,
	115	22.9.20	—	—	—	—	—	—	—	—	17	8·5	57	½ ,,	,,
Pseudorhombus javanicus ♀	114	21.9.20	1	·5	5	5	5·5	16	16	17	19·5	8·5	77	½ ,,	,,
Psehodidae															
Psettodes erumei ♀	115	22.9.20	1	·25	3·5	4	4·5	12	12	13	15·5	7·25	49	¼ ,,	,,
	27	3.8.20	4·2	1	8·5	14·5	11	28·5	28·5	31	35·5	13	680	¼ ,,	,,
	53	17.8.20	—	—	—	—	—	—	—	—	45	18	1248	½ ,,	,,
	366	17.9.21	2·25	1	8	8·25	9·5	25	25	28	35	13	680	½ ,,	,,
Psettodes erumei ♂	79	31.8.20	—	—	—	—	—	—	—	—	16	6	169	½ ,,	fish
	208	3.4.21	2	·5	8·5	5·5	9·5	26	26	28	35·5	13·5	680	ripe	nil
Cynoglossidae															
Plagusia marmorata ♀	84	7.9.20	3	·5	9	5	10	—	—	35	38	9	254	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	36	8	233	¾ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	32	7	141	ripe	,,
	113	21.9.20	—	—	—	—	—	—	—	—	33·5	7·5	226	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	26	5·5	63	¼ ,,	,,
Plagusia marmorata ♂	,,	,,	—	—	—	—	—	—	—	—	37	8	226	½ ,,	,,
Cynoglossus lingua ♀	82	1.9.20	—	—	—	—	—	—	—	—	41	9	311	ripe	mud
	,,	,,	—	—	—	—	—	—	—	—	37	9	268	,,	nil
Cynoglossus macrolepidotus ♀	394	19.9.21	—	—	—	—	—	—	—	—	35	7·5	226	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	30	6·25	141	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	33	6·5	155	ripe	,,
Holocentridae															
Myripristis murdjan ♂	456	7.5.22	1	2·75	7	8	15	19·5	19·5	21	26·5	9·5	399	ripe	nil
Myripristis murdjan ♀	,,	,,	·75	3	6·5	7·5	14·5	18·5	18·5	20·5	26	9·5	360	¼ ,,	,,
	,,	,,	1·5	1·75	6	7	13·5	17	17	19	23·5	9	313	½ ,,	shells
	,,	,,	—	—	—	—	—	—	—	—	24	8·5	342	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	23·5	8·5	313	¾ ,,	shells
	,,	,,	—	—	—	—	—	—	—	—	24·5	8·5	313	¼ ,,	nil
Holocentrum rubrum ♂	237	10.4.21	1·5	2	6·5	7	15	18·5	18·5	21	26	8	311	½ ,,	,,
	,,	,,	1	2	6·5	7	15	18	18	21	25	8·5	340	ripe	,,
	239	,,	1	2·25	6·5	6·5	16	18	18	20·5	26	7	311	½ ,,	,,
	,,	,,	1	2	6	6	14	16·5	16·5	19·5	23·5	7	233	ripe	small fish
	,,	,,	2	2·5	8	8	15	18·5	18·5	21·5	26·5	7	282	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	25	8	282	,,	,,
	461	27.1.23	1	2	5	4·5	13·5	14·5	14·5	17	21·5	7	342	,,	,,
	,,	,,	1·25	2·25	6	6·25	16	17·5	17·5	20·25	25·5	8·5	342	,,	digested matter
	,,	,,	1·5	2·5	6	6	15·5	17·5	17·5	20	23·5	7·5	456	,,	nil

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents
Holocentridae															
Holocentrum rubrum ♂	461	27.1.23	—	—	—	—	—	—	—	—	25	7·5	228	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	21	6·5	228	½ ripe	,,
	470	29.1.23	1	2	6	7	15	17·5	17·5	20·5	25	8	342	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	24	8	342	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	21	7	228	,,	,,
	476	31.1.23	1	2·25	7	7·5	15	18·25	18·25	21·5	27	8	456	,,	,,
Holocentrum rubrum ♀	237	10.4.21	1	2	5·5	6	13	15·5	15·5	17·5	22	7	198	½ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	25·5	8	282	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	23	8	254	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	22	7	226	,,	,,
	461	27.1.23	—	—	—	—	—	—	—	—	18	5·5	228	½ ,,	,,
	470	29.1.23	1·5	2	6	5·5	15·5	16	16	19	24	8	228	½ ,,	,,
	,,		1·5	2	6	6·5	15	18	18	20·5	25	8	342	ripe	,,
Fistulariidae															
Fistularia serrata ♀	75	30.8.20	11	·5	13	31	14	33	33	38	40	1·5	21	½ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	36	1·5	21	½ ,,	small fish
	175	23.12.20	24·5	2·5	34	76	76	80	80	92	97	5·5	680	½ ,,	nil
	,,	,,	20	2	28·5	63	63	67	67	76	80	4	340	½ ,,	small fish
	184	26.12.20	14	1·5	18·5	40	40	42	42	48·5	51	2·5	113	½ ,,	,,
	189	28.12.20	5·11	1	14·25	31	31	33	33	37	40	1·5	28	½ ,,	nil
	,,	,,	11	1·25	14·25	31·5	31·5	33·5	33·5	38	40	1·25	28	½ ,,	,,
	225	7.4.21	16	1	21	46	46	48·5	48·5	55	58	3	85	½ ,,	small fish
	,,	,,	15·5	1	20	43	43	45·5	45·5	53	54·5	2	85	ripe	fish
	320	9.9.21	14·5	1·5	19	41	41·5	43	43	49	65	2	113	½ ,,	nil
	324	10.9.21	19·5	2	26·5	60	62·5	62·5	71·5	—	83	3·5	340	½ ,,	fish
	442	15.4.22	14	1·5	18·5	41	41	43	43	49	51	2·5	99	ripe	small fish
	444	,,	12·5	1·5	17	38·5	39·5	39·5	46	47	48	2	71	,,	,,
	447	16.4.22	14	1·5	17·5	40	40	41·5	41·5	48	50	2·5	71	½ ,,	digested matter
	448	,,	13	·75	16	36	36	37·5	37·5	43	45	2	57	½ ,,	shrimps
	471	30.1.23	12	1·25	15·5	33·5	35	35	40	42	55·5	1·75	38	ripe	small fish
	495	4.2.23	15	1·5	19	43·5	43·5	45·5	45·5	52	54·5	2·5	90	½ ,,	,,
	522	12.2.23	21	2	29	66	66	68	77·5	81·5	—	4·25	456	½ ,,	fish
	537	9.4.23	11·5	1·5	16	35	35	36·5	36·5	42	44·5	2	46	ripe	small fish
	,,	,,	13·25	1·5	14·5	39·5	39·5	41	41	48·5	49·5	2·5	65	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	36·5	2	25	,,	,,
	556	12.4.23	14	1·5	19	43	43	45	45	51	54·5	2·5	95	,,	,,
	,,	,,	11·5	1·25	15·5	34	34	35·5	35·5	41	42	2	40	½ ,,	nil
	,,	,,	12·5	1·5	17	38	38	39·5	39·5	45	48	2·25	60	ripe	small fish
Fistularia serrata ♂	14	29.7.20	—	—	—	—	—	—	—	—	60	4	141	¼ ,,	nil
	175	23.12.20	17·5	2	24	54	54	56	56	64	67	3	226	½ ,,	,,
	189	28.12.20	12·25	1·25	15·75	34	34	36·5	36·5	40	42	1·75	42	¾ ,,	,,
	225	7.4.21	15	1	20	45	45	45	47·5	54	57	3	99	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	50	2	99	½ ,,	,,
	344	12.9.21	12·5	1·5	16·5	36	36	37	37	43·5	63	2	113	ripe	digested matter
	442	15.4.22	11	1·25	16	34	34	36	36	41	43	2	57	,,	nil

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt in grammes.	condition of gonads	stomach contents.
Fistulariidae															
Fistularia serrata ♂	442	15.4.22	12·5	1·5	16	34	34	36	36	41	43	2·5	85	ripe	nil
	456	7.5.22	16	2	22	49·5	49·5	51·5	51·5	59	62	3	142	,,	small fish
	475	31.1.23	13·5	1·5	18	39	39	41	41	46	48	2	60	,,	nil
	,,	,,	12·5	1·5	16	34·5	34·5	36·5	36·5	41·5	43·5	2	40	½ ,,	,,
	,,	,,	12·5	1·25	16·5	36	36	38	38	43	46	1·5	40	ripe	,,
	517	11.2.23	12	1	16	35	35	36·5	36·5	42	44	1	40	,,	,,
	537	9.4.23	13·5	1·25	18·5	40·5	40·5	41·5	41·5	48	58	2·5	75	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	40	2·25	35	½ ,,	,,
	556	12.4.23	—	—	—	—	—	—	—	—	56	2·75	100	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	51	2·5	80	,,	,,
Mugilidae															
Mugil sp. ♂	55	17.8.20	1·25	1	5·25	8·5	7	17·5	19	24	30	6	226	½ ripe	nil
Sphyraenidae															
Sphyraena acutipinnis ♂	104	13.9.20	10	3	22	30	28	60	60	75	92	9	2951	ripe	nil
	442	15.4.22	—	—	—	—	—	—	—	—	71	7	1596	½ ,,	small fish
	476	31.1.23	5	1·5	9·5	13	22·5	25	25	30	36·5	4	342	ripe	nil
Sphyraena acutipinnis ♀	54	13.8.20	3	1	6·5	8·5	8	15·5	16	19	22	4	85	½ ripe	,,
	71	29.8.20	10	2	20	27·75	25	48	50	65	77	8	1817	¾ ,,	fish
	91	10.9.20	2	5	23	35	30	67	65	80	95	10	2173	½ ,,	nil
	96	12.9.20	9·5	2·5	20·5	28	28	58	58	62	75	9	2043	½ ,,	,,
	442	15.4.22	9	3	18·5	26	47	51	52	62	75	8	1596	¼ ,,	small fish
	,,	,,	10	3	20·5	29	52	57·5	58	69	84	9	2280	¼ ,,	small fish & Sepia
	,,	,,	10·5	2·5	22	32	58	56·5	65	77	93	9·5	2736	¼ ,,	squids
	,,	,,	—	—	—	—	—	—	—	—	72	7	1368	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	85	8	2280	¼ ,,	,,
	444	,,	6	2	11·5	16	27	29	29	35	43	5·5	456	¼ ,,	cuttlefish
Sphyraena commersonii ♀	506	9.2.23	5	2·75	10	14·5	25·5	28	28	34	42	5	342	½ ,,	nil
	,,	,,	5·5	2	11	15·5	27	30	30	36	43	5	342	ripe	,,
	,,	,,	5·5	2	11·5	15	27	30	30	35	44	5	342	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	45	5	570	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	39	4·5	456	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	40	4·5	456	,,	,,
Sphyraena commersonii ♂	508	10.2.23	2·5	·75	5	6·5	10·5	12	12	14·5	18	2	100	½ ,,	,,
Sphyraena jello	461	27.1.23	12	3·25	24·5	35	65	74	74	85	104	11	4104	½ ,,	,,
Sphyraena obtusata ♂	29	3.8.20	8	2·4	16·6	23	41	44·4	46	56·5	66·8	8·5	1362	ripe	,,
	43	13.8.20	4	2·5	6·5	10	17	18·5	19	23	27	3·5	114	¼ ,,	,,
	209	3.4.21	2	1	5·25	7	11·5	13	13·25	16	19	2·25	42	immature	,,
	,,	,,	2·5	1	5·25	7	12	13	13·25	15·5	19	2·25	35	½ ripe	,,
	215	5.4.21	10	2·25	20·5	30	52	59·5	59	72	87	10	2498	½ ,,	,,
Sphyraena obtusata ♀	209	3.4.21	2·5	1	6	8	14	15	15	18	21·5	2·5	57	½ ,,	,,
	223	7.4.21	12	2·5	23·5	34·5	64	68	70	83	101	9	1362	¼ ,,	2 Balistes mitis
Sphyraena sp. ♀	191	29.12.20	3	1·75	10	13·5	24·25	25·5	26·5	32	4·75	—	454	ripe	fish

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Polynemidae															
Polynemus plebeius ♀	84	7.9.20	4	3	24	29	29·5	73	72	90	109	24	13180	ripe	crabs, prawns, squids and squilla
Polynemus sexfilis ♀	83	2.9.20	1	·5	3·5	5	4	13	13	17·5	23·5	4·5	85	ripe	nil
	209	3.4.21	1·25	1	4·5	5	10	11·5	12·25	15	19·5	5	57	,,	,,
	,,	,,	1	·5	4	4·75	9·25	10·5	11·5	13	17·5	4·5	57	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	19·5	5·5	92	ripe	,,
Polynemus sexfilis ♂	81	1.9.20	1	1	8	9·5	11	23	24	30	39	7·5	454	¼ ,,	,,
	84	7.9.20	·5	·5	2·5	3	3·5	6·75	6·75	8·75	11·75	2·75	14	½ ,,	,,
	86	,,	1	1·5	8·5	10	10·5	12·5	23·5	30	39	8	567	¼ ,,	,,
	87	,,	1·5	2	11	13	14	29·5	29·5	38·5	52	10	1134	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	35	6	226	¼ ,,	prawns
	,,	,,	—	—	—	—	—	—	—	—	35	5·5	254	½ ,,	,,
	104	13.9.20	1	·5	2	3·5	4·5	9	9	11	14·5	3·5	42	¼ ,,	nil
	109	21.9.20	1·5	1	8·5	10	11	24	24·5	30	40	8	567	ripe	,,
	209	3.4.21	1	·5	3	4	8	9·5	10	12	16	4	57	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	17·5	4	57	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	15·5	4	42	½ ,,	,,
Scombridae															
Scomber microlepidotus ♂	68	28.8.20	1	1	3·5	4·5	4·25	11	11	12	14·5	3·5	28	¼ ,,	nil
	,,	,,	1	·75	3	4	3·75	9	9	9·75	11·5	2·5	14	½ ,,	,,
	72	29.8.20	1·25	·5	3·5	5	4·5	12·5	12·5	13·5	16	3·5	42	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	3·3	28	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16·5	3·5	28	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15·5	3·5	35	½ ,,	,,
	83	2.9.20	1·5	1	5	7	7	17·5	17·5	18	21	5	113	¼ ,,	,,
	115	22.9.20	1·5	1	5	7	7	17·5	17·5	19·25	23	5·5	141	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	21	5	113	½ ,,	,,
Scomber microlepidotus ♀	56	17.8.20	2·25	1·25	6	7·5	8	18·5	18·5	19·5	24	6·5	169	¾ ,,	,,
	80	1.9.20	1·5	1	5	7	6·5	18	18	19	22·5	6	141	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	22	6	127	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	21·5	6	120	¼ ,,	,,
	113	21.9.20	1·5	1	5	7	6·5	17·5	17·5	19	22·5	5	141	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	23	5·5	141	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	23	5·25	155	ripe	,,
Thynnus macropterus ♀	32	11.8.20	2	·5	·5	4	6	10	15	16	19	5	114	¼ ,,	,,
Scomberomorus commersoni ♂	305	28.8.21	2·5	1·5	8	10·5	21·5	38	38	39·5	48	7	680	½ ,,	small fish
Scomberomorus commersoni ♀	,,	,,	4·25	1·5	11	12	26	46	46	47·5	57	7·5	1134	¼ ,,	,,
	454	6.5.22	4	1·75	11	12·5	29	51	51	53	63	8·5	1368	¼ ,,	,,
Scomberomorus guttatum ♀	9	24.7.20	—	—	—	—	—	—	—	—	58	12	1475	½ ,,	nil
	10	,,	—	—	—	—	—	—	—	—	58	12	1590	¼ ,,	,,
	29	3.8.20	2·4	1·8	4·8	13·7	14·4	20	18·8	26·4	28·8	6·1	1700	¼ ,,	,,
	30	11.8.20	3	1	7	22	23	38	38	40	49	11	567	¼ ,,	small sardines
	,,	,,	2·5	1	7·5	18	19	33	35	35	44	10	567	¼ ,,	fish
	,,	,,	3·25	1·25	8	22	23	40	40	42	49	9	680	—	nil
	,,	,,	2·5	1	7	20	21·5	37	37	38·5	50	11	680	½ ,,	small fish

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Scombridae															
Scomberomorus guttatum ♀	40	13.8.20	4	1·75	8·75	9·5	22·5	39	39	41·5	50	11	908	½ ripe	nil
	,,	,,	4	1·5	11·5	15	30	58	58	61	79	15	2838	½ ,,	,,
	,,	,,	3	1·5	9	10	23	42	42	44	56	12	1362	½ ,,	,,
	,,	,,	4	1·5	9	10·25	25	45	45	47	58	11	1362	½ ,,	,,
	42	,,	3	1·25	8	10	19·5	36	36	37	48	8	567	immature	small fish
	,,	,,	4	1·5	9	11·5	22·5	40	40	41	51	7	680	,,	,,
	53	17.8.20	—	—	—	—	—	—	—	—	51	10·2	908	½ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	46	8·5	596	½ ,,	Equula sp.
	54	,,	4	1·5	9	21	22	41	43	43	53	10	908	½ ,,	nil
	56	,,	—	—	—	—	—	—	—	—	22	5	113	—	,,
	68	28.8.20	6	2	15	19	18	72	72	74	87	15	4090	½ ,,	small fish
	70	29.8.20	3·5	1·5	9	9	12	45	45	47	59	12	1588	½ ,,	nil
	,,	,,	3	1	9	12	11	45	45	47	58	12·5	1134	½ ,,	,,
	71	,,	—	—	—	—	—	—	—	—	29	5·5	162	immature	small fish
	72	,,	6·5	2	15	20	14·5	72	72	75	91·5	12	3861	½ ripe	fish
	79	31.8.20	1·75	1·25	5	5·5	5·5	19·5	19	20	24·5	4	85	immature	small fish
	86	7.9.20	3·5	1·5	8	10·25	9·5	35	35	37·5	47	6·5	567	½ ripe	nil
	90	10.9.20	2·5	1	6·5	7·5	8·5	32	32	33·5	41	8	454	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	45	9	567	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	55	12	1134	½ ripe	small fish
	91	,,	3·5	2	9·25	11·5	11	42·5	42·5	43	50	9	1588	½ ,,	,,
	92	,,	2·75	1·5	7·5	9	9	36	36	38	58	9	680	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	52	9	680	ripe	nil
	93	,,	2·5	1·5	7·25	9	9	34	34	35	46	8	567	½ ,,	fish
	94	11.9.20	3	1·5	8	9·5	9·5	35	35	36	44	7	454	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	42·5	8	454	½ ,,	,,
	99	12.9.20	3	1·5	9	11	11	43	43	44·5	55·5	9·5	1134	½ ,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	48	7	680	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	57·5	10	1362	½ ,,	,,
	100	,,	3·5	2	9	10	11	40	40	41	52	10	1134	½ ,,	,,
	101	13.9.20	3	1·5	8·5	10·5	10	41	41	43	55	10	1021	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	57	8	567	½ ,,	nil
	102	,,	3	1·5	8·5	10·5	11	42	42	44	56	11	908	½ ,,	,,
	103	,,	—	—	—	—	—	—	—	—	54	11	1134	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	39	9	793	½ ,,	,,
	104	,,	—	—	—	—	—	—	—	—	43	8·5	567	½ ,,	,,
	112	21.9.20	2·5	1	7	9·5	9	37	37	39	48	9	1134	½ ,,	,,
	363	16.9.21	3·25	1·5	9	10	23	40	40	42	52	9	1021	½ ,,	small fish
	366	17.9.21	3	1·5	8	10·5	21	38·5	38·5	40	49·5	6·5	680	½ ,,	,,
	,,	,,	2	1·5	6·5	7·75	18	31	31	32·5	41·5	6·5	454	½ ,,	nil
	,,	,,	2	1·5	6·5	7·5	16	28	28	29·5	37·5	6	340	½ ,,	,,
	,,	,,	2	1	6	6·5	16	28·5	28·5	30	39	6·5	340	½ ,,	cuttlefish
	,,	,,	2	1	6	7·5	16·5	29	29	30	39	6	340	½ ,,	nil
	,,	,,	2·5	1·5	7·5	8	19	32	32	34	41	6	454	½ ,,	,,
	547	10.4.24	4·5	1·75	11·5	12·5	28	48	48	50	61	10	1254	½ ,,	,,
Scomberomorus guttatum ♂	11	24.7.20	—	—	—	—	—	—	—	—	88	13	3635	½ ,,	nil
	30	11.8.20	3	1·5	10	12	26	49	49	50	62	13	1702	½ ,,	small sardines
	,,	,,	3·5	1·5	8	20	21	36·5	36·5	38	48	11	794	½ ,,	small fish

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Scombridae															
Scomberomorus guttatum ♂	33	12.8.20	3	1	7	19	20	35	35	36	46·5	10	680	—	nil
	,,	,,	2·5	1	7	9	19	34	34	35	45	7	567	½ ripe	,,
	40	13.8.20	3	1	8	11	21·5	38	38	40	49·5	8·5	680	—	,,
	53	17.8.20	—	—	—	—	—	—	—	—	48	10	908	¼ ,,	prawns
	,,	,,	—	—	—	—	—	—	—	—	43	8·5	567	ripe	digested matter
	56	,,	—	—	—	—	—	—	—	—	32	5·5	198	½ ,,	nil
	68	28.8.20	3·5	1·5	7·5	11	10	41	41	42	50	8·5	680	¼ ,,	small fish
	71	29.8.20	2·5	1·5	7·5	9·5	8·75	34·5	34·5	36	45·5	6	454	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	28	5	127	¼ ,,	,,
	72	,,	6	2	15	16	16	63·5	63·5	66·5	79	11	2612	ripe	prawns
	83	6.9.20	1·5	1	5	14	7	25·5	25·5	27	33	7	254	¼ ,,	—
	86	7.9.20	—	—	—	—	—	—	—	—	40	3	454	½ ,,	small fish
	,,	,,	—	—	5	6	6·5	24·5	24·5	26	38	5·5	198	½ ,,	nil
	87	,,	1·75	1·5	—	—	—	—	—	10·75	13·5	4·5	35	¼ ,,	small fish
	90	10.9.20	—	—	—	—	—	—	—	—	45	7	340	¼ ,,	,,
	91	,,	—	—	—	—	—	—	—	—	44	6	454	¼ ,,	,,
	93	,,	—	—	—	—	—	—	—	—	41	6	343	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	42	6·5	378	¼ ,,	fish
	,,	,,	—	—	—	—	—	—	—	—	46	7·5	567	¼ ,,	,,
	96	12.9.20	4	1	9	11·5	10	41	41	43	72	8	567	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	51	8	793	¼ ,,	fish
	99	,,	—	—	—	—	—	—	—	—	54	9	908	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	48	7	680	ripe	,,
	100	,,	—	—	—	—	—	—	—	—	48	9	680	¼ ,,	small fish
	101	13.9.20	—	—	—	—	—	—	—	—	46	7	793	¼ ,,	nil
	103	,,	3	2	9	10	11	43	43	44	57	11	1134	¼ ,,	small fish
	104	,,	3	1·5	8	10	10	37	37	38	48	9·5	793	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	47	10	680	½ ,,	,,
	115	22.9.20	3·5	1·5	9	11	10	40	40	41·5	52	9	793	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	34	6·5	283	¼ ,,	,,
	366	17.9.21	2·75	1·25	8	8·5	20	34	34	35·5	43	6·5	680	½ ,,	,,
	454	6.5.22	4·25	1·25	10	13·5	28	50	50	52·5	61·5	8	1140	ripe	small fish
Scomberomorus interruptum♀	22	2.8.20	5·5	2·2	12·7	17·5	36·5	64·5	64·5	68	83	14·5	3065	¼ ,,	,,
Scomberomorus lineolatum ♂	505	9.2.23	3·5	1·75	10	10·5	26	44	44	45·5	54·5	8	1140	½ ,,	nil
	506	,,	3·75	1·75	10·5	11	26·5	44·5	44·5	46·5	56	8	1140	½ ,,	,,
	508	10.2.23	5·25	2	15	16	39	68·5	68·5	71	82·5	12·5	3420	ripe	,,
Trichiuridae															
Trichiurus savala ♂	33	12.8.20	—	—	—	—	—	—	—	—	10	1	14	—	nil
	35	,,	1·3	·8	4·5	3·2	11·5	29	30	3·4	12·1	2·5	57	immature	small fish
	80	1.9.20	2·5	·5	5·75	4	15	32	32	—	43	3	42	½ ripe	nil
	81	,,	1	·5	2	2·25	3	7	16	16·5	19	4·5	28	ripe	,,
	86	7.9.20	—	—	—	—	—	—	—	—	32·5	2	21	¼ ,,	,,
	104	13.9.20	—	—	—	—	—	—	—	—	48	4	113	ripe	,,
Trichiurus savala ♀	80	1.9.20	—	—	—	—	—	—	—	—	39	3	28	½ ,,	,,
	83	2.9.20	1·5	·5	4·5	—	5	—	—	30	40	3	28	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	39	3	35	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes.	condition of gonads	stomach contents.
Trichiuridae															
Trichiurus savala ♀	87	7.9.20	—	—	—	—	—	—	—	—	20·25	4·5	35	ripe	nil
	113	21.9.20	2·5	·5	7	5	16	40	40	44	54	3·5	85	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	44	3	42	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	43	2·25	42	½ ,,	,,
Stromateidae															
Stromateus cinereus ♂	79	31.8.20	1	·75	4·2	7	8	14	14	16	24	10	169	½ ripe	digested matter
	,,	,,	—	—	—	—	—	—	—	—	25	10	148	½ ,,	nil
	80	1.9.20	1	·5	3·5	7·5	7	13·5	13·5	15	20	10·5	141	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	21	10·5	141	½ ,,	,,
	81	,,	1	·5	4	8	9	16·5	16·5	18	24	11	141	½ ,,	3 fishes
	82	,,	·75	·5	3·5	6	6·5	14	14	15·5	20·5	10·5	85	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	23	10	114	½ ,,	,,
	83	2.9.20	—	—	—	—	—	—	—	—	15	8	78	ripe	,,
	85	7.9.20	—	—	—	—	—	—	—	—	14·5	7	113	,,	cuttlefish
	87	,,	1	·75	3·5	7	8	14	14	15	24·5	11	155	½ ripe	nil
	,,	,,	1	1	6·5	6·75	5·75	12	12	13·5	18·5	9	106	½ ,,	,,
	88	,,	—	—	—	—	—	—	—	—	21	9·5	141	½ ,,	,,
	,,	,,	1	1	3·75	7	7·5	12	12	14	23	9·5	134	½ ,,	cuttlefish
	109	21.9.20	—	—	—	—	—	—	—	—	25	8·25	78	½ ,,	nil
	,,	,,	1	·5	3·5	8	6	14	14	15·5	22	11	169	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	26·5	12	183	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	21	9·5	155	½ ripe	,,
	113	,,	1	·5	3	5	5·5	10·5	10·5	11·5	21	7	77	ripe	small fish
	,,	,,	—	—	—	—	—	—	—	—	24	9	99	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	27	9	106	,,	,,
	209	3.4.21	—	—	—	—	—	—	—	—	26·5	13	226	,,	digested matter
	394	19.9.21	·75	1	4·5	8	9	17·5	17 5	18·5	27	13	340	½ ,,	prawns
	,,	,,	—	—	—	—	—	—	—	—	25·5	12·5	454	½ ,,	nil
Stromateus cinereus ♀	35	12.8.20	2	1·5	5	7	8·5	16	16	18	24	12	340	½ ,,	,,
	83	2.9.20	—	—	—	—	—	—	—	—	22	11	113	½ ,,	,,
	,,	,,	1·5	·5	4·5	10	10	12·5	12·5	21	28	14	368	½ ,,	,,
	85	7.9.20	1·25	1	4	8	8	15·5	15·5	17·5	24·5	12	228	ripe	,,
	111	21.9.20	1·25	1	4·5	8·5	6·5	16·5	16·5	19	26	13·5	340	½ ,,	,,
	114	,,	1	·5	3·25	6·5	6	12	12	13·5	20	9	99	½ ,,	,,
	209	3.4.21	1·25	1	5	10	10	19·5	17·5	22·25	29·5	15	396	½ ,,	digested matter
	,,	,,	1	1	4·5	9	10	19	19	20·5	29	16·5	454	ripe	,,
	,,	,,	1	1	4·5	7·5	8·5	17	17	18·5	26	13·5	282	½ ,	,,
	,,	,,	—	—	—	—	—	—	—	—	29	16	403	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	29·5	15·5	368	½ ,,	,,
	394	19.9.21	·75	1	4·5	8	8	17·5	17·5	18	25·5	11	340	½ ,,	prawns
	,,	,,	1	1	4·5	9	8·5	18	18	19	28	14	340	ripe	,,
Stromateus niger ♂	33	12.8.20	1·5	·25	3	4	4	9·5	9·5	10·25	13	7	57	½ ,,	nil
	44	14.8.20	1·2	·5	3·2	3	4·8	9·2	9·2	9·7	13	6·5	85	ripe	,,
	,,	,,	1·4	·25	3·4	4	4·5	9	9	10	12·5	6	57	½ ,,	,,
	54	17.8.20	1·5	·5	4	5	5	10·5	11	14	17	7·5	112	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents
Stromateidae															
Stromateus niger ♂	55	17.8.20	1·5	·5	3·5	5	5	10·25	10·25	11	14·5	7·5	85	¾ ripe	nil
	56	,,	2	·5	4	6	6·5	12	12	13·5	17	8	169	¼ ,,	,,
	83	2.9.20	1·5	·5	3·5	5·5	5	12	12	13·5	16	9	85	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	7	57	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	8	57	¼ ,,	,,
	85	7.9.20	1·5	·5	3·5	5	4	10	10	12	15	7·5	57	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	7	57	½ ,,	,,
	86	,,	1	·75	3·25	3·75	4	10	10	11	14·5	7·5	28	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	7	57	ripe	,,
	88	,,	1·25	1	6·25	10	12	23	23	24	33	15	680	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16	8	49	¾ ,,	,,
	103	13.9.20	2·5	·5	7	9·5	10	25	24	28	36	16	793	ripe	,,
	109	21.9.20	1·25	·5	3·5	5·5	4·5	11	11	12·25	16	8	85	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14·5	8	71	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13·5	7	57	,,	,,
	110	,,	1	1	3·5	3·75	5	10·5	10·5	11·75	15·5	7·5	85	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13	6·5	63	,,	,,
	111	,,	1·5	·5	5	8·5	8	20	20	22	29	15	567	½ ,,	weeds
	113	,,	1·5	·5	3	4·5	5	11·5	11·5	12·25	14·5	8	85	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	16	8	99	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	15	8	71	,	,,
	114	,,	1·25	·5	4	4·5	5	11·5	11·5	12·5	15·5	8	77	,,	,,
	363	16.9.21	1·5	1·25	5·5	6·5	7·5	19·5	19·5	21	27	12·5	454	½ ,,	,,
	,,	,,	1·5	1	5·5	6	7·5	18	18	19·5	25·5	11·5	340	ripe	,,
Stromateus niger ♀	110	21.9.20	—	—	—	—	—	—	—	—	15·5	7·5	85	,,	nil
Stromateus sinensis ♂	35	12.8.20	1·5	1	6·25	9·5	12	23	23	24·5	32·5	17·5	595	½ ripe	jelly fish
	363	16.9.21	1	1	4·5	6·5	6·5	15	15	16	21	11.5	254	½ ,,	prawns
	394	18.9.21	1	1	4·5	6·5	8	16	16	17·5	23	12·5	340	—	,,
Stromateus sinensis ♀	544	10.4.23	1	1·25	5·5	10	10	20·5	20·5	22	31·5	17	570	ripe	nil
	32	11.8.20	1	·5	3	5	5	9	9	10·5	13	7	114	—	,,
	33	12.8.20	2	1·5	7·5	12·5	14	25·5	25·5	27	33	18	1021	—	jelly fish
Stromateus sp. ♂	394	18.9.21	1·5	1·25	6	7	8	19·5	19·5	21	27	12	340	—	prawns
	29	3.8.20	·8	·6	3	3	3·7	7·7	7·7	8·6	10·6	5	28	ripe	nil
	80	1.9.20	1·5	1	5	8	8·5	17·5	17·5	19·5	26	16	425	,,	jelly fish
Stromateus sp. ♀	83	6.9.20	—	—	—	—	—	—	—	—	22	10	148	½ ,,	squids
	92	10.9.20	3·5	2	12	21	11	42	42	46	54	35	4771	ripe	nil
Carangidae															
Caranx affinis ♂	184	26.12.20	2·5	1·2	6·4	9	15	23·2	23·2	24·7	29·7	7	340	ripe	green matter
Caranx armatus ♂	2	20.7.20	—	—	—	—	—	—	—	—	20	11	—	¾ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	23	9·2	—	¼ ,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	20·5	9·5	—	¼ ,,	nil
	9	24.7.20	—	—	—	—	—	—	—	—	27	11	310	¼ ,,	,,
	29	3.8.20	4	·8	2·9	3·9	5·7	7·6	7·6	8·4	10·4	4·2	28	¼ ,,	prawns
	33	12.8.20	·9	·75	2·3	2·8	3·9	3·7	5·7	5·7	7·9	3·9	114	—	small shrimps
	43	13.8.20	2	·25	7·5	7·5	8·5	12·5	12·5	14	16·5	6	57	½ ripe	nil
	50	15.8.20	4	·5	5	9	8	8·5	23	25	29	14	567	¾ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads.	stomach contents.
Carangidae															
Caranx armatus ♂	54	17.8.20	2	1·5	5	7	8	13	13	15	18	7	226	½ ripe	nil
	57	,,	1·5	·5	3	4	3	5	7	7	8	4·5	28	—	,,
	58	18.8.20	4	1·5	9	17	16	27	27	30	37	13	680	½ ripe	small fish
	,,	,,	—	—	—	—	—	—	—	—	34	12	567	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	11·5	5	—	½ ,,	shrimps
	59	,,	—	—	—	—	—	—	—	—	14·7	5	57	ripe	nil
	60	25.8.20	3	2	7	10	12	20·5	20·5	22·5	29	11	340	,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	29	12	340	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	29	11	340	¼ ,,	,,
	68	28.8.20	1·5	1	3	4·5	4	8·5	8·5	9·5	12	4	114	½ ,,	,,
	,,	,,	1·5	1	3	4	4	8·75	8·75	9·5	11·5	4·5	21	¼ ,,	,,
	70	29.8.20	1·5	·5	4	5	4·5	10·5	10·5	12	14·5	5	42	¼ ,,	,,
	72	,,	2	·5	3·5	5	4	9	9	10·5	12	4·5	28	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	12	4·5	14	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13	4·5	28	½ ,,	,,
	74	,,	1·5	·5	3·5	5	4	10·5	10·5	12	15	5	28	½ ,,	shrimps
	,,	,,	—	—	—	—	—	—	—	—	11	4·5	14	½ ,,	nil
	78	31.8.20	1·75	1·25	5	4·75	5	13·5	13·5	14·25	18·5	6·75	57	½ ,,	squids
	80	1.9.20	2	1	4·5	9	4	14·5	14·5	16	20·5	9	141	¼ ,,	nil
	83	2.9.20	1	1·25	4	7	8·5	13·5	13·5	15	19	8	113	¼ ,,	,,
	90	10.9.20	1·5	·5	4·5	5·5	8·5	13·5	13·5	15	18	8	199	½ ,,	,,
	92	,,	2	1·5	5·5	7	7·5	18	18	20	28	10	169	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	18	7·5	113	,,	,,
	93	,,	2	1·5	6	11·5	8	19	19	20·5	27·5	9	260	¼ ,,	fishes
	94	11.9.20	2	1·75	5·25	6·5	6	15·5	15·5	17·5	21	10	169	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	18·5	8·5	113	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	18	8·5	113	½ ,,	,,
	100	12.9.20	1·5	1·25	4·25	5	4·5	13	13	14·5	18·5	8	113	½ ,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	20	9	141	½ ,,	,,
	103	13.9.20	3.5	1·5	9	11	9·5	26·5	26·5	29	37	13	680	½ ,,	nil
	104	,,	1·5	1	4	5·5	4·5	13·5	13·5	15	19·5	8	85	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	19·5	8	113	¼ ,,	,,
	112	21.9.20	2·5	1·5	6	7·5	6	17	17	18·5	25	9	169	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	18	8	113	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	12	6	42	¼ ,,	,,
	114	,,	1·25	·5	4	4·5	3	10·5	10·5	11·5	14·5	5·5	42	½ ,,	,,
	115	22.9.20	1	·5	3	3	3	8·5	8·5	9·5	11·5	5	28	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	12	4·5	28	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	11·5	4	28	ripe	,,
	163	18.12.20	1·5	1	5	5	10	14·5	14·5	16	20	7·5	169	½ ,,	,,
	177	23.12.20	1·5	2	7	8	12	21	21	22·5	29	11	454	ripe	fish
	208	3.4.21	2·5	2	8	11	16·5	27·5	27·5	30·5	39	14	908	,,	nil
	224	7.4.21	3·5	1·5	9·25	14	15	27	27	30	37	12	680	,,	small fish
	,,	,,	2·5	1·5	7·5	9·5	10·5	22·5	22·5	24·5	31	10	340	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	30	10	340	ripe	digested matter
	249	11.8.21	2·25	2	7·5	7·5	12·75	21	21	22	28	11	340	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	28	10·5	340	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	20·5	8	169	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab	bc	ad	ae	af	ag	ah	aj	ak	lm	wt. in grammes.	condition of gonads	stomach contents
Carangidae															
Caranx armatus ♂	252	12.8.21	1·5	2	7	7·75	11	18·5	18·5	19·5	26	9	226	ripe	nil
	,,	,,	1·5	2	7	7·5	11	19	19	21	26	10	226	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	27	9·5	254	,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	26·5	9·5	226	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	24	9·5	226	½ ,,	,,
	304	28.8.21	2	1·5	6	7	10·5	17·5	17·5	19	24	9	226	½ ,,	,,
	305	,,	1·5	1·5	4·5	5·5	8·5	12·5	12·5	14	17·5	6·75	106	ripe	,,
	363	16.9.21	1	1	4·5	5·25	8·5	13·5	13·5	14·25	18	7·75	113	½ ,,	prawns
	366	17.9.21	1	1·25	4·5	5	8	13·5	13·5	14·5	19·5	8	127	ripe	nil
	,,	,,	1	1·5	4·5	4·5	7·5	13	13	14	18·5	8	113	½ ,,	,,
	,,	,,	1	1·25	4·5	4·5	7	12·25	12·25	13·5	16·5	7·25	85	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	17	7	71	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	14	6	42	½ ,,	,,
	,,	,,	1·5	1·25	5	5	9	14·5	14·5	16	20	7·5	113	½ ,,	,,
	,,	,,	1	1	4	4·5	6·5	11·75	11·75	13	16·5	7	85	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	19	8	113	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	17	6·5	85	ripe	small fish
	450	16.4.22	2	1·5	7	8·75	13	21	21	23	30	9·75	—	,,	nil
	,,	,,	2·5	2	7	8·5	12·75	21	21	22·5	28·5	10	—	,,	,,
	,,	,,	2	1·75	7·25	8·5	12	21·5	21·5	23·5	30	9·75	—	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	30	11	—	—	,,
	,,	,,	—	—	—	—	—	—	—	—	31	10	—	—	,,
	,,	,,	—	—	—	—	—	—	—	—	28	10	—	—	,,
	,,	,,	—	—	—	—	—	—	—	—	29	9·5	—	—	,,
	,,	,,	—	—	—	—	—	—	—	—	28	10	—	—	,,
Caranx armatus ♀	2	20.7.20	—	—	—	—	—	—	—	—	23	8·5	—	½ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	48	10·8	—	½ ,,	,,
	9	24.7.20	—	—	—	—	—	—	—	—	24·5	10	283	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	26	11	340	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	26·5	10·5	285	½ ,,	small fish
	34	12.8.20	1·3	1·7	5·4	6	6·7	17·6	17·6	18·5	24	9·9	226	ripe	nil
	42	13.8.20	2	·5	4·5	5	7·5	11	11	12	14	5	57	,,	,,
	,,	,,	2·5	1·5	6	10·5	11·5	17·5	17·5	19	23	10	85	½ ,,	,,
	56	17.8.20	1·5	·5	3	4	5	8	8	9	11	5	28	½ ,,	,,
	58	18.8.20	—	—	—	—	—	—	—	—	25	9·5	226	½ ,,	,,
	,,	,,	1	·5	3·25	4·25	10	10	11	12·5	15	5	28	½ ,,	digested food
	,,	,,	—	—	—	—	—	—	—	—	10·5	4·25	—	½ ,,	shrimps
	60	25.8.20	—	—	—	—	—	—	—	—	27	10	254	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	29	11	340	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	24	9	226	,,	,,
	70	29.8.20	1·5	·5	3·5	4	3·5	9·5	9·5	11	13	5	28	½ ,,	,,
	72	,,	—	—	—	—	—	—	—	—	11·5	4	14	¼ ,,	,,
	74	,,	—	—	—	—	—	—	—	—	12·5	5·5	28	½ ,,	,,
	78	31.8.20	—	—	—	—	—	—	—	—	22	8	155	ripe	squids
	83	2.9.20	—	—	—	—	—	—	—	—	17	7·5	85	,,	nil
	91	10.9.20	2	2	6·5	8	8	19·5	19·5	21·5	29	10	311	,,	squids
	,,	,,	—	—	—	—	—	—	—	—	24	10	232	,,	nil
	97	12.9.20	4·5	1·5	12	15	12·5	36	36	40	52	17	1702	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Carangidae															
Caranx armatus ♀	97	12.9.20		—	—	—	—	—	—	—	40	14	684	ripe	shells & sea urchin
	104	13.9.20		—	—	—	—	—	—	—	19	7	99	,,	nil
	170	20.12.20	3	2	8·5	10	15	24·5	24·5	26·5	32	12	680	¾ ,,	digested matter
	224	7.4.21	3	1·5	8	10	13	22·25	22·25	25	32	10	340	½ ,,	small fish
	249	11.8.21	2·5	2	7·25	8·25	12·5	20	22	22	27	10	340	½ ,,	nil
	,,	,,	2·5	2	7·25	8·25	12	20	20	21·5	27	10	340	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	27	10	340	,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	23	7·5	226	¼ ,,	nil
	252	12.8.21	2·5	2	7	8	11·5	19	19	20·5	26	9·5	254	ripe	,,
	304	28.8.21	1·5	2	6·5	7	11·5	19·5	19·5	22	28	11	454	,,	,,
	305	,,	1·5	1·5	5·5	6	9	16	16	17	23	8·5	183	,,	prawns
	363	16.9.21	2·75	1·5	5·5	6·75	8·5	16·5	16·5	17·75	23	9·5	169	½ ,,	,,
	,,	,,	1	1·25	4	4·5	8	12·5	12·5	13·5	18	7·5	99	¼ ,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	18	8·25	120	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	18	7·75	99	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16	7	85	¾ ,,	,,
	366	17.9.21	—	—	—	—	—	—	—	—	16	7	57	¼ ,,	nil
	,,	,,	1·5	1·5	5	5	8	13·5	13·5	14	19	7·5	113	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	21	8·5	141	¼ ,,	small prawns
	386	18.9.21	1·5	2	5·5	6	10	17·5	17·5	19	25	9·5	340	½ ,,	small fish
Caranx carangus ♂	500	8.2.23	3·5	2·5	13	16·5	24·5	42·5	42·5	47	59	17	2736	ripe	nil
	511	10.2.23	3	2	13·5	17	24·5	41·5	41·5	46·5	59	16·5	2736	,,	cuttlefish
Caranx kalla ♂	44	20.7.20	—	—	—	—	—	—	—	—	27·5	10	—	,,	nil
	80	1.9.20	1	·75	3	5	7	12	12	13	15	5	28	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16	4·5	28	¼ ,,	,,
	81	,,	·5	·5	2·5	4·25	5	10	10	11·5	14	5	42	ripe	,,
	83	2.9.20	—	—	—	—	—	—	—	—	13·5	4·5	21	¼ ,,	,,
	84	7.9.20	1	1	4	5	4·5	10·5	11	13	16	5	42	½ ,,	fish
	85	,,	2	1	5	7	6·5	14	14	16	20	5·5	85	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	15·5	4·5	42	½ ,,	,,
	86	,,	1	1	3·25	4·5	3·5	10·5	10·5	11·5	14·5	4·5	28	¾ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14·5	5·5	35	1 ,,	,,
	87	,,	·5	·75	3	4	3·5	10	10	11·5	14·5	4·75	28	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	4·5	28	1 ,,	,,
	88	,,	·75	1	3·5	4·75	3·75	11·75	12·75	12·75	16·5	5	42	½ ,,	,,
	110	21.9.20	1	1	3	3·5	5	11	11	11·5	14·5	4·5	42	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	14·5	4·5	42	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	12·5	4	28	,,	,,
	114	,,	1	·5	4	5	4	12	12	13·5	16·5	5	63	,,	,,
	115	,,	·5	·5	2·5	3·5	3	10	10	11·25	15	4	28	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13	4	28	½ ,,	,,
Caranx kalla ♀	83	2.9.20	1	·5	3	4	6·25	11·5	11·5	12·5	15	5	35	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	4·5	28	¾ ,,	,,
	93	10.9.20	1·25	1	3·5	4·5	4	11	11	12	15	5	42	1 ,,	,,
	109	21.9.20	1	·5	3·25	4·5	6	11·5	11·5	13	17	5	49	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	15	5	42	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16	4·5	42	¾ ,,	,,
	115	,,	—	—	—	—	—	—	—	—	15	4	35	ripe	,,

Appropriate Technology Services
121, POINT-PEDRO ROAD
NALLUR, JAFFNA
No.....
Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Carangidae															
Caranx leptolepis ♂	3	20.7.20	—	—	—	—	—	—	—	—	15·6	4·5	—	½ ripe	nil
	42	13.8.20	1·5	·5	3·25	4	5·25	8·5	8·5	10	12	3	42	ripe	,,
	69	28.8.20	1	·5	2	3	2·5	7	7	8	9·5	2·5	14	¼ ,,	,,
	94	11.9.20	1	·5	3·25	4	4·5	10	10	11	14	4·5	28	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14·5	5	28	ripe	,,
Caranx leptolepis ♀	31	11.8.20	1	·5	3	5	4	12	12	13	15	5	57	—	,,
	70	28.8.20	1·5	·75	3·5	6·5	4	11	11	12	14·5	4	35	ripe	,,
	,,	,,	1	·5	3	4	3·5	10	10	11·5	13·5	3·5	28	,,	,,
Caranx malabaricus ♀	26	3.8.20	5	2·5	12	14	23	36·5	36·5	39·5	49	17	1475	½ ,,	small fish
	29	,,	2·5	1·7	6·8	11·6	12·8	19·7	19·7	21·3	25·7	10·8	28	¼ ,,	,,
	56	17.8.20	2	1·5	5	6·5	8	13·5	13·5	15	18	7	85	ripe	nil
	74	29.8.20	—	—	—	—	—	—	—	—	27	11	340	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	27	10·5	340	ripe	small fish
	,,	,,	—	—	—	—	—	—	—	—	24	8·5	226	¾ ,,	nil
	79	31.8.20	1·5	1·5	4·75	5·5	5	13·5	13·5	15	18·75	7	35	ripe	,,
	,,	,,	1·75	1·75	5	6	5·5	15	16·5	16·5	20·5	7·5	120	—	,,
	87	7.9.20	1·25	1·5	4	5·5	3	13	13	14	18	8	92	¼ ripe	squids
	,,	,,	—	—	—	—	—	—	—	—	16·5	7	71	ripe	nil
	90	10.9.20	1·5	1	4	5·5	7·5	13	13	15	18·5	8	106	½ ,,	small Trichiurus
			—	—	—	—	—	—	—	—					savala
	109	21.9.20	—	—	—	—	—	—	—	—	18	7·5	99	½ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	18	8	113	ripe	,,
	110	,,	—	—	—	—	—	—	—	—	16	7·5	85	,,	,,
	114	,,	1·5	1	4	5	3	12	12	14	17	7·5	85	,,	,,
	115	,,	—	—	—	—	—	—	—	—	18	8	113	,,	,,
	191	29.12.20	3·5	2	6·75	7·5	11	18	18	19·5	25	9	226	,,	,,
	,,	,,	2	1·75	6	6·5	9·5	16·75	16·75	17·5	22	8	226	¾ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	21	8·25	169	ripe	digested food
	,,	,,	—	—	—	—	—	—	—	—	23·5	9	231	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	20	7·5	120	¼ ,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	19	7·5	120	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	18·75	7·75	127	¼ ,,	,,
	242	10.8.21	3·5	2·5	10	12	17·5	29	29	31·5	40	13	908	ripe	small fish
	343	12.9.21	5	2·5	14	17	26·5	43·5	43·5	48	57	19·5	3064	,,	,,
	344	,,	2	1·75	6·5	7·5	12	19·5	19·5	21	26·5	9·5	340	,,	fish
	,,	,,	2·5	2	8	9	13·5	23·5	23·5	25·5	32	10·5	454	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	24	9	226	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	23·5	9	226	ripe	fish & prawns
	,,	,,	—	—	—	—	—	—	—	—	21·5	8·5	226	,,	fish
	,,	,,	—	—	—	—	—	—	—	—	22	8·5	226	,,	,,
	355	15.9.21	—	—	—	—	—	—	—	—	25	9	340	,,	small fish
	363	16.9.21	1	1·5	3·75	4·5	7	11·5	11·5	13	17	7·5	78	½ ,,	nil
	,,	,,	1	1	3·5	4·25	6·5	10·5	10·5	11·5	15	6·5	64	—	small fish
	,,	,,	1	1	3·5	4·5	7	11	11	12	15	6·5	57	—	nil
	,,	,,	—	—	—	—	—	—	—	—	15	6	57	½ ripe	small fish
	550	11.4.23	3	2·5	9	10	15	25	25	27	34	11	570	½ ,,	nil
Caranx malabaricus ♂	22	2.8.20	3·5	2·2	9	10	18	27	27	28	34·5	13	680	¼ ,,	prawns
	27	3.8.20	2·2	1·7	6·5	7·7	10·5	17·5	17·5	19·2	23	9	226	½ ,,	nil

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes.	condition of gonads	stomach contents.
Carangidae															
Caranx malabaricus ♂	28	3.8.20	2·2	1·5	5	6·5	9	15·7	15·7	17	21·2	8·5	113	¾ ripe	nil
	74	29.8.20	2·5	1·5	7	8	8·5	21·5	21·5	24	28·5	10	340	½ „	„
	80	1.9.20	1	·5	2	2·5	2·75	6	6	6·5	8·5	4·25	14	¼ „	mud
	„	„	—	—	—	—	—	—	—	—	9·5	4	14	ripe	shrimps
	84	7.9.20	1·25	·5	4	5	4·5	12·5	12·5	14	17·5	5	42	½ „	nil
	86	„	1·5	1·75	5	6·5	4	15	15	17	22	8·5	141	½ „	„
	„	„	—	—	—	—	—	—	—	—	16·5	7·5	78	¾ „	„
	90	10.9.20	3	1·5	9	12	10	29	29	33	41	12·5	908	½ „	cuttlefish
	„	„	—	—	—	—	—	—	—	—	22	9	155	¼ „	nil
	95	12.9.20	1·5	·5	3	4·5	5	10	10	11	13·5	6	42	¼ „	„
	„	„	—	—	—	—	—	—	—	—	15	6·5	49	½ „	„
	109	21.9.20	1·5	1	4·5	6	7·5	14	14	15·5	19·5	8	113	ripe	„
	110	„	1·25	1·75	4·5	5·5	4·5	14·5	14·5	16	21	8·5	155	„	„
	111	„	1·5	1	4·5	5·5	4	14	14	15·5	20	8	99	½ „	„
	„	„	—	—	—	—	—	—	—	—	18·5	7·5	171	ripe	„
	„	„	—	—	—	—	—	—	—	—	17·5	7·5	77	¾ „	„
	114	„	—	—	—	—	—	—	—	—	17·5	7·5	77	½ „	„
	„	„	—	—	—	—	—	—	—	—	15	6·5	57	ripe	„
	115	22.9.20	1·25	1	4	5	3·5	12	12	13·5	17	7	77	„	„
	„	„	—	—	—	—	—	—	—	—	16·5	6·5	63	„	squids
	191	29.12.20	2	1·75	6·25	6·75	9·5	16	16	17·5	22	8·5	198	„	**nil**
	„	„	—	—	—	—	—	—	—	—	24·5	9	205	½ „	„
	„	„	—	—	—	—	—	—	—	—	21·75	8·5	190	ripe	crabs
	„	„	—	—	—	—	—	—	—	—	23	7·75	169	¼ „	fish
	„	„	—	—	—	—	—	—	—	—	22·5	8·5	183	ripe	—
	„	„	—	—	—	—	—	—	—	—	20·25	8	148	¼ „	fish
	„	„	—	—	—	—	—	—	—	—	19·75	7·25	120	½ „	prawns
	„	„	—	—	—	—	—	—	—	—	20	7·75	127	¼ „	nil
	„	„	—	—	—	—	—	—	—	—	19·5	7·75	120	½ „	„
	„	„	—	—	—	—	—	—	—	—	17	7·5	92	¼ „	„
	„	„	—	—	—	—	—	—	—	—	17·5	6·75	92	¼ „	„
	194	31.12.20	2·5	2	7·75	9	13	22·25	22·25	24	30	11·5	454	ripe	small fish
	197	„	2	1·5	5·75	6	10	15	15	17·5	22·5	9	198	½ „	prawns
	341	12.9.21	2·5	1·5	8	9·5	16	24·5	24·5	27	33·5	11	567	ripe	digested matter
	343	„	5·5	2·5	16	18·5	28	48	48	54	62	21	2272	„	nil
	„	„	5	2·5	14	16	36·5	45	45	50	60	19	2951	„	fish
	344	„	2	1·75	6·5	7	10·5	18	18	19·5	24	9·5	340	„	prawns
	„	„	—	—	—	—	—	—	—	—	27	10	340	„	„
	„	„	—	—	—	—	—	—	—	—	24	9·5	340	„	„
	355	15.9.21	3·5	2·5	11	12·5	19	32·5	32·5	35·5	44	13	1134	„	„
	„	„	2·5	2	8	9	13·5	24	24	25	33	10·5	567	„	small fish
	„	„	2·25	2	7	7·5	11·5	20	20	21·5	27·5	10	340	„	nil
	„	„	—	—	—	—	—	—	—	—	21	7·5	113	½ „	prawns
	363	16.9.21	—	—	—	—	—	—	—	—	16	7·5	71	ripe	nil
	„	„	—	—	—	—	—	—	—	—	15	6	57	½ „	small fish
Caranx nigrescens ♂	233	9.4.21	3	2	9	11·5	15	27	27	29·5	37	13	680	½ „	nil
	„	„	2·5	2	7·5	9·5	12	23	23	24	31·5	7	396	½ „	„
	„	„	—	—	—	—	—	—	—		17	6·5	71	½ „	prawns

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Carangidae															
Caranx nigrescens ♂	233	9.4.21	—	—	—	—	—	—	—	—	15·5	6·5	64	½ ripe	nil
	234	,,	3	1·5	7·5	8·5	11	20	20	22	27	11	254	½ ,,	,,
Caranx nigrescens ♀	233	,,	1·5	1·5	5	5·5	7·5	13	13	14	18	7	85	¼ ,,	,,
	234	,,	3	1·5	8	9·5	12	21	21	22·5	28·5	11	282	½ ,,	,,
Caranx oblongus ♂	42	13.8.20	2·5	1	5·5	7	11·5	17	17	19	24	6	114	½ ,,	,,
	54	17.8.20	1·5	1	3·5	4·5	6	7	11	12	15·5	4·5	28	½ ,,	,,
	55	,,	1·25	·5	3·25	4·5	7	10·25	10·25	11·5	14·5	4·5	57	—	,,
	56	,,	2·5	1·5	7·5	9	8	21	21	24	29	8·5	340	¾ ripe	,,
	91	10.9.20	1·75	1	6·5	8	11	16·5	16·5	21	27	9	226	¼ ,,	,,
	100	12.9.20	—	—	—	—	—	—	—	—	27	8·25	226	¾ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	23·5	7	162	¼ ,,	small fish
	104	13.9.20	1·25	1	4·5	5·5	6	15	16·5	16·5	21	6	141	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	15·5	4	42	½ ,,	small fish
	111	21.9.20	1	·5	4	4·5	3·5	11·5	11·5	13	16	5	57	¼ ,,	nil
	115	22.9.20	1	1	3·5	5	4	11·5	11·5	13	15·5	5	57	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	14·5	4·5	42	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16·5	5	71	ripe	,,
	140	10.12.20	1·25	1·25	5	6	9·5	14	14	16	21	6·5	113	½ ,,	small fish
	,,	,,	1	1·25	4·5	5	9	13	13	14·5	18·5	5·5	71	½ ,,	squilla
	,,	,,	—	—	—	—	—	—	—	—	19·5	6	99	½ ,,	prawns
	,,	,,	—	—	—	—	—	—	—	—	19	6	99	½ ,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	18·5	6	71	¼ ,,	mud
	,,	,,	—	—	—	—	—	—	—	—	21	6	113	½ ,,	octopus
	,,	,,	—	—	—	—	—	—	—	—	19	5·75	85	½ ,,	mud
	,,	,,	—	—	—	—	—	—	—	—	18·5	5·75	85	¾ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	17	5	57	—	jelly fish
	,,	,,	—	—	—	—	—	—	—	—	17	5·25	57	—	fish
	,,	,,	—	—	—	—	—	—	—	—	18	5·5	71	—	nil
	,,	,,	—	—	—	—	—	—	—	—	18·5	6	99	—	,,
	206	3.4.21	1	1	4·25	5·25	9·25	13·5	13·5	15·5	20	5·5	113	½ ripe	,,
Caranx oblongus ♀	54	17.8.20	1·5	·5	4	5	5·5	14	14	15·5	19·5	6·25	85	½ ,,	,,
	100	12.9.20	2	1	5·5	7	5	19	19	21	26·5	8	190	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	27	8	226	½ ,,	small fish
	104	13.9.20	—	—	—	—	—	—	—	—	15	4	42	¼ ,,	nil
	140	10.12.20	1	1	4·5	6·25	9·5	15	15	17	21	6·5	120	¼ ,,	,,
Caranx ferdau ♂	145	13.12.20	3·5	2	9·5	12	20	31	31	35	42	11·5	908	½ ,,	small fish
Caranx sp. ♂	9	24.7.20	—	—	—	—	—	—	—	—	28	11·5	395	½ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	30	13	450	¾ ,,	nil
	18	30.7.20	—	—	—	—	—	—	—	—	32	12·5	454	½ ,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	35	14	794	ripe	nil
	56	17.8.20	3	1·5	16·5	8	7	17	17	18·5	23	9	226	½ ,,	,,
	78	31.8.20	·75	1	2·75	4	2·5	9·75	9·75	10·75	14	6	42	½ ,,	squids
	154	15.12.20	3	1	7·5	9	12	18	29	32	39	11	793	½ ,,	fish & shrimps
	191	29.12.20	2	1·25	6	7	10	17·75	17·75	19·5	24·75	7	226	—	nil
	,,	,,	2	1·5	6·5	7	12	18·5	18·5	20·25	26·25	9	340	ripe	,,
	,,	,,	2·25	1·5	6·25	7·5	11·75	18	18	19·5	26	8	340	,,	,,
	,,	,,	2·5	1·5	6·5	7	12·5	18	18	19	25·25	8·5	226	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	24	8·5	226	¼ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Carangidae															
Caranx sp. ♂	192	29.12.20	2·5	1·5	7	7·75	12	20	20	22	28·25	10·25	340	ripe	nil
Caranx sp. ♀	78	31.8.20	—	—	—	—	—	—	—	—	13	6	42	½ ripe	squids
	137	9.12.20	1·5	1·5	5·75	5	10	18·5	18·5	20	24	10·5	340	½ ,,	shrimps
	,,	,,	1·5	1·5	5	4	9	16	16	17·25	22	9	226	½ ,,	,,
	144	10.12.20	2	1·5	6	7·5	12	18·5	18·5	20	24·5	8	226	½ ,,	,,
	,,	,,	2	1·5	6	6·5	12·5	19	19	21	26·5	8·5	340	½ ,,	nil
	221	6.4.21	4·5	2·5	13·5	17	27	39	39	43	54	12	1588	½ ,,	fish
Alectis ciliaris ♂	18	30.7.20	—	—	—	—	—	—	—	—	10	7	28	½ ,,	nil
	23	2.8.20	5	2	9	16·2	13·5	23·2	24	26	32	15	454	½ ,,	small shells
	34	12.8.20	1	·9	3·5	5·2	2·9	9·2	9·2	10·1	13	8	114	½ ,,	shrimps
	54	17.8.20	2·5	1	4	7·5	3·5	10·5	10·5	12	14	8·5	85	½ ,,	nil
	56	,,	3·5	1	6·5	9	5	15·5	15·5	17	22	12	169	½ ,,	,,
	90	10.9.20	3	1	6	9·5	7·5	15	15	17	22·5	11	141	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	21	11	141	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	19·5	10·5	99	½ ,,	,,
	91	,,	5	2	10	16·5	14	27	27	30	40	16	567	½ ,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	35	13	340	½ ,,	squids
	,,	,,	—	—	—	—	—	—	—	—	24	11	113	½ ,,	oysters
	94	11.9.20	2·5	1·5	6	10	14	17	17	18	24·5	12·5	169	ripe	crabs
	,,	,,	—	—	—	—	—	—	—	—	26	12	198	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	20	11	113	½ ,,	,,
	96	12.9.20	5	2·5	7·5	20	18·5	22	22	27	37	21·5	1248	¼ ,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	47	19·5	793	½ ,,	,,
	104	13.9.20	2·5	1	6	10	7	14·5	14·5	16	21	11	113	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	20	13	141	½ ,,	,,
	209	3.4.21	3·5	1·5	7	12·5	9	19	19	21	26·5	14	226	½ ,,	digested matter
	215	5.4.21	4	2	10·5	17	16·75	31·5	31·5	34	43·5	19	908	ripe	—
	,,	,,	4	2	9·5	16·5	15	30	30	33	42	18	908	,,	crabs and weeds
	,,	,,	4	1·5	9	16	13·5	29	29	32	41	18·5	680	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	40	17	680	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	31	15	454	½ ,,	,,
	366	17.9.21	1·75	2·5	5	8	8·5	14·5	14·5	16	20	10	169	½ ,,	,,
	,,	,,	1·5	1·5	5	7	8·5	14·5	14·5	16	21	10	141	½ ,,	,,
Alectis ciliaris ♀	18	30.7.20	—	—	—	—	—	—	—	—	9	6	42	¼ ,,	—
	26	3.8.20	7	3	14·5	25·5	26	50	50	56	71·5	24	2840	½ ,,	crabs
	27	,,	4	·5	11·2	19	20	38	38	42	51	22	1475	¼ ,,	,,
	43	13.8.20	1·5	·25	3	4	5·5	8·5	8·5	9	11	7	57	½ ,,	nil
	104	13.9.20	—	—	—	—	—	—	—	—	19	10	99	¼ ,,	,,
	366	17.9.21	2·5	2·5	9·5	15	16	31	31	34	43	17·5	1021	—	,,
Scomberoides toloo ♂	11	24.7.20	—	—	—	—	—	—	—	—	38	7·5	283	½ ripe	nil
	85	7.9.20	1	1	4·25	6	5	17·5	17·5	19	23	6·5	85	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	18·5	4·5	42	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16	4·25	28	¼ ,,	,,
	86	,,	—	—	—	—	—	—	—	—	18·5	5	42	½ ,,	,,
	93	10.9.20	1	1·25	4·5	6·5	5	19	19	19·5	24·5	6·5	113	¼ ,,	fish
	110	21.9.20	·5	1	3	4·75	4·5	13·5	13·5	14	18·5	5	49	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	19·5	5·25	63	¼ ,,	,,
	111	,,	1	·5	3·5	4·5	7	13·5	15	15	18	4·5	42	¼ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Carangidae															
Scomberoides tooloo ♂	112	21.9.20	1	1	4·5	6	5	19·5	17·5	21	25	6·5	127	¼ ripe	small fish
	,,	,,	—	—	—	—	—	—	—	—	24	6	113	½ ,,	nil
	113	,,	·5	·5	3	4·5	5·5	13	13	14·5	17·5	4·5	42	¼ ,,	small fish
Scomberoides toloo ♀	86	7.9.20	·5	·5	3	7·5	3·5	12·5	12·5	13·5	17	4·25	28	ripe	nil
Menidae															
Mene maculata ♂	2	20.7.20	—	—	—	—	—	—	—	—	19·5	11·8	—	¾ ripe	,,
	54	17.8.20	1·5	1·25	4	5	9	12·5	12·5	14	17	11	57	½ ,,	,,
	112	21.9.20	1·5	·5	4	5	4·75	12	12	13·5	16	8·5	71	¼ ,,	,,
	28	3.8.20	2·5	1·2	5·5	7	6·5	16·5	16·5	17·7	21·5	14·7	226	½ ,,	,,
Mene maculata ♀	2	20.7.20	—	—	—	—	—	—	—	—	19	12	—	¾ ,,	prawns
	54	17.8.20	1·5	1	3·5	4	4·5	10	10	11	14	8	57	¼ ,,	nil
Rachycentridae															
Rachycentron nigra ♂	190	28.12.20	6·25	2	16·5	29	36	55	55	59	75·5	9	2725	½ ripe	fish
	221	6.4.21	3	1	9	10	21	33	33	35	43	5	454	ripe	small fish
	224	7.4.21	3	1	8	15	18	29	29	30	36	5	282	½ ,,	small crab
Rachycentron nigra ♀	98	12.9.20	2·25	·5	5	5·5	5	17	17	19	23	3	42	¼ ,,	nil
	103	13.9.20	5	2	15	19	27	53	53	58	71	11	2725	¼ ,,	shrimps
Lactaridae															
Lactarius delicatulus ♂	2	20.7.20	—	—	—	—	—	—	—	—	21	7	—	¼ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	20·5	6·8	—	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	20·8	6·1	—	¼ ,,	,,
	80	1.9.20	—	—	—	—	—	—	—	—	17	5	42	¼ ,,	,,
	83	2.9.20	1·5	1	4·5	7	8·5	14·5	14·5	17	21·5	6	99	¼ ,,	,,
	86	7.9.20	—	—	—	—	—	—	—	—	15·5	4·5	42	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	4	28	¼ ,,	,,
	93	10.9.20	2·5	2·5	1·25	4·5	6	5·5	13	15	19	6	113	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	18	5·5	71	¼ ,,	,,
	104	13.9.20	—	—	—	—	—	—	—	—	20	6	106	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	15	4·5	42	¼ ,,	,,
	109	21.9.20	—	—	—	—	—	—	—	—	15·5	4·5	49	¼ ,,	,,
	110	,,	—	—	—	—	—	—	—	—	14·75	4	42	¼ ,,	,,
	111	,,	—	—	—	—	—	—	—	—	15·5	4	77	¼ ,,	,,
	544	10.4.23	1·75	1·5	6·5	8	10·5	17	17	19	24·75	6·75	171	ripe	,,
	,,	,,	2	1·5	7	9	11	18	18	19	26	7·5	199	,,	small fish
Lactarius delicatulus ♀	2	20.7.20	—	—	—	—	—	—	—	—	23	7·5	—	¼ ,,	,,
	55	17.8.20	2·25	1·25	5·5	7·5	11	16	16	18·5	22·5	7	85	½ ,,	nil
	79	31.8.20	1·75	1·5	4·5	8	6·5	17	17	19·25	24·25	7·5	169	ripe	,,
	80	1.9.20	2	1	6	7·5	7·25	15·5	15·5	18	22·5	6·5	120	,,	,,
	86	7.9.20	1·5	1·5	5·25	7·25	6	16	16	17·5	22	6·5	127	,,	small fish
	87	,,	1·5	1·5	5·75	7	5·5	14·5	14·5	16·5	21	6·5	106	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	21	6·5	113	ripe	,,
	103	13.9.20	1·5	1·25	5	7	5	15·5	15·5	18	22	7	120	—	,,
	104	,,	1·5	1	4·5	6	5·5	14·5	14·5	16	27·5	5·5	99	¼ ripe	small fish

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Lactaridae															
Lactarius delicatulus ♀	109	21.9.20	1·25	·5	3	5	6	11	11	12	15·5	4·5	57	½ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	19	5	57	ripe	,,
	110	,,	1·5	1·25	4·5	6	5·25	13	14·5	12·5	19	5	99	¼ ,,	small fish
	111	,,	1·5	1	5	6·5	8	13	13	15	18	5·5	71	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	18	5	42	¼ ,,	,,
	113	,,	2	1·25	4·5	7	9·5	16	16	18·5	23	6·5	141	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	24	6·5	155	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	23·5	6	141	,,	,,
	114	,,	1·5	1	5	7	5·5	16	16	18	21·5	6·5	85	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	19·5	5·5	92	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	19	5·5	141	,,	,,
	115	22.9.20	1·5	1	5	7	6	14·5	15	17·5	22	6	113	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	21	6	99	½ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	19	5	113	½ ,,	,,
	209	3.4.21	3	2	9	11·5	16	24·5	24·5	28	34·5	10	42	½ ,,	,,
	,,	,,	2·5	2	8·5	11	13·5	23·5	23·5	26	32	9·25	354	½ ,,	,,
	,,	,,	2·5	2	8	10·25	13	22·5	22·5	22·5	31	9	340	¾ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	30	9	285	½ ,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	32·5	11·5	680	ripe	nil
	544	10.4.23	2	1·5	7	9	11	18·5	18·5	20	26·5	7·5	228	½ ,,	,,
Leiognathidae															
Leiognathus bindus ♀	29	3.8.20	·7	1	1·8	3·7	4·8	5·6	5·6	9·4	11	5·5	57	¾ ripe	nil
	71	29.8.20	·9	1	2·8	3·8	3·5	9	9	9·5	12·5	5·9	35	ripe	,,
Leiognathus edentula ♂	2	20.7.20	—	—	—	—	—	—	—	—	22	10·3	—	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	19·5	9·3	—	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	20·5	10	—	½ ,,	mud
	3	,,	—	—	—	—	—	—	—	—	19·5	9·7	—	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	21	10	—	½ ,,	mud
	10	24.7.20	—	—	—	—	—	—	—	—	16	8	141	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	11	6	57	¼ ,,	,,
	30	11.8.20	1	·5	2	3	3	7	7	7·5	10	5	28	—	,,
	,,	,,	1·5	·5	3	4·5	3·5	9	9	10	13	5·5	57	—	,,
	59	18.8.20	·8	·7	2	2·7	3	7	7	7·7	9·3	3·5	14	ripe	digested matter
	94	11.9.20	—	—	—	—	—	—	—	—	18	8·5	113	½ ,,	nil
	115	21.9.20	—	—	—	—	—	—	—	—	10	4	14	ripe	,,
	209	3.4.21	—	—	—	—	—	—	—	—	16	7	57	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	8	57	,,	,,
	211	4.4.21	2	1·5	5	7	9	15	15	16·5	21	9·5	—	½ ,,	digested matter
	,,	,,	2	1·5	6	7	9·5	14·5	16	16	21	9·25	141	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	20	9	141	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	19·5	9	141	½ ,,	digested matter
	544	10.4.23	1·5	1·5	4·5	6	6·75	12	12	13	16·5	7·5	80	ripe	nil
Leiognathus edentula ♀	2	20.7.20	—	—	—	—	—	—	—	—	23·5	12	—	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	21	10·5	—	¾ ,,	,,
	3	,,	—	—	—	—	—	—	—	—	20	9·5	—	½ ,,	mud
	10	24.7.20	—	—	—	—	—	—	—	—	12·2	6	57	ripe	nil

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads.	stomach contents.
Leiognathidae															
Leiognathus edentula ♀	10	24.7.20	—	—	—	—	—	—	—	—	14·5	6·5	141	¼ ripe	nil
	54	17.8.20	1·5	·75	3·5	4	5	9	10	12	13·5	5	28	½ ,,	,,
	,,	,,	1	·5	2·5	3·25	4·5	8	8	9·25	11·75	5·5	57	¼ ,,	,,
	104	13.9.20	·75	1	2·5	3·25	4	7·5	7·5	8·25	10·75	5	28	ripe	,,
	109	,,	1	·75	2·5	3·5	4	6·5	6·5	7·5	10	4	21	,,	,,
	111	21.9.20	1	·5	3	4	5	9	9	10	12	4·5	28	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	11·5	4	21	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	10	4·25	28	,,	,,
	114	,,	1	·75	2·75	2·5	4	8·5	8·5	9	12	5	28	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	10	4·5	21	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	10	4·75	21	ripe	,,
	115	,,	1	·5	2·5	3·5	3	8	8	8·5	11·5	4	28	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	11	4	21	ripe	,,
	209	3.4.21	1·5	1·25	4·5	6·5	7·75	13·5	13·5	14·5	17·5	9	113	—	shells
	,,	,,	1·25	1	3·5	5·	7	12·5	12·5	13	16	7·5	57	½ ,,	,,
	,,	,,	1·25	1	3	5·5	8	8	12	14	17	4·5	35	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	15	7	49	,,	,,
	211	4.4.21	1·5	1·25	4·5	6·5	8	13·5	13·5	15	18	8·5	99	,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	18·5	9	113	,,	nil
	454	27.1.23	1·75	1·5	5	6·5	9	15	15	16	20	9	142	½ ,,	,,
	,,	,,	2	1·5	5·5	7·5	8·5	14·5	14·5	15·5	19·5	8	106	½ ,,	,,
	,,	,,	2	1·5	4·75	6	7·5	12·5	12·5	13·5	17	7	78	¼ ,,	,,
	544	10.4.23	1·5	1·5	4·75	6	7·5	13·25	13·25	14	19	8·5	105	ripe	,,
	,,	,,	1·5	1·5	5	6·25	7·5	13·25	13·25	14·25	18	8	100	,,	,,
Leiognathus fasciata ♂	2	20.7.20	—	—	—	—	—	—	—	—	21	9	—	¾ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	18	8·7	—	½ ,,	,,
	23	2.8.20	1	·5	2·5	3·5	4	7·5	8	8·5	10	4·5	57	—	,,
	27	3.8.20	2	1·5	5·2	8	9·7	16·5	16·5	18	23	10	680	½ ripe	,,
	42	13.8.20	·5	2·5	2	2·75	3·5	6·5	6·5	7	8·5	3	28	¼ ,,	,,
	78	31.8.20	—	—	—	—	—	—	—	—	10·9	5·2	21	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	10·6	4·7	21	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	11·5	5·5	28	ripe	,,
	194	31.12.20	1	1·25	4	5	8	12·5	12·5	13	17·5	7·5	85	¼ ,,	,,
	,,	,,	1	1·25	4	5	7	12·5	12·5	13·5	16·75	7·5	92	½ ,,	,,
	206	3.4.21	—	—	—	—	—	—	—	—	19	9·5	113	½ ,,	,,
	208	,,	2	1·5	5·5	7	9	16	16	17	22	10	183	ripe	,,
	211	4.4.21	1	1	3	4·5	6	10	10	11	13·5	5	42	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14·5	5·5	57	½ ,,	,,
	355	15.9.21	1·5	1·5	4·75	6·5	8	15	15	16	21	8·5	226	ripe	,,
	,,	,,	1·5	1·75	5	6·75	7	15·25	15·25	16	20	9	113	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	21	9	226	,,	,,
Leiognathus fasciata ♀	2	20.7.20	—	—	—	—	—	—	—	—	21	9	—	¾ ,,	,,
	30	11.8.20	1·25	1	3	4·5	3·5	9	9	10	12	4	28	—	,,
	42	13.8.20	1·5	1	3·5	4·5	6	9·5	9·5	11	13	6	57	ripe	,,
	43	,,	1·5	2·5	3	4	5	8·5	9	9·5	11·5	5	57	½ ,,	,,
	78	31.8.20	—	—	—	—	—	—	—	—	11	5	14	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	10·5	5	21	¼ ,,	,,
	,,	,,	·5	·9	2	2	3	7·1	7·1	8	10·7	4·7	21	ripe	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads.	stomach contents.
Leiognathidae															
Leiognathus fasciata ♀	80	1.9.20	1·5	1	3	4	3·5	9·25	10	10	12·5	5·75	42	½ ripe	nil
	140	10.12.20	·5	·75	2·5	3·5	5	8·75	8·75	9·5	12	4	28	ripe	,,
	194	31.12.20	1·25	1	3·75	5	7	12	12	13	16	6·5	71	¾ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	20	8·5	127	¼ ,,	,,
	206	3.4.21	1·5	1·5	5·5	7	9·5	15·5	15·5	17·5	31·5	10	169	½ ,,	,,
	,,	,,	2	1·5	6	7	9·25	15	15	16·5	20	8·5	113	½ ,,	,,
	,,	,,	2	1·5	6	8	10	16·5	16·5	18	22·5	11	198	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	23	11	212	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	20·5	9	141	¼ ,,	,,
	208	,,	2	1·5	5·5	8	9	15·5	15·5	17·25	22·5	9	169	½ ,,	,,
	,,	,,	1·5	1·5	5·5	7·5	9	15·25	15·25	17	21	9	141	½ ,,	,,
	211	4.4.21	1	1	3·5	4·5	6·25	10·5	10·5	11·25	14·5	5	42	ripe	,,
	,,	,,	1	1	2·25	4	6	10·25	10·25	11	14	5	35	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	5	42	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	5	35	,,	,,
	252	12.8.21	2	2·25	6	8	10·5	18	18	18·5	24·5	11	226	,,	,,
	,,	,,	2	2	5·5	7·5	10	17	17	18	22	10·5	226	½ ,,	,,
	,,	,,	2	2	6	8	10·5	17·5	17·5	18·5	24	11	226	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	23	10·5	254	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	24	10	226	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	22	10	226	ripe	,,
	304	28.8.21	·25	·35	1·75	2·5	3·5	6·5	6·5	6·75	7·5	2·75	7	,,	,,
	,,	,,	·25	·75	2	2·5	3·5	6·5	6·5	7	9	3	7	,,	,,
	,,	,,	·75	·75	2	3	4	7	7	7·5	9·5	3·5	14	½ ,,	young prawns
	,,	,,	—	—	—	—	—	—	—	—	8·5	3	14	½ ,,	nil
	355	15.9.21	1·5	2	5	7	9·5	15·75	15·75	17	21·5	9·5	226	ripe	,,
	450	16.4.22	2	2	5·75	8·5	10·5	18·5	18·5	19·5	25	11	285	½ ,,	,,
Leiognathus insidiatrix ♂	2	20.7.20	—	—	—	—	—	—	—	—	12·5	6	—	½ ,,	,,
	30	11.8.20	1·25	1	2·5	4	4	8	8	10	12	3·5	28	—	,,
Leiognathus insidiatrix ♀	2	20.7.20	—	—	—	—	—	—	—	—	12·6	5·2	—	½ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	13	4·5	—	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	13	5·7	—	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	12	4·8	—	½ ,,	,,
	10	24.7.20	—	—	—	—	—	—	—	—	13·4	5	57	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13·5	5	85	ripe	mud
	,,	,,	—	—	—	—	—	—	—	—	11·1	4·3	57	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	12	5	85	¾ ,,	,,
	100	12.9.20	1	1	3·5	4·5	4	11	11	12	14·5	6	57	ripe	,,
	544	10.4.23	1	1·25	3·5	5	6·5	11·5	11·5	12	15	5·5	55	—	prawns
	,,	,,	1	1·25	3·5	4·5	5·75	10·5	10·5	11	14	5	35	—	nil
	,,	,,	1	1·25	3·5	4·5	5·75	10	10	10·75	13	14·5	34	—	,,
Leiognathus lineolata ♂	71	29.8.20	1·3	1	3·3	4·3	4	10·2	10·2	11·2	14	5·5	57	ripe	mud
Leiognathus lineolata ♀	59	18.8.20	·9	·6	2·5	3·7	3·5	9	9	9·6	12·7	4	28	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	12	4	28	,,	,,
	68	28.8.20	·75	·5	2	3	2·5	6·5	6·5	7	9	3	28	—	,,
	,,	,,	·75	·5	2	3	2·5	6·75	6·75	7·5	9·5	3·25	28	—	,,
	69	,,	1	·5	2	2·75	3	7·25	7·25	8·5	10	3·5	14	½ ripe	,,
	70	29.8.20	1	·5	2	2·75	3	7·25	7·25	8·5	10	3·5	14	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Leiognathidae															
Leiognathus lineolata ♀	70	29.8.20	1	·5	2·5	3	3	8	8	8·5	10	3·5	14	½ ripe	nil
	,,	,,	1	·5	2·25	3·5	2·5	7·5	7·5	8·5	10·25	3·25	14	½ ,,	,,
	544	10.4.23	·75	1	2·5	3·5	4·75	9·25	9·25	9·5	12	4·5	25	ripe	,,
	,,	,,	·75	1	2·75	3·25	4·5	8·25	8·25	9·75	11	4·5	20	,,	,,
	,,	,,	·75	1	2·75	3·5	4·75	8·25	8·25	8·75	11·5	4·5	20	½ ,,	,,
Leiognathus ruconius ♂	114	21.9.20	—	—	—	—	—	—	—	—	5·5	3	7	ripe	,,
Leiognathus ruconius ♀	110	,,	·5	·25	1·75	2	3	5	5	5·5	7	3·5	7	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	7·5	3·5	7	½ ,,	,,
	114	,,	1	·5	2	2·5	2·5	5·5	5·5	6	7·5	3·5	7	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	7	3	14	½ ,,	,,
Leiognathus splendens ♀	85	7.9.20	1·25	1	3	4·5	3·5	8·5	8·5	9·5	12	5·5	28	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	11	5	28	¼ ,,	,,
	366	17.9.21	·5	1	2·5	3	4	7·5	7·5	8·25	10·5	4·5	21	ripe	,,
	,,	,,	·5	1	2·5	3·5	4·5	8	8	8·5	10·5	4·5	28	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	11·5	5	28	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	10	4	14	ripe	,,
	386	18.9.21	·5	·75	1·75	2·5	3·5	6	6	6·25	8	3	14	½ ,,	,,
	,,	,,	·5	·75	1·75	2·25	3·5	6·25	6·25	6·75	8·5	3	14	ripe	,,
	,,	,,	·5	·75	2	3	4	7·25	7·25	7·75	9·5	3·25	14	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	8	2·5	14	½ ,,	,,
Leiognathus splendens ♂	56	17.8.20	1·25	1	3	5	4·5	9	9	10	12·5	5·5	57	½ ,,	,,
	366	17.9.21	·5	1	2·5	3	4	8	8	8·5	11	5	28	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	10·5	4	21	ripe	,,
	386	18.9.21	—	—	—	—	—	—	—	—	8	2·5	7	¼ ,,	,,
Gazza minuta ♂	206	3.4.21	1	1	3	5	5	10	10	10·5	13·5	4·5	28	ripe	,,
	,,	,,	1	1	3·5	4·75	5·5	10·5	10·5	11·5	14	5	35	,,	,,
	,,	,,	1	1	3·5	4·5	5	10	10	11	13·5	5	42	½ ,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	13	4·5	28	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	14	4·5	35	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	12	4·25	28	,,	,,
	208	,,	·5	·5	2	3	4	8	8	8·5	10·5	3·25	14	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	10·25	3	14	ripe	,,
Gazza minuta ♀	,,	,,	1	·5	3	4	5·25	9	9	9·5	12	3·5	14	½ ,,	,,
	,,	,,	1·25	·5	3	3·75	5	8·5	8·5	9·5	11·25	3·5	14	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	10	3	14	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	11	4·5	14	¼ ,,	,,
Kurtidae															
Kurtus indicus ♂	81	1.9.20	1	·5	3·5	6	5	8	10	11	13·5	4·5	14	¼ ripe	,,
	83	2.9.20	—	—	—	—	—	—	—	—	14	4·5	14	¼ ,,	,
Kurtus indicus ♀	,,	,,	·5	·5	2	4·25	3	6·5	9	10	12·5	4	14	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	13	4	14	½ ,,	,,
	84	7.9.20	1	·5	3	5	4	7	9	10	13·5	4	14	ripe	,
	,,	,,	—	—	—	—	—	—	—	—	13	4	14	,,	,,
Apogonidae															
Apogon quadrifasciatus ♂	168	9.12.20	1·25	1	3·5	4	6	6·75	6·75	8·5	11	2·75	14	ripe	,,
	,,	,,	1	1	3·5	3·5	5·5	6·75	6·75	8·5	11	3·25	21	¼ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt in grammes.	condition of gonads	stomach contents.
Apogonidae															
Apogon quadrifasciatus ♂	173	23.12.20	·5	1	3	3·25	5·5	6·5	6·5	8·5	11	3	85	ripe	nil
	,,	,,	·5	·75	3	3	5·5	6·25	6·25	8	10·5	2·75	14	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	11	3	14	½ ,,	,,
Apogon quadrifasciatus ♀	168	19.12.20	1	1	3	3	5·5	6·5	6·5	8	10·5	2·75	14	¾ ,,	,,
	173	23.12.20	·5	1	3·5	3·25	6	7	7	8·5	11	3	28	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	11	3	14	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	10·5	3	28	¼ ,,	,,
Epinephelidae															
Epinephelus angularis ♂	45	14.8.20	10	2·75	20	18	20·5	45	42	51	62	17	2725	¼ ,,	,,
	52	16.8.20	7·5	2	19	18	20	44	39	48·5	58·5	17	2385	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	58	16	2272	ripe	digested matter
	60	25.8.20	8	2	18	20	19·5	44	38	47	56	18	2272	½ ,,	small fish
	61	,,	9	2·5	20	22	21	50	43	55	65	19·5	2275	½ ,,	nil
	70	,,	4	1·5	13	12·5	14	36	32	40	48	14·5	1362	½ ,,	prawns
	,,	,,	3·5	1·5	12	10	13	31	29	46	54	12	1021	¼ ,,	Caranx leptolepis
	73	,,	5·5	2	17	18	17	44	38	50	59	16	2498	½ ,,	nil
	94	11.9.20	3·75	2·5	16	14·5	15	38	35	41	51	13	2043	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	79	22	8180	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	50	12·5	2043	¼ ,,	cuttlefish
	175	23.12.20	4	2	12	11	22	23	26	31	38	10	680	ripe	nil
	182	25.12.20	2	1	6·25	5·5	10·5	13·75	12·5	15	18	5	85	½ ,,	,,
	194	31.12.20	4·5	1·75	12·25	11·5	21·5	27	25·5	30	37	10	680	½ ,,	,,
	195	,,	4	2·5	11·5	10·5	20	26	24	30	36	9	454	¼ ,,	,,
	199	1.1.21	4·5	2	12·5	11	22	27	25	31	37	9·5	680	½ ,,	,,
	,,	,,	4·5	2	13	11·5	22	27·5	26	30	38	9	680	½ ,,	,,
	228	8.4.21	3·5	2	12	12·5	23	30	26	33	40	11	908	½ ,,	,,
	234	9.4.21	4	1·5	12	11·5	21	27	25·5	30	38·5	11	680	½ ,,	,,
	,,	,,	4	1·5	11	10·5	18·5	25·5	23	27·5	34	8	454	ripe	,,
	236	,,	3	1·5	9	9	17	23	21	25	31	9	455	½ ,,	,,
	444	15.4.22	4	2	13	12·5	22	29	26	32	40	10	684	½ ,,	,,
	461	27.1.23	3	1·75	11·5	10·5	21	28	25·5	31	38·5	9	684	½ ,,	,,
	479	31.1.23	2·75	2	10·5	9·5	19	24	22·5	26·5	33	9	570	ripe	,,
	,,	,,	3	2	12	10·5	19·5	25	23	28	34	9·5	684	,,	,,
	,,	,,	3	1·75	10·25	9·5	19·5	24	22	26·5	34	8	456	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	38	10	684	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	35·5	9·5	456	½ ,,	,,
	496	4.2.23	3	2	11	11	21	28·5	26	31·5	38·5	11	684	½ ,,	,,
	52	16.8.20	—	—	—	—	—	—	—	—	59·5	17	2725	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	62	17	2498	¼ ,,	,,
	59	18.8.20	7·7	1·3	17	19	45	38	38	46	53	17	1959	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	59	18	2414	½ ,,	,,
	60	25.8.20	—	—	—	—	—	—	—	—	58	17	2385	¾ ,,	,,
	61	,,	—	—	—	—	—	—	—	—	45	14	2043	½ ,,	,,
	,,	,,	8	2	18	16	20	41	39	46	54	16	2043	ripe	,,
	73	,,	—	—	—	—	—	—	—	—	50	15	1817	¼ ,,	,,
	94	11.9.20	—	—	—	—	—	—	—	—	41	11·5	793	½ ,,	prawns
	147	13.12.20	2·5	1·5	10	9·5	19	25	23	28	32	9	567	¾ ,,	nil

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Epinephelidae															
Epinephelus angularis ♂	147	13.12.20	3·5	2	11	10	20	26	24	29·5	36	9	567	¾ ripe	nil
	148	,,	3	2	10	9	19	23·5	22·5	26	32	8·5	454	¾ ,,	,,
	167	19.12.20	3	2	10·5	10	17·5	21	21	26	31	8	340	½ ,,	,,
	170	20.12.20	3	2	11	10	20	25·5	24	28	35	9	567	¼ ,,	,,
	175	23.12.20	3	1·5	9	8	16	19·5	19	22·5	29	7·5	340	½ ,,	,,
	,,	,,	3·5	1·5	9	8	16	19·5	19	22·5	29	7·5	326	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	29	8	340	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	29	8	340	½ ,,	,,
	179	25.12.20	4	1·75	11·75	10	20·5	25·5	26	28	36	9·5	567	¼ ,,	,,
	186	26.12.20	4	2·25	12	11·5	22	29	26·5	31	39	10·5	680	¼ ,,	,,
	194	31.12.20	3·75	2·5	10·5	9·5	13·5	23·25	22	26	32	8	454	¼ ,,	,,
	195	,,	3·5	1·5	10	9	17·5	23	22	25·5	31	7·5	340	½ ,,	,,
	199	1.1.21	4·5	2	12	11·5	21·5	28	25	30	37	9·5	680	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	27·5	7	340	½ ,,	,,
	200	,,	3	2	11·5	10·5	20	26·5	24·5	30	35	9	680	¼ ,,	,,
	,,	,,	3	1·5	9	8·5	16·5	21·5	20	22·5	28	8	340	½ ,,	,,
	225	7.4.21	3·5	2	12	12	21	28·5	26	31·5	38·5	11	—	½ ,,	,,
	234	9.4.21	3·5	1·75	11	11	20·5	27	24·5	29	37·5	11	680	¼ ,,	,,
	479	31.1.23	—	—	—	—	—	—	—	—	32	8	456	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	36	9	570	½ ,,	,,
Epinephelus areolatus ♀	154	15.12.20	7	2·5	19·5	18	34	45	41	49	61	16	2951	¾ ,,	,,
	226	7.4.21	6	2·5	20	19	34	44	40	47	58	17	2270	½ ,,	,,
	,,	,,	7	3	21·5	21	38	51	46	55	67	20	4090	¼ ,,	,,
Epinephelus areolatus ♂	225	7.4.21	7	3	22·5	22	40	53	48	58	69	21	5450	ripe	,,
	226	,,	5	2	16	16	30	39	36	43	53	16	2725	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	75	20	5000	,,	,,
	227	,,	5·5	3	19·5	20·5	35	48	42	51	62·5	19	3406	,,	,,
	234	9.4.21	6	2·5	21	19·5	36	49	44	53	66	18	3860	,,	,,
	,,	,,	6	2·5	20·5	19	35	49	43	53	65	18	3405	,,	,,
	,,	,,	4·5	2·5	19	18·5	34	46·5	41	52	63	16	3405	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	56	16	2500	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	67	18	4090	ripe	,,
	236	9.4.21	5	2·5	16·5	17	30	40	36	44	53	16	2045	½ ,,	,,
	237	10.4.21	4·5	2	16	15·5	29	39	35	41	51	15	2385	ripe	,,
	448	16.4.22	6	3	21	20·5	37	50·5	45	56	67	20	4560	,,	,,
	450	,,	7	3	22	24	43	55	50	60	75	21	5472	,,	,,
	,,	,,	6·5	3	23·5	22	41	54	48·5	61	73	21	5472	,,	,,
	,,	,,	6	3	20·5	21	36	49	43	54	66·5	20	3420	,,	,,
	466	29.1.23	10	2·75	24·5	22	38	50	51	55	70	17	4104	,,	,,
	476	31.1.23	7	2·75	22	21·5	37	51	45	55	68	20·5	4560	,,	,,
	477	,,	8	2·75	22·5	22·5	42	53	49	58	71	19	5016	,,	,,
	478	,,	7	3	23	21	42	53	49	59	73	22	5472	,,	,,
	,,	,,	7·5	3	22·5	20·5	42	53	49	59	72·5	20	4332	,,	,,
	480	1.2.23	4·5	2·5	16·5	16	28	38	35	43	53	13·5	1824	,,	,,
	484	,,	5	2·5	18·5	17	36	45	41	50	61	17	2736	,,	,,
	,,	,,	6	3·5	22·5	20·5	40	52	47	59	70	19	4104	,,	,,
Epinepheluscoramandelicus ♂	226	7.4.21	6	2	19	17	32	40	37·5	43	54	14	1360	,,	,,
	450	16.4.22	6·5	3·25	22·5	19·5	38	50	45	56	66·5	18	3192	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Epinephelidae															
Epinephelus coramandelicus ♂	475	31.1.23	4·5	2·5	18	16·5	29	40·5	36	44	54	14	2052	ripe	nil
	485	2.2.23	5	2·5	16·75	16	28	36	33·5	40	50	12	1368	¼ „	„
	„	„	4·5	2	19	17	33	42	39	45	56·5	15	2508	ripe	„
Epinephelus diacanthus ♂	486	„	3·5	2·5	16·5	15	25	33·5	30	37·5	47	13	1596	¼ „	„
Epinephelus diacanthus ♀	486	„	3·5	2·5	16	14	24	32·5	29	35	44	13	1368	¼ „	„
Epinephelus fuscoguttatus ♂		1.4.20	—	—	—	—	—	—	—	—		61	4070	¼ „	small fish
	2	20.7.20	—	—	—	—	—	—	—	—	530	180	—	ripe	nil
	58	18.8.20	10	3	30	30	29	60	56	67	78	24	8635	¼ „	small fish
	„	„	—	—	—	—	—	—	—	—	87	24	8635	¼ „	Caranx oblongus
	60	25.8.20	8	3	27	28	30	56	59·5	70	82	23	5225	¼ „	nil
	75	30.8.20	7	2	24	23	21	52	50	58	67	19	4999	¼ „	„
	„	„	5·5	2	18	18·5	17	46	40	51	60	15	2498	¼ „	„
	91	10.9.20	—	—	—	—	—	—	—	—	62	17	3975	¼ „	„
	95	12.9.20	—	—	—	—	—	—	—	—	45	12	1362	¼ „	prawns
	210	3.4.21	9	3	31	28	51	64	59	72	83	25	9770	ripe	nil
	343	12.9.21	7	3·5	28·5	27	52	65·5	61	71·5	86	22	9770	„	fish
Epinephelus fuscoguttatus ♀	49	15.8.20	—	—	—	—	—	—	—	—	95	30	13350	„	digested fish
	„	„	7	2·8	24	23	44	52	50	61	68	18	4545	„	nil
	50	„	—	—	—	—	—	—	—	—	92	28	10224	¼ „	„
	58	18.8.20	—	—	—	—	—	—	—	—	72	21	7043	¼ „	„
	59	„	—	—	—	—	—	—	—	—	75	17	—	¼ „	Equula
	91	10.9.20	4·5	2	17	15	16	38·5	36	44	53	15	1817	ripe	nil
	„	„	—	—	—	—	—	—	—	—	47	13	1930	¼ „	„
	95	12.9.20	3	2	16	15	14·5	39	36	44	53	14	2272	ripe	fish
	„	„	—	—	—	—	—	—	—	—	60	18	3180	„	crabs
	132	8.12.20	7	3	27	27	51	63	59	68	83	24	10678	„	fish bones
	186	26.12.20	3	2	14	12·5	23	31	29	35	42	12	1134	¼ „	nil
	212	4.4.21	8·5	3·5	28	28·5	55	68	65	75	90	27	12312	ripe	„
	333	11.9.21	5	2·5	21·5	20	38	47	45	52·5	64	16	4090	¼ „	fish
	355	15.9.21	4·5	2·5	20	18	34·5	45	39	50	60·5	15	3406	¼ „	nil
	443	15.4.22	11	4	36	34	63	76	72·5	85	100	30	17864	ripe	„
Epinephelus lanceolatus ♂	97	12.9.20	7	3	26	24	54	50	50	62	73	18	5679	¼ „	large crab
	„	„	—	—	—	—	—	—	—	—	74	17	4771	¼ „	crabs
	„	„	—	—	—	—	—	—	—	—	53	12	1930	¼ „	„
	101	13.9.20	4	2·5	18	16	15	39	36	44	52	13	2043	¼ „	„
	„	„	—	—	—	—	—	—	—	—	63	17	3406	ripe	crabs & squids
	„	„	—	—	—	—	—	—	—	—	55	16	1588	½ „	crabs
Epinephelus lineolatus ♀	233	9.4.21	3·5	2	9·5	10	16	21	21	23·5	30	7·5	311	¼ „	nil
Serranus lineolatus ♂	233	„	3·5	2	9	9	16·5	20·5	20·5	23·5	30	8	340	ripe	„
	„	„	3	2	8·5	9·5	16	21	21	23	28·5	8	311	¼ „	„
	„	„	—	—	—	—	—	—	—	—	30·5	8	370	ripe	„
	„	„	—	—	—	—	—	—	—	—	25·5	7	212	¼ „	„
Epinephelus maculatus ♀	154	15.12.20	4	2	13·5	12	23	27	30	32	40	10	793	ripe	„
Epinephelus pantherinus ♂	18	30.7.20	—	—	—	—	—	—	—	—	59	15	2040	¼ „	„
	„	„	—	—	—	—	—	—	—	—	58	17	2500	½ „	crabs
	„	„	—	—	—	—	—	—	—	—	23	15	226	¼ „	nil
	„	„	—	—	—	—	—	—	—	—	77	17	6362	½ „	„
	500	8.2.23	6	3·5	30	27	54	68·5	64·5	74	90·5	27	13680	ripe	„

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt in grammes.	condition of gonads	stomach contents.
Epinephelidae															
Epinephelus pantherinus ♀	20	1.8.20	5·5	2·5	16	18·5	37	42	44	48	57·5	19	2385	¼ ripe	nil
	500	8.2.23	6·5	3	26·5	23·5	48	60	56·5	65	79·5	21·5	8208	ripe	,,
	504	9.2.23	4·5	3	23	20·5	43	55	51·5	60	73·5	18·5	7068	,,	fish
	512	10.2.23	6	2·5	23·5	20·5	42	53·5	49·5	56	70	17·5	5760	,,	nil
	516	11.2.23	13	4	38	36·5	65	82	77	87·5	107·5	34	22800	½ ,,	,,
	,,	,,	13	14	38	36·5	65	82	77	87·5	107·5	34	22800	½ ,,	,,
Epinephelus salmoides ♀	,,	,,	5·5	3	23	19·5	40	50·5	47	55	68	17·5	4771	¼ ripe	,,
	,,	,,	6	3	23·5	21	44	52	50	56·5	70	16·5	4999	¼ ,,	,,
Epinephelus salmoides ♂	297	26.8.21	6·5	3	27	25·5	50	62·5	58	68	82	20	8635	ripe	,,
	504	9.2.23	13	3·5	40	36	65	83	77·5	90	108	34	22800	,,	,,
	537	9.4.23	4	2	16	14	27·5	35·5	33	39	48	13	1596	½ ,,	,,
Epinephelus sp. ♂	14	29.7.20	—	—	—	—	—	—	—	—	65·5	19	3635	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	68	20	3975	½ ,,	,,
	76	30.8.20	2·5	1	8	8·5	9	21	19·5	24	29·5	8	226	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	24	7	169	¼ ,,	—
	96	12.9.20	5·5	2·75	22	20	19	49	43	53	63	18	3861	½ ,,	fish
	130	7.12.20	5·5	2·5	17	17	33	44	40	50	54	18	3180	ripe	—
	147	13.12.20	4·5	2	16	14	29	39	35	42	53	15	2272	,,	—
	,,	,,	6	2·5	20	18	35	47	43	52	63	19	4316	,,	—
	,,	,,	6·5	2·5	18	19	35	44	41	49	60	15	3861	,,	—
	,,	,,	—	—	—	—	—	—	—	—	60	18	3180	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	63	18	3635	ripe	,,
	148	,,	—	—	—	—	—	—	—	—	62	16·5	3180	½ ,,	,,
	150	14.12.20	7·5	2·5	20·5	19	37	47	43	52	65	17·5	4090	ripe	,,
	153	15.12.20	7·5	2·5	20	19	26	46	41	51	61	14·5	2951	,,	,,
	,,	,,	6·5	3	19	17·5	25	46	42	50	63	18	3406	,,	,,
	,,	,,	8·5	3	20·5	19·5	26	36	43	46	52	18	3180	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	60	17·5	3180	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	64	17	3406	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	61	17	3180	ripe	,,
	154	,,	6	3	20	21	35	47	42	52	63	17	3180	,,	,,
	157	17.12.20	8	2·5	21·5	18	35	46	42	52	60	19·5	3861	½ ,,	,,
	,,	,,	6	2·5	19·5	17·5	32	44	40	49	60	15	2951	½ ,,	,,
	161	18.12.20	5	3	17·5	16·5	32	42	38	45	56	15	2725	½ ,,	,,
	,,	,,	5·5	2·5	19	18	34	46	42	51	63	18	3861	ripe	,,
	,,	,,	6·5	2·5	19	18	36	46	41	51	62	19	3293	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	63	17	3180	,,	,,
	162	,,	8	2·5	22	21·5	34	47	53	56	63	19	4771	,,	crab & fish
	163	,,	10	3	23	22	40	51	46	56	68	17	3675	,,	nil
	164	,,	6·5	2·5	19·5	18	36	42	46	51	63	18·5	3635	,,	,,
	,,	,,	5·5	2·75	20·5	19	36	43	47	52	64	18	3406	,,	,,
	168	19.12.20	6	2·5	19	16·5	34	44	46	42	60	16	2951	,,	,,
	169	,,	7	2·5	21	19	36	45	47	46	52	17·5	3635	,,	,,
	,,	,,	7	3	21	19	31	49	46	54	65	18·5	4316	,,	,,
	175	,,	6·5	2·5	20	18	34	46	42	51	64	18	3635	½ ,,	,,
	,,	,,	5·5	3	20·5	18·5	36	48	43	51	66	17	3861	½ ,,	,,
	179	25.12.20	6	2·5	19	17·4	34	45	40	50	60	17	3180	½ ,,	,,
	,,	,,	5·25	2·5	19·25	17	33·5	45·5	41	50·25	61	17·5	3638	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Epinephelidae															
Epinephelus sp. ♂	185	26.12.20	5·25	2·25	19·5	17·5	33·5	44·5	41	51	61	16	3180	¾ ripe	nil
	192	29.12.20	5·75	2·5	19	16·5	34	45	41	49	59	17	3406	¼ ,,	,,
	194	31.12.20	6·5	2·5	18·5	17·5	32·5	42	38·5	46·5	57	15·5	2498	½ ,,	,,
	,,	,,	6	2	20	18·5	35	46·5	42	51·5	61·5	16	3180	—	,,
	,,	,,	5·5	2·5	19	18	35	47	42·5	52·5	64	16·5	3406	—	,,
	196	,,	8	3	22·5	19·5	37	49	44	54	65	17	3635	¾ ripe	,,
	214	4.4.21	4·5	2	16	15·5	28	39	35	43	52	15·5	2157	ripe	,,
	,,	,,	6	3	19	19	24	46	41	50	61	17	3635	,,	,,
	,,	,,	6	3	19·5	19	35	48	42	52	63	13·5	3635	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	54	17	2498	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	31	8	340	½ ,,	,,
	216	5.4.21	5	2	15·5	16	29	39	36	43·5	53	15	2043	ripe	,,
	,,	,,	5·25	2·25	17	17·5	31·5	42	37	47	57	19	2951	½ ,,	,,
	217	,,	7	2·5	21	20	36	48	35	52·5	66	20	3861	ripe	,,
	221	6.4.21	4·5	2	15·5	15	29·5	39	35	43	54	15·5	2043	½ ,,	,,
	,,	,,	5	2	15	15	28	37	33	41	50	14	1817	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	54	15	2043	ripe	,,
	223	7.4.21	6	2·5	19·5	19	36	47	42·5	51·5	62	16	3635	,,	,,
	224	,,	8	3	23	22·5	40	52	47	57	69·5	21	4999	,,	,,
	228	8.4.21	6	2·5	18·5	19	33	44·5	40	49	60	17	3180	½ ,,	,,
	230	,,	—	—	—	—	—	—	—	—	64	18	3406	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	60	17	3635	½ ,,	,,
	233	9.4.21	4·5	2·5	16	15	28	39	34	42·5	52	14·5	2040	½ ,,	,,
	263	12.8.21	6	3	18·5	19·5	33	45	40·5	49	61	17	2951	ripe	small fish
	297	26.8.21	5·5	2·5	18·5	16	32	44	39	47	59	15	2725	½ ,,	nil
	,,	,,	5	2·5	18·5	15·5	31	42	37·5	46	56	14·5	2272	¼ ,,	,,
	355	15.9.21	4·5	2·5	16·5	14	30	40·5	36·5	45	55	15·5	2725	ripe	,,
	451	6.5.22	2·5	1·75	11	8·75	19·5	17·5	24	30	37	11·5	684	½ ,,	,,
	,,	,,	4	2	15·5	13	28·5	40	35	43·5	53	14·5	1824	ripe	,,
	456	7.5.22	7	2	18·5	17	31	41	36·5	43·5	55	13·5	1824	,,	,,
	,,	,,	4	2	15·5	13·5	28	38	34	40	50	13·5	2052	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	53	14	1824	—	,,
	,,	,,	—	—	—	—	—	—	—	—	45	14·5	1824	—	small fish
	,,	,,	—	—	—	—	—	—	—	—	49	13	1140	½ ripe	,,
	458	27.1.23	6	2·75	19	17	31	43·5	39	47	59	18	2736	½ ,,	nil
	,,	,,	7	3	20	19	32	43	38·5	47	58	17	2736	½ ,,	,,
	,,	,,	5	2·5	16·5	16	29	40	35	44	53	18	2280	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	57	16	2508	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	40	13	1140	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	53	17	2508	½ ,,	,,
	459	,,	5	2·25	15	12·5	24	33·5	30	36·5	44·5	15	1368	½ ,,	,,
	,,	,,	5	2	15·5	15	25·5	36	32	40	47	14	1596	½ ,,	,,
	,,	,,	3·5	2	13·5	13	22	31	27	34	42	12	1368	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	37	11	912	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	40	12	912	½ ,,	,,
	460	,,	4	2·5	17	15·5	30	40	36	45	54	16	2280	ripe	,,
	,,	,,	4·5	2·5	14·5	14	26	34	32	39	48	13·5	1596	½ ,,	,,
	,,	,,	5	2·75	16·5	16	29	38	35	42	51·5	15	1824	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Epinephelidae															
Epinephelus sp. ♂	460	27.1.23	—	—	—	—	—	—	—	—	57	16	2508	ripe	nil
	461	,,	6	2·75	19	18·5	34	45	40·5	49	60	19	3306	¼ ,,	,,
	,,	,,	5·75	2·5	18	18	32	44	39	48·5	60	19	2508	½ ,,	,,
	,,	,,	6	2·75	19	19	33·5	45	41	51	61	16	2964	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	64	16	3192	ripe	,,
	464	28.1.23	5	2·5	20	17	36	49	44	53	61·5	15·5	3192	,,	,,
	,,	,,	5·5	3	21·5	19·5	39	53	48	58·5	72	19	5016	,,	,,
	465	,,	4·5	2	16·5	16	28	38	33	42	51·5	14	1824	,,	,,
	468	29.1.23	6·5	2·75	20·5	19·5	38	49	44	52	65	18	3192	½ ,,	,,
	,,	,,	6·5	3	20	20	35	48	42	52	65	18	3648	ripe	,,
	,,	,,	7	2·75	20	20	39	49	43	52	66	19	3192	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	62	17	3192	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	56	15	2052	½ ,,	,,
	470	,,	7·5	3	21	21	36	48	43	53	65	16	3192	ripe	,,
	,,	,,	7	2·5	20·5	20·5	37	49	44	55	66	19	4104	,,	,,
	,,	,,	5·25	2·25	19	18	35	45	40	49	62	18	3192	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	51	14	1596	½ ,,	,,
	473	30.1.23	6	2·5	20·5	19	37	47	42	52	64	16	3648	ripe	,,
	477	31.1.23	5	3	19·5	18·5	35	37	41	52	64	16	3420	,,	,,
	,,	,,	5·5	2·75	18·5	18·5	33	46	40	50	61	18	3648	,,	,,
	479	,,	4·5	3·5	21·5	19·5	37	45·5	44·5	58·5	66	17	4104	,,	,,
	485	2.2.23	4·5	3	22	19	35	46	43	51·5	63·5	18	3420	,,	,,
	,,	,,	4	2·5	19	17·5	30	38	46	43	52	14	1824	½ ,,	,,
	,,	,,	5·5	2·75	22	20	34	45	41	50	62	18	3192	ripe	,,
	,,	,,	5·25	3	22	20·5	35·5	46	42·5	51	62	17	3192	,,	,,
	,,	,,	4	3·25	23·5	22	37	48	45·5	54	68	19	4104	,,	,,
	,,	,,	5	3	23	21·5	37	47	45	53	67	19	4104	,,	,,
	486	2.2.23	5	3	28	21	27	48	44	54	66	18	3648	ripe	,,
	495	4.2.23	7·5	3	12	32	37	50·5	45	56	67	19	4560	,,	,,
	,,	,,	6	3	19·5	19·5	32·5	46	41	50	62	17	3420	,,	,,
	496	,,	5·5	2·5	17·5	18·5	32·5	43	38·5	47·5	57·5	17	2964	,,	,,
	512	10.2.23	3·5	2·5	13	11·5	24	33·5	29·5	36	45·5	13	1368	,,	,,
	,,	,,	3	2	13	11	23	32·5	29	35	45	12	1368	½ ,,	,,
	514	,,	3	2	13	11	23·5	33·5	29	35	44	13·5	1482	ripe	,,
	,,	,,	5·5	1·75	19	17	35	46	42	50	63	17·5	3534	,,	,,
	515	11.2.23	5·5	2	17	16·5	30	42	37·5	45	58	15	2394	½ ,,	,,
	516	,,	6	2·75	20·5	18	34·5	46	41	49·5	63	15·5	3192	ripe	,,
	,,	,,	5	2·5	18·5	16·5	32	45	40	48	60	14·5	2850	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	64	16	3192	ripe	,,
	517	,,	7	2·5	22	19·5	36	50	44	53	69	17·5	3990	,,	,,
	,,	,,	5·5	2·5	19·5	17·5	33·5	46	41	49	62·5	16·5	3534	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	65	17	4104	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	64	17·5	4104	,,	,,
	518	,,	6	2·5	19·5	17·5	34	44	40	48·5	62	17·5	2736	,,	,,
	,,	,,	8	2·5	22	20·5	37	50	45	54	67·5	18	4560	,,	,,
	521	12.2.23	5	2·25	17	15·5	31	42	37	45·5	56·5	17	2964	,,	,,
	,,	,,	6·5	2·75	20	19·5	34·5	46	41	51	63	18	3648	,,	,,
	,,	,,	5	2·5	17	17	31	42	37·5	46	56·5	15	2964	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes	condition of gonads	stomach contents.
Epinephelidae															
Epinephelus sp. ♂	521	12.2.23	—	—	—	—	—	—	—	—	53	15	2736	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	47	13	2052	½ ,,	,,
	522	,,	2·5	2	12	10·5	23	30	26·5	33	40	12·5	912	½ ,,	,,
	,,	,,	4·5	2	16	14·5	28	37·5	33·5	42	50	14·5	1824	ripe	,,
	,,	,,	4	2	14·5	14	25	34·5	31	38·5	46·5	14	1596	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	49	15	1824	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	42	12	1140	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	36	10	798	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	38	11·5	912	,,	,,
	523	,,	5·5	2·5	20	13·5	35	47	42	51	62	17	3648	,,	,,
	,,	,,	5·5	3	19·5	18·5	34	47	42	52	63	18	3648	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	—	—	2964	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	—	—	2052	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	—	—	3420	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	—	—	2508	½ ,,	,,
	524	,,	6·5	2·75	21	19·5	36	49	43	53·5	66	19·5	3876	ripe	,,
	525	,,	5	2·5	19	17·5	35	46·5	41	49·5	62·5	18	3306	,,	,,
	,,	,,	7	3	20	20	34	47	41	50	62	18	3192	,,	,,
	,,	,,	5·5	3	18·5	18·5	31	44	38·5	46	58·5	17	3192	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	—	—	2280	,,	,,
	527	13.2.23	6	3	20	19	36	47	43	52	66	17	3648	,,	,,
	528	,,	5	2·5	19	17	32	45	39·5	48	62	17	3420	,,	,,
	,,	,,	5·25	2·5	18·5	16·5	32·5	44	39·5	47	59	16	2964	,,	,,
	529	,,	6	2·5	22	20	36	51	49	53·5	68	18	5016	,,	,,
	530	,,	5·5	2·5	19·5	17·5	38	49·5	44·5	52	66·5	20	4560	,,	,,
	,,	,,	5·5	3	20	18	34	48	41·5	51·5	65	19	4332	,,	,,
	,,	,,	5	2·25	17·5	16	31	42·5	38	49·5	56	16	2622	,,	,,
	531	,,	5	3	21	18	38	51	46·5	55·5	70	18	4560	,,	,,
	,,	,,	6·5	2·5	21	19·5	37	48·5	44·5	53	67	18	4104	,,	,,
	,,	,,	5·5	3	19·5	18	35	47	42	50	64	14	4332	,,	,,
	532	,,	7	2·25	20·5	18·5	38	49	44	53·5	65	17	3420	,,	,,
	,,	,,	8	3·5	21	21	38·5	49	45	53·5	68	18	3648	—	,,
	538	9.4.23	6·5	2·5	20	19	35	46	41	50	61	18	3534	ripe	fish
	,,	,,	6	2	18	17·5	37	44	38	48	58·5	17	3078	,,	nil
	539	,,	6	2·75	19	17	35	46·5	41·5	51·5	61	20	3534	,,	,,
	544	10.4.23	4	2	15·5	12	22·5	32	28·5	34	43	12·5	1020	,,	,,
	548	11.4.23	8	3	23	23	39	52	46	56	68	21	4332	,,	,,
Epinephelus sp ♀	96	12.9.20	4	2	16·5	15·5	14	40	35	45	53	14	2272	ripe	,,
	118	5.12.20	7	2·5	19·5	20	20	47	44	50	63	20	3635	¼ ,,	,,
	,,	,,	7	2·5	20·5	18	20	47	43	50	63	18	3865	½ ,,	,,
	119	,,	7·5	3·5	20	20	21	51	46	55	63	21	4545	ripe	,,
	,,	,,	7·5	3	21	21	20	51	46	55	69	21	4771	,,	,,
	133	8.12.20	8	3	19	19·5	34	45	41	50	60	18	2951	½ ,,	,,
	146	13.12.20	6	2·5	17·5	17	34	43	39	47	59	18	3180	½ ,,	,,
	,,	,,	7	2·	18	18·5	35	46	41	49	61	16	2725	¼ ,,	,,
	147	,,	—	—	—	—	—	—	—	—	61	19	3861	¼ ,,	,,
	148	,,	6	2·5	20	17	36	40	42	50	63	18	3406	¼ ,,	,,
	,,	,,	9	2·5	20	20	36	47	42	50	61	17	3406	¼ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes.	condition of gonads	stomach contents.
Epinephelidae															
Epinephelus sp. ♀	154	15.12.20	6	3	19	17·5	33	44	40	49	60	15·5	2725	ripe	nil
	,,	,,	5	3	19·5	17·5	34	45	41	49	61	17	3406	½ ,,	,,
	179	25.12.20	6	2·5	18·5	17	31·5	42	32·5	46·5	55	16	2272	¼ ,,	,,
	190	26.12.20	5·5	3	19	18	36	46·5	42	51	62	17·5	3293	½ ,,	,,
	193	29.12.20	6·5	3	21·5	18·5	36	48	43	51·5	64	17·5	3293	½ ,,	,,
	199	1.1.21	9·5	3	24	21	40	50	47	54	67	20	4316	½ ,,	,,
	200	,,	7·5	2·5	20·5	18·5	34	40	41·5	49	60	18	3180	½ ,,	,,
	205	2.1.21	7·75	2·5	22	20	37	48·5	44	54	64	18·5	3861	¼ ,,	,,
	,,	,,	5·5	2·5	20	17	35	47·5	42·5	52·5	64	18·5	4545	½ ,,	,,
	212	4.4.21	6·5	2·5	19	18·5	36	47	42·5	51	53·5	21	3635	ripe	,,
	213	,,	5	2·5	17	17	31	42	37·5	46	56	18	2951	,,	,,
	216	5.4.21	4·5	2	15	15	26	36	32	40	38·5	15·5	1588	¼ ,,	,,
	217	,,	6	2·5	19	19	37	48	43	53	64	18	3975	ripe	,,
	,,	,,	6	2·5	18	17	34	43	40	47·5	57·5	17·5	2725	½ ,,	,,
	219	6.4.21	6	2·5	20	18·5	36	48	43	53	63·5	16	3861	½ ,,	,,
	,,	,,	6	3	20·5	20	36	49	43	54	64	18	4090	½ ,,	,,
	,,	,,	5·5	2·5	18	18	33	45	39	48	57·5	16·5	3406	¼ ,,	,,
	221	,,	5	2·5	17	17	33	38	43	46	58	20	2951	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	50	12	1588	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	62·5	17	3180	ripe	,,
	223	7.4.21	6	2	18	17·5	34	45	41	49	59·5	18	3180	,,	,,
	225	,,	6·5	3	19·5	19·5	36	49	43	54	63·5	19	3860	½ ,,	,,
	228	8.4.21	6	3	21	19·5	37	50	45	54	68·5	21	4550	ripe	,,
	230	,,	6	2·5	18	19	34·5	44	40	48	61	18	3180	¼ ,,	,,
	,,	,,	7	3	19·5	20·5	36	47	43	51	61	20	4090	½ ,,	,,
	,,	,,	7·5	3	21·5	22	38	51	45	56	67	20·5	4316	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	56	16	2270	¼ ,,	,,
	231	,,	6	3	19	17	36	43	40	48	59	20	2950	½ ,,	one Upeneus
	,,	,,	5	2·5	17	16·5	31	41	37	47	56	17	2725	½ ,,	nil
	288	21.8.21	6·5	2·5	19·5	19	35	46	42	50	62	16·5	3180	½ ,,	,,
	291	22.8.21	6·5	2·5	20·5	18·5	36	48	44	53	64	16·5	3406	½ ,,	,,
	293	,,	5·5	2·5	19	17	34	48	42	52	64	17	3406	¼ ,,	,,
	294	,,	4·5	2·5	17·5	16	33	45	40	47·5	59	18	2725	ripe	small fish
	296	23.8.21	8	2·5	21	19·5	37	48·5	44	53	65	16	3180	¼ ,,	nil
	324	10.9.21	4	2	15	14	28·5	37	34	41	51	14·5	2043	¼ ,,	,,
	341	12.9.21	4·5	2·5	17	15	30·5	40	36·5	44	56	15·5	2498	¼ ,,	,,
	,,	,,	5	2·5	18	16·5	32	41·5	38	46	57	15	2498	¼ ,,	4 Erythrocles leucogrammicus
	,,	,,	5	2	18	15·5	31	40·5	36	44	55	14	2157	½ ,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	46	13	1588	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	56·5	15	2498	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	54	13·5	2157	¼ ,,	fish & crabs
	344	,,	4·5	2·5	16·5	15	30	40	36	42·5	54	15	2157	ripe	nil
	355	15.9.21	4·5	2·5	17	14·5	31	42	37·5	45	57	15	2838	¼ ,,	small fish
	447	16.4.22	5	2·25	18	17	32	41·5	37	47	56	15	2622	½ ,,	nil
	,,	,,	6	2·5	17·5	18	30	41	36	46	54	16	2280	½ ,,	,,
	448	,,	6	2·5	20	21	36	47	42	53	62	18	4104	½ ,,	,,
	,,	,,	6·5	2·75	20	21	36	49	45	55	66	19·5	4332	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt in grammes.	condition of gonads	stomach contents.
Epinephelidae															
Epinephelus sp. ♀	456	7.5.22	4·5	2·5	16·5	14·5	29	39	35	42	53	14·5	2052	½ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	51	15	2280	½ ,,	cuttlefish
	468	29.1.23	—	—	—	—	—	—	—	—	63	17	3192	½ ,,	nil
	503	9.2.23	5	2·5	22	19	39	50	46·5	54	67	16	5016	ripe	,,
	516	11.2.23	5	2·5	19·5	17	34	42	41	51	63	17	3648	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	62	16	2964	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	60	16	2734	½ ,,	,,
	517	,,	4·75	2	16·5	14·5	27·5	38	34	41	53·5	13·5	1824	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	54	13·5	2280	½ ,,	,,
	518	,,	5	3	18·5	16	32·5	44	40	47	60	15	2736	½ ,,	,,
	530	13.2.23	5·5	2·5	17	16	28	40·5	37	43·5	55	14·5	2166	½ ,,	,,
	540	9.4.23	5	2·25	17	16	30·5	42	37·5	45	56	16·5	3078	½ ,,	,,
	,,	,,	4·5	2·5	17	16·5	30·5	42	38	45	58	18·5	3534	½ ,,	,,
	,,	,,	5·5	2	18·5	16·5	33·5	43	39·5	48	58·5	16·5	3534	½ ,,	,,
	550	11.4.23	7	3	19	20	36	47·5	43	51·5	65	17	3762	½ ,,	,,
Priacanthidae															
Priacanthus holocentrum ♂	75	30.8.20	1·5	1·5	4	3·75	3	9	9	10	13	4	28	½ ripe	prawns
	148	13.12.20	4·5	4	12	10·5	19	27	27	30	37	11	680	ripe	nil
	149	14.12.20	2·5	3	6·5	7	11·5	18	20	20	25	6·5	226	,,	eel
	,,	,,	2	2	5·25	5	9	14	14	16	20	6	113	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	20	5·5	113	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	20	5·75	113	½ ,,	fish
	,,	,,	—	—	—	—	—	—	—	—	18	5	113	ripe	shrimps
	167	19.12.20	5	3·5	15	10	16·5	24	24	26	31	9·5	454	,,	nil
	173	23.12.20	4	3·5	10	9·5	16	25	25	28	35	10·5	567	,,	prawns
	,,	,,	—	—	—	—	—	—	—	—	34	9·5	454	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	29	9	340	,,	,,
	195	31.12.20	4·5	2·5	6	7·5	13	17·5	17·5	20·5	24·5	7·5	183	½ ,,	small fish
	,,	,,	4·5	2·5	9	8	13	18·5	18·5	22	25	7·5	205	½ ,,	,,
	,,	,,	4·5	2·5	9	8	13·5	19	19	21	26·5	8	242	½ ,,	,,
	320	9.9.21	2·5	3·5	8	8	12·5	21	21	23	30	9	454	ripe	nil
Priacanthus holocentrum ♀	52	16.8.20	5	3·5	10	10·5	11	25	25	29	35	11	567	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	32	12·5	680	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	32	13·5	793	ripe	crabs
	,,	,,	—	—	—	—	—	—	—	—	37	13	793	,,	crabs & prawns
	149	14.12.20	2·5	2·5	6·5	6·5	11	18	18	20	25	6·5	226	¾ ,,	shrimps
	173	23.12.20	6·5	4	13·5	12	21	30	30	33	41	13	1021	½ ,,	prawns
	,,	,,	5	3·5	10·5	10	17·5	25·5	25·5	28	34	10	680	½ ,,	,,
	197	31.12.20	4·5	2·75	9·5	8·5	14	20·5	20·5	22·5	29	8·5	282	½ ,,	nil
	198	1.1.21	4·75	3·5	10·5	10	16·5	25·5	25·5	27·5	35	11	680	¾ ,,	prawns
	200	,,	2·5	2·5	6·5	6·5	11·5	19·5	19·5	22	29·5	8·5	340	½ ,,	nil
	224	7.4.21	2	2·5	7	7	11·5	20	20	23	29	8	282	½ ,,	,,
	227	,,	3	3·5	9	9	16	24	24	27	33·5	1	680	½ ,,	,,
	238	10.4.21	3	2·5	7·5	7·5	12·5	22	22	25	31	19·5	454	½ ,,	,,
	320	9.9.21	3	3	8·5	7·5	12.5	21	21	22	30	9	454	ripe	,,
	333	11.9.21	4	3	8·5	8	14	21·5	21·5	24	29	9	454	,,	prawns
	525	12.2.23	4·5	4	10·5	10·5	17·5	27	27	31	39·5	13	1140	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Lutianidae															
Lutianus argentimaculaius♂	22	2.8.20	5·7	2·4	15·5	16	29·5	35	34	42	50·6	15	1820	—	nil
	27	3.8.20	4	1·7	9	9·5	17	21	21	25	31	10	340	½ ripe	,,
	50	15.8.20	9	2·5	19	21	22	43	43	53	63	21	3406	—	,,
	58	18.8.20	6	2·5	14	16	15·5	35	38	43·5	54	19	2725	ripe	,,
	74	29.8.20	4·5	2	13	15	14	37	34	44	53	17	1588	½ ,,	,,
	94	11.9.20	4	2	10·5	12	14·5	29	29	35	42	14	1021	½ ,,	small fish and prawns
	,,	,,	—	—	—	—	—	—	—	—	42	14	908	½ ,,	prawns and crabs
	129	7.12.20	6	2·5	16	16	31	37	37	44	55	16	2157	ripe	nil
	139	10.12.20	4	2	12	12·5	23	29	27	33	42	14	908	½ ,,	small crabs and fish
	146	13.12.20	4·75	2·5	14·5	15	29·5	36	36	42	54	16	2498	ripe	nil
	175	23.12.20	6	2	16	16	29·5	37	25	41	54	15·5	2043	,,	,,
	,,	,,	5	2	15	14·5	28·5	35	34	41	53	15	2043	½ ,,	,,
	,,	,,	4	2	95	9	18	22	21	26	34	10·5	567	½ ,,	,,
	179	25.12.20	7	2·25	16	17	30·5	38	37	44	54	14·5	2043	ripe	,,
	185	,,	5	2·25	15·5	15	29	37	35	43·5	53·5	15·5	2272	,,	,,
	192	29.12.20	6·75	2·5	17	17	13·5	37	36	43	54	15	2043	½ ,,	,,
	,,	,,	5·5	2·5	15	15·5	38·5	35	34	41	51·5	14·5	1702	½ ,,	,,
	193	,,	5	3·25	14	14·75	26	33	32	37	47·5	15	1588	½ ,,	,,
	194	31.12.20	6	2	14	14·5	25·5	31·5	30	37·5	46	13	908	½ ,,	,,
	199	1.1.21	6	1	14	14·5	26·5	31	30	37	45	13	680	½ ,,	,,
	212	4.4.21	6·5	2·5	16·5	17	30	36·5	36	42	52	18	1817	½ ,,	,,
	219	6.4.21	5	2	15	16	29	36	35	42·5	53	16	2272	½ ,,	,,
	,,	,,	5	2	14	15	29	35	33	40	51	16	2043	½ ,,	,,
	293	22.8.21	8	3	21	19	37·5	46·5	45	54	67	24·5	5453	ripe	,,
	297	26.8.21	7	2	16	16·5	30	35	35	42	52	14·5	1817	½ ,,	,,
	,,	,,	7	2	16·5	16·5	31	37	37	43	55	15	2043	ripe	,,
Lutianus argentimaculatus ♀	15	30.7.20									56	18	2385	½ ,,	,,
	45	14.8.20	6·5	2·5	13	16	16·5	32·5	32	38	46	15·5	1362	ripe	small fish
	,,	,,									48	16	1588	,,	,,
	61	25.8.20	7	2·5	17	19	17·5	36	36	42	51	19	2272	¼ ,,	nil
	94	11.9.20									40	13	908	½ ,,	fish
	119	5.12.20	6	2·5	15	16	16	34	34	40	51	15	1817	¼ ,,	nil
	120	,,	4·5	2	14	15	13·5	34	34	40	54	15	1362	ripe	,,
	,,	,,	4·5	2	13	14	12·5	31	31	36	46	14	1588	¾ ,,	,,
	179	25.12.20	4·75	2·25	14·5	14·75	28	34	33·5	40	50·5	14·5	1702	ripe	,,
	,,	,,	5·25	2·5	14	14·75	26·25	31·5	31	37	47	13·5	1475	¾ ,,	,,
	190	28.12.20	3	3	13	13	31	37	36	43	53	16	2272	¾ ,,	,,
	192	29.12.20	4	2·25	13·5	13	25·5	32	31	37	47	13·5	1588	ripe	,,
	194	31.12.20	5·5	2	14	13·5	25·5	40·5	40	35·5	45	12·5	1134	½ ,,	,,
	200	1.1.21	6	2·5	15	16	28	34	32·5	39	40	14	1588	ripe	,,
	217	5.4.21	5	2·5	15	16	29	35	34·5	41	52	15	1134	¾ ,,	,,
	219	6.4.21	6	2·5	16·5	17·5	32	38	37	44	56	17	2385	¼ ,,	,,
	221	,,	5·5	2	14·5	16·5	27	36	32	43	53	16·5	2272	ripe	,,
	231	8.4.21	7·5	2·25	15	18	30	35	35	39·5	51	17	1820	¼ ,,	,,
	320	9.9.21	7	3·5	19·5	20	37	44·5	44·5	51	64	18·1	3519	¾ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Lutianidae															
Lutianus dodecacanthus ♂	217	5.4.21	6	3	18·5	18	24	42	42	49	62	19	2951	ripe	nil
	219	6.4.21	5	2·5	15	15	25	34	31·5	38	44	16	1588	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	39	12·5	908	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	42	13·5	908	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	42	13	908	¼ ,,	,,
	221	,,	4	2	9·5	12	19	23	23	26	29	12	680	¼ ,,	,,
	,,	,,	5	2·5	12	12	19·5	26	25	31	38	12	680	⅛ ,,	,,
	,,	,,	3	2·5	10	10·25	18	23·5	21·5	27	33	11·5	567	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	37	12	680	⅛ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	37	11	680	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	35	10·5	454	⅛ ,,	,,
	225	7.4.21	6·5	3·5	19	21	35	44·5	42	52	63·5	20	3180	ripe	fish
	,,	,,	5·5	2·5	16·5	17	30	39	37	45	56	18	2500	,,	nil
	,,	,,	6	3·5	18	17·5	33	42	45	50	61	18·5	2725	,,	,,
	227	,,	7	3	18	18·5	32	41	38	46	57·5	17	2270	,,	,,
	,,	,,	6·5	2·5	18	18·5	34	42	42	48	59	19	2925	,,	,,
	228	8.4.21	4	2	11·5	12·5	20·5	27	26	31	38	11	680	⅛ ,,	,,
	,,	,,	3·5	2	11·5	12	19	26	24	30	37	12·5	680	ripe	,,
	,,	,,	4	2	11	12	18·5	25	24	30	36	12	680	⅛ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	37	12	680	½ ,,	squid
	,,	,,	—	—	—	—	—	—	—	—	36	12	680	⅛ ,,	nil
	231	,,	4	2	11	12	19	25	24	28	36	11	680	¼ ,,	,,
	,,	,,	4	2	11·5	11·5	22	26	26	30	38	12	680	½ ,,	,,
	233	9.4.21	3·5	1·5	9	8·5	17	21	20·5	24	30	10	454	¼ ,,	,,
	,,	,,	3·5	1·5	10	10	17	22	20	24	31	10	454	½ ,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	33	11	454	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	29	9	454	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	25	8·5	340	⅛ ,,	,,
	234	,,	4	2	10	10·5	18·5	24	23	27	34	11	567	½ ,,	,,
	,,	,,	4	2	10·5	11	18	24·5	23	28	34·5	11·5	680	½ ,,	small fish
	,,	,,	5	2	13·5	14	22	30	27·5	35	44	14·5	1135	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	48·5	15	1590	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	42	13·5	1020	⅛ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	37	12	680	¼ ,,	,,
	236	,,	6·5	3	18	18	32	40	38	46	57	18	2610	ripe	,,
	,,	,,	5	3	18	18	32	41	38	46	57	19	2840	,,	,,
	,,	,,	4	2·5	13·5	13	25	32	30	37	46	17	1135	⅛ ,,	,,
	237	10.4.21	8	3	20	20	38	46	45	53	66	20	3635	ripe	,,
	,,	,,	6	2·5	18	18	32	42	39	37	58	18	3180	,,	,,
	,,	,,	6	2·5	16·5	17·5	32	40	37	45	55	18	2498	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	58	18	2725	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	47	14	1362	⅛ ,,	,,
	238	,,	6	3	17·5	18	32	41	39	47	64	18	2498	½ ,,	small Aprion
	,,	,,	5·5	3	16	16	28	36·5	35	41	52	16	2043	ripe	nil
	239	,,	8	3	20	20	35	42	40	49	61	18	2951	,,	,,
	,,	,,	6·5	3	18	18	32·5	40	40	47	59	17	2612	,,	,,
	448	16.4.22	4	2	12	12·5	22	28	27	33	39	14	912	⅛ ,,	digested matter
	,,	,,	3·5	2·5	12·5	11·5	21·5	27	27	33·5	41	13	1140	⅛ ,,	nil
	,,	,,	4	2·5	12·5	13	22	28·5	27	32·5	41	13·5	1140	—	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Lutianidae															
Lutianus dodecacanthus ♂	448	16.4.22	6	4	20	19	35	43·5	42·5	51	62	21	3420	½ ripe	nil
	449	,,	5	2·5	16	14·5	29	36	35	42·5	52	17·5	2280	ripe	,,
	,,	,,	4	2	12	12	20	26	24	30	37	12	912	½ ,,	,,
	450	,,	3·5	2	11	11·5	18·5	25	23	28	35·5	11·5	456	½ ,,	shrimps
	,,	,,	4·5	2	13·5	13·5	23	29·5	28	34·5	42·5	13	912	½ ,,	nil
	,,	,,	6·5	2·25	14·5	14	23	30	28·5	34	42·5	14	798	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	42	13	912	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	42	13·5	912	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	39	12·5	570	,,	,,
	461	27.1.23	6·5	3·75	19	20	34	45	42	52	63	19	3648	,,	prawns
	463	28.1.23	4·5	3·5	17·5	15·5	31	40	37	45	56·5	17·5	2508	½ ,,	nil
	,,	,,	6	3·5	17	17	31	39	37	45	56·5	16	2280	ripe	,,
	464	,,	5	3·5	17	17·5	33	41	39·5	46·5	60	17	2736	½ ,,	,,
	,,	,,	5·5	3·5	19	17·5	33	42	40	48	61	17	2736	½ ,,	,,
	465	,,	4	2·25	12·5	13	20	28	26	32	40	13	684	¾ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	58	18	2508	½ ,,	,,
	466	29.1.23	7·5	3·5	19·5	20	34	44	42	50	64	20	3192	ripe	,,
	,,	,,	4·5	2·5	15	15	25·5	33·5	32	39	49	15	1596	½ ,,	,,
	,,	,,	6·5	3·5	18	19·5	33	42	39	49	60	18	2736	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	64	19	3192	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	56	17	2280	½ ,,	,,
	471	30.1.23	5	2·25	14·5	16	28	35	32	40	51	15	1596	¼ ,,	,,
	473	,,	5·5	3	18·5	18	33·5	43	42	50	61	18	2736	ripe	,,
	,,	,,	6	3	18	17·5	33	42	40·5	49	62	17·5	3192	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	64	19	3648	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	65	19	3876	,,	,,
	474	,,	4	2·5	12·75	12	21	29	26	34	41·5	13·5	1140	½ ,,	,,
	475	31.1.23	4	2·5	13·5	12	24·5	31·5	30·5	36	45·5	13	1596	½ ,,	,,
	,,	,,	4	2·5	13·5	11·5	24·5	31	30	36	42	13	1596	½ ,,	,,
	476	,,	5	2·75	15·5	16·5	30	36	35	42	54	15	1824	½ ,,	,,
	477	,,	4	2·25	12·5	12·5	23·75	29	28	32	41	12·5	1026	ripe	,,
	478	,,	4·5	2·5	14	14	23·5	32	29	36	44	14	1368	½ ,,	,,
	,,	,,	5	2·5	13·25	14	23·5	30·5	28	35	44	13	1140	ripe	,,
	,,	,,	5·5	2·75	15·5	15·75	28	35	33	40	50	16	1824	,,	,,
	,,	,,	4	2·5	12	12	21	27	26	31	39·5	13	1026	,,	,,
	479	,,	5	2·25	14	13·5	24	31	29	36.5	46	13·5	1368	,,	,,
	484	1.2.23	8	3	21	21·5	35	35	42	51	63·5	20	3648	,,	,,
	,,	,,	5	2·75	16	15·75	28	36	34	41	51	16	2052	,,	,,
	,,	,,	3·5	2·25	11	11·25	19	26	24·5	29·5	37	12	684	½ ,,	,,
	,,	,,	4·5	2·5	12·5	12·25	21·75	29	27	30	41	13	798	½ ,,	,,
	485	2-2.23	5·75	3	18·5	17·5	30	39	37	46	57	17·5	2736	½ ,,	,,
	,,	,,	4·5	2·25	13·5	14	24	31	30	36	46	14	1368	½ ,,	,,
	,,	,,	5·5	3·5	17·5	17	31	40	37·5	46	58	18	2964	ripe	,,
	486	,,	4·75	2·5	15·5	15	28·5	35	34·5	41	50	17	1824	½ ,,	,,
	,,	,,	5	2·75	15·5	15	26·5	34·5	33	40	50	16	1824	½ ,,	,,
	489	,,	5·25	3	16	16·5	28	37	34	40·5	53	16	2052	ripe	,,
	,,	,,	4·75	2·75	15	15	27	35	34	42	56·5	16	2052	,,	,,
	,,	,,	6	3	19	19	34	42·5	40	48·5	60	18	2736	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes.	condition of gonads	stomach contents.
Lutianidae															
Lutianus dodecacanthus ♂	489	2.2.23	4	2·75	4·5	14·75	27	34·5	33	40	50·5	15·5	1824	ripe	nil
	490	3.2.23	5·5	3	16·5	16·25	30	37	36	43	54	17	2052	,,	,,
	,,	,,	5	2·5	14·5	14·5	25	33	31	38	47	14·5	1482	,,	,,
	495	4.2.23	5	2·75	14	14·25	24	32	30	36·5	46	14	1368	,,	,,
	496	,,	6·75	3·5	17	19·5	33·5	43	41	50	62·5	18	3192	,,	,,
	500	8.2.13	5·5	3	19	19·5	47	46	53·5	57·5	67·5	21	4788	,,	,,
	,,	,,	4·5	2·5	15·5	14	29	39·5	36	43	55·5	17·5	2736	,,	,,
	,,	,,	5·5	2·5	16·5	16	31	40·5	39	45	59	23·5	2736	,,	,,
	503	9.2.23	3·5	2	11·5	11·5	21	27·5	25·5	30	39	14·5	1140	,,	prawns
	,,	,,	4	1·75	11	10	19·5	25	24	28	36·5	12	684	½ ,,	,,
	,,	,,	4	1·75	11·5	10·5	21	27	26	31	39	13	912	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	39·5	12·5	1140	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	38	12	1140	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	31	10	342	½ ,,	nil
	517	11.2.23	5·5	3	18	16·5	33	41·5	40	47·5	61	18	2850	ripe	,,
	,,	,,	5·5	2·75	17·5	17	32	40·5	39	46	58·5	17	2736	,,	,,
	,,	,,	6	3·5	20·5	19	37	47	46	53·5	62·5	20	4560	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	62	18·5	3420	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	54	17	2280	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	54·5	16·5	2280	,,	,,
	518	,,	8	3	21	20	35	49	42·5	50	62·5	18·5	3192	,,	,,
	,,	,,	5·5	2·5	16·5	15·5	29·5	37	36	42	55	16	2280	½ ,,	,,
	,,	,,	5·5	3	17	16	31	39	38	44·5	57	17·5	2964	ripe	,,
	521	12.2.23	6·25	3	19·75	19·5	34	34·5	42	50	61	20	3648	,,	crabs
	524	,,	5	2	15	14	26	32·5	31	36	46	16	1596	,,	nil
	,,	,,	4·5	2·5	13	14	25	30	28·5	35	42	14	1368	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	46·5	16	1596	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	47·5	18	1596	ripe	small fish
	525	,,	6·5	3	18	19·5	31	43	39	48	60	18	3192	,,	nil
	,,	,,	6·5	3	18	19	33	41·5	39	47	58	19	2736	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	53·	16	2280	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	53	17	2280	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	50	15	1824	½ ,,	,,
	527	13.2.23	4·5	1·5	15·5	14	28	35·5	35	42	54	16	2280	ripe	,,
	,,	,,	5	2·5	17·5	18	31·5	41	39·5	55·5	59	18	2736	,,	cuttlefish and crabs
	,,	,,	—	—	—	—	—	—	—	—	56	18	2736	½ ,,	nil
	528	13.2.23	4	3·75	16	13·5	28·5	36	35	41	53	16	2280	ripe	,,
	,,	,,	5	3·5	18·5	16	32	42	40	47	62	14·5	2964	,,	,,
	,,	,,	5	4	18	17	30	38	37	42·5	56	17	2508	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	59	17	2964	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	51	15	2052	½ ,,	,,
	529	,,	6	2·5	16·5	17·5	32	42	40	46	60·5	17·5	2964	ripe	,,
	530	,,	—	—	—	—	—	—	—	—	58	16·5	1596	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	52·5	16	2052	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	47	17	1368	ripe	,,
	531	,,	5·5	3·5	18·5	18	32·5	42·5	40	47	61·5	18	3192	,,	,,
	,,	,,	5	3	18	16·5	32·5	32·5	40·5	47	61	18	3078	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Lutianidae															
Lutianus dodecacanthus ♂	531	13,2.23	5	2·75	16	14·5	27	35	34	40	52·5	15	1938	½ ripe	nil
	532	,,	5·5	3·5	19	18	33	42·5	41	48	63	18	3192	ripe	,,
	547	10.4.23	5·5	2·5	19·5	16·5	35	43·5	42·5	49·5	69	22	4788	,,	crabs
	549	11.4.23	5·5	3	18	17	36·5	47	49·5	54·5	70	20	4788	,,	nil
	550	,,	6	3·25	19	17·5	41·5	46	42	52	67	21	4560	,,	prawns
Lutianus do decacanthus ♀	217	5.4.21	6	3·5	19·5	20	35	45	41	52	64	21	3748	¼ ,,	nil
	219	6.4.21	4	2	13	13	21	29	27	33	40	14	908	¼ ,,	,,
	,,	,,	4·5	2	12·5	12	23	29	28	34	42	12	1134	¼ ,,	,,
	227	7.4.21	4	2·5	15	14	30	37	37	42	54	19	2270	¼ ,,	,,
	233	9.4.21	3·5	1·5	9·5	9·5	16·5	22	21	26	32	10	454	¼ ,,	,,
	473	30.1.23	5·5	3	17·5	17	31	39	38	45	59	16·5	2508	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	58	17·5	2736	½ ,,	,,
	,,	,,	4	2·75	13·5	13·5	23	30	29	34	43	13·5	798	¼ ,,	,,
	474	,,	4	2·5	13	12·5	23	28	27	33	42	12·5	1140	¼ ,,	,,
	476	31.1.23	4·5	2·25	13·5	15	26	32	30	37	47	14	1596	½ ,,	,,
	477	,,	5	2·5	13·25	13	23·5	31	29·5	35	44	13	798	¼ ,,	,,
	,,	,,	5·25	2·5	15	14	26	32·5	31	37	46	14	1368	½ ,,	,,
	479	,,	6	3	18	18	32	41	39	47	58	17·5	2736	½ ,,	,,
	480	1.2.23	5	2·25	13·5	14	25	31	30	36	45	14	1368	¼ ,,	,,
	484	,,	4	2·75	12·5	11·75	23	29	28	33	42	13	1140	½ ,,	,,
	,,	,,	4·75	2·5	14	14·75	23	32	29	36	46	14·5	1368	¼ ,,	,,
	485	2.2.23	5·5	2·5	16	17	24	35	31	40	49·5	15	1824	½ ,,	,,
	,,	,,	5·25	3·25	16·5	16·5	29	38	36	44	64	17	2508	½ ,,	,,
	,,	,,	4·5	2·25	13	13	24	40	28	35	43	14	1140	¼ ,,	,,
	489	,,	4·5	2·5	15	15	25	33	30	39	48	16	1596	½ ,,	,,
	,,	,,	3·75	2·5	13·75	13·5	24	32	30	37	46·5	14	1482	½ ,,	,,
	490	3.2.23	5·25	2·5	14	14·5	24·5	33	31	39	48	15	1824	½ ,,	,,
	,,	,,	5	2·75	14·5	14·5	24·5	34	31	39	48	14·5	1596	½ ,,	,,
	,,	,,	5·5	2·25	18	18·25	32	31	38	46	56	18	2508	½ ,,	,,
	,,	,,	6·25	3·25	17·5	19	31	41	37·5	47	57	17·5	2508	½ ,,	,,
	495	4.2.23	4·5	2·25	15	15·5	27	34	32·5	39	48	14	1596	½ ,,	,,
	,,	,,	4·5	2·25	14	13·5	25	30	29	35	43·5	14	1140	¼ ,,	,,
	496	,,	5	2·75	14·75	15	26	33	31	37	47	14	1368	¼ ,,	,,
	500	8.2.23	—	—	—	—	—	—	—	—	54	17·5	2736	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	56·5	18	2736	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	54	18	2736	,,	,,
	501	,,	5·5	2	14·5	14	26·5	33	32	37	49	14	1368	½ ,,	,,
	463	28.1.23	4	3	15·5	13·5	28·5	36	34·5	42	52	15·5	2052	½ ,,	,,
	464	,,	4·5	3	16	15	29·5	36·5	33·5	41	54	15	2280	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	57	16·5	2280	½ ,,	,,
	465	,,	5	2·75	15	16	26	34	22	40	50	16	1824	¼ ,,	,,
	,,	,,	4·5	2·75	15·25	15·5	27	35	32	39	50	15	1824	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	56	17	2280	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	47	15	684	¼ ,,	,,
	514	10.2.23	4·5	2·5	14·5	14	28·5	35·5	34	41	52·5	16	1938	½ ,,	,,
	516	11.2.23	5	2·5	15	14·5	27·5	35·5	34	40	51·5	15	1824	¼ ,,	,,
	518	,,	—	—	—	—	—	—	—	—	50	15	1824	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	61	17·5	3192	¼ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents
Lutianidae															
Lutianus dodecacanthus ♀	518	11.2.23	—	—	—	—	—	—	—	—	56	16	2508	¼ ripe	nil
	524	12.2.23	5	2	14·5	15	26	33	31	37	47	16	1596	¼ „	„
	525	„	6	3	17	18·5	30	39	36·5	46	55	19	2508	½ „	„
	527	13.2.23	5·5	3	18	17	33	41·5	40·5	47·5	61	18	3420	¼ „	„
	„	„	—	—	—	—	—	—	—	—	54	16·5	2280	¼ „	„
	„	„	—	—	—	—	—	—	—	—	58	18	2736	½ „	„
	530	„	5·5	3·5	19	17·5	34	43·5	42	48	62	18	3192	¼ „	„
	„	„	6·5	3·5	19·5	19·5	35·5	45	42·5	52	64	20	3192	½ „	„
	„	„	5·5	3·5	18·5	18·5	34	42	40·5	47	61	18	2964	½ „	„
	532	„	8	4	20	19	35·5	45	44	50·5	64	19	3306	½ „	„
	554	12.4.23	12·5	3	17	17·5	33	42	40	49·5	61·5	19·5	3192	½ „	Salpa
Lutianus erythropterus ♀	210	3.4.21	2·5	1	6	6·5	10	13	12·5	15	9	6·25	85	½ „	nil
	460	27.1.23	5·5	2·5	15·5	17	26	36	32	41	50	16	1824	¼ „	„
Lutianus erythropterus ♂	210	3.4.21	2	1	5	6	10	13	12·5	14·5	18·5	7	99	ripe	„
	458	27.1.23	4·5	2·5	13	13·5	26·5	33	32	38·5	47·5	17	1824	„	„
	„	„	5·5	2·5	15	16	29	37	35	43	53	18	2280	„	„
	460	„	5	2·75	14·5	14·5	24	32	30	37	46	15	1824	„	„
	„	„	5	2·5	15	15	25	35	32	40	48	16·5	1596	„	„
	„	„	—	—	—	—	—	—	—	—	46	14·5	1368	„	„
Lutianus gibbus ♂	144	10.12.20	3	2	9	8	15·5	18·5	18·5	22	27·5	9·5	340	—	„
Lutianus gibbus ♀	144	„	3	2	8·5	8	16·5	19	19	22	28	9	340	ripe	„
	„	„	3	2	8	9	15·5	18·5	18·5	22	28	9	340	¼ „	„
	„	„	3	2	8	8	15	17·5	17·5	21	26	9	340	½ „	„
Lutianus lineolatus ♀	149	14.12.20	2	1·5	6·5	6	12	14	14	16	20	5·5	113	ripe	„
	„	„	1·75	1·5	5	5·5	10·5	12	12	14	17·5	4·5	71	¾ „	„
	„	„	2·5	1·5	6·75	7	13	15	15	16·5	21	6	113	¾ „	digested matter
	„	„	—	—	—	—	—	—	—	—	18	5	85	¾ „	nil
	„	„	—	—	—	—	—	—	—	—	18	4·5	71	¾ „	„
	169	19.12.20	2	1·5	5·5	6	11·5	13·5	13·5	15·5	18·5	5	113	¾ „	„
	175	23.12.20	—	—	—	—	—	—	—	—	24·5	6·5	226	¾ „	„
	„	„	—	—	—	—	—	—	—	—	27	7	226	ripe	„
	176	„	1·5	1·25	5·5	5·5	11	13	13	15	19·5	5	85	¼ „	„
	179	25.12.20	2·75	1·5	7·5	8·5	14	17·5	17·5	20	24·5	6	226	¾ „	„
	194	31.12.20	2	1·75	7	7·25	14	17	17	20	25	6·75	240	½ „	„
	„	„	—	—	—	—	—	—	—	—	26	7·5	254	½ „	„
	195	„	2·25	1·5	7·5	7	14	17	17	20·25	24	6·5	198	½ „	„
	„	„	2	1·5	7	6·5	13·25	16	16	17·5	23	6	155	½ „	„
	„	„	—	—	—	—	—	—	—	—	17·5	7·5	71	¾ „	„
	205	2.1.20	2·5	1·5	7·25	7·5	13·25	16	16	18	23	6	113	½ „	„
	„	„	3	1·5	7·5	8	14·5	17	17	19	24·75	6·75	226	ripe	„
	226	7.4.21	2	1·5	7	8	15	19	19	21	26	7	282	„	„
	„	„	2	1·5	6·5	7·5	13	17	17	20	24	6	183	„	„
	„	„	2	1·5	7	7·5	13·5	17	17	19	24	7·5	170	„	„
	„	„	—	—	—	—	—	—	—	—	25	7	226	„	„
	„	„	—	—	—	—	—	—	—	—	23	6	170	½ ripe	„
	227	„	6	3	18	18·5	35	43	41	48	58·5	22	4100	ripe	„
	228	8.4.21	2·5	1	7	7·5	13	16	16	18·5	23	6	140	½ ripe	„
	„	„	2·5	1·25	7	8	13	17	17	19	23·5	6·5	170	ripe	„

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Lutianidae															
Lutianus lineolatus ♀	228	8.4.21	2·5	1·5	8	8	14·5	18	18	20·5	25	6·5	254	ripe	nil
	229	,,	2	2	7·5	8·5	15	19·5	18	22	28	8	282	,,	,,
	451	6.5.22	1·75	1·75	5·5	5·75	11	12·5	12·5	14·5	18	5	80	½ ,,	,,
	458	27.1.23	2	2	9	8·5	16	28·5	19·5	23·5	29	9	456	½ ,,	,,
	459	,,	2	1·75	7	8	13·75	18	16·75	20	24·5	7	342	¾ ,,	,,
	462	28.1.23	2	2	9	8·5	17	21	20	24	30	8	456	½ ,,	,,
	,,	,,	2	2	8·5	9	16·5	20·5	19·5	23·5	29	7	456	½ ,,	,,
	,,	,,	2	1·75	8	8·5	15·5	19·25	18·75	22	28	7	342	½ ,,	,,
	,,	,,	2	2	8·5	8·5	17	21	20	24	30	8	456	½ ,,	,,
	,,	,,	2	1·75	7·5	8	14·75	19	18	22	26·5	7	342	¾ ,,	,,
	477	31.1.23	2·5	2	8·5	9	17	21	20·5	24	30	8	456	½ ,,	,,
	480	1.2.23	2·25	2·25	9	9·25	16·5	21	20	23·5	30·5	8	456	½ ,,	,,
	,,	,,	3·5	2·25	9·25	10	17·5	21	20·5	24	30	8·25	456	ripe	,,
	500	8.2.23	3	2	8·5	9	17	20·5	20·5	23	28·5	8·5	342	¼ ,,	,,
	516	11.2.23	—	—	—	—	—	—	—	—	26	7·5	342	ripe	,,
	522	12.2.23	3	1·5	8	9	16	19	18·5	22	27·5	8	342	½ ripe	,,
	,,	,,	2	1·5	7·5	8	14·5	18·5	18	21	26	7·5	342	ripe	,,
	,,	,,	3	1·5	8·5	8·5	16	19	18·5	22	28	7·5	342	¾ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	26·5	7·5	342	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	28	8	342	¼ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	26	7	342	¾ ,,	,,
	523	,,	—	—	—	—	—	—	—	—	26	7	456	¼ ,,	,,
	546	10.4.23	2·5	1·75	8	8	15	18	17·75	20	20·5	7	228	½ ,,	,,
	551	11.4.23	2·5	1·75	8	8	15	18·5	18	20·5	26·5	7	228	½ ,,	,,
	552	,,	2	1·75	7·5	7	13·75	17·25	17·25	19	25·5	7	171	ripe	,,
Lutianus lineolatus ♂	42	13.8.20	1·5	·5	3·5	4	6·5	8	7·5	9·5	11·5	3	28	—	,,
	149	14.12.20	—	—	—	—	—	—	—	—	15	3·5	35	¼ ripe	,,
	167	19.12.20	2·5	2	8·5	8·5	15·5	19·5	19·5	22·5	27	7·5	340	ripe	,,
	,,	,,	2·5	2	8	8	16·5	19·5	19·5	23	28·5	8	454	,,	,,
	,,	,,	2·5	1·75	8·5	8	16	19	19	22	27	7	340	¾ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	28	8	340	¼ ,,	,,
	173	23.12.20	2·5	1·75	8·5	8·25	15·5	18·5	18·5	21	26·75	7	340	ripe	,,
	175	,,	2	2	7·5	7·5	15	18·5	18	21·5	27	7	226	,,	,,
	,,	,,	2·5	1·5	7·5	7·5	14·5	17·5	17	20·5	25·5	6·5	226	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	24·5	6·5	226	½ ripe	,,
	176	,,	3	2	8	7·5	15	18	18	20·5	25·5	7	226	ripe	,,
	179	25.12.20	1·75	1	5	4·5	8	9·75	9·75	11·5	14·5	3·5	113	,,	shrimps
	194	31.12.20	2·25	2	8	8	16	19·5	19·5	22	28·25	7·75	340	,,	nil
	,,	,,	2	2	7·5	5·5	14·25	17·5	17·5	20·5	26·25	7	254	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	25	7	233	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	28	7·5	311	,,	,,
	195	,,	3	2	8·5	9	15·75	19	19	21·5	27·5	7	261	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	24·5	6·5	198	¼ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	21·5	5·5	113	ripe	,,
	200	1.1.21	3	1·5	8	7·75	14·5	17·5	17·5	20	25	6·5	198	¼ ripe	,,
	225	7.4.21	2·25	1·5	7	8	14	18·5	17	21	26·5	7·5	205	ripe	,,
	226	,,	—	—	—	—	—	—	—	—	27	8	254	,,	,,
	229	8.4.21	2	2	8	9	15·5	20	18·5	23	27·5	8	254	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes	condition of gonads	stomach contents.
Lutianidae															
Lutianus lineolatus ♂	459	27.1.23	2.5	1·75	7·5	9	14·5	19·5	18	21	26·5	8	342	ripe	nil
	460	,,	2	2	8·5	9	15·5	20·5	20·5	23	28	7·5	456	½ ,,	,,
	462	28.1.23	2·5	2	9	10	16	21·5	20	24	30	9	456	ripe	,,
	477	31.1.23	2·75	2	9·25	10	17	21·5	20·5	24	30	8·5	456	,,	,,
	,,	,,	3·5	2	9·5	10	18	22	21	24	31	8	456	,,	,,
	,,	,,	3	1·5	8	8·25	15·5	18	18	21	26	7	342	,,	,,
	,,	,,	2·5	2	8·25	9	16	21	19·5	23	39	8	456	,,	,,
	480	1.2.23	2·25	1·75	9	8·25	17	20·5	20	23	30	8·5	456	,,	,,
	,,	,,	2·5	2·25	9	9	17	22	20·5	25	32	8·5	513	,,	,,
	,,	,,	3·5	2·5	9·5	9·5	17·75	21	20·75	24	31	9	456	,,	,,
	,,	,,	2·5	1·75	8·75	9	17·5	22	21	25	32	9	570	,,	,,
	516	11.2.23	2	1·75	8	8	15	19	19	22	28·5	7·75	342	ripe	,,
	,,	,,	4·25	2	11	10	19	23·5	23·5	26	33·5	10·5	456	½ ,,	,,
	,,	,,	3	1·75	8·5	8·5	16	19·75	19·75	22·5	28	7	342	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	28	8	342	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	29	7	342	ripe	,,
	523	12.2.23	3	2	8	9	15	19·5	18·5	23	27·5	7·5	228	,,	,,
	,,	,,	2·5	1·75	8·5	8·5	16	20	19·5	23	29	8	456	,,	,,
	,,	,,	3	1·5	8	8·5	16	19	18·5	22	27	8	456	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	26	7	456	½ ,,	,,
	551	11.4.23	2	2	8·5	8	15·75	19·5	19	22	28	7·5	228	ripe	,,
	,,	,,	2·25	2	8	8	15·5	19·5	19	22	28	7·5	228	,,	,,
	552	,,	2	1·5	7·5	7·5	14·5	18	18	20·5	26·5	7	228	½ ,,	,,
	,,	,,	2·25	1·75	7·5	7·5	14·25	18	18	20·5	26	7	228	ripe	,,
Lutianus lunulatus ♀	132	8.12.20	6	3	18	18·5	36	44	44	50	65	21	4429	¼ ,,	small fish
Lutianus madras ♂	128	7.12.20	6	3·5	17	19	17	41	40	43	58	18	3180	½ ,,	nil
	154	15.12.20	3	1	10	10	20	24	24	29	36	10	680	¼ ,,	,,
	159	17.12.20	4	2	13	13	24·5	29	29	36	46	13	1362	ripe	digested matter
	170	20.12.20	5	2·5	14·5	13	29	34	34	41	54	15·5	2498	,,	nil
	175	23.12.20	5	2·5	16·5	13	29·5	35	35	42	52	18·5	2725	,,	,,
	212	4.4.21	5	2·25	14·5	15	27	34	32	39	49·5	15	1817	½ ,,	,,
	,,	,,	4·5	2·5	13·5	14·5	25	32	30·5	38	47	15	1588	½ ,,	,,
	,,	,,	5	2·25	14	14	27	33	32	40	49·5	16·5	1475	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	48·5	16	1817	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	48	14	1588	,,	,,
	213	,,	5	2	14·5	16	26	34	32	40	50	15	1588	½ ,,	,,
	229	8.4.21	4	2	10	9·5	16	21	20	24	30	10	454	½ ,,	,,
	445	15.4.22	5·5	3	16·5	17	28	39	35·5	44·5	56	18	2280	ripe	,,
	446	,,	7	3·5	19·5	20	35	45	42·5	51·5	65	21	3648	,,	,,
	,,	,,	7	4	19	21	35	43	41	50·5	61	21·5	3648	,,	,,
	,,	,,	6·5	3	19	19·5	35	45	42·5	53	63	21	3648	,,	,,
	451	6.5.22	2·5	1·5	8·5	8	14·5	18	18·5	21	26	7·5	199	¼ ,,	small fish
	456	7.5.22	3	2	8·5	8·5	16	20	19·5	23	29·5	9·5	342	ripe	,,
	460	27.1.23	3	2	7·5	8·5	16	21·5	21·5	25	31	10	684	¼ ,,	,,
	467	29.1.23	5	2·5	15	17	29	37	35	44	56	16		¼ ,,	,,
	504	9.2.23	4·5	2	12·5	13	24	29	29	34·5	44·5	13	1368	ripe	,,
	,,	,,	3	1·75	9·75	9	17	21	21	26	32	10·5	684	¼ ,,	,,
	512	10.2.23	4·5	2	13	13·5	25	31·5	30	36	47	13	1368	¼ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes	condition of gonads	stomach contents.
Lutianidae															
Lutianus madras ♂	516	11.2.23	3·25	1·75	10·5	11	19·5	25	24·5	32·5	39·5	10·5	798	ripe	small fish
	517	,,	4·25	1·75	12·5	13	23·5	29·5	28·5	34	44	12	1140	,,	,,
	,,	,,	3·5	2	11·5	11·5	21	27·5	26·5	32	41	11·5	912	,,	,,
	518	,,	4	2	6·5	10	18·5	22·5	22·5	25	32·5	10·5	684	½ ,,	,,
	,,	,,	3	2	9·5	9	17	21	21	23·5	30	9	570	ripe	,,
	,,	,,	3·25	2	9	9	17	21	21	24	30	9	456	,,	eel
	,,	,,	—	—	—	—	—	—	—	—	31·5	10·5	456	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	30·5	9·5	456	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	29	9·5	456	½ ,,	,,
	522	12.2.23	4	2	10	9·5	18	22·5	21·75	25	31	11	684	—	,,
	,,	,,	5·5	2·75	16·5	16·5	31	38	36	44	54·5	16	2280	ripe	,,
	,,	,,	5	2·5	15	16·5	28·5	37	34	43	54	16·5	2280	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	40·5	12·5	1140	½ ,,	,,
	523	,,	5	2·5	14·5	15·5	26	34·5	31	39	49	16	1824	ripe	,,
	525	,,	5·5	2	14	15·5	27	34	31·5	39	48·5	15	1596	,,	,,
	528	13.2.23	4·5	2·5	15	14	28	36	39·5	41	53	16	2052	,,	,,
	530	,,	5·5	2·5	14	14·5	26	32·5	31·5	36	48	15	1368	,,	,,
	532	,,	6	2	14·5	15	26	33	31·5	37·5	48·5	14	1368	½ ,,	,,
	538	9.4.23	5	2·5	14	16	28	35	33·5	41	51	15·5	1824	ripe	,,
	552	11.4.23	4·75	2·25	15	15·5	28	36·5	34·5	42	54·5	15·5	2052	,,	,,
Lutianus madras ♀	161	18.12.20	4·5	2	13·5	13·5	24·5	31	31	36	44	13	1362	¾ ,,	,,
	170	23.12.20	3·5	2	13	12	24·5	30	30	35	45	14	1362	ripe	,,
	175	,,	5	2	15	14·5	28·5	35	34	41	53	15	2272	½ ,,	,,
	212	4.4.21	—	—	—	—	—	—	—	—	49	16	1817	ripe	,,
	446	15.4.22	—	—	—	—	—	—	—	—	61	20	2964	½ ,,	,,
	451	6.5.22	3·5	1·75	10	10	17·5	21·5	21·5	25	32	9	285	½ ,,	,,
	460	27.1.23	5	2·5	14·5	15·5	28	34	33	39	51	15	1368	½ ,,	,,
	,,	,,	4	2	10·5	12·5	20	27	25	31	38·5	12	912	½ ,,	,,
	468	29.1.23	4·5	2	13	13·5	26	31	30	35	45	14	1368	½ ,,	,,
	470	,,	6	2·5	16	17	28	26	34	41	53	15	1824	½ ,,	,,
	,,	,,	6·5	2·75	15·5	15·5	20	34	32	38	47	14	1368	½ ,,	,,
	506	9.2.23	4·5	2·25	13·5	14	26	33	31·5	37·5	49·5	14	1710	ripe	,,
	514	10.2.23	2·75	1·75	10	10	19	24·5	23	29	36	10·5	684	½ ,,	,,
	,,	,,	4·5	1·5	11	11	20	25	23·5	28	37	11	684	½ ,,	,,
	516	11.2.23	3·5	2	11·5	12	22	28	26·5	31	41	11·5	912	½ ,,	,,
	,,	,,	4·5	1·75	11·5	12	20·5	26·5	25	30	39	11·5	912	ripe	,,
	517	,,	3·5	2	11·5	12	22·5	28	27	32	43	12	1140	½ ,,	,,
	521	12.2.23	3·5	1·75	10·5	11·5	21	26	24	29	37·5	11·5	798	½ ,,	,,
	,,	,,	4	1·75	11	12	20·5	25·5	24·5	30	37·5	11	684	½ ,,	,,
	,,	,,	3·5	2	10·25	11·5	19·5	24·5	23	28	36·5	11·5	684	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	35	11	684	½ ,,	,,
	522	,,	5	2·5	14	14·5	27	33	30·5	37	48	15	1596	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	46·5	14	1596	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	46	14	1482	½ ,,	,,
	523	,,	4·5	2·25	13	15	25	33	31	38	48	14·5	1596	½ ,,	,,
	,,	,,	4·5	2·5	13·5	14·5	26	32	31	37	47	15	1596	½ ,,	,,
	524	,,	4·5	2·5	14	14	27	34	32	39·5	51	15	1824	½ ,,	,,
	,,	,,	5	2·75	15·5	16	28	35	33	40	51	15	1824	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes	condition of gonads	stomach contents.
Lutianidae															
Lutianus madras ♀	525	12.2.23	6	2·5	13	14	23	27	26	30	38	12	912	ripe	nil
	528	13.2.23	4	2	13	12·5	25	32	30·5	36·5	48	14	1140	,,	,,
	530	,,	6·5	2	15	16·5	30	35·5	34·5	41	52·5	14·5	1596	¼ ,,	,,
	538	9.4.23	3·5	2	12	12	22·5	27·5	27	34	42	12·5	1026	½ ,,	,,
	540	,,	4·5	2·25	13·5	14·5	25·5	33·5	32·5	38	50·5	14·5	1482	½ ,,	,,
	,,	,,	4·5	2·25	13·5	13·5	26	32·5	31	37	48·5	15	1482	½ ,,	,,
	,,	,,	4	2	13	13	25·5	32	31	38	46·5	14	1482	½ ,,	,,
	544	10.4.23	4·5	2	11	12·5	22·5	28	27	32·5	42·5	12	1026	½ ,,	,,
Lutianus marginatus ♂	154	15.12.20	3·5	2·5	9·5	9	17	20	20	24	30	9·5	680	ripe	,,
	217	5.4.21	3·5	2	10	11	18	24	22	26	32	11	567	,,	,,
	,,	,,	2·5	2	5	10	15·5	21	19·5	24	30	10	425	,,	,,
	226	7.4.21	4	2	11	11·5	19	25	23	28	35	11·5	680	½ ,,	,,
	227	,,	3	2	10	10	18·5	24	23	26	33	12	454	ripe	,,
	,,	,,	2·25	2	8	8·5	15·25	21	19	23	28	10	454	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	30	9·5	454	,,	,,
	229	8.4.21	3	2	10	10·5	19	24	22	27	33·5	11·5	793	,,	,,
	,,	,,	3	2	10	11·5	19	24·5	23	28	35	12	793	,,	,,
	,,	,,	2·5	2	8	8·5	14·5	19	18·5	22	27	9·5	454	,,	,,
	237	10.4.21	2·5	2	10	10	18	23	22	26	23	11	680	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	28	8·5	226	ripe	,,
	239	,,	3·5	1·75	9·5	10	19·5	23	23	26	31·5	11	454	,,	,,
	,,	,,	3·5	2	10	10	19	22	22	25	31	11	454	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	29	10·5	340	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	24	9·5	226	½ ,,	,,
	291	22.8.21	4·5	3	14	15	29	35	35	41	53	15	2272	ripe	,,
	461	27.1.23	2·5	2·5	8	8·5	13·75	18	17	20	25	8·25	456	,,	,,
	,,	,,	2·25	2	8	8·75	15	19·5	18·25	22	27·5	9·5	456	½ ,,	,,
	462	28.1.22	2·75	2	9	8·75	17	21·5	20·5	24	30	10	570	ripe	,,
	,,	,,	2·5	2	7·5	8·25	14	19·5	17·5	21	26·5	8·5	342	½ ,,	,,
	470	29.1.23	3·5	2·25	11	11	20	25	24	28	35	11·5	684	½ ,,	,,
	,,	,,	2	1·5	7	6·5	14·5	17	17	20	25	8	342	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	26	11	684	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	31	11	570	½ ,,	,,
	478	31.1.23	3	2·5	11	10·5	20	27	25	30	36	13	1140	ripe	,,
	,,	,,	2·5	2·25	10	9	20	25	23·5	29	36	12	912	,,	,,
Lutianus marginatus ♀	154	15.12.20	2·5	2	8	7	14·5	17	17	20	25·5	8	340	½ ,,	,,
	,,	,,	2	1	7·5	8·5	15	17·5	20·5	21	26	8·5	340	½ ,,	,,
	217	5.4.21	2	1·5	7·5	7·5	15	18·5	18·5	21	26	9	311	—	,,
	224	7.4.21	2·5	2	9	9	15	20	19·5	22·5	27·5	9·5	454	½ ,,	,,
	,,	,,	2·5	2	9	9·5	16	23·5	20·5	23	29	9·5	454	½ ,,	,,
	,,	,,	2·5	2	9	9	16	21	19	23	30	11	454	ripe	,,
	225	,,	2·25	2·0	7·5	8·0	15·0	20·0	18·0	22·0	28·0	9·0	311	½ ,,	,,
	226	,,	3	1·5	8·25	9	15	19·5	18	21·5	28	9·5	340	½ ,,	,,
	227	,,	2	2	8	8·5	15·5	19·5	19	22	28·5	9·5	454	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	30	9·5	454	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	27	10	454	½ ,,	,,
	229	,,	3	2	9·5	10	17	21	19·5	24	30	10·5	454	ripe	,,
	236	9.4.21	2·5	2	9	9·5	17·5	23	21·5	25	31·5	13	680	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes	condition of gonads	stomach contents
Lutianidae															
Lutianus marginatus ♀	236	9.4.21	2·5	2	9	9·5	16·5	21·5	21	24	31	10·5	455	½ ripe	nil
	,,	,,	2	1·5	7	7·2	12·5	17·5	15·5	19	24	8	226	¼ ,,	,,
	237	10.4.21	4	2·5	10	10·5	18	21	21	24	30	10	454	½ ,,	,,
	,,	,,	2·5	2	9	9	15	20	19	22	28	9	680	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	25	8	226	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	27	9	282	½ ,,	,,
	239	,,	4	2	10	11	18·5	22	22	24	31	10	567	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	24	10·5	226	½ ,,	,,
	293	22.8.21	5	3	16·5	17	33	40	40	46	57·5	17	3406	½ ,,	small fish
	456	7.5.22	3	2	7·5	7·5	15	19	19	23	28·5	9·5	342	¼ ,,	nil
	461	27.1.23	2·75	2·25	7·5	8	14	18·5	17	20·5	25·5	9·5	456	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	24	8·5	342	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	25	8·5	456	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	25	8·25	342	½ ,,	,,
	462	28.1.23	2·5	2	9·5	9	16	21	20	26·5	29	10	456	½ ,,	,,
	,,	,,	2·5	2	8	9	15·5	20·5	19·5	23	28·5	9·5	456	½ ,,	,,
	,,	,,	2	1·75	7	8	14	19	18	21·5	26	8·5	342	¼ ,,	,,
	,,	,,	2·5	2	7·5	7·5	14·75	18	17·5	21	26	9	342	¼ ,,	,,
	466	29.1.23	3	2	9·5	9·5	17	20·5	20·5	22·5	28·5	9·5	456	½ ,,	,,
	,,	,,	3	2	8·5	8	15·5	19	19	21	27	9	456	¼ ,,	,,
	468	,,	2·75	2	8	9	14·5	18·5	17·25	20	26	8	342	½ ,,	,,
	470	,,	4	2	10·5	10·5	18·5	22	22	25	31	11	570	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	29	10	456	ripe	,,
	476	31.1.23	3	2	8·5	10	16·5	20·5	19·5	23	29·5	10	342	½ ,,	,,
	478	,,	3	2	9·25	10	17	22·5	21	25	32	11	570	½ ,,	,,
	,,	,,	2·75	2·25	9·5	9·5	18	22·5	22	25	31	11	684	ripe	,,
Lutianus quinquelinearis ♂	154	15.12.20	2·5	2	7	7	15	17·5	17·5	20·5	26	7·5	226	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	27	7·5	340	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	27	7·5	340	,,	,,
	175	23.12.20	3·5	2	9	9	18	21	20	24	30	9	454	,,	,,
	,,	,,	2·5	2	7·5	7·5	14·5	17·5	17	20·5	25·5	7	226	,,	,,
	,,	,,	3	2	9	8·5	17	20·5	19·75	23·5	29	8	454	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	27	8·5	454	ripe	,,
	194	31.12.20	1·25	1·5	5·5	4·75	10·75	12·5	12·5	14·5	18·5	6	113	¼ ,,	,,
	,,	,,	2	2	6·75	6·5	13	15	15	17·5	22	7	169	¼ ,,	,,
	,,	,,	1·75	1·5	6·5	5·5	12	14·5	14·5	16·5	21	6·5	148	¼ ,,	,,
Lutianus quinquelineatus ♀	118	5.12.20	—	—	—	—	—	—	—	—	54	19	2951	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	59	20	4316	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	52	20	2725	¼ ,,	,,
	154	15.12.20	3	2	8	8	14	16·5	16·5	20	25	7·5	226	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	27	7	340	..	,,
	,,	,,	3	2	7·5	8	15	17·5	17·5	20·5	25·5	7·5	226	..	digested matter
	175	23.12.20	—	—	—	—	—	—	—	—	24	7·5	226	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	18·5	5·5	113	¼ ,,	,,
	195	31.12.20	1·75	1·5	5·5	6	11·5	14	14·5	16	19·2	7	212	ripe	,,
	,,	,,	2	1·25	5·5	5·5	11·5	13·5	13	16	19·5	6·5	113	,,	,,
	,,	,,	1·75	1·5	5	5·5	11·5	12·25	11·75	14·5	18	6	85	½ ..	,,
Lutianus rivulatus ♂	18	30.7.20	—	—	—	—	—	—	—	—	78	28	8180	½ ,,	small fish

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes	condition of gonads	stomach contents.
Lutianidae															
Lutianus rivulatus ♂	18	30.7.20	—	—	—	—	—	—	—	—	59	21	3860	¼ ripe	nil
	23	2.8.20	7·5	3	17	20	35	43	40	48	60	22	4545	½ ,,	small fish
	52	16.8.20	—	—	—	—	—	—	—	—	55	19	3064	ripe	nil
	58	18.8.20	—	—	—	—	—	—	—	—	62	22	3635	½ ,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	77	27	7269	½ ,,	nil
	61	25.8.20	9	3	21	24	23	47	47	56	68	25	5453	½ ,,	,,
	73	29.8.20	7	2·25	19	21·5	21	48	48·5	49·5	67	24	5907	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	64	26	6362	,,	young Lethrinus
	74	,,	8	3	20	19·5	24	51	51	59	68	27	6362	,,	nil
	128	7.12.20	7	3·5	19	20	20	41	41	52	65	20	4999	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	53	18	2725	½ ,,	digested matter
	132	8.12.20	6	3	20·5	20	35	44	44	50	64	21	4999	ripe	nil
	,,	,,	7·5	3	15	20	36	45	45	50	64	21	4999	,,	,,
	133	,,	5	3	18	16·5	34	39	39	44	56	20	3861	½ ,,	,,
	147	13.12.20	8	3	22	23	42	51	51	58	72	24	7491	ripe	,,
	,,	,,	6	3	19	20	37	45	45	54	67	21	5451	¾ ,,	,,
	163	18.12.20	5·5	3·5	20·5	20	40	47	47	55	62	25	6812	ripe	,,
	165	,,	7	3	19	19	37	46	46	54	65	21	5677	,,	,,
	192	29.12.20	6	3	18·5	18·5	37	44	44	50	62	21	5112	½ ,,	,,
	,,	,,	4	2·5	14·5	13	29·5	34	34	40	50	16	2498	ripe	,,
	224	7.4.21	4·5	2·5	15	14·5	29	35	35	41	50	20	2951	,,	,,
	263	13.8.21	7·5	3	21	23·5	40	50	48	56	70	24	6271	,,	,,
	291	22.8.21	7	3·5	21·5	20·5	42	49	49	57	70	24	6817	,,	,,
	292	,,	5	2·5	17	16·5	37	44	44	50·5	64	22	4999	,,	,,
	,,	,,	7	3	21	20·5	40	47	47	56	68	23·5	6362	,,	,,
	293	,,	7	3	19	19	32·5	44	44	51·5	62	22	4771	,,	,,
	297	26.8.21	6	3	17·5	19·5	34	42	40	46·5	58	19	3635	,,	,,
	320	9.9.21	5·5	3·5	17	17	32	38	38	45	55	18.5	3406	,,	small Balistes
	324	10.9.21	8	3·5	22	21·5	42	48	48	56	69	22	6133	,,	nil
	,,	,,	6	3	20	20	40	46·5	46·5	55	67	22	5679	,,	,,
	344	12.9.21	7	3	20·5	20·5	40	46·5	46·5	54·5	67·25	23	6588	,,	,,
	451	6.5.22	6	3	20	19·5	38·5	45·2	45·2	53·5	66	22	5472	,,	,,
	461	27.1.23	7	3·25	20·5	21·75	38	48	45	54	65·5	24	6384	,,	,,
	466	29.1.23	5·5	3	20	19	39	49	47	53	69	22·5	5472	,,	,,
	475	31.1.23	5	2·5	15	16	29	36	34	41	52	19	2736	,,	shrimps
	477	,,	6	3	17·25	18	33	41	40	47	57	19·5	4104	,,	digested matter
	500	8.2.23	4	2	14	13	27	33·5	32·5	38	48	16·5	2280	,,	nil
	503	9.2.23	4	2·5	14·5	13·5	28·5	34·5	34	39	50	16·5	2508	,,	,,
	504	,,	5	2·5	15·5	13·5	29	35	34	39	51	17	2850	,,	,,
	506	,,	5	2·5	17	17·5	34	41	40	47	53·5	21·5	4788	,,	,,
	,,	,,	4	2·25	13·5	13	27·5	34	33	38·5	49·5	16·5	2280	,,	crabs
	509	10.2.23	4·5	2·5	17	16·5	36·5	43·5	42·5	49·5	62·5	21·5	5016	,,	nil
	,,	,,	5	2·5	17	18	34	42	41	47·5	61	20·5	4788	,,	,,
	,,	,,	5	2·5	16	15·5	32	38·5	37	42·5	55	19	3420	,,	,,
	512	,,	4	2·5	16	14·5	31·5	39·5	38	43	56	19	3876	,,	,,
	515	11.2.23	6	2·5	17	18	34	42	40·5	47·5	59	19·5	4332	,,	,,
	516	,,	6·5	2·5	18	18	36	43	42	49	62·5	20·5	4788	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Lutianidae															
Lutianus rivulatus ♂	516	11.2.23	6	2·5	18	18·5	35	43	42	49	62	19·5	4332	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	51·5	16·5	2736	,,	,,
	518	,,	5·5	3	19·5	18	37	46	44·5	50	65	20·5	5760	,,	,,
	,,	,,	5·5	3	20	19·5	38·5	48	46	55	69	21	5928	,,	,,
	,,	,,	5·5	3	19	17·5	37	44	43	50	64	21	5016	,,	,,
	521	12.2.23	6	2·75	19·5	19	38	46·5	44·5	53	65	23	5928	,,	fish
	,,	,,	5·5	2·75	17·25	18·5	33	40	38·5	45	57	21	4104	½ ,,	nil
	,,	,,	5·5	2·75	17	17·5	34	42	40	47·5	59	21	4332	ripe	crabs
	523	,,	6·5	2	16·5	19	31	40	38	46	56	21	3648	,,	nil
	525	,,	6	3	20	19·5	36·5	46	43	53	65	22	5244	,,	fish
	,,	,,	—	—	—	—	—	—	—	—	66	23	5760	,,	nil
	528	13.2.23	6	3	19·5	18·5	38	45	44·5	52	64·5	23	5928	,,	,,
	530	,,	5·5	3	19·5	19·5	38	47	45	52·5	67·5	23	6384	,,	,,
	,,	,,	5	3	16·5	16	32	39·5	38	45	56·5	19	3648	,,	,,
	531	,,	5·5	3	20	19	36.5	45	44	51	64	22	5928	½ ,,	,,
	,,	,,	4·5	2·75	17·5	16	34	40·5	39	46	57·5	20	4104	½ ,,	,,
	,,	,,	5	3	18	17	33·5	41	40·5	47	61	20·5	4560	½ ,,	,,
	532	,,	5·5	3	19·5	19·5	39	48	46·5	59·5	70	23	6498	ripe	,,
	547	10.4.23	5·5	2·5	17·5	18	36·5	45	43	50·5	62·5	22·5	4902	,,	,,
Lutianus rivulatus ♀	15	30.7.20	—	—	—	—	—	—	—	—	54	18	2950	½ ,,	small fish
	20	1.8.20	7	3	14·5	19	33·5	40·5	40	47·5	55	21	2840	½ ,,	nil
	46	14.8.20	—	—	—	—	—	—	—	—	57	22	4316	—	,,
	48	15.8.20	8	3	20	22·5	34	52	52	63	73	23	3635	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	70	28	6362	—	,,
	,,	,,	—	—	—	—	—	—	—	—	68	25·5	5907	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	50	20	2498	spent	,,
	,,	,,	—	—	—	—	—	—	—	—	54	20	2272	ripe	,,
	50	,,	10	3·5	23	26	24	50	50	58	69	25	6362	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	53	21	2725	½ ,,	,,
	52	16.8.20	10	2·75	18	20	22·5	44	42	51	61	21	3406	ripe	crabs
	,,	,,	—	—	—	—	—	—	—	—	55	19	3635	,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	60	20	4090	,,	1 squid 16 fish
	58	18.8.20	10	2·5	19	22	21	44	44	50	58	22	4316	,,	nil
	60	25.8.20	9	2·5	18·5	21	20	38	38	45	55	21	2838	,,	,,
	61	,,	—	—	—	—	—	—	—	—	65	26	4545	,,	small fish
	118	5.12.20	5·5	3	17·5	18	18	40·5	40·5	45	56	20	3520	½ ,,	nil
	,,	,,	5	3	18	18	18·5	45	41	48	59	20	3861	½ ,,	,,
	,,	,,	6	3	17	18·5	16·5	40	40	45	57	20	3861	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	67	23	5907	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	58	20	3635	½ ,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	58	20	3861	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	62	22	4771	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	57	20	3635	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	51	19	2612	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	58	20	3975	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	54	19	2951	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	57	20	3635	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	52	19	2725	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes	condition of gonads	stomach contents
Lutianidae															
Lutianus rivulatus ♀	118	5.12.20	—	—	—	—	—	—	—	—	54	19	2951	¼ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	59	20	4316	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	52	20	2725	¼ ,,	,,
	119	,,	4	3	16·5	17	17	42	42	46	56	20	4090	¼ ,,	,,
	133	8.12.20	6.5	3	18·5	19	36	42	42	47	60	20	4316	½ ,,	digested matter
	,,	,,	6	3	17	16·5	34	40	40	45	57	20	3861	¼ ,,	nil
	144	10.12.20	5	3	18	17	35	40	40	47	57	20	4316	½ ,,	,,
	147	13.12.20	6	3	18	17·5	32	41	41	45	57	20	4090	¼ ,,	,,
	153	15.12.20	5	2·75	17·5	16·5	35	41	41	46	57	19	3861	¼ ,,	,,
	161	18.12.20	4·5	3	17·5	15·5	33	39	39	45	56	20	3861	¼ ,,	octopus
	,,	,,	6·5	3	19·5	18	38	44	44	51	61	22	4999	¼ ,,	nil
	170	20.12.20	7	3	20	19·5	37	44	44	49	63	20	4771	½ ,,	,,
	195	31.12.20	5·5	3	18	17	35	41	40	47	59	19·5	3975	½ ,,	,,
	209	3.4.21	4·5	2	12	12·5	23	27	27	32	38	14	1021	¼ ,,	,,
	219	6.4.21	6·5	3	19	19·5	38	44	44	51	62	21·5	4991	ripe	,,
	224	7.4.21	7·5	3	20	22	36	46	42	51·5	63	22	5225	¾ ,,	crabs
	230	8.4.21	6	3	19	20	38	45	44	51	64	23	5450	½ ,,	fish
	263	13.8.21	5·2	2·5	17·5	18	32	41	40	45	55·5	20	3635	¼ ,,	nil
	289	21.8.21	6	3	18·5	18	36	42·5	42·5	49	61	20	4316	¼ ,,	,,
	,,	,,	4·5	3	16	14·5	31	36	36	42·5	52	18·5	2951	½ ,,	small fish
	297	26.8.21	5	2·5	16	15·5	32	38·5	37	44	54	18	3406	¼ ,,	nil
	,,	,,	5	3	15·5	14·5	30·5	36	35·5	41	50	17·5	2725	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	54	17·5	2838	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	54	18	3180	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	58	19	3861	¼ ,,	,,
	320	9.9.21	5	2·5	16	13	27	34	34	40	51	18	2725	½ ,,	,,
	,,	,,	5·5	2·5	17	14·5	30·5	36	36	42	53	19	2951	½ ,,	,,
	324	10.9.21	6	3	18·5	18	35	41	41	48	60	20	4316	ripe	,,
	333	11.9.21	5·5	3	18·5	17·5	35·5	40·5	40·5	48	60	20	4771	,,	,,
	341	12.9.21	4·5	2·5	15·5	14·5	30	36	36	42	52	17	2725	,,	cuttlefish
	,,	,,	4·5	2·5	14·5	15	29	35	35	41	52	17	2951	,,	nil
	344	,,	4·5	2·25	15	14	28·5	39·5	39·5	41	49·5	16	2725	,,	fish
	,,	,,	6	3	19·5	18	37	43·5	43·5	51	62	21·5	5225	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	54	17·5	3180	¼ ,,	nil
	451	6.5.22	4·5	2·5	16·5	15	31	39·5	39·5	44·5	55	18·5	3192	ripe	,,
	503	9.2.23	6	3	19	18	38	44·5	43·5	51	63	20·5	5016	,,	,,
	506	9.2.23	4	2·75	16	15·5	32·5	40	39	44·5	53·5	18·5	3762	¼ ,,	fish
	514	10.2.23	4	2·5	14·5	13·5	29·5	35	34·5	39·5	50	16·5	2964	¼ ,,	nil
	,,	,,	4	2·5	13·5	14	26·5	32·5	31·5	37·5	48	15·5	1938	¼ ,,	,,
	515	11.2.23	4·5	2·5	14	14	28·5	35·5	34	39·5	50	15	2394	¼ ,,	crabs
	516	,,	5	2·5	17·5	16·5	33·5	41	40	46	59	20	4104	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	54	18	2964	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	49	15	2052	¼ ,,	,,
	518	,,	—	—	—	—	—	—	—	—	60	20	4560	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	59·5	19	4104	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	58	20	4104	¼ ,,	,,
	523	12.2.23	6·5	3	18	18·5	33	41	39	47	59	21	3876	¼ ,,	,,
	525	,,	6	3	19	19	37	43·5	42	49·5	60	22	4902	¼ ,,	fish

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes	condition of gonads	stomach contents.
Lutianidae															
Lutianus rivulatus ♀	525	12 2.23	6	3	19	20	36	44	41·5	49	60	22	4560	½ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	61·5	22	4560	½ ,,	,,
	528	13.2.23	5	3	18·5	17·5	35	44	41·5	49	61	21	4560	½ ,,	,,
	,,	,,	5	3	19·5	17	35	43	41·5	47·5	62	21·5	4560	½ ,,	,,
	530	,,	5·5	3	18	18	34	42	40·5	47	60·5	20	4104	½ ,,	,,
	531	,,	5·5	3	20	19	36·5	45	44	51	64	22	5928	½ ,,	,,
	,,	,,	4·5	2·75	17·5	16	34	40·5	39	46	57·5	20	4104	½ ,,	,,
	,,	,,	5	3	18	17	33·5	41	40·5	47	61	20·5	4560	½ ,,	,,
	532	,,	7·5	3	18	21	38	45·5	43·5	51	69·5	21	5016	½ ,,	,,
	546	10.4.23	5	2·75	17	17	34	41	40·5	46·5	59·5	19·5	3648	½ ,,	,,
	552	11.4.23	6	3	19·5	20	38	46·5	44·5	51	66	22·5	5472	ripe	,,
Lutianus sebae ♀	118	5.12.20	7·5	2·5	19	18	17·5	40	40	45	58	20	3406	½ ,,	,,
	133	8.12.20	5·75	3·5	17	17·5	34	42	41	50	61	18	3180	½ ,,	,,
	180	25.12.20	6	3	17	16·5	31	38	36	43	55	20	3406	¾ ,,	fish bones
Lutianus sebae ♂	133	8.12.20	6·5	3	17·5	16·5	35	43	42	50	65	20	3861	ripe	nil
Lutianus vitta ♀	212	4.4.21	3	1·5	8·5	9	16	20·5	20	23	25	12	226	½ ,,	,,
Lutianus vitta ♂	504	9.2.23	5	2·5	16·5	17·5	34	41	40	47·5	60	17	3192	ripe	,,
L utianus sp. ♂	225	7.4.21	9	3·5	26	28·5	45	58	55	66	83	30	10000	,,	,,
	291	22.8.21	6·5	3	18	18	36	43	43	51	65	19·5	3635	,,	shells
	293	,,	—	—	—	—	—	—	—	—	64	20	3406	½ ,,	nil
	324	10.9.21	5·5	2·5	18	15	32	38	38	46	57	19	3406	ripe	prawns
	344	12.9.21	6	2·5	17·5	16	35·5	45	43	49·5	64	20	4090	,,	nil
Lutianus sp. ♀	293	22.8.21	5	3	16	15	29	36	38	44	55	17	2498	¼ ,,	small fish
	,,	,,	5	3	15	14·5	29	35	36	40	55	17	2272	½ ,,	nil
	,,	,,	5·5	3	16	15·5	31	36	38	44	56	18	2272	¾ ,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	59	18·5	2951	¼ ,,	nil
Aprion pristipoma ♀	50	15.8.20	—	—	—	—	—	—	—	—	58	15	2043	—	—
	,,	,,	—	—	—	—	—	—	—	—	54	13	1588	—	—
	,,	,,	—	—	—	—	—	—	—	—	59	13·5	2043	¼ ,,	small fish
	52	16.8.20	7	4	17	19	18·5	42	42	50	61	16	3180	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	59	15·5	2272	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	59	15·5	2043	¼ ,,	digested fish
	,,	,,	—	—	—	—	—	—	—	—	57	15	1817	½ ,,	fish
	,,	,,	—	—	—	—	—	—	—	—	48	12·5	1248	¼ ,,	prawns
	60	25.8.20	6·5	3	15	18	17	38	38	47	60	15·5	1817	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	60	15	2043	¼ ,,	,,
	70	,,	1	1·25	4	4	4	11	6·3	13	16·2	3·75	42	½ ,,	,,
	71	29.8.20	1·5	1	4	4·2	5·1	10·9	10·9	13	16	3·7	42	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16·5	3·9	49	ripe	prawns
	,,	,,	—	—	—	—	—	—	—	—	14·5	3·5	28	¼ ,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	16·5	3·8	57	½ ,,	nil
	76	30.8.20	5	3·5	15·5	17	18	41	41	51	63	16	2272	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	62	16	2725	¼ ,,	,,
	146	18.12.20	4·5	3·5	15·5	16	32	40	40	47	62	15	2725	¾ ,,	,,
	147	,,	5·5	2·5	14·5	15	29·5	46	46	48	56	15	2043	¼ ,,	,,
	,,	,,	4·5	3	14·5	16	30	39	39	46	61	15	2725	¾ ,,	,,
	157	17.12.20	3·5	2	9·5	9·5	18	23	23	28	36	8·5	567	½ ,,	,,
	192	29.12.20	5·5	2·5	14	14·75	28·75	36	36	43	58	14·5	2043	¼ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes.	condition of gonads	stomach contents.
Lutianidae															
Aprion pristipoma ♀	192	29.12.20	3·5	2	9	9	17·5	21·5	21·5	25	34	8·5	340	¼ ripe	nil
	214	4.4.21	3	1·5	7·5	12	15	19	19	23	29·5	8	226	½ ,,	fish
	226	7.4.21	3	2	10	11	20	26	25	30	41	10·5	908	¼ ,,	nil
	,,	,,	4	3	13	16	30	38	37	45	58	15	2500	½ ,,	,,
	238	10.4.21	6	4	16·75	19	34·5	44	44	51	66	17	3406	¼ ,,	,,
	320	9.9.21	6	3	15	17	31	38·5	38·5	45	57·5	13	2043	¾ ,,	,,
	,,	,,	7	3	16	17·5	31	38·5	38·5	45	58	13·5	2043	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	58·5	13·5	2272	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	55	13	1702	¼ ,,	,,
	333	11.9.21	4·5	3	15	16·5	32·5	41	41	49	63	14	2951	¾ ,,	jelly fish
	344	12.9.21	5	3	15	16	31	38·5	38·5	45·5	59·5	14	2612	½ ,,	nil
	485	2.2.23	5·25	4	18·5	20	38	48	48	56	71	18	4560	¼ ,,	,,
	486	,,	4·75	3·75	15	17	31	41	39	48	62	16	2964	¼ ,,	,,
	531	13.2.23	4·5	3·5	17	18	36	44	44	51·5	69	16·5	4104	—	,,
	,,	,,	5	3	15	16·5	33	40·5	40·5	48	63	15	2622	¼ ,,	,,
	532	,,	6	3·5	15·5	16·5	33	40	40	46.5	62	14	2394	—	,,
Aprion pristipoma ♂	50	15.8.20	5	3	13	15	16	35	34·5	41	50	13	1588	¼ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	62	16	2272	—	,,
	,,	,,	—	—	—	—	—	—	—	—	48	12·5	1362	¾ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	55	13	1702	¾ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	60	15	1817	¼ ,,	,,
	52	16.8.20	—	—	—	—	—	—	—	—	50	13	908	¼ ,,	fish
	61	25.8.20	6·5	2·5	13	15	17	33	38	47	50	14	1362	¼ ,,	nil
	72	29.8.20	2	1	4·5	5	5	12	11	13	16·5	4	42	¼ ,,	,,
	147	13.12.20	5·5	2·5	14·5	15	32	41	41	45	57	20	4090	¾ ,,	,,
	157	17.12.20	4	3	13·5	15	29	37	37	43	57	14	2272	ripe	,,
	,,	,,	3	2	8·5	9	18	21·5	21·5	25	34	8	340	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	36	9	567	ripe	,,
	161	18.12.20	4·5	3	13	13·5	26·5	33	33	39	51	12·5	1475	,,	,,
	192	29.12.20	3·5	2	9·5	10	19·25	23·5	23·5	28	37	9·5	567	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	35	8·5	340	¼ ,,	,,
	208	3.4.21	1·5	1	5	5·5	11·5	15·5	15	18	22·5	5·5	127	ripe	digested matter
	227	7.4.21	6·5	4	18	20·5	36	47	45	55	70	18	3635	,,	nil
	234	9.4.21	3·5	2	12	13·5	26	32·5	32·5	39	50	13	1360	,,	,,
	237	10.4.21	—	—	—	—	—	—	—	—	40	9	454	½ ,,	,,
	,,	,,	4	2·5	11·5	13	26	31	32	37	50	13	1134	½ ,,	,,
	,,	,,	5	2·5	13	14·5	27	34	34	41	53	14	1588	ripe	,,
	,,	,,	4	2	12	13·5	25	34	34	40	53·5	13	1362	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	64	16	2612	ripe	,,
	289	21.8.21	4	3·5	14	15	31	39·5	39·5	47·5	61	15	2725	½ ,,	small fish
	320	9.9.21	6·5	3	16	17·5	31	38·5	38·5	45	60	13·5	2043	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	55	13	1817	ripe	,,
	333	11.9.21	4	2	11	11	21·5	27	27	32	42·5	9·5	793	½ ,,	,,
	342	12.9.21	4	3·5	15	16·5	31	40	40	48	61	15	2725	ripe	,,
	465	28 1 23	5	3	16·5	19	36	46	45	53	68·5	18	4104	,,	,,
	479	31.1.23	1·75	1·5	6·5	7	12·75	16	16	19	26·5	6·5	342	½ ,,	,,
	485	2.2.23	3	2·5	11	12	21	28	28	32	44	10·5	912	½ ,,	,,
	,,	,,	1·5	1·75	6	7	12·75	16	16	18·75	26	6	223	¼ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes	condition of gonads	stomach contents
Lutianidae															
Aprion pristipoma ♂	486	2.2.23	2·5	1·75	7	5·75	10·5	19	19	21	27·5	11·5	342	ripe	nil
	532	13.2.23	4·5	3	14	15	30	38	38	46	62	14·5	2508	,,	,,
	496	4.2.23	5	3	14·5	17	31	38·5	38	46	59·5	15	2964	,,	,,
	76	30.8.20	—	—	—	—	—	—	—	—	63	15	2498	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	60	16	2272	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	73	20	4545	ripe	3 Saurida tumbil, 5 Synagris japonicus
	,,	,,	—	—	—	—	—	—	—	—	64	16·5	2951	¾ ,,	nil
Pomadasidae															
Pomadasys furcatum ♀	209	3.4.21	1·75	1·5	6·5	8·5	15	19·25	18·5	22	27	10	368	½ ripe	,,
	,,	,,	1·5	1·5	6·5	7	13·5	17	16·5	19·5	23·5	9	226	¼ ,,	digested matter
	,,	,,	2	1·5	7	8	16	19	18·5	22	27	10	347	½ ,,	,,
Pomadasys gouraka ♂	450	16.4.22	3·25	1·5	11·5	12	25	30	28	34·5	43	11·5	570	ripe	shrimps
Pomadasys maculatum ♂	54	17.8.20	1·5	·5	4	4·5	4·5	9·5	9·5	11	13·5	4	57	,,	nil
	71	29.8.20	1·5	1	5	6·5	6	14·5	14	17	19·5	6·5	162	,,	,,
	209	3.4.21	1·25	1	4	4·5	8·5	10	9·75	12	15	5	49	,,	,,
	,,	,,	1	·5	3	3·75	6·5	8·25	8	9·5	12	3·5	28	¼ ,,	,,
Pomadasys maculatum ♀	56	17.8.20	1·5	1	4·5	5·5	5	10·5	10	13	15	4·5	57	ripe	,,
	71	29.8.20	2·5	1·5	6	6·5	7	14·5	14·5	18	21	7	169	¼ ,,	,,
	209	3.4.21	1·5	1	4·5	5	9·5	12	11·5	13·5	16·5	5·5	64	½ ,,	,,
Pomadasys olivaceum ♀	82	1.9.20	1·5	1	5	7	5·5	15	14·5	18	21	6·5	141	¼ ,,	,,
Pomadasys sp. ♀	27	3.8.20	4	2·5	12·5	13·5	26	31	29	36	42	12	1020	¾ ,,	small fish
Plectorhinchus griseum ♀	45	14.8.20	6	2·5	13	15	14·5	39	33	48	55	17	2043	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	58	18	1817	—	,,
	49	15.8.20	—	—	—	—	—	—	—	—	64	21	3861	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	60	19	2951	—	,,
	58	18.8.20	7	2·5	14	17	16	42	37	49	59	18	2725	¼ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	60	19·5	2951	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	54	18	1817	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	64	18	3180	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	59	20	2725	¼ ,,	,,
	92	10.9.20	6	2·25	14	15	16	41	41	40	50	19	1834	ripe	,,
	94	11.9.20	4	2·5	11	11·5	13	35	29·5	31	50	15	1475	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	59	19	1947	½ ,,	,,
	97	12.9.20	4	2·25	11	12	10	36	29	40	49	15	1475	½ ,,	starfish
	,,	,,	—	—	—	—	—	—	—	—	47	16	1362	¼ ,,	nil
	101	13.9.20	3	2	10·5	10	13	35	29	39	46	15	1362	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	47	14	1362	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	47	14·5	1475	¼ ,,	,,
	119	5.12.20	4·5	3	14	13	16	42	36	46	58	20	2838	¾ ,,	,,
	128	7.12.20	4	2·5	13	14	40	35	45	50	55	16	1588	ripe	,,
	129	,,	4·5	2·5	13	13	28	38	33	43	54	16	2043	¼ ,,	digested matter
	144	10.12.20	4	3	14	12	32	42	37	47	60	19	2725	¾ ,,	nil
	147	13.12.20	4	3	14	13	35	41	35	46	57	19	2951	¼ ,,	,,
	198	1.1.21	3·5	3	13·5	12	30	40	34	47	57	17	2725	½ ,,	,,
	207	3.4.21	5	3	15	15·5	35	45	39	52	63	19	3180	½ ,,	Holothurnia

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes	condition of gonads	stomach contents.
Pomadasidae															
Plectorhinchus griseum ♀	209	3.4.21	3	2	9·5	10	22	29	26·5	33	39	14	1134	¾ ripe	small Holothurian
	221	6.4.21	4	3	13	12·5	29	39	33	45	55·5	17	2272	½ ,,	nil
	231	8.4.21	4·5	2·5	12	13	27	37	30	42	51	15	1820	¼ ,,	,,
	,,	,,	4	2	11	11	24	29·5	25	34	41	13	910	¼ ,,	,,
	237	10.4.21	4	3	14	14	32	44	37	52	62	19	2725	½ ,,	,,
	263	13.8.21	3·5	3	13	13	30·5	40	35	46	56	17	2272	¼ ,,	,,
	288	21.8.21	3·5	2·5	12	11·5	30	40	34	41	57	16·5	2498	¾ ,,	,,
	,,	,,	3	2·5	12·5	11	30	39	34	45	56	17	2498	½ ,,	,,
	,,	,,	3	2·5	12	11·5	30	39	33	45	55	17	2498	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	33	16	2043	¼ ,,	,,
	289	21.8.21	4	3	14	12·5	32	42·5	37	49	61	17	2951	½ ,,	,,
	,,	,,	3·5	2·5	13·5	11·5	30	39·5	34	47	56	17	2498	½ ,,	,,
	355	15.9.21	3·75	2·75	13·5	12·5	31·5	41	35·5	48	58	16·5	2725	ripe	,,
	443	15.4.22	—	—	—	—	—	—	—	—	65	19	3420	¼ ,,	,,
	444	,,	5	2·5	14	15	33	44	37	51	62	18	2964	¼ ,,	,,
	,,	,,	5·5	3	15	15	35	44·5	39	53	63	20	3192	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	61	18·5	3192	,,	,,
	448	16.4.22	5	3	15	16	33	43	37	50·5	60	19	3420	¼ ,,	,,
	449	,,	—	—	—	—	—	—	—	—	62	19·5	3420	¼ ,,	,,
	451	6.5.22	2·75	1·75	11	8·75	19·5	17·5	24	30	37	11·5	684	¼ ,,	,,
	468	29.1.23	3	2·25	9·75	9	23	30	26	35	42·5	12·5	912	¼ ,,	,,
	475	31.1.23	4	2·75	13·5	12	32	42	36	43	57	17	3078	ripe	,,
	,,	,,	4·5	3	14·5	14	33	45	38	52	62	19·25	3192	,,	,,
	476	,,	4·5	2·75	14	14	32	43	36	50	61	17·5	2736	,,	,,
	,,	,,	4·75	3·25	15	14·75	33	44	37	50	60	19	3192	,,	,,
	,,	,,	3·25	2·5	11·5	10·5	27	36	31	41	49	15	1824	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	59	16·5	3192	ripe	,,
	,,	,,	4	3·25	15	15	35	46	40	52	64	19·5	3648	½ ,,	,,
	477	,,	3·25	2·5	12·25	10·5	30	38	34	43	52	17	2508	ripe	,,
	,,	,,	4·75	2·75	14·5	14	34	44·5	37	51	61·5	18·25	2964	,,	,,
	,,	,,	5·5	3	16	15·5	35	36	39	53	66	19	3876	,,	,,
	478	31.1.23	5	3	15·25	14	36	45	38	53	62·5	19	3420	,,	,,
	,,	,,	3	3	12·5	12·5	31	42	35	47	57	19	2736	,,	,,
	,,	,,	5	3·25	15·75	16·25	36	47	40	55	66	21	3420	,,	,,
	480	1.2.23	5·5	3	15·5	16	34	45	38	51·5	62	19	2964	,,	crabs
	,,	,,	3·75	2·75	15·5	12·5	31	41	35	47	57	18	2964	,,	,,
	481	,,	4·75	3	15	15·5	35	47	41	50·5	64·5	19	3420	¼ ,,	nil
	,,	,,	4	3	14·5	13·5	33	44	38	49	61	20	3420	¼ ,,	,,
	,,	,,	5·75	3·25	16	16·5	36	48	41	53	67	22	3876	ripe	,,
	,,	,,	4	3	14·5	12·75	33	43	37	49	59	20	2964	,,	,,
	,,	,,	4·25	3	15	14	33	43·5	37	48·5	58	18	2964	¼ ,,	,,
	,,	,,	3·75	2·75	12·5	13	30	41	33	46	56	18	2508	ripe	,,
	482	,,	5	3·25	15·5	15	35	47	41	55	67	21	3762	,,	,,
	484	,,	4·5	3	15	14	33	44	37	49·5	61	19	3192	,,	,,
	,,	,,	5	3·5	14·5	14	32	43	37	49	59	19	3192	,,	,,
	,,	,,	4	2·75	14	14	32	43	36	49	59	13·5	2964	¾ ,,	,,
	,,	,,	3·5	2·5	12	12	30	39	33·5	45	55	18	2508	ripe	,,
	489	2.2.23	5	3·25	15	16	36	47	40	53·5	66	20	4104	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	cd.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes.	condition of gonads	stomach contents.
Pomadasidae															
Plectorhinchus griseum ♀	489	2.2.23	5	3·25	15	15·5	37	47	41	55	66	21	4788	ripe	nil
	,,	,,	3·75	3	14	13	34	45	37	50	62	19	3876	,,	,,
	,,	,,	5	2·75	13·5	14	24	44	37·5	50	60	19·5	3534	,,	,,
	,,	,,	4·75	3	14·5	14·5	34	44	37	50	61	20	3534	,,	,,
	490	3.2.23	4·5	3	14	14	34	43	38	50	60	20	3648	,,	,,
	491	,,	4	2·5	12·5	13	29	39	34	45	55·5	18	2394	½ ,,	,,
	500	8.2.23	3·5	2·75	13·5	12	34·5	43·5	37·5	49	61·5	22	3192	ripe	,,
	501	,,	4	2·5	14	13	34·5	45	38·5	50	63	19·5	3648	,,	,,
	,,	,,	3·5	2·5	14·5	13	34	45	38·5	50	65	21	3876	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	62	19	3192	,,	,,
	503	9.2.23	3	2·5	12	9·5	28·5	38·5	31·5	45	55	16	2280	½ ,,	,,
	,,	,,	2·5	2·25	11	10	29	37·5	32·5	43	52·5	16	2052	½ ,,	prawns
	,,	,,	3	2·5	12·5	11	30	41	35	45	57	17	2736	ripe	nil
	504	,,	5	2·5	15	15	35	48	40·5	59·5	67·5	20·5	4332	,,	,,
	506	,,	3	2·25	11·5	10	29	37·5	32	42	52	16	2166	,,	,,
	516	11.2.23	3	3	13·5	12	33	44·5	38·5	51	63·5	18·5	3648	,,	,,
	,,	,,	4	2·75	13·5	13·5	32·5	42·5	36·5	49·5	61	19·5	3420	,,	,,
	,,	,,	4	3	13·5	12	33	44	47·5	50	62	18·5	3534	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	50	14·5	1710	¼ ,,	,,
	517	,,	4·75	3	15	14·5	25	41·5	39·5	52·5	66	19·5	3876	½ ,,	,,
	521	12.2.23	4	2·75	13·5	14	31	41·5	35	48	59	20	3648	½ ,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	47	15	2062	¼ ,,	sand tubes
	525	,,	5	3	15·5	14·5	36	45·5	39	52	65	20	4104	ripe	nil
	527	13.2.23	5	3	16	15·5	35	47	40	52	65	21	3876	,,	,,
	,,	,,	4	2·75	14	13	31·5	44	37	50	62	19	3192	,,	,,
	,,	,,	3·5	2·5	13·5	12	30	40·5	35	47	59	17·5	2964	,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	67·5	19	3420	,,	nil
	528	,,	3·5	3	14	13	34	45	38·5	42	68·5	19	3648	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	57	17	2508	⅓ ,,	prawns
	531	,,	4	3	15	13	33	43	37	49	61	19	3420	ripe	nil
	,,	,,	3·75	2·75	14	12·5	33	44	38	50	62·5	18	3192	,,	,,
	532	,,	4·5	2·5	13·5	13·5	31	41	35·5	47	59·5	16·5	2622	,,	,,
	,,	,,	4	3	13·5	13·5	31·5	40	35	45·5	57·5	17	2622	,,	,,
	551	11.4.23	4	3	15	14	34	44·5	38·5	50	62·5	18	2964	⅓ ,,	prawns
Plectorhinchus griseum ♂	18	30.7.20	—	—	—	—	—	—	—	—	57	18	2500	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	60	18·5	2725	½ ,,	,,
	58	18.8.20	—	—	—	—	—	—	—	—	64	19	2951	ripe	,,
	22	2.8.20	3·5	2·7	12	13	27	38	31	44	53	17·2	2040	¼ ,,	,,
	49	15.8.20	7	3·4	16	16	32	43	38	50	58	20	3406	ripe	shells
	61	25.8.20	4	2	10·5	14	12	32	28	36	45	15	1134	¼ ,,	nil
	91	10.9.20	5·5	2	13	11·5	13	35	30	41	49	16	1475	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	48	15	1362	¼ ,,	,,
	95	12.9.20	2·25	1·5	6·5	8	7·5	21	18	26	30	10	340	¼ ,,	Gephyrean worms
	,,	,,	—	—	—	—	—	—	—	—	33	12	454	¼ ,,	nil
	97	,,	—	—	—	—	—	—	—	—	44	14	1021	¼ ,,	,,
	195	31.12.20	5·5	3	17	15·5	37	49	42	56	69	20	4546	¼ ,,	,,
	214	4.4.21	5	3	14·5	15·5	35	47	39·5	53	63	20	4090	ripe	,,
	217	5.4.21	6	3	16·5	17	27	51	42	60	71·5	20	4316	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents
Pomadasidae															
Plectorhinchus griseum ♂	220	6.4.21	5·5	3	16·5	16	38	51	43	58	69	20	4090	ripe	nil
	223	7.4.21	5	3	15·5	14	36	48	41·5	55	68	23	4316	,,	,,
	,,	,,	5·5	3	16	15	37	50	42	56	69	22	4545	,,	,,
	225	,,	5	3	14	15·25	34	45	39	52	63	20	3400	,,	crabs
	228	8.4.21	5	3	16	16	36	48	42	53	66	21	4090	,,	nil
	230	,,	5	3	15	15	24·5	44	39	50	61	18	3180	,,	,,
	,,	,,	4·5	11	12·5	14	29	40	33	46	57	18	2500	,,	,,
	289	21.8.21	4	3	15	12·5	32	44	37·5	51	62·5	17·5	3180	,,	,,
	366	17.9.21	4	2·5	13·5	13	31	41	35·5	48	60	16·5	2612	,,	prawns
	443	15.4.22	5	3	15·5	15	35	45	39	52	63	20	3420	½ ,,	nil
	,,	,,	5	3	15	15	36	48	41	53·5	67	22	3648	ripe	,,
	,,	,,	4·5	3	15·5	14·5	35	47	40	55	66·5	21	3420	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	60	19	3192	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	65	18	3420	,,	,,
	444	,,	4	3	13	13·5	34	38	44	54	62	20	3192	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	66	20	4104	,,	,,
	445	,,	4·5	2·5	14	14	31	42	36	48	57	19	2508	,,	,,
	,,	,,	5	2·5	13	14	29·5	40	34	47	56·5	19	2736	½ ,,	,,
	,,	,,	2·5	2	9	9	21·5	28	24	33	41	14	1026	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	36	12	684	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	31	12	684	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	29	10	456	¼ ,,	,,
	446	,,	5·5	3	15	16	34	45	38	52	83	21	3420	ripe	,,
	,,	,,	5	3·25	14·5	15	33	43	36·5	52	62	20	3192	,,	,,
	,,	,,	5	3	14·5	16	34	46	39	54	66	20	3876	,,	,,
	447	16.4.22	5	3	14	15	33	44	37	52	61	20	2736	,,	,,
	,,	,,	5	3	15	14·5	33	43	37	51·5	60	20	2964	,,	,,
	,,	,,	5	3	15·25	15·5	33	44·5	37	52	62·5	21	3420	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	58·5	18	2964	½ ,,	,,
	448	,,	5	3	15	16·5	34	46	39	52	62	20·5	1026	¼ ,,	crabs
	,,	,,	2·5	2	8·5	9	18	26	21·5	29	36	12	912	½ ,,	digested matter
	449	,,	3·5	2	9·75	10	22·5	30	26	35	43	14	1026	¼ ,,	nil
	,,	,,	5	3	14·5	14·5	33	44	37	52	63	20	3762	ripe	,,
	,,	,,	5·5	3	15	15	34	46	40	54	64	19	3648	,,	,,
	451	6.5.22	2	1·75	7	6·5	15	20·5	17·5	23·5	29	8·5	199	,,	,,
	454	27.1.23	2·5	2	10	9	24	33	27·5	37·5	46·5	13	1140	,,	,,
	,,	,,	3	3	13	11·5	30·5	41	35	47	58	17	2736	,,	,,
	,,	,,	3·25	2·5	12	11	28·5	38	33	43	53·5	15·5	2508	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	46	13·5	1140	ripe	,,
	470	29.1.23	3·5	2	10·5	10·5	24·5	34	28	38	47	11·5	1482	,,	,,
	,,	,,	2·5	2	9·5	9	23	31	27	35	44	13·5	912	,,	,,
	476	31.1.23	—	—	—	—	—	—	—	—	58	17·5	2850	,,	,,
	477	,,	4	2·75	18·5	18·5	33	43·5	37	50	60	19	3534	,,	,,
	,,	,,	4·5	2·75	14	14	31·5	43	36	50	62	17·5	3192	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	63	19·5	3648	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	59	18	2736	,,	,,
	478	,,	4·5	3	14·5	13·5	34	46	38	52	63	20	3192	,,	,,
	,,	,,	4	3	13·5	13·5	31	43	36	49	60	18	2964	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Pomadasidae															
Plectorhinchus griseum ♂	479	31.1.23	6·5	3·25	19	18	33	41	38	46	55	19	2508	ripe	nil
	484	1.2.23	4·5	2·75	14·5	14	33	42	37	48	58·5	19	2964	¾ ,,	,,
	489	2.2.23	5·5	3·25	16	16·5	36	47·5	41	54	66	20·5	4332	ripe	,,
	500	8.2.23	2	2·5	10	8	24	32	29	35	44·5	15	1596	,,	,,
	,,	,,	2	2·5	10	9	24·5	32·5	39·5	36	44·5	15·5	1824	,,	,,
	501	,,	4	2·5	14	13·5	34·5	46	39·5	52	65	21	3876	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	51·5	16	1824	,,	,,
	516	11.2.23	—	—	—	—	—	—	—	—	50	14·5	1596	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	45	13	1254	ripe	,,
	517	,,	3·75	2·25	12	10	26	35	30	39·5	49·5	15	1824	,,	cuttlefish
	,,	,,	4	2	10·5	10·5	24	31	27·5	35	45	13·5	1140	½ ,,	nil
	518	,,	4·5	3	16·5	14·5	35	46·5	40	52·5	67	19	4104	ripe	,,
	519	,,	4·5	3	16·5	14·5	35	46·5	40	52·5	67	19	4104	,,	,,
	521	12.2.23	5·5	2·75	16·5	16	37·5	49·5	42	56	68·5	22	5016	,,	crabs & shells
	,,	,,	4·5	3	16·5	14·5	36	47	40	53·5	67	22	4560	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	53	18	2736	½ ,,	sand tubes
	,,	,,	—	—	—	—	—	—	—	—	48	16	2280	½ ,,	,,
	523	,,	4·5	3·25	15	16	36	50	43	58	72	21	4788	ripe	nil
	,,	,,	3·5	2·5	11·5	11	28	37	32	43	53	18	1824	,,	,,
	,,	,,	3·5	2·25	10·5	10·5	24	33·5	28	37	47	14	1368	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	52	16	1596	,,	,,
	525	,,	5	3	16·5	15	36·5	48	41	55	64·5	22	4560	,,	,,
	527	13.2.23	—	—	—	—	—	—	—	—	67·5	19·5	3876	,,	small fish
	528	,,	4	3	14	12·5	33	44·5	37·5	50	63·5	19	3192	,,	crabs
	,,	,,	4	2·5	13·5	13	33	43	37·5	48	61	16·5	3192	,,	nil
	531	,,	4·5	3	15	14·5	34·5	36	39	52	62	18	3420	,,	,,
	537	9.4.23	4·5	3·25	16	16	36	47	39	52	64	21	3990	,,	,,
	538	,,	5	3	14	15·5	32	44	36·5	50	61	19	2850	¼ ,,	,,
	539	,,	4·5	3	15	15·5	34	47·5	40	55·5	67	20·5	4104	ripe	,,
Plectorhinchus olivaceum ♀	538	,,	3	3	12·5	13	30	38	34	43	51	17	2394	½ ,,	crabs
	551	11.4.23	3·75	2·5	12	11	26	34	30·5	38·5	48	13	1368	½ ,,	nil
Plectorhinchus olivaceum ♂	538	9.4.23	3	3	12·5	13	31	38·5	36	46	55	18	2850	ripe	crabs
	552	11.4.23	4·25	3	14	14	30·5	39	35	44	55·5	16	2166	,,	nil
Plectorhinchus pictum	210	3.4.21	1·5	1	5	4·5	10·5	13·5	12	15·5	19·25	6·5	92	—	—
Plectorhinchus sp. ♂	213	4.4.21	5·5	3	16	16·5	39	49	43	57	68·5	19	3975	ripe	nil
Scolopsis bimaculatus ♂	163	18.12.20	2	2	6·5	7	14	17	17	21	26	7·5	226	¼ ,,	digested matter
	207	3.4.21	1·5	1	5	5·5	10·5	14·5	13	16·5	21	6	141	ripe	nil
	215	5.4.21	2	1·5	6	7	14	18	17	20	26	8	228	¼ ,,	,,
	,,	,,	2·5	2	7	7·5	15	19	18	21·5	27	8·5	340	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	26	8·5	254	¼ ,,	,,
	217	,,	2	1·5	6	6·5	13	17	15·5	19	24·5	7·5	198	⅓ ,,	,,
	230	8.4.21	2·5	1·5	8	8	16	19	18·5	22	27·5	8·5	280	⅓ ,,	,,
	451	6.5.22	1	1·5	4·75	5	10·75	13·5	13·5	16	21	6	114	⅕ ,,	,,
	,,	,,	1·5	1·5	5	5	11	13·5	13·5	15·5	20	6	114	¼ ,,	,,
	,,	,,	1·75	1·5	5·5	5·5	11·5	14	14	16	20·5	6·25	256	⅓ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	21	6·5	114	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	18	5·5	114	¼ ,,	,,
	461	27.1.23	2	1·75	6·5	7	14·5	18	17·5	21·5	27	8·5	342	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes-	condition of gonads	stomach contents.
Pomadasidae															
Scolopsis bimaculatus ♂	470	29.1.23	3	2	7	8	15	19·5	19·5	23	28	8	456	½ ,,	nil
Scolopsis bimaculatus ♀	147	13.12.20	2	1	6·5	6·5	12·75	15·5	15·5	19	23	6	113	¼ ,,	,,
	207	3.4.21	1·5	1·25	5	5	9·5	12·5	11·5	14	18	5	99	¼ ,,	,,
	214	4.4.21	2·5	1·5	6	6·5	14	15·5	15·5	19·5	22·5	8	226	½ ,,	,,
	,,	,,	3	2	6·5	7·5	15·5	18·5	18·5	20·5	25	8	226	½ ,,	sand
	,,	,,	2·5	2	5·5	6·5	13·5	15·5	15·5	17	21	7	113	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	19·5	6	113	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	28	9	226	¼ ,,	,,
	215	5.4.21	3	2	8	8	15·5	20	19	23	30	8·5	340	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	27	8·5	311	½ ,,	,,
	230	8.4.21	3	2	7·5	8	14·5	20	19	22	29	9	340	¼ ,,	starfish
	451	6.5.22	—	—	—	—	—	—	—	—	20·5	6	199	½ ,,	nil
	458	27.1.23	2	1·5	6	6·5	13	16	15·5	18·5	23·5	7	228	½ ,,	,,
	461	,,	3	2	7·5	8	15	19·5	18·5	23	29	8·5	342	¼ ,,	,,
	,,	,,	2·5	1·75	6·75	7	14	18·5	16·75	21	27	8	342	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	27·5	8·25	342	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	25	8	342	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	28	8·5	342	¼ ,,	,,
	495	4.2.23	2	1·75	7	7	15	19	18·5	22	28	9	456	½ ,,	,,
	501	8.2.23	1·5	1·25	4·5	4·5	10·5	12·5	12·5	14·5	18·5	6	110	½ ,,	,,
	516	11.2.23	1·5	1·5	5	5	10·5	13	12·5	14·5	19	4	100	½ ,,	,,
	,,	,,	1	1·5	4	4·5	9·5	12	11·5	13·5	17·5	5	80	½ ,,	,,
	,,	,,	1·25	1·25	4·5	4·5	10	12	12	14	18	5	90	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	18	4·5	80	ripe	,,
	521	12.2.23	1·5	1·5	5·5	6	12	15·5	15	18·5	24	6·5	190	,,	,,
	522	,,	1·75	1·5	5	5·5	12	14·5	14	17	21·5	6·5	228	½ ,,	,,
	,,	,,	1·25	1·25	4·5	5	11	13·75	13	16	21	6·25	228	ripe	,,
Caesio chrysozona ♂	14	29.7.20	—	—	—	—	—	—	—	—	15·5	4	57	½ ,,	weeds
	144	10.12.20	·5	·75	2·5	3	6·25	8	9·5	9·5	11·5	2·5	28	½ ,,	nil
	145	,,	·75	1	3·5	5	9·25	12·5	12·5	14·5	18·5	4·5	57	ripe	digested matter
	149	14.12.20	·75	1	3	4·25	8	10	10	11·5	15	3	28	—	nil
	,,	,,	·75	1	3·5	4·5	8	10·5	10·5	12	15·5	3	28	ripe	,,
	,,	,,	·75	1	3	4	7·5	9	9	10·5	14	3	28	,,	,,
	153	15.12.20	1	1	3·5	5	8	10	10	12	14	2·5	28	,,	,,
	,,	,,	1	1	3	4	7	8·75	8·75	10·25	12·75	2	21	,,	shrimps
	,,	,,	1	1	3	4	6·5	8·5	8·5	10	12	2	14	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	18·5	2·5	14	¾ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	12	2·5	21	¾ ,,	,,
	167	19.12.20	—	—	—	—	—	—	—	—	11·5	2·5	14	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	11	2	14	—	,,
	168	,,	·75	1	3·5	4	7·5	9·5	9·5	10	13·5	2·5	28	ripe	,,
	169	,,	·75	1	3·5	5	9	11·5	11·5	13	16·5	3·5	57	,,	,,
	,,	,,	·75	1	4	4·5	9·5	11·5	11·5	14	17·5	3·5	57	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16·5	3·25	42	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16	3	42	½ ,,	shrimps
	,,	,,	—	—	—	—	—	—	—	—	16·5	3	57	½ ,,	,,
	195	31.12.20	—	—	—	—	—	—	—	—	13·5	2·75	28	ripe	prawns
	199	1.1.21	—	—	—	—	—	—	—	—	10	2	21	¼ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

NALLUR, JAFFNA

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes-	condition of gonads	stomach contents
Pomadasidae															
Caesio chrysozona ♂	199	1.1.21	·75	·75	3	4	6·5	8·25	8·25	9·25	12·25	2·5	21	¼ ripe	prawns
	451	6.5.22	·5	1	3·5	4·5	8·5	10·75	10·75	12·25	15·5	3·5	50	ripe	—
	,,	,,	·75	1	3·5	4·5	8	10·5	10·5	12	15·5	3·5	40	½ ,,	—
	,,	,,	—	—	—	—	—	—	—	—	15·5	3	40	½ ,,	—
Caesio chrysozona ♀	14	29.7.20	—	—	—	—	—	—	—	—	16	4·3	85	¾ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	16·3	4·5	57	ripe	,,
	74	29.8.20	·5	·5	2	3	2·5	7	7	8·5	10	2·25	7	,,	,,
	144	10.12.20	1	1	3	3·5	6·75	8·5	8·5	10·5	13	2·75	28	½ ,,	,,
	153	15.12.20	—	—	—	—	—	—	—	—	18·5	3	42	ripe	,,
	167	19.12.20	·75	1	3	4	8	10	10	11·5	14·5	3	42	¾ ,,	small shrimps
	,,	,,	·75	·75	3	3·5	6·5	8·5	8·5	9·5	12·5	2·5	21	ripe	,,
	,,	,,	·5	·75	3	3·5	5·5	9	10·5	10·5	13·5	2·5	28	¾ ,,	shrimps
	,,	,,	—	—	—	—	—	—	—	—	12	2·5	21	¾ ,,	nil
	168	,,	·5	·75	3	3·5	6·5	8·5	8·5	10	12·5	2·5	21	ripe	,,
	169	,,	·75	1	3·5	4·5	9	11	11	12·5	19	3·5	57	,,	,,
	173	23.12.20	·5	1	3·5	4·5	8·5	10·5	10·5	12·5	15·5	3	42	½ ,,	,,
	,,	,,	·5	1	3·5	4·5	8·5	10·5	10·5	12	15·5	3	42	½ ,,	,,
	,,	,,	·5	·75	3	3·5	6·5	8·5	8·5	10	12	2·5	21	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	2·75	35	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	3	42	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	2·5	28	½ ,,	,,
	195	31.12.20	·75	1	3·25	4·5	8	10·25	10·25	12	15	3	42	½ ,,	prawns
	,,	,,	·75	1	3·25	4	8	10	10	11·5	14·5	3	35	½ ,,	,,
	,,	,,	·75	1	3·25	4	7·75	10	10	11	14·5	3	35	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13	2·75	28	—	—
	,,	,,	—	—	—	—	—	—	—	—	14	2·75	35	½ ,,	prawns
	199	1.1.21	1	·75	3·5	4	7·5	9·25	9·25	10·5	13·5	3	35	½ ,,	,,
	,,	,,	·5	·75	2·5	3·5	6·5	8·25	8·25	9·5	12·25	2·5	21	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	11·5	2·25	21	½ ,,	prawns
	451	6.5.22	·75	1	3·5	4·5	8·5	11·25	11·25	12·75	15·5	3·25	50	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	15	3	30	ripe	small prawns
	,,	,,	—	—	—	—	—	—	—	—	14	3	35	,,	—
Caesio sp. ♂	195	31.12.20	·75	1	3·5	4	7	9·5	9·5	12	15·5	4	42	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	16	4·25	57	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	12·5	3·25	28	½ ,,	prawns
	,,	,,	1·5	1	4·5	4	9	10·5	10·5	11·5	15	4·5	57	½ ,,	nil
	,,	,,	1	1·25	4	3·75	8	10	10	11	14·5	4	49	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14·5	4	49	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14·5	4	42	½ ,,	,,
	,,	,,	1	1	3·5	4	7·5	9·5	9·5	11	15·25	4	42	½ ,,	,,
	,,	,,	1	·75	3·5	3·5	7	8·5	8·5	10	14·5	3·75	35	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	14·5	3·75	42	½ ,,	prawns
	,,	,,	1	1·25	3·5	4	7	9·5	9·5	11·5	16	4	49	½ ,,	nil
Caesio sp. ♀	,,	,,	·75	1	3·5	4	7	9·5	9·5	12	15·5	4	49	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	3·75	42	½ ,,	,,
	,,	,,	1·5	1	4·5	4·5	9·75	11·5	11·5	13	17	4·75	64	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16·5	5	64	½ ,,	,,
	,,	,,	1	1	4	4·5	7·5	10	10	12	17	4·5	49	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes	condition of gonads	stomach contents.
Pomadasidae															
Caesio sp. ♀	195	31.12.20	—	—	—	—	—	—	—	—	15·5	4·5	35	½ ripe	prawns
Theraponidae															
Therapon theraps ♂	113	21.9.20	·75	·5	3	4	4	10·5	10·5	12	14·5	4·25	57	½ ,,	nil
	115	22.9.20	1	1	3·5	4·5	4·25	10·5	10·5	12	14·5	4	49	ripe	,,
Lethrinidae															
Lethrinus harak ♀	70	29.8.20	2·5	1·5	6	6·5	7·5	15·5	15	18	22·5	7	176	,,	,,
	101	13.9.20	—	—	—	—	—	—	—	—	17	4·5	63	¼ ,,	,,
Lethrinus harak ♂	,,	,,	1	1	4	5	4·5	12	13·5	13·5	15·5	4·5	71	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	16·5	4·25	63	,,	,,
Lethrinus karwa ♀	18	30.7.20	—	—	—	—	—	—	—	—	17	4·5	63	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	56	16·5	2272	½ ,,	,,
	27	3.8.20	4·5	2	9	10	17·5	24	22·2	28	32	11	565	¼ ,,	small shells
	48	,,	8·5	2·4	14·5	15·7	28·3	37	37	47	54	17	2043	ripe	nil
	58	18.8.20	8	2·25	14	17·5	16	34	34	43	52	15	1817	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	59	19	2498	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	55	16	2272	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	46	15	1362	¼ ,,	,,
	60	25.8.20	8	3	15	18	17·5	42	42	50	61	19	2725	¼ ,,	,,
	,,	,,	8	2	13	18	15	32	30	37	44	15	1362	¼ ,,	,,
	61	,,	—	—	—	—	—	—	—	—	44	15	1134	½ ,,	,,
	,,	,,	3·5	2·5	9	11	10	20	20	23	29	10	454	¼ ,,	,,
	73	29.8.20	6	2	13	15	16	35	35	44	51	17	2272	¼ ,,	mud
	,,	,,	—	—	—	—	—	—	—	—	56	17	2498	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	53	16	2043	¼ ,,	shells
	132	8.12.20	8	3	15	17	31	39	45	45	59	14	2498	¼ ,,	small fish
	193	29.12.20	3·5	1·5	6·5	7	12	14·5	14·5	17	22	5·5	169	ripe	nil
	212	4.4.21	8	3	15·5	18	32	40·5	40	47	60	18	2838	½ ,,	shells
	214	,,	4	2	9·75	11	19	25	24·5	31	38	11·5	908	½ ,,	nil
	,,	,,	3	1·5	7	8	14	14·5	19	19	23·5	9	340	¼ ,,	fish
	,,	,,	—	—	—	—	—	—	—	—	53·5	17	2498	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	60	18	2725	½ ,,	,,
	217	5.4.21	4	2·5	10	12	19·5	26	26	30	39	12	908	¼ ,,	,,
	,,	,,	5	2	10·5	12	22	27	27	32	41	13	1021	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	61·5	18	3180	¼ ,,	fish & crabs
	,,	,,	—	—	—	—	—	—	—	—	42·5	16	1588	¼ ,,	nil
	220	6.4.21	5·5	2·5	11·5	12·5	24	29	28	34	44·5	13	1134	¼ ,,	digested matter
	,,	,,	5·5	2·25	11·5	12·5	24	29	28	34	44·5	13	1134	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	33	10	680	¾ ,,	,,
	224	7.4.21	4·5	2	10	11·5	20	26	26	30	39	12	908	½ ,,	,,
	225	,,	8	3	18	17·5	36·5	42·5	43·5	56	64	20	3860	½ ,,	shells
	242	10.8.21	5·5	2·5	12	13	25·5	32·5	32·5	38	49·5	15	1817	¼ ,,	crabs
	,,	,,	6	3	14·5	15	30·5	38	38	45	57	17	2951	ripe	,,
	324	10.9.21	7·5	3	16	17·5	32	40	40	48	60	17	3406	¼ ,,	brittle starfish & jelly fish
	333	11.9.21	6·5	2·5	14	15	29	36	36	42·5	54·5	15·5	2498	¾ ,,	nil
	343	12.9.21	7·5	2·5	15·5	17	30·5	38·5	38·5	44·5	56	16	2725	¼ ,,	fish & starfish

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Lethrinidae															
Lethrinus karwa ♀	454	6.5.22	5·5	2·5	12·5	14	25·5	33	33	39	47·5	13·5	1596	¾ ripe	nil
	460	27.1.23	4·5	2	9·5	11	18	24·5	24·5	28	35	13	798	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	—	—	798	¾ ,,	,,
	466	29.1.23	3	2·75	8	8·5	15	19	19	23	30	10	456	½ ,,	,,
	,,	,,	2·5	2·5	7·5	8	14·5	19	19	22	30	10	456	½ ,,	,,
	474	30.1.23	2·5	2·5	4·25	8·5	15	19·25	19·25	21·5	29	13	570	¾ ,,	,,
	475	31.1.23	5	2·75	10·5	11·5	21·5	27	27	33	43	13	1368	¼ ,,	,,
	495	4.2.23	4·75	2·25	12	11·5	22	26·5	26·5	31	39·5	13	570	½ ,,	,,
	,,	,,	4·5	2·25	9·75	11	20	24·5	24·5	29·5	37	12·5	912	½ ,,	,,
	500	8.2.23	6·5	2·5	14·5	15	30	36·5	36·5	44	56	16	2736	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	52·5	15	2052	¾ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	57	17	2964	ripe	,,
	501	,,	—	—	—	—	—	—	—	—	56	15	2280	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	45	14·5	1482	¼ ,,	,,
	503	9.2.23	6	2·5	13·5	14	29	36	36	42	53·5	15·5	2736	½ ,,	,,
	,,	,,	6	2·25	13	27	14	34	34	40·5	52	14·5	2280	½ ,,	,,
	504	,,	6·5	2·75	15	16·5	30	37	37	44	57	16·5	2736	½ ,,	,,
	,,	,,	6	2·5	13	13·5	27·5	35	35	41·5	55	15·5	2508	½ ,,	,,
	,,	,,	6·5	2·25	14	15·5	29	37	37	43	57	16	2736	ripe	Clypeaster
	505	,,	8	3	17	19	35	44	44	51	65	18	3876	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	57·5	15·5	2736	½ ,,	Sipunculid
	,,	,,	—	—	—	—	—	—	—	—	48	14	1824	ripe	Echinodiscus
	506	,,	6·5	2·5	13·5	15	28·5	35·5	35·5	41	54	10	2280	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	53	15·5	2280	½ ,,	,,
	507	,,	7	3	15	17	31	39	39	46	59	17·5	3192	ripe	fish
	509	10.2.23	7	2·5	15	16·5	31·5	39	39	44	58·5	16	2736	½ ,,	nil
	511	,,	7	2·5	14·5	15	30·5	38	38	44·5	57	16·5	2736	ripe	fish
	512	,,	4	1·75	9	10·5	19	24	24	27·5	37	11	912	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	41	13	1140	¾ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	41	12·5	1140	½ ,,	,,
	515	11.2.23	6·5	2·75	15	16	31	38·5	38·5	45	59	16·5	1824	½ ,,	cuttlefish
	,,	,,	—	—	—	—	—	—	—	—	59	15·5	3078	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	56	15·5	2622	,,	shells
	516	,,	5·5	2	11	12	22·5	28	28	33	42·5	13·5	1368	¼ ,,	,,
	,,	,,	4·5	2	10	10·25	19	25	25	29	37·5	11	1140	½ ,,	nil
	517	,,	6·75	2·5	15	16	30·5	38	38	45	60	16	2964	ripe	crabs
	522	12.2.23	4·5	2·5	10	11·5	20	25	25	29	37	13	1026	½ ,,	nil
	,,	,,	4	1·75	8·25	10	17	22	22	26·5	32	11	684	½ ,,	fish
	,,	,,	4·5	2	10	11	20	25·5	25·5	30·5	37	13·5	1140	½ ,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	37	12	912	½ ,,	shells
	,,	,,	—	—	—	—	—	—	—	—	36	12	1020	½ ,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	35	7·5	798	½ ,,	shells
	523	,,	3	2	10·5	12	23	27·5	27·5	32	42	14	1368	ripe	nil
	525	,,	5	2	10	12·5	19	26	26	30	38	12	1140	½ ,,	,,
	,,	,,	4·5	2	10	10·5	19	24	24	29	37	11	912	½ ,,	,,
	527	13.2.23	6·5	2·5	14·5	13	14	37	37	43	56	16	2736	½ ,,	,,
	,,	,,	4·5	2	11	12	22	28	28	33	44	13	1368	½ ,,	cuttlefish
	528	,,	4·5	2	10·5	11	20·5	25·5	25·5	29·5	39·5	12	1140	¼ ,,	fish

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents
Lethrinidae															
Lethrinus karwa ♀	529	13.2.23	—	—	—	—	—	—	—	—	34	11	684	½ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	37	12	1140	½ ,,	,,
	532	,,	8·25	2·5	16	16·5	30	37	37	44	58	17	2622	ripe	shells
	,,	,,	6·5	2	13·5	14·5	27	35	35	42	53	15	2280	,,	fish
	552	11.4.23	—	—	—	—	—	—	—	—	36	11	684	,,	nil
	556	12.4.23	6	2·25	13	13·5	25	31·5	31·5	37·5	49	18	1710	¼ ,,	,,
Lethrinus karwa ♂	18	30.7.20	—	—	—	—	—	—	—	—	55	17·5	2157	¼ ,,	,,
	22	2.8.20	8	3	16	17	27	37	37	44	56	17	2725	¼ ,,	small fish
	58	18.8.20	—	—	—	—	—	—	—	—	50	17	2272	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	60	17	2414	¼ ,,	,,
	60	25.8.20	—	—	—	—	—	—	—	—	48	16	1588	¼ ,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	35	11	680	¼ ,,	nil
	61	,,	10	2·5	16	19	18	39	38	45	55	18	2498	¼ ,,	,,
	,,	,,	10	2·5	18	21	19	41	41	49	59	15	2043	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	57	15	2043	¼ ,,	,,
	68	28.8.20	2	1	4·5	5	5	10·5	10	13	16	5	71	¼ ,,	,,
	73	29.8.20	—	—	—	—	—	—	—	—	48	14	1362	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	59	18	2725	ripe	,,
	,,	,,	5	2·5	10	11	15	12	31	31	33	11	1817	½ ,,	small fish
	74	,,	7	2·5	14	15	19	35	35	46	56	18	3180	½ ,,	nil
	,,	,,	5	2·5	12	15	13	33	31	37	46	16	908	½ ,,	,,
	91	10.9.20	4	2	8·5	9	10·5	23	23	29	35	12	680	¼ ,,	sea urchin
	94	11.9.20	3·5	2	8·5	10	10·5	25	25	30	38	12	794	½ ,,	nil
	95	12.9.20	4	1·5	8	10	8	21·5	20·5	27	32	10	567	ripe	,,
	96	,,	5	1·5	9·5	12·5	11	27	27	34	42	13	1021	½ ,,	crabs
	118	5.12.20	7	2·5	13	15	15·5	31	31	37	47	16	2043	½ ,,	nil
	121	6.12.20	15	3	25·5	27·5	26·5	57	57	65	80	21	5907	ripe	small fish
	132	8.12.20	7	3	10	17	30·5	39	39	45	54	17	2725	½ ,,	nil
	,,	,,	7·5	2	16	18	31	40	40	47	61	16	2951	½ ,,	shells
	135	9.12.20	7·5	2·5	15·5	17	30·5	40	40	46	61	18	3180	ripe	,,
	214	4.4.21	7·5	3	16	18·5	31	40	40	47	58·5	18	2951	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	50	15	2043	,,	,,
	217	5.4.21	6	2·5	11·5	13	22	29·5	28	34	42	12	1134	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	41	13	1134	½ ,,	,,
	220	6.4.21	6	2·5	11·5	14	22	29	27	33	43	13·5	1248	½ ,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	45	14	1134	¼ ,,	,,
	221	,,	5·5	3	12	14	23	29	28	35	43	14·5	1134	½ ,,	shells
	224	7.4.21	5	2·25	11	13·5	22	29	29	33	39	13	1134	½ ,,	nil
	,,	,,	5	2·5	12	14	23	29	29	34	44	14·5	1248	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	40	13	1134	½ ,,	,,
	333	11.9.21	7·5	2·5	15·5	16·5	31·5	39	39	46	58	16·5	2951	ripe	,,
	,,	,,	7·5	2·75	16	18	31·5	40	40	47	60·5	17	3064	,,	,,
	343	12.9.21	7	2·5	15	16	29	38	38	44·5	55	60	2838	,,	,,
	451	6.5.22	3·25	1·25	6·5	6·75	11·5	14·5	14·5	17	21	5·5	110	¼ ,,	,,
	454	27.1.23	6	2·5	13	14	26·5	34	34	40·5	51·5	14·5	1938	½ ,,	,,
	,,	,,	3·5	1·5	13·25	13·5	27	34	34	40·5	51	15	1938	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	47	14·5	1596	½ ,,	,,
	461	,,	7	2·5	15·5	17	28	34·5	33	40	49·5	14	1596	¼ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Appropriate Technology Unit
24, POINT PEDRO ROAD
NALLUR, JAFFNA
No.

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Lethrinidae															
Lethrinus kawea ♂	461	27.1.23	4	2·5	12·25	13·5	23	29·5	28	34	44	13	1140	¼ ripe	nil
	463	28.1.23	7·5	3	16	18	30·5	39	39	46·5	58	16·5	2964	ripe	,,
	,,	,,	7·5	2·75	16	17·5	30·5	39·5	39·5	46·5	57	12	2736	,,	,,
	464	,,	5	2·5	11	12	22	28·5	28·5	33	43	11·5	1368	⅓ ,,	,,
	465	,,	3·5	3	9	11·5	18	24	24	28	36	13	684	ripe	,,
	466	29.1.23	7	3	16	17	32	40·5	40·5	48	64	18	3648	,,	,,
	,,	,,	3	2·75	8	9·5	16	21·5	21·5	25·5	34	11	684	,,	,,
	470	,,	5	2·5	11	12·25	21·5	27·5	27·5	32	41	13·5	1368	,,	,,
	474	30.1.23	5·5	2·5	11	13·5	22	29	27	33	41	13	1368	,,	one starfish
	475	31.1.23	5	2·5	10	12·25	20·5	28	27	33	42	14	1140	½ ,,	shells
	,,	,,	5	2	11	12·5	21	28	28	33	42	13	1140	ripe	,,
	476	,,	6	2·25	11·5	13·5	23	28·5	28·5	33	42	13·5	1368	½ ,,	,,
	478	,,	6	2·5	11·5	14	20	29	29	34	43	13·5	1368	ripe	mollusc
	495	4.2.23	4·5	2·75	11	13·5	22·5	28	28	34	41	14	1140	,,	nil
	,,	,,	5·25	2·75	12	13	23	29	29	34	42	14	1368	½ ,,	,,
	496	,,	4·5	2·5	10·5	11	21·5	26	26	31·5	40	14·5	912	ripe	,,
	500	8.2.23	7·5	2·5	15·5	17	31	39·5	39·5	47	59	17	3192	,,	,,
	,,	,,	6·5	2·25	13·5	14·5	27·5	35·5	35·5	42	52·5	15	2280	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	56	16·5	2736	,,	,,
	501	8.2.23	6·5	2·5	14·5	16	30	37·5	37·5	44·5	55·5	15	2736	ripe	,,
	,,	,,	7·5	2·5	15·5	17	30	38	38	44	55·5	15·5	2622	½ ,,	starfish
	,,	,,	6	2·5	13·5	14·5	27·5	36	36	42	53	15·5	2280	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	41	14	1368	,,	,,
	503	9.2.23	7·5	2·5	16	17·5	32·5	41	41	48·5	60	17	3420	,,	Clypeaster
	,,	,,	—	—	—	—	—	—	—	—	61	19·5	3192	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	57	15·5	2736	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	55	15·5	2736	½ ,,	,,
	504	,,	—	—	—	—	—	—	—	—	58·5	16·5	2964	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	45	14·5	1824	½ ,,	,,
	505	,,	6	2·5	14	14·5	29·5	38	38	44	55	16	2736	ripe	small fish
	,,	,,	7·5	2·75	16·5	18	32·5	42	42	50	63	17·5	3876	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	61	16·5	2964	,,	small fish
	506	,,	6·5	2·75	14·5	16	29	38·5	38·5	44	57	16	2736	,,	crabs
	,,	,,	7·5	2·75	16	17·5	32·5	41·5	41·5	49	63	17·5	3420	,,	Echinodiscus
	,,	,,	—	—	—	—	—	—	—	—	62	17·5	3420	,,	shells
	,,	,,	—	—	—	—	—	—	—	—	59	16·5	2964	,,	crabs
	509	10.2.23	7	2·5	15	16	30	39	39	45	59	16·5	3420	,,	,,
	,,	,,	5	2	11	11·5	12·5	29	29	34	45·5	13·5	1482	½ ,,	Echinodiscus
	512	,,	5	2	11	12·5	23	30	30	35	45	13·5	1596	ripe	nil
	,,	,,	7·5	2·5	16·5	17	31	39	39	46	58·5	16·5	2964	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	41	13	1368	½ ,,	,,
	514	,,	5	2	11·5	12·5	23	29·5	29·5	34	45	14·5	1482	ripe	,,
	515	11.2.23	6·5	2·5	15	16	30	29	29	45	60	16	3192	,,	small fish
	,,	,,	7·5	2·5	14·5	15·5	28·5	37	37	43	57	15	2622	,,	fish
	,,	,,	—	—	—	—	—	—	—	—	45	14	1824	½ ,,	cuttlefish
	516	,,	4·5	2	11	11	22·5	27·5	27·5	32	42·5	12	1140	ripe	shells
	517	11.2.23	5	2	11	12	22	28·5	28·5	33	42·5	13	1368	,,	nil
	,,	,,	4·5	2	11	11·5	22	28	28	32	42·5	13	1368	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes	condition of gonads	stomach contents.
Lethrinidae															
Lethrinus karwa ♂	517	11.2.23	—	—	—	—	—	—	—	—	44	13·5	1596	ripe	crab
	,,	,,	—	—	—	—	—	—	—	—	42	13·5	1710	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	43	13·5	1482	ripe	crab
	521	12.2.23	6	2·5	12	14	23	30	30	36	44	13·5	1596	,,	shells
	,,	,,	5	2·5	11·5	12·5	22·5	29	29	35	44	15	2052	,,	starfish
	,,	,,	5	2·5	11·5	13·5	24	30	30	35·5	43·5	15	1824	,,	shells
	,,	,,	—	—	—	—	—	—	—	—	44	14	1596	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	41	15	1596	ripe	shells & starfish
	,,	,,	—	—	—	—	—	—	—	—	42	14	1824	½ ,,	starfish
	523	,,	5·5	2·25	12	13·5	24	31	31	37	48	14	1596	ripe	nil
	524	,,	8·5	3	17	20	33·5	41	41	50	62	19	3648	,,	starfish
	,,	,,	5	2·75	14	12·5	21·5	28	28	33	41	13·5	1368	½ ,,	nil
	,,	,,	4·5	2·25	11·5	11	24	27	27	32	41	13	1140	ripe	,,
	525	,,	5·5	2·25	11	11·5	21	27	27	31	40	13	1140	,,	,,
	527	13.2.23	6·5	2·5	15	15·5	29	38	38	44·5	58	16	3420	,,	,,
	528	,,	7	2·75	16	17	32	40	40	47·5	67·5	17	3192	,,	,,
	529	,,	5	2	11	12·5	22	27	27	32	42	13	1368	,,	crabs
	,,	,,	4·5	2·25	10	11·5	21	27	27	31	41	12·5	1140	,,	nil
	,,	,,	5	2·25	11	12	22	28	28	32	43·5	13	1140	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	39·5	12·5	1140	ripe	cuttlefish
	540	9.4.23	4	2	10	10	19·5	24·5	24·5	28	36·5	12	798	,,	nil
	552	11.4.23	6·5	2·5	15	15·5	29	36	36	43	55	15	2280	,,	small fish
	,,	,,	5·75	2	12·75	13·75	25	31·5	31·5	37·5	49·5	14	1482	,,	nil
	,,	,,	5·75	2·25	13	14	26·5	34	34	40	53·5	16	2052	½ ,,	prawns
	556	12.4.23	6·5	2·25	13·5	14	26·5	32·5	32·5	37·5	50	14	1596	ripe	nil
Lethrinus miniatus ♂	291	22.8.21	8	2·5	15·5	18	30	38	38	44	56	14	2272	ripe	small fish
	,,	,,	7·5	2·5	15	18	31	39	39	42	58	14	2498	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	50	14	1817	½ ,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	58	16·5	2725	½ ,,	,,
	293	,,	7	2	14	15	27	33·5	33·5	40	50	12·5	1588	½ ,,	nil
	296	23.8.21	7	2·5	15	16·5	31	40	40	47	60·5	17	3406	ripe	small fish
	320	9.9.21	—	—	—	—	—	—	—	—	56	16	2498	,,	nil
	324	10.9.21	14·5	3	24·5	26	44·5	54	54	62	77	19·5	6133	,,	,,
	333	11.9.21	8	2·5	15·5	17	29	36	36	42·5	54	13	2725	,,	cuttlefish and fish
	343	12.9.21	8·5	2·5	16·5	18	32	39	39	47	56·5	14	2498	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	59	14	2725	½ ,,	,,
	525	12.2.23	8·5	2·5	14·5	16	26	33·5	33·5	38	50	13	1596	ripe	crabs
	527	13.2.23	7·75	2·5	15·5	16·5	28	35	35	42	54	13	1368	,,	nil
	528	,,	8	2·5	14·5	16	27	34·5	34·5	40	51	12·5	1596	½ ,,	fish
	531	,,	9·5	2·5	16·5	17·5	29·5	36	36	43	55·5	13·5	1596	ripe	,,
	,,	,,	6·5	2·25	13·5	14·5	26	32·5	32·5	37	50	12	159	,,	nil
	532	,,	10	2·5	18	18·5	31	38·5	38·5	45	58	13·5	2052	,,	fish
	553	12.4.23	10·5	3	19	21	35·5	44	44	52	65	17	2964	,,	nil
	556	,,	8	2·5	15·5	17·25	28·5	36	36	43	54	14	1938	,,	small fish
Lethrinus miniatus ♀	291	22.8.21	6	2	13	13·5	25·5	32	32	38	42	12	1588	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	50	15	1817	¼ ,,	,,
	293	,,	7	2	13·5	14	26	32·5	32·5	38	49	11·5	1362	¼ ,,	,,
	,,	,,	5·5	2·5	12	12·5	25	31·5	31·5	36·5	47	12	1475	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes-	condition of gonads	stomach contents
Lethrinidae															
Lethrinus miniatus ♂	320	9.9.21	8	2·5	14·5	16·5	29	36	36	43	55	13	1030	ripe	fish
	,,	,,	5·5	2	12	13	24	30	30	36	45·5	13	1475	,,	nil
	,,	,,	6	2	12	13·5	25	31	31	37	47·5	11	1248	¼ ,,	fish
	,,	,,	—	—	—	—	—	—	—	—	50	12·5	1475	¼ ,,	nil
	324	10.9.21	13	2·5	22·5	24·5	41	50	50	59	72	17·5	4771	ripe	,,
	343	12.9.21	7·5	2·5	15	16·5	29	36·5	36·5	44	55	13	2043	¼ ,,	,,
	,,	,,	10	2·5	18	18·5	31·5	39	39	46	56·5	14	2385	¼ ,,	fish
	528	13.2.23	6·5	2·25	12·5	13	23	29	29	34·5	45	11·5	1140	½ ,,	nil
	,,	,,	6·25	2	11·5	12·5	23	29	29	34	44·5	10	1140	½ ,,	,,
	530	,,	9·5	2·75	18	20	34	42	42	49	63	15	1938	ripe	fish
	,,	,,	7	2·5	14·5	16	28	35	35	41	55·5	16	2394	,,	cuttlefish
	,,	,,	7	2·5	15	17	31·5	39	39	46·5	59·5	17·5	3420	,,	nil
	531	,,	7	2·25	13·5	15	25·5	32	32	38	50·5	12	1368	¼ ,,	small fish
	532	,,	7·5	2·5	13·5	14·5	25	32	32	37·5	48·5	11·5	1938	ripe	nil
	550	11.4.23	5·25	2	10·5	11·5	21	26·5	26·5	31·5	40	10	684	,,	,,
	556	12.4.23	6·25	2·25	13·5	13	24·5	30	30	35	46·5	11·5	1140	½ ,,	small fish
Lethrinus nebulosus ♂	137	9.12.20	7	2·5	13	14·5	24	31	31	37	46	12	1134	ripe	,,
	147	13.12.20	7·5	2·5	15·25	17	35	39	39	46	61	17	3180	,,	sand & shells
	149	14.12.20	2	1·5	5	5	9	11·5	11·5	14	17	4·5	71	¼ ,,	nil
	,,	,,	1·5	1·25	4	4·5	7·5	9·5	9·5	11·5	14	3	35	ripe	,,
	153	15.12.20	4·75	2	10·5	11·5	21	27	27	31	40	12·5	1134	,,	octopus
Lethrinus nebulosus ♀	163	18.12.20	7	1·75	14	16·5	28	36	36	45	55	16·5	2951	¾ ,,	shrimps
	169	19.12.20	3·5	1·75	6·5	7	5	15	15	18	22·5	6	226	¼ ,,	nil
	242	10.8.21	5·75	2·5	12·5	14·25	25·5	32	32	38	41·5	15	1817	¾ ,,	crabs
	297	26.8.21	6·5	2·5	14·5	16	29	37	37	45	55	15·5	2498	1 ,,	nil
Lethrinus ornatus ♂	45	14.8.20	—	—	—	—	—	—	—	—	84	22	5907		,,
	50	,,	9·5	2	16	18	18	37	37	43	52	12	2272	¼ ripe	,,
	52	16.8.20	9	2·5	15	19	18·5	37	37	45	53·5	15	2043	½ ,,	cuttlefish bones
	165	18.12.20	7	2	14·5	14	25	31	31	37	47	11·5	1134	½ ,,	nil
Lethrinus ornatus ♀	167	19.12.20	1·5	1·5	4	4·5	7·5	9·5	9·5	11·5	14·5	4	42	immature	,,
	169	,,	2·5	2	7	7·5	14	18	18	20·5	26·5	9	454	¾ ripe	,,
	169	,,	2	1	5·5	6	6·5	14·5	14·5	17·5	22·5	7·5	226	¼ ,,	shells
	173	,,	2	1·5	3·5	4·5	8	10	10	11·5	15	4	42	½ ,,	nil
	263	12.8.21	2	1·75	5·5	6	12	15·5	15·5	18·5	23·5	7·5	226	½ ,,	,,
Lethrinus ramak ♂	144	10.12.20	5·5	3	12	13	25	31	31	36	47	17	1817	ripe	,,
	456	7.5.22	5·5	2	13	13	23	27·5	26	33	42	12·5	1140	,,	small fish
Lethrinus ramak ♀	163	18.12.20	4·5	2·75	11	11	23	28	28	33	42	14	1362	¾ ,,	nil
	456	7.5.22	5·5	2	13	13	23	27·5	26	33	42	12·5	1140	ripe	small fish
Lethrinus sp. ♂	52	16.8.20	—	—	—	—	—	—	—	—	35	11	680	¼ ,,	crabs
	205	2.1.21	5	2·5	12	12	24·5	31	31	37	42	15·5	2043	½ ,,	nil
Lethrinus sp. ♀	52	16.8.20	5	3	9·5	13	12·5	25·5	27	32	39	13	793	¾ ,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	32	10	567	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	43	13·5	1134	¾ ,,	1 small fish
	56	,,	4	2	11	13	12	26	25	32	38	12	596	ripe	nil
	209	3.4.21	4	1·5	8	9	15·5	20·5	20·5	26	31·5	10·5	425	¼ ,,	,,
Sphaerodon grandoculis ♀	324	10.9.21	3	3·5	10	11·5	20	26·5	26·5	30·5	39	12	1021	¼ ,,	starfish
Sphaerodon grandoculis ♂	549	11.4.23	5·75	3·5	14	16	29·5	38	39·5	47·5	59	17	3078	ripe	nil
Sphaerodon sp. ♂	344	12.9.21	5	3	12·5	14·5	21·5	32·5	32·5	38·5	48·5	15	1817	¼ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes	condition of gonads	stomach contents.
Lethrinidae															
Sphaerodon sp. ♂	344	12.9.21	5·5	3	13·5	15	25	33·5	33·5	40	48·5	16	2043	½ ripe	worms
	,,	,,	—	—	—	—	—	—	—	—	44	13·5	1475	½ ,,	fish
	,,	,,	—	—	—	—	—	—	—	—	49·5	15·5	1930	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	44	14	1362	½ ,,	fish and worms
	,,	,,	—	—	—	—	—	—	—	—	49	14	1817	½ ,,	nil
	355	15.9.21	4·75	3	11·5	12·5	23·75	31·5	31·5	36	47	15	2043	ripe	,,
Sphaerodon sp. ♀	344	12.9.21	4·5	3	11·5	14	23	30	30	35	45	14	1588	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	38	12	908	½ ,,	,,
Sparidae															
Pagrus spinifer ♂	15	30.7.20	—	—	—	—	—	—	—	—	39	12·5	365	½ ripe	,,
	18	,,	—	—	—	—	—	—	—	—	34·5	14·3	795	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	29	12·5	565	½ ,,	,,
	23	2.8.20	3·2	1·7	7	7	14	20	20	23	29·2	12	570	½ ,,	,,
	27	3.8.20	2·7	2	7	8	15	18·5	18·7	21	27	12·5	454	½ ,,	small fish
	28	,,	3·5	1·5	6	7	14	18·5	19	21·7	26·5	12	340	½ ,,	,,
	52	16.8.20	4	2·5	8	10	9	22	22	26	32	13·5	680	½ ,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	32	14	680	½ ,,	nil
	58	17.8.20	3·4	1·7	8·2	11	18·5	25·2	24·2	29·2	36·3	16	1134	ripe	fish
	,,	,,	—	—	—	—	—	—	—	—	34	13	680	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	32	14	680	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	20	9	169	½ ,,	,,
	60	25.8.20	—	—	—	—	—	—	—	—	32	13	680	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	28·5	12	454	½ ,,	,,
	61	,,	4	2	8	11	9	23·5	22	27	33	14	680	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	30	13·5	680	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	29	13	454	½ ,,	,,
	71	29.8.20	1	1	2·5	2·5	3·5	7·5	7·5	8·5	11·5	5	42	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	9·5	4·25	28	—	,,
	,,	,,	—	—	—	—	—	—	—	—	9	4	28	—	,,
	74	,,	2	1·5	6	6·5	8	21	21	24·5	31·1	13	680	½ ripe	,,
	75	30.8.20	—	—	—	—	—	—	—	—	37	15	1134	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	30	14·5	680	½ ,,	crabs
	96	12.9.20	3·5	2	7	8·5	7	20·5	20·5	24	30	13	567	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	30	14	680	½ ,,	,,
	191	29.12.20	1·25	1·5	5	4·5	10·75	14	14·5	16·5	22	9·25	233	ripe	,,
	,,	,,	2·5	1·5	9·25	4·5	11	30	30	33	41	16	908	,,	,,
	192	,,	1·75	1·5	5·75	5	11·5	15	15	17·5	22·5	10	226	½ ,,	crabs
Pagrus spinifer ♀	15	30.7.20	—	—	—	—	—	—	—	—	30	13	455	½ ,,	nil
	18	,,	—	—	—	—	—	—	—	—	35	15	710	½ ,,	cuttlefish
	22	2.8.20	3	2·5	8	8	17	23	23	26	34	14	908	½ ,,	nil
	52	16.8.20	—	—	—	—	—	—	—	—	29	12	567	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	31	13·5	680	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	31	12·5	567	—	,,
	,,	,,	—	—	—	—	—	—	—	—	32	13·5	680	½ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	28	12	511	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	29	12	567	½ ,,	,,
	58	17.8.20	—	—	—	—	—	—	—	—	34·5	15·8	1021	ripe	crabs & shrimp

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Sparidae															
Pagrus spinifer ♀	60	25.8.20	4	2·5	8	11	9	22	23	27	32	14	680	¾ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	28	13	567	¼ ,,	,,
	74	29.8.20	—	—	—	—	—	—	—	—	27	12·5	454	½ ,,	,,
	75	30.8.20	—	—	—	—	—	—	—	—	26	12	454	¾ ,,	,,
	,,	,,	3	1·5	9	11	10·5	26	26	32	37	17	1362	½ ,,	,,
	144	10.12.20	1·75	2	7·25	6	16·5	21·25	21·25	25	31	13·5	680	¼ ,,	shrimps
	177	23.12.20	2	2·5	7·5	8	17	22	22	26·5	34	14	908	ripe	nil
	191	29.12.20	1·5	1·5	5	4·75	10·5	14	16	16	20·75	8·5	226	immature	prawns
	215	5.4.21	2	2	7·5	8	18	24	23·5	27·5	35	15	908	½ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	37	15·5	1134	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	38	15·5	1021	½ ,,	,,
	252	12.8.21	2	2·5	8	7·5	16·5	20·5	20·5	24	30·5	13·5	680	¼ ,,	small fish
	355	15.9.21	2·5	2·25	8	7·5	18	24	24	27	35	14	1021	½ ,,	nil
	,,	,,	3	2	8·5	8	19	24	24	28·5	38	15	1134	½ ,,	,,
	450	16.4.22	4	2·5	10	10·5	20	25·5	26	30	38	16	912	¾ ,,	crabs
	,,	,,	2·5	2·25	8·5	9	16·5	22·5	21·5	25	33	14	684	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	31·5	13	—	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	23	10·5	—	½ ,,	digested matter
	476	31.1.23	3·5	2·25	10·5	12	21	28	28	32	40	16·5	1482	½ ,,	crabs
	484	1.2.23	1·75	1·5	5·5	5·5	11·5	16	15·25	18·5	23	9·75	228	¼ ,,	nil
	490	3.2.23	2·75	1·5	8	9	15·5	22·75	21	25	31	13·5	912	½ ,,	,,
	495	4.2.23	3·5	2·5	10	10·5	22	26	26	30	38	16	1140	½ ripe	,,
	514	10.2.23	1·5	2·5	7·5	7·5	18	24	24	26	35·5	14	1140	ripe	cuttlefish
	515	11.2.23	2	2·25	8	8	18·5	24	24	26·5	36·5	14·5	1254	½ ,,	nil
Pagrus spinifer ♂	195	31.12.20	1·5	1·5	5	5	11·5	15·5	15	18·5	23·5	10·5	254	¼ ,,	crabs
	215	5.4.21	3·5	4	9	10	19	26·5	24·5	31	39	16	1134	¾ ,,	nil
	,,	,,	2·5	2·25	8·5	9	19	25·5	25	29	35	15·5	1134	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	34	16	1134	½ ,,	,,
	238	10.4.21	3	2	8·5	10	16	23	23	26	33·5	14	680	½ ,,	crabs
	239	,,	4·5	3	10	12·5	21	27	26	31	39	15	1134	ripe	nil
	,,	,,	4·5	2·5	10	11	20	26	25	29	38	15	1134	,,	,,
	,,	,,	1·5	1·25	6	6	13	17	17	20	26	10	340	½ ,,	,,
	252	12.8.21	2	2	6	6·5	12	15·5	15·5	19	24	11	340	½ ,,	crabs
	448	16.4.22	3	2·5	8·5	10	17·5	23·5	23·5	27·5	36	15	1026	¾ ,,	nil
	450	,,	3	2	8·5	9	17	23	22	26·5	33·5	14·5	798	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	28	12·5	—	½ ,,	shells and crabs
	475	31.1.23	3	2·5	10	10	19·5	27	26	31	40	15·5	1596	ripe	nil
	489	2.2.23	3·5	2·25	9·5	11	19	25·5	25·5	29	37	15	1140	,,	,,
	490	3.2.23	3	2	8·5	9·25	16·5	23·25	22·25	28	34	13·25	912	,,	,,
	,,	,,	3·25	2·25	10	11	18·75	26	24·5	30	39	15	1140	,,	crabs
	503	9.2.23	2·75	2·5	8	7·5	18·5	21·5	21·5	28	36	15	1254	,,	nil
	504	,,	2·5	2	8·5	7·5	18	23	23	26·5	34	14·5	1026	½ ,,	,,
	505	,,	2·5	2	7·5	10	16	23	23	24·5	33·5	13·5	912	ripe	crabs
	506	,,	2	2·5	8	7·5	19	24	24	27·5	36	16	1368	,,	,,
	,,	,,	2	2·5	8	8·5	19	25	25	28	36·5	15	1368	,,	,,
	,,	,,	2	2	7·5	6·5	17	22·5	22·5	26	34	14·5	1140	½ ,,	,,
	512	10.2.23	2	2	7·5	7	17·5	23·5	23·5	26·5	36	14·5	1140	½ ,,	,,
	224	7.4.21	2·5	2	7	9	14	20	18·5	22·5	28	11·5	454	ripe	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents
Sparidae															
Pagrus spinifer ♂	224	7.4.21	2·5	1·5	7	6	14	19	18·5	22	28	12	567	ripe	nil
	,,	,,	2	1·5	6	5	13·5	17	14·5	19·5	25	11	340	,,	,,
	227	,,	3	2	7·5	9	15	22	20·5	25	32	13	570	,,	,,
Chrysophrys sp. ♂	14	29.7.20	—	—	—	—	—	—	—	—	29·5	9·5	396	¼ ,,	shells
	,,	,,	—	—	—	—	—	—	—	—	45	13	1020	½ ,,	,,
Denticidae															
Dentex rivulatus ♂	184	26.12.20	4·5	3·25	13·25	13·75	17·5	37	37	43	54	16	2725	ripe	prawns
	192	29.12.20	4·5	3	12	13·5	24·5	33·5	33·5	38	50	15·5	2043	½ ,,	nil
	197	31.12.20	5	3	12	13·5	25	32	32	38	49	16	2157	ripe	,,
	214	4.4.21	5·25	2·75	11·5	13	23	29	31	36	47	16	2043	½ ,,	,,
	228	8.4.21	2	1·5	5·5	6·5	10	15·5	15·5	19	24	10	200	½ ,,	,,
	293	22.8.21	5·5	3	14	15·5	28·5	39	39	45	58	17	2951	½ ,,	,,
	479	31.1.23	1·5	1·5	4	5	8	10·75	10·75	16	20	6	80	¼ ,,	,,
	556	12.4.23	5	3·5	13·5	15	28	37·5	38	44·5	58	16·5	2850	ripe	,,
Dentex rivulatus ♀	147	13.12.20	5	3	13·5	14·5	28	37	37	45	55	17·5	2951	¼ ,,	,,
	163	18.12.20	4·5	3	12	14	24·5	32	32	37	47	15	2043	¾ ,,	,,
	169	19.12.20	5	3·5	14	15	28	39	39	45	57	18	3180	¾ ,,	,,
	189	28.12.20	2·25	2·5	7·75	9	15·5	20·5	20·5	23·5	26	10	567	¼ ,,	prawns
	292	22.8.21	5·5	3·5	15	17	32	43	43	50·5	63	18·5	4090	½ ,,	nil
	479	31.1.23	1·75	1·5	5	6·25	10	13	13	15·5	20	7·25	228	¼ ,,	,,
	556	12.4.23	3	2·75	8·5	9·75	17	22	22	26	34·5	11	570	¾ ,,	,,
	557	,,	4·75	3	12·5	13	35	33·5	33·5	39·5	52	15	1824	¼ ,,	,,
Dentex sp. ♂	149	14.12.20	1	1·25	3·5	3·75	6	7·5	7·5	9	12	4	28	ripe	,,
	153	15.12.20	1·25	1·75	4·5	5	8·5	11·5	11·5	13·75	18	6·5	113	,,	digested matter
	194	31.12.20	·75	·75	3·5	3·5	6·5	8·25	8·25	10	13	4·5	42	¼ ,,	nil
	195	,,	2	1·5	7	8	14·75	19	19	22	30·5	9	454	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15·5	5	57	½ ,,	,,
	198	,,	2·75	2·5	8	8·75	16·5	21	21	24·5	32	10	680	½ ,,	crabs
	204	2.1.21	2	2	6·5	8	14	18·5	18·5	21·5	29	7·5	454	½ ,,	small fish
	,,	,,	2	1·75	6	6·5	12	15·75	15·75	18·5	25	8	340	¼ ,,	nil
	205	,,	2·5	2·5	7·5	9	15·5	20·5	20·5	24	32	10	567	½ ,,	small fish
	527	13.2.23	3	2·5	9	11	19·5	26·5	26·5	30	40·5	13	1368	ripe	nil
	,,	,,	2·5	3	8·5	9	15	21·5	21·5	25	34·5	11	912	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	30	9·5	684	,,	,,
	528	,,	—	—	—	—	—	—	—	—	31	9·5	684	,,	prawns
	531	,,	2·5	2·5	8	8·5	15	19·5	19·5	23·5	31	10	570	¼ ,,	nil
	532	,,	2·5	3	9·5	11·5	17	22·5	22·5	27	35·5	11	912	ripe	crabs
	,,	,,	2·5	2·5	7·5	9	15·5	20	20	23·5	30·5	10	684	¼ ,,	nil
Dentex sp. ♀	149	14.12.20	1·25	1·75	4·5	4·5	8	10·5	10·5	12·5	19	5·5	85	¼ ,,	,,
	195	31.12.20	1·5	1·5	4·5	5	8·75	11·5	11·5	13	18	5·5	92	¼ ,,	,,
	,,	,,	1·5	1·75	5	5	9	12	12	13·5	18	5·5	92	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	5	57	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	4·5	42	¼ ,,	,,
	197	,,	3	2	8	7·5	17	20·5	20·5	24·5	31	11	567	¼ ,,	,,
	201	1.1.21	2·75	2	7	7·5	13·5	17·5	17·5	20	25	8	340	¼ ,,	small fish
	527	13.2.23	2·5	2·5	7·5	8·5	16	20·5	20·5	23·5	33	10·5	684	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	33	10·5	684	,,	cuttlefish & fish

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes	condition of gonads	stomach contents.
Denticidae															
Dentex sp. ♀	527	13.2.23	—	—	—	—	—	—	—	—	32	10	684	½ ripe	nil
	528	,,	3·75	2·5	9·5	11·5	19·5	25	25	29	39	11·5	912	ripe	,,
	,,	,,	3·5	3	9·5	11	19·5	25·5	25·5	29·5	39	12	1140	,,	prawns
	,,	,,	4	2·5	12·5	13	20·5	26·5	26·5	30·5	41	13	1140	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	34	10	684	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	33·5	10·5	456	ripe	,,
	531	,,	2·5	2·5	7·5	8	14	18·5	18·5	20·5	29	9·5	456	,,	shells
	,,	,,	2	2·5	7	8	13	17	17	19·5	27	9	456	,,	nil
Synagris bleekeri ♂	75	30.8.20	1·5	1	4·5	4·5	5	7·5	12	13·5	17	3·5	42	½ ripe	,,
Synagris japonicus ♂	,,	,,	2	1	5	4·5	5·5	13	12	15	15·5	4	42	½ ,,	,,
	,,	,,	1·5	1	4·5	4·5	5	7·5	12	13·5	17	3·5	28	½ ,,	,,
	79	31.8.20	1	1	4	4·5	4·5	10·75	10·5	12·5	19·5	4·5	57	—	,,
Synagris japonicus ♀	76	30.8.20	2	1	5·5	6	5	13·5	13·5	16	21	5	113	¼ ripe	,,
	95	12.9.20	1·5	1·5	4·25	5·5	6	14·5	14·5	17·5	22	5	141	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	18·5	4·5	85	¼ ,,	,,
	101	13.9.20	1·5	1	3·5	4	4·25	11	11	12·5	15	3·5	42	ripe	small shrimps
	,,	,,	—	—	—	—	—	—	—	—	15	3	35	½ ,,	nil
	114	21.9.20	1·25	1	4·5	5	4·5	12·5	12·5	14	18·5	4·5	71	ripe	,,
	192	29.12.20	1	1·5	4·5	4·5	9·25	11·5	13·75	13·5	17·25	3·25	64	¼ ,,	,,
Synagris tolu ♀	44	14.8.20	·8	·7	2·4	2·7	5·5	6·8	6·8	7·9	10·1	2·3	42	½ ,,	digested matter
	45	,,	·9	·7	2·5	2·6	5·3	6·4	6·4	7·1	9·5	2·3	28	½ ,,	weeds & shrimps
	386	18.9.21	1	1·5	4	4·5	9·5	12	12	14	18	4	78	½ ,,	small fish
	507	9.2.23	1·25	1·5	5	5·5	13	17	17	19·5	26·5	6	342	½ ,,	fish
	510	10.2.23	1	1·5	4·5	5	11·5	15	15	18	23·5	5	130	—	small fish
Synagris tolu ♂	386	18.9.21	1	1·5	4·5	5	9·75	13	13	15	19·5	4·5	85	½ ripe	prawns
	507	9.2.23	1·5	1	5·5	5·5	10·5	14	14	15·5	20	5·5	100	½ ,,	nil
Emmelichthyidae															
Erythrocles leucogrammicus ♀	153	15.12.20	·5	·5	2	2·5	5	6·5	6·5	8	9·75	1·75	14	ripe	,,
	,,	,,	·5	·5	2	2	5·5	6·5	6·5	7·5	9	2	7	,,	shrimps
	168	19.12.20	·5	·5	3·25	3·25	6	7·5	7·5	9	10·5	2	7	,,	nil
Erythrocles leucogrammicus ♂	,,	,,	·5	·5	2·5	3	5·5	7·5	7·5	8·75	10·75	2	7	,,	,,
	,,	,,	·5	·75	2·25	3	5·5	7·5	7·5	8·75	10·5	2	7	,,	,,
Gerridae															
Gerres filamentosus ♂	78	30.8.20	—	—	—	—	—	—	—	—	11	4	21	¼ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	11·5	4	14	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	12	4	21	¼ ,,	,,
	93	10.9.20	1	1·5	4	4	5	11	11	12·5	15·5	5	57	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	14	4·5	42	,,	,,
	97	12.9.20	—	—	—	—	—	—	—	—	12·5	4	28	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	12	4	21	¼ ,,	,,
	115	22.9.20	1	1	3	3·5	3·25	8·5	8·5	9·5	12	4	28	ripe	,,
Gerres filamentosus ♀	78	30.8.20	1	·5	3	3·5	3·25	8·75	8·75	9·75	12	4·5	99	,,	,,
	93	10.9.20	—	—	—	—	—	—	—	—	13·5	4·5	28	,,	,,
	97	12.9.20	1	·5	3·5	4·75	4	10·5	10·5	12	14·25	5	42	¼ ,,	,,
	104	13.9.20	·75	1	3·5	4	4	9·5	9·5	10·5	13·5	5	42	ripe	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes.	condition of gonads	stomach contents.
Gerridae															
Gerres filamentosus ♀	115	22.9.20	—	—	—	—	—	—	—	—	13	4	28	ripe	nil
	206	3.4.21	1·25	1	4	5	8	12	11·5	13·5	17·5	5	64	½ ,,	,,
	,,	,,	1·25	1	4	5	8	12	11·5	13·5	17	5·25	57	½ ,,	,,
	,,	,,	1	1	3·5	4·5	7·5	11	10	12	15	5	42	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	5	42	½ ,,	,,
	,,	,,	·5	·75	2·5	3	5·75	7·5	7·5	8·5	11	3·75	21	½ ,,	,,
	366	17.9.21	·5	1	2·5	3	6	7·75	7·75	9	11·5	3·75	21	½ ,,	,,
Pentaprion longimanus ♀	149	14.12.20	1	1	3	4	6	9·5	9·5	10·5	13·5	4	28	ripe	,,
	194	31.12.20	1	1	3	4	6	10	10	10·5	14	4·5	42	½ ,,	,,
	,,	,,	·75	1	3	4	5·5	9·75	9·75	10·5	13·5	4·5	42	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13	4	35	¾ ,,	,,
Pentaprion longimanus ♂	149	14.12.20	1	1	3	4	5·5	9	9	10	12·5	4	28	ripe	,,
	194	31.12.20	·75	1	3	3·75	5	9	9	9·5	12·5	4	28	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13	4·5	35	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	12	3·75	28	¼ ,,	,,
Mullidae															
Upeneoides sulphureus ♀	104	13.9.20	1·5	·5	3	4·5	4	10	10	12·5	15	3	42	½ ripe	,,
Upeneoides sulphureus ♂	78	30.8.20	1·5	·5	3	4	3·5	8·5	8·	11	13·5	3	28	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	3	35	¼ ,,	,,
	79	31.8.20	1·5	·75	4·25	3·5	9·5	9·5	12	15·25	16	3·5	42	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	3·5	28	½ ,,	prawns
	149	14.12.20	1	1	3·5	4·5	8·5	10	10	13·5	17	3·5	49	ripe	nil
Upeneoides vittatus ♀	209	3.4.21	1	1	3·5	5	9·5	11·25	11	13·25	17	4	57	,,	,,
	,,	,,	1·25	1	4	5·5	9·5	11	11·25	13	16·5	3·5	64	½ ,,	digested matter
	,,	,,	1·5	1	3·5	4·5	9·5	11	10·75	12·5	16	3·5	57	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	15	3	49	,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	15·5	3·25	42	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15·5	3·5	42	,,	nil
	233	9.4.21	1	·5	3	5	8·75	10·25	10	12·5	15·5	3·5	42	½ ,,	,,
	,,	,,	2	1	5	6·5	11	12·5	12·5	15·5	20	4·5	85	½ ,,	prawns
	,,	,,	1·25	1	4·5	6	11	13	12·25	15·5	19·5	4·5	113	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	19	4·5	85	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	17	4	57	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	15	3·5	42	½ ,,	prawns
Upeneoides sp. ♀	71	29.8.20	1	·5	2·5	3·6	3·5	7·6	7·6	10	12·4	2·7	28	¾ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	14·25	2·75	28	½ ,,	,,
Upeneoides sp. ♂	,,	,,	—	—	—	—	—	—	—	—	12·5	2·8	28	½ ,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	12	2·5	28	¼ ,,	nil
	,,	,,	—	—	—	5·5	—	—	—	—	13·75	2	28	½ ,,	,,
Upeneus cinnabarinus ♂	170	20.12.20	2·5	1	5	—	10	11·75	11·75	15	19	5	113	½ ,,	shrimps
	,,	,,	—	—	—	—	—	—	—	—	17·5	4·5	113	½ ,,	,,
	173	23.12.20	4	1	7·5	8	13·5	17	17	21·5	26·5	7	340	½ ,,	,,
	182	25.12.20	3	1	6·75	7·5	13·5	16·5	16·5	21·75	27·5	7	340	½ ,,	prawns
	195	31.12.20	3·5	1·25	7	8	11·5	15	16	20·5	24·25	6·5	212	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	15	3·5	42	¼ ,,	,,
	200	,,	2·25	1	6	6·5	12	14·25	14·25	18·75	23·75	6·5	198	½ ,,	,,
	,,	,,	2·5	1	5·5	6	11·5	14	14	17·5	23	5·5	169	¼ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes-	condition of gonads	stomach contents
Mullidae															
Upeneus cinnabarinus ♂	200	31.12.20	—	—	—	—	—	—	—	—	22·75	6	169	½ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	22	5·5	155	½ ,,	,,
	237	10.4.21	4	1	8	9	15	19	18	24	31	8	454	ripe	,,
Upeneus cinnabarinus ♀	170	20.12.20	2	·75	4·5	5·5	10	12	12	16	21	5·5	226	½ ,,	crabs
	,,	,,	3	1	5	6·5	10	13	13	17·5	22	6	226	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	18·5	4·5	113	½ ,,	shrimps
	186	26.12.20	3	1	6·25	7·5	11·75	16	14	17·5	23·25	5·5	226	½ ,,	prawns
	195	31.12.20	2·5	1·25	5	6·5	10·25	13·5	12·5	17	21	5·25	127	¾ ,,	nil
	,,	,,	2·5	1	5	6·25	10	12·5	12	15·75	19·5	5	113	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	11·5	2	21	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15·5	3·5	57	¼ ,,	,,
	200	,,	2·5	1	5·75	6	11·75	14·5	14·5	18·5	23·5	6	190	ripe	small fish
	,,	,,	—	—	—	—	—	—	—	—	24	6	198	½ ,,	,,
	226	7.4.21	3	1	6·5	7·5	12·5	17	17	21	27	6	254	ripe	,,
Upeneus indicus ♂	48	15.8.20	5	1	11·5	20·5	20·5	25	25	34	41	11	908	½ ripe	digested matter
	58	18.8.20	—	—	—	—	—	—	—	—	19·5	5·5	113	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	20	5	141	¼ ,,	,,
	118	5.12.20	3·5	1	6·5	8	6·5	16	15·5	20·5	25·5	6·5	226	½ ,,	mud
	131	8.12.20	7	1·5	12·5	14·5	26·5	32	32	40	51	13	1817	ripe	shrimps
	132	,,	6	·75	12	13	16	31	31	39	51	12	1588	,,	nil
	168	19.12.20	1·5	·75	3·5	4	6·5	7·5	7·5	10	12·5	2·5	14	,,	,,
	194	31.12.20	2·5	1·25	6	6·5	12	15	15	18·5	24·5	6·5	226	½ ,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	17·5	4	54	½ ,,	nil
	229	8.4.21	4	1	9	11	17	24	22	29	36	9·5	680	ripe	,,
	230	,,	4·5	1	9	11	19	24	24	30	39	10	680	,,	small fish
	233	9.4.21	4·5	1	8·2	10·2	15	21	21	26	32	8	454	¼ ,,	Isopods
	,,	11.9.21	6	1·5	11·5	12·5	22	26·5	26·5	33·5	43	12	1021	ripe	crabs
	341	12.9.21	4	1·25	8·5	9·5	17·5	21	21	27	34·5	8	684	,,	prawns
	,,	,,	3·5	1	8	9	16·5	20	20	26	33	8	570	,,	,,
	451	6.5.22	2·75	1	6·25	7	13	16	16	20·5	28	6·25	228	,,	nil
	,,	,,	3	1	6·5	7	12·5	16	16	20	26	6	228	,,	,,
	,,	,,	2·75	·75	5·5	6·5	11	14	14	17·5	23	5·25	114	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	3·25	40	½ ,,	,,
	456	7.5.22	3	1	7	7·5	13·5	18	18	21·5	28·5	6·5	299	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	27·5	6·5	270	½ ,,	small fish
	496	4.2.23	4	1	9·5	11	20	25	25	32	40	11	1368	½ ,,	nil
	501	8.2.23	2·5	1	5·5	6·5	12	14·75	14·75	19	25	5·5	228	½ ,,	,,
	503	9.2.23	2·75	1	6	8	13	16·5	16·5	21	27·5	6·5	342	½ ,,	,,
	,,	,,	2·5	1	6	7	12·5	15·5	15·5	20	26	5·75	228	½ ,,	,,
	,,	,,	1·75	1	4·5	5·5	10	12·5	12·5	16	21	4·5	120	ripe	,,
	507	,,	2·5	2	8	7·5	17	23	23	26	34	14·5	912	,,	,,
	509	10.2.23	2·25	1	5·5	6	11·25	14	14	18	23	5	228	½ ,,	,,
	,,	,,	2·5	1	5·5	6·5	11·75	14·5	14·5	18·5	24	5	180	½ ,,	,,
	512	,,	2·75	1·25	7	8	15	19	19	23	32	7·5	342	½ ,,	crabs
	,,	,,	3·5	1	7·5	9	15·5	19·5	19·5	24	31·5	7·5	456	ripe	,,
	,,	,,	3·25	1	7	8	15	19	19	23	30·5	7	342	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	28	6·5	456	ripe	small fish
	,,	,,	—	—	—	—	—	—	—	—	28	6·5	342	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes.	condition of gonads	stomach contents
Mullidae															
Upeneus indicus ♂	522	12.2.23	4·5	1·25	8·5	11	18	22	22	28	36	9·5	798	ripe	crabs
	,,	,,	3	1	6·5	7·75	14	17·5	17·5	23	28	8	456	,,	,,
	,,	,,	2·5	1	5	6	12	14·5	14·5	18·5	23	5	228	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	20	4	90	¼ ,,	,,
	524	,,	5	1·25	10	12	20·5	26	26	32·5	40·5	11	1026	ripe	crabs
	531	,,	5	1·5	10	12·5	20	25	25	32	41	10	1140	,,	,,
Upeneus indicus ♀	52	16.8.20	5·5	1·5	10	12	19	23·5	23	41	48	9·5	680	¼ ,,	prawns
	58	18.8.20	5	1	8	10·5	9	19	17	24	31	7	340	½ ,,	nil
	61	25.8.20	6	1·5	10	12	9·5	22	21	29	36	8·5	567	ripe	,,
	129	7.12.20	3·5	1·25	7·5	8·5	14·5	18	18	23	29·5	7	340	¼ ,,	sand and shell
	144	10.12.20	4	1·5	8	9	16·5	20	20	25	31	7·5	454	¼ ,,	nil
	,,	,,	4	1·5	8	9	16·5	20	20	25	41	7·5	454	¼ ,,	,,
	167	19.12.20	1·5	1	4·5	5	9·5	12	12	15·5	20	5	113	¼ ,,	shrimps
	175	23.12.20	4	1·5	8	10	17	20	20	25	31	6·5	340	½ ,,	crabs
	194	31.12.20	3·5	1·25	7·25	8	14·5	17	17	21·5	27	6·5	226	¼ ,,	small fish
	,,	,,	2·75	2	6·5	7·25	13	15·5	15·5	19·5	25·5	6	212	¼ ,,	crabs
	213	4.4.21	4	1·25	8	9·5	15·5	20	19	25·5	32	8	454	½ ,,	nil
	217	5.4.21	4·5	1·25	9	10	16	21	20	26	33	8	567	ripe	,,
	,,	,,	4	1	7·25	9	13	18	18	22	29	7	226	¼ ,,	digested matter
	225	7.4.21	4	1·5	8	10	15·5	21	18·5	25·5	32	8·5	454	½ ,,	nil
	,,	,,	4	1	7·5	8·5	13·25	18	16·5	22	28	6·5	282	½ ,,	gorgonid and shrimps
	228	8.4.21	3·5	1	7·5	10	15·5	20·5	19	26	34	7	454	½ ,,	nil
	231	,,	4·5	1	9	11	17·5	22·5	22·5	27	35	9	570	ripe	,,
	451	6.5.22	—	—	—	—	—	—	—	—	16	3·5	40	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	17	4	40	¼ ,,	small fish
	456	7.5.22	2·5	1	6	7	13·5	16·5	16·5	21	27	6·5	285	¼ ,,	nil
	,,	,,	2·5	1·25	6·5	7·5	13·5	17	17	21·5	28	6·5	313	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	26	6	228	ripe	crabs
	460	27.1.23	3·5	1·5	8	9·5	16	20	20	24·5	30·5	8	570	½ ,,	small fish
	468	29.1.23	4	1·5	8·5	10	17	22	20·5	27	33·5	8	570	½ ,,	nil
	473	30.1.23	4	1·25	9·5	11	19	23·5	23·5	30	39	10	912	½ ,,	small fish
	495	4.2.23	4·25	1	8·5	9·5	18	22	21	27	34	9·5	684	½ ,,	nil
	496	,,	4	1·25	8·5	9·5	15	21	21	26	33	11·5	1026	½ ,,	,,
	512	10.2.23	—	—	—	—	—	—	—	—	25	5·5	228	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	25	5·5	228	½ ,,	small fish
	522	12.2.23	3	1	6	7	12	14·5	14·5	20	25·5	7	228	½ ,,	nil
	531	,,	4	1·5	9	11	19·5	23·5	23·5	28·5	31·5	8·5	684	ripe	,,
	,,	,,	4·5	1·5	9	10	17·5	20·5	20·5	26	34	8	684	½ ,,	prawns
Sciaenidae															
Sciaena aneus ♀	57	17.8.20	1·5	·5	4·5	5	5	12	12	14	17	4	57	—	nil
	111	21.9.20	·5	·5	3	3·5	3	8·5	7·5	9·5	11	2·5	21	¼ ,,	,,
	113	,,	2	1	7	8	6·5	19·5	18·5	22	27	6	198	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	4	57	½ ,,	,,
	114	,,	1·5	1	6	7	7	19	17·5	21	25	5	169	¼ ,,	,,
	115	22.9.20	1·75	1	6	7	6·5	18·5	16·5	21	24·5	5	169	¼ ,,	small fish
	209	3.4.21	1·5	1	5·5	6	11·5	14	13·5	16	19	6·5	113	½ ,,	nil
	,,	,,	1·5	1	6	6·5	11·5	14·25	13·5	16·5	20	7	120	ripe	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Sciaenidae															
Sciaena aneus ♀	209	3,4.21	1·25	1	4·5	5	10	11·5	11·5	14	16·5	6·25	71	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	19	7	113	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16	5·5	99	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	17	5·25	85	½ ,,	,,
Sciaena aneus ♂	113	21.9.20	—	—	—	—	—	—	—	—	16	3·5	57	½ ,,	,,
Sciaena albida ♂	366	17.9.21	2·5	2	10	10·5	21	25	24·5	29·5	36	10	680	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	83	18·5	4999	ripe	,,
	,,	,,	3	2	14	15·5	32	43·5	36·5	47	58	12·5	2043	,,	,,
Sciaena albida ♀	,,	,,	2·5	2	13	14·5	30	41	34·5	43·5	55	12	1702	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	53	12	1588	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	62·5	13·5	2272	½ ,,	,,
Sciaena glaucus ♂	84	7.9.20	—	—	—	—	—	—	—	—	22	4·5	127	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	22	5	113	½ ,,	,,
	95	12.9.20	3	2	16	17	19	52	44	57	70	15	3180	½ ,,	twenty prawns
	103	13.9.20	3·5	2	13·5	16	13	42	37	49	58	15	1817	½ ,,	digested matter
	209	3.4.21	3	1·5	11·5	13	24·5	32	27	35	43	11·5	793	½ ripe	nil
Sciaena glaucus ♀	84	7.9.20	2·25	1	7·5	8	8	23	20	25·5	30	5·5	254	½ ,,	,,
	209	3.4.21	2	1·5	10	11	23	31	26·5	33·5	41·5	10·25	680	½ ,,	,,
	,,	,,	2	1·5	11	11·5	25	33·5	28	36·5	45	11	1021	½ ,,	,,
Sciaena sp. ♂	544	10.4.23	1	1	4·5	4·75	11	14	12·5	15·5	18·75	5·25	92	ripe	,,
Otolithidae															
Otolithus argenteus ♀	85	7.9.20	2	1	5	8	7	7	21	24	28	6·5	212	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	23·5	5	141	½ ,,	,,
	86	,,	1	1·25	4·5	4·5	4·25	12	11	13	16	4	49	ripe	,,
Otolithus argenteus ♂	85	,,	—	—	—	—	—	—	—	—	23·5	4·75	141	½ ,,	,,
Otolithus ruber ♀	394	19.9.21	1·5	1	6	7	15	19	16·5	20	25	5	169	ripe	,,
	,,	,,	·75	1	6·5	7·5	15·5	18·5	16·5	20	25	4·5	148	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	28	6	127	½ ,,	,,
	394	,,	1·5	1	6	7	16	19·5	17	21	25·5	5	169	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	25	5	—	ripe	,,
Sillaginidae															
Sillago sihama ♂	71	29.8.20	1·6	·9	3·6	5	4·3	13	13	14·8	16·7	3	42	,,	,,
Monodactylidae															
Monodactylus argenteus ♀	43	13.8.20	2·5	1	6	11	13·5	18	18	20	26	17	567	½ ,,	,,
Monodactylus argenteus ♂	53	17.8.20	—	—	—	—	—	—	—	—	31	18·5	567	ripe	small fish
Monodactylus sp. ♂	54	,,	1·5	2·5	6·5	12·5	11	22·5	22·5	25	35·5	19	680	¾ ,,	nil
Monodactylus sp. ♀	55	,,	3	1	8·5	10	17	29	29	33	40	19·5	1134	¼ ,,	,,
	56	,,	2·5	1	7	14	14	25	25	28	37	20·5	1134	½ ,,	,,
Platacidae															
Platax teira ♂	504	9.2.23	2·5	3	10·5	17·5	20·5	37·5	37·5	39·5	49·5	37·5	5016	—	,,
Ephippidae															
Ephippus orbis ♀	34	12.8.20	1·4	1·5	4·2	3·8	4·8	14·2	14·2	14·5	17·3	12	311	ripe	,,
	42	13.8.20	2	1·5	5	8	11	15·5	15·5	17	20	12·5	226	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Ephippidae															
Ephippus orbis ♀	43	13.8.20	1·5	·75	4·5	6	10	14	14	16	19	12·5	85	¾ ripe	nil
	45	14.8.20	5	2·5	10·25	17	11	37	37	41	50	21	2043	½ ,,	,,
	56	17.8.20	2	1·5	5	7	4·5	14	14	16	19	12	141	½ ,,	,,
	78	31.8.20	1	1·5	4	3·5	3·25	11·25	11·25	12·5	15	10	113	¾ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	10	106	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	15	9·5	113	,,	,,
	79	,,	—	—	—	—	—	—	—	—	16	10·5	155	,,	,,
	84	7.9.20	—	—	—	—	—	—	—	—	12·5	8·5	64	¾ ,,	,,
	85	,,	—	—	—	—	—	—	—	—	13	8·5	71	ripe	,,
	86	,,	—	—	—	—	—	—	—	—	14·5	9·5	99	,,	,,
	90	10.9.20	1	1	3·5	4·25	3	11·5	11·5	13	16	10	134	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	10	169	,,	,,
	91	,,	—	—	—	—	—	—	—	—	14·5	9	113	,,	,,
	92	,,	2	1	4	5	3·5	10·5	10·5	12	15	9·5	113	,,	,,
	97	12.9.20	1·5	1	4	6	3	12	12	13	16	11	99	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16·5	10	141	ripe	,,
	100	,,	1·5	1	4	5	3	12·5	12·5	14	17·5	11	155	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16	10·5	141	,,	,,
	104	13.9.20	1	1	4	5·5	3·5	12	12	13·5	16·5	11	162	,,	crabs
	,,	,,	—	—	—	—	—	—	—	—	14·5	9	99	½ ,,	nil
	144	10.12.20	1	1·5	4	4	10·5	13·5	13·5	15	18	12	340	½ ,,	,,
	153	15.12.20	3	2·5	9	10·5	19	28	28	31	40	20	1588	ripe	,,
	,,	,,	4·5	2·5	11·5	13·5	21·5	33	33	35	44	21·5	2272	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	44	21·5	1817	½ ,,	,,
	168	19.12.20	2·5	2·5	8·5	10	20	28	28	32	41	20·5	1817	ripe	,,
	194	31.12.20	3·75	2·75	11	11·75	22·75	33	33	36·5	44	22	2272	½ ,,	,,
	,,	,,	4	2·5	10·5	12·5	22·5	33	33	36·6	44·5	22	2385	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	48·5	22	2951	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	41·5	22	2498	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	38	20	1817	½ ,,	,,
	206	3.4.21	1·25	1	3·5	4·5	6	11·5	11·5	12·5	15·5	10	141	½ ,,	digested matter
	211	4.4.21	1	1	3·5	4	6·5	11·5	11·5	13	15	10	127	ripe	nil
	214	,,	2·5	2	7·5	8·5	11	25	25	29	37	20	1134	¼ ,,	,,
	215	5.4.21	3	2	8	10	17	28	28	30	37·5	20·5	1248	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	33·5	18	908	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	19	13·5	254	ripe	,,
	343	12.9.21	2·5	2·25	8	8	18	24	24	27·5	35	14·5	908	¼ ,,	prawns
	,,	,,	—	—	—	—	—	—	—	—	24·5	10·5	340	ripe	cuttlefish
	,,	,,	—	—	—	—	—	—	—	—	32·5	13	793	¼ ,,	prawns
	355	15.9.21	·75	1·5	3·5	4	8	12	12	13	16·5	10	226	ripe	nil
	,,	,,	·75	1·5	3·75	3·5	8·5	12·5	12·5	14	17	10	226	,,	,,
	363	16.9.21	—	—	—	—	—	—	—	—	14·5	9	113	½ ,,	,,
	366	17.9.21	·75	1·5	3·75	4	7·5	12	12	12·5	16	9·5	141	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	8·5	85	½ ,,	,,
	,,	,,	·5	1·25	3·25	3·5	7	10·5	10·5	11·5	14	9	113	½ ,,	,,
	450	16.4.22	2·5	2	9	15	15·5	27·5	27·5	29·5	35	24	2¾ lbs.	½ ,,	,,
	,,	,,	4·5	2·5	10·5	16·5	19	27	27	30	36	24	2¼ ,,	½ ,,	,,
	454	27.1.23	·5	1·5	3·75	3·5	8	12	12	13	16·5	10·5	149	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes	condition of gonads	stomach contents.
Ephippidae															
Ephippus orbis ♀	454	27.1.23	·75	1·25	3·25	3·25	7	10·5	10·5	11	14	9	92	¼ ripe	nil
	,,	,,	·75	1·25	3·5	3·5	7	10·5	10·5	11·5	14·5	9·5	114	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16	10·5	149	¾ ,,	,,
	501	8.2.23	3	2	9·5	12·5	22·5	33	33	36	45	22	2622	ripe	,,
	503	9.2.23	3	2	9	11	22	31	31	33·5	43	22	2052	,,	,,
	,,	,,	2·25	2	8·5	10	21·5	31·5	31·5	34	43	21·5	2508	½ ,,	shells
	,,	,,	—	—	—	—	—	—	—	—	43	21·5	2052	ripe	nil
	504	,,	2·5	2·25	9·5	11·5	23·5	33·5	33·5	35·5	46	22	2850	,,	,,
	,,	,,	3	2·25	9·5	11·5	12·5	32·5	32·5	35	46·5	22·5	2964	,,	,,
	505	,,	2·75	2	9	10·5	21·5	32·5	32·5	35	45	23	2508	,,	,,
	,,	,,	3	2	9	11·5	21·5	31	31	33·5	43·5	20·5	2052	,,	starfish
	,,	,,	3	2	9·5	11·5	22·5	33·5	33·5	36	46	22·5	2622	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	44	22·5	2508	ripe	,,
	511	10.2.23	3	2	9	12	21·5	33	33	35·5	46	22	2508	,,	starfish
	,,	,,	—	—	—	—	—	—	—	—	35	18	1140	¼ ,,	weeds
	514	,,	2	2·5	8·5	9	21·5	31	31	32·5	42	22	2508	ripe	nil
Ephippus orbis ♂	32	11.8.20	2	1	3·5	6	4	11	11	12	14	9	141	½ ,,	,,
	,,	,,	1·25	1	3	6·5	3·5	11	11	13	15	10	226	ripe	,,
	33	12.8.20	2	1·5	4	7	9	12	12	13	15·5	9·5	169	—	,,
	34	,,	1	1·5	4·5	4·6	4	13	13	14·2	17·1	11·5	226	ripe	,,
	,,	,,	1·3	1·5	3·6	3	4·8	14·2	14·2	14·5	17·3	12	311	,,	,,
	42	13.8.20	1·5	1·25	4	6	7·5	13	13	14	17	10·5	169	,,	,,
	43	,,	1·5	1	4·5	6·5	10	14	14	16·5	20	12	114	,,	,,
	54	17.8.20	5	2	1·5	4	5	3·5	12	13·5	15·5	10	168	,,	,,
	55	,,	1·5	1	4	6	7	11·5	11·5	13	16	11	113	,,	,,
	78	31.8.20	—	—	—	—	—	—	—	—	15	10	113	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15·5	10·25	127	,,	,,
	79	,,	1·5	1·25	4	6	4·5	12·25	12·25	13·5	16·5	10	148	,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	16	10	141	,,	nil
	83	2.9.20	1	1	3	4·5	3	10·5	10·5	11·5	13·5	9	92	,,	worms
	,,	,,	—	—	—	—	—	—	—	—	14	4	113	,,	nil
	84	7.9.20	1	1·25	3	5·5	2·5	11·5	11·5	13	15·5	9·5	127	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	12	7·5	57	¾ ,,	,,
	85	,,	1·5	1	4	5	4	10	10	10·5	13·5	8	57	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	15	10	113	,,	,,
	86	,,	·5	1·25	3·5	3·5	3	10·5	10·5	11·5	14·75	9	99	,,	,,
	87	,,	·5	1·5	3·5	3	2·75	9·5	9·5	10	13·5	8·5	85	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14·5	9	99	¼ ,,	,,
	90	10.9.20	—	—	—	—	—	—	—	—	15·5	9·5	127	ripe	,,
	91	,,	1	1·5	4	4·5	4	12	12	13·5	16	10	134	,,	,,
	92	,,	—	—	—	—	—	—	—	—	15	9·5	113	,,	,,
	94	11.9.20	·75	1·5	3·5	4	3·5	10·5	10·5	12	15	9·5	113	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	9·5	120	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16	10	141	½ ,,	,,
	95	12.9.20	1·5	1·5	3·5	3·5	4	12·5	12·5	14	17	11·5	169	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	13·5	8	70	,,	,,
	97	,,	—	—	—	—	—	—	—	—	14·5	9	99	,,	,,
	100	,,	—	—	—	—	—	—	—	—	15	10	120	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Ephippidae															
Ephippus orbis ♂	112	21.9.20	1	1	3	3·5	2·75	9·5	9·5	10·5	13	8·5	77	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	12	7·5	57	,,	,,
	144	10.12.20	2	1·75	6·5	7·5	14·5	21	21	23	28·5	16·5	793	½ ,,	shrimps
	153	15.12.20	3	2	9·5	9·5	18·5	27	27	31	40	20	1588	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	35	18·5	1134	,,	mud
	,,	,,	—	—	—	—	—	—	—	—	39	22·5	1588	½ ripe	nil
	194	31.12.20	4	2·5	11	12·25	23·25	34	34	36·5	45	23	2612	½ ,,	small fish
	206	3.4.21	1·25	1·25	4	4·5	7	12·5	12·5	14	17	11	169	ripe	nil
	211	4.4.21	2·5	1·5	6	8·25	12	20	20	22	26·5	15	680	½ ,,	,,
	215	5.4.21	3	2	8	11	16	26	26	28·5	35	20	1134	ripe	,,
	,,	,,	3	1·5	7	10	14·5	23·5	23·5	25·5	31	18·5	908	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	27	16	680	½ ,,	digested matter
	320	9.9.21	2·5	2	7·5	7·5	15·5	20·5	20·5	25	31	13	680	ripe	nil
	,,	,,	2	2	7	6·5	14·5	20	20	23	29·5	11·5	567	,,	,,
	341	12.9.21	2	2	7	7	17	22	22	26	32·5	12·5	793	,,	prawns
	342	,,	2·5	2	7·5	7	17	21·5	21·5	24	31	13·5	680	,,	nil
	343	,,	2·5	2	8	7·5	17	23	23	25·5	33·5	14	793	½ ,,	prawns
	,,	,,	3	2·5	8	8	18	24	24	28	35·5	14·5	1021	ripe	cuttlefish & prawns
	,,	,,	—	—	—	—	—	—	—	—	30	12·5	680	,,	nil
	363	16.9.21	1	1·5	4	4	8	12·75	12·75	14	17·5	11	169	,,	,,
	,,	,,	1·5	1	3·5	3	7·5	10·5	10·5	12	15	9·5	141	½ ,,	,,
	,,	,,	·25	1·5	3·25	3	7	10·5	10·5	11·5	14	9	99	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14·5	9	113	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	9	113	ripe	,,
	366	17.9.21	·75	1·5	4	3·5	8	12	12	13	17	10	169	,,	,,
	,,	,,	·5	1	3·5	3	6·5	10	10	11	13·5	8·75	85	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14·5	10	113	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	16	10·5	141	,,	,,
	,,	,,	1·25	1·5	4·5	4·5	8	12·5	12·5	13·5	17·5	10·5	155	,,	,,
	,,	,,	·75	1·5	4	4·5	7·5	12	12	13	17	10	155	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	10	120	ripe	,,
	,	,,	—	—	—	—	—	—	—	—	16	10	141	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	9	113	ripe	,,
	501	8.2.23	3	2	8·5	10	19·5	29	29	32	41	20·5	1824	,,	,,
	,,	,,	2·5	2	9	10	21	30·5	30·5	33·5	42	21	1824	½ ,,	,,
	,,	,,	2·5	2	9	11	18·5	28·5	28·5	31	39·5	21	1824	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	40	21	1824	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	44	21	2280	,,	,,
	503	9.2.23	3·5	2·5	10	12·5	22·5	34	34	37	46	23	2736	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	43	20·5	2052	,,	Clypeaster
	,,	,,	—	—	—	—	—	—	—	—	45	22·5	2508	,,	,,
	504	,,	3	2·5	9·5	11	24	34·5	34·5	36	47·5	23	2964	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	48·5	23	3192	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	43	21·5	2280	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	51	24	3648	ripe	,,
	505	,,	—	—	—	—	—	—	—	—	44·5	22·5	2508	,,	starfish
	506	,,	3	2	8·5	11·5	22	32	32	35	45	21	2508	,,	nil
	,,	,,	2·5	2	8	9	20	29	29	31·5	39·5	21	1824	,,	starfish

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes-	condition of gonads	stomach contents
Ephippidae															
Ephippus orbis♂	506	9.2.23	2·75	2	9	10·5	21	31·5	31·5	33·5	42·5	21·5	2280	½ ripe	nil
	509	10.2.23	2·25	1·75	8	9	19	29	29	31	39	19·5	1824	—	,,
	511	,,	3	2	8	10·5	20	30	30	32·5	41	21	2052	ripe	starfish
	,,	,,	2·5	2	9	9·5	20·5	30·5	30·5	33	42·5	21	2052	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	46	22	2736	,,	starfish
	515	11.2.23	2	2	7	7·5	17	24·5	24·5	26	39·5	18	1368	½ ,,	coral
Drepanidae															
Drepane punctata ♀	34	12.8.20	1·82	2·4	6·8	8·4	4·7	16·8	16·8	18	22·5	15·7	567	ripe	brittle star
	,,	,,	1·2	1·7	1·8	5·2	4·5	13·6	13·6	14	18·1	13	283	½ ,,	digested matter
	85	7.9.20	2	1	4	6·5	3·5	11	11	11·5	14·5	9	85	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	11	7·5	35	½ ,,	,,
	90	10.9.20	3	2·5	10	17	17·5	29	29	31	39	26	1817	ripe	Squilla
	,,	,,	—	—	—	—	—	—	—	—	27	19	567	½ ,,	nil
	91	,,	3·5	2·25	10·5	18·5	9	30	30	33	40·5	24·5	1817	ripe	mud
	,,	,,	—	—	—	—	—	—	—	—	41	22·5	1475	½ ,,	nil
	94	,,	—	—	—	—	—	—	—	—	20·5	15	311	ripe	prawns
	95	12.9.20	2·5	2·5	11	16·5	9	34	34	38	46	24	2043	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	40	23·5	2043	½ ,,	,,
	96	,,	—	—	—	—	—	—	—	—	31	20	567	½ ,,	Gephyrean worms
	231	8.4.21	5	3	12·5	17	29	40	40	42·5	53	26	3400	ripe	crabs
	252	12.8.21	3	2·5	10·5	15·5	20	31·5	31·5	33·5	40	27	1817	½ ,,	nil
	,,	,,	2	2·5	9·5	12·5	19	29	29	32	40	23	1817	½ ,,	starfish
	289	21.8.21	3	2·5	10	11·5	24	36	36	38	47	23	2725	ripe	sponges
	304	28.8.21	·75	1·5	4	5	8·5	14	14	15	18	12	226	½ ,,	prawns
	305	,,	·75	1·5	4·5	4·5	8·5	14	14	15	19	11·5	198	½ ,,	nil
	,,	,,	1	1·5	4·5	5	8	13	13	14	18	11	198	½ ,,	,,
	,,	,,	·75	1·5	4	4·5	8	13	13	14	17·5	11	176	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	16	11	169	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16	10·5	169	ripe	,,
	320	9.9.21	2	2	9	11·5	16·5	25	25	27	39	21	1362	½ ,,	Polychaete worms
	,,	,,	2	1·5	6·5	5·5	14	19	16·5	22	27	8·5	340	½ ,,	nil
	,,	,,	2	1·5	6·5	6	14	18·5	16	22	26·5	8·5	226	½ ,,	,,
	366	17.9.21	1·5	2·5	9·5	10	17	25·5	25·5	27	33	20	1248	ripe	Isopods
	,,	,,	1·25	2·5	9	9·5	17	24	24	26	33	20	1134	½ ,,	nil
	,,	,,	1·5	2·5	9·5	12	16	25	25	27	34	20·5	1362	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	31	17·5	908	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	35	20	1362	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	31	18	1134	½ ,,	,,
	,,	,,	1·5	2·25	9	11	15	24·5	24·5	26·5	32·5	17	1134	½ ,,	,,
	,,	,,	1	1·75	6·5	9	10·5	18	18	19	25	14	454	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	31	18	793	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	30	18	793	½ ,,	small fish
	454	27.1.23	2	1·5	6	9	10	17	17	17·75	22·5	14	228	½ ,,	nil
	,,	,,	1·5	1·5	6	7	9·5	16·5	16·5	17·5	22	13·5	199	½ ,,	,,
	500	8.2.23	3	2·5	10·5	12·5	26	38	38	41	50·5	25·5	4104	ripe	sponges
	,,	,,	3	2	9·5	11·5	22	32·5	32·5	35	43	22·5	2508	½ ,,	empty
	,,	,,	—	—	—	—	—	—	—	—	48	23·5	3192	ripe	sponges

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes	condition of gonads	stomach contents.
Drepanidae															
Drepane punctata ♀	551	11.4.23	3·5	2·25	10	12	23	32·5	32·5	34·5	43	22	1938	ripe	weeds
Drepane punctata ♂	23	2.8.20	6	2·5	11	17	18	28·2	28·2	31	37	22	1590	¾ ,,	nil
	27	3.8.20	2·5	2	7·5	11	13	23	23	24	29·7	17·5	775	¼ ,,	,,
	28	,,	2·2	1·5	7	9	16	21·5	21·5	23·5	28	19·5	680	½ ,,	,,
	29	,,	1·2	1·5	4	4·8	7·5	12·5	12·5	14	16	10	169	¼ ,,	,,
	34	12.8.20	1·7	2	5·3	6·5	4·8	14·2	14·2	15·2	19·5	13	454	ripe	digested matter
	85	7.9.20	—	—	—	—	—	—	—	—	13	8·5	57	¼ ,,	nil
	94	10.9.20	3	2·5	10	17	17·5	29	29	31	39	26	1817	ripe	Squilla
	,,	,,	1·5	2·5	7	9	5·5	19	19	20	24·5	17	454	,,	cuttlefish
	,,	,,	—	—	—	—	—	—	—	—	19	12·5	198	,,	prawns
	95	12.9.20	—	—	—	—	—	—	—	—	41	25	1817	,,	,,
	96	,,	3	2	8·5	13	14	23·5	23·5	27	32	20	793	½ ,,	nil
	103	13.9.20	3	2·25	9	15	6·5	26·5	26·5	29·5	35	22	1134	ripe	,,
	104	,,	1·5	1	4·5	5	3·5	12	12	13·5	16·5	11	112	,,	crabs
	209	3.4.21	2	1·5	5·25	7	9	13·5	13·5	14·25	18·5	13	162	½ ,,	nil
	,,	,,	1·5	1·25	5	6	8·5	13·5	13·5	14·75	18	14	176	¼ ,,	,,
	,,	,,	1	1	4·5	6	8	13	13	14	17·5	13	141	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	19	14	148	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	18·5	14	169	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	18·5	14·5	169	,,	,,
	215	5.4.21	1·25	1·5	5	8	8	16	16	17·5	21·5	17·5	368	½ ,,	,,
	,,	,,	1·5	1·5	6	8·5	9	16·5	16·5	17·5	21·5	16·5	289	½ ,,	,,
	,,	,,	1	1·25	4·5	7	8·5	14	14	15·5	20	15	233	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	21·5	17	340	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	22	17·5	340	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	21	14·5	311	ripe	,,
	231	8.4.21	3	2	9·5	13	23	32	32	34	43	22	2040	,,	crabs
	263	12.8.21	1·5	2	8·5	11	18	26	26	27·5	34	20	1134	½ ,,	prawns
	320	9.9.21	2	2	8·5	11·5	15	24·5	24·5	26	32	19	1134	ripe	nil
	,,	,,	1·5	1·5	8	9·5	15	23	23	24·5	31	19	908	,,	Polychaete worms
	,,	,,	—	—	—	—	—	—	—	—	31	19	1021	,,	,,
	,,	,,	2	1·5	7	6·5	15·5	20·5	18	23	29	9	340	½ ,,	nil
	366	17.9.21	1·5	2	8	9·5	13	21	21	22·5	29	17	793	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	25	15	454	ripe	,,
	394	19.9.21	·5	1	3	3·5	5	8	8	9	11·5	7·5	49	½ ,,	,,
	,,	,,	·75	1	3	3·5	5	8	8	8·75	11·5	7	49	½ ,,	,,
	451	27.1.23	3	2	8	12	17	28	28	31	33·5	20	1824	ripe	,,
	476	31.1.23	4·5	2·5	9·75	14	19	31	31	34	41	21·5	1938	,,	,,
	500	8.2.23	3·5	2	10	11	22	32·5	32·5	34·5	43·5	22	2052	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	49	22	2964	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	43·5	22·5	2508	,,	,,
	544	10.4.23	1	1·5	4	5	7	11·5	11·5	12	15·5	9·5	100	ripe	,,
	,,	,,	·5	1·5	4·25	5	6·75	12	12	12·5	16·5	10	125	,,	,,
	,,	,,	·75	1·25	3·5	4·5	6	10·5	10·5	11·25	14·5	9	85	,,	,,
Chaetodontidae															
Chaetodon pictus ♂	73	29.8.20	2	1	4	5	4·5	11	11	12	14	8	99	,,	,,
	146	13.12.20	1·25	1	3	3·5	6·75	9·75	9·75	10·5	12·5	6·5	49	¼ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Chaetodontidae															
Chaetodon pictus ♂	167	19.12.20	1	1	3·5	3	8	11	11	12	14·5	7	64	½ ripe	nil
	,,	,,	1	1	3·5	3·5	7	10	10·5	12·5	13·5	7	42	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	12	5·5	28	½ ,,	,,
	194	31.12.20	1	1	3·25	3	7·25	9·75	9·75	10·5	21·5	6·5	49	½ ,,	prawns
	451	6.5.22	1	1	3·5	3·5	8	11·5	11·5	12	14·5	7·5	80	ripe	,,
Chaetodon pictus ♀	146	13.12.20	1	1	3·25	3·25	6·5	9·25	9·25	10	11·5	6	42	½ ,,	shrimps
	151	14.12.20	1	1	3·5	3	7	10	10	11	12·5	6·5	49	¾ ,,	digested matter
	167	19.12.20	1	1	5·5	3	7	10	10·5	13	14	6·5	49	¾ ,,	shrimps
	186	26.12.20	1·25	·75	3	3·25	6·5	9·5	9·5	10	12·25	7	57	½ ,,	digested matter
	194	31.12.20	1	1	3·25	2·75	6·75	9·25	9·25	10	12	6·5	42	½ ,,	nil
	,,	,,	1·25	1	3·5	3·5	6·5	9·5	9·5	10	12	6·5	42	½ ,,	,,
	451	6.5.22	1	1	3·5	2·75	7·5	11	11	11·5	13·75	8	80	ripe	,,
	456	7.5.22	1·5	1	3·5	3·75	7·5	10·25	10·25	11·5	13·5	7	71	½ ,,	,,
Chaetodon vagabundus ♀	471	30.1.23	·75	·75	2·5	2·5	5·75	9·25	9·25	10	12·5	6·5	50	½ ,,	,,
Heniochus macrolepidotus ♀	61	25.8.20	2·5	1·5	6·5	7	8	18	18	19	22	15	340	r)pe	,,
	198	1.1.21	1·25	1·5	5	4	12	16	16	17·5	20·5	12	340	½ ,,	,,
	205	2.1.21	1·25	1·25	4·5	4	9	13	13	13·5	16·75	9·5	113	½ ,,	fish
	,,	,,	1·25	1·25	4·25	3·75	10·5	13·5	13·5	14·5	17·5	10	226	½ ,,	small fish
	219	6.4.21	1	1·25	4	4	10	13	13	14·5	17·5	12	169	½ ,,	,,
	291	22.8.21	1·5	1·5	5	4	11·5	15·5	15·5	17	20	12	340	ripe	,,
	,,	,,	1·5	1·5	5·5	4·5	12	16	16	17	20	12·5	454	½ ,,	prawns
	,,	,,	1·5	1·5	5·5	4	12·5	16	16	17	20·5	12·5	340	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	21	13	226	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	21	13	254	,,	,,
	324	10.9.21	2	1·5	6	5·5	13·5	18	18	19	23	13	454	,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	21	12·5	340	,,	,,
	333	11.9.21	1·75	1·5	4·5	4·5	11	14·5	14·5	15	19	12	226	,,	,,
	465	28.1.23	2	1·5	5·5	6·5	13	18·5	18·5	20	24	16·5	342	,,	nil
	,,	,,	2	1·5	6·25	6	14·5	19·5	19·5	21	24·5	18·5	342	,,	,,
	519	11.2.23	—	—	—	—	—	—	—	—	20	13	342	,,	,,
	528	13.2.23	2	1·5	5·5	6	13	18	18	18·5	29·5	14	456	,,	prawns
	530	,,	1·75	1·75	6	5	13	18	18	18·5	22	13·5	456	,,	fish
	532	,,	1·5	1·5	5	4	11	14·25	14·25	14·5	18	11	342	½ ,,	nil
	,,	,,	1·25	1·5	4	4	10	13	13	13·5	16·5	10·5	114	—	,,
	550	11.4.23	1·25	1·5	5	4·5	12	16·5	16·5	17	20	13	228	ripe	,,
Heniochus macrolepidotus ♂	219	6.4.21	1	1	3	3	6	9	9	9·5	12	9	42	½ ,,	,,
	,,	,,	2	1·5	6·5	7	13	19·5	19·5	20·5	25	17	454	½ ,,	,,
	,,	,,	1	1·25	4	4	10	13	13	14·5	17·5	12	269	½ ,,	,,
	221	,,	2·5	1·5	6·5	9	13	20	20	21	25·5	19	680	ripe	,,
	291	22.8.21	—	—	—	—	—	—	—	—	22	13	340	,,	prawns
	320	9.9.21	2	1·5	6	6	12	18	18	19	22·5	13·5	340	,,	nil
	324	10.9.21	2	1·5	6	5	13	17	17	18	22	13	340	,,	digested matter
	,,	,,	2	1·5	6	5	13	17	17	18	22	13	340	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	22	13·5	340	,,	,,
	333	11.9.21	2·5	1·5	5·5	5·5	13·5	18	18	19·5	23	13	340	½ ,,	prawns
	461	27.1.23	2·5	1·5	7	7·5	13·5	20	20	21	25	17	456	ripe	nil
	465	28.1.23	2	1·5	6	6·5	13	19·5	19·5	21	25·5	16	456	,,	,,
	519	11.2.23	1	1·25	4	3·5	10·5	13·5	13·5	14	17·5	11	228	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Chaetodontidae															
Heniochus macrolepidotus ♂	519	11.2.23	1·5	1·25	4·5	3·5	10·5	13·5	13·5	14	17·5	11	228	ripe	nil
	,,	,,	1·25	1·5	5	4	11	15	15	15·5	19	12	228	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	18	11	228	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	17	11	228	½ ,,	,,
	530	13.2.23	2	1·75	6	6	13	18	18	19	23	15	456	ripe	,,
	552	,,	1·25	1·25	4	3	9	12·25	12·25	12·5	15·75	10·5	114	,,	,,
	,,	,,	1	1·25	4	3·5	9	12	12	12·5	15	9·5	114	,,	,,
	,,	,,	1·25	1·25	4	4	8·5	11·5	11·5	11·75	14·9	9·5	114	,,	,,
Holacanthus annularis ♂	456	7.5.22	2·5	1·5	6·25	7·5	16·5	24·5	24·5	26	31	17	902	ripe	sea weed
Holacanthus annularis ♀	521	12.2.23	2	1·25	6	7·5	14·5	24	24	25·5	30	19	1140	—	nil
Holacanthus imperator ♂	73	29.8.20	3	1·5	6	8	7	28	28	30	34	14	680	½ ,,	mud
	123	5.12.20	3	1·5	6·5	8·5	8	29	29	31	36	17	1588	ripe	shrimps & sponge
	173	23.12.20	3	1·5	7	8	16	25·5	25·5	28	33	15	1134	½ ,,	nil
	197	31.1½.20	3	1·5	7	7	18	26	26	28	33	16	1021	½ ,,	sponge
	551	11.4.23	2·5	1·5	6	6·5	15	24·5	24·5	25·5	30·5	15	912	ripe	nil
	50	15.8.20	7	2	9	11	13	26	26	30	35	13·5	1021	½ ,,	,,
	123	5.12.20	3	1·5	6·5	8	8	26	26	28	32	17	1134	½ ,,	shrimps & sponge
Holacanthus sp. ♂	156	17.12.20	3	2	8	8	19	30	30	33	39	19	1930	—	mud and shells
	173	23.12.20	4	1·75	9	9	21·5	29	29	31	37	17	1475	ripe	sponge
Holacanthus sp. ♀	154	15.12.20	3·2	1·6	7	9	18·5	26·5	26·5	29	35	18·5	1817	½ ,,	sponge and shells
Acanthuridae															
Teuthis marmorata ♀	28	3.8.20	1·5	2·5	5·5	5·7	11	21	21	23	28	12	454	—	nil
Naseus tuberosus ♂	193	29.12.20	3·5	1·5	6	5·5	8·5	21·5	21·5	23·5	34·5	9·25	340	½ ripe	,,
	,,	,,	3	1·5	5	5·25	7·5	18·5	18·5	20	26·5	8·5	226	½ ,,	,,
	263	13.8.21	4	2	7·5	7·5	11·5	31	31	34	44	13	1021	½ ,,	,,
Naseus tuberosus ♀	128	7.12.20	6	2·5	9·5	11	10	38	38	41	60	19	1362	½ ,,	,,
	193	29.12.20	3	2	6	6	9·5	23·5	23·5	25·5	33	10	454	½ ,,	,,
Naseus unicornis ♂	131	8.12.20	12·5	2·25	15	17	15·5	46	45	50	69	18	2498	½ ,,	starfish
Naseus sp. ♂	133	,,	5·5	2·5	9·5	9	14·5	36	36	40	49	13·5	1588	½ ,,	shrimps
	137	9.12.20	4·5	2	8	7·5	11	33	33	35	42	14	1134	ripe	jelly fish
	147	13.12.20	2·5	1·75	5	5	7·5	19	19	20·75	27	8·5	226	½ ,,	nil
	148	,,	3	1·75	6	6	9	23	23	25	33	9·5	454	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	34	10	454	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	30	10	454	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	29	7·5	226	½ ,,	,,
	159	17.12.20	2·5	1·5	4·5	4·5	6·5	16	16	17·75	23	7·5	226	½ ,,	,,
	168	19.12.20	2	1·5	4	3·75	5·5	13	13	14·5	18·5	5·5	71	½ ,,	digested matter
	,,	,,	2	1·5	4·5	4	6·5	15	15	16·5	20	6	113	ripe	nil
	,,	,,	2	1·5	4·5	4	6·5	14·5	14·5	16	20·5	6	113	½ ,,	,,
	179	25.12.20	6	2·5	9·75	9	14	38	38	42	53	13·5	1588	½ ,,	jelly fish
	131	8.12.20	5·5	2·5	10	10	15·5	40	40	44	55	15	2043	½ ,,	,,
	148	13.12.20	3	1·5	5·5	5	8	21	21	23	29	9	340	½ ,,	nil
	,,	,,	3·5	1·75	6	6	9·5	24	24	26·75	34	10	454	½ ,,	,,
Acanthurus aurolineatus ♂	60	25.8.20	6	1·5	9·5	11	12	30	34	45	56	16	1248	½ ,,	,,
	153	15.12.20	4	2	5·5	7	17	30	30	34	49	16·5	1362	ripe	sand and shells
	154	,,	4·5	1·5	8·5	7·5	16	30	30	34	47	15·5	1362	,,	,,
Acanthurus aurolineatus ♀	153	,,	4·5	1	9	7·5	16·5	31	31	34	45	15·5	1588	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Acanthuridae															
Acanthurus aurolineatus ♀	153	15.12.20	4·5	2	8·5	8	15·5	29	29	32	44	15·5	1362	¾ ripe	sand and shells
	154	,,	4·5	2	7·5	9	16	29	29	32	44	15·5	1588	½ ,,	,,
	,,	,,	4·5	2	8	7·5	13·5	25·5	25·5	29	40	16	1362	½ ,,	,,
Acanthurus erythrodon ♂	551	11.4.23	5·5	1·25	7·75	7·5	11	24	24	25	39	12·5	570	ripe	nil
Acanthurus erythrodon ♀	,,	,,	5·5	1	7	7·5	10	21·5	21·5	23	34	9·5	456	,,	,,
	,,	,,	4	1	5·75	5·5	8·5	17·5	17·5	18·5	25	9	171	½ ,,	,,
Acanthurus lineatus ♂	460	27.1.23	4·5	2	9·5	10	15·5	33	33	35	48	16·5	1824	½ ,,	digested matter
	,,	,,	4·5	2·25	9	8	15·5	31	31	34	44·5	15·5	1596	½ ,,	nil
	468	29.1.23	3	1·5	6·25	6	11·5	24	24	26	35	13	684	ripe	,,
	,,	,,	4	2	8·5	8·5	13·5	29	29	32	43	15	1368	,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	42	16	1140	,,	,,
	476	31.1.23	4·5	1·75	8	8·5	10·5	26	26	28	38	13	798	,,	,,
	496	4.2.23	3	1·5	6·5	7	7	12	24·5	27	37	13·5	798	,,	nil
	,,	,,	4	1·5	7·5	8	14	27·5	27·5	28·5	41	13·5	1140	,,	digested matter
	,,	,,	3	1·5	6	7·75	11·5	23·5	23·5	25·5	36	13	912	,,	,,
	,,	,,	3·25	1·75	6·5	6	11·5	23	23	26	35	13	684	,,	nil
	,,	,,	3	1·5	6	6·5	11·5	23·5	23·5	25	34	12	1140	,,	,,
	540	9.4.23	4	1·75	8	8	15·5	31	31	33·5	47	16	1254	,,	,,
Acanthurus lineatus ♀	465	28.1.23	2·75	2	7·5	7·5	12·5	27	27	30	40	14	1140	,,	digested matter
	470	29.1.23	3·5	2	7·5	8·25	13·5	28	28	31	42	13·5	1140	,,	nil
	473	30.1.23	2·5	2	7·5	8	14	27	27	29·5	41	14	798	½ ,,	,,
	496	4.2.23	3·5	1·5	6·75	7	7	12	24·5	27·5	36	12·5	684	½ ,,	,,
	468	29.1.23	3·5	1·75	8·25	7	15	29	29	31	42	16	1140	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	45	16	1596	ripe	digested matter
Acanthurus matoides ♀	118	5.12.20	5	2	9	9·5	10	32	32	35	48	15	1362	,,	nil
	129	7.12.20	2·5	1·5	5	4·5	8	17·5	17·5	19	26	9	226	½ ,,	digested matter
	132	8.12.20	3	1·75	7·5	7	14·5	30	30	33	46	16	1134	ripe	shrimps
	153	15.12.20	3·5	1·5	8	8	14·5	29	29	32	42	14	1362	¾ ,,	nil
	154	,,	2·5	1·5	6·5	6	12·5	24·5	24·5	26·5	38	13	793	¾ ,,	digested matter
	,,	,,	3	1·5	6	5·5	11	22	22	24	33	11	567	½ ,,	shrimps
	,,	,,	—	—	—	—	—	—	—	—	29	11	340	½ ,,	digested matter
	159	17.12.20	2·5	1·5	6·5	5·5	12·5	25·5	25·5	28	33	13	908	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	36	12·5	680	½ ,,	,,
	167	19.12.20	4	1·5	8	9·5	14	27	27	30	40	13·5	1021	¼ ,,	sand and shell
	169	,,	3·75	2	8·5	8	16	30	30	33	44	15	1588	ripe	digested matter
	,,	,,	5	2	10·5	10	17·5	35	35	38	51	16	1817	¾ ,,	,,
	175	23.12.20	4·5	1·75	9·5	8	16	32	32	34	47	15·5	1362	½ ,,	weeds
	,,	,,	—	—	—	—	—	—	—	—	41	13	1021	ripe	,,
	,,	,,	5	2	9·5	8	15·5	30	30	32	44	13·5	1021	¼ ,,	,,
	179	25.12.20	4	2	8·5	8	15	30	30	32	43·5	14·5	1134	¼ ,,	jelly fish
	,,	,,	4·25	1·75	8·75	8·25	15·5	31	31	33·5	45	14	1138	¼ ,,	cuttlefish
	,,	,,	—	—	—	—	—	—	—	—	30	11	454	½ ,,	jelly fish
	187	27.12.20	4·25	1·75	9	8	15	30	30	32·5	44	14	1362	¼ ,,	,,
	202	2.1.21	3	1·5	6·5	5·75	12	25	25	27	38	13·5	908	½ ,,	shells
	205	,,	1·25	1	3·5	3	6	11·5	11·5	12·75	17	6·25	113	¼ ,,	weeds
	233	9.4.21	2·5	1·2	6	6	11·5	22·5	22·5	24	33·5	12	680	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	30·5	13	567	½ ,,	,,
	263	13.8.21	4	2	8·5	8·5	16	33	33	36	46	15·5	1588	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes-	condition of gonads	stomach contents.
Acanthuridae															
Acanthurus matoides ♀	263	13.8.21	4	2	9	8	17	34	34	37	49	16·5	1877	½ ripe	nil
	451	6.5.22	—	—	—	—	—	—	—	—	23·5	9	171	½ ,,	,,
	517	11.2.23	3·5	1·5	7·5	7	13	29·5	29·5	32	44	15	1368	ripe	,,
	,,	,,	2·75	2	7·5	8	15	29·5	29·5	31·5	43·5	14·5	1482	,,	weeds
	527	13.2.23	4·5	2	8·5	9	16	31	31	34	46	14·5	1824	,,	nil
Acanthurus matoides ♂	73	29.8.20	5	1	7·5	10	7	29	29	32·5	44	16	1362	½ ripe	digested matter & sand
	,,	,,	—	—	—	—	—	—	—	—	16	7	85	½ ripe	nil
	133	8.12.20	3·5	2	7·5	6·5	13·5	27	27	30	41	14	1134	½ ,,	,,
	137	9.12.20	4	2	8·5	8	14·5	29	29·5	30·2	43	15	1248	ripe	,,
	144	10.12.20	3·5	2·5	7·5	6·5	15·5	27·5	27·5	30	40	15	1248	½ ,,	,,
	146	13.12.20	5·5	2	9·5	9	16·5	33	33	36	50	18	2043	ripe	,,
	,,	,,	4·5	2	8·5	8·5	15·5	28	38	31	43	15	1134	½ ,,	sand and shells
	153	15.12.20	3·5	1·5	8·5	7	13·5	27	27	29	40	12·5	908	ripe	digested matter
	154	,,	3·5	1·75	8	7·5	15	28	28	32	44	13·5	1134	,,	sand and sholl
	,,	,,	—	—	—	—	—	—	—	—	33	11	567	½ ,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	16	17	113	½ ,,	,,
	159	17.12.20	3·5	2	7·5	7	12	27	27	29	42	13	1134	—	nil
	,,	,,	3	1·5	7	6	13	25·5	25·5	28	33	12	793	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	44	13	1134	,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	31	11	454	,,	sand and shells
	,,	,,	—	—	—	—	—	—	—	—	32	10·5	680	½ ,,	nil
	161	18.12.20	4	1·5	8·5	9	15·5	30	30	33	46	14·5	1462	ripe	jelly fish
	,,	,,	4·75	2	10	9·5	17	33	33	38	48	15·5	1588	,,	digested matter
	169	19.12.20	3·5	1·75	8	7	15	27	27	31	43	13·5	1134	,,	nil
	170	,,	4	2	8·5	8	15	29	29	33	44	14	1588	½ ,,	,,
	172	20.12.20	3·5	2	7·5	7·5	13	28	28	31	41	13·5	1134	½ ,,	digested matter
	173	23.12.20	4	2	9	8·5	15·5	31	31	34	45	14·5	1362	ripe	nil
	193	29.12.20	3·5	1·5	7·5	6·5	13	27·5	27·5	29·5	41	13	1021	,,	,,
	,,	,,	3·25	1·5	7·5	7	13	27	27	29	40	13	908	,,	,,
	,,	,,	3·25	1·75	8·25	7·5	15	28	28	30	42	12·5	1021	,,	,,
	200	1.1.21	2·5	1·25	5·25	5	9·5	18·5	18·5	20	28·5	9·75	311	¼ ,,	,,
	205	2.1.21	3·75	1·5	8	7·5	16	30·5	30·5	32·5	46	14·5	1248	¼ ,,	weeds
	231	8.4.21	1·5	1	3·5	4	6·5	11	11	12·5	16	7	57	⅛ ,,	nil
	233	9.4.21	5	2	10	10·5	17	31	34	46	50·5	15·5	908	⅛ ,,	,,
	,,	,,	3·5	1·5	7	7	7·5	23·5	23·5	25·5	34	12	680	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	31	11	454	½ ,,	,,
	263	13.8.21	4	2	9·5	8·5	18	34·5	34·5	36	50	16	1817	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	48	15	1588	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	48	15·5	1588	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	48	15	1588	¼ ,,	,,
	451	6.5.22	2·25	1·25	5	4·5	8·5	18	18	19·5	25	9·5	228	½ ,,	,,
	,,	,,	2	1·5	5·5	4	10	20·5	20·5	22·5	34	11	456	ripe	,,
	,,	,,	2	1·25	5	4	8·5	17·5	17·5	19	24·5	9	228	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	25	9	199	½ ,,	,,
	517	11.2.23	2·5	1·25	5·5	5	9·5	21	21	22·5	31	11	570	½ ,,	,,
	,,	,,	2·25	1·5	5	5	9·5	21	21	23	31·5	10·5	570	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	31	10·5	570	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes	condition of gonads	stomach contetns
Acanthuridae															
Acanthurus matoides ♂	517	11.2.23	—	—	—	—	—	—	—	—	30	10·5	570	½ ripe	nil
	524	12.2.23	3·5	1·5	7	7	14	26	26	28·5	39	14	912	ripe	,,
	,,	,,	4·5	2	8·5	8·5	16	30	30	33	45	16	1368	,,	,,
	527	13.2.23	4	1·75	9	8·5	15·5	30	30	32·5	46	14·5	1824	,,	,,
	528	,,	4	2	8	8	14·5	26	26	29·5	41·5	14	1140	,,	,,
	,,	,,	4	1·5	8	7·5	14·5	27·5	27·5	30	42	13	1140	,,	,,
	175	23.12.20	3·5	1·5	7·5	7	13·5	27	27	34	36	12·5	908	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	43	14	1134	½ ,,	weeds
	,,	,,	—	—	—	—	—	—	—	—	41	13	1021	ripe	nil
	179	25.12.20	5	1·75	9·5	8·5	16	30	30	34	45	14	1248	½ ,,	weeds
	,,	,,	—	—	—	—	—	—	—	—	44	14·5	1248	½ ,,	small fish
	,,	,,	—	—	—	—	—	—	—	—	42·5	14·75	680	ripe	nil
	195	31.12.20	1·5	1	3·5	3	6	11	11	12	16·5	6	64	½ ,,	,,
	,,	,,	1·75	1	4	3·5	7	13·5	13·5	14·5	20	7·5	49	½ ,,	,,
	197	,,	1·5	1	3·5	3·75	7	13	13	16	19·25	8	141	½ ,,	,,
	,,	,,	1·5	1	3·5	3	6·5	13·5	13·5	15·5	19·25	8	134	ripe	,,
	,,	,,	1·25	1	3·75	3	7·25	13	13	15	19·25	8·5	127	½ ,,	,,
Acanthurus sp. ♂	50	15.8.20	5·5	1·5	9	10	10	31	31	36	45	15	1362	½ ,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	33	13·5	793	¼ ,,	nil
	131	8.12.20	6	2	9·5	9	17	31	34	34	49	18	2272	ripe	sand and shell
	539	9.4.23	2·5	1·5	5·25	5	9	20·5	20·5	22	30	10·5	456	,,	nil
Acanthurus sp. ♀	123	6.12.20	4·5	2	8	8	9	32	32	35	41	17	1930	,,	,,
Ctenochaetus strigosus ♂	45	14.8.20	6	2·25	10	13	12	36·5	36·5	49	56	16	1588	¼ ,,	,,
	217	5.4.21	3	1·5	6	6·5	7	22·5	22·5	25	34	11	454	½ ,,	,,
	225	7.4.21	3	1·5	6·5	6·5	10	23	23	25	34	12	570	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	33	12	454	,,	,,
	237	10.4.21	4·5	1·75	9	9	13	28	28	31	42	14	908	,,	,,
	,,	,,	4	1·5	7·5	8	14	27·5	27·5	29·5	40	14	908	,,	,,
	,,	,,	4	1·5	7·25	8·5	12	23·5	23·5	25·5	34·5	11·5	680	,,	,,
	293	22.8.21	3	1·5	7	6·5	13	28·5	28·5	29	40	13	1021	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	43	14	1362	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	39	13	1021	½ ,,	,,
	297	26.8.21	3·5	1·5	7·5	7	15	26	26	28	39	13·5	908	ripe	prawns
	,,	,,	3	1·5	6	5·5	10	21	21	23	35	11·5	680	½ ,,	empty
	,,	,,	2·5	1·25	6	4·5	10	21·5	21·5	23	35	11	567	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	35	11	680	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	34	11	454	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	35	12	680	½ ,,	,,
	355	15.9.21	2·25	1·5	5·5	4·25	9·5	19·5	19·5	21	29·5	10·5	454	½ ,,	nil
	,,	,,	2·25	1·25	4·75	4	8	16·75	16·75	18	25·5	9·5	340	ripe	,,
	,,	,,	2·25	1·25	4·75	4	7·5	15·5	15·5	17	23·5	9	340	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	23	8·75	226	ripe	,,
	546	10.4.23	3·5	1·75	7	6·5	14	28	28	30·5	42	14	1254	,,	,,
	,,	,,	4·25	2	8·5	8·5	16	32	32	34·5	48	14	1482	,,	prawns
	,,	,,	3·5	2	8	8	14·5	30·5	30·5	33·5	47	15	1482	½ ,,	nil
	,,	,,	3·75	1·75	8	7·25	15	29·5	29·5	32	44	15	1140	—	,,
	548	11.4.23	4	2	8·5	8·5	15	30	30	33	45	15	1254	ripe	,,
	551	,,	3	1·5	6·5	6	12·5	25·5	25·5	27	38	12·5	684	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes	condition of gonads	stomach contents.
Acanthuridae															
Ctenochaetus strigosus ♀	18	30.7.20	—	—	—	—	—	—	—	—	36·5	14	678	½ ripe	cuttlefish
	50	15.8.20	4·5	2·5	13	15	15·5	36	35	43	52	16	1817	¼ ,,	nil
	225	7.4.21	2·75	2	8	8	16	29	29	31·5	42	15	1130	½ ,,	,,
	,,	,,	3	1·5	6	6·5	11	23·5	23	26	34	12	680	½ ,,	,,
	226	,,	3·5	1·5	7·5	8	13	28	28	30	39	13	908	½ ,,	,,
	,,	,,	4	1·5	8	9	14	30	30	33	43	14	1250	½ ,,	,,
	293	22.8.21	3·5	1·75	8	7·5	15	30	30	31·5	45	15	1362	½ ,,	,,
	,,	,,	3·75	2	8·5	8	16	31	31	33	46	14·5	1475	ripe	,,
	295	23.8.21	4	2	8	8	15·5	30	30	32	42	14	793	½ ,,	,,
	,,	,,	3·5	1·5	8	8	15	30	30	32·5	43·5	14·5	1475	ripe	,,
	297	26.8.21	—	—	—	—	—	—	—	—	44	14·5	1134	,,	,,
	333	11.9.21	4·5	2	9·5	9·5	17·5	23·5	32	36	48	15·5	1817	¾ ,,	digested matter
	444	15.4.22	4	2	8	8	13·5	28	28	31	41	15	1596	ripe	nil
	,,	,,	4·5	2	9	9	16	31	31	33	43	16	1368	,,	digested matter
	551	11.4.23	3·25	1·5	7·5	6·5	13	26·5	26·5	29	40	14	798	,,	nil
	,,	,,	3·75	1·5	8	7·5	15	31	31	33·5	45·5	15·5	1368	,,	weeds
Scorpaenidae															
Pterois miles ♂	219	6.4.21	2	1	5·5	5	10·5	15	14	17	23	6	141	½ ripe	nil
	,,	,,	1·5	1	4	4	10	13·5	13	16	31·5	6	113	½ ,,	,,
	467	29.1.23	3	2	8·5	7	17·5	22·5	21	26	34	9·5	456	ripe	,,
Platycephalidae															
Platycephalus carbunculus ♀	229	8.4.21	2	1·25	5	5	8·5	11·5	11·5	13	15·5	3	908	ripe	,,
	234	9.4.21	2·5	2	8·5	6·5	18·5	24	23	30	37·5	8	680	½ ,,	,,
	,,	,,	2·5	2	7	6	17	20	20	26	32·5	8	340	½ ,,	,,
	236	,,	2·5	2	7·5	6	18	21·5	22	28	34·5	9	455	½ ,,	small fish
	,,	,,	2·5	2	8	7	21	24·5	25	31	39	11	680	½ ,,	small Anguilla
	,,	,,	2·5	2	8	6·5	19	23	23	28	36	10	570	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	29	9	226	¼ ,,	small fish
Platycephalus scaber ♀	27	3.8.20	1·5	·5	4·5	8	10	13	13·5	15	18	3	57	½ ,,	nil
	79	31.8.20	1·75	·5	5	5·5	8	15	15·5	16·5	19	3	42	ripe	,,
Platycephalus serratus ♀	131	8.12.20	1·5	1	4	4	6·75	9	9·75	10·5	12·5	2	21	¼ ,,	shrimps
Platycephalus tuberculatus ♂	43	13.8.20	1·25	·25	3·5	7	12·5	10	14·5	17·5	20·5	2·5	57	½ ,,	nil
Dactylopteridae															
Dactylopterus orientalis ♂	464	28.1.23	2	2	7	5·5	15·5	19	19	23·5	31	6	228	ripe	,,
	485	2.2.23	2·5	2·5	8	6·5	19	21·5	21·5	27	34	7	570	,,	,,
	486	,,	2·5	1·75	6	6	17	18·5	18·5	23	29	5	684	,,	,,
	227	7.4.21	2	1·5	6	9	16	18·5	18·5	24	30	6	254	—	,,
	238	10.4.21	3	1·5	8	7	20	23	22·5	29	35·5	9	567	½ ,,	,,
	464	28.1.23	2·5	2·75	8	6·5	19·5	24	24	31	37	8	570	½ ,,	,,
	,,	,,	2	2·25	7·5	6·5	17·5	21	21	26	34	7	456	½ ,,	,,
	479	31.1.23	2	2·75	6·75	6·5	19·5	22·5	22	28	35	7	570	½ ,,	,,
	,,	,,	2·75	2	7	7	19	22·5	23	28	37	7	570	½ ,,	,,
	485	2.2.23	2	1·5	6·5	5·5	17	20·5	20·5	24	31	5	342	½ ,,	,,
	,,	,,	2	2·5	7·5	6·5	21	23	24	29	36	6	456	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Dactylopteridae															
Dactylopterus orientalis ♂	485	2.2.23	2	1·5	6	6·5	17·5	21	22	26	32	7	456	½ ripe	nil
	,,	,,	2	1·75	7	6·5	18	20	20	25	32	6	456	½ ,,	,,
	,,	,,	2·5	1·75	7	6	18	21	21	27	33·5	6·5	456	½ ,,	,,
Pomacentridae															
Pomacentrus jerdoni ♀	68	28.8.20	·75	·5	2·25	2·5	2·5	7·5	7·5	8·75	12·5	4	14	½ ripe	,,
Glyphisodon sp. ♂	168	19.12.20	·25	1	2·75	3	6·5	8	8	9	12	5	28	½ ,,	,,
	197	31.12.20	1	1	2·75	3	6	7	7	8	11	4·25	28	—	,,
	,,	,,	—	—	—	—	—	—	—	—	11·5	4·5	28	—	,,
Glyphisodon sp. ♀	154	15.12.20	1	1	3	4	7·5	9	9	9·7	14	5·3	85	½ ripe	,,
	168	12.12.20	·25	·75	2·25	2·5	3	6·5	6·5	7·5	9·5	4	14	ripe	,,
	197	25.12.20	·5	1	2·75	3	6	6	9	9	11·5	5	35	½ ,,	,,
	,,	,,	1	2·75	3	7	8·25	8·25	8·75	10	11·75	4·5	28	½ ,,	,,
Labridae															
Choerodon sp. ♂	167	19.12.20	2	2	9	8	15·5	22	22	25	31	10·5	680	½ ripe	,,
	168	,,	1·5	2	8	8	14	20	20	23	28	9	567	½ ,,	,,
	479	31.1.23	2·75	1·5	8·25	19	15	22·5	22·5	25	31	10	798	½ ,,	,,
	519	11.2.23	3·5	2	6·5	10·5	18·5	27	27	30	38·5	13	1368	ripe	,,
	532	13.2.23	3	1·5	8·5	8	16·5	22·5	22·5	25	31·5	10·5	912	,,	,,
	,,	,,	2·5	2	9·5	8·5	16	22·5	22·5	24·5	31·5	10	798	,,	,,
	76	30.8.20	3	1	6·5	7·5	7	18·5	18·5	22	26	9	340	¼ ,,	crabs
	168	19.12.20	1·5	1·5	6	5·5	12	15	15	17·5	22	6·5	198	¾ ,,	sand and shells
	179	25.12.20	3	1·5	8	7·5	12·5	18·5	18·5	21	25·5	8	340	ripe	nil
	194	31.12.20	1·5	1	5	5	10·5	13·25	13·5	15	19	6	141	,,	,,
	195	,,	3	2	9	8	15	20	20	22·5	28	9	454	½ ,,	,,
	,,	,,	1·75	1·5	7	9	12·5	17·5	17·5	19·5	24·5	7·5	311	ripe	,,
	,,	,,	2	1·5	6	6	11	15·5	15·5	17	22	7	228	¼ ,,	,,
	197	,,	3·5	1·5	9	8	13·5	18·5	18·5	21	26·5	9	340	½ ,,	,,
	200	1.1.21	1·5	1·25	6·5	5·5	11·5	15·5	15·5	18	22	7	228	½ ,,	,,
	225	7.4.21	2·5	1·5	8	8·5	15	22	21	24	30	10	—	½ ,,	crabs
	466	29.1.23	3	·75	7·5	7·5	13	18·5	18·5	20·5	26	9	456	ripe	shells
	474	30.1.23	1·5	1·25	6·5	6·5	12·5	19	19	21·6	27	9	570	½ ,,	,,
	479	31.1.23	2	1·5	8	8	17	22	22	25	32	10	912	½ ,,	nil
	,,	,,	2·25	1·5	7·5	8·25	14	20	20	23	28	9	912	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	28	9	456	½ ,,	,,
	480	1.2.23	2	1	6	6·25	11	15·5	15·5	18	23	7·5	342	½ ,,	,,
	532	13.2.23	2·5	2	9·5	8·5	16	22·5	22·5	24·5	31·5	10	798	ripe	,,
	,,	,,	3	1·5	8·5	8	16·5	22·5	22·5	25	31·5	10·5	912	,,	,,
Cossyphus axillaris ♂	84	7.9.20	5·5	3	26·5	33	27	86	73	96	109	27	13635	ripe	crabs
	91	10.9.20	—	—	—	—	—	—	—	—	69	17	2173	¼ ,,	prawns
	,,	,,	—	—	—	—	—	—	—	—	76	17	3635	½ ,,	small fish
	115	22.9.20	6	3·7	26	30	27	80	76	90	115	30	13635	ripe	small fish
Cossyphus axillaris ♀	91	10.9.20	4	2·5	16	18·5	18	58	46	60	69	15	1721	¼ ,,	nil
Cossyphus bilunulatus ♂	197	31.12.30	3·5	1·5	9·5	9·5	16	21	21	24	31	8	454	½ ,,	,,
Pseudoscarus chrysopoma ♀	73	29.8.20	4	1·5	12	15	14	36	36	42	53	16	2272	spent	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes-	condition of gonads	stomach contents
Labridae															
Pseudoscarus chrysopoma ♀	73	29.8.20	—	—	—	—	—	—	—	—	52	15	2043	¼ ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	62	18	2951	¼ ,,	,,
Pseudoscarus dussumieri ♀	48	15.8.20	4·5	1·4	10·9	11	22	30·8	30	36	41	12·5	1248	immature	digested matter
Pseudoscarus harid ♀	197	31.12.25	6	2	16·5	15·5	34	42	42	50	64	17·5	4090	½ ripe	nil
	297	26.8.21	4·5	1·5	13	12·5	26·5	36·5	36·5	40	53	14	2272	¼ ,,	,,
	,,	,,	6·5	2	15·5	15·5	30	40	40	45	59	16	3180	½ ,,	,,
	341	12.9.21	5	1·5	13·5	13	27·5	36·5	36·5	40	53·5	15	2498	¼ ,,	,,
Pseudoscarus rivulatus ♀	551	11.4.23	5·5	1·75	14	14	27	36	36	39·5	52	15	2280	½ ,,	,,
	552	,,	5	1·25	15	14	29	39	39	43·5	57	16	3192	¼ ,,	sponges
Pseudoscarus sp. ♀	291	22.8.21	6	1·5	15	14·5	31	40	40	45	59	17	3406	¼ ,,	nil
	,,	,,	5	2	14	13	27	37	37	41·5	54	15	2498	½ ,,	,,
Eleotridae															
Eleotris sp. ♀	75	30.8.20	1·5	5	4	4·5	4	10·5	10·5	11	13	2	14	ripe	,,
Echeneidae															
Echeneis naucrates ♂	26	3.8.20	4·5	1·2	9·5	21·5	22·5	39	39	41	47	6	226	¼ ,,	,,
	68	28.8.20	5·5	1	10	25	11·5	45	45	46·5	29·75	6	680	¼ ,,	,,
	97	12.9.20	5	1	8·5	24	26	45	45	47·5	55	5·5	454	½ ,,	,,
	320	9.9.21	3·5	1	8·5	24	23	43	43	44	52·5	15	567	ripe	digested matter
Echeneis naucrates ♀	119	5.12.20	3·5	1	6·5	19	19	34	34	37	42	4	226	¼ ,,	nil
	,,	,,	3	1	6	16	15·5	28	28	31	35	4	113	¼ ,,	digested matter
Echeneis remora ♀	191	29.12.20	3·5	1	6·75	17·5	17·5	31·5	33	33	37	4	226	¼ ,,	crab
	,,	,,	2·5	·25	5·25	14	14	24·75	24·75	26	30·5	2·75	71	¼ ,,	fish
Triacanthidae															
Triacanthus brevirostris ♀	59	24.7.20	1·5	1·4	4	5	5	13	12·5	14·5	19·5	4·5	85	ripe	,,
	79	31.8.20	3	1	4·75	5·5	5	11	11	12·5	16	6	57	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	18·5	6·5	113	ripe	mud
	84	7.9.20	—	—	—	—	—	—	—	—	15	5·5	42	½ ,,	nil
	85	,,	2·5	1	4	5·5	4·5	9·5	9·5	12	15	5·5	42	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	15	5·5	57	½ ,,	,,
	86	,,	2	1·25	3·5	4·25	4·5	10·5	10·5	12·5	15·5	5	28	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	15	5·5	49	½ ,,	,,
	87	,,	—	—	—	—	—	—	—	—	14	5	42	½ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	12	4·5	28	ripe	,,
	92	10.9.20	4	1·5	7	7	8	18	18	24	29	9·5	254	½ ,,	,,
	101	13.9.20	—	—	—	—	—	—	—	—	20	7	141	½ ,,	,,
	114	21.9.20	3	1	5·5	6	6	15·5	15	20	25·5	7·5	169	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	21	6	99	¼ ,,	,,
	394	19.9.21	3	1·25	6	6	13	16·5	16·5	21	26	8	205	½ ,,	shells
	,,	,,	3	1·5	6	5·5	13	16·5	16·5	21	27	9	99	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	23	6	141	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	25	7·5	183	½ ,,	,,
Triacanthus brevirostris ♂	59	24.7.20	—	—	—	—	—	—	—	—	18	4·5	85	ripe	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes-	condition of gonads	stomach contents.
Triacanthidae															
Triacanthus brevirostris ♂	78	31.8.20	3	·25	5·5	6	6	15·25	15·25	19·6	25	7·5	134	½ ripe	shells
	85	7.9.20	—	—	—	—	—	—	—	—	16	5	42	⅛ ,,	nil
	86	,,	—	—	—	—	—	—	—	—	12·75	4·25	35	¼ ,,	mud
	87	,,	1·75	1	3·25	4	3·5	9	9	10·75	13·5	4·5	35	¼ ,,	nil
	92	10.9.20	—	—	—	—	—	—	—	—	26	8	183	ripe	,,
	101	13.9.20	2·5	1·5	5	5·75	6	14·5	13·5	19	24	7	148	,,	,,
	104	,,	3·5	1·5	5·2	6	6	14	14	18·5	23·5	7	134	,,	shells
	111	21.9.20	2·5	1·5	5	5·5	5	13	13	17·5	22	6·5	113	,,	nil
	114	,,	—	—	—	—	—	—	—	—	20	6	77	,,	,,
	84	7.9.20	2	1	3·25	5	4	8·5	8·5	10	12·5	4·5	28	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13	4·5	28	¼ ,,	,,
	394	19.9.21	2·5	1·5	5	5·5	10	12·5	12·5	16	20	7	127	ripe	shells
	,,	,,	—	—	—	—	—	—	—	—	21	6·5	127	,,	nil
Balistidae															
Balistes erythrodon ♀	131	8.12.20	5·75	1·25	7·5	13·5	15	23	23	26	37	13	454	½ ,,	,,
	148	13.12.20	4·5	1	7	10·5	15	22	22	22·5	34	10·5	454	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	36	11·5	454	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	32	9·5	454	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	32	9·5	454	¼ ,,	,,
	153	15.12.20	6	1	8	13	16	24	24	25·5	37	11·5	567	½ ,,	,,
	175	23.12.20	4·5	1	6·5	11·5	13	20	20	22	33	10·5	340	¼ ,,	,,
	176	,,	5	1	6·5	11·5	13	20·5	20·5	21	31	10·5	454	¼ ,,	,,
	205	2.1.21	—	—	—	—	—	—	—	—	26	10	226	¼ ,,	,,
	219	6.4.21	—	—	—	—	—	—	—	—	34	11	454	½ ,,	,,
	324	10.9.21	5	1	6·5	7	9	19	19	20·5	31	10·5	340	¼ ,,	,,
	469	29.1.23	4	1	5·75	5·75	7·5	18·5	18·5	19·5	29	9·5	456	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	27	9	228	¼ ,,	,,
	471	30.1.23	4·5	1	6	6	12	9	19	20	32	9·5	456	¼ ,,	,,
	,,	,,	4	1	5·5	6	10·5	16	16	17·5	27·5	8·25	342	¼ ,,	,,
	496	4.2.23	6	1	8	11·25	9	22	22	23	35	12	570	ripe	,,
	496	4.2.23	4	1	5·75	6·25	8	17·25	17·25	19	27	8	228	⅛ ,,	,,
	530	13.2.23	5·25	1·5	8·5	7·5	12	23·5	23·5	25	35	13	912	¼ ,,	,,
	531	,,	4·5	1·25	6·5	6·5	9	18·5	18·5	19·5	31	10	342	ripe	,,
	532	,,	5·5	1	7·5	7·5	10·5	21·5	21·5	22·5	33·5	10	456	,,	,,
	,,	,,	5·5	1	7	6·5	6	19·5	19·5	21	31·5	9·5	456	,,	,,
Balistes erythrodon ♂	138	9.12.20	6·25	1	8·5	18·5	16	26	26	27·5	41	13·5	908	,,	,,
	148	13.12.20	5·5	1	1·5	12·5	15	24	24	25	38	12	567	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	26	8·5	340	,,	digested matter
	173	23.12.20	2·5	·75	3·75	3·5	7	10·5	10·5	11	15	5	57	⅛ ,,	nil
	,,	,,	2·75	·75	4	4	7·5	11·25	11·25	12	15·5	5·5	71	⅛ ,,	,,
	175	,,	6·25	1	8	8	15	23·5	23·5	25·5	37	11	1021	½ ,,	,,
	,,	,,	5·25	1	7·5	7·5	14·5	23	23	24·5	37	11	567	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	38	11	567	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	38	10	680	,,	,,
	176	,,	6	1	7·5	8	15	24·5	24·5	26	38	13	680	,,	weeds
	179	25.12.20	6	1·25	8	7·5	16	24	24	26	38·5	12	680	¼ ,,	nil
	180	,,	6	1	7·5	8	15	23	23	24·5	37	11·5	567	ripe	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Balistidae															
Balistes erythrodon ♂	201	1.1.21	4	1	5·5	9·5	11	16·5	16·5	17·5	27	9·5	228	½ ripe	nil
	205	2.1.21	4·25	1	6	11	11·5	19·5	19·5	20·5	32·5	9·5	340	ripe	,,
	,,	,,	5·25	1	7·25	11·5	13·5	21	21	22·5	34	12·5	454	½ ,,	,,
	,,	,,	6	1	8·5	14	16	25·5	27	27	42	13	793	¼ ,,	shells
	,,	,,	—	—	—	—	—	—	—	—	41	12·5	680	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	31·5	10·5	340	,,	,,
	213	4.4.21	4	1	5	5·5	7	16	16	17·5	25	8·25	198	,,	digested matter
	217	5.4.21	2·5	·5	4	4	5	12	12	13	19	7	85	,,	nil
	,,	,,	3·25	·5	4·5	4·5	6·5	13	13	15	22	8	120	,,	,,
	,,	,,	3	·5	4	4	6·5	13	13	13·5	20	6·5	99	,,	,,
	218	,,	5	1	7	7	10	21	21	23	34	10	454	,,	digested matter
	219	6.4.21	5	1·25	6·5	7	10	21	21	23	37	11	42	,,	nil
	,,	,,	5·5	1	7·5	8	15	24	24	25·5	38	11	680	,,	,,
	,,	,,	4·5	·75	6	6	11·5	18	18	19·5	29	9	282	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	23	8	141	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	30	9	282	ripe	,,
	220	,,	6	1	8	8	11	24·5	24·5	26·25	39	11·5	680	,,	,,
	221	,,	2·5	1·5	4·5	5	7·5	15	15	16·5	23·5	9	155	½ ripe	,,
	,,	,,	5	1	6·5	7	9	19	19	21	30	10	155	½ ,,	,,
	,,	,,	4	1	5·25	6	6·5	16·5	16·5	17·5	27	9	198	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	25	9	169	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	28	9	254	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	25	8	169	½ ,,	,,
	444	15.4.22	4·5	1	6	6·5	8	19	19	20	30	11	456	ripe	,,
	461	27.1.23	5·25	1	6·5	7	12·25	20	20	21	29	10·75	456	,,	,,
	,,	,,	4	1	5·5	5·75	11	16	16	17·5	26	9·25	342	½ ,,	,,
	465	28.1.23	6	1	8	8	10	24	24	25	39	13·5	456	ripe	,,
	469	29.1.23	4·5	1	6·25	6	8·5	19·5	19·5	20·5	32	10	456	½ ,,	,,
	,,	,,	4	1·25	5·5	6	7·5	18	18	19	30	9·25	456	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	24·5	9	228	½ ,,	,,
	471	30.1.23	4.5	1	6	6	11 ·	18·5	18·5	19	23	8·5	342	ripe	,,
	476	31.1.23	—	—	—	—	—	—	—	—	22	7·25	228	½ ,,	,,
	,,	,,	4·25	1	6	6·25	12	19	19	20	30	9·5	2508	ripe	,,
	,,	,,	4·5	1	6·25	6·5	9	20	20	21·5	32	11	570	,,	,,
	,,	,,	4·5	1	6	6	8·5	18	18	19·5	29	10·5	456	,,	,,
	,,	,,	4	1	6	6	7·75	18	18	20	29	9·25	342	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	31	9	342	ripe	,,
	478	,,	5·5	1	7	7·25	8·25	20	20	21·5	32	9·75	342	,,	,,
	481	1.2.23	5·25	1	6·5	7	8	20·5	20·5	22	32·5	11·5	456	,,	,,
	495	4.2.23	4·5	1	6·5	6·5	8	19	19	20	30	9·5	456	,,	,,
	,,	,,	5	1	6·75	7	8	19	19	21	34	7	456	,,	,,
	,,	,,	4·5	1	6	7	7·5	18·5	18·5	20	31	9	456	,,	,,
	496	,,	5·5	1	7	7·75	9	22	22	23	27	11	456	,,	,,
	,,	,,	5·5	1	7·5	8	10	23	23	24·5	41	12	684	,,	,,
	,,	,,	5·5	1	7	7·5	10	23	23	24·5	39·5	12·5	684	,,	,,
	527	13.2.23	5	1	6·5	7	13	20	20	21·5	33	10	456	,,	,,
	528	,,	5	1	7·5	7·5	10·5	22·5	22·5	24	40	11·5	684	,,	,,
	,,	,,	5	1	6·5	6·5	9·5	19	19	20·5	33	9·5	456	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents
Balistidae															
Balistes erythrodon ♂	530	13.2.23	5·00	11·25	7·5	7·25	11	21	21	22·5	29	12	684	ripe	nil
	531	,,	5·5	1	7	7·5	13·5	21	21	22	37	10	570	,,	,,
	,,	,,	5	1	7	7	13	20	20	22·5	34	10	456	,,	,,
Balistes sp. ♂	198	1.1.21	2·5	1	3·75	6·5	7	9	9	10	12·5	5·5	42	½ ,,	,,
	205	2.1.21	5	1·25	7	13	14·5	20·75	20·75	22	28	12	567	¼ ,,	,,
	524	12.2.23	7	1·5	9	10	13	26·5	26·5	29	36	15	1254	ripe	,,
	528	13.2.23	5	1·5	7·5	7·5	11	21	21	22·5	28	11	456	,,	,,
Balistes sp. ♀	193	29.12.20	5·75	1	7·5	7·75	14·75	22·75	22·75	24·5	33·5	11·5	567	¼ ,,	,,
	547	10.4.23	6	2	10	10	15·5	28	28	31.5	38.5	15	1140	ripe	,,
Balistes fuscus ♂	550	11.4.23	7	2	11	10·25	17	29·5	30	32·5	46·5	16·5	1938	½ ,,	crabs
Balistes fuscus ♀	,,	,,	5·25	2	8·5	8·5	12	23	23	24·5	33	15	912	ripe	,,
Balistes mitis ♀	61	25.8.20	7	1·5	8·5	10	12	23	23	26	31	13·5	680	½ ,,	nil
	214	4.4.21	2·75	1	3·5	4	7·5	11	11	11·5	14·5	6	57	¼ ,,	,,
	221	6.4.21	4·5	1·25	7	8	10	20	20	22	28	10·5	454	½ ,,	,,
	463	28.1.23	5	·75	7	8	14	20	20	21·5	27	10·5	456	½ ,,	,,
Balistes mitis ♂	212	4.4.21	3·5	1	5	5·5	6·75	13·5	13·5	15	18	8·25	120	½ ripe	,,
	214	,,	3	1	4	7	8	10·5	10·5	11·5	14	6·5	57	ripe	,,
	,,	,,	3	1	7·5	8	11·5	11·5	12·5	13·5	15·5	7	85	,,	sand
	,,	,,	—	—	—	—	—	—	—	—	15	71	71	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	15	6	57	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	6	71	,,	,,
	216	5.4.21	2·5	·5	3	4	5·25	10	10	11	14	7	57	,,	,,
	,,	,,	3	·5	4	5	5	10	10	11	13·5	6	64	,,	,,
	,,	,,	4	·5	4	6	5·5	11	11	12·5	15	7	57	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	6	57	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	15·5	6·5	113	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	6·5	85	,,	,,
	217	,,	3	·5	3·5	5	5	11	11	12·5	16	7	78	,,	,,
	,,	,,	2·5	1·5	3·5	4	5	10	10	11·5	14·5	6	71	,,	digested matter
	,,	,,	3	·5	4	5	5·25	10·5	10·5	11·5	14	6	71	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15	7	85	,,	nil
	,,	,,	—	—	—	—	—	—	—	—	15	8	85	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	16	7	78	,,	mud
	219	6.4.21	4·5	1·25	6	7	9·5	18	18	19·5	24	11	282	½ ,,	crabs
	221	,,	2·5	·5	3·5	4	5	10	10	11	14	6	57	½ ,,	nil
	,,	,,	3	·5	3·5	4	5	11	11	12	15·5	7·5	71	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	14	6	71	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	15	7·5	85	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	13·5	5·5	57	¼ ,,	,,
	225	7.4.21	7	1·5	9·5	10	12	26	26	27·5	35	14	3180	ripe	,,
	,,	,,	6·5	1·5	8	9·5	11	23·5	23·5	26	32	13	908	,,	,,
	461	27.1.23	6	1·5	8	8·5	12	22·5	22·5	24	30	12	684	,,	prawns and shells
	495	4.2.23	6·5	1	8·5	8·5	11·5	21	21	23·5	29	12·5	570	—	nil
	516	11.2.23	6·5	1·5	9·5	8·5	13	25	25	26	32	13	684	ripe	,,
Balistes stellatus ♀	23	2.8.20	7	2	10	10·2	26·5	26·5	27	30	37	13	795	¼ ,,	,,
	50	15.8.20	8·2	1·1	14	19	19	29	32	35	40	15	908	½ ,,	shells
	59	18.8.20	7·5	2·5	11	13	15	13	29	33	40	17	1362	ripe	nil
	60	25.8.20	7	2	9	11	13	26	26	30	37	14	793	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Balistidae															
Balistes stellatus ♀	73	29.8.20	6	2·5	9·5	10	16	29	29	33	51	16	1248	¾ ripe	nil
	74	,,	—	—	—	—	—	—	—	—	43	15	908	ripe	,,
	150	14.12.20	6	2·5	9·5	10	19·5	28	28	31	37	14	1134	,,	,,
	189	28.12.20	5·75	2	9	9	19	25·5	25·5	30	36·5	11·75	793	½ ,,	prawns
	,,	,,	5·5	2	8·5	9	18·75	24·5	24·5	28	36	11	793	¼ ,,	broken shells
	192	29.12.20	6·25	2·5	9·5	10	19·5	27·5	27·5	31	37	13·5	1021	½ ,,	nil
	204	2.1.21	4	1·5	6·5	6·5	9	17·5	17·5	19·5	25	10	340	½ ,,	,,
	212	4.4.21	6	2	9	9·5	13	27	27	30·5	39	15	908	½ ,,	,,
	214	,,	7	2	11	12·5	20·5	28	28	33	38	16	1134	½ ,,	,,
	217	5.4.21	7	2·25	10	11	12·5	28·5	28·5	32	40·5	15	1134	½ ,,	crabs
	,,	,,	6·5	2·5	9·5	11·5	13	26	26	39	46	13·5	1021	½ ,,	,,
	221	6.4.21	7	2·25	10	10·5	13·5	28	28	31·5	38	15	1134	½ ,,	shells
	,,	,,	7	2·25	10	12	13	26	26	29	30	14	1134	¾ ,,	,,
	224	7.4.21	6	2	9	10	11	25	25	27·5	34	11	680	½ ,,	nil
	225	,,	6·5	2·25	11	14	27·5	27·5	31	37·5	40	—	908	½ ,,	,,
	233	9.4.21	6	1	8	9	11	22	22	23	29·5	11	567	½ ,,	starfish
	242	10.8.21	6	2	9·5	9·5	14	28	28	31	38	14·5	1362	ripe	crabs
	289	21.8.21	5·75	2	9	9·5	14·5	27·5	27·5	31	37·5	13	1134	½ ,,	,,
	292	22.8.21	7	2	10	11	14	28	28	32	40	16·5	1475	½ ,,	nil
	294	,,	6·5	2	10·5	10	15	31	28	35	41	14	1475	½ ,,	crabs
	297	26.8.21	6	2	9·5	10	15	28·5	28·5	32	39	14	1588	ripe	nil
	320	9.9.21	6	2	9	9	12·5	24·5	24·5	27·5	34·5	13	680	¾ ,,	,,
	324	10.9.21	5·5	2·5	9	9·5	12·5	25·5	25·5	28·5	35	12·5	908	¾ ,,	,,
	341	12.9.21	6·6	2	10·5	10·5	16	30·5	30·5	35	41	13	1362	½ ,,	,,
	,,	,,	7·5	2	11	11·5	16·5	33	33	37	43	14	1588	½ ,,	,,
	344	,,	6	2·5	9·5	10	19·5	27·5	27·5	30	37	13	1021	¾ ,,	,,
	444	15.4.22	7	2	10	11	13	28	28	31	39	12·5	1140	½ ,,	,,
	446	,,	7·5	2	10	12	14	29	29	33	41	15	1368	ripe	prawns
	,,	,,	7·5	2·25	11	12·5	13	30	30	33	40	16	1596	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	36	14·5	912	¼ ,,	small shells
	,,	,,	—	—	—	—	—	—	—	—	39	15	1368	½ ,,	shells
	447	16.4.22	7	2	11	11·5	15·5	30·5	30·5	33	41	15·5	1596	ripe	crabs
	,,	,,	6·25	2	10	11	13	29	29	32	39	14	1254	,,	nil
	,,	,,	6·5	2	9·5	10·5	13·5	28	28	38·5	38·5	13	1026	½ ,,	shells
	,,	,,	—	—	—	—	—	—	—	—	40	14	1140	½ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	38	15	1254	ripe	,,
	450	,,	5·5	1·75	8·5	8·5	16·5	24	24	27	35	12	570	½ ,,	digested matter
	,,	,,	—	—	—	—	—	—	—	—	35	13	684	¼ ,,	nil
	,,	,,	—	—	—	—	—	—	—	—	30	10·5	228	½ ,,	shrimps
	462	28.1.23	6	2·25	9	10	12	27	27	30	37	13	912	½ ,,	nil
	,,	,,	6·5	2	10·5	11	13·5	29	29	33	39·5	13	1140	ripe	,,
	469	,,	6·5	2	9	10	12·5	23	23	26	33	13	684	,,	,,
	,,	,,	5·5	2	8·5	9·5	12	25	25	28	35	13	798	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	37	15	1140	ripe	crabs
	,,	,,	—	—	—	—	—	—	—	—	8	10	456	½ ,,	,,
	470	29.1.23	6·5	2	10	11·5	13	28	28	32	40	14·5	1140	ripe	nil
	,,	,,	6·5	1·75	9·5	10·5	11	27	27	30	38	12·5	1140	½ ripe	,,
	471	30.1.23	6	2·25	9·5	10	13	28	28	31	38	14·5	912	ripe	crabs

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes	condition of gonads	stomach contents.
Balistidae															
Balistes stellatus ♀	471	30.1.23	6	2·25	9·5	10	11·5	26	26	29	36	13	912	½ ripe	crabs
	,,	,,	6	2	9	10	12	26·5	26·5	30	37	14	912	½ ,,	,,
	473	,,	6·5	2	10	10	12·5	27	27	30	37	14	1368	½ ,,	,,
	475	31.1.23	7	2·5	10	11	13	30	30	33	41	14·5	1254	ripe	nil
	482	1.2.23	7·5	2·25	10·75	11·5	13	30	30	33	40	14·5	1254	½ ,,	,,
	484	,,	7	2·25	10·5	11·5	14	27	27	31	37	13	1140	½ ,,	crabs
	,,	,,	7	2·5	10	11	13	28	28	30·5	38	13	1140	—	,,
	,,	,,	7	2·25	10·5	11	15	29	29	32·5	39	7·25	1140	—	nil
	,,	,,	5·5	1·75	8·5	9·5	12	24	24	28	34	12·25	456	½ ripe	,,
	489	2.2.23	7·5	1·75	10	11·5	12·5	27	27	30	36	14	1140	½ ,,	,,
	490	3.2.23	7	1·75	10·25	11·5	13·5	30	30	33	39·5	14·5	1140	½ ,,	,,
	496	4.2.23	6	1·75	8·5	10	11	25	25	28	35	12·5	684	½ ,,	,,
	524	12.2.23	6	2	9	10	12·5	26	26	29	36	14	1026	½ ,,	,,
	,,	,,	6	1·75	8	9·5	—	24	24	26·5	33·5	12	798	½ ,,	crabs
	,,	,,	6·5	2	9	10	12	27	27	30	36	13	1140	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	35	12	912	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	38	13·5	1140	½ ,,	Echinodiscus
	527	13.2.23	5·5	2	10	10	14	26	26	28·5	34	12·5	912	ripe	nil
	,,	,,	6·25	2	9·5	10	15	26·5	26·5	30	37	12	912	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	36	12	912	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	35	12	912	ripe	,,
	528	,,	6	2	9	10	14	26	26	29	37	12·5	1140	,,	,,
	,,	,,	6	2	9·5	9	13	25·5	25·5	29	35	12·5	1140	½ ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	32	12·5	912	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	39	12·5	912	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	32	11	912	ripe	crabs
	532	,,	5	1·5	8·5	7·5	11·5	22	22	23	30	11·5	684	—	nil
	,,	,,	6	2	9·5	9·75	15	26·5	26·5	29	36	12·5	684	ripe	crabs
	540	9.4.23	7	2	10	11	18	31·5	31·5	35	41·5	15	1482	,,	,,
Balistes stellatus ♂	22	2.8.20	8	2	10	11	18	28	28	31	38	13	1020	¼ ,,	nil
	50	15.8.20	5	1·5	9·5	10	11·5	34	34	39	49	17	1362	¼ ,,	,,
	52	16.8.20	7	2	9·5	11	15	26·5	26·5	30	37	13	908	¼ ,,	,,
	,,	,,	7	2	9·5	11	15	26·5	26·5	30	37	13	908	¼ ,,	,,
	60	25.8.20	—	—	—	—	—	—	—	—	36	14	793	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	48	12·5	793	¼ ,,	,,
	61	,,	7	2	9·5	11	13	25	25	29	35	13	793	¼ ,,	,,
	74	29.8.20	6·5	1·5	10	11	14	29	29	33	39	14	1134	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	37	13·5	680	½ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	39	13	793	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	39	14	908	ripe	,,
	146	13.12.20	7	2	10·5	11	21	30	30	34	40	14	1134	,,	,,
	157	17.12.20	6·5	1·5	10	11	21	30	30	33	40	12·5	1248	,,	,,
	163	18.12.20	7	2·5	10·5	11	22·5	31	31	35	42	14	1362	½ ,,	sand and crabs
	189	28.12.20	2	1	3·5	3·5	7	9·25	9·25	10	12·75	5	57	¼ ,,	nil
	195	31.12.20	7	2	10·5	10·5	21	29·5	29·5	33	40	13·5	1134	½ ,,	crabs
	220	6.4.21	7	2	10	12	14	29·5	29·5	33	43	13·5	1134	ripe	,,
	221	,,	7	2	10	11	13	29	29	33	40	14	1134	,,	nil
	231	8.4.21	6	1·5	8	10	9	21	21	23	29·5	11	280	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes-	condition of gonads	stomach contents
Balistidae															
Balistes stellatus ♂	233	9.4.21	8	2	11	12·5	16	30	30·5	33·5	42	13·5	680	¼ ripe	nil
	237	10.4.21	6	2·5	9	10·5	13	26	26	29	37	12	1134	ripe	,,
	263	13.8.21	6·5	2	10	10	14·5	30	30	34	41·5	13	1134	½ ,,	,,
	289	21.8.21	6·5	2	10	10	15·5	29·5	29·5	33·5	40	13	1134	ripe	crabs
	,,	,,	5	2	8	8	12·5	24·5	24·5	28	35·5	10·5	680	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	41	12·5	1362	ripe	nil
	293	22.8.21	6	2	9·5	10	14	28	28	31·5	18	13	1134	½ ,,	,,
	,,	,,	7	2	10·5	11	15	29	29	32	40	12·5	1134	½ ,,	,,
	,,	,,	6·5	2	10	10	15	31	31	33·5	41·5	15	1362	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	33	11	680	½ ,,	,,
	296	23.8.21	6	2	10	9·5	15	28	28	31	37·5	12	1134	½ ,,	,,
	,,	,,	5·5	2	9	9	15·5	28	28	32	39·5	12·5	1021	ripe	,,
	444	15.4.22	7	2·25	10	11	13	27	27	30	37	15	1140	½ ,,	,,
	,,	,,	6	2	9	9·5	12·5	25	25	28	35	11·5	798	ripe	,,
	446	,,	—	—	—	—	—	—	—	—	38	13	912	,,	,,
	450	16.4.22	6·25	2	10	9·5	20	28·5	28·5	32	39	10·5	1026	,,	,,
	,,	,,	6·5	2	10	10	19·5	28	28	31·5	38	12·5	684	,,	,,
	466	29.1.23	6	2	9	9·5	14·5	26	26	29	36	12	912	,,	,,
	469	,,	6·5	2·25	10	10·5	13·5	29	29	33	40	13·5	1140	,,	,,
	,,	,,	—	—	—	—	—	—	—	—	24	10	342	½ ,,	,,
	475	31.1.23	6	2	9	10·75	13	26	26	29·5	37	12	912	ripe	,,
	484	1.2.23	6·5	2·25	9·25	10	13	28	28	31	38·5	12	1140	—	,,
	495	4.2.23	6·5	2	9	11	12	24	24	28	33·5	13·5	1140	ripe	,,
	521	12.2.23	7	2	10·5	12	14	30·5	30·5	33	41	15	1368	,,	,,
	524	,,	—	—	—	—	—	—	—	—	34	10·5	798	,,	crabs
	527	13.2.23	—	—	—	—	—	—	—	—	36	12	912	—	nil
	,,	,,	6	2	9·5	9·5	15	25·75	25·75	29	37	12	912	ripe	,,
	528	,,	5·5	1·75	9	8·5	13·5	25	25	28·5	35·5	11	912	,,	,,
Balistes viridescens ♀	45	14.8.20	8·5	1·5	11	13	16	28	28	32	37	14	1134	,,	,,
	132	8.12.20	8	2	11·75	21	23	31	31	33	40	18	2043	¼ ,,	,,
	538	9.4.23	8	2·5	12	13	15	33	33	35·5	43·5	19·5	2508	¼ ,,	crabs
	,,	,,	10	2·25	13	14·5	16	35	35	37	44	21	2964	½ ,,	Clypeaster
Balistes viridescens ♂	124	6.12.20	7·75	1·75	11	23	23	32	32	34	43	20	2157	ripe	nil
	132	8.12.20	10·5	2	15	28	28	38	38	41	51	22	3975	¼ ,,	,,
	478	31.1.23	6·5	1·25	10·5	10·5	18·5	27	27	35	35	13·5	1026	ripe	,,
Monacanthidae															
Alutera monoceros ♂	524	12.2.23	9·5	1·5	10·5	10	19·5	33·5	34	44	47	15	912	,,	,,
	,,	,,	9	1·75	10	9·5	19	31	31·5	33·5	40	14	798	¼ ,,	,,
Alutera monoceros ♀	70	29.8.20	9	1·5	9·5	10	18·5	32	32	39	44	14	680	¼ ,,	,,
	554	12.4.23	10	2	11·5	12	22	37	37	41	50	15	1368	ripe	,,
Alutera monoceros ♂	173	23.12.20	9	1·75	10	20	20	34	34	37	45	14·5	793	ripe	,,
	198	,,	11·5	2·25	13·5	25·5	27·5	41	41·5	46	54	16	1817	¼ ,,	,,
	554	12.4.23	10·5	2	12·5	11	33·5	37	38·5	42·5	52	16·5	1140	ripe	,,
	556	,,	9·5	1·75	10	10·5	20·5	33	34	37·5	45	14	798	,,	,,
Alutera setifer ♀	150	14.12.20	2	1	3	5	5·5	7·5	7·5	8·25	11	3·5	21	immature	,,
Alutera scriptus ♀	,,	22.8.21	12	2	14	13	27·5	44	44	48·5	57	16·5	1588	½ ripe	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes-	condition of gonads	stomach contents.
Psilocephalidae															
Psilocephalus sp. ♀	147	13.12.20	10·5	2	12	22·5	24·5	34	36	39	61	13·5	908	ripe	weeds, digested matter
Ostraciidae															
Ostracion cornutus ♀	219	6.4.21	2	1·25	3	9·5	11·5	11	12·25	14	17	6·5	113	½ ,,	nil
Ostracion cornutus ♀	129	6.12.20	2	1·5	5·75	12	15	13·5	16·5	19	29·5	6	226	½ ,,	,,
	,,	,,	3	2	5·5	13	16	14·5	18	19·5	32	7	340	ripe	,,
	219	6.4.21	2·5	1·5	4	12·5	13·5	13·5	15	18	22·5	7	212	—	,,
	490	3.2.23	1·75	1·25	3·75	6	13	11·5	13·5	16	19·5	8	1482	½ ,,	,,
Ostracion cornutus ♂	167	19.12.20	2	·75	3·5	7·5	8·5	8	9	10·5	13·5	4	71	½ ,,	,,
	462	28.1.23	2	1·5	4	11	12	11·75	13·25	15	18	6	228	ripe	,,
	475	31.1.23	1·5	1·25	3·5	18	11	9·25	11·5	13	16	6·5	171	½ ,,	,,
Ostracion cubicus ♀	50	15.8.20	5	2	9	19	22	24	24	27	33	7	908	ripe	digested matter
	94	11.9.20	—	—	—	—	—	—	—	—	33	9·5	567	,,	nil
	97	12.9.20	3·5	1·5	6	17	20·5	19	20·5	25	31	7·5	454	,,	,,
	119	5.12.20	2·5	2	5	20	23·5	22	25·5	29	35	10	908	,,	,,
	165	18.12.20	3	1·5	6	16	19	18·5	21	25·5	30	7	680	,,	mud
	333	11.9.21	3	2	5·5	18	20·5	20	22·5	27	34·5	8	908	,,	digested matter
	,,	,,	2·5	1·5	5	15	17	16·5	18·5	22	28	7	567	½ ,,	,,
	456	7.5.22	2	1·75	5	16·5	19	18·5	20·5	25	30	7·5	456	ripe	nil
	,,	,,	—	—	—	—	—	—	—	—	30	7·5	456	,,	,,
	540	9.4.23	2·5	1·75	5·5	16	19	18	18	23·5	30·5	9	798	,,	weeds
	550	11.4.23	3	2	6	17	19·5	19	21	25	32	8	684	½ ,,	nil
Ostracion cubicus ♂	132	8.12.20	4	1·75	6·5	19·75	22·5	22	24	28	35	9	1134	¼ ,,	green matter
	456	7.5.22	3	2	6	18·5	21	20·5	23	27	34	8·5	684	½ ,,	nil
	,,	,,	2·5	1·5	5	17	19·5	18·5	21	24·5	31	8	456	½ ,,	,,
Ostracion punctatus ♀	95	11.9.20	4	1	6	19	21·5	21	23	29	35	8	454	ripe	,,
Ostracion turritus ♀	48	15.8.20	2	1·5	6	5·5	13	11	15	18	21	9	226	¼ ,,	,,
	57	17.8.20	3	1·5	5	8	5·5	12	13·5	17	20	8·5	226	¼ ,,	,,
	101	13.9.20	1·5	1	4	6	13	12	13	16·5	19	8	267	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	18	9	211	,,	,,
	118	5.12.20	2	1	4	11·5	4	13	15	16·5	21	10	340	,,	mud
	122	6.12.20	4	1·5	12·5	13·5	14·5	15·5	18	21	23	9	340	,,	digested matter
	123	,,	2	1	11	13	12	14	15	17	21	9	226	½ ,,	nil
	150	14.12.20	2	1	4	10	11	11·5	13·5	15·5	19	6	340	ripe	digested matter
	186	26.12.20	2·25	1·5	5	13·5	12·25	14	13·75	18	21·5	8	226	½ ,,	sand
	231	8.4.21	2	1·5	4	11	12	11·75	13	15	18·5	7	170	½ ,,	nil
	237	10.4.21	1·5	1	4	9·5	11·5	10·5	12·25	14	17	7·5	141	,,	,,
	,,	,,	2	1	4	10·5	11	11·5	12	15	18	7	141	,,	,,
	447	16.4.22	—	—	—	—	—	—	—	—	20	9	228	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	15·5	7	114	¼ ,,	,,
	,,	,,	—	—	—	—	—	—	—	—	21	9·5	456	½ ,,	,,
	521	12.2.23	2	1·5	5	11·5	14·5	13	15	17·5	21·5	9	456	ripe	,,
Ostracion turritus ♂	57	17.8.20	3	1·5	5	8	5·5	12	13·5	17	20	8·5	226	¼ ,,	,,
	94	11.9.20	1	·5	2·5	4	3	8·5	10	12·5	15	7·5	113	ripe	,,
	146	13.12.20	2	1·5	4	11·5	13·5	12·5	14·5	17	20·5	7	340	½ ,,	digested matter
	238	10.4.21	2·5	1·5	4	10	11·5	11	12·25	14	18	7	141	ripe	nil
	481	1.2.23	2	1·5	4	6	12	11	13	15	18	7·5	228	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in grammes.	condition of gonads	stomach contents.
Ostraciidae															
Ostracion sp. ♀	52	16.8.20	4·5	1·75	6	16	17	17·5	18·5	24	29	8	454	½ ripe	nil
	189	28.12.20	1·75	2	4	10·5	12	11·75	13·5	15·5	19·5	7	228	½ ,,	,,
Ostracion sp. ♂	292	22.8.21	3·5	1·5	6·5	19·5	22·5	21·5	24	28·5	37	9	1248	ripe	,,
Tetraodontidae															
Tetraodon hispidus ♀	79	31.8.20	—	—	—	—	—	—	—	—	15	4	92	,,	,,
Tetraodon hispidus ♂	95	12.9.20	7	2	16·5	31	32	35	35·5	42	63	20	3861	,,	hermit crabs
	146	13.12.20	3	2	6	17	20·5	18·5	22·5	25	31	9	908	,,	sand and shells
	150	14.12.20	1·25	3·25	2·5	5	5·5	5·5	7	7	9·5	2	14	immature	nil
	154	15.12.20	4	2	10	19	21	21·5	23·5	27	36	10	1134	ripe	shells
Tetraodon immaculatus ♂	35	12.8.20	2·5	1	5	10	12	11	12·5	15·5	19·75	4	169	¼ ,,	crushed shells
	,,	,,	2·5	1	5	10	12	11	12·5	15·5	19·75	4	169	¼ ,,	,,
	95	12.9.20	2·5	1	8·5	17	18·5	19	20	25·5	33·5	10	680	¼ ,,	shell fish
	,,	,,	—	—	—	—	—	—	—	—	25	6·5	340	¼ ,,	,,
	147	13.12.20	2	1·5	6	16	18·5	17	19	22	30	7	567	ripe	shells & sea urchin
Tetraodon inermis ♀	524	12.2.23	8	3	14·5	29	29	31	32	39	49	12	2052	½ ripe	nil
Tetraodon leopardus ♂	128	7.12.20	3·5	2	10	19·5	20	21	22	29	35	8	908	ripe	,,
	197	31.12.20	3·5	2	9	20	22	22·5	24	28	37	12·5	1362	½ ,,	,,
	229	8.4.21	2	1·5	6	15	17·5	17	18·5	21·5	26	10	680	ripe	,,
	234	9.4.21	5·5	1·5	12	25	27	27	29	35	41·5	12·5	1590	,,	,,
	341	12.9.21	6	2	13	27	31	31	33·5	40	51	12·5	3406	,,	,,
	386	18.9.21	8	2	17	37	41·5	42	45·5	54	67	15	6362	,,	shells
	500	8.2.23	8	2·5	17·5	37	40	43	44	48·5	61·5	15·5	5472	—	shell
	517	11.2.23	5	1·5	11·5	24	28	28	31	36	45	12	2280	,,	nil
Tetraodon leopardus ♀	132	8.12.20	5	1·5	17	26	29·5	28	31	37	46	15	2498	,,	,,
	197	31.12.20	4	2	10	22·5	25	23·5	26·5	30	40	11·5	1588	¼ ,,	sponge
	470	29.1.23	7·5	3	18	36	44	41	47	53	65	17	5928	ripe	nil
	474	30.1.23	6	2	12	27	29	28	33·5	36	44	12	1140	,,	,,
	503	9.2.23	5·5	1·5	11·5	25·5	28	29	37	36	46	10·5	2280	¼ ,,	,,
	540	9.4.23	5·5	1·5	12	26·5	28·5	28·5	31·5	37	47	13·5	2394	ripe	,,
	557	12.4.23	7·5	2	16·5	35	37	38	40·5	49	61	20	5016	,,	,,
	,,	,,	4·75	1·5	11	23	26	26	27	33·5	43·5	12	1824	,,	Clypeaster
Tetraodon lunaris ♂	35	12.8.20	4·9	3	9·5	20	21	24	23·5	29·5	35·75	10	908	½ ,,	nil
	43	13.8.20	8	2·5	12·5	26	25	29	28	40	48·5	11	1588	¼ ,,	shells
	,,	,,	8	2·5	13·5	27	28	30	29·5	41	49	11	1475	¼ ,,	,,
	86	7.9.20	1·25	1	3·5	6·5	6·5	7·25	7·25	9·5	12	3	28	¼ ,,	nil
	509	10.2.23	2	1·5	5	10	10	11·5	11·5	14·5	18	4·5	120	—	,,
Tetraodon lunaris ♀	79	31.8.20	—	—	—	—	—	—	—	—	11·75	3	14	ripe	,,
	,,	,,	—	—	—	—	—	—	—	—	10	2·5	14	,,	,,
Tetraodon patoca ♂	84	7.9.20	2·5	·5	5	11	11	12·5	12	15	19	6	148	,,	,,
Tetraodon patoca ♀	477	31.1.23	3·5	2·5	10	23	25	25·5	27	33	40	16	1824	,,	shells
Tetraodon reticularis ♀	59	18.8.20	8	3	17	36	36	41	41	55	67	21	6362	,,	starfish & molluscs
	91	10.9.20	2	1·5	13	30	17	36	42	49	67	17	3975	½ ,,	nil
Tetraodon reticularis ♂	45	14.8.20	5·5	2	12	23	27	26	29·5	34	41	13	1817	¼ ,,	shells
Tetraodon stellatus ♀	119	5.12.20	6	1·75	13	30	35	33	37	43	52	17	3748	½ ,,	mud
	147	13.12.20	10	2	16	35	38	40	42	50	62	22	5907	ripe	sea urchins
	148	,,	7·5	1·5	13·5	28	31	30	30·5	39	47	13	2272	,,	shells

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	ae.	af.	ag.	ah.	aj.	ak.	lm.	wt. in gram-mes.	condition of gonads	stomach contents
Tetraodontidae															
Tetraodon sp. ♂	168	19.12.20	1	8	·8	2·8	5·2	6	6·3	7·5	9·3	4	21	immature	digested matter
Diodontidae															
Diodon hystrix ♀	124	6.12.20	1·5	1·75	7·5	17·5	18	21	21	25	31	10	793	¼ ripe	nil
	128	7.12.20	1·5	1	7	15	15	16·5	16·5	18	21	10	567	¼ ,,	,,
	147	31.12.20	2·5	2	8·5	19	18	20	21	24	28·5	13	1134	¾ ,,	crabs & shells
	219	6.4.21	1	1·5	3	10·5	12	11·5	13·5	14	17	6·5	198	ripe	shells
Diodon hystrix ♂	223	7.4.21	1	1	4	8	10	9	11	11·5	12·5	5	85	¼ ,,	nil
Diodon sp. ♀	128	7.12.20	1·5	2	6	11	11	12	12	15	17	8	680	ripe	shells
Diodon sp. ♂	148	13.12.20	1	1	4	4	8·5	10	10	12	14·5	4	42	,,	nil
	150	14.12.20	1	·75	4	8·5	9·5	8·5	9·5	9·75	11·5	5·5	85	,,	,,
	180	25.12.20	1	·75	3·5	7	8	9·5	9·5	10	11	8	340	¼ ,,	,,
Antennariidae															
Antennarius sp. ♂	154	12.12.25	1	·25	6	5	8·5	9·5	9·5	11	13·5	8	113	immature	nil

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

The measurements of the rays in the following tables differ slightly from those given above.

The measurements are :—

ab. anterior border of snout to anterior border of eye.
bc. horizontal diameter of eye.
ad. anterior border of snout to first gill slit.
af. anterior border of snout to mouth.
op. width of mouth.
ak. total length.
lm. width of body.

	Station	*Date*	*ab.*	*bc.*	*ad.*	*af.*	*op.*	*ak.*	*lm.*	*wt. in. gram-mes.*	*Gonads*	*stomach contents*
Dasyatidae												
Trygon Imbricata ♀	209	3.4.21	5·5	·75	7·5	6	2	39·5	20	454	½ ripe	digested matter
Trygon Imbricata ♂	209	,,						30	16	226	½ ,,	shrimps
Trygon kuhlii ♀	128	7.12.20	4	2	7	5	3	66	31	1134	½ ,,	nil
	,,	,,	4	2	7	5	3	74	32	1134	ripe	,,
	146	13.12.20	4·5	2	7	5	3	70·5	30	1134	,,	,,
	167	19.12.20	5·5	2·5	9	5·5	3	67	36	1817	,,	,,
	186	26.12.20	4	2	6·75	5	2·5	61	33	1134	,,	,,
	230	,,	3	1·5	6·25	4	2·5	69·5	28	680	,,	,,
	,,	,,	3	1·25	6	3·75	2·25	65	25·5	454	,,	,,
	333	11.9.21	4·5	1·5	7·5	4·5	2·5	64	30	1134	,,	,,
	344	12.9.21	4·5	1·5	7	4·5	2·5	64	30	1134	spent	,,
	448	16.4.22	4	1·5	7	4·5	3	54	32	1140	ripe	,,
	459	27.1.23	4	2	10	3	—	47	28	798	,,	,,
	476	31.1.23	4	1·5	5·5	4·5	2·5	58	32	1368	,,	,,
	478	,,	6·75	1·75	7	4·5	3	63	35	1824	,,	,,
	495	4.2.23	4	1·5	5	3	2·5	53·5	28·5	798	ripe	,,
	,,	,,	3·75	1·5	4·5	3·5	2·5	46·5	25	798	,,	,,
	503	9.2.23	4·5	1·5	7·5	4·5	3·5	58	23	1140	¼ ,,	,,
	514	10.2.23	5	1·25	7·5	4·5	2·5	49	30	1140	¼ ,,	,,
	,,	,,	4·75	1	7·5	4	2·5	53	30·5	1140	ripe	,,
	522	12.2.23	4	1·5	5	4·5	2·5	52	30	1029	—	,,
	,,	,,	4·5	1·75	5	5	2·5	52	32	1482	ripe	,,
	,,	,,	5	1·5	5·5	4·5	2·5	49	29	1140	,,	,,
	532	13.2.23	4	1	6	3·5	2·5	47	26·5	684	½ ,,	,,
	539	9.4.23	5	2	7	4·5	3	53·5	35	1596	ripe	,,
Trygon kuhlii ♂	128	7.12.20	4·5	2	7	4	3	68	31	908	,,	,,
	129	,,	4	2	7	5	3	60	30	908	,,	,,
	175	23.12.20	5	2	8	5	3	64	33	1021	,,	,,
	197	31.12.20	4·5	2	8	5·5	3·75	70	37	1817	,,	,,
	220	6.4.21	5	2	7·5	4·5	3	52	30	1134	,,	,,
	228	8.4.21	4	1·5	7·5	5	3	60	34	1360	,,	,,
	230	,,	5	2	7·5	4·5	2·5	78	30	908	,,	,,
	,,	,,	4·5	1·5	7·5	4·5	2·75	71	28·5	680	,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	af.	op.	ak.	lm.	wt. in gram-mes.	Gonads	stomach contents
Dasyatidae												
Trygon kuhlii ♂	237	10.4.21	4·5	2	8	4	2·5	52	30	1134	ripe	small fish
	,,	,,	4	1·5	7	4·5	2·5	61	33	908	,,	,,
	447	16.4.21	4	1·75	6·25	4·5	2·75	52	29	912	,,	nil
	448	,,	4·5	1·5	8	4·5	2·75	54·5	31·5	1140	,,	,,
	476	31.1.23	4	2	5	4·5	2·75	54·5	31	1254	,,	,,
	495	4.2.23	3·75	1·5	4·5	5	3	52	29	570	—	,,
	503	9.2.23	4·5	1·5	8·5	4·5	2·5	58	30·5	1254	ripe	,,
	,,	,,	4	1·5	7	4·5	2·5	53	29	912	,,	,,
	515	11.2.23	4·25	1·75	7	4·25	2·5	59	32	1140	,,	,,
	516	,,	4·5	1·5	7·5	4·5	3	57·5	32·5	1140	,,	,,
	,,	,,	4·25	1·5	7	4	2·5	51	30	1026	,,	,,
	,,	,,	4·5	1·5	7·5	4·5	3	54	30	1140	½ ,,	,,
	,,	,,	4·5	1·5	7	4	2·75	51	28·5	912	ripe	,,
	522	12.2.23	4	2	5	4·5	3	56	31	1710	,,	,,
	,,	,,	4·5	1·75	5·5	5	2·5	50	28	1026	,,	,,
	,,	,,	4	2	5	4·5	3	57	31	1140	,,	,,
	,,	,,	4·5	2	5	4·5	2·5	53	31	1140	,,	,,
	523	,,	5	1·5	5·5	4	3	52	30	1368	,,	,,
	532	13.2.23	4·25	1	6·5	4	3·5	52·5	28	684	,,	,,
	539	9.4.23	4·5	1·75	7·5	4	2·5	59	30	1368	,,	,,
Trygon marginatus ♂	150	14.12.20	20·5	3	29	—	—	175	102	31800	¾ ,,	shrimps
Trygon sephen ♂	79	31.8.20	—	—	—	—	—	88	54	4090	ripe	prawns
Trygon sephen ♀	82	1.9.20	—	—	—	—	—	166	58	7495	,,	Gephyrean worms
Trygon uarnak ♀	71	29.8.20	5	·5	6·5	5	2	31	18	226	,,	nil
	,,	,,	5·5	1	7·5	6	2	35	19	226	,,	,,
Trygon walga ♂	55	17.8.20	8	1	9·5	8	2·5	60	22	340	½ ,,	,,
	58	18.8.20	5	1·5	—	4·9	2·2	65	32	1021	ripe	worms
	61	25.8.20	5	2	8	5	3	60	29	1362	,,	nil
Trygon walga ♀	35	12.8.20	7·5	1	—	8	—	60	25·5	454	½ ,,	,,
	48	15.8.20	—	—	—	—	—	46	30	908	ripe	,,
	56	17.8.20	8	1	10	7	2·5	54	25	454	,,	,,
	78	31.8.20	6	·5	8	6·5	2	50	20	219	immature	prawns
	,,	,,	7	·7	9	6·8	2·6	53	22	247	½ ripe	,,
	94	11.9.20	2	1·5	5	3	2·5	48	23	454	½ ,,	nil
	95	12.9.20	5	1·5	7·5	4	2·5	56	26	680	½ ,,	,,
	363	16.9.21	7	4	9	7	2	58	21·5	283	—	,,
Trygon zugei ♂	79	31.8.20	—	—	—	—	—	60	23	340	ripe	prawns
	80	1.9.20	7	·5	8·5	—	—	60	20	226	½ ,,	,,
	81	,,	7	·5	9·5	—	—	55	22	340	½ ,,	,,
	,,	,,	—	—	—	—	—	64	24	254	½ ,,	nil
	82	,,	—	—	—	—	—	59	23	1134	ripe	,,
	,,	,,	—	—	—	—	—	56	19	226	,,	,,
	83	2.9.20	6·5	·5	9	—	—	62	22	226	½ ,,	prawns
	84	7.9.20	7·5	·5	10	7	2	52	23	254	ripe	,,
	,,	,,	7	·5	9·5	7	2·5	67	24	283	,,	,,
	85	,,	7	·5	9	6·5	2·5	59	17	228	½ ,,	,,
	,,	,,	7·5	·5	9·5	7	2·5	60	21·5	254	½ ,,	nil
	86	,,	6·75	1	9	6·5	3	61·5	20	226	ripe	prawns

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

	Station	Date	ab.	bc.	ad.	af.	op.	ak.	lm.	wt. in gram-mes.	Gonads	stomach contents.
Dasyatidae												
Trygon zugei ♂	88	7.9.20	6	·5	8	7	3·5	78	83	254	½ ripe	prawns
	109	21.9.20	7·5	·5	9·25	7	2·5	60	20	454	ripe	shrimps
	113	,,	6	·5	8	6·5	2	55	19	198	,,	nil
	,,	,,	—	—	—	—	—	35	17·5	169	½ ripe	,,
	114	,,	—	—	—	—	—	50	21	254	ripe	,,
	,,	,,	—	—	—	—	—	54	21	226	½ ,,	,,
Trygon zugei ♀	86	7.9.20	—	—	—	—	—	57	22	340	ripe	cuttlefish
	103	13.9.20	8·5	·5	11	—	—	69	27	454	,,	prawns
	114	21.9.20	7	·5	9	—	—	52	22	274	—	,,
Urogymnus asperrimus ♀	82	1.9.20	—	—	—	—	—	160	40	2043	—	crabs
Urogymnus asperrimus ♂	84	7.9.20	9·5	1	—	9	3·5	173	36	1362	ripe	shrimps
Pteroplatea micrura ♂	80	1.9.20	2·5	·5	3·5	—	—	24	32	240	¼ ,,	small fish
	84	7.9.20	2·25	·5	3·5	2·5	2	20	28	169	¼ ,,	nil
	,,	,,	3	·5	5·5	4	3·5	36	43	680	½ ,,	,,
Pteroplatea micrura ♀	80	1.9.20	—	—	—	—	—	27	33	283	immature	,,
Myliobatidae												
Aetobatis narinari ♀	40	13.8.20	—	—	—	—	—	155	114	13833	ripe	hermit crabs
	,,	,,	—	—	—	—	—	86	173	6930	,,	,,
	92	10.9.20	—	—	—	—	—	145	49	1475	½ ,,	squids
	93	,,	—	—	—	—	—	60	40	912	ripe	nil
	94	11.9.20	3	1·25	7	5	3	64	45	1021	½ ,,	,,
	209	3.4.21	—	—	—	—	—	130	52	2043	ripe	,,
Aetobatis narinari ♂	40	13.8.20	—	—	—	—	—	185	71·5	4316	½ ,,	,,
	92	10.9.20	—	—	—	—	—	80	43	1362	½ ,,	squids
	93	,,	—	—	—	—	—	64	41	908	½ ,,	nil
	,,	,,	—	—	—	—	—	62	40	680	ripe	,,
Myliobatis nieuhoffi ♀	104	13.9.20	—	—	—	—	—	97	47	1362	½ ,,	weeds
	304	28.8.21	3·5	1·5	9·5	6	4·5	109	60	2838	½ ,,	prawns
	366	17.9.21	2	·75	5	3·5	2·5	67	34·5	567	—	—
Myliobatis nieuhoffi ♂	79	31.8.20	1	·75	3·5	2	1·75	45	22	226	¼ ,,	nil
	80	1.9.20	2·5	1	6·5	—	—	135	43	908	ripe	,,
	83	2.9.20	2	·5	7	—	—	40	13·25	454	,,	squids
	90	10.9.20	2	1	6	4·5	2·5	38	38	567	½ ,,	nil
	,,	,,	—	—	—	—	—	66	39	794	ripe	,,
	91	,,	—	—	—	—	—	73	44	1021	,,	,,
	100	12.9.20	3	·5	6	4	2·5	83	40	680	,,	,,
	104	13.9.20	—	—	—	—	—	75	37	680	,,	weeds
	,,	,,	—	—	—	—	—	72	36	567	,,	,,
	366	17.9.21	2·25	1	6·5	4·5	3	76·5	41	1021	½ ,,	nil
	,,	,,	2·25	1	6·5	4	3	78	40	908	—	,,
	,,	,,	2·5	1	6	4	3	77·5	38	680	½ ,,	,,
	,,	,,	2·5	1·	6	4·25	3	76·5	39	680	½ ,,	,,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

APPENDIX IV.

Distribution of Species Based on Trawling Results

The following tables give a complete list of the fishes taken in the trawl throughout the survey, and show the numbers of each species taken in each trawling area. The tables thus give some idea of distribution, excluding surface and mid-water fishes, which are not taken in the trawl in any numbers except in shallow waters :—The arrangement is according to Appendix 3.

Species	Wadge Bank	Area III	Area IV	Area V	Area VI	Area VII	Area VIII	Area IX	Area X	Area XI	Area XII	Area XIII	Area XVI	Area XV
Chiloscyllium indicum	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Stegostoma tigrinum	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Ginglymostoma concolor	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Carcharias sp.	141	1	4	—	—	2	—	3	1	25	28	81	9	18
Hemigaleus balfouri	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Sphyrna malleus	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Pristis perrotteti	1	—	—	—	—	—	—	1	—	—	—	—	—	—
P. cuspidatus	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Rhynchobatus djeddensis	3	—	—	—	—	1	—	—	—	3	—	1	—	—
R. ancylostomus	—	—	—	—	—	—	—	—	—	1	—	—	1	—
Rhinobatus halavi	1	—	—	—	—	—	—	—	—	—	1	9	—	—
Narcine timlei	1	1	1	—	—	—	—	—	—	—	—	10	1	—
Urogymnus asperrimus	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Trygon walga	—	—	—	—	—	—	—	—	—	—	1	6	3	2
T. kuhlii	44	—	2	3	1	2	—	4	—	—	3	—	—	—
T. uarnak	—	—	—	—	—	—	—	—	—	—	2	—	—	—
T. sephen	—	—	—	—	—	—	—	—	—	—	—	1	2	1
T. zugei	—	—	—	—	—	—	—	—	—	—	—	—	29	163
T. marginatus	—	—	—	—	—	1	—	—	—	—	—	—	—	—
T bleekeri	—	—	—	—	—	—	—	—	—	—	—	—	—	1
T. imbricata	2	—	—	—	—	—	—	—	—	—	—	—	—	—
Taeniura melanospilus	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Pteroplatea micrura	—	—	—	—	—	—	—	—	—	—	—	—	4	—
Myliobatis nieuhofii	—	—	—	—	—	—	—	—	—	—	—	2	4	10
Aetobatis narinari	—	—	—	—	—	—	—	—	—	—	—	2	—	7
Rhinoptera javanica	—	—	—	—	—	—	—	—	—	—	—	2	—	—
Chirocentrus dorab	1	—	—	—	—	—	—	—	—	—	—	6	6	3
Clupea atricauda	—	15	—	—	—	—	—	—	—	—	—	2	10	34
C. toli	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Ilisha ditchoa	—	—	—	—	—	—	—	—	—	—	1	—	—	—
I. filigera	—	—	—	—	—	—	—	—	—	—	3	—	27	—
Ophisthopterus tartoor	—	—	—	—	—	—	—	—	—	—	—	19	98	18
Dussumieria acuta	—	—	—	—	—	—	—	—	—	—	—	20	107	—
Dorosoma nasus	—	—	—	—	—	—	—	—	—	—	1	—	—	—
D. chacunda	—	—	—	—	—	—	—	—	—	—	—	1	8	—
Engraulis indicus	—	—	—	—	—	—	—	—	—	—	—	3	—	—
E. kammalensis	6	—	—	—	—	—	—	—	—	—	—	—	8	—
Synodus indicus	—	—	—	—	—	—	—	—	—	—	—	2	—	—
Saurida tumbil	6	2	3	—	—	—	—	—	—	—	12	25	10	14
S. gracilus	—	—	—	3	—	1	—	—	1	2	4	5	16	—
Arius gagora	126	—	—	—	—	—	—	—	—	—	—	—	1	14
A. jella	—	1	—	—	—	—	—	—	—	—	—	—	—	—
A. sp.	8	—	3	—	—	—	—	—	—	—	—	1	22	32
Pseudorhombus arsius	—	—	—	—	—	—	—	—	—	2	2	20	—	—

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Distribution of Species Based on Trawling Results.—*Contd.*

Species.	Wadge Bank	Area III	Area IV	Area V	Area VI	Area VII	Area VIII	Area IX	Area X	Area XI	Area XII	Area XIII	Area XIV	Area XV
P. javanicus	—	—	—	—	—	—	—	—	—	—	—	18	3	3
Psettodes erumei	1	—	—	—	—	—	—	—	—	3	—	1	1	—
Plagusia marmorata	—	—	—	—	—	—	—	—	—	—	—	—	7	—
Cynoglossus lingua	—	—	—	—	—	—	—	—	—	—	—	—	3	—
C. macrolepidotus	—	—	—	—	—	—	—	—	—	—	—	—	3	—
Fistularia serrata	20	1	5	9	1	1	—	—	2	2	—	3	—	—
Sphyraena acutipinnis	7	—	—	1	—	—	—	—	—	—	—	1	—	3
S. commersonii	14	—	—	—	—	—	—	—	—	—	—	—	—	—
S. jello	1	—	—	—	—	—	—	—	—	—	—	—	—	—
S. obtusata	5	—	3	—	—	—	—	—	—	1	1	—	—	—
Myripristis murdjan	—	6	—	—	—	—	—	—	—	—	—	—	—	—
Holocentrum rubrum	43	—	—	1	1	1	—	—	—	—	—	15	—	—
Polynemus sexfilis	25	—	—	—	—	—	—	—	—	—	—	—	6	1
P. sextarius	—	—	—	—	—	—	—	—	—	—	2	—	13	2
Scomber microlepidotus	—	—	—	—	—	—	—	—	—	—	—	9	14	—
Scomberomorus commersonii	—	1	—	—	—	—	—	—	—	—	—	1	—	—
S. guttatum	—	1	13	—	—	—	—	—	—	2	10	166	9	67
S. interruptum	—	1	—	—	—	—	—	—	—	—	—	—	—	—
S. lineolatum	—	—	18	—	—	—	—	—	—	—	14	—	—	—
Trichiurus haumala	—	—	18	—	—	—	—	—	—	—	14	—	—	—
T. savala	—	—	—	—	—	—	—	—	—	1	—	—	30	4
Stromateus cinereus	1	—	—	—	—	—	—	—	—	—	—	74	194	57
S. niger	—	—	5	—	—	—	—	—	—	—	2	99	108	55
S. sinensis	—	—	3	—	—	—	—	—	—	—	—	3	13	—
Caranx armatus	10	—	3	1	2	—	—	—	—	—	—	201	176	116
C. affinis	—	—	1	1	—	—	—	—	—	2	41	98	11	70
C. carangus	2	—	—	—	—	—	—	—	—	—	—	—	—	—
C. ferdau	—	—	—	—	—	1	—	—	—	—	—	—	—	—
C. leptolepis	—	—	—	—	—	—	—	—	—	—	8	401	—	8
C. kalla	—	—	—	—	—	—	—	—	—	—	30	—	51	24
C. malabaricus	—	—	—	20	1	1	—	—	—	274	7	—	404	44
C. nigrescens	9	—	—	—	—	—	—	—	—	—	1	—	18	1
C. nigripinnis	—	—	—	—	—	—	—	—	—	—	—	4	25	5
C. oblongus	2	—	—	—	—	13	—	—	—	—	1	9	9	9
C. hippos	—	6	3	—	—	—	—	—	—	—	—	—	—	—
Alectis ciliaris	—	1	—	—	—	—	—	—	—	8	5	10	2	41
Scomberoides toloo-parah	—	—	27	—	—	—	—	—	—	—	—	—	20	3
Mene maculata	—	—	16	—	—	—	—	—	—	—	11	—	10	—
Rachycentrom lineatus	3	—	—	—	—	—	—	—	—	—	—	—	—	—
R. nigra	2	—	1	1	—	—	—	—	—	2	—	1	—	2
Lactarius delicatulus	65	—	40	—	—	—	—	—	—	—	6	1	200	269
Leiognathus brevirostris	—	144	—	—	—	—	—	—	—	—	—	—	—	—
L. edentula	11	4	2	—	—	—	—	—	—	—	12	2160	148	22118
L. fasciata	60	—	—	4	—	1	—	—	—	136	43	167	31	492
L. insidiatrix	—	—	23	—	—	—	—	—	—	65	4	1	—	1
L. lineolata	—	—	—	—	—	—	—	—	—	—	1	2128	—	—
L. ruconius	—	18	—	—	—	—	—	—	—	—	—	—	—	—
L. splendens	—	—	—	—	—	—	—	—	—	—	—	—	67	5
Gazza minuta	155	—	—	—	—	—	—	—	—	—	—	—	—	—

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Distribution of Species Based on Trawling Results.—*Contd.*

Species.	Wadge Bank	Area III	Area IV	Area V	Area VI	Area VII	Area VIII	Area IX	Area X	Area XI	Area XII	Area XIII	Area XIV	Area XV
Kurtus indicus	—	—	—	—	—	—	—	—	—	—	—	—	163	—
Apogon quadrifasciatus	—	—	—	—	43	—	—	—	—	—	—	—	—	—
Priacanthus holocentrum	15	—	—	10	1	48	—	—	—	—	4	11	—	—
Epinephelus angularis	15	—	—	18	2	6	—	—	—	—	13	18	—	—
E. areolatus	29	—	1	—	—	—	—	—	—	—	—	—	—	—
E. coramandelicus	6	—	—	—	—	—	—	—	—	—	—	—	—	—
E. diacanthus	2	—	—	—	—	—	—	—	—	—	—	—	—	—
E. fuscoguttatus	2	—	—	1	—	—	—	1	—	1	—	7	—	13
E. lanceolatus	5	—	—	—	—	—	—	—	—	—	—	—	—	12
E. maculatus	—	—	—	1	—	—	—	—	—	—	—	—	—	—
E. pantherinis	8	—	—	—	—	—	—	9	—	—	—	—	—	—
E. salmoides	7	—	—	—	—	—	—	—	—	—	—	—	—	—
E. sp.	191	3	2	16	13	16	—	2	2	14	1	8	—	—
Lutianus argentimaculatus	9	—	—	26	—	1	1	1	4	35	7	54	8	3
L. dodecacanthus	467	—	3	—	—	—	—	—	—	—	—	3	—	—
L. erythropterus	9	—	—	—	—	—	—	—	—	—	—	—	—	—
L. lineolatus	449	—	34	522	5	6	—	2	—	—	15	2	—	—
L. lunulatus	—	—	—	—	—	—	—	2	—	—	—	—	—	—
L. gibbus	—	—	—	—	—	4	—	—	—	—	—	—	—	—
L. madras	69	3	7	2	4	1	—	—	—	—	—	—	—	—
L. marginatus	751	1	—	—	—	3	—	—	1	—	—	—	—	—
L. quinquilinearis	—	—	—	14	—	25	—	—	—	—	—	—	—	—
L. rivulatus	111	2	3	10	5	5	1	5	—	7	33	19	—	—
L. russellii	—	—	—	—	—	—	—	—	—	—	—	14	—	—
L. sebae	—	—	—	—	1	—	—	—	—	2	—	8	—	—
L. vitta	63	—	—	25	—	—	—	—	—	—	—	6	—	—
L. sp.	—	2	—	4	—	1	—	1	—	2	1	10	—	—
Aprion pristipoma	36	—	—	4	4	13	—	—	—	—	25	81	—	—
Pomadasys furcatum	3	—	—	—	—	—	—	—	—	—	—	—	—	—
P. gouraca	439	—	—	—	—	—	—	—	—	—	—	—	—	—
P. maculatum	—	—	17	—	—	—	—	—	—	4	5	8	—	—
P. olivaceum	—	—	3	—	—	—	—	—	—	—	—	1	—	—
Plectorhinchus griseum	171	7	6	2	—	2	—	2	—	8	9	11	—	20
P. pictum	—	17	2	—	—	—	—	—	—	—	—	—	—	—
Scolopsis bimaculatus	22	39	1	—	—	—	—	—	—	—	—	—	—	—
Caesio chrysozona	—	23	—	101	74	12	—	—	5	—	—	2	—	—
C. sp.	—	—	—	71	—	—	—	—	—	—	—	—	—	—
Therapon theraps	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Lethrinus harak	—	—	—	—	—	—	—	—	—	—	—	1	—	3
L. karwa	302	14	5	1	—	—	1	1	26	—	—	127	—	6
L. miniatus	36	1	4	—	—	—	—	—	5	—	5	—	—	—
L. nebulosus	—	—	—	—	2	4	—	1	—	—	—	1	—	—
L. ornatus	—	1	—	—	4	—	—	—	—	—	9	—	—	—
L. ramak	1	1	—	—	1	1	—	—	—	—	—	—	—	—
Sphaerodon grandoculis	1	—	1	—	—	—	—	—	—	—	—	2	—	—
Pagrus spinifer	50	—	—	5	—	1	—	1	—	78	14	150	—	2
Dentex rivulatus	6	—	4	4	2	1	—	—	2	—	—	—	—	2
D. sp.	57	—	—	8	2	—	—	—	—	—	—	—	—	—
Synagris tolu	3	—	—	—	—	—	—	—	—	2	—	—	—	—
S. japonicus	—	—	—	—	—	—	—	—	—	—	767	2	21	—

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Distribution of Species Based on Trawling Results.—*Contd.*

Species	Wadge Bank	Area III	Area IV	Area V	Area VI	Area VII	Area VIII	Area IX	Area X	Area XI	Area XII	Area XIII	Area XIV	Area XV
Erythrocles leucogrammicus	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	116	—	—	—	—	—	—	—	—	—
Gerres filamentosus	4	—	—	—	—	—	—	—	—	—	—	—	7	24
Pentaprion longimanus	—	—	—	—	25	—	—	—	—	6	—	—	—	—
Upeneoides vittatus	57	—	—	—	—	—	—	—	—	—	—	—	—	—
U. sulphureus	5	—	—	—	—	1	—	—	—	—	—	—	—	—
Upeneus cinnabarinus	1	2	—	—	—	—	—	—	—	—	—	—	—	—
U. indicus	46	7	23	2	—	1	—	3	11	4	16	—	—	—
U. luteus	1	—	—	1	—	—	—	—	—	—	—	—	—	—
U. sulphureus	—	—	—	8	—	5	1	—	—	—	1	—	1	—
Sciaena aeneus	6	—	—	—	—	—	—	—	—	—	—	7	10	199
S. glaucus	15	—	—	—	—	—	—	—	—	—	—	95	11	—
S. bleekeri	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Otolithus argenteus	—	—	4	—	—	—	—	—	—	—	—	—	—	—
O. ruber	—	—	—	—	—	—	—	—	—	—	—	—	—	20
Sillago sihama	—	—	—	—	—	—	—	—	—	1	—	—	—	—
S. maculata	—	1	3	1	—	—	—	—	—	—	—	—	—	—
Monodactylus argenteus	—	—	—	—	—	—	—	—	—	15	37	—	—	—
Platax teira	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Ephippus orbis	296	4	—	6	3	6	—	—	—	29	69	1223	68	—
Drepane punctata	—	2	49	—	—	—	—	—	—	—	—	—	—	—
Chaetodon pictus	—	3	—	2	4	3	—	—	—	—	—	—	—	—
C. vagabundus	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Heniochus macrolepidotus	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	154	1	46	8	4	15	—	1	—	9	4	5	2	—
Holocanthus annularis	1	1	—	—	—	—	—	—	—	—	—	—	—	—
H. imperator	1	—	—	2	—	—	2	—	—	—	1	1	—	—
Ctenochaetus strigosus	12	2	101	—	—	—	—	—	—	9	9	—	—	—
Acanthurus aurolineatus	—	—	—	—	—	33	—	—	—	—	—	1	—	—
A. ,, erythrodon	—	—	12	—	—	—	—	—	—	—	—	—	—	—
A. ,, lineatus	12	—	—	—	—	—	—	—	—	—	—	—	—	—
A. ,, matoides	77	14	—	35	16	10	1	2	—	—	16	14	—	—
Naseus tuberosus	—	—	—	3	—	—	—	1	—	4	—	—	—	—
N. unicornis	—	—	—	—	1	8	1	2	—	—	—	—	—	—
Teuthis marmorata	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Pterois miles	3	—	1	—	—	—	—	—	—	—	—	—	—	—
Platycephalus carbunculus	7	—	—	—	—	—	—	—	—	—	—	—	—	—
P. scaber	—	—	—	—	—	—	—	—	—	1	—	1	—	—
P. serratus	—	—	—	—	—	—	—	1	—	—	—	—	—	—
P. tuberculatus	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Dactylopterus orientalis	27	—	—	—	—	—	—	—	—	—	—	—	—	—
Pomacentrus jerdoni	—	—	—	—	—	—	—	—	—	—	11	—	—	—
Glyphisodon sp.	—	—	—	4	2	1	—	—	—	—	—	—	—	—
Chaerodon sp.	9	—	—	7	1	—	—	—	—	—	1	—	—	—
Cossyphus axillaris	—	—	—	—	—	—	—	—	—	—	—	2	9	—
C. bilunulatus	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Pseudoscarus chrysopoma	—	—	—	—	—	—	—	—	—	—	—	3	—	—
P. dussumieri	—	—	—	1	—	—	—	—	—	1	12	3	—	—
P. harid	—	—	—	—	—	—	—	2	—	—	—	1	—	—
P. rivulatus	—	—	—	2	—	—	—	—	—	—	—	—	—	—

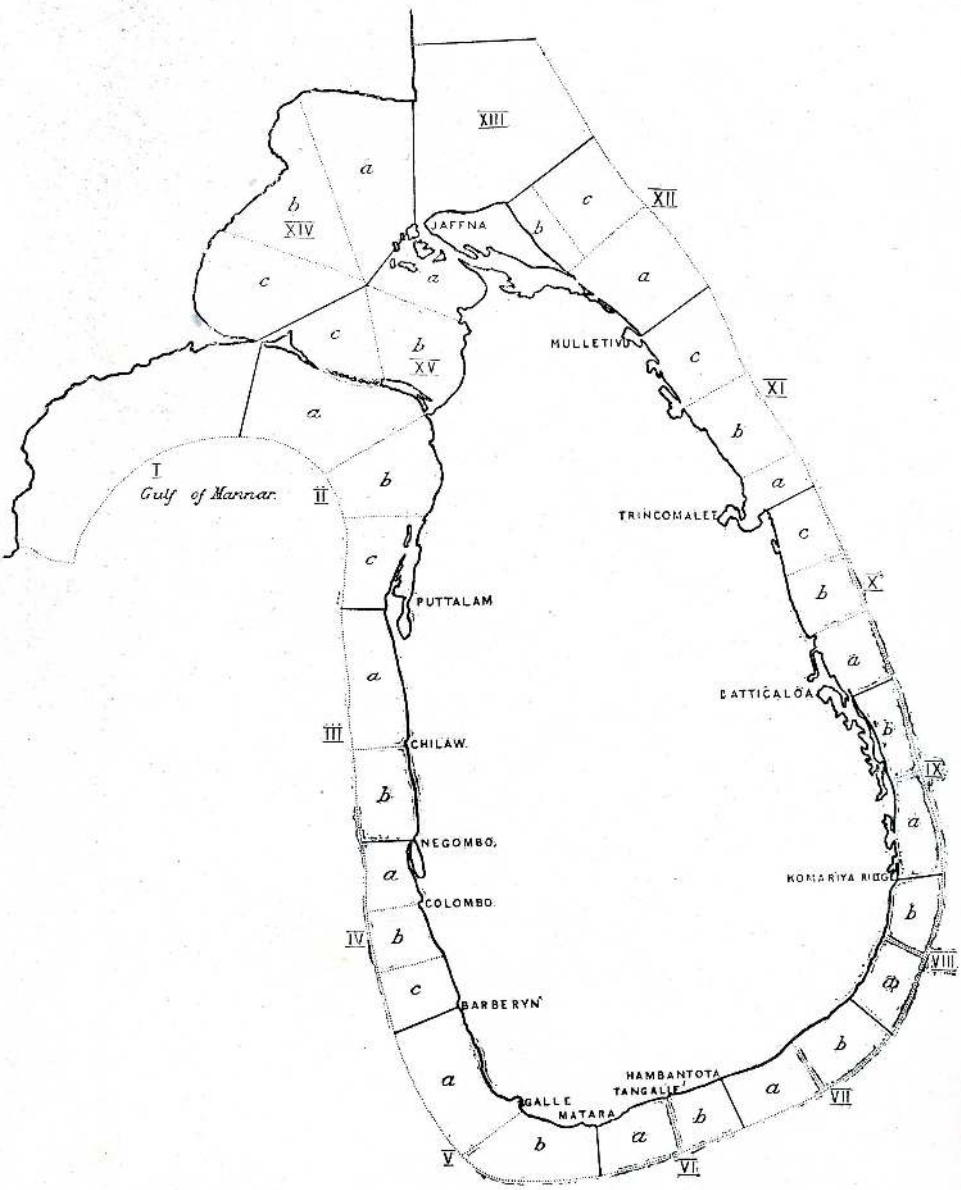
Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Distribution of Species Based on Trawling Results.—*Contd.*

Species	Wadge Bank	Area III	Area IV	Area V	Area VI	Area VII	Area VIII	Area IX	Area X	Area XI	Area XII	Area XIII	Area XIV	Area XV
Electris sp.	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Echineis naucrates	1	—	—	—	—	—	—	—	—	11	—	3	—	1
E. remora	—	—	—	2	—	—	—	—	—	—	—	—	1	—
Antennarius sp.	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Triacanthus brevirostris	—	18	7	—	—	—	—	—	—	—	2	—	162	10
Balistes erythrodon	230	—	—	21	—	11	1	3	—	—	—	—	—	—
B. fuscus	—	—	1	2	—	—	—	—	—	—	—	—	—	—
B. mitis	2206	—	—	1	—	—	—	—	—	—	—	1	—	—
B. stellatus	98	—	2	5	5	2	—	—	—	12	18	25	—	—
B. viridescens	—	—	2	—	—	—	—	1	—	—	3	—	—	—
Alutera monoceros	3	—	—	12	—	—	—	—	—	—	—	1	—	—
A. scriptus	—	—	—	—	—	—	—	—	1	—	—	—	—	—
A. setifer	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Psilocephalus barbatus	—	—	—	35	—	—	—	2	—	—	—	5	—	—
Ostracion cornutus	4	—	—	—	1	—	2	—	—	—	—	—	—	—
O. cubicus	—	4	2	—	1	—	—	1	—	—	—	1	—	2
O. turritus	40	—	1	1	—	2	—	—	—	2	1	8	—	3
Tetraodon hispidus	—	—	—	—	—	3	—	—	—	—	—	—	1	1
T. inermis	1	—	—	—	—	—	—	—	—	—	—	—	—	—
T. immaculatus	—	1	2	—	—	1	—	—	—	—	—	—	1	16
T. leopardus	7	—	—	2	—	—	2	—	—	—	—	—	—	—
T. lunaris	1	—	—	—	—	—	—	—	—	—	7	—	3	—
T. patoca	1	—	—	—	—	—	—	—	—	—	—	—	1	—
T. reticularis	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Diodon hystrix	4	—	—	—	—	1	—	—	—	—	—	—	—	—

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media



TRAWLING AREAS

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Appropriate Technology Services
121, POINT PEDRO ROAD
NALLUR, JAFFNA
No.....

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Ceylon Government Fisheries Vessel "Nautilus"

BY

J. C. Kerkham, R.D., R.N.R.

Marine Superintendent, Department of Fisheries

WITH ONE PLATE

The "Nautilus," formerly the "Activo," was built as a steam trawler in Hamburg in 1913 to Germanischer Lloyds class, for Brazilian owners. She was a war capture and in that way came into British hands; the vessel was classed A1 at Lloyds before her purchase by the Ceylon Government.

The following is a detailed description of the vessel :—

Type : Steel, single screw.

Dimensions : Length 132′ 4″ (B.P.) beam 23′ 9″, depth 13′ 6″ moulded.

Tonnage : Gross 290, nett 110.

Bunkers : Side 35 tons; cross 75 tons; total 110 tons.

Tanks : Fore-peak 15 tons ; after-peak 5 tons ; double bottom 15 tons ; total 35 tons.

Engines : Triple expansion, surface condensing ; $\frac{13'' \times 21\frac{1}{4}'' \times 34''}{23''}$ I.H.P. 500.

Air circulating feed pump, etc., worked off main engine. Two duplex pumps, dynamo, injector, drain tank for auxiliaries, exhausts, etc.

Boiler : Cylindrical return tube 12′ 6″ dia. 10′ 3″ long. Two furnaces; pressure 190 lbs. per sq. inch.

Spares : Spare crank shaft, tail-end shaft and propeller.

Fittings : Steam windlass, steam trawling winch, steam dredging and towing winch.

The vessel has had a thorough overhaul since her arrival in Ceylon and has been refitted for inspection work on the pearl banks, for dredging, trawling and hydrographical investigations.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

The following is a general description of the refitting work :—

(1) The fish-hold has been gutted and divided by a steel bulk-head into forward and after sections and a deck laid down.

The after section has been fitted with six single berth cabins opening into a central corridor which communicates with the laboratory on the main deck.

The forward section has been fitted with 2 cabins for ship's officers opening into an open berth cabin with store rooms on the fore side.

(2) The trawl-winch has been shifted further forward and in the space thus provided a large laboratory has been built, with a pantry and bath room on the after side, immediately on the fore side of the stokehold uptake. The pantry has been fitted with a service-trap to the laboratory which can thus be used in bad weather as a mess-room. Usually meals are served on the upper or bridge-deck.

The laboratory is well lighted with large square ports. Work tables with drawers and cupboards have been fitted along the forward end and on each side. Bottle-racks and shelves have been fitted overhead and under the tables. A sink has been provided with salt and fresh water.

(3) The bridge-deck has been extended forward to the foremast and covered with a light shade-deck.

(4) The bridge-house, which originally was divided into two cabins and a chart-room, has been converted into one large combined chart-room and wheel-house, and fitted with a large chart table, a writing table, settee, book case and the usual flag-racks, lockers, etc.

(5) A boat-deck has been built abaft the after trawling gallows and carries two boats and the wireless cabin. This deck is protected by an awning and is connected with the bridge-deck by a gangway on the starboard side.

(6) On the starboard side trawling gear has been fitted for a 70-foot otter trawl with the required wire leads, etc., and a derrick for lifting the cod-end, has been fitted. The length between the two trawling gallow-heads is 66 ft. and the head-line of the trawl-net is 70 feet.

(7) Two dredging davits, one on each quarter, have been fitted.

(8) The after-cabin, formerly occupied by the ship's officers, has been gutted and fitted for refrigeration and a steel deck has been laid. A steam-driven direct expansion ammonia refrigerating plant has been installed with two insulated chambers, one with a capacity of 600 cubic feet (10° F) and the other with a capacity of 150 cubic feet (35° F), for the storage of fish.

(9) Wireless aerials, carried by two topmasts, have been fitted,

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

with terminals to the wireless cabin on the after boat-deck. The cabin is also fitted to accommodate the wireless operator and one other.

The towing capacity of the "Nautilus" has been well tested; she has towed as many as 73 native dhoneys from 10 to 40 tons each, the dhoneys being towed four abreast by the use of towing booms one on each quarter.

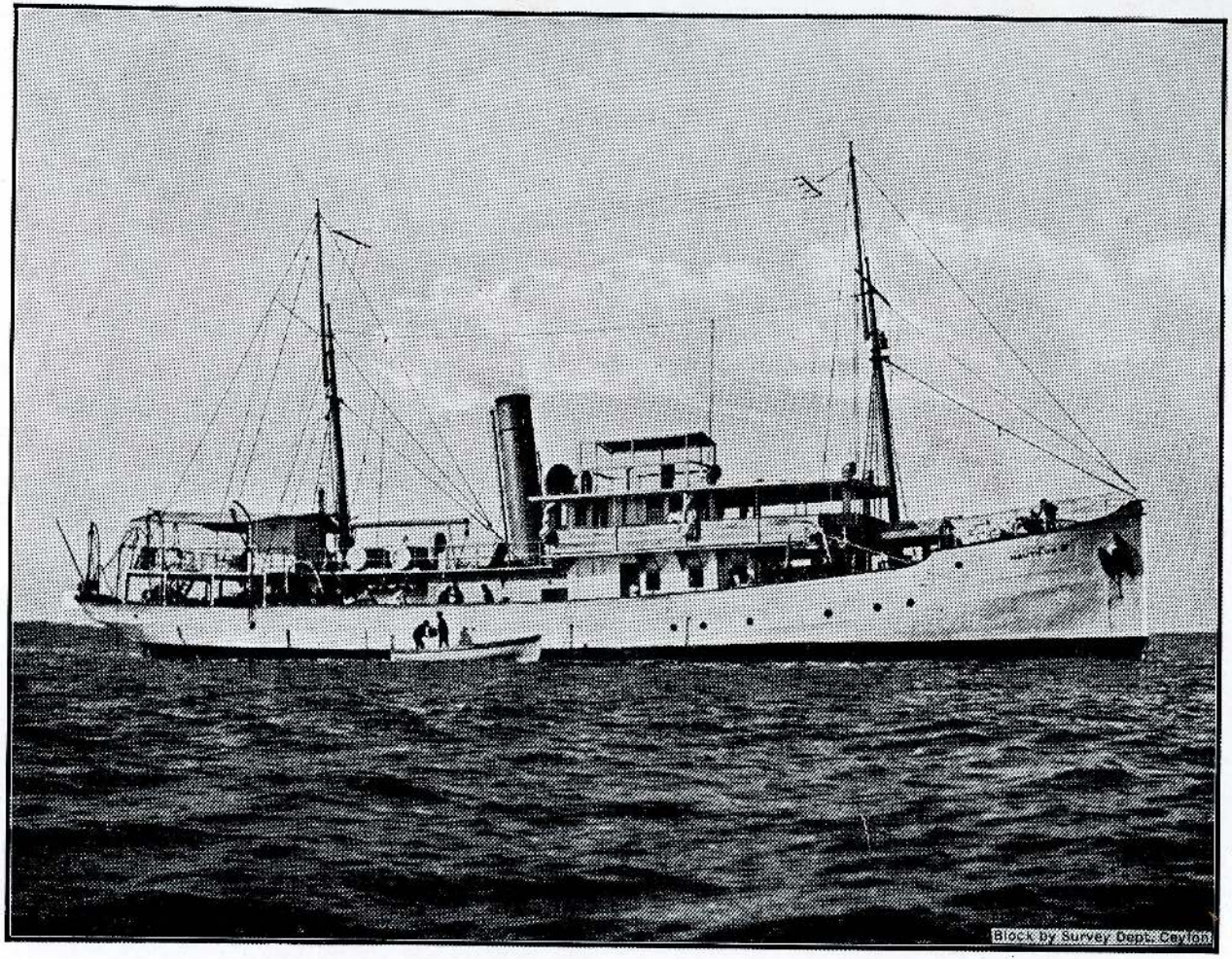
The speed of the "Nautilus" may be said to be :—

10 knots maximum.
9 ,, ordinary full speed.
8 ,, best economic coal speed.

The consumption of coal for each full day of twenty-four hours is 5 tons (best steam coal) when steaming at 8 knots. This permits the ship to make a cruise of about 4,000 miles for a period of 22 days without re-coaling.

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media



CEYLON GOVERNMENT FISHERIES STEAMER "NAUTILUS."

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

EXCHANGES

Exchanges are solicited in return for this publication. All communications should be addressed to

The Director, Colombo Museum,
Colombo, Ceylon.

PRINTED FOR THE CEYLON GOVERNMENT
BY
THE TIMES OF CEYLON COMPANY, LTD.
COLOMBO, AND BLACKFRIARS HOUSE, NEW BRIDGE ST., LONDON, E.C. 4

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

CONTENTS

Page

Pearson, J. & Malpas, A. H.—A Preliminary Report on the Possibilities of Commercial Trawling in the Sea around Ceylon 1

Malpas, A. H.—The Marine Biological Survey of the Littoral Waters of Ceylon 13

Kelkham, J. C.—Ceylon Government Fisheries Vessel "Nautilus" 107



Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media

Digitized by Noolaham Foundation.
noolaham.org | noolaham.media